

The Signalling Programme

ERTMS L2 - Generic Operational Test Cases Data Sheets

Definition of the ETCS Operational Scenarios for the Danish ERTMS Program

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DOCUMENT CHANGE LOG

Issue	Date	Affected sections	Comments
0.1	16/06/2017	All	Creation of the data sheets in a separate document.
			Review for delivery to BDK
1.0	19/06/2017	Title, code	Codification added
2.0	16/10/2017	All	Modification of OTCs data sheets according to BDK comments
2.1	28/12/2017	2.3.12, 2.11.3, 2.11.4, 2.14.1, 2.17.21, 2.17.22, 2.17.29, 2.17.30, 2.18.4	Minor corrections in titles of TCs SH14, LT31, LT32, MPV1, LT23, LT24, TM4 and DEG4. Briefing instructions in SH14
			Requirement added in DEG3.
2.2	08/06/2018	2	New fiches created SoM8b, LX16, LX17, LT39.
			Modification of TCs OSP1, SH1 and SH3 Minor correction in other test cases
2.3	09/07/2018	2	Briefing instructions in SMA4 (to point to Hz-82), RBCH2 and RBCH3
			JRU steps in MAD12, SH3 and LT39
			Numbering of steps in SoM2, SoM9, MAD8, SMA12, SoM11, LT13, LT18, LX17, LT3, LT26, LT38, MAD9, LT8, LX14, LT6
2.4	07/09/2018	2	New data sheets created SMA17 and SMA18 Modification of TCs SH2, SH3, OSP1, OSP2,
			OSP3, OSP5, OSP6, RBCH2, LX16, LX17 and TM2 (Q_MAMODE note)
2.5	13/01/2020	2	Several TC has been deleted: MAD10, TSR10, TC8, TC9, SoM4, SoM10 OSP2, OSP3, RFB2, DEG3, TC7, LT9, LT21, LT23,



			LT24, LT25, LT26, LT27, LT28, LT30, LT31, LT32, LT33, LT34, OTH7 Modification of SoM2, SoM5, SoM6, SoM8, SoM8b, SoM9, OMA2, OMA3, OMA4, OMA5, OMA6, OMA8, SH1, SH3, SH4, SH5, SH9, SH10, SH11, SH12, SH14, SH15, SH16, SH17, SJ2, OSP1, OSP5, OSP6, TSR5, TSR6, TSR8, MAD4, MAD8, SMA1, SMA4, SMA11, SMA12, SMA13, SMA14, SMA15, RFB1, LINK1, LINK2, LINK3, DEG1, DEG2, DEG4, DEG5, DEG6, DEG7, DEG8, MPV1, MPV2, MPV3, LX1, LX2, LX4, LX5, LX7, LX9, LX11, LX12, LX13, LX15, LX16, LX17, TC3, TC4, TC10, LT1, LT2, LT3, LT5, LT6, LT7, LT8, LT10, LT12, LT13, LT14, LT15, LT17, LT18, LT19, LT20, LT22, LT29, LT38, LT39, TM1, TM2, TM3, TM4, NV1, OTH4, OTH5, OTH6, OTH8, OTH9 Included text message parameters valid for both DK 2.0 system version and prior version in LX7, LX9 and LX13 Added new TC: TC11, SoM12, SoM13, SoM14, SoM14b, OSP7, OSP8
3.0	15.01.2020	All	Template updated to BDK format.
3.1	09.09.2020		Added the following TCs: SH19, SH20, SH21, SH22, SH23, SH24, SH25, SH26, SH27, SH28 Test case OTH9 deleted. Modification of TCs: TSR3, OV2, OV3, OV4, MPV1, LX7, LX9, LX13, LX16 Minor correction in SH3
3.2	04.12.2020		Editorial changes in TCs: SoM1, SoM2, SoM3, SoM5, SoM8, SoM8b, SoM9, SoM11, SoM12, SoM14, SoM14b, OMA2, OMA7, SH1, SH2, SH3, SH4, SH8, SH9, SH11, SH13, SH17, SH22, SH25, SH27, OSP7, OSP8, MAD2, MAD5, MAD11,



3.3	31.12.2021		MAD12, SMA1, SMA3, SMA4, SMA6, SMA7 SMA10, SMA11, SMA13, SMA15, SMA16, MPV1, LX4, LX12, LX13, LT29, LT35, LT38, LT39, TM2, TM4, OTH1, OTH4 Changes related to target distance correction in TCs: SMA2, SMA3, SMA4, SMA5, SMA6, SMA7, SMA8, SMA9, SMA10, SMA11, SMA12 SMA14, SMA15, SMA16, SMA17, RBCH1, RBCH2, RBCH5, RBCH7, RBCH8, TC10, LX12, LX13 Deleted the following TCs: MAD7, MPV2, LX5, SH10, SH12, SH20 Test cases RBCH1, RBCH2 and RBCH3 have
0.0			been splitted into two test cases (RBCH1a, RBCH2b, RBCH2a, RBCH3a and RBCH3b) one test case with 2 mobile terminals and other with only 1 mobile terminal available. Added the TC MAD13 about Axle load Speed Profiles. Deleted the TC OSP6.
			Modification of TCs: SoM1, SoM2, SoM3, SoM5, SoM6, SoM11, OMA3, OMA4, SH1, SH2, SH3, SH8, SH15, SH16, SH17, SH22, SH23, SH24, SH25, SH26, SH27, SH28, SJ1, SJ4, OSP1, OSP4, MAD1, MAD4, MAD5, MAD6, MAD12, SMA2, SMA3, SMA4, SMA5, SMA6, SMA7, SMA8, SMA9, SMA10, SMA11, SMA14, SMA15, SMA16, LINK3, DEG2, DEG4, DEG7, OV1, RBCH5, RBCH6, LX1, LX2, LX9, LX14, LX16, LX17, TC3, TC10, LT1, LT2, LT6, LT10, LT11, LT13, LT14, LT17, LT18, LT20, LT22, LT35, LT38, LT39, KM1-EVC, KM2-EVC, KM3-EVC, KM4-EVC.
3.4	25.03.2022	All	Update of the test cases to cover the set of specifications ETCS Baseline 3 Release 2 (SRS 3.6.0)



	Two new test cases, OV5 and TM5, are	
		added due to this update



1. INTRODUCTION

1.1. PURPOSE

The purpose of this document is to deliver the Operational Test Cases (OTCs) data sheets of the Operation Test Cases listed in document SP-EMO-P2-001959_ERTMS L2 - Generic Operational Test Cases List_v5.3

1.2. SCOPE

The data sheets presented in this document correspond to the OTCs listed in document SP-EMO-P2-001959_ERTMS L2 - Generic Operational Test Cases List. These test cases correspond to F-bane applications EAST and WEST. The adaptation of the data sheets to be applicable to ETCS Baseline 3 Release 2 has been done according to documents [13][14][15][18].

The OTCs marked as intentionally deleted are not developed.

1.3. ABBREVIATIONS

Abbreviation	Description
ASP	Axle load Speed Profile
ATAF	Automatic Track Ahead Free
ATC	Automatic Train Control
BG	Balise Group
CER	Common Engineering Rules
CES	Conditional Emergency Stop
CR	Control Room
DEF	Definition
DEG	Degraded Scenarios
DMI	Driver Machine Interface

Abbreviation	Description
DP	Danger Point
EoA	End of Authority
EoM	End of Mission
ERA	European Railway Agency
ERTMS	European Rail Traffic Management System
ETCS	European Train Control System
EVC	European Vital Computer
FS	Full Supervision mode
GP	Gradient Profile
НО	Handover



Abbreviation	Description
HZ	Hazard
ID	Identification
IP	Internet Protocol
IxL	Interlocking
JRU	Juridical Recording Unit
KM	Key Management
КМС	Key Management Centre
LINK	Linking Information
LNTC	Level NTC
LoA	Limit of Authority
LRBG	Last Relevant Balise Group
LT	Level Transitions
LX	Level Crossing
МА	Movement Authority
MAD	Movement Authority Description
МВ	Marker Board
MPV	Specific Requirements for ETCS messages, packets and variables
MRDT	Most Restrictive Displayed Target
MRSP	Most Restrictive Speed Profile
NR	Not Relevant

Abbreviation	Description
NTC	National Train Control
NV	National Values
ОВ	On-board
ОВИ	On-board Unit
ОМА	Obtaining Moving Authority
OPS	Operational Concept
OR	Operational Rule
OS	On Sight mode
OSP	On-Sight Protection
отс	Operational Test Case
ОТН	Others
ov	Override (either authorised or not)
PSA	Permanent Shunting Area
PT	Post Trip mode
PWS	Passenger Warning System
RAMS	Reliability, Availability, Maintainability, Safety
RBC	Radio Block Centre
RBCH	RBC/RBC Handover
RFB	Rules for Balises
SB	Stand By mode
SBI	Service Brake Intervention supervision limit



Abbreviation	Description
SH	Shunting
SJ	Splitting/Joining
SL	Sleeping mode
SMA	Shortening of Movement Authority
SN	System National mode
SoM	Start of Mission
SPAD	Signal passed at danger
SR	Staff Responsible mode
SSP	Static Speed Profile
SvL	Supervision Limit
SX	Staff Crossing

Abbreviation	Description
TAF	Track Ahead Free
тс	Test Case
тс	Track Conditions
ТМ	Text Messages
TMS	Traffic Management System
TR	Trip mode
TSA	Temporary Shunting Area
TSR	Temporary Speed Restriction
UES	Unconditional Emergency Stop
UN	Unfitted mode
VBC	Virtual Balise Cover

1.4. REFERENCES

- [1] Denmark Fjernbane Operational Concepts
- [2] Banedanmark Signalling Programme Operational Rules (Draft Fjernbane OR version 7.0, SP-OR-P2-000256)
- [3] F-bane Infrastructure Common Engineering Rules (version 3.5, SP-FB-ON-006631)
- [4] SP-FIW-GD-000693 Functional Requirements (current DOORS version)
- [5] SP-FIW-GD-000777 -- Non Funct Reqs (current DOORS version)
- [6] BDK National Values -- SP-FB-FD-008858
- [7] SP-FIW-GD-000649 LX v 1.0, 31-01-2012
- [8] Customer Test Expectations (version 0.18, SP-EMO-P2-001334)
- [9] ERTMS-ETCS test format for operational testing v1 2. ERA. 24/05/2011
- [10] Subset 026 System requirement specification v3.4.0
- [11] Subset 027 FIS Juridical Recording v3.1.0



- [12] ETCS Driver Machine Interface (ERA_ERTMS_015560) v3.4.0
- [13] Subset 026 System requirement specification v3.6.0
- [14] Subset 027 FIS Juridical Recording v3.3.0
- [15] ETCS Driver Machine Interface (ERA_ERTMS_015560) v3.6.0
- [16] SP-EMO-P2-001959 ERTMS L2 Generic Operational Test Cases List v5.3
- [17] Subset 113 ETCS Hazard Log v1.4.0
- [18] Baseline Compatibility Assessment Baseline 3 Release 2 Final Report (ERA_BCA_B3R2 version 1.1.0 13/05/2016)

2. OTC DATA SHEETS

The data sheets have been developed using the format in [9].

The data sheets cover both set of specifications ETCS Baseline 3 Maintenance Release 1 and ETCS Baseline 3 Release 2. Whenever some item in the data sheet is specifically applicable to one of the ETCS set of specifications, a note is included specifying the concerned set of specifications. If this note is related to information exchanged with the trackside, it will mean that the trackside infrastructure is operated according to the mentioned set of specifications in the note.

The following are the OTC data sheets:





2.1. SOM

2.1.1. SOM1

TEST CASE DESCRIPTION					
	Code	Version	n Title		
Test Case	SoM1	7		in SB mode with valid position. The train tside the ATAF zone.	front end
Baseline applicable		.F.1742, C		ine 3 R2 (SRS 3.6.0) 2, OR. 3084, 2841, OPS.848, OPS.1059,	
Test case author	Ineco/CEDEX				
Test Objective(s)	with a valid train ATAF procedure The bi-directional JRU and the EVC	position ar using a po I exchange C switches area the E	nd that the sition repe of mess from SB	sages between RBC and EVC is recorded mode to OS mode and after reporting its hes from OS mode to FS mode.	ng to the
Diagram	OS M	ATAI OS N	ма	FS MA	_
	Level			2	
	Mode			SB	
	Train Speed (km	ı/h)		0	
Starting conditions	Additional starti	-	tions	The train is at standstill with valid location information in front of a marker board with proceed aspect (FS route) and outside the zone. The desk is opened. There is no communication session estate with the RBC. Stored level is valid	h ne ATAF
Sequence of the Test Case	Checkpoints				
Step Step description	Interfaces	De	escriptio	n of what to be tested at the interface	OK?
	DMI (O)				
The driver validates or introduces the Driver ID	DMI (I)	DF	RIVER ID)	
5.113.13	JRU				
The establishment of a communication	DMI (O)	Sa	afe radio	connection "Connection Up";	
session is initiated by the EVC.	DMI (I)				



	A position report with valid position is sent to the RBC	JRU DMI (O)	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMI_SYMB_STATUS ST03	
			Driver selects Data Entry	
3	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	Driver enters the train running number M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL	
		DMI (O)	_	
		DMI (I)	Driver selects Start	
4	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1	
		DMI (O)		
		DMI (I)		
5	The RBC sends a Movement authority with an OS mode profile and the position report parameters. The OS mode profile covers the full extent of the MA. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=L2 Message 3/24/33 Packet 58 D_LOC=D3 (D3=Location inside the ATAF zone) (L1>D3) Q_LGTLOC=1 Estimated front end ≥ D2-L_DOUBTUNDER	
		DMI (O)	OS mode transition acknowledgement	
	The EVC shows the acknowledgment	DMI (I)		
6	request to OS.	JRU	M_MODE=6 DMI_SYMB_STATUS MO08	
		DMI (O)		
7	Acknowledgement of OS	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS = 0	
		DMI (O)	OS symbol	
		DMI (I)		
8	The EVC switches to OS mode and reports to the RBC the train position	JRU	M_MODE=1 DMI_SYMB_STATUS MO07 Message 136 Packet 0/1 M_MODE=1	
9		DMI (O)	OS symbol	



		DMI (I)		
	The train sends a position report when its front end position is inside the ATAF zone.	JRU	M_MODE=1 Message 136 Packet 0/1 D_LRBG D_LRBG(=Estimated front end)=D3- L_DOUBTUNDER	
		DMI (O)		
		DMI (I)		
10	The RBC sends an updated MA to the train	JRU	Message 3/33 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0 L_MAMODE=L4 (L1>D4+L4=Location of the replacement section limit)	
		DMI (O)	FS symbol	
	The train passes the end of the OS mode	DMI (I)		
11	profile (the track section limit) with its "min safe front end" and switches to FS mode.	JRU	Estimated front end > D4 + L4 + L_DOUBTOVER M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11	
		DMI (O)		
	The EVC reports to the RBC the train	DMI (I)		
12	position	JRU	Message 136 Packet 0/1 M_MODE=0	
		Level	2	
Final	state	Mode	FS	
mai	State	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
Field of Application		F-bane EAST		
Brief	ing instructions	(step 1) instead of when (*) If the on-board is ET0	an be introduced or validated when the driver ID is ent the train data is entered or validated (step 4) CS Baseline 3 Release 2 CS Baseline 3 Maintenance Release 1	ered

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.1.2. SOM2

TEST CASE DESCRIPTION							
		Code	Versio	n Title			
Test	Case	SoM2	9		in SB mode when the train has invalid or unknown tion information. ATAF procedure.		
Baseline applicable			Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) BIS.F.395, OR.DEF.454, 2015, 2017, OPS.1059, OR.DEF.172, 1961, 1970				
Test	case author	Ineco/CEDEX					
Test Diagi	Objective(s)	with an invalid o The bi-directiona	r unknowr al exchang 'C switche	train pos ge of mes s from SE	erformed correctly when the train is in rear of a MB sition. sages between RBC and EVC is recorded in the 3 mode to SR mode and, as soon as the train has		
Diagi	aiii	Level			2		
		Mode			SB		
		Train Speed (kr	m/h)		0		
Starting conditions		Additional starting conditions		itions	The train is at standstill with invalid or unknown location information and outside the ATAF zone of a marker board with proceed aspect (FS route). A BG is placed between the train and the MB The desk is opened. There is no communication session established with the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interface	es D	escriptio	on of what to be tested at the interface OK?		
		DMI (O))				
1	The driver validates or introduces the Driver ID	DMI (I)	D	RIVER II)		
		JRU					
		DMI (O)) L	evel 2 Symbol			
2	The driver confirms the LEVEL.	DMI (I)		Driver selects Level 2			
		JRU		1_DRIVE	RACTIONS= 36		
		DMI (O)					
	The driver enters/re-enters the RBC ID	DMI (I)			ers/re-enters RBC ID + phone number		
3	and the phone number.	JRU	Ir Ir	ADDITIONAL DATA(*) / RBC CONTACT INFORMATION ENTERED BY THE DRIVER(**) NID_RBC NID_RADIO			
		DMI (O)) S	afe radio	connection "Connection Up"		
		DMI (I)					
4	The establishment of a communication session is initiated by the EVC. A position report with invalid position is sent to the RBC.	JRU	N N	Packet 0/ NID_LRB D_LRBG Q_DIRLF Q_DLRB	32 159 2(**) 157 US=0 (invalid) / 2 (unknown)		
5	The RBC accepts the train.	DMI (O)	,	3.00			



		DMI (I)		
		JRU	Message 41 NID_LRBG = 16777215	
		DMI (O)	THE_ERES = ISTTILIS	
		DMI (I)	Driver selects Data Entry Driver enters the train running number	
6	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(*) / TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(**) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects Start	
7	Driver selects START and the EVC sends an MA request.	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON = xxxx1 (Start selected by driver) Packet 0/1 D_LRBG=32767 Q_DLRBG=2 Q_DIRLRBG=2	
		DMI (O)		
8	The RBC send an authorization for	DMI (I)		
	lunning in SK mode	JRU	Message 2 D_SR = 32767	
		DMI (O)	SR Acknowledgement symbol	
	The SR mode is proposed to the driver	DMI (I)	Driver acknowledges the SR mode	
ภ	and the driver acknowledges SR.	JRU	DMI_SYMB_STATUS MO10 M_DRIVERACTIONS= 3	
		DMI (O)	SR symbol	
The driver selects train data entry. Train data and train running number is entered or revalidated. The driver selects send an authorization for running in SR mode The RBC send an authorization for running in SR mode The SR mode is proposed to the driver and the driver and the driver acknowledges SR. The EVC switches to SR mode. The EVC sends a position report to inform RBC about the mode change to SR mode. The EVC sending a balise group the train reports valid position AMDRIVER. Message 13 DMI (0) DMI (0) DMI (0) DMI (0) SR Acknowl DMI (0) SR symbol DMI (0) DMI (0) DMI (0) SR symbol DMI (0) DMI (0) DMI (0) SR symbol DMI (0) DMI (0) SR symbol DMI (0) DMI (0) DMI (0) AMDRIVER. DMI (0) DMI (0)				
10	The EVC switches to SR mode.	JRU	M_MODE=2 DMI_SYMB_STATUS MO09	
		DMI (O)		
11		DMI (I)		
11		JRU	Message 136 packet 0 /1 M_MODE = 2	
		DMI (O)		
		DMI (I)		
12		JRU	Message 136 Packet 0 NID_LRBG≠16777215 Q_DIRLRBG≠2 Q_DLRBG≠2	
	The RBC sends a Movement authority	DMI (O)		
13	with an OS mode profile and the position	DMI (I)		



	report parameters. The OS mode profile covers the full extent of the MA. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU DMI (O)	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=L2 Message 3/24/33 Packet 58 D_LOC=D3 (D3=Location inside the ATAF zone) (L1>D3) Q_LGTLOC=1 Estimated front end ≥ D2-L_DOUBTUNDER OS symbol OS mode transition acknowledgement	
14	The EVC switches to OS mode and shows the acknowledgment request to OS.	DMI (I) JRU	M_MODE=1 DMI_SYMB_STATUS MO07 DMI_SYMB_STATUS MO08	
		DMI (O)		
	The EVC reports to the RBC the train	DMI (I)		
15	position	JRU	Message 136 Packet 0/1 M_MODE=1	
		DMI (O)	Acknowledgement of OS mode	
16	Acknowledgement of OS mode within 5 sec after the change to OS mode	DMI (I)		
	see alter the origings to SS mode	JRU	M_DRIVERACTIONS = 0	
		DMI (O)	OS symbol	
		DMI (I)	-	
17	The train sends a position report when its front end position is inside the ATAF zone	JRU	M_MODE=1 Message 136 Packet 0/1 D_LRBG D_LRBG(=Estimated front end)=D3- L_DOUBTUNDER	
		DMI (O)		
		DMI (I)		
18	The RBC sends an updated MA to the train	JRU	Message 3/33 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0 L_MAMODE=L4 (L1>D4+L4=Location of the replacement section limit)	
		DMI (O)	FS symbol	
	The train passes the end of the OS mode	DMI (I)		
19	profile (the track section limit) with its "min safe front end" and switches to FS mode.	JRU	Estimated front end > D4 + L4 + L_DOUBTOVER M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11	
		DMI (O)		
	The EVC reports to the RBC the train	DMI (I)		
20	position	JRU	Message 136 Packet 0/1 M_MODE=0	
Final	state	Level	2	
				4



Mode FS
Train Speed (km/h) NR
Other parameters
F-bane EAST
The train data number can be introduced or validated when the driver ID is entered (step 1) instead of when the train data is entered or validated (step 5)
In case of single BG in the SoM area train will have to report 2 BG before being able to receive an OS MA. (*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.1.3. SOM3

		TEST CAS	E DESCRI	PTION	
		Code	Version	n Title	
Test Case		SoM3	7		in SB mode with valid position. The train front end ide the ATAF zone.
Baseline applicable		Baseline 3 MR1 OPS.1059, OR.[(SRS 3.4.0 DEF.172, 1	0) / Basel 961, 197	ine 3 R2 (SRS 3.6.0) 0, OR. 3084, OPS.848
Test	case author	Ineco/CEDEX			
Test Objective(s)		Verify that the O the last track sec			ers from the beginning of the MA until the end of cupied.
Diag	ram		OS <u>r</u>	7,	FS MA
		Level			2
		Mode			SB
		Train Speed (kn	n/h)		0
Starting conditions		Additional start	ting condit	tions	The train is at standstill with valid location information in front of a marker board with proceed aspect (FS route) and inside the ATAF zone. The desk is opened. There is no communication session established with the RBC. Stored level is valid
Sequ	ence of the Test Case	Checkpoints			
Step	Step description	Interface	s De	escriptio	n of what to be tested at the interface OK?
	The difference listed as a single state of the	DMI (O)			
1	The driver validates or introduces the Driver ID	DMI (I)	DF	RIVER ID	
		JRU			
		DMI (O)	Sa	afe radio	connection "Connection Up";
		DMI (I)			
The establishment of a communication session is initiated by the EVC. A position report with valid position is sent to the RBC		JRU	Mi Mi Mi C F I O	Packet 0/Packet 0/PNID_LREQ_DIRLFQ_DLRB	2 59 (*) 57 JS = 1 (valid) 1 GG ≠ 16777215 RBG ≠ 2
	The driver selects train data entry. Train	DMI (O)			
3	data and train running number is entered or revalidated.	DMI (I)	Driver selects Data Entry Driver enters the train running number		

Т			L	-
		JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects Start	
4	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1	
		DMI (O)		
		DMI (I)		
5	The RBC sends a Movement authority with an OS mode profile and the position report parameters. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=0 L_MAMODE=L2 (L1>D2+L2=Location of the first unoccupied track section limit) Estimated front end ≥ D2-L_DOUBTUNDER	
		DMI (O)	OS mode transition acknowledgement	
_	The EVC shows the acknowledgment	DMI (I)		
6	request to OS.	JRU	M_MODE=6 DMI_SYMB_STATUS MO08	
		DMI (O)		
7	Acknowledgement of OS	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS = 0	
		DMI (O)	OS symbol	
		DMI (I)		
8	The EVC switches to OS mode and reports to the RBC the train position	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1	
		DMI (O)	FS symbol	
	The train passes the end of the OS mode	DMI (I)		
9	profile (the track section limit) with its "min safe front end" and switches to FS mode.		Estimated front end > D2 + L2 + L_DOUBTOVER M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11	
		DMI (O)		
	The EVC reports to the RBC the train	DMI (I)		
10	position	JRU	Message 136 Packet 0/1 M_MODE=0	
		Level	2	
Eina'	otata	Mode	FS	
rınal	state	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result	•		





Field of Application	F-bane EAST
Briefing instructions	The train data number can be introduced or validated when the driver ID is entered (step 1) instead of when the train data is entered or validated (step 4) (*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.1.4. SOM5

	TEST CASE DESCRIPTION						
		Code	Version	Title			
Test (Case	SoM5	7		in SB mode with valid position. ATAF procedure. inside a trusted area.		
Basel	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS.1059, OR.DEF.172, 1961, 1970, OPS.848					
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that the SoM procedure is performed correctly when the train is in rear of a MB with a valid train position inside a trusted area and that the entry in FS mode is performed according to the ATAF procedure. The bi-directional exchange of messages between RBC and EVC is recorded in the JRU and the EVC switches from SB mode to OS mode after reporting its position within the trusted area and after reporting the mode change, the EVC switches from OS mode to FS mode when passing the MB.					
Diagr	am	Trusted area OS MA FS MA Trusted area					
		Level			2		
		Mode			SB		
Starting conditions		Train Speed (km/h) Additional starting conditions			The train is at standstill with valid location information, inside a trusted area, in front of a marker board with proceed aspect (FS route). The desk is opened. There is no communication session established with the RBC. Stored level is valid		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	Des	scriptio	n of what to be tested at the interface OK?		
	The debugge of the second	DMI (O)					
1	The driver validates or introduces the Driver ID	DMI (I)	DR	IVER ID			
		JRU					
2	The establishment of a communication	DMI (O)	Saf	e radio	connection "Connection Up";		
2	session is initiated by the EVC.	DMI (I)					



	A position report with valid position inside a trusted area is sent to the RBC.	JRU	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMI_SYMB_STATUS ST03	
		DMI (O)		
		DMI (I)	Driver selects Data Entry Driver enters the train running number	
3	The driver selects train data entry. Train data and train running number is entered or revalidated. Once the train data has been introduced, the driver can select Start.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects Start	
4	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON = Start selected by driver Packet 0/1	
		DMI (O)		
		DMI (I)		
5	The RBC sends a Movement authority with an OS mode profile. The OS mode profile goes at least until the marker board. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=L2 (D2+L2≥distance to the marker board) Estimated front end ≥ D2-L_DOUBTUNDER	
		DMI (O)	OS mode transition acknowledgement	
	The EVC above the salvaculadareas	DMI (I)		
6	The EVC shows the acknowledgment request to OS.	JRU	M_MODE=6 DMI_SYMB_STATUS MO08	
		DMI (O)		
7	Acknowledgement of OS	DMI (I)	Acknowledgement of OS mode	
L	<u> </u>	JRU	M_DRIVERACTIONS = 0	
		DMI (O)	OS symbol	
		DMI (I)		
8	The EVC switches to OS mode and reports to the RBC the train position	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1	
		DMI (O)		
9		DMI (I)		
ll .	1	2 m (i)	i	

	The RBC sends an updated MA to the train: OS MA to the replacement section and FS onwards.	JRU	Message 3/33 LRBG2 Packet 15 L_ENDSECTION = L3 (L3>D4+L4) Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0 L_MAMODE=L4 (D4+L4=distance to the replacement section)
		DMI (O)	
	The train approaches to the marker	DMI (I)	
10	board and when it occupies the replacement section the RBC sends a CES to the train. (***)	JRU	Message 15 LRBG3 NID_EM=EM1 D_EMERGENCYSTOP = D3
		DMI (O)	
	The train has already passed with its	DMI (I)	
	"min safe front end" the new stop location therefore the train ignores the CES. (***)	JRU	Estimated front end > D3 + L_DOUBTOVER Message 147 NID_EM=EM1 Q_EMERGENCYSTOP=3
	The train passes the end of the OS mode profile (the track section limit) with its "min safe front end" and switches to FS mode.	DMI (O)	FS symbol
		DMI (I)	
		JRU	M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11 Estimated front end ≥ D4(LRBG2)+L4+L_DOUBTOVER
		DMI (O)	
	The EVC reports to the RBC the train	DMI (I)	
13	position	JRU	Message 136 Packet 0/1 M_MODE=0
		Level	2
Final	state	Mode	FS
ı-ıılal	State	Train Speed (km/h)	NR
		Other parameters	
Final	Test Result		
Field	of Application	F-bane WEST	
Briefing instructions		(step 1) instead of when (*) If the on-board is ET((**) If the on-board is ET (***) If when the RBC h	an be introduced or validated when the driver ID is entered the train data is entered or validated (step 4) CS Baseline 3 Release 2 CS Baseline 3 Maintenance Release 1 as detected that the replacement circuit has been occupied ssed with its "min safe front end" the location of the marker t send a CES.

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.1.5. SOM6

	TEST CASE DESCRIPTION					
		Code	Version	n Title		
Test Case		SoM6	6		in SB mode when the train has an invalid own location information. ATAF procedure	
Base	eline applicable				line 3 R2 (SRS 3.6.0) 454, 1961, 1970, 2015, 2017	
Test	case author	Ineco/CEDEX				
Test Objective(s)		with an invalid or The bi-directiona JRU and the EV	Verify that the SoM procedure is performed correctly when the train is in rear of with an invalid or unknown train position. The bi-directional exchange of messages between RBC and EVC is recorded ir JRU and the EVC switches from SB mode to SR mode and, as soon as the train a valid position, to OS mode and FS mode.			
Diag		Level			2	
		Mode			SB	
		Train Speed (km	n/h)		0	
Start	ing conditions	Additional start	,	ions	The train is at standstill with invalid or un location information. The desk is opened. There is no communication session esta with the RBC.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s De	escriptio	on of what to be tested at the interface	OK?
	The driver validates or introduces the Driver ID	DMI (O)				
1		DMI (I)	DF	DRIVER ID		
		JRU				
		DMI (O)	Le	Level 2 Symbol		
2	The driver confirms the LEVEL.	DMI (I)	Dri	Driver confirms level 2		
		JRU	M_	M_DRIVERACTIONS= 36		
		DMI (O)				
	The driver enters/re enters the PRC ID	DMI (I)			ers/re-enters RBC ID + phone number	
3	The driver enters/re-enters the RBC ID and the phone number.	JRU	INI 1	ADDITIONAL DATA(*) / RBC CONTACT INFORMATION ENTERED BY THE DRIVER(**) NID_RBC NID_RADIO		
		DMI (O)	Sa	ıfe radio	connection "Connection Up"	
		DMI (I)				
4	The establishment of a communication session is initiated by the EVC. A position report with invalid position is sent to the RBC	JRU	Me Me G P N D C G	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS=0 (invalid) / 2 (unknown) Packet 0/1 NID_LRBG ≠ 16777215 / = 16777215 D_LRBG ≠ 32767 / = 32767 Q_DIRLRBG ≠ 2 / = 2 Q_DLRBG ≠ 2 / = 2 DMI_SYMB_STATUS ST03		
		DMI (O)				
5	The RBC accepts the train.	DMI (I)				
		JRU		essage 4 IID_LRB	H1 GG = 16777215	



		DMI (O)		
	The driver selects train data entry. Train data and train running number is entered or revalidated.		Driver selects Data Entry	
		DMI (I)	Driver enters the train running number	
6		JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136	
			Packet 5 NID_OPERATIONAL ADDITIONAL DATA(*)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(**) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects Start	
7	Driver selects START and the EVC sends an MA request.	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON = xxxx1 (Start selected by driver) Packet 0/1 D_LRBG=32767 Q_DLRBG=2 Q_DIRLRBG=2	
		DMI (O)		
8	The RBC sends an authorization for	DMI (I)		
	running in SR mode	JRU	Message 2 D_SR = 32767	
		DMI (O)	Acknowledgement of SR mode	
_	SR mode is proposed to the driver and	DMI (I)	Driver acknowledges SR mode	
9	the driver acknowledges SR.	JRU	DMI_SYMB_STATUS MO10 M_DRIVERACTIONS= 3	
		DMI (O)	SR symbol	
		DMI (I)		
10	The EVC switches to SR mode.	JRU	M_MODE=2 DMI_SYMB_STATUS MO09	
		DMI (O)		
4.4	The EVC sends a position report to	DMI (I)		
11	inform RBC about the mode change to SR mode.	JRU	Message 136 packet 0 /1 M_MODE = 2	
		DMI (O)		
	After and the section of the section	DMI (I)		
12	After reading a balise group the train reports valid position inside a trusted area	JRU	Message 136 Packet 0 NID_LRBG≠16777215 Q_DIRLRBG≠2 Q_DLRBG≠2	
		DMI (O)		
		DMI (I)		
13	The RBC sends a Movement authority with an OS mode profile. The OS mode profile until the replacement section in advance of the marker board and FS onwards. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 (L1>D2+L2) Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=D2 M_MAMODE=U2 L_MAMODE=L2 (D2+L2=distance to the replacement section) Estimated front end ≥ D2-L_DOUBTUNDER	



		DMI (O)	OS symbol OS mode transition acknowledgement			
		DMI (I)	OS mode transition acknowledgement			
14	The EVC switches to OS mode and shows the acknowledgment request to OS. The EVC reports to the RBC the train	JRU	M_MODE=1 DMI_SYMB_STATUS MO07 DMI_SYMB_STATUS MO08			
		DMI (O)				
		DMI (I)				
15	position Acknowledgement of OS mode within 5 sec after the change to OS mode	JRU	Message 136 Packet 0/1 M_MODE=1			
		DMI (O)				
16		DMI (I)	Acknowledgement of OS mode			
	sec after the change to OS mode	JRU	M_DRIVERACTIONS = 0			
		DMI (O)				
	The train approaches to the marker	DMI (I)				
17	board and when it occupies the replacement section the RBC sends a CES to the train.(***)	JRU	Message 15 LRBG1 NID_EM=EM1 D_EMERGENCYSTOP = D3			
		DMI (O)				
	The train has already passed with its	DMI (I)				
18	"min safe front end" the new stop location therefore the train ignores the CES.(***)	JRU	Estimated front end > D3 + L_DOUBTOVER Message 147 NID_EM=EM1 Q_EMERGENCYSTOP=3			
		DMI (O)	FS symbol			
		DMI (I)				
19	The train passes the end of the OS mode profile (the track section limit) with its "min safe front end" and switches to FS mode. The EVC reports to the RBC the train position	JRU	M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11 Estimated front end ≥ D2(LRBG1)+L2+L_DOUBTOVER			
		DMI (O)				
		DMI (I)				
20		JRU	Message 136 Packet 0/1 M_MODE=0			
		Level	2			
Eina!	state	Mode	FS			
rııldi	Siaic	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field of Application		F-bane WEST				
Briefi	ing instructions	(*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2 (***) If when the RBC has detected that the replacement circuit has been occupied the train has already passed with its "min safe front end" the location of the marker board the RBC could not send a CES.				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						



Observations



2.1.6. SOM8

	TEST CASE DESCRIPTION								
		Code	Versio	n Title					
Test Case		SoM8	7	betw	I procedure inside a trusted area when the distance ween the marker board and the axle counter is very t. Mitigation of HZ-74				
Baseline applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) subset 113 . HZ 74			line 3 R2 (SRS 3.6.0)				
Test case author		neco/CEDEX							
Test Objective(s)		Verify that the RBC grants a movement authority with an OS profile and the EVC performs a transition to OS mode when a SoM procedure is performed by the driver in rear of a marker board from which the axle counter is at very short distance and the "Max safe front end" position is located after the axle counter.							
Diag	ram		OS m	ode	Max She				
		Level			2				
		Mode			SB				
		Train Speed (km	n/h)		0				
Starting conditions		Additional starting conditions			information in front of a marker board with proceed aspect (FS route). The train min safe front end is within a trusted area and the train max safe front end is in advance of the axle counter. The desk is open. There is no communication session established with the RBC. Stored level is valid				
	ence of the Test Case	Checkpoints							
Step	Step description	Interfaces	s De	escription	on of what to be tested at the interface OK?				
	The driver validates or introduces the Driver ID	DMI (O)							
1		DMI (I)	DF	RIVER II	D				
		JRU							
		DMI (O)	Sa	Safe radio connection "Connection Up";					
		DMI (I)							
2	The establishment of a communication session is initiated by the EVC. A position report with valid position is sent to the RBC	JRU	Me Me G F I O DN	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMI_SYMB_STATUS ST03					
	The driver selects train data entry. Train	DMI (O)							
3	data and train running number is entered or revalidated. Once the train data has	DMI (I)			ects Data Entry ers the train running number				



	been introduced, the driver can select Start.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL	
	Driver selects START	DMI (O)		
		DMI (I)	Driver selects Start	
4		JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON = Start selected by driver Packet 0/1 D_LRBG=D1 D1 + L_DOUBTUNDER > marker board location	
		DMI (O)	FS symbol is not displayed	
	į t	DMI (I)	<u> </u>	
5	The RBC sends a Movement authority with an OS mode profile. The end of the OS mode profile is set to a point in advance of the train max front end. The max safe front end of the train is inside the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 (L1>D2+L2) Packet 21 Packet 27 Packet 80 D_MAMODE=D2 (D2 < D1 + L_DOUBTUNDER) M_MAMODE=0 L_MAMODE=L2 (D2 + L2 > D1 + L_DOUBTUNDER)	
		DMI (O)	OS mode transition acknowledgement	
_	The EVC shows the acknowledgment	DMI (I)		
6	request to OS.	JRU	M_MODE=6 DMI_SYMB_STATUS MO08	
		DMI (O)		
7	Acknowledgement of OS	DMI (I)	Acknowledgement of OS mode	
	/ toknowledge/ment of GO	JRU	M DRIVERACTIONS = 0	
			OS symbol	
		DMI (O)	O3 Syllibol	
	The EVC switches to OS mode and reports to the RBC the train position	DMI (I)	M MODE 4	
8		JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1	
	The RBC sends an updated MA to the train: OS MA to the replacement section and FS onwards.	DMI (O)		
		DMI (I)		
9		JRU	Message 3/33 Packet 15 L_ENDSECTION = L3 (L3>D4+L4) Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0 L_MAMODE=4 (D4+L4=distance to the replacement section)	
	The train approaches to the marker board and when it occupies the replacement section the RBC sends a CES to the train.(***)	DMI (O)		
		DMI (I)		
10		JRU	Message 15 LRBG1 NID_EM=EM1 D_EMERGENCYSTOP = D3	



		DMI (O)			
	The train has already passed with its "min safe front end" the new stop location therefore the train ignores the CES.(***)	DMI (I)			
11		JRU	Estimated front end > D3 + L_DOUBTOVER Message 147 NID_EM=EM1 Q_EMERGENCYSTOP=3		
		DMI (O)	FS symbol		
	The train passes the end of the OS mode	DMI (I)			
12	profile (the track section limit) with its "min safe front end" and switches to FS mode.	JRU	Estimated front end > D4 + L4 + L_DOUBTOVER M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11		
	The EVC reports to the RBC the train position	DMI (O)			
4.0		DMI (I)			
13		JRU	Message 136 Packet 0/1 M_MODE=0		
		Level	2		
-:	-1-1-	Mode	FS		
Finai	state	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane WEST			
Briefing instructions		To be tested at every location where distance between the marker board and the axle counter is very short (in stations with LX) (*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***)If when the RBC has detected that the replacement circuit has been occupied the train has already passed with its "min safe front end" the location of the marker board the RBC could not send a CES.			

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.1.7. SOM8B

		TEST CAS	E DESCRIF	PTION			
		Code	Version	Title			
Test	Case	SoM8b	4	betw	procedure inside a trusted area when the distance veen the marker board and the axle counter is very t. Trackside mitigation of Hz 0074 not implemented		
Base	line applicable	Baseline 3 MR1 subset 113 . HZ		/ Base	line 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX					
Test Objective(s)		Verify that the RBC grants a movement authority with an OS profile and the EVC performs a transition to OS mode when a SoM procedure is performed by the driver in rear of a marker board from which the axle counter is at very short distance and the "Max safe front end" position is located after the axle counter and beyond the OS mode profile.					
Diag	ram		OS mo	de	MaxSFE		
		Level			2		
		Mode			SB		
		Train Speed (km	n/h)		0		
Start	ing conditions	Additional starting conditions		ons	Information in front of a marker board with proceed aspect (FS route). The train min safe front end is within a trusted area and the train max safe front end is in advance of the axle counter. The desk is open. There is no communication session established with the RBC. Stored level is valid		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	scriptio	on of what to be tested at the interface OK?		
	The state of the s	DMI (O)					
1	The driver validates or introduces the Driver ID	DMI (I)	DR	IVER I			
		JRU					
		DMI (O)	Sat	e radio	connection "Connection Up";		
		DMI (I)					
2	The establishment of a communication session is initiated by the EVC. A position report with valid position is sent to the RBC	JRU	Me Me P Me Q P N C C	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMI_SYMB_STATUS ST03			
	The driver selects train data entry. Train	DMI (O)					
3	data and train running number is entered or revalidated. Once the train data has	DMI (I)			ects Data Entry ers the train running number		



	been introduced, the driver can select Start.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects Start	
4	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON = Start selected by driver Packet 0/1 D_LRBG=D1 D1 + L_DOUBTUNDER > marker board location	
		DMI (O)	FS symbol is not displayed	
		DMI (I)	7 11.7.1	
5	The RBC sends a Movement authority with an OS mode profile. The end of the OS mode profile is at a very short distance in advance of the marker board, at a point in rear of the train max front end. The max safe front end of the train is outside the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 (L1>D2+L2) Packet 21 Packet 27 Packet 80 D_MAMODE=D2 (D2 < D1 + L_DOUBTUNDER) M_MAMODE=0 L_MAMODE=L2 (D2 + L2 < D1 + L_DOUBTUNDER)	
	The EVC shows the acknowledgment request to OS.	DMI (O)	OS mode transition acknowledgement	
6		DMI (I)		
0		JRU	M_MODE=6 DMI_SYMB_STATUS MO08	
		DMI (O)		
7	Acknowledgement of OS	DMI (I)	Acknowledgement of OS mode	
		JRU	M DRIVERACTIONS = 0	
		DMI (O)	OS symbol	
		DMI (I)		
8	The EVC switches to OS mode and reports to the RBC the train position	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1	
		DMI (O)		
		DMI (I)		
9	The RBC sends an updated MA to the train: OS MA to the replacement section and FS onwards.	JRU	Message 3/33 Packet 15 L_ENDSECTION = L3 (L3>D4+L4) Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0 L_MAMODE=L4 (D4+L4=distance to the replacement section)	
		DMI (O)		
	The train approaches to the marker	DMI (I)		
10	replacement section the RBC sends a CES to the train.(***)	JRU	Message 15 LRBG1 NID_EM=EM1 D_EMERGENCYSTOP = D3	



	The train has already passed with its "min safe front end" the new stop location therefore the train ignores the CES.(***)	DMI (O)			
		DMI (I)			
11		JRU	Estimated front end > D3 + L_DOUBTOVER Message 147 NID_EM=EM1 Q_EMERGENCYSTOP=3		
		DMI (O)	FS symbol		
	The train passes the end of the OS mode	DMI (I)			
12	profile (the track section limit) with its "min safe front end" and switches to FS mode.	JRU	Estimated front end > D4 + L4 + L_DOUBTOVER M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11		
	The EVC reports to the RBC the train position	DMI (O)			
4.0		DMI (I)			
13		JRU	Message 136 Packet 0/1 M_MODE=0		
		Level	2		
- :	-1-1-	Mode	FS		
Finai	state	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane WEST			
Briefing instructions		To be tested at every location where distance between the marker board and the axis counter is very short (in stations with LX) (*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***)If when the RBC has detected that the replacement circuit has been occupied the train has already passed with its "min safe front end" the location of the marker board the RBC could not send a CES.			

