



## ERTMS/ETCS

### FFFIS STM Test cases of Functional identity 007

#### DMI FUNCTION: BUTTONS

**Total: 62 Test cases**

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Company	Technical Approval	Management approval
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AZD		
CAF		
HITACHI RAIL STS		
MERMEC		
SIEMENS		
THALES		



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## Table of Contents

2.3	BUTTONS	5
2.3.1	Test Case 7c2.1	5
2.3.2	Test Case 7c2.2	18
2.3.3	Test Case 7c2.3	35
2.3.4	Test Case 7c2.4	39
2.3.5	Test Case 7c2.5	68
2.3.6	Test Case 7c2.6	74
2.3.7	Test Case 7c2.7	79
2.3.8	Test Case 7c2.8	90
2.3.9	Test Case 7c2.9	101
2.3.10	Test Case 7c2.10	105
2.3.11	Test Case 7c2.11	123
2.3.12	Test Case 7c2.12	139
2.3.13	Test Case 7c2.13	155
2.3.14	Test Case 7c2.14	168
2.3.15	Test Case 7c2.15	180
2.3.16	Test Case 7c2.16	185
2.3.17	Test Case 7c2.17	201
2.3.18	Test Case 7c2.18	218
2.3.19	Test Case 7c2.19	236
2.3.20	Test Case 7c2.20	249
2.3.21	Test Case 7c3.1	291
2.3.22	Test Case 7c3.2	304
2.3.23	Test Case 7c3.3	323
2.3.24	Test Case 7c3.4	326
2.3.25	Test Case 7c3.5	334
2.3.26	Test Case 7c3.6	346
2.3.27	Test Case 7c3.7	354
2.3.28	Test Case 7c3.8	361
2.3.29	Test Case 7c3.9	373
2.3.30	Test Case 7c3.10	380
2.3.31	Test Case 7c4.1	419



2.3.32	Test Case 7c5.1	425
2.3.33	Test Case 7c5.2	431
2.3.34	Test Case 7c5.3	434
2.3.35	Test Case 7c5.4	436
2.3.36	Test Case 7c5.5	443
2.3.37	Test Case 7c5.6	447
2.3.38	Test Case 7c5.7	450
2.3.39	Test Case 7c5.8	524
2.3.40	Test Case 7c5.9	550
2.3.41	Test Case 7c5.10	553
2.3.42	Test Case 7c5.11	557
2.3.43	Test Case 7c5.12	584
2.3.44	Test Case 7c6.1	588
2.3.45	Test Case 7c6.2	595
2.3.46	Test Case 7c6.3	598
2.3.47	Test Case 7c6.4	601
2.3.48	Test Case 7c6.5	603
2.3.49	Test Case 7c6.6	605
2.3.50	Test Case 7c6.7	607
2.3.51	Test Case 7c6.8	610
2.3.52	Test Case 7c7.1	612
2.3.53	Test Case 7c7.2	618
2.3.54	Test Case 7c7.3	619
2.3.55	Test Case 7c7.4	624
2.3.56	Test Case 7c8.1	627
2.3.57	Test Case 7c8.2	649
2.3.58	Test Case 7c8.3	652
2.3.59	Test Case 7c8.4	657
2.3.60	Test Case 7c8.5	662
2.3.61	Test Case 7c8.6	669
2.3.62	Test Case 7c8.7	677



## 2.3 Buttons

Some of the following test cases for button are only applicable for a specific DMI technology, i.e. only for touch screen (TS) or soft key (SK) technology. For the compliance test of an ETCS as DUT only the test cases for the technology used by the DMI of this ETCS have to be performed.

### 2.3.1 Test Case 7c2.1

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.1.1.1.1.5
	Button identities test for unified DMI with SK technology with single button requests :
	First single buttons (with ids 1-127) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then single buttons (with ids 128-255) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then the first button is moved through all possible positions with text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.10, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Unified DMI service: 7a.1. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	



Starting Conditions	Value	Comments
STM State	DA	
ETCS Mode	SN	
ETCS Level	NTC	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	Established	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	Cab A or B active	For the test it is not relevant, what cab is active



BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	Not isolated for active STM. Not relevant for other STMs	

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Request of single button with replacement						
1	STM requests display of button 1 at position 1	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption BUT1 is displayed at position 1
2	STM requests display of button 2 at position 1	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption BUT2 is displayed at position 1
...	...	...	...	...	...	...	...
63	STM requests display of button 63 at position 1	PROF	T0+310s	connection of active DMI channel: Message-S63	DMI		Button with caption BUT63 is displayed at position 1
...	...	...	...	...	...	...	...
125	STM requests display of button 125 at position 1	PROF	T0+620s	connection of active DMI channel: Message-S125	DMI		Button with caption BUT125 is displayed at position 1
126	STM requests display of button 126 at position 1	PROF	T0+625s	connection of active DMI channel: Message-S126	DMI		Button with caption BUT126 is displayed at position 1
127	STM requests display of button 127 at position 1	PROF	T0+630s	connection of active DMI channel: Message-S127	DMI		Button with caption BUT127 is displayed at position 1
	Request of single button with						



	deletion						
128	STM requests display of button 128 at position 1	PROF	T0+635s	connection of active DMI channel: Message-S128	DMI		Button with caption BUT128 is displayed at position 1
129	STM removes button 128	PROF	T0+640s	connection of active DMI channel: Message-S129	DMI		No buttons are displayed
130	STM requests display of button 129 at position 1	PROF	T0+645s	connection of active DMI channel: Message-S130	DMI		Button with caption BUT129 is displayed at position 1
131	STM removes button 129	PROF	T0+650s	connection of active DMI channel: Message-S131	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
254	STM requests display of button 191 at position 1	PROF	T0+1265s	connection of active DMI channel: Message-S254	DMI		Button with caption BUT191 is displayed at position 1
255	STM removes button 191	PROF	T0+1270s	connection of active DMI channel: Message-S255	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
378	STM requests display of button 253 at position 1	PROF	T0+1885s	connection of active DMI channel: Message-S378	DMI		Button with caption BUT253 is displayed at position 1
379	STM removes button 253	PROF	T0+1890s	connection of active DMI channel: Message-S379	DMI		No buttons are displayed
380	STM requests display of button 254 at position 1	PROF	T0+1895s	connection of active DMI channel: Message-S380	DMI		Button with caption BUT254 is displayed at position 1
381	STM removes button 254	PROF	T0+1900s	connection of active DMI channel: Message-S381	DMI		No buttons are displayed
382	STM requests display of button 255 at position 1	PROF	T0+1905s	connection of active DMI channel: Message-S382	DMI		Button with caption BUT255 is displayed at position 1
383	STM removes button 255	PROF	T0+1910s	connection of active DMI channel: Message-S383	DMI		No buttons are displayed
	Moving single button through						





	positions						
384	STM requests display of button 1 at position 1	PROF	T0+1915s	connection of active DMI channel: Message-S384	DMI		Button with caption BUT1 is displayed at position 1
385	STM requests display of button 1 at position 2	PROF	T0+1920s	connection of active DMI channel: Message-S385	DMI		Button with caption BUT1 is moved to position 2
386	STM requests display of button 1 at position 3	PROF	T0+1925s	connection of active DMI channel: Message-S386	DMI		Button with caption BUT1 is moved to position 3
387	STM requests display of button 1 at position 4	PROF	T0+1930s	connection of active DMI channel: Message-S387	DMI		Button with caption BUT1 is moved to position 4
388	STM requests display of button 1 at position 5	PROF	T0+1935s	connection of active DMI channel: Message-S388	DMI		Button with caption BUT1 is moved to position 5
389	STM requests display of button 1 at position 6	PROF	T0+1940s	connection of active DMI channel: Message-S389	DMI		Button with caption BUT1 is moved to position 6

Message-S1: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	95	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	



NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	

Message-S2: STM requests display of button 2 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=2, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT2"			

Message-S63: STM requests display of button 63 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=103, N=1, ID=63, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT63"			

Message-S125: STM requests display of button 125 at position 1			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=125, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT125"			

Message-S126: STM requests display of button 126 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=126, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT126"			

Message-S127: STM requests display of button 127 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=127, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT127"			

Message-S128: STM requests display of button 128 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=111, N=1, ID=128, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT128"

Message-S129: STM removes button 128			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	128	Button 128
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S130: STM requests display of button 129 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=129, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT129"			



Message-S131: STM removes button 129			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=129, P=1, IC=0, MI=0000000000b, L=0			

Message-S254: STM requests display of button 191 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=191, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT191"			

Message-S255: STM removes button 191			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=191, P=1, IC=0, MI=0000000000b, L=0			

Message-S378: STM requests display of button 253 at position 1			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=253, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT253"			

Message-S379: STM removes button 253			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=253, P=1, IC=0, MI=0000000000b, L=0			

Message-S380: STM requests display of button 254 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=254, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT254"			

Message-S381: STM removes button 254			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=254, P=1, IC=0, MI=0000000000b, L=0

Message-S382: STM requests display of button 255 at position 1

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=255, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT255"

Message-S383: STM removes button 255

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=255, P=1, IC=0, MI=0000000000b, L=0

Message-S384: STM requests display of button 1 at position 1

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=95, N=1, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"

Message-S385: STM requests display of button 1 at position 2



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S386: STM requests display of button 1 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S388: STM requests display of button 1 at position 5			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S389: STM requests display of button 1 at position 6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length





STM-15: PL=25, ST=7, (State DA)

STM-32: PL=95, N=1, ID=1, P=6, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"

End Conditions	Value	Comments
STM State	unchanged	
ETCS Mode	unchanged	
ETCS Level	unchanged	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	unchanged	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	

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TIU Direction Controller Position Status	not relevant	
TIU Cab Status	unchanged	
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	unchanged	

### 2.3.2 Test Case 7c2.2

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.1.2.2.3.5
	Button identities test for unified DMI with SK technology with requests for set of buttons: First buttons (with ids 1-132) are displayed with captions in sets of 6 buttons at once at positions 1-6 in a loop, the new request replacing the old buttons. Then buttons (with ids 133-255) are displayed with captions in sets of 6 buttons at once at positions 1-6 and then deleted by display with attribute 'no display' in a loop. Then the last buttons are shifted through all possible positions with text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.10, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32



<b>ERTMS/ETCS on-board configuration</b>	For active STM: Unified DMI service: 7a.1. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Request of set of buttons with replacement						
1	STM requests display of buttons 1 - 6 at positions 1-6	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT6 are displayed at positions 1-6
2	STM requests display of buttons 7 - 12 at positions 1-6	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT7 - BUT12 are displayed at positions 1-6
...	...	...	...	...	...	...	...
11	STM requests display of buttons 61 - 66 at positions 1-6	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Buttons with caption BUT61 - BUT66 are displayed at positions 1-6
...	...	...	...	...	...	...	...
20	STM requests display of buttons 115 - 120 at positions 1-6	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		Buttons with caption BUT115 - BUT120 are displayed at positions 1-6
21	STM requests display of buttons 121 - 126 at positions 1-6	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Buttons with caption BUT121 - BUT126 are displayed at positions 1-6
22	STM requests display of buttons 127 - 132 at positions 1-6	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		Buttons with caption BUT127 - BUT132 are displayed at positions 1-6
	Request of set of buttons with deletion						



23	STM requests display of buttons 133 - 138 at positions 1-6	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Buttons with caption BUT133 - BUT138 are displayed at positions 1-6
24	STM removes buttons 133 - 138	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		No buttons are displayed
25	STM requests display of buttons 139 - 144 at positions 1-6	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Buttons with caption BUT139 - BUT144 are displayed at positions 1-6
26	STM removes buttons 139 - 144	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
41	STM requests display of buttons 187 - 192 at positions 1-6	PROF	T0+200s	connection of active DMI channel: Message-S41	DMI		Buttons with caption BUT187 - BUT192 are displayed at positions 1-6
42	STM removes buttons 187 - 192	PROF	T0+205s	connection of active DMI channel: Message-S42	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
59	STM requests display of buttons 241 - 246 at positions 1-6	PROF	T0+290s	connection of active DMI channel: Message-S59	DMI		Buttons with caption BUT241 - BUT246 are displayed at positions 1-6
60	STM removes buttons 241 - 246	PROF	T0+295s	connection of active DMI channel: Message-S60	DMI		No buttons are displayed
61	STM requests display of buttons 247 - 252 at positions 1-6	PROF	T0+300s	connection of active DMI channel: Message-S61	DMI		Buttons with caption BUT247 - BUT252 are displayed at positions 1-6
62	STM removes buttons 247 - 252	PROF	T0+305s	connection of active DMI channel: Message-S62	DMI		No buttons are displayed
63	STM requests display of buttons 253 - 255 at positions 1-3	PROF	T0+310s	connection of active DMI channel: Message-S63	DMI		Buttons with caption BUT253 - BUT255 are displayed at positions 1-3



							1-3
64	STM removes buttons 253 - 255	PROF	T0+315s	connection of active DMI channel: Message-S64	DMI		No buttons are displayed
	Shifting set of buttons through positions						
65	STM requests display of buttons 250 - 255 at positions 1-6	PROF	T0+320s	connection of active DMI channel: Message-S65	DMI		Buttons with caption BUT250 - BUT255 are displayed at positions 1-6
66	STM requests display of buttons 250 - 255 at positions 2-6, 1	PROF	T0+325s	connection of active DMI channel: Message-S66	DMI		All buttons are moved by one position
67	STM requests display of buttons 250 - 255 at positions 3-6, 1-2	PROF	T0+330s	connection of active DMI channel: Message-S67	DMI		All buttons are moved by one position
68	STM requests display of buttons 250 - 255 at positions 4-6, 1-3	PROF	T0+335s	connection of active DMI channel: Message-S68	DMI		All buttons are moved by one position
69	STM requests display of buttons 250 - 255 at positions 5-6, 1-4	PROF	T0+340s	connection of active DMI channel: Message-S69	DMI		All buttons are moved by one position
70	STM requests display of buttons 250 - 255 at positions 6, 1-5	PROF	T0+345s	connection of active DMI channel: Message-S70	DMI		All buttons are moved by one position

Message-S1: STM requests display of buttons 1 - 6 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	61	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)



L_PACKET	13	440	Packet Length
N_ITER	5	6	Request for 6 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	



M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	



X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	
Padding bits	7	0000000b	

Message-S2: STM requests display of buttons 7 - 12 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	64	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=464, N=6, ID=7, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT7"			
(2): ID=8, P=2, IC=0, MI=1000010000b, L=4, T="BUT8"		(3): ID=9, P=3, IC=0, MI=1000010000b, L=4, T="BUT9"	
(4): ID=10, P=4, IC=0, MI=1000010000b, L=5, T="BUT10"		(5): ID=11, P=5, IC=0, MI=1000010000b, L=5, T="BUT11"	
(6): ID=12, P=6, IC=0, MI=1000010000b, L=5, T="BUT12"			

Message-S11: STM requests display of buttons 61 - 66 at positions 1-6
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=61, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT61"			
(2): ID=62, P=2, IC=0, MI=1000010000b, L=5, T="BUT62"			(3): ID=63, P=3, IC=0, MI=1000010000b, L=5, T="BUT63"
(4): ID=64, P=4, IC=0, MI=1000010000b, L=5, T="BUT64"			(5): ID=65, P=5, IC=0, MI=1000010000b, L=5, T="BUT65"
(6): ID=66, P=6, IC=0, MI=1000010000b, L=5, T="BUT66"			

Message-S20: STM requests display of buttons 115 - 120 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=115, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT115"			
(2): ID=116, P=2, IC=0, MI=1000010000b, L=6, T="BUT116"			(3): ID=117, P=3, IC=0, MI=1000010000b, L=6, T="BUT117"
(4): ID=118, P=4, IC=0, MI=1000010000b, L=6, T="BUT118"			(5): ID=119, P=5, IC=0, MI=1000010000b, L=6, T="BUT119"
(6): ID=120, P=6, IC=0, MI=1000010000b, L=6, T="BUT120"			

Message-S21: STM requests display of buttons 121 - 126 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=121, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT121"			
(2): ID=122, P=2, IC=0, MI=1000010000b, L=6, T="BUT122"		(3): ID=123, P=3, IC=0, MI=1000010000b, L=6, T="BUT123"	
(4): ID=124, P=4, IC=0, MI=1000010000b, L=6, T="BUT124"		(5): ID=125, P=5, IC=0, MI=1000010000b, L=6, T="BUT125"	
(6): ID=126, P=6, IC=0, MI=1000010000b, L=6, T="BUT126"			

Message-S22: STM requests display of buttons 127 - 132 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=127, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT127"			
(2): ID=128, P=2, IC=0, MI=1000010000b, L=6, T="BUT128"		(3): ID=129, P=3, IC=0, MI=1000010000b, L=6, T="BUT129"	
(4): ID=130, P=4, IC=0, MI=1000010000b, L=6, T="BUT130"		(5): ID=131, P=5, IC=0, MI=1000010000b, L=6, T="BUT131"	
(6): ID=132, P=6, IC=0, MI=1000010000b, L=6, T="BUT132"			

Message-S23: STM requests display of buttons 133 - 138 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=536, N=6, ID=133, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT133"	
(2): ID=134, P=2, IC=0, MI=1000010000b, L=6, T="BUT134"	(3): ID=135, P=3, IC=0, MI=1000010000b, L=6, T="BUT135"
(4): ID=136, P=4, IC=0, MI=1000010000b, L=6, T="BUT136"	(5): ID=137, P=5, IC=0, MI=1000010000b, L=6, T="BUT137"
(6): ID=138, P=6, IC=0, MI=1000010000b, L=6, T="BUT138"	

Message-S24: STM removes buttons 133 - 138			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	248	Packet Length
N_ITER	5	6	Request for 6 buttons
NID_BUTTON(1)	8	133	Button 133
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	134	Button 134
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	

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M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	135	Button 135
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	136	Button 136
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	137	Button 137
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	138	Button 138
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
Padding bits	7	0000000b	



Message-S25: STM requests display of buttons 139 - 144 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=139, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT139"			
(2): ID=140, P=2, IC=0, MI=1000010000b, L=6, T="BUT140"		(3): ID=141, P=3, IC=0, MI=1000010000b, L=6, T="BUT141"	
(4): ID=142, P=4, IC=0, MI=1000010000b, L=6, T="BUT142"		(5): ID=143, P=5, IC=0, MI=1000010000b, L=6, T="BUT143"	
(6): ID=144, P=6, IC=0, MI=1000010000b, L=6, T="BUT144"			

Message-S26: STM removes buttons 139 - 144			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=139, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=140, P=2, IC=0, MI=0000000000b, L=0		(3): ID=141, P=3, IC=0, MI=0000000000b, L=0	(4): ID=142, P=4, IC=0, MI=0000000000b, L=0
(5): ID=143, P=5, IC=0, MI=0000000000b, L=0		(6): ID=144, P=6, IC=0, MI=0000000000b, L=0	

Message-S41: STM requests display of buttons 187 - 192 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=187, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT187"			
(2): ID=188, P=2, IC=0, MI=1000010000b, L=6, T="BUT188"		(3): ID=189, P=3, IC=0, MI=1000010000b, L=6, T="BUT189"	
(4): ID=190, P=4, IC=0, MI=1000010000b, L=6, T="BUT190"		(5): ID=191, P=5, IC=0, MI=1000010000b, L=6, T="BUT191"	
(6): ID=192, P=6, IC=0, MI=1000010000b, L=6, T="BUT192"			

Message-S42: STM removes buttons 187 - 192			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=187, P=1, IC=0, MI=00000000000b, L=0			
(2): ID=188, P=2, IC=0, MI=00000000000b, L=0		(3): ID=189, P=3, IC=0, MI=00000000000b, L=0	(4): ID=190, P=4, IC=0, MI=00000000000b, L=0
(5): ID=191, P=5, IC=0, MI=00000000000b, L=0		(6): ID=192, P=6, IC=0, MI=00000000000b, L=0	

Message-S59: STM requests display of buttons 241 - 246 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=241, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT241"			



(2): ID=242, P=2, IC=0, MI=1000010000b, L=6, T="BUT242"	(3): ID=243, P=3, IC=0, MI=1000010000b, L=6, T="BUT243"
(4): ID=244, P=4, IC=0, MI=1000010000b, L=6, T="BUT244"	(5): ID=245, P=5, IC=0, MI=1000010000b, L=6, T="BUT245"
(6): ID=246, P=6, IC=0, MI=1000010000b, L=6, T="BUT246"	

Message-S60: STM removes buttons 241 - 246			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=241, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=242, P=2, IC=0, MI=0000000000b, L=0	(3): ID=243, P=3, IC=0, MI=0000000000b, L=0	(4): ID=244, P=4, IC=0, MI=0000000000b, L=0	
(5): ID=245, P=5, IC=0, MI=0000000000b, L=0	(6): ID=246, P=6, IC=0, MI=0000000000b, L=0		

Message-S61: STM requests display of buttons 247 - 252 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=247, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT247"			
(2): ID=248, P=2, IC=0, MI=1000010000b, L=6, T="BUT248"			(3): ID=249, P=3, IC=0, MI=1000010000b, L=6, T="BUT249"
(4): ID=250, P=4, IC=0, MI=1000010000b, L=6, T="BUT250"			(5): ID=251, P=5, IC=0, MI=1000010000b, L=6, T="BUT251"
(6): ID=252, P=6, IC=0, MI=1000010000b, L=6, T="BUT252"			



Message-S62: STM removes buttons 247 - 252			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=247, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=248, P=2, IC=0, MI=0000000000b, L=0		(3): ID=249, P=3, IC=0, MI=0000000000b, L=0	(4): ID=250, P=4, IC=0, MI=0000000000b, L=0
(5): ID=251, P=5, IC=0, MI=0000000000b, L=0		(6): ID=252, P=6, IC=0, MI=0000000000b, L=0	

Message-S63: STM requests display of buttons 253 - 255 at positions 1-3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	41	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=281, N=3, ID=253, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT253"			
(2): ID=254, P=2, IC=0, MI=1000010000b, L=6, T="BUT254"		(3): ID=255, P=3, IC=0, MI=1000010000b, L=6, T="BUT255"	

Message-S64: STM removes buttons 253 - 255			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	23	Message Length
STM-15: PL=25, ST=7, (State DA)			





STM-32: PL=137, N=3, ID=253, P=1, IC=0, MI=0000000000b, L=0		
(2): ID=254, P=2, IC=0, MI=0000000000b, L=0	(3): ID=255, P=3, IC=0, MI=0000000000b, L=0	

Message-S65: STM requests display of buttons 250 - 255 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=250, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT250"			
(2): ID=251, P=2, IC=0, MI=1000010000b, L=6, T="BUT251"		(3): ID=252, P=3, IC=0, MI=1000010000b, L=6, T="BUT252"	
(4): ID=253, P=4, IC=0, MI=1000010000b, L=6, T="BUT253"		(5): ID=254, P=5, IC=0, MI=1000010000b, L=6, T="BUT254"	
(6): ID=255, P=6, IC=0, MI=1000010000b, L=6, T="BUT255"			

Message-S66: STM requests display of buttons 250 - 255 at positions 2-6, 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=250, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT250"			
(2): ID=251, P=3, IC=0, MI=1000010000b, L=6, T="BUT251"		(3): ID=252, P=4, IC=0, MI=1000010000b, L=6, T="BUT252"	
(4): ID=253, P=5, IC=0, MI=1000010000b, L=6, T="BUT253"		(5): ID=254, P=6, IC=0, MI=1000010000b, L=6, T="BUT254"	
(6): ID=255, P=1, IC=0, MI=1000010000b, L=6, T="BUT255"			



Message-S67: STM requests display of buttons 250 - 255 at positions 3-6, 1-2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=250, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT250"			
(2): ID=251, P=4, IC=0, MI=1000010000b, L=6, T="BUT251"		(3): ID=252, P=5, IC=0, MI=1000010000b, L=6, T="BUT252"	
(4): ID=253, P=6, IC=0, MI=1000010000b, L=6, T="BUT253"		(5): ID=254, P=1, IC=0, MI=1000010000b, L=6, T="BUT254"	
(6): ID=255, P=2, IC=0, MI=1000010000b, L=6, T="BUT255"			

Message-S69: STM requests display of buttons 250 - 255 at positions 5-6, 1-4			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=250, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT250"			
(2): ID=251, P=6, IC=0, MI=1000010000b, L=6, T="BUT251"		(3): ID=252, P=1, IC=0, MI=1000010000b, L=6, T="BUT252"	
(4): ID=253, P=2, IC=0, MI=1000010000b, L=6, T="BUT253"		(5): ID=254, P=3, IC=0, MI=1000010000b, L=6, T="BUT254"	
(6): ID=255, P=4, IC=0, MI=1000010000b, L=6, T="BUT255"			

Message-S70: STM requests display of buttons 250 - 255 at positions 6, 1-5			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=250, P=6, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT250"			
(2): ID=251, P=1, IC=0, MI=1000010000b, L=6, T="BUT251"		(3): ID=252, P=2, IC=0, MI=1000010000b, L=6, T="BUT252"	
(4): ID=253, P=3, IC=0, MI=1000010000b, L=6, T="BUT253"		(5): ID=254, P=4, IC=0, MI=1000010000b, L=6, T="BUT254"	
(6): ID=255, P=5, IC=0, MI=1000010000b, L=6, T="BUT255"			

### 2.3.3 Test Case 7c2.3

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.1.1.1.2.5
	Button identities test for unified DMI with TS technology with single button requests : First single buttons (with ids 1-127) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then single buttons (with ids 128-255) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then the first button is moved through all possible positions with text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.10, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32



<b>ERTMS/ETCS on-board configuration</b>	For active STM: Unified DMI service: 7a.1. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1 Messages S1 - S383 are the same as in test case 7c2.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Request of single button with replacement						
1	STM requests display of button 1 at position 1	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption BUT1 is displayed at position 1
2	STM requests display of button 2 at position 1	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption BUT2 is displayed at position 1
...	...	...	...	...	...	...	...
63	STM requests display of button 63 at position 1	PROF	T0+310s	connection of active DMI channel: Message-S63	DMI		Button with caption BUT63 is displayed at position 1
...	...	...	...	...	...	...	...
125	STM requests display of button 125 at position 1	PROF	T0+620s	connection of active DMI channel: Message-S125	DMI		Button with caption BUT125 is displayed at position 1
126	STM requests display of button 126 at position 1	PROF	T0+625s	connection of active DMI channel: Message-S126	DMI		Button with caption BUT126 is displayed at position 1
127	STM requests display of button 127 at position 1	PROF	T0+630s	connection of active DMI channel: Message-S127	DMI		Button with caption BUT127 is displayed at position 1
	Request of single button with deletion						
128	STM requests display of button 128 at position 1	PROF	T0+635s	connection of active DMI channel: Message-S128	DMI		Button with caption BUT128 is displayed at position 1

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129	STM removes button 128	PROF	T0+640s	connection of active DMI channel: Message-S129	DMI		No buttons are displayed
130	STM requests display of button 129 at position 1	PROF	T0+645s	connection of active DMI channel: Message-S130	DMI		Button with caption BUT129 is displayed at position 1
131	STM removes button 129	PROF	T0+650s	connection of active DMI channel: Message-S131	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
254	STM requests display of button 191 at position 1	PROF	T0+1265 s	connection of active DMI channel: Message-S254	DMI		Button with caption BUT191 is displayed at position 1
255	STM removes button 191	PROF	T0+1270 s	connection of active DMI channel: Message-S255	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
378	STM requests display of button 253 at position 1	PROF	T0+1885 s	connection of active DMI channel: Message-S378	DMI		Button with caption BUT253 is displayed at position 1
379	STM removes button 253	PROF	T0+1890 s	connection of active DMI channel: Message-S379	DMI		No buttons are displayed
380	STM requests display of button 254 at position 1	PROF	T0+1895 s	connection of active DMI channel: Message-S380	DMI		Button with caption BUT254 is displayed at position 1
381	STM removes button 254	PROF	T0+1900 s	connection of active DMI channel: Message-S381	DMI		No buttons are displayed
382	STM requests display of button 255 at position 1	PROF	T0+1905 s	connection of active DMI channel: Message-S382	DMI		Button with caption BUT255 is displayed at position 1
383	STM removes button 255	PROF	T0+1910 s	connection of active DMI channel: Message-S383	DMI		No buttons are displayed
	Moving single button through positions						
384	STM requests display of button 1 at position 1	PROF	T0+1915 s	connection of active DMI channel: Message-S384	DMI		Button with caption BUT1 is displayed at position 1



385	STM requests display of button 1 at position 2	PROF	T0+1920s	connection of active DMI channel: Message-S385	DMI		Button with caption BUT1 is moved to position 2
...	...	...	...	...	...	...	...
391	STM requests display of button 1 at position 8	PROF	T0+1950s	connection of active DMI channel: Message-S391	DMI		Button with caption BUT1 is moved to position 8
...	...	...	...	...	...	...	...
399	STM requests display of button 1 at position 16	PROF	T0+1990s	connection of active DMI channel: Message-S399	DMI		Button with caption BUT1 is moved to position 16
400	STM requests display of button 1 at position 17	PROF	T0+1995s	connection of active DMI channel: Message-S400	DMI		Button with caption BUT1 is moved to position 17

Message-S384: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S385: STM requests display of button 1 at position 2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S391: STM requests display of button 1 at position 8			
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S399: STM requests display of button 1 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S400: STM requests display of button 1 at position 17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=17, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

## 2.3.4 Test Case 7c2.4

TEST CASE HEADER	
Test case identification	DMI Function



	7c2.0.1.2.2.4.5
	<p>Button identities test for unified DMI with TS technology with requests for set of buttons:</p> <p>First buttons (with ids 1-136) are displayed with captions in sets of 17 buttons at once at positions 1-17 in a loop, the new request replacing the old buttons.</p> <p>Then buttons (with ids 137-255) are displayed with captions in sets of 17 buttons at once at positions 1-17 and then deleted by display with attribute 'no display' in a loop.</p> <p>Then the last buttons are shifted through all possible positions with text.</p>
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.10, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	<p>For active STM: Unified DMI service: 7a.1.</p> <p>The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9</p>
Comments and constraints	Starting and end conditions as for test case 7c2.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Request of set of buttons with replacement						
1	STM requests display of buttons 1 - 17 at positions 1-17	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT17 are displayed at positions 1-17
2	STM requests display of buttons 18 - 34 at positions 1-17	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT18 - BUT34 are displayed at positions 1-17





...	...	...	...	...	...	...	...
4	STM requests display of buttons 52 - 68 at positions 1-17	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Buttons with caption BUT52 - BUT68 are displayed at positions 1-17
...	...	...	...	...	...	...	...
6	STM requests display of buttons 86 - 102 at positions 1-17	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Buttons with caption BUT86 - BUT102 are displayed at positions 1-17
7	STM requests display of buttons 103 - 119 at positions 1-17	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Buttons with caption BUT103 - BUT119 are displayed at positions 1-17
8	STM requests display of buttons 120 - 136 at positions 1-17	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Buttons with caption BUT120 - BUT136 are displayed at positions 1-17
	Request of set of buttons with deletion						
9	STM requests display of buttons 137 - 153 at positions 1-17	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Buttons with caption BUT137 - BUT153 are displayed at positions 1-17
10	STM removes buttons 137 - 153	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		No buttons are displayed
11	STM requests display of buttons 154 - 170 at positions 1-17	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Buttons with caption BUT154 - BUT170 are displayed at positions 1-17
12	STM removes buttons 154 - 170	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
13	STM requests display of buttons 171 - 187 at positions 1-17	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		Buttons with caption BUT171 - BUT187 are displayed at positions



							1-17
14	STM removes buttons 171 - 187	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
17	STM requests display of buttons 205 - 221 at positions 1-17	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Buttons with caption BUT205 - BUT221 are displayed at positions 1-17
18	STM removes buttons 205 - 221	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		No buttons are displayed
19	STM requests display of buttons 222 - 238 at positions 1-17	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Buttons with caption BUT222 - BUT238 are displayed at positions 1-17
20	STM removes buttons 222 - 238	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		No buttons are displayed
21	STM requests display of buttons 239 - 255 at positions 1-17	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Buttons with caption BUT239 - BUT255 are displayed at positions 1-17
22	STM removes buttons 239 - 255	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		No buttons are displayed
	Shifting set of buttons through positions						
23	STM requests display of buttons 239 - 255 at positions 1-17	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Buttons with caption BUT239 - BUT255 are displayed at positions 1-17
24	STM requests display of buttons 239 - 255 at positions 2-17, 1	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		All buttons are moved by one position
...	...	...	...	...	...	...	...
30	STM requests display of buttons 239 - 255 at positions 8-17, 1-7	PROF	T0+145s	connection of active DMI channel: Message-S30	DMI		All buttons are moved by one position



...	...	...	...	...	...	...	...
38	STM requests display of buttons 239 - 255 at positions 16-17, 1-15	PROF	T0+185s	connection of active DMI channel: Message-S38	DMI		All buttons are moved by one position
39	STM requests display of buttons 239 - 255 at positions 17, 1-16	PROF	T0+190s	connection of active DMI channel: Message-S39	DMI		All buttons are moved by one position

Message-S1: STM requests display of buttons 1 - 17 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	163	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	1263	Packet Length
N_ITER	5	17	Request for 17 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	



X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing



L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	
X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	



NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	4	Caption="BUT7"
X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"T"	
X_CAPTION(7,4)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	4	Caption="BUT8"
X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"U"	
X_CAPTION(8,3)	8	"T"	
X_CAPTION(8,4)	8	"8"	
NID_BUTTON(9)	8	9	Button 9
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	1000010000b	black on red, No flashing
L_CAPTION(9)	6	4	Caption="BUT9"



X_CAPTION(9,1)	8	"B"	
X_CAPTION(9,2)	8	"U"	
X_CAPTION(9,3)	8	"T"	
X_CAPTION(9,4)	8	"g"	
NID_BUTTON(10)	8	10	Button 10
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	1000010000b	black on red, No flashing
L_CAPTION(10)	6	5	Caption="BUT10"
X_CAPTION(10,1)	8	"B"	
X_CAPTION(10,2)	8	"U"	
X_CAPTION(10,3)	8	"T"	
X_CAPTION(10,4)	8	"1"	
X_CAPTION(10,5)	8	"0"	
NID_BUTTON(11)	8	11	Button 11
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	1000010000b	black on red, No flashing
L_CAPTION(11)	6	5	Caption="BUT11"
X_CAPTION(11,1)	8	"B"	
X_CAPTION(11,2)	8	"U"	
X_CAPTION(11,3)	8	"T"	
X_CAPTION(11,4)	8	"1"	



X_CAPTION(11,5)	8	"1"	
NID_BUTTON(12)	8	12	Button 12
NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	1000010000b	black on red, No flashing
L_CAPTION(12)	6	5	Caption="BUT12"
X_CAPTION(12,1)	8	"B"	
X_CAPTION(12,2)	8	"U"	
X_CAPTION(12,3)	8	"T"	
X_CAPTION(12,4)	8	"1"	
X_CAPTION(12,5)	8	"2"	
NID_BUTTON(13)	8	13	Button 13
NID_BUTPOS(13)	5	13	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	1000010000b	black on red, No flashing
L_CAPTION(13)	6	5	Caption="BUT13"
X_CAPTION(13,1)	8	"B"	
X_CAPTION(13,2)	8	"U"	
X_CAPTION(13,3)	8	"T"	
X_CAPTION(13,4)	8	"1"	
X_CAPTION(13,5)	8	"3"	
NID_BUTTON(14)	8	14	Button 14
NID_BUTPOS(14)	5	14	





NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	1000010000b	black on red, No flashing
L_CAPTION(14)	6	5	Caption="BUT14"
X_CAPTION(14,1)	8	"B"	
X_CAPTION(14,2)	8	"U"	
X_CAPTION(14,3)	8	"T"	
X_CAPTION(14,4)	8	"1"	
X_CAPTION(14,5)	8	"4"	
NID_BUTTON(15)	8	15	Button 15
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	1000010000b	black on red, No flashing
L_CAPTION(15)	6	5	Caption="BUT15"
X_CAPTION(15,1)	8	"B"	
X_CAPTION(15,2)	8	"U"	
X_CAPTION(15,3)	8	"T"	
X_CAPTION(15,4)	8	"1"	
X_CAPTION(15,5)	8	"5"	
NID_BUTTON(16)	8	16	Button 16
NID_BUTPOS(16)	5	16	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	1000010000b	black on red, No flashing
L_CAPTION(16)	6	5	Caption="BUT16"



X_CAPTION(16,1)	8	"B"	
X_CAPTION(16,2)	8	"U"	
X_CAPTION(16,3)	8	"T"	
X_CAPTION(16,4)	8	"1"	
X_CAPTION(16,5)	8	"6"	
NID_BUTTON(17)	8	17	Button 17
NID_BUTPOS(17)	5	17	
NID_ICON(17)	8	0	
M_BUT_ATTRIB(17)	10	1000010000b	black on red, No flashing
L_CAPTION(17)	6	5	Caption="BUT17"
X_CAPTION(17,1)	8	"B"	
X_CAPTION(17,2)	8	"U"	
X_CAPTION(17,3)	8	"T"	
X_CAPTION(17,4)	8	"1"	
X_CAPTION(17,5)	8	"7"	

Message-S2: STM requests display of buttons 18 - 34 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	172	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1335, N=17, ID=18, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT18"			
(2): ID=19, P=2, IC=0, MI=1000010000b, L=5, T="BUT19"		(3): ID=20, P=3, IC=0, MI=1000010000b, L=5, T="BUT20"	



(4): ID=21, P=4, IC=0, MI=1000010000b, L=5, T="BUT21"	(5): ID=22, P=5, IC=0, MI=1000010000b, L=5, T="BUT22"
(6): ID=23, P=6, IC=0, MI=1000010000b, L=5, T="BUT23"	(7): ID=24, P=7, IC=0, MI=1000010000b, L=5, T="BUT24"
(8): ID=25, P=8, IC=0, MI=1000010000b, L=5, T="BUT25"	(9): ID=26, P=9, IC=0, MI=1000010000b, L=5, T="BUT26"
(10): ID=27, P=10, IC=0, MI=1000010000b, L=5, T="BUT27"	(11): ID=28, P=11, IC=0, MI=1000010000b, L=5, T="BUT28"
(12): ID=29, P=12, IC=0, MI=1000010000b, L=5, T="BUT29"	(13): ID=30, P=13, IC=0, MI=1000010000b, L=5, T="BUT30"
(14): ID=31, P=14, IC=0, MI=1000010000b, L=5, T="BUT31"	(15): ID=32, P=15, IC=0, MI=1000010000b, L=5, T="BUT32"
(16): ID=33, P=16, IC=0, MI=1000010000b, L=5, T="BUT33"	(17): ID=34, P=17, IC=0, MI=1000010000b, L=5, T="BUT34"

Message-S4: STM requests display of buttons 52 - 68 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	172	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1335, N=17, ID=52, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT52"			
(2): ID=53, P=2, IC=0, MI=1000010000b, L=5, T="BUT53"	(3): ID=54, P=3, IC=0, MI=1000010000b, L=5, T="BUT54"		
(4): ID=55, P=4, IC=0, MI=1000010000b, L=5, T="BUT55"	(5): ID=56, P=5, IC=0, MI=1000010000b, L=5, T="BUT56"		
(6): ID=57, P=6, IC=0, MI=1000010000b, L=5, T="BUT57"	(7): ID=58, P=7, IC=0, MI=1000010000b, L=5, T="BUT58"		
(8): ID=59, P=8, IC=0, MI=1000010000b, L=5, T="BUT59"	(9): ID=60, P=9, IC=0, MI=1000010000b, L=5, T="BUT60"		
(10): ID=61, P=10, IC=0, MI=1000010000b, L=5, T="BUT61"	(11): ID=62, P=11, IC=0, MI=1000010000b, L=5, T="BUT62"		
(12): ID=63, P=12, IC=0, MI=1000010000b, L=5, T="BUT63"	(13): ID=64, P=13, IC=0, MI=1000010000b, L=5, T="BUT64"		
(14): ID=65, P=14, IC=0, MI=1000010000b, L=5, T="BUT65"	(15): ID=66, P=15, IC=0, MI=1000010000b, L=5, T="BUT66"		
(16): ID=67, P=16, IC=0, MI=1000010000b, L=5, T="BUT67"	(17): ID=68, P=17, IC=0, MI=1000010000b, L=5, T="BUT68"		



Message-S6: STM requests display of buttons 86 - 102 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	175	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1359, N=17, ID=86, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT86"			
(2): ID=87, P=2, IC=0, MI=1000010000b, L=5, T="BUT87"		(3): ID=88, P=3, IC=0, MI=1000010000b, L=5, T="BUT88"	
(4): ID=89, P=4, IC=0, MI=1000010000b, L=5, T="BUT89"		(5): ID=90, P=5, IC=0, MI=1000010000b, L=5, T="BUT90"	
(6): ID=91, P=6, IC=0, MI=1000010000b, L=5, T="BUT91"		(7): ID=92, P=7, IC=0, MI=1000010000b, L=5, T="BUT92"	
(8): ID=93, P=8, IC=0, MI=1000010000b, L=5, T="BUT93"		(9): ID=94, P=9, IC=0, MI=1000010000b, L=5, T="BUT94"	
(10): ID=95, P=10, IC=0, MI=1000010000b, L=5, T="BUT95"		(11): ID=96, P=11, IC=0, MI=1000010000b, L=5, T="BUT96"	
(12): ID=97, P=12, IC=0, MI=1000010000b, L=5, T="BUT97"		(13): ID=98, P=13, IC=0, MI=1000010000b, L=5, T="BUT98"	
(14): ID=99, P=14, IC=0, MI=1000010000b, L=5, T="BUT99"		(15): ID=100, P=15, IC=0, MI=1000010000b, L=6, T="BUT100"	
(16): ID=101, P=16, IC=0, MI=1000010000b, L=6, T="BUT101"		(17): ID=102, P=17, IC=0, MI=1000010000b, L=6, T="BUT102"	

Message-S7: STM requests display of buttons 103 - 119 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=103, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT103"			
(2): ID=104, P=2, IC=0, MI=1000010000b, L=6, T="BUT104"		(3): ID=105, P=3, IC=0, MI=1000010000b, L=6, T="BUT105"	



(4): ID=106, P=4, IC=0, MI=1000010000b, L=6, T="BUT106"	(5): ID=107, P=5, IC=0, MI=1000010000b, L=6, T="BUT107"
(6): ID=108, P=6, IC=0, MI=1000010000b, L=6, T="BUT108"	(7): ID=109, P=7, IC=0, MI=1000010000b, L=6, T="BUT109"
(8): ID=110, P=8, IC=0, MI=1000010000b, L=6, T="BUT110"	(9): ID=111, P=9, IC=0, MI=1000010000b, L=6, T="BUT111"
(10): ID=112, P=10, IC=0, MI=1000010000b, L=6, T="BUT112"	(11): ID=113, P=11, IC=0, MI=1000010000b, L=6, T="BUT113"
(12): ID=114, P=12, IC=0, MI=1000010000b, L=6, T="BUT114"	(13): ID=115, P=13, IC=0, MI=1000010000b, L=6, T="BUT115"
(14): ID=116, P=14, IC=0, MI=1000010000b, L=6, T="BUT116"	(15): ID=117, P=15, IC=0, MI=1000010000b, L=6, T="BUT117"
(16): ID=118, P=16, IC=0, MI=1000010000b, L=6, T="BUT118"	(17): ID=119, P=17, IC=0, MI=1000010000b, L=6, T="BUT119"

Message-S8: STM requests display of buttons 120 - 136 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=120, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT120"			
(2): ID=121, P=2, IC=0, MI=1000010000b, L=6, T="BUT121"	(3): ID=122, P=3, IC=0, MI=1000010000b, L=6, T="BUT122"		
(4): ID=123, P=4, IC=0, MI=1000010000b, L=6, T="BUT123"	(5): ID=124, P=5, IC=0, MI=1000010000b, L=6, T="BUT124"		
(6): ID=125, P=6, IC=0, MI=1000010000b, L=6, T="BUT125"	(7): ID=126, P=7, IC=0, MI=1000010000b, L=6, T="BUT126"		
(8): ID=127, P=8, IC=0, MI=1000010000b, L=6, T="BUT127"	(9): ID=128, P=9, IC=0, MI=1000010000b, L=6, T="BUT128"		
(10): ID=129, P=10, IC=0, MI=1000010000b, L=6, T="BUT129"	(11): ID=130, P=11, IC=0, MI=1000010000b, L=6, T="BUT130"		
(12): ID=131, P=12, IC=0, MI=1000010000b, L=6, T="BUT131"	(13): ID=132, P=13, IC=0, MI=1000010000b, L=6, T="BUT132"		
(14): ID=133, P=14, IC=0, MI=1000010000b, L=6, T="BUT133"	(15): ID=134, P=15, IC=0, MI=1000010000b, L=6, T="BUT134"		
(16): ID=135, P=16, IC=0, MI=1000010000b, L=6, T="BUT135"	(17): ID=136, P=17, IC=0, MI=1000010000b, L=6, T="BUT136"		



Message-S9: STM requests display of buttons 137 - 153 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=137, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT137"			
(2): ID=138, P=2, IC=0, MI=1000010000b, L=6, T="BUT138"		(3): ID=139, P=3, IC=0, MI=1000010000b, L=6, T="BUT139"	
(4): ID=140, P=4, IC=0, MI=1000010000b, L=6, T="BUT140"		(5): ID=141, P=5, IC=0, MI=1000010000b, L=6, T="BUT141"	
(6): ID=142, P=6, IC=0, MI=1000010000b, L=6, T="BUT142"		(7): ID=143, P=7, IC=0, MI=1000010000b, L=6, T="BUT143"	
(8): ID=144, P=8, IC=0, MI=1000010000b, L=6, T="BUT144"		(9): ID=145, P=9, IC=0, MI=1000010000b, L=6, T="BUT145"	
(10): ID=146, P=10, IC=0, MI=1000010000b, L=6, T="BUT146"		(11): ID=147, P=11, IC=0, MI=1000010000b, L=6, T="BUT147"	
(12): ID=148, P=12, IC=0, MI=1000010000b, L=6, T="BUT148"		(13): ID=149, P=13, IC=0, MI=1000010000b, L=6, T="BUT149"	
(14): ID=150, P=14, IC=0, MI=1000010000b, L=6, T="BUT150"		(15): ID=151, P=15, IC=0, MI=1000010000b, L=6, T="BUT151"	
(16): ID=152, P=16, IC=0, MI=1000010000b, L=6, T="BUT152"		(17): ID=153, P=17, IC=0, MI=1000010000b, L=6, T="BUT153"	

Message-S10: STM removes buttons 137 - 153			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	87	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA



NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	655	Packet Length
N_ITER	5	17	Request for 17 buttons
NID_BUTTON(1)	8	137	Button 137
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	138	Button 138
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	139	Button 139
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	140	Button 140
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	



NID_BUTTON(5)	8	141	Button 141
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	142	Button 142
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	143	Button 143
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	144	Button 144
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(9)	8	145	Button 145
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	





M_BUT_ATTRIB(9)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(10)	8	146	Button 146
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(11)	8	147	Button 147
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(12)	8	148	Button 148
NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(13)	8	149	Button 149
NID_BUTPOS(13)	5	13	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(14)	8	150	Button 150



NID_BUTPOS(14)	5	14	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(15)	8	151	Button 151
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(16)	8	152	Button 152
NID_BUTPOS(16)	5	16	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(17)	8	153	Button 153
NID_BUTPOS(17)	5	17	
NID_ICON(17)	8	0	
M_BUT_ATTRIB(17)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S11: STM requests display of buttons 154 - 170 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=154, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT154"			
(2): ID=155, P=2, IC=0, MI=1000010000b, L=6, T="BUT155"	(3): ID=156, P=3, IC=0, MI=1000010000b, L=6, T="BUT156"		
(4): ID=157, P=4, IC=0, MI=1000010000b, L=6, T="BUT157"	(5): ID=158, P=5, IC=0, MI=1000010000b, L=6, T="BUT158"		
(6): ID=159, P=6, IC=0, MI=1000010000b, L=6, T="BUT159"	(7): ID=160, P=7, IC=0, MI=1000010000b, L=6, T="BUT160"		
(8): ID=161, P=8, IC=0, MI=1000010000b, L=6, T="BUT161"	(9): ID=162, P=9, IC=0, MI=1000010000b, L=6, T="BUT162"		
(10): ID=163, P=10, IC=0, MI=1000010000b, L=6, T="BUT163"	(11): ID=164, P=11, IC=0, MI=1000010000b, L=6, T="BUT164"		
(12): ID=165, P=12, IC=0, MI=1000010000b, L=6, T="BUT165"	(13): ID=166, P=13, IC=0, MI=1000010000b, L=6, T="BUT166"		
(14): ID=167, P=14, IC=0, MI=1000010000b, L=6, T="BUT167"	(15): ID=168, P=15, IC=0, MI=1000010000b, L=6, T="BUT168"		
(16): ID=169, P=16, IC=0, MI=1000010000b, L=6, T="BUT169"	(17): ID=170, P=17, IC=0, MI=1000010000b, L=6, T="BUT170"		

Message-S12: STM removes buttons 154 - 170			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	87	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=655, N=17, ID=154, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=155, P=2, IC=0, MI=0000000000b, L=0	(3): ID=156, P=3, IC=0, MI=0000000000b, L=0	(4): ID=157, P=4, IC=0, MI=0000000000b, L=0	
(5): ID=158, P=5, IC=0, MI=0000000000b, L=0	(6): ID=159, P=6, IC=0, MI=0000000000b, L=0	(7): ID=160, P=7, IC=0, MI=0000000000b, L=0	
(8): ID=161, P=8, IC=0, MI=0000000000b, L=0	(9): ID=162, P=9, IC=0, MI=0000000000b, L=0	(10): ID=163, P=10, IC=0, MI=0000000000b, L=0	
(11): ID=164, P=11, IC=0, MI=0000000000b, L=0	(12): ID=165, P=12, IC=0, MI=0000000000b, L=0	(13): ID=166, P=13, IC=0, MI=0000000000b, L=0	
(14): ID=167, P=14, IC=0, MI=0000000000b, L=0	(15): ID=168, P=15, IC=0, MI=0000000000b, L=0	(16): ID=169, P=16, IC=0, MI=0000000000b, L=0	

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(17): ID=170, P=17, IC=0, MI=0000000000b, L=0		
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Message-S13: STM requests display of buttons 171 - 187 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=171, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT171"			
(2): ID=172, P=2, IC=0, MI=1000010000b, L=6, T="BUT172"		(3): ID=173, P=3, IC=0, MI=1000010000b, L=6, T="BUT173"	
(4): ID=174, P=4, IC=0, MI=1000010000b, L=6, T="BUT174"		(5): ID=175, P=5, IC=0, MI=1000010000b, L=6, T="BUT175"	
(6): ID=176, P=6, IC=0, MI=1000010000b, L=6, T="BUT176"		(7): ID=177, P=7, IC=0, MI=1000010000b, L=6, T="BUT177"	
(8): ID=178, P=8, IC=0, MI=1000010000b, L=6, T="BUT178"		(9): ID=179, P=9, IC=0, MI=1000010000b, L=6, T="BUT179"	
(10): ID=180, P=10, IC=0, MI=1000010000b, L=6, T="BUT180"		(11): ID=181, P=11, IC=0, MI=1000010000b, L=6, T="BUT181"	
(12): ID=182, P=12, IC=0, MI=1000010000b, L=6, T="BUT182"		(13): ID=183, P=13, IC=0, MI=1000010000b, L=6, T="BUT183"	
(14): ID=184, P=14, IC=0, MI=1000010000b, L=6, T="BUT184"		(15): ID=185, P=15, IC=0, MI=1000010000b, L=6, T="BUT185"	
(16): ID=186, P=16, IC=0, MI=1000010000b, L=6, T="BUT186"		(17): ID=187, P=17, IC=0, MI=1000010000b, L=6, T="BUT187"	

Message-S14: STM removes buttons 171 - 187			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	87	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=655, N=17, ID=171, P=1, IC=0, MI=0000000000b, L=0		
(2): ID=172, P=2, IC=0, MI=0000000000b, L=0	(3): ID=173, P=3, IC=0, MI=0000000000b, L=0	(4): ID=174, P=4, IC=0, MI=0000000000b, L=0
(5): ID=175, P=5, IC=0, MI=0000000000b, L=0	(6): ID=176, P=6, IC=0, MI=0000000000b, L=0	(7): ID=177, P=7, IC=0, MI=0000000000b, L=0
(8): ID=178, P=8, IC=0, MI=0000000000b, L=0	(9): ID=179, P=9, IC=0, MI=0000000000b, L=0	(10): ID=180, P=10, IC=0, MI=0000000000b, L=0
(11): ID=181, P=11, IC=0, MI=0000000000b, L=0	(12): ID=182, P=12, IC=0, MI=0000000000b, L=0	(13): ID=183, P=13, IC=0, MI=0000000000b, L=0
(14): ID=184, P=14, IC=0, MI=0000000000b, L=0	(15): ID=185, P=15, IC=0, MI=0000000000b, L=0	(16): ID=186, P=16, IC=0, MI=0000000000b, L=0
(17): ID=187, P=17, IC=0, MI=0000000000b, L=0		

Message-S17: STM requests display of buttons 205 - 221 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=205, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT205"			
(2): ID=206, P=2, IC=0, MI=1000010000b, L=6, T="BUT206"		(3): ID=207, P=3, IC=0, MI=1000010000b, L=6, T="BUT207"	
(4): ID=208, P=4, IC=0, MI=1000010000b, L=6, T="BUT208"		(5): ID=209, P=5, IC=0, MI=1000010000b, L=6, T="BUT209"	
(6): ID=210, P=6, IC=0, MI=1000010000b, L=6, T="BUT210"		(7): ID=211, P=7, IC=0, MI=1000010000b, L=6, T="BUT211"	
(8): ID=212, P=8, IC=0, MI=1000010000b, L=6, T="BUT212"		(9): ID=213, P=9, IC=0, MI=1000010000b, L=6, T="BUT213"	
(10): ID=214, P=10, IC=0, MI=1000010000b, L=6, T="BUT214"		(11): ID=215, P=11, IC=0, MI=1000010000b, L=6, T="BUT215"	
(12): ID=216, P=12, IC=0, MI=1000010000b, L=6, T="BUT216"		(13): ID=217, P=13, IC=0, MI=1000010000b, L=6, T="BUT217"	
(14): ID=218, P=14, IC=0, MI=1000010000b, L=6, T="BUT218"		(15): ID=219, P=15, IC=0, MI=1000010000b, L=6, T="BUT219"	
(16): ID=220, P=16, IC=0, MI=1000010000b, L=6, T="BUT220"		(17): ID=221, P=17, IC=0, MI=1000010000b, L=6, T="BUT221"	



Message-S18: STM removes buttons 205 - 221			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	87	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=655, N=17, ID=205, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=206, P=2, IC=0, MI=0000000000b, L=0		(3): ID=207, P=3, IC=0, MI=0000000000b, L=0	
(5): ID=209, P=5, IC=0, MI=0000000000b, L=0		(6): ID=210, P=6, IC=0, MI=0000000000b, L=0	
(8): ID=212, P=8, IC=0, MI=0000000000b, L=0		(9): ID=213, P=9, IC=0, MI=0000000000b, L=0	
(11): ID=215, P=11, IC=0, MI=0000000000b, L=0		(12): ID=216, P=12, IC=0, MI=0000000000b, L=0	
(14): ID=218, P=14, IC=0, MI=0000000000b, L=0		(15): ID=219, P=15, IC=0, MI=0000000000b, L=0	
(17): ID=221, P=17, IC=0, MI=0000000000b, L=0		(16): ID=220, P=16, IC=0, MI=0000000000b, L=0	

Message-S19: STM requests display of buttons 222 - 238 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=222, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT222"			
(2): ID=223, P=2, IC=0, MI=1000010000b, L=6, T="BUT223"		(3): ID=224, P=3, IC=0, MI=1000010000b, L=6, T="BUT224"	
(4): ID=225, P=4, IC=0, MI=1000010000b, L=6, T="BUT225"		(5): ID=226, P=5, IC=0, MI=1000010000b, L=6, T="BUT226"	
(6): ID=227, P=6, IC=0, MI=1000010000b, L=6, T="BUT227"		(7): ID=228, P=7, IC=0, MI=1000010000b, L=6, T="BUT228"	



(8): ID=229, P=8, IC=0, MI=1000010000b, L=6, T="BUT229"	(9): ID=230, P=9, IC=0, MI=1000010000b, L=6, T="BUT230"
(10): ID=231, P=10, IC=0, MI=1000010000b, L=6, T="BUT231"	(11): ID=232, P=11, IC=0, MI=1000010000b, L=6, T="BUT232"
(12): ID=233, P=12, IC=0, MI=1000010000b, L=6, T="BUT233"	(13): ID=234, P=13, IC=0, MI=1000010000b, L=6, T="BUT234"
(14): ID=235, P=14, IC=0, MI=1000010000b, L=6, T="BUT235"	(15): ID=236, P=15, IC=0, MI=1000010000b, L=6, T="BUT236"
(16): ID=237, P=16, IC=0, MI=1000010000b, L=6, T="BUT237"	(17): ID=238, P=17, IC=0, MI=1000010000b, L=6, T="BUT238"

Message-S20: STM removes buttons 222 - 238			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	87	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=655, N=17, ID=222, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=223, P=2, IC=0, MI=0000000000b, L=0	(3): ID=224, P=3, IC=0, MI=0000000000b, L=0	(4): ID=225, P=4, IC=0, MI=0000000000b, L=0	
(5): ID=226, P=5, IC=0, MI=0000000000b, L=0	(6): ID=227, P=6, IC=0, MI=0000000000b, L=0	(7): ID=228, P=7, IC=0, MI=0000000000b, L=0	
(8): ID=229, P=8, IC=0, MI=0000000000b, L=0	(9): ID=230, P=9, IC=0, MI=0000000000b, L=0	(10): ID=231, P=10, IC=0, MI=0000000000b, L=0	
(11): ID=232, P=11, IC=0, MI=0000000000b, L=0	(12): ID=233, P=12, IC=0, MI=0000000000b, L=0	(13): ID=234, P=13, IC=0, MI=0000000000b, L=0	
(14): ID=235, P=14, IC=0, MI=0000000000b, L=0	(15): ID=236, P=15, IC=0, MI=0000000000b, L=0	(16): ID=237, P=16, IC=0, MI=0000000000b, L=0	
(17): ID=238, P=17, IC=0, MI=0000000000b, L=0			

Message-S21: STM requests display of buttons 239 - 255 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=239, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT239"			
(2): ID=240, P=2, IC=0, MI=1000010000b, L=6, T="BUT240"	(3): ID=241, P=3, IC=0, MI=1000010000b, L=6, T="BUT241"		
(4): ID=242, P=4, IC=0, MI=1000010000b, L=6, T="BUT242"	(5): ID=243, P=5, IC=0, MI=1000010000b, L=6, T="BUT243"		
(6): ID=244, P=6, IC=0, MI=1000010000b, L=6, T="BUT244"	(7): ID=245, P=7, IC=0, MI=1000010000b, L=6, T="BUT245"		
(8): ID=246, P=8, IC=0, MI=1000010000b, L=6, T="BUT246"	(9): ID=247, P=9, IC=0, MI=1000010000b, L=6, T="BUT247"		
(10): ID=248, P=10, IC=0, MI=1000010000b, L=6, T="BUT248"	(11): ID=249, P=11, IC=0, MI=1000010000b, L=6, T="BUT249"		
(12): ID=250, P=12, IC=0, MI=1000010000b, L=6, T="BUT250"	(13): ID=251, P=13, IC=0, MI=1000010000b, L=6, T="BUT251"		
(14): ID=252, P=14, IC=0, MI=1000010000b, L=6, T="BUT252"	(15): ID=253, P=15, IC=0, MI=1000010000b, L=6, T="BUT253"		
(16): ID=254, P=16, IC=0, MI=1000010000b, L=6, T="BUT254"	(17): ID=255, P=17, IC=0, MI=1000010000b, L=6, T="BUT255"		

Message-S22: STM removes buttons 239 - 255			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	87	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=655, N=17, ID=239, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=240, P=2, IC=0, MI=0000000000b, L=0	(3): ID=241, P=3, IC=0, MI=0000000000b, L=0		
(5): ID=243, P=5, IC=0, MI=0000000000b, L=0	(6): ID=244, P=6, IC=0, MI=0000000000b, L=0		
(8): ID=246, P=8, IC=0, MI=0000000000b, L=0	(9): ID=247, P=9, IC=0, MI=0000000000b, L=0		
(11): ID=249, P=11, IC=0, MI=0000000000b, L=0	(12): ID=250, P=12, IC=0, MI=0000000000b, L=0		
(14): ID=252, P=14, IC=0, MI=0000000000b, L=0	(15): ID=253, P=15, IC=0, MI=0000000000b, L=0		
(16): ID=254, P=16, IC=0, MI=0000000000b, L=0	(17): ID=255, P=17, IC=0, MI=0000000000b, L=0		

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(17): ID=255, P=17, IC=0, MI=0000000000b, L=0		
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Message-S23: STM requests display of buttons 239 - 255 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=239, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT239"			
(2): ID=240, P=2, IC=0, MI=1000010000b, L=6, T="BUT240"		(3): ID=241, P=3, IC=0, MI=1000010000b, L=6, T="BUT241"	
(4): ID=242, P=4, IC=0, MI=1000010000b, L=6, T="BUT242"		(5): ID=243, P=5, IC=0, MI=1000010000b, L=6, T="BUT243"	
(6): ID=244, P=6, IC=0, MI=1000010000b, L=6, T="BUT244"		(7): ID=245, P=7, IC=0, MI=1000010000b, L=6, T="BUT245"	
(8): ID=246, P=8, IC=0, MI=1000010000b, L=6, T="BUT246"		(9): ID=247, P=9, IC=0, MI=1000010000b, L=6, T="BUT247"	
(10): ID=248, P=10, IC=0, MI=1000010000b, L=6, T="BUT248"		(11): ID=249, P=11, IC=0, MI=1000010000b, L=6, T="BUT249"	
(12): ID=250, P=12, IC=0, MI=1000010000b, L=6, T="BUT250"		(13): ID=251, P=13, IC=0, MI=1000010000b, L=6, T="BUT251"	
(14): ID=252, P=14, IC=0, MI=1000010000b, L=6, T="BUT252"		(15): ID=253, P=15, IC=0, MI=1000010000b, L=6, T="BUT253"	
(16): ID=254, P=16, IC=0, MI=1000010000b, L=6, T="BUT254"		(17): ID=255, P=17, IC=0, MI=1000010000b, L=6, T="BUT255"	

Message-S24: STM requests display of buttons 239 - 255 at positions 2-17, 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=1471, N=17, ID=239, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT239"	
(2): ID=240, P=3, IC=0, MI=1000010000b, L=6, T="BUT240"	(3): ID=241, P=4, IC=0, MI=1000010000b, L=6, T="BUT241"
(4): ID=242, P=5, IC=0, MI=1000010000b, L=6, T="BUT242"	(5): ID=243, P=6, IC=0, MI=1000010000b, L=6, T="BUT243"
(6): ID=244, P=7, IC=0, MI=1000010000b, L=6, T="BUT244"	(7): ID=245, P=8, IC=0, MI=1000010000b, L=6, T="BUT245"
(8): ID=246, P=9, IC=0, MI=1000010000b, L=6, T="BUT246"	(9): ID=247, P=10, IC=0, MI=1000010000b, L=6, T="BUT247"
(10): ID=248, P=11, IC=0, MI=1000010000b, L=6, T="BUT248"	(11): ID=249, P=12, IC=0, MI=1000010000b, L=6, T="BUT249"
(12): ID=250, P=13, IC=0, MI=1000010000b, L=6, T="BUT250"	(13): ID=251, P=14, IC=0, MI=1000010000b, L=6, T="BUT251"
(14): ID=252, P=15, IC=0, MI=1000010000b, L=6, T="BUT252"	(15): ID=253, P=16, IC=0, MI=1000010000b, L=6, T="BUT253"
(16): ID=254, P=17, IC=0, MI=1000010000b, L=6, T="BUT254"	(17): ID=255, P=1, IC=0, MI=1000010000b, L=6, T="BUT255"

Message-S30: STM requests display of buttons 239 - 255 at positions 8-17, 1-7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=239, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT239"			
(2): ID=240, P=9, IC=0, MI=1000010000b, L=6, T="BUT240"	(3): ID=241, P=10, IC=0, MI=1000010000b, L=6, T="BUT241"		
(4): ID=242, P=11, IC=0, MI=1000010000b, L=6, T="BUT242"	(5): ID=243, P=12, IC=0, MI=1000010000b, L=6, T="BUT243"		
(6): ID=244, P=13, IC=0, MI=1000010000b, L=6, T="BUT244"	(7): ID=245, P=14, IC=0, MI=1000010000b, L=6, T="BUT245"		
(8): ID=246, P=15, IC=0, MI=1000010000b, L=6, T="BUT246"	(9): ID=247, P=16, IC=0, MI=1000010000b, L=6, T="BUT247"		
(10): ID=248, P=17, IC=0, MI=1000010000b, L=6, T="BUT248"	(11): ID=249, P=1, IC=0, MI=1000010000b, L=6, T="BUT249"		
(12): ID=250, P=2, IC=0, MI=1000010000b, L=6, T="BUT250"	(13): ID=251, P=3, IC=0, MI=1000010000b, L=6, T="BUT251"		
(14): ID=252, P=4, IC=0, MI=1000010000b, L=6, T="BUT252"	(15): ID=253, P=5, IC=0, MI=1000010000b, L=6, T="BUT253"		



(16): ID=254, P=6, IC=0, MI=1000010000b, L=6, T="BUT254"	(17): ID=255, P=7, IC=0, MI=1000010000b, L=6, T="BUT255"
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Message-S38: STM requests display of buttons 239 - 255 at positions 16-17, 1-15			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=239, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT239"			
(2): ID=240, P=17, IC=0, MI=1000010000b, L=6, T="BUT240"	(3): ID=241, P=1, IC=0, MI=1000010000b, L=6, T="BUT241"		
(4): ID=242, P=2, IC=0, MI=1000010000b, L=6, T="BUT242"	(5): ID=243, P=3, IC=0, MI=1000010000b, L=6, T="BUT243"		
(6): ID=244, P=4, IC=0, MI=1000010000b, L=6, T="BUT244"	(7): ID=245, P=5, IC=0, MI=1000010000b, L=6, T="BUT245"		
(8): ID=246, P=6, IC=0, MI=1000010000b, L=6, T="BUT246"	(9): ID=247, P=7, IC=0, MI=1000010000b, L=6, T="BUT247"		
(10): ID=248, P=8, IC=0, MI=1000010000b, L=6, T="BUT248"	(11): ID=249, P=9, IC=0, MI=1000010000b, L=6, T="BUT249"		
(12): ID=250, P=10, IC=0, MI=1000010000b, L=6, T="BUT250"	(13): ID=251, P=11, IC=0, MI=1000010000b, L=6, T="BUT251"		
(14): ID=252, P=12, IC=0, MI=1000010000b, L=6, T="BUT252"	(15): ID=253, P=13, IC=0, MI=1000010000b, L=6, T="BUT253"		
(16): ID=254, P=14, IC=0, MI=1000010000b, L=6, T="BUT254"	(17): ID=255, P=15, IC=0, MI=1000010000b, L=6, T="BUT255"		

Message-S39: STM requests display of buttons 239 - 255 at positions 17, 1-16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=1471, N=17, ID=239, P=17, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT239"	
(2): ID=240, P=1, IC=0, MI=1000010000b, L=6, T="BUT240"	(3): ID=241, P=2, IC=0, MI=1000010000b, L=6, T="BUT241"
(4): ID=242, P=3, IC=0, MI=1000010000b, L=6, T="BUT242"	(5): ID=243, P=4, IC=0, MI=1000010000b, L=6, T="BUT243"
(6): ID=244, P=5, IC=0, MI=1000010000b, L=6, T="BUT244"	(7): ID=245, P=6, IC=0, MI=1000010000b, L=6, T="BUT245"
(8): ID=246, P=7, IC=0, MI=1000010000b, L=6, T="BUT246"	(9): ID=247, P=8, IC=0, MI=1000010000b, L=6, T="BUT247"
(10): ID=248, P=9, IC=0, MI=1000010000b, L=6, T="BUT248"	(11): ID=249, P=10, IC=0, MI=1000010000b, L=6, T="BUT249"
(12): ID=250, P=11, IC=0, MI=1000010000b, L=6, T="BUT250"	(13): ID=251, P=12, IC=0, MI=1000010000b, L=6, T="BUT251"
(14): ID=252, P=13, IC=0, MI=1000010000b, L=6, T="BUT252"	(15): ID=253, P=14, IC=0, MI=1000010000b, L=6, T="BUT253"
(16): ID=254, P=15, IC=0, MI=1000010000b, L=6, T="BUT254"	(17): ID=255, P=16, IC=0, MI=1000010000b, L=6, T="BUT255"

### 2.3.5 Test Case 7c2.5

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.1.1.1.0 (SK technology)
	7c2.0.2.1.1.2.2.0 (TS technology)
	Button identities test for configuration 7a.3 for SK and TS technology with single button requests: First both buttons are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then both buttons are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then the button 2 is moved between the two positions with text. Then the button 2 is moved between the two positions with icon 127.
ERTMS/ETCS on-board	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1, 13.4.3.3



<b>requirements tested</b>	
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.3. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of button 1 at position 1	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption BUT1 is displayed at position 1
2	STM requests display of button 2 at position 1	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption BUT2 is displayed at position 1
3	STM requests display of button 1 at position 1	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with caption BUT1 is displayed at position 1
4	STM removes button 1	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		No buttons are displayed
5	STM requests display of button 2 at position 1	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with caption BUT2 is displayed at position 1
6	STM removes button 2	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		No buttons are displayed
7	STM requests display of button 2 at position 2 with caption 'BUT2'	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Button 2 is displayed at position 2 with caption 'BUT2'
8	STM requests display of button 2 at position 1 with caption 'BUT2'	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button 2 is moved to position 1 with caption 'BUT2'

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9	STM requests display of button 2 at position 2 with icon 127 (cross)	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Button 2 is displayed at position 2 with icon 127 (cross)
10	STM requests display of button 2 at position 1 with icon 127 (cross)	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		Button 2 is moved to position 1 with icon 127 (cross)

Message-S1: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	95	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	



Message-S2: STM requests display of button 2 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=2, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT2"			

Message-S3: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S4: STM removes button 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length



N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S5: STM requests display of button 2 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=2, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT2"			

Message-S6: STM removes button 2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=2, P=1, IC=0, MI=0000000000b, L=0			

Message-S7: STM requests display of button 2 at position 2 with caption 'BUT2'			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM





L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=2, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT2"			

Message-S8: STM requests display of button 2 at position 1 with caption 'BUT2'			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=2, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT2"			

Message-S9: STM requests display of button 2 at position 2 with icon 127 (cross)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=2, P=2, IC=127, MI=1000010000b (black on red, No flashing), L=0			

Message-S10: STM requests display of button 2 at position 1 with icon 127 (cross)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=2, P=1, IC=127, MI=1000010000b (black on red, No flashing), L=0			



## 2.3.6 Test Case 7c2.6

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.2.2.3.3.0 (SK technology)
	7c2.0.2.2.2.4.4.0 (TS technology)
	Button identities test for configuration 7a.3 for SK and TS technology with requests of set of buttons: First both buttons are displayed at once with button i at position i. Then both buttons are removed. Then the buttons positions are swapped with text. Then the buttons positions are swapped with icons.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.3. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c2.1

### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of both	PROF	T0	connection of active DMI channel:	DMI		Button with caption BUT1 is



	buttons, button i at position i			Message-S1			displayed at position 1, button with caption BUT2 is displayed at position 2
2	STM removes both buttons	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		No buttons are displayed
3	STM requests display of both buttons at positions 2, 1 with captions 'BUT1', 'BUT2'.	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with caption BUT1 is displayed at position 2, button with caption BUT2 is displayed at position 1
4	STM requests display of both buttons at positions 1, 2 with captions 'BUT1', 'BUT2'.	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Buttons positions are swapped with captions 'BUT1', 'BUT2'.
5	STM requests display of both buttons at positions 2, 1 with icons 127(cross), 128(light).	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with icon 127 (cross) is displayed at position 2, button with icon 128 (light) is displayed at position 1
6	STM requests display of both buttons at positions 1, 2 with icons 127(cross), 128(light).	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Buttons positions are swapped with icons 127(cross), 128(light).

Message-S1: STM requests display of both buttons, button i at position i			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	164	Packet Length

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N_ITER	5	2	Request for 2 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
Padding bits	3	000b	

Message-S3: STM removes both buttons			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	100	Packet Length
N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
Padding bits	3	000b	

Message-S4: STM requests display of both buttons at positions 2, 1 with captions 'BUT1', 'BUT2'.

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	26	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=164, N=2, ID=1, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			
(2): ID=2, P=1, IC=0, MI=1000010000b, L=4, T="BUT2"			

Message-S5: STM requests display of both buttons at positions 1, 2 with captions 'BUT1', 'BUT2'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=164, N=2, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			
(2): ID=2, P=2, IC=0, MI=1000010000b, L=4, T="BUT2"			

Message-S6: STM requests display of both buttons at positions 2, 1 with icons 127(cross), 128(light).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=100, N=2, ID=1, P=2, IC=127, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=1, IC=128, MI=1000010000b, L=0			

Message-S7: STM requests display of both buttons at positions 1, 2 with icons 127(cross), 128(light).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=100, N=2, ID=1, P=1, IC=127, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=2, IC=128, MI=1000010000b, L=0			

### 2.3.7 Test Case 7c2.7

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.1.1.1.5
	Button identities test for configuration 7a.4 with SK technology with single button requests : First single buttons (with ids 1-10) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then single buttons (with ids 11-20) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then the first button is moved through all possible positions with text.
	ERTMS/ETCS on-board requirements tested
	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1 ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.4. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c2.1



# ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Single button requests with replacement						
1	STM requests display of button 1 at position 1	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption BUT1 is displayed at position 1
2	STM requests display of button 2 at position 1	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption BUT2 is displayed at position 1
...	...	...	...	...	...	...	...
5	STM requests display of button 5 at position 1	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with caption BUT5 is displayed at position 1
...	...	...	...	...	...	...	...
8	STM requests display of button 8 at position 1	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with caption BUT8 is displayed at position 1
9	STM requests display of button 9 at position 1	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Button with caption BUT9 is displayed at position 1
10	STM requests display of button 10 at position 1	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		Button with caption BUT10 is displayed at position 1
	Single button requests with deletion						
11	STM requests display of button 11 at position 1	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Button with caption BUT11 is displayed at position 1
12	STM removes button 11	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		No buttons are displayed
13	STM requests display of button 12 at position 1	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		Button with caption BUT12 is displayed at position 1
14	STM removes button 12	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		No buttons are displayed





...	...	...	...	...	...	...	...
19	STM requests display of button 15 at position 1	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Button with caption BUT15 is displayed at position 1
20	STM removes button 15	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
25	STM requests display of button 18 at position 1	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Button with caption BUT18 is displayed at position 1
26	STM removes button 18	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		No buttons are displayed
27	STM requests display of button 19 at position 1	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Button with caption BUT19 is displayed at position 1
28	STM removes button 19	PROF	T0+135s	connection of active DMI channel: Message-S28	DMI		No buttons are displayed
29	STM requests display of button 20 at position 1	PROF	T0+140s	connection of active DMI channel: Message-S29	DMI		Button with caption BUT20 is displayed at position 1
30	STM removes button 20	PROF	T0+145s	connection of active DMI channel: Message-S30	DMI		No buttons are displayed
	Moving single button through positions						
31	STM requests display of button 1 at position 1	PROF	T0+150s	connection of active DMI channel: Message-S31	DMI		Button with caption BUT1 is displayed at position 1
32	STM requests display of button 1 at position 2	PROF	T0+155s	connection of active DMI channel: Message-S32	DMI		Button with caption BUT1 is moved to position 2
33	STM requests display of button 1 at position 3	PROF	T0+160s	connection of active DMI channel: Message-S33	DMI		Button with caption BUT1 is moved to position 3
34	STM requests display of button 1 at position 4	PROF	T0+165s	connection of active DMI channel: Message-S34	DMI		Button with caption BUT1 is moved to position 4



35	STM requests display of button 1 at position 5	PROF	T0+170s	connection of active DMI channel: Message-S35	DMI		Button with caption BUT1 is moved to position 5
36	STM requests display of button 1 at position 6	PROF	T0+175s	connection of active DMI channel: Message-S36	DMI		Button with caption BUT1 is moved to position 6

Message-S1: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	95	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	



Message-S2: STM requests display of button 2 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=2, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT2"			

Message-S5: STM requests display of button 5 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=5, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT5"			

Message-S8: STM requests display of button 8 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=8, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT8"			

Message-S9: STM requests display of button 9 at position 1			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=9, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT9"			

Message-S10: STM requests display of button 10 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=103, N=1, ID=10, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT10"			

Message-S11: STM requests display of button 11 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=103, N=1, ID=11, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT11"			

Message-S12: STM removes button 11			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)



L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	11	Button 11
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S13: STM requests display of button 12 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=103, N=1, ID=12, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT12"			

Message-S14: STM removes button 12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=12, P=1, IC=0, MI=0000000000b, L=0			



Message-S19: STM requests display of button 15 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=103, N=1, ID=15, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT15"			

Message-S20: STM removes button 15			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=15, P=1, IC=0, MI=0000000000b, L=0			

Message-S25: STM requests display of button 18 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=103, N=1, ID=18, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT18"			

Message-S26: STM removes button 18			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=18, P=1, IC=0, MI=0000000000b, L=0			

Message-S27: STM requests display of button 19 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=103, N=1, ID=19, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT19"			

Message-S28: STM removes button 19			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=19, P=1, IC=0, MI=0000000000b, L=0			

Message-S29: STM requests display of button 20 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=103, N=1, ID=20, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT20"

Message-S30: STM removes button 20			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=20, P=1, IC=0, MI=0000000000b, L=0			

Message-S31: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S32: STM requests display of button 1 at position 2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S33: STM requests display of button 1 at position 3			
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S34: STM requests display of button 1 at position 4			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=4, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S35: STM requests display of button 1 at position 5			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S36: STM requests display of button 1 at position 6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length



STM-15: PL=25, ST=7, (State DA)

STM-32: PL=95, N=1, ID=1, P=6, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"

### 2.3.8 Test Case 7c2.8

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.2.2.3.5
	Button identities test for configuration 7a.4 with SK technology with requests for set of buttons: First buttons (with ids 1-12) are displayed with captions in sets of 6 buttons at once at positions 1-6 in a loop, the new request replacing the old buttons. Then buttons (with ids 9-20) are displayed with captions in sets of 6 buttons at once at positions 1-6 and then deleted by display with attribute 'no display' in a loop. Then the last buttons are shifted through all possible positions with text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.4.
	The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c2.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input	Input Action	Output	Output	Output action
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			time		I/F	time limit	
	Requests for set of buttons with replacement						
1	STM requests display of buttons 1 - 6 at positions 1-6	PROF	T0+180s	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT6 are displayed at positions 1-6
2	STM requests display of buttons 7 - 12 at positions 1-6	PROF	T0+185s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT7 - BUT12 are displayed at positions 1-6
	Requests for set of buttons with deletion						
3	STM requests display of buttons 13 - 18 at positions 1-6	PROF	T0+190s	connection of active DMI channel: Message-S3	DMI		Buttons with caption BUT13 - BUT18 are displayed at positions 1-6
4	STM removes buttons 13 - 18	PROF	T0+195s	connection of active DMI channel: Message-S4	DMI		No buttons are displayed
5	STM requests display of buttons 15 - 20 at positions 1-6	PROF	T0+200s	connection of active DMI channel: Message-S5	DMI		Buttons with caption BUT15 - BUT20 are displayed at positions 1-6
6	STM removes buttons 15 - 20	PROF	T0+205s	connection of active DMI channel: Message-S6	DMI		No buttons are displayed
	Shifting set of buttons through positions						
7	STM requests display of buttons 15 - 20 at positions 1-6	PROF	T0+210s	connection of active DMI channel: Message-S7	DMI		Buttons with caption BUT15 - BUT20 are displayed at positions 1-6
8	STM requests display of buttons 15 - 20 at positions 2-6, 1	PROF	T0+215s	connection of active DMI channel: Message-S8	DMI		All buttons are moved by one position
9	STM requests display of buttons 15 - 20 at positions 3-6, 1-2	PROF	T0+220s	connection of active DMI channel: Message-S9	DMI		All buttons are moved by one position
10	STM requests display of buttons 15	PROF	T0+225s	connection of active DMI channel:	DMI		All buttons are moved by one



	- 20 at positions 4-6, 1-3			Message-S10			position
11	STM requests display of buttons 15 - 20 at positions 5-6, 1-4	PROF	T0+230s	connection of active DMI channel: Message-S11	DMI		All buttons are moved by one position
12	STM requests display of buttons 15 - 20 at positions 6, 1-5	PROF	T0+235s	connection of active DMI channel: Message-S12	DMI		All buttons are moved by one position

Message-S1: STM requests display of buttons 1 - 6 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	61	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	440	Packet Length
N_ITER	5	6	Request for 6 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	



X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing



L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	
X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	



Padding bits	7	0000000b	
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Message-S2: STM requests display of buttons 7 - 12 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	64	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=464, N=6, ID=7, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT7"			
(2): ID=8, P=2, IC=0, MI=1000010000b, L=4, T="BUT8"		(3): ID=9, P=3, IC=0, MI=1000010000b, L=4, T="BUT9"	
(4): ID=10, P=4, IC=0, MI=1000010000b, L=5, T="BUT10"		(5): ID=11, P=5, IC=0, MI=1000010000b, L=5, T="BUT11"	
(6): ID=12, P=6, IC=0, MI=1000010000b, L=5, T="BUT12"			

Message-S3: STM requests display of buttons 13 - 18 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=13, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT13"			
(2): ID=14, P=2, IC=0, MI=1000010000b, L=5, T="BUT14"		(3): ID=15, P=3, IC=0, MI=1000010000b, L=5, T="BUT15"	
(4): ID=16, P=4, IC=0, MI=1000010000b, L=5, T="BUT16"		(5): ID=17, P=5, IC=0, MI=1000010000b, L=5, T="BUT17"	
(6): ID=18, P=6, IC=0, MI=1000010000b, L=5, T="BUT18"			

Message-S4: STM removes buttons 13 - 18			
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	248	Packet Length
N_ITER	5	6	Request for 6 buttons
NID_BUTTON(1)	8	13	Button 13
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	14	Button 14
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	15	Button 15
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	0000000000b	No display





L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	16	Button 16
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	17	Button 17
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	18	Button 18
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
Padding bits	7	0000000b	

Message-S5: STM requests display of buttons 15 - 20 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=488, N=6, ID=15, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT15"	
(2): ID=16, P=2, IC=0, MI=1000010000b, L=5, T="BUT16"	(3): ID=17, P=3, IC=0, MI=1000010000b, L=5, T="BUT17"
(4): ID=18, P=4, IC=0, MI=1000010000b, L=5, T="BUT18"	(5): ID=19, P=5, IC=0, MI=1000010000b, L=5, T="BUT19"
(6): ID=20, P=6, IC=0, MI=1000010000b, L=5, T="BUT20"	

Message-S6: STM removes buttons 15 - 20			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=15, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=16, P=2, IC=0, MI=0000000000b, L=0	(3): ID=17, P=3, IC=0, MI=0000000000b, L=0	(4): ID=18, P=4, IC=0, MI=0000000000b, L=0	
(5): ID=19, P=5, IC=0, MI=0000000000b, L=0	(6): ID=20, P=6, IC=0, MI=0000000000b, L=0		

Message-S7: STM requests display of buttons 15 - 20 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=15, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT15"			
(2): ID=16, P=2, IC=0, MI=1000010000b, L=5, T="BUT16"	(3): ID=17, P=3, IC=0, MI=1000010000b, L=5, T="BUT17"		
(4): ID=18, P=4, IC=0, MI=1000010000b, L=5, T="BUT18"	(5): ID=19, P=5, IC=0, MI=1000010000b, L=5, T="BUT19"		



(6): ID=20, P=6, IC=0, MI=1000010000b, L=5, T="BUT20"	
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Message-S8: STM requests display of buttons 15 - 20 at positions 2-6, 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=15, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT15"			
(2): ID=16, P=3, IC=0, MI=1000010000b, L=5, T="BUT16"		(3): ID=17, P=4, IC=0, MI=1000010000b, L=5, T="BUT17"	
(4): ID=18, P=5, IC=0, MI=1000010000b, L=5, T="BUT18"		(5): ID=19, P=6, IC=0, MI=1000010000b, L=5, T="BUT19"	
(6): ID=20, P=1, IC=0, MI=1000010000b, L=5, T="BUT20"			

Message-S9: STM requests display of buttons 15 - 20 at positions 3-6, 1-2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=15, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT15"			
(2): ID=16, P=4, IC=0, MI=1000010000b, L=5, T="BUT16"		(3): ID=17, P=5, IC=0, MI=1000010000b, L=5, T="BUT17"	
(4): ID=18, P=6, IC=0, MI=1000010000b, L=5, T="BUT18"		(5): ID=19, P=1, IC=0, MI=1000010000b, L=5, T="BUT19"	
(6): ID=20, P=2, IC=0, MI=1000010000b, L=5, T="BUT20"			



Message-S10: STM requests display of buttons 15 - 20 at positions 4-6, 1-3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=15, P=4, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT15"			
(2): ID=16, P=5, IC=0, MI=1000010000b, L=5, T="BUT16"		(3): ID=17, P=6, IC=0, MI=1000010000b, L=5, T="BUT17"	
(4): ID=18, P=1, IC=0, MI=1000010000b, L=5, T="BUT18"		(5): ID=19, P=2, IC=0, MI=1000010000b, L=5, T="BUT19"	
(6): ID=20, P=3, IC=0, MI=1000010000b, L=5, T="BUT20"			

Message-S11: STM requests display of buttons 15 - 20 at positions 5-6, 1-4			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=15, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT15"			
(2): ID=16, P=6, IC=0, MI=1000010000b, L=5, T="BUT16"		(3): ID=17, P=1, IC=0, MI=1000010000b, L=5, T="BUT17"	
(4): ID=18, P=2, IC=0, MI=1000010000b, L=5, T="BUT18"		(5): ID=19, P=3, IC=0, MI=1000010000b, L=5, T="BUT19"	
(6): ID=20, P=4, IC=0, MI=1000010000b, L=5, T="BUT20"			

Message-S12: STM requests display of buttons 15 - 20 at positions 6, 1-5			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=15, P=6, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT15"			
(2): ID=16, P=1, IC=0, MI=1000010000b, L=5, T="BUT16"		(3): ID=17, P=2, IC=0, MI=1000010000b, L=5, T="BUT17"	
(4): ID=18, P=3, IC=0, MI=1000010000b, L=5, T="BUT18"		(5): ID=19, P=4, IC=0, MI=1000010000b, L=5, T="BUT19"	
(6): ID=20, P=5, IC=0, MI=1000010000b, L=5, T="BUT20"			

### 2.3.9 Test Case 7c2.9

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.1.1.2.5
	Button identities test for configuration 7a.4 with TS technology with single button requests : First single buttons (with ids 1-10) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then single buttons (with ids 11-20) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then the first button is moved through all possible positions with text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32



<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.4. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1 Messages S1-S30 are the same as in test case 7c2.7.

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Single button requests with replacement						
1	STM requests display of button 1 at position 1	PROF	T0+240s	connection of active DMI channel: Message-S1	DMI		Button with caption BUT1 is displayed at position 1
2	STM requests display of button 2 at position 1	PROF	T0+245s	connection of active DMI channel: Message-S2	DMI		Button with caption BUT2 is displayed at position 1
...	...	...	...	...	...	...	...
5	STM requests display of button 5 at position 1	PROF	T0+260s	connection of active DMI channel: Message-S5	DMI		Button with caption BUT5 is displayed at position 1
...	...	...	...	...	...	...	...
8	STM requests display of button 8 at position 1	PROF	T0+275s	connection of active DMI channel: Message-S8	DMI		Button with caption BUT8 is displayed at position 1
9	STM requests display of button 9 at position 1	PROF	T0+280s	connection of active DMI channel: Message-S9	DMI		Button with caption BUT9 is displayed at position 1
10	STM requests display of button 10 at position 1	PROF	T0+285s	connection of active DMI channel: Message-S10	DMI		Button with caption BUT10 is displayed at position 1
	Single button requests with deletion						
11	STM requests display of button 11 at position 1	PROF	T0+290s	connection of active DMI channel: Message-S11	DMI		Button with caption BUT11 is displayed at position 1



12	STM removes button 11	PROF	T0+295s	connection of active DMI channel: Message-S12	DMI		No buttons are displayed
13	STM requests display of button 12 at position 1	PROF	T0+300s	connection of active DMI channel: Message-S13	DMI		Button with caption BUT12 is displayed at position 1
14	STM removes button 12	PROF	T0+305s	connection of active DMI channel: Message-S14	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
19	STM requests display of button 15 at position 1	PROF	T0+330s	connection of active DMI channel: Message-S19	DMI		Button with caption BUT15 is displayed at position 1
20	STM removes button 15	PROF	T0+335s	connection of active DMI channel: Message-S20	DMI		No buttons are displayed
...	...	...	...	...	...	...	...
25	STM requests display of button 18 at position 1	PROF	T0+360s	connection of active DMI channel: Message-S25	DMI		Button with caption BUT18 is displayed at position 1
26	STM removes button 18	PROF	T0+365s	connection of active DMI channel: Message-S26	DMI		No buttons are displayed
27	STM requests display of button 19 at position 1	PROF	T0+370s	connection of active DMI channel: Message-S27	DMI		Button with caption BUT19 is displayed at position 1
28	STM removes button 19	PROF	T0+375s	connection of active DMI channel: Message-S28	DMI		No buttons are displayed
29	STM requests display of button 20 at position 1	PROF	T0+380s	connection of active DMI channel: Message-S29	DMI		Button with caption BUT20 is displayed at position 1
30	STM removes button 20	PROF	T0+385s	connection of active DMI channel: Message-S30	DMI		No buttons are displayed
	Moving single button through positions						
31	STM requests display of button 1 at position 1	PROF	T0+390s	connection of active DMI channel: Message-S31	DMI		Button with caption BUT1 is displayed at position 1



32	STM requests display of button 1 at position 2	PROF	T0+395s	connection of active DMI channel: Message-S32	DMI		Button with caption BUT1 is moved to position 2
...	...	...	...	...	...	...	...
38	STM requests display of button 1 at position 8	PROF	T0+425s	connection of active DMI channel: Message-S38	DMI		Button with caption BUT1 is moved to position 8
...	...	...	...	...	...	...	...
46	STM requests display of button 1 at position 16	PROF	T0+465s	connection of active DMI channel: Message-S46	DMI		Button with caption BUT1 is moved to position 16
47	STM requests display of button 1 at position 17	PROF	T0+470s	connection of active DMI channel: Message-S47	DMI		Button with caption BUT1 is moved to position 17

Message-S31: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S32: STM requests display of button 1 at position 2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S38: STM requests display of button 1 at position 8			
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S46: STM requests display of button 1 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

Message-S47: STM requests display of button 1 at position 17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	17	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=95, N=1, ID=1, P=17, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT1"			

### 2.3.10 Test Case 7c2.10

TEST CASE HEADER	
Test case identification	DMI Function



	7c2.0.2.2.4.5
	<p>Button identities test for configuration 7a.4 with TS technology with requests for set of buttons:</p> <p>First buttons (with ids 1-17) are displayed with captions in sets of 17 buttons at once at positions 1-17, the new request replacing the old buttons.</p> <p>Then buttons (with ids 4-20) are displayed with captions in sets of 17 buttons at once at positions 1-17 and then deleted by display with attribute 'no display'.</p> <p>Then the last buttons are shifted through all possible positions with text.</p>
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	<p>For active STM: Customisable DMI service: 7a.4.</p> <p>The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9</p>
Comments and constraints	Starting and end conditions as for test case 7c2.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Requests for set of buttons with replacement						
1	STM requests display of buttons 1 - 17 at positions 1-17	PROF	T0+475s	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT17 are displayed at positions 1-17
	Requests for set of buttons with deletion						
2	STM requests display of buttons 4 -	PROF	T0+480s	connection of active DMI channel:	DMI		Buttons with caption BUT4 - BUT20



	20 at positions 1-17			Message-S2			are displayed at positions 1-17
3	STM removes buttons 4 - 20	PROF	T0+485s	connection of active DMI channel: Message-S3	DMI		No buttons are displayed
	Shifting set of buttons through positions						
4	STM requests display of buttons 4 - 20 at positions 1-17	PROF	T0+490s	connection of active DMI channel: Message-S4	DMI		Buttons with caption BUT4 - BUT20 are displayed at positions 1-17
5	STM requests display of buttons 4 - 20 at positions 2-17, 1	PROF	T0+495s	connection of active DMI channel: Message-S5	DMI		All buttons are moved by one position
...	...	...	...	...	...	...	...
11	STM requests display of buttons 4 - 20 at positions 8-17, 1-7	PROF	T0+525s	connection of active DMI channel: Message-S11	DMI		All buttons are moved by one position
...	...	...	...	...	...	...	...
19	STM requests display of buttons 4 - 20 at positions 16-17, 1-15	PROF	T0+565s	connection of active DMI channel: Message-S19	DMI		All buttons are moved by one position
20	STM requests display of buttons 4 - 20 at positions 17, 1-16	PROF	T0+570s	connection of active DMI channel: Message-S20	DMI		All buttons are moved by one position

Message-S1: STM requests display of buttons 1 - 17 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	163	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)



L_PACKET	13	1263	Packet Length
N_ITER	5	17	Request for 17 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	



M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	



X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	4	Caption="BUT7"
X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"T"	
X_CAPTION(7,4)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing



L_CAPTION(8)	6	4	Caption="BUT8"
X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"U"	
X_CAPTION(8,3)	8	"T"	
X_CAPTION(8,4)	8	"8"	
NID_BUTTON(9)	8	9	Button 9
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	1000010000b	black on red, No flashing
L_CAPTION(9)	6	4	Caption="BUT9"
X_CAPTION(9,1)	8	"B"	
X_CAPTION(9,2)	8	"U"	
X_CAPTION(9,3)	8	"T"	
X_CAPTION(9,4)	8	"9"	
NID_BUTTON(10)	8	10	Button 10
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	1000010000b	black on red, No flashing
L_CAPTION(10)	6	5	Caption="BUT10"
X_CAPTION(10,1)	8	"B"	
X_CAPTION(10,2)	8	"U"	
X_CAPTION(10,3)	8	"T"	
X_CAPTION(10,4)	8	"1"	



X_CAPTION(10,5)	8	"0"	
NID_BUTTON(11)	8	11	Button 11
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	1000010000b	black on red, No flashing
L_CAPTION(11)	6	5	Caption="BUT11"
X_CAPTION(11,1)	8	"B"	
X_CAPTION(11,2)	8	"U"	
X_CAPTION(11,3)	8	"T"	
X_CAPTION(11,4)	8	"1"	
X_CAPTION(11,5)	8	"1"	
NID_BUTTON(12)	8	12	Button 12
NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	1000010000b	black on red, No flashing
L_CAPTION(12)	6	5	Caption="BUT12"
X_CAPTION(12,1)	8	"B"	
X_CAPTION(12,2)	8	"U"	
X_CAPTION(12,3)	8	"T"	
X_CAPTION(12,4)	8	"1"	
X_CAPTION(12,5)	8	"2"	
NID_BUTTON(13)	8	13	Button 13
NID_BUTPOS(13)	5	13	





NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	1000010000b	black on red, No flashing
L_CAPTION(13)	6	5	Caption="BUT13"
X_CAPTION(13,1)	8	"B"	
X_CAPTION(13,2)	8	"U"	
X_CAPTION(13,3)	8	"T"	
X_CAPTION(13,4)	8	"1"	
X_CAPTION(13,5)	8	"3"	
NID_BUTTON(14)	8	14	Button 14
NID_BUTPOS(14)	5	14	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	1000010000b	black on red, No flashing
L_CAPTION(14)	6	5	Caption="BUT14"
X_CAPTION(14,1)	8	"B"	
X_CAPTION(14,2)	8	"U"	
X_CAPTION(14,3)	8	"T"	
X_CAPTION(14,4)	8	"1"	
X_CAPTION(14,5)	8	"4"	
NID_BUTTON(15)	8	15	Button 15
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	1000010000b	black on red, No flashing
L_CAPTION(15)	6	5	Caption="BUT15"



X_CAPTION(15,1)	8	"B"	
X_CAPTION(15,2)	8	"U"	
X_CAPTION(15,3)	8	"T"	
X_CAPTION(15,4)	8	"1"	
X_CAPTION(15,5)	8	"5"	
NID_BUTTON(16)	8	16	Button 16
NID_BUTPOS(16)	5	16	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	1000010000b	black on red, No flashing
L_CAPTION(16)	6	5	Caption="BUT16"
X_CAPTION(16,1)	8	"B"	
X_CAPTION(16,2)	8	"U"	
X_CAPTION(16,3)	8	"T"	
X_CAPTION(16,4)	8	"1"	
X_CAPTION(16,5)	8	"6"	
NID_BUTTON(17)	8	17	Button 17
NID_BUTPOS(17)	5	17	
NID_ICON(17)	8	0	
M_BUT_ATTRIB(17)	10	1000010000b	black on red, No flashing
L_CAPTION(17)	6	5	Caption="BUT17"
X_CAPTION(17,1)	8	"B"	
X_CAPTION(17,2)	8	"U"	
X_CAPTION(17,3)	8	"T"	



X_CAPTION(17,4)	8	"1"	
X_CAPTION(17,5)	8	"7"	

Message-S2: STM requests display of buttons 4 - 20 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	166	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1287, N=17, ID=4, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT4"			
(2): ID=5, P=2, IC=0, MI=1000010000b, L=4, T="BUT5"		(3): ID=6, P=3, IC=0, MI=1000010000b, L=4, T="BUT6"	
(4): ID=7, P=4, IC=0, MI=1000010000b, L=4, T="BUT7"		(5): ID=8, P=5, IC=0, MI=1000010000b, L=4, T="BUT8"	
(6): ID=9, P=6, IC=0, MI=1000010000b, L=4, T="BUT9"		(7): ID=10, P=7, IC=0, MI=1000010000b, L=5, T="BUT10"	
(8): ID=11, P=8, IC=0, MI=1000010000b, L=5, T="BUT11"		(9): ID=12, P=9, IC=0, MI=1000010000b, L=5, T="BUT12"	
(10): ID=13, P=10, IC=0, MI=1000010000b, L=5, T="BUT13"		(11): ID=14, P=11, IC=0, MI=1000010000b, L=5, T="BUT14"	
(12): ID=15, P=12, IC=0, MI=1000010000b, L=5, T="BUT15"		(13): ID=16, P=13, IC=0, MI=1000010000b, L=5, T="BUT16"	
(14): ID=17, P=14, IC=0, MI=1000010000b, L=5, T="BUT17"		(15): ID=18, P=15, IC=0, MI=1000010000b, L=5, T="BUT18"	
(16): ID=19, P=16, IC=0, MI=1000010000b, L=5, T="BUT19"		(17): ID=20, P=17, IC=0, MI=1000010000b, L=5, T="BUT20"	

Message-S3: STM removes buttons 4 - 20			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	87	Message Length
NID_PACKET	8	15	State report from STM (STM-15)



L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	655	Packet Length
N_ITER	5	17	Request for 17 buttons
NID_BUTTON(1)	8	4	Button 4
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	5	Button 5
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	6	Button 6
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	7	Button 7
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	



M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	8	Button 8
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	9	Button 9
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	10	Button 10
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	11	Button 11
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(9)	8	12	Button 12



NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(10)	8	13	Button 13
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(11)	8	14	Button 14
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(12)	8	15	Button 15
NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(13)	8	16	Button 16
NID_BUTPOS(13)	5	13	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	0000000000b	No display



L_CAPTION(1)	6	0	
NID_BUTTON(14)	8	17	Button 17
NID_BUTPOS(14)	5	14	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(15)	8	18	Button 18
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(16)	8	19	Button 19
NID_BUTPOS(16)	5	16	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(17)	8	20	Button 20
NID_BUTPOS(17)	5	17	
NID_ICON(17)	8	0	
M_BUT_ATTRIB(17)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S4: STM requests display of buttons 4 - 20 at positions 1-17



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	166	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1287, N=17, ID=4, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT4"			
(2): ID=5, P=2, IC=0, MI=1000010000b, L=4, T="BUT5"		(3): ID=6, P=3, IC=0, MI=1000010000b, L=4, T="BUT6"	
(4): ID=7, P=4, IC=0, MI=1000010000b, L=4, T="BUT7"		(5): ID=8, P=5, IC=0, MI=1000010000b, L=4, T="BUT8"	
(6): ID=9, P=6, IC=0, MI=1000010000b, L=4, T="BUT9"		(7): ID=10, P=7, IC=0, MI=1000010000b, L=5, T="BUT10"	
(8): ID=11, P=8, IC=0, MI=1000010000b, L=5, T="BUT11"		(9): ID=12, P=9, IC=0, MI=1000010000b, L=5, T="BUT12"	
(10): ID=13, P=10, IC=0, MI=1000010000b, L=5, T="BUT13"		(11): ID=14, P=11, IC=0, MI=1000010000b, L=5, T="BUT14"	
(12): ID=15, P=12, IC=0, MI=1000010000b, L=5, T="BUT15"		(13): ID=16, P=13, IC=0, MI=1000010000b, L=5, T="BUT16"	
(14): ID=17, P=14, IC=0, MI=1000010000b, L=5, T="BUT17"		(15): ID=18, P=15, IC=0, MI=1000010000b, L=5, T="BUT18"	
(16): ID=19, P=16, IC=0, MI=1000010000b, L=5, T="BUT19"		(17): ID=20, P=17, IC=0, MI=1000010000b, L=5, T="BUT20"	

Message-S5: STM requests display of buttons 4 - 20 at positions 2-17, 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	166	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1287, N=17, ID=4, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT4"			
(2): ID=5, P=3, IC=0, MI=1000010000b, L=4, T="BUT5"		(3): ID=6, P=4, IC=0, MI=1000010000b, L=4, T="BUT6"	
(4): ID=7, P=5, IC=0, MI=1000010000b, L=4, T="BUT7"		(5): ID=8, P=6, IC=0, MI=1000010000b, L=4, T="BUT8"	
(6): ID=9, P=7, IC=0, MI=1000010000b, L=4, T="BUT9"		(7): ID=10, P=8, IC=0, MI=1000010000b, L=5, T="BUT10"	





(8): ID=11, P=9, IC=0, MI=1000010000b, L=5, T="BUT11"	(9): ID=12, P=10, IC=0, MI=1000010000b, L=5, T="BUT12"
(10): ID=13, P=11, IC=0, MI=1000010000b, L=5, T="BUT13"	(11): ID=14, P=12, IC=0, MI=1000010000b, L=5, T="BUT14"
(12): ID=15, P=13, IC=0, MI=1000010000b, L=5, T="BUT15"	(13): ID=16, P=14, IC=0, MI=1000010000b, L=5, T="BUT16"
(14): ID=17, P=15, IC=0, MI=1000010000b, L=5, T="BUT17"	(15): ID=18, P=16, IC=0, MI=1000010000b, L=5, T="BUT18"
(16): ID=19, P=17, IC=0, MI=1000010000b, L=5, T="BUT19"	(17): ID=20, P=1, IC=0, MI=1000010000b, L=5, T="BUT20"

Message-S11: STM requests display of buttons 4 - 20 at positions 8-17, 1-7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	166	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1287, N=17, ID=4, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT4"			
(2): ID=5, P=9, IC=0, MI=1000010000b, L=4, T="BUT5"	(3): ID=6, P=10, IC=0, MI=1000010000b, L=4, T="BUT6"		
(4): ID=7, P=11, IC=0, MI=1000010000b, L=4, T="BUT7"	(5): ID=8, P=12, IC=0, MI=1000010000b, L=4, T="BUT8"		
(6): ID=9, P=13, IC=0, MI=1000010000b, L=4, T="BUT9"	(7): ID=10, P=14, IC=0, MI=1000010000b, L=5, T="BUT10"		
(8): ID=11, P=15, IC=0, MI=1000010000b, L=5, T="BUT11"	(9): ID=12, P=16, IC=0, MI=1000010000b, L=5, T="BUT12"		
(10): ID=13, P=17, IC=0, MI=1000010000b, L=5, T="BUT13"	(11): ID=14, P=1, IC=0, MI=1000010000b, L=5, T="BUT14"		
(12): ID=15, P=2, IC=0, MI=1000010000b, L=5, T="BUT15"	(13): ID=16, P=3, IC=0, MI=1000010000b, L=5, T="BUT16"		
(14): ID=17, P=4, IC=0, MI=1000010000b, L=5, T="BUT17"	(15): ID=18, P=5, IC=0, MI=1000010000b, L=5, T="BUT18"		
(16): ID=19, P=6, IC=0, MI=1000010000b, L=5, T="BUT19"	(17): ID=20, P=7, IC=0, MI=1000010000b, L=5, T="BUT20"		

Message-S19: STM requests display of buttons 4 - 20 at positions 16-17, 1-15
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	166	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1287, N=17, ID=4, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT4"			
(2): ID=5, P=17, IC=0, MI=1000010000b, L=4, T="BUT5"		(3): ID=6, P=1, IC=0, MI=1000010000b, L=4, T="BUT6"	
(4): ID=7, P=2, IC=0, MI=1000010000b, L=4, T="BUT7"		(5): ID=8, P=3, IC=0, MI=1000010000b, L=4, T="BUT8"	
(6): ID=9, P=4, IC=0, MI=1000010000b, L=4, T="BUT9"		(7): ID=10, P=5, IC=0, MI=1000010000b, L=5, T="BUT10"	
(8): ID=11, P=6, IC=0, MI=1000010000b, L=5, T="BUT11"		(9): ID=12, P=7, IC=0, MI=1000010000b, L=5, T="BUT12"	
(10): ID=13, P=8, IC=0, MI=1000010000b, L=5, T="BUT13"		(11): ID=14, P=9, IC=0, MI=1000010000b, L=5, T="BUT14"	
(12): ID=15, P=10, IC=0, MI=1000010000b, L=5, T="BUT15"		(13): ID=16, P=11, IC=0, MI=1000010000b, L=5, T="BUT16"	
(14): ID=17, P=12, IC=0, MI=1000010000b, L=5, T="BUT17"		(15): ID=18, P=13, IC=0, MI=1000010000b, L=5, T="BUT18"	
(16): ID=19, P=14, IC=0, MI=1000010000b, L=5, T="BUT19"		(17): ID=20, P=15, IC=0, MI=1000010000b, L=5, T="BUT20"	

Message-S20: STM requests display of buttons 4 - 20 at positions 17, 1-16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	166	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1287, N=17, ID=4, P=17, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT4"			
(2): ID=5, P=1, IC=0, MI=1000010000b, L=4, T="BUT5"		(3): ID=6, P=2, IC=0, MI=1000010000b, L=4, T="BUT6"	
(4): ID=7, P=3, IC=0, MI=1000010000b, L=4, T="BUT7"		(5): ID=8, P=4, IC=0, MI=1000010000b, L=4, T="BUT8"	
(6): ID=9, P=5, IC=0, MI=1000010000b, L=4, T="BUT9"		(7): ID=10, P=6, IC=0, MI=1000010000b, L=5, T="BUT10"	



(8): ID=11, P=7, IC=0, MI=1000010000b, L=5, T="BUT11"	(9): ID=12, P=8, IC=0, MI=1000010000b, L=5, T="BUT12"
(10): ID=13, P=9, IC=0, MI=1000010000b, L=5, T="BUT13"	(11): ID=14, P=10, IC=0, MI=1000010000b, L=5, T="BUT14"
(12): ID=15, P=11, IC=0, MI=1000010000b, L=5, T="BUT15"	(13): ID=16, P=12, IC=0, MI=1000010000b, L=5, T="BUT16"
(14): ID=17, P=13, IC=0, MI=1000010000b, L=5, T="BUT17"	(15): ID=18, P=14, IC=0, MI=1000010000b, L=5, T="BUT18"
(16): ID=19, P=15, IC=0, MI=1000010000b, L=5, T="BUT19"	(17): ID=20, P=16, IC=0, MI=1000010000b, L=5, T="BUT20"

### 2.3.11 Test Case 7c2.11

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.1.1.1.0 (SK technology)
	7c2.0.2.1.1.2.2.0 (TS technology)
	Button identities test for configuration 7a.5, 7a.6, and 7a.7 with SK and TS technology with single button requests : First single buttons (with ids 1-8) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then single buttons (with ids 16, 32, .. 128) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then button 128 is moved through all possible positions with text. Then the button 128 is moved through positions 4-6 with icon 40.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32



<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.5, 7a.6, 7a.7 (one configuration shall be chosen). The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1  The caption of buttons in the test case indicates the alignment, the font size and the button id.  The caption has the format <horizontal alignment><vertical alignment><font size in decimal format><Button id in hex-format> with <horizontal alignment> = L, C or R for left, centred or right horizontal alignment, <vertical alignment> = L, C or U for lower part, centred or upper part vertical alignment. example: caption = 'LU2010' for button 16 with font size 40, left horizontal, upper part vertical alignment.

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Single button requests with replacement						
1	STM requests display of button 1 at position 3	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption LU0801 is displayed at position 3 with font size 08 horizontal alignment L and vertical alignment U
2	STM requests display of button 2 at position 3	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption LC1202 is displayed at position 3 with font size 12 horizontal alignment L and vertical alignment C
3	STM requests display of button 3 at position 3	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with caption LL1603 is displayed at position 3 with font size 16 horizontal alignment L and vertical alignment L
4	STM requests display of button 4 at position 3	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Button with caption CU2004 is displayed at position 3 with font size 20 horizontal alignment C and



							vertical alignment U
5	STM requests display of button 5 at position 3	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with caption CC4005 is displayed at position 3 with font size 40 horizontal alignment C and vertical alignment C
6	STM requests display of button 6 at position 3	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Button with caption CL6006 is displayed at position 3 with font size 60 horizontal alignment C and vertical alignment L
7	STM requests display of button 7 at position 3	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Button with caption RU0807 is displayed at position 3 with font size 08 horizontal alignment R and vertical alignment U
8	STM requests display of button 8 at position 3	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with caption RC1208 is displayed at position 3 with font size 12 horizontal alignment R and vertical alignment C
	Single button requests with deletion						
9	STM requests display of button 16 at position 3	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Button with caption LU2010 is displayed at position 3 with font size 20 horizontal alignment L and vertical alignment U
10	STM removes button 16	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		No buttons are displayed
11	STM requests display of button 32 at position 3	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Button with caption LC2420 is displayed at position 3 with font size 24 horizontal alignment L and vertical alignment C
12	STM removes button 32	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		No buttons are displayed
13	STM requests display of button 48	PROF	T0+60s	connection of active DMI channel:	DMI		Button with caption LL3230 is



	at position 3			Message-S13			displayed at position 3 with font size 32 horizontal alignment L and vertical alignment L
14	STM removes button 48	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		No buttons are displayed
15	STM requests display of button 64 at position 3	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		Button with caption CU2040 is displayed at position 3 with font size 20 horizontal alignment C and vertical alignment U
16	STM removes button 64	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		No buttons are displayed
17	STM requests display of button 80 at position 3	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Button with caption CC4050 is displayed at position 3 with font size 40 horizontal alignment C and vertical alignment C
18	STM removes button 80	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		No buttons are displayed
19	STM requests display of button 96 at position 3	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Button with caption CL6060 is displayed at position 3 with font size 60 horizontal alignment C and vertical alignment L
20	STM removes button 96	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		No buttons are displayed
21	STM requests display of button 112 at position 3	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Button with caption RC1270 is displayed at position 3 with font size 12 horizontal alignment R and vertical alignment C
22	STM removes button 112	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		No buttons are displayed
23	STM requests display of button 128 at position 3	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Button with caption RL1680 is displayed at position 3 with font size



							16 horizontal alignment R and vertical alignment L
24	STM removes button 128	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		No buttons are displayed
	Moving single button through positions with text						
25	STM requests display of button 128 at position 1 with caption 'RL1680'	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Button is displayed at position 1 with caption 'RL1680' with font size and alignment according to caption
26	STM requests display of button 128 at position 2 with caption 'RL1680'	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		Button is moved to position 2 with caption 'RL1680' with font size and alignment according to caption
27	STM requests display of button 128 at position 3 with caption 'RL1680'	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Button is moved to position 3 with caption 'RL1680' with font size and alignment according to caption
28	STM requests display of button 128 at position 4 with caption 'RL1680'	PROF	T0+135s	connection of active DMI channel: Message-S28	DMI		Button is moved to position 4 with caption 'RL1680' with font size and alignment according to caption
29	STM requests display of button 128 at position 5 with caption 'RL1680'	PROF	T0+140s	connection of active DMI channel: Message-S29	DMI		Button is moved to position 5 with caption 'RL1680' with font size and alignment according to caption
30	STM requests display of button 128 at position 6 with caption 'RL1680'	PROF	T0+145s	connection of active DMI channel: Message-S30	DMI		Button is moved to position 6 with caption 'RL1680' with font size and alignment according to caption
31	STM requests display of button 128 at position 7 with caption 'RL1680'	PROF	T0+150s	connection of active DMI channel: Message-S31	DMI		Button is moved to position 7 with caption 'RL1680' with font size and alignment according to caption
32	STM requests display of button 128 at position 8 with caption 'RL1680'	PROF	T0+155s	connection of active DMI channel: Message-S32	DMI		Button is moved to position 8 with caption 'RL1680' with font size and alignment according to caption
	Moving single button through						



	positions with icon						
33	STM requests display of button 128 at position 4 with icon 40 (speed limit red).	PROF	T0+160s	connection of active DMI channel: Message-S33	DMI		Button is displayed at position 4 with icon 40 (speed limit red).
34	STM requests display of button 128 at position 5 with icon 40 (speed limit red).	PROF	T0+165s	connection of active DMI channel: Message-S34	DMI		Button is moved to position 5 with icon 40 (speed limit red).
35	STM requests display of button 128 at position 6 with icon 40 (speed limit red).	PROF	T0+170s	connection of active DMI channel: Message-S35	DMI		Button is moved to position 6 with icon 40 (speed limit red).

Message-S1: STM requests display of button 1 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	111	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	3	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	6	Caption="LU0801"





X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	

Message-S2: STM requests display of button 2 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=2, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC1202"			

Message-S3: STM requests display of button 3 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=3, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL1603"			

Message-S4: STM requests display of button 4 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=4, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU2004"			

Message-S5: STM requests display of button 5 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=5, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC4005"			

Message-S6: STM requests display of button 6 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=6, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL6006"			

Message-S7: STM requests display of button 7 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=7, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RU0807"			



Message-S8: STM requests display of button 8 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=8, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1208"			

Message-S9: STM requests display of button 16 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=16, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			

Message-S10: STM removes button 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length



N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	16	Button 16
NID_BUTPOS(1)	5	3	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S11: STM requests display of button 32 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=32, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC2420"			

Message-S12: STM removes button 32			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=32, P=3, IC=0, MI=0000000000b, L=0			

Message-S13: STM requests display of button 48 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=48, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL3230"			

Message-S14: STM removes button 48			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=48, P=3, IC=0, MI=0000000000b, L=0			

Message-S15: STM requests display of button 64 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=64, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU2040"			

Message-S16: STM removes button 64			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=64, P=3, IC=0, MI=0000000000b, L=0			



Message-S17: STM requests display of button 80 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=80, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC4050"			

Message-S18: STM removes button 80			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=80, P=3, IC=0, MI=0000000000b, L=0			

Message-S19: STM requests display of button 96 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=96, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL6060"			

Message-S20: STM removes button 96			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=96, P=3, IC=0, MI=0000000000b, L=0			

Message-S21: STM requests display of button 112 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=112, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1270"			

Message-S22: STM removes button 112			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=112, P=3, IC=0, MI=0000000000b, L=0			

Message-S23: STM requests display of button 128 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=111, N=1, ID=128, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"

Message-S24: STM removes button 128

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=128, P=3, IC=0, MI=0000000000b, L=0

Message-S25: STM requests display of button 128 at position 1 with caption 'RL1680'

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=128, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"

Message-S26: STM requests display of button 128 at position 2 with caption 'RL1680'

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=128, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"

Message-S27: STM requests display of button 128 at position 3 with caption 'RL1680'





VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=128, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"			

Message-S28: STM requests display of button 128 at position 4 with caption 'RL1680'			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=128, P=4, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"			

Message-S29: STM requests display of button 128 at position 5 with caption 'RL1680'			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=128, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"			

Message-S30: STM requests display of button 128 at position 6 with caption 'RL1680'			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length



STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=128, P=6, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"

Message-S31: STM requests display of button 128 at position 7 with caption 'RL1680'

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=128, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"

Message-S32: STM requests display of button 128 at position 8 with caption 'RL1680'

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=128, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"

Message-S33: STM requests display of button 128 at position 4 with icon 40 (speed limit red).

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=128, P=4, IC=40, MI=1000010000b (black on red, No flashing), L=0



Message-S34: STM requests display of button 128 at position 5 with icon 40 (speed limit red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=5, IC=40, MI=1000010000b (black on red, No flashing), L=0			

Message-S35: STM requests display of button 128 at position 6 with icon 40 (speed limit red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=6, IC=40, MI=1000010000b (black on red, No flashing), L=0			

### 2.3.12 Test Case 7c2.12

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.2.2.3.3.0 (SK technology)
	7c2.0.2.2.2.4.4.0 (TS technology)
	<p>Button identities test for configuration 7a.5, 7a.6, and 7a.7 with SK and TS technology with requests for set of buttons:</p> <p>First buttons are displayed with captions in sets of 8 buttons at once at positions 1-8 in a loop until all are displayed, the new request replacing the old buttons.</p> <p>Then buttons are displayed with captions in sets of 8 buttons at once at positions 1-8 and then deleted by display with attribute 'no display' in a loop until all are displayed.</p>



	Then the buttons 16, 32, .. 128 are shifted through all possible positions with text. Then the buttons 16, 32, 48 are shifted through positions 4-6 with icons.
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.5, 7a.6, 7a.7 (one configuration shall be chosen). The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1 The caption of buttons in the test case indicates the alignment, the font size and the button id. The caption has the format <horizontal alignment><vertical alignment><font size in decimal format><Button id in hex-format> with <horizontal alignment> = L, C or R for left, centred or right horizontal alignment, <vertical alignment> = L, C or U for lower part, centred or upper part vertical alignment. example: caption = 'LU2010' for button 16 with font size 40, left horizontal, upper part vertical alignment.

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Requests for set of buttons with replacement						
1	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons 1 - 8 are displayed at positions 1-8 with font size and alignment according to caption
2	STM requests display of buttons 16 - 128 at positions 1-8	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons 16 - 128 are displayed at positions 1-8 with font size and



							alignment according to caption
	Requests for set of buttons with deletion						
3	STM removes buttons 16 - 128	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		No buttons are displayed
4	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Buttons 1 - 8 are displayed at positions 1-8 with font size and alignment according to caption
5	STM removes buttons 1 - 8	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		No buttons are displayed
	Shifting set of buttons through positions with text						
6	STM requests display of buttons 16, 32, ...128 at positions 1-8	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		8 Buttons are displayed at positions 1-8 with font size and alignment according to caption
7	STM requests display of buttons 16, 32, ...128 at positions 2-8, 1	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		All buttons are moved by one position with font size and alignment according to caption
8	STM requests display of buttons 16, 32, ...128 at positions 3-8, 1-2	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		All buttons are moved by one position with font size and alignment according to caption
9	STM requests display of buttons 16, 32, ...128 at positions 4-8, 1-3	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		All buttons are moved by one position with font size and alignment according to caption
10	STM requests display of buttons 16, 32, ...128 at positions 5-8, 1-4	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		All buttons are moved by one position with font size and alignment according to caption
11	STM requests display of buttons 16, 32, ...128 at positions 6-8, 1-5	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		All buttons are moved by one position with font size and alignment according to caption



12	STM requests display of buttons 16, 32, ...128 at positions 7-8, 1-6	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		All buttons are moved by one position with font size and alignment according to caption
13	STM requests display of buttons 16, 32, ...128 at positions 8, 1-7	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		All buttons are moved by one position with font size and alignment according to caption
	Shifting set of buttons through positions with icons						
14	STM requests display of buttons 16, 32, 48 at positions 4-6 with captions	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		3 Buttons are displayed at positions 4-6 with captions
15	STM requests display of buttons 16, 32, 48 at positions 5-6, 4 with captions	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		All buttons are moved by one position
16	STM requests display of buttons 16, 32, 48 at positions 6, 4-5 with captions	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		All buttons are moved by one position

Message-S1: STM requests display of buttons 1 - 8 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	706	Packet Length
N_ITER	5	8	Request for 8 buttons



NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	6	Caption="LU0801"
X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	6	Caption="LC1202"
X_CAPTION(2,1)	8	"L"	
X_CAPTION(2,2)	8	"C"	
X_CAPTION(2,3)	8	"1"	
X_CAPTION(2,4)	8	"2"	
X_CAPTION(2,5)	8	"0"	
X_CAPTION(2,6)	8	"2"	
NID_BUTTON(3)	8	3	Button 3



NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	6	Caption="LL1603"
X_CAPTION(3,1)	8	"L"	
X_CAPTION(3,2)	8	"L"	
X_CAPTION(3,3)	8	"1"	
X_CAPTION(3,4)	8	"6"	
X_CAPTION(3,5)	8	"0"	
X_CAPTION(3,6)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	6	Caption="CU2004"
X_CAPTION(4,1)	8	"C"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"2"	
X_CAPTION(4,4)	8	"0"	
X_CAPTION(4,5)	8	"0"	
X_CAPTION(4,6)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	





NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	6	Caption="CC4005"
X_CAPTION(5,1)	8	"C"	
X_CAPTION(5,2)	8	"C"	
X_CAPTION(5,3)	8	"4"	
X_CAPTION(5,4)	8	"0"	
X_CAPTION(5,5)	8	"0"	
X_CAPTION(5,6)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	6	Caption="CL6006"
X_CAPTION(6,1)	8	"C"	
X_CAPTION(6,2)	8	"L"	
X_CAPTION(6,3)	8	"6"	
X_CAPTION(6,4)	8	"0"	
X_CAPTION(6,5)	8	"0"	
X_CAPTION(6,6)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	



M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	6	Caption="RU0807"
X_CAPTION(7,1)	8	"R"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"0"	
X_CAPTION(7,4)	8	"8"	
X_CAPTION(7,5)	8	"0"	
X_CAPTION(7,6)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	6	Caption="RC1208"
X_CAPTION(8,1)	8	"R"	
X_CAPTION(8,2)	8	"C"	
X_CAPTION(8,3)	8	"1"	
X_CAPTION(8,4)	8	"2"	
X_CAPTION(8,5)	8	"0"	
X_CAPTION(8,6)	8	"8"	
Padding bits	5	00000b	

Message-S2: STM requests display of buttons 16 - 128 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=2, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=3, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=4, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=5, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=6, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=7, IC=0, MI=1000010000b, L=6, T="RC1270"	
(8): ID=128, P=8, IC=0, MI=1000010000b, L=6, T="RL1680"			

Message-S4: STM removes buttons 16 - 128			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	322	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	16	Button 9
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display



L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	32	Button 32
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	48	Button 48
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	64	Button 64
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	80	Button 80
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	96	Button 96
NID_BUTPOS(6)	5	6	



NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	112	Button 112
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	128	Button 128
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	0000000000b	No display
L_CAPTION(1)	6	0	
Padding bits	5	00000b	

Message-S5: STM requests display of buttons 1 - 8 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=2, IC=0, MI=1000010000b, L=6, T="LC1202"		(3): ID=3, P=3, IC=0, MI=1000010000b, L=6, T="LL1603"	
(4): ID=4, P=4, IC=0, MI=1000010000b, L=6, T="CU2004"		(5): ID=5, P=5, IC=0, MI=1000010000b, L=6, T="CC4005"	



(6): ID=6, P=6, IC=0, MI=1000010000b, L=6, T="CL6006"	(7): ID=7, P=7, IC=0, MI=1000010000b, L=6, T="RU0807"
(8): ID=8, P=8, IC=0, MI=1000010000b, L=6, T="RC1208"	

Message-S6: STM removes buttons 1 - 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=1, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=2, P=2, IC=0, MI=0000000000b, L=0	(3): ID=3, P=3, IC=0, MI=0000000000b, L=0		(4): ID=4, P=4, IC=0, MI=0000000000b, L=0
(5): ID=5, P=5, IC=0, MI=0000000000b, L=0	(6): ID=6, P=6, IC=0, MI=0000000000b, L=0		(7): ID=7, P=7, IC=0, MI=0000000000b, L=0
(8): ID=8, P=8, IC=0, MI=0000000000b, L=0			

Message-S7: STM requests display of buttons 16, 32, ...128 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=2, IC=0, MI=1000010000b, L=6, T="LC2420"	(3): ID=48, P=3, IC=0, MI=1000010000b, L=6, T="LL3230"		
(4): ID=64, P=4, IC=0, MI=1000010000b, L=6, T="CU2040"	(5): ID=80, P=5, IC=0, MI=1000010000b, L=6, T="CC4050"		
(6): ID=96, P=6, IC=0, MI=1000010000b, L=6, T="CL6060"	(7): ID=112, P=7, IC=0, MI=1000010000b, L=6, T="RC1270"		



(8): ID=128, P=8, IC=0, MI=1000010000b, L=6, T="RL1680"	
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Message-S8: STM requests display of buttons 16, 32, ...128 at positions 2-8, 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=3, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=4, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=5, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=6, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=7, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=8, IC=0, MI=1000010000b, L=6, T="RC1270"	
(8): ID=128, P=1, IC=0, MI=1000010000b, L=6, T="RL1680"			

Message-S9: STM requests display of buttons 16, 32, ...128 at positions 3-8, 1-2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=4, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=5, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=6, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=7, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=8, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=1, IC=0, MI=1000010000b, L=6, T="RC1270"	



(8): ID=128, P=2, IC=0, MI=1000010000b, L=6, T="RL1680"	
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Message-S10: STM requests display of buttons 16, 32, ...128 at positions 4-8, 1-3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=4, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=5, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=6, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=7, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=8, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=1, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=2, IC=0, MI=1000010000b, L=6, T="RC1270"	
(8): ID=128, P=3, IC=0, MI=1000010000b, L=6, T="RL1680"			

Message-S11: STM requests display of buttons 16, 32, ...128 at positions 5-8, 1-4			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=6, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=7, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=8, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=1, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=2, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=3, IC=0, MI=1000010000b, L=6, T="RC1270"	





(8): ID=128, P=4, IC=0, MI=1000010000b, L=6, T="RL1680"	
---	--

Message-S12: STM requests display of buttons 16, 32, ...128 at positions 6-8, 1-5			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=6, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=7, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=8, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=1, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=2, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=3, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=4, IC=0, MI=1000010000b, L=6, T="RC1270"	
(8): ID=128, P=5, IC=0, MI=1000010000b, L=6, T="RL1680"			

Message-S13: STM requests display of buttons 16, 32, ...128 at positions 7-8, 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=8, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=1, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=2, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=3, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=4, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=5, IC=0, MI=1000010000b, L=6, T="RC1270"	



(8): ID=128, P=6, IC=0, MI=1000010000b, L=6, T="RL1680"	
---	--

Message-S14: STM requests display of buttons 16, 32, ...128 at positions 8, 1-7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=1, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=2, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=3, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=4, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=5, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=6, IC=0, MI=1000010000b, L=6, T="RC1270"	
(8): ID=128, P=7, IC=0, MI=1000010000b, L=6, T="RL1680"			

Message-S15: STM requests display of buttons 16, 32, 48 at positions 4-6 with captions			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=233, N=3, ID=16, P=4, IC=40, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=32, P=5, IC=41, MI=1000010000b, L=6, T="RL1680"		(3): ID=48, P=6, IC=42, MI=1000010000b, L=6, T="RL1680"	

Message-S16: STM requests display of buttons 16, 32, 48 at positions 5-6, 4 with captions
---



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=233, N=3, ID=16, P=5, IC=40, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=32, P=6, IC=41, MI=1000010000b, L=6, T="RL1680"			(3): ID=48, P=4, IC=42, MI=1000010000b, L=6, T="RL1680"

Message-S17: STM requests display of buttons 16, 32, 48 at positions 6, 4-5 with captions			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=233, N=3, ID=16, P=6, IC=40, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=32, P=4, IC=41, MI=1000010000b, L=6, T="RL1680"			(3): ID=48, P=5, IC=42, MI=1000010000b, L=6, T="RL1680"

### 2.3.13 Test Case 7c2.13

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.1.1.1.5
	Button identities test for configuration 7a.8 with SK technology with single button requests : First single buttons (with ids 1-8) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button.



	<p>Then single buttons (with ids 9-16) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position.</p> <p>Then the first button is moved through 3 positions with text.</p>
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	<p>For active STM: Customisable DMI service: 7a.8.</p> <p>The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9</p>
<b>Comments and constraints</b>	<p>Starting and end conditions as for test case 7c2.1</p> <p>The caption of buttons in the test case indicates the alignment, the font size and the button id.</p> <p>The caption has the format &lt;horizontal alignment&gt;&lt;vertical alignment&gt;&lt;font size in decimal format&gt;&lt;Button id in hex-format&gt; with          &lt;horizontal alignment&gt; = L, C or R for left, centred or right horizontal alignment,          &lt;vertical alignment&gt; = L, C or U for lower part, centred or upper part vertical alignment.          example: caption = 'CL4010' for button 16 with font size 40, centred horizontal, lower part vertical alignment.</p>

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Single button requests with replacement						
1	STM requests display of button 1 at position 8	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption LU0801 is displayed at position 8 with font size 08 horizontal alignment L and vertical alignment U



2	STM requests display of button 2 at position 8	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption LC1202 is displayed at position 8 with font size 12 horizontal alignment L and vertical alignment C
3	STM requests display of button 3 at position 8	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with caption LL1603 is displayed at position 8 with font size 16 horizontal alignment L and vertical alignment L
4	STM requests display of button 4 at position 8	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Button with caption CU2004 is displayed at position 8 with font size 20 horizontal alignment C and vertical alignment U
5	STM requests display of button 5 at position 8	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with caption CC4005 is displayed at position 8 with font size 40 horizontal alignment C and vertical alignment C
6	STM requests display of button 6 at position 8	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Button with caption CL6006 is displayed at position 8 with font size 60 horizontal alignment C and vertical alignment L
7	STM requests display of button 7 at position 8	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Button with caption RU0807 is displayed at position 8 with font size 08 horizontal alignment R and vertical alignment U
8	STM requests display of button 8 at position 8	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with caption RC1208 is displayed at position 8 with font size 12 horizontal alignment R and vertical alignment C
	Single button requests with deletion						
9	STM requests display of button 16 at position 8	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Button with caption LU2010 is displayed at position 8 with font size 20 horizontal alignment L and



							vertical alignment U
10	STM removes button 16	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		No buttons are displayed
11	STM requests display of button 32 at position 8	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Button with caption LC2420 is displayed at position 8 with font size 24 horizontal alignment L and vertical alignment C
12	STM removes button 32	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		No buttons are displayed
13	STM requests display of button 48 at position 8	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		Button with caption LL3230 is displayed at position 8 with font size 32 horizontal alignment L and vertical alignment L
14	STM removes button 48	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		No buttons are displayed
15	STM requests display of button 64 at position 8	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		Button with caption CU2040 is displayed at position 8 with font size 20 horizontal alignment C and vertical alignment U
16	STM removes button 64	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		No buttons are displayed
17	STM requests display of button 80 at position 8	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Button with caption CC4050 is displayed at position 8 with font size 40 horizontal alignment C and vertical alignment C
18	STM removes button 80	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		No buttons are displayed
19	STM requests display of button 96 at position 8	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Button with caption CL6060 is displayed at position 8 with font size 60 horizontal alignment C and vertical alignment L



20	STM removes button 96	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		No buttons are displayed
21	STM requests display of button 112 at position 8	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Button with caption RC1270 is displayed at position 8 with font size 12 horizontal alignment R and vertical alignment C
22	STM removes button 112	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		No buttons are displayed
23	STM requests display of button 128 at position 8	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Button with caption RL1680 is displayed at position 8 with font size 16 horizontal alignment R and vertical alignment L
24	STM removes button 128	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		No buttons are displayed
	Moving single button through positions with text						
25	STM requests display of button 1 at position 1	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Button 1 is displayed at position 1 with caption LU0801 with font size and alignment according to caption
26	STM requests display of button 1 at position 3	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		Button 1 is moved to position 3 with caption LU0801 with font size and alignment according to caption
27	STM requests display of button 1 at position 5	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Button 1 is moved to position 5 with caption LU0801 with font size and alignment according to caption

Message-S1: STM requests display of button 1 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	19	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	111	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	8	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	6	Caption="LU0801"
X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	

Message-S2: STM requests display of button 2 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

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STM-15: PL=25, ST=7, (State DA)			
	STM-32: PL=111, N=1, ID=2, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC1202"		

Message-S3: STM requests display of button 3 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=3, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL1603"			

Message-S4: STM requests display of button 4 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=4, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU2004"			

Message-S5: STM requests display of button 5 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=5, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC4005"			



Message-S6: STM requests display of button 6 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=6, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL6006"			

Message-S7: STM requests display of button 7 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=7, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RU0807"			

Message-S8: STM requests display of button 8 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=8, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1208"			

Message-S9: STM requests display of button 16 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=16, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			

Message-S10: STM removes button 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	16	Button 16
NID_BUTPOS(1)	5	8	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S11: STM requests display of button 32 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

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STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=32, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC2420"

Message-S12: STM removes button 32

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=32, P=8, IC=0, MI=0000000000b, L=0

Message-S13: STM requests display of button 48 at position 8

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=48, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL3230"

Message-S14: STM removes button 48

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=48, P=8, IC=0, MI=0000000000b, L=0



Message-S15: STM requests display of button 64 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=64, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU2040"			

Message-S16: STM removes button 64			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=64, P=8, IC=0, MI=0000000000b, L=0			

Message-S17: STM requests display of button 80 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=80, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC4050"			

Message-S18: STM removes button 80			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=80, P=8, IC=0, MI=0000000000b, L=0			

Message-S19: STM requests display of button 96 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=96, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL6060"			

Message-S20: STM removes button 96			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=96, P=8, IC=0, MI=0000000000b, L=0			

Message-S21: STM requests display of button 112 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=112, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1270"			



Message-S22: STM removes button 112			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=112, P=8, IC=0, MI=0000000000b, L=0			

Message-S23: STM requests display of button 128 at position 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=128, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1680"			

Message-S24: STM removes button 128			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=8, IC=0, MI=0000000000b, L=0			

Message-S25: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			

Message-S26: STM requests display of button 1 at position 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=1, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			

Message-S27: STM requests display of button 1 at position 5			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=1, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			

## 2.3.14 Test Case 7c2.14

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.2.2.3.5





	<p>Button identities test for configuration 7a.8 with SK technology with requests for set of buttons:</p> <p>First buttons (with ids 1-16) are displayed with captions in sets of 8 buttons at once at positions 1-8 in a loop, the new request replacing the old buttons.</p> <p>Then buttons (with ids 1-16) are displayed with captions in sets of 8 buttons at once at positions 1-8 and then deleted by display with attribute 'no display' in a loop.</p> <p>Then the last buttons are shifted 3 positions with text.</p>
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	<p>For active STM: Customisable DMI service: 7a.8.</p> <p>The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9</p>
<b>Comments and constraints</b>	<p>Starting and end conditions as for test case 7c2.1</p> <p>The caption of buttons in the test case indicates the alignment, the font size and the button id.</p> <p>The caption has the format &lt;horizontal alignment&gt;&lt;vertical alignment&gt;&lt;font size in decimal format&gt;&lt;Button id in hex-format&gt; with          &lt;horizontal alignment&gt; = L, C or R for left, centred or right horizontal alignment,          &lt;vertical alignment&gt; = L, C or U for lower part, centred or upper part vertical alignment.          example: caption = 'CL4010' for button 16 with font size 40, centred horizontal, lower part vertical alignment.</p>

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Requests for set of buttons with replacement						



1	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0	connection of active DMI channel: Message-S1	DMI		8 buttons are displayed at positions 1-8 with text and font size and alignment according to caption.
2	STM requests display of buttons 16 - 128 at positions 1-8	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		8 buttons are displayed at positions 1-8 with text and font size and alignment according to caption.
	Requests for set of buttons with deletion						
3	STM removes buttons 16 - 128	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		No buttons are displayed
4	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		8 buttons are displayed at positions 1-8 with text and font size and alignment according to caption.
5	STM removes buttons 1 - 8	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		No buttons are displayed
	Shifting set of buttons through positions with text						
6	STM requests display of buttons 1 - 8 at positions 3-8, 1-2	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Buttons 1 - 8 are displayed at positions 3-8, 1-2 with text and font size and alignment according to caption
7	STM requests display of buttons 1 - 8 at positions 2-8, 1	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		All 8 buttons are shifted by one position backwards with text and font size and alignment according to caption
8	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		All 8 buttons are shifted by one position backwards with text and font size and alignment according to caption

Message-S1: STM requests display of buttons 1 - 8 at positions 1-8

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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	706	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	6	Caption="LU0801"
X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	



M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	6	Caption="LC1202"
X_CAPTION(2,1)	8	"L"	
X_CAPTION(2,2)	8	"C"	
X_CAPTION(2,3)	8	"1"	
X_CAPTION(2,4)	8	"2"	
X_CAPTION(2,5)	8	"0"	
X_CAPTION(2,6)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	6	Caption="LL1603"
X_CAPTION(3,1)	8	"L"	
X_CAPTION(3,2)	8	"L"	
X_CAPTION(3,3)	8	"1"	
X_CAPTION(3,4)	8	"6"	
X_CAPTION(3,5)	8	"0"	
X_CAPTION(3,6)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing



L_CAPTION(4)	6	6	Caption="CU2004"
X_CAPTION(4,1)	8	"C"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"2"	
X_CAPTION(4,4)	8	"0"	
X_CAPTION(4,5)	8	"0"	
X_CAPTION(4,6)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	6	Caption="CC4005"
X_CAPTION(5,1)	8	"C"	
X_CAPTION(5,2)	8	"C"	
X_CAPTION(5,3)	8	"4"	
X_CAPTION(5,4)	8	"0"	
X_CAPTION(5,5)	8	"0"	
X_CAPTION(5,6)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	6	Caption="CL6006"



X_CAPTION(6,1)	8	"C"	
X_CAPTION(6,2)	8	"L"	
X_CAPTION(6,3)	8	"6"	
X_CAPTION(6,4)	8	"0"	
X_CAPTION(6,5)	8	"0"	
X_CAPTION(6,6)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	6	Caption="RU0807"
X_CAPTION(7,1)	8	"R"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"0"	
X_CAPTION(7,4)	8	"8"	
X_CAPTION(7,5)	8	"0"	
X_CAPTION(7,6)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	6	Caption="RC1208"
X_CAPTION(8,1)	8	"R"	



X_CAPTION(8,2)	8	"C"	
X_CAPTION(8,3)	8	"1"	
X_CAPTION(8,4)	8	"2"	
X_CAPTION(8,5)	8	"0"	
X_CAPTION(8,6)	8	"8"	
Padding bits	5	00000b	

Message-S2: STM requests display of buttons 16 - 128 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=16, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2010"			
(2): ID=32, P=2, IC=0, MI=1000010000b, L=6, T="LC2420"		(3): ID=48, P=3, IC=0, MI=1000010000b, L=6, T="LL3230"	
(4): ID=64, P=4, IC=0, MI=1000010000b, L=6, T="CU2040"		(5): ID=80, P=5, IC=0, MI=1000010000b, L=6, T="CC4050"	
(6): ID=96, P=6, IC=0, MI=1000010000b, L=6, T="CL6060"		(7): ID=112, P=7, IC=0, MI=1000010000b, L=6, T="RC1270"	
(8): ID=128, P=8, IC=0, MI=1000010000b, L=6, T="RL1680"			

Message-S3: STM removes buttons 16 - 128			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
NID_PACKET	8	15	State report from STM (STM-15)



L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	322	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	16	Button 16
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	32	Button 32
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	48	Button 48
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	64	Button 64
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	





M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	80	Button 80
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	96	Button 96
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	112	Button 112
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	128	Button 128
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	0000000000b	No display
L_CAPTION(1)	6	0	
Padding bits	5	00000b	



Message-S4: STM requests display of buttons 1 - 8 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=2, IC=0, MI=1000010000b, L=6, T="LC1202"		(3): ID=3, P=3, IC=0, MI=1000010000b, L=6, T="LL1603"	
(4): ID=4, P=4, IC=0, MI=1000010000b, L=6, T="CU2004"		(5): ID=5, P=5, IC=0, MI=1000010000b, L=6, T="CC4005"	
(6): ID=6, P=6, IC=0, MI=1000010000b, L=6, T="CL6006"		(7): ID=7, P=7, IC=0, MI=1000010000b, L=6, T="RU0807"	
(8): ID=8, P=8, IC=0, MI=1000010000b, L=6, T="RC1208"			

Message-S5: STM removes buttons 1 - 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=1, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=2, P=2, IC=0, MI=0000000000b, L=0		(3): ID=3, P=3, IC=0, MI=0000000000b, L=0	(4): ID=4, P=4, IC=0, MI=0000000000b, L=0
(5): ID=5, P=5, IC=0, MI=0000000000b, L=0		(6): ID=6, P=6, IC=0, MI=0000000000b, L=0	(7): ID=7, P=7, IC=0, MI=0000000000b, L=0
(8): ID=8, P=8, IC=0, MI=0000000000b, L=0			

Message-S6: STM requests display of buttons 1 - 8 at positions 3-8, 1-2
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=1, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=4, IC=0, MI=1000010000b, L=6, T="LC1202"		(3): ID=3, P=5, IC=0, MI=1000010000b, L=6, T="LL1603"	
(4): ID=4, P=6, IC=0, MI=1000010000b, L=6, T="CU2004"		(5): ID=5, P=7, IC=0, MI=1000010000b, L=6, T="CC4005"	
(6): ID=6, P=8, IC=0, MI=1000010000b, L=6, T="CL6006"		(7): ID=7, P=1, IC=0, MI=1000010000b, L=6, T="RU0807"	
(8): ID=8, P=2, IC=0, MI=1000010000b, L=6, T="RC1208"			

Message-S7: STM requests display of buttons 1 - 8 at positions 2-8, 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=1, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=3, IC=0, MI=1000010000b, L=6, T="LC1202"		(3): ID=3, P=4, IC=0, MI=1000010000b, L=6, T="LL1603"	
(4): ID=4, P=5, IC=0, MI=1000010000b, L=6, T="CU2004"		(5): ID=5, P=6, IC=0, MI=1000010000b, L=6, T="CC4005"	
(6): ID=6, P=7, IC=0, MI=1000010000b, L=6, T="CL6006"		(7): ID=7, P=8, IC=0, MI=1000010000b, L=6, T="RU0807"	
(8): ID=8, P=1, IC=0, MI=1000010000b, L=6, T="RC1208"			

Message-S8: STM requests display of buttons 1 - 8 at positions 1-8			
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=2, IC=0, MI=1000010000b, L=6, T="LC1202"		(3): ID=3, P=3, IC=0, MI=1000010000b, L=6, T="LL1603"	
(4): ID=4, P=4, IC=0, MI=1000010000b, L=6, T="CU2004"		(5): ID=5, P=5, IC=0, MI=1000010000b, L=6, T="CC4005"	
(6): ID=6, P=6, IC=0, MI=1000010000b, L=6, T="CL6006"		(7): ID=7, P=7, IC=0, MI=1000010000b, L=6, T="RU0807"	
(8): ID=8, P=8, IC=0, MI=1000010000b, L=6, T="RC1208"			

### 2.3.15 Test Case 7c2.15

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.1.1.2.5
	Button identities test for configuration 7a.8 with TS technology with single button requests : First single buttons (with ids 1-8) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then single buttons (with ids 9-16) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then the first button is moved through 3 positions with text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2



<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.8. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1 Messages S1-S24 are the same as in test case 7c2.13. The caption of buttons in the test case indicates the alignment, the font size and the button id. The caption has the format <horizontal alignment><vertical alignment><font size in decimal format><Button id in hex-format> with <horizontal alignment> = L, C or R for left, centred or right horizontal alignment, <vertical alignment> = L, C or U for lower part, centred or upper part vertical alignment. example: caption = 'CL4010' for button 16 with font size 40, centred horizontal, lower part vertical alignment.

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Single button requests with replacement						
1	STM requests display of button 1 at position 8	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption LU0801 is displayed at position 8 with font size 08 horizontal alignment L and vertical alignment U
2	STM requests display of button 2 at position 8	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption LC1202 is displayed at position 8 with font size 12 horizontal alignment L and vertical alignment C
3	STM requests display of button 3 at position 8	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with caption LL1603 is displayed at position 8 with font size



							16 horizontal alignment L and vertical alignment L
4	STM requests display of button 4 at position 8	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Button with caption CU2004 is displayed at position 8 with font size 20 horizontal alignment C and vertical alignment U
5	STM requests display of button 5 at position 8	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with caption CC4005 is displayed at position 8 with font size 40 horizontal alignment C and vertical alignment C
6	STM requests display of button 6 at position 8	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Button with caption CL6006 is displayed at position 8 with font size 60 horizontal alignment C and vertical alignment L
7	STM requests display of button 7 at position 8	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Button with caption RU0807 is displayed at position 8 with font size 08 horizontal alignment R and vertical alignment U
8	STM requests display of button 8 at position 8	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with caption RC1208 is displayed at position 8 with font size 12 horizontal alignment R and vertical alignment C
	Single button requests with deletion						
9	STM requests display of button 16 at position 8	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Button with caption LU2010 is displayed at position 8 with font size 20 horizontal alignment L and vertical alignment U
10	STM removes button 16	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		No buttons are displayed
11	STM requests display of button 32 at position 8	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Button with caption LC2420 is displayed at position 8 with font size 24 horizontal alignment L and



							vertical alignment C
12	STM removes button 32	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		No buttons are displayed
13	STM requests display of button 48 at position 8	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		Button with caption LL3230 is displayed at position 8 with font size 32 horizontal alignment L and vertical alignment L
14	STM removes button 48	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		No buttons are displayed
15	STM requests display of button 64 at position 8	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		Button with caption CU2040 is displayed at position 8 with font size 20 horizontal alignment C and vertical alignment U
16	STM removes button 64	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		No buttons are displayed
17	STM requests display of button 80 at position 8	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Button with caption CC4050 is displayed at position 8 with font size 40 horizontal alignment C and vertical alignment C
18	STM removes button 80	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		No buttons are displayed
19	STM requests display of button 96 at position 8	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Button with caption CL6060 is displayed at position 8 with font size 60 horizontal alignment C and vertical alignment L
20	STM removes button 96	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		No buttons are displayed
21	STM requests display of button 112 at position 8	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Button with caption RC1270 is displayed at position 8 with font size 12 horizontal alignment R and vertical alignment C



22	STM removes button 112	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		No buttons are displayed
23	STM requests display of button 128 at position 8	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Button with caption RL1680 is displayed at position 8 with font size 16 horizontal alignment R and vertical alignment L
24	STM removes button 128	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		No buttons are displayed
	Moving single button through positions with text						
25	STM requests display of button 1 at position 1	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Button 1 is displayed at position 1 with caption LU0801 with font size and alignment according to caption
26	STM requests display of button 1 at position 7	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		Button 1 is moved to position 7 with caption LU0801 with font size and alignment according to caption
27	STM requests display of button 1 at position 13	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Button 1 is moved to position 13 with caption LU0801 with font size and alignment according to caption

Message-S25: STM requests display of button 1 at position 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			

Message-S26: STM requests display of button 1 at position 7
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=1, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			

Message-S27: STM requests display of button 1 at position 13			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=1, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			

## 2.3.16 Test Case 7c2.16

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.2.2.4.5
	Button identities test for configuration 7a.8 with TS technology with requests for set of buttons: First buttons (with ids 1-16) are displayed with captions in sets of 16 buttons at once at positions 4-19, the new request replacing the old buttons. Then buttons (with ids 1-16) are deleted by display with attribute 'no display'. Then all buttons are shifted 3 positions with text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1



	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.8. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1 The caption of buttons in the test case indicates the alignment, the font size and the button id. The caption has the format <horizontal alignment><vertical alignment><font size in decimal format><Button id in hex-format> with <horizontal alignment> = L, C or R for left, centred or right horizontal alignment, <vertical alignment> = L, C or U for lower part, centred or upper part vertical alignment. example: caption = 'CL4010' for button 16 with font size 40, centred horizontal, lower part vertical alignment.

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Requests for set of buttons with replacement						
1	STM requests display of buttons 1 - 128 at positions 4-19	PROF	T0	connection of active DMI channel: Message-S1	DMI		16 buttons are displayed at positions 4-19 with text and font size and alignment according to caption.
	Requests for set of buttons with deletion						
2	STM removes buttons 1 - 128	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		No buttons are displayed
	Shifting set of buttons through positions with text						



3	STM requests display of buttons 1 - 128 at positions 3-16, 1-2	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Buttons 1 - 128 are displayed at positions 3-16, 1-2 with text and font size and alignment according to caption
4	STM requests display of buttons 1 - 128 at positions 2-16, 1	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		All 16 buttons are shifted by one position backwards with text and font size and alignment according to caption
5	STM requests display of buttons 1 - 128 at positions 1-16	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		All 16 buttons are shifted by one position backwards with text and font size and alignment according to caption

Message-S1: STM requests display of buttons 1 - 128 at positions 4-19			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	179	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	1386	Packet Length
N_ITER	5	16	Request for 16 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	4	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing



L_CAPTION(1)	6	6	Caption="LU0801"
X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	5	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	6	Caption="LC1202"
X_CAPTION(2,1)	8	"L"	
X_CAPTION(2,2)	8	"C"	
X_CAPTION(2,3)	8	"1"	
X_CAPTION(2,4)	8	"2"	
X_CAPTION(2,5)	8	"0"	
X_CAPTION(2,6)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	6	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	6	Caption="LL1603"



X_CAPTION(3,1)	8	"L"	
X_CAPTION(3,2)	8	"L"	
X_CAPTION(3,3)	8	"1"	
X_CAPTION(3,4)	8	"6"	
X_CAPTION(3,5)	8	"0"	
X_CAPTION(3,6)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	7	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	6	Caption="CU2004"
X_CAPTION(4,1)	8	"C"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"2"	
X_CAPTION(4,4)	8	"0"	
X_CAPTION(4,5)	8	"0"	
X_CAPTION(4,6)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	8	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	6	Caption="CC4005"
X_CAPTION(5,1)	8	"C"	



X_CAPTION(5,2)	8	"C"	
X_CAPTION(5,3)	8	"4"	
X_CAPTION(5,4)	8	"0"	
X_CAPTION(5,5)	8	"0"	
X_CAPTION(5,6)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	9	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	6	Caption="CL6006"
X_CAPTION(6,1)	8	"C"	
X_CAPTION(6,2)	8	"L"	
X_CAPTION(6,3)	8	"6"	
X_CAPTION(6,4)	8	"0"	
X_CAPTION(6,5)	8	"0"	
X_CAPTION(6,6)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	10	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	6	Caption="RU0807"
X_CAPTION(7,1)	8	"R"	
X_CAPTION(7,2)	8	"U"	



X_CAPTION(7,3)	8	"0"	
X_CAPTION(7,4)	8	"8"	
X_CAPTION(7,5)	8	"0"	
X_CAPTION(7,6)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	11	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	6	Caption="RC1208"
X_CAPTION(8,1)	8	"R"	
X_CAPTION(8,2)	8	"C"	
X_CAPTION(8,3)	8	"1"	
X_CAPTION(8,4)	8	"2"	
X_CAPTION(8,5)	8	"0"	
X_CAPTION(8,6)	8	"8"	
NID_BUTTON(9)	8	16	Button 16
NID_BUTPOS(9)	5	12	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	1000010000b	black on red, No flashing
L_CAPTION(9)	6	6	Caption="LU2010"
X_CAPTION(9,1)	8	"L"	
X_CAPTION(9,2)	8	"U"	
X_CAPTION(9,3)	8	"2"	



X_CAPTION(9,4)	8	"0"	
X_CAPTION(9,5)	8	"1"	
X_CAPTION(9,6)	8	"0"	
NID_BUTTON(10)	8	32	Button 32
NID_BUTPOS(10)	5	13	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	1000010000b	black on red, No flashing
L_CAPTION(10)	6	6	Caption="LC2420"
X_CAPTION(10,1)	8	"L"	
X_CAPTION(10,2)	8	"C"	
X_CAPTION(10,3)	8	"2"	
X_CAPTION(10,4)	8	"4"	
X_CAPTION(10,5)	8	"2"	
X_CAPTION(10,6)	8	"0"	
NID_BUTTON(11)	8	48	Button 48
NID_BUTPOS(11)	5	14	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	1000010000b	black on red, No flashing
L_CAPTION(11)	6	6	Caption="LL3230"
X_CAPTION(11,1)	8	"L"	
X_CAPTION(11,2)	8	"L"	
X_CAPTION(11,3)	8	"3"	
X_CAPTION(11,4)	8	"2"	





X_CAPTION(11,5)	8	"3"	
X_CAPTION(11,6)	8	"0"	
NID_BUTTON(12)	8	64	Button 64
NID_BUTPOS(12)	5	15	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	1000010000b	black on red, No flashing
L_CAPTION(12)	6	6	Caption="CU2040"
X_CAPTION(12,1)	8	"C"	
X_CAPTION(12,2)	8	"U"	
X_CAPTION(12,3)	8	"2"	
X_CAPTION(12,4)	8	"0"	
X_CAPTION(12,5)	8	"4"	
X_CAPTION(12,6)	8	"0"	
NID_BUTTON(13)	8	80	Button 80
NID_BUTPOS(13)	5	16	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	1000010000b	black on red, No flashing
L_CAPTION(13)	6	6	Caption="CC4050"
X_CAPTION(13,1)	8	"C"	
X_CAPTION(13,2)	8	"C"	
X_CAPTION(13,3)	8	"4"	
X_CAPTION(13,4)	8	"0"	
X_CAPTION(13,5)	8	"5"	



X_CAPTION(13,6)	8	"0"	
NID_BUTTON(14)	8	96	Button 96
NID_BUTPOS(14)	5	17	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	1000010000b	black on red, No flashing
L_CAPTION(14)	6	6	Caption="CL6060"
X_CAPTION(14,1)	8	"C"	
X_CAPTION(14,2)	8	"L"	
X_CAPTION(14,3)	8	"6"	
X_CAPTION(14,4)	8	"0"	
X_CAPTION(14,5)	8	"6"	
X_CAPTION(14,6)	8	"0"	
NID_BUTTON(15)	8	112	Button 112
NID_BUTPOS(15)	5	18	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	1000010000b	black on red, No flashing
L_CAPTION(15)	6	6	Caption="RC1270"
X_CAPTION(15,1)	8	"R"	
X_CAPTION(15,2)	8	"C"	
X_CAPTION(15,3)	8	"1"	
X_CAPTION(15,4)	8	"2"	
X_CAPTION(15,5)	8	"7"	
X_CAPTION(15,6)	8	"0"	



NID_BUTTON(16)	8	128	Button 128
NID_BUTPOS(16)	5	19	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	1000010000b	black on red, No flashing
L_CAPTION(16)	6	6	Caption="RL1680"
X_CAPTION(16,1)	8	"R"	
X_CAPTION(16,2)	8	"L"	
X_CAPTION(16,3)	8	"1"	
X_CAPTION(16,4)	8	"6"	
X_CAPTION(16,5)	8	"8"	
X_CAPTION(16,6)	8	"0"	
Padding bits	5	00000b	

Message-S2: STM removes buttons 1 - 128			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	83	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	618	Packet Length
N_ITER	5	16	Request for 16 buttons



NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	4	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	5	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	6	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	7	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	8	
NID_ICON(5)	8	0	



M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	9	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	10	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	11	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(9)	8	16	Button 16
NID_BUTPOS(9)	5	12	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(10)	8	32	Button 32



NID_BUTPOS(10)	5	13	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(11)	8	48	Button 48
NID_BUTPOS(11)	5	14	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(12)	8	64	Button 64
NID_BUTPOS(12)	5	15	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(13)	8	80	Button 80
NID_BUTPOS(13)	5	16	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(14)	8	96	Button 96
NID_BUTPOS(14)	5	17	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	0000000000b	No display



L_CAPTION(1)	6	0	
NID_BUTTON(15)	8	112	Button 112
NID_BUTPOS(15)	5	18	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(16)	8	128	Button 128
NID_BUTPOS(16)	5	19	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	0000000000b	No display
L_CAPTION(1)	6	0	
Padding bits	5	00000b	

Message-S3: STM requests display of buttons 1 - 128 at positions 3-16, 1-2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	179	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1386, N=16, ID=1, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=4, IC=0, MI=1000010000b, L=6, T="LC1202"		(3): ID=3, P=5, IC=0, MI=1000010000b, L=6, T="LL1603"	
(4): ID=4, P=6, IC=0, MI=1000010000b, L=6, T="CU2004"		(5): ID=5, P=7, IC=0, MI=1000010000b, L=6, T="CC4005"	
(6): ID=6, P=8, IC=0, MI=1000010000b, L=6, T="CL6006"		(7): ID=7, P=9, IC=0, MI=1000010000b, L=6, T="RU0807"	
(8): ID=8, P=10, IC=0, MI=1000010000b, L=6, T="RC1208"		(9): ID=16, P=11, IC=0, MI=1000010000b, L=6, T="LU2010"	



(10): ID=32, P=12, IC=0, MI=1000010000b, L=6, T="LC2420"	(11): ID=48, P=13, IC=0, MI=1000010000b, L=6, T="LL3230"
(12): ID=64, P=14, IC=0, MI=1000010000b, L=6, T="CU2040"	(13): ID=80, P=15, IC=0, MI=1000010000b, L=6, T="CC4050"
(14): ID=96, P=16, IC=0, MI=1000010000b, L=6, T="CL6060"	(15): ID=112, P=1, IC=0, MI=1000010000b, L=6, T="RC1270"
(16): ID=128, P=2, IC=0, MI=1000010000b, L=6, T="RL1680"	

Message-S4: STM requests display of buttons 1 - 128 at positions 2-16, 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	179	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1386, N=16, ID=1, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=3, IC=0, MI=1000010000b, L=6, T="LC1202"	(3): ID=3, P=4, IC=0, MI=1000010000b, L=6, T="LL1603"		
(4): ID=4, P=5, IC=0, MI=1000010000b, L=6, T="CU2004"	(5): ID=5, P=6, IC=0, MI=1000010000b, L=6, T="CC4005"		
(6): ID=6, P=7, IC=0, MI=1000010000b, L=6, T="CL6006"	(7): ID=7, P=8, IC=0, MI=1000010000b, L=6, T="RU0807"		
(8): ID=8, P=9, IC=0, MI=1000010000b, L=6, T="RC1208"	(9): ID=16, P=10, IC=0, MI=1000010000b, L=6, T="LU2010"		
(10): ID=32, P=11, IC=0, MI=1000010000b, L=6, T="LC2420"	(11): ID=48, P=12, IC=0, MI=1000010000b, L=6, T="LL3230"		
(12): ID=64, P=13, IC=0, MI=1000010000b, L=6, T="CU2040"	(13): ID=80, P=14, IC=0, MI=1000010000b, L=6, T="CC4050"		
(14): ID=96, P=15, IC=0, MI=1000010000b, L=6, T="CL6060"	(15): ID=112, P=16, IC=0, MI=1000010000b, L=6, T="RC1270"		
(16): ID=128, P=1, IC=0, MI=1000010000b, L=6, T="RL1680"			

Message-S5: STM requests display of buttons 1 - 128 at positions 1-16			
VARIABLE	Length	VALUE	COMMENT





NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	179	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1386, N=16, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=2, IC=0, MI=1000010000b, L=6, T="LC1202"		(3): ID=3, P=3, IC=0, MI=1000010000b, L=6, T="LL1603"	
(4): ID=4, P=4, IC=0, MI=1000010000b, L=6, T="CU2004"		(5): ID=5, P=5, IC=0, MI=1000010000b, L=6, T="CC4005"	
(6): ID=6, P=6, IC=0, MI=1000010000b, L=6, T="CL6006"		(7): ID=7, P=7, IC=0, MI=1000010000b, L=6, T="RU0807"	
(8): ID=8, P=8, IC=0, MI=1000010000b, L=6, T="RC1208"		(9): ID=16, P=9, IC=0, MI=1000010000b, L=6, T="LU2010"	
(10): ID=32, P=10, IC=0, MI=1000010000b, L=6, T="LC2420"		(11): ID=48, P=11, IC=0, MI=1000010000b, L=6, T="LL3230"	
(12): ID=64, P=12, IC=0, MI=1000010000b, L=6, T="CU2040"		(13): ID=80, P=13, IC=0, MI=1000010000b, L=6, T="CC4050"	
(14): ID=96, P=14, IC=0, MI=1000010000b, L=6, T="CL6060"		(15): ID=112, P=15, IC=0, MI=1000010000b, L=6, T="RC1270"	
(16): ID=128, P=16, IC=0, MI=1000010000b, L=6, T="RL1680"			

### 2.3.17 Test Case 7c2.17

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.1.1.1.0
	<p>Button identities test for configuration 7a.9 for SK with single button requests:</p> <p>First buttons (with ids 1-8 ) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then buttons (with ids 9-16 ) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then the button 10 is moved through positions 1-8 with text. Then the button 8 is moved through positions 2, 3, 4, 5 with icon 36.</p>
ERTMS/ETCS on-board	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1, 13.4.3.3



requirements tested	
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.9. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c2.1 The caption of buttons in the test case indicates the alignment, the font size and the button id. The caption has the format <horizontal alignment><vertical alignment><font size in decimal format><button id in hex-format> with <horizontal alignment> = L, C or R for left, centred or right horizontal alignment, <vertical alignment> = L, C or U for lower part, centred or upper part vertical alignment. example: caption = 'CL6010' for button 16 with font size 60, centred horizontal, lower part vertical alignment.