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.1.8. SOM9

TEST CASE DESCRIPTION							
		Code	Version	Title			
Test	Case	SoM9	6	SoM.	. Route is not set. No MA is granted		
Base	line applicable	Baseline 3 MR1 OPS.1059, OR.D	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS.1059, OR.DEF.172, 1961, 1970				
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that while	the route is	not set	the RBC cannot issue a movement author	rity.	
Diagr	am						
		Level			2		
		Mode			SB		
		Train Speed (km	n/h)		0		
Starti	ng conditions	Additional starting conditions		ions	The train is at standstill with valid location information (and inside a trusted area if in F-bane WEST) in front of a closed marker board. There is no route set. The desk is opened. There is no communication session established with the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	scriptio	n of what to be tested at the interface	OK?	
	The driver validates or introduces the Driver ID	DMI (O)					
1		DMI (I)		IVER ID)		
		JRU					
		DMI (O)		vel 2 Sy	mbol		
2	The driver confirms the LEVEL.(*)	DMI (I)		ver conf	firms Level 2		
		JRU	M_	DRIVE	RACTIONS= 36		
		DMI (O)					
	The driver enters/re-enters the RBC ID	DMI (I)			ers/re-enters RBC ID + phone number		
and the phone number.(*)		JRU	INF N	DITION FORMA NID_RB(NID_RAI			
		DMI (O)	Sa	fe radio	connection symbol		
		DMI (I)					
4	The establishment of a communication session is initiated by the EVC. A position report with valid/invalid position is sent to the RBC.	JRU	Me Me F Me O D D	Message 155 Message 32 Message 159 Packet 2(***) Message 157 Q_STATUS = 1 Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMI_SYMB_STATUS ST03			
	The driver selects train data entry. Train	DMI (O)					
5	data and train running number is entered or revalidated. Once the train data has		Dri Dri	ver sele ver ente	cts Data Entry ers the train running number		



	been introduced, the driver can select Start.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(***) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects "Start"	
6	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1 T_TRAIN = T2	
	The RBC does not send any MA or SR authorisation to the EVC. The EVC sends cyclically the MA request to the RBC	DMI (O)		
		DMI (I)		
7		JRU	Message 132 Packet 0/1 T_TRAIN = T2 + k*T1 (k= 1, 2,) (T1=T_CYCRQST)	
		Level	2	
Fine!	atata	Mode	SB	
Final	State	Train Speed (km/h)	0	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane V	VEST	
Briefi	ng instructions	(*) This step could not occur if stored level is valid (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.1.9. SOM11

	TEST CASE DESCRIPTION					
		Code	Versio	on Ti	itle	
Test (Case	SoM11	7		rain reports a train number that is not in the roduction plan	
Basel	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.396, FbIS.F.342, OPS.1059, OPS.371, OR.DEF.172, 1961, 1970, OR.DEF.124, OR.DEF.125, OPS.848, Text Messages 2				
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify that when the Online Produ Train and it is dis	ction Pla	n the F	ted Train reports a Train Number that is not planned in RBC sends a Text Message to warn the ERTMS Fitted DMI.	
Diagr	am					
		Level			2	
		Mode			SB	
Starti	ng conditions	Train Speed (km	n/h)		0	
		Additional starting conditions		itions	A SoM procedure has been initiated and a communication session is established. The train has valid location information	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s C	escrip	ption of what to be tested at the interface OK?	
		DMI (O)				
	The driver enters a train running number not planned in the Online Production Plan	DMI (I)				
1		JRU	١	ADDITIONAL DATA(*)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(**) NID_OPERATIONAL=ID1 Message 136 Packet 0/1 Packet 5 NID_OPERATIONAL = ID1		
		DMI (O)		Inconsistent train running number message is displayed		
		DMI (I)		.op.a.y		
	The RBC sends a text message indicating train running number inconsistency	JRU	rı S	Message 24 Packet 72 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = 0 M_MODETEXTDISPLAY = 15 M_LEVELTEXTDISPLAY = 5 / 3 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 1023 M_MODETEXTDISPLAY=15 M_LEVELTEXTDISPLAY=5 Q_TEXTCONFIRM=1 Q_CONFTEXTDISPLAY = 0 X_TEXT="Tognummerfejl/Inconsistent train running number" START DISPLAYING PLAIN TEXT MESSAGE		
		I DIVIT (C)		nconsistent train running number message isappears		
3	The driver acknowledges text message	DMI (I)			acknowledges the text message	
		JRU		M_DRIVERACTIONS = 23 STOP DISPLAYING PLAIN TEXT MESSAGE		
4	The driver enters a train running number	DMI (O)				
4	planned in the Online Production Plan.	DMI (I)		river e	enters the train running number	

		JRU DMI (O)	ADDITIONAL DATA(*)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(**) NID_OPERATIONAL=ID2 Message 136 Packet 5 NID_OPERATIONAL = ID2		
		DMI (I)	Driver selects "Start"		
5	Driver selects Start and the EVC sends to the RBC an MA request	JRU	M_DRIVERACTIONS=19 Message 132 Q_MARQSTREASON = xxxx1 (Start selected by driver) Packet 0/1		
		DMI (O)			
		DMI (I)			
6	The RBC sends a Movement authority with an OS mode profile. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=D2 L_MAMODE=L2 Estimated front end ≥ D2-L_DOUBTUNDER		
	The EVC shows the acknowledgment request to OS.	DMI (O)	OS mode transition acknowledgement		
7		DMI (I)	3.50		
,		JRU	DMI_SYMB_STATUS MO08		
	Acknowledgement of OS mode	DMI (O)			
8		DMI (I)	Acknowledgement of OS mode		
		JRU	M_DRIVERACTIONS = 0		
		DMI (O)			
_	The EVC reports to the RBC the train	DMI (I)			
9	position	JRU	Message 136 Packet 0/1 M_MODE=1		
		Level	2		
Fina!	stato	Mode	os		
rmal	state	Train Speed (km/h)	0		
		Other parameters			
Final	Test Result		·		
Field	of Application	F-bane EAST, F-bane WEST			
Briefi	ng instructions	(*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2			

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.1.10. SOM12

		TEST CASE	DESCRI	PTION		
		Code	Versio	n Title	9	
Test (Case	SoM12	3	SoM area	In SB mode when the train is outside a trusted a.	
Basel	ine applicable	Baseline 3 MR1 OPS.1059, OR.D	(SRS 3.4. (SF.172, 0	0) / Base DR.DEF	eline 3 R2 (SRS 3.6.0) .454, 1961, 1970, 2015, 2017	
Test	case author	Ineco/CEDEX				
Test (Objective(s)	The bi-directiona	l exchang	e of mes	erformed correctly when the train is in rear of a MB. ssages between RBC and EVC is recorded in the B mode to SR mode.	
Diagr	am					
		Level			2	
		Mode			SB	
		Train Speed (km	n/h)		0	
Starting conditions		Additional starting conditions		tions	The train is at standstill outside a trusted area with known or unknown location. The desk is opened. There is no communication session established with the RBC.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escripti	on of what to be tested at the interface OK?	
		DMI (O)				
1	The driver validates or introduces the Driver ID	DMI (I)		DRIVER ID		
		JRU				
	The driver confirms the LEVEL.(*)	DMI (O) Level 2		evel 2 Sy	ymbol	
2		DMI (I)	D	river cor	nfirms level 2	
		JRU	М	_DRIVE	RACTIONS= 36	
		DMI (O)				
		DMI (I)	Di	Driver enters/re-enters RBC ID + phone number		
3	The driver enters/re-enters the RBC ID and the phone number.(*)	JRU	AI IN	DDITION	NAL DATA(**) / RBC CONTACT ATION ENTERED BY THE DRIVER(***) BC	
		DMI (O)	Sa	Safe radio connection "Connection Up"		
		DMI (I)				
4	The establishment of a communication session is initiated by the EVC. A position report with invalid position is sent to the RBC	JRU	M M C F N	Packet 0 NID_LRI D_LRBG Q_DIRLI Q_DLRE	32 159 2(***) 157 **US=0 (invalid) / 2 (unknown)	
		DMI (O)				
5	The RBC accepts the train.	DMI (I)				
	, 	JRU		essage VID_LRI	41 BG = 16777215	
		DMI (O)				

		DMI (O)		
	running in SR mode	JRU	Message 2 D_SR = 32767	
	SR mode is proposed to the driver and the driver acknowledges SR.	DMI (O)	Acknowledgement of SR mode	
9		DMI (I)	Driver acknowledges SR mode	
		JRU	DMI_SYMB_STATUS MO10 M_DRIVERACTIONS= 3	
		DMI (O)	SR symbol	
40	The FVO switches to OB and the	DMI (I)		
10	The EVC switches to SR mode.	JRU	M_MODE=2 DMI_SYMB_STATUS MO09	
		DMI (O)		
	The EVC sends a position report to	DMI (I)		
11	inform RBC about the mode change to SR mode.	JRU	Message 136 packet 0 /1	
	After reading a balise group the train reports valid position outside the trusted	DMI (O)		
12	area (****) , and the train does not	DMI (I)		
	receive an MA.	JRU 		
		Level	2	
Final	state	Mode	SR L.,	
		Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
	of Application	F-bane WEST		
Field		Ī		
Field			ccur if stored level and stored position are valid CS Baseline 3 Maintenance Release 1	

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			

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Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.1.11. SOM13

		TEST CASE	DESCRIP	TION			
		Code	Version	Title			
Test	Case	SoM13	2	unkn	in SB mode when the train has an invalid aboun location information inside a trusted aboute is not set		
Base	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS.1059, OR.DEF.172, OR.DEF.454, 1961, 1970, 2015, 2017				
Test	case author	Ineco/CEDEX					
	Objective(s)	in stop aspect ar route is not set The bi-directiona	d with an in I exchange	valid or	erformed correctly when the train is in rear runknown train position inside a trusted a sages between RBC and EVC is recorded mode to SR mode.	rea. The	
Diagr	am				T _a		
		Level			2		
		Mode			SB		
		Train Speed (km	n/h)		0		
Starting conditions		Additional starting conditions		ons	The train is at standstill with invalid or unknown location information inside a trusted area and the route is not set. The desk is opened. There is no communication session established with the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	Des	criptic	on of what to be tested at the interface	OK?	
	The driver validates or introduces the Driver ID	DMI (O)					
1		DMI (I)	DRI	DRIVER ID			
		JRU					
		DMI (O)	Lev	Level 2 Symbol			
2	The driver confirms the LEVEL.	DMI (I)	Driv	Driver confirms level 2			
		JRU	M_[M_DRIVERACTIONS= 36			
		DMI (O)					
	The driver entered as entered the DDC ID	DMI (I)			ers/re-enters RBC ID + phone number		
3	The driver enters/re-enters the RBC ID and the phone number.	JRU	INF N	ADDITIONAL DATA(*) / RBC CONTACT INFORMATION ENTERED BY THE DRIVER(**) NID_RBC NID_RADIO			
		DMI (O)	Saf	e radio	connection "Connection Up"		
		DMI (I)					
3	The establishment of a communication session is initiated by the EVC. A position report with invalid position is	JRU	Mes Mes Mes Q Pa	Message 155 Message 32 Message 159 Packet 2(**) Message 157 Q_STATUS=0 (invalid) / 2 (unknown) Packet 0/1 NID_LRBG ≠ 16777215 / = 16777215 D_LRBG ≠ 32767 / = 32767 Q_DIRLRBG ≠ 2 / = 2 Q_DLRBG ≠ 2 / = 2 DMI_SYMB_STATUS ST03			
	sent to the RBC		D_ Q_ Q_ DM	_DIRLR _DLRB(I_SYMI	RBG		
4	sent to the RBC The RBC accepts the train.	DMI (O)	D_ Q_ Q_ DM	_DIRLR _DLRB(I_SYMI	RBG		

		JRU	Message 41	
			NID_LRBG = 16777215	
		DMI (O)		
		DMI (I)	Driver selects Data Entry Driver enters the train running number	
5	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(*)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(**) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects Start	
6	Driver selects START and the EVC sends an MA request.	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON = xxxx1 (Start selected by driver) Packet 0/1 D_LRBG=32767 Q_DLRBG=2 Q_DIRLRBG=2	
	The RBC sends an authorization for	DMI (O)		
7		DMI (I)		
	running in SR mode	JRU	Message 2 D_SR = 32767	
		DMI (O)	Acknowledgement of SR mode	
8	SR mode is proposed to the driver and	DMI (I)	Driver acknowledges SR mode	
0	the driver acknowledges SR.	JRU	DMI_SYMB_STATUS MO10 M_DRIVERACTIONS= 3	
		DMI (O)	SR symbol	
		DMI (I)		
9	The EVC switches to SR mode.	JRU	M_MODE=2 DMI_SYMB_STATUS MO09	
		DMI (O)		
	The EVC sends a position report to	DMI (I)		
10	inform RBC about the mode change to SR mode.	JRU	Message 136 packet 0 /1 M_MODE = 2	
	After reading a balise group the train	DMI (O)		
11	reports valid position inside the trusted area, and the train does not receive an	DMI (I)		
	MA.	JRU		
		Level	2	
Eina'	atata	Mode	SR	
Final	State	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane WEST		
Briefi	ng instructions		CS Baseline 3 Maintenance Release 1 CS Baseline 3 Release 2	

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			

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Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.1.12. SOM14

	TEST CASE DESCRIPTION						
		Code	Version	n Title			
Test	Case	SoM14	3	dista	procedure inside the ATAF zone when the ance between the marker board and the axle atter is very short. Mitigation of HZ-74		
Base	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) subset 113 . HZ 74				
Test	case author	Ineco/CEDEX					
Test	Objective(s)	performs a transi rear of a marker I	tion to OS board from	mode w which t	nent authority with an OS profile and the EVC when a SoM procedure is performed by the driver in the axle counter is at very short distance and the ated after the axle counter.		
Diag	ram		OS m	de	Max She		
		Level			2		
		Mode			SB		
		Train Speed (km	n/h)		0		
Starting conditions		Additional starting conditions		ions	information in front of a marker board with proceed aspect (FS route). The train min safe front end is within the ATAF zone and the train max safe front end is in advance of the axle counter. The desk is open. There is no communication session established with the RBC. Stored level is valid		
	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	scription	on of what to be tested at the interface OK?		
	The driver validates or introduces the	DMI (O)					
1	Driver ID	DMI (I)	DF	RIVER II)		
		JRU					
		DMI (O)	Sa	Safe radio connection "Connection Up";			
		DMI (I)					
2	The establishment of a communication session is initiated by the EVC. A position report with valid position is sent to the RBC	JRU	Me Me G F 1 (O	Zacket 0/ NID_LRE Q_DIRLE Q_DLRE	32 159 157 US = 1 (valid) /1 BG ≠ 16777215 RBG ≠ 2		
	The driver selects train data entry. Train	DMI (O)					
3	data and train running number is entered or revalidated. Once the train data has	DMI (I)			ects Data Entry ers the train running number		



,	_			
	been introduced, the driver can select Start.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL	
		DMI (O)		
4	Driver selects START	DMI (I)	Driver selects Start M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON = Start selected by driver Packet 0/1 D_LRBG=D1	
			D1 + L_DOUBTUNDER > marker board location	
		DMI (O)	FS symbol is not displayed	
		DMI (I)		
5	The RBC sends a Movement authority with an OS mode profile covering the train location. The end of the OS mode profile is set to a point in advance of the train max front end. The max safe front end of the train is inside the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 (L1>D2+L2) Packet 21 Packet 27 Packet 80 D_MAMODE=D2 (D2 ≤ D1 + L_DOUBTUNDER) M_MAMODE=0 L_MAMODE=L2 (D2 + L2 > D1 + L_DOUBTUNDER)	
		DMI (O)	OS mode transition acknowledgement	
_	The EVC shows the acknowledgment request to OS.	DMI (I)		
6		JRU	M_MODE=6 DMI_SYMB_STATUS MO08	
		DMI (O)		
7	Acknowledgement of OS	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS = 0	
		DMI (O)	OS symbol	
		DMI (I)		
8	The EVC switches to OS mode and reports to the RBC the train position	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1	
		DMI (O)	FS symbol	
	The train passes the end of the OS mode	DMI (I)		
9	The train passes the end of the OS mode profile (the track section limit) with its "min safe front end" and switches to FS mode.	JRU	Estimated front end > D2 + L2 + L_DOUBTOVER M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11	
		DMI (O)		
4.5	The EVC reports to the RBC the train	DMI (I)		
10	position	JRU	Message 136 Packet 0/1 M_MODE=0	
		Level	2	
		Mode	FS	
rınal	state	Train Speed (km/h)	NR	
		Other parameters		
		•	-	





Final Test Result	
Field of Application	F-bane EAST
Briefing instructions	To be tested at every location where distance between the marker board and the axle counter is very short (in stations with LX) The train data number can be introduced or validated when the driver ID is entered (step 1) instead of when the train data is entered or validated (step 4) (*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1

ADDITIONAL TEST CASE REPORTING INFORMATION		
System configuration		
Test location		
Date and time (Start/End)		
Names		
Test log reference		
Observations		



2.1.13. SOM14B

	TEST CASE DESCRIPTION						
		Code	Version	on Title	е		
Test	Case	SoM14b	3	dist cou	If procedure inside the ATAF zone when the ance between the marker board and the and the interies very short. Trackside mitigation of Fimplemented	xle	
Base	line applicable	Baseline 3 MR1 subset 113 . HZ			eline 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX					
performs a tr Test Objective(s) rear of a man "Max safe fro		performs a transi rear of a marker	ify that the RBC grants a movement authority with an OS profile and the EVC forms a transition to OS mode when a SoM procedure is performed by the driver in of a marker board from which the axle counter is at very short distance and the ax safe front end" position is located after the axle counter and beyond the OS				
Diagram		OS mode Max					
		Level			2		
		Mode			SB		
		Train Speed (km	n/h)		p		
Starting conditions		Additional starting conditions		itions	The train is at standstill with valid locatio information in front of a marker board wit proceed aspect (FS route). The train mir front end is within the ATAF zone and th max safe front end is in advance of the acounter. The desk is open. There is no communication session esta with the RBC. Stored level is valid	th n safe e train axle	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escripti	on of what to be tested at the interface	OK?	
		DMI (O)					
1	The driver validates or introduces the Driver ID	DMI (I)		RIVER	ID		
	Billy Ciril B	JRU					
		DMI (O)	S	afe radio	connection "Connection Up";		
		DMI (I)					
2	The establishment of a communication session is initiated by the EVC. A position report with valid position is sent to the RBC	Packet 0/ NID_LRI Q_DIRLI Q_DLRE DMI_SYM ST03		Message Message Packet Message Q_STAT Packet (NID_LF Q_DIRL Q_DLR DMI_SYM	32 159 2(*) 157 TUS = 1 (valid) 0/1 RBG ≠ 16777215 LRBG ≠ 2		
	The driver selects train data entry. Train	DMI (O)					
3	data and train running number is entered or revalidated. Once the train data has				ects Data Entry ters the train running number		

	been introduced, the driver can select Start.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects Start	
4	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON = Start selected by driver Packet 0/1 D_LRBG=D1 D1 + L_DOUBTUNDER > marker board location	
		DMI (O)	FS symbol is not displayed	
		DMI (I)		
5	The RBC sends a Movement authority with an OS mode profile covering the train location. The end of the OS mode profile is at a very short distance in advance of the marker board, at a point in rear of the train max front end. The max safe front end of the train is outside the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 (L1>D2+L2) Packet 21 Packet 27 Packet 80 D_MAMODE=D2 (D2 ≤ D1 + L_DOUBTUNDER) M_MAMODE=0 L_MAMODE=L2 (D2 + L2 < D1 + L_DOUBTUNDER)	
		DMI (O)	OS mode transition acknowledgement	
$\ $	The EVC shows the seknowledgment	DMI (I)		
	The EVC shows the acknowledgment request to OS.	JRU	M_MODE=6 DMI_SYMB_STATUS MO08	
		DMI (O)		
7	Acknowledgement of OS	DMI (I)	Acknowledgement of OS mode	
	-	JRU	M_DRIVERACTIONS = 0	
		DMI (O)	OS symbol	
		DMI (I)	,	
	The EVC switches to OS mode and reports to the RBC the train position	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1	
		DMI (O)	FS symbol	
	The train passes the end of the OS mode	DMI (I)		
9	profile (the track section limit) with its "min safe front end" and switches to FS mode.	JRU	Estimated front end > D2 + L2 + L_DOUBTOVER M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11	
		DMI (O)		
10	The EVC reports to the RBC the train position	DMI (I)	Message 136 Packet 0/1 M_MODE=0	
		Level	2	
L		Mode	FS	
Final state		Train Speed (km/h)	NR	
		Other parameters		
l———			1	





Final Test Result	
Field of Application	F-bane EAST
Briefing instructions	To be tested at every location where distance between the marker board and the axle counter is very short (in stations with LX) The train data number can be introduced or validated when the driver ID is entered (step 1) instead of when the train data is entered or validated (step 4) (*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1

	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.2. OMA

2.2.1. OMA2

		TEST CASE	DESCR	IPTION		
		Code	Version Title		le	
Test Case		OMA2	7	Exi	it from PT mode.	
Base	line applicable	Baseline 3 MR1 OPS.1154, OR.3	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS.1154, OR.3298, Fbls 1742			
Test	case author	Ineco/CEDEX				
Test	Objective(s)	Verify that when	driver se	lects Sta	art and the RBC sends an MA (OS).	
Diagr	am					
		Level			2	
		Mode			PT	
		Train Speed (kn	n/h)		0	
Starting conditions		Additional starting conditions		litions	Train is at standstill in PT mode. There is a communication session established between RBC and EVC. In WEST (Thales area) the train should be inside the trusted area. The marker board in advance of the train is open (FS mode)	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interface	s [Descript	ion of what to be tested at the interface (OK?
		DMI (O)		/train=0 Start" bu	utton active	
		DMI (I)		Driver selects Start		
1	The driver selects "Start" and the EVC sends an MA request to the RBC.	,		/lessage Packet (D_LR NID_	ERACTIONS=19 e 132	
		DMI (O)	P	Acknowle	edgement for SR is shown	
		DMI (I)				
2	The RBC grant an authorisation for SR mode. (*)	JRU	[/lessage D_SR DMI_SYI MO10	B_STATUS	
		DMI (O)	5	SR symb	pol	
		DMI (I)		Oriver ac	knowledges SR mode	
3	Driver acknowledges the SR mode and the EVC sends a position report to inform RBC about change of mode is SR.(*)	JRU		DMI_SYN MO09 Jessage Packet		
		DMI (O)				
	The train reports position inside a trusted	DMI (I)				
4	area.(*)	JRU	N	/lessage Packet M_M		



		DMI (O)				
		DMI (I)				
	The RBC sends an MA with OS mode. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 NID_BG=BG1 (LRBG1) Packet 15 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 ≤ D1 + L_DOUBTUNDER M_MAMODE = 0 V_MAMODE = V1			
		DMI (O)	OS mode transition acknowledgement			
6	The EVC shows the acknowledgment request to OS.	DMI (I)				
		JRU	DMI_SYMB_STATUS MO08			
	Acknowledgement of OS mode	DMI (O)				
7		DMI (I)	Acknowledgement of OS mode			
		JRU	M_DRIVERACTIONS = 0			
		DMI (O)				
	The EVC reports to the RBC the train	DMI (I)				
8	position	JRU	Message 136 Packet 0/1 M_MODE=1			
		Level	2			
Einel	state	Mode	os			
riiidi	State	Train Speed (km/h)	0			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefing instructions		Check and note if message Entering OS is shown (*) These steps only take place in the F-bane WEST				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.2.2. OMA3

	TEST CASE DESCRIPTION						
		Code	Versio	n Titl	e		
Test Case		OMA3	6	Miti igno	Mitigation for an erroneous track occupation. The train ignores the conditional emergency stop.		
Basel	ine applicable	Baseline 3 MR1 (Fbls 1742	(SRS 3.4.	0) / Bas	eline 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX					
Test (Objective(s)				considered by the on-board when the train " the stop location.	has	
Diagr	am						
		Level			2		
		Mode			SB		
Starti	ng conditions	Train Speed (km	n/h)		0		
		Additional starti	ing cond	itions	The train is at standstill with valid location information inside a trusted area. There is communication established with		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escript	ion of what to be tested at the interface	OK?	
		DMI (O)					
		DMI (I)					
	The RBC sends a Movement authority with an OS mode profile. The OS mode profile goes at least until the marker board. The max safe front end of the train is at or in advance of the beginning of the OS area.	ment authority The OS mode the marker of the train is at inning of the OS The OS mode the Me L P P P P Me L P P P Me Me Me Me Me Me Me M		Packet 2 Packet 2 Packet 8 D_MA M_MA L_MAI	15 DSECTION=L1 21 27 30 MODE=D2 .MODE=D MODE=L2 (D2+L2≥distance to the		
		DMI (O)			transition acknowledgement		
2	The EVC shows the acknowledgment	DMI (I)			-		
	request to OS.	JRU		MI_SYN MO08	MB_STATUS		
		DMI (O)					
3	Acknowledgement of OS mode	DMI (I)	А	cknowle	edgement of OS mode		
		JRU	N	_DRIVE	ERACTIONS = 0		
		DMI (O)					
4	The EVC reports to the RBC the train	DMI (I)					
4	position	JRU		lessage Packet (M_MO	0/1		
5	The RBC sends a movement authority	DMI (O)	N	IA is upo	dated		
3	with a mode profile up to the replacement	DMI (I)					

	section in advance of the marker board and a FS movement authority from the replacement section up to the EoA.	JRU	Message 3/33 LRBG2 Packet 15 L_ENDSECTION=L3 (L3>D4+L4) Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0 L_MAMODE=L4 (D4+L4=distance to the replacement section)			
	The train approaches to the marker	DMI (O)				
	board and when it occupies the	DMI (I)				
6	replacement section the RBC sends a CES to the train up to the marker board.(*)	JRU	Message 15 LRBG3 NID_EM=EM1 D_EMERGENCYSTOP = D3			
		DMI (O)				
	The train has already passed with its	DMI (I)				
7	"min safe front end" the new stop location therefore the train ignores the CES.(*)	JRU	Estimated front end > D3 + L_DOUBTOVER Message 147 NID_EM=EM1 Q_EMERGENCYSTOP=3			
	The train passes the end of the OS mode profile (the track section limit) with its "min safe front end" and switches to FS mode.	DMI (O)	FS symbol			
		DMI (I)				
8		JRU	M_LEVEL=3 M_MODE=0 DMI_SYMB_STATUS MO11 Estimated front end ≥ D4(LRBG2)+L4+L_DOUBTOVER			
		DMI (O)				
	The EVC reports to the RBC the train	DMI (I)				
9	position	JRU	Message 136 Packet 0/1 M_MODE=1			
		Level	2			
F: '	atata	Mode	FS			
rınaı	state	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field of Application		F-bane WEST				
Briefing instructions		Check and note if mess (*) If when the RBC has	could occur after the step 5 and 6. age Entering OS is shown s detected that the replacement circuit has been occupied the d with its "min safe front end" the location of the marker board a CES.			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.2.3. OMA4

	TEST CASE DESCRIPTION						
		Code	Versio	n Title	•		
Test Case		OMA4	6	Mitig does	Mitigation for an erroneous track occupation. The train does not ignore the conditional emergency stop.		
Basel	ine applicable	Baseline 3 MR1 (Fbls 1742	(SRS 3.4.	0) / Base	eline 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that a CES with its "Min safe	message front end	e is cons " the stop	idered on-board when the train has not yet p location.	t passed	
Diagr	am						
		Level			2		
		Mode			SB		
Starti	ng conditions	Train Speed (km	n/h)		0		
		Additional starti	ing condi	tions	The train is at standstill with valid locatior information. There is communication established with		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escriptio	on of what to be tested at the interface	OK?	
		DMI (O)					
		DMI (I)					
	The RBC sends a Movement authority with an OS mode profile. The OS mode profile goes at least until the marker board. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	JRU Packet 2 Packet 2 Packet 8 D_MA M_MA L_MA marker be		5 SECTION=L1 1 7 0 MODE=D2 MODE=0 MODE=L2 (D2+L2≥distance to the		
		DMI (O)			transition acknowledgement		
2	The EVC shows the acknowledgment	DMI (I)			·		
	request to OS.	JRU		MI_SYM MO08	B_STATUS		
		DMI (O)					
3	Acknowledgement of OS mode	DMI (I)	A	cknowled	dgement of OS mode		
		JRU	M	_DRIVE	RACTIONS = 0		
		DMI (O)					
4	The EVC reports to the RBC the train	DMI (I)					
4	position	JRU		essage ? Packet 0, M_MOD	/1		
5	The RBC sends a movement authority	DMI (O)	M	A is upd	ated		
3	with a mode profile up to the replacement	DMI (I)					



	section in advance of the marker board and a FS movement authority from the replacement section up to the EoA.	JRU	Message 3/33 LRBG2 Packet 15 L_ENDSECTION=L3 (L3>D4+L4) Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0 L_MAMODE=L4 (D4+L4=distance to the replacement section)		
		DMI (O)			
	The train approaches to the marker	DMI (I)			
6	board and when it occupies the replacement section the RBC sends a CES to the train up to the marker board.	JRU	Message 15 LRBG3 NID_EM=EM1 D_EMERGENCYSTOP = D3		
		DMI (O)	Conditional emergency Stop symbol is displayed MA is updated (shortened to the new stop location) Emergency/service brake Symbol is displayed		
	The train has not yet passed with its "min	DMI (I)			
	safe front end" the new stop location therefore the CES is accepted.	JRU	Estimated front end < D3 + L_DOUBTOVER Message 147 NID_EM=EM1 Q_EMERGENCYSTOP=0 EMERGENCY/SERVICE BRAKE STATE=Commanded		
		Level	2		
Fine!	atata	Mode	FS(*)		
Final	state	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane WEST			
Briefi		(*)Note that depending on the train speed when the conditional emergency stop is accepted the train could change to TR mode.			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.2.4. OMA5

		TEST CASE	DESCR	IPTION	
		Code	Versio	on Title	9
Test	Case	OMA5	6		Request. The RBC cannot extend the Movement ority.
		Baseline 3 MR1 (OR.2026	SRS 3.4	.0) / Base	eline 3 R2 (SRS 3.6.0)
Test	case author	Ineco/CEDEX			
Test	Objective(s)	Verify that the EV received from the		sts the M	A according to the MA parameters request
Diagr	ram				
		Level			2
		Mode			FS
Starti	ing conditions	Train Speed (km.	/h)		NR
		Additional starti	ng cond	itions	MA request parameters are stored on-board The train is approaching to a marker board that is in stop aspect.
Sequence of the Test Case		Checkpoints			
Step	Step description	Interfaces	; C	escription	on of what to be tested at the interface OK?
	The train reaches the location to send the	DMI (O)		FS symbol	
		DMI (I)			
1	first MA request (message 132) T seconds before reaching the pre-indication(*)/perturbation(**) location. The RBC cannot extend the MA.	JRU		Packet 0	RQSTREASON=xxx1x
	A - ("	DMI (O)			
	A defined time (according to T_CYRQST) after having sent the first MA request the	DMI (I)			
2	EVC sends the second MA request. The RBC cannot extend the MA.	JRU		lessage ² Packet 0	
	A defined time (according to T_CYRQST)	DMI (O)			
3	after having sent the second MA request	DMI (I)			
Ü	the EVC sends the third MA request). The RBC cannot extend the MA.	JRU		lessage [·] Packet 0	
		Level	2		
Einal	ctata	Mode	F	S	
Final state		Train Speed (k	(m/h) N	IR	
		Other parame	ters		
Final	Test Result				
Field	of Application	F-bane EAST, F-l	bane WE	ST	
Briefi	ing instructions	(*) If the on-board (**) If the on-boar			e 3 Maintenance Release 1 ne 3 Release 2

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					





2.2.5. OMA6

		TEST CASE	DESCR	PTION		
		Code	Versio	n Title	9	
Test	Case	OMA6	4		MA Request. The RBC can extend the Movement authority.	
Base	line applicable	Baseline 3 MR1 (OR.2026, FbIS.F.		0) / Bas	eline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test	Objective(s)				IA according to the MA parameters request MA request is sent the RBC extends the Mo	vement
Diagr	am					
		Level			2	
		Mode			FS	
Starti	ng conditions	Train Speed (km.	/h)		Maximum speed of the line	
		Additional starting conditions		itions	MA request parameters are stored on-boa The marker boards from the beginning to to of the line shall be open.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	D	escripti	on of what to be tested at the interface O	K?
	The train reaches the location to send the	DMI (O) FS symbol		S symbo	ol	
		DMI (I)				
1	first MA request (message 132) T seconds before reaching the pre-indication(*)/perturbation(**) location.	JRU		Packet 0	ARQSTREASON=xxx1x	
		DMI (O)		Only braking curves related with the SSP for each rain category are displayed		
	The RBC extends the MA before the train	DMI (I)				
2	has entered in braking curve to the EoA	JRU	N	Message 3/33 Packet 15 Packet 21 Packet 27		
		Level	2			
Cinal	atata	Mode	F	S		
Final state		Train Speed (k	m/h) M	laximum	speed of the line	
		Other parame	ters			
Final	Test Result					
Field	of Application	F-bane EAST, F-l	bane WE	ST		
Briating instructions		It shall be checked in both directions of the running tracks, including survey sampling routes with diverging tracks. (*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2				mpling

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				





2.2.6. OMA7

		TEST CASE	DESCR	PTION	· · · · · · · · · · · · · · · · · · ·		
		Code	Versio	n Tit	le		
Test	Case	OMA7	4		MA Request. SoM of two trains in SB mode leaving th same track in opposite directions simultaneously.		
Base	line applicable	Baseline 3 MR1 FbIS.F.170,FbIs		0) / Bas	seline 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX	neco/CEDEX				
Test	Objective(s)				ultaneously issue movement authorities to two same track in opposite directions simultaneously	<i>'</i> .	
Diagr	am						
		Level			2		
		Mode			SB		
		Train Speed (km	n/h)		0		
Starting conditions		Additional starting conditions		itions	There are two trains (A and B) in the same trace in opposite directions with valid positions. There is communication established between trains A, B and the RBC The marker board in advance of each train is open (FS mode)	ck	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escript	tion of what to be tested at the interface OK?		
		DMI (O)	V	train=0			
		DMI (I)	MI (I) Driver sele		elects Start		
1	The driver of the train A selects "Start" and the EVC sends an MA request to the RBC.	JRU	N N	V_TRAIN=0 M_DRIVERACTIONS=19 Message 132 Q_MARQSTREASON=xxxx1 Packet 0 D_LRBG=D1 NID_BG=BG1 L_DOUBTUNDER			
		DMI (O)					
		DMI (I)					
2	The RBC sends to the train A an MA with OS mode. The max safe front end of the train is at or in advance of the beginning of the OS area.		1	Message 3/33 NID_BG=BG1 (LRBG1) Packet 15 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 ≤ D1 + L_DOUBTUNDER M_MAMODE = 0 V MAMODE = V1			
		DMI (O)	С	S mode	e transition acknowledgement		
3	The EVC of the train A shows the	DMI (I)					
	acknowledgment request to OS.	JRU		MI_SYI MO08	MB_STATUS		
		DMI (O)					
4	Acknowledgement of OS mode	DMI (I)	A	cknowle	edgement of OS mode		
		JRU	N	I_DRIV	ERACTIONS = 0		
		DMI (O)					
	The EVC of the train A reports to the	DMI (I)					
5	RBC the train position	JRU		lessage Packet M_MC			

		DMI (O)	Vtrain=0	
		DMI (I)	Driver selects Start	
6	The driver of the train B selects "Start" and the EVC sends an MA request to the RBC.	JRU	V_TRAIN=0 M_DRIVERACTIONS=19 Message 132 Packet 0 D_LRBG=D3 NID_BG=BG2 L_DOUBTUNDER	
		DMI (O)		
		DMI (I)		
	The RBC sends to the train B an MA with OS mode. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 NID_BG=BG2 (LRBG2) Packet 15 Packet 21 Packet 27 Packet 80 D_MAMODE=D4 ≤ D3 + L_DOUBTUNDER M_MAMODE = 0 V_MAMODE = V1	
	The EVC of the train B shows the acknowledgment request to OS.	DMI (O)	OS mode transition acknowledgement	
8		DMI (I)		
		JRU	DMI_SYMB_STATUS MO08	
		DMI (O)		
9	Acknowledgement of OS mode	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS = 0	
		DMI (O)		
40	The EVC of the train b reports to the	DMI (I)		
10	RBC the train position	JRU	Message 136 Packet 0/1 M_MODE=1	
		Level	2	
		Mode	os	
Final	state	Train Speed (km/h)	NR	
		Other parameters	It shall be verified that the received MA is the corresponding one for each train.	
Final	Test Result			
Field	of Application	F-bane EAST, F-bane V	VEST	
Briefi	ng instructions			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.2.7. OMA8

		TEST CASE	E DESCR	RIPTIC	ON	
		Code	Version	on T	Fitle	·
Test (Case	OMA8	4	N	MA Request when track data changes.	
Basel	line applicable	Baseline 3 MR1	(SRS 3.4	.0) / B	Baseline 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify that if the MRSP changes to a less restrictive MRSP and the location where to request MA according to T_MAR has been passed, the EVC requests the MA immediately.				ere to
Diagram Braking curv Braking curv Area in whe has to be wh MB in stop aspect			urve with TSR urve without T where the train when the TSR	front end is cancelle		on of
		Level			2	
		Mode			FS, OS	
		Train Speed (km	n/h)		NR	
Starti	ng conditions	Additional starting conditions			MA request parameters are stored on-board The train has a MA and it is in rear of the po defined by the MA request parameter T_MA increase of the MRSP speed takes place (e. TSR is revoked)	osition AR. An
Sequ	ence of the Test Case	Checkpoints			·	
Step	Step description	Interfaces	s C	Descri	iption of what to be tested at the interface OK	(?
		DMI (O)			-	
	The EVC re-calculates the pre-	DMI (I)				
indication(*)/perturbation(**) point due to the update of the MRSP and determines that the train front end is in advance of the position defined by T_MAR.		JRU	r	Q_MA eachir	ge 132 RQSTREASON = xxx1x (Time before ng pre-indication(*)/perturbation(**) location EOA/LOA reached)	
		Level	2	2		
Final	stato	Mode	F	S, OS	5	
rınal	Siale	Train Speed (km/h) N	١R		
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST				
Briefi	ng instructions	` '			eline 3 Maintenance Release 1 seline 3 Release 2	

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					





2.3. SH

2.3.1. SH1

	TEST CASE DESCRIPTION							
		Code	Version	n Title)			
Test	Case				ntering a Shunting area/Possession. Mode transition om FS to SH ordered by trackside.			
Base	line applicable	FbIS.F.283, FbIS	S.F.1735, N	√FR.FЫ	eline 3 R2 (SRS 3.6.0) S.N.1264, OPS.370, OPS.1071, OR.DEF. Mode Profiles, CER 9.2.6	134,		
Test	case author	Ineco/CEDEX						
Test (Objective(s)	entered in the ac in SH the EVC sv In addition it shal	knowledge witches to I be verifie	ement w SH. ed that th	FS to SH ordered by trackside. Once the traindow and the driver has acknowledged the start location and the length of the SH auer requirements.	ne entry		
Diagr	am							
		Level			L2			
		Mode			FS			
Starti	ing conditions	Train Speed (km	n/h)		Maximum speed of the line			
		Additional starting conditions		tions	The train is running in the proximity of a shunting area/possession and a route has been set into it. The radio communication session is established with the RBC.			
Sequ	ence of the Test Case	Checkpoints	nts					
Step	Step description	Interfaces			on of what to be tested at the interface	OK?		
		DMI (O)	FS	Symbo	ol .			
		DMI (I)						
1	The train runs towards an open marker board for SH and receives from the RBC a Mode Profile for SH.	JRU	M M Me Pi Pi bo	(LRBG1) M_MODE=0 (FS) M_LEVEL=3 (Level 2) Message 3/33 Packet 15 Packet 80 D_MAMODE = D (at the marker board at the border of the shunting area/possession) M_MAMODE = 1 V_MAMODE = V L_MAMODE = L L_ACKMAMODE = L_ACK (preferably 100 Q_MAMODE = 0/1				
		DMI (O)						
2	No list of balises is sent together with the mode profile.	DMI (I)						
	iniodo profile.	JRU	No	Packe	t 49			
	The EVC enters in braking curve. The	DMI (O)			urve to the beginning of the SH area with			
3	beginning of the SH area is considered	DMI (I)						
	as an EoA with no release speed	JRU			d decrease YPE=2(*)/1(**)			
4	The train follows the braking curve until reaches the acknowledgement area and the driver is requested to acknowledge the transition to SH mode (***)	DMI (O)	"A dis Vti	cknowle splayed rain < V	edgement for Shunting" symbol is			

II	I		T				
		DMI (I)					
		JRU	V_TRAIN < V_MAMODE Estimated front end > D-L_ACK DMI_SYMB_STATUS MO02				
	The driver acknowledges the transition	DMI (O)	"Acknowledgement for Shunting" symbol is removed SH symbol is displayed				
5	and the EVC switches to SH mode	DMI (I)	Driver acknowledges SH mode				
		JRU	M_DRIVERACTIONS = 1 M_MODE = 3				
		DMI (O)					
	The EVC starts the "End of Mission"	DMI (I)					
6	procedure.	JRU	Message 150 Packet 0/1 M_MODE=3				
	The RBC sends the message to terminate radio communication session.	DMI (O)					
_		DMI (I)					
7		JRU	Message 24 Packet 42 Q_RBC=0				
	The EVC sends the termination of a	DMI (O)					
8	communication session and the RBC	DMI (I)					
	answers with the acknowledgement of termination of a communication session.	JRU	Message 156 Message 39				
		Level	2				
L		Mode	SH				
Finai	state	Train Speed (km/h)	As a maximum, the permitted speed for SH mode				
		Other parameters					
Final	Test Result						
Field of Application		F-bane EAST, F-bane WEST					
Briefing instructions		Depending on the value of Q_MAMODE the beginning of the mode profile shall be: considered either as the EoA or as both the EoA and SvL. (*) / temporarily considered as the EoA with the SvL (with no release speed) determined either as derived from the MA or as the beginning of the mode profile area. (**) (*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2 (***) Additionally, it should be checked that the train approaches the shunting area/possession at a suitable speed from the operational point of view					

ADDITIONAL TEST CASE REPORTING INFORMATION	
System configuration	
Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.3.2. SH2

TEST CASE DESCRIPTION						
	Code	Version	Title		-	
Test Case	SH2	8		g a Shunting area/Possess to SH ordered by tracksion		ransition
Baseline applicable		R.FbIS.N.12	264, OPS.	3 R2 (SRS 3.6.0) 370, OPS.1071, OR.DEF.	134, OR.DE	F.131,
Test case author	Ineco/CEDEX					
Test Objective(s)	SoM inside the a	cknowledge I be verified	ment wind that the s	o SH ordered by trackside dow of the SH area. tart location and the length requirements.		
Diagram	OS MA SH Ack	\(\) knowledgeme		SH PROFILE SH AREA		
	Level		L2			
	Mode		SE	3		
	Train Speed (km	ı/h)	0			
Starting conditions	Additional starti	Additional starting conditions		rder of the SH area/posse knowledgement window o ute has been set into the Stere is not movable objects d the max safe front end. e radio communication se	of the SH mo SH area/poss s between th	de and a session. le LRBG
				th the RBC.	ession is esta	ablished
Sequence of the Test Case	Checkpoints		wi	th the RBC.		1
Sequence of the Test Case Step Step description	Interfaces		wi cription o			oK?
· •	Interfaces DMI (O)		wi	th the RBC.		1
· •	Interfaces DMI (0) DMI (I)	SBS (LRI M_M M_L Mes Pac D M, V L boro L Q N_I D M, V L L	EG1) MODE=6(3 EVEL=3 Sage 3/33 Eket 15 Eket 80 MAMOD	th the RBC. of what to be tested at the SB) (Level 2) E = 0 E = 0 (OS) E = V1 E = L1 (at the marker boar shunting area/possession) IODE = 0 E = 0/1 (*) E (1) = D2 (same as L1) E(1) = 1 (SH) E(1) = V2	rd at the	ı

Ī		DMI (I)		
	The EVC shows the acknowledgment request to OS.	JRU	DMI_SYMB_STATUS MO08	
		DMI (O)		
3	Acknowledgement of OS mode	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS = 0	
		DMI (O)		
	The EVC reports to the RBC the train	DMI (I)		
4	position	JRU	Message 136 Packet 0/1 M_MODE=1	
		DMI (O)	"Acknowledgement for Shunting" symbol is displayed Vtrain < V_MAMODE Vpermitted decreases	
5	The driver is requested to acknowledge the transition to SH mode	DMI (I)		
	the transition to Shimote	JRU	V_TRAIN=0 < V_MAMODE Estimated front end > D2-L_ACK DMI_SYMB_STATUS MO02	
		DMI (O)	"Acknowledgement for Shunting" symbol is removed SH symbol is displayed	
6	The driver acknowledges the transition and the EVC switches to SH mode	DMI (I)	Driver acknowledges SH mode	
		JRU	M_DRIVERACTIONS = 1 M_MODE = 3 DMI_SYMB_STATUS MO01	
		DMI (O)		
	The EVC starts the "End of Mission"	DMI (I)		
7	procedure.	JRU	Message 150 Packet 0/1 M_MODE=3	
		DMI (O)		
	The RBC sends the message to	DMI (I)		
8	terminate radio communication session.	JRU	Message 24 Packet 42 Q_RBC=0	
	The EVC sends the termination of a	DMI (O)		
9	communication session and the RBC	DMI (I)		
	answers with the acknowledgement of termination of a communication session.	JRU	Message 156 Message 39	
		Level	2	
Finel	state	Mode	SH	
'''a'		Train Speed (km/h)	As a maximum, the permitted speed for SH mode	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane \		
Brief	ing instructions	considered either as the considered as the EoA viderived from the MA or a (*) Current F-bane East Check and note if Q_MA(**) If the on-board is ET	of Q_MAMODE the beginning of the mode profile shall EoA or as both the EoA and SvL. (**) / temporarily with the SvL (with no release speed) determined either as the beginning of the mode profile area. (***) and F-bane West implementations use only Q_MAMOI MODE ≠ 1. CS Baseline 3 Maintenance Release 1 TCS Baseline 3 Release 2	as

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				



Test log reference	
Observations	



2.3.3. SH3

TEST CASE DESCRIPTION						
		Code Version		rsion Title		
Test	Case	SH3	13		tering a Shunting area/Possession. Mode transi m FS to OS and after to SH ordered by tracksid	
Base	line applicable	Baseline 3 MR1 FbIS.F.1735, NF	(SRS 3.4. R.FbIS.N	0) / Bas .1264, 0	seline 3 R2 (SRS 3.6.0) DR.DEF.134, CER 9.2.6, CER 9.2.5	
Test	case author	Ineco/CEDEX				
Test	Objective(s)				en modes when the train is running in FS mode profiles implemented on trackside (OS+SH)	and
Diagr	ram					
		Level			L2	
		Mode			FS	
		Train Speed (km	n/h)		NR	
Starti	ing conditions	Additional starti	ing cond	itions	The train is running in the proximity of a shun area/possession and an OS route has been sinto it. The radio communication session is establish with the RBC.	set
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escript	tion of what to be tested at the interface OK?	?
		DMI (O)				
		DMI (I)				
1	The train runs in FS mode towards an open Marker board for OS and receives from the RBC a Mode Profile for OS.	JRU	M M M F F F	I_LEVE lessage Packet 1 Packet 8 D_MAN M_MAI V_MAN L_MAN L_ACK bear of the istance tart locate	E=0(FS) L=3 (Level 2) 23/33	
	The EVC enters in braking curve. The	DMI (O)			curve to the beginning of the OS area with se speed	
2	beginning of the OS area is considered	DMI (I)				
	as an EoA with no release speed	JRU		Vpermitted decrease M_SDMTYPE=2(***)/1(****)		
	The train follows the braking curve until	DMI (O)	", d V	Acknow isplayed train < \	ledgement for On Sight" symbol is	
3	reaches the acknowledgement area and the driver is requested to acknowledge	DMI (I)				
the driver is requested to acknowledge the transition to OS mode.		JRU	E	V_TRAIN < V_MAMODE Estimated front end > D1-L_ACK(OS) DMI_SYMB_STATUS MO08		
4	The driver acknowledges the transition and the EVC switches to OS mode	DMI (O)	re C	"Acknowledgement for On Sight" symbol is removed OS symbol is displayed		
		DMI (I)	D	river ac	knowledges OS mode	



		JRU	M_DRIVERACTIONS = 0 M_MODE = 1 DMI_SYMB_STATUS	
			MO07	
		DMI (O)		
		DMI (I)		
5(*)	The train runs in OS mode towards an open Marker board for SH and receives from the RBC a Mode Profile for SH.	JRU	(LRBG1) M_MODE=1(OS) M_LEVEL=3 (Level 2) Message 3/33 Packet 15 Packet 80 D_MAMODE = D1 M_MAMODE = 0 (OS) V_MAMODE = V1 L_MAMODE = L1 (up to the end of OS area) L_ACKMAMODE = 0 Q_MAMODE = 0/1 (**) N_ITER = 1 D_MAMODE (1) = D2 (at the marker board at the border of the shunting area/possession) M_MAMODE(1) = 1 (SH) V_MAMODE(1) = V2 L_MAMODE(1) = L2 L_ACKMAMODE(1) = L_ACK(SH) (preferably 100m) Q_MAMODE(1) = 0/1	
	No list of balises is sent together with the mode profile.	DMI (O)		
		DMI (I)		
		JRU	No Packet 49	
	The train follows the braking curve until	DMI (O)	"Acknowledgement for Shunting" symbol is displayed Vtrain < V_MAMODE Vpermitted decreases	
	reaches the acknowledgement area and the driver is requested to acknowledge	DMI (I)		
	the transition to SH mode (*****)	JRU	V_TRAIN < V_MAMODE Estimated front end > D2-L_ACK(SH) DMI_SYMB_STATUS MO02	
		DMI (O)	"Acknowledgement for Shunting" symbol is removed SH symbol is displayed	
8	The driver acknowledges the transition	DMI (I)	Driver acknowledges SH mode	
	and the EVC switches to SH mode	JRU	M_DRIVERACTIONS = 1 M_MODE = 3 DMI_SYMB_STATUS MO01	
		DMI (O)		
9	The EVC starts the "End of Mission"	DMI (I)		
9	procedure.	JRU	Message 150 Packet 0/1 M_MODE=3	
		DMI (O)		
10	The RBC sends the message to	DMI (I)		
10	terminate radio communication session.	JRU	Message 24 Packet 42 Q_RBC=0	
	The EVC sends the termination of a	DMI (O)		
11	communication session and the RBC	DMI (I)		
	answers with the acknowledgement of termination of a communication session.	JRU	Message 156 Message 39	
		Level	2	
Final	state	Mode	SH	
		Train Speed (km/h) As a maximum, the permitted speed for SH mode	



	Other parameters
Final Test Result	
Field of Application	F-bane EAST, F-bane WEST
Briefing instructions	Depending on the value of Q_MAMODE the beginning of the mode profile shall be : considered either as the EoA or as both the EoA and SvL. (***) / temporarily considered as the EoA with the SvL (with no release speed) determined either as derived from the MA or as the beginning of the mode profile area. (****) (*) West: SH mode is received just before the end of the OS area. East: The SH is received once the train is inside the OS area. (**)Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1. (****) If the on-board is ETCS Baseline 3 Maintenance Release 1 (*****) If the on-board is ETCS Baseline 3 Release 2 (******) Additionally, it should be checked that the train approaches the shunting area at a suitable speed from the operational point of view

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.3.4. SH4

		TEST CASE	E DESCRIF	PTION			
		Code	Version	n Title	<u></u>		
Test Case		SH4	7	Inside a TSA/Possession/Route for shunti transition from FS to SH selected by the d train has a valid position within a TSA/Possession/Route for shunting.			
Base	line applicable	Baseline 3 MR1 FbIS.F.388, FbIS	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.388, FbIS.F.355, OPS.1067				
Test	case author	Ineco/CEDEX					
Test Objective(s)					and has a valid position within a g the RBC is able to authorise the entry in	sH	
Diagr	ram						
		Level			L2		
		Mode			FS		
		Train Speed (kn	n/h)		0		
Starting conditions		Additional start		ions	The train is at standstill with valid position TSA/Possession/Route for shunting. The radio communication session is est with the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	scriptio	on of what to be tested at the interface	OK?	
		DMI (O)	Ho	ur glass	s symbol is displayed		
		DMI (I)	Dr	iver sele	ects SH		
1	The driver selects Shunting on the DMI 1 and the EVC sends the request for Shunting to the RBC.	JRU	DN Me T_	M_DRIVERACTIONS=11 DMI_SYMB_STATUS ST05 Message 130 T_TRAIN= T1 Packet 0/1 M_MODE=0 (FS) M_LEVEL=3 (Level 2)			
		DMI (O)					
	The RBC authorises Shunting with no	DMI (I)					
2	optional list of balise groups for SH area. The RBC can also send the packet with national values.(*)	JRU		Message 28 T_TRAIN = T1 Packet 3(*) V_NVSHUNT = 25km/h			
		DMI (O)	SH	Symbo	ol		
		DMI (I)					
3	The EVC switches to SH mode.	JRU	DN		= 3 (SH) B_STATUS		
		DMI (O)					
	The EVC starts the "End of Mission"	DMI (I)					
4	procedure.	JRU		essage 1 acket 0/ M_MOI	/1		
		DMI (O)					
	The RBC sends the message to	DMI (I)					
5	terminate radio communication session.	JRU	Р	essage 2 acket 42 Q_RBC	2		
	The EVC sends the termination of a	DMI (O)					
6	communication session and the RBC	DMI (I)					



answers with the acknowledgement of termination of a communication session.	JRU	Message 156 Message 39		
	Level	2		
5 1	Mode	SH		
Final state	Train Speed (km/h)	NR		
	Other parameters			
Final Test Result				
Field of Application	F-bane EAST, F-bane V	VEST		
Briefing instructions	(*) optionally In order to correctly perform this test case with a TSA/Possession, it is required to so the TSA/Possession after the train is located inside it. If this is not possible, this test case shall be performed with a Route for shunting instead.			