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Single button requests with replacement						
1	STM requests display of button 1 at position 7	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption LU0801 is displayed at position 7 with font size 08 horizontal alignment L and vertical alignment U
2	STM requests display of button 2 at position 7	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption RU0802 is displayed at position 7 with font size 08 horizontal alignment R and vertical alignment U
3	STM requests display of button 3 at	PROF	T0+10s	connection of active DMI channel:	DMI		Button with caption LC1203 is

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	position 7			Message-S3			displayed at position 7 with font size 12 horizontal alignment L and vertical alignment C
4	STM requests display of button 4 at position 7	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Button with caption RC1204 is displayed at position 7 with font size 12 horizontal alignment R and vertical alignment C
5	STM requests display of button 5 at position 7	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with caption LL1605 is displayed at position 7 with font size 16 horizontal alignment L and vertical alignment L
6	STM requests display of button 6 at position 7	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Button with caption CU2006 is displayed at position 7 with font size 20 horizontal alignment C and vertical alignment U
7	STM requests display of button 7 at position 7	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Button with caption CC4007 is displayed at position 7 with font size 40 horizontal alignment C and vertical alignment C
8	STM requests display of button 8 at position 7	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with caption CL6008 is displayed at position 7 with font size 60 horizontal alignment C and vertical alignment L
	Single button requests with deletion						
9	STM requests display of button 9 at position 7	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Button with caption RC1209 is displayed at position 7 with font size 12 horizontal alignment R and vertical alignment C
10	STM removes button 9	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		No buttons are displayed
11	STM requests display of button 10 at position 7	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Button with caption RL160A is displayed at position 7 with font size



							16 horizontal alignment R and vertical alignment L
12	STM removes button 10	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		No buttons are displayed
13	STM requests display of button 11 at position 7	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		Button with caption LU200B is displayed at position 7 with font size 20 horizontal alignment L and vertical alignment U
14	STM removes button 11	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		No buttons are displayed
15	STM requests display of button 12 at position 7	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		Button with caption CU200C is displayed at position 7 with font size 20 horizontal alignment C and vertical alignment U
16	STM removes button 12	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		No buttons are displayed
17	STM requests display of button 13 at position 7	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Button with caption LC240D is displayed at position 7 with font size 24 horizontal alignment L and vertical alignment C
18	STM removes button 13	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		No buttons are displayed
19	STM requests display of button 14 at position 7	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Button with caption LL320E is displayed at position 7 with font size 32 horizontal alignment L and vertical alignment L
20	STM removes button 14	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		No buttons are displayed
21	STM requests display of button 15 at position 7	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Button with caption CC400F is displayed at position 7 with font size 40 horizontal alignment C and



							vertical alignment C
22	STM removes button 15	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		No buttons are displayed
23	STM requests display of button 16 at position 7	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Button with caption CL6010 is displayed at position 7 with font size 60 horizontal alignment C and vertical alignment L
24	STM removes button 16	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		No buttons are displayed
	Moving single button through positions with text						
25	STM requests display of button 10 at position 1 with caption 'RL160A'.	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Button is displayed at position 1 with caption 'RL160A'. with font size and alignment according to caption
26	STM requests display of button 10 at position 2 with caption 'RL160A'.	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		Button is moved to position 2 with caption 'RL160A'. with font size and alignment according to caption
27	STM requests display of button 10 at position 3 with caption 'RL160A'.	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Button is moved to position 3 with caption 'RL160A'. with font size and alignment according to caption
28	STM requests display of button 10 at position 4 with caption 'RL160A'.	PROF	T0+135s	connection of active DMI channel: Message-S28	DMI		Button is moved to position 4 with caption 'RL160A'. with font size and alignment according to caption
29	STM requests display of button 10 at position 5 with caption 'RL160A'.	PROF	T0+140s	connection of active DMI channel: Message-S29	DMI		Button is moved to position 5 with caption 'RL160A'. with font size and alignment according to caption
30	STM requests display of button 10 at position 6 with caption 'RL160A'.	PROF	T0+145s	connection of active DMI channel: Message-S30	DMI		Button is moved to position 6 with caption 'RL160A'. with font size and alignment according to caption
31	STM requests display of button 10 at position 7 with caption 'RL160A'.	PROF	T0+150s	connection of active DMI channel: Message-S31	DMI		Button is moved to position 7 with caption 'RL160A'. with font size and



							alignment according to caption
32	STM requests display of button 10 at position 8 with caption 'RL160A'.	PROF	T0+155s	connection of active DMI channel: Message-S32	DMI		Button is moved to position 8 with caption 'RL160A'. with font size and alignment according to caption
33	STM removes button 10	PROF	T0+160s	connection of active DMI channel: Message-S33	DMI		No buttons are displayed
	Moving single button through positions with icon						
34	STM requests display of button 8 at position 2 with icon 36 (cogwheel red).	PROF	T0+165s	connection of active DMI channel: Message-S34	DMI		Button is displayed at position 2 with icon 36 (cogwheel red).
35	STM requests display of button 8 at position 3 with icon 36 (cogwheel red).	PROF	T0+170s	connection of active DMI channel: Message-S35	DMI		Button is moved to position 3
36	STM requests display of button 8 at position 4 with icon 36 (cogwheel red).	PROF	T0+175s	connection of active DMI channel: Message-S36	DMI		Button is moved to position 4
37	STM requests display of button 8 at position 5 with icon 36 (cogwheel red).	PROF	T0+180s	connection of active DMI channel: Message-S37	DMI		Button is moved to position 5

Message-S1: STM requests display of button 1 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA



NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	111	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	7	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	6	Caption="LU0801"
X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	

Message-S2: STM requests display of button 2 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
	STM-32: PL=111, N=1, ID=2, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RU0802"		



Message-S3: STM requests display of button 3 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=3, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC1203"			

Message-S4: STM requests display of button 4 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=4, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1204"			

Message-S5: STM requests display of button 5 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=5, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL1605"			

Message-S6: STM requests display of button 6 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM





L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=6, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU2006"			

Message-S7: STM requests display of button 7 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=7, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC4007"			

Message-S8: STM requests display of button 8 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=8, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL6008"			

Message-S9: STM requests display of button 9 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=9, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1209"			



Message-S10: STM removes button 9			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	9	Button 9
NID_BUTPOS(1)	5	7	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S11: STM requests display of button 10 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=10, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"			



Message-S12: STM removes button 10			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=10, P=7, IC=0, MI=0000000000b, L=0			

Message-S13: STM requests display of button 11 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=11, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU200B"			

Message-S14: STM removes button 11			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=11, P=7, IC=0, MI=0000000000b, L=0			

Message-S15: STM requests display of button 12 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=12, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU200C"			

Message-S16: STM removes button 12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=12, P=7, IC=0, MI=0000000000b, L=0			

Message-S17: STM requests display of button 13 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=13, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC240D"			

Message-S18: STM removes button 13			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=13, P=7, IC=0, MI=0000000000b, L=0			



Message-S19: STM requests display of button 14 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=14, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL320E"			

Message-S20: STM removes button 14			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=14, P=7, IC=0, MI=0000000000b, L=0			

Message-S21: STM requests display of button 15 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=15, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC400F"			

Message-S22: STM removes button 15			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=15, P=7, IC=0, MI=0000000000b, L=0			

Message-S23: STM requests display of button 16 at position 7			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=16, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL6010"			

Message-S24: STM removes button 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=16, P=7, IC=0, MI=0000000000b, L=0			

Message-S25: STM requests display of button 10 at position 1 with caption 'RL160A'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=111, N=1, ID=10, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"

Message-S26: STM requests display of button 10 at position 2 with caption 'RL160A'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=10, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"			

Message-S27: STM requests display of button 10 at position 3 with caption 'RL160A'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=10, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"			

Message-S28: STM requests display of button 10 at position 4 with caption 'RL160A'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=10, P=4, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"			

Message-S29: STM requests display of button 10 at position 5 with caption 'RL160A'.			
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=10, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"			

Message-S30: STM requests display of button 10 at position 6 with caption 'RL160A'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=10, P=6, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"			

Message-S31: STM requests display of button 10 at position 7 with caption 'RL160A'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=10, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"			

Message-S32: STM requests display of button 10 at position 8 with caption 'RL160A'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length





STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=10, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL160A"			
Message-S33: STM removes button 10			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=10, P=8, IC=0, MI=0000000000b (No display), L=0			
Message-S34: STM requests display of button 8 at position 2 with icon 36 (cogwheel red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=8, P=2, IC=36, MI=1000010000b (black on red, No flashing), L=0			
Message-S35: STM requests display of button 8 at position 3 with icon 36 (cogwheel red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=8, P=3, IC=36, MI=1000010000b (black on red, No flashing), L=0			



Message-S36: STM requests display of button 8 at position 4 with icon 36 (cogwheel red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=8, P=4, IC=36, MI=1000010000b (black on red, No flashing), L=0			

Message-S37: STM requests display of button 8 at position 5 with icon 36 (cogwheel red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=8, P=5, IC=36, MI=1000010000b (black on red, No flashing), L=0			

### 2.3.18 Test Case 7c2.18

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.2.2.3.3.0
	<p>Button identities test for configuration 7a.9 for SK requests for set of buttons:</p> <p>First buttons are displayed with captions in sets of 8 buttons at once at positions 1-8 in a loop, the new request replacing the old buttons. Then buttons are displayed with captions in sets of 8 buttons at once at positions 1-8 and then deleted by display with attribute 'no display' in a loop. Then the buttons 1-8 are shifted with text. Then 4 buttons with icons are shifted through 4 positions.</p>
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1, 13.4.3.3



	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.9. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c2.1 The caption of buttons in the test case indicates the alignment, the font size and the button id. The caption has the format <horizontal alignment><vertical alignment><font size in decimal format><button id in hex-format> with <horizontal alignment> = L, C or R for left, centred or right horizontal alignment, <vertical alignment> = L, C or U for lower part, centred or upper part vertical alignment. example: caption = 'CL6010' for button 16 with font size 60, centred horizontal, lower part vertical alignment.

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Requests for set of buttons with replacement						
1	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons 1 - 8 are displayed at positions 1-8 with font size and alignment according to caption
2	STM requests display of buttons 9 - 16 at positions 1-8	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons 9 - 16 are displayed at positions 1-8 with font size and alignment according to caption
	Requests for set of buttons with deletion						
3	STM requests display of buttons 1 -	PROF	T0+10s	connection of active DMI channel:	DMI		Buttons 1 - 8 are displayed at



	8 at positions 1-8			Message-S3			positions 1-8 with font size and alignment according to caption
4	STM removes buttons 1 - 8	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		No buttons are displayed
5	STM requests display of buttons 9 - 16 at positions 1-8	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Buttons 9 - 16 are displayed at positions 1-8 with font size and alignment according to caption
6	STM removes buttons 9 - 16	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		No buttons are displayed
	Shifting set of buttons through positions with text						
7	STM requests display of buttons 1-8 at positions 1-8 with captions.	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		8 Buttons are displayed at positions 1-8 with captions. with font size and alignment according to caption
8	STM requests display of buttons 1-8 at positions 2-8, 1	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		All buttons are moved by one position with font size and alignment according to caption
9	STM requests display of buttons 1-8 at positions 3-8, 1-2	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		All buttons are moved by one position with font size and alignment according to caption
10	STM requests display of buttons 1-8 at positions 4-8, 1-3	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		All buttons are moved by one position with font size and alignment according to caption
11	STM requests display of buttons 1-8 at positions 5-8, 1-4	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		All buttons are moved by one position with font size and alignment according to caption
12	STM requests display of buttons 1-8 at positions 6-8, 1-5	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		All buttons are moved by one position with font size and alignment according to caption
13	STM requests display of buttons 1-8 at positions 7-8, 1-6	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		All buttons are moved by one position with font size and alignment



							according to caption
14	STM requests display of buttons 1-8 at positions 8, 1-7	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		All buttons are moved by one position with font size and alignment according to caption
15	STM removes buttons 1-8	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		No buttons are displayed
	Shifting set of buttons through positions with icons						
16	STM requests display of buttons 1-4 at positions 2, 3, 4, 5 with icons 34, 35, 36, 37.	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		4 Buttons are displayed at positions 2, 3, 4, 5 with icons 34, 35, 36, 37.
17	STM requests display of buttons 1-4 at positions 3, 4, 5, 2 with icons 34, 35, 36, 37.	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		All buttons are moved to next position with icons
18	STM requests display of buttons 1-4 at positions 4, 5, 2, 3 with icons 34, 35, 36, 37.	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		All buttons are moved to next position with icons
19	STM requests display of buttons 1-4 at positions 5, 2, 3, 4 with icons 34, 35, 36, 37.	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		All buttons are moved to next position with icons

Message-S1: STM requests display of buttons 1 - 8 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA



NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	706	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	6	Caption="LU0801"
X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	6	Caption="RU0802"
X_CAPTION(2,1)	8	"R"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"0"	
X_CAPTION(2,4)	8	"8"	



X_CAPTION(2,5)	8	"0"	
X_CAPTION(2,6)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	6	Caption="LC1203"
X_CAPTION(3,1)	8	"L"	
X_CAPTION(3,2)	8	"C"	
X_CAPTION(3,3)	8	"1"	
X_CAPTION(3,4)	8	"2"	
X_CAPTION(3,5)	8	"0"	
X_CAPTION(3,6)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	6	Caption="RC1204"
X_CAPTION(4,1)	8	"R"	
X_CAPTION(4,2)	8	"C"	
X_CAPTION(4,3)	8	"1"	
X_CAPTION(4,4)	8	"2"	
X_CAPTION(4,5)	8	"0"	



X_CAPTION(4,6)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	6	Caption="LL1605"
X_CAPTION(5,1)	8	"L"	
X_CAPTION(5,2)	8	"L"	
X_CAPTION(5,3)	8	"1"	
X_CAPTION(5,4)	8	"6"	
X_CAPTION(5,5)	8	"0"	
X_CAPTION(5,6)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	6	Caption="CU2006"
X_CAPTION(6,1)	8	"C"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"2"	
X_CAPTION(6,4)	8	"0"	
X_CAPTION(6,5)	8	"0"	
X_CAPTION(6,6)	8	"6"	





NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	6	Caption="CC4007"
X_CAPTION(7,1)	8	"C"	
X_CAPTION(7,2)	8	"C"	
X_CAPTION(7,3)	8	"4"	
X_CAPTION(7,4)	8	"0"	
X_CAPTION(7,5)	8	"0"	
X_CAPTION(7,6)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	6	Caption="CL6008"
X_CAPTION(8,1)	8	"C"	
X_CAPTION(8,2)	8	"L"	
X_CAPTION(8,3)	8	"6"	
X_CAPTION(8,4)	8	"0"	
X_CAPTION(8,5)	8	"0"	
X_CAPTION(8,6)	8	"8"	
Padding bits	5	00000b	



Message-S2: STM requests display of buttons 9 - 16 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=9, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1209"			
(2): ID=10, P=2, IC=0, MI=1000010000b, L=6, T="RL160A"		(3): ID=11, P=3, IC=0, MI=1000010000b, L=6, T="LU200B"	
(4): ID=12, P=4, IC=0, MI=1000010000b, L=6, T="CU200C"		(5): ID=13, P=5, IC=0, MI=1000010000b, L=6, T="LC240D"	
(6): ID=14, P=6, IC=0, MI=1000010000b, L=6, T="LL320E"		(7): ID=15, P=7, IC=0, MI=1000010000b, L=6, T="CC400F"	
(8): ID=16, P=8, IC=0, MI=1000010000b, L=6, T="CL6010"			

Message-S3: STM requests display of buttons 1 - 8 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=2, IC=0, MI=1000010000b, L=6, T="RU0802"		(3): ID=3, P=3, IC=0, MI=1000010000b, L=6, T="LC1203"	
(4): ID=4, P=4, IC=0, MI=1000010000b, L=6, T="RC1204"		(5): ID=5, P=5, IC=0, MI=1000010000b, L=6, T="LL1605"	
(6): ID=6, P=6, IC=0, MI=1000010000b, L=6, T="CU2006"		(7): ID=7, P=7, IC=0, MI=1000010000b, L=6, T="CC4007"	
(8): ID=8, P=8, IC=0, MI=1000010000b, L=6, T="CL6008"			



Message-S4: STM removes buttons 1 - 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	322	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	



M_BUT_ATTRIB(3)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	8	Button 8



NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	0000000000b	No display
L_CAPTION(1)	6	0	
Padding bits	5	00000b	

Message-S5: STM requests display of buttons 9 - 16 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=8, ID=9, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1209"			
(2): ID=10, P=2, IC=0, MI=1000010000b, L=6, T="RL160A"		(3): ID=11, P=3, IC=0, MI=1000010000b, L=6, T="LU200B"	
(4): ID=12, P=4, IC=0, MI=1000010000b, L=6, T="CU200C"		(5): ID=13, P=5, IC=0, MI=1000010000b, L=6, T="LC240D"	
(6): ID=14, P=6, IC=0, MI=1000010000b, L=6, T="LL320E"		(7): ID=15, P=7, IC=0, MI=1000010000b, L=6, T="CC400F"	
(8): ID=16, P=8, IC=0, MI=1000010000b, L=6, T="CL6010"			

Message-S6: STM removes buttons 9 - 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=0, MI=0000000000b, L=0			



(2): ID=10, P=2, IC=0, MI=0000000000b, L=0	(3): ID=11, P=3, IC=0, MI=0000000000b, L=0	(4): ID=12, P=4, IC=0, MI=0000000000b, L=0
(5): ID=13, P=5, IC=0, MI=0000000000b, L=0	(6): ID=14, P=6, IC=0, MI=0000000000b, L=0	(7): ID=15, P=7, IC=0, MI=0000000000b, L=0
(8): ID=16, P=8, IC=0, MI=0000000000b, L=0		

Message-S7: STM requests display of buttons 1-8 at positions 1-8 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=24, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=2, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=3, IC=0, MI=1000010000b, L=6, T="LC1203"		
(4): ID=4, P=4, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=5, IC=0, MI=1000010000b, L=6, T="LL1605"		
(6): ID=6, P=6, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=7, IC=0, MI=1000010000b, L=6, T="CC4007"		
(8): ID=8, P=8, IC=0, MI=1000010000b, L=6, T="CL6008"			

Message-S8: STM requests display of buttons 1-8 at positions 2-8, 1 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=24, ID=1, P=2, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=3, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=4, IC=0, MI=1000010000b, L=6, T="LC1203"		



(4): ID=4, P=5, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=6, IC=0, MI=1000010000b, L=6, T="LL1605"
(6): ID=6, P=7, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=8, IC=0, MI=1000010000b, L=6, T="CC4007"
(8): ID=8, P=1, IC=0, MI=1000010000b, L=6, T="CL6008"	

Message-S9: STM requests display of buttons 1-8 at positions 3-8, 1-2 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=24, ID=1, P=3, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=4, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=5, IC=0, MI=1000010000b, L=6, T="LC1203"		
(4): ID=4, P=6, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=7, IC=0, MI=1000010000b, L=6, T="LL1605"		
(6): ID=6, P=8, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=1, IC=0, MI=1000010000b, L=6, T="CC4007"		
(8): ID=8, P=2, IC=0, MI=1000010000b, L=6, T="CL6008"			

Message-S10: STM requests display of buttons 1-8 at positions 4-8, 1-3 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=24, ID=1, P=4, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=5, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=6, IC=0, MI=1000010000b, L=6, T="LC1203"		



(4): ID=4, P=7, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=8, IC=0, MI=1000010000b, L=6, T="LL1605"
(6): ID=6, P=1, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=2, IC=0, MI=1000010000b, L=6, T="CC4007"
(8): ID=8, P=3, IC=0, MI=1000010000b, L=6, T="CL6008"	

Message-S11: STM requests display of buttons 1-8 at positions 5-8, 1-4 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=24, ID=1, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=6, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=7, IC=0, MI=1000010000b, L=6, T="LC1203"		
(4): ID=4, P=8, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=1, IC=0, MI=1000010000b, L=6, T="LL1605"		
(6): ID=6, P=2, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=3, IC=0, MI=1000010000b, L=6, T="CC4007"		
(8): ID=8, P=4, IC=0, MI=1000010000b, L=6, T="CL6008"			

Message-S12: STM requests display of buttons 1-8 at positions 6-8, 1-5 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=24, ID=1, P=6, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=7, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=8, IC=0, MI=1000010000b, L=6, T="LC1203"		





(4): ID=4, P=1, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=2, IC=0, MI=1000010000b, L=6, T="LL1605"
(6): ID=6, P=3, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=4, IC=0, MI=1000010000b, L=6, T="CC4007"
(8): ID=8, P=5, IC=0, MI=1000010000b, L=6, T="CL6008"	

Message-S13: STM requests display of buttons 1-8 at positions 7-8, 1-6 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=24, ID=1, P=7, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=8, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=1, IC=0, MI=1000010000b, L=6, T="LC1203"		
(4): ID=4, P=2, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=3, IC=0, MI=1000010000b, L=6, T="LL1605"		
(6): ID=6, P=4, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=5, IC=0, MI=1000010000b, L=6, T="CC4007"		
(8): ID=8, P=6, IC=0, MI=1000010000b, L=6, T="CL6008"			

Message-S14: STM requests display of buttons 1-8 at positions 8, 1-7 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	94	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=706, N=24, ID=1, P=8, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=1, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=2, IC=0, MI=1000010000b, L=6, T="LC1203"		



(4): ID=4, P=3, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=4, IC=0, MI=1000010000b, L=6, T="LL1605"
(6): ID=6, P=5, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=6, IC=0, MI=1000010000b, L=6, T="CC4007"
(8): ID=8, P=7, IC=0, MI=1000010000b, L=6, T="CL6008"	

Message-S15: STM removes buttons 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=24, ID=1, P=8, IC=0, MI=0000000000b (No display), L=0			
(2): ID=2, P=1, IC=0, MI=0000000000b, L=0	(3): ID=3, P=2, IC=0, MI=0000000000b, L=0		(4): ID=4, P=3, IC=0, MI=0000000000b, L=0
(5): ID=5, P=4, IC=0, MI=0000000000b, L=0	(6): ID=6, P=5, IC=0, MI=0000000000b, L=0		(7): ID=7, P=6, IC=0, MI=0000000000b, L=0
(8): ID=8, P=7, IC=0, MI=0000000000b, L=0			

Message-S16: STM requests display of buttons 1-4 at positions 2, 3, 4, 5 with icons 34, 35, 36, 37.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	27	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=174, N=4, ID=1, P=2, IC=34, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=3, IC=35, MI=1000010000b, L=0	(3): ID=3, P=4, IC=36, MI=1000010000b, L=0		
(4): ID=4, P=5, IC=37, MI=1000010000b, L=0			



Message-S17: STM requests display of buttons 1-4 at positions 3, 4, 5, 2 with icons 34, 35, 36, 37.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	27	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=174, N=4, ID=1, P=3, IC=34, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=4, IC=35, MI=1000010000b, L=0		(3): ID=3, P=5, IC=36, MI=1000010000b, L=0	
(4): ID=4, P=2, IC=37, MI=1000010000b, L=0			

Message-S18: STM requests display of buttons 1-4 at positions 4, 5, 2, 3 with icons 34, 35, 36, 37.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	27	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=174, N=4, ID=1, P=4, IC=34, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=5, IC=35, MI=1000010000b, L=0		(3): ID=3, P=2, IC=36, MI=1000010000b, L=0	
(4): ID=4, P=3, IC=37, MI=1000010000b, L=0			

Message-S19: STM requests display of buttons 1-4 at positions 5, 2, 3, 4 with icons 34, 35, 36, 37.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	27	Message Length



STM-15: PL=25, ST=7, (State DA)	
STM-32: PL=174, N=4, ID=1, P=5, IC=34, MI=1000010000b (black on red, No flashing), L=0	
(2): ID=2, P=2, IC=35, MI=1000010000b, L=0	(3): ID=3, P=3, IC=36, MI=1000010000b, L=0
(4): ID=4, P=4, IC=37, MI=1000010000b, L=0	

### 2.3.19 Test Case 7c2.19

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.1.1.2.2.0
	<p>Button identities test for configuration 7a.9 for TS with single button requests:</p> <p>First buttons (with ids 1, 27, ... 105 ) are displayed with caption in a loop one after the other at the same position, the new request replacing the old button. Then buttons (with ids 131, 183, ... 235 ) are displayed with caption and then deleted by display with attribute 'no display' in a loop one after the other at the same position. Then the button 194 is moved through positions 1,5, ... 21 with text. Then the button 8 is moved through positions 13, 14, 15, 22, 23, 24 with icon 50.</p>
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	<p>For active STM: Customisable DMI service: 7a.9.</p> <p>The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9</p>
Comments and constraints	Starting and end conditions as for test case 7c2.1
	The caption of buttons in the test case indicates the alignment, the font size and the button id.



	<p>The caption has the format &lt;horizontal alignment&gt;&lt;vertical alignment&gt;&lt;font size in decimal format&gt;&lt;button id in hex-format&gt; with          &lt;horizontal alignment&gt; = L, C or R for left, centred or right horizontal alignment,          &lt;vertical alignment&gt; = L, C or U for lower part, centred or upper part vertical alignment.          example: caption = 'CL6010' for button 16 with font size 60, centred horizontal, lower part vertical alignment.</p> <p>Buttons are configured in sets of 24 buttons matching the 24 available positions. All buttons of one set have the same horizontal and vertical alignment. The font size increases set by set.</p>
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#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Single button requests with replacement						
1	STM requests display of button 1 at position 16	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption LU0801 is displayed at position 16 with font size 08 horizontal alignment L and vertical alignment U
2	STM requests display of button 27 at position 16	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with caption RL121B is displayed at position 16 with font size 12 horizontal alignment R and vertical alignment L
3	STM requests display of button 53 at position 16	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with caption RC1635 is displayed at position 16 with font size 16 horizontal alignment R and vertical alignment C
4	STM requests display of button 79 at position 16	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Button with caption LU234F is displayed at position 16 with font size 23 horizontal alignment L and vertical alignment U
5	STM requests display of button 105 at position 16	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with caption LL1669 is displayed at position 16 with font



							size 16 horizontal alignment L and vertical alignment L
	Single button requests with deletion						
6	STM requests display of button 131 at position 16	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Button with caption LC1883 is displayed at position 16 with font size 18 horizontal alignment L and vertical alignment C
7	STM removes button 131	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		No buttons are displayed
8	STM requests display of button 157 at position 16	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with caption CU329D is displayed at position 16 with font size 32 horizontal alignment C and vertical alignment U
9	STM removes button 157	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		No buttons are displayed
10	STM requests display of button 183 at position 16	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		Button with caption CL36B7 is displayed at position 16 with font size 36 horizontal alignment C and vertical alignment L
11	STM removes button 183	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		No buttons are displayed
12	STM requests display of button 209 at position 16	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		Button with caption CC40D1 is displayed at position 16 with font size 40 horizontal alignment C and vertical alignment C
13	STM removes button 209	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		No buttons are displayed
14	STM requests display of button 235 at position 16	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		Button with caption RU44EB is displayed at position 16 with font size 44 horizontal alignment R and vertical alignment U



15	STM removes button 235	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		No buttons are displayed
	Moving single button through positions with text						
16	STM requests display of button 194 at position 1 with caption 'CC16C2'.	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		Button is displayed at position 1 with caption 'CC16C2'. with font size and alignment according to caption
17	STM requests display of button 194 at position 5 with caption 'CC16C2'.	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Button is moved to position 5 with caption 'CC16C2'. with font size and alignment according to caption
18	STM requests display of button 194 at position 9 with caption 'CC16C2'.	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		Button is moved to position 9 with caption 'CC16C2'. with font size and alignment according to caption
19	STM requests display of button 194 at position 13 with caption 'CC16C2'.	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Button is moved to position 13 with caption 'CC16C2'. with font size and alignment according to caption
20	STM requests display of button 194 at position 17 with caption 'CC16C2'.	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		Button is moved to position 17 with caption 'CC16C2'. with font size and alignment according to caption
21	STM requests display of button 194 at position 21 with caption 'CC16C2'.	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Button is moved to position 21 with caption 'CC16C2'. with font size and alignment according to caption
22	STM removes button 194	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		No buttons are displayed
	Moving single button through positions with icon						
23	STM requests display of button 8 at position 13 with icon 50 (radiation red).	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Button is displayed at position 13 with icon 50 (radiation red).
24	STM requests display of button 8 at	PROF	T0+115s	connection of active DMI channel:	DMI		Button is moved to position 14



	position 14 with icon 50 (radiation red).			Message-S24			
25	STM requests display of button 8 at position 15 with icon 50 (radiation red).	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Button is moved to position 15
26	STM requests display of button 8 at position 22 with icon 50 (radiation red).	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		Button is moved to position 22
27	STM requests display of button 8 at position 23 with icon 50 (radiation red).	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Button is moved to position 23
28	STM requests display of button 8 at position 24 with icon 50 (radiation red).	PROF	T0+135s	connection of active DMI channel: Message-S28	DMI		Button is moved to position 24

Message-S1: STM requests display of button 1 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	111	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	16	





NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	6	Caption="LU0801"
X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	

Message-S2: STM requests display of button 27 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=27, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL121B"			

Message-S3: STM requests display of button 53 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=53, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1635"			



Message-S4: STM requests display of button 79 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=79, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU234F"			

Message-S5: STM requests display of button 105 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=105, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL1669"			

Message-S6: STM requests display of button 131 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=131, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC1883"			

Message-S7: STM removes button 131			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	131	Button 131
NID_BUTPOS(1)	5	16	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	

Message-S8: STM requests display of button 157 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=157, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU329D"			

Message-S9: STM removes button 157			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

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STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=157, P=16, IC=0, MI=0000000000b, L=0

Message-S10: STM requests display of button 183 at position 16

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=183, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL36B7"

Message-S11: STM removes button 183

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=183, P=16, IC=0, MI=0000000000b, L=0

Message-S12: STM requests display of button 209 at position 16

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=111, N=1, ID=209, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC40D1"



Message-S13: STM removes button 209			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=209, P=16, IC=0, MI=0000000000b, L=0			

Message-S14: STM requests display of button 235 at position 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=235, P=16, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RU44EB"			

Message-S15: STM removes button 235			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=235, P=16, IC=0, MI=0000000000b, L=0			

Message-S16: STM requests display of button 194 at position 1 with caption 'CC16C2'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=194, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC16C2"			

Message-S17: STM requests display of button 194 at position 5 with caption 'CC16C2'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=194, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC16C2"			

Message-S18: STM requests display of button 194 at position 9 with caption 'CC16C2'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=194, P=9, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC16C2"			

Message-S19: STM requests display of button 194 at position 13 with caption 'CC16C2'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=194, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC16C2"			



Message-S20: STM requests display of button 194 at position 17 with caption 'CC16C2'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=194, P=17, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC16C2"			

Message-S21: STM requests display of button 194 at position 21 with caption 'CC16C2'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	19	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=111, N=1, ID=194, P=21, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC16C2"			

Message-S22: STM removes button 194			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=194, P=21, IC=0, MI=0000000000b (No display), L=0			

Message-S23: STM requests display of button 8 at position 13 with icon 50 (radiation red).			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=8, P=13, IC=50, MI=1000010000b (black on red, No flashing), L=0			

Message-S24: STM requests display of button 8 at position 14 with icon 50 (radiation red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=8, P=14, IC=50, MI=1000010000b (black on red, No flashing), L=0			

Message-S25: STM requests display of button 8 at position 15 with icon 50 (radiation red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=8, P=15, IC=50, MI=1000010000b (black on red, No flashing), L=0			

Message-S26: STM requests display of button 8 at position 22 with icon 50 (radiation red).			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			





STM-32: PL=63, N=1, ID=8, P=22, IC=50, MI=1000010000b (black on red, No flashing), L=0

Message-S27: STM requests display of button 8 at position 23 with icon 50 (radiation red).

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=8, P=23, IC=50, MI=1000010000b (black on red, No flashing), L=0

Message-S28: STM requests display of button 8 at position 24 with icon 50 (radiation red).

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=8, P=24, IC=50, MI=1000010000b (black on red, No flashing), L=0

### 2.3.20 Test Case 7c2.20

TEST CASE HEADER	
Test case identification	DMI Function
	7c2.0.2.2.2.4.4.0
	Button identities test for configuration 7a.9 for TS requests for set of buttons:  First buttons are displayed with captions in sets of 24 buttons at once at positions 1-24 in a loop, the new request replacing the old buttons. Then buttons are displayed with captions in sets of 24 buttons at once at positions 1-24 and then deleted by display with attribute 'no display' in a loop. Then the buttons 1-24 are shifted with text. Then 6 buttons with icons are shifted through 6 positions.



<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.9. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	<p>Starting and end conditions as for test case 7c2.1</p> <p>The caption of buttons in the test case indicates the alignment, the font size and the button id.</p> <p>The caption has the format &lt;horizontal alignment&gt;&lt;vertical alignment&gt;&lt;font size in decimal format&gt;&lt;button id in hex-format&gt; with            &lt;horizontal alignment&gt; = L, C or R for left, centred or right horizontal alignment,            &lt;vertical alignment&gt; = L, C or U for lower part, centred or upper part vertical alignment.            example: caption = 'CL6010' for button 16 with font size 60, centred horizontal, lower part vertical alignment.</p> <p>Buttons are configured in sets of 24 buttons matching the 24 available positions. All buttons of one set have the same horizontal and vertical alignment. The font size increases set by set.</p>

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
	Requests for set of buttons with replacement						
1	STM requests display of buttons 1 - 12 at positions 1-12	PROF	T0	connection of active DMI channel: Message-S1	DMI		
2	STM requests display of buttons 13 - 24 at positions 13-24	PROF	T0	connection of active DMI channel: Message-S2	DMI		Buttons 1 - 24 are displayed at positions 1-24 with font size and alignment according to caption



3	STM requests display of buttons 25 - 36 at positions 1-12	PROF	T0+5s	connection of active DMI channel: Message-S3	DMI		
4	STM requests display of buttons 37 - 48 at positions 13-24	PROF	T0+5s	connection of active DMI channel: Message-S4	DMI		Buttons 25 - 48 are displayed at positions 1-24 with font size according to caption and horizontal alignment R and vertical alignment L
5	STM requests display of buttons 49 - 60 at positions 1-12	PROF	T0+10s	connection of active DMI channel: Message-S5	DMI		
6	STM requests display of buttons 61 - 72 at positions 13-24	PROF	T0+10s	connection of active DMI channel: Message-S6	DMI		Buttons 49 - 72 are displayed at positions 1-24 with font size according to caption and horizontal alignment R and vertical alignment C
7	STM requests display of buttons 73 - 84 at positions 1-12	PROF	T0+15s	connection of active DMI channel: Message-S7	DMI		
8	STM requests display of buttons 85 - 96 at positions 13-24	PROF	T0+15s	connection of active DMI channel: Message-S8	DMI		Buttons 73 - 96 are displayed at positions 1-24 with font size according to caption and horizontal alignment L and vertical alignment U
9	STM requests display of buttons 97 - 108 at positions 1-12	PROF	T0+20s	connection of active DMI channel: Message-S9	DMI		
10	STM requests display of buttons 109 - 120 at positions 13-24	PROF	T0+20s	connection of active DMI channel: Message-S10	DMI		Buttons 97 - 120 are displayed at positions 1-24 with font size according to caption and horizontal alignment L and vertical alignment L
11	STM requests display of buttons 121 - 132 at positions 1-12	PROF	T0+25s	connection of active DMI channel: Message-S11	DMI		
12	STM requests display of buttons 133 - 144 at positions 13-24	PROF	T0+25s	connection of active DMI channel: Message-S12	DMI		Buttons 121 - 144 are displayed at positions 1-24 with font size according to caption and horizontal alignment L and vertical alignment C



	Requests for set of buttons with deletion						
13	STM requests display of buttons 145 - 156 at positions 1-12	PROF	T0+30s	connection of active DMI channel: Message-S13	DMI		
14	STM requests display of buttons 157 - 168 at positions 13-24	PROF	T0+30s	connection of active DMI channel: Message-S14	DMI		Buttons 145 - 168 are displayed at positions 1-24 with font size according to caption and horizontal alignment C and vertical alignment U
15	STM removes buttons 145 - 168	PROF	T0+35s	connection of active DMI channel: Message-S15	DMI		No buttons are displayed
16	STM requests display of buttons 169 - 180 at positions 1-12	PROF	T0+40s	connection of active DMI channel: Message-S16	DMI		
17	STM requests display of buttons 181 - 192 at positions 13-24	PROF	T0+40s	connection of active DMI channel: Message-S17	DMI		Buttons 169 - 192 are displayed at positions 1-24 with font size according to caption and horizontal alignment C and vertical alignment L
18	STM removes buttons 169 - 192	PROF	T0+45s	connection of active DMI channel: Message-S18	DMI		No buttons are displayed
19	STM requests display of buttons 193 - 204 at positions 1-12	PROF	T0+50s	connection of active DMI channel: Message-S19	DMI		
20	STM requests display of buttons 205 - 216 at positions 13-24	PROF	T0+50s	connection of active DMI channel: Message-S20	DMI		Buttons 193 - 216 are displayed at positions 1-24 with font size according to caption and horizontal alignment C and vertical alignment C
21	STM removes buttons 193 - 216	PROF	T0+55s	connection of active DMI channel: Message-S21	DMI		No buttons are displayed
22	STM requests display of buttons 217 - 228 at positions 1-12	PROF	T0+60s	connection of active DMI channel: Message-S22	DMI		



23	STM requests display of buttons 229 - 240 at positions 13-24	PROF	T0+60s	connection of active DMI channel: Message-S23	DMI		Buttons 217 - 240 are displayed at positions 1-24 with font size according to caption and horizontal alignment R and vertical alignment U
24	STM removes buttons 217 - 240	PROF	T0+65s	connection of active DMI channel: Message-S24	DMI		No buttons are displayed
25	STM requests display of buttons 241 - 255 at positions 1-15	PROF	T0+70s	connection of active DMI channel: Message-S25	DMI		Buttons 241 - 255 are displayed at positions 1-15 with font size according to caption and horizontal alignment C and vertical alignment C
26	STM removes buttons 241 - 255	PROF	T0+75s	connection of active DMI channel: Message-S26	DMI		No buttons are displayed
	Shifting set of buttons through positions with text						
27	STM requests display of buttons 1-12 at positions 1-12	PROF	T0+80s	connection of active DMI channel: Message-S27	DMI		
28	STM requests display of buttons 13-24 at positions 13-24	PROF	T0+80s	connection of active DMI channel: Message-S28	DMI		24 Buttons are displayed at positions 1-24 with captions. with font size and alignment according to caption
29	STM requests display of buttons 1-12 at positions 5-16	PROF	T0+85s	connection of active DMI channel: Message-S29	DMI		
30	STM requests display of buttons 13-24 at positions 17-24, 1-4	PROF	T0+85s	connection of active DMI channel: Message-S30	DMI		All buttons are moved by 4 positions with font size and alignment according to caption
31	STM requests display of buttons 1-12 at positions 9-20	PROF	T0+90s	connection of active DMI channel: Message-S31	DMI		
32	STM requests display of buttons 13-24 at positions 21-24, 1-8	PROF	T0+90s	connection of active DMI channel: Message-S32	DMI		All buttons are moved by 4 positions with font size and alignment



							according to caption
33	STM requests display of buttons 1-12 at positions 13-24	PROF	T0+95s	connection of active DMI channel: Message-S33	DMI		
34	STM requests display of buttons 13-24 at positions 1-12	PROF	T0+95s	connection of active DMI channel: Message-S34	DMI		All buttons are moved by 4 positions with font size and alignment according to caption
35	STM requests display of buttons 1-12 at positions 17-24, 1-4	PROF	T0+100s	connection of active DMI channel: Message-S35	DMI		
36	STM requests display of buttons 13-24 at positions 5-16	PROF	T0+100s	connection of active DMI channel: Message-S36	DMI		All buttons are moved by 4 positions with font size and alignment according to caption
37	STM requests display of buttons 1-12 at positions 21-24, 1-8	PROF	T0+105s	connection of active DMI channel: Message-S37	DMI		
38	STM requests display of buttons 13-24 at positions 9-20	PROF	T0+105s	connection of active DMI channel: Message-S38	DMI		All buttons are moved by 4 positions with font size and alignment according to caption
39	STM removes buttons 1-24	PROF	T0+110s	connection of active DMI channel: Message-S39	DMI		No buttons are displayed
	Shifting set of buttons through positions with icons						
40	STM requests display of buttons 1-6 at positions 13, 14, 15, 22, 23, 24 with icons 50, 63, 64, 41, 47, 48.	PROF	T0+115s	connection of active DMI channel: Message-S40	DMI		6 Buttons are displayed at positions 13, 14, 15, 22, 23, 24 with icons 50, 63, 64, 41, 47, 48.
41	STM requests display of buttons 1-6 at positions 14, 15, 22, 23, 24, 13 with icons 50, 63, 64, 41, 47, 48.	PROF	T0+120s	connection of active DMI channel: Message-S41	DMI		All buttons are moved to next position with icons
42	STM requests display of buttons 1-6 at positions 15, 22, 23, 24, 13, 14 with icons 50, 63, 64, 41, 47, 48.	PROF	T0+125s	connection of active DMI channel: Message-S42	DMI		All buttons are moved to next position with icons
43	STM requests display of buttons 1-6	PROF	T0+130s	connection of active DMI channel:	DMI		All buttons are moved to next



	at positions 22, 23, 24, 13, 14, 15 with icons 50, 63, 64, 41, 47, 48.			Message-S43			position with icons
44	STM requests display of buttons 1-6 at positions 23, 24, 13, 14, 15, 22 with icons 50, 63, 64, 41, 47, 48.	PROF	T0+135s	connection of active DMI channel: Message-S44	DMI		All buttons are moved to next position with icons
45	STM requests display of buttons 1-6 at positions 24, 13, 14, 15, 22, 23 with icons 50, 63, 64, 41, 47, 48.	PROF	T0+140s	connection of active DMI channel: Message-S45	DMI		All buttons are moved to next position with icons

Message-S1: STM requests display of buttons 1 - 12 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	1046	Packet Length
N_ITER	5	12	Request for 12 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	6	Caption="LU0801"
X_CAPTION(1,1)	8	"L"	
X_CAPTION(1,2)	8	"U"	

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X_CAPTION(1,3)	8	"0"	
X_CAPTION(1,4)	8	"8"	
X_CAPTION(1,5)	8	"0"	
X_CAPTION(1,6)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	6	Caption="RU0802"
X_CAPTION(2,1)	8	"R"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"0"	
X_CAPTION(2,4)	8	"8"	
X_CAPTION(2,5)	8	"0"	
X_CAPTION(2,6)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	6	Caption="LC1203"
X_CAPTION(3,1)	8	"L"	
X_CAPTION(3,2)	8	"C"	
X_CAPTION(3,3)	8	"1"	





X_CAPTION(3,4)	8	"2"	
X_CAPTION(3,5)	8	"0"	
X_CAPTION(3,6)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	6	Caption="RC1204"
X_CAPTION(4,1)	8	"R"	
X_CAPTION(4,2)	8	"C"	
X_CAPTION(4,3)	8	"1"	
X_CAPTION(4,4)	8	"2"	
X_CAPTION(4,5)	8	"0"	
X_CAPTION(4,6)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	6	Caption="LL1605"
X_CAPTION(5,1)	8	"L"	
X_CAPTION(5,2)	8	"L"	
X_CAPTION(5,3)	8	"1"	
X_CAPTION(5,4)	8	"6"	



X_CAPTION(5,5)	8	"0"	
X_CAPTION(5,6)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	6	Caption="CU2006"
X_CAPTION(6,1)	8	"C"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"2"	
X_CAPTION(6,4)	8	"0"	
X_CAPTION(6,5)	8	"0"	
X_CAPTION(6,6)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	6	Caption="CC4007"
X_CAPTION(7,1)	8	"C"	
X_CAPTION(7,2)	8	"C"	
X_CAPTION(7,3)	8	"4"	
X_CAPTION(7,4)	8	"0"	
X_CAPTION(7,5)	8	"0"	



X_CAPTION(7,6)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	6	Caption="CL6008"
X_CAPTION(8,1)	8	"C"	
X_CAPTION(8,2)	8	"L"	
X_CAPTION(8,3)	8	"6"	
X_CAPTION(8,4)	8	"0"	
X_CAPTION(8,5)	8	"0"	
X_CAPTION(8,6)	8	"8"	
NID_BUTTON(9)	8	9	Button 9
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	1000010000b	black on red, No flashing
L_CAPTION(9)	6	6	Caption="RC1209"
X_CAPTION(9,1)	8	"R"	
X_CAPTION(9,2)	8	"C"	
X_CAPTION(9,3)	8	"1"	
X_CAPTION(9,4)	8	"2"	
X_CAPTION(9,5)	8	"0"	
X_CAPTION(9,6)	8	"9"	



NID_BUTTON(10)	8	10	Button 10
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	1000010000b	black on red, No flashing
L_CAPTION(10)	6	6	Caption="RL160A"
X_CAPTION(10,1)	8	"R"	
X_CAPTION(10,2)	8	"L"	
X_CAPTION(10,3)	8	"1"	
X_CAPTION(10,4)	8	"6"	
X_CAPTION(10,5)	8	"0"	
X_CAPTION(10,6)	8	"A"	
NID_BUTTON(11)	8	11	Button 11
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	1000010000b	black on red, No flashing
L_CAPTION(11)	6	6	Caption="LU200B"
X_CAPTION(11,1)	8	"L"	
X_CAPTION(11,2)	8	"U"	
X_CAPTION(11,3)	8	"2"	
X_CAPTION(11,4)	8	"0"	
X_CAPTION(11,5)	8	"0"	
X_CAPTION(11,6)	8	"B"	
NID_BUTTON(12)	8	12	Button 12



NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	1000010000b	black on red, No flashing
L_CAPTION(12)	6	6	Caption="CU200C"
X_CAPTION(12,1)	8	"C"	
X_CAPTION(12,2)	8	"U"	
X_CAPTION(12,3)	8	"2"	
X_CAPTION(12,4)	8	"0"	
X_CAPTION(12,5)	8	"0"	
X_CAPTION(12,6)	8	"C"	
Padding bits	1	0b	

Message-S2: STM requests display of buttons 13 - 24 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=13, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC240D"			
(2): ID=14, P=14, IC=0, MI=1000010000b, L=6, T="LL320E"		(3): ID=15, P=15, IC=0, MI=1000010000b, L=6, T="CC400F"	
(4): ID=16, P=16, IC=0, MI=1000010000b, L=6, T="CL6010"		(5): ID=17, P=17, IC=0, MI=1000010000b, L=6, T="RU0811"	
(6): ID=18, P=18, IC=0, MI=1000010000b, L=6, T="RU0812"		(7): ID=19, P=19, IC=0, MI=1000010000b, L=6, T="RU0813"	
(8): ID=20, P=20, IC=0, MI=1000010000b, L=6, T="RU0814"		(9): ID=21, P=21, IC=0, MI=1000010000b, L=6, T="RU0815"	
(10): ID=22, P=22, IC=0, MI=1000010000b, L=6, T="RU0816"		(11): ID=23, P=23, IC=0, MI=1000010000b, L=6, T="RU0817"	



(12): ID=24, P=24, IC=0, MI=1000010000b, L=6, T="RU0818"	
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Message-S3: STM requests display of buttons 25 - 36 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=25, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL0919"			
(2): ID=26, P=2, IC=0, MI=1000010000b, L=6, T="RL091A"		(3): ID=27, P=3, IC=0, MI=1000010000b, L=6, T="RL121B"	
(4): ID=28, P=4, IC=0, MI=1000010000b, L=6, T="RL121C"		(5): ID=29, P=5, IC=0, MI=1000010000b, L=6, T="RL121D"	
(6): ID=30, P=6, IC=0, MI=1000010000b, L=6, T="RL121E"		(7): ID=31, P=7, IC=0, MI=1000010000b, L=6, T="RL131F"	
(8): ID=32, P=8, IC=0, MI=1000010000b, L=6, T="RL1720"		(9): ID=33, P=9, IC=0, MI=1000010000b, L=6, T="RL1021"	
(10): ID=34, P=10, IC=0, MI=1000010000b, L=6, T="RL1022"		(11): ID=35, P=11, IC=0, MI=1000010000b, L=6, T="RL1023"	
(12): ID=36, P=12, IC=0, MI=1000010000b, L=6, T="RL1024"			

Message-S4: STM requests display of buttons 37 - 48 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=37, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RL1225"			
(2): ID=38, P=14, IC=0, MI=1000010000b, L=6, T="RL1226"		(3): ID=39, P=15, IC=0, MI=1000010000b, L=6, T="RL1227"	



(4): ID=40, P=16, IC=0, MI=1000010000b, L=6, T="RL2728"	(5): ID=41, P=17, IC=0, MI=1000010000b, L=6, T="RL1229"
(6): ID=42, P=18, IC=0, MI=1000010000b, L=6, T="RL122A"	(7): ID=43, P=19, IC=0, MI=1000010000b, L=6, T="RL122B"
(8): ID=44, P=20, IC=0, MI=1000010000b, L=6, T="RL122C"	(9): ID=45, P=21, IC=0, MI=1000010000b, L=6, T="RL122D"
(10): ID=46, P=22, IC=0, MI=1000010000b, L=6, T="RL122E"	(11): ID=47, P=23, IC=0, MI=1000010000b, L=6, T="RL122F"
(12): ID=48, P=24, IC=0, MI=1000010000b, L=6, T="RL1230"	

Message-S5: STM requests display of buttons 49 - 60 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=49, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC1031"			
(2): ID=50, P=2, IC=0, MI=1000010000b, L=6, T="RC1032"	(3): ID=51, P=3, IC=0, MI=1000010000b, L=6, T="RC1633"		
(4): ID=52, P=4, IC=0, MI=1000010000b, L=6, T="RC1634"	(5): ID=53, P=5, IC=0, MI=1000010000b, L=6, T="RC1635"		
(6): ID=54, P=6, IC=0, MI=1000010000b, L=6, T="RC1636"	(7): ID=55, P=7, IC=0, MI=1000010000b, L=6, T="RC1837"		
(8): ID=56, P=8, IC=0, MI=1000010000b, L=6, T="RC2638"	(9): ID=57, P=9, IC=0, MI=1000010000b, L=6, T="RC1239"		
(10): ID=58, P=10, IC=0, MI=1000010000b, L=6, T="RC123A"	(11): ID=59, P=11, IC=0, MI=1000010000b, L=6, T="RC123B"		
(12): ID=60, P=12, IC=0, MI=1000010000b, L=6, T="RC123C"			

Message-S6: STM requests display of buttons 61 - 72 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=61, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RC163D"			
(2): ID=62, P=14, IC=0, MI=1000010000b, L=6, T="RC163E"		(3): ID=63, P=15, IC=0, MI=1000010000b, L=6, T="RC163F"	
(4): ID=64, P=16, IC=0, MI=1000010000b, L=6, T="RC4640"		(5): ID=65, P=17, IC=0, MI=1000010000b, L=6, T="RC1641"	
(6): ID=66, P=18, IC=0, MI=1000010000b, L=6, T="RC1642"		(7): ID=67, P=19, IC=0, MI=1000010000b, L=6, T="RC1643"	
(8): ID=68, P=20, IC=0, MI=1000010000b, L=6, T="RC1644"		(9): ID=69, P=21, IC=0, MI=1000010000b, L=6, T="RC1645"	
(10): ID=70, P=22, IC=0, MI=1000010000b, L=6, T="RC1646"		(11): ID=71, P=23, IC=0, MI=1000010000b, L=6, T="RC1647"	
(12): ID=72, P=24, IC=0, MI=1000010000b, L=6, T="RC1648"			

Message-S7: STM requests display of buttons 73 - 84 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=73, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU1149"			
(2): ID=74, P=2, IC=0, MI=1000010000b, L=6, T="LU114A"		(3): ID=75, P=3, IC=0, MI=1000010000b, L=6, T="LU204B"	
(4): ID=76, P=4, IC=0, MI=1000010000b, L=6, T="LU204C"		(5): ID=77, P=5, IC=0, MI=1000010000b, L=6, T="LU204D"	
(6): ID=78, P=6, IC=0, MI=1000010000b, L=6, T="LU204E"		(7): ID=79, P=7, IC=0, MI=1000010000b, L=6, T="LU234F"	
(8): ID=80, P=8, IC=0, MI=1000010000b, L=6, T="LU3550"		(9): ID=81, P=9, IC=0, MI=1000010000b, L=6, T="LU1451"	
(10): ID=82, P=10, IC=0, MI=1000010000b, L=6, T="LU1452"		(11): ID=83, P=11, IC=0, MI=1000010000b, L=6, T="LU1453"	
(12): ID=84, P=12, IC=0, MI=1000010000b, L=6, T="LU1454"			





Message-S8: STM requests display of buttons 85 - 96 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=85, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU2055"			
(2): ID=86, P=14, IC=0, MI=1000010000b, L=6, T="LU2056"		(3): ID=87, P=15, IC=0, MI=1000010000b, L=6, T="LU2057"	
(4): ID=88, P=16, IC=0, MI=1000010000b, L=6, T="LU6058"		(5): ID=89, P=17, IC=0, MI=1000010000b, L=6, T="LU2059"	
(6): ID=90, P=18, IC=0, MI=1000010000b, L=6, T="LU205A"		(7): ID=91, P=19, IC=0, MI=1000010000b, L=6, T="LU205B"	
(8): ID=92, P=20, IC=0, MI=1000010000b, L=6, T="LU205C"		(9): ID=93, P=21, IC=0, MI=1000010000b, L=6, T="LU205D"	
(10): ID=94, P=22, IC=0, MI=1000010000b, L=6, T="LU205E"		(11): ID=95, P=23, IC=0, MI=1000010000b, L=6, T="LU205F"	
(12): ID=96, P=24, IC=0, MI=1000010000b, L=6, T="LU2060"			

Message-S9: STM requests display of buttons 97 - 108 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=97, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL1261"			
(2): ID=98, P=2, IC=0, MI=1000010000b, L=6, T="LL1262"		(3): ID=99, P=3, IC=0, MI=1000010000b, L=6, T="LL2463"	
(4): ID=100, P=4, IC=0, MI=1000010000b, L=6, T="LL2464"		(5): ID=101, P=5, IC=0, MI=1000010000b, L=6, T="LL2465"	
(6): ID=102, P=6, IC=0, MI=1000010000b, L=6, T="LL2466"		(7): ID=103, P=7, IC=0, MI=1000010000b, L=6, T="LL2867"	



(8): ID=104, P=8, IC=0, MI=1000010000b, L=6, T="LL4468"	(9): ID=105, P=9, IC=0, MI=1000010000b, L=6, T="LL1669"
(10): ID=106, P=10, IC=0, MI=1000010000b, L=6, T="LL166A"	(11): ID=107, P=11, IC=0, MI=1000010000b, L=6, T="LL166B"
(12): ID=108, P=12, IC=0, MI=1000010000b, L=6, T="LL166C"	

Message-S10: STM requests display of buttons 109 - 120 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=109, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LL246D"			
(2): ID=110, P=14, IC=0, MI=1000010000b, L=6, T="LL246E"	(3): ID=111, P=15, IC=0, MI=1000010000b, L=6, T="LL246F"		
(4): ID=112, P=16, IC=0, MI=1000010000b, L=6, T="LL6070"	(5): ID=113, P=17, IC=0, MI=1000010000b, L=6, T="LL2471"		
(6): ID=114, P=18, IC=0, MI=1000010000b, L=6, T="LL2472"	(7): ID=115, P=19, IC=0, MI=1000010000b, L=6, T="LL2473"		
(8): ID=116, P=20, IC=0, MI=1000010000b, L=6, T="LL2474"	(9): ID=117, P=21, IC=0, MI=1000010000b, L=6, T="LL2475"		
(10): ID=118, P=22, IC=0, MI=1000010000b, L=6, T="LL2476"	(11): ID=119, P=23, IC=0, MI=1000010000b, L=6, T="LL2477"		
(12): ID=120, P=24, IC=0, MI=1000010000b, L=6, T="LL2478"			

Message-S11: STM requests display of buttons 121 - 132 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=1046, N=12, ID=121, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC1379"	
(2): ID=122, P=2, IC=0, MI=1000010000b, L=6, T="LC137A"	(3): ID=123, P=3, IC=0, MI=1000010000b, L=6, T="LC287B"
(4): ID=124, P=4, IC=0, MI=1000010000b, L=6, T="LC287C"	(5): ID=125, P=5, IC=0, MI=1000010000b, L=6, T="LC287D"
(6): ID=126, P=6, IC=0, MI=1000010000b, L=6, T="LC287E"	(7): ID=127, P=7, IC=0, MI=1000010000b, L=6, T="LC337F"
(8): ID=128, P=8, IC=0, MI=1000010000b, L=6, T="LC5380"	(9): ID=129, P=9, IC=0, MI=1000010000b, L=6, T="LC1881"
(10): ID=130, P=10, IC=0, MI=1000010000b, L=6, T="LC1882"	(11): ID=131, P=11, IC=0, MI=1000010000b, L=6, T="LC1883"
(12): ID=132, P=12, IC=0, MI=1000010000b, L=6, T="LC1884"	

Message-S12: STM requests display of buttons 133 - 144 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=133, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC2885"			
(2): ID=134, P=14, IC=0, MI=1000010000b, L=6, T="LC2886"	(3): ID=135, P=15, IC=0, MI=1000010000b, L=6, T="LC2887"		
(4): ID=136, P=16, IC=0, MI=1000010000b, L=6, T="LC6088"	(5): ID=137, P=17, IC=0, MI=1000010000b, L=6, T="LC2889"		
(6): ID=138, P=18, IC=0, MI=1000010000b, L=6, T="LC288A"	(7): ID=139, P=19, IC=0, MI=1000010000b, L=6, T="LC288B"		
(8): ID=140, P=20, IC=0, MI=1000010000b, L=6, T="LC288C"	(9): ID=141, P=21, IC=0, MI=1000010000b, L=6, T="LC288D"		
(10): ID=142, P=22, IC=0, MI=1000010000b, L=6, T="LC288E"	(11): ID=143, P=23, IC=0, MI=1000010000b, L=6, T="LC288F"		
(12): ID=144, P=24, IC=0, MI=1000010000b, L=6, T="LC2890"			

Message-S13: STM requests display of buttons 145 - 156 at positions 1-12
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=145, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU1491"			
(2): ID=146, P=2, IC=0, MI=1000010000b, L=6, T="CU1492"		(3): ID=147, P=3, IC=0, MI=1000010000b, L=6, T="CU3293"	
(4): ID=148, P=4, IC=0, MI=1000010000b, L=6, T="CU3294"		(5): ID=149, P=5, IC=0, MI=1000010000b, L=6, T="CU3295"	
(6): ID=150, P=6, IC=0, MI=1000010000b, L=6, T="CU3296"		(7): ID=151, P=7, IC=0, MI=1000010000b, L=6, T="CU3897"	
(8): ID=152, P=8, IC=0, MI=1000010000b, L=6, T="CU6098"		(9): ID=153, P=9, IC=0, MI=1000010000b, L=6, T="CU2099"	
(10): ID=154, P=10, IC=0, MI=1000010000b, L=6, T="CU209A"		(11): ID=155, P=11, IC=0, MI=1000010000b, L=6, T="CU209B"	
(12): ID=156, P=12, IC=0, MI=1000010000b, L=6, T="CU209C"			

Message-S14: STM requests display of buttons 157 - 168 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=157, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CU329D"			
(2): ID=158, P=14, IC=0, MI=1000010000b, L=6, T="CU329E"		(3): ID=159, P=15, IC=0, MI=1000010000b, L=6, T="CU329F"	
(4): ID=160, P=16, IC=0, MI=1000010000b, L=6, T="CU60A0"		(5): ID=161, P=17, IC=0, MI=1000010000b, L=6, T="CU32A1"	
(6): ID=162, P=18, IC=0, MI=1000010000b, L=6, T="CU32A2"		(7): ID=163, P=19, IC=0, MI=1000010000b, L=6, T="CU32A3"	
(8): ID=164, P=20, IC=0, MI=1000010000b, L=6, T="CU32A4"		(9): ID=165, P=21, IC=0, MI=1000010000b, L=6, T="CU32A5"	
(10): ID=166, P=22, IC=0, MI=1000010000b, L=6, T="CU32A6"		(11): ID=167, P=23, IC=0, MI=1000010000b, L=6, T="CU32A7"	



(12): ID=168, P=24, IC=0, MI=1000010000b, L=6, T="CU32A8"

Message-S15: STM removes buttons 145 - 168			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	120	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	914	Packet Length
N_ITER	5	24	Request for 24 buttons
NID_BUTTON(1)	8	145	Button 145
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	146	Button 146
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	147	Button 147

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NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	148	Button 148
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	149	Button 149
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	150	Button 150
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	151	Button 151
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	0000000000b	No display



L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	152	Button 152
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(9)	8	153	Button 153
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(10)	8	154	Button 154
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(11)	8	155	Button 155
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(12)	8	156	Button 156
NID_BUTPOS(12)	5	12	



NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(13)	8	157	Button 157
NID_BUTPOS(13)	5	13	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(14)	8	158	Button 158
NID_BUTPOS(14)	5	14	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(15)	8	159	Button 159
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(16)	8	160	Button 160
NID_BUTPOS(16)	5	16	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	0000000000b	No display
L_CAPTION(1)	6	0	





NID_BUTTON(17)	8	161	Button 161
NID_BUTPOS(17)	5	17	
NID_ICON(17)	8	0	
M_BUT_ATTRIB(17)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(18)	8	162	Button 162
NID_BUTPOS(18)	5	18	
NID_ICON(18)	8	0	
M_BUT_ATTRIB(18)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(19)	8	163	Button 163
NID_BUTPOS(19)	5	19	
NID_ICON(19)	8	0	
M_BUT_ATTRIB(19)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(20)	8	164	Button 164
NID_BUTPOS(20)	5	20	
NID_ICON(20)	8	0	
M_BUT_ATTRIB(20)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(21)	8	165	Button 165
NID_BUTPOS(21)	5	21	
NID_ICON(21)	8	0	



M_BUT_ATTRIB(21)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(22)	8	166	Button 166
NID_BUTPOS(22)	5	22	
NID_ICON(22)	8	0	
M_BUT_ATTRIB(22)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(23)	8	167	Button 167
NID_BUTPOS(23)	5	23	
NID_ICON(23)	8	0	
M_BUT_ATTRIB(23)	10	0000000000b	No display
L_CAPTION(1)	6	0	
NID_BUTTON(24)	8	168	Button 168
NID_BUTPOS(24)	5	24	
NID_ICON(24)	8	0	
M_BUT_ATTRIB(24)	10	0000000000b	No display
L_CAPTION(1)	6	0	
Padding bits	5	00000b	

Message-S16: STM requests display of buttons 169 - 180 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length



STM-15: PL=25, ST=7, (State DA)	
STM-32: PL=1046, N=12, ID=169, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL15A9"	
(2): ID=170, P=2, IC=0, MI=1000010000b, L=6, T="CL15AA"	(3): ID=171, P=3, IC=0, MI=1000010000b, L=6, T="CL36AB"
(4): ID=172, P=4, IC=0, MI=1000010000b, L=6, T="CL36AC"	(5): ID=173, P=5, IC=0, MI=1000010000b, L=6, T="CL36AD"
(6): ID=174, P=6, IC=0, MI=1000010000b, L=6, T="CL36AE"	(7): ID=175, P=7, IC=0, MI=1000010000b, L=6, T="CL43AF"
(8): ID=176, P=8, IC=0, MI=1000010000b, L=6, T="CL60B0"	(9): ID=177, P=9, IC=0, MI=1000010000b, L=6, T="CL22B1"
(10): ID=178, P=10, IC=0, MI=1000010000b, L=6, T="CL22B2"	(11): ID=179, P=11, IC=0, MI=1000010000b, L=6, T="CL22B3"
(12): ID=180, P=12, IC=0, MI=1000010000b, L=6, T="CL22B4"	

Message-S17: STM requests display of buttons 181 - 192 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=181, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CL36B5"			
(2): ID=182, P=14, IC=0, MI=1000010000b, L=6, T="CL36B6"	(3): ID=183, P=15, IC=0, MI=1000010000b, L=6, T="CL36B7"		
(4): ID=184, P=16, IC=0, MI=1000010000b, L=6, T="CL60B8"	(5): ID=185, P=17, IC=0, MI=1000010000b, L=6, T="CL36B9"		
(6): ID=186, P=18, IC=0, MI=1000010000b, L=6, T="CL36BA"	(7): ID=187, P=19, IC=0, MI=1000010000b, L=6, T="CL36BB"		
(8): ID=188, P=20, IC=0, MI=1000010000b, L=6, T="CL36BC"	(9): ID=189, P=21, IC=0, MI=1000010000b, L=6, T="CL36BD"		
(10): ID=190, P=22, IC=0, MI=1000010000b, L=6, T="CL36BE"	(11): ID=191, P=23, IC=0, MI=1000010000b, L=6, T="CL36BF"		
(12): ID=192, P=24, IC=0, MI=1000010000b, L=6, T="CL36C0"			



Message-S18: STM removes buttons 169 - 192			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	120	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=914, N=24, ID=169, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=170, P=2, IC=0, MI=0000000000b, L=0		(3): ID=171, P=3, IC=0, MI=0000000000b, L=0	
(5): ID=173, P=5, IC=0, MI=0000000000b, L=0		(6): ID=174, P=6, IC=0, MI=0000000000b, L=0	
(8): ID=176, P=8, IC=0, MI=0000000000b, L=0		(9): ID=177, P=9, IC=0, MI=0000000000b, L=0	
(11): ID=179, P=11, IC=0, MI=0000000000b, L=0		(12): ID=180, P=12, IC=0, MI=0000000000b, L=0	
(14): ID=182, P=14, IC=0, MI=0000000000b, L=0		(15): ID=183, P=15, IC=0, MI=0000000000b, L=0	
(17): ID=185, P=17, IC=0, MI=0000000000b, L=0		(18): ID=186, P=18, IC=0, MI=0000000000b, L=0	
(20): ID=188, P=20, IC=0, MI=0000000000b, L=0		(21): ID=189, P=21, IC=0, MI=0000000000b, L=0	
(23): ID=191, P=23, IC=0, MI=0000000000b, L=0		(24): ID=192, P=24, IC=0, MI=0000000000b, L=0	

Message-S19: STM requests display of buttons 193 - 204 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=193, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC16C1"			
(2): ID=194, P=2, IC=0, MI=1000010000b, L=6, T="CC16C2"		(3): ID=195, P=3, IC=0, MI=1000010000b, L=6, T="CC40C3"	
(4): ID=196, P=4, IC=0, MI=1000010000b, L=6, T="CC40C4"		(5): ID=197, P=5, IC=0, MI=1000010000b, L=6, T="CC40C5"	



(6): ID=198, P=6, IC=0, MI=1000010000b, L=6, T="CC40C6"	(7): ID=199, P=7, IC=0, MI=1000010000b, L=6, T="CC48C7"
(8): ID=200, P=8, IC=0, MI=1000010000b, L=6, T="CC60C8"	(9): ID=201, P=9, IC=0, MI=1000010000b, L=6, T="CC24C9"
(10): ID=202, P=10, IC=0, MI=1000010000b, L=6, T="CC24CA"	(11): ID=203, P=11, IC=0, MI=1000010000b, L=6, T="CC24CB"
(12): ID=204, P=12, IC=0, MI=1000010000b, L=6, T="CC24CC"	

Message-S20: STM requests display of buttons 205 - 216 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=205, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC40CD"			
(2): ID=206, P=14, IC=0, MI=1000010000b, L=6, T="CC40CE"	(3): ID=207, P=15, IC=0, MI=1000010000b, L=6, T="CC40CF"		
(4): ID=208, P=16, IC=0, MI=1000010000b, L=6, T="CC60D0"	(5): ID=209, P=17, IC=0, MI=1000010000b, L=6, T="CC40D1"		
(6): ID=210, P=18, IC=0, MI=1000010000b, L=6, T="CC40D2"	(7): ID=211, P=19, IC=0, MI=1000010000b, L=6, T="CC40D3"		
(8): ID=212, P=20, IC=0, MI=1000010000b, L=6, T="CC40D4"	(9): ID=213, P=21, IC=0, MI=1000010000b, L=6, T="CC40D5"		
(10): ID=214, P=22, IC=0, MI=1000010000b, L=6, T="CC40D6"	(11): ID=215, P=23, IC=0, MI=1000010000b, L=6, T="CC40D7"		
(12): ID=216, P=24, IC=0, MI=1000010000b, L=6, T="CC40D8"			

Message-S21: STM removes buttons 193 - 216			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	120	Message Length



STM-15: PL=25, ST=7, (State DA)		
STM-32: PL=914, N=24, ID=193, P=1, IC=0, MI=0000000000b, L=0		
(2): ID=194, P=2, IC=0, MI=0000000000b, L=0	(3): ID=195, P=3, IC=0, MI=0000000000b, L=0	(4): ID=196, P=4, IC=0, MI=0000000000b, L=0
(5): ID=197, P=5, IC=0, MI=0000000000b, L=0	(6): ID=198, P=6, IC=0, MI=0000000000b, L=0	(7): ID=199, P=7, IC=0, MI=0000000000b, L=0
(8): ID=200, P=8, IC=0, MI=0000000000b, L=0	(9): ID=201, P=9, IC=0, MI=0000000000b, L=0	(10): ID=202, P=10, IC=0, MI=0000000000b, L=0
(11): ID=203, P=11, IC=0, MI=0000000000b, L=0	(12): ID=204, P=12, IC=0, MI=0000000000b, L=0	(13): ID=205, P=13, IC=0, MI=0000000000b, L=0
(14): ID=206, P=14, IC=0, MI=0000000000b, L=0	(15): ID=207, P=15, IC=0, MI=0000000000b, L=0	(16): ID=208, P=16, IC=0, MI=0000000000b, L=0
(17): ID=209, P=17, IC=0, MI=0000000000b, L=0	(18): ID=210, P=18, IC=0, MI=0000000000b, L=0	(19): ID=211, P=19, IC=0, MI=0000000000b, L=0
(20): ID=212, P=20, IC=0, MI=0000000000b, L=0	(21): ID=213, P=21, IC=0, MI=0000000000b, L=0	(22): ID=214, P=22, IC=0, MI=0000000000b, L=0
(23): ID=215, P=23, IC=0, MI=0000000000b, L=0	(24): ID=216, P=24, IC=0, MI=0000000000b, L=0	

Message-S22: STM requests display of buttons 217 - 228 at positions 1-12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=217, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RU17D9"			
(2): ID=218, P=2, IC=0, MI=1000010000b, L=6, T="RU17DA"		(3): ID=219, P=3, IC=0, MI=1000010000b, L=6, T="RU44DB"	
(4): ID=220, P=4, IC=0, MI=1000010000b, L=6, T="RU44DC"		(5): ID=221, P=5, IC=0, MI=1000010000b, L=6, T="RU44DD"	
(6): ID=222, P=6, IC=0, MI=1000010000b, L=6, T="RU44DE"		(7): ID=223, P=7, IC=0, MI=1000010000b, L=6, T="RU53DF"	
(8): ID=224, P=8, IC=0, MI=1000010000b, L=6, T="RU60E0"		(9): ID=225, P=9, IC=0, MI=1000010000b, L=6, T="RU26E1"	
(10): ID=226, P=10, IC=0, MI=1000010000b, L=6, T="RU26E2"		(11): ID=227, P=11, IC=0, MI=1000010000b, L=6, T="RU26E3"	
(12): ID=228, P=12, IC=0, MI=1000010000b, L=6, T="RU26E4"			



Message-S23: STM requests display of buttons 229 - 240 at positions 13-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=229, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="RU44E5"			
(2): ID=230, P=14, IC=0, MI=1000010000b, L=6, T="RU44E6"		(3): ID=231, P=15, IC=0, MI=1000010000b, L=6, T="RU44E7"	
(4): ID=232, P=16, IC=0, MI=1000010000b, L=6, T="RU60E8"		(5): ID=233, P=17, IC=0, MI=1000010000b, L=6, T="RU44E9"	
(6): ID=234, P=18, IC=0, MI=1000010000b, L=6, T="RU44EA"		(7): ID=235, P=19, IC=0, MI=1000010000b, L=6, T="RU44EB"	
(8): ID=236, P=20, IC=0, MI=1000010000b, L=6, T="RU44EC"		(9): ID=237, P=21, IC=0, MI=1000010000b, L=6, T="RU44ED"	
(10): ID=238, P=22, IC=0, MI=1000010000b, L=6, T="RU44EE"		(11): ID=239, P=23, IC=0, MI=1000010000b, L=6, T="RU44EF"	
(12): ID=240, P=24, IC=0, MI=1000010000b, L=6, T="RU44F0"			

Message-S24: STM removes buttons 217 - 240			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	120	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=914, N=24, ID=217, P=1, IC=0, MI=0000000000b, L=0			
(2): ID=218, P=2, IC=0, MI=0000000000b, L=0		(3): ID=219, P=3, IC=0, MI=0000000000b, L=0	(4): ID=220, P=4, IC=0, MI=0000000000b, L=0
(5): ID=221, P=5, IC=0, MI=0000000000b, L=0		(6): ID=222, P=6, IC=0, MI=0000000000b, L=0	(7): ID=223, P=7, IC=0, MI=0000000000b, L=0



(8): ID=224, P=8, IC=0, MI=0000000000b, L=0	(9): ID=225, P=9, IC=0, MI=0000000000b, L=0	(10): ID=226, P=10, IC=0, MI=0000000000b, L=0
(11): ID=227, P=11, IC=0, MI=0000000000b, L=0	(12): ID=228, P=12, IC=0, MI=0000000000b, L=0	(13): ID=229, P=13, IC=0, MI=0000000000b, L=0
(14): ID=230, P=14, IC=0, MI=0000000000b, L=0	(15): ID=231, P=15, IC=0, MI=0000000000b, L=0	(16): ID=232, P=16, IC=0, MI=0000000000b, L=0
(17): ID=233, P=17, IC=0, MI=0000000000b, L=0	(18): ID=234, P=18, IC=0, MI=0000000000b, L=0	(19): ID=235, P=19, IC=0, MI=0000000000b, L=0
(20): ID=236, P=20, IC=0, MI=0000000000b, L=0	(21): ID=237, P=21, IC=0, MI=0000000000b, L=0	(22): ID=238, P=22, IC=0, MI=0000000000b, L=0
(23): ID=239, P=23, IC=0, MI=0000000000b, L=0	(24): ID=240, P=24, IC=0, MI=0000000000b, L=0	

Message-S25: STM requests display of buttons 241 - 255 at positions 1-15			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	168	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1301, N=15, ID=241, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="CC18F1"			
(2): ID=242, P=2, IC=0, MI=1000010000b, L=6, T="CC18F2"		(3): ID=243, P=3, IC=0, MI=1000010000b, L=6, T="CC48F3"	
(4): ID=244, P=4, IC=0, MI=1000010000b, L=6, T="CC48F4"		(5): ID=245, P=5, IC=0, MI=1000010000b, L=6, T="CC48F5"	
(6): ID=246, P=6, IC=0, MI=1000010000b, L=6, T="CC48F6"		(7): ID=247, P=7, IC=0, MI=1000010000b, L=6, T="CC58F7"	
(8): ID=248, P=8, IC=0, MI=1000010000b, L=6, T="CC60F8"		(9): ID=249, P=9, IC=0, MI=1000010000b, L=6, T="CC28F9"	
(10): ID=250, P=10, IC=0, MI=1000010000b, L=6, T="CC28FA"		(11): ID=251, P=11, IC=0, MI=1000010000b, L=6, T="CC28FB"	
(12): ID=252, P=12, IC=0, MI=1000010000b, L=6, T="CC28FC"		(13): ID=253, P=13, IC=0, MI=1000010000b, L=6, T="CC48FD"	
(14): ID=254, P=14, IC=0, MI=1000010000b, L=6, T="CC48FE"		(15): ID=255, P=15, IC=0, MI=1000010000b, L=6, T="CC48FF"	

Message-S26: STM removes buttons 241 - 255
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=1, IC=0, MI=00000000000b, L=0			
(2): ID=242, P=2, IC=0, MI=00000000000b, L=0		(3): ID=243, P=3, IC=0, MI=00000000000b, L=0	(4): ID=244, P=4, IC=0, MI=00000000000b, L=0
(5): ID=245, P=5, IC=0, MI=00000000000b, L=0		(6): ID=246, P=6, IC=0, MI=00000000000b, L=0	(7): ID=247, P=7, IC=0, MI=00000000000b, L=0
(8): ID=248, P=8, IC=0, MI=00000000000b, L=0		(9): ID=249, P=9, IC=0, MI=00000000000b, L=0	(10): ID=250, P=10, IC=0, MI=00000000000b, L=0
(11): ID=251, P=11, IC=0, MI=00000000000b, L=0		(12): ID=252, P=12, IC=0, MI=00000000000b, L=0	(13): ID=253, P=13, IC=0, MI=00000000000b, L=0
(14): ID=254, P=14, IC=0, MI=00000000000b, L=0		(15): ID=255, P=15, IC=0, MI=00000000000b, L=0	

Message-S27: STM requests display of buttons 1-12 at positions 1-12 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=2, IC=0, MI=1000010000b, L=6, T="RU0802"		(3): ID=3, P=3, IC=0, MI=1000010000b, L=6, T="LC1203"	
(4): ID=4, P=4, IC=0, MI=1000010000b, L=6, T="RC1204"		(5): ID=5, P=5, IC=0, MI=1000010000b, L=6, T="LL1605"	
(6): ID=6, P=6, IC=0, MI=1000010000b, L=6, T="CU2006"		(7): ID=7, P=7, IC=0, MI=1000010000b, L=6, T="CC4007"	
(8): ID=8, P=8, IC=0, MI=1000010000b, L=6, T="CL6008"		(9): ID=9, P=9, IC=0, MI=1000010000b, L=6, T="RC1209"	
(10): ID=10, P=10, IC=0, MI=1000010000b, L=6, T="RL160A"		(11): ID=11, P=11, IC=0, MI=1000010000b, L=6, T="LU200B"	
(12): ID=12, P=12, IC=0, MI=1000010000b, L=6, T="CU200C"			



Message-S28: STM requests display of buttons 13-24 at positions 13-24 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=13, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC240D"			
(2): ID=14, P=14, IC=0, MI=1000010000b, L=6, T="LL320E"		(3): ID=15, P=15, IC=0, MI=1000010000b, L=6, T="CC400F"	
(4): ID=16, P=16, IC=0, MI=1000010000b, L=6, T="CL6010"		(5): ID=17, P=17, IC=0, MI=1000010000b, L=6, T="RU0811"	
(6): ID=18, P=18, IC=0, MI=1000010000b, L=6, T="RU0812"		(7): ID=19, P=19, IC=0, MI=1000010000b, L=6, T="RU0813"	
(8): ID=20, P=20, IC=0, MI=1000010000b, L=6, T="RU0814"		(9): ID=21, P=21, IC=0, MI=1000010000b, L=6, T="RU0815"	
(10): ID=22, P=22, IC=0, MI=1000010000b, L=6, T="RU0816"		(11): ID=23, P=23, IC=0, MI=1000010000b, L=6, T="RU0817"	
(12): ID=24, P=24, IC=0, MI=1000010000b, L=6, T="RU0818"			

Message-S29: STM requests display of buttons 1-12 at positions 5-16 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=1, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=6, IC=0, MI=1000010000b, L=6, T="RU0802"		(3): ID=3, P=7, IC=0, MI=1000010000b, L=6, T="LC1203"	
(4): ID=4, P=8, IC=0, MI=1000010000b, L=6, T="RC1204"		(5): ID=5, P=9, IC=0, MI=1000010000b, L=6, T="LL1605"	



(6): ID=6, P=10, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=11, IC=0, MI=1000010000b, L=6, T="CC4007"
(8): ID=8, P=12, IC=0, MI=1000010000b, L=6, T="CL6008"	(9): ID=9, P=13, IC=0, MI=1000010000b, L=6, T="RC1209"
(10): ID=10, P=14, IC=0, MI=1000010000b, L=6, T="RL160A"	(11): ID=11, P=15, IC=0, MI=1000010000b, L=6, T="LU200B"
(12): ID=12, P=16, IC=0, MI=1000010000b, L=6, T="CU200C"	