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.3.5. SH5

		TEST CASE	DESCR	IPTION			
		Code	Versio	n Title	•		
Test Case		SH5	6	pern posi	side a TSA/Possession/Route for shunting. SH nission is refused by the RBC. The train has a valid ition outside of a TSA/Possession/Route for nting.		
Base	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.389, FbIS.F.356				
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that if a trai shunting the SH p			ition outside of a TSA/Possession/Route for sed by the RBC.		
Diagr	am						
		Level			L2		
		Mode			FS/OS/SR/SB/PT		
Ctort:	na conditions	Train Speed (km/	/h)		0		
Starting conditions		Additional starting conditions		itions	The train is at standstill with valid position outside a TSA/Possession/Route for shunting. The radio communication session is established with the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	D	escripti	on of what to be tested at the interface OK?		
		DMI (O) Hour g		lour glas	s symbol is displayed		
		DMI (I) Driver sele		river sel	ects SH		
1	The driver selects Shunting on the DMI and the EVC sends the request for Shunting to the RBC.	JRU	D	MI_SYM ST05 lessage	AIN = T1		
		DMI (O)					
		DMI (I)					
2	The RBC refuses Shunting.	JRU		lessage Γ_TRAIN			
		DMI (O)	" (SH refus	ed" message is displayed.(*)		
3	The driver is informed of the refusal of	DMI (I)					
)	Shunting.	JRU	S	SYSTEM_STATUS_MESSAGE SH refused			
		Level	2				
- :	adada.	Mode	F	S/OS/SF	R/SB/PT		
Finai	state	Train Speed (k	m/h) N	IR			
		Other paramet	ters				
Final	Test Result		•		•		
Field	of Application	F-bane EAST, F-b	oane WE	ST			
Briefi	ng instructions	(*) If the on-board	is ETCS	B3 Rele	ease 2, this message is not longer displayed once main window of the DMI		

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					

Test log reference	
Observations	



2.3.6. SH8

	TEST CASE DESCRIPTION						
		Code	Versio	n Titl	e		
Test (Case	SH8	5		de transition to SH selected by the driver. The an invalid position.	e train	
Basel	ine applicable	Baseline 3 MR1 FbIS.F.458	(SRS 3.4	.0) / Bas	seline 3 R2 (SRS 3.6.0)		
Test o	case author	Ineco/CEDEX					
Test (Objective(s)				d position the SH permission is authorised by request for the train has been performed in the		
Diagr	am						
		Level			L2		
		Mode			SR/SB		
		Train Speed (km	n/h)		0		
Starti	ng conditions	Additional start	ing cond	itions	The train is at standstill with invalid position. The radio communication session is estable with the RBC. The shunting authorisation request for the performed in the TMS.	ished	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escript	ion of what to be tested at the interface O	K?	
		DMI (O)	Н	lour glas	ss symbol is displayed		
		DMI (I)	D	river se	lects SH		
1	The driver selects Shunting on the DMI and the EVC sends the request for Shunting to the RBC. JRU		D	M_DRIVERACTIONS = 11 DMI_SYMB_STATUS ST05 Message 130 T_TRAIN = T1 Packet 0/1 NID_LRBG = invalid			
		DMI (O)					
2	The RBC authorises Shunting with no	DMI (I)					
4	optional list of balise groups for SH area.	JRU	N	Message 28 T_TRAIN = T1			
		DMI (O)	S	SH Symbol			
	The FMO switches to Ollows to	DMI (I)					
3	The EVC switches to SH mode.	JRU		M_MODE = 3 DMI_SYMB_STATUS MO01			
		DMI (O)					
,	The EVC starts the "End of Mission"	DMI (I)					
4	procedure. (*)	JRU		Message 150 Packet 0/1 M_MODE=3			
		DMI (O)					
E	The RBC sends the message to	DMI (I)					
5	terminate radio communication session.	JRU		lessage Packet ⁽ Q_RB(42		
	The EVC sends the termination of a	DMI (O)					
	communication session and the RBC	DMI (I)					
	answers with the acknowledgement of termination of a communication session.	JRU		1essage 1essage			



Final state	Level	2			
	Mode	SH			
	Train Speed (km/h)	NR			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
Briefing instructions	(*) End of Mission applies if there is an on-going mission. If performed from SB, there is no mission and this step would not apply.				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.3.7. SH9

		TEST CASE	DESCR	IPTION			
		Code	Version	on Title	е		
Test Case		SH9	5	tran trair	de a TSA/Possession/Route for shunting. M sition from SB to SH selected by the driver. In has a valid position within the NPossession/Route for shunting.	selected by the driver. The within the	
Base	ine applicable	Baseline 3 MR1 (FbIS.F.355, FbIS			eline 3 R2 (SRS 3.6.0) 7		
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that if the train is in SB mode and has a valid position within the TSA/Possession/Route for shunting the RBC is able to authorise the entry in mode.				SH	
Diagr	am						
		Level			L2		
		Mode			SB		
Starti	ng conditions	Train Speed (km	n/h)		0 km/h		
		Additional starti	ing cond	litions	The train is inside the TSA/Possession/Roshunting with valid position. The radio communication session is estable with the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces		•	on of what to be tested at the interface C	K?	
		DMI (O)			s symbol is displayed		
		DMI (I)		Driver sel	ects SH		
After a SoM the driver selects Shuntin on the DMI and the EVC sends the request for Shunting to the RBC.		JRU		M_DRIVERACTIONS = 11 DMI_SYMB_STATUS ST05 Message 130 T_TRAIN = T1 Packet 0/1 M_MODE = 6 (SB) M_LEVEL = 3 (Level 2)			
		DMI (O)					
	The RBC authorises Shunting with no	DMI (I)					
2	optional list of balise groups for SH area. The RBC also sends the packet with national values.(*)	JRU	N	Message 28 T_TRAIN = T1 Packet 3 (*) V_NVSHUNT = 25km/h			
		DMI (O)	S	SH Symbol			
2	The FVC quitables to CU mode	DMI (I)					
3	The EVC switches to SH mode.	JRU		M_MODE DMI_SYN MO01	E = 3 MB_STATUS		
		DMI (O)					
	The RBC sends the message to	DMI (I)					
4	terminate radio communication session.	JRU		Message 24 Packet 42 Q_RBC=0			
	The EVC sends the termination of a	DMI (O)					
5	communication session and the RBC	DMI (I)					
	answers with the acknowledgement of termination of a communication session.	JRU		∕lessage ⁄lessage			
		Level	2	2			
Final	state	Mode	S	SH			
		Train Speed (km/h) 0	km/h			



	Other parameters
Final Test Result	
Field of Application	F-bane EAST, F-bane WEST
Briefing instructions	(*) optionally In order to correctly perform this test case with a TSA/Possession, it is required to set the TSA/Possession after the train is located inside it. If this is not possible, this test case shall be performed with a Route for shunting instead.

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.3.8. SH11

	TEST CASE DESCRIPTION						
		Code Version		n Title	Title		
Test Case		SH11	4	tran	de a TSA/Possession/Route for shunting. isition from OS to SH. The train has a valid the TSA/Possession/Route for shunting	d position	
Base	line applicable	Baseline 3 MR1 FbIS.F.355, FbIS			eline 3 R2 (SRS 3.6.0) 7		
Test	case author	Ineco/CEDEX					
Test	Objective(s)				e and has a valid position within the g the RBC is able to authorise the entry in	SH	
Diagr	am						
		Level			L2		
		Mode			os		
C44:		Train Speed (km	n/h)		0km/h		
Starti	ng conditions	Additional start	ing condi	tions	The train is inside the TSA/Possession/F shunting with valid position. The radio communication session is estawith the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	escripti	on of what to be tested at the interface	OK?	
		DMI (O)	Ho	our glas	s symbol is displayed		
		DMI (I)	Dr	iver sel	ects SH		
The driver selects Shunting on the DMI and the EVC sends the request for Shunting to the RBC.		JRU	ρί	M_DRIVERACTIONS = 11 DMI_SYMB_STATUS ST05 Message 130 T_TRAIN = T1 Packet 0/1 M_MODE = 1 (OS) M_LEVEL = 3 (Level 2)			
		DMI (O)					
	The RBC authorises Shunting with no	DMI (I)					
2	optional list of balise groups for SH area. The RBC also sends the packet with national values.(*)	JRU		Vessage 28 T_TRAIN = T1 Packet 3 (*) V_NVSHUNT = 25km/h			
		DMI (O)	SI	-I Symb	ol		
_	TI 510 11 1 511 1	DMI (I)					
3	The EVC switches to SH mode.	JRU		M_MODE = 3 DMI_SYMB_STATUS MO01			
		DMI (O)					
	The EVC starts the "End of Mission"	DMI (I)					
4	procedure.	JRU		essage Packet 0 M_MO	0/1		
		DMI (O)					
_	The RBC sends the message to	DMI (I)					
5	terminate radio communication session.	JRU	F	essage Packet 4 Q_RBC	12		
6	The EVC sends the termination of a	DMI (O)			<u> </u>		
O	communication session and the RBC	DMI (I)					



answers with the acknowledgement of termination of a communication session.	JRU	Message 156 Message 39			
	Level	2			
Final state	Mode	SH			
Final state	Train Speed (km/h)	NR			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane V	/EST			
	(*) Optionally In order to correctly perform this test case with a TSA/Possession, it is required to se the TSA/Possession after the train is located inside it. If this is not possible, this test case shall be performed with a Route for shunting instead				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.3.9. SH13

TEST CASE DESCRIPTION							
		Code	Versio	n Titl	le		
Test Case		SH13	3	the	lection of SH at SoM. SH permission is refused by RBC. The train is in SB mode and has an invalid sition.		
Basel	line applicable	Baseline 3 MR1 (OPS.1053	(SRS 3.4.	0) / Bas	seline 3 R2 (SRS 3.6.0)		
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that if the t refused by the RI		SB mod	de and has an invalid position the SH permission is		
Diagr	am						
		Level			L2		
		Mode			SB		
		Train Speed (km	n/h)		0km/h		
Starting conditions		Additional starting condition		itions	The train is in the SoM procedure with invalid position The radio communication session is established with the RBC. The shunting authorisation request for the train is not performed in the TMS.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escript	ion of what to be tested at the interface OK?		
		J (0)			ss symbol is displayed		
		DMI (I)	I (I) Driver sele		elects SH		
Driver selects Shunting and the EVC sends the "Request for SH" message to RBC together with a position report. JI		JRU	D	MI_SYI ST05 lessage T_TR Packe M_N	RAIN = T1		
		DMI (O)					
2	The RBC refuses Shunting.	DMI (I)					
	, , , , , , , , , , , , , , , , , , ,	JRU	M	lessage T_TR <i>l</i>	27 AIN = T1		
		DMI (O)	"5	SH refus	sed" message.(*)		
3	The driver is informed of the refusal of	DMI (I)					
	Shunting.	JRU	S	SYSTEM_STATUS_MESSAGE SH refused			
		Level	2				
Final	stato	Mode	S	В			
rınal	Siaic	Train Speed (km/h) 0l	km/h			
		Other parame	eters				
Final	Test Result						
Field	of Application	F-bane EAST, F-bane WEST					
Briefing instructions		(*) If the on-board is ETCS B3 Release 2, this message is not longer displayed once the driver selects any button in the main window of the DMI					

ADDITIONAL TEST CASE REPORTING INFORMATION					
ystem configuration					
Test location					



Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.3.10. SH14

		TEST CASE I	DESCRIP	TION				
		Code	Version	Title				
Test (Case	SH14	5	Move	Movement protection in SH mode.			
Basel	ine applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) CER 5.3.1, CER 8.1.3					
Test o	case author	Ineco/CEDEX						
Test (Objective(s)	Verify that "Dange this information is		iting info	ormation" is sent by balise in the locations where			
Diagr	am							
		Level			L2			
		Mode			SH			
Starti	ng conditions	Train Speed (km/l	n)		Maximum the permitted speed for SH mode			
		Additional startin	g conditi	ons	The train is approaching the limit of the Shunting route.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces			on of what to be tested at the interface OK?			
		DMI (O)	SH	symbol				
	A balise group with "Danger for Shunting" information is read.	DMI (I)						
		JRU	r (cas	NID_BG = Balise at the border of the SH route Packet 132 Q_DIR = 2 (if single balise), or 0 or 1 (in other case) Q_ASPECT = 0 (Stop if in SH mode)				
		DMI (O)	TR	"SH stop order" message is displayed (*) TR symbol Emergency brake symbol				
	The EVC switches to Trip mode and the	DMI (I)						
	brakes are applied.	JRU	DN N	SYSTEM_STATUS_MESSAGE SH stop order DMI_SYMB_STATUS MO04 EMERGENCY BRAKE STATE =Commanded				
		DMI (O)		Safe radio connection symbol is displayed				
		DMI (I)						
3	The EVC establishes the communication session to report the mode change to Trip.	JRU	Me Me Pi Me Pi	Message 155 Message 32 Message 159 Packet 2(**) Message 136 Packet 0/1 M_MODE = 7 (TR) M_LEVEL = 3 (Level 2) DMI_SYMB_STATUS ST03				
		Level	2					
Final	state	Mode	TR					
ıııaı	Siaic	Train Speed (kn	n/h) NR					
		Other paramete	ers Em	Emergency brake applied				
Final	Test Result							
Field	of Application	F-bane WEST						



Briefing instructions	CER req 5.3.1 states ETCS marker boards that act as limit for permanent shunting area <u>may</u> have a protecting "stop if in SH mode" balise group nearby. It is expected to have it where protection by movable or lockable element is not provided (*) If the on-board is ETCS B3 Release 2, this message is not longer displayed once the EVC changes from PT mode to another mode. (*) If the on-board is ETCS Baseline 3 Release 2
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ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.3.11. SH15

TEST CASE DESCRIPTION						
		Code	Versio	on Tit	le	
Test Case		SH15	6		Leaving a SH area. Exit shunting mode inside a trusted area	
Basel	line applicable	Baseline 3 MR1	(SRS 3.4	.0) / Bas	seline 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify the exit fro inside a trusted a		ng mode	e and the correct SoM procedure when the tra	in is
Diagr	am					
		Level			L2	
		Mode			SH	
Starti	ng conditions	Train Speed (km	n/h)		0	
		Additional starti	ing cond	itions	Train is at standstill inside a trusted area ar known location.	nd with
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escript	ion of what to be tested at the interface OI	K?
	Train is at standstill inside a trusted area	DMI (O)	S		rain=0 H symbol disappears B symbol is displayed	
		DMI (I)		Driver selects Exit of Shunting		
1	The driver selects "Exit from SH mode"	JRU	N N	/_MODI	ERACTIONS=17 E = 6 MB_STATUS	
		DMI (O)				
2	The driver validates or introduces the Driver ID	DMI (I)		DRIVER ID		
	Driver ID	JRU				
		DMI (O)	s	afe radi	io connection "Connection Up";	
		DMI (I)				
3	The establishment of a communication session is initiated by the EVC. A position report with valid position is sent to the RBC.	JRU	N N	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMI_SYMB_STATUS ST03		
4	The driver selects train data entry. Train data and train running number is entered	DMI (O)	s	hown.	a and train running number windows are elects Data Entry	
	or revalidated.	DMI (I)			nters the train running number	

5	Driver selects START	JRU DMI (O) DMI (I) JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL Driver selects Start M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1			
		DMI (O)	1 acket of 1			
		DMI (I)				
6	The RBC sends a Movement authority including a mode profile for OS mode which goes at least until the first axle counter beyond the marker board. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=L2 (D2+L2≥location of the first axle counter) Estimated front end ≥ D2-L_DOUBTUNDER			
		DMI (O)	OS mode transition acknowledgement			
7	The EVC shows the acknowledgment request to OS	DMI (I)				
	request to 05	JRU	DMI_SYMB_STATUS MO08			
		DMI (O)	OS symbol			
8	Acknowledgement of OS mode. The EVC	DMI (I)	Acknowledgement of OS mode			
Ů	switches to OS	JRU	M_DRIVERACTIONS = 0 DMI_SYMB_STATUS MO07			
		DMI (O)				
9	The EVC reports to the RBC the train	DMI (I)				
3	position	JRU	Message 136 Packet 0/1 M_MODE=1			
		Level	2			
Final	state	Mode	os			
rinal	Siaic	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane WEST				
Briefing instructions		(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				



Observations



2.3.12. SH16

TEST CASE DESCRIPTION							
		Code	Version	Title			
Test (Case	SH16	5		Leaving a SH area. Exit shunting mode outside a trusted area		
Basel	ine applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)					
Test o	case author	Ineco/CEDEX	neco/CEDEX				
Test (Objective(s)	Verify the exit from shunting mode and the correct SoM procedure when the tra outside a trusted area		and the correct SoM procedure when the train is			
Diagr	am						
		Level			L2		
		Mode			SH		
Starti	ng conditions	Train Speed (km	n/h)		0		
		Additional starti	ing condit	ions	Train is at standstill outside a trusted area with known location		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces			n of what to be tested at the interface OK?		
	Train is at standstill outside a trusted	DMI (O)	SH SE	Vtrain=0 SH symbol disappears SB symbol is displayed			
		DMI (I)		Driver selects Exit of Shunting			
	area. The driver selects "Exit from SH mode"	JRU	V_TRAIN M_DRIV J M_MOD		RACTIONS=17		
		DMI (O)					
2	The driver validates or introduces the Driver ID	DMI (I)		DRIVER ID			
	Ulivei U	JRU					
		DMI (O)		Safe radio connection "Connection Up";			
		DMI (I)					
3	The establishment of a communication session is initiated by the EVC. It is sent to the RBC a position report with valid position.	JRU	Me Me F Me C P 1 C O	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMI_SYMB_STATUS ST03			
4	The driver selects train data entry. Train data and train running number is entered	DMI (O)	sh	own.	and train running number windows are cts Data Entry		



		JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL		
		DMI (O)			
		DMI (I)	Driver selects Start		
5	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1		
	The RBC sends an authorization for running in SR mode	DMI (O)			
6		DMI (I)			
		JRU	Message 2 D_SR = 32767		
		DMI (O)	Acknowledgement of SR mode		
	SR mode is proposed to the driver and	DMI (I)	Driver acknowledges SR mode		
	the driver acknowledges SR.	JRU	DMI_SYMB_STATUS MO10 M_DRIVERACTIONS= 3		
		DMI (O)	SR symbol		
		DMI (I)			
8	The EVC switches to SR mode.	JRU	M_MODE=2 DMI_SYMB_STATUS MO09	_	
		Level	2		
Final	stato	Mode	SR		
Final	Siaic	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane WEST			
Briefi	ing instructions	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1			

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.3.13. SH17

		TEST CASE	TEST CASE DESCRIPTION					
		Code Vers		sion Title				
Test (Case	SH17	5		Leaving a TSA or Possession. Unknown or invalid position			
Basel	line applicable	Baseline 3 MR1	(SRS 3.4	.0) / Ba	seline 3 R2 (SRS 3.6.0)			
Test case author		Ineco/CEDEX						
Test (Objective(s)	Verify the exit fro reports an unkno			e and the correct SoM procedure when the EVC sition.			
Diagr	am							
		Level			L2			
Starti	ng conditions	Mode			SH			
		Train Speed (km			0			
		Additional start	ing cond	litions	Train is at standstill with invalid/unknown posi	tion		
– ·	ence of the Test Case	Checkpoints	-					
Step	Step description	Interfaces			tion of what to be tested at the interface OK?			
		DMI (O)	S		pol disappears pol is displayed			
	Train is at standstill with invalid/unknown	DMI (I)		Oriver se	elects Exit of Shunting			
1	position The driver selects "Exit from SH mode"	JRU	V_T M_D JRU M_M		ERACTIONS=17 E = 6 MB_STATUS			
		DMI (O)						
2	The driver validates or introduces the Driver ID	DMI (I)		RIVER	ID			
	Briver is	JRU						
		DMI (O)		Safe rad	io connection "Connection Up";			
		DMI (I)						
3	The establishment of a communication session is initiated by the EVC. It is sent to the RBC a position report with invalid/unknown position.	JRU	N N	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 0/2 Packet 0/1 Message 41 DMI_SYMB_STATUS ST03				
		DMI (O)	S	Train data and train running number windows are shown.				
		DMI (I)		Driver selects Data Entry Driver enters the train running number				
4	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	N N N N N N N N N N N N N N N N N N N	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*)				
5	Driver selects START	DMI (O)		7.1.2_0	PERATIONAL			



		DMI (I)	Driver selects Start	
		JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxxx1 (Start selected by driver) Packet 0/1 NID_BG=16383 Q_DIRLRBG=2 Q_DIRTRAIN=2	
		DMI (O)	Acknowledgement for SR is shown	
		DMI (I)		
6	The RBC grant an authorisation for SR mode.	JRU	Message 2 D_SR DMI_SYMB_STATUS MO10	
		DMI (O)	SR symbol	
l _		DMI (I)	Driver acknowledges SR mode	
7	Driver acknowledges the SR mode	JRU	M_DRIVERACTIONS=3 DMI_SYMB_STATUS MO09	
		Level	2	
Final	atata	Mode	SR	
rınaı	state	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane WEST		
		(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1		

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.3.14. SH19

	TEST CASE DESCRIPTION					
		Code	Versio	on Tit	le	
Test	Case	SH19	2	SR	Entering a TSA or Possession. Mode transition from SR to SH selected by the driver. The train has a valid position within a TSA/Possession.	
Base	line applicable	Baseline 3 MR1 (FbIS.F.388, FbIS			seline 3 R2 (SRS 3.6.0) 67	
Test	case author	Ineco/CEDEX				
Test	Objective(s)				de and has a valid position within a TSA/Possession entry in SH mode.	
Diagr	am					
		Level			L2	
		Mode			SR	
Starti	ing conditions	Train Speed (km	n/h)		0	
		Additional starti	ing cond	litions	The train is at standstill with valid position inside a possession/TSA. The radio communication session is established with the RBC.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces			tion of what to be tested at the interface OK?	
	The driver selects Shunting on the DMI and the EVC sends the request for Shunting to the RBC.	DMI (O)			ss symbol is displayed	
		DMI (I)		Driver se	elects SH	
1		JRU	V	DMI_SYI ST05 Message T_TRAII Packet M_M0	N= T1	
		DMI (O)				
	The RBC authorises Shunting with no	DMI (I)				
2	optional list of balise groups for SH area. The RBC can also send the packet with national values.(*)	JRU	N	Packe	AIN = T1	
		DMI (O)	S	SH Syml	bol	
_	The FMO suitables to Old and the	DMI (I)				
3	The EVC switches to SH mode.	JRU			E = 3 (SH) MB_STATUS	
		DMI (O)				
Δ	The EVC starts the "End of Mission"	DMI (I)				
4	procedure.	JRU		Message Packet M_M		
		DMI (O)				
_	The RBC sends the message to	DMI (I)				
	terminate radio communication session.	JRU		/lessage 24 Packet 42 Q_RBC=0		
6	The EVC sends the termination of a	DMI (O)				
"	communication session and the RBC	DMI (I)				



answers with the acknowledgement of termination of a communication session	JRU	Message 156 Message 39	
	Level	2	
Final state	Mode	SH	
Final state	Train Speed (km/h)	NR	
	Other parameters		
Final Test Result			
Field of Application	F-bane EAST, F-bane WEST		
(*) optionally Briefing instructions In order to correctly perform this test case it is required to set the TSA/Possess after the train is located inside it			

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.3.15. SH21

		TEST CASE	DESCRI	PTION	
		Code	Versio	n Title	
Test Case		SH21	2		ction of SH at SoM. SH permission is refused by RBC. The train is in SR mode and has an invalid tion.
Base	line applicable	Baseline 3 MR1 (S	SRS 3.4.	0) / Base	eline 3 R2 (SRS 3.6.0)
Test	case author	Ineco/CEDEX			
Test	Objective(s)	Verify that if the tra refused by the RB		SR mode	e and has an invalid position the SH permission is
Diagr	am				
		Level			L2
		Mode			SR
		Train Speed (km/	/h)		0km/h
Starting conditions		Additional starting conditions		tions	The train is in the SoM procedure with invalid position The radio communication session is established with the RBC. The shunting authorisation request for the train is not performed in the TMS.
Sequence of the Test Case		Checkpoints			
Step	Step description	Interfaces	D	escriptio	on of what to be tested at the interface OK?
		DMI (O) Hour glass			s symbol is displayed
		DMI (I)	D	Driver selects SH	
Driver selects Shunting and the EVC sends the "Request for SH" message to RBC together with a position report.		JRU	D	_DRIVERACTIONS = 11 MI_SYMB_STATUS ST05 lessage 130 T_TRAIN = T1 Packet 0/1 M_MODE = 2 (SR) M_LEVEL = 3 (Level 2)	
		DMI (O)			
2	The RBC refuses Shunting.	DMI (I)			
1	g.	JRU	М	essage 2 T_TRAI	27 N = T1
		DMI (O)	"5	"SH refused" message.(*)	
3	The driver is informed of the refusal of	DMI (I)			
,	Shunting.	JRU	S	YSTEM_ SH refu	STATUS_MESSAGE sed
		Level	2		
Eina!	otata	Mode	S	R	
Final state		Train Speed (ki	m/h) 0ł	km/h	
		Other paramet	ters		
Final	Test Result				
Field	of Application	F-bane EAST, F-bane WEST			
Briefing instructions		(*) If the on-board is ETCS B3 Release 2, this message is not longer displayed once the driver selects any button in the main window of the DMI			

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				

Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.3.16. SH22

		Code Vers		sion Title		
Test (Case	SH22	4	Lea	aving a TSA or Possession. Route is not set	
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Base			seline 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify the exit fro issue a movemen			and that while the route is not set the RBC cann	not
Diagr	am				1	
		Level			L2	
.		Mode			SH	
Starti	ng conditions	Train Speed (km	n/h)		0	
		Additional starti	ing cond	litions	Train is at standstill with valid position in front or closed marker board. There is no route set.	of a
Sequ	ence of the Test Case	Checkpoints			_	
Step	Step description	Interfaces	5 [Descript	ion of what to be tested at the interface OK?	
		DMI (O)	S		ol disappears ol is displayed	
	Train is at standstill with valid position	DMI (I)			lects Exit of Shunting	
1	The driver selects "Exit from SH mode"	JRU M_ DN		V_TRAIN=0 M_DRIVERACTIONS=17 M_MODE = 6 DMI_SYMB_STATUS MO13		
	The driver validates or introduces the Driver ID	DMI (O)				
2		DMI (I)		DRIVER	ID	
		JRU				
		DMI (O)	S	Safe radi	o connection "Connection Up";	
		DMI (I)				
3	The establishment of a communication session is initiated by the EVC. It is sent to the RBC a position report with valid position.	JRU M		Message Message Packet Message Q_STA Packet DMI_SYM	232 2(*) 157 TUS = 1	
		DMI (O)		Train data and train running number windows are shown.		
		DMI (I)		Driver se	lects Data Entry ters the train running number	
4	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	N N N	M_DRIVI Message Packet Message Message Packet NID NDDITIO NUMBEF	11 8 136	
	Driver selects START	DMI (O)		ט_טוויו	LIATIONAL	



		DMI (I)	Driver selects Start		
		JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1		
		DMI (O)			
	The RBC does not send any MA or SR authorisation to the EVC. The EVC sends cyclically the MA request to the RBC	DMI (I)			
		JRU	Message 132 Packet 0/1 T_TRAIN = T2 + k*T1 (k= 1, 2,) (T1=T_CYCRQST)		
		Level	2		
Final	otata	Mode	SB		
rınaı	state	Train Speed (km/h)	0km/h		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST			
Briefing instructions		(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1			

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.3.17. SH23

		TEST CASE	DESCR	IPTION		
		Code	Versio	n Title		
Test Case		SH23	3		Leaving a SH area. Exit shunting mode outside the ATAF area	
Basel	ine applicable	Baseline 3 MR1 ((SRS 3.4.	.0) / Base	eline 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify the exit fro outside the ATAF		ng mode	and the correct SoM procedure when the train is	
Diagra	am					
		Level			L2	
.		Mode			SH	
Starti	ng conditions	Train Speed (km	n/h)		0	
		Additional starti	ing cond	itions	Train is at standstill outside the ATAF area with known location	
Seque	ence of the Test Case	Checkpoints	1			
Step	Step description	Interfaces			on of what to be tested at the interface OK?	
	Train is at standstill outside the ATAF	DMI (O)	s	Vtrain=0 SH symbol disappears SB symbol is displayed		
		DMI (I)		Driver selects Exit of Shunting		
1	area. The driver selects "Exit from SH mode"	JRU	N N	_MODE	RACTIONS=17	
		DMI (O)				
.)	The driver validates or introduces the Driver ID	DMI (I)		DRIVER ID		
	Driver ID	JRU				
		DMI (O)		afe radio	connection "Connection Up";	
		DMI (I)				
3	The establishment of a communication session is initiated by the EVC. It is sent to the RBC a position report with valid position.	JRU	M N	Packet 0. NID_LRI Q_DIRL Q_DLRE	32 159 2(*) 157 'US = 1 (valid) /1 BG ≠ 16777215 RBG ≠ 2	
	The driver selects train data entry. Train data and train running number is entered	DMI (O)	s	hown.	and train running number windows are	
	or revalidated.	DMI (I)			ects Data Entry ers the train running number	

		JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL	
		DMI (O)		
		DMI (I)	Driver selects Start	
5	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1	
		DMI (O)		
		DMI (I)		
	The RBC sends a Movement authority with an SH mode profile. The SH mode profile covers the shunting area. The max safe front end of the train is at or in advance of the beginning of the SH area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=1 L_MAMODE=L2	
		DMI (O)	SH mode transition acknowledgement	
	The EVC shows the acknowledgment request to SH.	DMI (I)	,	
7		JRU	M_MODE=6 DMI_SYMB_STATUS MO02	
	Acknowledgement of SH	DMI (O)		
8		DMI (I)	Acknowledgement of SH mode	
		JRU	M_DRIVERACTIONS = 1	
		DMI (O)	SH symbol	
		DMI (I)	,	
9	The EVC switches to SH mode	JRU	M_MODE=3 DMI_SYMB_STATUS MO01	
	The EVC reports to the RBC the mode change	DMI (O)		
		DMI (I)		
10		JRU	Message 136 Packet 0/1 M_MODE=3	
	The RBC sends the message to terminate radio communication session.	DMI (O)		
		DMI (I)		
11		JRU	Message 24 Packet 42 Q_RBC=0	
	The EVC sends the termination of a communication session and the RBC answers with the acknowledgement of termination of a communication session.	DMI (O)		
12		DMI (I)		
12		JRU	Message 156 Message 39	
		Level	2	
Final state		Mode	SH	
		Train Speed (km/h)	NR	
		Other parameters		
		-	•	



Final Test Result	
Field of Application	F-bane EAST
	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.3.18. SH24

		TEST CASE	DESCR	IPTION		
		Code	Versio	n Tit	le	
Test (Case	SH24	3		aving a SH area. Exit shunting mode inside the AF area	
Basel	ine applicable	Baseline 3 MR1 ((SRS 3.4.	.0) / Bas	seline 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify the exit fro inside the ATAF a		ng mode	e and the correct SoM procedure when the train	is
Diagr	am					
		Level			L2	
		Mode			SH	
Starti	ng conditions	Train Speed (km	n/h)		0	
		Additional starti	ng cond	itions	Train is at standstill inside the ATAF area and with known location and inside a SH area (PS TSA, Possession)	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escript	tion of what to be tested at the interface OK?	
	Train is at standstill inside the ATAF area	DMI (O)	s		ool disappears ool is displayed	
					elects Exit of Shunting	
1	The driver selects "Exit from SH mode"	JRU		V_TRAIN=0 M_DRIVERACTIONS=17 M_MODE = 6 DMI_SYMB_STATUS MO13		
		DMI (O)				
2	The driver validates or introduces the			DRIVER ID		
	Driver ID	JRU				
				afe rad	io connection "Connection Up";	
		DMI (I)				
3	The establishment of a communication session is initiated by the EVC. A position report with valid position is sent to the RBC.	JRU	M M	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DM_SYMB_STATUS ST03		
4	The driver selects train data entry. Train data and train running number is entered	DMI (O)	s	hown.	a and train running number windows are	
	or revalidated.	DMI (I)			elects Data Entry nters the train running number	

п .				,	
		JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL		
		DMI (O)			
		DMI (I)	Driver selects Start		
5	Driver selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1		
		DMI (O)			
		DMI (I)			
6	The RBC sends a Movement authority including a mode profile for OS mode which goes at least until the first axle counter beyond the marker board. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=L2 (D2+L2≥location of the first axle counter) Estimated front end ≥ D2-L_DOUBTUNDER		
		DMI (O)	OS mode transition acknowledgement		
	The EVC shows the acknowledgment	DMI (I)			
	request to OS	JRU	DMI_SYMB_STATUS MO08		
		DMI (O)	OS symbol		
0	Acknowledgement of OS mode. The EVC	DMI (I)	Acknowledgement of OS mode		
	switches to OS	JRU	M_DRIVERACTIONS = 0 DMI_SYMB_STATUS MO07		
		DMI (O)			
9	The EVC reports to the RBC the train	DMI (I)			
9	position	JRU	Message 136 Packet 0/1 M_MODE=1		
		Level	2		
Final	stato	Mode	os		
rıılal	Siaic	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST			
Briefi	ng instructions	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1			

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			



Observations



2.3.19. SH25

		TEST CASE	DESCR	IPTION		
		Code	Version	on Titl	e	
Test (Case	SH25 4		Exi	Exit shunting mode from SH Route. Exit route is not	
Basel	line applicable	Baseline 3 MR1	(SRS 3.4	.0) / Bas	eline 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX		•		
Test (Objective(s)				and that while the exit route from the SH route is overnent authority	is
Diagr	am					
		Level			L2	
C44!		Mode			SH	
Starti	ng conditions	Train Speed (km	n/h)		0	
		Additional start	ing cond	litions	Train is at standstill with valid position in front closed marker board. There is no exit route se	
	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s C	Descript	ion of what to be tested at the interface OK?	
		DMI (O)	S		ol disappears ol is displayed	
	Train is at standstill with valid position	DMI (I)		Driver se	lects Exit of Shunting	
1	The driver selects "Exit from SH mode"	JRU		V_TRAIN=0 M_DRIVERACTIONS=17 M_MODE = 6 DMI_SYMB_STATUS MO13		
	The driver validates or introduces the	DMI (O)				
2	Driver ID	DMI (I)		PRIVER	ID	
		JRU				
		DMI (O)		Safe radi	o connection "Connection Up";	
		DMI (I)				
3	The establishment of a communication session is initiated by the EVC. It is sent to the RBC a position report with valid position.	JRU	N N E	ST03	32 159 2(*) 157 TUS = 1 0/1 MB_STATUS	
		DMI (O)		rain data hown.	a and train running number windows are	
		DMI (I)		Priver se	lects Data Entry ters the train running number	
4	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	N N N	M_DRIVE Message Packet Message Message Packet NID NDDITIO NUMBEF	11 8 136	
				וט_טוויו	LIMITONAL	



		DMI (I)	Driver selects Start		
		JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1		
		DMI (O)			
	The RBC does not send any MA or SR	DMI (I)			
II -	authorisation to the EVC. The EVC sends cyclically the MA request to the RBC	JRU	Message 132 Packet 0/1 T_TRAIN = T2 + k*T1 (k= 1, 2,) (T1=T_CYCRQST)		
		Level	2		
Final	otata	Mode	SB		
rınaı	state	Train Speed (km/h)	0		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST			
Briefi	ng instructions	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1			

	ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.3.20. SH26

		TEST CASE	DESCRI	PTION	
		Code	Versio	n Title	
Test (Case	SH26	3		shunting mode from SH Route. Valid position de the last track section of the SH route
Basel	ine applicable	Baseline 3 MR1 ((SRS 3.4.	0) / Base	eline 3 R2 (SRS 3.6.0)
Test	case author	Ineco/CEDEX			
Test (Objective(s)	Verify the exit fro outside the last tr	m shuntir ack secti	ng mode a	and the correct SoM procedure when the train is SH route
Diagr	am				
		Level			L2
		Mode			SH
Starti	ng conditions	Train Speed (km	ı/h)		0
		Additional starti	ng cond	itions	Train is at standstill inside the route for SH, but outside the last track section of the SH route with known location.
Sequ	ence of the Test Case	Checkpoints			
Step	Step description	Interfaces	s D	escriptio	on of what to be tested at the interface OK?
	Train is at standstill with valid position.	DMI (O)	s		I disappears I is displayed
					ects Exit of Shunting
1	The driver selects "Exit from SH mode"	anustiii witii valiu position.		V_TRAIN=0 M_DRIVERACTIONS=17 M_MODE = 6 DMI_SYMB_STATUS MO13	
		DMI (O)			
2	The driver validates or introduces the			DRIVER ID	
	Driver ID	JRU			
		DMI (O)	s	afe radio	connection "Connection Up";
		DMI (I)			·
3	The establishment of a communication session is initiated by the EVC. It is sent to the RBC a position report with valid position.		M M	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DM_SYMB_STATUS ST03	
4	The driver selects train data entry. Train data and train running number is entered	DMI (O)	sl	nown.	and train running number windows are ects Data Entry
	or revalidated.	DMI (I)			ers the train running number



Briefing instructions		(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1			
Field		F-bane EAST			
Final	Test Result				
		Other parameters			
Final state		Train Speed (km/h)	0		
Final	state	Mode	SB		
		Level	2		
-	authorisation to the EVC. The EVC sends cyclically the MA request to the RBC	JRU	Message 132 Packet 0/1 T_TRAIN = T2 + k*T1 (k= 1, 2,) (T1=T_CYCRQST)		
	The RBC does not send any MA or SR	DMI (I)			
	Driver selects START	DMI (O)			
5		JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1		
		DMI (I)	Driver selects Start		
		DMI (O)			
		JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL		

ADDITIO	ADDITIONAL TEST CASE REPORTING INFORMATION		
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.3.21. SH27

		TEST CASE	DESCR	RIPTION		
		Code	Versi	on Tit	le	
Test (Case	SH27	4		Exit shunting mode from SH Route. Unknown or invalid position	
Basel	ine applicable	Baseline 3 MR1	(SRS 3.4	I.0) / Bas	seline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test (Objective(s)	Verify the exit fro reports an unkno			e and the correct SoM procedure when the EVC sition.	
Diagr	am					
		Level			L2	
Starti	ng conditions	Mode			SH	
		Train Speed (km			0	
		Additional start	ing cond	ditions	Train is at standstill with invalid/unknown position	
<u> </u>	ence of the Test Case	Checkpoints	-			
Step	Step description	Interfaces			tion of what to be tested at the interface OK?	
		DMI (O)	S		ool disappears ool is displayed	
	Train is at standstill with invalid/unknown	DMI (I)		Oriver se	elects Exit of Shunting	
1	1 position The driver selects "Exit from SH mode" JRU		N	V_TRAIN=0 M_DRIVERACTIONS=17 M_MODE = 6 DMI_SYMB_STATUS MO13		
		DMI (O)				
2	The driver validates or introduces the Driver ID	DMI (I)		DRIVER	ID	
	5.1.0.1.15	JRU				
		DMI (O)		Safe rad	io connection "Connection Up";	
		DMI (I)				
3	The establishment of a communication session is initiated by the EVC. It is sent to the RBC a position report with invalid/unknown position.	JRU		Packet Vessage	9 32 9 159 9 2(*) 9 157 TUS = 0/2 0/1	
		DMI (O)	S	shown.	a and train running number windows are	
		DMI (I)			elects Data Entry nters the train running number	
4	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	N N N N N N N N N N N N N N N N N N N	M_DRIV M_DRIV Message Packet Message Message Packe NID ADDITIC	ERACTION = 20 ERACTION = 21 e 129 e 11 e 8 e 136	
5	Driver selects START	DMI (O)		1410_0	LIVITORAL	



		DMI (I)	Driver selects Start	
		JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxxx1 (Start selected by driver) Packet 0/1 NID_BG=16383 Q_DIRLRBG=2 Q_DIRTRAIN=2	
		DMI (O)	Acknowledgement for SR is shown	
		DMI (I)		
6	The RBC grant an authorisation for SR mode.	JRU	Message 2 D_SR DMI_SYMB_STATUS MO10	
		DMI (O)	SR symbol	
_		DMI (I)	Driver acknowledges SR mode	
7	Driver acknowledges the SR mode	JRU	M_DRIVERACTIONS=3 DMI_SYMB_STATUS MO09	
		Level	2	
Final	atata	Mode	SR	
rınaı	state	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane WEST		
Briefi	ng instructions	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1		

	ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.3.22. SH28

		TEST CASE	DESCRI	PTION		
		Code Versi		n Title		
Test Case		SH28	3	Exit s inside	Exit shunting mode from SH Route. Valid position inside the last track section of the SH route	
Basel	ine applicable	Baseline 3 MR1	(SRS 3.4.	0) / Base	line 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify the exit fro inside the last tra			and the correct SoM procedure when the trair H route	n is
Diagr	am					
		Level			L2	
L .		Mode			SH	
Starti	ng conditions	Train Speed (km	n/h)		0	
		Additional starti	ing condi	tions	Train is at standstill inside the last track sect the SH route and with known location.	ion o
Seque	ence of the Test Case	Checkpoints	-			
Step	Step description	Interfaces			n of what to be tested at the interface OK	?
	Train is at standstill inside the last track section of the SH route The driver selects "Exit from SH mode"	DMI (O)	SI		disappears is displayed	
		DMI (I)		Driver selects Exit of Shunting		
1		JRU	M M	V_TRAIN=0 M_DRIVERACTIONS=17 M_MODE = 6 DMI_SYMB_STATUS MO13		
		DMI (O)				
2	The driver validates or introduces the	DMI (I)		DRIVER ID		
	Driver ID	JRU				
		DMI (O)	Sa	afe radio	connection "Connection Up";	
		DMI (I)				
	The establishment of a communication session is initiated by the EVC. A position report with valid position is sent to the RBC.	Me Me Me JRU C P N		Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMLSYMB_STATUS ST03		
	The driver selects train data entry. Train data and train running number is entered	DMI (O)	sł	Train data and train running number windows are shown. Driver selects Data Entry		
4	data and train running number is entered					