Message-S30: STM requests display of buttons 13-24 at positions 17-24, 1-4 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=13, P=17, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC240D"			
(2): ID=14, P=18, IC=0, MI=1000010000b, L=6, T="LL320E"	(3): ID=15, P=19, IC=0, MI=1000010000b, L=6, T="CC400F"		
(4): ID=16, P=20, IC=0, MI=1000010000b, L=6, T="CL6010"	(5): ID=17, P=21, IC=0, MI=1000010000b, L=6, T="RU0811"		
(6): ID=18, P=22, IC=0, MI=1000010000b, L=6, T="RU0812"	(7): ID=19, P=23, IC=0, MI=1000010000b, L=6, T="RU0813"		
(8): ID=20, P=24, IC=0, MI=1000010000b, L=6, T="RU0814"	(9): ID=21, P=1, IC=0, MI=1000010000b, L=6, T="RU0815"		
(10): ID=22, P=2, IC=0, MI=1000010000b, L=6, T="RU0816"	(11): ID=23, P=3, IC=0, MI=1000010000b, L=6, T="RU0817"		
(12): ID=24, P=4, IC=0, MI=1000010000b, L=6, T="RU0818"			

Message-S31: STM requests display of buttons 1-12 at positions 9-20 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length



STM-15: PL=25, ST=7, (State DA)	
STM-32: PL=1046, N=12, ID=1, P=9, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"	
(2): ID=2, P=10, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=11, IC=0, MI=1000010000b, L=6, T="LC1203"
(4): ID=4, P=12, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=13, IC=0, MI=1000010000b, L=6, T="LL1605"
(6): ID=6, P=14, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=15, IC=0, MI=1000010000b, L=6, T="CC4007"
(8): ID=8, P=16, IC=0, MI=1000010000b, L=6, T="CL6008"	(9): ID=9, P=17, IC=0, MI=1000010000b, L=6, T="RC1209"
(10): ID=10, P=18, IC=0, MI=1000010000b, L=6, T="RL160A"	(11): ID=11, P=19, IC=0, MI=1000010000b, L=6, T="LU200B"
(12): ID=12, P=20, IC=0, MI=1000010000b, L=6, T="CU200C"	

Message-S32: STM requests display of buttons 13-24 at positions 21-24, 1-8 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=13, P=21, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC240D"			
(2): ID=14, P=22, IC=0, MI=1000010000b, L=6, T="LL320E"	(3): ID=15, P=23, IC=0, MI=1000010000b, L=6, T="CC400F"		
(4): ID=16, P=24, IC=0, MI=1000010000b, L=6, T="CL6010"	(5): ID=17, P=1, IC=0, MI=1000010000b, L=6, T="RU0811"		
(6): ID=18, P=2, IC=0, MI=1000010000b, L=6, T="RU0812"	(7): ID=19, P=3, IC=0, MI=1000010000b, L=6, T="RU0813"		
(8): ID=20, P=4, IC=0, MI=1000010000b, L=6, T="RU0814"	(9): ID=21, P=5, IC=0, MI=1000010000b, L=6, T="RU0815"		
(10): ID=22, P=6, IC=0, MI=1000010000b, L=6, T="RU0816"	(11): ID=23, P=7, IC=0, MI=1000010000b, L=6, T="RU0817"		
(12): ID=24, P=8, IC=0, MI=1000010000b, L=6, T="RU0818"			



Message-S33: STM requests display of buttons 1-12 at positions 13-24 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=1, P=13, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=14, IC=0, MI=1000010000b, L=6, T="RU0802"		(3): ID=3, P=15, IC=0, MI=1000010000b, L=6, T="LC1203"	
(4): ID=4, P=16, IC=0, MI=1000010000b, L=6, T="RC1204"		(5): ID=5, P=17, IC=0, MI=1000010000b, L=6, T="LL1605"	
(6): ID=6, P=18, IC=0, MI=1000010000b, L=6, T="CU2006"		(7): ID=7, P=19, IC=0, MI=1000010000b, L=6, T="CC4007"	
(8): ID=8, P=20, IC=0, MI=1000010000b, L=6, T="CL6008"		(9): ID=9, P=21, IC=0, MI=1000010000b, L=6, T="RC1209"	
(10): ID=10, P=22, IC=0, MI=1000010000b, L=6, T="RL160A"		(11): ID=11, P=23, IC=0, MI=1000010000b, L=6, T="LU200B"	
(12): ID=12, P=24, IC=0, MI=1000010000b, L=6, T="CU200C"			

Message-S34: STM requests display of buttons 13-24 at positions 1-12 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=13, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC240D"			
(2): ID=14, P=2, IC=0, MI=1000010000b, L=6, T="LL320E"		(3): ID=15, P=3, IC=0, MI=1000010000b, L=6, T="CC400F"	
(4): ID=16, P=4, IC=0, MI=1000010000b, L=6, T="CL6010"		(5): ID=17, P=5, IC=0, MI=1000010000b, L=6, T="RU0811"	
(6): ID=18, P=6, IC=0, MI=1000010000b, L=6, T="RU0812"		(7): ID=19, P=7, IC=0, MI=1000010000b, L=6, T="RU0813"	
(8): ID=20, P=8, IC=0, MI=1000010000b, L=6, T="RU0814"		(9): ID=21, P=9, IC=0, MI=1000010000b, L=6, T="RU0815"	



(10): ID=22, P=10, IC=0, MI=1000010000b, L=6, T="RU0816"	(11): ID=23, P=11, IC=0, MI=1000010000b, L=6, T="RU0817"
(12): ID=24, P=12, IC=0, MI=1000010000b, L=6, T="RU0818"	

Message-S35: STM requests display of buttons 1-12 at positions 17-24, 1-4 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=1, P=17, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=18, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=19, IC=0, MI=1000010000b, L=6, T="LC1203"		
(4): ID=4, P=20, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=21, IC=0, MI=1000010000b, L=6, T="LL1605"		
(6): ID=6, P=22, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=23, IC=0, MI=1000010000b, L=6, T="CC4007"		
(8): ID=8, P=24, IC=0, MI=1000010000b, L=6, T="CL6008"	(9): ID=9, P=1, IC=0, MI=1000010000b, L=6, T="RC1209"		
(10): ID=10, P=2, IC=0, MI=1000010000b, L=6, T="RL160A"	(11): ID=11, P=3, IC=0, MI=1000010000b, L=6, T="LU200B"		
(12): ID=12, P=4, IC=0, MI=1000010000b, L=6, T="CU200C"			

Message-S36: STM requests display of buttons 13-24 at positions 5-16 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=13, P=5, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC240D"			



(2): ID=14, P=6, IC=0, MI=1000010000b, L=6, T="LL320E"	(3): ID=15, P=7, IC=0, MI=1000010000b, L=6, T="CC400F"
(4): ID=16, P=8, IC=0, MI=1000010000b, L=6, T="CL6010"	(5): ID=17, P=9, IC=0, MI=1000010000b, L=6, T="RU0811"
(6): ID=18, P=10, IC=0, MI=1000010000b, L=6, T="RU0812"	(7): ID=19, P=11, IC=0, MI=1000010000b, L=6, T="RU0813"
(8): ID=20, P=12, IC=0, MI=1000010000b, L=6, T="RU0814"	(9): ID=21, P=13, IC=0, MI=1000010000b, L=6, T="RU0815"
(10): ID=22, P=14, IC=0, MI=1000010000b, L=6, T="RU0816"	(11): ID=23, P=15, IC=0, MI=1000010000b, L=6, T="RU0817"
(12): ID=24, P=16, IC=0, MI=1000010000b, L=6, T="RU0818"	

Message-S37: STM requests display of buttons 1-12 at positions 21-24, 1-8 with captions.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=1, P=21, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LU0801"			
(2): ID=2, P=22, IC=0, MI=1000010000b, L=6, T="RU0802"	(3): ID=3, P=23, IC=0, MI=1000010000b, L=6, T="LC1203"		
(4): ID=4, P=24, IC=0, MI=1000010000b, L=6, T="RC1204"	(5): ID=5, P=1, IC=0, MI=1000010000b, L=6, T="LL1605"		
(6): ID=6, P=2, IC=0, MI=1000010000b, L=6, T="CU2006"	(7): ID=7, P=3, IC=0, MI=1000010000b, L=6, T="CC4007"		
(8): ID=8, P=4, IC=0, MI=1000010000b, L=6, T="CL6008"	(9): ID=9, P=5, IC=0, MI=1000010000b, L=6, T="RC1209"		
(10): ID=10, P=6, IC=0, MI=1000010000b, L=6, T="RL160A"	(11): ID=11, P=7, IC=0, MI=1000010000b, L=6, T="LU200B"		
(12): ID=12, P=8, IC=0, MI=1000010000b, L=6, T="CU200C"			

Message-S38: STM requests display of buttons 13-24 at positions 9-20 with captions.			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	136	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1046, N=12, ID=13, P=9, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="LC240D"			
(2): ID=14, P=10, IC=0, MI=1000010000b, L=6, T="LL320E"		(3): ID=15, P=11, IC=0, MI=1000010000b, L=6, T="CC400F"	
(4): ID=16, P=12, IC=0, MI=1000010000b, L=6, T="CL6010"		(5): ID=17, P=13, IC=0, MI=1000010000b, L=6, T="RU0811"	
(6): ID=18, P=14, IC=0, MI=1000010000b, L=6, T="RU0812"		(7): ID=19, P=15, IC=0, MI=1000010000b, L=6, T="RU0813"	
(8): ID=20, P=16, IC=0, MI=1000010000b, L=6, T="RU0814"		(9): ID=21, P=17, IC=0, MI=1000010000b, L=6, T="RU0815"	
(10): ID=22, P=18, IC=0, MI=1000010000b, L=6, T="RU0816"		(11): ID=23, P=19, IC=0, MI=1000010000b, L=6, T="RU0817"	
(12): ID=24, P=20, IC=0, MI=1000010000b, L=6, T="RU0818"			

Message-S39: STM removes buttons 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	120	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=914, N=24, ID=1, P=21, IC=0, MI=0000000000b (No display), L=0			
(2): ID=2, P=22, IC=0, MI=0000000000b, L=0		(3): ID=3, P=23, IC=0, MI=0000000000b, L=0	
(5): ID=5, P=1, IC=0, MI=0000000000b, L=0		(6): ID=6, P=2, IC=0, MI=0000000000b, L=0	
(8): ID=8, P=4, IC=0, MI=0000000000b, L=0		(9): ID=9, P=5, IC=0, MI=0000000000b, L=0	
(11): ID=11, P=7, IC=0, MI=0000000000b, L=0		(12): ID=12, P=8, IC=0, MI=0000000000b, L=0	
(14): ID=14, P=10, IC=0, MI=0000000000b, L=0		(15): ID=15, P=11, IC=0, MI=0000000000b, L=0	
(17): ID=17, P=13, IC=0, MI=0000000000b, L=0		(18): ID=18, P=14, IC=0, MI=0000000000b, L=0	
		(19): ID=19, P=15, IC=0, MI=0000000000b, L=0	





(20): ID=20, P=16, IC=0, MI=0000000000b, L=0	(21): ID=21, P=17, IC=0, MI=0000000000b, L=0	(22): ID=22, P=18, IC=0, MI=0000000000b, L=0
(23): ID=23, P=19, IC=0, MI=0000000000b, L=0	(24): ID=24, P=20, IC=0, MI=0000000000b, L=0	

Message-S40: STM requests display of buttons 1-6 at positions 13, 14, 15, 22, 23, 24 with icons 50, 63, 64, 41, 47, 48.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=1, P=13, IC=50, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=14, IC=63, MI=1000010000b, L=0		(3): ID=3, P=15, IC=64, MI=1000010000b, L=0	
(4): ID=4, P=22, IC=41, MI=1000010000b, L=0		(5): ID=5, P=23, IC=47, MI=1000010000b, L=0	
(6): ID=6, P=24, IC=48, MI=1000010000b, L=0			

Message-S41: STM requests display of buttons 1-6 at positions 14, 15, 22, 23, 24, 13 with icons 50, 63, 64, 41, 47, 48.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=1, P=14, IC=50, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=15, IC=63, MI=1000010000b, L=0		(3): ID=3, P=22, IC=64, MI=1000010000b, L=0	
(4): ID=4, P=23, IC=41, MI=1000010000b, L=0		(5): ID=5, P=24, IC=47, MI=1000010000b, L=0	
(6): ID=6, P=13, IC=48, MI=1000010000b, L=0			



Message-S42: STM requests display of buttons 1-6 at positions 15, 22, 23, 24, 13, 14 with icons 50, 63, 64, 41, 47, 48.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=1, P=15, IC=50, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=22, IC=63, MI=1000010000b, L=0		(3): ID=3, P=23, IC=64, MI=1000010000b, L=0	
(4): ID=4, P=24, IC=41, MI=1000010000b, L=0		(5): ID=5, P=13, IC=47, MI=1000010000b, L=0	
(6): ID=6, P=14, IC=48, MI=1000010000b, L=0			

Message-S43: STM requests display of buttons 1-6 at positions 22, 23, 24, 13, 14, 15 with icons 50, 63, 64, 41, 47, 48.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=1, P=22, IC=50, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=23, IC=63, MI=1000010000b, L=0		(3): ID=3, P=24, IC=64, MI=1000010000b, L=0	
(4): ID=4, P=13, IC=41, MI=1000010000b, L=0		(5): ID=5, P=14, IC=47, MI=1000010000b, L=0	
(6): ID=6, P=15, IC=48, MI=1000010000b, L=0			

Message-S44: STM requests display of buttons 1-6 at positions 23, 24, 13, 14, 15, 22 with icons 50, 63, 64, 41, 47, 48.			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=1, P=23, IC=50, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=24, IC=63, MI=1000010000b, L=0		(3): ID=3, P=13, IC=64, MI=1000010000b, L=0	
(4): ID=4, P=14, IC=41, MI=1000010000b, L=0		(5): ID=5, P=15, IC=47, MI=1000010000b, L=0	
(6): ID=6, P=22, IC=48, MI=1000010000b, L=0			

Message-S45: STM requests display of buttons 1-6 at positions 24, 13, 14, 15, 22, 23 with icons 50, 63, 64, 41, 47, 48.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=248, N=6, ID=1, P=24, IC=50, MI=1000010000b (black on red, No flashing), L=0			
(2): ID=2, P=13, IC=63, MI=1000010000b, L=0		(3): ID=3, P=14, IC=64, MI=1000010000b, L=0	
(4): ID=4, P=15, IC=41, MI=1000010000b, L=0		(5): ID=5, P=22, IC=47, MI=1000010000b, L=0	
(6): ID=6, P=23, IC=48, MI=1000010000b, L=0			

### 2.3.21 Test Case 7c3.1

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.1.0.(7c4)*.0.1.(7c4)*.0 with

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	<p>path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)</p> <p>Button events test for unified DMI with SK technology:</p> <p>First buttons are displayed with captions in sets of 6 buttons at once at positions 1-6 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all available button positions and the click and press test is performed for each position.</p>
<b>ERTMS/ETCS on-board requirements tested</b>	<p>SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.10</p> <p>via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4</p> <p>ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2</p>
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
<b>ERTMS/ETCS on-board configuration</b>	<p>For active STM: Unified DMI service: 7a.1.</p> <p>The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9</p>
<b>Comments and constraints</b>	

Starting Conditions	Value	Comments
STM State	DA	
ETCS Mode	SN	
ETCS Level	NTC	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	Established	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	

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JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	Cab A or B active	For the test it is not relevant, what cab is active
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	Not isolated for active STM. Not relevant for other STMs	

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 6 at positions 1-6	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT6 are displayed at positions 1-6



2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
8	STM requests display of buttons 7 - 12 at positions 1-6	PROF	T0+95s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT7 - BUT12 are displayed at positions 1-6
9	Click and press test for button 7	DMI	T0+100s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
10	Click and press test for button 8	DMI	T0+115s	Click and press test is performed for button 8	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
11	Click and press test for button 9	DMI	T0+130s	Click and press test is performed for button 9	PROF		ETCS onboard reports button events for button 9 according to test 7c4.1
12	Click and press test for button 10	DMI	T0+145s	Click and press test is performed for button 10	PROF		ETCS onboard reports button events for button 10 according to test 7c4.1
13	Click and press test for button 11	DMI	T0+160s	Click and press test is performed for button 11	PROF		ETCS onboard reports button events for button 11 according to test 7c4.1
14	Click and press test for button 12	DMI	T0+175s	Click and press test is performed for button 12	PROF		ETCS onboard reports button events for button 12 according to test 7c4.1
...	...	...	...	...	...	...	...
141	STM requests display of buttons 121 -	PROF	T0+1900s	connection of active DMI	DMI		Buttons with caption BUT121 - BUT126



	126 at positions 1-6			channel: Message-S21			are displayed at positions 1-6
142	Click and press test for button 121	DMI	T0+1905s	Click and press test is performed for button 121	PROF		ETCS onboard reports button events for button 121 according to test 7c4.1
143	Click and press test for button 122	DMI	T0+1920s	Click and press test is performed for button 122	PROF		ETCS onboard reports button events for button 122 according to test 7c4.1
144	Click and press test for button 123	DMI	T0+1935s	Click and press test is performed for button 123	PROF		ETCS onboard reports button events for button 123 according to test 7c4.1
145	Click and press test for button 124	DMI	T0+1950s	Click and press test is performed for button 124	PROF		ETCS onboard reports button events for button 124 according to test 7c4.1
146	Click and press test for button 125	DMI	T0+1965s	Click and press test is performed for button 125	PROF		ETCS onboard reports button events for button 125 according to test 7c4.1
147	Click and press test for button 126	DMI	T0+1980s	Click and press test is performed for button 126	PROF		ETCS onboard reports button events for button 126 according to test 7c4.1
...	...	...	...	...	...	...	...
281	STM requests display of buttons 241 - 246 at positions 1-6	PROF	T0+3800s	connection of active DMI channel: Message-S41	DMI		Buttons with caption BUT241 - BUT246 are displayed at positions 1-6
282	Click and press test for button 241	DMI	T0+3805s	Click and press test is performed for button 241	PROF		ETCS onboard reports button events for button 241 according to test 7c4.1
283	Click and press test for button 242	DMI	T0+3820s	Click and press test is performed for button 242	PROF		ETCS onboard reports button events for button 242 according to test 7c4.1
284	Click and press test for button 243	DMI	T0+3835s	Click and press test is performed for button 243	PROF		ETCS onboard reports button events for button 243 according to test 7c4.1
285	Click and press test for button 244	DMI	T0+3850s	Click and press test is performed for button 244	PROF		ETCS onboard reports button events for button 244 according to test 7c4.1
286	Click and press test for button 245	DMI	T0+3865s	Click and press test is performed for button 245	PROF		ETCS onboard reports button events for button 245 according to test 7c4.1
287	Click and press test for button 246	DMI	T0+3880s	Click and press test is performed for button 246	PROF		ETCS onboard reports button events for button 246 according to test 7c4.1



288	STM requests display of buttons 247 - 252 at positions 1-6	PROF	T0+3895s	connection of active DMI channel: Message-S42	DMI		Buttons with caption BUT247 - BUT252 are displayed at positions 1-6
289	Click and press test for button 247	DMI	T0+3900s	Click and press test is performed for button 247	PROF		ETCS onboard reports button events for button 247 according to test 7c4.1
290	Click and press test for button 248	DMI	T0+3915s	Click and press test is performed for button 248	PROF		ETCS onboard reports button events for button 248 according to test 7c4.1
291	Click and press test for button 249	DMI	T0+3930s	Click and press test is performed for button 249	PROF		ETCS onboard reports button events for button 249 according to test 7c4.1
292	Click and press test for button 250	DMI	T0+3945s	Click and press test is performed for button 250	PROF		ETCS onboard reports button events for button 250 according to test 7c4.1
293	Click and press test for button 251	DMI	T0+3960s	Click and press test is performed for button 251	PROF		ETCS onboard reports button events for button 251 according to test 7c4.1
294	Click and press test for button 252	DMI	T0+3975s	Click and press test is performed for button 252	PROF		ETCS onboard reports button events for button 252 according to test 7c4.1
295	STM requests display of buttons 253 - 255 at positions 1-3	PROF	T0+3990s	connection of active DMI channel: Message-S43	DMI		Buttons with caption BUT253 - BUT255 are displayed at positions 1-3
296	Click and press test for button 253	DMI	T0+3995s	Click and press test is performed for button 253	PROF		ETCS onboard reports button events for button 253 according to test 7c4.1
297	Click and press test for button 254	DMI	T0+4010s	Click and press test is performed for button 254	PROF		ETCS onboard reports button events for button 254 according to test 7c4.1
298	Click and press test for button 255	DMI	T0+4025s	Click and press test is performed for button 255	PROF		ETCS onboard reports button events for button 255 according to test 7c4.1
299	STM requests display of 6 buttons at positions 1-6	PROF	T0+4040s	connection of active DMI channel: Message-S44	DMI		Buttons with caption POS1 - POS6 are displayed at positions 1-6
300	Click and press test for button at position 1	DMI	T0+4045s	Click and press test is performed for button 255 at position 1	PROF		ETCS onboard reports button events for button 255 according to test 7c4.1
301	Click and press test for button at position 2	DMI	T0+4060s	Click and press test is performed for button 213 at position 2	PROF		ETCS onboard reports button events for button 213 according to test 7c4.1





302	Click and press test for button at position 3	DMI	T0+4075s	Click and press test is performed for button 171 at position 3	PROF		ETCS onboard reports button events for button 171 according to test 7c4.1
303	Click and press test for button at position 4	DMI	T0+4090s	Click and press test is performed for button 129 at position 4	PROF		ETCS onboard reports button events for button 129 according to test 7c4.1
304	Click and press test for button at position 5	DMI	T0+4105s	Click and press test is performed for button 87 at position 5	PROF		ETCS onboard reports button events for button 87 according to test 7c4.1
305	Click and press test for button at position 6	DMI	T0+4120s	Click and press test is performed for button 45 at position 6	PROF		ETCS onboard reports button events for button 45 according to test 7c4.1

Message-S1: STM requests display of buttons 1 - 6 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	61	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	440	Packet Length
N_ITER	5	6	Request for 6 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	



X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	



NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	
X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	



X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	
Padding bits	7	0000000b	

Message-S2: STM requests display of buttons 7 - 12 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	64	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=464, N=6, ID=7, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT7"			
(2): ID=8, P=2, IC=0, MI=1000010000b, L=4, T="BUT8"		(3): ID=9, P=3, IC=0, MI=1000010000b, L=4, T="BUT9"	
(4): ID=10, P=4, IC=0, MI=1000010000b, L=5, T="BUT10"		(5): ID=11, P=5, IC=0, MI=1000010000b, L=5, T="BUT11"	
(6): ID=12, P=6, IC=0, MI=1000010000b, L=5, T="BUT12"			

Message-S21: STM requests display of buttons 121 - 126 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=121, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT121"			
(2): ID=122, P=2, IC=0, MI=1000010000b, L=6, T="BUT122"		(3): ID=123, P=3, IC=0, MI=1000010000b, L=6, T="BUT123"	
(4): ID=124, P=4, IC=0, MI=1000010000b, L=6, T="BUT124"		(5): ID=125, P=5, IC=0, MI=1000010000b, L=6, T="BUT125"	
(6): ID=126, P=6, IC=0, MI=1000010000b, L=6, T="BUT126"			



Message-S41: STM requests display of buttons 241 - 246 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=241, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT241"			
(2): ID=242, P=2, IC=0, MI=1000010000b, L=6, T="BUT242"		(3): ID=243, P=3, IC=0, MI=1000010000b, L=6, T="BUT243"	
(4): ID=244, P=4, IC=0, MI=1000010000b, L=6, T="BUT244"		(5): ID=245, P=5, IC=0, MI=1000010000b, L=6, T="BUT245"	
(6): ID=246, P=6, IC=0, MI=1000010000b, L=6, T="BUT246"			

Message-S42: STM requests display of buttons 247 - 252 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	73	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=536, N=6, ID=247, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT247"			
(2): ID=248, P=2, IC=0, MI=1000010000b, L=6, T="BUT248"		(3): ID=249, P=3, IC=0, MI=1000010000b, L=6, T="BUT249"	
(4): ID=250, P=4, IC=0, MI=1000010000b, L=6, T="BUT250"		(5): ID=251, P=5, IC=0, MI=1000010000b, L=6, T="BUT251"	
(6): ID=252, P=6, IC=0, MI=1000010000b, L=6, T="BUT252"			

Message-S43: STM requests display of buttons 253 - 255 at positions 1-3			
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	41	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=281, N=3, ID=253, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT253"			
(2): ID=254, P=2, IC=0, MI=1000010000b, L=6, T="BUT254"			(3): ID=255, P=3, IC=0, MI=1000010000b, L=6, T="BUT255"

Message-S44: STM requests display of 6 buttons at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	61	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=440, N=6, ID=255, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			
(2): ID=213, P=2, IC=0, MI=1000010000b, L=4, T="POS2"			(3): ID=171, P=3, IC=0, MI=1000010000b, L=4, T="POS3"
(4): ID=129, P=4, IC=0, MI=1000010000b, L=4, T="POS4"			(5): ID=87, P=5, IC=0, MI=1000010000b, L=4, T="POS5"
(6): ID=45, P=6, IC=0, MI=1000010000b, L=4, T="POS6"			

End Conditions	Value	Comments
STM State	unchanged	
ETCS Mode	unchanged	
ETCS Level	unchanged	
Train State	not relevant	



ETCS Train Data	not relevant	
Active DMI channel Connection	unchanged	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	unchanged	
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	unchanged	



## 2.3.22 Test Case 7c3.2

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.1.0.(7c4)*.0.2.(7c4)*.0 with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)
	Button events test for unified DMI with TS technology:  First buttons are displayed with captions in sets of 17 buttons at once at positions 1-17 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all available button positions and the click and press test is performed for each position.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.10 via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4
	ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
ERTMS/ETCS on-board configuration	For active STM: Unified DMI service: 7a.1. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c3.1

### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 17 at positions 1-17	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT17 are displayed at positions 1-17
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1





3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
8	Click and press test for button 7	DMI	T0+95s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
9	Click and press test for button 8	DMI	T0+110s	Click and press test is performed for button 8	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
10	Click and press test for button 9	DMI	T0+125s	Click and press test is performed for button 9	PROF		ETCS onboard reports button events for button 9 according to test 7c4.1
11	Click and press test for button 10	DMI	T0+140s	Click and press test is performed for button 10	PROF		ETCS onboard reports button events for button 10 according to test 7c4.1
12	Click and press test for button 11	DMI	T0+155s	Click and press test is performed for button 11	PROF		ETCS onboard reports button events for button 11 according to test 7c4.1
13	Click and press test for button 12	DMI	T0+170s	Click and press test is performed for button 12	PROF		ETCS onboard reports button events for button 12 according to test 7c4.1
14	Click and press test for button 13	DMI	T0+185s	Click and press test is performed for button 13	PROF		ETCS onboard reports button events for button 13 according to test 7c4.1
15	Click and press test for button 14	DMI	T0+200s	Click and press test is performed for button 14	PROF		ETCS onboard reports button events for button 14 according to test 7c4.1
16	Click and press test for button 15	DMI	T0+215s	Click and press test is performed for button 15	PROF		ETCS onboard reports button events for button 15 according to test 7c4.1



17	Click and press test for button 16	DMI	T0+230s	Click and press test is performed for button 16	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
18	Click and press test for button 17	DMI	T0+245s	Click and press test is performed for button 17	PROF		ETCS onboard reports button events for button 17 according to test 7c4.1
19	STM requests display of buttons 18 - 34 at positions 1-17	PROF	T0+260s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT18 - BUT34 are displayed at positions 1-17
20	Click and press test for button 18	DMI	T0+265s	Click and press test is performed for button 18	PROF		ETCS onboard reports button events for button 18 according to test 7c4.1
21	Click and press test for button 19	DMI	T0+280s	Click and press test is performed for button 19	PROF		ETCS onboard reports button events for button 19 according to test 7c4.1
22	Click and press test for button 20	DMI	T0+295s	Click and press test is performed for button 20	PROF		ETCS onboard reports button events for button 20 according to test 7c4.1
23	Click and press test for button 21	DMI	T0+310s	Click and press test is performed for button 21	PROF		ETCS onboard reports button events for button 21 according to test 7c4.1
24	Click and press test for button 22	DMI	T0+325s	Click and press test is performed for button 22	PROF		ETCS onboard reports button events for button 22 according to test 7c4.1
25	Click and press test for button 23	DMI	T0+340s	Click and press test is performed for button 23	PROF		ETCS onboard reports button events for button 23 according to test 7c4.1
26	Click and press test for button 24	DMI	T0+355s	Click and press test is performed for button 24	PROF		ETCS onboard reports button events for button 24 according to test 7c4.1
27	Click and press test for button 25	DMI	T0+370s	Click and press test is performed for button 25	PROF		ETCS onboard reports button events for button 25 according to test 7c4.1
28	Click and press test for button 26	DMI	T0+385s	Click and press test is performed for button 26	PROF		ETCS onboard reports button events for button 26 according to test 7c4.1
29	Click and press test for button 27	DMI	T0+400s	Click and press test is performed for button 27	PROF		ETCS onboard reports button events for button 27 according to test 7c4.1
30	Click and press test for button 28	DMI	T0+415s	Click and press test is performed for button 28	PROF		ETCS onboard reports button events for button 28 according to test 7c4.1



31	Click and press test for button 29	DMI	T0+430s	Click and press test is performed for button 29	PROF		ETCS onboard reports button events for button 29 according to test 7c4.1
32	Click and press test for button 30	DMI	T0+445s	Click and press test is performed for button 30	PROF		ETCS onboard reports button events for button 30 according to test 7c4.1
33	Click and press test for button 31	DMI	T0+460s	Click and press test is performed for button 31	PROF		ETCS onboard reports button events for button 31 according to test 7c4.1
34	Click and press test for button 32	DMI	T0+475s	Click and press test is performed for button 32	PROF		ETCS onboard reports button events for button 32 according to test 7c4.1
35	Click and press test for button 33	DMI	T0+490s	Click and press test is performed for button 33	PROF		ETCS onboard reports button events for button 33 according to test 7c4.1
36	Click and press test for button 34	DMI	T0+505s	Click and press test is performed for button 34	PROF		ETCS onboard reports button events for button 34 according to test 7c4.1
...	...	...	...	...	...	...	...
127	STM requests display of buttons 120 - 136 at positions 1-17	PROF	T0+1820s	connection of active DMI channel: Message-S8	DMI		Buttons with caption BUT120 - BUT136 are displayed at positions 1-17
128	Click and press test for button 120	DMI	T0+1825s	Click and press test is performed for button 120	PROF		ETCS onboard reports button events for button 120 according to test 7c4.1
129	Click and press test for button 121	DMI	T0+1840s	Click and press test is performed for button 121	PROF		ETCS onboard reports button events for button 121 according to test 7c4.1
130	Click and press test for button 122	DMI	T0+1855s	Click and press test is performed for button 122	PROF		ETCS onboard reports button events for button 122 according to test 7c4.1
131	Click and press test for button 123	DMI	T0+1870s	Click and press test is performed for button 123	PROF		ETCS onboard reports button events for button 123 according to test 7c4.1
132	Click and press test for button 124	DMI	T0+1885s	Click and press test is performed for button 124	PROF		ETCS onboard reports button events for button 124 according to test 7c4.1
133	Click and press test for button 125	DMI	T0+1900s	Click and press test is performed for button 125	PROF		ETCS onboard reports button events for button 125 according to test 7c4.1
134	Click and press test for button 126	DMI	T0+1915s	Click and press test is performed	PROF		ETCS onboard reports button events



				for button 126			for button 126 according to test 7c4.1
135	Click and press test for button 127	DMI	T0+1930s	Click and press test is performed for button 127	PROF		ETCS onboard reports button events for button 127 according to test 7c4.1
136	Click and press test for button 128	DMI	T0+1945s	Click and press test is performed for button 128	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
137	Click and press test for button 129	DMI	T0+1960s	Click and press test is performed for button 129	PROF		ETCS onboard reports button events for button 129 according to test 7c4.1
138	Click and press test for button 130	DMI	T0+1975s	Click and press test is performed for button 130	PROF		ETCS onboard reports button events for button 130 according to test 7c4.1
139	Click and press test for button 131	DMI	T0+1990s	Click and press test is performed for button 131	PROF		ETCS onboard reports button events for button 131 according to test 7c4.1
140	Click and press test for button 132	DMI	T0+2005s	Click and press test is performed for button 132	PROF		ETCS onboard reports button events for button 132 according to test 7c4.1
141	Click and press test for button 133	DMI	T0+2020s	Click and press test is performed for button 133	PROF		ETCS onboard reports button events for button 133 according to test 7c4.1
142	Click and press test for button 134	DMI	T0+2035s	Click and press test is performed for button 134	PROF		ETCS onboard reports button events for button 134 according to test 7c4.1
143	Click and press test for button 135	DMI	T0+2050s	Click and press test is performed for button 135	PROF		ETCS onboard reports button events for button 135 according to test 7c4.1
144	Click and press test for button 136	DMI	T0+2065s	Click and press test is performed for button 136	PROF		ETCS onboard reports button events for button 136 according to test 7c4.1
...	...	...	...	...	...	...	...
235	STM requests display of buttons 222 - 238 at positions 1-17	PROF	T0+3380s	connection of active DMI channel: Message-S14	DMI		Buttons with caption BUT222 - BUT238 are displayed at positions 1-17
236	Click and press test for button 222	DMI	T0+3385s	Click and press test is performed for button 222	PROF		ETCS onboard reports button events for button 222 according to test 7c4.1
237	Click and press test for button 223	DMI	T0+3400s	Click and press test is performed for button 223	PROF		ETCS onboard reports button events for button 223 according to test 7c4.1



238	Click and press test for button 224	DMI	T0+3415s	Click and press test is performed for button 224	PROF		ETCS onboard reports button events for button 224 according to test 7c4.1
239	Click and press test for button 225	DMI	T0+3430s	Click and press test is performed for button 225	PROF		ETCS onboard reports button events for button 225 according to test 7c4.1
240	Click and press test for button 226	DMI	T0+3445s	Click and press test is performed for button 226	PROF		ETCS onboard reports button events for button 226 according to test 7c4.1
241	Click and press test for button 227	DMI	T0+3460s	Click and press test is performed for button 227	PROF		ETCS onboard reports button events for button 227 according to test 7c4.1
242	Click and press test for button 228	DMI	T0+3475s	Click and press test is performed for button 228	PROF		ETCS onboard reports button events for button 228 according to test 7c4.1
243	Click and press test for button 229	DMI	T0+3490s	Click and press test is performed for button 229	PROF		ETCS onboard reports button events for button 229 according to test 7c4.1
244	Click and press test for button 230	DMI	T0+3505s	Click and press test is performed for button 230	PROF		ETCS onboard reports button events for button 230 according to test 7c4.1
245	Click and press test for button 231	DMI	T0+3520s	Click and press test is performed for button 231	PROF		ETCS onboard reports button events for button 231 according to test 7c4.1
246	Click and press test for button 232	DMI	T0+3535s	Click and press test is performed for button 232	PROF		ETCS onboard reports button events for button 232 according to test 7c4.1
247	Click and press test for button 233	DMI	T0+3550s	Click and press test is performed for button 233	PROF		ETCS onboard reports button events for button 233 according to test 7c4.1
248	Click and press test for button 234	DMI	T0+3565s	Click and press test is performed for button 234	PROF		ETCS onboard reports button events for button 234 according to test 7c4.1
249	Click and press test for button 235	DMI	T0+3580s	Click and press test is performed for button 235	PROF		ETCS onboard reports button events for button 235 according to test 7c4.1
250	Click and press test for button 236	DMI	T0+3595s	Click and press test is performed for button 236	PROF		ETCS onboard reports button events for button 236 according to test 7c4.1
251	Click and press test for button 237	DMI	T0+3610s	Click and press test is performed for button 237	PROF		ETCS onboard reports button events for button 237 according to test 7c4.1



252	Click and press test for button 238	DMI	T0+3625s	Click and press test is performed for button 238	PROF		ETCS onboard reports button events for button 238 according to test 7c4.1
253	STM requests display of buttons 239 - 255 at positions 1-17	PROF	T0+3640s	connection of active DMI channel: Message-S15	DMI		Buttons with caption BUT239 - BUT255 are displayed at positions 1-17
254	Click and press test for button 239	DMI	T0+3645s	Click and press test is performed for button 239	PROF		ETCS onboard reports button events for button 239 according to test 7c4.1
255	Click and press test for button 240	DMI	T0+3660s	Click and press test is performed for button 240	PROF		ETCS onboard reports button events for button 240 according to test 7c4.1
256	Click and press test for button 241	DMI	T0+3675s	Click and press test is performed for button 241	PROF		ETCS onboard reports button events for button 241 according to test 7c4.1
257	Click and press test for button 242	DMI	T0+3690s	Click and press test is performed for button 242	PROF		ETCS onboard reports button events for button 242 according to test 7c4.1
258	Click and press test for button 243	DMI	T0+3705s	Click and press test is performed for button 243	PROF		ETCS onboard reports button events for button 243 according to test 7c4.1
259	Click and press test for button 244	DMI	T0+3720s	Click and press test is performed for button 244	PROF		ETCS onboard reports button events for button 244 according to test 7c4.1
260	Click and press test for button 245	DMI	T0+3735s	Click and press test is performed for button 245	PROF		ETCS onboard reports button events for button 245 according to test 7c4.1
261	Click and press test for button 246	DMI	T0+3750s	Click and press test is performed for button 246	PROF		ETCS onboard reports button events for button 246 according to test 7c4.1
262	Click and press test for button 247	DMI	T0+3765s	Click and press test is performed for button 247	PROF		ETCS onboard reports button events for button 247 according to test 7c4.1
263	Click and press test for button 248	DMI	T0+3780s	Click and press test is performed for button 248	PROF		ETCS onboard reports button events for button 248 according to test 7c4.1
264	Click and press test for button 249	DMI	T0+3795s	Click and press test is performed for button 249	PROF		ETCS onboard reports button events for button 249 according to test 7c4.1
265	Click and press test for button 250	DMI	T0+3810s	Click and press test is performed for button 250	PROF		ETCS onboard reports button events for button 250 according to test 7c4.1



266	Click and press test for button 251	DMI	T0+3825s	Click and press test is performed for button 251	PROF		ETCS onboard reports button events for button 251 according to test 7c4.1
267	Click and press test for button 252	DMI	T0+3840s	Click and press test is performed for button 252	PROF		ETCS onboard reports button events for button 252 according to test 7c4.1
268	Click and press test for button 253	DMI	T0+3855s	Click and press test is performed for button 253	PROF		ETCS onboard reports button events for button 253 according to test 7c4.1
269	Click and press test for button 254	DMI	T0+3870s	Click and press test is performed for button 254	PROF		ETCS onboard reports button events for button 254 according to test 7c4.1
270	Click and press test for button 255	DMI	T0+3885s	Click and press test is performed for button 255	PROF		ETCS onboard reports button events for button 255 according to test 7c4.1
271	STM requests display of 17 buttons at positions 1-17	PROF	T0+3900s	connection of active DMI channel: Message-S16	DMI		Buttons with caption POS1 - POS17 are displayed at positions 1-17
272	Click and press test for button at position 1	DMI	T0+3905s	Click and press test is performed for button 255 at position 1	PROF		ETCS onboard reports button events for button 255 according to test 7c4.1
273	Click and press test for button at position 2	DMI	T0+3920s	Click and press test is performed for button 240 at position 2	PROF		ETCS onboard reports button events for button 240 according to test 7c4.1
274	Click and press test for button at position 3	DMI	T0+3935s	Click and press test is performed for button 225 at position 3	PROF		ETCS onboard reports button events for button 225 according to test 7c4.1
275	Click and press test for button at position 4	DMI	T0+3950s	Click and press test is performed for button 210 at position 4	PROF		ETCS onboard reports button events for button 210 according to test 7c4.1
276	Click and press test for button at position 5	DMI	T0+3965s	Click and press test is performed for button 195 at position 5	PROF		ETCS onboard reports button events for button 195 according to test 7c4.1
277	Click and press test for button at position 6	DMI	T0+3980s	Click and press test is performed for button 180 at position 6	PROF		ETCS onboard reports button events for button 180 according to test 7c4.1
278	Click and press test for button at position 7	DMI	T0+3995s	Click and press test is performed for button 165 at position 7	PROF		ETCS onboard reports button events for button 165 according to test 7c4.1
279	Click and press test for button at position 8	DMI	T0+4010s	Click and press test is performed for button 150 at position 8	PROF		ETCS onboard reports button events for button 150 according to test 7c4.1





280	Click and press test for button at position 9	DMI	T0+4025s	Click and press test is performed for button 135 at position 9	PROF		ETCS onboard reports button events for button 135 according to test 7c4.1
281	Click and press test for button at position 10	DMI	T0+4040s	Click and press test is performed for button 120 at position 10	PROF		ETCS onboard reports button events for button 120 according to test 7c4.1
282	Click and press test for button at position 11	DMI	T0+4055s	Click and press test is performed for button 105 at position 11	PROF		ETCS onboard reports button events for button 105 according to test 7c4.1
283	Click and press test for button at position 12	DMI	T0+4070s	Click and press test is performed for button 90 at position 12	PROF		ETCS onboard reports button events for button 90 according to test 7c4.1
284	Click and press test for button at position 13	DMI	T0+4085s	Click and press test is performed for button 75 at position 13	PROF		ETCS onboard reports button events for button 75 according to test 7c4.1
285	Click and press test for button at position 14	DMI	T0+4100s	Click and press test is performed for button 60 at position 14	PROF		ETCS onboard reports button events for button 60 according to test 7c4.1
286	Click and press test for button at position 15	DMI	T0+4115s	Click and press test is performed for button 45 at position 15	PROF		ETCS onboard reports button events for button 45 according to test 7c4.1
287	Click and press test for button at position 16	DMI	T0+4130s	Click and press test is performed for button 30 at position 16	PROF		ETCS onboard reports button events for button 30 according to test 7c4.1
288	Click and press test for button at position 17	DMI	T0+4145s	Click and press test is performed for button 15 at position 17	PROF		ETCS onboard reports button events for button 15 according to test 7c4.1

Message-S1: STM requests display of buttons 1 - 17 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	163	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)

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L_PACKET	13	1263	Packet Length
N_ITER	5	17	Request for 17 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	



M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	



X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	4	Caption="BUT7"
X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"T"	
X_CAPTION(7,4)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing



L_CAPTION(8)	6	4	Caption="BUT8"
X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"U"	
X_CAPTION(8,3)	8	"T"	
X_CAPTION(8,4)	8	"8"	
NID_BUTTON(9)	8	9	Button 9
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	1000010000b	black on red, No flashing
L_CAPTION(9)	6	4	Caption="BUT9"
X_CAPTION(9,1)	8	"B"	
X_CAPTION(9,2)	8	"U"	
X_CAPTION(9,3)	8	"T"	
X_CAPTION(9,4)	8	"9"	
NID_BUTTON(10)	8	10	Button 10
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	1000010000b	black on red, No flashing
L_CAPTION(10)	6	5	Caption="BUT10"
X_CAPTION(10,1)	8	"B"	
X_CAPTION(10,2)	8	"U"	
X_CAPTION(10,3)	8	"T"	
X_CAPTION(10,4)	8	"1"	



X_CAPTION(10,5)	8	"0"	
NID_BUTTON(11)	8	11	Button 11
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	1000010000b	black on red, No flashing
L_CAPTION(11)	6	5	Caption="BUT11"
X_CAPTION(11,1)	8	"B"	
X_CAPTION(11,2)	8	"U"	
X_CAPTION(11,3)	8	"T"	
X_CAPTION(11,4)	8	"1"	
X_CAPTION(11,5)	8	"1"	
NID_BUTTON(12)	8	12	Button 12
NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	1000010000b	black on red, No flashing
L_CAPTION(12)	6	5	Caption="BUT12"
X_CAPTION(12,1)	8	"B"	
X_CAPTION(12,2)	8	"U"	
X_CAPTION(12,3)	8	"T"	
X_CAPTION(12,4)	8	"1"	
X_CAPTION(12,5)	8	"2"	
NID_BUTTON(13)	8	13	Button 13
NID_BUTPOS(13)	5	13	



NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	1000010000b	black on red, No flashing
L_CAPTION(13)	6	5	Caption="BUT13"
X_CAPTION(13,1)	8	"B"	
X_CAPTION(13,2)	8	"U"	
X_CAPTION(13,3)	8	"T"	
X_CAPTION(13,4)	8	"1"	
X_CAPTION(13,5)	8	"3"	
NID_BUTTON(14)	8	14	Button 14
NID_BUTPOS(14)	5	14	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	1000010000b	black on red, No flashing
L_CAPTION(14)	6	5	Caption="BUT14"
X_CAPTION(14,1)	8	"B"	
X_CAPTION(14,2)	8	"U"	
X_CAPTION(14,3)	8	"T"	
X_CAPTION(14,4)	8	"1"	
X_CAPTION(14,5)	8	"4"	
NID_BUTTON(15)	8	15	Button 15
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	1000010000b	black on red, No flashing
L_CAPTION(15)	6	5	Caption="BUT15"



X_CAPTION(15,1)	8	"B"	
X_CAPTION(15,2)	8	"U"	
X_CAPTION(15,3)	8	"T"	
X_CAPTION(15,4)	8	"1"	
X_CAPTION(15,5)	8	"5"	
NID_BUTTON(16)	8	16	Button 16
NID_BUTPOS(16)	5	16	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	1000010000b	black on red, No flashing
L_CAPTION(16)	6	5	Caption="BUT16"
X_CAPTION(16,1)	8	"B"	
X_CAPTION(16,2)	8	"U"	
X_CAPTION(16,3)	8	"T"	
X_CAPTION(16,4)	8	"1"	
X_CAPTION(16,5)	8	"6"	
NID_BUTTON(17)	8	17	Button 17
NID_BUTPOS(17)	5	17	
NID_ICON(17)	8	0	
M_BUT_ATTRIB(17)	10	1000010000b	black on red, No flashing
L_CAPTION(17)	6	5	Caption="BUT17"
X_CAPTION(17,1)	8	"B"	
X_CAPTION(17,2)	8	"U"	
X_CAPTION(17,3)	8	"T"	



X_CAPTION(17,4)	8	"1"	
X_CAPTION(17,5)	8	"7"	

	Message-S2: STM requests display of buttons 18 - 34 at positions 1-17		
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	172	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1335, N=17, ID=18, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT18"			
(2): ID=19, P=2, IC=0, MI=1000010000b, L=5, T="BUT19"		(3): ID=20, P=3, IC=0, MI=1000010000b, L=5, T="BUT20"	
(4): ID=21, P=4, IC=0, MI=1000010000b, L=5, T="BUT21"		(5): ID=22, P=5, IC=0, MI=1000010000b, L=5, T="BUT22"	
(6): ID=23, P=6, IC=0, MI=1000010000b, L=5, T="BUT23"		(7): ID=24, P=7, IC=0, MI=1000010000b, L=5, T="BUT24"	
(8): ID=25, P=8, IC=0, MI=1000010000b, L=5, T="BUT25"		(9): ID=26, P=9, IC=0, MI=1000010000b, L=5, T="BUT26"	
(10): ID=27, P=10, IC=0, MI=1000010000b, L=5, T="BUT27"		(11): ID=28, P=11, IC=0, MI=1000010000b, L=5, T="BUT28"	
(12): ID=29, P=12, IC=0, MI=1000010000b, L=5, T="BUT29"		(13): ID=30, P=13, IC=0, MI=1000010000b, L=5, T="BUT30"	
(14): ID=31, P=14, IC=0, MI=1000010000b, L=5, T="BUT31"		(15): ID=32, P=15, IC=0, MI=1000010000b, L=5, T="BUT32"	
(16): ID=33, P=16, IC=0, MI=1000010000b, L=5, T="BUT33"		(17): ID=34, P=17, IC=0, MI=1000010000b, L=5, T="BUT34"	





Message-S8: STM requests display of buttons 120 - 136 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=120, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT120"			
(2): ID=121, P=2, IC=0, MI=1000010000b, L=6, T="BUT121"		(3): ID=122, P=3, IC=0, MI=1000010000b, L=6, T="BUT122"	
(4): ID=123, P=4, IC=0, MI=1000010000b, L=6, T="BUT123"		(5): ID=124, P=5, IC=0, MI=1000010000b, L=6, T="BUT124"	
(6): ID=125, P=6, IC=0, MI=1000010000b, L=6, T="BUT125"		(7): ID=126, P=7, IC=0, MI=1000010000b, L=6, T="BUT126"	
(8): ID=127, P=8, IC=0, MI=1000010000b, L=6, T="BUT127"		(9): ID=128, P=9, IC=0, MI=1000010000b, L=6, T="BUT128"	
(10): ID=129, P=10, IC=0, MI=1000010000b, L=6, T="BUT129"		(11): ID=130, P=11, IC=0, MI=1000010000b, L=6, T="BUT130"	
(12): ID=131, P=12, IC=0, MI=1000010000b, L=6, T="BUT131"		(13): ID=132, P=13, IC=0, MI=1000010000b, L=6, T="BUT132"	
(14): ID=133, P=14, IC=0, MI=1000010000b, L=6, T="BUT133"		(15): ID=134, P=15, IC=0, MI=1000010000b, L=6, T="BUT134"	
(16): ID=135, P=16, IC=0, MI=1000010000b, L=6, T="BUT135"		(17): ID=136, P=17, IC=0, MI=1000010000b, L=6, T="BUT136"	

Message-S14: STM requests display of buttons 222 - 238 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=222, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT222"			
(2): ID=223, P=2, IC=0, MI=1000010000b, L=6, T="BUT223"		(3): ID=224, P=3, IC=0, MI=1000010000b, L=6, T="BUT224"	
(4): ID=225, P=4, IC=0, MI=1000010000b, L=6, T="BUT225"		(5): ID=226, P=5, IC=0, MI=1000010000b, L=6, T="BUT226"	



(6): ID=227, P=6, IC=0, MI=1000010000b, L=6, T="BUT227"	(7): ID=228, P=7, IC=0, MI=1000010000b, L=6, T="BUT228"
(8): ID=229, P=8, IC=0, MI=1000010000b, L=6, T="BUT229"	(9): ID=230, P=9, IC=0, MI=1000010000b, L=6, T="BUT230"
(10): ID=231, P=10, IC=0, MI=1000010000b, L=6, T="BUT231"	(11): ID=232, P=11, IC=0, MI=1000010000b, L=6, T="BUT232"
(12): ID=233, P=12, IC=0, MI=1000010000b, L=6, T="BUT233"	(13): ID=234, P=13, IC=0, MI=1000010000b, L=6, T="BUT234"
(14): ID=235, P=14, IC=0, MI=1000010000b, L=6, T="BUT235"	(15): ID=236, P=15, IC=0, MI=1000010000b, L=6, T="BUT236"
(16): ID=237, P=16, IC=0, MI=1000010000b, L=6, T="BUT237"	(17): ID=238, P=17, IC=0, MI=1000010000b, L=6, T="BUT238"

Message-S15: STM requests display of buttons 239 - 255 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	189	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1471, N=17, ID=239, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=6, T="BUT239"			
(2): ID=240, P=2, IC=0, MI=1000010000b, L=6, T="BUT240"	(3): ID=241, P=3, IC=0, MI=1000010000b, L=6, T="BUT241"		
(4): ID=242, P=4, IC=0, MI=1000010000b, L=6, T="BUT242"	(5): ID=243, P=5, IC=0, MI=1000010000b, L=6, T="BUT243"		
(6): ID=244, P=6, IC=0, MI=1000010000b, L=6, T="BUT244"	(7): ID=245, P=7, IC=0, MI=1000010000b, L=6, T="BUT245"		
(8): ID=246, P=8, IC=0, MI=1000010000b, L=6, T="BUT246"	(9): ID=247, P=9, IC=0, MI=1000010000b, L=6, T="BUT247"		
(10): ID=248, P=10, IC=0, MI=1000010000b, L=6, T="BUT248"	(11): ID=249, P=11, IC=0, MI=1000010000b, L=6, T="BUT249"		
(12): ID=250, P=12, IC=0, MI=1000010000b, L=6, T="BUT250"	(13): ID=251, P=13, IC=0, MI=1000010000b, L=6, T="BUT251"		
(14): ID=252, P=14, IC=0, MI=1000010000b, L=6, T="BUT252"	(15): ID=253, P=15, IC=0, MI=1000010000b, L=6, T="BUT253"		
(16): ID=254, P=16, IC=0, MI=1000010000b, L=6, T="BUT254"	(17): ID=255, P=17, IC=0, MI=1000010000b, L=6, T="BUT255"		



Message-S16: STM requests display of 17 buttons at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	163	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1263, N=17, ID=255, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			
(2): ID=240, P=2, IC=0, MI=1000010000b, L=4, T="POS2"		(3): ID=225, P=3, IC=0, MI=1000010000b, L=4, T="POS3"	
(4): ID=210, P=4, IC=0, MI=1000010000b, L=4, T="POS4"		(5): ID=195, P=5, IC=0, MI=1000010000b, L=4, T="POS5"	
(6): ID=180, P=6, IC=0, MI=1000010000b, L=4, T="POS6"		(7): ID=165, P=7, IC=0, MI=1000010000b, L=4, T="POS7"	
(8): ID=150, P=8, IC=0, MI=1000010000b, L=4, T="POS8"		(9): ID=135, P=9, IC=0, MI=1000010000b, L=4, T="POS9"	
(10): ID=120, P=10, IC=0, MI=1000010000b, L=5, T="POS10"		(11): ID=105, P=11, IC=0, MI=1000010000b, L=5, T="POS11"	
(12): ID=90, P=12, IC=0, MI=1000010000b, L=5, T="POS12"		(13): ID=75, P=13, IC=0, MI=1000010000b, L=5, T="POS13"	
(14): ID=60, P=14, IC=0, MI=1000010000b, L=5, T="POS14"		(15): ID=45, P=15, IC=0, MI=1000010000b, L=5, T="POS15"	
(16): ID=30, P=16, IC=0, MI=1000010000b, L=5, T="POS16"		(17): ID=15, P=17, IC=0, MI=1000010000b, L=5, T="POS17"	

### 2.3.23 Test Case 7c3.3

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.2.0.(7c4)*.0.1.(7c4)*.0 (SK technology)
	7c3.0.2.0.(7c4)*.0.2.(7c4)*.0 (TS technology)
	with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)
Button events test for DMI configuration 7a.3 with SK and TS technology:	



	First both buttons are displayed with captions in one set and the click and press test is performed for each button of the set. Then a button is displayed at both button positions and the click and press test is performed for each position.
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11 via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4 ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
<b>ERTMS/ETCS on-board configuration</b>	For active STM: DMI configuration 7a.3.
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c3.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1-2 at positions 1-2.	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with caption BUT1 is displayed at position 1, Button with caption BUT2 is displayed at position 2.
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	STM requests display of 2 buttons at positions 1-2	PROF	T0+35s	connection of active DMI channel: Message-S2	DMI		Button with caption POS1 is displayed at position 1, Button with caption POS2 is displayed at position 2.
5	Click and press test for button at position 1	DMI	T0+40s	Click and press test is performed for button 2 at position 1	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1



6	Click and press test for button at position 2	DMI	T0+55s	Click and press test is performed for button 1 at position 2	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
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Message-S1: STM requests display of buttons 1-2 at positions 1-2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	164	Packet Length
N_ITER	5	2	Request for 2 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2



NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
Padding bits	3	000b	

Message-S2: STM requests display of 2 buttons at positions 1-2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=164, N=2, ID=2, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			
(2): ID=1, P=2, IC=0, MI=1000010000b, L=4, T="POS2"			

## 2.3.24 Test Case 7c3.4

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.2.0.(7c4)*.0.1.(7c4)*.0
	with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)



	<p>Button events test for DMI configuration 7a.4 with SK technology:</p> <p>First buttons are displayed with captions in sets of 6 buttons at once at positions 1-6 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all available button positions and the click and press test is performed for each position.</p>
<b>ERTMS/ETCS on-board requirements tested</b>	<p>SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11</p> <p>via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4</p> <p>ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2</p>
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
<b>ERTMS/ETCS on-board configuration</b>	For active STM: DMI configuration 7a.4.
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c3.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 6 at positions 1-6	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT6 are displayed at positions 1-6
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1



6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
8	STM requests display of buttons 7 - 12 at positions 1-6	PROF	T0+95s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT7 - BUT12 are displayed at positions 1-6
9	Click and press test for button 7	DMI	T0+100s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
10	Click and press test for button 8	DMI	T0+115s	Click and press test is performed for button 8	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
11	Click and press test for button 9	DMI	T0+130s	Click and press test is performed for button 9	PROF		ETCS onboard reports button events for button 9 according to test 7c4.1
12	Click and press test for button 10	DMI	T0+145s	Click and press test is performed for button 10	PROF		ETCS onboard reports button events for button 10 according to test 7c4.1
13	Click and press test for button 11	DMI	T0+160s	Click and press test is performed for button 11	PROF		ETCS onboard reports button events for button 11 according to test 7c4.1
14	Click and press test for button 12	DMI	T0+175s	Click and press test is performed for button 12	PROF		ETCS onboard reports button events for button 12 according to test 7c4.1
15	STM requests display of buttons 13 - 18 at positions 1-6	PROF	T0+190s	connection of active DMI channel: Message-S3	DMI		Buttons with caption BUT13 - BUT18 are displayed at positions 1-6
16	Click and press test for button 13	DMI	T0+195s	Click and press test is performed for button 13	PROF		ETCS onboard reports button events for button 13 according to test 7c4.1
17	Click and press test for button 14	DMI	T0+210s	Click and press test is performed for button 14	PROF		ETCS onboard reports button events for button 14 according to test 7c4.1
18	Click and press test for button 15	DMI	T0+225s	Click and press test is performed for button 15	PROF		ETCS onboard reports button events for button 15 according to test 7c4.1
19	Click and press test for button 16	DMI	T0+240s	Click and press test is performed for button 16	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1





20	Click and press test for button 17	DMI	T0+255s	Click and press test is performed for button 17	PROF		ETCS onboard reports button events for button 17 according to test 7c4.1
21	Click and press test for button 18	DMI	T0+270s	Click and press test is performed for button 18	PROF		ETCS onboard reports button events for button 18 according to test 7c4.1
22	STM requests display of buttons 19 - 20 at positions 1-2	PROF	T0+285s	connection of active DMI channel: Message-S4	DMI		Buttons with caption BUT19 - BUT20 are displayed at positions 1-2
23	Click and press test for button 19	DMI	T0+290s	Click and press test is performed for button 19	PROF		ETCS onboard reports button events for button 19 according to test 7c4.1
24	Click and press test for button 20	DMI	T0+305s	Click and press test is performed for button 20	PROF		ETCS onboard reports button events for button 20 according to test 7c4.1
25	STM requests display of 6 buttons at positions 1-6	PROF	T0+320s	connection of active DMI channel: Message-S5	DMI		Buttons with caption POS1 - POS6 are displayed at positions 1-6
26	Click and press test for button at position 1	DMI	T0+325s	Click and press test is performed for button 20 at position 1	PROF		ETCS onboard reports button events for button 20 according to test 7c4.1
27	Click and press test for button at position 2	DMI	T0+340s	Click and press test is performed for button 17 at position 2	PROF		ETCS onboard reports button events for button 17 according to test 7c4.1
28	Click and press test for button at position 3	DMI	T0+355s	Click and press test is performed for button 14 at position 3	PROF		ETCS onboard reports button events for button 14 according to test 7c4.1
29	Click and press test for button at position 4	DMI	T0+370s	Click and press test is performed for button 11 at position 4	PROF		ETCS onboard reports button events for button 11 according to test 7c4.1
30	Click and press test for button at position 5	DMI	T0+385s	Click and press test is performed for button 8 at position 5	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
31	Click and press test for button at position 6	DMI	T0+400s	Click and press test is performed for button 5 at position 6	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1

Message-S1: STM requests display of buttons 1 - 6 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	61	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	440	Packet Length
N_ITER	5	6	Request for 6 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	



X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	



M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	
X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	
Padding bits	7	0000000b	

Message-S2: STM requests display of buttons 7 - 12 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	64	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=464, N=6, ID=7, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="BUT7"			



(2): ID=8, P=2, IC=0, MI=1000010000b, L=4, T="BUT8"	(3): ID=9, P=3, IC=0, MI=1000010000b, L=4, T="BUT9"
(4): ID=10, P=4, IC=0, MI=1000010000b, L=5, T="BUT10"	(5): ID=11, P=5, IC=0, MI=1000010000b, L=5, T="BUT11"
(6): ID=12, P=6, IC=0, MI=1000010000b, L=5, T="BUT12"	

Message-S3: STM requests display of buttons 13 - 18 at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	67	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=488, N=6, ID=13, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT13"			
(2): ID=14, P=2, IC=0, MI=1000010000b, L=5, T="BUT14"	(3): ID=15, P=3, IC=0, MI=1000010000b, L=5, T="BUT15"		
(4): ID=16, P=4, IC=0, MI=1000010000b, L=5, T="BUT16"	(5): ID=17, P=5, IC=0, MI=1000010000b, L=5, T="BUT17"		
(6): ID=18, P=6, IC=0, MI=1000010000b, L=5, T="BUT18"			

Message-S4: STM requests display of buttons 19 - 20 at positions 1-2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	28	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=180, N=2, ID=19, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT19"			
(2): ID=20, P=2, IC=0, MI=1000010000b, L=5, T="BUT20"			



Message-S5: STM requests display of 6 buttons at positions 1-6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	61	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=440, N=6, ID=20, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			
(2): ID=17, P=2, IC=0, MI=1000010000b, L=4, T="POS2"			(3): ID=14, P=3, IC=0, MI=1000010000b, L=4, T="POS3"
(4): ID=11, P=4, IC=0, MI=1000010000b, L=4, T="POS4"			(5): ID=8, P=5, IC=0, MI=1000010000b, L=4, T="POS5"
(6): ID=5, P=6, IC=0, MI=1000010000b, L=4, T="POS6"			

### 2.3.25 Test Case 7c3.5

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.2.0.(7c4)*.0.2.(7c4)*.0 with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)
	Button events test for DMI configuration 7a.4 with TS technology: First buttons are displayed with captions in sets of 17 buttons at once at positions 1-17 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all available button positions and the click and press test is performed for each position.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11 via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4
	ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	



<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
<b>ERTMS/ETCS on-board configuration</b>	For active STM: DMI configuration 7a.4.
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c3.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 17 at positions 1-17	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT17 are displayed at positions 1-17
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
8	Click and press test for button 7	DMI	T0+95s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
9	Click and press test for button 8	DMI	T0+110s	Click and press test is performed for button 8	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
10	Click and press test for button 9	DMI	T0+125s	Click and press test is performed	PROF		ETCS onboard reports button events for



				for button 9			button 9 according to test 7c4.1
11	Click and press test for button 10	DMI	T0+140s	Click and press test is performed for button 10	PROF		ETCS onboard reports button events for button 10 according to test 7c4.1
12	Click and press test for button 11	DMI	T0+155s	Click and press test is performed for button 11	PROF		ETCS onboard reports button events for button 11 according to test 7c4.1
13	Click and press test for button 12	DMI	T0+170s	Click and press test is performed for button 12	PROF		ETCS onboard reports button events for button 12 according to test 7c4.1
14	Click and press test for button 13	DMI	T0+185s	Click and press test is performed for button 13	PROF		ETCS onboard reports button events for button 13 according to test 7c4.1
15	Click and press test for button 14	DMI	T0+200s	Click and press test is performed for button 14	PROF		ETCS onboard reports button events for button 14 according to test 7c4.1
16	Click and press test for button 15	DMI	T0+215s	Click and press test is performed for button 15	PROF		ETCS onboard reports button events for button 15 according to test 7c4.1
17	Click and press test for button 16	DMI	T0+230s	Click and press test is performed for button 16	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
18	Click and press test for button 17	DMI	T0+245s	Click and press test is performed for button 17	PROF		ETCS onboard reports button events for button 17 according to test 7c4.1
19	STM requests display of buttons 18 - 20 at positions 1-3	PROF	T0+260s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT18 - BUT20 are displayed at positions 1-3
20	Click and press test for button 18	DMI	T0+265s	Click and press test is performed for button 18	PROF		ETCS onboard reports button events for button 18 according to test 7c4.1
21	Click and press test for button 19	DMI	T0+280s	Click and press test is performed for button 19	PROF		ETCS onboard reports button events for button 19 according to test 7c4.1
22	Click and press test for button 20	DMI	T0+295s	Click and press test is performed for button 20	PROF		ETCS onboard reports button events for button 20 according to test 7c4.1
23	STM requests display of 17 buttons at positions 1-17	PROF	T0+310s	connection of active DMI channel: Message-S3	DMI		Buttons with caption POS1 - POS17 are displayed at positions 1-17
24	Click and press test for button at position 1	DMI	T0+315s	Click and press test is performed for button 20 at position 1	PROF		ETCS onboard reports button events for button 20 according to test 7c4.1





25	Click and press test for button at position 2	DMI	T0+330s	Click and press test is performed for button 19 at position 2	PROF		ETCS onboard reports button events for button 19 according to test 7c4.1
26	Click and press test for button at position 3	DMI	T0+345s	Click and press test is performed for button 18 at position 3	PROF		ETCS onboard reports button events for button 18 according to test 7c4.1
27	Click and press test for button at position 4	DMI	T0+360s	Click and press test is performed for button 17 at position 4	PROF		ETCS onboard reports button events for button 17 according to test 7c4.1
28	Click and press test for button at position 5	DMI	T0+375s	Click and press test is performed for button 16 at position 5	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
29	Click and press test for button at position 6	DMI	T0+390s	Click and press test is performed for button 15 at position 6	PROF		ETCS onboard reports button events for button 15 according to test 7c4.1
30	Click and press test for button at position 7	DMI	T0+405s	Click and press test is performed for button 14 at position 7	PROF		ETCS onboard reports button events for button 14 according to test 7c4.1
31	Click and press test for button at position 8	DMI	T0+420s	Click and press test is performed for button 13 at position 8	PROF		ETCS onboard reports button events for button 13 according to test 7c4.1
32	Click and press test for button at position 9	DMI	T0+435s	Click and press test is performed for button 12 at position 9	PROF		ETCS onboard reports button events for button 12 according to test 7c4.1
33	Click and press test for button at position 10	DMI	T0+450s	Click and press test is performed for button 11 at position 10	PROF		ETCS onboard reports button events for button 11 according to test 7c4.1
34	Click and press test for button at position 11	DMI	T0+465s	Click and press test is performed for button 10 at position 11	PROF		ETCS onboard reports button events for button 10 according to test 7c4.1
35	Click and press test for button at position 12	DMI	T0+480s	Click and press test is performed for button 9 at position 12	PROF		ETCS onboard reports button events for button 9 according to test 7c4.1
36	Click and press test for button at position 13	DMI	T0+495s	Click and press test is performed for button 8 at position 13	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
37	Click and press test for button at position 14	DMI	T0+510s	Click and press test is performed for button 7 at position 14	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
38	Click and press test for button at position 15	DMI	T0+525s	Click and press test is performed for button 6 at position 15	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1



39	Click and press test for button at position 16	DMI	T0+540s	Click and press test is performed for button 5 at position 16	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
40	Click and press test for button at position 17	DMI	T0+555s	Click and press test is performed for button 4 at position 17	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1

Message-S1: STM requests display of buttons 1 - 17 at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	163	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	1263	Packet Length
N_ITER	5	17	Request for 17 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	



NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"



X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	
X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	
NID_BUTTON(7)	8	7	Button 7



NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	4	Caption="BUT7"
X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"T"	
X_CAPTION(7,4)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	4	Caption="BUT8"
X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"U"	
X_CAPTION(8,3)	8	"T"	
X_CAPTION(8,4)	8	"8"	
NID_BUTTON(9)	8	9	Button 9
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	1000010000b	black on red, No flashing
L_CAPTION(9)	6	4	Caption="BUT9"
X_CAPTION(9,1)	8	"B"	



X_CAPTION(9,2)	8	"U"	
X_CAPTION(9,3)	8	"T"	
X_CAPTION(9,4)	8	"g"	
NID_BUTTON(10)	8	10	Button 10
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	1000010000b	black on red, No flashing
L_CAPTION(10)	6	5	Caption="BUT10"
X_CAPTION(10,1)	8	"B"	
X_CAPTION(10,2)	8	"U"	
X_CAPTION(10,3)	8	"T"	
X_CAPTION(10,4)	8	"1"	
X_CAPTION(10,5)	8	"0"	
NID_BUTTON(11)	8	11	Button 11
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	1000010000b	black on red, No flashing
L_CAPTION(11)	6	5	Caption="BUT11"
X_CAPTION(11,1)	8	"B"	
X_CAPTION(11,2)	8	"U"	
X_CAPTION(11,3)	8	"T"	
X_CAPTION(11,4)	8	"1"	
X_CAPTION(11,5)	8	"1"	



NID_BUTTON(12)	8	12	Button 12
NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	1000010000b	black on red, No flashing
L_CAPTION(12)	6	5	Caption="BUT12"
X_CAPTION(12,1)	8	"B"	
X_CAPTION(12,2)	8	"U"	
X_CAPTION(12,3)	8	"T"	
X_CAPTION(12,4)	8	"1"	
X_CAPTION(12,5)	8	"2"	
NID_BUTTON(13)	8	13	Button 13
NID_BUTPOS(13)	5	13	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	1000010000b	black on red, No flashing
L_CAPTION(13)	6	5	Caption="BUT13"
X_CAPTION(13,1)	8	"B"	
X_CAPTION(13,2)	8	"U"	
X_CAPTION(13,3)	8	"T"	
X_CAPTION(13,4)	8	"1"	
X_CAPTION(13,5)	8	"3"	
NID_BUTTON(14)	8	14	Button 14
NID_BUTPOS(14)	5	14	
NID_ICON(14)	8	0	



M_BUT_ATTRIB(14)	10	1000010000b	black on red, No flashing
L_CAPTION(14)	6	5	Caption="BUT14"
X_CAPTION(14,1)	8	"B"	
X_CAPTION(14,2)	8	"U"	
X_CAPTION(14,3)	8	"T"	
X_CAPTION(14,4)	8	"1"	
X_CAPTION(14,5)	8	"4"	
NID_BUTTON(15)	8	15	Button 15
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	1000010000b	black on red, No flashing
L_CAPTION(15)	6	5	Caption="BUT15"
X_CAPTION(15,1)	8	"B"	
X_CAPTION(15,2)	8	"U"	
X_CAPTION(15,3)	8	"T"	
X_CAPTION(15,4)	8	"1"	
X_CAPTION(15,5)	8	"5"	
NID_BUTTON(16)	8	16	Button 16
NID_BUTPOS(16)	5	16	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	1000010000b	black on red, No flashing
L_CAPTION(16)	6	5	Caption="BUT16"
X_CAPTION(16,1)	8	"B"	





X_CAPTION(16,2)	8	"U"	
X_CAPTION(16,3)	8	"T"	
X_CAPTION(16,4)	8	"1"	
X_CAPTION(16,5)	8	"6"	
NID_BUTTON(17)	8	17	Button 17
NID_BUTPOS(17)	5	17	
NID_ICON(17)	8	0	
M_BUT_ATTRIB(17)	10	1000010000b	black on red, No flashing
L_CAPTION(17)	6	5	Caption="BUT17"
X_CAPTION(17,1)	8	"B"	
X_CAPTION(17,2)	8	"U"	
X_CAPTION(17,3)	8	"T"	
X_CAPTION(17,4)	8	"1"	
X_CAPTION(17,5)	8	"7"	

	Message-S2: STM requests display of buttons 18 - 20 at positions 1-3		
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	38	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=257, N=3, ID=18, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT18"			
(2): ID=19, P=2, IC=0, MI=1000010000b, L=5, T="BUT19"		(3): ID=20, P=3, IC=0, MI=1000010000b, L=5, T="BUT20"	



Message-S3: STM requests display of 17 buttons at positions 1-17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	163	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1263, N=17, ID=20, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			
(2): ID=19, P=2, IC=0, MI=1000010000b, L=4, T="POS2"		(3): ID=18, P=3, IC=0, MI=1000010000b, L=4, T="POS3"	
(4): ID=17, P=4, IC=0, MI=1000010000b, L=4, T="POS4"		(5): ID=16, P=5, IC=0, MI=1000010000b, L=4, T="POS5"	
(6): ID=15, P=6, IC=0, MI=1000010000b, L=4, T="POS6"		(7): ID=14, P=7, IC=0, MI=1000010000b, L=4, T="POS7"	
(8): ID=13, P=8, IC=0, MI=1000010000b, L=4, T="POS8"		(9): ID=12, P=9, IC=0, MI=1000010000b, L=4, T="POS9"	
(10): ID=11, P=10, IC=0, MI=1000010000b, L=5, T="POS10"		(11): ID=10, P=11, IC=0, MI=1000010000b, L=5, T="POS11"	
(12): ID=9, P=12, IC=0, MI=1000010000b, L=5, T="POS12"		(13): ID=8, P=13, IC=0, MI=1000010000b, L=5, T="POS13"	
(14): ID=7, P=14, IC=0, MI=1000010000b, L=5, T="POS14"		(15): ID=6, P=15, IC=0, MI=1000010000b, L=5, T="POS15"	
(16): ID=5, P=16, IC=0, MI=1000010000b, L=5, T="POS16"		(17): ID=4, P=17, IC=0, MI=1000010000b, L=5, T="POS17"	

### 2.3.26 Test Case 7c3.6

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.2.0.(7c4)*.0.1.(7c4)*.0 (SK technology)
	7c3.0.2.0.(7c4)*.0.2.(7c4)*.0 (TS technology)
	with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)



	<p>Button events test for DMI configuration 7a.5, 7a.6 and 7a.7 with SK and TS technology:</p> <p>First buttons are displayed with captions in sets of 8 buttons at once at positions 1-8 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all available button positions and the click and press test is performed for each position.</p>
<b>ERTMS/ETCS on-board requirements tested</b>	<p>SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11</p> <p>via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4</p> <p>ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2</p>
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
<b>ERTMS/ETCS on-board configuration</b>	For active STM: DMI configuration 7a.5, 7a.6 and 7a.7 (one configuration shall be chosen).
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c3.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT8 are displayed at positions 1-8
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1



6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
8	Click and press test for button 7	DMI	T0+95s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
9	Click and press test for button 8	DMI	T0+110s	Click and press test is performed for button 8	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
10	STM requests display of buttons 16 - 128 at positions 1-8	PROF	T0+125s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT9 - BUT16 are displayed at positions 1-8
11	Click and press test for button 16	DMI	T0+130s	Click and press test is performed for button 16	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
12	Click and press test for button 32	DMI	T0+145s	Click and press test is performed for button 32	PROF		ETCS onboard reports button events for button 32 according to test 7c4.1
13	Click and press test for button 48	DMI	T0+160s	Click and press test is performed for button 48	PROF		ETCS onboard reports button events for button 48 according to test 7c4.1
14	Click and press test for button 64	DMI	T0+175s	Click and press test is performed for button 64	PROF		ETCS onboard reports button events for button 64 according to test 7c4.1
15	Click and press test for button 80	DMI	T0+190s	Click and press test is performed for button 80	PROF		ETCS onboard reports button events for button 80 according to test 7c4.1
16	Click and press test for button 96	DMI	T0+205s	Click and press test is performed for button 96	PROF		ETCS onboard reports button events for button 96 according to test 7c4.1
17	Click and press test for button 112	DMI	T0+220s	Click and press test is performed for button 112	PROF		ETCS onboard reports button events for button 112 according to test 7c4.1
18	Click and press test for button 128	DMI	T0+235s	Click and press test is performed for button 128	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
19	STM requests display of 8 buttons at positions 1-8	PROF	T0+250s	connection of active DMI channel: Message-S3	DMI		Buttons with caption POS1 - POS8 are displayed at positions 1-8



20	Click and press test for button at position 1	DMI	T0+255s	Click and press test is performed for button 128 at position 1	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
21	Click and press test for button at position 2	DMI	T0+270s	Click and press test is performed for button 96 at position 2	PROF		ETCS onboard reports button events for button 96 according to test 7c4.1
22	Click and press test for button at position 3	DMI	T0+285s	Click and press test is performed for button 64 at position 3	PROF		ETCS onboard reports button events for button 64 according to test 7c4.1
23	Click and press test for button at position 4	DMI	T0+300s	Click and press test is performed for button 32 at position 4	PROF		ETCS onboard reports button events for button 32 according to test 7c4.1
24	Click and press test for button at position 5	DMI	T0+315s	Click and press test is performed for button 8 at position 5	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
25	Click and press test for button at position 6	DMI	T0+330s	Click and press test is performed for button 6 at position 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
26	Click and press test for button at position 7	DMI	T0+345s	Click and press test is performed for button 4 at position 7	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
27	Click and press test for button at position 8	DMI	T0+360s	Click and press test is performed for button 2 at position 8	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1

Message-S1: STM requests display of buttons 1 - 8 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	578	Packet Length



N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing



L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	
X_CAPTION(5,4)	8	"5"	



NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	4	Caption="BUT7"
X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"T"	
X_CAPTION(7,4)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	4	Caption="BUT8"





X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"U"	
X_CAPTION(8,3)	8	"T"	
X_CAPTION(8,4)	8	"8"	
Padding bits	5	00000b	

Message-S2: STM requests display of buttons 16 - 128 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	88	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=658, N=8, ID=16, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT16"			
(2): ID=32, P=2, IC=0, MI=1000010000b, L=5, T="BUT32"		(3): ID=48, P=3, IC=0, MI=1000010000b, L=5, T="BUT48"	
(4): ID=64, P=4, IC=0, MI=1000010000b, L=5, T="BUT64"		(5): ID=80, P=5, IC=0, MI=1000010000b, L=5, T="BUT80"	
(6): ID=96, P=6, IC=0, MI=1000010000b, L=5, T="BUT96"		(7): ID=112, P=7, IC=0, MI=1000010000b, L=6, T="BUT112"	
(8): ID=128, P=8, IC=0, MI=1000010000b, L=6, T="BUT128"			

Message-S3: STM requests display of 8 buttons at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=578, N=8, ID=128, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			



(2): ID=96, P=2, IC=0, MI=1000010000b, L=4, T="POS2"	(3): ID=64, P=3, IC=0, MI=1000010000b, L=4, T="POS3"
(4): ID=32, P=4, IC=0, MI=1000010000b, L=4, T="POS4"	(5): ID=8, P=5, IC=0, MI=1000010000b, L=4, T="POS5"
(6): ID=6, P=6, IC=0, MI=1000010000b, L=4, T="POS6"	(7): ID=4, P=7, IC=0, MI=1000010000b, L=4, T="POS7"
(8): ID=2, P=8, IC=0, MI=1000010000b, L=4, T="POS8"	

### 2.3.27 Test Case 7c3.7

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.2.0.(7c4)*.0.1.(7c4)*.0
	with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)
	Button events test for DMI configuration 7a.8 with SK technology: First buttons are displayed with captions in sets of 8 buttons at once at positions 1-8 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all available button positions and the click and press test is performed for each position.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11
	via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4
	ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
ERTMS/ETCS on-board configuration	For active STM: DMI configuration 7a.8.
Comments and constraints	Starting and end conditions as for test case 7c3.1



# ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT8 are displayed at positions 1-8
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
8	Click and press test for button 7	DMI	T0+95s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
9	Click and press test for button 8	DMI	T0+110s	Click and press test is performed for button 8	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
10	STM requests display of buttons 16 - 128 at positions 1-8	PROF	T0+125s	connection of active DMI channel: Message-S2	DMI		Buttons with caption BUT16 - BUT128 are displayed at positions 1-8
11	Click and press test for button 16	DMI	T0+130s	Click and press test is performed for button 16	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
12	Click and press test for button 32	DMI	T0+145s	Click and press test is performed for button 32	PROF		ETCS onboard reports button events for button 32 according to test 7c4.1
13	Click and press test for button 48	DMI	T0+160s	Click and press test is performed for button 48	PROF		ETCS onboard reports button events for button 48 according to test 7c4.1

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14	Click and press test for button 64	DMI	T0+175s	Click and press test is performed for button 64	PROF		ETCS onboard reports button events for button 64 according to test 7c4.1
15	Click and press test for button 80	DMI	T0+190s	Click and press test is performed for button 80	PROF		ETCS onboard reports button events for button 80 according to test 7c4.1
16	Click and press test for button 96	DMI	T0+205s	Click and press test is performed for button 96	PROF		ETCS onboard reports button events for button 96 according to test 7c4.1
17	Click and press test for button 112	DMI	T0+220s	Click and press test is performed for button 112	PROF		ETCS onboard reports button events for button 112 according to test 7c4.1
18	Click and press test for button 128	DMI	T0+235s	Click and press test is performed for button 128	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
19	STM requests display of 8 buttons at positions 1-8	PROF	T0+250s	connection of active DMI channel: Message-S3	DMI		Buttons with caption POS1 - POS8 are displayed at positions 1-8
20	Click and press test for button at position 1	DMI	T0+255s	Click and press test is performed for button 128 at position 1	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
21	Click and press test for button at position 2	DMI	T0+270s	Click and press test is performed for button 96 at position 2	PROF		ETCS onboard reports button events for button 96 according to test 7c4.1
22	Click and press test for button at position 3	DMI	T0+285s	Click and press test is performed for button 64 at position 3	PROF		ETCS onboard reports button events for button 64 according to test 7c4.1
23	Click and press test for button at position 4	DMI	T0+300s	Click and press test is performed for button 32 at position 4	PROF		ETCS onboard reports button events for button 32 according to test 7c4.1
24	Click and press test for button at position 5	DMI	T0+315s	Click and press test is performed for button 8 at position 5	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
25	Click and press test for button at position 6	DMI	T0+330s	Click and press test is performed for button 6 at position 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
26	Click and press test for button at position 7	DMI	T0+345s	Click and press test is performed for button 4 at position 7	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
27	Click and press test for button at position 8	DMI	T0+360s	Click and press test is performed for button 2 at position 8	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1



Message-S1: STM requests display of buttons 1 - 8 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	578	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing



L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	



NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	
X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	
X_CAPTION(6,4)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	4	Caption="BUT7"



X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"T"	
X_CAPTION(7,4)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	4	Caption="BUT8"
X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"U"	
X_CAPTION(8,3)	8	"T"	
X_CAPTION(8,4)	8	"8"	
Padding bits	5	00000b	

Message-S2: STM requests display of buttons 16 - 128 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	88	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=658, N=8, ID=16, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BUT16"			
(2): ID=32, P=2, IC=0, MI=1000010000b, L=5, T="BUT32"		(3): ID=48, P=3, IC=0, MI=1000010000b, L=5, T="BUT48"	
(4): ID=64, P=4, IC=0, MI=1000010000b, L=5, T="BUT64"		(5): ID=80, P=5, IC=0, MI=1000010000b, L=5, T="BUT80"	





(6): ID=96, P=6, IC=0, MI=1000010000b, L=5, T="BUT96"	(7): ID=112, P=7, IC=0, MI=1000010000b, L=6, T="BUT112"
(8): ID=128, P=8, IC=0, MI=1000010000b, L=6, T="BUT128"	

Message-S3: STM requests display of 8 buttons at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=578, N=8, ID=128, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			
(2): ID=96, P=2, IC=0, MI=1000010000b, L=4, T="POS2"	(3): ID=64, P=3, IC=0, MI=1000010000b, L=4, T="POS3"		
(4): ID=32, P=4, IC=0, MI=1000010000b, L=4, T="POS4"	(5): ID=8, P=5, IC=0, MI=1000010000b, L=4, T="POS5"		
(6): ID=6, P=6, IC=0, MI=1000010000b, L=4, T="POS6"	(7): ID=4, P=7, IC=0, MI=1000010000b, L=4, T="POS7"		
(8): ID=2, P=8, IC=0, MI=1000010000b, L=4, T="POS8"			

### 2.3.28 Test Case 7c3.8

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.2.0.(7c4)*.0.2.(7c4)*.0
	with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)
	<p>Button events test for DMI configuration 7a.8 with TS technology:</p> <p>First buttons are displayed with captions in sets of 16 buttons at once at positions 1-16 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all</p>



	available button positions and the click and press test is performed for each position.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11 via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4
	ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
ERTMS/ETCS on-board configuration	For active STM: DMI configuration 7a.8.
Comments and constraints	Starting and end conditions as for test case 7c3.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 128 at positions 1-16	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption BUT1 - BUT128 are displayed at positions 1-16
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1

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8	Click and press test for button 7	DMI	T0+95s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
9	Click and press test for button 8	DMI	T0+110s	Click and press test is performed for button 8	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
10	Click and press test for button 16	DMI	T0+125s	Click and press test is performed for button 16	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
11	Click and press test for button 32	DMI	T0+140s	Click and press test is performed for button 32	PROF		ETCS onboard reports button events for button 32 according to test 7c4.1
12	Click and press test for button 48	DMI	T0+155s	Click and press test is performed for button 48	PROF		ETCS onboard reports button events for button 48 according to test 7c4.1
13	Click and press test for button 64	DMI	T0+170s	Click and press test is performed for button 64	PROF		ETCS onboard reports button events for button 64 according to test 7c4.1
14	Click and press test for button 80	DMI	T0+185s	Click and press test is performed for button 80	PROF		ETCS onboard reports button events for button 80 according to test 7c4.1
15	Click and press test for button 96	DMI	T0+200s	Click and press test is performed for button 96	PROF		ETCS onboard reports button events for button 96 according to test 7c4.1
16	Click and press test for button 112	DMI	T0+215s	Click and press test is performed for button 112	PROF		ETCS onboard reports button events for button 112 according to test 7c4.1
17	Click and press test for button 128	DMI	T0+230s	Click and press test is performed for button 128	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
18	STM requests display of 16 buttons at positions 1-16	PROF	T0+245s	connection of active DMI channel: Message-S2	DMI		Buttons with caption POS1 - POS16 are displayed at positions 1-16
19	Click and press test for button at position 1	DMI	T0+250s	Click and press test is performed for button 128 at position 1	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
20	Click and press test for button at position 2	DMI	T0+265s	Click and press test is performed for button 112 at position 2	PROF		ETCS onboard reports button events for button 112 according to test 7c4.1
21	Click and press test for button at position 3	DMI	T0+280s	Click and press test is performed for button 96 at position 3	PROF		ETCS onboard reports button events for button 96 according to test 7c4.1



22	Click and press test for button at position 4	DMI	T0+295s	Click and press test is performed for button 80 at position 4	PROF		ETCS onboard reports button events for button 80 according to test 7c4.1
23	Click and press test for button at position 5	DMI	T0+310s	Click and press test is performed for button 64 at position 5	PROF		ETCS onboard reports button events for button 64 according to test 7c4.1
24	Click and press test for button at position 6	DMI	T0+325s	Click and press test is performed for button 48 at position 6	PROF		ETCS onboard reports button events for button 48 according to test 7c4.1
25	Click and press test for button at position 7	DMI	T0+340s	Click and press test is performed for button 32 at position 7	PROF		ETCS onboard reports button events for button 32 according to test 7c4.1
26	Click and press test for button at position 8	DMI	T0+355s	Click and press test is performed for button 16 at position 8	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
27	Click and press test for button at position 9	DMI	T0+370s	Click and press test is performed for button 8 at position 9	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
28	Click and press test for button at position 10	DMI	T0+385s	Click and press test is performed for button 7 at position 10	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
29	Click and press test for button at position 11	DMI	T0+400s	Click and press test is performed for button 6 at position 11	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
30	Click and press test for button at position 12	DMI	T0+415s	Click and press test is performed for button 5 at position 12	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
31	Click and press test for button at position 13	DMI	T0+430s	Click and press test is performed for button 4 at position 13	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
32	Click and press test for button at position 14	DMI	T0+445s	Click and press test is performed for button 3 at position 14	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
33	Click and press test for button at position 15	DMI	T0+460s	Click and press test is performed for button 2 at position 15	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
34	Click and press test for button at position 16	DMI	T0+475s	Click and press test is performed for button 1 at position 16	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
35	STM requests display of 3 buttons at positions 17-19	PROF	T0+490s	connection of active DMI channel: Message-S3	DMI		Buttons with caption POS17 - POS19 are displayed at positions 17-19



36	Click and press test for button at position 17	DMI	T0+495s	Click and press test is performed for button 128 at position 17	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
37	Click and press test for button at position 18	DMI	T0+510s	Click and press test is performed for button 96 at position 18	PROF		ETCS onboard reports button events for button 96 according to test 7c4.1
38	Click and press test for button at position 19	DMI	T0+525s	Click and press test is performed for button 64 at position 19	PROF		ETCS onboard reports button events for button 64 according to test 7c4.1

Message-S1: STM requests display of buttons 1 - 128 at positions 1-16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	157	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	1210	Packet Length
N_ITER	5	16	Request for 16 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	



X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	



M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	4	Caption="BUT4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"U"	
X_CAPTION(4,3)	8	"T"	
X_CAPTION(4,4)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	4	Caption="BUT5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"U"	
X_CAPTION(5,3)	8	"T"	
X_CAPTION(5,4)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	4	Caption="BUT6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"U"	
X_CAPTION(6,3)	8	"T"	



X_CAPTION(6,4)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	4	Caption="BUT7"
X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"U"	
X_CAPTION(7,3)	8	"T"	
X_CAPTION(7,4)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	4	Caption="BUT8"
X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"U"	
X_CAPTION(8,3)	8	"T"	
X_CAPTION(8,4)	8	"8"	
NID_BUTTON(9)	8	16	Button 16
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	1000010000b	black on red, No flashing





L_CAPTION(9)	6	5	Caption="BUT16"
X_CAPTION(9,1)	8	"B"	
X_CAPTION(9,2)	8	"U"	
X_CAPTION(9,3)	8	"T"	
X_CAPTION(9,4)	8	"1"	
X_CAPTION(9,5)	8	"6"	
NID_BUTTON(10)	8	32	Button 32
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	1000010000b	black on red, No flashing
L_CAPTION(10)	6	5	Caption="BUT32"
X_CAPTION(10,1)	8	"B"	
X_CAPTION(10,2)	8	"U"	
X_CAPTION(10,3)	8	"T"	
X_CAPTION(10,4)	8	"3"	
X_CAPTION(10,5)	8	"2"	
NID_BUTTON(11)	8	48	Button 48
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	1000010000b	black on red, No flashing
L_CAPTION(11)	6	5	Caption="BUT48"
X_CAPTION(11,1)	8	"B"	
X_CAPTION(11,2)	8	"U"	



X_CAPTION(11,3)	8	"T"	
X_CAPTION(11,4)	8	"4"	
X_CAPTION(11,5)	8	"8"	
NID_BUTTON(12)	8	64	Button 64
NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	1000010000b	black on red, No flashing
L_CAPTION(12)	6	5	Caption="BUT64"
X_CAPTION(12,1)	8	"B"	
X_CAPTION(12,2)	8	"U"	
X_CAPTION(12,3)	8	"T"	
X_CAPTION(12,4)	8	"6"	
X_CAPTION(12,5)	8	"4"	
NID_BUTTON(13)	8	80	Button 80
NID_BUTPOS(13)	5	13	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	1000010000b	black on red, No flashing
L_CAPTION(13)	6	5	Caption="BUT80"
X_CAPTION(13,1)	8	"B"	
X_CAPTION(13,2)	8	"U"	
X_CAPTION(13,3)	8	"T"	
X_CAPTION(13,4)	8	"8"	
X_CAPTION(13,5)	8	"0"	



NID_BUTTON(14)	8	96	Button 96
NID_BUTPOS(14)	5	14	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	1000010000b	black on red, No flashing
L_CAPTION(14)	6	5	Caption="BUT96"
X_CAPTION(14,1)	8	"B"	
X_CAPTION(14,2)	8	"U"	
X_CAPTION(14,3)	8	"T"	
X_CAPTION(14,4)	8	"9"	
X_CAPTION(14,5)	8	"6"	
NID_BUTTON(15)	8	112	Button 112
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	1000010000b	black on red, No flashing
L_CAPTION(15)	6	6	Caption="BUT112"
X_CAPTION(15,1)	8	"B"	
X_CAPTION(15,2)	8	"U"	
X_CAPTION(15,3)	8	"T"	
X_CAPTION(15,4)	8	"1"	
X_CAPTION(15,5)	8	"1"	
X_CAPTION(15,6)	8	"2"	
NID_BUTTON(16)	8	128	Button 128
NID_BUTPOS(16)	5	16	



NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	1000010000b	black on red, No flashing
L_CAPTION(16)	6	6	Caption="BUT128"
X_CAPTION(16,1)	8	"B"	
X_CAPTION(16,2)	8	"U"	
X_CAPTION(16,3)	8	"T"	
X_CAPTION(16,4)	8	"1"	
X_CAPTION(16,5)	8	"2"	
X_CAPTION(16,6)	8	"8"	
Padding bits	5	00000b	

Message-S2: STM requests display of 16 buttons at positions 1-16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	154	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1186, N=16, ID=128, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			
(2): ID=112, P=2, IC=0, MI=1000010000b, L=4, T="POS2"		(3): ID=96, P=3, IC=0, MI=1000010000b, L=4, T="POS3"	
(4): ID=80, P=4, IC=0, MI=1000010000b, L=4, T="POS4"		(5): ID=64, P=5, IC=0, MI=1000010000b, L=4, T="POS5"	
(6): ID=48, P=6, IC=0, MI=1000010000b, L=4, T="POS6"		(7): ID=32, P=7, IC=0, MI=1000010000b, L=4, T="POS7"	
(8): ID=16, P=8, IC=0, MI=1000010000b, L=4, T="POS8"		(9): ID=8, P=9, IC=0, MI=1000010000b, L=4, T="POS9"	
(10): ID=7, P=10, IC=0, MI=1000010000b, L=5, T="POS10"		(11): ID=6, P=11, IC=0, MI=1000010000b, L=5, T="POS11"	
(12): ID=5, P=12, IC=0, MI=1000010000b, L=5, T="POS12"		(13): ID=4, P=13, IC=0, MI=1000010000b, L=5, T="POS13"	



(14): ID=3, P=14, IC=0, MI=1000010000b, L=5, T="POS14"	(15): ID=2, P=15, IC=0, MI=1000010000b, L=5, T="POS15"
(16): ID=1, P=16, IC=0, MI=1000010000b, L=5, T="POS16"	

Message-S3: STM requests display of 3 buttons at positions 17-19			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	38	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=257, N=3, ID=128, P=17, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="POS17"			
(2): ID=96, P=18, IC=0, MI=1000010000b, L=5, T="POS18"	(3): ID=64, P=19, IC=0, MI=1000010000b, L=5, T="POS19"		

### 2.3.29 Test Case 7c3.9

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.2.0.(7c4)*.0.1.(7c4)*.0 with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)
	Button events test for DMI configuration 7a.9 with SK technology: First buttons are displayed with captions in sets of 8 buttons at once at positions 1-8 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all available button positions and the click and press test is performed for each position.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11 via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4



	ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
<b>ERTMS/ETCS on-board configuration</b>	For active STM: DMI configuration 7a.9.
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c3.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 8 at positions 1-8	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption B1 - B8 are displayed at positions 1-8
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
8	Click and press test for button 7	DMI	T0+95s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
9	Click and press test for button 8	DMI	T0+110s	Click and press test is performed	PROF		ETCS onboard reports button events for

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				for button 8			button 8 according to test 7c4.1
10	STM requests display of buttons 9 - 16 at positions 1-8	PROF	T0+125s	connection of active DMI channel: Message-S2	DMI		Buttons with caption B9 - B16 are displayed at positions 1-8
11	Click and press test for button 9	DMI	T0+130s	Click and press test is performed for button 9	PROF		ETCS onboard reports button events for button 9 according to test 7c4.1
12	Click and press test for button 10	DMI	T0+145s	Click and press test is performed for button 10	PROF		ETCS onboard reports button events for button 10 according to test 7c4.1
13	Click and press test for button 11	DMI	T0+160s	Click and press test is performed for button 11	PROF		ETCS onboard reports button events for button 11 according to test 7c4.1
14	Click and press test for button 12	DMI	T0+175s	Click and press test is performed for button 12	PROF		ETCS onboard reports button events for button 12 according to test 7c4.1
15	Click and press test for button 13	DMI	T0+190s	Click and press test is performed for button 13	PROF		ETCS onboard reports button events for button 13 according to test 7c4.1
16	Click and press test for button 14	DMI	T0+205s	Click and press test is performed for button 14	PROF		ETCS onboard reports button events for button 14 according to test 7c4.1
17	Click and press test for button 15	DMI	T0+220s	Click and press test is performed for button 15	PROF		ETCS onboard reports button events for button 15 according to test 7c4.1
18	Click and press test for button 16	DMI	T0+235s	Click and press test is performed for button 16	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
19	STM requests display of 8 buttons at positions 1-8	PROF	T0+250s	connection of active DMI channel: Message-S3	DMI		Buttons with caption POS1 - POS8 are displayed at positions 1-8
20	Click and press test for button at position 1	DMI	T0+255s	Click and press test is performed for button 16 at position 1	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
21	Click and press test for button at position 2	DMI	T0+270s	Click and press test is performed for button 14 at position 2	PROF		ETCS onboard reports button events for button 14 according to test 7c4.1
22	Click and press test for button at position 3	DMI	T0+285s	Click and press test is performed for button 12 at position 3	PROF		ETCS onboard reports button events for button 12 according to test 7c4.1
23	Click and press test for button at position 4	DMI	T0+300s	Click and press test is performed for button 10 at position 4	PROF		ETCS onboard reports button events for button 10 according to test 7c4.1



24	Click and press test for button at position 5	DMI	T0+315s	Click and press test is performed for button 8 at position 5	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
25	Click and press test for button at position 6	DMI	T0+330s	Click and press test is performed for button 6 at position 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
26	Click and press test for button at position 7	DMI	T0+345s	Click and press test is performed for button 4 at position 7	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
27	Click and press test for button at position 8	DMI	T0+360s	Click and press test is performed for button 2 at position 8	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1

Message-S1: STM requests display of buttons 1 - 8 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	62	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	450	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	2	Caption="B1"
X_CAPTION(1,1)	8	"B"	





X_CAPTION(1,2)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	2	Caption="B2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	2	Caption="B3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	2	Caption="B4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"4"	
NID_BUTTON(5)	8	5	Button 5



NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	2	Caption="B5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing
L_CAPTION(6)	6	2	Caption="B6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	2	Caption="B7"
X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	



M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	2	Caption="B8"
X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"8"	
Padding bits	5	00000b	

Message-S2: STM requests display of buttons 9 - 16 at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	69	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=506, N=8, ID=9, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=2, T="B9"			
(2): ID=10, P=2, IC=0, MI=1000010000b, L=3, T="B10"		(3): ID=11, P=3, IC=0, MI=1000010000b, L=3, T="B11"	
(4): ID=12, P=4, IC=0, MI=1000010000b, L=3, T="B12"		(5): ID=13, P=5, IC=0, MI=1000010000b, L=3, T="B13"	
(6): ID=14, P=6, IC=0, MI=1000010000b, L=3, T="B14"		(7): ID=15, P=7, IC=0, MI=1000010000b, L=3, T="B15"	
(8): ID=16, P=8, IC=0, MI=1000010000b, L=3, T="B16"			

Message-S3: STM requests display of 8 buttons at positions 1-8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=578, N=8, ID=16, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			



(2): ID=14, P=2, IC=0, MI=1000010000b, L=4, T="POS2"	(3): ID=12, P=3, IC=0, MI=1000010000b, L=4, T="POS3"
(4): ID=10, P=4, IC=0, MI=1000010000b, L=4, T="POS4"	(5): ID=8, P=5, IC=0, MI=1000010000b, L=4, T="POS5"
(6): ID=6, P=6, IC=0, MI=1000010000b, L=4, T="POS6"	(7): ID=4, P=7, IC=0, MI=1000010000b, L=4, T="POS7"
(8): ID=2, P=8, IC=0, MI=1000010000b, L=4, T="POS8"	

### 2.3.30 Test Case 7c3.10

TEST CASE HEADER	
Test case identification	DMI Function
	7c3.0.2.0.(7c4)*.0.2.(7c4)*.0
	with path for 7c4 = (7c4.0.1.)(7c4.0.2.)(7c4.0.3.)
	<p>Button events test for DMI configuration 7a.9 with TS technology:</p> <p>First buttons are displayed with captions in sets of 24 buttons at once at positions 1-24 and the click and press test is performed for each button of the set. Button sets are displayed and tested in a loop until all buttons are tested. Then a button is displayed at all available button positions and the click and press test is performed for each position.</p>
ERTMS/ETCS on-board requirements tested	<p>SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.3, 13.4.1.4, 13.4.1.9, 13.4.1.11</p> <p>via click and press test 7c4.1 for single button: 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4</p>
	ERA ERTMS 015560 (DMI Spec) via click and press test 7c4.1 for single button: 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32, via click and press test 7c4.1 for single button: STM-34
ERTMS/ETCS on-board configuration	For active STM: DMI configuration 7a.9.
Comments and constraints	Starting and end conditions as for test case 7c3.1



# ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1 - 24 at positions 1-24	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons with caption B1 - B24 are displayed at positions 1-24
2	Click and press test for button 1	DMI	T0+5s	Click and press test is performed for button 1	PROF		ETCS onboard reports button events for button 1 according to test 7c4.1
3	Click and press test for button 2	DMI	T0+20s	Click and press test is performed for button 2	PROF		ETCS onboard reports button events for button 2 according to test 7c4.1
4	Click and press test for button 3	DMI	T0+35s	Click and press test is performed for button 3	PROF		ETCS onboard reports button events for button 3 according to test 7c4.1
5	Click and press test for button 4	DMI	T0+50s	Click and press test is performed for button 4	PROF		ETCS onboard reports button events for button 4 according to test 7c4.1
6	Click and press test for button 5	DMI	T0+65s	Click and press test is performed for button 5	PROF		ETCS onboard reports button events for button 5 according to test 7c4.1
7	Click and press test for button 6	DMI	T0+80s	Click and press test is performed for button 6	PROF		ETCS onboard reports button events for button 6 according to test 7c4.1
8	Click and press test for button 7	DMI	T0+95s	Click and press test is performed for button 7	PROF		ETCS onboard reports button events for button 7 according to test 7c4.1
9	Click and press test for button 8	DMI	T0+110s	Click and press test is performed for button 8	PROF		ETCS onboard reports button events for button 8 according to test 7c4.1
10	Click and press test for button 9	DMI	T0+125s	Click and press test is performed for button 9	PROF		ETCS onboard reports button events for button 9 according to test 7c4.1
11	Click and press test for button 10	DMI	T0+140s	Click and press test is performed for button 10	PROF		ETCS onboard reports button events for button 10 according to test 7c4.1
12	Click and press test for button 11	DMI	T0+155s	Click and press test is performed for button 11	PROF		ETCS onboard reports button events for button 11 according to test 7c4.1
13	Click and press test for button 12	DMI	T0+170s	Click and press test is performed for button 12	PROF		ETCS onboard reports button events for button 12 according to test 7c4.1

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14	Click and press test for button 13	DMI	T0+185s	Click and press test is performed for button 13	PROF		ETCS onboard reports button events for button 13 according to test 7c4.1
15	Click and press test for button 14	DMI	T0+200s	Click and press test is performed for button 14	PROF		ETCS onboard reports button events for button 14 according to test 7c4.1
16	Click and press test for button 15	DMI	T0+215s	Click and press test is performed for button 15	PROF		ETCS onboard reports button events for button 15 according to test 7c4.1
17	Click and press test for button 16	DMI	T0+230s	Click and press test is performed for button 16	PROF		ETCS onboard reports button events for button 16 according to test 7c4.1
18	Click and press test for button 17	DMI	T0+245s	Click and press test is performed for button 17	PROF		ETCS onboard reports button events for button 17 according to test 7c4.1
19	Click and press test for button 18	DMI	T0+260s	Click and press test is performed for button 18	PROF		ETCS onboard reports button events for button 18 according to test 7c4.1
20	Click and press test for button 19	DMI	T0+275s	Click and press test is performed for button 19	PROF		ETCS onboard reports button events for button 19 according to test 7c4.1
21	Click and press test for button 20	DMI	T0+290s	Click and press test is performed for button 20	PROF		ETCS onboard reports button events for button 20 according to test 7c4.1
22	Click and press test for button 21	DMI	T0+305s	Click and press test is performed for button 21	PROF		ETCS onboard reports button events for button 21 according to test 7c4.1
23	Click and press test for button 22	DMI	T0+320s	Click and press test is performed for button 22	PROF		ETCS onboard reports button events for button 22 according to test 7c4.1
24	Click and press test for button 23	DMI	T0+335s	Click and press test is performed for button 23	PROF		ETCS onboard reports button events for button 23 according to test 7c4.1
25	Click and press test for button 24	DMI	T0+350s	Click and press test is performed for button 24	PROF		ETCS onboard reports button events for button 24 according to test 7c4.1
26	STM requests display of buttons 25 - 48 at positions 1-24	PROF	T0+365s	connection of active DMI channel: Message-S2	DMI		Buttons with caption B25 - B48 are displayed at positions 1-24
27	Click and press test for button 25	DMI	T0+370s	Click and press test is performed for button 25	PROF		ETCS onboard reports button events for button 25 according to test 7c4.1



28	Click and press test for button 26	DMI	T0+385s	Click and press test is performed for button 26	PROF		ETCS onboard reports button events for button 26 according to test 7c4.1
29	Click and press test for button 27	DMI	T0+400s	Click and press test is performed for button 27	PROF		ETCS onboard reports button events for button 27 according to test 7c4.1
30	Click and press test for button 28	DMI	T0+415s	Click and press test is performed for button 28	PROF		ETCS onboard reports button events for button 28 according to test 7c4.1
31	Click and press test for button 29	DMI	T0+430s	Click and press test is performed for button 29	PROF		ETCS onboard reports button events for button 29 according to test 7c4.1
32	Click and press test for button 30	DMI	T0+445s	Click and press test is performed for button 30	PROF		ETCS onboard reports button events for button 30 according to test 7c4.1
33	Click and press test for button 31	DMI	T0+460s	Click and press test is performed for button 31	PROF		ETCS onboard reports button events for button 31 according to test 7c4.1
34	Click and press test for button 32	DMI	T0+475s	Click and press test is performed for button 32	PROF		ETCS onboard reports button events for button 32 according to test 7c4.1
35	Click and press test for button 33	DMI	T0+490s	Click and press test is performed for button 33	PROF		ETCS onboard reports button events for button 33 according to test 7c4.1
36	Click and press test for button 34	DMI	T0+505s	Click and press test is performed for button 34	PROF		ETCS onboard reports button events for button 34 according to test 7c4.1
37	Click and press test for button 35	DMI	T0+520s	Click and press test is performed for button 35	PROF		ETCS onboard reports button events for button 35 according to test 7c4.1
38	Click and press test for button 36	DMI	T0+535s	Click and press test is performed for button 36	PROF		ETCS onboard reports button events for button 36 according to test 7c4.1
39	Click and press test for button 37	DMI	T0+550s	Click and press test is performed for button 37	PROF		ETCS onboard reports button events for button 37 according to test 7c4.1
40	Click and press test for button 38	DMI	T0+565s	Click and press test is performed for button 38	PROF		ETCS onboard reports button events for button 38 according to test 7c4.1
41	Click and press test for button 39	DMI	T0+580s	Click and press test is performed for button 39	PROF		ETCS onboard reports button events for button 39 according to test 7c4.1



42	Click and press test for button 40	DMI	T0+595s	Click and press test is performed for button 40	PROF		ETCS onboard reports button events for button 40 according to test 7c4.1
43	Click and press test for button 41	DMI	T0+610s	Click and press test is performed for button 41	PROF		ETCS onboard reports button events for button 41 according to test 7c4.1
44	Click and press test for button 42	DMI	T0+625s	Click and press test is performed for button 42	PROF		ETCS onboard reports button events for button 42 according to test 7c4.1
45	Click and press test for button 43	DMI	T0+640s	Click and press test is performed for button 43	PROF		ETCS onboard reports button events for button 43 according to test 7c4.1
46	Click and press test for button 44	DMI	T0+655s	Click and press test is performed for button 44	PROF		ETCS onboard reports button events for button 44 according to test 7c4.1
47	Click and press test for button 45	DMI	T0+670s	Click and press test is performed for button 45	PROF		ETCS onboard reports button events for button 45 according to test 7c4.1
48	Click and press test for button 46	DMI	T0+685s	Click and press test is performed for button 46	PROF		ETCS onboard reports button events for button 46 according to test 7c4.1
49	Click and press test for button 47	DMI	T0+700s	Click and press test is performed for button 47	PROF		ETCS onboard reports button events for button 47 according to test 7c4.1
50	Click and press test for button 48	DMI	T0+715s	Click and press test is performed for button 48	PROF		ETCS onboard reports button events for button 48 according to test 7c4.1
51	STM requests display of buttons 49 - 72 at positions 1-24	PROF	T0+730s	connection of active DMI channel: Message-S3	DMI		Buttons with caption B49 - B72 are displayed at positions 1-24
52	Click and press test for button 49	DMI	T0+735s	Click and press test is performed for button 49	PROF		ETCS onboard reports button events for button 49 according to test 7c4.1
53	Click and press test for button 50	DMI	T0+750s	Click and press test is performed for button 50	PROF		ETCS onboard reports button events for button 50 according to test 7c4.1
54	Click and press test for button 51	DMI	T0+765s	Click and press test is performed for button 51	PROF		ETCS onboard reports button events for button 51 according to test 7c4.1
55	Click and press test for button 52	DMI	T0+780s	Click and press test is performed for button 52	PROF		ETCS onboard reports button events for button 52 according to test 7c4.1





56	Click and press test for button 53	DMI	T0+795s	Click and press test is performed for button 53	PROF		ETCS onboard reports button events for button 53 according to test 7c4.1
57	Click and press test for button 54	DMI	T0+810s	Click and press test is performed for button 54	PROF		ETCS onboard reports button events for button 54 according to test 7c4.1
58	Click and press test for button 55	DMI	T0+825s	Click and press test is performed for button 55	PROF		ETCS onboard reports button events for button 55 according to test 7c4.1
59	Click and press test for button 56	DMI	T0+840s	Click and press test is performed for button 56	PROF		ETCS onboard reports button events for button 56 according to test 7c4.1
60	Click and press test for button 57	DMI	T0+855s	Click and press test is performed for button 57	PROF		ETCS onboard reports button events for button 57 according to test 7c4.1
61	Click and press test for button 58	DMI	T0+870s	Click and press test is performed for button 58	PROF		ETCS onboard reports button events for button 58 according to test 7c4.1
62	Click and press test for button 59	DMI	T0+885s	Click and press test is performed for button 59	PROF		ETCS onboard reports button events for button 59 according to test 7c4.1
63	Click and press test for button 60	DMI	T0+900s	Click and press test is performed for button 60	PROF		ETCS onboard reports button events for button 60 according to test 7c4.1
64	Click and press test for button 61	DMI	T0+915s	Click and press test is performed for button 61	PROF		ETCS onboard reports button events for button 61 according to test 7c4.1
65	Click and press test for button 62	DMI	T0+930s	Click and press test is performed for button 62	PROF		ETCS onboard reports button events for button 62 according to test 7c4.1
66	Click and press test for button 63	DMI	T0+945s	Click and press test is performed for button 63	PROF		ETCS onboard reports button events for button 63 according to test 7c4.1
67	Click and press test for button 64	DMI	T0+960s	Click and press test is performed for button 64	PROF		ETCS onboard reports button events for button 64 according to test 7c4.1
68	Click and press test for button 65	DMI	T0+975s	Click and press test is performed for button 65	PROF		ETCS onboard reports button events for button 65 according to test 7c4.1
69	Click and press test for button 66	DMI	T0+990s	Click and press test is performed for button 66	PROF		ETCS onboard reports button events for button 66 according to test 7c4.1



70	Click and press test for button 67	DMI	T0+1005s	Click and press test is performed for button 67	PROF		ETCS onboard reports button events for button 67 according to test 7c4.1
71	Click and press test for button 68	DMI	T0+1020s	Click and press test is performed for button 68	PROF		ETCS onboard reports button events for button 68 according to test 7c4.1
72	Click and press test for button 69	DMI	T0+1035s	Click and press test is performed for button 69	PROF		ETCS onboard reports button events for button 69 according to test 7c4.1
73	Click and press test for button 70	DMI	T0+1050s	Click and press test is performed for button 70	PROF		ETCS onboard reports button events for button 70 according to test 7c4.1
74	Click and press test for button 71	DMI	T0+1065s	Click and press test is performed for button 71	PROF		ETCS onboard reports button events for button 71 according to test 7c4.1
75	Click and press test for button 72	DMI	T0+1080s	Click and press test is performed for button 72	PROF		ETCS onboard reports button events for button 72 according to test 7c4.1
76	STM requests display of buttons 73 - 96 at positions 1-24	PROF	T0+1095s	connection of active DMI channel: Message-S4	DMI		Buttons with caption B73 - B96 are displayed at positions 1-24
77	Click and press test for button 73	DMI	T0+1100s	Click and press test is performed for button 73	PROF		ETCS onboard reports button events for button 73 according to test 7c4.1
78	Click and press test for button 74	DMI	T0+1115s	Click and press test is performed for button 74	PROF		ETCS onboard reports button events for button 74 according to test 7c4.1
79	Click and press test for button 75	DMI	T0+1130s	Click and press test is performed for button 75	PROF		ETCS onboard reports button events for button 75 according to test 7c4.1
80	Click and press test for button 76	DMI	T0+1145s	Click and press test is performed for button 76	PROF		ETCS onboard reports button events for button 76 according to test 7c4.1
81	Click and press test for button 77	DMI	T0+1160s	Click and press test is performed for button 77	PROF		ETCS onboard reports button events for button 77 according to test 7c4.1
82	Click and press test for button 78	DMI	T0+1175s	Click and press test is performed for button 78	PROF		ETCS onboard reports button events for button 78 according to test 7c4.1
83	Click and press test for button 79	DMI	T0+1190s	Click and press test is performed for button 79	PROF		ETCS onboard reports button events for button 79 according to test 7c4.1



84	Click and press test for button 80	DMI	T0+1205s	Click and press test is performed for button 80	PROF		ETCS onboard reports button events for button 80 according to test 7c4.1
85	Click and press test for button 81	DMI	T0+1220s	Click and press test is performed for button 81	PROF		ETCS onboard reports button events for button 81 according to test 7c4.1
86	Click and press test for button 82	DMI	T0+1235s	Click and press test is performed for button 82	PROF		ETCS onboard reports button events for button 82 according to test 7c4.1
87	Click and press test for button 83	DMI	T0+1250s	Click and press test is performed for button 83	PROF		ETCS onboard reports button events for button 83 according to test 7c4.1
88	Click and press test for button 84	DMI	T0+1265s	Click and press test is performed for button 84	PROF		ETCS onboard reports button events for button 84 according to test 7c4.1
89	Click and press test for button 85	DMI	T0+1280s	Click and press test is performed for button 85	PROF		ETCS onboard reports button events for button 85 according to test 7c4.1
90	Click and press test for button 86	DMI	T0+1295s	Click and press test is performed for button 86	PROF		ETCS onboard reports button events for button 86 according to test 7c4.1
91	Click and press test for button 87	DMI	T0+1310s	Click and press test is performed for button 87	PROF		ETCS onboard reports button events for button 87 according to test 7c4.1
92	Click and press test for button 88	DMI	T0+1325s	Click and press test is performed for button 88	PROF		ETCS onboard reports button events for button 88 according to test 7c4.1
93	Click and press test for button 89	DMI	T0+1340s	Click and press test is performed for button 89	PROF		ETCS onboard reports button events for button 89 according to test 7c4.1
94	Click and press test for button 90	DMI	T0+1355s	Click and press test is performed for button 90	PROF		ETCS onboard reports button events for button 90 according to test 7c4.1
95	Click and press test for button 91	DMI	T0+1370s	Click and press test is performed for button 91	PROF		ETCS onboard reports button events for button 91 according to test 7c4.1
96	Click and press test for button 92	DMI	T0+1385s	Click and press test is performed for button 92	PROF		ETCS onboard reports button events for button 92 according to test 7c4.1
97	Click and press test for button 93	DMI	T0+1400s	Click and press test is performed for button 93	PROF		ETCS onboard reports button events for button 93 according to test 7c4.1



98	Click and press test for button 94	DMI	T0+1415s	Click and press test is performed for button 94	PROF		ETCS onboard reports button events for button 94 according to test 7c4.1
99	Click and press test for button 95	DMI	T0+1430s	Click and press test is performed for button 95	PROF		ETCS onboard reports button events for button 95 according to test 7c4.1
100	Click and press test for button 96	DMI	T0+1445s	Click and press test is performed for button 96	PROF		ETCS onboard reports button events for button 96 according to test 7c4.1
101	STM requests display of buttons 97 - 120 at positions 1-24	PROF	T0+1460s	connection of active DMI channel: Message-S5	DMI		Buttons with caption B97 - B120 are displayed at positions 1-24
102	Click and press test for button 97	DMI	T0+1465s	Click and press test is performed for button 97	PROF		ETCS onboard reports button events for button 97 according to test 7c4.1
103	Click and press test for button 98	DMI	T0+1480s	Click and press test is performed for button 98	PROF		ETCS onboard reports button events for button 98 according to test 7c4.1
104	Click and press test for button 99	DMI	T0+1495s	Click and press test is performed for button 99	PROF		ETCS onboard reports button events for button 99 according to test 7c4.1
105	Click and press test for button 100	DMI	T0+1510s	Click and press test is performed for button 100	PROF		ETCS onboard reports button events for button 100 according to test 7c4.1
106	Click and press test for button 101	DMI	T0+1525s	Click and press test is performed for button 101	PROF		ETCS onboard reports button events for button 101 according to test 7c4.1
107	Click and press test for button 102	DMI	T0+1540s	Click and press test is performed for button 102	PROF		ETCS onboard reports button events for button 102 according to test 7c4.1
108	Click and press test for button 103	DMI	T0+1555s	Click and press test is performed for button 103	PROF		ETCS onboard reports button events for button 103 according to test 7c4.1
109	Click and press test for button 104	DMI	T0+1570s	Click and press test is performed for button 104	PROF		ETCS onboard reports button events for button 104 according to test 7c4.1
110	Click and press test for button 105	DMI	T0+1585s	Click and press test is performed for button 105	PROF		ETCS onboard reports button events for button 105 according to test 7c4.1
111	Click and press test for button 106	DMI	T0+1600s	Click and press test is performed for button 106	PROF		ETCS onboard reports button events for button 106 according to test 7c4.1



112	Click and press test for button 107	DMI	T0+1615s	Click and press test is performed for button 107	PROF		ETCS onboard reports button events for button 107 according to test 7c4.1
113	Click and press test for button 108	DMI	T0+1630s	Click and press test is performed for button 108	PROF		ETCS onboard reports button events for button 108 according to test 7c4.1
114	Click and press test for button 109	DMI	T0+1645s	Click and press test is performed for button 109	PROF		ETCS onboard reports button events for button 109 according to test 7c4.1
115	Click and press test for button 110	DMI	T0+1660s	Click and press test is performed for button 110	PROF		ETCS onboard reports button events for button 110 according to test 7c4.1
116	Click and press test for button 111	DMI	T0+1675s	Click and press test is performed for button 111	PROF		ETCS onboard reports button events for button 111 according to test 7c4.1
117	Click and press test for button 112	DMI	T0+1690s	Click and press test is performed for button 112	PROF		ETCS onboard reports button events for button 112 according to test 7c4.1
118	Click and press test for button 113	DMI	T0+1705s	Click and press test is performed for button 113	PROF		ETCS onboard reports button events for button 113 according to test 7c4.1
119	Click and press test for button 114	DMI	T0+1720s	Click and press test is performed for button 114	PROF		ETCS onboard reports button events for button 114 according to test 7c4.1
120	Click and press test for button 115	DMI	T0+1735s	Click and press test is performed for button 115	PROF		ETCS onboard reports button events for button 115 according to test 7c4.1
121	Click and press test for button 116	DMI	T0+1750s	Click and press test is performed for button 116	PROF		ETCS onboard reports button events for button 116 according to test 7c4.1
122	Click and press test for button 117	DMI	T0+1765s	Click and press test is performed for button 117	PROF		ETCS onboard reports button events for button 117 according to test 7c4.1
123	Click and press test for button 118	DMI	T0+1780s	Click and press test is performed for button 118	PROF		ETCS onboard reports button events for button 118 according to test 7c4.1
124	Click and press test for button 119	DMI	T0+1795s	Click and press test is performed for button 119	PROF		ETCS onboard reports button events for button 119 according to test 7c4.1
125	Click and press test for button 120	DMI	T0+1810s	Click and press test is performed for button 120	PROF		ETCS onboard reports button events for button 120 according to test 7c4.1



126	STM requests display of buttons 121 - 144 at positions 1-24	PROF	T0+1825s	connection of active DMI channel: Message-S6	DMI		Buttons with caption B121 - B144 are displayed at positions 1-24
127	Click and press test for button 121	DMI	T0+1830s	Click and press test is performed for button 121	PROF		ETCS onboard reports button events for button 121 according to test 7c4.1
128	Click and press test for button 122	DMI	T0+1845s	Click and press test is performed for button 122	PROF		ETCS onboard reports button events for button 122 according to test 7c4.1
129	Click and press test for button 123	DMI	T0+1860s	Click and press test is performed for button 123	PROF		ETCS onboard reports button events for button 123 according to test 7c4.1
130	Click and press test for button 124	DMI	T0+1875s	Click and press test is performed for button 124	PROF		ETCS onboard reports button events for button 124 according to test 7c4.1
131	Click and press test for button 125	DMI	T0+1890s	Click and press test is performed for button 125	PROF		ETCS onboard reports button events for button 125 according to test 7c4.1
132	Click and press test for button 126	DMI	T0+1905s	Click and press test is performed for button 126	PROF		ETCS onboard reports button events for button 126 according to test 7c4.1
133	Click and press test for button 127	DMI	T0+1920s	Click and press test is performed for button 127	PROF		ETCS onboard reports button events for button 127 according to test 7c4.1
134	Click and press test for button 128	DMI	T0+1935s	Click and press test is performed for button 128	PROF		ETCS onboard reports button events for button 128 according to test 7c4.1
135	Click and press test for button 129	DMI	T0+1950s	Click and press test is performed for button 129	PROF		ETCS onboard reports button events for button 129 according to test 7c4.1
136	Click and press test for button 130	DMI	T0+1965s	Click and press test is performed for button 130	PROF		ETCS onboard reports button events for button 130 according to test 7c4.1
137	Click and press test for button 131	DMI	T0+1980s	Click and press test is performed for button 131	PROF		ETCS onboard reports button events for button 131 according to test 7c4.1
138	Click and press test for button 132	DMI	T0+1995s	Click and press test is performed for button 132	PROF		ETCS onboard reports button events for button 132 according to test 7c4.1
139	Click and press test for button 133	DMI	T0+2010s	Click and press test is performed for button 133	PROF		ETCS onboard reports button events for button 133 according to test 7c4.1



140	Click and press test for button 134	DMI	T0+2025s	Click and press test is performed for button 134	PROF		ETCS onboard reports button events for button 134 according to test 7c4.1
141	Click and press test for button 135	DMI	T0+2040s	Click and press test is performed for button 135	PROF		ETCS onboard reports button events for button 135 according to test 7c4.1
142	Click and press test for button 136	DMI	T0+2055s	Click and press test is performed for button 136	PROF		ETCS onboard reports button events for button 136 according to test 7c4.1
143	Click and press test for button 137	DMI	T0+2070s	Click and press test is performed for button 137	PROF		ETCS onboard reports button events for button 137 according to test 7c4.1
144	Click and press test for button 138	DMI	T0+2085s	Click and press test is performed for button 138	PROF		ETCS onboard reports button events for button 138 according to test 7c4.1
145	Click and press test for button 139	DMI	T0+2100s	Click and press test is performed for button 139	PROF		ETCS onboard reports button events for button 139 according to test 7c4.1
146	Click and press test for button 140	DMI	T0+2115s	Click and press test is performed for button 140	PROF		ETCS onboard reports button events for button 140 according to test 7c4.1
147	Click and press test for button 141	DMI	T0+2130s	Click and press test is performed for button 141	PROF		ETCS onboard reports button events for button 141 according to test 7c4.1
148	Click and press test for button 142	DMI	T0+2145s	Click and press test is performed for button 142	PROF		ETCS onboard reports button events for button 142 according to test 7c4.1
149	Click and press test for button 143	DMI	T0+2160s	Click and press test is performed for button 143	PROF		ETCS onboard reports button events for button 143 according to test 7c4.1
150	Click and press test for button 144	DMI	T0+2175s	Click and press test is performed for button 144	PROF		ETCS onboard reports button events for button 144 according to test 7c4.1
151	STM requests display of buttons 145 - 168 at positions 1-24	PROF	T0+2190s	connection of active DMI channel: Message-S7	DMI		Buttons with caption B145 - B168 are displayed at positions 1-24
152	Click and press test for button 145	DMI	T0+2195s	Click and press test is performed for button 145	PROF		ETCS onboard reports button events for button 145 according to test 7c4.1
153	Click and press test for button 146	DMI	T0+2210s	Click and press test is performed for button 146	PROF		ETCS onboard reports button events for button 146 according to test 7c4.1





154	Click and press test for button 147	DMI	T0+2225s	Click and press test is performed for button 147	PROF		ETCS onboard reports button events for button 147 according to test 7c4.1
155	Click and press test for button 148	DMI	T0+2240s	Click and press test is performed for button 148	PROF		ETCS onboard reports button events for button 148 according to test 7c4.1
156	Click and press test for button 149	DMI	T0+2255s	Click and press test is performed for button 149	PROF		ETCS onboard reports button events for button 149 according to test 7c4.1
157	Click and press test for button 150	DMI	T0+2270s	Click and press test is performed for button 150	PROF		ETCS onboard reports button events for button 150 according to test 7c4.1
158	Click and press test for button 151	DMI	T0+2285s	Click and press test is performed for button 151	PROF		ETCS onboard reports button events for button 151 according to test 7c4.1
159	Click and press test for button 152	DMI	T0+2300s	Click and press test is performed for button 152	PROF		ETCS onboard reports button events for button 152 according to test 7c4.1
160	Click and press test for button 153	DMI	T0+2315s	Click and press test is performed for button 153	PROF		ETCS onboard reports button events for button 153 according to test 7c4.1
161	Click and press test for button 154	DMI	T0+2330s	Click and press test is performed for button 154	PROF		ETCS onboard reports button events for button 154 according to test 7c4.1
162	Click and press test for button 155	DMI	T0+2345s	Click and press test is performed for button 155	PROF		ETCS onboard reports button events for button 155 according to test 7c4.1
163	Click and press test for button 156	DMI	T0+2360s	Click and press test is performed for button 156	PROF		ETCS onboard reports button events for button 156 according to test 7c4.1
164	Click and press test for button 157	DMI	T0+2375s	Click and press test is performed for button 157	PROF		ETCS onboard reports button events for button 157 according to test 7c4.1
165	Click and press test for button 158	DMI	T0+2390s	Click and press test is performed for button 158	PROF		ETCS onboard reports button events for button 158 according to test 7c4.1
166	Click and press test for button 159	DMI	T0+2405s	Click and press test is performed for button 159	PROF		ETCS onboard reports button events for button 159 according to test 7c4.1
167	Click and press test for button 160	DMI	T0+2420s	Click and press test is performed for button 160	PROF		ETCS onboard reports button events for button 160 according to test 7c4.1





168	Click and press test for button 161	DMI	T0+2435s	Click and press test is performed for button 161	PROF		ETCS onboard reports button events for button 161 according to test 7c4.1
169	Click and press test for button 162	DMI	T0+2450s	Click and press test is performed for button 162	PROF		ETCS onboard reports button events for button 162 according to test 7c4.1
170	Click and press test for button 163	DMI	T0+2465s	Click and press test is performed for button 163	PROF		ETCS onboard reports button events for button 163 according to test 7c4.1
171	Click and press test for button 164	DMI	T0+2480s	Click and press test is performed for button 164	PROF		ETCS onboard reports button events for button 164 according to test 7c4.1
172	Click and press test for button 165	DMI	T0+2495s	Click and press test is performed for button 165	PROF		ETCS onboard reports button events for button 165 according to test 7c4.1
173	Click and press test for button 166	DMI	T0+2510s	Click and press test is performed for button 166	PROF		ETCS onboard reports button events for button 166 according to test 7c4.1
174	Click and press test for button 167	DMI	T0+2525s	Click and press test is performed for button 167	PROF		ETCS onboard reports button events for button 167 according to test 7c4.1
175	Click and press test for button 168	DMI	T0+2540s	Click and press test is performed for button 168	PROF		ETCS onboard reports button events for button 168 according to test 7c4.1
176	STM requests display of buttons 169 - 192 at positions 1-24	PROF	T0+2555s	connection of active DMI channel: Message-S8	DMI		Buttons with caption B169 - B192 are displayed at positions 1-24
177	Click and press test for button 169	DMI	T0+2560s	Click and press test is performed for button 169	PROF		ETCS onboard reports button events for button 169 according to test 7c4.1
178	Click and press test for button 170	DMI	T0+2575s	Click and press test is performed for button 170	PROF		ETCS onboard reports button events for button 170 according to test 7c4.1
179	Click and press test for button 171	DMI	T0+2590s	Click and press test is performed for button 171	PROF		ETCS onboard reports button events for button 171 according to test 7c4.1
180	Click and press test for button 172	DMI	T0+2605s	Click and press test is performed for button 172	PROF		ETCS onboard reports button events for button 172 according to test 7c4.1
181	Click and press test for button 173	DMI	T0+2620s	Click and press test is performed for button 173	PROF		ETCS onboard reports button events for button 173 according to test 7c4.1



182	Click and press test for button 174	DMI	T0+2635s	Click and press test is performed for button 174	PROF		ETCS onboard reports button events for button 174 according to test 7c4.1
183	Click and press test for button 175	DMI	T0+2650s	Click and press test is performed for button 175	PROF		ETCS onboard reports button events for button 175 according to test 7c4.1
184	Click and press test for button 176	DMI	T0+2665s	Click and press test is performed for button 176	PROF		ETCS onboard reports button events for button 176 according to test 7c4.1
185	Click and press test for button 177	DMI	T0+2680s	Click and press test is performed for button 177	PROF		ETCS onboard reports button events for button 177 according to test 7c4.1
186	Click and press test for button 178	DMI	T0+2695s	Click and press test is performed for button 178	PROF		ETCS onboard reports button events for button 178 according to test 7c4.1
187	Click and press test for button 179	DMI	T0+2710s	Click and press test is performed for button 179	PROF		ETCS onboard reports button events for button 179 according to test 7c4.1
188	Click and press test for button 180	DMI	T0+2725s	Click and press test is performed for button 180	PROF		ETCS onboard reports button events for button 180 according to test 7c4.1
189	Click and press test for button 181	DMI	T0+2740s	Click and press test is performed for button 181	PROF		ETCS onboard reports button events for button 181 according to test 7c4.1
190	Click and press test for button 182	DMI	T0+2755s	Click and press test is performed for button 182	PROF		ETCS onboard reports button events for button 182 according to test 7c4.1
191	Click and press test for button 183	DMI	T0+2770s	Click and press test is performed for button 183	PROF		ETCS onboard reports button events for button 183 according to test 7c4.1
192	Click and press test for button 184	DMI	T0+2785s	Click and press test is performed for button 184	PROF		ETCS onboard reports button events for button 184 according to test 7c4.1
193	Click and press test for button 185	DMI	T0+2800s	Click and press test is performed for button 185	PROF		ETCS onboard reports button events for button 185 according to test 7c4.1
194	Click and press test for button 186	DMI	T0+2815s	Click and press test is performed for button 186	PROF		ETCS onboard reports button events for button 186 according to test 7c4.1
195	Click and press test for button 187	DMI	T0+2830s	Click and press test is performed for button 187	PROF		ETCS onboard reports button events for button 187 according to test 7c4.1



196	Click and press test for button 188	DMI	T0+2845s	Click and press test is performed for button 188	PROF		ETCS onboard reports button events for button 188 according to test 7c4.1
197	Click and press test for button 189	DMI	T0+2860s	Click and press test is performed for button 189	PROF		ETCS onboard reports button events for button 189 according to test 7c4.1
198	Click and press test for button 190	DMI	T0+2875s	Click and press test is performed for button 190	PROF		ETCS onboard reports button events for button 190 according to test 7c4.1
199	Click and press test for button 191	DMI	T0+2890s	Click and press test is performed for button 191	PROF		ETCS onboard reports button events for button 191 according to test 7c4.1
200	Click and press test for button 192	DMI	T0+2905s	Click and press test is performed for button 192	PROF		ETCS onboard reports button events for button 192 according to test 7c4.1
201	STM requests display of buttons 193 - 216 at positions 1-24	PROF	T0+2920s	connection of active DMI channel: Message-S9	DMI		Buttons with caption B193 - B216 are displayed at positions 1-24
202	Click and press test for button 193	DMI	T0+2925s	Click and press test is performed for button 193	PROF		ETCS onboard reports button events for button 193 according to test 7c4.1
203	Click and press test for button 194	DMI	T0+2940s	Click and press test is performed for button 194	PROF		ETCS onboard reports button events for button 194 according to test 7c4.1
204	Click and press test for button 195	DMI	T0+2955s	Click and press test is performed for button 195	PROF		ETCS onboard reports button events for button 195 according to test 7c4.1
205	Click and press test for button 196	DMI	T0+2970s	Click and press test is performed for button 196	PROF		ETCS onboard reports button events for button 196 according to test 7c4.1
206	Click and press test for button 197	DMI	T0+2985s	Click and press test is performed for button 197	PROF		ETCS onboard reports button events for button 197 according to test 7c4.1
207	Click and press test for button 198	DMI	T0+3000s	Click and press test is performed for button 198	PROF		ETCS onboard reports button events for button 198 according to test 7c4.1
208	Click and press test for button 199	DMI	T0+3015s	Click and press test is performed for button 199	PROF		ETCS onboard reports button events for button 199 according to test 7c4.1
209	Click and press test for button 200	DMI	T0+3030s	Click and press test is performed for button 200	PROF		ETCS onboard reports button events for button 200 according to test 7c4.1



210	Click and press test for button 201	DMI	T0+3045s	Click and press test is performed for button 201	PROF		ETCS onboard reports button events for button 201 according to test 7c4.1
211	Click and press test for button 202	DMI	T0+3060s	Click and press test is performed for button 202	PROF		ETCS onboard reports button events for button 202 according to test 7c4.1
212	Click and press test for button 203	DMI	T0+3075s	Click and press test is performed for button 203	PROF		ETCS onboard reports button events for button 203 according to test 7c4.1
213	Click and press test for button 204	DMI	T0+3090s	Click and press test is performed for button 204	PROF		ETCS onboard reports button events for button 204 according to test 7c4.1
214	Click and press test for button 205	DMI	T0+3105s	Click and press test is performed for button 205	PROF		ETCS onboard reports button events for button 205 according to test 7c4.1
215	Click and press test for button 206	DMI	T0+3120s	Click and press test is performed for button 206	PROF		ETCS onboard reports button events for button 206 according to test 7c4.1
216	Click and press test for button 207	DMI	T0+3135s	Click and press test is performed for button 207	PROF		ETCS onboard reports button events for button 207 according to test 7c4.1
217	Click and press test for button 208	DMI	T0+3150s	Click and press test is performed for button 208	PROF		ETCS onboard reports button events for button 208 according to test 7c4.1
218	Click and press test for button 209	DMI	T0+3165s	Click and press test is performed for button 209	PROF		ETCS onboard reports button events for button 209 according to test 7c4.1
219	Click and press test for button 210	DMI	T0+3180s	Click and press test is performed for button 210	PROF		ETCS onboard reports button events for button 210 according to test 7c4.1
220	Click and press test for button 211	DMI	T0+3195s	Click and press test is performed for button 211	PROF		ETCS onboard reports button events for button 211 according to test 7c4.1
221	Click and press test for button 212	DMI	T0+3210s	Click and press test is performed for button 212	PROF		ETCS onboard reports button events for button 212 according to test 7c4.1
222	Click and press test for button 213	DMI	T0+3225s	Click and press test is performed for button 213	PROF		ETCS onboard reports button events for button 213 according to test 7c4.1
223	Click and press test for button 214	DMI	T0+3240s	Click and press test is performed for button 214	PROF		ETCS onboard reports button events for button 214 according to test 7c4.1



224	Click and press test for button 215	DMI	T0+3255s	Click and press test is performed for button 215	PROF		ETCS onboard reports button events for button 215 according to test 7c4.1
225	Click and press test for button 216	DMI	T0+3270s	Click and press test is performed for button 216	PROF		ETCS onboard reports button events for button 216 according to test 7c4.1
226	STM requests display of buttons 217 - 240 at positions 1-24	PROF	T0+3285s	connection of active DMI channel: Message-S10	DMI		Buttons with caption B217 - B240 are displayed at positions 1-24
227	Click and press test for button 217	DMI	T0+3290s	Click and press test is performed for button 217	PROF		ETCS onboard reports button events for button 217 according to test 7c4.1
228	Click and press test for button 218	DMI	T0+3305s	Click and press test is performed for button 218	PROF		ETCS onboard reports button events for button 218 according to test 7c4.1
229	Click and press test for button 219	DMI	T0+3320s	Click and press test is performed for button 219	PROF		ETCS onboard reports button events for button 219 according to test 7c4.1
230	Click and press test for button 220	DMI	T0+3335s	Click and press test is performed for button 220	PROF		ETCS onboard reports button events for button 220 according to test 7c4.1
231	Click and press test for button 221	DMI	T0+3350s	Click and press test is performed for button 221	PROF		ETCS onboard reports button events for button 221 according to test 7c4.1
232	Click and press test for button 222	DMI	T0+3365s	Click and press test is performed for button 222	PROF		ETCS onboard reports button events for button 222 according to test 7c4.1
233	Click and press test for button 223	DMI	T0+3380s	Click and press test is performed for button 223	PROF		ETCS onboard reports button events for button 223 according to test 7c4.1
234	Click and press test for button 224	DMI	T0+3395s	Click and press test is performed for button 224	PROF		ETCS onboard reports button events for button 224 according to test 7c4.1
235	Click and press test for button 225	DMI	T0+3410s	Click and press test is performed for button 225	PROF		ETCS onboard reports button events for button 225 according to test 7c4.1
236	Click and press test for button 226	DMI	T0+3425s	Click and press test is performed for button 226	PROF		ETCS onboard reports button events for button 226 according to test 7c4.1
237	Click and press test for button 227	DMI	T0+3440s	Click and press test is performed for button 227	PROF		ETCS onboard reports button events for button 227 according to test 7c4.1



238	Click and press test for button 228	DMI	T0+3455s	Click and press test is performed for button 228	PROF		ETCS onboard reports button events for button 228 according to test 7c4.1
239	Click and press test for button 229	DMI	T0+3470s	Click and press test is performed for button 229	PROF		ETCS onboard reports button events for button 229 according to test 7c4.1
240	Click and press test for button 230	DMI	T0+3485s	Click and press test is performed for button 230	PROF		ETCS onboard reports button events for button 230 according to test 7c4.1
241	Click and press test for button 231	DMI	T0+3500s	Click and press test is performed for button 231	PROF		ETCS onboard reports button events for button 231 according to test 7c4.1
242	Click and press test for button 232	DMI	T0+3515s	Click and press test is performed for button 232	PROF		ETCS onboard reports button events for button 232 according to test 7c4.1
243	Click and press test for button 233	DMI	T0+3530s	Click and press test is performed for button 233	PROF		ETCS onboard reports button events for button 233 according to test 7c4.1
244	Click and press test for button 234	DMI	T0+3545s	Click and press test is performed for button 234	PROF		ETCS onboard reports button events for button 234 according to test 7c4.1
245	Click and press test for button 235	DMI	T0+3560s	Click and press test is performed for button 235	PROF		ETCS onboard reports button events for button 235 according to test 7c4.1
246	Click and press test for button 236	DMI	T0+3575s	Click and press test is performed for button 236	PROF		ETCS onboard reports button events for button 236 according to test 7c4.1
247	Click and press test for button 237	DMI	T0+3590s	Click and press test is performed for button 237	PROF		ETCS onboard reports button events for button 237 according to test 7c4.1
248	Click and press test for button 238	DMI	T0+3605s	Click and press test is performed for button 238	PROF		ETCS onboard reports button events for button 238 according to test 7c4.1
249	Click and press test for button 239	DMI	T0+3620s	Click and press test is performed for button 239	PROF		ETCS onboard reports button events for button 239 according to test 7c4.1
250	Click and press test for button 240	DMI	T0+3635s	Click and press test is performed for button 240	PROF		ETCS onboard reports button events for button 240 according to test 7c4.1
251	STM requests display of buttons 241 - 255 at positions 1-15	PROF	T0+3650s	connection of active DMI channel: Message-S11	DMI		Buttons with caption B241 - B255 are displayed at positions 1-15





252	Click and press test for button 241	DMI	T0+3655s	Click and press test is performed for button 241	PROF		ETCS onboard reports button events for button 241 according to test 7c4.1
253	Click and press test for button 242	DMI	T0+3670s	Click and press test is performed for button 242	PROF		ETCS onboard reports button events for button 242 according to test 7c4.1
254	Click and press test for button 243	DMI	T0+3685s	Click and press test is performed for button 243	PROF		ETCS onboard reports button events for button 243 according to test 7c4.1
255	Click and press test for button 244	DMI	T0+3700s	Click and press test is performed for button 244	PROF		ETCS onboard reports button events for button 244 according to test 7c4.1
256	Click and press test for button 245	DMI	T0+3715s	Click and press test is performed for button 245	PROF		ETCS onboard reports button events for button 245 according to test 7c4.1
257	Click and press test for button 246	DMI	T0+3730s	Click and press test is performed for button 246	PROF		ETCS onboard reports button events for button 246 according to test 7c4.1
258	Click and press test for button 247	DMI	T0+3745s	Click and press test is performed for button 247	PROF		ETCS onboard reports button events for button 247 according to test 7c4.1
259	Click and press test for button 248	DMI	T0+3760s	Click and press test is performed for button 248	PROF		ETCS onboard reports button events for button 248 according to test 7c4.1
260	Click and press test for button 249	DMI	T0+3775s	Click and press test is performed for button 249	PROF		ETCS onboard reports button events for button 249 according to test 7c4.1
261	Click and press test for button 250	DMI	T0+3790s	Click and press test is performed for button 250	PROF		ETCS onboard reports button events for button 250 according to test 7c4.1
262	Click and press test for button 251	DMI	T0+3805s	Click and press test is performed for button 251	PROF		ETCS onboard reports button events for button 251 according to test 7c4.1
263	Click and press test for button 252	DMI	T0+3820s	Click and press test is performed for button 252	PROF		ETCS onboard reports button events for button 252 according to test 7c4.1
264	Click and press test for button 253	DMI	T0+3835s	Click and press test is performed for button 253	PROF		ETCS onboard reports button events for button 253 according to test 7c4.1
265	Click and press test for button 254	DMI	T0+3850s	Click and press test is performed for button 254	PROF		ETCS onboard reports button events for button 254 according to test 7c4.1



266	Click and press test for button 255	DMI	T0+3865s	Click and press test is performed for button 255	PROF		ETCS onboard reports button events for button 255 according to test 7c4.1
267	STM requests display of 24 buttons at positions 1-24	PROF	T0+3880s	connection of active DMI channel: Message-S12	DMI		Buttons with caption POS1 - POS24 are displayed at positions 1-24
268	Click and press test for button at position 1	DMI	T0+3885s	Click and press test is performed for button 255 at position 1	PROF		ETCS onboard reports button events for button 255 according to test 7c4.1
269	Click and press test for button at position 2	DMI	T0+3900s	Click and press test is performed for button 245 at position 2	PROF		ETCS onboard reports button events for button 245 according to test 7c4.1
270	Click and press test for button at position 3	DMI	T0+3915s	Click and press test is performed for button 235 at position 3	PROF		ETCS onboard reports button events for button 235 according to test 7c4.1
271	Click and press test for button at position 4	DMI	T0+3930s	Click and press test is performed for button 225 at position 4	PROF		ETCS onboard reports button events for button 225 according to test 7c4.1
272	Click and press test for button at position 5	DMI	T0+3945s	Click and press test is performed for button 215 at position 5	PROF		ETCS onboard reports button events for button 215 according to test 7c4.1
273	Click and press test for button at position 6	DMI	T0+3960s	Click and press test is performed for button 205 at position 6	PROF		ETCS onboard reports button events for button 205 according to test 7c4.1
274	Click and press test for button at position 7	DMI	T0+3975s	Click and press test is performed for button 195 at position 7	PROF		ETCS onboard reports button events for button 195 according to test 7c4.1
275	Click and press test for button at position 8	DMI	T0+3990s	Click and press test is performed for button 185 at position 8	PROF		ETCS onboard reports button events for button 185 according to test 7c4.1
276	Click and press test for button at position 9	DMI	T0+4005s	Click and press test is performed for button 175 at position 9	PROF		ETCS onboard reports button events for button 175 according to test 7c4.1
277	Click and press test for button at position 10	DMI	T0+4020s	Click and press test is performed for button 165 at position 10	PROF		ETCS onboard reports button events for button 165 according to test 7c4.1
278	Click and press test for button at position 11	DMI	T0+4035s	Click and press test is performed for button 155 at position 11	PROF		ETCS onboard reports button events for button 155 according to test 7c4.1
279	Click and press test for button at position 12	DMI	T0+4050s	Click and press test is performed for button 145 at position 12	PROF		ETCS onboard reports button events for button 145 according to test 7c4.1





280	Click and press test for button at position 13	DMI	T0+4065s	Click and press test is performed for button 135 at position 13	PROF		ETCS onboard reports button events for button 135 according to test 7c4.1
281	Click and press test for button at position 14	DMI	T0+4080s	Click and press test is performed for button 125 at position 14	PROF		ETCS onboard reports button events for button 125 according to test 7c4.1
282	Click and press test for button at position 15	DMI	T0+4095s	Click and press test is performed for button 115 at position 15	PROF		ETCS onboard reports button events for button 115 according to test 7c4.1
283	Click and press test for button at position 16	DMI	T0+4110s	Click and press test is performed for button 105 at position 16	PROF		ETCS onboard reports button events for button 105 according to test 7c4.1
284	Click and press test for button at position 17	DMI	T0+4125s	Click and press test is performed for button 95 at position 17	PROF		ETCS onboard reports button events for button 95 according to test 7c4.1
285	Click and press test for button at position 18	DMI	T0+4140s	Click and press test is performed for button 85 at position 18	PROF		ETCS onboard reports button events for button 85 according to test 7c4.1
286	Click and press test for button at position 19	DMI	T0+4155s	Click and press test is performed for button 75 at position 19	PROF		ETCS onboard reports button events for button 75 according to test 7c4.1
287	Click and press test for button at position 20	DMI	T0+4170s	Click and press test is performed for button 65 at position 20	PROF		ETCS onboard reports button events for button 65 according to test 7c4.1
288	Click and press test for button at position 21	DMI	T0+4185s	Click and press test is performed for button 55 at position 21	PROF		ETCS onboard reports button events for button 55 according to test 7c4.1
289	Click and press test for button at position 22	DMI	T0+4200s	Click and press test is performed for button 45 at position 22	PROF		ETCS onboard reports button events for button 45 according to test 7c4.1
290	Click and press test for button at position 23	DMI	T0+4215s	Click and press test is performed for button 35 at position 23	PROF		ETCS onboard reports button events for button 35 according to test 7c4.1
291	Click and press test for button at position 24	DMI	T0+4230s	Click and press test is performed for button 25 at position 24	PROF		ETCS onboard reports button events for button 25 according to test 7c4.1

Message-S1: STM requests display of buttons 1 - 24 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	183	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	1418	Packet Length
N_ITER	5	24	Request for 24 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	2	Caption="B1"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	2	Caption="B2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	



NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	2	Caption="B3"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000010000b	black on red, No flashing
L_CAPTION(4)	6	2	Caption="B4"
X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000010000b	black on red, No flashing
L_CAPTION(5)	6	2	Caption="B5"
X_CAPTION(5,1)	8	"B"	
X_CAPTION(5,2)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000010000b	black on red, No flashing



L_CAPTION(6)	6	2	Caption="B6"
X_CAPTION(6,1)	8	"B"	
X_CAPTION(6,2)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000010000b	black on red, No flashing
L_CAPTION(7)	6	2	Caption="B7"
X_CAPTION(7,1)	8	"B"	
X_CAPTION(7,2)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000010000b	black on red, No flashing
L_CAPTION(8)	6	2	Caption="B8"
X_CAPTION(8,1)	8	"B"	
X_CAPTION(8,2)	8	"8"	
NID_BUTTON(9)	8	9	Button 9
NID_BUTPOS(9)	5	9	
NID_ICON(9)	8	0	
M_BUT_ATTRIB(9)	10	1000010000b	black on red, No flashing
L_CAPTION(9)	6	2	Caption="B9"
X_CAPTION(9,1)	8	"B"	



X_CAPTION(9,2)	8	"g"	
NID_BUTTON(10)	8	10	Button 10
NID_BUTPOS(10)	5	10	
NID_ICON(10)	8	0	
M_BUT_ATTRIB(10)	10	1000010000b	black on red, No flashing
L_CAPTION(10)	6	3	Caption="B10"
X_CAPTION(10,1)	8	"B"	
X_CAPTION(10,2)	8	"1"	
X_CAPTION(10,3)	8	"0"	
NID_BUTTON(11)	8	11	Button 11
NID_BUTPOS(11)	5	11	
NID_ICON(11)	8	0	
M_BUT_ATTRIB(11)	10	1000010000b	black on red, No flashing
L_CAPTION(11)	6	3	Caption="B11"
X_CAPTION(11,1)	8	"B"	
X_CAPTION(11,2)	8	"1"	
X_CAPTION(11,3)	8	"1"	
NID_BUTTON(12)	8	12	Button 12
NID_BUTPOS(12)	5	12	
NID_ICON(12)	8	0	
M_BUT_ATTRIB(12)	10	1000010000b	black on red, No flashing
L_CAPTION(12)	6	3	Caption="B12"
X_CAPTION(12,1)	8	"B"	



X_CAPTION(12,2)	8	"1"	
X_CAPTION(12,3)	8	"2"	
NID_BUTTON(13)	8	13	Button 13
NID_BUTPOS(13)	5	13	
NID_ICON(13)	8	0	
M_BUT_ATTRIB(13)	10	1000010000b	black on red, No flashing
L_CAPTION(13)	6	3	Caption="B13"
X_CAPTION(13,1)	8	"B"	
X_CAPTION(13,2)	8	"1"	
X_CAPTION(13,3)	8	"3"	
NID_BUTTON(14)	8	14	Button 14
NID_BUTPOS(14)	5	14	
NID_ICON(14)	8	0	
M_BUT_ATTRIB(14)	10	1000010000b	black on red, No flashing
L_CAPTION(14)	6	3	Caption="B14"
X_CAPTION(14,1)	8	"B"	
X_CAPTION(14,2)	8	"1"	
X_CAPTION(14,3)	8	"4"	
NID_BUTTON(15)	8	15	Button 15
NID_BUTPOS(15)	5	15	
NID_ICON(15)	8	0	
M_BUT_ATTRIB(15)	10	1000010000b	black on red, No flashing
L_CAPTION(15)	6	3	Caption="B15"



X_CAPTION(15,1)	8	"B"	
X_CAPTION(15,2)	8	"1"	
X_CAPTION(15,3)	8	"5"	
NID_BUTTON(16)	8	16	Button 16
NID_BUTPOS(16)	5	16	
NID_ICON(16)	8	0	
M_BUT_ATTRIB(16)	10	1000010000b	black on red, No flashing
L_CAPTION(16)	6	3	Caption="B16"
X_CAPTION(16,1)	8	"B"	
X_CAPTION(16,2)	8	"1"	
X_CAPTION(16,3)	8	"6"	
NID_BUTTON(17)	8	17	Button 17
NID_BUTPOS(17)	5	17	
NID_ICON(17)	8	0	
M_BUT_ATTRIB(17)	10	1000010000b	black on red, No flashing
L_CAPTION(17)	6	3	Caption="B17"
X_CAPTION(17,1)	8	"B"	
X_CAPTION(17,2)	8	"1"	
X_CAPTION(17,3)	8	"7"	
NID_BUTTON(18)	8	18	Button 18
NID_BUTPOS(18)	5	18	
NID_ICON(18)	8	0	
M_BUT_ATTRIB(18)	10	1000010000b	black on red, No flashing



L_CAPTION(18)	6	3	Caption="B18"
X_CAPTION(18,1)	8	"B"	
X_CAPTION(18,2)	8	"1"	
X_CAPTION(18,3)	8	"8"	
NID_BUTTON(19)	8	19	Button 19
NID_BUTPOS(19)	5	19	
NID_ICON(19)	8	0	
M_BUT_ATTRIB(19)	10	1000010000b	black on red, No flashing
L_CAPTION(19)	6	3	Caption="B19"
X_CAPTION(19,1)	8	"B"	
X_CAPTION(19,2)	8	"1"	
X_CAPTION(19,3)	8	"9"	
NID_BUTTON(20)	8	20	Button 20
NID_BUTPOS(20)	5	20	
NID_ICON(20)	8	0	
M_BUT_ATTRIB(20)	10	1000010000b	black on red, No flashing
L_CAPTION(20)	6	3	Caption="B20"
X_CAPTION(20,1)	8	"B"	
X_CAPTION(20,2)	8	"2"	
X_CAPTION(20,3)	8	"0"	
NID_BUTTON(21)	8	21	Button 21
NID_BUTPOS(21)	5	21	
NID_ICON(21)	8	0	





M_BUT_ATTRIB(21)	10	1000010000b	black on red, No flashing
L_CAPTION(21)	6	3	Caption="B21"
X_CAPTION(21,1)	8	"B"	
X_CAPTION(21,2)	8	"2"	
X_CAPTION(21,3)	8	"1"	
NID_BUTTON(22)	8	22	Button 22
NID_BUTPOS(22)	5	22	
NID_ICON(22)	8	0	
M_BUT_ATTRIB(22)	10	1000010000b	black on red, No flashing
L_CAPTION(22)	6	3	Caption="B22"
X_CAPTION(22,1)	8	"B"	
X_CAPTION(22,2)	8	"2"	
X_CAPTION(22,3)	8	"2"	
NID_BUTTON(23)	8	23	Button 23
NID_BUTPOS(23)	5	23	
NID_ICON(23)	8	0	
M_BUT_ATTRIB(23)	10	1000010000b	black on red, No flashing
L_CAPTION(23)	6	3	Caption="B23"
X_CAPTION(23,1)	8	"B"	
X_CAPTION(23,2)	8	"2"	
X_CAPTION(23,3)	8	"3"	
NID_BUTTON(24)	8	24	Button 24
NID_BUTPOS(24)	5	24	



NID_ICON(24)	8	0	
M_BUT_ATTRIB(24)	10	1000010000b	black on red, No flashing
L_CAPTION(24)	6	3	Caption="B24"
X_CAPTION(24,1)	8	"B"	
X_CAPTION(24,2)	8	"2"	
X_CAPTION(24,3)	8	"4"	
Padding bits	5	00000b	

Message-S2: STM requests display of buttons 25 - 48 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	192	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1490, N=24, ID=25, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=3, T="B25"			
(2): ID=26, P=2, IC=0, MI=1000010000b, L=3, T="B26"		(3): ID=27, P=3, IC=0, MI=1000010000b, L=3, T="B27"	
(4): ID=28, P=4, IC=0, MI=1000010000b, L=3, T="B28"		(5): ID=29, P=5, IC=0, MI=1000010000b, L=3, T="B29"	
(6): ID=30, P=6, IC=0, MI=1000010000b, L=3, T="B30"		(7): ID=31, P=7, IC=0, MI=1000010000b, L=3, T="B31"	
(8): ID=32, P=8, IC=0, MI=1000010000b, L=3, T="B32"		(9): ID=33, P=9, IC=0, MI=1000010000b, L=3, T="B33"	
(10): ID=34, P=10, IC=0, MI=1000010000b, L=3, T="B34"		(11): ID=35, P=11, IC=0, MI=1000010000b, L=3, T="B35"	
(12): ID=36, P=12, IC=0, MI=1000010000b, L=3, T="B36"		(13): ID=37, P=13, IC=0, MI=1000010000b, L=3, T="B37"	
(14): ID=38, P=14, IC=0, MI=1000010000b, L=3, T="B38"		(15): ID=39, P=15, IC=0, MI=1000010000b, L=3, T="B39"	
(16): ID=40, P=16, IC=0, MI=1000010000b, L=3, T="B40"		(17): ID=41, P=17, IC=0, MI=1000010000b, L=3, T="B41"	
(18): ID=42, P=18, IC=0, MI=1000010000b, L=3, T="B42"		(19): ID=43, P=19, IC=0, MI=1000010000b, L=3, T="B43"	



(20): ID=44, P=20, IC=0, MI=1000010000b, L=3, T="B44"	(21): ID=45, P=21, IC=0, MI=1000010000b, L=3, T="B45"
(22): ID=46, P=22, IC=0, MI=1000010000b, L=3, T="B46"	(23): ID=47, P=23, IC=0, MI=1000010000b, L=3, T="B47"
(24): ID=48, P=24, IC=0, MI=1000010000b, L=3, T="B48"	

Message-S3: STM requests display of buttons 49 - 72 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	192	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1490, N=24, ID=49, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=3, T="B49"			
(2): ID=50, P=2, IC=0, MI=1000010000b, L=3, T="B50"	(3): ID=51, P=3, IC=0, MI=1000010000b, L=3, T="B51"		
(4): ID=52, P=4, IC=0, MI=1000010000b, L=3, T="B52"	(5): ID=53, P=5, IC=0, MI=1000010000b, L=3, T="B53"		
(6): ID=54, P=6, IC=0, MI=1000010000b, L=3, T="B54"	(7): ID=55, P=7, IC=0, MI=1000010000b, L=3, T="B55"		
(8): ID=56, P=8, IC=0, MI=1000010000b, L=3, T="B56"	(9): ID=57, P=9, IC=0, MI=1000010000b, L=3, T="B57"		
(10): ID=58, P=10, IC=0, MI=1000010000b, L=3, T="B58"	(11): ID=59, P=11, IC=0, MI=1000010000b, L=3, T="B59"		
(12): ID=60, P=12, IC=0, MI=1000010000b, L=3, T="B60"	(13): ID=61, P=13, IC=0, MI=1000010000b, L=3, T="B61"		
(14): ID=62, P=14, IC=0, MI=1000010000b, L=3, T="B62"	(15): ID=63, P=15, IC=0, MI=1000010000b, L=3, T="B63"		
(16): ID=64, P=16, IC=0, MI=1000010000b, L=3, T="B64"	(17): ID=65, P=17, IC=0, MI=1000010000b, L=3, T="B65"		
(18): ID=66, P=18, IC=0, MI=1000010000b, L=3, T="B66"	(19): ID=67, P=19, IC=0, MI=1000010000b, L=3, T="B67"		
(20): ID=68, P=20, IC=0, MI=1000010000b, L=3, T="B68"	(21): ID=69, P=21, IC=0, MI=1000010000b, L=3, T="B69"		
(22): ID=70, P=22, IC=0, MI=1000010000b, L=3, T="B70"	(23): ID=71, P=23, IC=0, MI=1000010000b, L=3, T="B71"		
(24): ID=72, P=24, IC=0, MI=1000010000b, L=3, T="B72"			



Message-S4: STM requests display of buttons 73 - 96 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	192	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1490, N=24, ID=73, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=3, T="B73"			
(2): ID=74, P=2, IC=0, MI=1000010000b, L=3, T="B74"		(3): ID=75, P=3, IC=0, MI=1000010000b, L=3, T="B75"	
(4): ID=76, P=4, IC=0, MI=1000010000b, L=3, T="B76"		(5): ID=77, P=5, IC=0, MI=1000010000b, L=3, T="B77"	
(6): ID=78, P=6, IC=0, MI=1000010000b, L=3, T="B78"		(7): ID=79, P=7, IC=0, MI=1000010000b, L=3, T="B79"	
(8): ID=80, P=8, IC=0, MI=1000010000b, L=3, T="B80"		(9): ID=81, P=9, IC=0, MI=1000010000b, L=3, T="B81"	
(10): ID=82, P=10, IC=0, MI=1000010000b, L=3, T="B82"		(11): ID=83, P=11, IC=0, MI=1000010000b, L=3, T="B83"	
(12): ID=84, P=12, IC=0, MI=1000010000b, L=3, T="B84"		(13): ID=85, P=13, IC=0, MI=1000010000b, L=3, T="B85"	
(14): ID=86, P=14, IC=0, MI=1000010000b, L=3, T="B86"		(15): ID=87, P=15, IC=0, MI=1000010000b, L=3, T="B87"	
(16): ID=88, P=16, IC=0, MI=1000010000b, L=3, T="B88"		(17): ID=89, P=17, IC=0, MI=1000010000b, L=3, T="B89"	
(18): ID=90, P=18, IC=0, MI=1000010000b, L=3, T="B90"		(19): ID=91, P=19, IC=0, MI=1000010000b, L=3, T="B91"	
(20): ID=92, P=20, IC=0, MI=1000010000b, L=3, T="B92"		(21): ID=93, P=21, IC=0, MI=1000010000b, L=3, T="B93"	
(22): ID=94, P=22, IC=0, MI=1000010000b, L=3, T="B94"		(23): ID=95, P=23, IC=0, MI=1000010000b, L=3, T="B95"	
(24): ID=96, P=24, IC=0, MI=1000010000b, L=3, T="B96"			