	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*) NID_OPERATIONAL			
	DMI (O)				
	DMI (I)	Driver selects Start			
river selects START	JRU	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1			
	DMI (O)				
	DMI (I)				
The RBC sends a Movement authority including a mode profile for OS mode which goes at least until the first axle counter beyond the marker board. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=L2 (D2+L2≥location of the first axle counter) Estimated front end ≥ D2-L_DOUBTUNDER			
	DMI (O)	OS mode transition acknowledgement			
ne EVC shows the acknowledgment	DMI (I)				
quest to OS	JRU	DMI_SYMB_STATUS MO08			
	DMI (O)	OS symbol			
cknowledgement of OS mode. The EVC	DMI (I)	Acknowledgement of OS mode			
switches to OS	JRU	M_DRIVERACTIONS = 0 DMI_SYMB_STATUS MO07			
	DMI (O)				
ne EVC reports to the RBC the train	DMI (I)				
position	JRU	Message 136 Packet 0/1 M_MODE=1			
	Level	2			
ato	Mode	os			
uic	Train Speed (km/h)	NR			
	Other parameters				
est Result					
Application	F-bane EAST				
instructions	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1				
	e RBC sends a Movement authority cluding a mode profile for OS mode nich goes at least until the first axle unter beyond the marker board. The emax safe front end of the train is at in advance of the beginning of the OS ea. The EVC shows the acknowledgment quest to OS The EVC showledgement of OS mode. The EVC pritches to OS The EVC reports to the RBC the train sition The EVC reports to the RBC the train sition The EVC reports to the RBC the train sition	DMI (O) DMI (I) PRU DMI (O) DMI (I) DMI (O) DMI (I) DMI (O) DMI (I) DMI (O) DMI (I) PRU DMI (O) DMI (I) DMI (O) DMI (I) DMI (O) DMI (I) DMI (O) DMI (I) JRU Level Mode Train Speed (km/h) Other parameters st Result Application F-bane EAST (*) If the on-board is ETG Instructions	M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 18 Message 18 Packet 5 NID_OPERATIONAL ADDITIONAL DATA("")/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(") NID_OPERATIONAL DDITIONAL DATA("")/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(") NID_OPERATIONAL DDITIONAL DATA("")/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(") NID_OPERATIONAL DMI (0) DMI (1) DMI (1) DMI (2) DMI (3) DMI (3) DMI (4) DMI (5) DMI (6) DMI (7) DMI (7) DMI (8) Message 3/33 LRBG1 Packet 15 Packet 15 Packet 27 Packet 30 D_MAMODE=D2 M_MAMODE=D2 M_M		

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					



Observations



2.4. SJ

2.4.1. SJ1

	TEST CASE DESCRIPTION							
		Code Version Title		ion	Title			
Test Case		SJ1	3		Joining procedure. Movement to couple to a stationary train. Mode transition from FS mode to OS mode and to SB mode. Approaching train.			
Basel	ine applicable				Baseline 3 R2 (SRS 3.6.0) 31, OR.2085, OR.2091			
Test o	case author	Ineco/CEDEX						
Verify that the RBC sends to the former leading EVC of the "joining train" a profile when it is approaching to "the train to be joined". Mode transition from mode to OS mode.								
Diagr	am				1			
		Level			2			
		Mode			FS			
		Train Speed (km	n/h)		NR			
Starti	ng conditions	Additional starting conditions			The train (acting as the joining train) is approaching an occupied track section in order to couple with another train. The radio communication session is established			
					with the RBC. A route for joining trains has been set (the joining procedure is planned in the timetable).			
Seque	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	3	Desc	ription of what to be tested at the interface OK?			
		DMI (O)						
		DMI (I)						
' '	The RBC sends to the train a MA with OS mode profile. Also, the RBC sends a plain text message (packet 72) to inform the train about the joining process.	JRU		LRE Pacl Pacl D_ M_ V_ L_ Pacl D_ M_ M_ L_ T_ M_ Q_ Q_	ket 15 ket 80 MAMODE=D1 MAMODE=0 MAMODE=L ACKMAMODE=L1 ket 72 TEXTDISPLAY=1 TEXTDISPLAY=1 TEXTDISPLAY=2 MODETEXTDISPLAY=1 LEVELTEXTDISPLAY=3 TEXTDISPLAY=3 TEXTDISPLAY=30767 TEXTDISPLAY=10 MODETEXTDISPLAY=15 LEVELTEXTDISPLAY=15 LEVELTEXTDISPLAY=5 TEXTCONFIRM=0 TEXT="Planlagt sammenkobling" ("Planned")			
	The train follows the braking curve until reaches the acknowledgement area and the driver is requested to acknowledge the transition to OS mode	DMI (O)		"Acknowledgement for On-Sight" symbol is displayed Vtrain < V_MAMODE Vpermitted decreases				
	ure transition to OS mode	DMI (I)						

		JRU	V_TRAIN < V_MAMODE Estimated front end > D-L_ACK DMI_SYMB_STATUS MO08 M_SDMTYPE=2(*)/1(**)			
		DMI (O)	"Acknowledgement for On Sight" symbol is removed OS symbol is displayed			
		DMI (I)	Driver acknowledges OS mode			
3	The driver acknowledges the transition and the EVC switches to OS mode and sends a position report to the RBC.	JRU	M_MODE=1 M_LEVEL=3 M_DRIVERACTIONS=0 DMI_SYMB_STATUS MO 07 Message 136 Packet 0 M_MODE=1			
		DMI (O)	OS symbol Text message "Planlagt sammenkobling"("Planned joining") is displayed			
4	The joining message is displayed to the driver when the train reaches the location	DMI (I)				
4	where starting OS area.	JRU	Estimated front end = D1 START DISPLAYING PLAIN TEXT MESSAGE X_TEXT="Planlagt sammenkobling"("Planned joining")			
	The text message is no longer displayed according to the final conditions given by the packet 72 (after 10 seconds).	DMI (O)	OS symbol Text message "Planlagt sammenkobling"("Planned joining") is removed			
5		DMI (I)				
		JRU	STOP_DISPLAYING_PLAIN_TEXT_MESSAGE X_TEXT="Planlagt sammenkobling"("Planned joining") (T_TEXTDISPLAY=10)			
		DMI (O)	OS symbol is removed			
	The joining is performed.	DMI (I)				
6	The driver closes the desk and the system switches to SB mode. The EVC sends the "End of Mission" message to the RBC.	JRU	M_MODE=6 M_LEVEL=3 Message 150 Packet 0 M_MODE=6			
		DMI (O)				
_	The RBC request to terminate the	DMI (I)				
7	communication session.	JRU	Message 24 Packet 42 Q_RBC=0			
		DMI (O)				
8	The EVC terminates the communication	DMI (I)				
	session and the RBC acknowledges it.	JRU	Message 156 Message 39			
		Level	2			
Final	state	Mode	SB L			
		Train Speed (km/h)	0			
Fire or	Took Dooult	Other parameters				
	Test Result		UF CT			
	of Application	F-bane EAST, F-bane WEST				
Briefi	ng instructions	(*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						

banedanmark

Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.4.2. SJ2

		TEST CASE	DESCR	RIPTIC	ON			
		Code	Versi	on	Title			
Test (Case	SJ2 3			Joining procedure. Mode transition from SB m SL mode. Stationary train.		e to	
Basel	ine applicable	Baseline 3 MR1 (Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)					
Test o	case author	Ineco/CEDEX						
Test (Objective(s)	Verify that the EV joining procedure				train switches from SB mode to SL mode w f.	/hen a	
Diagr	am							
		Level				2		
		Mode				SB		
		Train Speed (km	ı/h)			0		
Starti	ng conditions	Additional starting conditions		s i	A joining procedure is being performed and train is going to be the slave unit. The desk closed. The radio communication session is not established with the RBC.	the is		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	i l	Descr	iptio	n of what to be tested at the interface OK	(?	
		DMI (O)						
1	The EVC receives the sleeping input and switches to SL mode	DMI (I)						
	SWITCHES to SE ITIOGE	JRU		SLEEPING INPUT = SLEEPING REQUESTED M_MODE = 5				
		DMI (O)						
	The EVC establishes a communication	DMI (I)						
2	The EVC establishes a communication session with the RBC.(*)	JRU		Messa Messa Messa Pacl	age 32	2 59		
		DMI (O)						
	The EVC reports the mode transition to	DMI (I)						
	the RBC.(*)	JRU		Message 136 Packet 0 M MODE = 5				
		DMI (O)				52 = 0		
	The RBC request to terminate the	DMI (I)						
communication session, and the EVC terminates the communication session, with the acknowledgement of the RBC. (*) JRU			ı		et 42 RBC = age 15	= 0 56		
		Level		2				
		Mode	Ç	SL				
Final	state	Train Speed (k	(m/h))				
					alread	essary to perform the end of mission if dy been done after entering the SB		
Final	Test Result							
Field	of Application	F-bane EAST, F-	bane W	EST				



Briefing instructions	(*) If the on-board is ETCS Baseline 3 Maintenance Release 1, the OBU may not establish a communication session to report the mode change from SB to SL, according to CR 1122, so steps 2,3 and 4 may not occur. (**) If the on-board is ETCS Baseline 3 Release 2
	("") If the on-board is ETC5 Baseline 3 Release 2

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.4.3. SJ3

		TEST CASE	DESCRI	PTION			
		Code	Versio	n Tit	le		
Test Case		SJ3	4		litting procedure. New train data introduced in the in that was supervising the movement before.		
Basel	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS.983, OPS.1085, OR.2110				
Test (case author	Ineco/CEDEX					
Test Objective(s)		Verify that after a for the two trains			ure the RBC is able to give movements authorities ne direction.		
Diagr	am						
		Level			2		
		Mode			FS		
		Train Speed (km	n/h)		0		
Starting conditions		Additional starting conditions		tions	The train has undergone a splitting procedure, it is at standstill and the leading EVC has not performed the end of mission. The slave EVC has entered to SB mode from SI mode. The radio communication session is established between the leading EVC and the RBC. There is no established route for the train.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escript	tion of what to be tested at the interface OK?		
		DMI (O)		ata Entry Request onfirmation of Data			
	The driver selects train data entry and	DMI (I)			elects train data entry Alidates train data		
1	changes the train data. The train reports the train data and the RBC sends the validation.	JRU	M M	_ DRIV essage Packet Packet	: 0/1 : 11 RAIN		
		DMI (O)			nt authority is updated		
		DMI (I)			and any to appeared		
	A route for the train is established and the Movement authority information is updated by the RBC.	JRU	Message 3 Packet 15		tt 15 :NDSECTION = L1 tt 21		
		Level	2				
	-1-1-	Mode	F	S			
Final	state	Train Speed (km/h) N	R			
		Other parame					
Final	Test Result				•		
Field	of Application	F-bane EAST, F-	bane WE	ST			
		I			at the same time as SJ4		

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					

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Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.4.4. SJ4

	TEST CASE DESCRIPTION							
		Code	Versio	n Titl	e			
Test	Case	SJ4 4			itting procedure. SoM performed in the "New trainer splitting"			
Base	line applicable	Baseline 3 MR1 OPS.983, OPS.1	(SRS 3.4. 1085	0) / Bas	seline 3 R2 (SRS 3.6.0)			
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify that after a splitting" is perfo			re the start of mission in "the new train after			
Diagr	ram							
		Level			2			
		Mode			SL			
Starti	ing conditions	Train Speed (km	n/h)		≈ 0			
Starting conditions		Additional start	ing cond	itions	A splitting procedure is being performed and the EVC is the slave unit. The desk is closed and there is not an established communication session between the train and the RBC.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s D	escript	ion of what to be tested at the interface OK?			
	The splitting procedure is performed, the EVC stops receiving the sleeping input and train is brought to a standstill	DMI (O)						
		DMI (I)						
		SLEEPING REQUEST M_MODE V TRAIN:		EQUES I_MODE	≣ = 6			
		DMI (O)						
		DMI (I)						
2	The EVC establishes a communication session with the RBC	JRU	M	lessage lessage lessage Packet	32 159			
		DMI (O)						
	The EVC reports the mode transition to	DMI (I)						
3	the RBC	JRU	N	lessage Packet M_M				
		DMI (O)						
	The RBC request to terminate the	DMI (I)						
4	communication session, and the EVC terminates the communication session, with the acknowledgement of the RBC.	JRU		lessage Packet 4 Q_RB0 lessage lessage	42 C = 0 156			
		DMI (O)						
5	The driver open the desk and validates or introduces the Driver ID and the train	DMI (I)	n	umber	roduces Driver ID and train running			
	running number	JRU		DRIVER_ID NID_OPERATIONAL				
6	The establishment of a communication	DMI (O)	s	afe radi	o connection symbol			
6 session is initiated by the EVC.		DMI (I)						

	It is sent to the RBC a position report with valid position.	JRU	Message 155 Message 32 Message 159 Packet 2(*) Message 157 Q_STATUS = 1 (valid) Packet 0/1 NID_LRBG ≠ 16777215 Q_DIRLRBG ≠ 2 Q_DLRBG ≠ 2 DMI_SYMB_STATUS ST03
		DMI (O)	Data Entry Request Confirmation of Data
	The driver selects train data entry. Train	DMI (I)	Driver selects train data entry Driver validates train data
7	data is entered or revalidated. Once the train data has been introduced, the driver can select Start.	JRU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 L_TRAIN Message 8
		DMI (O)	
8	Driver selects START	DMI (I)	Driver selects Start
	Directions of Part	JRU	M_DRIVERACTION = 19 Message 132
		DMI (O)	INCSSAGE TOZ
	A route for the train is established and the RBC sends a Movement authority with an OS mode profile and the position report parameters. The max safe front end of the train is at or in advance of the beginning of the OS area.	DMI (I)	
9		JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=L2 Estimated front end≥D2-L_DOUBTUNDER
		DMI (O)	OS mode transition acknowledgement
10	The EVC shows the acknowledgment	DMI (I)	
10	request to OS.	JRU	DMI_SYMB_STATUS MO08
		DMI (O)	
11	Acknowledgement of OS mode	DMI (I)	Acknowledgement of OS mode
		JRU	M_DRIVERACTIONS = 0
		DMI (O)	
40	The EVC reports to the RBC the train	DMI (I)	
12	position	JRU	Message 136 Packet 0/1 M_MODE=1
		Level	2
Final state		Mode	os
rındi	ગાતા ર	Train Speed (km/h)	NR
		Other parameters	
Final	Test Result		
Field	of Application	F-bane EAST, F-bane V	
Briefi	ng instructions	The train running number entry (step 7), instead o	performed at the same time as SJ3 er may be introduced when the driver selects the train data if when the driver introduces or validates the Driver ID (step s CS Baseline 3 Release 2



ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.5. OSP

2.5.1. OSP1

	TEST CASE DESCRIPTION							
		Code Version Tit		n Ti	tle			
Test Case		OSP1 8			Entry into a potentially occupied track section from FS mode			
Basel	ine applicable				aseline 3 R2 (SRS 3.6.0) 3, FbIS.F.1235, FbIS.F.1239, OPS.1138, OR	.DEF.79		
Test o	case author	Ineco/CEDEX						
	Objective(s)	In addition it shal	l be verific	ed tha	m FS mode to OS mode at a marker board. It the start location and the length of the OS ar acture requirements.	rea is		
Diagr	am							
		Level			L2			
		Mode			FS			
		Train Speed (km	n/h)		NR			
Starti	ng conditions	Additional starti	ing condi	The train is running in the proximity of a marker board which is open for OS and an on-sight rou		ht route		
Sequence of the Test Case Checkpoints								
Step	Step description	Interfaces	s D	escrip	otion of what to be tested at the interface C	OK?		
		DMI (O)	F	FS Symbol				
		DMI (I)						
1	The train runs towards an open marker board for OS and receives from the RBC a Mode Profile for OS.	JRU	M M M F F St ei th frr of	(LRBG1) M_MODE=0 (FS) M_LEVEL=3 (Level 2) Message 3/33 Packet 15 Packet 80 D_MAMODE = D (at the axle counter beyond the starting signal of the OS route) M_MAMODE = 0 (OS) V_MAMODE = V L_MAMODE = L (at the axle counter beyond the ending signal of the OS route) L_ACKMAMODE = L_ACK (min{ 300 m in rear of the ETCS stop marker before restriction, distance from the preceding stop marker to the start location of the OS mode}) Q_MAMODE = 0/1 (*)				
	The EVC enters in braking curve. The	DMI (O)		Braking curve to the beginning of the OS area with no release speed				
2	beginning of the OS area is considered as an EoA with no release speed	DMI (I)						
		JRU		Vpermitted decrease M_SDMTYPE=2(**)/1(***)				
3	The train follows the braking curve until reaches the acknowledgement area and the driver is requested to acknowledge the transition to OS mode	DMI (O)	di V	isplaye train <	wledgement for On Sight" symbol is ed: V_MAMODE ted decreases			
	une transition to OS Mode	DMI (I)						



		JRU	V_TRAIN < V_MAMODE Estimated front end > D-L_ACK DMI_SYMB_STATUS MO08			
		DMI (O)	"Acknowledgement for On Sight" symbol is removed OS symbol is displayed			
	The driver acknowledges the transition	DMI (I)	Driver acknowledges OS mode			
7	and the EVC switches to OS mode	JRU	M_DRIVERACTIONS = 0 M_MODE = 1 DMI_SYMB_STATUS MO07			
		Level	2			
Final	-1-1-	Mode	os			
Final	state	Train Speed (km/h)	At maximum the permitted speed for OS mode			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefing instructions		(*) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1. (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.5.2. OSP4

	TEST CASE DESCRIPTION							
		Code Vers		n Title	•			
Test Case		OSP4	5	Mode transition from OS to FS at a marker boa				
Base	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS.1154, CER 9.2.4, OPS.526					
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify the correct mode.	ctly exits f	rom the	On sight area. Mode transition from OS mode	e to FS		
Diag	ram							
		Level			L2			
		Mode			os			
Start	ing conditions	Train Speed (kr	m/h)		At maximum the permitted speed for OS mo	de		
		Additional start	ting cond	ditions	The train is running in the proximity of a mar which is open and no shunting route has bee The OS area ends at the EoA of the current	en set.		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s De	escripti	on of what to be tested at the interface	OK?		
		DMI (O)	0:	S Symb	ol			
		DMI (I)						
1	The RBC has sent to the train the position report parameters (Packet 58) with the appropriate parameters for the position report.	JRU	M P re A	M_MODE = 1 Message 24 Packet 58 D_LOC=D1 (Location that assures that the EVC reports that the train estimated front end is inside the ATAF window) Q_LGTLOC=1				
		DMI (O)						
		DMI (I)						
2	The EVC reports to the RBC the train position when the front end is inside the ATAF window	ne EVC reports to the RBC the train osition when the front end is inside		RBG1) essage Packet 0 M_MOI D_LRB DOUBT	/1			
		DMI (O)						
		DMI (I)						
3	If a position report has been received OR is received by the RBC from within the ATAF zone, the RBC issues a Movement Authority.	JRU	P P P	Message 3 Packet 15 L_ENDSECTION = L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=D2 L_MAMODE=L2 (L1>D2+L2=Location of the replacement section limit)				
		DMI (O)	_	S Symbo				
4		DMI (I)						
1	1							



	The EVC switches to Full Supervision and reports to the RBC the change of mode.		Message 136 Packet 0/1 M_MODE = 0 D_LRBG = D3 D3(LRBG1)(=Estimated front end)- L_DOUBTOVER=D2+L2 DMI_SYMB_STATUS MO11	
		Level	2	
Final	l atata	Mode	FS	
rınaı	state	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST		
Brief	ing instructions			

ADDI	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.5.3. OSP5

	TEST CASE DESCRIPTION							
		Code	Vers	ion	Title			
Test (Case	OSP5	4	1	Mode transition from OS to FS at a marker board			
Basel	line applicable	Baseline 3 MR1 (OPS.1154, CER			Baseline 3 R2 (SRS 3.6.0) 26			
Test o	case author	Ineco/CEDEX						
Test (Objective(s)	Verify the correct mode.	ly exit fr	om the	ne On sight area. Mode transition from OS mode to FS			
Diagr	am							
		Level Mode			L2 OS			
		Train Speed (km	ı/h)		At maximum the permitted speed for OS mode			
Starti	ng conditions	Additional starti		dition	The train is running in the proximity of a marker			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	5	Descr	ription of what to be tested at the interface OK?			
		DMI (O)						
i		DMI (I)						
1	The EVC reports position inside a trusted area and the RBC sends a Movement authority with a mode profile up to the axle counter of the marker board showing proceed aspect.			Packet L_EI Packet D_M M_M V_M L_M L_A	agé 3/33 ket 15 ENDSECTION = L1 ket 80 MAMODE = D1 (D1 <d_lrbg1) (**)="" (l2<="" 21<="" ackmamode="0" ket="" l1)="" mamode="0/1" td=""></d_lrbg1)>			
		DMI (O)						
ı	The train occupies the track vacancy section, which coincides with the end of	DMI (I)						
2	the OS area (L2) and the RBC sends a CES to the EVC as a consequence of this occupancy. (*)	JRU		D_E	G1) sage 15 EMERGENCYSTOP = D1(LRBG1) D_EM = EM1			
		DMI (O)						
ı	The EVC checks that the min safe front	DMI (I)						
3	end of the train has already passed the CES stop location, and therefore the CES will be rejected and the EVC informs the RBC.	JRU		NID Q_E Pac	sage 147 D_EM=EM1 _EMERGENCYSTOP = 3 loket 0/1 D_LRBG - L_DOUBTOVER > D1(LRBG1)			
			DMI (O) FS Sym					
		DMI (O)		FS Sy	ymbol			
	The train passes the end of the OS area	DMI (O)		FS Sy	ymbol			
4	The train passes the end of the OS area with the min safe front end and switches to FS mode. A position report with the mode change is sent to the RBC. (*)	` '		Messa Pack M_N	sage 136 ket 0/1 _MODE = 0 _SYMB_STATUS			



	Mode	FS			
	Train Speed (km/h)	NR			
	Other parameters				
Final Test Result					
Field of Application	F-bane WEST				
Briefing instructions	(*) Note that step 4 could occur before step 2 and therefore the RBC does not need to send the CES because when the train reports being in FS mode the RBC knows that the train has already passed the CES stop location with its min safe front end and that therefore the CES would be rejected. (**) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1.				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.5.4. OSP7

	TEST CASE DESCRIPTION						
		Code	Versio	ion Title			
Test	Case	OSP7	3		ntry into a potentially occupied track section frode.	rom OS	
Baseline applicable			Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1235, FbIS.F.1239, OPS.1138				
Test	case author	Ineco/CEDEX					
Test	Objective(s)	mode acknowled In addition it shal	Verify that the EVC keeps running in OS mode at a marker board and no further OS mode acknowledgement is requested to the driver. In addition it shall be verified that the start location and the length of the OS area is defined according to the infrastructure requirements.				
Diagr	am						
		Level			L2		
		Mode			os		
		Train Speed (km	n/h)		At maximum the permitted speed for OS r	mode	
Starting conditions		Additional starting conditions		itions	The train is in the proximity of a marker be which is open for OS and an on-sight rout been set. The radio communication session is estable with the RBC. The train is outside the ATAF zone with a MA with a OS mode profile at least up to the	te has olished n stored	
Sequence of the Test Case		Checkpoints	Checkpoints				
Step	Step description	Interfaces	s D	escrip	otion of what to be tested at the interface	OK?	
	The train transmits to the RBC a position	DMI (O)	С	OS symbol			
		DMI (I)					
1	report with front end inside the ATAF zone	JRU		Message 136 Packet 0/1 D_LRBG = D1 M_MODE=1 D1 ≥ ATAF window starting point			
		DMI (O)		OS symbol			
		DMI (I)					
2	The train in OS mode receives from the RBC a movement authority upgrade and continues is OS mode. OS mode profile is extended to the end of the OS area.	JRU	e o d s	Message 3/33 Packet 15 L_ENDSECTION = L1 Packet 80 D_MAMODE = 0 M_MAMODE = 0 (OS) V_MAMODE = V L_MAMODE = L2(at the axle counter beyond the ending signal of the OS route) L_ACKMAMODE = L_ACK (min{ 300 m in rear of the ETCS stop marker before restriction, distance from the preceding stop marker to the start location of the OS mode}) Q_MAMODE = 0/1 (*)			
		DMI (O)	С	OS symbol			
3	No further OS mode acknowledgement is	DMI (I)					
	requested to the driver.	JRU	D	DMI_SYMB_STATUS MO07			
Final	state	Level	2				
Filial State		Mode	C	S			



	Train Speed (km/h)	At maximum the permitted speed for OS mode				
	Other parameters					
Final Test Result						
Field of Application	F-bane EAST					
Briefing instructions		*) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1.				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.5.5. OSP8

TEST CASE DESCRIPTION								
		Code Version T		n Tit	ile			
Test Case		OSP8	3	En: mo	y into a potentially occupied track section from OS e.			
Base	line applicable	Baseline 3 MR1 FbIS.F.1235, FbI	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1235, FbIS.F.1239, OPS.1138					
Test (case author	Ineco/CEDEX						
Test Objective(s)		mode acknowled In addition it shal	Verify that the EVC keeps running in OS mode at a marker board and no further OS mode acknowledgement is requested to the driver. In addition it shall be verified that the start location and the length of the OS area is defined according to the infrastructure requirements.					
Diagr	am							
		Level			L2			
		Mode			os			
		Train Speed (km	n/h)		NR			
Starting conditions		Additional starting conditions		tions	The train is running in the proximity of a board which is open for OS and an on-si has been set. The radio communication session is estawith the RBC. Train is inside a trusted area with an stor with a OS mode profile at least up to the	ght rout ablished red MA		
Sequence of the Test Case		Checkpoints						
Step	Step description	Interfaces	s D	escript	tion of what to be tested at the interface	OK?		
		DMI (O)	0	S Symbol				
		DMI (I)						
1	The train in OS receives from the RBC a movement authority including an OS mode until the replacement section in advance of the marker board and another OS mode profile until the axle counter beyond the ending signal of the route of OS.	JRU	M M M P P st	(LRBG1) M_MODE=1(OS) M_LEVEL=3 (Level 2) Message 3/33 Packet 15 Packet 80 D_MAMODE = 0 (OS) V_MAMODE = V1 L_MAMODE = L1 (at the axle counter beyond the starting signal of the OS route) L_ACKMAMODE = 0 Q_MAMODE = 0/1 (**) N_ITER = 1 D_MAMODE (1) = D2 (same as L1) M_MAMODE(1) = 0 (OS) V_MAMODE(1) = V2 L_MAMODE(1) = L2 (at the axle counter beyond the ending signal of the OS route) Q_MAMODE(1) = 0/1 (**)				
		DMI (O)	0	S symb	bol			
2	No further OS mode acknowledgement is	DMI (I)						
	requested to the driver.	JRU		MI_SYI MO07	MB_STATUS			
_		DMI (O)						
	The train approaches to the marker	DMI (I)						
3	board and when it occupies the replacement section the RBC sends a CES to the train.(*)	JRU	L		e 15 :M=EM1 ERGENCYSTOP = D3			



	The train has already passed with its "min safe front end" the new stop location therefore the train ignores the CES.(*)	DMI (O)				
		DMI (I)				
4		JRU	Estimated front end > D3 + L_DOUBTOVER Message 147 NID_EM=EM1 Q_EMERGENCYSTOP=3			
		DMI (O)	OS symbol			
	The train passes the end of the first OS	DMI (I)				
5	mode profile (the track section limit) with its "min safe front end" and continues in OS mode.	JRU	M_LEVEL=3 M_MODE=1 DMI_SYMB_STATUS MO07			
		Level	2			
F:	-1-1-	Mode	os			
Finai	state	Train Speed (km/h)	At maximum the permitted speed for OS mode			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane WEST				
Brief	ing instructions	Step 1: The OS mode profiles may be sent in a single OS mode profile. In that case step 5 does not apply. (*) If when the RBC has detected that the replacement circuit has been occupied the train has already passed with its "min safe front end" the location of the marker board the RBC could not send a CES. (**) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1.				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.6. TSR

2.6.1. TSR1

	TEST CASE DESCRIPTION							
		Code Versi		sion Title				
Test Case		TSR1	4	Management of TSR information sent by RBC. FS mode				
Baseline applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS.571, FbIS.F.189, FbIS.F.194, FbIS.F.246, FbIS.F.297, OPS.488, OPS.494, Text message ID006, CER 9.4.1						
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify that the TSRs is sent by the RBC only if the track section in which the TSR established is in the actual route for the train. Verify that the EVC manages correct revocable TSR in FS mode.		oute for the train. Verify that the EVC manages correctly a				
Diagram		TSR1 TSR2						
		Level		2				
		Mode		FS				
		Train Speed (km/h) NR						
Starti	ng conditions	Additional start	The radio communication session is established with the RBC. Two revocable TSR are established through the TMS or via Handheld terminal. Only one of them is in the actual route for the train.					
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s De	scription of what to be tested at the interface OK?				
		DMI (O)	Vp	ermitted does not decrease				
		DMI (I)						
1	The RBC sends a message with information of only the first revocable TSR, including a text message. The speed value of the TSR becomes the MRSP among the different Static Speed Restrictions	JRU		Packet 65 (*) NID_TSR = TSR1 D_TSR = D1 L_TSR = L1 V_TSR = V1 Q_FRONT = 0 Packet 72 Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = D1-150m M_MODETEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X_TEXT = "MH: X"/"TSR: X"				
2	The EVC enters in braking curve to the TSR start location.	DMI (O)	Vta Dta the	Vpermitted decreases Vtarget=V1 Dtarget=Distance from the "Max safe front end" to the location of the permitted speed supervision limit calculated for the target speed.				



		DMI (I)	
		JRU	SPEED AND DISTANCE MONITORING INFORMATION V_TARGET=V1 D_TARGET <d1-d_lrbg1-l_doubtunder m_sdmtype="2(**)/1(***)</td"></d1-d_lrbg1-l_doubtunder>
		DMI (O)	Text message of the TSR appears
	The train reaches a point 150 m in rear of	DMI (I)	
3	the TSR1 area when the train has run the distance D1 - 150.	JRU	START DISPLAYING TEXT MESSAGE estimated train location = D1 (LRBG1) - 150 m TIME = T1
		DMI (O)	Vpermitted = V1 Vtrain ≤ V1
		DMI (I)	
4	The train reaches with its maximum safe front end the location of the permitted speed supervision limit calculated for the target speed V1.	JRU	V_TRAIN ≤ V1 estimated front end < D1 (LRBG1) - L_DOUBTUNDER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V1 M SDMTYPE=0
		DMI (O)	Text message of the TSR disappears
5	10 seconds have passed since the Text message began to be displayed on the	DMI (I)	
3	DMI	JRU	STOP DISPLAYING TEXT MESSAGE TIME = T1+ 10 s
		DMI (O)	Vtrain > Vpermitted Warning Service brake symbol
		DMI (I)	
6	The train exceeds the permitted speed until the brake intervention limit.	JRU	V_TRAIN > PERMITTED SPEED SERVICE BRAKE COMMAND STATE = COMMANDED SPEED AND DISTANCE MONITORING INFORMATION M_SDMSUPSTAT=4
		DMI (O)	Vtrain ≤ Vpermitted Service brake symbol disappears
		DMI (I)	
7	The brakes are applied until the speed of the train is below the permitted speed.	JRU	V_TRAIN ≤ PERMITTED SPEED SERVICE BRAKE COMMAND STATE = NOT COMMANDED SPEED AND DISTANCE MONITORING INFORMATION M_SDMSUPSTAT=0
		DMI (O)	Vpermitted > V1
		DMI (I)	
8	The supervision of the TSR1 finishes when the min safe rear has reached the end of the TSR area.	JRU	estimated front end = D1 (LRBG1) + L1 + L_TRAIN + L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V_STATIC M_SDMTYPE=0
	•	Level	2
L.		Mode	FS
Final	state	Train Speed (km/h)	NR
		Other parameters	
Final	Test Result		•
Field	of Application	F-bane EAST, F-bane V	VEST
Brief	ing instructions	(NID_TSR from 127 to 2 Depending on the distar may be altered. (*) Packet 27 SSP may (**) If the on-board is ET	performed with revocable temporary speed restrictions (54). Ince D1 and the train speed, the sequence of the steps 3 and 4 one used instead of packet 65 for sending TSRs (TCS Baseline 3 Maintenance Release 1 TCS Baseline 3 Release 2



ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.6.2. TSR3

	TEST CASE DESCRIPTION							
		Code Versi		sion Title				
Test Case		TSR3	5		Management of TSR information sent by RBC. OS mode			
Basel	ine applicable	Baseline 3 MR1 (FbIS.F.189, FbIS 9.4.1	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.189, FbIS.F.194, FbIS.F.246, OPS.488, OPS.494, Text message ID006, Cl					
Test o	case author	Ineco/CEDEX						
-	Objective(s)	Verify that the EVC manages at least one revocable temporary speed restric OS mode sent by the RBC and the EVC supervises the permitted speed corr						
Diagr	am	NR						
		Level			2			
		Mode			os			
		Train Speed (km	n/h)		≤ V_NVONSIGHT			
Starti	ng conditions	Additional starti	ing cond	itions	The radio communication session is estawith the RBC. A revocable TSR is established through or via Handheld terminal. The driver has toggled on the toggling fuspeed information to show the supervision.	the TMS		
Seque	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s C)escripti	on of what to be tested at the interface	OK?		
		DMI (O)	Т		d does not decrease is displayed in the planning information			
		DMI (I)						
ı	The RBC sends a message with information of the revocable TSR, including a text message. The permitted speed of the TSR is lower than the OS permitted speed. The speed value of the TSR becomes the MRSP among the different Static Speed Restrictions	JRU	V	Message 3/24/33 (LRBG1) Packet 65 (**) NID_TSR = TSR1 D_TSR = D1 L_TSR = L1 V_TSR = V1 Q_FRONT = 0 V1 ≤ V_NVONSIGHT Packet 72 Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = D1-150m M_MODETEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X_TEXT = "MH: X"/"TSR: X"				
	The EVC enters in braking curve to the TSR start location.	DMI (O)	V E th	Vpermitted decreases Vtarget=V1 Dtarget=Distance from the "Max safe front end" to the location of the permitted speed supervision lir calculated for the target speed.				
2		DMI (I)						
		JRU	 	NFORMA _TARGE	ET=V1 ET <d1-d_lrbg1-l_doubtunder< td=""><td></td></d1-d_lrbg1-l_doubtunder<>			
2		DMI (O)	Т	ext mess	sage of the TSR appears			
3		DMI (I)						

		START DISPLAYING TEXT MESSAGE estimated train location = D1 (LRBG1) - 150 m TIME = T1		
	DMI (O)	Text message of the TSR disappears		
	DMI (I)			
DMI	JRU	STOP DISPLAYING TEXT MESSAGE TIME = T1+ 10 s		
	DMI (O)	Vpermitted = V1 Vtrain ≤ V1		
	DMI (I)			
The train reaches with its maximum safe front end the location of the permitted speed supervision limit calculated for the target speed V1.	JRU	V_TRAIN ≤ V1 estimated front end < D1 (LRBG1) - L_DOUBTUNDER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V1 M_SDMTYPE=0		
The supervision of the TSR1 finishes when the min safe rear has reached the end of the TSR area.	DMI (O)	Vpermitted > V1		
	DMI (I)			
	JRU	estimated rear end = D1 (LRBG1) + L1 + L_TRAIN + L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V_NVONSIGHT M SDMTYPE=0		
	Level	2		
	Mode	os		
state	Train Speed (km/h)	NR		
	Other parameters			
Test Result				
of Application	F-bane EAST, F-bane WEST			
ing instructions	This Test Case shall be performed with revocable temporary speed restrictions (NID_TSR from 127 to 254). Depending on the distance D1 and the train speed, the sequence of the steps 3 and 4 may be altered. (*) If the on-board is ETCS Baseline 3 Release 2			
	the TSR1 area when the train has run the distance D1 - 150. 10 seconds have passed since the Text message began to be displayed on the DMI The train reaches with its maximum safe front end the location of the permitted speed supervision limit calculated for the target speed V1. The supervision of the TSR1 finishes when the min safe rear has reached the end of the TSR area. state Test Result of Application	distance D1 - 150. 10 seconds have passed since the Text message began to be displayed on the DMI (I) JRU DMI (O) DMI (I) The train reaches with its maximum safe front end the location of the permitted speed supervision limit calculated for the target speed V1. The supervision of the TSR1 finishes when the min safe rear has reached the end of the TSR area. DMI (O) DMI (I) JRU DMI (O) DMI (I) JRU Level Mode Train Speed (km/h) Other parameters Test Result of Application F-bane EAST, F-bane V This Test Case shall be (NID_TSR from 127 to 2 Depending on the distar may be altered.		

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					

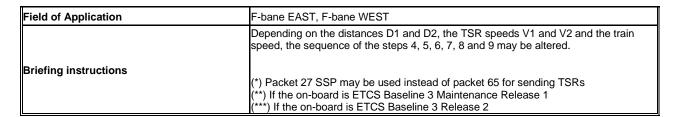


2.6.3. TSR4

	TEST CASE DESCRIPTION					
		Code	Versio	n Tit	tle	
Test	Case	TSR4	3	Ma se	anagement of the overlapping of TSR information nt by RBC. FS mode.	J
Base	line applicable				seline 3 R2 (SRS 3.6.0) 246, OPS.488, Text message ID006, CER 9.4.1	
Test	case author	Ineco/CEDEX	•			
Test	Objective(s)	Verify that the E\ correctly.	√C mana(ges the	overlap of two TSRs and supervises the speed	
Diagr	am	NR				
		Level			2	
		Mode			FS	
		Train Speed (km	n/h)		NR	
Starti	ng conditions	Additional starti	ing cond	itions	The radio communication session is establish with the RBC. Two overlapped TSR are established through TMS or via Handheld terminal. The farthest or more restrictive than the nearest one	the
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escrip	tion of what to be tested at the interface OK?	
		DMI (O)	V	permitt	ted does not decrease	
		DMI (I)				
1	The RBC sends a message with two overlapping TSRs. The speed of the TSR1 is lower than the speed of the TSR2. The distance to the beginning of TSR1 is further than the distance to the TSR2.	JRU		Packet NIE D_ CALL Packet NIE D_ CALL Packet NIE D_ CALL Packet NIE CALL PACKE	D_TSR = TSR2 TSR = D2 TSR = D2 TSR = L2 TSR = V2 FRONT = 0 et 72 TEXTCLASS = 00 TEXTDISPLAY = 0 TEXTDISPLAY = D1-150m MODETEXTDISPLAY = 15 TEXTDISPLAY = 32767 TEXTDISPLAY = 10 TEXTCONFIRM = 00 TEXT = "MH: XTSR1"/"TSR: XTSR1" et 72 TEXTCLASS = 00 TEXTDISPLAY = D2-150m MODETEXTDISPLAY = 15 TEXTDISPLAY = D2-150m MODETEXTDISPLAY = 15 TEXTDISPLAY = 0 TEXTDISPLAY = 32767 TEXTDISPLAY = 32767 TEXTDISPLAY = 10 TEXTCONFIRM = 00 TEXT = "MH: XTSR2"/"TSR: XTSR2"	
2	The train starts the braking curve to the TSR2.	DMI (O)	B D th	raking target= ne locat alculate	curve with Vtarget = V2 =Distance from the "Max safe front end" to tion of the permitted speed supervision limit ed for the target speed. Vpermitted	

		DMI (I)	
		JRU	V_TRAIN < V_PERM SPEED AND DISTANCE MONITORING INFORMATION V_TARGET = V2 D_TARGET < D2 - D_LRBG1 - L_DOUBTUNDER M_SDMTYPE=2(**)/1(***)
		DMI (O)	Text message of the TSR appears
	The train reaches a point 150 m in rear of	DMI (I)	
3	the TSR2 area when the train has run the distance D2 - 150.	JRU	START DISPLAYING TEXT MESSAGE(1) estimated train location = D2 (LRBG1) - 150 m TIME = T2
	10 seconds have passed since the Text	DMI (O)	Text message of the TSR disappears
4	message of the TSR2 began to be	DMI (I)	
	displayed on the DMI	JRU	STOP DISPLAYING TEXT MESSAGE(1) TIME = T2+ 10 s
		DMI (O)	Vpermitted = V2 Vtrain ≤ V2
	The maximum safe front and of the train	DMI (I)	LA TRANS AND
5	The maximum safe front end of the train reaches the location of the permitted speed supervision limit calculated for the target speed V2.	JRU	V_TRAIN ≤ V2 estimated front end < D2 (LRBG1) - L_DOUBTUNDER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V2 M_SDMTYPE=0
		DMI (O)	Braking curve with Vtarget = V1 Vtrain < Vpermitted
	The train is running in the TSR2 area when the braking curve to the TSR1 has started.	DMI (I)	
6		JRU	V_TRAIN < V_PERM SPEED AND DISTANCE MONITORING INFORMATION V_TARGET = V1 D_TARGET < D1 - D_LRBG1 - L_DOUBTUNDER M_SDMTYPE=2(**)/1(***)
		DMI (O)	Vpermitted = V2 Text message of the TSR appears
7	The train reaches a point 150 m in rear of	DMI (I)	
,	the TSR1 area when the train has run the distance D1 - 150.	JRU	START DISPLAYING TEXT MESSAGE(2) estimated train location = D1 (LRBG1) - 150 m TIME = T1
	10 seconds have passed since the Text	DMI (O)	Text message of the TSR disappears
8	message of the TSR1 began to be	DMI (I)	
	displayed on the DMI	JRU	STOP DISPLAYING TEXT MESSAGE(2) TIME = T1+ 10 s
		DMI (O)	Vpermitted = V1 Vtrain ≤ V1
		DMI (I)	
9	The train reaches with its maximum safe front end the location of the permitted speed supervision limit calculated for the target speed V1.	JRU	V_TRAIN ≤ V1 estimated front end < D1 (LRBG1) - L_DOUBTUNDER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V1 M_SDMTYPE=0
		Level	2
Final	state	Mode	FS
		Train Speed (km/h)	V_TRAIN ≤ V1
		Other parameters	The train runs inside the overlapping TSR area.
Final	Test Result		





ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.6.4. TSR5

	TEST CASE DESCRIPTION					
		Code V	ersion	Title		
Test	Case	TSR5	4	Management of the most restrictive speed profile wher TSR is established after a crossover / trailing turnout. more restrictive than the crossover / trailing turnout permitted speed.		
Base	eline applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.189, FbIS.F.194, FbIS.F.246, OPS.488, Text message ID006, CER 9.4.1				
Test	case author	neco/CEDEX				
Test	Objective(s)	Verify that the EVC manages the TSR area at the destination track after leaving with the whole length of the train the track crossover / trailing turnout. While running in the track crossover / trailing turnout, the supervised speed is the permitted speed of the SSP.				
Diag	ram	V_PERM		V_STATIC (turnout) V_TSR Minsre	ATIC	
		Level		2		
		Mode		FS		
		Train Speed (km/h)		NR		
Starting conditions		Additional starting conditions		The radio communication session is established the RBC. The train is approaching a track crossover / trailing turnout. At the destination track, there is a TSR at whose speed is more restrictive than the SSP permitted speed.	ng	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	Descri	ption of what to be tested at the interface OK?	?	
		DMI (O)	Vperm	itted does not decrease		
		DMI (I)				
1	The RBC sends a message with TSR1 information. The permitted speed of the TSR1 is lower than the SSP permitted speed (associated with a track crossover / trailing turnout).	JRU	Pack N D L V Q Pac Q Q D M L T Q X V1 < V	Message 3/24/33 (LRBG1) Packet 65 (*) NID_TSR = TSR1 D_TSR = D1 L_TSR = L1 V_TSR = V1 Q_FRONT = 0 Packet 72 Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = D1-150m M_MODETEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X_TEXT = "MH: XTSR1"/"TSR: XTSR1" V1 < V_STATIC(crossover / trailing turnout)		
2	The train starts the braking curve to the track crossover / trailing	Divil (O)	turnout	g curve with Vtarget = Vcrossover / trailing t < Vpermitted		
turnout.		DMI (I)				

Т			I. == ·	
		JRU	V_TRAIN < V_PERM SPEED AND DISTANCE MONITORING INFORMATION V_TARGET = V_STATIC(crossover / trailing turnout) M_SDMTYPE=2(**)/1(***)	
		DMI (O)	Text message of the TSR appears	
	The train reaches a point 150 m in	DMI (I)		
	rear of the TSR1 area when the train has run the distance D1 - 150.	JRU	START DISPLAYING TEXT MESSAGE estimated train location = D1 (LRBG1) - 150 m TIME = T1	
		DMI (O)	Braking curve with Vtarget = V1 Vtrain < Vpermitted	
		DMI (I)		
	The train starts the braking curve to the TSR1.	JRU	V_TRAIN < V_PERM SPEED AND DISTANCE MONITORING INFORMATION V_TARGET = V1 V1 < V_STATIC(crossover / trailing turnout) M_SDMTYPE=2(**)/1(***)	
		DMI (O)	Vpermitted ≤ Vcrossover / trailing turnout Vtrain < Vpermitted	
	The train reaches with its maximum	DMI (I)		
5	safe front end the location of the permitted speed supervision limit calculated for the target speed V_STATIC(crossover / trailing turnout).	JRU	V_TRAIN < V_PERMITTED estimated front end < D_STATIC(crossover / trailing turnout)- L_DOUBTUNDER SPEED AND DISTANCE MONITORING INFORMATION V_PERM ≤ V_STATIC(crossover / trailing turnout) M_SDMTYPE=0	
		DMI (O)	Text message of the TSR disappears	
	10 seconds have passed since the Text message of the TSR1 began to be displayed on the DMI	DMI (I)		
		JRU	STOP DISPLAYING TEXT MESSAGE TIME = T1+ 10 s	
		DMI (O)	Vpermitted = V1 Vtrain ≤ V1	
	The turning we call an existing its an existence.	DMI (I)		
7	The train reaches with its maximum safe front end the location of the permitted speed supervision limit calculated for the target speed V1.	JRU	V_TRAIN ≤ V1 estimated front end < D1 (LRBG1) - L_DOUBTUNDER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V1 M_SDMTYPE=0	
		DMI (O)	Vpermitted > V1	
		DMI (I)		
8	The supervision of the TSR1 finishes when the min safe rear has reached the end of the TSR area.		estimated front end = D1 (LRBG1) + L1 + L_TRAIN + L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V_STATIC M_SDMTYPE=0	
		Level	2	
		Mode	FS	
rına	state	Train Speed (km/h)	V_TRAIN ≤ V1	
		Other parameters		
Fina	Test Result			
Field	of Application	F-bane EAST, F-bane WE	ST	
Briefing instructions		Depending on the crossov speed, the sequence of th (*) Packet 27 SSP may be	rer / trailing turnout characteristics, the TSR speed V1 and e steps 2,3,4, 5, 6, and 7 may be altered. e used instead of packet 65 for sending TSRs S Baseline 3 Maintenance Release 1	the train

ADDITIONAL TEST CASE REPORTING INFORMATION

banedanmark



System configuration	
Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.6.5. TSR6