Message-S5: STM requests display of buttons 97 - 120 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	213	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1658, N=24, ID=97, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=3, T="B97"			
(2): ID=98, P=2, IC=0, MI=1000010000b, L=3, T="B98"	(3): ID=99, P=3, IC=0, MI=1000010000b, L=3, T="B99"		
(4): ID=100, P=4, IC=0, MI=1000010000b, L=4, T="B100"	(5): ID=101, P=5, IC=0, MI=1000010000b, L=4, T="B101"		
(6): ID=102, P=6, IC=0, MI=1000010000b, L=4, T="B102"	(7): ID=103, P=7, IC=0, MI=1000010000b, L=4, T="B103"		
(8): ID=104, P=8, IC=0, MI=1000010000b, L=4, T="B104"	(9): ID=105, P=9, IC=0, MI=1000010000b, L=4, T="B105"		
(10): ID=106, P=10, IC=0, MI=1000010000b, L=4, T="B106"	(11): ID=107, P=11, IC=0, MI=1000010000b, L=4, T="B107"		
(12): ID=108, P=12, IC=0, MI=1000010000b, L=4, T="B108"	(13): ID=109, P=13, IC=0, MI=1000010000b, L=4, T="B109"		
(14): ID=110, P=14, IC=0, MI=1000010000b, L=4, T="B110"	(15): ID=111, P=15, IC=0, MI=1000010000b, L=4, T="B111"		
(16): ID=112, P=16, IC=0, MI=1000010000b, L=4, T="B112"	(17): ID=113, P=17, IC=0, MI=1000010000b, L=4, T="B113"		
(18): ID=114, P=18, IC=0, MI=1000010000b, L=4, T="B114"	(19): ID=115, P=19, IC=0, MI=1000010000b, L=4, T="B115"		
(20): ID=116, P=20, IC=0, MI=1000010000b, L=4, T="B116"	(21): ID=117, P=21, IC=0, MI=1000010000b, L=4, T="B117"		
(22): ID=118, P=22, IC=0, MI=1000010000b, L=4, T="B118"	(23): ID=119, P=23, IC=0, MI=1000010000b, L=4, T="B119"		
(24): ID=120, P=24, IC=0, MI=1000010000b, L=4, T="B120"			

Message-S6: STM requests display of buttons 121 - 144 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	216	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1682, N=24, ID=121, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="B121"			
(2): ID=122, P=2, IC=0, MI=1000010000b, L=4, T="B122"	(3): ID=123, P=3, IC=0, MI=1000010000b, L=4, T="B123"		



(4): ID=124, P=4, IC=0, MI=1000010000b, L=4, T="B124"	(5): ID=125, P=5, IC=0, MI=1000010000b, L=4, T="B125"
(6): ID=126, P=6, IC=0, MI=1000010000b, L=4, T="B126"	(7): ID=127, P=7, IC=0, MI=1000010000b, L=4, T="B127"
(8): ID=128, P=8, IC=0, MI=1000010000b, L=4, T="B128"	(9): ID=129, P=9, IC=0, MI=1000010000b, L=4, T="B129"
(10): ID=130, P=10, IC=0, MI=1000010000b, L=4, T="B130"	(11): ID=131, P=11, IC=0, MI=1000010000b, L=4, T="B131"
(12): ID=132, P=12, IC=0, MI=1000010000b, L=4, T="B132"	(13): ID=133, P=13, IC=0, MI=1000010000b, L=4, T="B133"
(14): ID=134, P=14, IC=0, MI=1000010000b, L=4, T="B134"	(15): ID=135, P=15, IC=0, MI=1000010000b, L=4, T="B135"
(16): ID=136, P=16, IC=0, MI=1000010000b, L=4, T="B136"	(17): ID=137, P=17, IC=0, MI=1000010000b, L=4, T="B137"
(18): ID=138, P=18, IC=0, MI=1000010000b, L=4, T="B138"	(19): ID=139, P=19, IC=0, MI=1000010000b, L=4, T="B139"
(20): ID=140, P=20, IC=0, MI=1000010000b, L=4, T="B140"	(21): ID=141, P=21, IC=0, MI=1000010000b, L=4, T="B141"
(22): ID=142, P=22, IC=0, MI=1000010000b, L=4, T="B142"	(23): ID=143, P=23, IC=0, MI=1000010000b, L=4, T="B143"
(24): ID=144, P=24, IC=0, MI=1000010000b, L=4, T="B144"	

Message-S7: STM requests display of buttons 145 - 168 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	216	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1682, N=24, ID=145, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="B145"			
(2): ID=146, P=2, IC=0, MI=1000010000b, L=4, T="B146"	(3): ID=147, P=3, IC=0, MI=1000010000b, L=4, T="B147"		
(4): ID=148, P=4, IC=0, MI=1000010000b, L=4, T="B148"	(5): ID=149, P=5, IC=0, MI=1000010000b, L=4, T="B149"		
(6): ID=150, P=6, IC=0, MI=1000010000b, L=4, T="B150"	(7): ID=151, P=7, IC=0, MI=1000010000b, L=4, T="B151"		
(8): ID=152, P=8, IC=0, MI=1000010000b, L=4, T="B152"	(9): ID=153, P=9, IC=0, MI=1000010000b, L=4, T="B153"		
(10): ID=154, P=10, IC=0, MI=1000010000b, L=4, T="B154"	(11): ID=155, P=11, IC=0, MI=1000010000b, L=4, T="B155"		



(12): ID=156, P=12, IC=0, MI=1000010000b, L=4, T="B156"	(13): ID=157, P=13, IC=0, MI=1000010000b, L=4, T="B157"
(14): ID=158, P=14, IC=0, MI=1000010000b, L=4, T="B158"	(15): ID=159, P=15, IC=0, MI=1000010000b, L=4, T="B159"
(16): ID=160, P=16, IC=0, MI=1000010000b, L=4, T="B160"	(17): ID=161, P=17, IC=0, MI=1000010000b, L=4, T="B161"
(18): ID=162, P=18, IC=0, MI=1000010000b, L=4, T="B162"	(19): ID=163, P=19, IC=0, MI=1000010000b, L=4, T="B163"
(20): ID=164, P=20, IC=0, MI=1000010000b, L=4, T="B164"	(21): ID=165, P=21, IC=0, MI=1000010000b, L=4, T="B165"
(22): ID=166, P=22, IC=0, MI=1000010000b, L=4, T="B166"	(23): ID=167, P=23, IC=0, MI=1000010000b, L=4, T="B167"
(24): ID=168, P=24, IC=0, MI=1000010000b, L=4, T="B168"	

Message-S8: STM requests display of buttons 169 - 192 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	216	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1682, N=24, ID=169, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="B169"			
(2): ID=170, P=2, IC=0, MI=1000010000b, L=4, T="B170"	(3): ID=171, P=3, IC=0, MI=1000010000b, L=4, T="B171"		
(4): ID=172, P=4, IC=0, MI=1000010000b, L=4, T="B172"	(5): ID=173, P=5, IC=0, MI=1000010000b, L=4, T="B173"		
(6): ID=174, P=6, IC=0, MI=1000010000b, L=4, T="B174"	(7): ID=175, P=7, IC=0, MI=1000010000b, L=4, T="B175"		
(8): ID=176, P=8, IC=0, MI=1000010000b, L=4, T="B176"	(9): ID=177, P=9, IC=0, MI=1000010000b, L=4, T="B177"		
(10): ID=178, P=10, IC=0, MI=1000010000b, L=4, T="B178"	(11): ID=179, P=11, IC=0, MI=1000010000b, L=4, T="B179"		
(12): ID=180, P=12, IC=0, MI=1000010000b, L=4, T="B180"	(13): ID=181, P=13, IC=0, MI=1000010000b, L=4, T="B181"		
(14): ID=182, P=14, IC=0, MI=1000010000b, L=4, T="B182"	(15): ID=183, P=15, IC=0, MI=1000010000b, L=4, T="B183"		
(16): ID=184, P=16, IC=0, MI=1000010000b, L=4, T="B184"	(17): ID=185, P=17, IC=0, MI=1000010000b, L=4, T="B185"		
(18): ID=186, P=18, IC=0, MI=1000010000b, L=4, T="B186"	(19): ID=187, P=19, IC=0, MI=1000010000b, L=4, T="B187"		



(20): ID=188, P=20, IC=0, MI=1000010000b, L=4, T="B188"	(21): ID=189, P=21, IC=0, MI=1000010000b, L=4, T="B189"
(22): ID=190, P=22, IC=0, MI=1000010000b, L=4, T="B190"	(23): ID=191, P=23, IC=0, MI=1000010000b, L=4, T="B191"
(24): ID=192, P=24, IC=0, MI=1000010000b, L=4, T="B192"	

Message-S9: STM requests display of buttons 193 - 216 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	216	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1682, N=24, ID=193, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="B193"			
(2): ID=194, P=2, IC=0, MI=1000010000b, L=4, T="B194"	(3): ID=195, P=3, IC=0, MI=1000010000b, L=4, T="B195"		
(4): ID=196, P=4, IC=0, MI=1000010000b, L=4, T="B196"	(5): ID=197, P=5, IC=0, MI=1000010000b, L=4, T="B197"		
(6): ID=198, P=6, IC=0, MI=1000010000b, L=4, T="B198"	(7): ID=199, P=7, IC=0, MI=1000010000b, L=4, T="B199"		
(8): ID=200, P=8, IC=0, MI=1000010000b, L=4, T="B200"	(9): ID=201, P=9, IC=0, MI=1000010000b, L=4, T="B201"		
(10): ID=202, P=10, IC=0, MI=1000010000b, L=4, T="B202"	(11): ID=203, P=11, IC=0, MI=1000010000b, L=4, T="B203"		
(12): ID=204, P=12, IC=0, MI=1000010000b, L=4, T="B204"	(13): ID=205, P=13, IC=0, MI=1000010000b, L=4, T="B205"		
(14): ID=206, P=14, IC=0, MI=1000010000b, L=4, T="B206"	(15): ID=207, P=15, IC=0, MI=1000010000b, L=4, T="B207"		
(16): ID=208, P=16, IC=0, MI=1000010000b, L=4, T="B208"	(17): ID=209, P=17, IC=0, MI=1000010000b, L=4, T="B209"		
(18): ID=210, P=18, IC=0, MI=1000010000b, L=4, T="B210"	(19): ID=211, P=19, IC=0, MI=1000010000b, L=4, T="B211"		
(20): ID=212, P=20, IC=0, MI=1000010000b, L=4, T="B212"	(21): ID=213, P=21, IC=0, MI=1000010000b, L=4, T="B213"		
(22): ID=214, P=22, IC=0, MI=1000010000b, L=4, T="B214"	(23): ID=215, P=23, IC=0, MI=1000010000b, L=4, T="B215"		
(24): ID=216, P=24, IC=0, MI=1000010000b, L=4, T="B216"			





Message-S10: STM requests display of buttons 217 - 240 at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	216	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1682, N=24, ID=217, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="B217"			
(2): ID=218, P=2, IC=0, MI=1000010000b, L=4, T="B218"		(3): ID=219, P=3, IC=0, MI=1000010000b, L=4, T="B219"	
(4): ID=220, P=4, IC=0, MI=1000010000b, L=4, T="B220"		(5): ID=221, P=5, IC=0, MI=1000010000b, L=4, T="B221"	
(6): ID=222, P=6, IC=0, MI=1000010000b, L=4, T="B222"		(7): ID=223, P=7, IC=0, MI=1000010000b, L=4, T="B223"	
(8): ID=224, P=8, IC=0, MI=1000010000b, L=4, T="B224"		(9): ID=225, P=9, IC=0, MI=1000010000b, L=4, T="B225"	
(10): ID=226, P=10, IC=0, MI=1000010000b, L=4, T="B226"		(11): ID=227, P=11, IC=0, MI=1000010000b, L=4, T="B227"	
(12): ID=228, P=12, IC=0, MI=1000010000b, L=4, T="B228"		(13): ID=229, P=13, IC=0, MI=1000010000b, L=4, T="B229"	
(14): ID=230, P=14, IC=0, MI=1000010000b, L=4, T="B230"		(15): ID=231, P=15, IC=0, MI=1000010000b, L=4, T="B231"	
(16): ID=232, P=16, IC=0, MI=1000010000b, L=4, T="B232"		(17): ID=233, P=17, IC=0, MI=1000010000b, L=4, T="B233"	
(18): ID=234, P=18, IC=0, MI=1000010000b, L=4, T="B234"		(19): ID=235, P=19, IC=0, MI=1000010000b, L=4, T="B235"	
(20): ID=236, P=20, IC=0, MI=1000010000b, L=4, T="B236"		(21): ID=237, P=21, IC=0, MI=1000010000b, L=4, T="B237"	
(22): ID=238, P=22, IC=0, MI=1000010000b, L=4, T="B238"		(23): ID=239, P=23, IC=0, MI=1000010000b, L=4, T="B239"	
(24): ID=240, P=24, IC=0, MI=1000010000b, L=4, T="B240"			

Message-S11: STM requests display of buttons 241 - 255 at positions 1-15			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	138	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1061, N=15, ID=241, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="B241"			
(2): ID=242, P=2, IC=0, MI=1000010000b, L=4, T="B242"		(3): ID=243, P=3, IC=0, MI=1000010000b, L=4, T="B243"	
(4): ID=244, P=4, IC=0, MI=1000010000b, L=4, T="B244"		(5): ID=245, P=5, IC=0, MI=1000010000b, L=4, T="B245"	
(6): ID=246, P=6, IC=0, MI=1000010000b, L=4, T="B246"		(7): ID=247, P=7, IC=0, MI=1000010000b, L=4, T="B247"	
(8): ID=248, P=8, IC=0, MI=1000010000b, L=4, T="B248"		(9): ID=249, P=9, IC=0, MI=1000010000b, L=4, T="B249"	
(10): ID=250, P=10, IC=0, MI=1000010000b, L=4, T="B250"		(11): ID=251, P=11, IC=0, MI=1000010000b, L=4, T="B251"	
(12): ID=252, P=12, IC=0, MI=1000010000b, L=4, T="B252"		(13): ID=253, P=13, IC=0, MI=1000010000b, L=4, T="B253"	
(14): ID=254, P=14, IC=0, MI=1000010000b, L=4, T="B254"		(15): ID=255, P=15, IC=0, MI=1000010000b, L=4, T="B255"	

Message-S12: STM requests display of 24 buttons at positions 1-24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	231	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=1802, N=24, ID=255, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=4, T="POS1"			
(2): ID=245, P=2, IC=0, MI=1000010000b, L=4, T="POS2"		(3): ID=235, P=3, IC=0, MI=1000010000b, L=4, T="POS3"	
(4): ID=225, P=4, IC=0, MI=1000010000b, L=4, T="POS4"		(5): ID=215, P=5, IC=0, MI=1000010000b, L=4, T="POS5"	
(6): ID=205, P=6, IC=0, MI=1000010000b, L=4, T="POS6"		(7): ID=195, P=7, IC=0, MI=1000010000b, L=4, T="POS7"	
(8): ID=185, P=8, IC=0, MI=1000010000b, L=4, T="POS8"		(9): ID=175, P=9, IC=0, MI=1000010000b, L=4, T="POS9"	
(10): ID=165, P=10, IC=0, MI=1000010000b, L=5, T="POS10"		(11): ID=155, P=11, IC=0, MI=1000010000b, L=5, T="POS11"	
(12): ID=145, P=12, IC=0, MI=1000010000b, L=5, T="POS12"		(13): ID=135, P=13, IC=0, MI=1000010000b, L=5, T="POS13"	



(14): ID=125, P=14, IC=0, MI=1000010000b, L=5, T="POS14"	(15): ID=115, P=15, IC=0, MI=1000010000b, L=5, T="POS15"
(16): ID=105, P=16, IC=0, MI=1000010000b, L=5, T="POS16"	(17): ID=95, P=17, IC=0, MI=1000010000b, L=5, T="POS17"
(18): ID=85, P=18, IC=0, MI=1000010000b, L=5, T="POS18"	(19): ID=75, P=19, IC=0, MI=1000010000b, L=5, T="POS19"
(20): ID=65, P=20, IC=0, MI=1000010000b, L=5, T="POS20"	(21): ID=55, P=21, IC=0, MI=1000010000b, L=5, T="POS21"
(22): ID=45, P=22, IC=0, MI=1000010000b, L=5, T="POS22"	(23): ID=35, P=23, IC=0, MI=1000010000b, L=5, T="POS23"
(24): ID=25, P=24, IC=0, MI=1000010000b, L=5, T="POS24"	

### 2.3.31 Test Case 7c4.1

TEST CASE HEADER	
Test case identification	DMI Function
	7c4.0.1.1.2.1.3.2
	Click and press test for test for button <n> (as part of test cases 7c3.x): Check that button events are correctly reported by the ETCS: First button<n> is pressed and released immediately again (within 500ms). Then button <n> is pressed and released after about 5s.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.4.1, 13.4.4.2, 13.4.4.3, 13.4.4.4
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 34
ERTMS/ETCS on-board configuration	Unified DMI service: configuration 7a.1
	Customisable DMI service: 7a.3, 7a.4, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9



<b>Comments and constraints</b>	Precondition for the test case is that button <n> is displayed on the DMI upon previous request of the STM
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Starting Conditions	Value	Comments
STM State	DA	
ETCS Mode	SN	
ETCS Level	NTC	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	Established	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	

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TIU Cab Status	Cab A or B active	For the test it is not relevant, what cab is active
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	Not isolated for active STM. Not relevant for other STMs	

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	Button <n> clicked	DMI	T0	Driver presses button <n> and releases it within 500ms.	PROF		connection of active DMI channel: Message-E1.  ETCS sends button events for button <n> with 'button pressed' and 'button released' events in sequence. The difference in the timestamps corresponds to the time the button was kept pressed. The difference between the timestamp at STL layer of the telegram and the event timestamp is positive and $\leq 2s$ .
2	Button <n> pressed down	DMI	T0+5s	Driver presses button <n> and keeps it pressed.	PROF		connection of active DMI channel: Message-E2.  ETCS sends button event for button <n> with 'button pressed' event. The difference between the timestamp at STL layer of the telegram and the event timestamp is positive and $\leq 2s$ .
3	Button <n> released	DMI	T0+10s	Driver releases button <n>.	PROF		connection of active DMI channel: Message-E3.  ETCS sends button event for button <n> with 'button released' event. The difference between the timestamp of this event and the timestamp of the previously reported 'button pressed' event is roughly 5s. The difference between the timestamp at STL layer of the telegram and the event timestamp is positive and $\leq 2s$ .



Message-E1: ETCS reports button events for button <n> with 'button pressed' and 'button released' in sequence  
(events may be send in one message or two separate messages).

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	16	Message Length
NID_PACKET	8	34	Button event report to STM (STM-34)
L_PACKET	13	108	Packet Length
N_ITER	5	2	2 button events
NID_BUTTON(1)	8	FINITE_VALUE	Button <n>
Q_BUTTON(1)	1	0	Button pressed
T_BUTTONEVENT(1)	32	T1	Timestamp of button pressed event
NID_BUTTON(2)	8	FINITE_VALUE	Button <n>
Q_BUTTON(2)	1	1	Button released
T_BUTTONEVENT(2)	32	T2	Timestamp of button released event
Padding bits	4	NOT RELEVANT	

Message-E2: ETCS reports button event for button <n> with 'button pressed'.

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	11	Message Length
NID_PACKET	8	34	Button event report to STM (STM-34)
L_PACKET	13	67	Packet Length
N_ITER	5	1	1 button event



NID_BUTTON(1)	8	FINITE_VALUE	Button <n>
Q_BUTTON(1)	1	0	Button pressed
T_BUTTONEVENT(1)	32	T3	Timestamp of button pressed event
Padding bits	5	NOT RELEVANT	

Message-E3: ETCS reports button event for button <n> with 'button released'.			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	11	Message Length
NID_PACKET	8	34	Button event report to STM (STM-34)
L_PACKET	13	67	Packet Length
N_ITER	5	1	1 button event
NID_BUTTON(1)	8	FINITE_VALUE	Button <n>
Q_BUTTON(1)	1	1	Button released
T_BUTTONEVENT(1)	32	T4	Timestamp of button released event
Padding bits	5	NOT RELEVANT	

End Conditions	Value	Comments
STM State	unchanged	
ETCS Mode	unchanged	
ETCS Level	unchanged	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	unchanged	

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Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	unchanged	
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	unchanged	





### 2.3.32 Test Case 7c5.1

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.1.0
	Icon identity test with buttons for configuration(s) 7a.3 with SK or TS technology, single button request with different icons: All icons fitting into a button position are displayed with button 1 at position 2 in a loop one after the other
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.3 with SK or TS technology. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	

Starting Conditions	Value	Comments
STM State	DA	
ETCS Mode	SN	
ETCS Level	NTC	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	Established	
Other DMI channels Connections	not relevant	



TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	Cab A or B active	For the test it is not relevant, what cab is active
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	Not isolated for active STM. Not relevant for other STMs	

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
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1	STM requests display of button 1 at position 2 with icon 1	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with icon 1 is displayed at position 2
2	STM requests display of button 1 at position 2 with icon 2	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with icon 2 is displayed at position 2
3	STM requests display of button 1 at position 2 with icon 3	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with icon 3 is displayed at position 2
4	STM requests display of button 1 at position 2 with icon 4	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Button with icon 4 is displayed at position 2
5	STM requests display of button 1 at position 2 with icon 5	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with icon 5 is displayed at position 2
6	STM requests display of button 1 at position 2 with icon 6	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Button with icon 6 is displayed at position 2
7	STM requests display of button 1 at position 2 with icon 127	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Button with icon 127 is displayed at position 2
8	STM requests display of button 1 at position 2 with icon 128	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with icon 128 is displayed at position 2

Message-S1: STM requests display of button 1 at position 2 with icon 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length



N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	2	
NID_ICON(1)	8	1	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	

Message-S2: STM requests display of button 1 at position 2 with icon 2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=1, P=2, IC=2, MI=1000001000b (black on white, No flashing), L=0			

Message-S3: STM requests display of button 1 at position 2 with icon 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=1, P=2, IC=3, MI=1000001000b (black on white, No flashing), L=0			

Message-S4: STM requests display of button 1 at position 2 with icon 4			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=1, P=2, IC=4, MI=1000001000b (black on white, No flashing), L=0			

Message-S5: STM requests display of button 1 at position 2 with icon 5			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=1, P=2, IC=5, MI=1000001000b (black on white, No flashing), L=0			

Message-S6: STM requests display of button 1 at position 2 with icon 6			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=1, P=2, IC=6, MI=1000001000b (black on white, No flashing), L=0			

Message-S7: STM requests display of button 1 at position 2 with icon 127			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=1, P=2, IC=127, MI=1000001000b (black on white, No flashing), L=0			



Message-S8: STM requests display of button 1 at position 2 with icon 128			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=1, P=2, IC=128, MI=1000001000b (black on white, No flashing), L=0			

End Conditions	Value	Comments
STM State	unchanged	
ETCS Mode	unchanged	
ETCS Level	unchanged	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	unchanged	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	



TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	unchanged	
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	unchanged	

### 2.3.33 Test Case 7c5.2

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.2.0
	Icon identity test with buttons for configuration(s) 7a.3 with SK or TS technology, set of buttons with different icons: All icons fitting into a button position are displayed in sets of 2 buttons in a loop.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	



<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.3 with SK or TS technology. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1-2 at positions 1-2 with different icons (set 1)	PROF	T0	connection of active DMI channel: Message-S1	DMI		Icons 1, 2 (icon set 1) are displayed at positions 1-2
2	STM requests display of buttons 1-2 at positions 1-2 with different icons (set 2)	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Icons 3, 4 (icon set 2) are displayed at positions 1-2
3	STM requests display of buttons 1-2 at positions 1-2 with different icons (set 3)	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Icons 5, 6 (icon set 3) are displayed at positions 1-2
4	STM requests display of buttons 1-2 at positions 1-2 with different icons (set 4)	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Icons 127, 128 (icon set 4) are displayed at positions 1-2

Message-S1: STM requests display of buttons 1-2 at positions 1-2 with different icons (set 1)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length





NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	100	Packet Length
N_ITER	5	2	Request for 2 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	1	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	2	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
Padding bits	3	000b	

Message-S2: STM requests display of buttons 1-2 at positions 1-2 with different icons (set 2)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=100, N=2, ID=1, P=1, IC=3, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=4, MI=1000001000b, L=0			



Message-S3: STM requests display of buttons 1-2 at positions 1-2 with different icons (set 3)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=100, N=2, ID=1, P=1, IC=5, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=6, MI=1000001000b, L=0			

Message-S4: STM requests display of buttons 1-2 at positions 1-2 with different icons (set 4)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=100, N=2, ID=1, P=1, IC=127, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=128, MI=1000001000b, L=0			

### 2.3.34 Test Case 7c5.3

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.3.0
	Icon identity test with buttons for configuration(s) 7a.3 with SK or TS technology, set of buttons with same icon:



	A set of 2 buttons is displayed with same icon 127 (cross)
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.3 with SK or TS technology. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1-2 at positions 1, 2 with same icon 127 (cross)	PROF	T0	connection of active DMI channel: Message-S1	DMI		Icon 127 (cross) is displayed at positions 1, 2

Message-S1: STM requests display of buttons 1-2 at positions 1, 2 with same icon 127 (cross)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)



L_PACKET	13	100	Packet Length
N_ITER	5	2	Request for 2 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	127	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	127	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
Padding bits	3	000b	

### 2.3.35 Test Case 7c5.4

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.1.0
	Icon identity test with buttons for configuration(s) 7a.5, 7a.6 and 7a.7 with SK or TS technology, single button request with different icons:
	All icons fitting into a button position are displayed with button 128 at position 2 in a loop one after the other
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3



	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.5, 7a.6 and 7a.7 with SK or TS technology (one configuration shall be chosen). The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of button 128 at position 2 with icon 1	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with icon 1 is displayed at position 2
2	STM requests display of button 128 at position 2 with icon 2	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with icon 2 is displayed at position 2
3	STM requests display of button 128 at position 2 with icon 10	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with icon 10 is displayed at position 2
4	STM requests display of button 128 at position 2 with icon 11	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Button with icon 11 is displayed at position 2
5	STM requests display of button 128 at position 2 with icon 12	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with icon 12 is displayed at position 2
6	STM requests display of button 128 at position 2 with icon 13	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Button with icon 13 is displayed at position 2
7	STM requests display of button 128 at position 2 with icon 20	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Button with icon 20 is displayed at position 2
8	STM requests display of button 128 at position 2 with icon 21	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with icon 21 is displayed at position 2
9	STM requests display of button 128	PROF	T0+40s	connection of active DMI channel:	DMI		Button with icon 30 is displayed at

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	at position 2 with icon 30			Message-S9			position 2
10	STM requests display of button 128 at position 2 with icon 31	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		Button with icon 31 is displayed at position 2
11	STM requests display of button 128 at position 2 with icon 32	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Button with icon 32 is displayed at position 2
12	STM requests display of button 128 at position 2 with icon 40	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		Button with icon 40 is displayed at position 2
13	STM requests display of button 128 at position 2 with icon 41	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		Button with icon 41 is displayed at position 2
14	STM requests display of button 128 at position 2 with icon 42	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		Button with icon 42 is displayed at position 2
15	STM requests display of button 128 at position 2 with icon 43	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		Button with icon 43 is displayed at position 2
16	STM requests display of button 128 at position 2 with icon 44	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		Button with icon 44 is displayed at position 2

Message-S1: STM requests display of button 128 at position 2 with icon 1			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length
N_ITER	5	1	Request for 1 button



NID_BUTTON(1)	8	128	Button 128
NID_BUTPOS(1)	5	2	
NID_ICON(1)	8	1	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	

Message-S2: STM requests display of button 128 at position 2 with icon 2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
	STM-32: PL=63, N=1, ID=128, P=2, IC=2, MI=1000001000b (black on white, No flashing), L=0		

Message-S3: STM requests display of button 128 at position 2 with icon 10			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=10, MI=1000001000b (black on white, No flashing), L=0			

Message-S4: STM requests display of button 128 at position 2 with icon 11			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=11, MI=1000001000b (black on white, No flashing), L=0			

Message-S5: STM requests display of button 128 at position 2 with icon 12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=12, MI=1000001000b (black on white, No flashing), L=0			

Message-S6: STM requests display of button 128 at position 2 with icon 13			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=13, MI=1000001000b (black on white, No flashing), L=0			

Message-S7: STM requests display of button 128 at position 2 with icon 20			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=20, MI=1000001000b (black on white, No flashing), L=0			





Message-S8: STM requests display of button 128 at position 2 with icon 21			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=21, MI=1000001000b (black on white, No flashing), L=0			

Message-S9: STM requests display of button 128 at position 2 with icon 30			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=30, MI=1000001000b (black on white, No flashing), L=0			

Message-S10: STM requests display of button 128 at position 2 with icon 31			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=31, MI=1000001000b (black on white, No flashing), L=0			

Message-S11: STM requests display of button 128 at position 2 with icon 32			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=32, MI=1000001000b (black on white, No flashing), L=0			

Message-S12: STM requests display of button 128 at position 2 with icon 40			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=40, MI=1000001000b (black on white, No flashing), L=0			

Message-S13: STM requests display of button 128 at position 2 with icon 41			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=41, MI=1000001000b (black on white, No flashing), L=0			

Message-S14: STM requests display of button 128 at position 2 with icon 42			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=128, P=2, IC=42, MI=1000001000b (black on white, No flashing), L=0

Message-S15: STM requests display of button 128 at position 2 with icon 43			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=43, MI=1000001000b (black on white, No flashing), L=0			

Message-S16: STM requests display of button 128 at position 2 with icon 44			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=128, P=2, IC=44, MI=1000001000b (black on white, No flashing), L=0			

## 2.3.36 Test Case 7c5.5

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.2.0
	Icon identity test with buttons for configuration(s) 7a.5, 7a.6 and 7a.7 with SK or TS technology, set of buttons with different icons: All icons fitting into a button position are displayed in sets of 5 buttons in a loop.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3



	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.5, 7a.6 and 7a.7 with SK or TS technology (one configuration shall be chosen). The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1-5 at positions 1-4, 8 with different icons (set 1)	PROF	T0	connection of active DMI channel: Message-S1	DMI		Icons 1, 10, 30, 40, 44 (icon set 1) are displayed at positions 1-4, 8
2	STM requests display of buttons 1-5 at positions 1-4, 8 with different icons (set 2)	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Icons 2, 11, 31, 41, 45 (icon set 2) are displayed at positions 1-4, 8
3	STM requests display of buttons 1-5 at positions 1-4, 8 with different icons (set 3)	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Icons 20, 12, 32, 42, 40 (icon set 3) are displayed at positions 1-4, 8
4	STM requests display of buttons 1-5 at positions 1-4, 8 with different icons (set 4)	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Icons 21, 13, 30, 43, 41 (icon set 4) are displayed at positions 1-4, 8

Message-S1: STM requests display of buttons 1-5 at positions 1-4, 8 with different icons (set 1)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	32	Message Length



NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	211	Packet Length
N_ITER	5	5	Request for 5 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	1	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	10	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	30	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	



NID_ICON(4)	8	40	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	8	
NID_ICON(5)	8	44	
M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
Padding bits	4	0000b	

Message-S2: STM requests display of buttons 1-5 at positions 1-4, 8 with different icons (set 2)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	32	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=211, N=5, ID=1, P=1, IC=2, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=11, MI=1000001000b, L=0		(3): ID=3, P=3, IC=31, MI=1000001000b, L=0	
(4): ID=4, P=4, IC=41, MI=1000001000b, L=0		(5): ID=5, P=8, IC=45, MI=1000001000b, L=0	

Message-S3: STM requests display of buttons 1-5 at positions 1-4, 8 with different icons (set 3)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	32	Message Length



STM-15: PL=25, ST=7, (State DA)	
STM-32: PL=211, N=5, ID=1, P=1, IC=20, MI=1000001000b (black on white, No flashing), L=0	
(2): ID=2, P=2, IC=12, MI=1000001000b, L=0	(3): ID=3, P=3, IC=32, MI=1000001000b, L=0
(4): ID=4, P=4, IC=42, MI=1000001000b, L=0	(5): ID=5, P=8, IC=40, MI=1000001000b, L=0

Message-S4: STM requests display of buttons 1-5 at positions 1-4, 8 with different icons (set 4)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	32	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=211, N=5, ID=1, P=1, IC=21, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=13, MI=1000001000b, L=0	(3): ID=3, P=3, IC=30, MI=1000001000b, L=0		
(4): ID=4, P=4, IC=43, MI=1000001000b, L=0	(5): ID=5, P=8, IC=41, MI=1000001000b, L=0		

### 2.3.37 Test Case 7c5.6

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.3.0
	Icon identity test with buttons for configuration(s) 7a.5, 7a.6 and 7a.7 with SK or TS technology, set of buttons with same icon: A set of 8 buttons is displayed with same icon 44 (speed limit automatic)
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3



	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.5, 7a.6 and 7a.7 with SK or TS technology (one configuration shall be chosen). The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1-8 at positions 1, 2, 3, 4, 5, 6, 7, 8 with same icon 44 (speed limit automatic)	PROF	T0	connection of active DMI channel: Message-S1	DMI		Icon 44 (speed limit automatic) is displayed at positions 1, 2, 3, 4, 5, 6, 7, 8

Message-S1: STM requests display of buttons 1-8 at positions 1, 2, 3, 4, 5, 6, 7, 8 with same icon 44 (speed limit automatic)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	322	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1





NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	44	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	44	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	44	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	44	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	44	
M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing



L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	44	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	44	
M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	44	
M_BUT_ATTRIB(8)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
Padding bits	5	00000b	

### 2.3.38 Test Case 7c5.7

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.1.0



	Icon identity test with buttons for configuration(s) 7a.9 with SK technology, single button request with different icons: All icons fitting into a button position are displayed with button 88 at position 8 in a loop one after the other
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.9 with SK technology. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of button 88 at position 8 with icon 2	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with icon 2 is displayed at position 8
2	STM requests display of button 88 at position 8 with icon 3	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with icon 3 is displayed at position 8
3	STM requests display of button 88 at position 8 with icon 4	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Button with icon 4 is displayed at position 8
4	STM requests display of button 88 at position 8 with icon 5	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Button with icon 5 is displayed at position 8
5	STM requests display of button 88 at position 8 with icon 6	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Button with icon 6 is displayed at position 8
6	STM requests display of button 88 at position 8 with icon 7	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Button with icon 7 is displayed at position 8



7	STM requests display of button 88 at position 8 with icon 8	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Button with icon 8 is displayed at position 8
8	STM requests display of button 88 at position 8 with icon 9	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Button with icon 9 is displayed at position 8
9	STM requests display of button 88 at position 8 with icon 12	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Button with icon 12 is displayed at position 8
10	STM requests display of button 88 at position 8 with icon 13	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		Button with icon 13 is displayed at position 8
11	STM requests display of button 88 at position 8 with icon 15	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Button with icon 15 is displayed at position 8
12	STM requests display of button 88 at position 8 with icon 16	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		Button with icon 16 is displayed at position 8
13	STM requests display of button 88 at position 8 with icon 17	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		Button with icon 17 is displayed at position 8
14	STM requests display of button 88 at position 8 with icon 18	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		Button with icon 18 is displayed at position 8
15	STM requests display of button 88 at position 8 with icon 19	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		Button with icon 19 is displayed at position 8
16	STM requests display of button 88 at position 8 with icon 20	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		Button with icon 20 is displayed at position 8
17	STM requests display of button 88 at position 8 with icon 21	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Button with icon 21 is displayed at position 8
18	STM requests display of button 88 at position 8 with icon 22	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		Button with icon 22 is displayed at position 8
19	STM requests display of button 88 at position 8 with icon 23	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Button with icon 23 is displayed at position 8
20	STM requests display of button 88 at position 8 with icon 24	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		Button with icon 24 is displayed at position 8



21	STM requests display of button 88 at position 8 with icon 25	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Button with icon 25 is displayed at position 8
22	STM requests display of button 88 at position 8 with icon 26	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		Button with icon 26 is displayed at position 8
23	STM requests display of button 88 at position 8 with icon 27	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Button with icon 27 is displayed at position 8
24	STM requests display of button 88 at position 8 with icon 31	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		Button with icon 31 is displayed at position 8
25	STM requests display of button 88 at position 8 with icon 32	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Button with icon 32 is displayed at position 8
26	STM requests display of button 88 at position 8 with icon 34	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		Button with icon 34 is displayed at position 8
27	STM requests display of button 88 at position 8 with icon 35	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Button with icon 35 is displayed at position 8
28	STM requests display of button 88 at position 8 with icon 36	PROF	T0+135s	connection of active DMI channel: Message-S28	DMI		Button with icon 36 is displayed at position 8
29	STM requests display of button 88 at position 8 with icon 37	PROF	T0+140s	connection of active DMI channel: Message-S29	DMI		Button with icon 37 is displayed at position 8
30	STM requests display of button 88 at position 8 with icon 38	PROF	T0+145s	connection of active DMI channel: Message-S30	DMI		Button with icon 38 is displayed at position 8
31	STM requests display of button 88 at position 8 with icon 39	PROF	T0+150s	connection of active DMI channel: Message-S31	DMI		Button with icon 39 is displayed at position 8
32	STM requests display of button 88 at position 8 with icon 40	PROF	T0+155s	connection of active DMI channel: Message-S32	DMI		Button with icon 40 is displayed at position 8
33	STM requests display of button 88 at position 8 with icon 41	PROF	T0+160s	connection of active DMI channel: Message-S33	DMI		Button with icon 41 is displayed at position 8
34	STM requests display of button 88 at position 8 with icon 44	PROF	T0+165s	connection of active DMI channel: Message-S34	DMI		Button with icon 44 is displayed at position 8



35	STM requests display of button 88 at position 8 with icon 45	PROF	T0+170s	connection of active DMI channel: Message-S35	DMI		Button with icon 45 is displayed at position 8
36	STM requests display of button 88 at position 8 with icon 47	PROF	T0+175s	connection of active DMI channel: Message-S36	DMI		Button with icon 47 is displayed at position 8
37	STM requests display of button 88 at position 8 with icon 48	PROF	T0+180s	connection of active DMI channel: Message-S37	DMI		Button with icon 48 is displayed at position 8
38	STM requests display of button 88 at position 8 with icon 49	PROF	T0+185s	connection of active DMI channel: Message-S38	DMI		Button with icon 49 is displayed at position 8
39	STM requests display of button 88 at position 8 with icon 50	PROF	T0+190s	connection of active DMI channel: Message-S39	DMI		Button with icon 50 is displayed at position 8
40	STM requests display of button 88 at position 8 with icon 51	PROF	T0+195s	connection of active DMI channel: Message-S40	DMI		Button with icon 51 is displayed at position 8
41	STM requests display of button 88 at position 8 with icon 52	PROF	T0+200s	connection of active DMI channel: Message-S41	DMI		Button with icon 52 is displayed at position 8
42	STM requests display of button 88 at position 8 with icon 53	PROF	T0+205s	connection of active DMI channel: Message-S42	DMI		Button with icon 53 is displayed at position 8
43	STM requests display of button 88 at position 8 with icon 54	PROF	T0+210s	connection of active DMI channel: Message-S43	DMI		Button with icon 54 is displayed at position 8
44	STM requests display of button 88 at position 8 with icon 55	PROF	T0+215s	connection of active DMI channel: Message-S44	DMI		Button with icon 55 is displayed at position 8
45	STM requests display of button 88 at position 8 with icon 56	PROF	T0+220s	connection of active DMI channel: Message-S45	DMI		Button with icon 56 is displayed at position 8
46	STM requests display of button 88 at position 8 with icon 57	PROF	T0+225s	connection of active DMI channel: Message-S46	DMI		Button with icon 57 is displayed at position 8
47	STM requests display of button 88 at position 8 with icon 58	PROF	T0+230s	connection of active DMI channel: Message-S47	DMI		Button with icon 58 is displayed at position 8
48	STM requests display of button 88 at position 8 with icon 59	PROF	T0+235s	connection of active DMI channel: Message-S48	DMI		Button with icon 59 is displayed at position 8



49	STM requests display of button 88 at position 8 with icon 63	PROF	T0+240s	connection of active DMI channel: Message-S49	DMI		Button with icon 63 is displayed at position 8
50	STM requests display of button 88 at position 8 with icon 64	PROF	T0+245s	connection of active DMI channel: Message-S50	DMI		Button with icon 64 is displayed at position 8
51	STM requests display of button 88 at position 8 with icon 66	PROF	T0+250s	connection of active DMI channel: Message-S51	DMI		Button with icon 66 is displayed at position 8
52	STM requests display of button 88 at position 8 with icon 67	PROF	T0+255s	connection of active DMI channel: Message-S52	DMI		Button with icon 67 is displayed at position 8
53	STM requests display of button 88 at position 8 with icon 68	PROF	T0+260s	connection of active DMI channel: Message-S53	DMI		Button with icon 68 is displayed at position 8
54	STM requests display of button 88 at position 8 with icon 69	PROF	T0+265s	connection of active DMI channel: Message-S54	DMI		Button with icon 69 is displayed at position 8
55	STM requests display of button 88 at position 8 with icon 70	PROF	T0+270s	connection of active DMI channel: Message-S55	DMI		Button with icon 70 is displayed at position 8
56	STM requests display of button 88 at position 8 with icon 71	PROF	T0+275s	connection of active DMI channel: Message-S56	DMI		Button with icon 71 is displayed at position 8
57	STM requests display of button 88 at position 8 with icon 72	PROF	T0+280s	connection of active DMI channel: Message-S57	DMI		Button with icon 72 is displayed at position 8
58	STM requests display of button 88 at position 8 with icon 73	PROF	T0+285s	connection of active DMI channel: Message-S58	DMI		Button with icon 73 is displayed at position 8
59	STM requests display of button 88 at position 8 with icon 76	PROF	T0+290s	connection of active DMI channel: Message-S59	DMI		Button with icon 76 is displayed at position 8
60	STM requests display of button 88 at position 8 with icon 77	PROF	T0+295s	connection of active DMI channel: Message-S60	DMI		Button with icon 77 is displayed at position 8
61	STM requests display of button 88 at position 8 with icon 79	PROF	T0+300s	connection of active DMI channel: Message-S61	DMI		Button with icon 79 is displayed at position 8
62	STM requests display of button 88 at position 8 with icon 80	PROF	T0+305s	connection of active DMI channel: Message-S62	DMI		Button with icon 80 is displayed at position 8





63	STM requests display of button 88 at position 8 with icon 81	PROF	T0+310s	connection of active DMI channel: Message-S63	DMI		Button with icon 81 is displayed at position 8
64	STM requests display of button 88 at position 8 with icon 82	PROF	T0+315s	connection of active DMI channel: Message-S64	DMI		Button with icon 82 is displayed at position 8
65	STM requests display of button 88 at position 8 with icon 83	PROF	T0+320s	connection of active DMI channel: Message-S65	DMI		Button with icon 83 is displayed at position 8
66	STM requests display of button 88 at position 8 with icon 84	PROF	T0+325s	connection of active DMI channel: Message-S66	DMI		Button with icon 84 is displayed at position 8
67	STM requests display of button 88 at position 8 with icon 85	PROF	T0+330s	connection of active DMI channel: Message-S67	DMI		Button with icon 85 is displayed at position 8
68	STM requests display of button 88 at position 8 with icon 86	PROF	T0+335s	connection of active DMI channel: Message-S68	DMI		Button with icon 86 is displayed at position 8
69	STM requests display of button 88 at position 8 with icon 87	PROF	T0+340s	connection of active DMI channel: Message-S69	DMI		Button with icon 87 is displayed at position 8
70	STM requests display of button 88 at position 8 with icon 88	PROF	T0+345s	connection of active DMI channel: Message-S70	DMI		Button with icon 88 is displayed at position 8
71	STM requests display of button 88 at position 8 with icon 89	PROF	T0+350s	connection of active DMI channel: Message-S71	DMI		Button with icon 89 is displayed at position 8
72	STM requests display of button 88 at position 8 with icon 90	PROF	T0+355s	connection of active DMI channel: Message-S72	DMI		Button with icon 90 is displayed at position 8
73	STM requests display of button 88 at position 8 with icon 91	PROF	T0+360s	connection of active DMI channel: Message-S73	DMI		Button with icon 91 is displayed at position 8
74	STM requests display of button 88 at position 8 with icon 95	PROF	T0+365s	connection of active DMI channel: Message-S74	DMI		Button with icon 95 is displayed at position 8
75	STM requests display of button 88 at position 8 with icon 96	PROF	T0+370s	connection of active DMI channel: Message-S75	DMI		Button with icon 96 is displayed at position 8
76	STM requests display of button 88 at position 8 with icon 98	PROF	T0+375s	connection of active DMI channel: Message-S76	DMI		Button with icon 98 is displayed at position 8





77	STM requests display of button 88 at position 8 with icon 99	PROF	T0+380s	connection of active DMI channel: Message-S77	DMI		Button with icon 99 is displayed at position 8
78	STM requests display of button 88 at position 8 with icon 100	PROF	T0+385s	connection of active DMI channel: Message-S78	DMI		Button with icon 100 is displayed at position 8
79	STM requests display of button 88 at position 8 with icon 101	PROF	T0+390s	connection of active DMI channel: Message-S79	DMI		Button with icon 101 is displayed at position 8
80	STM requests display of button 88 at position 8 with icon 102	PROF	T0+395s	connection of active DMI channel: Message-S80	DMI		Button with icon 102 is displayed at position 8
81	STM requests display of button 88 at position 8 with icon 103	PROF	T0+400s	connection of active DMI channel: Message-S81	DMI		Button with icon 103 is displayed at position 8
82	STM requests display of button 88 at position 8 with icon 104	PROF	T0+405s	connection of active DMI channel: Message-S82	DMI		Button with icon 104 is displayed at position 8
83	STM requests display of button 88 at position 8 with icon 105	PROF	T0+410s	connection of active DMI channel: Message-S83	DMI		Button with icon 105 is displayed at position 8
84	STM requests display of button 88 at position 8 with icon 108	PROF	T0+415s	connection of active DMI channel: Message-S84	DMI		Button with icon 108 is displayed at position 8
85	STM requests display of button 88 at position 8 with icon 109	PROF	T0+420s	connection of active DMI channel: Message-S85	DMI		Button with icon 109 is displayed at position 8
86	STM requests display of button 88 at position 8 with icon 111	PROF	T0+425s	connection of active DMI channel: Message-S86	DMI		Button with icon 111 is displayed at position 8
87	STM requests display of button 88 at position 8 with icon 112	PROF	T0+430s	connection of active DMI channel: Message-S87	DMI		Button with icon 112 is displayed at position 8
88	STM requests display of button 88 at position 8 with icon 113	PROF	T0+435s	connection of active DMI channel: Message-S88	DMI		Button with icon 113 is displayed at position 8
89	STM requests display of button 88 at position 8 with icon 114	PROF	T0+440s	connection of active DMI channel: Message-S89	DMI		Button with icon 114 is displayed at position 8
90	STM requests display of button 88 at position 8 with icon 115	PROF	T0+445s	connection of active DMI channel: Message-S90	DMI		Button with icon 115 is displayed at position 8



91	STM requests display of button 88 at position 8 with icon 116	PROF	T0+450s	connection of active DMI channel: Message-S91	DMI		Button with icon 116 is displayed at position 8
92	STM requests display of button 88 at position 8 with icon 117	PROF	T0+455s	connection of active DMI channel: Message-S92	DMI		Button with icon 117 is displayed at position 8
93	STM requests display of button 88 at position 8 with icon 118	PROF	T0+460s	connection of active DMI channel: Message-S93	DMI		Button with icon 118 is displayed at position 8
94	STM requests display of button 88 at position 8 with icon 119	PROF	T0+465s	connection of active DMI channel: Message-S94	DMI		Button with icon 119 is displayed at position 8
95	STM requests display of button 88 at position 8 with icon 120	PROF	T0+470s	connection of active DMI channel: Message-S95	DMI		Button with icon 120 is displayed at position 8
96	STM requests display of button 88 at position 8 with icon 121	PROF	T0+475s	connection of active DMI channel: Message-S96	DMI		Button with icon 121 is displayed at position 8
97	STM requests display of button 88 at position 8 with icon 122	PROF	T0+480s	connection of active DMI channel: Message-S97	DMI		Button with icon 122 is displayed at position 8
98	STM requests display of button 88 at position 8 with icon 123	PROF	T0+485s	connection of active DMI channel: Message-S98	DMI		Button with icon 123 is displayed at position 8
99	STM requests display of button 88 at position 8 with icon 127	PROF	T0+490s	connection of active DMI channel: Message-S99	DMI		Button with icon 127 is displayed at position 8
100	STM requests display of button 88 at position 8 with icon 128	PROF	T0+495s	connection of active DMI channel: Message-S100	DMI		Button with icon 128 is displayed at position 8
101	STM requests display of button 88 at position 8 with icon 130	PROF	T0+500s	connection of active DMI channel: Message-S101	DMI		Button with icon 130 is displayed at position 8
102	STM requests display of button 88 at position 8 with icon 131	PROF	T0+505s	connection of active DMI channel: Message-S102	DMI		Button with icon 131 is displayed at position 8
103	STM requests display of button 88 at position 8 with icon 132	PROF	T0+510s	connection of active DMI channel: Message-S103	DMI		Button with icon 132 is displayed at position 8
104	STM requests display of button 88 at position 8 with icon 133	PROF	T0+515s	connection of active DMI channel: Message-S104	DMI		Button with icon 133 is displayed at position 8



105	STM requests display of button 88 at position 8 with icon 134	PROF	T0+520s	connection of active DMI channel: Message-S105	DMI		Button with icon 134 is displayed at position 8
106	STM requests display of button 88 at position 8 with icon 135	PROF	T0+525s	connection of active DMI channel: Message-S106	DMI		Button with icon 135 is displayed at position 8
107	STM requests display of button 88 at position 8 with icon 136	PROF	T0+530s	connection of active DMI channel: Message-S107	DMI		Button with icon 136 is displayed at position 8
108	STM requests display of button 88 at position 8 with icon 137	PROF	T0+535s	connection of active DMI channel: Message-S108	DMI		Button with icon 137 is displayed at position 8
109	STM requests display of button 88 at position 8 with icon 140	PROF	T0+540s	connection of active DMI channel: Message-S109	DMI		Button with icon 140 is displayed at position 8
110	STM requests display of button 88 at position 8 with icon 141	PROF	T0+545s	connection of active DMI channel: Message-S110	DMI		Button with icon 141 is displayed at position 8
111	STM requests display of button 88 at position 8 with icon 143	PROF	T0+550s	connection of active DMI channel: Message-S111	DMI		Button with icon 143 is displayed at position 8
112	STM requests display of button 88 at position 8 with icon 144	PROF	T0+555s	connection of active DMI channel: Message-S112	DMI		Button with icon 144 is displayed at position 8
113	STM requests display of button 88 at position 8 with icon 145	PROF	T0+560s	connection of active DMI channel: Message-S113	DMI		Button with icon 145 is displayed at position 8
114	STM requests display of button 88 at position 8 with icon 146	PROF	T0+565s	connection of active DMI channel: Message-S114	DMI		Button with icon 146 is displayed at position 8
115	STM requests display of button 88 at position 8 with icon 147	PROF	T0+570s	connection of active DMI channel: Message-S115	DMI		Button with icon 147 is displayed at position 8
116	STM requests display of button 88 at position 8 with icon 148	PROF	T0+575s	connection of active DMI channel: Message-S116	DMI		Button with icon 148 is displayed at position 8
117	STM requests display of button 88 at position 8 with icon 149	PROF	T0+580s	connection of active DMI channel: Message-S117	DMI		Button with icon 149 is displayed at position 8
118	STM requests display of button 88 at position 8 with icon 150	PROF	T0+585s	connection of active DMI channel: Message-S118	DMI		Button with icon 150 is displayed at position 8



119	STM requests display of button 88 at position 8 with icon 151	PROF	T0+590s	connection of active DMI channel: Message-S119	DMI		Button with icon 151 is displayed at position 8
120	STM requests display of button 88 at position 8 with icon 152	PROF	T0+595s	connection of active DMI channel: Message-S120	DMI		Button with icon 152 is displayed at position 8
121	STM requests display of button 88 at position 8 with icon 153	PROF	T0+600s	connection of active DMI channel: Message-S121	DMI		Button with icon 153 is displayed at position 8
122	STM requests display of button 88 at position 8 with icon 154	PROF	T0+605s	connection of active DMI channel: Message-S122	DMI		Button with icon 154 is displayed at position 8
123	STM requests display of button 88 at position 8 with icon 155	PROF	T0+610s	connection of active DMI channel: Message-S123	DMI		Button with icon 155 is displayed at position 8
124	STM requests display of button 88 at position 8 with icon 159	PROF	T0+615s	connection of active DMI channel: Message-S124	DMI		Button with icon 159 is displayed at position 8
125	STM requests display of button 88 at position 8 with icon 160	PROF	T0+620s	connection of active DMI channel: Message-S125	DMI		Button with icon 160 is displayed at position 8
126	STM requests display of button 88 at position 8 with icon 162	PROF	T0+625s	connection of active DMI channel: Message-S126	DMI		Button with icon 162 is displayed at position 8
127	STM requests display of button 88 at position 8 with icon 163	PROF	T0+630s	connection of active DMI channel: Message-S127	DMI		Button with icon 163 is displayed at position 8
128	STM requests display of button 88 at position 8 with icon 164	PROF	T0+635s	connection of active DMI channel: Message-S128	DMI		Button with icon 164 is displayed at position 8
129	STM requests display of button 88 at position 8 with icon 165	PROF	T0+640s	connection of active DMI channel: Message-S129	DMI		Button with icon 165 is displayed at position 8
130	STM requests display of button 88 at position 8 with icon 166	PROF	T0+645s	connection of active DMI channel: Message-S130	DMI		Button with icon 166 is displayed at position 8
131	STM requests display of button 88 at position 8 with icon 167	PROF	T0+650s	connection of active DMI channel: Message-S131	DMI		Button with icon 167 is displayed at position 8
132	STM requests display of button 88 at position 8 with icon 168	PROF	T0+655s	connection of active DMI channel: Message-S132	DMI		Button with icon 168 is displayed at position 8



133	STM requests display of button 88 at position 8 with icon 169	PROF	T0+660s	connection of active DMI channel: Message-S133	DMI		Button with icon 169 is displayed at position 8
134	STM requests display of button 88 at position 8 with icon 172	PROF	T0+665s	connection of active DMI channel: Message-S134	DMI		Button with icon 172 is displayed at position 8
135	STM requests display of button 88 at position 8 with icon 173	PROF	T0+670s	connection of active DMI channel: Message-S135	DMI		Button with icon 173 is displayed at position 8
136	STM requests display of button 88 at position 8 with icon 175	PROF	T0+675s	connection of active DMI channel: Message-S136	DMI		Button with icon 175 is displayed at position 8
137	STM requests display of button 88 at position 8 with icon 176	PROF	T0+680s	connection of active DMI channel: Message-S137	DMI		Button with icon 176 is displayed at position 8
138	STM requests display of button 88 at position 8 with icon 177	PROF	T0+685s	connection of active DMI channel: Message-S138	DMI		Button with icon 177 is displayed at position 8
139	STM requests display of button 88 at position 8 with icon 178	PROF	T0+690s	connection of active DMI channel: Message-S139	DMI		Button with icon 178 is displayed at position 8
140	STM requests display of button 88 at position 8 with icon 179	PROF	T0+695s	connection of active DMI channel: Message-S140	DMI		Button with icon 179 is displayed at position 8
141	STM requests display of button 88 at position 8 with icon 180	PROF	T0+700s	connection of active DMI channel: Message-S141	DMI		Button with icon 180 is displayed at position 8
142	STM requests display of button 88 at position 8 with icon 181	PROF	T0+705s	connection of active DMI channel: Message-S142	DMI		Button with icon 181 is displayed at position 8
143	STM requests display of button 88 at position 8 with icon 182	PROF	T0+710s	connection of active DMI channel: Message-S143	DMI		Button with icon 182 is displayed at position 8
144	STM requests display of button 88 at position 8 with icon 183	PROF	T0+715s	connection of active DMI channel: Message-S144	DMI		Button with icon 183 is displayed at position 8
145	STM requests display of button 88 at position 8 with icon 184	PROF	T0+720s	connection of active DMI channel: Message-S145	DMI		Button with icon 184 is displayed at position 8
146	STM requests display of button 88 at position 8 with icon 185	PROF	T0+725s	connection of active DMI channel: Message-S146	DMI		Button with icon 185 is displayed at position 8



147	STM requests display of button 88 at position 8 with icon 186	PROF	T0+730s	connection of active DMI channel: Message-S147	DMI		Button with icon 186 is displayed at position 8
148	STM requests display of button 88 at position 8 with icon 187	PROF	T0+735s	connection of active DMI channel: Message-S148	DMI		Button with icon 187 is displayed at position 8
149	STM requests display of button 88 at position 8 with icon 191	PROF	T0+740s	connection of active DMI channel: Message-S149	DMI		Button with icon 191 is displayed at position 8
150	STM requests display of button 88 at position 8 with icon 192	PROF	T0+745s	connection of active DMI channel: Message-S150	DMI		Button with icon 192 is displayed at position 8
151	STM requests display of button 88 at position 8 with icon 194	PROF	T0+750s	connection of active DMI channel: Message-S151	DMI		Button with icon 194 is displayed at position 8
152	STM requests display of button 88 at position 8 with icon 195	PROF	T0+755s	connection of active DMI channel: Message-S152	DMI		Button with icon 195 is displayed at position 8
153	STM requests display of button 88 at position 8 with icon 196	PROF	T0+760s	connection of active DMI channel: Message-S153	DMI		Button with icon 196 is displayed at position 8
154	STM requests display of button 88 at position 8 with icon 197	PROF	T0+765s	connection of active DMI channel: Message-S154	DMI		Button with icon 197 is displayed at position 8
155	STM requests display of button 88 at position 8 with icon 198	PROF	T0+770s	connection of active DMI channel: Message-S155	DMI		Button with icon 198 is displayed at position 8
156	STM requests display of button 88 at position 8 with icon 199	PROF	T0+775s	connection of active DMI channel: Message-S156	DMI		Button with icon 199 is displayed at position 8
157	STM requests display of button 88 at position 8 with icon 200	PROF	T0+780s	connection of active DMI channel: Message-S157	DMI		Button with icon 200 is displayed at position 8
158	STM requests display of button 88 at position 8 with icon 201	PROF	T0+785s	connection of active DMI channel: Message-S158	DMI		Button with icon 201 is displayed at position 8
159	STM requests display of button 88 at position 8 with icon 204	PROF	T0+790s	connection of active DMI channel: Message-S159	DMI		Button with icon 204 is displayed at position 8
160	STM requests display of button 88 at position 8 with icon 205	PROF	T0+795s	connection of active DMI channel: Message-S160	DMI		Button with icon 205 is displayed at position 8





161	STM requests display of button 88 at position 8 with icon 207	PROF	T0+800s	connection of active DMI channel: Message-S161	DMI		Button with icon 207 is displayed at position 8
162	STM requests display of button 88 at position 8 with icon 208	PROF	T0+805s	connection of active DMI channel: Message-S162	DMI		Button with icon 208 is displayed at position 8
163	STM requests display of button 88 at position 8 with icon 209	PROF	T0+810s	connection of active DMI channel: Message-S163	DMI		Button with icon 209 is displayed at position 8
164	STM requests display of button 88 at position 8 with icon 210	PROF	T0+815s	connection of active DMI channel: Message-S164	DMI		Button with icon 210 is displayed at position 8
165	STM requests display of button 88 at position 8 with icon 211	PROF	T0+820s	connection of active DMI channel: Message-S165	DMI		Button with icon 211 is displayed at position 8
166	STM requests display of button 88 at position 8 with icon 212	PROF	T0+825s	connection of active DMI channel: Message-S166	DMI		Button with icon 212 is displayed at position 8
167	STM requests display of button 88 at position 8 with icon 213	PROF	T0+830s	connection of active DMI channel: Message-S167	DMI		Button with icon 213 is displayed at position 8
168	STM requests display of button 88 at position 8 with icon 214	PROF	T0+835s	connection of active DMI channel: Message-S168	DMI		Button with icon 214 is displayed at position 8
169	STM requests display of button 88 at position 8 with icon 215	PROF	T0+840s	connection of active DMI channel: Message-S169	DMI		Button with icon 215 is displayed at position 8
170	STM requests display of button 88 at position 8 with icon 216	PROF	T0+845s	connection of active DMI channel: Message-S170	DMI		Button with icon 216 is displayed at position 8
171	STM requests display of button 88 at position 8 with icon 217	PROF	T0+850s	connection of active DMI channel: Message-S171	DMI		Button with icon 217 is displayed at position 8
172	STM requests display of button 88 at position 8 with icon 218	PROF	T0+855s	connection of active DMI channel: Message-S172	DMI		Button with icon 218 is displayed at position 8
173	STM requests display of button 88 at position 8 with icon 219	PROF	T0+860s	connection of active DMI channel: Message-S173	DMI		Button with icon 219 is displayed at position 8
174	STM requests display of button 88 at position 8 with icon 223	PROF	T0+865s	connection of active DMI channel: Message-S174	DMI		Button with icon 223 is displayed at position 8



175	STM requests display of button 88 at position 8 with icon 224	PROF	T0+870s	connection of active DMI channel: Message-S175	DMI		Button with icon 224 is displayed at position 8
176	STM requests display of button 88 at position 8 with icon 226	PROF	T0+875s	connection of active DMI channel: Message-S176	DMI		Button with icon 226 is displayed at position 8
177	STM requests display of button 88 at position 8 with icon 227	PROF	T0+880s	connection of active DMI channel: Message-S177	DMI		Button with icon 227 is displayed at position 8
178	STM requests display of button 88 at position 8 with icon 228	PROF	T0+885s	connection of active DMI channel: Message-S178	DMI		Button with icon 228 is displayed at position 8
179	STM requests display of button 88 at position 8 with icon 229	PROF	T0+890s	connection of active DMI channel: Message-S179	DMI		Button with icon 229 is displayed at position 8
180	STM requests display of button 88 at position 8 with icon 230	PROF	T0+895s	connection of active DMI channel: Message-S180	DMI		Button with icon 230 is displayed at position 8
181	STM requests display of button 88 at position 8 with icon 231	PROF	T0+900s	connection of active DMI channel: Message-S181	DMI		Button with icon 231 is displayed at position 8
182	STM requests display of button 88 at position 8 with icon 232	PROF	T0+905s	connection of active DMI channel: Message-S182	DMI		Button with icon 232 is displayed at position 8
183	STM requests display of button 88 at position 8 with icon 233	PROF	T0+910s	connection of active DMI channel: Message-S183	DMI		Button with icon 233 is displayed at position 8
184	STM requests display of button 88 at position 8 with icon 236	PROF	T0+915s	connection of active DMI channel: Message-S184	DMI		Button with icon 236 is displayed at position 8
185	STM requests display of button 88 at position 8 with icon 237	PROF	T0+920s	connection of active DMI channel: Message-S185	DMI		Button with icon 237 is displayed at position 8
186	STM requests display of button 88 at position 8 with icon 239	PROF	T0+925s	connection of active DMI channel: Message-S186	DMI		Button with icon 239 is displayed at position 8
187	STM requests display of button 88 at position 8 with icon 240	PROF	T0+930s	connection of active DMI channel: Message-S187	DMI		Button with icon 240 is displayed at position 8
188	STM requests display of button 88 at position 8 with icon 241	PROF	T0+935s	connection of active DMI channel: Message-S188	DMI		Button with icon 241 is displayed at position 8





189	STM requests display of button 88 at position 8 with icon 242	PROF	T0+940s	connection of active DMI channel: Message-S189	DMI		Button with icon 242 is displayed at position 8
190	STM requests display of button 88 at position 8 with icon 243	PROF	T0+945s	connection of active DMI channel: Message-S190	DMI		Button with icon 243 is displayed at position 8
191	STM requests display of button 88 at position 8 with icon 244	PROF	T0+950s	connection of active DMI channel: Message-S191	DMI		Button with icon 244 is displayed at position 8
192	STM requests display of button 88 at position 8 with icon 245	PROF	T0+955s	connection of active DMI channel: Message-S192	DMI		Button with icon 245 is displayed at position 8
193	STM requests display of button 88 at position 8 with icon 246	PROF	T0+960s	connection of active DMI channel: Message-S193	DMI		Button with icon 246 is displayed at position 8
194	STM requests display of button 88 at position 8 with icon 247	PROF	T0+965s	connection of active DMI channel: Message-S194	DMI		Button with icon 247 is displayed at position 8
195	STM requests display of button 88 at position 8 with icon 248	PROF	T0+970s	connection of active DMI channel: Message-S195	DMI		Button with icon 248 is displayed at position 8
196	STM requests display of button 88 at position 8 with icon 249	PROF	T0+975s	connection of active DMI channel: Message-S196	DMI		Button with icon 249 is displayed at position 8
197	STM requests display of button 88 at position 8 with icon 250	PROF	T0+980s	connection of active DMI channel: Message-S197	DMI		Button with icon 250 is displayed at position 8
198	STM requests display of button 88 at position 8 with icon 251	PROF	T0+985s	connection of active DMI channel: Message-S198	DMI		Button with icon 251 is displayed at position 8
199	STM requests display of button 88 at position 8 with icon 255	PROF	T0+990s	connection of active DMI channel: Message-S199	DMI		Button with icon 255 is displayed at position 8

Message-S1: STM requests display of button 88 at position 8 with icon 2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)

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L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	88	Button 88
NID_BUTPOS(1)	5	8	
NID_ICON(1)	8	2	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	

Message-S2: STM requests display of button 88 at position 8 with icon 3			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
	STM-32: PL=63, N=1, ID=88, P=8, IC=3, MI=1000001000b (black on white, No flashing), L=0		

Message-S3: STM requests display of button 88 at position 8 with icon 4			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length



STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=4, MI=1000001000b (black on white, No flashing), L=0

Message-S4: STM requests display of button 88 at position 8 with icon 5

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=5, MI=1000001000b (black on white, No flashing), L=0

Message-S5: STM requests display of button 88 at position 8 with icon 6

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=6, MI=1000001000b (black on white, No flashing), L=0

Message-S6: STM requests display of button 88 at position 8 with icon 7

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=7, MI=1000001000b (black on white, No flashing), L=0



Message-S7: STM requests display of button 88 at position 8 with icon 8			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=8, MI=1000001000b (black on white, No flashing), L=0			

Message-S8: STM requests display of button 88 at position 8 with icon 9			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=9, MI=1000001000b (black on white, No flashing), L=0			

Message-S9: STM requests display of button 88 at position 8 with icon 12			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=12, MI=1000001000b (black on white, No flashing), L=0			

Message-S10: STM requests display of button 88 at position 8 with icon 13			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=13, MI=1000001000b (black on white, No flashing), L=0			

Message-S11: STM requests display of button 88 at position 8 with icon 15			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=15, MI=1000001000b (black on white, No flashing), L=0			

Message-S12: STM requests display of button 88 at position 8 with icon 16			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=16, MI=1000001000b (black on white, No flashing), L=0			

Message-S13: STM requests display of button 88 at position 8 with icon 17			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=17, MI=1000001000b (black on white, No flashing), L=0			



Message-S14: STM requests display of button 88 at position 8 with icon 18			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=18, MI=1000001000b (black on white, No flashing), L=0			

Message-S15: STM requests display of button 88 at position 8 with icon 19			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=19, MI=1000001000b (black on white, No flashing), L=0			

Message-S16: STM requests display of button 88 at position 8 with icon 20			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=20, MI=1000001000b (black on white, No flashing), L=0			

Message-S17: STM requests display of button 88 at position 8 with icon 21			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=21, MI=1000001000b (black on white, No flashing), L=0			

Message-S18: STM requests display of button 88 at position 8 with icon 22			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=22, MI=1000001000b (black on white, No flashing), L=0			

Message-S19: STM requests display of button 88 at position 8 with icon 23			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=23, MI=1000001000b (black on white, No flashing), L=0			

Message-S20: STM requests display of button 88 at position 8 with icon 24			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=88, P=8, IC=24, MI=1000001000b (black on white, No flashing), L=0

Message-S21: STM requests display of button 88 at position 8 with icon 25

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=25, MI=1000001000b (black on white, No flashing), L=0

Message-S22: STM requests display of button 88 at position 8 with icon 26

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=26, MI=1000001000b (black on white, No flashing), L=0

Message-S23: STM requests display of button 88 at position 8 with icon 27

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=27, MI=1000001000b (black on white, No flashing), L=0

Message-S24: STM requests display of button 88 at position 8 with icon 31





VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=31, MI=1000001000b (black on white, No flashing), L=0			

Message-S25: STM requests display of button 88 at position 8 with icon 32			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=32, MI=1000001000b (black on white, No flashing), L=0			

Message-S26: STM requests display of button 88 at position 8 with icon 34			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=34, MI=1000001000b (black on white, No flashing), L=0			

Message-S27: STM requests display of button 88 at position 8 with icon 35			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length



STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=35, MI=1000001000b (black on white, No flashing), L=0			
Message-S28: STM requests display of button 88 at position 8 with icon 36			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=36, MI=1000001000b (black on white, No flashing), L=0			
Message-S29: STM requests display of button 88 at position 8 with icon 37			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=37, MI=1000001000b (black on white, No flashing), L=0			
Message-S30: STM requests display of button 88 at position 8 with icon 38			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=38, MI=1000001000b (black on white, No flashing), L=0			



Message-S31: STM requests display of button 88 at position 8 with icon 39			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=39, MI=1000001000b (black on white, No flashing), L=0			

Message-S32: STM requests display of button 88 at position 8 with icon 40			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=40, MI=1000001000b (black on white, No flashing), L=0			

Message-S33: STM requests display of button 88 at position 8 with icon 41			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=41, MI=1000001000b (black on white, No flashing), L=0			

Message-S34: STM requests display of button 88 at position 8 with icon 44			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=44, MI=1000001000b (black on white, No flashing), L=0			

Message-S35: STM requests display of button 88 at position 8 with icon 45			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=45, MI=1000001000b (black on white, No flashing), L=0			

Message-S36: STM requests display of button 88 at position 8 with icon 47			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=47, MI=1000001000b (black on white, No flashing), L=0			

Message-S37: STM requests display of button 88 at position 8 with icon 48			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=48, MI=1000001000b (black on white, No flashing), L=0			



Message-S38: STM requests display of button 88 at position 8 with icon 49			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=49, MI=1000001000b (black on white, No flashing), L=0			

Message-S39: STM requests display of button 88 at position 8 with icon 50			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=50, MI=1000001000b (black on white, No flashing), L=0			

Message-S40: STM requests display of button 88 at position 8 with icon 51			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=51, MI=1000001000b (black on white, No flashing), L=0			

Message-S41: STM requests display of button 88 at position 8 with icon 52			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=52, MI=1000001000b (black on white, No flashing), L=0			

Message-S42: STM requests display of button 88 at position 8 with icon 53			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=53, MI=1000001000b (black on white, No flashing), L=0			

Message-S43: STM requests display of button 88 at position 8 with icon 54			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=54, MI=1000001000b (black on white, No flashing), L=0			

Message-S44: STM requests display of button 88 at position 8 with icon 55			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=88, P=8, IC=55, MI=1000001000b (black on white, No flashing), L=0

Message-S45: STM requests display of button 88 at position 8 with icon 56

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=56, MI=1000001000b (black on white, No flashing), L=0

Message-S46: STM requests display of button 88 at position 8 with icon 57

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=57, MI=1000001000b (black on white, No flashing), L=0

Message-S47: STM requests display of button 88 at position 8 with icon 58

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=58, MI=1000001000b (black on white, No flashing), L=0

Message-S48: STM requests display of button 88 at position 8 with icon 59



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=59, MI=1000001000b (black on white, No flashing), L=0			

Message-S49: STM requests display of button 88 at position 8 with icon 63			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=63, MI=1000001000b (black on white, No flashing), L=0			

Message-S50: STM requests display of button 88 at position 8 with icon 64			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=64, MI=1000001000b (black on white, No flashing), L=0			

Message-S51: STM requests display of button 88 at position 8 with icon 66			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length





STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=66, MI=1000001000b (black on white, No flashing), L=0

Message-S52: STM requests display of button 88 at position 8 with icon 67

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=67, MI=1000001000b (black on white, No flashing), L=0

Message-S53: STM requests display of button 88 at position 8 with icon 68

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=68, MI=1000001000b (black on white, No flashing), L=0

Message-S54: STM requests display of button 88 at position 8 with icon 69

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=69, MI=1000001000b (black on white, No flashing), L=0



Message-S55: STM requests display of button 88 at position 8 with icon 70			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=70, MI=1000001000b (black on white, No flashing), L=0			

Message-S56: STM requests display of button 88 at position 8 with icon 71			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=71, MI=1000001000b (black on white, No flashing), L=0			

Message-S57: STM requests display of button 88 at position 8 with icon 72			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=72, MI=1000001000b (black on white, No flashing), L=0			

Message-S58: STM requests display of button 88 at position 8 with icon 73			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=73, MI=1000001000b (black on white, No flashing), L=0			

Message-S59: STM requests display of button 88 at position 8 with icon 76			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=76, MI=1000001000b (black on white, No flashing), L=0			

Message-S60: STM requests display of button 88 at position 8 with icon 77			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=77, MI=1000001000b (black on white, No flashing), L=0			

Message-S61: STM requests display of button 88 at position 8 with icon 79			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=79, MI=1000001000b (black on white, No flashing), L=0			



Message-S62: STM requests display of button 88 at position 8 with icon 80			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=80, MI=1000001000b (black on white, No flashing), L=0			

Message-S63: STM requests display of button 88 at position 8 with icon 81			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=81, MI=1000001000b (black on white, No flashing), L=0			

Message-S64: STM requests display of button 88 at position 8 with icon 82			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=82, MI=1000001000b (black on white, No flashing), L=0			

Message-S65: STM requests display of button 88 at position 8 with icon 83			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=83, MI=1000001000b (black on white, No flashing), L=0			

Message-S66: STM requests display of button 88 at position 8 with icon 84			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=84, MI=1000001000b (black on white, No flashing), L=0			

Message-S67: STM requests display of button 88 at position 8 with icon 85			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=85, MI=1000001000b (black on white, No flashing), L=0			

Message-S68: STM requests display of button 88 at position 8 with icon 86			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=88, P=8, IC=86, MI=1000001000b (black on white, No flashing), L=0

Message-S69: STM requests display of button 88 at position 8 with icon 87

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=87, MI=1000001000b (black on white, No flashing), L=0

Message-S70: STM requests display of button 88 at position 8 with icon 88

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=88, MI=1000001000b (black on white, No flashing), L=0

Message-S71: STM requests display of button 88 at position 8 with icon 89

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=89, MI=1000001000b (black on white, No flashing), L=0

Message-S72: STM requests display of button 88 at position 8 with icon 90



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=90, MI=1000001000b (black on white, No flashing), L=0			

Message-S73: STM requests display of button 88 at position 8 with icon 91			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=91, MI=1000001000b (black on white, No flashing), L=0			

Message-S74: STM requests display of button 88 at position 8 with icon 95			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=95, MI=1000001000b (black on white, No flashing), L=0			

Message-S75: STM requests display of button 88 at position 8 with icon 96			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length



STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=96, MI=1000001000b (black on white, No flashing), L=0

Message-S76: STM requests display of button 88 at position 8 with icon 98

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=98, MI=1000001000b (black on white, No flashing), L=0

Message-S77: STM requests display of button 88 at position 8 with icon 99

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=99, MI=1000001000b (black on white, No flashing), L=0

Message-S78: STM requests display of button 88 at position 8 with icon 100

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=100, MI=1000001000b (black on white, No flashing), L=0





Message-S79: STM requests display of button 88 at position 8 with icon 101			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=101, MI=1000001000b (black on white, No flashing), L=0			

Message-S80: STM requests display of button 88 at position 8 with icon 102			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=102, MI=1000001000b (black on white, No flashing), L=0			

Message-S81: STM requests display of button 88 at position 8 with icon 103			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=103, MI=1000001000b (black on white, No flashing), L=0			

Message-S82: STM requests display of button 88 at position 8 with icon 104			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=104, MI=1000001000b (black on white, No flashing), L=0			

Message-S83: STM requests display of button 88 at position 8 with icon 105			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=105, MI=1000001000b (black on white, No flashing), L=0			

Message-S84: STM requests display of button 88 at position 8 with icon 108			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=108, MI=1000001000b (black on white, No flashing), L=0			

Message-S85: STM requests display of button 88 at position 8 with icon 109			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=109, MI=1000001000b (black on white, No flashing), L=0			



Message-S86: STM requests display of button 88 at position 8 with icon 111			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=111, MI=1000001000b (black on white, No flashing), L=0			

Message-S87: STM requests display of button 88 at position 8 with icon 112			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=112, MI=1000001000b (black on white, No flashing), L=0			

Message-S88: STM requests display of button 88 at position 8 with icon 113			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=113, MI=1000001000b (black on white, No flashing), L=0			

Message-S89: STM requests display of button 88 at position 8 with icon 114			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=114, MI=1000001000b (black on white, No flashing), L=0			

Message-S90: STM requests display of button 88 at position 8 with icon 115			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=115, MI=1000001000b (black on white, No flashing), L=0			

Message-S91: STM requests display of button 88 at position 8 with icon 116			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=116, MI=1000001000b (black on white, No flashing), L=0			

Message-S92: STM requests display of button 88 at position 8 with icon 117			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=88, P=8, IC=117, MI=1000001000b (black on white, No flashing), L=0

Message-S93: STM requests display of button 88 at position 8 with icon 118

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=118, MI=1000001000b (black on white, No flashing), L=0

Message-S94: STM requests display of button 88 at position 8 with icon 119

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=119, MI=1000001000b (black on white, No flashing), L=0

Message-S95: STM requests display of button 88 at position 8 with icon 120

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=120, MI=1000001000b (black on white, No flashing), L=0

Message-S96: STM requests display of button 88 at position 8 with icon 121



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=121, MI=1000001000b (black on white, No flashing), L=0			

Message-S97: STM requests display of button 88 at position 8 with icon 122			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=122, MI=1000001000b (black on white, No flashing), L=0			

Message-S98: STM requests display of button 88 at position 8 with icon 123			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=123, MI=1000001000b (black on white, No flashing), L=0			

Message-S99: STM requests display of button 88 at position 8 with icon 127			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length



STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=127, MI=1000001000b (black on white, No flashing), L=0			
Message-S100: STM requests display of button 88 at position 8 with icon 128			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=128, MI=1000001000b (black on white, No flashing), L=0			
Message-S101: STM requests display of button 88 at position 8 with icon 130			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=130, MI=1000001000b (black on white, No flashing), L=0			
Message-S102: STM requests display of button 88 at position 8 with icon 131			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=131, MI=1000001000b (black on white, No flashing), L=0			



Message-S103: STM requests display of button 88 at position 8 with icon 132			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=132, MI=1000001000b (black on white, No flashing), L=0			

Message-S104: STM requests display of button 88 at position 8 with icon 133			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=133, MI=1000001000b (black on white, No flashing), L=0			

Message-S105: STM requests display of button 88 at position 8 with icon 134			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=134, MI=1000001000b (black on white, No flashing), L=0			

Message-S106: STM requests display of button 88 at position 8 with icon 135			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM





L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=135, MI=1000001000b (black on white, No flashing), L=0			

Message-S107: STM requests display of button 88 at position 8 with icon 136			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=136, MI=1000001000b (black on white, No flashing), L=0			

Message-S108: STM requests display of button 88 at position 8 with icon 137			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=137, MI=1000001000b (black on white, No flashing), L=0			

Message-S109: STM requests display of button 88 at position 8 with icon 140			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=140, MI=1000001000b (black on white, No flashing), L=0			



Message-S110: STM requests display of button 88 at position 8 with icon 141			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=141, MI=1000001000b (black on white, No flashing), L=0			

Message-S111: STM requests display of button 88 at position 8 with icon 143			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=143, MI=1000001000b (black on white, No flashing), L=0			

Message-S112: STM requests display of button 88 at position 8 with icon 144			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=144, MI=1000001000b (black on white, No flashing), L=0			

Message-S113: STM requests display of button 88 at position 8 with icon 145			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=145, MI=1000001000b (black on white, No flashing), L=0			

Message-S114: STM requests display of button 88 at position 8 with icon 146			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=146, MI=1000001000b (black on white, No flashing), L=0			

Message-S115: STM requests display of button 88 at position 8 with icon 147			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=147, MI=1000001000b (black on white, No flashing), L=0			

Message-S116: STM requests display of button 88 at position 8 with icon 148			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=88, P=8, IC=148, MI=1000001000b (black on white, No flashing), L=0

Message-S117: STM requests display of button 88 at position 8 with icon 149

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=149, MI=1000001000b (black on white, No flashing), L=0

Message-S118: STM requests display of button 88 at position 8 with icon 150

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=150, MI=1000001000b (black on white, No flashing), L=0

Message-S119: STM requests display of button 88 at position 8 with icon 151

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=151, MI=1000001000b (black on white, No flashing), L=0