		TEST	CASE DES	CRIPTION		
		Code	Version	Title		
Test	TSR is established after a crossover / trailing turn		Management of the most restrictive speed profile when a TSR is established after a crossover / trailing turnout. TSI less restrictive than the crossover / trailing turnout permitt speed.	R		
Base	eline applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FblS.F.189, FblS.F.194, FblS.F.246, OPS.488, Text message ID006, CER 9.4.1				
Test	case author	neco/CEDEX				
Test	Objective(s)	Verify that the EVC manages the TSR area at the destination track, while the supervised speed is the permitted speed of the SSP due to a track crossover / trailing turnout.				
Diag	Jram	V_PERM ———		D1 D1+L1 V_STAT V_STATIC (turnout)	ПС	
		Level		2		
		Mode FS		FS		
		Train Speed (km/h	Train Speed (km/h) NR			
Starting conditions		Additional startin	g conditions	The radio communication session is established wit the RBC. The train is approaching a track crossover / trailing turnout. At the destination track, there is a TSR are: whose speed is less restrictive than the SSP permit speed.	а	
Seq	uence of the Test Case	Checkpoints				
Step	Step description	Interfaces	Des	cription of what to be tested at the interface OK?		
		DMI (O)	Vpe	mitted does not decrease		
		DMI (I)				
1	The RBC sends a message with TSR1 information. The permitted speed of the TSR1 is higher than the SSP permitted speed (associated with a track crossover / trailing turnout).	JRU	F	Message 3/24/33 (LRBG1) Packet 65 (*) NID_TSR = TSR1 D_TSR = D1 L_TSR = L1 V_TSR = V1 Q_FRONT = 0 Packet 72 Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X_TEXT = "MH: XTSR1"/"TSR: XTSR1" V1 > V_STATIC(crossover / trailing turnout)		
_	The train starts the braking curve	DMI (O)	Bral	ing curve with Vtarget = Vcrossover / trailing turnout		
2	to the track crossover / trailing	. ,	vtra	n < Vpermitted		
turnout.		DMI (I)				

Z						
		JRU	V_TRAIN < V_PERM SPEED AND DISTANCE MONITORING IN V_TARGET = V_STATIC(crossover / traili M_SDMTYPE=2(**)/1(***)			
	The train was the a project 450 m	DMI (O)	Text message of the TSR appears			
	The train reaches a point 150 m	DMI (I)				

		JRU	SPEED AND DISTANCE MONITORING INFORMATION V_TARGET = V_STATIC(crossover / trailing turnout) M_SDMTYPE=2(**)/1(***)	
	The train reaches a point 150 m	DMI (O)	Text message of the TSR appears	
	in rear of the TSR1 area when	DMI (I)		
3	the train has run the distance D1 - 150.	JRU	START DISPLAYING TEXT MESSAGE estimated train location = D1 (LRBG1) - 150 m TIME = T1	
	The train reaches with its	DMI (O)	Vpermitted = Vcrossover / trailing turnout Vtrain ≤ Vpermitted	
	maximum safe front end the	DMI (I)		
4	location of the permitted speed supervision limit calculated for the target speed V_STATIC(crossover / trailing turnout).	JRU	V_TRAIN ≤ V_STATIC(crossover / trailing turnout) estimated front end < D_STATIC(crossover / trailing turnout)- L_DOUBTUNDER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V_STATIC(crossover / trailing turnout) M_SDMTYPE=0	
	10 seconds have passed since	DMI (O)	Vpermitted does not decrease Text message of the TSR disappears	
5	the Text message of the TSR1	DMI (I)		
	began to be displayed on the DMI	JRU	STOP DISPLAYING TEXT MESSAGE TIME = T1+ 10 s	
		DMI (O)	Vpermitted = V1 Vtrain ≤ V1	
	The supervision of the SSP finishes when the min safe rear has reached the end of the track crossover / trailing turnout. The EVC starts to supervise the TSR1.	DMI (I)		
6		JRU	V_TRAIN ≤ V1 estimated front end = D_STATIC(crossover / trailing turnout) + L(crossover / trailing turnout) + L_TRAIN + L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V1 M_SDMTYPE=0	
		DMI (O)	Vpermitted > V1	
	The supervision of the TSR1	DMI (I)		
7	finishes when the min safe rear end has reached the end of the TSR area.	JRU	estimated front end = D1 (LRBG1) + L1 + L_TRAIN + L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM = V_STATIC M_SDMTYPE=0	
		Level	2	
Final	state	Mode	FS	
a	Julio	Train Speed (km/h)	V_TRAIN ≤ V1	
		Other parameters		
Final	Test Result			
Field of Application		F-bane EAST, F-bane WE		
Brief		V1 and the train speed, the (*) Packet 27 SSP may be	er / trailing turnout characteristics, the distance D1, the TSF e sequence of the steps 2,3,4, 5, 6, and 7 may be altered. used instead of packet 65 for sending TSRs S Baseline 3 Maintenance Release 1 SS Baseline 3 Release 2	⊰ speed

	ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.6.6. TSR7

		TEST CASE	DESCR	RIPTION	1	
		Code	Versi	on Tit	le	
Test	Case	TSR7	4	TS	TSR revocation before reaching the TSR area.	
Base	line applicable	Baseline 3 MR1 FbIS.F.246, Text			seline 3 R2 (SRS 3.6.0) , CER 9.4.1	
Test	case author	Ineco/CEDEX				
Test (Objective(s)	Verify the EVC re	eaction w	hen a T	SR is revoked once it has been sent.	
Diagr	am	NR				
		Level			2	
		Mode			FS/OS	
Starti	ng conditions	Train Speed (km	n/h)		NR	
Starti	ing conditions	Additional start	ing cond	ditions	The radio communication session is establish with the RBC. A revocable TSR is established through the T or via Handheld terminal.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s I	Descript	tion of what to be tested at the interface OK?	•
		DMI (O)	\	√permitt	ed does not decrease	
		DMI (I)				
1	The RBC sends a message with TSR information, including a text message.	JRU		Packet 65 (*) NID_TSR = TSR1 D_TSR = D1 L_TSR = L1 V_TSR = V1 Q_FRONT = 0 Packet 72 Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = D1-150m M_MODETEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X_TEXT = "MH: XTSR1"/"TSR: XTSR1"		
		DMI (O)			curve with Vtarget = V1 Vpermitted	
		DMI (I)				
2	The train starts a braking curve to the TSR1.	JRU	(V_TRAIN < V_PERMITTED SPEED AND DISTANCE MONITORING INFORMATION V_TARGET = V1 D_TARGET<01-D_LRBG1-L_DOUBTUNDER M_SDMTYPE=2		
		DMI (O)			curve with Vtarget = V1 disappears ed = Vstatic	
		DMI (I)	DMI (I)			
3	The signalman revokes the TSR1. The EVC receives a message from the RBC with the TSR1 revocation	JRU	Ç	Message 3/24/33 Packet 66 (*) NID_TSR = TSR1 SPEED AND DISTANCE MONITORING INFORMATION V_PERM=V_STATIC M_SDMTYPE=0		
4		DMI (O)	-	Vpermitt	ed does not decrease ssage of the TSR appears	



	The train reaches a point 150 m in rear of	DMI (I)					
	the TSR1 area when the train has run the distance D1 - 150.	JRU	START DISPLAYING TEXT MESSAGE estimated train location = D1 (LRBG1) - 150 m TIME = T1				
	The train reaches the TODA area often its	DMI (O)	Vpermitted ≠ V1				
5	The train reaches the TSR1 area after its revocation.	DMI (I)					
	The TSR1 is not supervised by the train	JRU	V_PERM≠V1 V_PERM=V_STATIC				
	10 seconds have passed since the Text	DMI (O)	Vpermitted does not decrease Text message of the TSR disappears				
6	message of the TSR1 began to be displayed on the DMI	DMI (I)					
		JRU	STOP DISPLAYING TEXT MESSAGE TIME = T1+ 10 s				
		Level	2				
Final	state	Mode	FS/OS				
Fillal	State	Train Speed (km/h)	NR				
		Other parameters					
Final	Test Result						
Field	of Application	F-bane EAST, F-bane WEST					
Briefing instructions		This Test Case shall be performed with revocable temporary speed restrictions (NID_TSR from 127 to 254). Depending on the distance D1, the moment when the signalman revokes the TSR and thus the RBC send the revocation (step 3) and the train speed, steps 3 and 6 may be altered in the step sequence. (*) Packet 27 SSP may be used instead of packet 65/66 for sending/revoking TSRs					

ADDITIONAL TEST CASE REPORTING INFORMATION							
System configuration							
Test location							
Date and time (Start/End)							
Names							
Test log reference							
Observations							



2.6.7. TSR8

TEST CASE DESCRIPTION								
		Code	Version	on	Title			
Test (Case	TSR8	4	1	Multiple TSR revocation.			
Basel	ine applicable	Baseline 3 MR1 FbIS.F.246, Text			Baseline 3 R2 (SRS 3.6.0) 06, CER 9.4.1			
Test o	case author	Ineco/CEDEX						
Test (Objective(s)	Verify the EVC re	Verify the EVC reaction when a message with multiple TSRs revocation is sent by RBC.					
Diagr	am	NR						
		Level			2			
		Mode			FS			
C44:		Train Speed (km	n/h)		NR			
Starti	ng conditions	Additional starti		lition	The radio communication session is established with the RBC. Several revocable TSR are established through the TMS or via Handheld terminal.			
Seque	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s C	Descr	iption of what to be tested at the interface OK?			
-		DMI (O)	Т	he T	SRs are displayed in the planning area			
		DMI (I)						
•	The RBC sends a message with multiple TSRs in advance of the train.	JRU		Pac N D L V C Pac C C D M L T C	age 3/24/33 (LRBG1) kket 65 (*) IID_TSR = TSR(k) D_TSR = D(k) _TSR = L(k) /_TSR = V(k) D_FRONT = 0 cket 72 D_TEXTCLASS = 00 D_TEXTDISPLAY = 0 _TEXTDISPLAY = D(k)-150m /_MODETEXTDISPLAY = 15 _TEXTDISPLAY = 32767 _TEXTDISPLAY = 10 D_TEXTCONFIRM = 00 (_TEXTCONFIRM = 00 (_TEXT = "MH: XTSR(k)"/"TSR: XTSR(k)"			
	It is requested to the signalman to revoke	DMI (O)	Т	he T	SR displayed in the planning area disappears			
2	all the TSRs. The train receives one or several	DMI (I)						
۷	messages from the RBC with the revocation of all the previously announced TSRs.	JRU	N	Message 3/24/33 Packet 66 (*) NID_TSR = TSR(k)				
		DMI (O)		/perm	nitted does not decrease nessage of the TSR(k) appears			
	The train reaches a point 150 m in rear of	DMI (I)	İ		V // //			
	the TSR(k) area when the train has run the distance D(k) - 150.	JRU	e	START DISPLAYING TEXT MESSAGE estimated train location = D(k) (LRBG1) - 150 m TIME = T(k)				
	The train reaches the TSD area often to	DMI (O)	١	/perm	nitted ≠ V(k)			
4	The train reaches the TSR area after its revocation.	DMI (I)						
•	The TSR is not supervised by the train	JRU	١	V_PERM ≠ V(k) V_PERM = V_STATIC				
5	10 seconds have passed since the Text message of the TSR(k) began to be	DMI (O)		•	nitted does not decrease nessage of the TSR(k) disappears			
	displayed on the DMI	DMI (I)						





		JRU	STOP DISPLAYING TEXT MESSAGE TIME = T(k)+ 10 s			
		Level	2			
Final	-1-1-	Mode	FS			
rınaı	State	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST				
Briefi	na instructions	This Test Case shall be performed with revocable temporary speed restrictions (NID_TSR from 127 to 254). Depending on the distance D(k), the moment when the step 2 takes place and the train speed, the sequence of the steps 2, 3, 4, 5, and 6 may be altered. (*) Packet 27 SSP may be used instead of packet 65/66 for sending/revoking TSRs				

ADDITIONAL TEST CASE REPORTING INFORMATION							
System configuration							
Test location							
Date and time (Start/End)							
Names							
Test log reference							
Observations							



2.6.8. TSR9

	TEST CASE DESCRIPTION						
		Code	Version	Title			
Test Case		TSR9	2	Mana estab	agement of the permitted speed when a TSR is dished on the adjacent track. FS mode		
Base	line applicable	Baseline 3 MR1 (FbIS.F.297, Text			ine 3 R2 (SRS 3.6.0) ER 9.4.1		
Test (case author	Ineco/CEDEX					
Test (Objective(s)	Verify that a TSR adjacent track of t	is not sent the actual t	t by the F track wh	RBC to the train because it is established in an ere the train's route is set up.		
Diagr	am	TSR2					
		Level			2		
Ì		Mode			FS		
Ì		Train Speed (km.	/h)		NR		
Starting conditions		Additional starting conditions		ons	The radio communication session is established with the RBC. Two TSRs are established through the TMS or via Handheld terminal, one of them on the same track as the train's route but further, the other on an adjacent track of the actual train's route.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	Des	scriptio	n of what to be tested at the interface OK?		
		DMI (O)		Vpermitted does not decrease			
Ì		DMI (I)					
1	The RBC sends a message with information of only the TSR established within the train's route, including a text message.	JRU	F	Message 3/24/33 (LRBG1) Packet 65 (*) NID_TSR = TSR1 D_TSR = D1 L_TSR = L1 V_TSR = V1 Q_FRONT = 0 Packet 72 Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = 0 L_TEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X_TEXT = "MH: XTSR1"/"TSR: XTSR1"			
		Level	2				
Cir-'	otata	Mode	FS				
Final state		Train Speed (k	(m/h) NR				
		Other parame	ters				
Final	Test Result	Parameter Parameter			L		





This Test Case shall be performed with revocable temporary speed restrictions (NID_TSR from 127 to 254).
(*) Packet 27 SSP may be used instead of packet 65 for sending TSRs

ADDITIONAL TEST CASE REPORTING INFORMATION							
System configuration							
Test location							
Date and time (Start/End)							
Names							
Test log reference							
Observations							

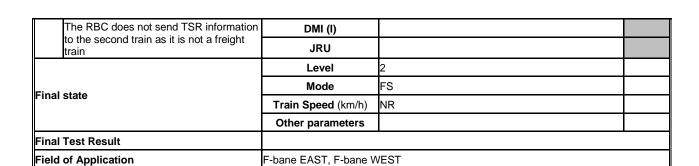


2.6.9. TSR11

		TEST CASE DESCRIPTION					
		Code	Versio	sion Title			
Test	Case	TSR11	2	M to	anagement of TSR information sent by the RBC due a specific tunnel. FS mode.		
Base	line applicable	Baseline 3 MR1 FbIS.F.297, Text			aseline 3 R2 (SRS 3.6.0) 6, CER 9.4.1		
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that the RE tunnel to all freight		a TSR	R and the associated text message due to a specific		
Diagı	am	NR					
		Level			2		
		Mode			FS		
		Train Speed (km	n/h)		NR		
Starting conditions		Additional starting conditions			The radio communication session is established with the RBC. A tunnel detector has had a failure and TSRs for freight trains has been requested for that tunnel. Two trains are approaching the tunnel. The first train is a freight train (NC_TRAIN = freight). The second train is not a freight train. (NC_TRAIN ≠ freight)		
Sequ	ence of the Test Case	Checkpoints		_			
Step	Step description	Interfaces			otion of what to be tested at the interface OK?		
		DMI (O)	V	Vpermitted does not decrease			
		DMI (I)					
1	The RBC sends a message with TSR information including a text message to the first train as it is a freight train	JRU	D				
2		DMI (O)	V	permit	ted does not decrease		



Briefing instructions



ADDITIONAL TEST CASE REPORTING INFORMATION							
System configuration							
Test location							
Date and time (Start/End)							
Names							
Test log reference							
Observations							

* Packet 27 SSP may be used instead of packet 65 for sending TSRs



2.7. MAD

2.7.1. MAD1

		TEST CASE	DESCR	IPTION		
		Code	Versio	n Title		
Test Case		MAD1	5	the li	train is running from the beginning to the end of ne at the maximum permitted speed. Static speed e supervision.	
Basel	ine applicable				line 3 R2 (SRS 3.6.0) CER COM (2.9.3 Static speed profiles), CER	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify that the RE categories of the		the static	speed profiles for all the applicable train	
Diagr	am					
		Level			L2	
		Mode			FS	
Starti	ng conditions	Train Speed (km/h)			Maximum speed of the line	
Starti	ng conditions	Additional starting conditions		itions	The train should run at the maximum permitted speed of the line. The marker boards from the beginning to the end of the line shall be open.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escriptio	on of what to be tested at the interface OK?	
	The train has sent the Validated Train	DMI (O)				
	Data information (packet 11) to the RBC	DMI (I)				
including the applicable other international train categories and/or the applicable cant deficiency train categories.		JRU		lessage 1 Packet 11 NC_CDT NC_TRA	TRAIN=N1	
The train is running at the maximum permitted speed of the line while no unnecessary braking curves to an EoA		DMI (O)		,	ng curves related with the SSP for each ory are displayed	
	are shown to the driver.	DMI (I)				



П	The Kilometre Point of the start/end of		M_MODE=0	
	the SSP sent by the RBC complies the		Message 3/33	
	tables with the maximum speeds of the		LRBG1	
	line for each train category.		Packet 15	
			Packet 21	
			Packet 27	
			$Q_FRONT(0) = 0$	
			D_STATIC(0)=D ₀	
			V_STATIC(0)=V ₀	
			N_ITER=n Q_DIFF(n)=0/1/2	
			NC CDDIFF (n)=0/1/2/15 (if Q DIFF= 0)	
		JRU	NC_DIFF (n)=0/1/2/15 (if Q_DIFF= 1 or 2)	
		00	V_DIFF (n)=Vj (j=1n)	
			N_ITER=k	
			D_STATIC(k)=Dk	
			V_STATIC(k)=Vk	
			$Q_FRONT(K) = 0$	
			N_ITER=m	
			Q_DIFF(k,m) NC_CDDIFF(k,m)=0/1/2/15 (if	
			Q_DIFF(k,m)=0)	
			NC_DIFF(k,m)=0/1/2/15 (if	
			Q_DIFF(k,m)1,2	
			V_DIFF(k,m)	
		DMI (O)	Braking curve with Dtarget=D_STATIC(i)	
	The train starts the braking curve to the start location of the SSP i (i=0k)		Vtrain <vpermitted< td=""><td></td></vpermitted<>	
		DMI (I)	V TRAIN V PERM	
			V_TRAIN <v_perm V_TARGET=Vx</v_perm 	
			Possibilities for Vx:	
			- If Q_DIFF(i)=0 and NCDIFF(n)=N1	
			Vx=V_DIFF(n)	
3			- If Q_DIFF(i)=0 and NCDIFF(n)≠N1	
		IDU	Vx="The on-board equipment selects the "Cant	
		JRU	Deficiency" SSP with the highest Cant Deficiency value below the value of its "Cant Deficiency" train	
			category"	
			-If Q_DIFF(i)=1 and V2=NC_DIFF(n)	
			Vx=V_DIFF(n)	
			-If Q_DIFF(i)=2 and V2=NC_DIFF(n)	
			Vx= "Min (V_STATIC(i),V_DIFF(n))	
<u> </u>			M_SDMTYPE=2(**)/1(***)	
		DMI (O)	Vpermitted=Vx Vtrain≤Vx	
		DMI (I)		
		,,	V_PERM=Vx	
			Possibilities for Vx:	
			- If Q_DIFF(i)=0 and NCDIFF(n)=N1	
	L		Vx=V_DIFF(n)	
	The train reaches with its maximum safe		- If Q_DIFF(i)=0 and NCDIFF(n)≠N1 Vx="The on-board equipment selects the "Cant	
4	front end the location of the permitted speed supervision limit calculated for the		Deficiency" SSP with the highest Cant Deficiency	
	target speed of the SSP i.	IDU	value below the value of its "Cant Deficiency" train	
	3 · · · · · · · · · · · · · · · · ·	JRU	category"	
			-If Q_DIFF(i)=1 and V2=NC_DIFF(n)	
			Vx=V_DIFF(n)	
11			If O DIEE(i)_2 and \/2_NC DIEE(n)	
			-If Q_DIFF(i)=2 and V2=NC_DIFF(n) Vx= "Min (V_STATIC(i) V_DIFF(n))	
			Vx= "Min (V_STATIC(i),V_DIFF(n))	
			= ()	
			Vx= "Min (V_STATIC(i),V_DIFF(n)) V_TRAIN≤V_PERM Estimated front end <d_static(i)- l_doubtunder<="" td=""><td></td></d_static(i)->	
5	The supervision of the SSP i finishes when the min safe rear has reached the	DMI (O)	Vx= "Min (V_STATIC(i),V_DIFF(n)) V_TRAIN≤V_PERM Estimated front end <d_static(i)-< td=""><td></td></d_static(i)-<>	



	end of the SSP i area. The Kilometre Point of the start/end of the SSP sent by the RBC complies the tables with the maximum speeds of the line for each train category.	JRU	Estimated front end=D_STATIC(i)+L_TRAIN+L_DOUBTOVER V_MRSP=Vy (Vy correspond to the permitted speed for the SSP i+1) Possibilities for Vy: - If Q_DIFF(i+1)=0 and NCDIFF(n)=N1			
			-If Q_DIFF(i+1)=2 and V2=NC_DIFF(n) Vy= Min (V_STATIC(i+1),V_DIFF(n))			
		Level	2			
Final	otata	Mode	FS			
rınaı	state	Train Speed (km/h)	Maximum of the line			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefing instructions		(*) It shall be checked in both directions of the running tracks. In addition, the SSP related to every switch shall be checked. WEST: only basic train category is sent EAST: 3 categories are sent (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2				

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.7.2. MAD2

TEST CASE DESCRIPTION						
		Code	Versi	on	Title	
Test	Case	MAD2	6		MA in shifted location after a SoM. Train position in advance of the max safe front end position.	
Base	line applicable	Baseline 3 MR1 (FbIS.F.49	(SRS 3.4	4.0) /	/ Baseline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test (Objective(s)	Verify that the RE	3C is abl	e to is	issue a movement authority through message 33.	
Diagr	am			_	MaxSFE	
		Level			.2	
		Mode			SB	
		Train Speed (km	n/h)		0	
Starti	ng conditions	Additional starti	ing con	dition	Train with known position after start of mission in SB. Last relevant balise group stored on-board is in advance of the estimated front end position and the max safe front end.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s I	Desc	cription of what to be tested at the interface OK?	
		DMI (O)				
		DMI (I)			a Entry ect Start	
1	The driver selects train data entry. Train data is entered or revalidated. Once the train data has been introduced, the driver selects Start.	JRU		M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 0/1 NID_BG=BG1 D_LRBG=D1 Packet 11 Message 8 M_DRIVERACTION = 19 Message 132 Packet 0/1 NID_BG=BG1 D_LRBG=D1		
		DMI (O)				
		DMI (I)				
2	The RBC sends a message with MA information in shifted location.	JRU		NID D_F D1+L Pack Pack Pack D_N D1 M_N V_N	sage 33 D_BG=BG1 REF=D2 (D2 ≥ L_TRAIN+L_DOUBTOVER) cket 15 _ENDSECTION=D3 cket 21 cket 27 cket 80 _MAMODE=D4 (D4-L_DOUBTUNDER≤ D2MAMODE=0 _MAMODE	
		DMI (O)		OS m	mode transition acknowledgement	
3	The EVC shows the acknowledgment	DMI (I)				
	request to OS.	JRU		DMI_: MO0	_SYMB_STATUS	



		DMI (O)	
4	Acknowledgement of OS mode	DMI (I)	Acknowledgement of OS mode
		JRU	M_DRIVERACTIONS = 0
		DMI (O)	
	The EVC reports to the RBC the train	DMI (I)	
5	position	JRU	Message 136 Packet 0/1 M_MODE=1
		Level	2
F:	-1-1-	Mode	os
Finai	state	Train Speed (km/h)	NR
		Other parameters	
Final	Test Result		
Field	of Application	F-bane EAST, F-bane V	/EST
Briefi	ing instructions		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.7.3. MAD3

TEST CASE DESCRIPTION						
		Code	Version	Title		
Test Case		MAD3	2	Permitted speed at the EoA/End of Movement Authority. V_LOA/V_EMA		
Basel	ine applicable	Baseline 3 MR1 (SF	RS 3.4.0)	/ Basel	ine 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)				s issued by the RBC are composed of only one end of authority is set to zero.	
Diagr	am					
		Level			L2	
Starti	ng conditions	Mode			FS	
Otarti	ng conditions	Train Speed (km/h)	١		Maximum speed of the line	
		Additional starting	conditio	ns		
Sequ	ence of the Test Case	Checkpoints			<u>_</u>	
Step	Step description	Interfaces	Des	criptio	n of what to be tested at the interface OK?	
		DMI (O)	FS S	FS Symbol		
		DMI (I)				
1	The RBC sends Movement Authorities composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h.	JRU	Message 3/33 Packet 15 V_LOA(*)/V_EMA(**) = 0 T_LOA(*)/T_EMA(**) = "no time out" N_ITER = 0 L_ENDSECTION ≠ 0 Q_SECTIONTIMER=0 Q_ENDTIMER = 0 Q_DANGERPOINT ≠ 0 where applicable Q_OVERLAP ≠ 0 where applicable Packet 21 Packet 27 DMI_SYMB_STATUS MO11)/V_EMA(**) = 0)/T_EMA(**) = "no time out" = 0 ECTION ≠ 0 IONTIMER=0 IMER = 0 SERPOINT ≠ 0 where applicable RLAP ≠ 0 where applicable	
		Level	2			
Final	state	Mode	FS			
· mar state		Train Speed (km/	/h) Max	imum d	of the line	
		Other parameter	rs			
	Test Result					
Field	of Application	F-bane EAST, F-ba		'		
Briefing instructions		Check for every MA (*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2			release 1	

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.7.4. MAD4

Baseline applicable Baseline			TEST CASE	DESCR	RIPTIC	N		
Baseline applicable Baseline applicable Baseline applicable Baseline applicable Baseline applicable CER 9.7.1, CER 9.7.2, CER 9.7.3, CER DEF (2.9.7 Release speed), OR DI Inco/CEDEX Verify that if the movement authority issued by the RBC ends at a marker by Danger point is located at the first train detection device after the marker bo Danger point is located at the first train detection device after the marker bo Danger point is located at the first train detection device after the marker bo Danger point is located at the first train detection device after the marker board Check device of the Test Case Checkpoints Bequence of the Test Case Checkpoints DMI (O) The RBC sends a Movement Authority in which the EoA is located at a marker board and the danger point is located at a marker board and the danger point is located at a marker board and the danger point is located at the interface board and the danger point is located at a marker board and the danger point is located at a marker board because a send of the first train detection device after the marker board. Check that the corresponding SSP goes up to DP or Overlap where applicable. JRU The RBC sends a Movement Authority in which the EoA is located at a marker board check that the corresponding SSP goes up to DP or Overlap where applicable. JRU The RBC sends a Movement Authority in which the EoA is located at a marker board check that the corresponding SSP goes up to DP or Overlap where applicable. JRU The RBC sends a Movement Authority in which the EoA is located at a marker board check that the corresponding SSP goes up to DP or Overlap where applicable. The RBC sends a Movement Authority in which the EoA is located at a marker board check the marker board. The marker board check the marker board. The marker board check the marker board. The marker board. The marker board check the marker board. The marker board. JRU SECTIONTHER=0 Q. ENDTIMER=0 Q. DINGERPOINT ≠ 0 Q. DINGERPOINT ≠ 0 Q. DINGERPOINT ≠ 0 Q. DINGERPOINT ≠ 0 Q. DINGERPO			Code	Vers	ion	Title		
CER 9.7.1 CER 9.7.2 CER 9.7.3 CER DEF (2.9.7 Release speed), OR. DI	Test Case		MAD4	7		Danger point information when the EoA ends a marker board.		at a
Verify that if the movement authority issued by the RBC ends at a marker by Danger point is located at the first train detection device after the marker both Danger point is located at the first train detection device after the marker both Danger point is located at the first train detection device after the marker both Danger point is located at the first train detection device after the marker both Danger point is located at a distance D1 from the corresponding marker board and the danger point is located at a distance D1 from the corresponding marker board to the first train detection device after the marker board. Check that the corresponding SSP goes up to DP or Overlap where applicable. The train is approaching the marker board, which is closed. DMI (0) DMI (0) DRI (0	Baselir	ne applicable	Baseline 3 MR1 CER 9.7.1, CER	(SRS 3 9.7.2, (.4.0) / CER 9	Base .7.3, (line 3 R2 (SRS 3.6.0) CER DEF (2.9.7 Release speed), OR.D	EF.711
Danger point is located at the first train detection device after the marker book of the Inest Case Level L2 Mode FS	Test ca	se author	Ineco/CEDEX					
Level L2 Mode FS	Γest Ol	ojective(s)						
Mode FS	Diagrai	n						
Sequence of the Test Case Checkpoints Step Step description Interfaces DMI (O) FS Symbol	Startin	g conditions	Mode Train Speed (kn				FS Maximum speed of the line	ds at a
Step Step description Interfaces Description of what to be tested at the interface			Additional start	ing cor	ndition	ıs		
Interface DMI (O) FS Symbol	Sequer	nce of the Test Case	Checkpoints	1	L			
DMI (I) Message 3/33 Packet 15 V_LOA(")V_EMA("*) = 0 T_LOA(")/T_EMA("*) = 0 T_LOA(")/T_LOA(")	Step	Step description	Interfaces				n of what to be tested at the	OK?
Message 3/33 Packet 15 V_LOA(*)/T_EMA(**) = 0 T_LOA(*)/T_EMA(**) = "no time out" N_ITER = 0 L_ENDSECTION= L= location of the marker board and the danger point is located at a distance D1 from the corresponding marker board before the first train detection device after the marker board. Check that the corresponding SSP goes up to DP or Overlap where applicable. JRU Present the marker board. JRU Message 3/33 Packet 15 V_LOA(*)/T_EMA(**) = 0 T_LOA(*)/T_EMA(**) = "no time out" N_ITER = 0 Q_SECTIONTIMER=0 Q_ENDTIMER = 0 Q_DANGERPOINT ≠ 0 D_DP=D1 (location of the first train detection after the marker board). V_RELEASEDP=126 (Use on-board calculated release speed) Q_OVERLAP ≠ 0 where applicable Packet 21 Packet 27 Q_FRONT D_STATIC V_STATIC V_STATIC V_STATIC V_STATIC V_DIFF (if Q_DIFF= 0) NC_DDIFF (if Q_DIFF= 0) NC_DDIFF (if Q_DIFF= 0) NC_DDIFF (if Q_DIFF= 1 or 2) V_DIFF DMI_SYMB_STATUS MO11 Braking curve with release speed Viarget Vpermitted and Dtarget decrease DMI (I) JRU V_PERM decreases D_TARGET decreases M_SDMTYPE=2(*)/1(**) Vpermitted = Vrelease (≥ 15 km/h for regular train(***)) Vpermitted = Vrelease (≥ 15 km/h for regular train(***)					FS Sy	mbol		
The train is approaching the marker board, which is closed. DMI (I) Vtarget Vpermitted and Dtarget decrease DMI (I) V_PERM decreases D_TARGET decreases M_SDMTYPE=2(*)/1(**) Vpermitted = Vrelease (≥ 15 km/h for regular train(***)) The train enters in the supervision area	1	in which the EoA is located at a marker board and the danger point is located at a distance D1 from the corresponding marker board to the first train detection device after the marker board. Check that the corresponding SSP goes up to			V_LOA(*)/V_T_LOA(*)/V_T_LOA(*)/V_T_LOA(*)/T_N_ITER = 0 L_ENDSECTION Q_SECTION Q_ENDTIME Q_DANGER D_DP=D1 after the marks V_RELEAS calculated rele Q_OVERLAI Packet 21 Packet 27 Q_FRONT D_STATIC V_STATIC Q_DIFF=0/1 NC_CDDIF NC_DIFF (V_DIFF))/V_EMA(**) = 0)/T_EMA(**) = "no time out" = 0 ECTION= L= location of the marker IONTIMER=0 IMER = 0 BERPOINT ≠ 0 D1 (location of the first train detection arker board). EASEDP=126 (Use on-board release speed) RLAP ≠ 0 where applicable NT IIC IIC IIC =0/1/2 DDIFF (if Q_DIFF= 0) FF (if Q_DIFF= 1 or 2)	
board, which is closed. JRU V_PERM decreases D_TARGET decreases M_SDMTYPE=2(*)/1(**) Vpermitted = Vrelease (≥ 15 km/h for regular train(***)) The train enters in the supervision area	2	The train is approaching the marker	DMI (O) Vtarget Vpermitt		et	·		
JRU D_TARGET decreases M_SDMTYPE=2(*)/1(**) Vpermitted = Vrelease (≥ 15 km/h for regular train(***)) The train enters in the supervision area DMI (O)					V DE	DI// ~	decreases	
Vpermitted = Vrelease (≥ 15 km/h for regular train(***)) The train enters in the supervision area Vpermitted = Vrelease (≥ 15 km/h for regular train(***))			JRU		D_TARGET decreases			
DMI (I)	3(****)	The train enters in the supervision area of release speed.			Vpern train(*	nitted ***))	= Vrelease (≥ 15 km/h for regular	



		JRU	V_RELEASE= V_RELEASEDP (≥ 15 km/h for regular train(***)) M_SDMTYPE=3(*)/2(**)		
		DMI (O)	TR symbol Emergency brake symbol Trip reason: "Unauthorized passing of EOA / LOA"(*****)		
		DMI (I)			
4(****)	The train overpasses with the "min safe front end" the EoA located at the marker board.	JRU	M_MODE=7 EMERGENCY BRAKE COMMAND STATE = Commanded DMI_SYMBOL_STATUS MO04 DMI_SYMBOL_STATUS ST01 SYSTEM_STATUS_MESSAGE Unauthorized passing of EoA/LOA		
	The train stops in rear of the danger point.	DMI (O)			
5(****)		DMI (I)			
		JRU	estimated front end < L+D1		
		Level	2		
Final of		Mode	TR		
Final st	cate	Train Speed (km/h)	0		
		Other parameters	Emergency brake is applied		
Final To	est Result				
Field of Application		F-bane EAST, F-bane WEST			
		This TC is only applicable if the release speed is > 0 km/h (*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) regular train = Maximum length and poorest braking performance to be expected in ordinary operation (****) If V_RELEASE calculated on-board is zero this steps does not apply. (*****) If the on-board is ETCS B3 Release 2, this message is not longer displayed once the EVC changes from PT mode to another mode			

ADDITIO	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.7.5. MAD5

		TEST CASE DESCRIPTION							
		Code Version		on Tit	le				
Test (Case	MAD5 6		rel	nger point information and management of the ease speed when the EoA ends at a buffer stop. lease speed has a fixed value.				
Basel	ine applicable		9.3.4, CE	ER DEF	seline 3 R2 (SRS 3.6.0) (2.9.3 Static speed profiles), CER 9.7.4, CER DEF				
Test o	case author	Ineco/CEDEX							
Test (Objective(s)	Verify that if the r danger point loca when a fixed valu	ation is de	efined c	rity issued by the RBC ends at a buffer stop the orrectly and the release speed is managed correctly kside.				
Diagr	am								
		Level			L2				
		Mode			FS				
Starti	ng conditions	Train Speed (km	n/h)		Maximum speed of the line				
		Additional starti	ing cond	litions	Train running in FS with an MA that ends at a buffer stop				
Sequ	ence of the Test Case	Checkpoints			_				
Step	Step description	Interfaces			tion of what to be tested at the interface OK?				
		DMI (O)	F	FS Symbol					
		DMI (I)							
	The RBC sends a Movement Authority, including ending route on terminal tracks, in which the EoA is located at a buffer stop. The release speed has a fixed value.	JRU		T_LOA N_ITE L_ENI Q_SE(Q_ENI Q_DAI D_D if fric V_RI if noo V_R Q_OV! Packet: Packet: DMI_SY MO11	15 \('\)/V_EMA(**) = 0 \('\)/T_EMA(**) = "no time out" \(R = 0) \(\)SECTION=L1 \(\)CTIONTIMER=0 \(\)DTIMER = 0 \(\)NGERPOINT ≠ 0 \(\)P=D1 \(\)tion buffer stop: \(\)ELEASEDP= 15 Km/h \(\)n friction buffer stop: \(\)ELEASEDP= 10 Km/h \(\)ELEASEDP= 10 Km/h \(\)ERLAP ≠ 0 where applicable \(\)21 \(\)MB_STATUS				
		DMI (O)	V	/target	curve with release speed ed and Dtarget decrease				
2	The train is approaching the marker board, which is closed.	DMI (I)							
	222.2, 11101110 000001	JRU		V_PERM decreases D_TARGET decreases M_SDMTYPE=2(*)/1(**)					
3	The train enters in the supervision area of release speed.	DMI (O)	if ∨ i	Vtrain ≤ Vrelease if friction buffer stop: Vpermitted = Vrelease=15 Km/h if non friction buffer stop: Vpermitted = Vrelease=10 Km/h					
		DMI (I)							



		JRU	if friction buffer stop: V_RELEASE= V_RELEASEDP=15 Km/h if non friction buffer stop: V_RELEASE= V_RELEASEDP=10 Km/h M_SDMTYPE=3(*)/2(**)			
	The train runs in rear of the end of	DMI (O)	Vtrain = 0 km/h Vpermitted ≈ 0 Dtarget ≈ 0			
	Movement Authority. The train stops short in rear of the EoA.	DMI (I)				
	SHORT IT TEAL OF THE LOA.	JRU	V_PERM≈0 D_TARGET≈0			
		Level	2			
Final	-4-4-	Mode	FS			
Finai	state	Train Speed (km/h)	0			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefing instructions		This test case should be performed for friction buffer stops and non-friction buffer stops. (*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.7.6. MAD6

		TEST CASE	DESCRI	PTION		
		Code Version		sion Title		
Fest Case		MAD6	5		agement of the release speed. Release speed is ulated on-board.	
Baseline applicable		Baseline 3 MR1 (CER 9.7.1, CER CT_379	(SRS 3.4. 9.7.2, CE	0) / Bas R 9.7.3,	eline 3 R2 (SRS 3.6.0) , CER DEF (2.9.7 Release speed), OR.DEF.711,	
Γest (case author	Ineco/CEDEX				
Test (Objective(s)	Verify that the E\	/C calcula	ites the	release speed in FS mode correctly.	
Diagr	am					
		Level			L2	
\		Mode			FS	
tartı	ing conditions	Train Speed (km	n/h)		Maximum speed of the line	
		Additional starti	ing condi	tions		
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escripti	ion of what to be tested at the interface OK?	
		DMI (O)	F	S Symb	ol	
		DMI (I)				
1	The RBC sends a Movement Authority, not including ending routes on terminal tracks, in which the EoA is located at a marker board and the danger point is located at a distance D1 from the corresponding marker board to the first train detection device after the marker board. The value of the release speed V1 is calculated on-board for the corresponding configured marker board.	JRU	re F F D	T_LOAI N_ITER L_ENDI Q_SEC Q_END Q_DAN D_DF V_RE elease s Q_OVE Packet 2 MI_SYN MO11	5 (*)/V_EMA(**) = 0 (*)/T_EMA(**) = "no time out" R = 0 SECTION= location of the marker board CTIONTIMER=0 DTIMER = 0 IGERPOINT ≠ 0 P=D1 ELEASEDP=126 (Use on-board calculated peed) PRLAP ≠ 0 where applicable CTIONTIMER=0 IGERPOINT ≠ 0 IGERPOINT ← 0 IGERP	
	The train is approaching the marker	DMI (O)	V	Braking curve with release speed Vtarget Vpermitted and Dtarget decrease		
	board, which is closed.	DMI (I)	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	DED.	dagragas	
		JRU	D M	V_PERM decreases D_TARGET decreases M_SDMTYPE=2(*)/1(**)		
		DMI (O)	tra	/permitted = Vrelease (≥ 15 km/h for regular rain(***)) /train ≤ Vrelease		
3	The train enters in the supervision area	DMI (I)				
	of release speed.	JRU	re	V_RELEASE= V_RELEASEDP (≥ 15 km/h for regular train(***)) M_SDMTYPE=3(*)/2(**)		
	The train runs in rear of the end of	DMI (O)	V V	Vrain = 0 km/h Vpermitted ≈ 0 Dtarget ≈ 0		
	Movement Authority. The train stops short in rear of the EoA (****)	DMI (I)				
	SHORE IT TEAT OF THE LOA ()	JRU		V_PERM≈0 D_TARGET≈0		



	Level	2			
	Level	2			
Final state	Mode	FS			
Final State	Train Speed (km/h)	0			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
Briefing instructions	(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) regular train = Maximum length and poorest braking performance to be expected in ordinary operation. (****) It shall be verified that the release speed calculated on-board allows the train to approach close enough to the marker board.				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.7.7. MAD8

	TEST CASE DESCRIPTION						
		Code	Versio	n Tit	tle		
Test (Case	MAD8	3		erification of the information sent in the same essage as the MA information.		
Basel	ine applicable	Baseline 3 MR1 (FbIS.F.350, OPS		.0) / Ba	seline 3 R2 (SRS 3.6.0)		
Test o	case author	Ineco/CEDEX					
Test Objective(s)		authority informa	tion, linkir	ng infor	ends together at the same message the movemation, gradient profile information and statine established route. (*)		
Diagra	am				1		
		Level			L2		
		Mode			FS		
		Train Speed (km	n/h)		0		
Startii	ng conditions	Additional starting conditions			Train is in front of a marker board in stop protecting a crossover / facing turnout. The communication session between the and the RBC is established.		
Seque	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escrip	tion of what to be tested at the interface	OK?	
	Train is at standstill located in front of a marker board in stop aspect protecting a crossover / facing turnout.	DMI (O)		Vtrain=0 Vpermitted≈0			
1		DMI (I)					
		JRU	V	V_TRAIN=0 V_PERM≈0			
		DMI (O)		Vtrain=0 MA is updated			
		DMI (I)					
2	A direct route is established and the marker board changes to proceed aspect. The RBC sends the information regarding to the MA, Gradient, SSP and Linking according to the current established route.	JRU	F	Message 3/33 Packet 15 L_ENDSECTION=L1 Packet 21 D_GRADIENT Q_GDIR G_A Packet 27 D_STATIC(0) V_STATIC(0) Q_DIFF=0/1/2 NC_CDDIFF (if Q_DIFF= 0) NC_DIFF (if Q_DIFF= 1 or 2) V_DIFF Packet 5 D_LINK=Da NID_BG=BGa N_ITER=n D_LINK(1)=Db NID_BG=BGb			
	The route is changed to a divergent	DMI (O)		train=0 1A is up			
	route. The RBC updates the information	DMI (I)					



regarding the MA, Gradient, SS Linking according the new route		Message 3/33 Packet 15 L_ENDSECTION=L2 Packet 21 D_GRADIENT Q_GDIR G_A Packet 27 D_STATIC(0) V_STATIC(0) Q_DIFF=0/1/2 NC_CDDIFF (if Q_DIFF= 0) NC_DIFF (if Q_DIFF= 1 or 2) V_DIFF Packet 5 D_LINK=D1 NID_BG=BG1 N_ITER=m D_LINK(1)=D2 NID_BG=BG2				
The train starts to run through the divergent route. No unnecessar curves to an EoA are shown to the Kilometre Point of the start, the SSP sent by the RBC compitation that the tables with the maximum sp	y braking the driver. end of lies with	FS Symbol Vtrain>0 Only braking curves related with the SSP for each train category are displayed No message of linking consistency errors are shown				
the line for each train category. The Kilometre Point of the start/	DMI (I))				
the GP sent by the RBC complied the gradients defined in the Tractof the line. Both the SSP and gradient cover whole extension of the MA and as applicable. Linking information include all B the EoA and complies with the requirements of line.	es with ck Layout er the overlap JRU	M_MODE=0 M_LEVEL=3 V_TRAIN>0 DMI_SYMB_STATUS MO11				
	Level					
Final state	Mode					
	Train Speed	(km/h) Maximum speed of the line				
	Other param	neters				
Final Test Result						
Field of Application		F-bane EAST, F-bane WEST				
Briefing instructions (*) It shall be checked in both directions of the running tracks.						

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.7.8. MAD9

		TEST CASE DESCRIPTION						
		Code	Version	Title				
Test	Case	MAD9	3	Stati chan	c speed profile supervision when train data ges.			
Base	line applicable	Baseline 3 MR1 CER 9.3.1, CER	(SRS 3.4.0 COM (2.9.) / Base 3 Static	line 3 R2 (SRS 3.6.0) speed profiles), CER 9.3.2			
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify that when	train data i	s chang	ed the SSP is updated correctly			
Diagr	ram							
		Level			L2			
		Mode			FS			
Starti	ing conditions	Train Speed (kn	n/h)		NR			
Starti	ing conditions	Additional starting conditions		ions	The radio communication session is established with the RBC. The track in advance of the train has different SSP for different train categories			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s De	scriptio	on of what to be tested at the interface OK?			
		DMI (O)						
		DMI (I)						
1	The train receives a Movement Authority (MA) with track description before being brought to a standstill JRU Pacl Pacl Pacl Pacl Pacl Pacl Pacl Pacl		essage 3 acket 15 acket 21 acket 27 Q_FRO D_STAT V_STAT N_ITER D_STAT V_STAT	NT(k=0) = 0 FIC(k=0)=D0k FIC(k=0)=V0k				
		DMI (O)	Vt	rain = 0				
		DMI (I)						
2	The train is brought to a standstill	JRU		essage 1 Packet (V_TR				
		DMI (O)	Tra	ain data	changed message is displayed			
		DMI (I)			ects Data Entry nges train category			
			M	DRIVE	RACTION = 20 RACTION = 21			
3	The driver selects train data entry. Train category is changed and validated.	JRU	Me F TF NC	essage 1 Packet 1 NC_C and/or NC_T essage 8 RAIN DA NC_CD C_CDTR and/or	129 1 DTRAIN = NCC1 . RAIN = NCT1 3 TA TRAIN = NCC1 ≠ Previous			
3		JRU DMI (O)	Me F TF NC	essage 1 Packet 1 NC_C and/or NC_T essage 8 RAIN DA NC_CD C_CDTR and/or	129 1 DTRAIN = NCC1 . RAIN = NCT1 3 TA TRAIN = NCC1 ≠ Previous			



		JRU DMI (O) DMI (I)	Message 132 Q_MARQSTREASON = x1xxx (Track description deleted) Packet 0/1		
5	The RBC issues a MA with the SSP updated for the new train category	JRU	(LRBG2) Message 3/33 Packet 15 Packet 21 Packet 27 Q_FRONT(m=0) = 0 D_STATIC(m=0)=D0m(LRBG2) = D0k(LRBG1) V_STATIC(m=0)=V0m(LRBG2) ≠ V0k(LRBG1) N_ITER=m D_STATIC(m)=Dm(LRBG2) = Dk(LRBG1) V_STATIC(m)=Vm(LRBG2) ≠ Vk(LRBG1) Q_FRONT(m) = 0		
		Level	2		
Final	atata	Mode	FS		
rınaı	state	Train Speed (km/h)	0		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane WEST			
Briefi	ng instructions				

	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.7.9. MAD11

Test Case MAD11 4 fond of the train is in rear of the LRBG and its max as formed its in advance of it. Baseline applicable Passeline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) Test case author heco/CEDEX Test Objective(s) Verify that the RBC is able to issue a movement authority through message 33. Level L2 Mode SB Train Speed (km/h) Train speed (km/h) Additional starting conditions Sequence of the Test Case Step Step description DMI (0) DMI		TEST CASE DESCRIPTION						
Tast Case MAD11 A fond of the train is in rear of the LRBG and its max as formed its in advance of it. Baseline applicable Pals (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) Test case author heco/CEDEX Tost Objective(s) Verify that the RBC is able to issue a movement authority through message 33. Level Level Level La Mode Train Speed (km/h) Train Speed (km/h) Train symmetric onditions Additional starting conditions Sequence of the Test Case Checkpoints Sequence of the Test Case Checkpoints Sequence of the Test Case Checkpoints Sequence of the Test Case DMI (O) DMI (O) DMI (O) DMI (O) DMI (Based 11 Message 3 M. DRIVERACTION = 20 M. DRIVERACTION = 20 M. DRIVERACTION = 21 Message 129 Packet 0/1 NDL BG=BG1 D. LRBG=D1 Packet 11 Message 132 Packet 0/1 NDL BG=BG1 D. LRBG=D1 D. LRBG=D1 DMI (O) DMI (Code	Versio	n T	Title		
Test case author Test Case author Test Objective(s) Diagram Level Mode Train Speed (km/h) Starting conditions Train with known position after start of mission SB. The max safe front end of the train is in advance of the stored last relevant balise group and the min safe front end is in rear of it. Sequence of the Test Case Checkpoints Step Step description Interfaces Description of what to be tested at the interface DK? DMI (0)	Test (Case	MAD11	4	е	MA in shifted location after a SoM. The min safe front end of the train is in rear of the LRBG and its max safe front end is in advance of it.		
Test Objective(s) Verify that the RBC is able to issue a movement authority through message 33. Level Mode	Basel	ine applicable		(SRS 3.4.	0) / B	Baseline 3 R2 (SRS 3.6.0)		
Level 1.2 Mode S.8	Test o	case author	Ineco/CEDEX					
Level Level	Test (Objective(s)	Verify that the RE	3C is able	to is	ssue a movement authority through message 33.		
Starting conditions Starting conditions Starting conditions Train with known position after start of mission Starting conditions Starting conditions Train with known position after start of mission Starting conditions Starting conditions The max safe front end of the train is in advance of the Stored last relevant balise group and the min safe front end is in rear of it. Step S	Diagram			MaxSFE				
Train Speed (km/h) Train Speed (km/h)			Level			_2		
Additional starting conditions Additional starting conditions Additional starting conditions Additional starting conditions Train with known position after start of mission SB. The max safe front end of the train is in advance of the stored last relevant balise group and the min safe front end is in rear of it. Sequence of the Test Case Checkpoints Interfaces Description of what to be tested at the interface OK? DMI (0) Data Entry Select Start M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 0/1 NID_BG=BG1 D_LRBG=D1 Packet 11 Message 132 Packet 0/1 NID_BG=BG1 D_LRBG=D1 D_LRBG=D			Mode					
Additional starting conditions Additional starting conditions Additional starting conditions Additional starting conditions Train with known position after start of mission SB. The max safe front end of the train is in advance of the stored last relevant balise group and the min safe front end is in rear of it. Sequence of the Test Case Checkpoints Interfaces Description of what to be tested at the interface OK? DMI (0) Data Entry Select Start M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 0/1 NID_BG=BG1 D_LRBG=D1 Packet 11 Message 132 Packet 0/1 NID_BG=BG1 D_LRBG=D1 D_LRBG=D			Train Speed (km	n/h)		0		
Step Step Description Interfaces Description of what to be tested at the interface DK?	Starti	ng conditions				The max safe front end of the train is in advance of the stored last relevant balise group and the		
DMI (0) DMI (1) DMI (1) DMI (1) DMI (1) DMI (1) DMI (1) DMI (2) DMI (3) DMI (4) DMI (5) DMI (6) DMI (7) DMI (7) DMI (8) DMI (8) M. DRIVERACTION = 20 M. DRIVERACTION = 21 Message 129 Packet 0/1 NID. BG=BG1 D_LRBG=D1 Packet 11 Message 8 M. DRIVERACTION = 19 Message 132 Packet 0/1 NID. BG=BG1 D_LRBG=D1 DMI (0) DMI (0) DMI (1) DMI (0) DMI (1) DMI (2) DMI (2) DMI (3) DMI (4) DMI (5) DMI (6) DMI (7) DMI (8) DMI (8) DMI (9) DMI (9) DMI (9) DMI (9) DMI (1) DMI (2) DMI (Sequ	ence of the Test Case	Checkpoints					
DMI (I) Data Entry Select Start M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 0/1 NID_BG=BG1 D_LRBG=D1 Packet 11 Message 132 Packet 0/1 NID_BG=BG1 D_LRBG=D1 NID_BC=D1 NID_B	Step	Step description	Interfaces	s D	escri	iption of what to be tested at the interface OK?		
The driver selects train data entry. Train data is entered or revalidated. Once the train data has been introduced, the driver selects Start. The driver selects train data entry. Train data is entered or revalidated. Once the train data has been introduced, the driver selects Start. JRU BG=BG1 D_LRBG=D1 Packet 11 Message 8 M_DRIVERACTION = 19 Message 132 Packet 0/1 NID_BG=BG1 D_LRBG=D1 DMI (0) DMI (1) Message 33 NID_BG=BG1 D_REF=D2 (D2 ≥ D1+L_TRAIN+L_DOUBTOVER) Packet 15 L_ENDSECTION=D3 Packet 21 Packet 21 Packet 27 Packet 80 D_MAMODE=D4 (D4+L_DOUBTUNDER≤ D2-D1 M_MAMODE=D4 ∨_MAMODE The EVC shows the acknowledgment JRU OS mode transition acknowledgement			DMI (O)					
The driver selects train data entry. Train data is entered or revalidated. Once the train data has been introduced, the driver selects Start. 1			DMI (I)	s				
DMI (I) DMI (I) Message 33	1	data is entered or revalidated. Once the train data has been introduced, the driver		M M M M	I_DRI I_DRI Iessa Pack D_ Pack Iessa I_DRI Iessa Pac	EIVERACTION = 21 age 129 ket 0/1 ID_BG=BG1 _LRBG=D1 ket 11 age 8 EIVERACTION = 19 age 132 cket 0/1 ID_BG=BG1		
Message 33 NID_BG=BG1 D_REF=D2 (D2 ≥ D1+L_TRAIN+L_DOUBTOVER) Packet 15 L_ENDSECTION=D3 Packet 21 Packet 27 Packet 80 D_MAMODE=D4 (D4+L_DOUBTUNDER≤ D2-D1 M_MAMODE=0 V_MAMODE The EVC shows the acknowledgment DMI (O) OS mode transition acknowledgement			DMI (O)					
NID_BG=BG1 D_REF=D2 (D2 ≥ D1+L_TRAIN+L_DOUBTOVER) Packet 15 L_ENDSECTION=D3 Packet 21 Packet 27 Packet 80 D_MAMODE=D4 (D4+L_DOUBTUNDER≤ D2-D1 M_MAMODE=0 V_MAMODE 3 The EVC shows the acknowledgment DMI (O) OS mode transition acknowledgement			DMI (I)					
The EVC shows the acknowledgment DMI (O) OS mode transition acknowledgement	2		JRU	D	NID_ D_RI 1+L_ Packe L_E Packe Packe D_M, 1 M_M	_BG=BG1 REF=D2 (D2 ≥ _TRAIN+L_DOUBTOVER) tet 15 ENDSECTION=D3 tet 21 tet 27 tet 80 IAMODE=D4 (D4+L_DOUBTUNDER≤ D2-MAMODE=0		
3		The EVC shows the acknowledgment	DMI (O)					
	3	request to OS.	DMI (I)	f				



		JRU	DMI_SYMB_STATUS MO08	
4	Acknowledgement of OS mode	DMI (O)		
		DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS = 0	
	The EVC reports to the RBC the train position	DMI (O)		
_		DMI (I)		
5		JRU	Message 136 Packet 0/1 M_MODE=1	
		Level	2	
Final	ototo	Mode	os	
rınaı	The EVC reports to the RBC the train position all state Train Other	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
Field of Application		F-bane EAST, F-bane WEST		
Briefi	ing instructions			_

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.7.10. MAD12

Test Case MAD12 5 MA after a SoM with king Baseline applicable FbIS.F.49 Test case author Test Objective(s) MA after a SoM with king Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.4.0) / Bas	•			
Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.4.0) Test case author Ineco/CEDEX	•			
Test case author Ineco/CEDEX	6.0)			
	4.0) / Baseline 3 R2 (SRS 3.6.0)			
Test Objective(s) Verify that the RBC is able to issue a movement auth	Ineco/CEDEX			
	Verify that the RBC is able to issue a movement authority after a start o mission.			
Diagram	Minsfe			
Level L2				
Mode SB				
Train Speed (km/h) 0				
Starting conditions Additional starting conditions Train with known SB. Both max safe from the train are in acceptable group. The MaxSFE is in	Both max safe front end and min safe front end of the train are in advance of the stored last relevant			
Sequence of the Test Case Checkpoints				
Step Step description Interfaces Description of what to be t	ested at the interface OK?			
DMI (O)				
DMI (I) Data Entry Select Start				
The driver selects train data entry. Train data is entered or revalidated. Once the train data has been introduced, the driver selects Start. JRU M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 0/1 NID_BG=BG1 D_LRBG=D1 Packet 11 Message 8 M_DRIVERACTION = 19 Message 132 Packet 0/1 NID_BG=BG1 D_LRBG=D1	M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 0/1 NID_BG=BG1 D_LRBG=D1 Packet 11 Message 8 M_DRIVERACTION = 19 Message 132 Packet 0/1 NID_BG=BG1			
DMI (O)				
DMI (I)				
The RBC sends a message with MA information. The RBC sends a message with MA information. JRU Message 3/33 NID_BG=BG1 Packet 15 L_ENDSECTION=D3 Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0 V_MAMODE	NID_BG=BG1 Packet 15 L_ENDSECTION=D3 Packet 21 Packet 27 Packet 80 D_MAMODE=D4 M_MAMODE=0			
The EVC shows the acknowledgment DMI (O) OS mode transition acknowledgment	edgement			
request to OS.				



		JRU	DMI_SYMB_STATUS MO08	
		DMI (O)		
4	Acknowledgement of OS mode	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS = 0	
		DMI (O)		
_	The EVC reports to the RBC the train position	DMI (I)		
5		JRU	Message 136 Packet 0/1 M_MODE=1	
		Level	2	
Final	ototo	Mode	os	
Final	state	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane V	VEST	
Briefi	ing instructions			_

	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.7.11. MAD13

	TEST CASE DESCRIPTION					
		Code Version		ion Title		
Test Case		MAD13	1	line a	rain is running from the beginning to the end the maximum permitted speed. Axle load specy supervision.	of the beed
Base	line applicable	Baseline 3 (3.4.0 FbIS.F.2120, CE		ER 9.3.2	1	
Test	case author	Ineco/CEDEX	,			
Test	Objective(s)	Verify that the R categories of the		the axle	oad speed profiles for all the applicable axle	load
Diagr	am					
		Level			L2	
		Mode			FS	
Starti	ng conditions	Train Speed (kr	m/h)		Maximum speed of the line	
Starting conditions		Additional starting conditions		tions	The train should run at the maximum permitted speed of the line. The marker boards from the beginning to the end of the line shall be open.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interface	s De	escriptio	n of what to be tested at the interface OK	?
	The train has sent the Validated Train Data information (packet 11) to the RBC including the applicable axle load train categories	DMI (O)				
4		DMI (I)				
1		JRU				
		DMI (O)		Braking curves related with the ASP for each axle load category are displayed		
		DMI (I)				
2	The train is running at the maximum permitted speed of the line . The Kilometre Point of the start/end of the ASP sent by the RBC complies the tables with the maximum speeds of the line for each train axle load category.	JRU	Me F	M_MODE=0 Message 3/24/33 Packet 51 Q_TRACKINIT=0 D_AXLELOAD=D0 L_AXLELOAD=L0 Q_FRONT(0) = 0 N_ITER=n M_AXLELOADCAT(n) V_AXLELOAD(n) N_ITER=k D_AXLELOAD(k)=Dk L_AXLELOAD(k)=Lk Q_FRONT(k) = 0 N_ITER(k)=m M_AXLELOADCAT(k,m)		
				V AXI ⊨	_AXLELOAD(k,m) ing curve with Dtarget=D_AXLELOAD(i)	
3	The train starts the braking curve to the start location of the ASP i (i=0k) (**)	DMI (O)	Br		ve with Dtarget=D_AXLELOAD(i)	

		JRU	V_TRAIN <v_perm -="" for="" if="" m_axleloadcat(i,m)="M1</th" possibilities="" v_target="Vx" vx:=""></v_perm>	
		DMI (O)	Vpermitted=Vx Vtrain≤Vx	
		DMI (I)		
4	The train reaches with its maximum safe front end the location of the permitted speed supervision limit calculated for the target speed of the ASP i. (****)	JRU	V_PERM=Vx Possibilities for Vx: - If M_AXLELOADCAT(i,m) = M1	
	The supervision of the ASP i finishes	DMI (O)	Vpermitted≠Vx	
	when the min safe rear has reached the end of the ASP i area.	DMI (I)		
	The Kilometre Point of the start/end of the ASP sent by the RBC complies the tables with the maximum speeds of the line for each axle load category.	JRU	Estimated front end=D_AXLELOAD(i)+L_AXLELOAD(i) +L_TRAIN+L_DOUBTOVER V_PERM≠Vx	
		Level	2	
Final	state	Mode	FS	
	State	Train Speed (km/h)	Maximum of the line	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane \		
Briefing instructions		(*) It shall be checked in both directions of the running tracks. (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2 (****) Only if the train axle load category is equal or higher than the minimum axle load category given in the axle load speed profile		

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.8. SMA

2.8.1. SMA1

TEST CASE DESCRIPTION					ON	
		Code	Versi	on	Title	
Test Case		SMA1	A1 5		Shortening of MA when train is at standstill.	
Base	line applicable				Baseline 3 R2 (SRS 3.6.0) ' Locked overlap), OR.DEF.480, FbIS.F.330, OPS.655	
Test	case author	Ineco/CEDEX		(=		
Test	Objective(s)				when the train receives a shortening of MA (with new osition). FS mode.	
Diagr	am					
		Level			L2	
		Mode			FS	
Starti	ng conditions	Train Speed (km	n/h)		0	
		Additional starti	ing cond	dition	The train is at standstill in the proximity of a marker board which is closed.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s I	Desc	ription of what to be tested at the interface OK?	
		DMI (O)				
	The RBC sends a Movement Authority composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. The EoA is set to the marker board.	DMI (I)				
1		JRU		(LRBG1) Message 3/33 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L1 Q_DANGERPOINT ≠ 0 where applicable Q_OVERLAP ≠ 0 where applicable Packet 21 Packet 27		
		DMI (O)				
		DMI (I)				
	The EVC reports to the RBC its position at standstill within a configurable distance from the EoA (distance from the EoA to the beginning of the destination area).	JRU	ř [Pack V_ M_ D_I D1 >	G1) age 136 tet 0/1 TRAIN= 0 Km/h MODE = 0 LRBG = D1 L1(LRBG1) - D2 (D2=distance from the othe beginning of the destination area)	
		DMI (O) Dtarget = Vpermitte				
		DMI (I)				
3	The RBC sends a new Movement Authority shortened to its present position	JRU	1	Pack V_L N_I L_E	age 3/9	
Final	state	Level		2		





	Mode	FS			
	Train Speed (km/h)	0			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST				
	D2= Distance from the EoA where the route can be released if the train reports its position within thereof and no new route is set. (*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.8.2. SMA2

		TEST CASE	DESCR	RIPTION		
		Code	Versi	on Titl	le	
Test (Case	SMA2	5		Co-operative shortening of a MA due to a marker board closure. Request to shorten MA is granted.	
Base	line applicable	Baseline 3 MR1 FbIS.F.153, OR.I			seline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test (Objective(s)		A in a m	arker boa	en the train receives a Co-operative shortening of ard) followed by an extension of the MA. FS mode. egulation.	
Diagr	am					
		Level			L2	
		Mode			FS	
Starti	ng conditions	Train Speed (km	n/h)		NR	
		Additional start		litions	The train is running and all the marker boards of the route are in proceed aspect	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	5 [Descripti	tion of what to be tested at the interface OK?	
		DMI (O)				
	The RBC sends a Movement Authority composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. (***)	DMI (I)				
1		JRU	ń n	(LRBG1) M_MODE=0 M_LEVEL=3 (Level 2) Message 3/33 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L1		
		DMI (O)				
2	It is requested to the signalman to close the marker board in advance of the train.	DMI (I)				
	the marker board in advance of the train.	JRU				
		DMI (O)	F	S Symb	ool	
		DMI (I)				
3	The RBC proposes a shorter Movement Authority.	JRU	Ņ	(LRBG2) Message 9 T_TRAIN= T1 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L2 < L1 DMI_SYMB_STATUS MO11		
	T. 51/0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DMI (O)	\		ool ed decreases shortened to the closed marker board(****)	
	The EVC checks that the shortening request does not cause a brake	DMI (I)				
	application immediately or within a few seconds and therefore grants the co- operative shortening request (i.e. accepts the proposed shorter Movement Authority) and informs the RBC.	JRU	[D_TARG > max(D_ distance l	N= T1	
5		DMI (O)		210101100	2 1. 2 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	



	It is requested to the signalman to open	DMI (I)				
	the marker board in advance of the train.	JRU				
		DMI (O)	Vpermitted increases			
	The DDO and a second section of	DMI (I)				
6	The RBC sends an extension of Movement Authority.	JRU	(LRBG2) Message 3/33 Packet 15 L_ENDSECTION = L3 > L2			
		Level	2			
Einal	state	Mode	FS			
Fillal	State	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result	ОК				
Field	of Application	F-bane EAST, F-bane WEST				
Briefing instructions		(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Step 1 refers to the MA stored on-board before the co-operative shortening of MA is received (****) If the on-board is ETCS Baseline 3 Maintenance Release 1, Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)				

ADDI	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.8.3. SMA3

TEST CASE DESCRIPTION						
		Code Versi		n Titl		
Test Case		SMA3	4	Sho	ortening MA due to IXL failure: train is inside IXL a.	
Base	line applicable	Baseline 3 MR1 (FbIS.F. 1106	SRS 3.4.	0) / Bas	eline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test	Objective(s)	Verify that when a the train.	an IXL fai	lure occ	curs the RBC sends a shortened MA (Message 3) to	
Diag	ram					
		Level			2	
		Mode			FS	
		Train Speed (km/	/h)		NR	
Starting conditions		Additional starting conditions		tions	The train is running with a MA which covers partially or fully the command and control area of an IXL. That IXL has a failure (loss of communication between the RBC and the IXL) and the train has already entered the IXL area.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	D	escript	ion of what to be tested at the interface OK?	
		DMI (O)	D	MA is updated Dtarget shortened to the closed marker board (*) Vpermitted decreases		
		DMI (I)				
1	The RBC issues a shorter Movement Authority.	JRU	m D>	N_ITEI L_END arker bo Q_DAN Q_OVN _TARG max(D_	15 \(^*)/V_EMA(**) = 0	
		Level	2			
Final	state	Mode	F:	S		
		Train Speed (k		R		
		Other parame	ters			
Final	Test Result					
Field	of Application	F-bane EAST				
Briefing instructions		(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Only if there is not a more restrictive target between the train location and the closed marker board. Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(*) or Target Speed Monitoring (TSM)				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				

banedanmark



Names	
Test log reference	
Observations	



2.8.4. SMA4

	TEST CASE DESCRIPTION						
		Code	Versio	n Title	e		
Test Case		SMA4	7		Co-operative shortening of MA at a marker board. Request to shorten MA is rejected.		
Baseline applicable		Baseline 3 MR1 OR.DEF.119	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.119				
Test	case author	Ineco/CEDEX					
Test (Objective(s)	rejected on board	Verify that the MA is not updated on board when the co-operative shortening of M. rejected on board. In addition it shall be verified that once the co-operative shorter of MA is performed due to operational request there is not reaction in the RBC.				
Diagr	am						
		Level			L2		
		Mode			FS		
Starti	ng conditions	Train Speed (km	n/h)		NR		
		Additional start	ing cond	itions	The train is running and all the marker boards of the route are in proceed aspect.	of	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s C	escripti	ion of what to be tested at the interface OK?		
		DMI (O)					
		DMI (I)					
1	The RBC sends a Movement Authority (without Mode profile) composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. (***)	ment Authority composed of only section) with no at speed of the ent Authority(**) of JRU D_ L_I sut		Message Packet 1 V_LOA N_ITER L_END D_TARG L_DOUB ubtract t	L=3 (Level 2) 3/33 5 (*)/V_EMA(**) = 0		
	It is requested to the signalman to	DMI (O)					
2	perform a co-operative shortening of MA in the marker board in advance of the	DMI (I)					
	train.	JRU					
		DMI (O)					
		DMI (I)					
3	The RBC proposes a shorter Movement Authority.	JRU	Ň	CLRBG2 Message 9 T_TRAIN= T1 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L2 < L1			
	The EVC checks that the shortening	DMI (O)		MA is not updated //permitted and Dtarget remain the same			
	request could cause a brake application	DMI (I)					
immediately or within a few seconds therefore cannot grant the co-opera shortening request (i.e. rejects the proposed shorter Movement Author and the previous MA remains valid) informs the RBC.		JRU	- - -	Message 138 T_TRAIN= T1 Packet 0/1 M_MODE = 0 D_TARGET = D1 (****) DMI_SYMB_STATUS MO11			
Final	state	Level	2				
ai	- Late	Level					



	Mode	FS		
	Train Speed (km/h)	NR		
	Other parameters			
Final Test Result				
Field of Application	F-bane EAST, F-bane WEST			
Briefing instructions	(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Step 1 refers to the MA stored on-board before the co-operative shortening of MA is received (****) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(*) or Target Speed Monitoring (TSM)			

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.8.5. SMA5

	TEST CASE DESCRIPTION						
		Code	Version	Title			
Test Case		SMA5	5		sure of two consecutive marker boards. The second ker board is in rear of the first.		
Baseline applicable		Baseline 3 MR1 (SRS 3.4.0) / Base			seline 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX					
Test Objective(s)		Movement Autho shorten MA on a	Verify that if the RBC is waiting for EVC to answer to a co-operative shortening of Movement Authority on marker board A and the RBC receives from IXL a request to shorten MA on a marker board B which is in rear of A, the RBC shall automatically issue a shortened MA on marker board B.				
Diagr	ram						
		Level			L2		
		Mode			FS		
Starti	ing conditions	Train Speed (km	ı/h)		NR		
		Additional starti	ng condit	ions	The train is running and all the marker boards of the route are in proceed aspect		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	De	scriptio	n of what to be tested at the interface OK?		
		DMI (O)					
		DMI (I)					
1	The RBC sends a Movement Authority composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. (***) JRU JRU JRU JRU JRU JRU JRU JR		M_MODE=0 M_LEVEL=3 (Level 2) Message 3/33 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L1 D_TARGET = D1= L1 -D_LRBG1 (if D_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (**)				
		DMI (O)	MA	A is not updated			
		DMI (I)					
	It is requested to the signalman to perform a co-operative shortening of MA in the marker board A in advance of the train.	JRU	Me T_ F	N_ITER	: T1 5 ')/V_EMA(**) = 0		
		DMI (O)	MA Dta (**	A is upda arget sho **)	ortened to the closed marker board B decreases		
	Almost immediately, the RRC receives	DMI (O)	MA Dta (**	A is upda arget sho **)	ortened to the closed marker board B		
3	Almost immediately, the RBC receives from IXL a request to shorten MA on a marker board B which is in rear of A. Therefore the RBC sends a shortened MA on marker board B		M/Dt: (** Vp (LI Me	A is updated arget shows a reget shows a reget shows a remitted arget shows a remitted arge	decreases 5 b)/V_EMA(**) = 0		



	Mode	FS		
	Train Speed (km/h) NR			
	Other parameters			
Final Test Result				
Field of Application	F-bane EAST			
Briefing instructions	(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Step 1 refers to the MA stored on-board before the co-operative shortening of MA is received (****) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(*) or Target Speed Monitoring (TSM)			

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.8.6. SMA6

TEST CASE DESCRIPTION							
		Code	Versio	n Title	9		
Test Case		SMA6 6		mark seco	ure of two consecutive marker boards. The second er board is beyond the first and the closure of the nd marker board is ordered before the co- ative shortening of MA at the first marker board is ed.		
Basel	line applicable	Baseline 3 MR1	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)				
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that if the RBC is waiting for EVC to answer to a co-operative shortening Movement Authority on marker board A and the RBC receives from IXL a required shorten MA on a marker board B which is beyond of A, the RBC shall not issue shortened MA on marker board B if the shortened MA on marker board A has accepted by the EVC.			rd A and the RBC receives from IXL a request to nich is beyond of A, the RBC shall not issue a		
Diagr	am						
		Level			L2		
		Mode			FS		
Starti	ng conditions	Train Speed (km	n/h)		NR		
		Additional starting conditions		itions	The train is running and all the marker boards of the route are in proceed aspect		
Sequ	ence of the Test Case	Checkpoints	Checkpoints				
Step	Step description	Interfaces	s D	escriptio	n of what to be tested at the interface OK?		
		DMI (O)					
		DMI (I)					
1	The RBC sends a Movement Authority composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. (***)	d get t JRU		lessage 3 Packet 15 V_LOA(* N_ITER :	=3 (Level 2) //33 //V_EMA(**) = 0		
	It is requested to the signalman to	DMI (O)					
	perform a co-operative shortening of MA in the marker board A in advance of the	DMI (I)					
	train.	JRU					
		DMI (O)					
		DMI (I)					
	The RBC proposes a shorter Movement Authority to marker board A.	JRU	(LRBG2) Message IT_TRAIN Packet V LOA N_ITER		= T1 5 *)/V_EMA(**) = 0		
	The EVC checks that the shortening request does not cause a brake application immediately or within a few seconds and therefore grants the co-	DMI (O)			decreases ortened to the closed marker board A		
1							



	the proposed shorter Movement Authority to the correct marker board) and informs the RBC.	JRU	Message 137 T_TRAIN= T1 Packet 0/1 M_MODE = 0 D_TARGET = L2 -D_LRBG2 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (****)				
	The RBC receives from IXL a request to	DMI (O)					
5	shorten MA on a marker board B which is in beyond of A	DMI (I)					
	The RBC does not propose a shorter Movement Authority to marker board B.	JRU	No Message 3 is sent				
		Level	2				
Einal	state	Mode	FS				
ГШа	State	Train Speed (km/h)	NR				
		Other parameters					
Final	Test Result						
Field	of Application	F-bane EAST					
		(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Step 1 refers to the MA stored on-board before the co-operative shortening of MA is received (****) If the on-board is ETCS Baseline 3 Maintenance Release 1, Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)					

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.8.7. SMA7

	TEST CASE DESCRIPTION					
		Code Versio		ion Title		
Test Case		SMA7	6	mark the fi seco	perative shortening of MA of two consecutives er boards. The second marker board is beyond rst and the co-operative shortening of MA at the nd marker board is ordered after the first coative shortening of MA is rejected.	
Base	line applicable	Baseline 3 MR1	(SRS 3.4.		line 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX			· · · · · · · · · · · · · · · · · · ·	
Test Objective(s)		Verify that if the RBC is waiting for EVC to answer to a co-operative shortening of Movement Authority on marker board A and the RBC receives from IXL a request to shorten MA on a marker board B which is beyond of A, the RBC shall not issue a shortened MA on marker board B until shortened MA on marker board A has been rejected by the EVC.				
Diagr	am					
		Level			L2	
		Mode			FS	
Starti	ng conditions	Train Speed (km	n/h)		NR	
		Additional starti	ing cond	itions	The train is running and all the marker boards of the route are in proceed aspect	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escriptio	n of what to be tested at the interface OK?	
		DMI (O)				
		DMI (I)				
	The RBC sends a Movement Authority composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. (***)	JRU	Ň M M F	RBG1) I_MODE=0 I_LEVEL=3 (Level 2) lessage 3/33 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L ENDSECTION = L1		
	It is requested to the signalman to	DMI (O)		_		
	perform a co-operative shortening of MA in the marker board A in advance of the	DMI (I)				
	train.	JRU				
		DMI (O)				
		DMI (I)				
	The RBC proposes a co-operative shortening of Movement Authority to marker board A.	JRU	Ì	N_ITER	= T1 5 *)/V_EMA(**) = 0	
	Almost immediately, it is requested to the	DMI (O)				
4	signalman to perform a co-operative shortening of MA in the marker board B	DMI (I)				
	in advance of the train and immediately in advance of marker board A.	JRU				
	The EVC checks that the shortening	DMI (O)	V	permitted	and Dtarget remain the same (****)	
	request could cause a brake application immediately or within a few seconds and	DMI (I)	1			
5	therefore cannot grant the co-operative		7	lessage 1 _TRAIN= Packet 0 M_MOD _TARGE	= T1 /1	

		DMI (O)				
	The RBC proposes a co-operative shortening of Movement Authority to marker board B, in advance of the train and in advance of marker board A.	DMI (I)				
6		JRU	(LRBG2) Message 9 T_TRAIN= T2 >T1 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L3 >L2			
	The EVC checks that the shortening	DMI (O)	MA is updated Vpermitted decreases Dtarget shortened to the closed marker board B (****)			
	request does not cause a brake application immediately or within a few seconds and therefore grants the cooperative shortening request (i.e. accepts the proposed shorter Movement Authority to the correct marker board) and informs the RBC.	DMI (I)				
7			Message 137 T_TRAIN= T1 Packet 0/1 M_MODE = 0 D_TARGET = L3 -D_LRBG2 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (****)			
		Level	2			
- :	state	Mode	FS			
Finai	state	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST				
Briefing instructions		(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Step 1 refers to the MA stored on-board before the co-operative shortening MA is received (****) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(*) or Target Speed Monitoring (TSM)				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.8. SMA8

	TEST CASE DESCRIPTION						
		Code	Versi	on	Title		
Test (Case	SMA8	5	5 Cond		nditional emergency stop due to signal closure.	
Basel	line applicable	Baseline 3 MR1 (S FbIS.F.1106	SRS 3.4	1.0) /	Baseli	ine 3 R2 (SRS 3.6.0)	
Test (case author	Ineco/CEDEX					
Test (Objective(s)					ses due to IXL failure and the train is outside tall emergency stop to the marker board.	the
Diagr	am						
Starti	ng conditions	Level Mode Train Speed (km/	h)			FS NR	
_		Additional startin	ng cond	dition		The train is running and all the marker boards the route are in proceed aspect.	s of
⊢-	ence of the Test Case	Checkpoints	1.				
Step	Step description	Interfaces		Desc	riptio	n of what to be tested at the interface OK?	,
		DMI (O) DMI (I)					
1	The RBC sends a Movement Authority composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. (***)		ו ו ו	M_LE Mess Pack V_L N_I	ODE= VEL= age 3/ et 15 OA(*) TER =	=3 (Level 2) /33)/V_EMA(**) = 0	
	A marker board closes due to a IXL1	DMI (O)					
	failure and the train is outside the IXL1 area. The RBC sends a conditional emergency stop to the marker board.	DMI (I)					
2		JRU		NID	agé 1: _EM :	5 = EM1 :GENCYSTOP = D2(LRBG2) < L1	
	The EVC checks that the min safe front end of the train has not passed the proposed CES stop location yet and that the proposed CES stop location is not beyond the current EoA/SvL.	DMI (O)	[(MA is Dtarg (****) Vperr	upda et sho nitted		
	The EVC accepts the CES (i.e. defines a new EoA/SvL) and informs the RBC.	DMI (I)					
3		JRU	[NII Q_ Pad DMI_ ST EMEF	EMER cket 0 LRB SYME 01 RGEN	= EM1 RGENCYSTOP = 0	
		Level		2			
Final	state	Mode	F	FS (*'	*****)		
		Train Speed (kr	m/h)	NR			
		Other paramet	ers				
Final	Test Result						





Field of Application	F-bane WEST
Briefing instructions	(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Step 1 refers to the MA stored on-board before the co-operative shortening of MA is received (****) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(*) or Target Speed Monitoring (TSM) (*****) Only if Vtrain>Vpermitted (******) Depending the train speed when the conditional emergency stop is accepted and the distance to the Stop location the train could pass the stop location given by the conditional emergency stop message. In this case the EVC will change to TR mode.

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.9. SMA9

		TEST CASE	DESCRIP	IION		
		Code	Version	Title		
Test Case					onditional emergency stop due to signal closure. The ew stop location is beyond the current EoA.	
Base	line applicable	Baseline 3 MR1 FbIS.F.1106	(SRS 3.4.0) / Base	line 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test (Objective(s)	IXL area the RB0 addition it shall b	C sends a d e verified t	condition hat if the	uses due to IXL failure and the train is outs all emergency stop to the marker board. It is new stop location is beyond the current It is stop is accepted no update of EoA is app	n EoA,
Diagr	am					
		Level			L2	
		Mode			FS	
Starti	ng conditions	Train Speed (km	n/h)		NR	
Starting conditions		Additional starting conditions			The train is running and all the marker bo the route are in proceed aspect. The route ends before the first marker bo controlled by the IXL1	
Sequence of the Test Case		Checkpoints				
Step	Step description	Interfaces	s De	scriptio	on of what to be tested at the interface	OK?
		DMI (O)		Dtarget shortened to the closed marker board(***)		
		DMI (I)				
1	A marker board closes due to a IXL1 failure and the train is outside the IXL1 area. The train receives a request to shorten MA (message 9) composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h.	JRU	M_ M_ Me Pa \ N L D_ > r	(LRBG1) M_MODE=0 M_LEVEL=3 (Level 2) Message 9 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L1 D_TARGET = L1 -D_LRBG1 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL))		
	The EVC checks that the shortening	DMI (O)		A is upda	ated I decreases	
	request does not cause a brake application immediately or within a few	DMI (I)	1,5			
2	seconds and therefore grants the co- operative shortening request (i.e. accepts the proposed shorter Movement Authority) and informs the RBC.	,,	T_ F	Message 137 T_TRAIN= T1 Packet 0/1 M_MODE = 0		
		DMI (O)		_		
	Just after having received the request to	DMI (I)				
3	shorten MA the RBC sends a conditional emergency stop with an EoA beyond the EoA defined by the message 9.	JRU	M∈ N	RBG2) essage 1 NID_EM D_EMER		
4	The EVC checks that the min safe front end of the train has not passed the	DMI (O)	MA	A is not u	updated	



	proposed CES stop location yet and that the proposed CES stop location is not beyond the current EoA/SvL. The EVC accepts the CES (i.e. defines a new EoA/SvL) and informs the RBC.	JRU	Message 147 NID_EM = EM1 Q_EMERGENCYSTOP = 0 Packet 0/1 D_LRBG - L_DOUBTOVER < D2(LRBG2)			
		Level	2			
: :	atata	Mode	FS			
Final	state	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane WEST				
Briefing instructions		(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) If the on-board is ETCS Baseline 3 Maintenance Release 1, Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.10. SMA10

TEST CASE DESCRIPTION						
		Code	Versio	on T	Title	
Test (Case	SMA10	6		MA shortening in RBC/RBC Handover area.	
Basel	ine applicable	Baseline 3 MR1 FbIS.F.1899, OP		.0) / E	Baseline 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify that the RE Handover marke			e MA up to the transition border when the RBC/ed.	RBC
Diagr	am					
		Level			L2	
		Mode			FS	
		Train Speed (km	n/h)		Maximum speed of the line	
Starting conditions		Additional starti	ing cond	ition	The train runs in L2 FS towards the RBC-R transition border Two communication session can be handle simultaneously by the EVC. A radio communication session is establish with the Handing Over RBC.	ed
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escr	iption of what to be tested at the interface O	K?
	RBC1 gives a MA including the RBC- RBC Handover border.	DMI (O)				
		DMI (I)				
		JRU	Ν	Message 3/33 (LRBG1) Packet 15 L_ENDSECTION=L1		
		DMI (O)				
		DMI (I)				
	The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).	JRU	F	Message 3/24/33 (LRBG1) (*) Packet 131 D_RBCTR=D1 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 (D15L1)		
		DMI (O)				
		DMI (I)				
3	The EVC establishes a communication session with the RBC2.	JRU	N N	1essa 1essa Pacl 1essa	age 155 age 32 age 159 ket 2(**) age 129 age 8	
		DMI (O)			updated	
	The RBC1 updates the MA (beyond the border) when a route has been	DMI (I)				
4	4 established across the border up to the first ETCS stop marker of the receiving system. V_PERM=V_STATIC Message 3/33 (LRBG2) Packet 15		age 3/33 (LRBG2)			
	It is requested to the signalman to close	DMI (O)				
	the marker board at the RBC-RBC Handover border (or a marker board just	DMI (I)				
	in rear the RBC-RBC HO)	JRU				
6		DMI (O)	F	S Sv	mbol	

		DMI (I)		
	The RBC proposes a shorter Movement Authority.	JRU	(LRBG2) Message 9 T_TRAIN= T1 Packet 15 V_LOA(***)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L3 < L2 DMI_SYMB_STATUS MO11	
		DMI (O)	FS Symbol Vpermitted decreases Dtarget shortened to the closed marker board(****)	
	The EVC checks that the shortening request does not cause a brake	DMI (I)		
7	application immediately or within a few seconds and therefore grants the cooperative shortening request (i.e. accepts the proposed shorter Movement Authority) and informs the RBC.	JRU	Message 137 T_TRAIN= T1 Packet 0/1 M_MODE = 0 D_TARGET = L3 -D_LRBG2 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (distance to the closed marker board, D3 <d2) (****)<="" td=""><td></td></d2)>	
		DMI (O)		
	<u> </u>	DMI (I)		
8	The RBC2 sends an order to terminate communication session. Communication session is terminated with the RBC2.	JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39	
	It is requested to the signalman to open	DMI (O)		
9	the marker board at the Handover border (or the Marker board in rear the RBC	DMI (I)		
	HO).	JRU		
	RBC1 gives a MA including the RBC-RBC Handover border.	DMI (O)		
40		DMI (I)		
10		JRU	Message 3/33 (LRBG2) Packet 15 L_ENDSECTION=L4	
		DMI (O)		
		DMI (I)		
11	The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).	JRU	Message 3/24/33 (LRBG2) Packet 131 D_RBCTR=D4 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 D4(LRBG2)=D1(LRBG1) D4≤L4	
	<u> </u>	DMI (O)		
		DMI (I)		
12	The EVC establishes a communication session with the RBC2.	JRU	Message 155 Message 32 Message 159 Packet 2(**) Message 129 Message 8	
		DMI (O)	MA is updated No braking curve to EoA is shown	
	The RBC1 updates the MA (beyond the border) when a route has been	DMI (I)	, to starting out to to bottle onown	
13	established across the border up to the first ETCS stop marker of the receiving system.	· ·	V_PERM=V_STATIC Message 3/33 (LRBG2)	
		JRU	Packet 15 L_ENDSECTION=L5 >L3 (L5)>D4(LRBG2))	
14		JRU DMI (O)	Packet 15	



	max safe front end reaches the border location.	JRU	Estimated front end ≥ D4(LRBG2) - L_DOUBTUNDER Message 136 Packet 0 M_MODE = 0 Message 136 Packet 0 M_MODE = 0
		DMI (O)	
		DMI (I)	
15	At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	JRU	MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC Packet 3
		DMI (O)	1 donor o
	The EVC sends to the RBC1 a position report when the min safe rear end has passed the border location.	DMI (I)	
16		JRU	Estimated front end ≥ D4(LRBG2) + L_TRAIN + L_DOUBTOVER Message 136 Packet 0 M_MODE = 0
		DMI (O)	
		DMI (I)	
17	The RBC1 sends an order to terminate communication session. Communication session is terminated with the RBC1.	JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39
		Level	2
		Mode	FS
Final	state	Train Speed (km/h)	Maximum of the line
		Other parameters	The train runs in L2 FS at the maximum speed of the line in the area under the supervision of the Accepting RBC
Final	Test Result		
Field	of Application	F-bane EAST, F-bane V	VEST
		(*) Packet 131 could be (**) ETCS Baseline 3 Re (***) ETCS Baseline 3 M (***) If the on-board is E	elease 2

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.11. SMA11

TEST CASE DESCRIPTION							
		Code	Vers	ion T	itle		
Test	Case	SMA11	8	N	/IA sh	ortening with TSR.	
Base	line applicable	Baseline 3 MR1 (FbIS.F.257, FbIS				ne 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX					
Test	Objective(s)					a TSR is maintained on board when the to a co-operative shortening of MA.	
Diagr	am						
		Level Mode			_	_2 =\$	
Starti	ng conditions	Train Speed (km	/h)		N	Maximum speed of the line	
		Additional starti	ng con	ditions		The train is running or at standstill in the proximity of a marker board which is open.	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	;	Descri	ption	of what to be tested at the interface OK?	
		DMI (O)					
		DMI (I)					
1	The RBC sends a Movement Authority composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. (***)	JRU		(LRBG1) M_MODE=0 M_LEVEL=3 (Level 2) Message 3/33 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION=L1			
		DMI (O)					
		DMI (I)					
2	It is requested to the signalman to set a TSR in the established route. The RBC sends to the EVC a message with the TSR.	JRU		(LRBG2) Message 3/24 Packet 65 D_TSR = D2 L_TSR = L2 V_TSR = V1 Q_FRONT = 0 Packet 72 Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = D2-150m M_MODETEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X TEXT = "MH: X"/"TSR: X"		D2 L2 V1 T = 0 CTCLASS = 00 CTDISPLAY = 0 CTDISPLAY = D2-150m DETEXTDISPLAY = 15 TDISPLAY = 32767 TDISPLAY = 10 CTCONFIRM = 00	
		DMI (O)					
	It is requested to the signalman to	DMI (I)					
3	It is requested to the signalman to perform a co-operative shortening of MA in the marker board in advance of the train within the established TSR, so that the Temporary Speed Restriction is set on both sides of the closed marker board. The RBC proposes a shorter Movement Authority.	JRU		N_IT L_EI	ge 9 AIN= et 15 OA(*) ΓER = NDSE	/V_EMA(**) = 0	



		DMI (O)	Dtarget shortened to the closed marker board (****) Vpermitted decreases	
		DMI (I)	v pominiou dooreacee	
4	The EVC checks that the shortening request does not cause a brake application immediately or within a few seconds and therefore grants the cooperative shortening request (i.e. accepts the proposed shorter Movement Authority) and informs the RBC.	JRU	Message 137 T_TRAIN= T1 Packet 0/1 M_MODE = 0 D_TARGET = L3 -D_LRBG3 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (distance to the closed marker board, D3 <d1(lrbg1)) (****)<="" td=""><td></td></d1(lrbg1))>	
		DMI (O)	Vpermitted does not decrease Text message of the TSR appears	
5	The train reaches a point 150 m in rear of the TSR1 area when the train has run the	DMI (I)		
,	distance D2 - 150.	JRU	START DISPLAYING TEXT MESSAGE estimated train location = D2 (LRBG2) - 150 m TIME = T1	
	The task are also with its area is a second	DMI (O)	Vpermitted = V1 Vtrain ≤ V1	
_	The train reaches with its maximum safe front end the location of the permitted	DMI (I)		
6	speed supervision limit calculated for the target speed V1.	JRU	V_PERM = V1 V_TRAIN ≤ V1 estimated front end < D2(LRBG2) - L_DOUBTUNDER	
	10 seconds have passed since the Text message began to be displayed on the DMI	DMI (O)	Text message of the TSR disappears	
7		DMI (I)	DMI (I)	
		JRU	STOP DISPLAYING TEXT MESSAGE TIME = T1+ 10 s	
		DMI (O)	Vtrain=0 Vpermitted≈0	
8	Train reaches at standstill in front of the closed marker board	DMI (I)		
	ciosed marker board	JRU	V_TRAIN=0 V_PERM≈0	
		DMI (O)	MA is updated Vpermitted=V1	
	It is requested to the signalman to change the status of the marker board	DMI (I)		
9	from "Non Proceed" to "proceed". The RBC proposes a new MA beyond the marker board. The TSR information is stored on board therefore the permitted speed is set to the value of the TSR	JRU	(LRBG4) M_MODE=0 M_LEVEL=3 (Level 2) Message 3/33 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION= L4	
		DMI (O)	Vpermitted>V1	
	The supervision of the TSR1 finishes	DMI (I)		
10	when the min safe rear has reached the end of the TSR area.	JRU	estimated front end = D2 (LRBG2) + L2 + L_TRAIN + L_DOUBTOVER V_PERM = V_STATIC	
		Level	2	
C: '	otata	Mode	FS	
rınal	state	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result		•	
		F-bane EAST, F-bane V	WEST	
. iciu	or Appropriation		1201	



Briefing instructions	Depending on the distance D2 and the train speed, the sequence of the steps 5 and 6 may be altered. If Packet 27 SSP is used instead of packet 65 for TSRs, log on test result "OK with comments". In this case in addition it shall be verified that at step 9 the RBC sends packet 27 with the correct TSR information. (*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) In F-bane WEST, the TSR has to be set before the train receives the MA (****) If the on-board is ETCS Baseline 3 Maintenance Release 1, Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)
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ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.12. SMA12

		TEST CASE	DESC	RIPTIC	N			
		Code	Versi	ion	Γitle			
Test	Case	SMA12	5		Shor	rtening of MA when train is at standstill.	when train is at standstill.	
Base	line applicable	Baseline 3 MR1 FbIS.F.1262, FbI		.4.0) / Baseline 3 R2 (SRS 3.6.0) 0, OPS.655				
Test	case author	Ineco/CEDEX						
Test	Objective(s)					ill in front of a marker board in stop aspect and oute is not released, only overlap and danger p		
Diagr	am							
		Level				2		
		Mode				FS		
Starti	ng conditions	Train Speed (km	n/h)			0		
		Additional start	-	dition	s	The train is at standstill in the proximity of a marker board which is closed.		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	S	Descr	iptio	n of what to be tested at the interface OK?		
		DMI (O)						
		DMI (I)						
1	The RBC sends a Movement Authority composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. The EoA is set to the marker board.	JRU		(LRBG1) Message 3/33 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L1 Q_DANGERPOINT ≠ 0 where applicable Q_OVERLAP ≠ 0 where applicable Packet 21 Packet 27				
		DMI (O)						
		DMI (I)						
2	The EVC reports to the RBC its position at standstill within a configurable distance from the EoA (distance from the EoA to the beginning of the destination area).			(LRBG1) Message 136 Packet 0/1 V_TRAIN= 0 Km/h M_MODE = 0 D_LRBG = D1 D1 > L1(LRBG1) - D2 (D2=distance from the EoA to the beginning of the destination area)				
		DMI (O)				new SvL		
		DMI (I)						
	The RBC issues a new Movement Authority shortened without Danger Point and Overlap information.			(LRBG1) Message 3 Packet 15 V_LOA(*)/V_EMA(**) = 0 L_ENDSECTION = L1 Q_DANGERPOINT = 0 Q_OVERLAP = 0 D_TARGET = L1- D_LRBG1 - L_DOUBTUNDER				
				(***)				
		Level		2				
Final	state	Mode		FS				
		Train Speed (km/h)	0				





	Other parameters		
Final Test Result			
Field of Application F-bane WEST			
Briefing instructions	The signaller shall execute the proper command to release the overlap D2 = Distance from the EoA where the overlap can be released if the train reports its position within thereof and no new route is set. (*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Dtarget is shown and stored if the train is in the monitoring status of Target Speed Monitoring (TSM)		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.13. SMA13

		TEST CASE	DESCRIE	PTION				
		Code	Version	Title	•			
Test Case		SMA13	4	Sho	rtening of MA when train is at standstill.			
Baseline applicable		Baseline 3 MR1 (\$ FbIS.F.1262, FbIS		4.0) / Baseline 3 R2 (SRS 3.6.0)), OPS.655				
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify that when a within a configural	train is a ble distan	s at standstill in front of a marker board in stop aspect and tance the route is released. Joining set route.				
Diagr	am							
Starti	ing conditions	Level Mode Train Speed (km/	/h)		2 FS 0			
		Additional startir	ng condit	ions	The train is at standstill in the proximity of a marker board which is closed.			
-	ence of the Test Case	Checkpoints	ı					
Step	Step description	Interfaces	De	scription	on of what to be tested at the interface OK?			
		DMI (O)						
	The RBC sends a Movement Authority	DMI (I)	`	RBG1)	2/22			
1	composed of only 1 section (i.e. the end section) with no section timers and target speed of the EoA(*) / End of Movement Authority(**) of 0 Km/h. The EoA is set to the marker board.	JRU N_ITEF L_END Q_DAN		acket 15 /_LOA(N_ITER L_ENDS Q_DAN(Q_OVER acket 21	5 *//V_EMA(**) = 0 = 0 SECTION = L1 GERPOINT ≠ 0 where applicable RLAP ≠ 0 where applicable			
		DMI (O)						
		DMI (I)						
2	The EVC reports to the RBC its position at standstill within a configurable distance from the EoA (distance from the EoA to the beginning of the destination area).	Infigurable distance from the EoA to estination area). JRU JRU JRU JRU JRU JRU JRU D1 > L1(LRBG1) - D2 (D2=dis		/1 IN= 0 Km/h DE = 0 G = D1				
		DMI (O)		1A is updated target = 0				
		DMI (I)						
3	The RBC issues a new Movement Authority shortened to its present position	JRU	Μe	(LRBG1) Message 3/9(***) Packet 15 V_LOA(*)/V_EMA(**) = 0 L_ENDSECTION = L = D1				
			D_	TARGE	ET = L - D_LRBG1 = 0			
		Level	2					
Final	state	Mode	FS					
		Train Speed (ki	m/h) 0	0				
		Other paramet			•			





Field of Application	F-bane WEST
	The signaller shall execute the proper command to release the route D2 = Distance from the EoA where the overlap can be released if the train reports its position within thereof and no new route is set. (*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) In case the shortening of MA is performed through message 9 it shall be verified this message is granted on board.