Message-S120: STM requests display of button 88 at position 8 with icon 152



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=152, MI=1000001000b (black on white, No flashing), L=0			

Message-S121: STM requests display of button 88 at position 8 with icon 153			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=153, MI=1000001000b (black on white, No flashing), L=0			

Message-S122: STM requests display of button 88 at position 8 with icon 154			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=154, MI=1000001000b (black on white, No flashing), L=0			

Message-S123: STM requests display of button 88 at position 8 with icon 155			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length



STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=155, MI=1000001000b (black on white, No flashing), L=0

Message-S124: STM requests display of button 88 at position 8 with icon 159

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=159, MI=1000001000b (black on white, No flashing), L=0

Message-S125: STM requests display of button 88 at position 8 with icon 160

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=160, MI=1000001000b (black on white, No flashing), L=0

Message-S126: STM requests display of button 88 at position 8 with icon 162

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=162, MI=1000001000b (black on white, No flashing), L=0



Message-S127: STM requests display of button 88 at position 8 with icon 163			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=163, MI=1000001000b (black on white, No flashing), L=0			

Message-S128: STM requests display of button 88 at position 8 with icon 164			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=164, MI=1000001000b (black on white, No flashing), L=0			

Message-S129: STM requests display of button 88 at position 8 with icon 165			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=165, MI=1000001000b (black on white, No flashing), L=0			

Message-S130: STM requests display of button 88 at position 8 with icon 166			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=166, MI=1000001000b (black on white, No flashing), L=0			

Message-S131: STM requests display of button 88 at position 8 with icon 167			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=167, MI=1000001000b (black on white, No flashing), L=0			

Message-S132: STM requests display of button 88 at position 8 with icon 168			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=168, MI=1000001000b (black on white, No flashing), L=0			

Message-S133: STM requests display of button 88 at position 8 with icon 169			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=169, MI=1000001000b (black on white, No flashing), L=0			





Message-S134: STM requests display of button 88 at position 8 with icon 172			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=172, MI=1000001000b (black on white, No flashing), L=0			

Message-S135: STM requests display of button 88 at position 8 with icon 173			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=173, MI=1000001000b (black on white, No flashing), L=0			

Message-S136: STM requests display of button 88 at position 8 with icon 175			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=175, MI=1000001000b (black on white, No flashing), L=0			

Message-S137: STM requests display of button 88 at position 8 with icon 176			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=176, MI=1000001000b (black on white, No flashing), L=0			

Message-S138: STM requests display of button 88 at position 8 with icon 177			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=177, MI=1000001000b (black on white, No flashing), L=0			

Message-S139: STM requests display of button 88 at position 8 with icon 178			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=178, MI=1000001000b (black on white, No flashing), L=0			

Message-S140: STM requests display of button 88 at position 8 with icon 179			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=88, P=8, IC=179, MI=1000001000b (black on white, No flashing), L=0

Message-S141: STM requests display of button 88 at position 8 with icon 180

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=180, MI=1000001000b (black on white, No flashing), L=0

Message-S142: STM requests display of button 88 at position 8 with icon 181

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=181, MI=1000001000b (black on white, No flashing), L=0

Message-S143: STM requests display of button 88 at position 8 with icon 182

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=182, MI=1000001000b (black on white, No flashing), L=0

Message-S144: STM requests display of button 88 at position 8 with icon 183



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=183, MI=1000001000b (black on white, No flashing), L=0			

Message-S145: STM requests display of button 88 at position 8 with icon 184			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=184, MI=1000001000b (black on white, No flashing), L=0			

Message-S146: STM requests display of button 88 at position 8 with icon 185			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=185, MI=1000001000b (black on white, No flashing), L=0			

Message-S147: STM requests display of button 88 at position 8 with icon 186			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length



STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=186, MI=1000001000b (black on white, No flashing), L=0

Message-S148: STM requests display of button 88 at position 8 with icon 187

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=187, MI=1000001000b (black on white, No flashing), L=0

Message-S149: STM requests display of button 88 at position 8 with icon 191

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=191, MI=1000001000b (black on white, No flashing), L=0

Message-S150: STM requests display of button 88 at position 8 with icon 192

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=192, MI=1000001000b (black on white, No flashing), L=0



Message-S151: STM requests display of button 88 at position 8 with icon 194			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=194, MI=1000001000b (black on white, No flashing), L=0			

Message-S152: STM requests display of button 88 at position 8 with icon 195			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=195, MI=1000001000b (black on white, No flashing), L=0			

Message-S153: STM requests display of button 88 at position 8 with icon 196			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=196, MI=1000001000b (black on white, No flashing), L=0			

Message-S154: STM requests display of button 88 at position 8 with icon 197			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=197, MI=1000001000b (black on white, No flashing), L=0			

Message-S155: STM requests display of button 88 at position 8 with icon 198			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=198, MI=1000001000b (black on white, No flashing), L=0			

Message-S156: STM requests display of button 88 at position 8 with icon 199			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=199, MI=1000001000b (black on white, No flashing), L=0			

Message-S157: STM requests display of button 88 at position 8 with icon 200			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=200, MI=1000001000b (black on white, No flashing), L=0			



Message-S158: STM requests display of button 88 at position 8 with icon 201			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=201, MI=1000001000b (black on white, No flashing), L=0			

Message-S159: STM requests display of button 88 at position 8 with icon 204			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=204, MI=1000001000b (black on white, No flashing), L=0			

Message-S160: STM requests display of button 88 at position 8 with icon 205			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=205, MI=1000001000b (black on white, No flashing), L=0			

Message-S161: STM requests display of button 88 at position 8 with icon 207			
VARIABLE	Length	VALUE	COMMENT





NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=207, MI=1000001000b (black on white, No flashing), L=0			

Message-S162: STM requests display of button 88 at position 8 with icon 208			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=208, MI=1000001000b (black on white, No flashing), L=0			

Message-S163: STM requests display of button 88 at position 8 with icon 209			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=209, MI=1000001000b (black on white, No flashing), L=0			

Message-S164: STM requests display of button 88 at position 8 with icon 210			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			



STM-32: PL=63, N=1, ID=88, P=8, IC=210, MI=1000001000b (black on white, No flashing), L=0

Message-S165: STM requests display of button 88 at position 8 with icon 211

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=211, MI=1000001000b (black on white, No flashing), L=0

Message-S166: STM requests display of button 88 at position 8 with icon 212

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=212, MI=1000001000b (black on white, No flashing), L=0

Message-S167: STM requests display of button 88 at position 8 with icon 213

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=213, MI=1000001000b (black on white, No flashing), L=0

Message-S168: STM requests display of button 88 at position 8 with icon 214



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=214, MI=1000001000b (black on white, No flashing), L=0			

Message-S169: STM requests display of button 88 at position 8 with icon 215			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=215, MI=1000001000b (black on white, No flashing), L=0			

Message-S170: STM requests display of button 88 at position 8 with icon 216			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=216, MI=1000001000b (black on white, No flashing), L=0			

Message-S171: STM requests display of button 88 at position 8 with icon 217			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length



STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=217, MI=1000001000b (black on white, No flashing), L=0

Message-S172: STM requests display of button 88 at position 8 with icon 218

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=218, MI=1000001000b (black on white, No flashing), L=0

Message-S173: STM requests display of button 88 at position 8 with icon 219

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=219, MI=1000001000b (black on white, No flashing), L=0

Message-S174: STM requests display of button 88 at position 8 with icon 223

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=223, MI=1000001000b (black on white, No flashing), L=0



Message-S175: STM requests display of button 88 at position 8 with icon 224			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=224, MI=1000001000b (black on white, No flashing), L=0			

Message-S176: STM requests display of button 88 at position 8 with icon 226			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=226, MI=1000001000b (black on white, No flashing), L=0			

Message-S177: STM requests display of button 88 at position 8 with icon 227			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=227, MI=1000001000b (black on white, No flashing), L=0			

Message-S178: STM requests display of button 88 at position 8 with icon 228			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=228, MI=1000001000b (black on white, No flashing), L=0			

Message-S179: STM requests display of button 88 at position 8 with icon 229			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=229, MI=1000001000b (black on white, No flashing), L=0			

Message-S180: STM requests display of button 88 at position 8 with icon 230			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=230, MI=1000001000b (black on white, No flashing), L=0			

Message-S181: STM requests display of button 88 at position 8 with icon 231			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=231, MI=1000001000b (black on white, No flashing), L=0			



Message-S182: STM requests display of button 88 at position 8 with icon 232			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=232, MI=1000001000b (black on white, No flashing), L=0			

Message-S183: STM requests display of button 88 at position 8 with icon 233			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=233, MI=1000001000b (black on white, No flashing), L=0			

Message-S184: STM requests display of button 88 at position 8 with icon 236			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=236, MI=1000001000b (black on white, No flashing), L=0			

Message-S185: STM requests display of button 88 at position 8 with icon 237			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=237, MI=1000001000b (black on white, No flashing), L=0			

Message-S186: STM requests display of button 88 at position 8 with icon 239			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=239, MI=1000001000b (black on white, No flashing), L=0			

Message-S187: STM requests display of button 88 at position 8 with icon 240			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=240, MI=1000001000b (black on white, No flashing), L=0			

Message-S188: STM requests display of button 88 at position 8 with icon 241			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			





STM-32: PL=63, N=1, ID=88, P=8, IC=241, MI=1000001000b (black on white, No flashing), L=0

Message-S189: STM requests display of button 88 at position 8 with icon 242

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=242, MI=1000001000b (black on white, No flashing), L=0

Message-S190: STM requests display of button 88 at position 8 with icon 243

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=243, MI=1000001000b (black on white, No flashing), L=0

Message-S191: STM requests display of button 88 at position 8 with icon 244

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=244, MI=1000001000b (black on white, No flashing), L=0

Message-S192: STM requests display of button 88 at position 8 with icon 245



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=245, MI=1000001000b (black on white, No flashing), L=0			

Message-S193: STM requests display of button 88 at position 8 with icon 246			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=246, MI=1000001000b (black on white, No flashing), L=0			

Message-S194: STM requests display of button 88 at position 8 with icon 247			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=247, MI=1000001000b (black on white, No flashing), L=0			

Message-S195: STM requests display of button 88 at position 8 with icon 248			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length



STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=248, MI=1000001000b (black on white, No flashing), L=0

Message-S196: STM requests display of button 88 at position 8 with icon 249

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=249, MI=1000001000b (black on white, No flashing), L=0

Message-S197: STM requests display of button 88 at position 8 with icon 250

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=250, MI=1000001000b (black on white, No flashing), L=0

Message-S198: STM requests display of button 88 at position 8 with icon 251

VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length

STM-15: PL=25, ST=7, (State DA)

STM-32: PL=63, N=1, ID=88, P=8, IC=251, MI=1000001000b (black on white, No flashing), L=0



Message-S199: STM requests display of button 88 at position 8 with icon 255			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=8, IC=255, MI=1000001000b (black on white, No flashing), L=0			

### 2.3.39 Test Case 7c5.8

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.2.0
	Icon identity test with buttons for configuration(s) 7a.9 with SK technology, set of buttons with different icons: All icons fitting into a button position are displayed in sets of 8 buttons in a loop.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.9 with SK technology.
	The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c5.1

### ERTMS/ETCS on-board Test Case



Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 1)	PROF	T0	connection of active DMI channel: Message-S1	DMI		Icons 1, 2, 3, 4, 5, 6, 7, 8 (icon set 1) are displayed at positions 1-8
2	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 2)	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Icons 10, 9, 12, 13, 15, 20, 16, 17 (icon set 2) are displayed at positions 1-8
3	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 3)	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Icons 11, 19, 21, 22, 23, 6, 24, 25 (icon set 3) are displayed at positions 1-8
4	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 4)	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Icons 14, 26, 27, 31, 32, 20, 16, 17 (icon set 4) are displayed at positions 1-8
5	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 5)	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Icons 28, 2, 3, 4, 5, 6, 7, 8 (icon set 5) are displayed at positions 1-8
6	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 6)	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Icons 33, 34, 35, 36, 37, 38, 39, 40 (icon set 6) are displayed at positions 1-8
7	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 7)	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Icons 42, 41, 44, 45, 47, 52, 48, 49 (icon set 7) are displayed at positions 1-8
8	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 8)	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Icons 43, 51, 53, 54, 55, 38, 56, 57 (icon set 8) are displayed at positions 1-8
9	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 9)	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Icons 46, 58, 59, 63, 64, 52, 48, 49 (icon set 9) are displayed at positions 1-8
10	STM requests display of buttons 9-16 at positions 1-8 with different	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		Icons 60, 34, 35, 36, 37, 38, 39, 40 (icon set 10) are displayed at



	icons (set 10)						positions 1-8
11	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 11)	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Icons 65, 66, 67, 68, 69, 70, 71, 72 (icon set 11) are displayed at positions 1-8
12	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 12)	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		Icons 74, 73, 76, 77, 79, 84, 80, 81 (icon set 12) are displayed at positions 1-8
13	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 13)	PROF	T0+60s	connection of active DMI channel: Message-S13	DMI		Icons 75, 83, 85, 86, 87, 70, 88, 89 (icon set 13) are displayed at positions 1-8
14	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 14)	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		Icons 78, 90, 91, 95, 96, 84, 80, 81 (icon set 14) are displayed at positions 1-8
15	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 15)	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		Icons 92, 66, 67, 68, 69, 70, 71, 72 (icon set 15) are displayed at positions 1-8
16	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 16)	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		Icons 97, 98, 99, 100, 101, 102, 103, 104 (icon set 16) are displayed at positions 1-8
17	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 17)	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Icons 106, 105, 108, 109, 111, 116, 112, 113 (icon set 17) are displayed at positions 1-8
18	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 18)	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		Icons 107, 115, 117, 118, 119, 102, 120, 121 (icon set 18) are displayed at positions 1-8
19	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 19)	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Icons 110, 122, 123, 127, 128, 116, 112, 113 (icon set 19) are displayed at positions 1-8
20	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 20)	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		Icons 124, 98, 99, 100, 101, 102, 103, 104 (icon set 20) are displayed at positions 1-8



21	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 21)	PROF	T0+100s	connection of active DMI channel: Message-S21	DMI		Icons 129, 130, 131, 132, 133, 134, 135, 136 (icon set 21) are displayed at positions 1-8
22	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 22)	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		Icons 138, 137, 140, 141, 143, 148, 144, 145 (icon set 22) are displayed at positions 1-8
23	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 23)	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Icons 139, 147, 149, 150, 151, 134, 152, 153 (icon set 23) are displayed at positions 1-8
24	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 24)	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		Icons 142, 154, 155, 159, 160, 148, 144, 145 (icon set 24) are displayed at positions 1-8
25	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 25)	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Icons 156, 130, 131, 132, 133, 134, 135, 136 (icon set 25) are displayed at positions 1-8
26	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 26)	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		Icons 161, 162, 163, 164, 165, 166, 167, 168 (icon set 26) are displayed at positions 1-8
27	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 27)	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Icons 170, 169, 172, 173, 175, 180, 176, 177 (icon set 27) are displayed at positions 1-8
28	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 28)	PROF	T0+135s	connection of active DMI channel: Message-S28	DMI		Icons 171, 179, 181, 182, 183, 166, 184, 185 (icon set 28) are displayed at positions 1-8
29	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 29)	PROF	T0+140s	connection of active DMI channel: Message-S29	DMI		Icons 174, 186, 187, 191, 192, 180, 176, 177 (icon set 29) are displayed at positions 1-8
30	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 30)	PROF	T0+145s	connection of active DMI channel: Message-S30	DMI		Icons 188, 162, 163, 164, 165, 166, 167, 168 (icon set 30) are displayed at positions 1-8
31	STM requests display of buttons 9-	PROF	T0+150s	connection of active DMI channel:	DMI		Icons 193, 194, 195, 196, 197, 198,

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	16 at positions 1-8 with different icons (set 31)			Message-S31			199, 200 (icon set 31) are displayed at positions 1-8
32	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 32)	PROF	T0+155s	connection of active DMI channel: Message-S32	DMI		Icons 202, 201, 204, 205, 207, 212, 208, 209 (icon set 32) are displayed at positions 1-8
33	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 33)	PROF	T0+160s	connection of active DMI channel: Message-S33	DMI		Icons 203, 211, 213, 214, 215, 198, 216, 217 (icon set 33) are displayed at positions 1-8
34	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 34)	PROF	T0+165s	connection of active DMI channel: Message-S34	DMI		Icons 206, 218, 219, 223, 224, 212, 208, 209 (icon set 34) are displayed at positions 1-8
35	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 35)	PROF	T0+170s	connection of active DMI channel: Message-S35	DMI		Icons 220, 194, 195, 196, 197, 198, 199, 200 (icon set 35) are displayed at positions 1-8
36	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 36)	PROF	T0+175s	connection of active DMI channel: Message-S36	DMI		Icons 225, 226, 227, 228, 229, 230, 231, 232 (icon set 36) are displayed at positions 1-8
37	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 37)	PROF	T0+180s	connection of active DMI channel: Message-S37	DMI		Icons 234, 233, 236, 237, 239, 244, 240, 241 (icon set 37) are displayed at positions 1-8
38	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 38)	PROF	T0+185s	connection of active DMI channel: Message-S38	DMI		Icons 235, 243, 245, 246, 247, 230, 248, 249 (icon set 38) are displayed at positions 1-8
39	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 39)	PROF	T0+190s	connection of active DMI channel: Message-S39	DMI		Icons 238, 250, 251, 255, 224, 244, 240, 241 (icon set 39) are displayed at positions 1-8
40	STM requests display of buttons 9-16 at positions 1-8 with different icons (set 40)	PROF	T0+195s	connection of active DMI channel: Message-S40	DMI		Icons 252, 226, 227, 228, 229, 230, 231, 232 (icon set 40) are displayed at positions 1-8

Message-S1: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 1)





VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	322	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	9	Button 9
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	1	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	10	Button 10
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	2	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	11	Button 11
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	3	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing



L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	12	Button 12
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	4	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	13	Button 13
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	5	
M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	14	Button 14
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	6	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	15	Button 15
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	7	
M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	16	Button 16
NID_BUTPOS(8)	5	8	



NID_ICON(8)	8	8	
M_BUT_ATTRIB(8)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
Padding bits	5	00000b	

Message-S2: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 2)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=10, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=9, MI=1000001000b, L=0		(3): ID=11, P=3, IC=12, MI=1000001000b, L=0	
(4): ID=12, P=4, IC=13, MI=1000001000b, L=0		(5): ID=13, P=5, IC=15, MI=1000001000b, L=0	
(6): ID=14, P=6, IC=20, MI=1000001000b, L=0		(7): ID=15, P=7, IC=16, MI=1000001000b, L=0	
(8): ID=16, P=8, IC=17, MI=1000001000b, L=0			

Message-S3: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 3)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=11, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=19, MI=1000001000b, L=0		(3): ID=11, P=3, IC=21, MI=1000001000b, L=0	



(4): ID=12, P=4, IC=22, MI=1000001000b, L=0	(5): ID=13, P=5, IC=23, MI=1000001000b, L=0
(6): ID=14, P=6, IC=6, MI=1000001000b, L=0	(7): ID=15, P=7, IC=24, MI=1000001000b, L=0
(8): ID=16, P=8, IC=25, MI=1000001000b, L=0	

Message-S4: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 4)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=14, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=26, MI=1000001000b, L=0	(3): ID=11, P=3, IC=27, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=31, MI=1000001000b, L=0	(5): ID=13, P=5, IC=32, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=20, MI=1000001000b, L=0	(7): ID=15, P=7, IC=16, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=17, MI=1000001000b, L=0			

Message-S5: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 5)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=28, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=2, MI=1000001000b, L=0	(3): ID=11, P=3, IC=3, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=4, MI=1000001000b, L=0	(5): ID=13, P=5, IC=5, MI=1000001000b, L=0
(6): ID=14, P=6, IC=6, MI=1000001000b, L=0	(7): ID=15, P=7, IC=7, MI=1000001000b, L=0
(8): ID=16, P=8, IC=8, MI=1000001000b, L=0	

Message-S6: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 6)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=33, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=34, MI=1000001000b, L=0	(3): ID=11, P=3, IC=35, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=36, MI=1000001000b, L=0	(5): ID=13, P=5, IC=37, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=38, MI=1000001000b, L=0	(7): ID=15, P=7, IC=39, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=40, MI=1000001000b, L=0			

Message-S7: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 7)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=42, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=41, MI=1000001000b, L=0	(3): ID=11, P=3, IC=44, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=45, MI=1000001000b, L=0	(5): ID=13, P=5, IC=47, MI=1000001000b, L=0
(6): ID=14, P=6, IC=52, MI=1000001000b, L=0	(7): ID=15, P=7, IC=48, MI=1000001000b, L=0
(8): ID=16, P=8, IC=49, MI=1000001000b, L=0	

Message-S8: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 8)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=43, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=51, MI=1000001000b, L=0	(3): ID=11, P=3, IC=53, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=54, MI=1000001000b, L=0	(5): ID=13, P=5, IC=55, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=38, MI=1000001000b, L=0	(7): ID=15, P=7, IC=56, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=57, MI=1000001000b, L=0			

Message-S9: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 9)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=46, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=58, MI=1000001000b, L=0	(3): ID=11, P=3, IC=59, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=63, MI=1000001000b, L=0	(5): ID=13, P=5, IC=64, MI=1000001000b, L=0
(6): ID=14, P=6, IC=52, MI=1000001000b, L=0	(7): ID=15, P=7, IC=48, MI=1000001000b, L=0
(8): ID=16, P=8, IC=49, MI=1000001000b, L=0	

Message-S10: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 10)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=60, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=34, MI=1000001000b, L=0	(3): ID=11, P=3, IC=35, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=36, MI=1000001000b, L=0	(5): ID=13, P=5, IC=37, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=38, MI=1000001000b, L=0	(7): ID=15, P=7, IC=39, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=40, MI=1000001000b, L=0			

Message-S11: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 11)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=65, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=66, MI=1000001000b, L=0	(3): ID=11, P=3, IC=67, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=68, MI=1000001000b, L=0	(5): ID=13, P=5, IC=69, MI=1000001000b, L=0
(6): ID=14, P=6, IC=70, MI=1000001000b, L=0	(7): ID=15, P=7, IC=71, MI=1000001000b, L=0
(8): ID=16, P=8, IC=72, MI=1000001000b, L=0	

Message-S12: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 12)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=74, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=73, MI=1000001000b, L=0	(3): ID=11, P=3, IC=76, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=77, MI=1000001000b, L=0	(5): ID=13, P=5, IC=79, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=84, MI=1000001000b, L=0	(7): ID=15, P=7, IC=80, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=81, MI=1000001000b, L=0			

Message-S13: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 13)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=75, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=83, MI=1000001000b, L=0	(3): ID=11, P=3, IC=85, MI=1000001000b, L=0		





(4): ID=12, P=4, IC=86, MI=1000001000b, L=0	(5): ID=13, P=5, IC=87, MI=1000001000b, L=0
(6): ID=14, P=6, IC=70, MI=1000001000b, L=0	(7): ID=15, P=7, IC=88, MI=1000001000b, L=0
(8): ID=16, P=8, IC=89, MI=1000001000b, L=0	

Message-S14: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 14)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=78, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=90, MI=1000001000b, L=0	(3): ID=11, P=3, IC=91, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=95, MI=1000001000b, L=0	(5): ID=13, P=5, IC=96, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=84, MI=1000001000b, L=0	(7): ID=15, P=7, IC=80, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=81, MI=1000001000b, L=0			

Message-S15: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 15)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=92, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=66, MI=1000001000b, L=0	(3): ID=11, P=3, IC=67, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=68, MI=1000001000b, L=0	(5): ID=13, P=5, IC=69, MI=1000001000b, L=0
(6): ID=14, P=6, IC=70, MI=1000001000b, L=0	(7): ID=15, P=7, IC=71, MI=1000001000b, L=0
(8): ID=16, P=8, IC=72, MI=1000001000b, L=0	

Message-S16: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 16)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=97, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=98, MI=1000001000b, L=0	(3): ID=11, P=3, IC=99, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=100, MI=1000001000b, L=0	(5): ID=13, P=5, IC=101, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=102, MI=1000001000b, L=0	(7): ID=15, P=7, IC=103, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=104, MI=1000001000b, L=0			

Message-S17: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 17)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=106, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=105, MI=1000001000b, L=0	(3): ID=11, P=3, IC=108, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=109, MI=1000001000b, L=0	(5): ID=13, P=5, IC=111, MI=1000001000b, L=0
(6): ID=14, P=6, IC=116, MI=1000001000b, L=0	(7): ID=15, P=7, IC=112, MI=1000001000b, L=0
(8): ID=16, P=8, IC=113, MI=1000001000b, L=0	

Message-S18: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 18)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=107, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=115, MI=1000001000b, L=0	(3): ID=11, P=3, IC=117, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=118, MI=1000001000b, L=0	(5): ID=13, P=5, IC=119, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=102, MI=1000001000b, L=0	(7): ID=15, P=7, IC=120, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=121, MI=1000001000b, L=0			

Message-S19: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 19)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=110, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=122, MI=1000001000b, L=0	(3): ID=11, P=3, IC=123, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=127, MI=1000001000b, L=0	(5): ID=13, P=5, IC=128, MI=1000001000b, L=0
(6): ID=14, P=6, IC=116, MI=1000001000b, L=0	(7): ID=15, P=7, IC=112, MI=1000001000b, L=0
(8): ID=16, P=8, IC=113, MI=1000001000b, L=0	

Message-S20: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 20)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=124, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=98, MI=1000001000b, L=0	(3): ID=11, P=3, IC=99, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=100, MI=1000001000b, L=0	(5): ID=13, P=5, IC=101, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=102, MI=1000001000b, L=0	(7): ID=15, P=7, IC=103, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=104, MI=1000001000b, L=0			

Message-S21: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 21)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=129, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=130, MI=1000001000b, L=0	(3): ID=11, P=3, IC=131, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=132, MI=1000001000b, L=0	(5): ID=13, P=5, IC=133, MI=1000001000b, L=0
(6): ID=14, P=6, IC=134, MI=1000001000b, L=0	(7): ID=15, P=7, IC=135, MI=1000001000b, L=0
(8): ID=16, P=8, IC=136, MI=1000001000b, L=0	

Message-S22: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 22)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=138, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=137, MI=1000001000b, L=0	(3): ID=11, P=3, IC=140, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=141, MI=1000001000b, L=0	(5): ID=13, P=5, IC=143, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=148, MI=1000001000b, L=0	(7): ID=15, P=7, IC=144, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=145, MI=1000001000b, L=0			

Message-S23: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 23)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=139, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=147, MI=1000001000b, L=0	(3): ID=11, P=3, IC=149, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=150, MI=1000001000b, L=0	(5): ID=13, P=5, IC=151, MI=1000001000b, L=0
(6): ID=14, P=6, IC=134, MI=1000001000b, L=0	(7): ID=15, P=7, IC=152, MI=1000001000b, L=0
(8): ID=16, P=8, IC=153, MI=1000001000b, L=0	

Message-S24: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 24)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=142, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=154, MI=1000001000b, L=0	(3): ID=11, P=3, IC=155, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=159, MI=1000001000b, L=0	(5): ID=13, P=5, IC=160, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=148, MI=1000001000b, L=0	(7): ID=15, P=7, IC=144, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=145, MI=1000001000b, L=0			

Message-S25: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 25)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=156, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=130, MI=1000001000b, L=0	(3): ID=11, P=3, IC=131, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=132, MI=1000001000b, L=0	(5): ID=13, P=5, IC=133, MI=1000001000b, L=0
(6): ID=14, P=6, IC=134, MI=1000001000b, L=0	(7): ID=15, P=7, IC=135, MI=1000001000b, L=0
(8): ID=16, P=8, IC=136, MI=1000001000b, L=0	

Message-S26: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 26)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=161, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=162, MI=1000001000b, L=0	(3): ID=11, P=3, IC=163, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=164, MI=1000001000b, L=0	(5): ID=13, P=5, IC=165, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=166, MI=1000001000b, L=0	(7): ID=15, P=7, IC=167, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=168, MI=1000001000b, L=0			

Message-S27: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 27)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=170, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=169, MI=1000001000b, L=0	(3): ID=11, P=3, IC=172, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=173, MI=1000001000b, L=0	(5): ID=13, P=5, IC=175, MI=1000001000b, L=0
(6): ID=14, P=6, IC=180, MI=1000001000b, L=0	(7): ID=15, P=7, IC=176, MI=1000001000b, L=0
(8): ID=16, P=8, IC=177, MI=1000001000b, L=0	

Message-S28: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 28)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=171, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=179, MI=1000001000b, L=0	(3): ID=11, P=3, IC=181, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=182, MI=1000001000b, L=0	(5): ID=13, P=5, IC=183, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=166, MI=1000001000b, L=0	(7): ID=15, P=7, IC=184, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=185, MI=1000001000b, L=0			

Message-S29: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 29)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=174, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=186, MI=1000001000b, L=0	(3): ID=11, P=3, IC=187, MI=1000001000b, L=0		





(4): ID=12, P=4, IC=191, MI=1000001000b, L=0	(5): ID=13, P=5, IC=192, MI=1000001000b, L=0
(6): ID=14, P=6, IC=180, MI=1000001000b, L=0	(7): ID=15, P=7, IC=176, MI=1000001000b, L=0
(8): ID=16, P=8, IC=177, MI=1000001000b, L=0	

Message-S30: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 30)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=188, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=162, MI=1000001000b, L=0	(3): ID=11, P=3, IC=163, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=164, MI=1000001000b, L=0	(5): ID=13, P=5, IC=165, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=166, MI=1000001000b, L=0	(7): ID=15, P=7, IC=167, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=168, MI=1000001000b, L=0			

Message-S31: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 31)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=193, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=194, MI=1000001000b, L=0	(3): ID=11, P=3, IC=195, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=196, MI=1000001000b, L=0	(5): ID=13, P=5, IC=197, MI=1000001000b, L=0
(6): ID=14, P=6, IC=198, MI=1000001000b, L=0	(7): ID=15, P=7, IC=199, MI=1000001000b, L=0
(8): ID=16, P=8, IC=200, MI=1000001000b, L=0	

Message-S32: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 32)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=202, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=201, MI=1000001000b, L=0	(3): ID=11, P=3, IC=204, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=205, MI=1000001000b, L=0	(5): ID=13, P=5, IC=207, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=212, MI=1000001000b, L=0	(7): ID=15, P=7, IC=208, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=209, MI=1000001000b, L=0			

Message-S33: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 33)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=203, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=211, MI=1000001000b, L=0	(3): ID=11, P=3, IC=213, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=214, MI=1000001000b, L=0	(5): ID=13, P=5, IC=215, MI=1000001000b, L=0
(6): ID=14, P=6, IC=198, MI=1000001000b, L=0	(7): ID=15, P=7, IC=216, MI=1000001000b, L=0
(8): ID=16, P=8, IC=217, MI=1000001000b, L=0	

Message-S34: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 34)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=206, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=218, MI=1000001000b, L=0	(3): ID=11, P=3, IC=219, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=223, MI=1000001000b, L=0	(5): ID=13, P=5, IC=224, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=212, MI=1000001000b, L=0	(7): ID=15, P=7, IC=208, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=209, MI=1000001000b, L=0			

Message-S35: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 35)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=220, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=194, MI=1000001000b, L=0	(3): ID=11, P=3, IC=195, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=196, MI=1000001000b, L=0	(5): ID=13, P=5, IC=197, MI=1000001000b, L=0
(6): ID=14, P=6, IC=198, MI=1000001000b, L=0	(7): ID=15, P=7, IC=199, MI=1000001000b, L=0
(8): ID=16, P=8, IC=200, MI=1000001000b, L=0	

Message-S36: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 36)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=225, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=226, MI=1000001000b, L=0	(3): ID=11, P=3, IC=227, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=228, MI=1000001000b, L=0	(5): ID=13, P=5, IC=229, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=230, MI=1000001000b, L=0	(7): ID=15, P=7, IC=231, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=232, MI=1000001000b, L=0			

Message-S37: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 37)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=234, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=233, MI=1000001000b, L=0	(3): ID=11, P=3, IC=236, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=237, MI=1000001000b, L=0	(5): ID=13, P=5, IC=239, MI=1000001000b, L=0
(6): ID=14, P=6, IC=244, MI=1000001000b, L=0	(7): ID=15, P=7, IC=240, MI=1000001000b, L=0
(8): ID=16, P=8, IC=241, MI=1000001000b, L=0	

Message-S38: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 38)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=235, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=243, MI=1000001000b, L=0	(3): ID=11, P=3, IC=245, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=246, MI=1000001000b, L=0	(5): ID=13, P=5, IC=247, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=230, MI=1000001000b, L=0	(7): ID=15, P=7, IC=248, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=249, MI=1000001000b, L=0			

Message-S39: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 39)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=238, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=250, MI=1000001000b, L=0	(3): ID=11, P=3, IC=251, MI=1000001000b, L=0		



(4): ID=12, P=4, IC=255, MI=1000001000b, L=0	(5): ID=13, P=5, IC=224, MI=1000001000b, L=0
(6): ID=14, P=6, IC=244, MI=1000001000b, L=0	(7): ID=15, P=7, IC=240, MI=1000001000b, L=0
(8): ID=16, P=8, IC=241, MI=1000001000b, L=0	

Message-S40: STM requests display of buttons 9-16 at positions 1-8 with different icons (set 40)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=9, P=1, IC=252, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=10, P=2, IC=226, MI=1000001000b, L=0	(3): ID=11, P=3, IC=227, MI=1000001000b, L=0		
(4): ID=12, P=4, IC=228, MI=1000001000b, L=0	(5): ID=13, P=5, IC=229, MI=1000001000b, L=0		
(6): ID=14, P=6, IC=230, MI=1000001000b, L=0	(7): ID=15, P=7, IC=231, MI=1000001000b, L=0		
(8): ID=16, P=8, IC=232, MI=1000001000b, L=0			

## 2.3.40 Test Case 7c5.9

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.3.0
	Icon identity test with buttons for configuration(s) 7a.9 with SK technology, set of buttons with same icon: A set of 7 buttons is displayed with same icon 36 (cog wheel red)
ERTMS/ETCS on-board	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3



requirements tested	
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.9 with SK technology. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 1-7 at positions 1, 2, 3, 4, 5, 7, 8 with same icon 36 (cog wheel red)	PROF	T0	connection of active DMI channel: Message-S1	DMI		Icon 36 (cog wheel red) is displayed at positions 1, 2, 3, 4, 5, 7, 8

Message-S1: STM requests display of buttons 1-7 at positions 1, 2, 3, 4, 5, 7, 8 with same icon 36 (cog wheel red)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	41	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	285	Packet Length
N_ITER	5	7	Request for 7 buttons



NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	36	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	36	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	36	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	36	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	36	





M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	7	
NID_ICON(6)	8	36	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	8	
NID_ICON(7)	8	36	
M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
Padding bits	2	00b	

### 2.3.41 Test Case 7c5.10

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.1.0
	Icon identity test with buttons for configuration(s) 7a.9 with TS technology, single button request with different icons: All icons fitting into a button position are displayed with button 88 at position 16 in a loop one after the other
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2



<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.9 with TS technology. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of button 88 at position 16 with icon 1	PROF	T0	connection of active DMI channel: Message-S1	DMI		Button with icon 1 is displayed at position 16
2	STM requests display of button 88 at position 16 with icon 2	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Button with icon 2 is displayed at position 16
...	...	...	...	...	...	...	...
127	STM requests display of button 88 at position 16 with icon 127	PROF	T0+630s	connection of active DMI channel: Message-S127	DMI		Button with icon 127 is displayed at position 16
...	...	...	...	...	...	...	...
253	STM requests display of button 88 at position 16 with icon 253	PROF	T0+1260s	connection of active DMI channel: Message-S253	DMI		Button with icon 253 is displayed at position 16
254	STM requests display of button 88 at position 16 with icon 254	PROF	T0+1265s	connection of active DMI channel: Message-S254	DMI		Button with icon 254 is displayed at position 16
255	STM requests display of button 88 at position 16 with icon 255	PROF	T0+1270s	connection of active DMI channel: Message-S255	DMI		Button with icon 255 is displayed at position 16

Message-S1: STM requests display of button 88 at position 16 with icon 1			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	63	Packet Length
N_ITER	5	1	Request for 1 button
NID_BUTTON(1)	8	88	Button 88
NID_BUTPOS(1)	5	16	
NID_ICON(1)	8	1	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	

Message-S2: STM requests display of button 88 at position 16 with icon 2			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=16, IC=2, MI=1000001000b (black on white, No flashing), L=0			

Message-S127: STM requests display of button 88 at position 16 with icon 127			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM

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L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=16, IC=127, MI=1000001000b (black on white, No flashing), L=0			

Message-S253: STM requests display of button 88 at position 16 with icon 253			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=16, IC=253, MI=1000001000b (black on white, No flashing), L=0			

Message-S254: STM requests display of button 88 at position 16 with icon 254			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=16, IC=254, MI=1000001000b (black on white, No flashing), L=0			

Message-S255: STM requests display of button 88 at position 16 with icon 255			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	13	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=63, N=1, ID=88, P=16, IC=255, MI=1000001000b (black on white, No flashing), L=0			

## 2.3.42 Test Case 7c5.11

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.2.0
	Icon identity test with buttons for configuration(s) 7a.9 with TS technology, set of buttons with different icons: All icons fitting into a button position are displayed in sets of 15 buttons in a loop.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	For active STM: Customisable DMI service: 7a.9 with TS technology. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
Comments and constraints	Starting and end conditions as for test case 7c5.1

### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 1)	PROF	T0	connection of active DMI channel: Message-S1	DMI		Icons 25, 23, 24, 26, 20, 2, 21, 17, 22, 9, 18, 31, 32, 29, 30 (icon set 1) are displayed at positions 3-17
2	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 2)	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Icons 12, 23, 24, 26, 20, 3, 28, 17, 22, 15, 18, 31, 32, 7, 1 (icon set 2) are displayed at positions 3-17



3	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 3)	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Icons 13, 23, 24, 26, 4, 6, 21, 17, 22, 16, 18, 31, 32, 8, 10 (icon set 3) are displayed at positions 3-17
4	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 4)	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Icons 19, 23, 24, 26, 5, 6, 28, 17, 22, 27, 18, 31, 32, 14, 11 (icon set 4) are displayed at positions 3-17
5	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 5)	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Icons 57, 55, 56, 58, 52, 34, 53, 49, 54, 41, 50, 63, 64, 61, 62 (icon set 5) are displayed at positions 3-17
6	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 6)	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		Icons 44, 55, 56, 58, 52, 35, 60, 49, 54, 47, 50, 63, 64, 39, 33 (icon set 6) are displayed at positions 3-17
7	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 7)	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		Icons 45, 55, 56, 58, 36, 38, 53, 49, 54, 48, 50, 63, 64, 40, 42 (icon set 7) are displayed at positions 3-17
8	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 8)	PROF	T0+35s	connection of active DMI channel: Message-S8	DMI		Icons 51, 55, 56, 58, 37, 38, 60, 49, 54, 59, 50, 63, 64, 46, 43 (icon set 8) are displayed at positions 3-17
9	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 9)	PROF	T0+40s	connection of active DMI channel: Message-S9	DMI		Icons 89, 87, 88, 90, 84, 66, 85, 81, 86, 73, 82, 95, 96, 93, 94 (icon set 9) are displayed at positions 3-17
10	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 10)	PROF	T0+45s	connection of active DMI channel: Message-S10	DMI		Icons 76, 87, 88, 90, 84, 67, 92, 81, 86, 79, 82, 95, 96, 71, 65 (icon set 10) are displayed at positions 3-17
11	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 11)	PROF	T0+50s	connection of active DMI channel: Message-S11	DMI		Icons 77, 87, 88, 90, 68, 70, 85, 81, 86, 80, 82, 95, 96, 72, 74 (icon set 11) are displayed at positions 3-17
12	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 12)	PROF	T0+55s	connection of active DMI channel: Message-S12	DMI		Icons 83, 87, 88, 90, 69, 70, 92, 81, 86, 91, 82, 95, 96, 78, 75 (icon set 12) are displayed at positions 3-17
13	STM requests display of buttons	PROF	T0+60s	connection of active DMI channel:	DMI		Icons 121, 119, 120, 122, 116, 98,



	241-255 at positions 3-17 with different icons (set 13)			Message-S13			117, 113, 118, 105, 114, 127, 128, 125, 126 (icon set 13) are displayed at positions 3-17
14	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 14)	PROF	T0+65s	connection of active DMI channel: Message-S14	DMI		Icons 108, 119, 120, 122, 116, 99, 124, 113, 118, 111, 114, 127, 128, 103, 97 (icon set 14) are displayed at positions 3-17
15	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 15)	PROF	T0+70s	connection of active DMI channel: Message-S15	DMI		Icons 109, 119, 120, 122, 100, 102, 117, 113, 118, 112, 114, 127, 128, 104, 106 (icon set 15) are displayed at positions 3-17
16	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 16)	PROF	T0+75s	connection of active DMI channel: Message-S16	DMI		Icons 115, 119, 120, 122, 101, 102, 124, 113, 118, 123, 114, 127, 128, 110, 107 (icon set 16) are displayed at positions 3-17
17	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 17)	PROF	T0+80s	connection of active DMI channel: Message-S17	DMI		Icons 153, 151, 152, 154, 148, 130, 149, 145, 150, 137, 146, 159, 160, 157, 158 (icon set 17) are displayed at positions 3-17
18	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 18)	PROF	T0+85s	connection of active DMI channel: Message-S18	DMI		Icons 140, 151, 152, 154, 148, 131, 156, 145, 150, 143, 146, 159, 160, 135, 129 (icon set 18) are displayed at positions 3-17
19	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 19)	PROF	T0+90s	connection of active DMI channel: Message-S19	DMI		Icons 141, 151, 152, 154, 132, 134, 149, 145, 150, 144, 146, 159, 160, 136, 138 (icon set 19) are displayed at positions 3-17
20	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 20)	PROF	T0+95s	connection of active DMI channel: Message-S20	DMI		Icons 147, 151, 152, 154, 133, 134, 156, 145, 150, 155, 146, 159, 160, 142, 139 (icon set 20) are displayed at positions 3-17
21	STM requests display of buttons	PROF	T0+100s	connection of active DMI channel:	DMI		Icons 185, 183, 184, 186, 180, 162,



	241-255 at positions 3-17 with different icons (set 21)			Message-S21			181, 177, 182, 169, 178, 191, 192, 189, 190 (icon set 21) are displayed at positions 3-17
22	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 22)	PROF	T0+105s	connection of active DMI channel: Message-S22	DMI		Icons 172, 183, 184, 186, 180, 163, 188, 177, 182, 175, 178, 191, 192, 167, 161 (icon set 22) are displayed at positions 3-17
23	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 23)	PROF	T0+110s	connection of active DMI channel: Message-S23	DMI		Icons 173, 183, 184, 186, 164, 166, 181, 177, 182, 176, 178, 191, 192, 168, 170 (icon set 23) are displayed at positions 3-17
24	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 24)	PROF	T0+115s	connection of active DMI channel: Message-S24	DMI		Icons 179, 183, 184, 186, 165, 166, 188, 177, 182, 187, 178, 191, 192, 174, 171 (icon set 24) are displayed at positions 3-17
25	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 25)	PROF	T0+120s	connection of active DMI channel: Message-S25	DMI		Icons 217, 215, 216, 218, 212, 194, 213, 209, 214, 201, 210, 223, 224, 221, 222 (icon set 25) are displayed at positions 3-17
26	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 26)	PROF	T0+125s	connection of active DMI channel: Message-S26	DMI		Icons 204, 215, 216, 218, 212, 195, 220, 209, 214, 207, 210, 223, 224, 199, 193 (icon set 26) are displayed at positions 3-17
27	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 27)	PROF	T0+130s	connection of active DMI channel: Message-S27	DMI		Icons 205, 215, 216, 218, 196, 198, 213, 209, 214, 208, 210, 223, 224, 200, 202 (icon set 27) are displayed at positions 3-17
28	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 28)	PROF	T0+135s	connection of active DMI channel: Message-S28	DMI		Icons 211, 215, 216, 218, 197, 198, 220, 209, 214, 219, 210, 223, 224, 206, 203 (icon set 28) are displayed at positions 3-17
29	STM requests display of buttons	PROF	T0+140s	connection of active DMI channel:	DMI		Icons 249, 247, 248, 250, 244, 226,





	241-255 at positions 3-17 with different icons (set 29)			Message-S29			245, 241, 246, 233, 242, 255, 224, 253, 254 (icon set 29) are displayed at positions 3-17
30	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 30)	PROF	T0+145s	connection of active DMI channel: Message-S30	DMI		Icons 236, 247, 248, 250, 244, 227, 252, 241, 246, 239, 242, 255, 224, 231, 225 (icon set 30) are displayed at positions 3-17
31	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 31)	PROF	T0+150s	connection of active DMI channel: Message-S31	DMI		Icons 237, 247, 248, 250, 228, 230, 245, 241, 246, 240, 242, 255, 224, 232, 234 (icon set 31) are displayed at positions 3-17
32	STM requests display of buttons 241-255 at positions 3-17 with different icons (set 32)	PROF	T0+155s	connection of active DMI channel: Message-S32	DMI		Icons 243, 247, 248, 250, 229, 230, 252, 241, 246, 251, 242, 255, 224, 238, 235 (icon set 32) are displayed at positions 3-17

Message-S1: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 1)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	581	Packet Length
N_ITER	5	15	Request for 15 buttons
NID_BUTTON(1)	8	241	Button 241
NID_BUTPOS(1)	5	3	



NID_ICON(1)	8	25	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	242	Button 242
NID_BUTPOS(2)	5	4	
NID_ICON(2)	8	23	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	243	Button 243
NID_BUTPOS(3)	5	5	
NID_ICON(3)	8	24	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	244	Button 244
NID_BUTPOS(4)	5	6	
NID_ICON(4)	8	26	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	245	Button 245
NID_BUTPOS(5)	5	7	
NID_ICON(5)	8	20	
M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	



NID_BUTTON(6)	8	246	Button 246
NID_BUTPOS(6)	5	8	
NID_ICON(6)	8	2	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	247	Button 247
NID_BUTPOS(7)	5	9	
NID_ICON(7)	8	21	
M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	248	Button 248
NID_BUTPOS(8)	5	10	
NID_ICON(8)	8	17	
M_BUT_ATTRIB(8)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(9)	8	249	Button 249
NID_BUTPOS(9)	5	11	
NID_ICON(9)	8	22	
M_BUT_ATTRIB(9)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(10)	8	250	Button 250
NID_BUTPOS(10)	5	12	
NID_ICON(10)	8	9	



M_BUT_ATTRIB(10)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(11)	8	251	Button 251
NID_BUTPOS(11)	5	13	
NID_ICON(11)	8	18	
M_BUT_ATTRIB(11)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(12)	8	252	Button 252
NID_BUTPOS(12)	5	14	
NID_ICON(12)	8	31	
M_BUT_ATTRIB(12)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(13)	8	253	Button 253
NID_BUTPOS(13)	5	15	
NID_ICON(13)	8	32	
M_BUT_ATTRIB(13)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(14)	8	254	Button 254
NID_BUTPOS(14)	5	16	
NID_ICON(14)	8	29	
M_BUT_ATTRIB(14)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(15)	8	255	Button 255



NID_BUTPOS(15)	5	17	
NID_ICON(15)	8	30	
M_BUT_ATTRIB(15)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
Padding bits	2	00b	

Message-S2: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 2)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=12, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=23, MI=1000001000b, L=0		(3): ID=243, P=5, IC=24, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=26, MI=1000001000b, L=0		(5): ID=245, P=7, IC=20, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=3, MI=1000001000b, L=0		(7): ID=247, P=9, IC=28, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=17, MI=1000001000b, L=0		(9): ID=249, P=11, IC=22, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=15, MI=1000001000b, L=0		(11): ID=251, P=13, IC=18, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=31, MI=1000001000b, L=0		(13): ID=253, P=15, IC=32, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=7, MI=1000001000b, L=0		(15): ID=255, P=17, IC=1, MI=1000001000b, L=0	

Message-S3: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 3)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=13, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=23, MI=1000001000b, L=0		(3): ID=243, P=5, IC=24, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=26, MI=1000001000b, L=0		(5): ID=245, P=7, IC=4, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=6, MI=1000001000b, L=0		(7): ID=247, P=9, IC=21, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=17, MI=1000001000b, L=0		(9): ID=249, P=11, IC=22, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=16, MI=1000001000b, L=0		(11): ID=251, P=13, IC=18, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=31, MI=1000001000b, L=0		(13): ID=253, P=15, IC=32, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=8, MI=1000001000b, L=0		(15): ID=255, P=17, IC=10, MI=1000001000b, L=0	

Message-S4: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 4)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=19, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=23, MI=1000001000b, L=0		(3): ID=243, P=5, IC=24, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=26, MI=1000001000b, L=0		(5): ID=245, P=7, IC=5, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=6, MI=1000001000b, L=0		(7): ID=247, P=9, IC=28, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=17, MI=1000001000b, L=0		(9): ID=249, P=11, IC=22, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=27, MI=1000001000b, L=0		(11): ID=251, P=13, IC=18, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=31, MI=1000001000b, L=0		(13): ID=253, P=15, IC=32, MI=1000001000b, L=0	



(14): ID=254, P=16, IC=14, MI=1000001000b, L=0	(15): ID=255, P=17, IC=11, MI=1000001000b, L=0
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Message-S5: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 5)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=57, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=55, MI=1000001000b, L=0		(3): ID=243, P=5, IC=56, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=58, MI=1000001000b, L=0		(5): ID=245, P=7, IC=52, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=34, MI=1000001000b, L=0		(7): ID=247, P=9, IC=53, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=49, MI=1000001000b, L=0		(9): ID=249, P=11, IC=54, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=41, MI=1000001000b, L=0		(11): ID=251, P=13, IC=50, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=63, MI=1000001000b, L=0		(13): ID=253, P=15, IC=64, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=61, MI=1000001000b, L=0		(15): ID=255, P=17, IC=62, MI=1000001000b, L=0	

Message-S6: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 6)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=44, MI=1000001000b (black on white, No flashing), L=0			



(2): ID=242, P=4, IC=55, MI=1000001000b, L=0	(3): ID=243, P=5, IC=56, MI=1000001000b, L=0
(4): ID=244, P=6, IC=58, MI=1000001000b, L=0	(5): ID=245, P=7, IC=52, MI=1000001000b, L=0
(6): ID=246, P=8, IC=35, MI=1000001000b, L=0	(7): ID=247, P=9, IC=60, MI=1000001000b, L=0
(8): ID=248, P=10, IC=49, MI=1000001000b, L=0	(9): ID=249, P=11, IC=54, MI=1000001000b, L=0
(10): ID=250, P=12, IC=47, MI=1000001000b, L=0	(11): ID=251, P=13, IC=50, MI=1000001000b, L=0
(12): ID=252, P=14, IC=63, MI=1000001000b, L=0	(13): ID=253, P=15, IC=64, MI=1000001000b, L=0
(14): ID=254, P=16, IC=39, MI=1000001000b, L=0	(15): ID=255, P=17, IC=33, MI=1000001000b, L=0

Message-S7: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 7)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=45, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=55, MI=1000001000b, L=0	(3): ID=243, P=5, IC=56, MI=1000001000b, L=0		
(4): ID=244, P=6, IC=58, MI=1000001000b, L=0	(5): ID=245, P=7, IC=36, MI=1000001000b, L=0		
(6): ID=246, P=8, IC=38, MI=1000001000b, L=0	(7): ID=247, P=9, IC=53, MI=1000001000b, L=0		
(8): ID=248, P=10, IC=49, MI=1000001000b, L=0	(9): ID=249, P=11, IC=54, MI=1000001000b, L=0		
(10): ID=250, P=12, IC=48, MI=1000001000b, L=0	(11): ID=251, P=13, IC=50, MI=1000001000b, L=0		
(12): ID=252, P=14, IC=63, MI=1000001000b, L=0	(13): ID=253, P=15, IC=64, MI=1000001000b, L=0		
(14): ID=254, P=16, IC=40, MI=1000001000b, L=0	(15): ID=255, P=17, IC=42, MI=1000001000b, L=0		





Message-S8: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 8)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=51, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=55, MI=1000001000b, L=0		(3): ID=243, P=5, IC=56, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=58, MI=1000001000b, L=0		(5): ID=245, P=7, IC=37, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=38, MI=1000001000b, L=0		(7): ID=247, P=9, IC=60, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=49, MI=1000001000b, L=0		(9): ID=249, P=11, IC=54, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=59, MI=1000001000b, L=0		(11): ID=251, P=13, IC=50, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=63, MI=1000001000b, L=0		(13): ID=253, P=15, IC=64, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=46, MI=1000001000b, L=0		(15): ID=255, P=17, IC=43, MI=1000001000b, L=0	

Message-S9: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 9)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=89, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=87, MI=1000001000b, L=0		(3): ID=243, P=5, IC=88, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=90, MI=1000001000b, L=0		(5): ID=245, P=7, IC=84, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=66, MI=1000001000b, L=0		(7): ID=247, P=9, IC=85, MI=1000001000b, L=0	



(8): ID=248, P=10, IC=81, MI=1000001000b, L=0	(9): ID=249, P=11, IC=86, MI=1000001000b, L=0
(10): ID=250, P=12, IC=73, MI=1000001000b, L=0	(11): ID=251, P=13, IC=82, MI=1000001000b, L=0
(12): ID=252, P=14, IC=95, MI=1000001000b, L=0	(13): ID=253, P=15, IC=96, MI=1000001000b, L=0
(14): ID=254, P=16, IC=93, MI=1000001000b, L=0	(15): ID=255, P=17, IC=94, MI=1000001000b, L=0

Message-S10: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 10)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=76, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=87, MI=1000001000b, L=0	(3): ID=243, P=5, IC=88, MI=1000001000b, L=0		
(4): ID=244, P=6, IC=90, MI=1000001000b, L=0	(5): ID=245, P=7, IC=84, MI=1000001000b, L=0		
(6): ID=246, P=8, IC=67, MI=1000001000b, L=0	(7): ID=247, P=9, IC=92, MI=1000001000b, L=0		
(8): ID=248, P=10, IC=81, MI=1000001000b, L=0	(9): ID=249, P=11, IC=86, MI=1000001000b, L=0		
(10): ID=250, P=12, IC=79, MI=1000001000b, L=0	(11): ID=251, P=13, IC=82, MI=1000001000b, L=0		
(12): ID=252, P=14, IC=95, MI=1000001000b, L=0	(13): ID=253, P=15, IC=96, MI=1000001000b, L=0		
(14): ID=254, P=16, IC=71, MI=1000001000b, L=0	(15): ID=255, P=17, IC=65, MI=1000001000b, L=0		

Message-S11: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 11)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=77, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=87, MI=1000001000b, L=0		(3): ID=243, P=5, IC=88, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=90, MI=1000001000b, L=0		(5): ID=245, P=7, IC=68, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=70, MI=1000001000b, L=0		(7): ID=247, P=9, IC=85, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=81, MI=1000001000b, L=0		(9): ID=249, P=11, IC=86, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=80, MI=1000001000b, L=0		(11): ID=251, P=13, IC=82, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=95, MI=1000001000b, L=0		(13): ID=253, P=15, IC=96, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=72, MI=1000001000b, L=0		(15): ID=255, P=17, IC=74, MI=1000001000b, L=0	

Message-S12: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 12)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=83, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=87, MI=1000001000b, L=0		(3): ID=243, P=5, IC=88, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=90, MI=1000001000b, L=0		(5): ID=245, P=7, IC=69, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=70, MI=1000001000b, L=0		(7): ID=247, P=9, IC=92, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=81, MI=1000001000b, L=0		(9): ID=249, P=11, IC=86, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=91, MI=1000001000b, L=0		(11): ID=251, P=13, IC=82, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=95, MI=1000001000b, L=0		(13): ID=253, P=15, IC=96, MI=1000001000b, L=0	



(14): ID=254, P=16, IC=78, MI=1000001000b, L=0	(15): ID=255, P=17, IC=75, MI=1000001000b, L=0
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Message-S13: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 13)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=121, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=119, MI=1000001000b, L=0		(3): ID=243, P=5, IC=120, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=122, MI=1000001000b, L=0		(5): ID=245, P=7, IC=116, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=98, MI=1000001000b, L=0		(7): ID=247, P=9, IC=117, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=113, MI=1000001000b, L=0		(9): ID=249, P=11, IC=118, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=105, MI=1000001000b, L=0		(11): ID=251, P=13, IC=114, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=127, MI=1000001000b, L=0		(13): ID=253, P=15, IC=128, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=125, MI=1000001000b, L=0		(15): ID=255, P=17, IC=126, MI=1000001000b, L=0	

Message-S14: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 14)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=108, MI=1000001000b (black on white, No flashing), L=0			



(2): ID=242, P=4, IC=119, MI=1000001000b, L=0	(3): ID=243, P=5, IC=120, MI=1000001000b, L=0
(4): ID=244, P=6, IC=122, MI=1000001000b, L=0	(5): ID=245, P=7, IC=116, MI=1000001000b, L=0
(6): ID=246, P=8, IC=99, MI=1000001000b, L=0	(7): ID=247, P=9, IC=124, MI=1000001000b, L=0
(8): ID=248, P=10, IC=113, MI=1000001000b, L=0	(9): ID=249, P=11, IC=118, MI=1000001000b, L=0
(10): ID=250, P=12, IC=111, MI=1000001000b, L=0	(11): ID=251, P=13, IC=114, MI=1000001000b, L=0
(12): ID=252, P=14, IC=127, MI=1000001000b, L=0	(13): ID=253, P=15, IC=128, MI=1000001000b, L=0
(14): ID=254, P=16, IC=103, MI=1000001000b, L=0	(15): ID=255, P=17, IC=97, MI=1000001000b, L=0

Message-S15: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 15)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=109, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=119, MI=1000001000b, L=0	(3): ID=243, P=5, IC=120, MI=1000001000b, L=0		
(4): ID=244, P=6, IC=122, MI=1000001000b, L=0	(5): ID=245, P=7, IC=100, MI=1000001000b, L=0		
(6): ID=246, P=8, IC=102, MI=1000001000b, L=0	(7): ID=247, P=9, IC=117, MI=1000001000b, L=0		
(8): ID=248, P=10, IC=113, MI=1000001000b, L=0	(9): ID=249, P=11, IC=118, MI=1000001000b, L=0		
(10): ID=250, P=12, IC=112, MI=1000001000b, L=0	(11): ID=251, P=13, IC=114, MI=1000001000b, L=0		
(12): ID=252, P=14, IC=127, MI=1000001000b, L=0	(13): ID=253, P=15, IC=128, MI=1000001000b, L=0		
(14): ID=254, P=16, IC=104, MI=1000001000b, L=0	(15): ID=255, P=17, IC=106, MI=1000001000b, L=0		



Message-S16: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 16)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=115, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=119, MI=1000001000b, L=0		(3): ID=243, P=5, IC=120, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=122, MI=1000001000b, L=0		(5): ID=245, P=7, IC=101, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=102, MI=1000001000b, L=0		(7): ID=247, P=9, IC=124, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=113, MI=1000001000b, L=0		(9): ID=249, P=11, IC=118, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=123, MI=1000001000b, L=0		(11): ID=251, P=13, IC=114, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=127, MI=1000001000b, L=0		(13): ID=253, P=15, IC=128, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=110, MI=1000001000b, L=0		(15): ID=255, P=17, IC=107, MI=1000001000b, L=0	

Message-S17: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 17)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=153, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=151, MI=1000001000b, L=0		(3): ID=243, P=5, IC=152, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=154, MI=1000001000b, L=0		(5): ID=245, P=7, IC=148, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=130, MI=1000001000b, L=0		(7): ID=247, P=9, IC=149, MI=1000001000b, L=0	



(8): ID=248, P=10, IC=145, MI=1000001000b, L=0	(9): ID=249, P=11, IC=150, MI=1000001000b, L=0
(10): ID=250, P=12, IC=137, MI=1000001000b, L=0	(11): ID=251, P=13, IC=146, MI=1000001000b, L=0
(12): ID=252, P=14, IC=159, MI=1000001000b, L=0	(13): ID=253, P=15, IC=160, MI=1000001000b, L=0
(14): ID=254, P=16, IC=157, MI=1000001000b, L=0	(15): ID=255, P=17, IC=158, MI=1000001000b, L=0

Message-S18: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 18)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=140, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=151, MI=1000001000b, L=0	(3): ID=243, P=5, IC=152, MI=1000001000b, L=0		
(4): ID=244, P=6, IC=154, MI=1000001000b, L=0	(5): ID=245, P=7, IC=148, MI=1000001000b, L=0		
(6): ID=246, P=8, IC=131, MI=1000001000b, L=0	(7): ID=247, P=9, IC=156, MI=1000001000b, L=0		
(8): ID=248, P=10, IC=145, MI=1000001000b, L=0	(9): ID=249, P=11, IC=150, MI=1000001000b, L=0		
(10): ID=250, P=12, IC=143, MI=1000001000b, L=0	(11): ID=251, P=13, IC=146, MI=1000001000b, L=0		
(12): ID=252, P=14, IC=159, MI=1000001000b, L=0	(13): ID=253, P=15, IC=160, MI=1000001000b, L=0		
(14): ID=254, P=16, IC=135, MI=1000001000b, L=0	(15): ID=255, P=17, IC=129, MI=1000001000b, L=0		

Message-S19: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 19)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=141, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=151, MI=1000001000b, L=0		(3): ID=243, P=5, IC=152, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=154, MI=1000001000b, L=0		(5): ID=245, P=7, IC=132, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=134, MI=1000001000b, L=0		(7): ID=247, P=9, IC=149, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=145, MI=1000001000b, L=0		(9): ID=249, P=11, IC=150, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=144, MI=1000001000b, L=0		(11): ID=251, P=13, IC=146, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=159, MI=1000001000b, L=0		(13): ID=253, P=15, IC=160, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=136, MI=1000001000b, L=0		(15): ID=255, P=17, IC=138, MI=1000001000b, L=0	

Message-S20: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 20)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=147, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=151, MI=1000001000b, L=0		(3): ID=243, P=5, IC=152, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=154, MI=1000001000b, L=0		(5): ID=245, P=7, IC=133, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=134, MI=1000001000b, L=0		(7): ID=247, P=9, IC=156, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=145, MI=1000001000b, L=0		(9): ID=249, P=11, IC=150, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=155, MI=1000001000b, L=0		(11): ID=251, P=13, IC=146, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=159, MI=1000001000b, L=0		(13): ID=253, P=15, IC=160, MI=1000001000b, L=0	





(14): ID=254, P=16, IC=142, MI=1000001000b, L=0	(15): ID=255, P=17, IC=139, MI=1000001000b, L=0
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Message-S21: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 21)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=185, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=183, MI=1000001000b, L=0		(3): ID=243, P=5, IC=184, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=186, MI=1000001000b, L=0		(5): ID=245, P=7, IC=180, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=162, MI=1000001000b, L=0		(7): ID=247, P=9, IC=181, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=177, MI=1000001000b, L=0		(9): ID=249, P=11, IC=182, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=169, MI=1000001000b, L=0		(11): ID=251, P=13, IC=178, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=191, MI=1000001000b, L=0		(13): ID=253, P=15, IC=192, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=189, MI=1000001000b, L=0		(15): ID=255, P=17, IC=190, MI=1000001000b, L=0	

Message-S22: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 22)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=172, MI=1000001000b (black on white, No flashing), L=0			



(2): ID=242, P=4, IC=183, MI=1000001000b, L=0	(3): ID=243, P=5, IC=184, MI=1000001000b, L=0
(4): ID=244, P=6, IC=186, MI=1000001000b, L=0	(5): ID=245, P=7, IC=180, MI=1000001000b, L=0
(6): ID=246, P=8, IC=163, MI=1000001000b, L=0	(7): ID=247, P=9, IC=188, MI=1000001000b, L=0
(8): ID=248, P=10, IC=177, MI=1000001000b, L=0	(9): ID=249, P=11, IC=182, MI=1000001000b, L=0
(10): ID=250, P=12, IC=175, MI=1000001000b, L=0	(11): ID=251, P=13, IC=178, MI=1000001000b, L=0
(12): ID=252, P=14, IC=191, MI=1000001000b, L=0	(13): ID=253, P=15, IC=192, MI=1000001000b, L=0
(14): ID=254, P=16, IC=167, MI=1000001000b, L=0	(15): ID=255, P=17, IC=161, MI=1000001000b, L=0

Message-S23: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 23)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=173, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=183, MI=1000001000b, L=0	(3): ID=243, P=5, IC=184, MI=1000001000b, L=0		
(4): ID=244, P=6, IC=186, MI=1000001000b, L=0	(5): ID=245, P=7, IC=164, MI=1000001000b, L=0		
(6): ID=246, P=8, IC=166, MI=1000001000b, L=0	(7): ID=247, P=9, IC=181, MI=1000001000b, L=0		
(8): ID=248, P=10, IC=177, MI=1000001000b, L=0	(9): ID=249, P=11, IC=182, MI=1000001000b, L=0		
(10): ID=250, P=12, IC=176, MI=1000001000b, L=0	(11): ID=251, P=13, IC=178, MI=1000001000b, L=0		
(12): ID=252, P=14, IC=191, MI=1000001000b, L=0	(13): ID=253, P=15, IC=192, MI=1000001000b, L=0		
(14): ID=254, P=16, IC=168, MI=1000001000b, L=0	(15): ID=255, P=17, IC=170, MI=1000001000b, L=0		



Message-S24: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 24)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=179, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=183, MI=1000001000b, L=0		(3): ID=243, P=5, IC=184, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=186, MI=1000001000b, L=0		(5): ID=245, P=7, IC=165, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=166, MI=1000001000b, L=0		(7): ID=247, P=9, IC=188, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=177, MI=1000001000b, L=0		(9): ID=249, P=11, IC=182, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=187, MI=1000001000b, L=0		(11): ID=251, P=13, IC=178, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=191, MI=1000001000b, L=0		(13): ID=253, P=15, IC=192, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=174, MI=1000001000b, L=0		(15): ID=255, P=17, IC=171, MI=1000001000b, L=0	

Message-S25: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 25)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=217, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=215, MI=1000001000b, L=0		(3): ID=243, P=5, IC=216, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=218, MI=1000001000b, L=0		(5): ID=245, P=7, IC=212, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=194, MI=1000001000b, L=0		(7): ID=247, P=9, IC=213, MI=1000001000b, L=0	



(8): ID=248, P=10, IC=209, MI=1000001000b, L=0	(9): ID=249, P=11, IC=214, MI=1000001000b, L=0
(10): ID=250, P=12, IC=201, MI=1000001000b, L=0	(11): ID=251, P=13, IC=210, MI=1000001000b, L=0
(12): ID=252, P=14, IC=223, MI=1000001000b, L=0	(13): ID=253, P=15, IC=224, MI=1000001000b, L=0
(14): ID=254, P=16, IC=221, MI=1000001000b, L=0	(15): ID=255, P=17, IC=222, MI=1000001000b, L=0

Message-S26: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 26)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=204, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=215, MI=1000001000b, L=0	(3): ID=243, P=5, IC=216, MI=1000001000b, L=0		
(4): ID=244, P=6, IC=218, MI=1000001000b, L=0	(5): ID=245, P=7, IC=212, MI=1000001000b, L=0		
(6): ID=246, P=8, IC=195, MI=1000001000b, L=0	(7): ID=247, P=9, IC=220, MI=1000001000b, L=0		
(8): ID=248, P=10, IC=209, MI=1000001000b, L=0	(9): ID=249, P=11, IC=214, MI=1000001000b, L=0		
(10): ID=250, P=12, IC=207, MI=1000001000b, L=0	(11): ID=251, P=13, IC=210, MI=1000001000b, L=0		
(12): ID=252, P=14, IC=223, MI=1000001000b, L=0	(13): ID=253, P=15, IC=224, MI=1000001000b, L=0		
(14): ID=254, P=16, IC=199, MI=1000001000b, L=0	(15): ID=255, P=17, IC=193, MI=1000001000b, L=0		

Message-S27: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 27)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=205, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=215, MI=1000001000b, L=0		(3): ID=243, P=5, IC=216, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=218, MI=1000001000b, L=0		(5): ID=245, P=7, IC=196, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=198, MI=1000001000b, L=0		(7): ID=247, P=9, IC=213, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=209, MI=1000001000b, L=0		(9): ID=249, P=11, IC=214, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=208, MI=1000001000b, L=0		(11): ID=251, P=13, IC=210, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=223, MI=1000001000b, L=0		(13): ID=253, P=15, IC=224, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=200, MI=1000001000b, L=0		(15): ID=255, P=17, IC=202, MI=1000001000b, L=0	

Message-S28: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 28)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=211, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=215, MI=1000001000b, L=0		(3): ID=243, P=5, IC=216, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=218, MI=1000001000b, L=0		(5): ID=245, P=7, IC=197, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=198, MI=1000001000b, L=0		(7): ID=247, P=9, IC=220, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=209, MI=1000001000b, L=0		(9): ID=249, P=11, IC=214, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=219, MI=1000001000b, L=0		(11): ID=251, P=13, IC=210, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=223, MI=1000001000b, L=0		(13): ID=253, P=15, IC=224, MI=1000001000b, L=0	



(14): ID=254, P=16, IC=206, MI=1000001000b, L=0	(15): ID=255, P=17, IC=203, MI=1000001000b, L=0
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Message-S29: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 29)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=249, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=247, MI=1000001000b, L=0		(3): ID=243, P=5, IC=248, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=250, MI=1000001000b, L=0		(5): ID=245, P=7, IC=244, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=226, MI=1000001000b, L=0		(7): ID=247, P=9, IC=245, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=241, MI=1000001000b, L=0		(9): ID=249, P=11, IC=246, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=233, MI=1000001000b, L=0		(11): ID=251, P=13, IC=242, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=255, MI=1000001000b, L=0		(13): ID=253, P=15, IC=224, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=253, MI=1000001000b, L=0		(15): ID=255, P=17, IC=254, MI=1000001000b, L=0	

Message-S30: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 30)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=236, MI=1000001000b (black on white, No flashing), L=0			



(2): ID=242, P=4, IC=247, MI=1000001000b, L=0	(3): ID=243, P=5, IC=248, MI=1000001000b, L=0
(4): ID=244, P=6, IC=250, MI=1000001000b, L=0	(5): ID=245, P=7, IC=244, MI=1000001000b, L=0
(6): ID=246, P=8, IC=227, MI=1000001000b, L=0	(7): ID=247, P=9, IC=252, MI=1000001000b, L=0
(8): ID=248, P=10, IC=241, MI=1000001000b, L=0	(9): ID=249, P=11, IC=246, MI=1000001000b, L=0
(10): ID=250, P=12, IC=239, MI=1000001000b, L=0	(11): ID=251, P=13, IC=242, MI=1000001000b, L=0
(12): ID=252, P=14, IC=255, MI=1000001000b, L=0	(13): ID=253, P=15, IC=224, MI=1000001000b, L=0
(14): ID=254, P=16, IC=231, MI=1000001000b, L=0	(15): ID=255, P=17, IC=225, MI=1000001000b, L=0

Message-S31: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 31)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=237, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=247, MI=1000001000b, L=0	(3): ID=243, P=5, IC=248, MI=1000001000b, L=0		
(4): ID=244, P=6, IC=250, MI=1000001000b, L=0	(5): ID=245, P=7, IC=228, MI=1000001000b, L=0		
(6): ID=246, P=8, IC=230, MI=1000001000b, L=0	(7): ID=247, P=9, IC=245, MI=1000001000b, L=0		
(8): ID=248, P=10, IC=241, MI=1000001000b, L=0	(9): ID=249, P=11, IC=246, MI=1000001000b, L=0		
(10): ID=250, P=12, IC=240, MI=1000001000b, L=0	(11): ID=251, P=13, IC=242, MI=1000001000b, L=0		
(12): ID=252, P=14, IC=255, MI=1000001000b, L=0	(13): ID=253, P=15, IC=224, MI=1000001000b, L=0		
(14): ID=254, P=16, IC=232, MI=1000001000b, L=0	(15): ID=255, P=17, IC=234, MI=1000001000b, L=0		



Message-S32: STM requests display of buttons 241-255 at positions 3-17 with different icons (set 32)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	78	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=581, N=15, ID=241, P=3, IC=243, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=242, P=4, IC=247, MI=1000001000b, L=0		(3): ID=243, P=5, IC=248, MI=1000001000b, L=0	
(4): ID=244, P=6, IC=250, MI=1000001000b, L=0		(5): ID=245, P=7, IC=229, MI=1000001000b, L=0	
(6): ID=246, P=8, IC=230, MI=1000001000b, L=0		(7): ID=247, P=9, IC=252, MI=1000001000b, L=0	
(8): ID=248, P=10, IC=241, MI=1000001000b, L=0		(9): ID=249, P=11, IC=246, MI=1000001000b, L=0	
(10): ID=250, P=12, IC=251, MI=1000001000b, L=0		(11): ID=251, P=13, IC=242, MI=1000001000b, L=0	
(12): ID=252, P=14, IC=255, MI=1000001000b, L=0		(13): ID=253, P=15, IC=224, MI=1000001000b, L=0	
(14): ID=254, P=16, IC=238, MI=1000001000b, L=0		(15): ID=255, P=17, IC=235, MI=1000001000b, L=0	

### 2.3.43 Test Case 7c5.12

TEST CASE HEADER	
Test case identification	DMI Function
	7c5.0.3.0
	Icon identity test with buttons for configuration(s) 7a.9 with TS technology, set of buttons with same icon: A set of 12 buttons is displayed with same icon 16 (driver)
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.1.1, 13.4.1.2, 13.4.1.5, 13.4.1.6, 13.4.4.1, 13.4.3.3





	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service: 7a.9 with TS technology. The ETCS onboard DMI function shall be configured with a set of 8 STMs using the 8 DMI configurations 7a.2 - 7a.9
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c5.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of buttons 100-111 at positions 3, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17 with same icon 16 (driver)	PROF	T0	connection of active DMI channel: Message-S1	DMI		Icon 16 (driver) is displayed at positions 3, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17

Message-S1: STM requests display of buttons 100-111 at positions 3, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17 with same icon 16 (driver)			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	64	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	470	Packet Length
N_ITER	5	12	Request for 12 buttons



NID_BUTTON(1)	8	100	Button 100
NID_BUTPOS(1)	5	3	
NID_ICON(1)	8	16	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(2)	8	101	Button 101
NID_BUTPOS(2)	5	4	
NID_ICON(2)	8	16	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(3)	8	102	Button 102
NID_BUTPOS(3)	5	5	
NID_ICON(3)	8	16	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(4)	8	103	Button 103
NID_BUTPOS(4)	5	6	
NID_ICON(4)	8	16	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(5)	8	104	Button 104
NID_BUTPOS(5)	5	7	
NID_ICON(5)	8	16	



M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(6)	8	105	Button 105
NID_BUTPOS(6)	5	8	
NID_ICON(6)	8	16	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(7)	8	106	Button 106
NID_BUTPOS(7)	5	12	
NID_ICON(7)	8	16	
M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(8)	8	107	Button 107
NID_BUTPOS(8)	5	13	
NID_ICON(8)	8	16	
M_BUT_ATTRIB(8)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(9)	8	108	Button 108
NID_BUTPOS(9)	5	14	
NID_ICON(9)	8	16	
M_BUT_ATTRIB(9)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(10)	8	109	Button 109



NID_BUTPOS(10)	5	15	
NID_ICON(10)	8	16	
M_BUT_ATTRIB(10)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(11)	8	110	Button 110
NID_BUTPOS(11)	5	16	
NID_ICON(11)	8	16	
M_BUT_ATTRIB(11)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
NID_BUTTON(12)	8	111	Button 111
NID_BUTPOS(12)	5	17	
NID_ICON(12)	8	16	
M_BUT_ATTRIB(12)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	0	
Padding bits	1	0b	

### 2.3.44 Test Case 7c6.1

TEST CASE HEADER	
Test case identification	DMI Function
	7c6.0.1.0
	Colour Handling test for buttons: colours according to Table 4 of ETCS DMI Specification for Unified DMI service: 7a.1 with SK technology or Customisable DMI service: 7a.4 with SK technology:

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	Display 2 x 6 buttons with all possible combinations of text and background colour, where text colour <> background colour and colour is specified in Table 4 of ETCS DMI Specification (only colours selectable by M_IND_ATTRIB)
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.3.4, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.1.2, 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	Unified DMI service: 7a.1 with SK technology or Customisable DMI service: 7a.4 with SK technology  One test case shall be chosen for a given technology and each DMI service (unified or customisable) with an appropriate configuration out of test cases 7c6.1 and 7c6.5
<b>Comments and constraints</b>	

Starting Conditions	Value	Comments
STM State	DA	
ETCS Mode	SN	
ETCS Level	NTC	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	Established	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	



TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	Cab A or B active	For the test it is not relevant, what cab is active
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	Not isolated for active STM. Not relevant for other STMs	

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests set 1 of 6 buttons with different colours	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons are displayed on DMI with requested colours
2	STM requests set 2 of 6 buttons	PROF	T0+5s	connection of active DMI channel:	DMI		Buttons are displayed on DMI with



	with different colours		Message-S2		requested colours
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Message-S1: STM requests set 1 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	65	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	472	Packet Length
N_ITER	5	6	Request for 6 buttons
NID_BUTTON(1)	8	1	
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000000001b	white on dark blue, No flashing
L_CAPTION(1)	6	5	Caption="WonDB"
X_CAPTION(1,1)	8	"W"	
X_CAPTION(1,2)	8	"o"	
X_CAPTION(1,3)	8	"n"	
X_CAPTION(1,4)	8	"D"	
X_CAPTION(1,5)	8	"B"	
NID_BUTTON(2)	8	2	
NID_BUTPOS(2)	5	2	

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NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000000010b	red on dark blue, No flashing
L_CAPTION(2)	6	5	Caption="RonDB"
X_CAPTION(2,1)	8	"R"	
X_CAPTION(2,2)	8	"o"	
X_CAPTION(2,3)	8	"n"	
X_CAPTION(2,4)	8	"D"	
X_CAPTION(2,5)	8	"B"	
NID_BUTTON(3)	8	3	
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000000101b	yellow on dark blue, No flashing
L_CAPTION(3)	6	5	Caption="YonDB"
X_CAPTION(3,1)	8	"Y"	
X_CAPTION(3,2)	8	"o"	
X_CAPTION(3,3)	8	"n"	
X_CAPTION(3,4)	8	"D"	
X_CAPTION(3,5)	8	"B"	
NID_BUTTON(4)	8	4	
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(4)	6	5	Caption="BKonW"





X_CAPTION(4,1)	8	"B"	
X_CAPTION(4,2)	8	"K"	
X_CAPTION(4,3)	8	"o"	
X_CAPTION(4,4)	8	"n"	
X_CAPTION(4,5)	8	"W"	
NID_BUTTON(5)	8	5	
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000001010b	red on white, No flashing
L_CAPTION(5)	6	4	Caption="RonW"
X_CAPTION(5,1)	8	"R"	
X_CAPTION(5,2)	8	"o"	
X_CAPTION(5,3)	8	"n"	
X_CAPTION(5,4)	8	"W"	
NID_BUTTON(6)	8	6	
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000001101b	yellow on white, No flashing
L_CAPTION(6)	6	4	Caption="YonW"
X_CAPTION(6,1)	8	"Y"	
X_CAPTION(6,2)	8	"o"	
X_CAPTION(6,3)	8	"n"	
X_CAPTION(6,4)	8	"W"	



Padding bits	7	0000000b	
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Message-S2: STM requests set 2 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	63	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=456, N=6, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BKonR"			
(2): ID=2, P=2, IC=0, MI=1000010001b (white on red, No flashing), L=4, T="WonR"			
(3): ID=3, P=3, IC=0, MI=1000010101b (yellow on red, No flashing), L=4, T="YonR"			
(4): ID=4, P=4, IC=0, MI=1000101000b (black on yellow, No flashing), L=5, T="BKonY"			
(5): ID=5, P=5, IC=0, MI=1000101001b (white on yellow, No flashing), L=4, T="WonY"			
(6): ID=6, P=6, IC=0, MI=1000101010b (red on yellow, No flashing), L=4, T="RonY"			

End Conditions	Value	Comments
STM State	unchanged	
ETCS Mode	unchanged	
ETCS Level	unchanged	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	unchanged	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	

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JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	unchanged	
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	unchanged	

### 2.3.45 Test Case 7c6.2

TEST CASE HEADER	
Test case identification	DMI Function
	7c6.0.2.0



	<p>Colour Handling test for buttons: text/background colours according to Table 4/19 of ETCS DMI Specification for Unified DMI service: 7a.1 with SK technology or</p> <p>Customisable DMI service: 7a.4 with SK technology:</p> <p>Display 3 x 6 buttons with all possible combinations of text and background colour, where text colour is specified in Table 4 of ETCS DMI Specification (only colours selectable by M_IND_ATTRIB) and background colour is specified in Table 19 of ETCS DMI Specification.</p>
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.3.4, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.1.2, 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	<p>Unified DMI service: 7a.1 with SK technology or</p> <p>Customisable DMI service: 7a.4 with SK technology</p> <p>One test case shall be chosen for a given technology and each DMI service (unified or customisable) with an appropriate configuration out of test cases 7c6.2 and 7c6.6</p>
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c6.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests set 1 of 6 buttons with different colours	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons are displayed on DMI with requested colours
2	STM requests set 2 of 6 buttons with different colours	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons are displayed on DMI with requested colours
3	STM requests set 3 of 6 buttons with different colours	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Buttons are displayed on DMI with requested colours



Message-S1: STM requests set 1 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	65	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=472, N=6, ID=1, P=1, IC=0, MI=1000011001b (white on blue, No flashing), L=5, T="WonBE"			
(2): ID=2, P=2, IC=0, MI=1000011010b (red on blue, No flashing), L=5, T="RonBE"			
(3): ID=3, P=3, IC=0, MI=1000011101b (yellow on blue, No flashing), L=5, T="YonBE"			
(4): ID=4, P=4, IC=0, MI=1000100000b (black on green, No flashing), L=5, T="BKonG"			
(5): ID=5, P=5, IC=0, MI=1000100001b (white on green, No flashing), L=4, T="WonG"			
(6): ID=6, P=6, IC=0, MI=1000100010b (red on green, No flashing), L=4, T="RonG"			
Message-S2: STM requests set 2 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	68	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=496, N=6, ID=1, P=1, IC=0, MI=1000100101b (yellow on green, No flashing), L=4, T="YonG"			
(2): ID=2, P=2, IC=0, MI=1000110000b (black on light red, No flashing), L=6, T="BKonLR"			
(3): ID=3, P=3, IC=0, MI=1000110001b (white on light red, No flashing), L=5, T="WonLR"			
(4): ID=4, P=4, IC=0, MI=1000110010b (red on light red, No flashing), L=5, T="RonLR"			
(5): ID=5, P=5, IC=0, MI=1000110101b (yellow on light red, No flashing), L=5, T="YonLR"			
(6): ID=6, P=6, IC=0, MI=1000111000b (black on light green, No flashing), L=6, T="BKonLG"			



Message-S3: STM requests set 3 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	68	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=496, N=6, ID=1, P=1, IC=0, MI=1000111001b (white on light green, No flashing), L=5, T="WonLG"			
(2): ID=2, P=2, IC=0, MI=1000111010b (red on light green, No flashing), L=5, T="RonLG"			
(3): ID=3, P=3, IC=0, MI=1000111101b (yellow on light green, No flashing), L=5, T="YonLG"			
(4): ID=4, P=4, IC=0, MI=1000011000b (black on blue, No flashing), L=6, T="BKonBE"			
(5): ID=5, P=5, IC=0, MI=1000011001b (white on blue, No flashing), L=5, T="WonBE"			
(6): ID=6, P=6, IC=0, MI=1000011010b (red on blue, No flashing), L=5, T="RonBE"			

### 2.3.46 Test Case 7c6.3

TEST CASE HEADER	
Test case identification	DMI Function
	7c6.0.3.0
	Colour Handling test for buttons: text/background colours according to Table 19/4 of ETCS DMI Specification for Unified DMI service: 7a.1 with SK technology or Customisable DMI service: 7a.4 with SK technology: Display 3 x 6 buttons with all possible combinations of text and background colour, where text colour is specified in Table 19 of ETCS DMI Specification and background colour is specified in Table 4 of ETCS DMI Specification (only colours selectable by M_IND_ATTRIB).
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.3.4, 13.4.4.1



	ERA ERTMS 015560 (DMI Spec) 9.3.1.2, 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	Unified DMI service: 7a.1 with SK technology or Customisable DMI service: 7a.4 with SK technology  One test case shall be chosen for a given technology and each DMI service (unified or customisable) with an appropriate configuration out of test cases 7c6.3 and 7c6.7
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c6.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests set 1 of 6 buttons with different colours	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons are displayed on DMI with requested colours
2	STM requests set 2 of 6 buttons with different colours	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons are displayed on DMI with requested colours
3	STM requests set 3 of 6 buttons with different colours	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Buttons are displayed on DMI with requested colours

Message-S1: STM requests set 1 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	68	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=496, N=6, ID=1, P=1, IC=0, MI=1000000100b (green on dark blue, No flashing), L=5, T="GonDB"			



(2): ID=2, P=2, IC=0, MI=1000000110b (light red on dark blue, No flashing), L=6, T="LRonDB"
(3): ID=3, P=3, IC=0, MI=1000000111b (light green on dark blue, No flashing), L=6, T="LGonDB"
(4): ID=4, P=4, IC=0, MI=1000001011b (blue on white, No flashing), L=5, T="BEonW"
(5): ID=5, P=5, IC=0, MI=1000001100b (green on white, No flashing), L=4, T="GonW"
(6): ID=6, P=6, IC=0, MI=1000001110b (light red on white, No flashing), L=5, T="LRonW"

Message-S2: STM requests set 2 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	66	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=480, N=6, ID=1, P=1, IC=0, MI=1000001111b (light green on white, No flashing), L=5, T="LGonW"			
(2): ID=2, P=2, IC=0, MI=1000010011b (blue on red, No flashing), L=5, T="BEonR"			
(3): ID=3, P=3, IC=0, MI=1000010100b (green on red, No flashing), L=4, T="GonR"			
(4): ID=4, P=4, IC=0, MI=1000010110b (light red on red, No flashing), L=5, T="LRonR"			
(5): ID=5, P=5, IC=0, MI=1000010111b (light green on red, No flashing), L=5, T="LGonR"			
(6): ID=6, P=6, IC=0, MI=1000101011b (blue on yellow, No flashing), L=5, T="BEonY"			

Message-S3: STM requests set 3 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	68	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=496, N=6, ID=1, P=1, IC=0, MI=1000101100b (green on yellow, No flashing), L=4, T="GonY"			





(2): ID=2, P=2, IC=0, MI=1000101110b (light red on yellow, No flashing), L=5, T="LRonY"
(3): ID=3, P=3, IC=0, MI=1000101111b (light green on yellow, No flashing), L=5, T="LGonY"
(4): ID=4, P=4, IC=0, MI=1000000011b (blue on dark blue, No flashing), L=6, T="BEonDB"
(5): ID=5, P=5, IC=0, MI=1000000100b (green on dark blue, No flashing), L=5, T="GonDB"
(6): ID=6, P=6, IC=0, MI=1000000110b (light red on dark blue, No flashing), L=6, T="LRonDB"

### 2.3.47 Test Case 7c6.4

TEST CASE HEADER	
Test case identification	DMI Function
	7c6.0.4.0
	Colour Handling test for buttons: colours according to Table 19 of ETCS DMI Specification for Unified DMI service: 7a.1 with SK technology or Customisable DMI service: 7a.4 with SK technology: Display 2 x 6 buttons with all possible combinations of text and background colour, where text colour <> background colour and colour is specified in Table 19 of ETCS DMI Specification
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.3.4, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.1.2, 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	Unified DMI service: 7a.1 with SK technology or Customisable DMI service: 7a.4 with SK technology One test case shall be chosen for a given technology and each DMI service (unified or customisable) with an appropriate



	configuration out of test cases 7c6.4 and 7c6.8
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c6.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests set 1 of 6 buttons with different colours	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons are displayed on DMI with requested colours
2	STM requests set 2 of 6 buttons with different colours	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons are displayed on DMI with requested colours

Message-S1: STM requests set 1 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	69	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=504, N=6, ID=1, P=1, IC=0, MI=1000011100b (green on blue, No flashing), L=5, T="GonBE"			
(2): ID=2, P=2, IC=0, MI=1000011110b (light red on blue, No flashing), L=6, T="LRonBE"			
(3): ID=3, P=3, IC=0, MI=1000011111b (light green on blue, No flashing), L=6, T="LGonBE"			
(4): ID=4, P=4, IC=0, MI=1000100011b (blue on green, No flashing), L=5, T="BEonG"			
(5): ID=5, P=5, IC=0, MI=1000100110b (light red on green, No flashing), L=5, T="LRonG"			
(6): ID=6, P=6, IC=0, MI=1000100111b (light green on green, No flashing), L=5, T="LGonG"			

Message-S2: STM requests set 2 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	71	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=520, N=6, ID=1, P=1, IC=0, MI=1000110011b (blue on light red, No flashing), L=6, T="BEonLR"			
(2): ID=2, P=2, IC=0, MI=1000110100b (green on light red, No flashing), L=5, T="GonLR"			
(3): ID=3, P=3, IC=0, MI=1000110111b (light green on light red, No flashing), L=6, T="LGonLR"			
(4): ID=4, P=4, IC=0, MI=1000111011b (blue on light green, No flashing), L=6, T="BEonLG"			
(5): ID=5, P=5, IC=0, MI=1000111100b (green on light green, No flashing), L=5, T="GonLG"			
(6): ID=6, P=6, IC=0, MI=1000111110b (light red on light green, No flashing), L=6, T="LRonLG"			

### 2.3.48 Test Case 7c6.5

TEST CASE HEADER	
Test case identification	DMI Function
	7c6.0.1.0
	<p>Colour Handling test for buttons: colours according to Table 4 of ETCS DMI Specification for Unified DMI service: 7a.1 with TS technology or</p> <p>Customisable DMI service: 7a.4 with SK technology, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 with any technology:</p> <p>Display 2 x 6 buttons with all possible combinations of text and background colour, where text colour &lt;&gt; background colour and colour is specified in Table 4 of ETCS DMI Specification (only colours selectable by M_IND_ATTRIB)</p>
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.3.4, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.1.2, 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32



<b>ERTMS/ETCS on-board configuration</b>	<p>Unified DMI service: 7a.1 with TS technology or</p> <p>Customisable DMI service: 7a.4 with SK technology, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 with any technology(one configuration shall be chosen for customisable DMI service)</p> <p>One test case shall be chosen for a given technology and each DMI service (unified or customisable) with an appropriate configuration out of test cases 7c6.1 and 7c6.5</p>
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c6.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests set 1 of 6 buttons with different colours	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons are displayed on DMI with requested colours
2	STM requests set 2 of 6 buttons with different colours	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons are displayed on DMI with requested colours

Message-S1: STM requests set 1 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	65	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=472, N=6, ID=1, P=1, IC=0, MI=1000000001b (white on dark blue, No flashing), L=5, T="WonDB"			
(2): ID=2, P=2, IC=0, MI=1000000010b (red on dark blue, No flashing), L=5, T="RonDB"			
(3): ID=3, P=3, IC=0, MI=1000000101b (yellow on dark blue, No flashing), L=5, T="YonDB"			
(4): ID=4, P=4, IC=0, MI=1000001000b (black on white, No flashing), L=5, T="BKonW"			
(5): ID=5, P=5, IC=0, MI=1000001010b (red on white, No flashing), L=4, T="RonW"			
(6): ID=6, P=6, IC=0, MI=1000001101b (yellow on white, No flashing), L=4, T="YonW"			



Message-S2: STM requests set 2 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	63	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=456, N=6, ID=1, P=1, IC=0, MI=1000010000b (black on red, No flashing), L=5, T="BKonR"			
(2): ID=2, P=2, IC=0, MI=1000010001b (white on red, No flashing), L=4, T="WonR"			
(3): ID=3, P=3, IC=0, MI=1000010101b (yellow on red, No flashing), L=4, T="YonR"			
(4): ID=4, P=4, IC=0, MI=1000101000b (black on yellow, No flashing), L=5, T="BKonY"			
(5): ID=5, P=5, IC=0, MI=1000101001b (white on yellow, No flashing), L=4, T="WonY"			
(6): ID=6, P=6, IC=0, MI=1000101010b (red on yellow, No flashing), L=4, T="RonY"			

### 2.3.49 Test Case 7c6.6

TEST CASE HEADER	
Test case identification	DMI Function
	7c6.0.2.0
	Colour Handling test for buttons: text/background colours according to Table 4/19 of ETCS DMI Specification for Unified DMI service: 7a.1 with TS technology or Customisable DMI service: 7a.4 with SK technology, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 with any technology:
	Display 2 x 8 buttons with all possible combinations of text and background colour, where text colour is specified in Table 4 of ETCS DMI Specification (only colours selectable by M_IND_ATTRIB) and background colour is specified in Table 19 of ETCS DMI Specification.
ERTMS/ETCS on-board	SUBSET-035 13.4.3.4, 13.4.4.1



<b>requirements tested</b>	
	ERA ERTMS 015560 (DMI Spec) 9.3.1.2, 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	<p>Unified DMI service: 7a.1 with TS technology or</p> <p>Customisable DMI service: 7a.4 with SK technology, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 with any technology(one configuration shall be chosen for customisable DMI service)</p> <p>One test case shall be chosen for a given technology and each DMI service (unified or customisable) with an appropriate configuration out of test cases 7c6.2 and 7c6.6</p>
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c6.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests set 1 of 8 buttons with different colours	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons are displayed on DMI with requested colours
2	STM requests set 2 of 8 buttons with different colours	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons are displayed on DMI with requested colours

Message-S1: STM requests set 1 of 8 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	84	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=626, N=8, ID=1, P=1, IC=0, MI=1000011001b (white on blue, No flashing), L=5, T="WonBE"			
(2): ID=2, P=2, IC=0, MI=1000011010b (red on blue, No flashing), L=5, T="RonBE"			

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(3): ID=3, P=3, IC=0, MI=1000011101b (yellow on blue, No flashing), L=5, T="YonBE"
(4): ID=4, P=4, IC=0, MI=1000100000b (black on green, No flashing), L=5, T="BKonG"
(5): ID=5, P=5, IC=0, MI=1000100001b (white on green, No flashing), L=4, T="WonG"
(6): ID=6, P=6, IC=0, MI=1000100010b (red on green, No flashing), L=4, T="RonG"
(7): ID=7, P=7, IC=0, MI=1000100101b (yellow on green, No flashing), L=4, T="YonG"
(8): ID=8, P=8, IC=0, MI=1000110000b (black on light red, No flashing), L=6, T="BKonLR"

Message-S2: STM requests set 2 of 8 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	88	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=658, N=8, ID=1, P=1, IC=0, MI=1000110001b (white on light red, No flashing), L=5, T="WonLR"			
(2): ID=2, P=2, IC=0, MI=1000110010b (red on light red, No flashing), L=5, T="RonLR"			
(3): ID=3, P=3, IC=0, MI=1000110101b (yellow on light red, No flashing), L=5, T="YonLR"			
(4): ID=4, P=4, IC=0, MI=1000111000b (black on light green, No flashing), L=6, T="BKonLG"			
(5): ID=5, P=5, IC=0, MI=1000111001b (white on light green, No flashing), L=5, T="WonLG"			
(6): ID=6, P=6, IC=0, MI=1000111010b (red on light green, No flashing), L=5, T="RonLG"			
(7): ID=7, P=7, IC=0, MI=1000111101b (yellow on light green, No flashing), L=5, T="YonLG"			
(8): ID=8, P=8, IC=0, MI=1000011000b (black on blue, No flashing), L=6, T="BKonBE"			

### 2.3.50 Test Case 7c6.7

TEST CASE HEADER
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<b>Test case identification</b>	DMI Function
	7c6.0.3.0
	<p>Colour Handling test for buttons: text/background colours according to Table 19/4 of ETCS DMI Specification for Unified DMI service: 7a.1 with TS technology or</p> <p>Customisable DMI service: 7a.4 with SK technology, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 with any technology:</p> <p>Display 2 x 8 buttons with all possible combinations of text and background colour, where text colour is specified in Table 19 of ETCS DMI Specification and background colour is specified in Table 4 of ETCS DMI Specification (only colours selectable by M_IND_ATTRIB).</p>
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.3.4, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.1.2, 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	<p>Unified DMI service: 7a.1 with TS technology or</p> <p>Customisable DMI service: 7a.4 with SK technology, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 with any technology(one configuration shall be chosen for customisable DMI service)</p> <p>One test case shall be chosen for a given technology and each DMI service (unified or customisable) with an appropriate configuration out of test cases 7c6.3 and 7c6.7</p>
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c6.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests set 1 of 8 buttons with different colours	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons are displayed on DMI with requested colours
2	STM requests set 2 of 8 buttons	PROF	T0+5s	connection of active DMI channel:	DMI		Buttons are displayed on DMI with





	with different colours		Message-S2		requested colours
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Message-S1: STM requests set 1 of 8 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	87	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=650, N=8, ID=1, P=1, IC=0, MI=1000000100b (green on dark blue, No flashing), L=5, T="GonDB"			
(2): ID=2, P=2, IC=0, MI=1000000110b (light red on dark blue, No flashing), L=6, T="LRonDB"			
(3): ID=3, P=3, IC=0, MI=1000000111b (light green on dark blue, No flashing), L=6, T="LGonDB"			
(4): ID=4, P=4, IC=0, MI=1000001011b (blue on white, No flashing), L=5, T="BEonW"			
(5): ID=5, P=5, IC=0, MI=1000001100b (green on white, No flashing), L=4, T="GonW"			
(6): ID=6, P=6, IC=0, MI=1000001110b (light red on white, No flashing), L=5, T="LRonW"			
(7): ID=7, P=7, IC=0, MI=1000001111b (light green on white, No flashing), L=5, T="LGonW"			
(8): ID=8, P=8, IC=0, MI=1000010011b (blue on red, No flashing), L=5, T="BEonR"			

Message-S2: STM requests set 2 of 8 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	85	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=634, N=8, ID=1, P=1, IC=0, MI=1000010100b (green on red, No flashing), L=4, T="GonR"			
(2): ID=2, P=2, IC=0, MI=1000010110b (light red on red, No flashing), L=5, T="LRonR"			
(3): ID=3, P=3, IC=0, MI=1000010111b (light green on red, No flashing), L=5, T="LGonR"			



(4): ID=4, P=4, IC=0, MI=1000101011b (blue on yellow, No flashing), L=5, T="BEonY"
(5): ID=5, P=5, IC=0, MI=1000101100b (green on yellow, No flashing), L=4, T="GonY"
(6): ID=6, P=6, IC=0, MI=1000101110b (light red on yellow, No flashing), L=5, T="LRonY"
(7): ID=7, P=7, IC=0, MI=1000101111b (light green on yellow, No flashing), L=5, T="LGonY"
(8): ID=8, P=8, IC=0, MI=1000000011b (blue on dark blue, No flashing), L=6, T="BEonDB"

### 2.3.51 Test Case 7c6.8

TEST CASE HEADER	
Test case identification	DMI Function
	7c6.0.4.0
	Colour Handling test for buttons: colours according to Table 19 of ETCS DMI Specification for Unified DMI service: 7a.1 with TS technology or Customisable DMI service: 7a.4 with SK technology, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 with any technology: Display 2 x 6 buttons with all possible combinations of text and background colour, where text colour <> background colour and colour is specified in Table 19 of ETCS DMI Specification
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.3.4, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.1.2, 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	Unified DMI service: 7a.1 with TS technology or Customisable DMI service: 7a.4 with SK technology, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 with any technology(one configuration shall be chosen for customisable DMI service)



	One test case shall be chosen for a given technology and each DMI service (unified or customisable) with an appropriate configuration out of test cases 7c6.4 and 7c6.8
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c6.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests set 1 of 6 buttons with different colours	PROF	T0	connection of active DMI channel: Message-S1	DMI		Buttons are displayed on DMI with requested colours
2	STM requests set 2 of 6 buttons with different colours	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons are displayed on DMI with requested colours

Message-S1: STM requests set 1 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	69	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=504, N=6, ID=1, P=1, IC=0, MI=1000011100b (green on blue, No flashing), L=5, T="GonBE"			
(2): ID=2, P=2, IC=0, MI=1000011110b (light red on blue, No flashing), L=6, T="LRonBE"			
(3): ID=3, P=3, IC=0, MI=1000011111b (light green on blue, No flashing), L=6, T="LGonBE"			
(4): ID=4, P=4, IC=0, MI=1000100011b (blue on green, No flashing), L=5, T="BEonG"			
(5): ID=5, P=5, IC=0, MI=1000100110b (light red on green, No flashing), L=5, T="LRonG"			
(6): ID=6, P=6, IC=0, MI=1000100111b (light green on green, No flashing), L=5, T="LGonG"			

Message-S2: STM requests set 2 of 6 buttons with different colours			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	71	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=520, N=6, ID=1, P=1, IC=0, MI=1000110011b (blue on light red, No flashing), L=6, T="BEonLR"			
(2): ID=2, P=2, IC=0, MI=1000110100b (green on light red, No flashing), L=5, T="GonLR"			
(3): ID=3, P=3, IC=0, MI=1000110111b (light green on light red, No flashing), L=6, T="LGonLR"			
(4): ID=4, P=4, IC=0, MI=1000111011b (blue on light green, No flashing), L=6, T="BEonLG"			
(5): ID=5, P=5, IC=0, MI=1000111100b (green on light green, No flashing), L=5, T="GonLG"			
(6): ID=6, P=6, IC=0, MI=1000111110b (light red on light green, No flashing), L=6, T="LRonLG"			

### 2.3.52 Test Case 7c7.1

TEST CASE HEADER	
Test case identification	DMI Function
	7c7.0.1.1.1.1.3.1.1.2.2.0
	Test of flashing modes with buttons for options 'flashing frequencies as with unified DMI service' and 'yellow frame': First 3 buttons are displayed without flashing with text. Then 2 buttons are displayed with fast flashing plus one button with slow flashing for reference, all with normal phase and text. Then 2 buttons are displayed with counter phase flashing plus one button with normal phase for reference, all with slow frequency and text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.3.4, 13.4.3.5, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.2.1, 9.3.2.3, 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	



<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Unified DMI service or customisable DMI service with configuration 7a.4, 7a.5 or 7a.8 (one configuration shall be chosen)
<b>Comments and constraints</b>	Flashing of buttons should be according to options set in configuration, i.e. 'flashing frequencies as with unified DMI service' and style 'yellow frame'.

Starting Conditions	Value	Comments
STM State	DA	
ETCS Mode	SN	
ETCS Level	NTC	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	Established	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	



TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	Cab A or B active	For the test it is not relevant, what cab is active
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	Not isolated for active STM. Not relevant for other STMs	

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of 3 buttons with text without flashing	PROF	T0	connection of active DMI channel: Message-S1	DMI		buttons 1-3 are displayed at positions 1-3 without flashing
2	STM requests display of 2 buttons with fast flashing, normal phase and one button slow flashing, normal phase, all with text	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons 1 and 2 are displayed at positions 1 and 2 with fast flashing. Button 3 is displayed at position 3 with slow flashing. All have the same phase.
3	STM requests display of 2 buttons with slow flashing, counter phase and one button slow flashing, normal phase, all with text	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Buttons 1-3 are displayed at positions 1-3 with slow flashing. Buttons 1 and 2 have different phase than button 3.

Message-S1: STM requests display of 3 buttons with text without flashing

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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	233	Packet Length
N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	3	Button 3
NID_BUTPOS(1)	5	3	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT3"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"3"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"



X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	1	Button 1
NID_BUTPOS(3)	5	1	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT1"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"1"	
Padding bits	6	000000b	

Message-S2: STM requests display of 2 buttons with fast flashing, normal phase and one button slow flashing, normal phase, all with text			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=233, N=3, ID=3, P=3, IC=0, MI=1001010000b (black on red, slow flashing, normal phase), L=4, T="BUT3"			
(2): ID=2, P=2, IC=0, MI=1010010000b (black on red, fast flashing, normal phase), L=4, T="BUT2"			
(3): ID=1, P=1, IC=0, MI=1010010000b (black on red, fast flashing, normal phase), L=4, T="BUT1"			





Message-S3: STM requests display of 2 buttons with slow flashing, counter phase and one button slow flashing, normal phase, all with text			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=233, N=3, ID=3, P=3, IC=0, MI=1001010000b (black on red, slow flashing, normal phase), L=4, T="BUT3"			
(2): ID=2, P=2, IC=0, MI=1101010000b (black on red, slow flashing, counter phase), L=4, T="BUT2"			
(3): ID=1, P=1, IC=0, MI=1101010000b (black on red, slow flashing, counter phase), L=4, T="BUT1"			

End Conditions	Value	Comments
STM State	unchanged	
ETCS Mode	unchanged	
ETCS Level	unchanged	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	unchanged	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	



TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	unchanged	
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	unchanged	

### 2.3.53 Test Case 7c7.2

TEST CASE HEADER	
Test case identification	DMI Function
	7c7.0.2.1.1.1.3.1.1.2.2.2.0
	Test of flashing modes with buttons for options 'flashing frequencies higher than unified DMI service' and 'yellow frame': First 3 buttons are displayed without flashing with text.
	Then 2 buttons are displayed with fast flashing plus one button with slow flashing for reference, all with normal phase and text. Then 2 buttons are displayed with counter phase flashing plus one button with normal phase for reference, all with slow frequency and text.



	Test case steps and messages as in test case 7c7.1.
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.3.4, 13.4.3.5, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.2.1, 9.3.2.3, 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service 7a.7 or 7a.9 (one configuration shall be chosen)
<b>Comments and constraints</b>	Flashing of buttons should be according to options set in configuration, i.e. 'flashing frequencies higher than unified DMI service' and style 'yellow frame'. Starting and end conditions as for test case 7c7.1

## 2.3.54 Test Case 7c7.3

TEST CASE HEADER	
<b>Test case identification</b>	DMI Function
	7c7.0.3.2.1.1.3.1.1.3.1.1.2.2.2.2.2.0
	Test of flashing modes with buttons for options 'flashing frequencies lower than unified DMI service' and 'whole area': First 3 buttons are displayed without flashing with text. Then 2 buttons are displayed with fast flashing plus one button with slow flashing for reference, all with normal phase and text. Then 2 buttons are displayed with fast flashing plus one button with slow flashing for reference, all with normal phase and icon. Then 2 buttons are displayed with counter phase flashing plus one button with normal phase for reference, all with slow frequency and text. Then 2 buttons are displayed with counter phase flashing plus one button with normal phase for reference, all with slow frequency and icon.



<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.3.4, 13.4.3.5, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.2.2, 9.3.2.3, 9.3.4.1, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service 7a.6
<b>Comments and constraints</b>	Flashing of buttons should be according to options set in configuration, i.e. 'flashing frequencies lower than unified DMI service' and style 'whole area'.
	Starting and end conditions as for test case 7c7.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of 3 buttons with text without flashing	PROF	T0	connection of active DMI channel: Message-S1	DMI		buttons 1-3 are displayed at positions 1-3 without flashing
2	STM requests display of 2 buttons with fast flashing, normal phase and one button slow flashing, normal phase, all with text	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons 1 and 2 are displayed at positions 1 and 2 with fast flashing. Button 3 is displayed at position 3 with slow flashing. All have the same phase.
3	STM requests display of 2 buttons with fast flashing, normal phase and one button slow flashing, normal phase, all with icons	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Icons 30 and 31 are displayed at positions 1 and 2 with fast flashing. Icon 40 is displayed at position 3 with slow flashing. All have the same phase.
4	STM requests display of 2 buttons with slow flashing, counter phase and one button slow flashing, normal	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		Buttons 1-3 are displayed at positions 1-3 with slow flashing. Buttons 1 and 2 have different



	phase, all with text						phase than button 3.
5	STM requests display of 2 buttons with slow flashing, counter phase and one button slow flashing, normal phase, all with icons	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		Icons 30 and 31 are displayed at positions 1 and 2 with slow flashing. Icon 40 is displayed at position 3 with slow flashing. Icons 30 and 31 have different phase than icon 40.

Message-S1: STM requests display of 3 buttons with text without flashing			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	233	Packet Length
N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	3	Button 3
NID_BUTPOS(1)	5	3	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT3"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	



X_CAPTION(1,4)	8	"3"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT2"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"2"	
NID_BUTTON(3)	8	1	Button 1
NID_BUTPOS(3)	5	1	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	4	Caption="BUT1"
X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"U"	
X_CAPTION(3,3)	8	"T"	
X_CAPTION(3,4)	8	"1"	
Padding bits	6	000000b	

Message-S2: STM requests display of 2 buttons with fast flashing, normal phase and one button slow flashing, normal phase, all with text			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=233, N=3, ID=3, P=3, IC=0, MI=1001010000b (black on red, slow flashing, normal phase), L=4, T="BUT3"			
(2): ID=2, P=2, IC=0, MI=1010010000b (black on red, fast flashing, normal phase), L=4, T="BUT2"			
(3): ID=1, P=1, IC=0, MI=1010010000b (black on red, fast flashing, normal phase), L=4, T="BUT1"			

Message-S3: STM requests display of 2 buttons with fast flashing, normal phase and one button slow flashing, normal phase, all with icons			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	23	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=137, N=3, ID=3, P=3, IC=40, MI=1001010000b (black on red, slow flashing, normal phase), L=0			
(2): ID=2, P=2, IC=31, MI=1010010000b (black on red, fast flashing, normal phase), L=0			
(3): ID=1, P=1, IC=30, MI=1010010000b (black on red, fast flashing, normal phase), L=0			

Message-S4: STM requests display of 2 buttons with slow flashing, counter phase and one button slow flashing, normal phase, all with text			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=233, N=3, ID=3, P=3, IC=0, MI=1001010000b (black on red, slow flashing, normal phase), L=4, T="BUT3"			
(2): ID=2, P=2, IC=0, MI=1101010000b (black on red, slow flashing, counter phase), L=4, T="BUT2"			
(3): ID=1, P=1, IC=0, MI=1101010000b (black on red, slow flashing, counter phase), L=4, T="BUT1"			



Message-S5: STM requests display of 2 buttons with slow flashing, counter phase and one button slow flashing, normal phase, all with icons			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	23	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=137, N=3, ID=3, P=3, IC=40, MI=1001010000b (black on red, slow flashing, normal phase), L=0			
(2): ID=2, P=2, IC=31, MI=1101010000b (black on red, slow flashing, counter phase), L=0			
(3): ID=1, P=1, IC=30, MI=1101010000b (black on red, slow flashing, counter phase), L=0			

### 2.3.55 Test Case 7c7.4

TEST CASE HEADER	
Test case identification	DMI Function
	7c7.0.1.1.1.1.3.1.1.2.2.2.0
	Test of flashing modes with buttons for options 'flashing frequencies as with unified DMI service' and 'yellow frame': First 2 buttons are displayed without flashing with text. Then one button is displayed with fast flashing and one button with slow flashing for reference, both with normal phase and text. Then one button is displayed with counter phase flashing and one button with normal phase flashing for reference, both with slow frequency and text.
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.3.4, 13.4.3.5, 13.4.4.1
	ERA ERTMS 015560 (DMI Spec) 9.3.2.1, 9.3.2.3, 9.3.4.1, 9.3.5.1, 9.3.5.2
STM requirements tested	
Packets transmitted via FFFIS	STM - 15, STM - 32





<b>STM</b>	
<b>ERTMS/ETCS on-board configuration</b>	For active STM: Customisable DMI service 7a.3
<b>Comments and constraints</b>	Flashing of buttons should be according to options set in configuration, i.e. 'flashing frequencies as with unified DMI service' and style 'yellow frame'. Starting and end conditions as for test case 7c7.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of 2 buttons with text without flashing	PROF	T0	connection of active DMI channel: Message-S1	DMI		buttons 1-2 are displayed at positions 1-2 without flashing
2	STM requests display of one button with fast flashing and one button with slow flashing, both with normal phase and text	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		Buttons 1 is displayed at position 1 with fast flashing. Button 2 is displayed at position 2 with slow flashing. Both have the same phase.
3	STM requests display of one button with slow flashing, counter phase and one button with slow flashing, normal phase, both with text	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		Buttons 1-2 are displayed at positions 1-2 with slow flashing. Buttons 1 has different phase than button 2.

Message-S1: STM requests display of 2 buttons with text without flashing			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA



NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	164	Packet Length
N_ITER	5	2	Request for 2 buttons
NID_BUTTON(1)	8	2	Button 2
NID_BUTPOS(1)	5	2	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	4	Caption="BUT2"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"U"	
X_CAPTION(1,3)	8	"T"	
X_CAPTION(1,4)	8	"2"	
NID_BUTTON(2)	8	1	Button 1
NID_BUTPOS(2)	5	1	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	4	Caption="BUT1"
X_CAPTION(2,1)	8	"B"	
X_CAPTION(2,2)	8	"U"	
X_CAPTION(2,3)	8	"T"	
X_CAPTION(2,4)	8	"1"	
Padding bits	3	000b	



Message-S2: STM requests display of one buttons with fast flashing, normal phase and one button slow flashing, normal phase, both with text			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=164, N=2, ID=2, P=2, IC=0, MI=1001010000b (black on red, slow flashing, normal phase), L=4, T="BUT2"			
(2): ID=1, P=1, IC=0, MI=1010010000b (black on red, fast flashing, normal phase), L=4, T="BUT1"			

Message-S3: STM requests display of one buttons with slow flashing, counter phase and one button slow flashing, normal phase, both with text			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=164, N=2, ID=2, P=2, IC=0, MI=1001010000b (black on red, slow flashing, normal phase), L=4, T="BUT2"			
(2): ID=1, P=1, IC=0, MI=1101010000b (black on red, slow flashing, counter phase), L=4, T="BUT1"			

### 2.3.56 Test Case 7c8.1

TEST CASE HEADER	
Test case identification	DMI Function
	7c8.0.3.1.1.3.2.1.3.3.1.3.4.1.3.5.1.3.6.2
	Test of button caption display without icons, but varying text length and codepage: Buttons are displayed with caption text of different size with and without non ASCII characters.
ERTMS/ETCS on-board	SUBSET-035 13.4.4.1, 15.1.1.1 b)



<b>requirements tested</b>	
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.4.2.1, 9.3.4.5, 9.3.5.1, 9.3.5.2
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	Unified DMI service: 7a.1 Customisable DMI service: 7a.4, 7a.5, 7a.6, 7a.7, 7a.8, 7a.9 (one configuration shall be chosen)
<b>Comments and constraints</b>	

Starting Conditions	Value	Comments
STM State	DA	
ETCS Mode	SN	
ETCS Level	NTC	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	Established	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	



TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	Cab A or B active	For the test it is not relevant, what cab is active
BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	Not isolated for active STM. Not relevant for other STMs	

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of 3 buttons with text with 1-6 chars, all ASCII	PROF	T0	connection of active DMI channel: Message-S1	DMI		<p>buttons 1-3 are displayed with the requested texts in one line:</p> <p>Button 1 = 'h'</p> <p>Button 2 =</p>



							'hello'  Button 3 = 'HELLO!'
2	STM requests display of 3 buttons with text with 1-6 chars, not all ASCII	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		buttons 1-3 are displayed with the requested texts in one line:  Button 1 = 'Ä'  Button 2 = 'ääää'  Button 3 = 'ööüÄÖÜ'
3	STM requests display of 3 buttons with text with 7-11 chars, all ASCII	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		buttons 1-3 are displayed with the requested texts splitted after the 6th char to two lines:  Button 1 = 'Hello?' '!'
							Button 2 =



							'Hello ' 'you'  Button 3 = 'Hello ' 'World'
4	STM requests display of 3 buttons with text with 7-11 chars, not all ASCII	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		buttons 1-3 are displayed with the requested texts splitted after the 6th char to two lines:  Button 1 = 'Störun' 'g'  Button 2 = 'Arrêt ' 'forcé'  Button 3 = 'Nöd br' 'omsen'
5	STM requests display of 3 buttons with text with 12 chars, all ASCII	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		buttons 1-3 are displayed with the requested texts splitted after the 6th char to two lines:  Button 1 =



							'HELLO!' 'HELLO!'  Button 2 = '123456' '789ABC'  Button 3 = 'Badspl' 'itting'
6	STM requests display of 3 buttons with text with 12 chars not all ASCII	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		buttons 1-3 are displayed with the requested texts splitted after the 6th char to two lines:  Button 1 = 'Bremss' 'törung'  Button 2 = 'Lüfter' 'störng'  Button 3 = 'äöüÄÖÜ' 'äöüÄÖÜ'





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Message-S1: STM requests display of 3 buttons with text with 1-6 chars, all ASCII			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	35	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	233	Packet Length
N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	1	Caption="h"
X_CAPTION(1,1)	8	"h"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	5	Caption="hello"



X_CAPTION(2,1)	8	"h"	
X_CAPTION(2,2)	8	"e"	
X_CAPTION(2,3)	8	"l"	
X_CAPTION(2,4)	8	"l"	
X_CAPTION(2,5)	8	"o"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	6	Caption="HELLO!"
X_CAPTION(3,1)	8	"H"	
X_CAPTION(3,2)	8	"E"	
X_CAPTION(3,3)	8	"L"	
X_CAPTION(3,4)	8	"L"	
X_CAPTION(3,5)	8	"O"	
X_CAPTION(3,6)	8	"I"	
Padding bits	6	000000b	

Message-S2: STM requests display of 3 buttons with text with 1-6 chars, not all ASCII			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	45	Message Length
NID_PACKET	8	15	State report from STM (STM-15)



L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	313	Packet Length
N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	2	Caption="Ä"
X_CAPTION(1,1)	8	C3h	"Ä"
X_CAPTION(1,2)	8	84h	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	8	Caption="ääää"
X_CAPTION(2,1)	8	C3h	"ä"
X_CAPTION(2,2)	8	A4h	
X_CAPTION(2,3)	8	C3h	"á"
X_CAPTION(2,4)	8	A1h	
X_CAPTION(2,5)	8	C3h	"â"
X_CAPTION(2,6)	8	A2h	



X_CAPTION(2,7)	8	C3h	"å"
X_CAPTION(2,8)	8	A5h	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	12	Caption="äöüÄÖÜ"
X_CAPTION(3,1)	8	C3h	"ä"
X_CAPTION(3,2)	8	A4h	
X_CAPTION(3,3)	8	C3h	"ö"
X_CAPTION(3,4)	8	B6h	
X_CAPTION(3,5)	8	C3h	"ü"
X_CAPTION(3,6)	8	BCh	
X_CAPTION(3,7)	8	C3h	"Ä"
X_CAPTION(3,8)	8	84h	
X_CAPTION(3,9)	8	C3h	"Ö"
X_CAPTION(3,10)	8	96h	
X_CAPTION(3,11)	8	C3h	"Ü"
X_CAPTION(3,12)	8	9Ch	
Padding bits	6	000000b	

Message-S3: STM requests display of 3 buttons with text with 7-11 chars, all ASCII			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	50	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	353	Packet Length
N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	7	Caption="Hello?!"
X_CAPTION(1,1)	8	"H"	
X_CAPTION(1,2)	8	"e"	
X_CAPTION(1,3)	8	"I"	
X_CAPTION(1,4)	8	"I"	
X_CAPTION(1,5)	8	"o"	
X_CAPTION(1,6)	8	"?"	
X_CAPTION(1,7)	8	"!"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	



M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	9	Caption="Hello you"
X_CAPTION(2,1)	8	"H"	
X_CAPTION(2,2)	8	"e"	
X_CAPTION(2,3)	8	"I"	
X_CAPTION(2,4)	8	"I"	
X_CAPTION(2,5)	8	"o"	
X_CAPTION(2,6)	8	" "	
X_CAPTION(2,7)	8	"y"	
X_CAPTION(2,8)	8	"o"	
X_CAPTION(2,9)	8	"u"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	11	Caption="Hello World"
X_CAPTION(3,1)	8	"H"	
X_CAPTION(3,2)	8	"e"	
X_CAPTION(3,3)	8	"I"	
X_CAPTION(3,4)	8	"I"	
X_CAPTION(3,5)	8	"o"	
X_CAPTION(3,6)	8	" "	
X_CAPTION(3,7)	8	"W"	



X_CAPTION(3,8)	8	"o"	
X_CAPTION(3,9)	8	"r"	
X_CAPTION(3,10)	8	"l"	
X_CAPTION(3,11)	8	"d"	
Padding bits	6	000000b	

Message-S4: STM requests display of 3 buttons with text with 7-11 chars, not all ASCII			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	56	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	401	Packet Length
N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	8	Caption="Störung"
X_CAPTION(1,1)	8	"S"	
X_CAPTION(1,2)	8	"t"	



X_CAPTION(1,3)	8	C3h	"ö"
X_CAPTION(1,4)	8	B6h	
X_CAPTION(1,5)	8	"r"	
X_CAPTION(1,6)	8	"u"	
X_CAPTION(1,7)	8	"n"	
X_CAPTION(1,8)	8	"g"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	13	Caption="Arrêt forcé"
X_CAPTION(2,1)	8	"A"	
X_CAPTION(2,2)	8	"r"	
X_CAPTION(2,3)	8	"r"	
X_CAPTION(2,4)	8	C3h	"ê"
X_CAPTION(2,5)	8	AAh	
X_CAPTION(2,6)	8	"t"	
X_CAPTION(2,7)	8	" "	
X_CAPTION(2,8)	8	"f"	
X_CAPTION(2,9)	8	"o"	
X_CAPTION(2,10)	8	"r"	
X_CAPTION(2,11)	8	"c"	
X_CAPTION(2,12)	8	C3h	"é"





X_CAPTION(2,13)	8	A9h	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	12	Caption="Nöd bromsen"
X_CAPTION(3,1)	8	"N"	
X_CAPTION(3,2)	8	C3h	"ö"
X_CAPTION(3,3)	8	B6h	
X_CAPTION(3,4)	8	"d"	
X_CAPTION(3,5)	8	" "	
X_CAPTION(3,6)	8	"b"	
X_CAPTION(3,7)	8	"r"	
X_CAPTION(3,8)	8	"o"	
X_CAPTION(3,9)	8	"m"	
X_CAPTION(3,10)	8	"s"	
X_CAPTION(3,11)	8	"e"	
X_CAPTION(3,12)	8	"n"	
Padding bits	6	000000b	

Message-S5: STM requests display of 3 buttons with text with 12 chars, all ASCII			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	59	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	425	Packet Length
N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	12	Caption="HELLO!HELLO!"
X_CAPTION(1,1)	8	"H"	
X_CAPTION(1,2)	8	"E"	
X_CAPTION(1,3)	8	"L"	
X_CAPTION(1,4)	8	"L"	
X_CAPTION(1,5)	8	"O"	
X_CAPTION(1,6)	8	"!"	
X_CAPTION(1,7)	8	"H"	
X_CAPTION(1,8)	8	"E"	
X_CAPTION(1,9)	8	"L"	
X_CAPTION(1,10)	8	"L"	
X_CAPTION(1,11)	8	"O"	



X_CAPTION(1,12)	8	"!"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing
L_CAPTION(2)	6	12	Caption="123456789ABC"
X_CAPTION(2,1)	8	"1"	
X_CAPTION(2,2)	8	"2"	
X_CAPTION(2,3)	8	"3"	
X_CAPTION(2,4)	8	"4"	
X_CAPTION(2,5)	8	"5"	
X_CAPTION(2,6)	8	"6"	
X_CAPTION(2,7)	8	"7"	
X_CAPTION(2,8)	8	"8"	
X_CAPTION(2,9)	8	"9"	
X_CAPTION(2,10)	8	"A"	
X_CAPTION(2,11)	8	"B"	
X_CAPTION(2,12)	8	"C"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	12	Caption="Badsplitting"



X_CAPTION(3,1)	8	"B"	
X_CAPTION(3,2)	8	"a"	
X_CAPTION(3,3)	8	"d"	
X_CAPTION(3,4)	8	"s"	
X_CAPTION(3,5)	8	"p"	
X_CAPTION(3,6)	8	"l"	
X_CAPTION(3,7)	8	"i"	
X_CAPTION(3,8)	8	"t"	
X_CAPTION(3,9)	8	"t"	
X_CAPTION(3,10)	8	"i"	
X_CAPTION(3,11)	8	"n"	
X_CAPTION(3,12)	8	"g"	
Padding bits	6	000000b	

Message-S6: STM requests display of 3 buttons with text with 12 chars not all ASCII			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	74	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	545	Packet Length



N_ITER	5	3	Request for 3 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000010000b	black on red, No flashing
L_CAPTION(1)	6	13	Caption="Bremsstörung"
X_CAPTION(1,1)	8	"B"	
X_CAPTION(1,2)	8	"r"	
X_CAPTION(1,3)	8	"e"	
X_CAPTION(1,4)	8	"m"	
X_CAPTION(1,5)	8	"s"	
X_CAPTION(1,6)	8	"s"	
X_CAPTION(1,7)	8	"t"	
X_CAPTION(1,8)	8	C3h	"ö"
X_CAPTION(1,9)	8	B6h	
X_CAPTION(1,10)	8	"r"	
X_CAPTION(1,11)	8	"u"	
X_CAPTION(1,12)	8	"n"	
X_CAPTION(1,13)	8	"g"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000010000b	black on red, No flashing



L_CAPTION(2)	6	14	Caption="Lüfterstörng"
X_CAPTION(2,1)	8	"L"	
X_CAPTION(2,2)	8	C3h	"ü"
X_CAPTION(2,3)	8	BCh	
X_CAPTION(2,4)	8	"f"	
X_CAPTION(2,5)	8	"t"	
X_CAPTION(2,6)	8	"e"	
X_CAPTION(2,7)	8	"r"	
X_CAPTION(2,8)	8	"s"	
X_CAPTION(2,9)	8	"t"	
X_CAPTION(2,10)	8	C3h	"ö"
X_CAPTION(2,11)	8	B6h	
X_CAPTION(2,12)	8	"r"	
X_CAPTION(2,13)	8	"n"	
X_CAPTION(2,14)	8	"g"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000010000b	black on red, No flashing
L_CAPTION(3)	6	24	Caption="äöüÄÖÜäöüÄÖÜ"
X_CAPTION(3,1)	8	C3h	"ä"
X_CAPTION(3,2)	8	A4h	
X_CAPTION(3,3)	8	C3h	"ö"



X_CAPTION(3,4)	8	B6h	
X_CAPTION(3,5)	8	C3h	"ü"
X_CAPTION(3,6)	8	BCh	
X_CAPTION(3,7)	8	C3h	"Ä"
X_CAPTION(3,8)	8	84h	
X_CAPTION(3,9)	8	C3h	"Ö"
X_CAPTION(3,10)	8	96h	
X_CAPTION(3,11)	8	C3h	"Ü"
X_CAPTION(3,12)	8	9Ch	
X_CAPTION(3,13)	8	C3h	"ä"
X_CAPTION(3,14)	8	A4h	
X_CAPTION(3,15)	8	C3h	"ö"
X_CAPTION(3,16)	8	B6h	
X_CAPTION(3,17)	8	C3h	"ü"
X_CAPTION(3,18)	8	BCh	
X_CAPTION(3,19)	8	C3h	"Ä"
X_CAPTION(3,20)	8	84h	
X_CAPTION(3,21)	8	C3h	"Ö"
X_CAPTION(3,22)	8	96h	
X_CAPTION(3,23)	8	C3h	"Ü"
X_CAPTION(3,24)	8	9Ch	
Padding bits	6	000000b	



End Conditions	Value	Comments
STM State	unchanged	
ETCS Mode	unchanged	
ETCS Level	unchanged	
Train State	not relevant	
ETCS Train Data	not relevant	
Active DMI channel Connection	unchanged	
Other DMI channels Connections	not relevant	
TIU Connection	not relevant	
BIU Connection	not relevant	
JD Connection	not relevant	
TIU Regenerative Brake Command	not relevant	
TIU Magnetic Shoes Brake Command	not relevant	
TIU Eddy Current Brake Command for Emergency Brake	not relevant	
TIU Eddy Current Brake Command for Service Brake	not relevant	
TIU Pantograph Command	not relevant	
TIU Air Tightness Command	not relevant	
TIU Main Switch / Circuit Breaker Command	not relevant	
TIU Traction Cut Off Command	not relevant	
TIU Traction Status	not relevant	
TIU Direction Controller Position Status	not relevant	
TIU Cab Status	unchanged	





BIU Emergency Brake Command	not relevant	
BIU Service Brake Command	not relevant	
BIU Emergency Brake Status	not relevant	
BIU Service Brake Status	not relevant	
NTC isolation status	unchanged	

### 2.3.57 Test Case 7c8.2

TEST CASE HEADER	
Test case identification	DMI Function
	7c8.0.3.1.1.1.1.2.1.4.2.1.2
	Icon display and overlay test with buttons for configuration(s) 7a.3 with SK technology: Buttons are displayed with
	<ul style="list-style-type: none"> <li>- text only,</li> <li>- icon only, icon smaller than area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon smaller than area of button position,</li> <li>- icon and text, icon with qualifier 'caption upon icon', icon smaller than area of button position.</li> </ul>
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.4.1, 15.1.1.1 b)
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.4.2.1, 9.3.4.2.2, 9.3.4.2.3, 9.3.4.4, 9.3.4.5, 9.4.1.3, 9.3.5.1, 9.3.5.2, 9.4.1.3
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	Customisable DMI service: 7a.3 with SK technology



Comments and constraints	Starting and end conditions as for test case 7c8.1
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#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of 2 button(s) with text only	PROF	T0	connection of active DMI channel: Message-S1	DMI		2 button(s) are displayed with text only
2	STM requests display of 2 button(s) with icon only with icon smaller than button area	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		2 button(s) are displayed with icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
3	STM requests display of 2 button(s) with text and icon without caption upon icon and with icon smaller than button area	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		2 button(s) are displayed with Icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
4	STM requests display of 2 button(s) with text and icon with caption upon icon and with icon smaller than button area	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		2 button(s) are displayed with text and icon. The icon(s) are displayed centred in button area surrounded by white background colour.

Message-S1: STM requests display of 2 button(s) with text only			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	20	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)



L_PACKET	13	116	Packet Length
N_ITER	5	2	Request for 2 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	1	Caption="1"
X_CAPTION(1,1)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(2)	6	1	Caption="2"
X_CAPTION(2,1)	8	"2"	
Padding bits	3	000b	

Message-S2: STM requests display of 2 button(s) with icon only with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=100, N=2, ID=1, P=1, IC=127, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=128, MI=1000001000b, L=0			



Message-S3: STM requests display of 2 button(s) with text and icon without caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	20	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=116, N=2, ID=1, P=1, IC=127, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=128, MI=1000001000b, L=1, T="2"			

Message-S4: STM requests display of 2 button(s) with text and icon with caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	20	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=116, N=2, ID=1, P=1, IC=6, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=6, MI=1000001000b, L=1, T="2"			

### 2.3.58 Test Case 7c8.3

TEST CASE HEADER	
Test case identification	DMI Function
	7c8.0.3.1.1.1.1.1.2.1.2.1.4.2.1.2
	Icon display and overlay test with buttons for configuration(s) 7a.3 with TS technology:
	Buttons are displayed with - text only,



	<ul style="list-style-type: none"> <li>- icon only, icon filling area of button position,</li> <li>- icon only, icon smaller than area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon filling area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon smaller than area of button position,</li> <li>- icon and text, icon with qualifier 'caption upon icon', icon smaller than area of button position.</li> </ul>
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.4.1, 15.1.1.1 b)
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.4.2.1, 9.3.4.2.2, 9.3.4.2.3, 9.3.4.4, 9.3.4.5, 9.4.1.3, 9.3.5.1, 9.3.5.2, 9.4.1.3
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	Customisable DMI service: 7a.3 with TS technology
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c8.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of 2 button(s) with text only	PROF	T0	connection of active DMI channel: Message-S1	DMI		2 button(s) are displayed with text only
2	STM requests display of 2 button(s) with icon only with icon filling button area	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		2 button(s) are displayed with icon only
3	STM requests display of 2 button(s) with icon only with icon smaller than button area	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		2 button(s) are displayed with icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
4	STM requests display of 2 button(s)	PROF	T0+15s	connection of active DMI channel:	DMI		2 button(s) are displayed with Icon



	with text and icon without caption upon icon and with icon filling button area			Message-S4			only
5	STM requests display of 2 button(s) with text and icon without caption upon icon and with icon smaller than button area	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		2 button(s) are displayed with Icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
6	STM requests display of 2 button(s) with text and icon with caption upon icon and with icon smaller than button area	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		2 button(s) are displayed with text and icon. The icon(s) are displayed centred in button area surrounded by white background colour.

Message-S1: STM requests display of 2 button(s) with text only			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	20	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	116	Packet Length
N_ITER	5	2	Request for 2 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	1	Caption="1"



X_CAPTION(1,1)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(2)	6	1	Caption="2"
X_CAPTION(2,1)	8	"2"	
Padding bits	3	000b	

Message-S2: STM requests display of 2 button(s) with icon only with icon filling button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=100, N=2, ID=1, P=1, IC=127, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=128, MI=1000001000b, L=0			

Message-S3: STM requests display of 2 button(s) with icon only with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	18	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=100, N=2, ID=1, P=1, IC=1, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=2, MI=1000001000b, L=0			



Message-S4: STM requests display of 2 button(s) with text and icon without caption upon icon and with icon filling button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	20	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=116, N=2, ID=1, P=1, IC=127, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=128, MI=1000001000b, L=1, T="2"			

Message-S5: STM requests display of 2 button(s) with text and icon without caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	20	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=116, N=2, ID=1, P=1, IC=1, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=2, MI=1000001000b, L=1, T="2"			

Message-S6: STM requests display of 2 button(s) with text and icon with caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	20	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=116, N=2, ID=1, P=1, IC=6, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=6, MI=1000001000b, L=1, T="2"			





## 2.3.59 Test Case 7c8.4

TEST CASE HEADER	
Test case identification	DMI Function
	7c8.0.3.1.1.1.1.2.1.4.2.1.2
	Icon display and overlay test with buttons for configuration(s) 7a.5, 7a.6 and 7a.7 with SK technology (one configuration shall be chosen):
	Buttons are displayed with <ul style="list-style-type: none"> <li>- text only,</li> <li>- icon only, icon smaller than area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon smaller than area of button position,</li> <li>- icon and text, icon with qualifier 'caption upon icon', icon smaller than area of button position.</li> </ul>
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.4.1, 15.1.1.1 b)
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.4.2.1, 9.3.4.2.2, 9.3.4.2.3, 9.3.4.4, 9.3.4.5, 9.4.1.3, 9.3.5.1, 9.3.5.2, 9.4.1.3
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	Customisable DMI service: 7a.5, 7a.6 and 7a.7 with SK technology (one configuration shall be chosen)
Comments and constraints	Starting and end conditions as for test case 7c8.1

### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
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1	STM requests display of 8 button(s) with text only	PROF	T0	connection of active DMI channel: Message-S1	DMI		8 button(s) are displayed with text only
2	STM requests display of 8 button(s) with icon only with icon smaller than button area	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		8 button(s) are displayed with icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
3	STM requests display of 8 button(s) with text and icon without caption upon icon and with icon smaller than button area	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		8 button(s) are displayed with icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
4	STM requests display of 8 button(s) with text and icon with caption upon icon and with icon smaller than button area	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		8 button(s) are displayed with text and icon. The icon(s) are displayed centred in button area surrounded by white background colour.

Message-S1: STM requests display of 8 button(s) with text only			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	54	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	386	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	



NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	1	Caption="1"
X_CAPTION(1,1)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(2)	6	1	Caption="2"
X_CAPTION(2,1)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing
L_CAPTION(3)	6	1	Caption="3"
X_CAPTION(3,1)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(4)	6	1	Caption="4"
X_CAPTION(4,1)	8	"4"	
NID_BUTTON(5)	8	5	Button 5



NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing
L_CAPTION(5)	6	1	Caption="5"
X_CAPTION(5,1)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(6)	6	1	Caption="6"
X_CAPTION(6,1)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(7)	6	1	Caption="7"
X_CAPTION(7,1)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000001000b	black on white, No flashing
L_CAPTION(8)	6	1	Caption="8"
X_CAPTION(8,1)	8	"8"	



Padding bits	5	00000b	
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Message-S2: STM requests display of 8 button(s) with icon only with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=1, P=1, IC=30, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=31, MI=1000001000b, L=0		(3): ID=3, P=3, IC=40, MI=1000001000b, L=0	
(4): ID=4, P=4, IC=41, MI=1000001000b, L=0		(5): ID=5, P=5, IC=42, MI=1000001000b, L=0	
(6): ID=6, P=6, IC=40, MI=1000001000b, L=0		(7): ID=7, P=7, IC=44, MI=1000001000b, L=0	
(8): ID=8, P=8, IC=32, MI=1000001000b, L=0			

Message-S3: STM requests display of 8 button(s) with text and icon without caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	54	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=386, N=8, ID=1, P=1, IC=30, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=31, MI=1000001000b, L=1, T="2"		(3): ID=3, P=3, IC=40, MI=1000001000b, L=1, T="3"	
(4): ID=4, P=4, IC=41, MI=1000001000b, L=1, T="4"		(5): ID=5, P=5, IC=42, MI=1000001000b, L=1, T="5"	
(6): ID=6, P=6, IC=40, MI=1000001000b, L=1, T="6"		(7): ID=7, P=7, IC=44, MI=1000001000b, L=1, T="7"	
(8): ID=8, P=8, IC=32, MI=1000001000b, L=1, T="8"			



Message-S4: STM requests display of 8 button(s) with text and icon with caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	54	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=386, N=8, ID=1, P=1, IC=43, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=43, MI=1000001000b, L=1, T="2"		(3): ID=3, P=3, IC=43, MI=1000001000b, L=1, T="3"	
(4): ID=4, P=4, IC=43, MI=1000001000b, L=1, T="4"		(5): ID=5, P=5, IC=43, MI=1000001000b, L=1, T="5"	
(6): ID=6, P=6, IC=43, MI=1000001000b, L=1, T="6"		(7): ID=7, P=7, IC=43, MI=1000001000b, L=1, T="7"	
(8): ID=8, P=8, IC=43, MI=1000001000b, L=1, T="8"			

### 2.3.60 Test Case 7c8.5

TEST CASE HEADER	
Test case identification	DMI Function
	7c8.0.3.1.1.1.1.1.2.1.2.1.4.1.1.1.4.2.1.2
	Icon display and overlay test with buttons for configuration(s) 7a.5, 7a.6 and 7a.7 with TS technology (one configuration shall be chosen): Buttons are displayed with - text only, - icon only, icon filling area of button position, - icon only, icon smaller than area of button position,



	<ul style="list-style-type: none"> <li>- icon and text, icon without qualifier 'caption upon icon', icon filling area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon smaller than area of button position,</li> <li>- icon and text, icon with qualifier 'caption upon icon', icon filling area of button position,</li> <li>- icon and text, icon with qualifier 'caption upon icon', icon smaller than area of button position.</li> </ul>
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.4.1, 15.1.1.1 b)
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.4.2.1, 9.3.4.2.2, 9.3.4.2.3, 9.3.4.4, 9.3.4.5, 9.4.1.3, 9.3.5.1, 9.3.5.2, 9.4.1.3
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	Customisable DMI service: 7a.5, 7a.6 and 7a.7 with TS technology (one configuration shall be chosen)
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c8.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of 8 button(s) with text only	PROF	T0	connection of active DMI channel: Message-S1	DMI		8 button(s) are displayed with text only
2	STM requests display of 8 button(s) with icon only with icon filling button area	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		8 button(s) are displayed with icon only
3	STM requests display of 3 button(s) with icon only with icon smaller than button area	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		3 button(s) are displayed with icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
4	STM requests display of 8 button(s) with text and icon without caption	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		8 button(s) are displayed with Icon only



	upon icon and with icon filling button area						
5	STM requests display of 3 button(s) with text and icon without caption upon icon and with icon smaller than button area	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		3 button(s) are displayed with Icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
6	STM requests display of 5 button(s) with text and icon with caption upon icon and with icon filling button area	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		5 button(s) are displayed with text and icon
7	STM requests display of 3 button(s) with text and icon with caption upon icon and with icon smaller than button area	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		3 button(s) are displayed with text and icon. The icon(s) are displayed centred in button area surrounded by white background colour.

Message-S1: STM requests display of 8 button(s) with text only			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	54	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	386	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	





M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	1	Caption="1"
X_CAPTION(1,1)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(2)	6	1	Caption="2"
X_CAPTION(2,1)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing
L_CAPTION(3)	6	1	Caption="3"
X_CAPTION(3,1)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(4)	6	1	Caption="4"
X_CAPTION(4,1)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	



NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing
L_CAPTION(5)	6	1	Caption="5"
X_CAPTION(5,1)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(6)	6	1	Caption="6"
X_CAPTION(6,1)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(7)	6	1	Caption="7"
X_CAPTION(7,1)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000001000b	black on white, No flashing
L_CAPTION(8)	6	1	Caption="8"
X_CAPTION(8,1)	8	"8"	
Padding bits	5	00000b	



Message-S2: STM requests display of 8 button(s) with icon only with icon filling button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=1, P=1, IC=30, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=31, MI=1000001000b, L=0		(3): ID=3, P=3, IC=40, MI=1000001000b, L=0	
(4): ID=4, P=4, IC=41, MI=1000001000b, L=0		(5): ID=5, P=5, IC=42, MI=1000001000b, L=0	
(6): ID=6, P=6, IC=40, MI=1000001000b, L=0		(7): ID=7, P=7, IC=44, MI=1000001000b, L=0	
(8): ID=8, P=8, IC=32, MI=1000001000b, L=0			

Message-S3: STM requests display of 3 button(s) with icon only with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	23	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=137, N=3, ID=1, P=1, IC=20, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=40, MI=1000001000b, L=0		(3): ID=8, P=8, IC=40, MI=1000001000b, L=0	

Message-S4: STM requests display of 8 button(s) with text and icon without caption upon icon and with icon filling button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	54	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=386, N=8, ID=1, P=1, IC=30, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=31, MI=1000001000b, L=1, T="2"		(3): ID=3, P=3, IC=40, MI=1000001000b, L=1, T="3"	
(4): ID=4, P=4, IC=41, MI=1000001000b, L=1, T="4"		(5): ID=5, P=5, IC=42, MI=1000001000b, L=1, T="5"	
(6): ID=6, P=6, IC=40, MI=1000001000b, L=1, T="6"		(7): ID=7, P=7, IC=44, MI=1000001000b, L=1, T="7"	
(8): ID=8, P=8, IC=32, MI=1000001000b, L=1, T="8"			

Message-S5: STM requests display of 3 button(s) with text and icon without caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=161, N=3, ID=1, P=1, IC=20, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=40, MI=1000001000b, L=1, T="2"		(3): ID=8, P=8, IC=40, MI=1000001000b, L=1, T="8"	

Message-S6: STM requests display of 5 button(s) with text and icon with caption upon icon and with icon filling button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	37	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=251, N=5, ID=3, P=3, IC=43, MI=1000001000b (black on white, No flashing), L=1, T="3"			



(2): ID=4, P=4, IC=43, MI=1000001000b, L=1, T="4"	(3): ID=5, P=5, IC=43, MI=1000001000b, L=1, T="5"
(4): ID=6, P=6, IC=43, MI=1000001000b, L=1, T="6"	(5): ID=7, P=7, IC=43, MI=1000001000b, L=1, T="7"

Message-S7: STM requests display of 3 button(s) with text and icon with caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	26	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=161, N=3, ID=1, P=1, IC=43, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=43, MI=1000001000b, L=1, T="2"	(3): ID=8, P=8, IC=43, MI=1000001000b, L=1, T="8"		

### 2.3.61 Test Case 7c8.6

TEST CASE HEADER	
Test case identification	DMI Function
	7c8.0.3.1.1.1.1.1.2.1.2.1.4.1.1.1.4.2.1.2
	<p>Icon display and overlay test with buttons for configuration(s) 7a.9 with SK technology:</p> <p>Buttons are displayed with</p> <ul style="list-style-type: none"> <li>- text only,</li> <li>- icon only, icon filling area of button position,</li> <li>- icon only, icon smaller than area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon filling area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon smaller than area of button position,</li> </ul>



	<ul style="list-style-type: none"> <li>- icon and text, icon with qualifier 'caption upon icon', icon filling area of button position,</li> <li>- icon and text, icon with qualifier 'caption upon icon', icon smaller than area of button position.</li> </ul>
<b>ERTMS/ETCS on-board requirements tested</b>	SUBSET-035 13.4.4.1, 15.1.1.1 b)
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.4.2.1, 9.3.4.2.2, 9.3.4.2.3, 9.3.4.4, 9.3.4.5, 9.4.1.3, 9.3.5.1, 9.3.5.2, 9.4.1.3
<b>STM requirements tested</b>	
<b>Packets transmitted via FFFIS STM</b>	STM - 15, STM - 32
<b>ERTMS/ETCS on-board configuration</b>	Customisable DMI service: 7a.9 with SK technology
<b>Comments and constraints</b>	Starting and end conditions as for test case 7c8.1

#### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input time	Input Action	Output I/F	Output time limit	Output action
1	STM requests display of 8 button(s) with text only	PROF	T0	connection of active DMI channel: Message-S1	DMI		8 button(s) are displayed with text only
2	STM requests display of 8 button(s) with icon only with icon filling button area	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		8 button(s) are displayed with icon only
3	STM requests display of 8 button(s) with icon only with icon smaller than button area	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		8 button(s) are displayed with icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
4	STM requests display of 8 button(s) with text and icon without caption upon icon and with icon filling button area	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		8 button(s) are displayed with Icon only
5	STM requests display of 8 button(s)	PROF	T0+20s	connection of active DMI channel:	DMI		8 button(s) are displayed with Icon



	with text and icon without caption upon icon and with icon smaller than button area			Message-S5			only. The icon(s) are displayed centred in button area surrounded by white background colour.
6	STM requests display of 8 button(s) with text and icon with caption upon icon and with icon filling button area	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		8 button(s) are displayed with text and icon
7	STM requests display of 8 button(s) with text and icon with caption upon icon and with icon smaller than button area	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		8 button(s) are displayed with text and icon. The icon(s) are displayed centred in button area surrounded by white background colour.

Message-S1: STM requests display of 8 button(s) with text only			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	54	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	386	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	1	Caption="1"



X_CAPTION(1,1)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(2)	6	1	Caption="2"
X_CAPTION(2,1)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing
L_CAPTION(3)	6	1	Caption="3"
X_CAPTION(3,1)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(4)	6	1	Caption="4"
X_CAPTION(4,1)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing





L_CAPTION(5)	6	1	Caption="5"
X_CAPTION(5,1)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(6)	6	1	Caption="6"
X_CAPTION(6,1)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	
M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(7)	6	1	Caption="7"
X_CAPTION(7,1)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000001000b	black on white, No flashing
L_CAPTION(8)	6	1	Caption="8"
X_CAPTION(8,1)	8	"8"	
Padding bits	5	00000b	

Message-S2: STM requests display of 8 button(s) with icon only with icon filling button area



VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=1, P=1, IC=33, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=34, MI=1000001000b, L=0			(3): ID=3, P=3, IC=35, MI=1000001000b, L=0
(4): ID=4, P=4, IC=36, MI=1000001000b, L=0			(5): ID=5, P=5, IC=37, MI=1000001000b, L=0
(6): ID=6, P=6, IC=38, MI=1000001000b, L=0			(7): ID=7, P=7, IC=39, MI=1000001000b, L=0
(8): ID=8, P=8, IC=40, MI=1000001000b, L=0			

Message-S3: STM requests display of 8 button(s) with icon only with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	46	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=322, N=8, ID=1, P=1, IC=41, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=2, P=2, IC=47, MI=1000001000b, L=0			(3): ID=3, P=3, IC=48, MI=1000001000b, L=0
(4): ID=4, P=4, IC=59, MI=1000001000b, L=0			(5): ID=5, P=5, IC=41, MI=1000001000b, L=0
(6): ID=6, P=6, IC=47, MI=1000001000b, L=0			(7): ID=7, P=7, IC=48, MI=1000001000b, L=0
(8): ID=8, P=8, IC=59, MI=1000001000b, L=0			

Message-S4: STM requests display of 8 button(s) with text and icon without caption upon icon and with icon filling button area
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	54	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=386, N=8, ID=1, P=1, IC=33, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=34, MI=1000001000b, L=1, T="2"		(3): ID=3, P=3, IC=35, MI=1000001000b, L=1, T="3"	
(4): ID=4, P=4, IC=36, MI=1000001000b, L=1, T="4"		(5): ID=5, P=5, IC=37, MI=1000001000b, L=1, T="5"	
(6): ID=6, P=6, IC=38, MI=1000001000b, L=1, T="6"		(7): ID=7, P=7, IC=39, MI=1000001000b, L=1, T="7"	
(8): ID=8, P=8, IC=40, MI=1000001000b, L=1, T="8"			

Message-S5: STM requests display of 8 button(s) with text and icon without caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	54	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=386, N=8, ID=1, P=1, IC=41, MI=1000001000b (black on white, No flashing), L=1, T="1"			
(2): ID=2, P=2, IC=47, MI=1000001000b, L=1, T="2"		(3): ID=3, P=3, IC=48, MI=1000001000b, L=1, T="3"	
(4): ID=4, P=4, IC=59, MI=1000001000b, L=1, T="4"		(5): ID=5, P=5, IC=41, MI=1000001000b, L=1, T="5"	
(6): ID=6, P=6, IC=47, MI=1000001000b, L=1, T="6"		(7): ID=7, P=7, IC=48, MI=1000001000b, L=1, T="7"	
(8): ID=8, P=8, IC=59, MI=1000001000b, L=1, T="8"			

Message-S6: STM requests display of 8 button(s) with text and icon with caption upon icon and with icon filling button area
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VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	56	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=402, N=8, ID=2, P=1, IC=193, MI=1000001000b (black on white, No flashing), L=1, T="2"			
(2): ID=1, P=2, IC=194, MI=1000001000b, L=1, T="1"		(3): ID=3, P=3, IC=195, MI=1000001000b, L=1, T="3"	
(4): ID=4, P=4, IC=196, MI=1000001000b, L=1, T="4"		(5): ID=5, P=5, IC=197, MI=1000001000b, L=1, T="5"	
(6): ID=8, P=6, IC=198, MI=1000001000b, L=1, T="8"		(7): ID=10, P=7, IC=199, MI=1000001000b, L=2, T="10"	
(8): ID=14, P=8, IC=200, MI=1000001000b, L=2, T="14"			

Message-S7: STM requests display of 8 button(s) with text and icon with caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	56	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=402, N=8, ID=2, P=1, IC=201, MI=1000001000b (black on white, No flashing), L=1, T="2"			
(2): ID=1, P=2, IC=207, MI=1000001000b, L=1, T="1"		(3): ID=3, P=3, IC=208, MI=1000001000b, L=1, T="3"	
(4): ID=4, P=4, IC=219, MI=1000001000b, L=1, T="4"		(5): ID=5, P=5, IC=201, MI=1000001000b, L=1, T="5"	
(6): ID=8, P=6, IC=207, MI=1000001000b, L=1, T="8"		(7): ID=10, P=7, IC=208, MI=1000001000b, L=2, T="10"	
(8): ID=14, P=8, IC=219, MI=1000001000b, L=2, T="14"			



## 2.3.62 Test Case 7c8.7

TEST CASE HEADER	
Test case identification	DMI Function
	7c8.0.3.1.1.1.1.1.2.1.2.1.4.1.1.1.4.2.1.2
	Icon display and overlay test with buttons for configuration(s) 7a.9 with TS technology: Buttons are displayed with <ul style="list-style-type: none"> <li>- text only,</li> <li>- icon only, icon filling area of button position,</li> <li>- icon only, icon smaller than area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon filling area of button position,</li> <li>- icon and text, icon without qualifier 'caption upon icon', icon smaller than area of button position,</li> <li>- icon and text, icon with qualifier 'caption upon icon', icon filling area of button position,</li> <li>- icon and text, icon with qualifier 'caption upon icon', icon smaller than area of button position.</li> </ul>
ERTMS/ETCS on-board requirements tested	SUBSET-035 13.4.4.1, 15.1.1.1 b)
	ERA ERTMS 015560 (DMI Spec) 9.3.4.1, 9.3.4.2.1, 9.3.4.2.2, 9.3.4.2.3, 9.3.4.4, 9.3.4.5, 9.4.1.3, 9.3.5.1, 9.3.5.2, 9.4.1.3
STM requirements tested	
Packets transmitted via FFFIS STM	STM - 15, STM - 32
ERTMS/ETCS on-board configuration	Customisable DMI service: 7a.9 with TS technology
Comments and constraints	Starting and end conditions as for test case 7c8.1

### ERTMS/ETCS on-board Test Case

Step	Description/Comments	Input I/F	Input	Input Action	Output	Output	Output action
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			time		I/F	time limit	
1	STM requests display of 8 button(s) with text only	PROF	T0	connection of active DMI channel: Message-S1	DMI		8 button(s) are displayed with text only
2	STM requests display of 11 button(s) with icon only with icon filling button area	PROF	T0+5s	connection of active DMI channel: Message-S2	DMI		11 button(s) are displayed with icon only
3	STM requests display of 3 button(s) with icon only with icon smaller than button area	PROF	T0+10s	connection of active DMI channel: Message-S3	DMI		3 button(s) are displayed with icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
4	STM requests display of 11 button(s) with text and icon without caption upon icon and with icon filling button area	PROF	T0+15s	connection of active DMI channel: Message-S4	DMI		11 button(s) are displayed with Icon only
5	STM requests display of 3 button(s) with text and icon without caption upon icon and with icon smaller than button area	PROF	T0+20s	connection of active DMI channel: Message-S5	DMI		3 button(s) are displayed with Icon only. The icon(s) are displayed centred in button area surrounded by white background colour.
6	STM requests display of 11 button(s) with text and icon with caption upon icon and with icon filling button area	PROF	T0+25s	connection of active DMI channel: Message-S6	DMI		11 button(s) are displayed with text and icon
7	STM requests display of 3 button(s) with text and icon with caption upon icon and with icon smaller than button area	PROF	T0+30s	connection of active DMI channel: Message-S7	DMI		3 button(s) are displayed with text and icon. The icon(s) are displayed centred in button area surrounded by white background colour.

Message-S1: STM requests display of 8 button(s) with text only			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM



L_MESSAGE	8	54	Message Length
NID_PACKET	8	15	State report from STM (STM-15)
L_PACKET	13	25	Packet Length
NID_STMSTATE	4	7	State DA
NID_PACKET	8	32	Button request from STM (STM-32)
L_PACKET	13	386	Packet Length
N_ITER	5	8	Request for 8 buttons
NID_BUTTON(1)	8	1	Button 1
NID_BUTPOS(1)	5	1	
NID_ICON(1)	8	0	
M_BUT_ATTRIB(1)	10	1000001000b	black on white, No flashing
L_CAPTION(1)	6	1	Caption="1"
X_CAPTION(1,1)	8	"1"	
NID_BUTTON(2)	8	2	Button 2
NID_BUTPOS(2)	5	2	
NID_ICON(2)	8	0	
M_BUT_ATTRIB(2)	10	1000001000b	black on white, No flashing
L_CAPTION(2)	6	1	Caption="2"
X_CAPTION(2,1)	8	"2"	
NID_BUTTON(3)	8	3	Button 3
NID_BUTPOS(3)	5	3	
NID_ICON(3)	8	0	
M_BUT_ATTRIB(3)	10	1000001000b	black on white, No flashing



L_CAPTION(3)	6	1	Caption="3"
X_CAPTION(3,1)	8	"3"	
NID_BUTTON(4)	8	4	Button 4
NID_BUTPOS(4)	5	4	
NID_ICON(4)	8	0	
M_BUT_ATTRIB(4)	10	1000001000b	black on white, No flashing
L_CAPTION(4)	6	1	Caption="4"
X_CAPTION(4,1)	8	"4"	
NID_BUTTON(5)	8	5	Button 5
NID_BUTPOS(5)	5	5	
NID_ICON(5)	8	0	
M_BUT_ATTRIB(5)	10	1000001000b	black on white, No flashing
L_CAPTION(5)	6	1	Caption="5"
X_CAPTION(5,1)	8	"5"	
NID_BUTTON(6)	8	6	Button 6
NID_BUTPOS(6)	5	6	
NID_ICON(6)	8	0	
M_BUT_ATTRIB(6)	10	1000001000b	black on white, No flashing
L_CAPTION(6)	6	1	Caption="6"
X_CAPTION(6,1)	8	"6"	
NID_BUTTON(7)	8	7	Button 7
NID_BUTPOS(7)	5	7	
NID_ICON(7)	8	0	





M_BUT_ATTRIB(7)	10	1000001000b	black on white, No flashing
L_CAPTION(7)	6	1	Caption="7"
X_CAPTION(7,1)	8	"7"	
NID_BUTTON(8)	8	8	Button 8
NID_BUTPOS(8)	5	8	
NID_ICON(8)	8	0	
M_BUT_ATTRIB(8)	10	1000001000b	black on white, No flashing
L_CAPTION(8)	6	1	Caption="8"
X_CAPTION(8,1)	8	"8"	
Padding bits	5	00000b	

Message-S2: STM requests display of 11 button(s) with icon only with icon filling button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	60	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=433, N=11, ID=3, P=3, IC=57, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=6, P=6, IC=58, MI=1000001000b, L=0		(3): ID=9, P=9, IC=60, MI=1000001000b, L=0	
(4): ID=10, P=10, IC=49, MI=1000001000b, L=0		(5): ID=12, P=12, IC=41, MI=1000001000b, L=0	
(6): ID=13, P=13, IC=50, MI=1000001000b, L=0		(7): ID=14, P=14, IC=63, MI=1000001000b, L=0	
(8): ID=15, P=15, IC=64, MI=1000001000b, L=0		(9): ID=22, P=22, IC=50, MI=1000001000b, L=0	
(10): ID=23, P=23, IC=63, MI=1000001000b, L=0		(11): ID=24, P=24, IC=64, MI=1000001000b, L=0	



Message-S3: STM requests display of 3 button(s) with icon only with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	23	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=137, N=3, ID=13, P=13, IC=41, MI=1000001000b (black on white, No flashing), L=0			
(2): ID=14, P=14, IC=47, MI=1000001000b, L=0		(3): ID=15, P=15, IC=48, MI=1000001000b, L=0	

Message-S4: STM requests display of 11 button(s) with text and icon without caption upon icon and with icon filling button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	79	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=585, N=11, ID=3, P=3, IC=57, MI=1000001000b (black on white, No flashing), L=1, T="3"			
(2): ID=6, P=6, IC=58, MI=1000001000b, L=1, T="6"		(3): ID=9, P=9, IC=60, MI=1000001000b, L=1, T="9"	
(4): ID=10, P=10, IC=49, MI=1000001000b, L=2, T="10"		(5): ID=12, P=12, IC=41, MI=1000001000b, L=2, T="12"	
(6): ID=13, P=13, IC=50, MI=1000001000b, L=2, T="13"		(7): ID=14, P=14, IC=63, MI=1000001000b, L=2, T="14"	
(8): ID=15, P=15, IC=64, MI=1000001000b, L=2, T="15"		(9): ID=22, P=22, IC=50, MI=1000001000b, L=2, T="22"	
(10): ID=23, P=23, IC=63, MI=1000001000b, L=2, T="23"		(11): ID=24, P=24, IC=64, MI=1000001000b, L=2, T="24"	

Message-S5: STM requests display of 3 button(s) with text and icon without caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT



NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	29	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=185, N=3, ID=13, P=13, IC=41, MI=1000001000b (black on white, No flashing), L=2, T="13"			
(2): ID=14, P=14, IC=47, MI=1000001000b, L=2, T="14"			(3): ID=15, P=15, IC=48, MI=1000001000b, L=2, T="15"

Message-S6: STM requests display of 11 button(s) with text and icon with caption upon icon and with icon filling button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	79	Message Length
STM-15: PL=25, ST=7, (State DA)			
STM-32: PL=585, N=11, ID=3, P=3, IC=217, MI=1000001000b (black on white, No flashing), L=1, T="3"			
(2): ID=6, P=6, IC=218, MI=1000001000b, L=1, T="6"			(3): ID=9, P=9, IC=220, MI=1000001000b, L=1, T="9"
(4): ID=10, P=10, IC=209, MI=1000001000b, L=2, T="10"			(5): ID=12, P=12, IC=201, MI=1000001000b, L=2, T="12"
(6): ID=13, P=13, IC=210, MI=1000001000b, L=2, T="13"			(7): ID=14, P=14, IC=223, MI=1000001000b, L=2, T="14"
(8): ID=15, P=15, IC=224, MI=1000001000b, L=2, T="15"			(9): ID=22, P=22, IC=210, MI=1000001000b, L=2, T="22"
(10): ID=23, P=23, IC=223, MI=1000001000b, L=2, T="23"			(11): ID=24, P=24, IC=224, MI=1000001000b, L=2, T="24"

Message-S7: STM requests display of 3 button(s) with text and icon with caption upon icon and with icon smaller than button area			
VARIABLE	Length	VALUE	COMMENT
NID_STM	8	FINITE_VALUE	NID_STM of the active STM
L_MESSAGE	8	29	Message Length



STM-15: PL=25, ST=7, (State DA)	
STM-32: PL=185, N=3, ID=13, P=13, IC=201, MI=1000001000b (black on white, No flashing), L=2, T="13"	
(2): ID=14, P=14, IC=207, MI=1000001000b, L=2, T="14"	(3): ID=15, P=15, IC=208, MI=1000001000b, L=2, T="15"