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.14. SMA14

		TEST CASE I	DESCR	IPTION				
		Code	Versio	n Titl	le			
Test (Case	SMA14	6	Co-	-Operative Shortening of MA due to Radio Hole.			
Basel	ine applicable	Baseline 3 MR1 (S	SRS 3.4.	RS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)				
Test o	case author	Ineco/CEDEX						
Test (Objective(s)		sends a		ole and the MA is not long enough to pass the radio erative shortening of MA to the last marker board			
Diagr	am							
		Level			2			
		Mode			FS			
Starti	ng conditions	Train Speed (km/h	h)		NR			
o tui ti		Additional startin	ıg cond	The train is running with a MA and from tha radio hole area is activated. The EoA of is within the radio hole area and the train is outside the radio hole area				
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	D	escript	ion of what to be tested at the interface OK?			
		DMI (O)						
		DMI (I)						
1	The RBC proposes a shorter Movement Authority.	JRU	آ ا	N_ITE L_END the rac Q_DAI	9 N= T1 15 A(*)/V_EMA(**) = 0			
		DMI (O)	V	MA is updated Vpermitted decreases Dtarget shortened to the closed marker board (***)				
	The EVC checks that the shortening request does not cause a brake	DMI (I)						
	application immediately or within a few seconds and therefore grants the co-operative shortening request (i.e. accepts the proposed shorter Movement Authority) and informs the RBC.	JRU	D	Message 137 Packet 0/1 M_MODE = 0 D_LRBG = D1 V_TRAIN D_TARGET = L1 -D1 (if L_DOUBTUNDER > max(D_DP, D_OL)) (***)				
		Level	2					
Final	stato	Mode	F	S				
riilal	Siaic	Train Speed (kn	n/h) N	IR				
		Other paramete	ers					
Final	Test Result							
Field	of Application	F-bane EAST, F-ba	ane WE	ST				
Briefi	ng instructions		e 3 Rele d is ETC	ase 2 CS Base	Release 1 bline 3 Maintenance Release 1, Dtarget is shown nitoring status of Pre-Indication Monitoring (PIM)			



ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.15. SMA15

	TEST CASE DESCRIPTION							
		Code	Version	Title				
Test Case		SMA15	7	Short	hortening of MA due to tunnels/bridges.			
Baseline applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS 1013, FbIS.F.420						
Test case author		Ineco/CEDEX						
Test Objective(s)		Verify that when there is an emergency in a tunnel or in a bridge the RBC reacts sending a co-operative shortening of MA to the location of the last marker board prior to the start location of the tunnel/bridge.						
Diagr	am							
		Level			2			
		Mode			FS			
		Train Speed (km	/h)		NR			
Starting conditions		Additional starting conditions		ons	The train is running with a MA which covers at least a tunnel or a bridge partially or fully. An emergency in the tunnel or bridge takes place and the train has not already entered the tunnel/bridge.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	Des	criptio	n of what to be tested at the interface OK	?		
		DMI (O)						
		DMI (I)						
1	The RBC proposes a shorter Movement Authority.	JRU	Mes T_ Pa V N L to th	(LRBG1) Message 3/9 T_TRAIN= T1 Packet 15 V_LOA(*)/V_EMA(**) = 0 N_ITER = 0 L_ENDSECTION = L1 (last marker board prior to the tunnel/bridge with the emergency issue) Q_DANGERPOINT ≠ 0 where applicable Q_OVERLAP ≠ 0 where applicable				
	The EVC checks that the shortening request does not cause a brake application immediately or within a few seconds and therefore grants the cooperative shortening request (i.e. accepts the proposed shorter Movement Authority) and informs the RBC. (***)	DMI (O)	Dta (***)	MA is updated Dtarget shortened to the closed marker board ***)(****) /permitted decreases				
		DMI (I)						
2		JRU	rece P D_1 max	Message 137 (Only in case message 9 has been received) Packet 0/1 M_MODE = 0 D_LRBG = D1 V_TRAIN D_TARGET = L1 -D1 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (****)				
		Level	2					
C: '	atata	Mode	FS	FS				
Final	state	Train Speed (k	m/h) NR					
		Other parame	ters					
T: I	Test Result		.					
rınaı								





Briefing instructions	(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) This step could not occur if the shortening of the MA is rejected by the train. In this case no further action is taken by the RBC. (****) If the on-board is ETCS Baseline 3 Maintenance Release 1, Dtarget is shown
	and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.8.16. SMA16

		TEST CASE	DESCR	RIPTIO	ION	
		Code	Versi	on	Title	
Test Case		SMA16	5		Shortening MA due to IXL failure. Train is outside IXL area.	
Baseline applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F. 1106				
Test case author		Ineco/CEDEX				
Test Objective(s)		Verify that when an IXL failure occurs the RBC sends a shortened MA (Message 3) to the train.				
Diagr	am					
		Level			2	
		Mode			FS	
		Train Speed (km.	/h)		NR	
Starting conditions		Additional starting conditions		lition	The train is running with a MA which covers partially or fully the command and control area of an IxL. That IXL has a failure (loss of communication between the RBC and the IXL) and the train has already entered the IXL area.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	. [Desci	cription of what to be tested at the interface OK?	
				Otarge	s updated get shortened to the closed marker board (*) mitted decreases	
		DMI (I)				
1	The RBC issues a shorter Movement Authority.	JRU	N tı ⊦	(LRBG1) Message 3 Packet 15 V_LOA(**)/V_EMA(***) = 0 N_ITER = 0 L_ENDSECTION = L1 (last marker board prior to the IXL command and control area which has had the failure) Q_DANGERPOINT ≠ 0 where applicable Q_OVERLAP ≠ 0 where applicable D_TARGET = L1 -D_LRBG1 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (*)		
		Level	2	2		
Eina!	atata	Mode	F	-S		
Final state		Train Speed (k	(m/h)	NR		
		Other parame	ters			
Final	Test Result					
Field	of Application	F-bane EAST				
Briefing instructions		(*) Only if there is not a more restrictive target between the train location and the last marker board prior to the command and control area of the IXL which has had the failure and Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(**) or Target Speed Monitoring (TSM) (**) ETCS Baseline 3 Maintenance Release 1 (***) ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						

Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.8.17. SMA17

	TEST CASE DESCRIPTION					
		Code	Version	Title		
Test	: Case	SMA17	3	Mitigat	tion of Hazard 082	
Baseline applicable Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) Subset 113 HZ 82						
Test	case author	Ineco/CEDEX				
Test	Objective(s)	Verify that when an MA with a mode profile is stored onboard and a marker board locate in rear of the OS starting point is closed the RBC does not send a co-operative shortenin of MA until a new MA is sent without mode profile.				
Diaç	ıram				OS AREA	
Starting conditions		Level Mode Train Speed (km/h)		F	_2 FS NR The train is running in FS approaching to	an OS
		Additional starting conditions				anoo
_		Additional startir	ng condition	s T	area. The radio communication session is esta vith the RBC.	
sequ	uence of the Test Case	Additional starting Checkpoints	ng condition	s T	The radio communication session is esta	
-	uence of the Test Case Step description			s V	The radio communication session is esta	
	T	Checkpoints Interfaces DMI (O)	Desc	s V	The radio communication session is esta vith the RBC.	blished
Step	T	Checkpoints Interfaces DMI (O) DMI (I)	FS S (LRE M_M M_LI Mess Paci L Paci D_ starti M_ V_ L-I endii L_A the E from	G1) ODE=0 EVEL=3 sage 3/3 ket 15 ENDSE ket 80 MAMOE MA	The radio communication session is established the RBC. of what to be tested at the interface (FS) (Level 2) (FS) (ECTION=L0 (L0=D1+L1) DE = D1 (at the axle counter beyond the all of the OS route) DE = 0 (OS) DE = V DE = L1 (at the axle counter beyond the all of the OS route) MODE = L_ACK (min{ 300 m in rear of the OS route) MODE = L_ACK (min{ 300 m in rear of the OS route) MODE = L_ACK (min{ 300 m in rear of the counter before restriction, distance coeding stop marker to the start location of the start location of the location of t	OK?
Step	Step description The train runs towards an open marke board for OS and receives from the	Checkpoints Interfaces DMI (0) DMI (I)	FS S (LRE M_M M_LI Mess Paci D_ starti M_ V_ L_I endin L_J the E from the C Q_ Brak	G1) ODE=0 EVEL=3 sage 3/3 ket 15 LENDSE ket 80 MAMOE	The radio communication session is established the RBC. of what to be tested at the interface (FS) (Level 2) (FS) (Level 2) (FS) (ECTION=L0 (L0=D1+L1) (FS) (FS) (FS) (FS) (FS) (FS) (FS) (FS	OK?



	considered as an EoA or as both the EoA and SvL with no release speed	JRU	Vpermitted decrease D_TARGET=D1-D_LRBG1 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (****)	
	It is requested to the signalman to	DMI (O)	\ <u> </u>	
	close a marker board in advance of the train. This marker board is located	DMI (I)		
_	in rear of the beginning of the OS area.	JRU		
	No request to shorten MA (message 9)	DMI (O)	(1)	
	is received from the RBC (unless a new MA is sent without mode profile)	DMI (I)		
	(**)	JRU	(2)	
If the	RBC does not implement the mitigation	measure and it sends a	co-operative shortening of MA (message 9), it shall be	checked
if afte	er having rejected the co-operative short		Lunit keeps the mode profile (see steps 5,6,7,8 and 9).	(***)
		DMI (O)		
		DMI (I)	(LDD04)	
5	The RBC proposes a shorter Movement Authority (in rear of the mode profile starting point), without any mode profile before the before OS mode is acknowledged.	JRU	(LRBG1) Message 9 T_TRAIN= T1 Packet 15 V_LOA(*****)/V_EMA(******) = 0 N_ITER = 0 L_ENDSECTION = L2 (L2 <l0 80<="" and="" l2≤d1)="" no="" packet="" td=""><td></td></l0>	
		DMI (O)	MA is not updated Dtarget remains the same	
	The EVC checks that the shortening	DMI (I)	Draiger remains the same	
6	request could cause a brake application immediately or within a few seconds and therefore cannot grant the co-operative shortening request (i.e. rejects the proposed shorter Movement Authority and the previous MA remains valid) and informs the RBC.	JRU	Message 138 T_TRAIN= T1 Packet 0/1 M_MODE = 0 D_TARGET = D1- D_LRBG1 (if L_DOUBTUNDER > max(D_DP, D_OL)) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (****) DMI_SYMB_STATUS MO11	
	The train follows the braking curve	DMI (O)	"Acknowledgement for On Sight" symbol is displayed Vtrain < V_MAMODE Vpermitted decreases	
	until reaches the acknowledgement area and the driver is requested to	DMI (I)		
	acknowledge the transition to OS mode	JRU	V_TRAIN < V_MAMODE Estimated front end > D1(LRGB1)-L_ACK DMI_SYMB_STATUS MO08	
		DMI (O)	"Acknowledgement for On Sight" symbol is removed OS symbol is displayed	
	The driver acknowledges the transition	DMI (I)	Driver acknowledges OS mode	
	and the EVC switches to OS mode	JRU	M_DRIVERACTIONS = 0 M_MODE = 1 DMI_SYMB_STATUS MO07	
		DMI (O)	OS symbol	
9	The train continues in OS mode up to the end of the OS area.	DMI (I)		
	and on the Go area.	JRU	D_LRBG1≈L0	
		Level	2	
L.	 	Mode	os	<u> </u>
Fina	l state	Train Speed (km/h)	NR	
	 	Other parameters		
Fina	Test Result	2 P	1	'
-		F-bane EAST, F-bane W	FST	
rieic	гог Аррисацоп	-Dane EAST, F-Dane W	LOI	

	 (*) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1. (**) According to the proposed mitigation described for the Hazard 082 the RBC should not send a request to shorten MA until a new MA is sent without mode profile. (1) and (2). It is not possible to specify which information is going to be received from the RBC because it depends on the supplier implementation. In any case, it shall be verified that the RBC reaction is such that no hazardous situation can arise (i.e.: For example at
Briefing instructions	this step the RBC could send a shorter MA (message 3 with packet 15) up to the closed marker board). (***) Note that steps 5,6,7,8 and 9 have been created only to check the behaviour of the onboard unit in case the infrastructure does not implement the mitigation measure
	proposed for Hazard 082. (****) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(*****) or Target Speed Monitoring (TSM) (*****) ETCS Baseline 3 Maintenance Release 1
	(******) ETCS Baseline 3 Release 2

ADDITIONAL TEST CASE REPORTING INFORMATION		
System configuration		
Test location		
Date and time (Start/End)		
Names		
Test log reference		
Observations		



2.8.18. SMA18

TEST CASE DESCRIPTION						
	Code	Version	Title			
Test Case	SMA18	3	Mitigation of F	Hazard 082		
Baseline applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) subset 113 HZ 82					
Test case author	Ineco/CEDEX					
Test Objective(s)	Verify that when a inside the OS area a new MA is sent	a is closed th	e RBC does no	stored onboa ot send a co-c	ard and a marker boa operative shortening	rd located of MA until
Diagram			OS AREA	OS AREA	<u></u>	
	Level Mode		L2 FS			
	Train Speed (km/	′h)	NR			
Starting conditions		Additional starting conditions		•	n FS approaching to ation session is estat	
Sequence of the Test Case	Checkpoints					
Step Step description	Interfaces	Desc	ription of wha	t to be teste	d at the interface	OK?
	DMI (O)	FS S	ymbol			
	DMI (I)					
The train runs towards an open mark board for OS and receives from the RBC a Mode Profile for OS.	JRU	M_L Mess Pac L_ Pac D_ start M_ V_ endii L_; the E from the Q	IODE=0 (FS) EVEL=3 (Level sage 3/33 ket 15 ENDSECTION ket 80 MAMODE = D1 ng signal of the MAMODE = V MAMODE = L1 ng signal of the ACKMAMODE ETCS stop mark the preceding so mode)) MAMODE = 0/	=L0 (L0: I (at the axle e OS route) (OS) (at the axle c OS route) = L_ACK (minument of the context of the conte	=D1+L1) counter beyond the counter beyond the n{ 300 m in rear of striction, distance of the start location of	
The EVC enters in braking curve. The beginning of the OS area is	DMI (O)		ing curve to the ise speed	beginning of	the OS area with no	<u>'</u>



	considered as an EoA or as both the	DMI (I)		
	EoA and SvL with no release speed	JRU	Vpermitted decrease D_TARGET=D1-D_LRBG1 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (****)	
	It is requested to the signalman to	DMI (O)	=_5005.0.152.1ax(0_51;5_02)/()	
3	close a marker board in advance of	DMI (I)		
	the train. This marker board is located inside the OS area.	JRU		
١	No request to shorten MA (message 9)	DMI (O)	(1)	
4	is received from the RBC (unless a new MA is sent without mode profile)	DMI (I)		
	(**)	JRU	(2)	
			co-operative shortening of MA (message 9), it shall be	
afte	er having rejected the co-operative short	ening of MA the onboard DMI (O)	d unit keeps the mode profile (see steps 5,6,7,8 and 9).	(***)
	1	DMI (I)		
Э	The RBC proposes a shorter Movement Authority with a mode profile which is shorter than the original MA in step 1 before the train reaches the acknowledgement area for OS.	JRU	(LRBG1) Message 9 T_TRAIN= T1 Packet 15 V_LOA(*****)/V_EMA(******) = 0 N_ITER = 0 L_ENDSECTION = L2 (D1 <l2<l0) (d1+l3<="" (os)="" 80="" d1+l1)<="" d_mamode="D1" l_mamode="L3" m_mamode="0" packet="" td="" v_mamode="V"><td></td></l2<l0)>	
		DMI (O)	MA is not updated	
	The EVC checks that the shortening	DMI (I)	Dtarget remains the same	
6	request could cause a brake application immediately or within a few seconds and therefore cannot grant the co-operative shortening request (i.e. rejects the proposed shorter Movement Authority and the previous MA remains valid) and informs the RBC.	JRU	Message 138 T_TRAIN= T1 Packet 0/1 M_MODE = 0 DMI_SYMB_STATUS MO11 D_TARGET=D1-D_LRBG1 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (****)	
	The train follows the braking curve	DMI (O)	"Acknowledgement for On Sight" symbol is displayed Vtrain < V_MAMODE Vpermitted decreases	
	until reaches the acknowledgement area and the driver is requested to	DMI (I)		
	acknowledge the transition to OS mode	JRU	V_TRAIN < V_MAMODE Estimated front end > D1(LRGB1)-L_ACK DMI_SYMB_STATUS MO08	
		DMI (O)	"Acknowledgement for On Sight" symbol is removed OS symbol is displayed	
	The driver acknowledges the transition	DMI (I)	Driver acknowledges OS mode	
8	and the EVC switches to OS mode	JRU	M_DRIVERACTIONS = 0 M_MODE = 1 DMI_SYMB_STATUS MO07	
	The tests and tests are	DMI (O)	OS symbol	
9	The train continues in OS mode up to the end of the OS area.	DMI (I)		
		JRU	D_LRBG1≈L0	
		Level	2	
ina	l state	Mode	os	
ıııa	i state	Train Speed (km/h)	NR	
		Other parameters		
ina	l Test Result			
ielo	d of Application	F-bane EAST		



	(*) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1.
Briefing instructions	(**) According to the proposed mitigation described for the Hazard 082 the RBC should not send a request to shorten MA until a new MA is sent without mode profile. (1) and (2). It is not possible to specify which information is going to be received from the RBC because it depends on the supplier implementation. In any case, it shall be verified that the RBC reaction is such that no hazardous situation can arise (i.e.: For example at this step the RBC could send a shorter MA (message 3 with packet 15) up to the closed marker board).
	(***) Note that steps 5,6,7,8 and 9 have been created only to check the behaviour of the onboard unit in case the infrastructure does not implement the mitigation measure proposed for Hazard 082.
	(****) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(*****) or Target Speed Monitoring (TSM)
	(*****) ETCS Baseline 3 Maintenance Release 1 (******) ETCS Baseline 3 Release 2

ADDITIONAL TEST CASE REPORTING INFORMATION		
System configuration		
Test location		
Date and time (Start/End)		
Names		
Test log reference		
Observations		



2.9. RFB

2.9.1. RFB1

	TEST CASE DESCRIPTION				
		Code	Version	Title	
Test	Case	RFB1	3	The train is running from the beginning to the end of the line the maximum permitted speed.	e at
		Baseline 3 MR1 FbIS.N.237	(SRS 3.4	.0) / Baseline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX			
Test	Verify that the linking information sent by the RBC complies with requirements of design, and the balise groups defined in the Track Layout of the line are right.				
Diag	ram				
		Level		2	
		Mode		FS	
Start	ing conditions	Train Speed (kn	n/h)	Maximum permitted speed	
		Additional start	ting cond	Train in normal direction route with the maximum track ahead free.	〈
Sequ	ence of the Test Case	Checkpoints			
Step	Step description	Interfaces	De	scription of what to be tested at the interface OK?	?
		DMI (O)	FS	symbol	
		DMI (I)			
1	The RBC sends linking information to the train.	Message 3/33/24 NID_BG=BGi Packet 5 D_LINK((i+1)=Di+1 (Di+1≤ 1500 meters) NID_BG(i+1) Q_LINKORIENTATION(i+1) Q_LINKREACTION(i+1) Q_LOCACC(i+1) (i=0,1,2,n) DMI_SYMB_STATUS MO11		D_BG=BGi acket 5 D_LINK(i+1)=Di+1 (Di+1≤ 1500 meters) NID_BG(i+1) Q_LINKORIENTATION(i+1) Q_LINKREACTION(i+1) Q_LOCACC(i+1) (i=0,1,2,n) I_SYMB_STATUS	
	Neither Trip/Service Brake/Linking	DMI (O)	No	SB symbol is displayed due to linking	
2	reaction is applied due to Linking/BG consistency or RAMS related	DMI (I)			
	supervision status.	JRU		BALISE GROUP ERROR is recorded service brake is applied due to linking	
		Level	2		
Einal	state	Mode	FS		
i iiiai	Sidic	Train Speed (k	m/h) Ma	ximum permitted speed	
		Other parame	ters		
Final	Test Result				
Field	of Application	F-bane EAST, F			
Brief	ing instructions			ecuted on all possible routes. directions of the running tracks, including diverging tracks.	

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			

Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.10. LINK

2.10.1. LINK1

	TEST CASE DESCRIPTION								
		Code	Version	Title					
Tes	t Case	LINK1	3	The train is running from the beginning to the end of the line. Verify that all the BGs are marked as "linked"					
Bas	eline applicable	Baseline 3 MR1 (Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)						
Tes	t case author	Ineco/CEDEX							
Tes	t Objective(s)	Verify that all the	balise gr	roups are marked as "linked"					
Dia	gram								
		Level		2					
Cto	ting conditions	Mode		FS					
Sta	ting conditions	Train Speed (km	n/h)	NR					
		Additional starti	ing cond	ditions					
Seq	uence of the Test Case	Checkpoints							
Ste	Step description	Interfaces	Des	scription of what to be tested at the interface OK?					
		DMI (O)							
	The RBC sends linking information to the train.	DMI (I)							
1		JRU		essage 3/33/24 RBG0 acket 5 NID_BG(i) = BGi Q_LINKREACTION = 2 J_ITER=n NID_BG(i+1) = BGi+1 Q_LINKREACTION(i+1) = 2 i=1,2n)					
		DMI (O)							
	The train reads the Balise group i	DMI (I)							
2	while is running across the line.	JRU Q_L		NID_BG (i) Q_LINK (i) = 1 (i=1,2,3n)					
		Level	2						
Eir	al state	Mode	FS						
FIN	ai state	Train Speed (kn	m/h) NR						
		Other paramete	ers						
Fina	al Test Result								
Fiel	d of Application	F-bane EAST, F-	bane WE	EST					
Brie	fing instructions	Steps 1 and 2 are repeated for every linking information sent and every BG encountered. It shall be checked in both directions of the running tracks, including diverging tracks.							

ADDITIONAL TEST CASE REPORTING INFORMATION							
System configuration							
Test location							
Date and time (Start/End)							
Names							

Test log reference	
Observations	



2.10.2. LINK2

		TEST CA	ASE DES	CCRIPTION					
		Code \	/ersion	Title					
Test	Case	LINK2	3	The train is running from the beginning to the end of the line. Verify that the linking reaction at every balise group is set to "No reaction".					
Base	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS EAST - Alstom						
Test	case author	Ineco/CEDEX							
Test	Objective(s)	Verify that the link	ing react	ion at every balise group is set to "No reaction".					
Diag	ram								
		Level		2					
. .		Mode		FS					
Start	ing conditions	Train Speed (km/	h)	NR					
		Additional startin	ng condi	tions					
Sequ	ence of the Test Case	Checkpoints		•					
Step	Step description	Interfaces	Des	cription of what to be tested at the interface O	K?				
	The RBC sends linking information to the train.	DMI (O)							
		DMI (I)							
1		JRU	LRE Pa N O N_	sage 3/33/24 8G0 cket 5 IID_BG(i) = BGiLINKREACTION = 2 ITER=n IID_BG(i+1) = BG _{i+1} LINKREACTION(i+1) = 2 1,2n)					
		DMI (O)							
	The train reads the Balise group i	DMI (I)							
2	while is running across the line.	JRU	Q_L	BG (i) NK (i) = 1 2,3n)					
		Level	2						
Final	state	Mode	FS						
· ···al	- Giaic	Train Speed (km	/h) NR						
		Other paramete	ers						
Final Test Result									
Field	of Application	F-bane EAST, F-b	ane WE	ST					
Briefing instructions		Steps 1 and 2 are repeated for every linking information sent and every BG encountered. (*) For West check that the last BG in the linking info has unknown ID and SB as linking reaction. It shall be checked in both directions of the running tracks, including diverging tracks.							

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						



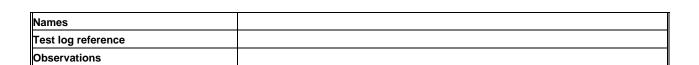
Observations



2.10.3. LINK3

	TEST CASE DESCRIPTION								
		Code	Version	Title					
Test	Case	LINK3	6	The train is running from the beginning to the end of the line. Verify that the value of Q_LOCACC is correct.					
Base	eline applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS WEST - Thales, FbIS EAST - Alstom							
Test	case author	Ineco/CEDEX							
Test	Objective(s)	Verify that Q_LO	CACC is a	accord	ing to BDK requirements for every balise group.				
Diag	ram								
		Level		2	2				
01	tu	Mode		I	-s				
Star	ing conditions	Train Speed (km.	ı/h)	-	Train running at the maximum speed of the line				
		Additional starti	ng condi	tions					
Sequ	ence of the Test Case	Checkpoints							
Step	Step description	Interfaces	Des	criptic	on of what to be tested at the interface	OK?			
		DMI (O)							
	The RBC sends linking information to the train.	DMI (I)							
1		JRU	LR NID_ Pac D N C	Message 3/33/24 LRBG ₀ NID_BG=BG Packet 5 D_LINK(i)=D _i NID_BG(i)=BG _i Q_LOCACC (i)= Q_LOCACC _i N_ITER=n D_LINK (i+1)=D _{i+1} NID_BG (i+1)=BG _{i+1} Q_LOCACC(i+1) = Q_LOCACC _{i+1} (i=1,2,3n)					
		DMI (O)							
		DMI (I)							
2	The Relice Group i is read correctly		Q_L Di-Q end end< front	_ and ar <di+q₋< td=""><td>= 1 ACCi-L_DOUBTUNDER + (offset between front ntenna position) <estimated (offset="" _locacci+l_doubtover+="" antenna="" between="" front="" nd="" position)<="" td=""><td></td></estimated></td></di+q₋<>	= 1 ACCi-L_DOUBTUNDER + (offset between front ntenna position) <estimated (offset="" _locacci+l_doubtover+="" antenna="" between="" front="" nd="" position)<="" td=""><td></td></estimated>				
		Level	2						
Eins	Latata	Mode	FS						
rına	state	Train Speed (kn	m/h) Trair	n runni	ng at the maximum speed of the line				
		Other paramete	ers						
Fina	Test Result								
Field	l of Application	F-bane EAST, F-l	bane WE	ST					
Brief	ing instructions	Q_LOCACC = 6n	n for both	East a	very linking information sent and every BG enco and West . ons of the running tracks, including diverging tra				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						





2.10.4. LINK4

TEST CASE DESCRIPTION							
		Code	Version	Title			
Test	Case	LINK4	3	Linking - 2 consecutive linked balises are not found in the expectation window. Service Brake to be applied. CT_058			
Base	line applicable	Baseline 3 MR1	1 (SRS 3.4.	0) / Baseline 3 R2 (SRS 3.6.0)			
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify the react the expectation		d when two consecutive linked balise groups are not	found in		
Diag	ram			_			
		Level		2			
Start	ing conditions	Mode		FS			
Start	ing conditions	Train Speed (k	m/h)	NR			
		Additional star	rting condi	tions Two consecutive linked balise groups are cover	ered.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s Des	cription of what to be tested at the interface	OK?		
		DMI (O)					
		DMI (I)					
1	Linking information is received on board		LI P C C	sage 3/24/33 RBG0 acket 5 _LINK(i)=D _i ID_BG(i)=BG _i _LOCACC(i)=Q _i _LINKREACTION(i)=2 _LITER=n D_LINK (i+1)=D _{i+1} NID_BG (i+1)=BG _{i+1} Q_LOCACC(i+1) = Q _{i+1} Q_LINKREACTION(i+1)=2 ==1,2,3n)			
		DMI (O)	FS s	FS symbol			
	Loss of the Balise Group i included in the linking information. No reaction is applied on board.	JRU	NI M <u>.</u> Estii (offs	SE GROUP ERROR D_ERRORBG=BGi ERROR=0 nated front end>Di+Q_LOCACCi+L_DOUBTOVER+ et between front end and antenna position) _SYMB_STATUS D11			
		DMI (O)					
_	The EVC sends the error message to	DMI (I)					
3	the RBC.	JRU	Pa	Message 136 Packet 4 M_ERROR=0			
	Loss of the Balise Group i+1 included in the linking information. Service brake is applied. Driver is informed	DMI (O)	Balis	ymbol e error message ice Brake icon			
	concerning the application of SB	DMI (I)					



	JRU S		BALISE GROUP ERROR NID_ERRORBG=BG _{i+1} M_ERROR=7 SERVICE BRAKE COMMAND STATE = Commanded DMI_SYMB_STATUS MO11 SYSTEM STATUS MESSAGE Balise read error Estimated front end>D _{i+1} +Q_LOCACC _{i+1} +L_DOUBTOVER+			
			(offset between front end and antenna position)			
		DMI (O)				
_	The EVC sends the error message to	DMI (I)				
	the RBC.	JRU	Message 136 Packet 4 M_ERROR=7			
	At standstill, the location based	DMI (O)	Vtrain=0 Service Brake icon disappears MA shortening			
6	information stored on-board is	DMI (I)				
_	shortened to the current train position.	JRU	V_TRAIN=0 V_PERMITTED=0 D_TARGET=0 SERVICE BRAKE COMMAND STATE = Not Commanded			
	After 30 seconds since the train has	DMI (O)	Message of balise read error is not displayed			
	reached the standstill, the Balise read error message is no longer	DMI (I)				
	displayed (*)	JRU				
		Level	2			
Einal	stato	Mode	FS			
Final state		Train Speed (km/h)	0			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Brief	ing instructions	(*) If the on-board is E	TCS Baseline 3 Release 2			

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.11. DEG

2.11.1. DEG1

	TEST CASE DESCRIPTION							
		Code	Versio	n Tit	le			
Test	Case	DEG1 4		Revocation of an Unconditional emergency stop		р		
Base	line applicable	Baseline 3 MR1 OR.DEF.10	(SRS 3.4	.0) / Ba	seline 3 R2 (SRS 3.6.0)			
Test	case author	Ineco/CEDEX						
Test	Objective(s)				an emergency stop, the RBC shall issue an evocation to such EVC if it is detected to be in			
Diagr	ram							
		Level			2			
		Mode			TR			
		Train Speed (km	n/h)		0			
Starti	ing conditions	Additional start	ing cond	The radio communication session is established with the RBC.				
Sequ	ence of the Test Case	Train Speed (kn	n/h)					
Step	Step description	Interfaces	s D	escrip	tion of what to be tested at the interface C	OK?		
	Driver acknowledgement the Train Trip due to Unconditional Emergency Stop.	DMI (O)						
1		DMI (I)		cknowl	edgement of TR mode			
		JRU		1_DRIV	ERACTIONS = 2			
		DMI (O)		T symb	pol			
		DMI (I)						
2	The EVC reports the mode change to RBC.	JRU	M M P	1006 1essage 2acket 0 M_M				
		DMI (O)						
3	The RBC sends a message with	DMI (I)						
	recognition of exit from Trip mode.	JRU	N	1essage	e 6			
		DMI (O)			i			
	The RBC sends a message with the	DMI (I)			1			
4	unconditional emergency stop revocation.(*)	JRU		lessage l_ACK= IID_EM oard)				
		DMI (O)	"(Start" b	utton active			
5	The EVC sends the acknowledgement of the emergency stop revocation message.	DMI (I)						
	line emergency stop revocation message.	JRU	N	1essage	e 146			
Eina!	otata	Level						
rınal	state	Mode		·Τ		_		



	Train Speed (km/h)	0			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
briefing instructions	(*) The RBC sends a message with the unconditional emergency stop revocation when all the conditions of the UES to be revoked are fulfilled, e.g. if the UES is triggered due to a route cancelation, the route cancellation timer has to expire before the RBC grants the UES revocation.				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.11.2. DEG2

		TEST	CASE DES	CRIPT	ION			
		Code	Version	Title				
Test Case		DEG2	7	Unco	Unconditional emergency stop due to an emergency detector			
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1742, OR.DEF.10						
Test	case author	Ineco/CEDEX						
emergency stop to the train (if			n (if the VC sw	etector is activated the RBC sends an unco activated emergency detector is consideration tiches to TR mode. Thereafter an authorized ocontinue running.	ed relevant fo			
Diag	ram							
		Level			2			
		Mode		l	FS/OS			
Start	ing conditions	Train Speed (k	m/h)		NR			
		Additional star	ting condi		The radio communication session is establi RBC.	ished with th		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s Des	criptic	n of what to be tested at the interface	OK?		
		DMI (O)						
1	An emergency detector is activated.	DMI (I)						
		JRU						
		DMI (O)						
	The RBC sends a message with the unconditional emergency stop.	DMI (I)						
۷		JRU		sage 1 _EM (1				
		DMI (O)	Eme	symbol ergency reasor	/ brake symbol n: "Emergency stop"			
		DMI (I)						
	Train switches to Trip mode. The emergency brakes are applied.	JRU	Mi DMI S Mes NID Mes Pac N EME SYS	O04 _SYMI T01 sage 1 _EM (1 sage 1 ket 0 /I_MOI ERGEN STEM_) 36			
		DMI (O)						
4	Train becomes standstill and Driver	DMI (I)			gement of TR mode			
	acknowledgement the Train Trip due to Unconditional Emergency Stop.	JRU	DMI		RACTIONS = 2 BOL_STATUS			
		DMI (O)	PT s	symbol				
		DMI (I)						
	The EVC reports the mode change to PT mode.	JRU	Mes Pac	IO06 sage 1 ket 0 //_MOI				

	I	DMI (O)		
6	The RBC sends a message with	DMI (0)		
О	recognition of exit from Trip mode.	JRU	Magazaga 6	
			Message 6	
	The emergency detector is deactivated.	DMI (O)		
7	The RBC sends a message with the	DMI (I)	Magazara 10	
	unconditional emergency stop revocation.	JRU	Message 18 M_ACK=1	
			NID_EM = NID_EM (Emergency stop stored on board)	
	The EVC sends the	DMI (O)	"Start" button active	
8	acknowledgement of the emergency stop revocation message.	DMI (I)		
	stop revocation message.	JRU	Message 146	
	<u> </u>	DMI (O)		
	Driver selects "Start" button. The EVC	DMI (I)	Start selected	
9	sends a Movement Authority Request to the RBC	JRU	M_DRIVERACTIONS = 19 Message 132 Q_MARQSREASON=xxxx1 Packet 0 M_MODE = 8	
		DMI (O)	Acknowledgement for SR is shown	
	L 550 / "	DMI (I)		
10	The RBC grant an authorisation for SR mode. (*)		Message 2	
	· · ·	JRU	D_SR DMI_SYMB_STATUS MO10	
	Driver acknowledges the SR mode and the EVC sends a position report to inform RBC about change of mode is SR.(*)	DMI (O)	SR symbol Trip reason: "Emergency stop" is not longer displayed (**)	
		DMI (I)	Driver acknowledges SR mode	
11		JRU	M_DRIVERACTIONS=3 DMI_SYMB_STATUS MO09 Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	The train reports position inside a	DMI (I)		
12	trusted area.(*)	JRU	Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	Γ	DMI (I)		
13	The RBC sends a Movement authority with an OS mode profile. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 Packet 15 Packet 21 Packet 27 Packet 80 D_MAMODE=D1 M_MAMODE=0 L_MAMODE=L1 Estimated front end ≥ D1- L_DOUBTUNDER	
	The EVC shows the	DMI (O)	OS mode transition acknowledgement Trip reason: "Emergency stop" is not longer displayed (**) (***)	
14	acknowledgment request to OS.	DMI (I)		
		JRU	M_MODE=6 DMI_SYMBOL_STATUS MO08	
		DMI (O)		
15	Acknowledgement of OS mode.	DMI (I)	Acknowledgement of OS mode	
	<u> </u>	JRU	M_DRIVERACTIONS= 0	
16		DMI (O)	OS symbol	-



		DMI (I)				
	The EVC switches to OS mode and reports to the RBC the train position	JRH	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1			
		Level	2			
- :	Ladada	Mode	os			
Fina	state	Train Speed (km/h)	0			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST (only in green field lines of both networks)				
Brief	(*) These steps only take place in the F-bane WEST (**) If the on-board is ETCS Baseline 3 Release 2 (***) Only applicable to F-bane EAST					

	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.11.3. DEG4

		TEST CASE	DESCRI	PTION		
		Code	Versio	n Title		
Test Case		DEG4	9		onditional emergency stop is sent by the RBC in r to stop one train.	
Base	line applicable	Baseline 3 MR1 FbIS.F.137, OR.:			line 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test	Objective(s)	sends an uncond	ditional em	ergency	Ites the command to stop a specific train, the RBC stop that makes the EVC switch to TR mode. node is received from the RBC to continue	
Diagr	am					
		Level			2	
		Mode			FS/OS	
Starti	ng conditions	Train Speed (km	n/h)		NR	
		Additional start	ing condi	tions	The radio communication session is established with the RBC. The train is into an established route.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s Do	escriptio	on of what to be tested at the interface OK?	
		DMI (O)				
1	The signalman executes the command to stop a specific train.	DMI (I)				
		JRU				
	The RBC sends a message with the unconditional emergency stop.	DMI (O)				
2		DMI (I)				
2		JRU		essage 1 ID_EM (1		
		DMI (O)	TF Er	R symbol mergenc		
		DMI (I)				
3	Train switches to Trip mode. The emergency brakes are applied.	JRU	DI M NI M Pa EI S'	DMI_SYMBOL_STATUS MO04 DMI_SYMBOL_STATUS ST01 Message 147 NID_EM (1) Message 136 Packet 0 M_MODE=7 EMERGENCY BRAKE STATE =Commanded SYSTEM_STATUS_MESSAGE Emergency stop		
	Tasia kasasas atau datili and Bahan	DMI (O)	Vt	Vtrain=0		
4	Train becomes standstill and Driver acknowledgement the Train Trip due to	DMI (I)	Ad	Acknowledgement of TR mode		
	Unconditional Emergency Stop.	JRU		M_DRIVERACTIONS = 2 V_TRAIN=0		
		DMI (O)	P ⁻	PT symbol		
		DMI (I)				
The EVC reports the mode change to PT mode.		JRU	M Pa	MO06 essage 1 acket 0 M_MOI		

Ī	1	DMI (C)	T	
_	The RBC sends a message with	DMI (O)	+	
6	recognition of exit from Trip mode.	DMI (I)	Magaza C	
		JRU (0)	Message 6	
	The RBC sends a message with the	DMI (O)		
7	unconditional emergency stop	DMI (I)	Message 18	
	revocation.	JRU	M_ACK=1 NID_EM (1)	
	The EVC conde the seknessiad coment of	DMI (O)	"Start" button active	
8	The EVC sends the acknowledgement of the emergency stop revocation message.	DMI (I)		
		JRU	Message 146	
		DMI (O)		
	The next marker board in advance of the	DMI (I)	Start selected	
9	train has a proceed aspect. Driver selects "Start" button. The EVC sends a Movement Authority Request to the RBC	JRU	M_DRIVERACTIONS = 19 Message 132 Q_MARQSREASON=xxxx1 Packet 0 M_MODE = 8	
		DMI (O)	Acknowledgement for SR is shown	
	T. DDQ	DMI (I)		
10	The RBC grant an authorisation for SR mode. (*)	JRU	Message 2 D_SR DMI_SYMB_STATUS MO10	
		DMI (O)	SR symbol Trip reason: "Emergency stop" is not longer displayed (**)	
	Driver acknowledges the SR mode and	DMI (I)	Driver acknowledges SR mode	
11	the EVC sends a position report to inform RBC about change of mode is SR.(*)	JRU	M_DRIVERACTIONS=3 DMI_SYMB_STATUS MO09 Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	The train reports position inside a trusted	DMI (I)		
12	area.(*)	JRU	Message 136 Packet 0 M_MODE=2	
		DMI (O)		
		DMI (I)		
13	The RBC sends a Movement authority with an OS mode profile. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 Packet 15 Packet 21 Packet 27 Packet 80 D_MAMODE=D1 M_MAMODE=0 L_MAMODE=L1 Estimated front end ≥ D1- L_DOUBTUNDER	
	The EVC shows the acknowledgment	DMI (O)	OS mode transition acknowledgement Trip reason: "Emergency stop" is not longer displayed (**) (***)	
14	request to OS.	DMI (I)		
		JRU	DMI_SYMBOL_STATUS MO08	
		DMI (O)	1	
15	Acknowledgement of OS mode.	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS= 0	
16	The EVC switches to OS mode and	DMI (O)	OS symbol	
_	reports to the RBC the train position	DMI (I)		



		JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1		
		Level	2		
Final	-1-1-	Mode	os		
rınaı	state	Train Speed (km/h)	0		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST, F-bane WEST			
Briefi	na instructions	(*) These steps only take place in the F-bane WEST if the train is outside a trustworthy area (**) If the on-board is ETCS Baseline 3 Release 2 (***) Only applicable to F-bane EAST			

ADDITIO	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.11.4. DEG5

	TEST CASE DESCRIPTION						
		Code	Versio	n Title			
Test Case					Unconditional emergency stop is sent by the RBC in order to stop all the trains.		
Base	line applicable	Baseline 3 MR1 FbIS.F.138, FbIS		0) / Base	eline 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that when there is an emergency in an RBC area and the signalman exect the command to stop all the trains within the area of control, the RBC sends an unconditional emergency stop to all the trains and the EVCs switches to TR more Thereafter an authorization of OS mode is received from the RBC to continue running.			an node.		
Diagr	am						
		Level			2		
		Mode			FS/OS		
Starti	ng conditions	Train Speed (km	n/h)		NR		
		Additional start	ing condi	tions	The radio communication session is esta with the RBC. Several trains are into a route establishe		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escription	on of what to be tested at the interface	OK?	
	The signalman executes the command to	DMI (O)					
1	stop all the trains within the area of	DMI (I)					
	control.	JRU					
	TI 550	DMI (O)					
2	The RBC sends a message with the unconditional emergency stop to Train	DMI (I)					
_	"i".	JRU		lessage ′ ID_EM (i			
		DMI (O)	TI Ei	R symbo mergenc			
		DMI (I)					
3	Train "i" switches to Trip mode. The emergency brakes are applied.	JRU	Di M Ni M Pi EI S'	DMI_SYMBOL_STATUS MO04 DMI_SYMBOL_STATUS ST01 Message 147 NID_EM (i) Message 136 Packet 0 M_MODE=7 EMERGENCY BRAKE STATE =Commanded SYSTEM_STATUS_MESSAGE Emergency stop			
	T	DMI (O)	V1	Vtrain=0			
4	Train "i" becomes standstill and Driver acknowledges the Train Trip due to	DMI (I)	A	cknowled	dgement of TR mode		
	Unconditional Emergency Stop.	JRU		M_DRIVERACTIONS = 2 V_TRAIN=0			
5	The EVC reports the mode change to PT	DMI (O)	P ⁻	T symbo	l		
ာ	mode.	DMI (I)					



i				
		JRU	DMI_SYMBOL_STATUS MO06 Message 136 Packet 0 M_MODE=8 EMERGENCY BRAKE STATE = Not commanded	
		DMI (O)	EMERGENCT BRAKE STATE - Not commanded	
6	The RBC sends a message with			
О	recognition of exit from Trip mode.	DMI (I)	M	
		JRU	Message 6	
		DMI (O)		
	The RBC sends a message with the	DMI (I)		
7	unconditional emergency stop revocation.	JRU	Message 18 M_ACK=1 NID_EM = NID_EM (Emergency stop stored on board)	
	The EVC "i" sends the acknowledgement	DMI (O)	"Start" button active	
8	of the emergency stop revocation	DMI (I)		
	message.	JRU	Message 146	
		DMI (O)		
	The payt marker board in advance of the	DMI (I)	Start selected	
9	The next marker board in advance of the train has a proceed aspect. Driver selects "Start" button. The EVC i sends a Movement Authority Request to the RBC	JRU	M_DRIVERACTIONS = 19 Message 132 Q_MARQSTREASON=xxxx1 Packet 0 M_MODE = 8	
		DMI (O)	Acknowledgement for SR is shown	
		DMI (I)		
10	The RBC grant an authorisation for SR mode. (*)	JRU	Message 2 D_SR DMI_SYMB_STATUS MO10	
		DMI (O)	SR symbol Trip reason: "Emergency stop" is not longer displayed (**)	
	Driver acknowledges the SR mode and	DMI (I)	Driver acknowledges SR mode	
11	the EVC sends a position report to inform RBC about change of mode is SR.(*)	JRU	M_DRIVERACTIONS=3 DMI_SYMB_STATUS MO09 Message 136 Packet 0 M_MODE=2	
		DMI (O)		
4.0	The train reports position inside a trusted	DMI (I)		
12	area.(*)	JRU	Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	The RBC sends a Movement authority	DMI (I)		
13	with an OS mode profile. The max safe front end of the train "i" is at or in advance of the beginning of the OS area.	JRU	Message 3/33 Packet 15 Packet 21 Packet 27 Packet 80	
44	The EVC shows the acknowledgment	DMI (O)	OS mode transition acknowledgement Trip reason: "Emergency stop" is not longer displayed (**) (***)	
14	request to OS.	DMI (I)		
		JRU	DMI_SYMBOL_STATUS MO08	
		DMI (O)		
15	Acknowledgement of OS mode.	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS= 0]



		DMI (O)	OS symbol			
		DMI (I)				
16	The EVC switches to OS mode and reports to the RBC the train position	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1			
		Level	2			
F:	-1-1-	Mode	os			
rınaı	state	Train Speed (km/h)	0			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
		(*) These steps only take place in the F-bane WEST (**) If the on-board is ETCS Baseline 3 Release 2 (***) Only applicable to F-bane EAST				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.11.5. DEG6

	TEST CASE DESCRIPTION						
		Code	Versio	n Ti	tle		
Test Case		DEG6	7	Ur wi	nconditional emergency stop is sent only to the than MA covering a specified area.	ne trains	
Baseline applicable Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FblS.F.140, FblS.F.1742				aseline 3 R2 (SRS 3.6.0)			
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	to stop all the train	ins with M	everal trains are running and the signalman executes the comes with MA covering a specific area the RBC sends an Unconcelly to the trains with an MA covering the concerned area.			
Diagr	am						
		Level			2		
		Mode			FS/OS		
Starti	ng conditions	Train Speed (km	n/h)		NR		
		Additional starti	ing condi	itions	The radio communication session is established with the RBC. Several trains are into a route established		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escrip	otion of what to be tested at the interface C	OK?	
	The signalman executes the command to	DMI (O)					
1	stop all the trains with MA covering a specific area.	DMI (I)					
	specific area.	JRU					
	The RBC sends a message with the unconditional emergency stop to the train with an MA covering the cancelled route.	DMI (O)					
2		DMI (I)					
				Message 16 NID_EM (1)			
		DMI (O)	E	R sym merge rip rea	bol ncy brake symbol son: "Emergency stop"		
		DMI (I)					
3	Train switches to Trip mode. The emergency brakes are applied.	JRU	D M N M P E S	DMI_SYMBOL_STATUS MO04 DMI_SYMBOL_STATUS ST01 Message 147 NID_EM (1) Message 136 Packet 0 M_MODE=7 EMERGENCY BRAKE STATE =Commanded SYSTEM_STATUS_MESSAGE Emergency stop			
	Train becomes standstill and Driver	DMI (O)					
4	acknowledges the Train Trip due to	DMI (I)	A	cknow	wledgement of TR mode		
	Unconditional Emergency Stop.	JRU	M	I_DRI\	/ERACTIONS = 2		
		DMI (O)	Р	T sym	bol		
		DMI (I)					
5	The EVC reports the mode change to PT mode.	JRU	M P	MO06 lessag acket (M_M	e 136		
6		DMI (O)			1		



1				
	The RBC sends a message with	DMI (I)		
	recognition of exit from Trip mode.	JRU	Message 6	
	l L	DMI (O)		
	The RBC sends a message with the	DMI (I)		
7	unconditional emergency stop revocation.	JRU	Message 18 M_ACK=1 NID_EM = NID_EM (1)	
		DMI (O)	"Start" button active	
8	The EVC sends the acknowledgement of	DMI (I)		
	the emergency stop revocation message.	JRU	Message 146	
		DMI (O)		
	The payt marker board in advance of the	DMI (I)	Start selected	
9	The next marker board in advance of the train has a proceed aspect. Driver selects "Start" button. The EVC sends a Movement Authority Request to the RBC	JRU	M_DRIVERACTIONS = 19 Message 132 Q_MARQSREASON=xxxx1 Packet 0 M_MODE = 8	
		DMI (O)	Acknowledgement for SR is shown	
	į į	DMI (I)	-	
10	The RBC grant an authorisation for SR mode. (*)	JRU	Message 2 D_SR DMI_SYMB_STATUS MO10	
		DMI (O)	SR symbol Trip reason: "Emergency stop" is not longer displayed (**)	
	Driver acknowledges the SR mode and	DMI (I)	Driver acknowledges SR mode	
11	the EVC sends a position report to inform RBC about change of mode is SR.(*)	JRU	M_DRIVERACTIONS=3 DMI_SYMB_STATUS MO09 Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	The train reports position inside a trusted	DMI (I)		
12	The train reports position inside a trusted area.(*)	JRU	Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	The RBC sends a Movement authority	DMI (I)		
13	with an OS mode profile. The max safe front end of the train "i" is at or in advance of the beginning of the OS area.	JRU	Message 3/33 Packet 15 Packet 21 Packet 27 Packet 80	
	The EVC shows the acknowledgment	DMI (O)	OS mode transition acknowledgement Trip reason: "Emergency stop" is not longer displayed (**) (***)	
14	request to OS.	DMI (I)		
		JRU	DMI_SYMBOL_STATUS MO08	
		DMI (O)		
15	Acknowledgement of OS mode.	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS= 0	
40	The EVC switches to OS mode and	DMI (O)	OS symbol	
16	reports to the RBC the train position	DMI (I)		
		• • • • • • • • • • • • • • • • • • • •	· ·	



	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1			
Final state	Level	2			
	Mode	os			
	Train Speed (km/h)	0			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
Briefing instructions	(*) These steps only take place in the F-bane WEST (**) If the on-board is ETCS Baseline 3 Release 2 (***) Only applicable to F-bane EAST				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.11.6. DEG7

		TEST CASE	DESCRIP	TION		
		Code	Version	Title		
Test Case		DEG7	8		onditional emergency stop due to an emergen djacent track.	icy in
Basel	ine applicable	Baseline 3 MR1 FbIS.F.406, FbIS	(SRS 3.4.0 6.F.1742) / Base	line 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test (Objective(s)	unconditional em	ergency st	op to th	he adjacent track occurs the RBC sends an e train and the EVC switches to TR mode. node is received from the RBC to continue	
Diagr	am					
		Level			2	
		Mode			FS/OS	
Starti	ng conditions	Train Speed (km	n/h)		NR	
		Additional start	ing condit	ions	The radio communication session is establis with the RBC. The train is into a route established.	hed
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s De	scriptio	on of what to be tested at the interface OK	?
	An emergency in the adjacent track occurs. (*)	DMI (O)				
1		DMI (I)				
		JRU				
	The RBC sends a message with the unconditional emergency stop.	DMI (O)				
2		DMI (I)				
2		JRU		essage 1 D_EM (1		
		DMI (O)	TR Em	TR symbol Emergency brake symbol Frip reason: "Emergency stop"		
		DMI (I)				
3	Train switches to Trip mode. The emergency brakes are applied.	JRU	M DM S Me NII Me Pa EM SY	DMI_SYMBOL_STATUS MO04 DMI_SYMBOL_STATUS ST01 Message 147 NID_EM (1) Message 136 Packet 0 M_MODE=7 EMERGENCY BRAKE STATE =Commanded SYSTEM_STATUS_MESSAGE Emergency stop		
	Train becomes standatill and Driver	DMI (O)		<u> </u>		
	Train becomes standstill and Driver acknowledgement the Train Trip due to	DMI (I)	Ac	knowled	dgement of TR mode	
	Unconditional Emergency Stop.	JRU			RACTIONS = 2	
		DMI (O)	PT	symbol		
		DMI (I)				
The EVC reports the mode change to PT mode.		JRU	Me Pa	MO06 essage 1 cket 0 M_MOI		



	The PRC sends a message with	DMI (O)		
6	The RBC sends a message with recognition of exit from Trip mode.	DMI (I)		
	, , , , , , , , , , , , , , , , , , , ,	JRU	Message 6	
		DMI (O)		
_	The RBC sends a message with the	DMI (I)		
7 unconditional emergency stop revocation.		JRU	Message 18 M_ACK=1 NID_EM = NID_EM(1)	
		DMI (O)	"Start" button active	
8	The EVC sends the acknowledgement of the emergency stop revocation message.	DMI (I)		
	and difference of the forest and the first a	JRU	Message 146	
		DMI (O)		
	The next marker board in advance of the	DMI (I)	Start selected	
9	train has a proceed aspect. Driver selects "Start" button. The EVC sends a Movement Authority Request to the RBC	JRU	M_DRIVERACTIONS = 19 Message 132 Q_MARSREASON=xxxx1 Packet 0 M_MODE = 8	
		DMI (O)	Acknowledgement for SR is shown	
		DMI (I)		
The RBC grant an authorisation for SR mode. (**)		JRU	Message 2 D_SR DMI_SYMB_STATUS MO10	
		DMI (O)	SR symbol Trip reason: "Emergency stop" is not longer displayed (**)	
	Driver acknowledges the SR mode and	DMI (I)	Driver acknowledges SR mode	
11	the EVC sends a position report to inform RBC about change of mode is SR.(**)	JRU	M_DRIVERACTIONS=3 DMI_SYMB_STATUS MO09 Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	The train repeats resisting incide a twented	DMI (I)		
12	The train reports position inside a trustedarea.(**)	JRU	Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	The RBC sends a Movement authority	DMI (I)		
13	with an OS mode profile. The max safe front end of the train "i" is at or in advance of the beginning of the OS area.	JRU	Message 3/33 Packet 15 Packet 21 Packet 27 Packet 80	
	The FVO shows the sales of the	DMI (O)	OS mode transition acknowledgement Trip reason: "Emergency stop" is not longer displayed (***) (****)	
14	The EVC shows the acknowledgment request to OS.	DMI (I)		
	.,	JRU	M_MODE=6 DMI_SYMBOL_STATUS MO08	
		DMI (O)		
5	Acknowledgement of OS mode.	DMI (I)	Acknowledgement of OS mode	
		JRU	M_DRIVERACTIONS= 0	
	The EVC switches to OS mode and	DMI (O)	OS symbol	
16	reports to the RBC the train position	DMI (I)		



	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1			
	Level	2			
Final state	Mode	os			
rinai state	Train Speed (km/h)	0			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane V	VEST			
Briefing instructions	(*) Emergency is applied on a train that is on an adjacent track where another train receives the UES. (**) These steps only take place in the F-bane WEST (***) If the on-board is ETCS Baseline 3 Release 2 (****) Only applicable to F-bane EAST				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.11.7. DEG8

	TEST CASE DESCRIPTION						
		Code	Versio	n Ti	tle		
Test Case		DEG8	5	Ur	nconditional emergency stop due to a CES re	ejected.	
Base	line applicable	Baseline 3 MR1 OR.3007, OR.30		.0) / Ba	seline 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that if the I	EVC rejec	cts a Cl	ES due to IXL failure the RBC reacts sending	a UES.	
Diagr	am						
		Level			2		
		Mode			FS, OS		
		Train Speed (km	n/h)		NR		
Starting conditions		Additional starting conditions		itions	The train is running with a MA which covers partially or fully the command and control area of an IxL. That IxL has a failure and the train has not already entered the IxL area. The radio communication session is established with the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escrip	tion of what to be tested at the interface	OK?	
		DMI (O)					
	TI DD0 1 0 1111	DMI (I)					
1	The RBC sends a Conditional Emergency Stop (CES).	JRU	,		,		
		DMI (O)					
		DMI (I)					
2	The train rejects the CES because it has already passed the stopping point	JRU	Ň	(LRBG1) Message 147 NID_EM = EM1 Q_EMERGENCYSTOP = 3 Packet 0/1 D_LRBG = D2 D2(=Estimated front end) > D1(LRBG1) + L DOUBTOVER			
		DMI (O)					
3	The RBC sends an Unconditional	DMI (I)					
	Emergency Stop (UES).	JRU	N	lessag NID_I	e 16 EM = EM2		
4	Train switches to Trip mode. The emergency brakes are applied.	DMI (O)	ĮΕ	TR symbol Emergency brake symbol Trip reason: "Emergency stop"(*)			
		DMI (I)					

	JRU	Message 147 NID_EM = EM2 Q_EMERGENCYSTOP = 2 Message 136 Packet 0 M_MODE=7 EMERGENCY BRAKE COMMAND STATE = Commanded DMI_SYMBOL_STATUS MO04 DMI_SYMBOL_STATUS ST01 SYSTEM_STATUS_MESSAGE Emergency stop			
	Level	2			
Final state	Mode	TR			
Final State	Train Speed (km/h)	NR			
	Other parameters				
Final Test Result					
Field of Application	F-bane WEST				
Briefing instructions	(*) If the on-board is ETCS B3 Release 2, this message is not longer displayed once the EVC changes from PT mode to another mode				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.11.8. DEG9

		TEST CASE	DESCR	IPTIC)N			
		Code	Versi	on -	Γitle			
Test	Case	DEG9	3			on of a co-operative shortening of MA due to ble area activation.		
Base	ine applicable	Baseline 3 MR1 (Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)					
Test	case author	Ineco/CEDEX						
Test Objective(s)		Verify that when a co-operative shortening of MA due to a radio hole is rejected by the EVC the RBC does not send a CES or a UES.						
Diagr	am							
		Level			2			
		Mode			FS	S,OS		
		Train Speed (km	n/h)		NF	२		
Starting conditions		Additional starting conditions		a is s ou Th	The train is running with a MA and from the TMS a radio hole area is activated. The EoA of the MA is within the radio hole area and the train is outside the radio hole area. The radio communication session is established with the RBC.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s [Descr	iption (of what to be tested at the interface OK?		
		DMI (O)						
		DMI (I)						
1	The RBC proposes a shorter Movement Authority.	JRU to		- Pack V_L N_I L_E o the Q_I	ige 9 AIN= T (et 15 OA(*)/\ TER = (NDSE(radio he DANGE	V_EMA(**) = 0		
	The EVC checks that the shortening	DMI (O)						
	request does not met the criterion to be accepted and therefore rejects the co-	DMI (I)						
2	operative shortening request. (Train front end it is in advance the Indication supervision limit of the proposed shortened MA)	JRU	N	T_T	ige 138 RAIN=T ket 0/1	T1		
	The RBC does not send an Unconditional	DMI (O)						
	Emergency Stop (UES) or a Conditional	DMI (I)						
	Emergency Stop (CES).	JRU						
		Level 2		2				
Eino!	stato	Mode		FS,OS				
Final	Siaic	Train Speed (km/h)		NR				
		Other parameters						
Final	Test Result							
Field	of Application	F-bane EAST, F-	bane WE	ST				
Briefi	ng instructions	(*) ETCS Baselin (**) ETCS Baselin				ease 1		

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System configuration	
Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.11.9. DEG10

		TEST CASE	DESCRIP	PTION				
		Code	Version	n Title				
Test (Case	DEG10	3	Unco	onditional emergency stop due to an IXL failure.			
Basel	ine applicable	Baseline 3 MR1 (S	SRS 3.4.0) / Base	line 3 R2 (SRS 3.6.0)			
Test o	case author	Ineco/CEDEX						
Test Objective(s)			Verify that when an IXL failure occurs and the train is inside the IXL area the RBC reacts sending an UES.					
Diagr	am							
		Level			2			
		Mode			FS,OS			
Starti	na conditions	Train Speed (km/	/h)		NR			
Starting conditions		Additional starting conditions		ions	The train is located within the command and control area of an IXL. That IXL has a failure. The radio communication session is established with the RBC.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	De	scriptio	on of what to be tested at the interface OK?			
	The RBC sends an Unconditional Emergency Stop (UES).	DMI (O)						
1		DMI (I)						
		JRU		Message 16 NID_EM = EM1				
		DMI (O)	TR symbo DMI (O) Emergenc Trip reaso		l y brake symbol n: "Emergency stop"(*)			
		DMI (I)						
2	Train switches to Trip mode. The emergency brakes are applied.	JRU	Me Pa EN Co DN 1 DN 3 SY	Message 147 NID_EM = EM1 Q_EMERGENCYSTOP = 2 Message 136 Packet 0 M_MODE=7 EMERGENCY BRAKE COMMAND STATE = Commanded DMI_SYMBOL_STATUS MO04 DMI_SYMBOL_STATUS ST01 SYSTEM_STATUS_MESSAGE Emergency stop				
		Level	Level 2		2			
Final	state	Mode		2				
ai	outo	Train Speed (km/h)		₹				
		Other paramet	ters					
Final	Test Result							
Field	of Application	F-bane WEST						
Briefi	ng instructions	(*) If the on-board the EVC changes			ase 2, this message is not longer displayed once another mode			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					

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Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.12. OV

2.12.1. OV1

	TEST CASE DESCRIPTION							
		Code	Versi	on	Title			
Test (Case	OV1	5			m a SPAD at an EoA. Mode transition from a level 2 marker board.	FS to	
		Baseline 3 MR1 (OPS.554	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OPS.554					
Test	case author	Ineco/CEDEX						
III AST ()NIACTIVA(S)		Verify that, when TR mode.	the EoA	is ov	erpass	sed (level 2 marker board), the EVC switcher	es to	
Diagr	am							
		Level			2	2		
		Mode			F	FS		
Starti	ng conditions	Train Speed (km	n/h)		١	NR		
Otarti		Additional starti	ing cond	dition	s Y	The radio communication session is establis vith the RBC. The train is approaching an EoA located at a closed marker board.		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s [Desci	iption	of what to be tested at the interface OK	(?	
		DMI (O)						
		DMI (I)						
1	The RBC sends an MA with the EoA located at the marker board	JRU		LRE Pac L	ket 15 _END\$ _DP=I	SECTION=L1		
		DMI (O)	E	TR sy Emer	mbol gency eason:	brake symbol "Unauthorized passing of EOA /		
	The train is running at a release speed	DMI (I)						
ıı ·,	and overpasses with its "min safe front end" the EoA located at a closed marker board.	JRU	E C E	M_MODE = 7 EMERGENCY BRAKE COMMAND STATE = Commanded Estimated front end= L1(LRBG1)+L_DOUBTOVER DMI_SYMB_STATUS MO04 SYSTEM_STATUS_MESSAGE Unauthorized passing of EoA/LOA		CY BRAKE COMMAND STATE = d ont end= L1(LRBG1)+L_DOUBTOVER _STATUS TATUS_MESSAGE		
		DMI (O)						
	The EVC conde a position report when	DMI (I)	DMI (I)					
3	The EVC sends a position report when the mode changes	JRU	ľ	Message 136 Packet 0/1 M_LEVEL=3 M_MODE=7		I EL=3		
4	The train comes to standstill and	DMI (O)	\	√train	=0			
4	ERTMS/ETCS on-board equipment	DMI (I)	-	Ack T	R			



displays the "Request for driver acknowledgement to Train Trip" to the driver"	JRU	DMI_SYMB_STATUS MO05 M_DRIVERACTIONS=2 V_TRAIN=0 DMI_SYMB_STATUS MO06			
	Level	2			
Final state	Mode	PT			
Final State	Train Speed (km/h)	0			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
Briefing instructions	Distance run from the EoA = m. (This distance shall be shorter than the danger point distance/overlap distance). It has to be tested at a marker board with fixed release speed or long overlap. (*) If the on-board is ETCS B3 Release 2, this message is not longer displayed once the EVC changes from PT mode to another mode				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.12.2. OV2

	TEST CASE DESCRIPTION						
		Code	Versio	on Ti	tle		
Test Case		OV2	4	O۱	verride with authorization. FS mode.		
		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.720					
Test	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that the "O)verride" f	functior	n is available in FS mode and it is managed corre	ectly.	
Diagr	am						
		Level			2		
		Mode			FS		
Starti	ng conditions	Train Speed (km	n/h)		0		
Starti	ing conditions	Additional starti	ing cond	itions	The train is at a standstill in rear of the EoA. National values are stored on board. The radio communication session is establish with the RBC.	hed	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escrip	tion of what to be tested at the interface OK?	?	
	Override function is activated Driver selects override	DMI (O)	٧	Vtrain = 0			
		DMI (I)	C	Override EoA selected			
1 1		JRU	\ (I	M_DRIVERACTIONS = 14 V_TRAIN = 0 (LRBG1) D_LRBG = D1			
	Transition to SR (OV) mode. The driver toggles on the supervision limits	DMI (O)	C	Override EoA symbol Vperm = V_NVSUPOVTRP			
				Supervi	sion limits are toggled on		
		JRU	N V	M_MODE = 2 M_DRIVERACTIONS = 27 V_PERM = V_NVSUPOVTRP DMI_SYMB_STATUS MO03			
		DMI (O)					
	The EVC reports to the RBC the train position when the mode transition is performed.	DMI (I)					
3		JRU	N	Message 136 Packet 0 M_MODE = 2			
		DMI (O)			E EoA symbol = V_NVSUPOVTRP		
	The EVC does not switch to TR while the	DMI (I)					
4	override function is active.	JRU	V	M_MODE = 2 Y_PERM = V_NVSUPOVTRP DMI_SYMB_STATUS MO03			
5	The train overpasses with the min safe antenna position the former EoA and the override function is deactivated	DMI (O)	S	Override SR sym	e EoA symbol is removed		
	(transition to TR mode is re-activated).	DMI (I)					



	JRU	V_PERM = V_NVSTFF D_LRBG-L_DOUBTOVER-(offset between front end and antenna position) > former EoA D_NVOVTRP > D_LRBG - D1(LRBG1) T_NVOVTRP > T_ov (Time in seconds since override function was selected) DMI_SYMB_STATUS MO09			
	Level	2			
Final state	Mode	SR			
Final state	Train Speed (km/h)	≤ 40			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
Briefing instructions					

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.12.3. OV3

		TEST CASE	DESCR	RIPTIO	N	
		Code	Versi	on T	itle	
Test	Case	OV3	6	0	Override with authorization. OS mode.	
Base	line applicable	Baseline 3 MR1 OR.DEF.720	(SRS 3.4	I.0) / B	aseline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test	Objective(s)	Verify the function correctly.	on "Overr	ide Eo	A" is available in OS mode and it is managed	
Diagr	am					
		Level			2	
		Mode			os	
Starti	ng conditions	Train Speed (km	n/h)		0	
Starti	ing conditions	Additional start	ing cond	ditions	The train is at a standstill in rear of the EoA. National values are stored on board. The radio communication session is established with the RBC.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s [Descri	ption of what to be tested at the interface OK?	
		DMI (O)	\	/train =	= 0	
	Overvide function is estimated	DMI (I)	C	Override EoA selected		
1	Override function is activated Driver selects override	JRU	\ (M_DRIVERACTIONS = 14 V_TRAIN = 0 (LRBG1) D_LRBG = D1		
		DMI (O)		Override EoA symbol Vperm = V_NVSUPOVTRP		
	Transition to SR (OV) mode.	DMI (I)	S	Superv	ision limits are toggled on	
2	The driver toggles on the supervision limits	JRU	1	M_MODE = 2 M_DRIVERACTIONS = 27 V_PERM = V_NVSUPOVTRP DMI_SYMB_STATUS MO03		
		DMI (O)				
	The EVC reports to the RBC the train	DMI (I)				
3	position when the mode transition is performed.	JRU	ı	Message 136 Packet 0 M_MODE = 2		
		DMI (O)	(Override EoA symbol /perm = V_NVSUPOVTRP		
	The EVC does not switch to TR while the	DMI (I)				
4	override function is active.	JRU	\	M_MODE = 2 V_PERM = V_NVSUPOVTRP DMI_SYMB_STATUS MO03		
5	The train overpasses with the min safe antenna position the former EoA and the override function is deactivated	DMI (O)	5	SR sym	le EoA symbol is removed hbol tted = V_NVSTFF	
	(transition to TR mode is re-activated)	DMI (I)				



	JRU	V_PERM = V_NVSTFF D_LRBG-L_DOUBTOVER-(offset between front end and antenna position) > former EoA D_NVOVTRP > D_LRBG - D1(LRBG1) T_NVOVTRP > T_ov (Time in seconds since override function was selected) DMI_SYMB_STATUS MO09
	Level	2
Final state	Mode	SR
Final state	Train Speed (km/h)	≤ 40
	Other parameters	
Final Test Result		
Field of Application	F-bane EAST, F-bane V	VEST
Briefing instructions		

	ADDITIONAL TEST CASE REPORTING INFORMATION		
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.12.4. OV4

	TEST CASE DESCRIPTION							
		Code	Versi	on	Title			
Test	Case	OV4	5			ride with authorization. FS mode. Train crook when the Override timer has elapsed.	osses	
Base	line applicable	Baseline 3 MR1 OR.DEF.721	(SRS 3.4	4.0) /	Basel	ine 3 R2 (SRS 3.6.0)		
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify that if the t EVC switches to			he Eo	A when the override timer has been elap	sed the	
Diagr	am							
		Level				2		
		Mode				FS		
Starti	ng conditions	Train Speed (km	n/h)			0		
Otar ti		Additional start	ing cond	ditior	ıs	The train is at a standstill in rear of the Ed National values are stored on board. The radio communication session is esta with the RBC.		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s I	Desc	riptio	n of what to be tested at the interface	OK?	
		DMI (O)	`	Vtrair	= 0			
		DMI (I)	O	Overr	ide Ed	oA selected		
1	Override function is activated Driver selects override	JRU		V_TR (LRB)	M_DRIVERACTIONS = 14 V_TRAIN = 0 (LRBG1) D_LRBG = D1			
		DMI (O)			erride EoA symbol erm = V_NVSUPOVTRP			
	Transition to SR (OV) mode.	DMI (I)	;	Supe	visior	n limits are toggled on		
2	The driver toggles on the supervision limits	JRU	1	M_MODE = 2 M_DRIVERACTIONS = 27 V_PERM = V_NVSUPOVTRP DMI_SYMB_STATUS MO03				
		DMI (O)						
	The EVC reports to the RBC the train	DMI (I)						
3	position when the mode transition is performed.	JRU	1	Pac	age 1: ket 0 _MOD	36 DE = 2		
		DMI (O)		Override EoA symbol is removed SR symbol Vpermitted = V_NVSTFF				
	The override timer elapses before the	DMI (I)						
4	train reaches the EoA and the override function is deactivated (transition to TR mode is re-activated).	JRU	 - 	D_N\ T_NV overri	OVTF OVTF de fur SYME	V_NVSTFF RP > D_LRBG - D1(LRBG1) RP < T_ov (Time in seconds since nction was selected) B_STATUS		
5	The train overpasses with the "min safe front end" the EoA.	DMI (O)	-	Emer		r brake symbol n: "Unauthorized passing of EOA / LOA"		
		DMI (I)		_				



		JRU	M_MODE = 7 EMERGENCY COMMAND STATE = Commanded DMI_SYMB_STATUS MO04 SYSTEM_STATUS_MESSAGE Unauthorized passing of EoA/LOA	
		Level	2	
Final	-t-t-	Mode	TR	
rınaı	state	Train Speed (km/h)	NR	
		Other parameters	Emergency brake is applied	
Final	Test Result			
Field	of Application	F-bane EAST, F-bane V	VEST	
Briefi	ng instructions	Note: a particular implementation of this OTC will be the use of an unconditional emergency stop sent by the RBC when the train overpasses de the EoA. In this case, the revocation of the emergency stop shall be sent by the RBC to be able to run after the transition to PT mode. (*) If the on-board is ETCS B3 Release 2, this message is not longer displayed once the EVC changes from PT mode to another mode		

AD	ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.12.5. OV5

	TEST CASE DESCRIPTION							
		Code	Versio	n 1	Γitle			
Test	Case	OV5	2	C	Override with authorization. PT/SB mode.			
Base	line applicable	Baseline 3 MR1 OR.DEF.720	(SRS 3.4.	0) / E	Baseline 3 R2 (SRS 3.6.0)			
Test	case author	Ineco/CEDEX						
Test	Objective(s)				A" is available in PT/SB mode if all the required managed correctly.			
Diagr	am							
		Level			2			
		Mode			PT, SB			
		Train Speed (km	n/h)		0			
Starti	ng conditions	Additional starting conditions		itions	The train data and train running number are n validated The radio communication session is establish with the RBC. Driver ID and stored level is valid (if in SB modern)	ed		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s D	escr	iption of what to be tested at the interface OK?			
		DMI (O)	О	verri	de EoA is not available			
1	Override function is not activated	DMI (I)						
		JRU						
		DMI (O)						
		DMI (I)			selects Data Entry enters the train running number			
2	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	M M M M M	1_DR 1_DR 1essa 1essa 1essa Pac N RAIN	IVERACTION = 20 IVERACTION = 21 Ige 129 Ket 11 Ige 8 Ige 136 Ket 5 IID_OPERATIONAL I RUNNING NUMBER ENTERED BY THE			
		DMI (O)	V	train	= 0			
	Occamida formation in a street of	DMI (I)	О	verri	de EoA selected			
3	Override function is activated Driver selects override	JRU	V (L	_ _TR/ _RBG	IVERACTIONS = 14 AIN = 0 61) BG = D1			
		DMI (O)		Override EoA symbol Vperm = V_NVSUPOVTRP				
	Transition to SR (OV) mode.	DMI (I)		•	vision limits are toggled on			
4	The driver toggles on the supervision limits	JRU	N V D	M_MODE = 2 M_DRIVERACTIONS = 27 V_PERM = V_NVSUPOVTRP DMI_SYMB_STATUS MO03				
_		DMI (O)						
5		DMI (I)						



	The EVC reports to the RBC the train position when the mode transition is performed.	JRU	Message 136 Packet 0 M_MODE = 2		
		DMI (O)	Override EoA symbol Vperm = V_NVSUPOVTRP		
	The EVC does not switch to TR while the	DMI (I)			
6	override function is active.	JRU	M_MODE = 2 V_PERM = V_NVSUPOVTRP DMI_SYMB_STATUS MO03		
		DMI (O)	Override EoA symbol is removed SR symbol Vpermitted = V_NVSTFF		
		DMI (I)			
7	The train overpasses with the min safe antenna position the former EoA and the override function is deactivated (transition to TR mode is re-activated)	JRU	V_PERM = V_NVSTFF D_LRBG-L_DOUBTOVER-(offset between front end and antenna position) > D1(LRBG1) (former EoA) or D_NVOVTRP > D_LRBG - D1(LRBG1) or T_NVOVTRP > T_ov (Time in seconds since override function was selected) DMI_SYMB_STATUS MO09		
		Level	2		
Final	state	Mode	SR		
iiiai	Siaic	Train Speed (km/h)	≤ 40		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST, F-bane WEST			
Briefi	ing instructions	This test case applies to	This test case applies to ETCS Baseline 3 Release 2 on-boards		

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.13. RBCH

2.13.1. RBCH1A

	TEST CASE DESCRIPTION						
		Code	Version	Title			
Test	Case	RBCH1a	5	Handover management. FS mode with 2 mol	oiles.		
Base	line applicable	Baseline 3 MR1 FbIS.F.1899, OF		/ Baseline 3 R2 (SRS 3.6.0)			
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that the transplay RBCs. FS mode		ds the appropriate information for a handover	between		
Diag	ram		RBC Han	ding RBC Accepting			
		Level		2			
		Mode		FS			
		Train Speed (kr	n/h)	Maximum permitted speed.			
Start	ing conditions	Additional starting conditions		transition border. Two communication sessions can be simultaneously by the EVC.	Two communication sessions can be handled simultaneously by the EVC. A radio communication session is established with		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	Desc	iption of what to be tested at the interface	OK?		
		DMI (O)					
	RBC1 gives an MA including the RBC-	DMI (I)					
	RBC Handover border.	JRU	Pac	Message 3/33 (LRBG1) Packet 15 L_ENDSECTION=L1			
		DMI (O)					
		DMI (I)					
2	The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).	JRU	Pack D_F NID NID	age 3/24/33 (LRBG1) (*) et 131 RBCTR=D1 _RBC = RBC2 _RADIO = RADIO2 SLEEPSESSION=0 1)			
		DMI (O)					
		DMI (I)					
3	The EVC establishes a communication session with the RBC2.	JRU	Mess Mess Pac	age 155 age 32 age 159 ket 2(**) age 129			

1	I		MA is updated		
		DMI (O)	No braking curve to EoA is shown		
	The RBC1 updates the MA (beyond the border) when a route has been	DMI (I)	<u> </u>		
4	established across the border up to the first ETCS stop marker of the receiving system.	JRU	V_PERM=V_STATIC Message 3/33 (LRBG2) Packet 15 L_ENDSECTION=L2 >L1 (L2(LRBG2)>D1(LRBG1))		
		DMI (O)	(2.13-2)		
		DMI (I)			
5	The EVC sends to both RBCs (RBC1 and RBC2) a position report when the max safe front end reaches the border location.	JRU	Estimated front end ≥ D1(LRBG1) - L_DOUBTUNDER Message 136 Packet 0 M_MODE = 0 Message 136 Packet 0 M_MODE = 0		
		DMI (O)			
		DMI (I)			
6	At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	JRU	MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC Packet 3		
		DMI (O)			
	L	DMI (I)			
	The EVC sends to the RBC1 a position report when the min safe rear end has passed the border location.	JRU	Estimated front end ≥ D1(LRBG1) + L_TRAIN + L_DOUBTOVER Message 136 Packet 0 M MODE = 0		
		DMI (O)	_		
	The RBC1 sends an order to terminate	DMI (I)			
	communication session. Communication session is terminated with the RBC1.	JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39		
		Level	2		
		Mode	FS		
Final	state	Train Speed (km/h)	Maximum of the line		
		Other parameters	The train runs in L2 FS at the maximum speed of the line in the area under the supervision of the Accepting RBC		
Final	Test Result				
Field	of Application	F-bane EAST, F-bane	WEST		
Briefi	ing instructions	This test must be done at each RBC-RBC transition, and for both directions. (*) Packet 131 could receive also at step 1. This packet should not be sent in the same message together with a packet 42 containing a communication session establishment order with the Accepting RBC (**) If the on-board is ETCS Baseline 3 Release 2			

ADDIT	ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				





2.13.2. RBCH1B

TEST CASE DESCRIPTION							
		Code	Version	Title			
Test Case		RBCH1b	2	Hand	lover management. FS mode with 1 mobil	e.	
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1899, OPS.1200					
Test	case author	Ineco/CEDEX					
Test	Objective(s)		ckside send	ds the a	appropriate information for a handover bet	ween	
Diagram			RBCs. FS mode RBC Handing RBC Accepting				
		Level			2		
		Mode			FS		
		Train Speed (km/	/h)		Maximum permitted speed.		
Start	ing conditions	Additional starting conditions		ons	The train runs in L2 FS towards the RBC-RBC transition border. Only one communication session can be handled simultaneously by the EVC. A radio communication session is established with the Handing Over RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	Des	criptio	n of what to be tested at the interface	OK?	
		DMI (O)					
1	PRC1 gives an MA including the PRC-						
	RBC1 gives an MA including the RBC-	DMI (I)					
1	RBC1 gives an MA including the RBC- RBC Handover border.	JRU	Pa	acket 1	/33 (LRBG1) 5 SECTION=L1		
		,,	Pa	acket 1	5		
		JRU	Pa	acket 1	5		
2		JRU DMI (O)	Mes Pac D_ NI NI	sage 3 ket 13 RBCT D_RBC D_RAL	5 SECTION=L1 5/24/33 (LRBG1) (*) 1		
	RBC Handover border. The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).	JRU DMI (O) DMI (I)	Mes Pac D_ NI NI	sage 3 cket 13 RBCT D_RBC D_RAL SLEE	5 SECTION=L1 5/24/33 (LRBG1) (*) 1 R=D1 C = RBC2 DIO = RADIO2		
	RBC Handover border. The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC). The EVC does not establish a	JRU DMI (O) DMI (I) JRU	Mes Pac D_ NI NI	sage 3 cket 13 RBCT D_RBC D_RAL SLEE	5 SECTION=L1 5/24/33 (LRBG1) (*) 1 R=D1 C = RBC2 DIO = RADIO2		
2	RBC Handover border. The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).	JRU DMI (O) DMI (I) JRU DMI (O)	Mes Pac D ₂ NI NI Q (D1:	sage 3 ket 13 RBCT D_RBC D_RBC D_RAC	5 SECTION=L1 //24/33 (LRBG1) (*) 1 R=D1 C = RBC2 DIO = RADIO2 PSESSION=0		
2	RBC Handover border. The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC). The EVC does not establish a communication session with the RBC2.	JRU DMI (O) DMI (I) JRU DMI (O) DMI (I)	Mes Pac D NI NI Q (D1:	sage 3 ket 13 RBCT D_RBC D_RBC L_SLEE	5 SECTION=L1 //24/33 (LRBG1) (*) 1 R=D1 C = RBC2 DIO = RADIO2 PSESSION=0		
2	RBC Handover border. The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC). The EVC does not establish a	JRU DMI (O) DMI (I) JRU DMI (O) DMI (I) JRU	Mes Pac D. NI NI Q. (D1:	sage 3 sket 13 _RBCT D_RBC D_RAL _SLEEI	5 SECTION=L1 //24/33 (LRBG1) (*) 1 R=D1 C = RBC2 DIO = RADIO2 PSESSION=0		
3	RBC Handover border. The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC). The EVC does not establish a communication session with the RBC2. The RBC1 updates the MA (beyond the	JRU DMI (O) DMI (I) JRU DMI (O) DMI (I) JRU DMI (O)	Mes Pac D NI NI Q (D1:	sage 3 ket 13 _RBCT D_RBC D_RAL _SLEE sL1) ERM=' sage 3 acket 13 _ERM=' sage 3	5 SECTION=L1 //24/33 (LRBG1) (*) 1 R=D1 C = RBC2 DIO = RADIO2 PSESSION=0 sted curve to EoA is shown V_STATIC //33 (LRBG2)		
3	The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC). The EVC does not establish a communication session with the RBC2. The RBC1 updates the MA (beyond the border) when a route has been established across the border up to the first ETCS stop marker of the receiving	JRU DMI (O) DMI (I) JRU DMI (O) DMI (I) JRU DMI (O) DMI (O) DMI (O)	Mes Pac D NI NI Q (D1:	sage 3 ket 13 _RBCT D_RBC D_RAL _SLEE sL1) ERM=' sage 3 acket 13 _ERM=' sage 3	5 SECTION=L1 5 SECTION=L1 7/24/33 (LRBG1) (*) 1 R=D1 C = RBC2 DIO = RADIO2 PSESSION=0 ated curve to EoA is shown 7/24/33 (LRBG2) 5 SECTION=L2 >L1		

	The EVC sends to RBC1 a position		Estimated front end ≥ D1(LRBG1) - DOUBTUNDER		
	report when the max safe front end reaches the border location.	JRU	Message 136 Packet 0 M MODE = 0		
		DMI (O)	M_WODE = 0		
	At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	DMI (I)			
6		JRU	MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC		
			Packet 3		
		DMI (O)			
	The EVC sends to the RBC1 a position	DMI (I)			
7	report when the min safe rear end has passed the border location.	JRU	Estimated front end ≥ D1(LRBG1) + L_TRAIN + L_DOUBTOVER Message 136 Packet 0 M_MODE = 0		
	The RBC1 sends an order to terminate communication session. Communication session is terminated with the RBC1.	DMI (O)			
		DMI (I)			
8		JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39		
		DMI (O)	moodge oo		
		DMI (I)			
9	The EVC initiates communication with the RBC2.	JRU	Message 155 Message 32 Message 159 Packet 2(**) Message 129 Message 8 Message 3/24/33		
		Level	2		
		Mode	FS		
Final	state	Train Speed (km/h)	Maximum of the line		
		Other parameters	The train runs in L2 FS at the maximum speed of the line in the area under the supervision of the Accepting RBC		
-	Test Result				
Field	of Application	F-bane EAST, F-bane V			
Brief	ing instructions	(*) Packet 131 could red message together with a order with the Accepting	at each RBC-RBC transition, and for both directions. seive also at step 1. This packet should not be sent in the packet 42 containing a communication session estably RBC TCS Baseline 3 Release 2		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.13.3. RBCH2A

		TEST CASE DESCRIPTION						
		Code	Version	Title				
Test Case		RBCH2a	7	Hand	lover management. OS mode with 2 mobil	es.		
Base	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1899, OPS.1200					
Test case author		Ineco/CEDEX						
Test Objective(s)		Verify that the tra RBCs. OS mode		ds the a	appropriate information for a handover bet	ween		
Diagr	am							
		Level			2			
		Mode			os			
		Train Speed (km	n/h)		≤ 40 km/h (V1)			
Starting conditions		Additional starting conditions		ons	The train runs in L2 OS towards the RBC-RBC transition border. Two communication sessions can be handled simultaneously by the EVC			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	Des	criptio	n of what to be tested at the interface	OK?		
		DMI (O)	MA	is displ	ayed in the planning information area (*)			
		DMI (I)						
1	RBC1 gives an MA including the RBC- RBC Handover border.	JRU	Pa L Pa I	acket 1 END: acket 8 D_MAN M_MAN V_MAN	SECTION=L1			
l				L_ACK	MAMODE = 0 MODE = 0/1 (**)			
		DMI (O)		L_ACK	MAMODE = 0 MODE = 0/1 (**)			
		DMI (O)		L_ACK				
2	The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).		Mes Pac D_ NI NI Q	ssage 3 cket 13 _RBCT ID_RB0 ID_RA1	MODE = 0/1 (**) 5/24/33 (LRBG1) (***)			
2	perform a handover from RBC1 (Handing Over RBC) to the RBC2	DMI (I)	Mes Pac D_ NI NI Q	L_ACK Q_MAI ssage 3 cket 13 _RBCT ID_RB0 ID_RAI _SLEE	MODE = 0/1 (**) 6/24/33 (LRBG1) (***) 1 R=D1 C = RBC2 DIO = RADIO2			
2	perform a handover from RBC1 (Handing Over RBC) to the RBC2	DMI (I) JRU	Mes Pac D_ NI NI Q	L_ACK Q_MAI ssage 3 cket 13 _RBCT ID_RB0 ID_RAI _SLEE	MODE = 0/1 (**) 6/24/33 (LRBG1) (***) 1 R=D1 C = RBC2 DIO = RADIO2			
2	perform a handover from RBC1 (Handing Over RBC) to the RBC2	JRU DMI (O)	Mes Pac D_NI NI Q_(D1: Mes Mes Mes Mes Mes Mes	L_ACK Q_MAI ssage 3 cket 13 _RBCT ID_RB(ID_RAI _SLEE ≤L1) ssage 1 ssage 3 ssage 3 ssage 1 scage 2	MODE = 0/1 (**) 6/24/33 (LRBG1) (***) 1 R=D1 C = RBC2 DIO = RADIO2 PSESSION=0 55 22 59 (*) 29			
3	perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC). The EVC establishes a communication	DMI (I) JRU DMI (O) DMI (I)	Mes Pac D_NII NII Q_(D1: Mes Mes Mes Mes Mes Mes Mes Mes Mes	L_ACK Q_MAI ssage 3 cket 13 _RBCT ID_RBI ID_RAI _SLEE \$L1) ssage 1 ssage 2 ssage 1 ssage 8 is upda	MODE = 0/1 (**) 8/24/33 (LRBG1) (***) 1 R=D1 C = RBC2 DIO = RADIO2 PSESSION=0 55 22 59 (*) 29			



first ETCS stop marker of the receiving system.		V_PERM=V_STATIC	
system.	JRU	Message 3/33 (LRBG2) Packet 15	
	DMI (O)		
The EVC sends to both RBCs (RBC1 and RBC2) a position report when the max safe front end reaches the border location.	JRU	Estimated front end ≥ D1(LRBG1) - L_DOUBTUNDER Message 136 Packet 0 M_MODE = 1 Message 136 Packet 0 M_MODE = 1	
	DMI (O)		
At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.		MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33	
	DMI (O)	Packet 3	
The EVC sends to the RBC1 a position report when the min safe rear end has passed the border location.	JRU	Estimated front end ≥ D1(LRBG1) + L_TRAIN + L_DOUBTOVER Message 136 Packet 0 M_MODE = 1	
	DMI (O)		
	` '		
The RBC1 sends an order to terminate communication session. Communication session is terminated with the RBC1.		Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39	
	Level	2	
	Mode	os	
state	Train Speed (km/h)	≤ 40 km/h (V1)	
	Other parameters	The train runs in L2 OS in the area under the supervision of the Accepting RBC	
Test Result			
of Application	F-bane EAST, F-bane V	VEST	
ing instructions	(*) If the on-board is ET (**) Current F-bane Eas 1. Check and note if Q_(***) Packet 131 could be the same message togethers.	CS Baseline 3 Release 2 t and F-bane West implementations use only Q_MAMODE = MAMODE ≠ 1. the received also at step 1. This packet should not be sent in the with a packet 42 containing a communication session	
	At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values. The EVC sends to the RBC1 a position report when the min safe rear end has passed the border location. The RBC1 sends an order to terminate communication session. Communication session is terminated with the RBC1.	DMI (O) DMI (I) The EVC sends to both RBCs (RBC1 and RBC2) a position report when the max safe front end reaches the border location. DMI (O) DMI (I) At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values. DMI (O) DMI (I) The EVC sends to the RBC1 a position report when the min safe rear end has passed the border location. JRU DMI (O) DMI (I) DMI (I) DMI (O) DMI (I) The RBC1 sends an order to terminate communication session is terminated with the RBC1. JRU Level Mode Train Speed (km/h) Other parameters Test Result of Application F-bane EAST, F-bane V (**) If the on-board is ET (**) Current F-bane Eas 1. Check and note if Q (***) Packet 131 could be same message together.	JRU Packet 80 D. MAMODE = 0 (D <d_lrbg2) (d<d_lrbg2)="" (d<d_lrbg3)="" m.="" m<="" mamode="1" td=""></d_lrbg2)>

ADDITIONAL TEST CASE REPORTING INFORMATION

banedanmark



System configuration	
Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.13.4. RBCH2B

TEST CASE DESCRIPTION								
		Code	Version	Title				
Test Case		RBCH2b	2	Hand	over management. OS mode with 1 mobile) .		
Baseline applicable			Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1899, OPS.1200					
Test case author		Ineco/CEDEX						
Test Objective(s)		Verify that the t		nds the	appropriate information for a handover be	tween		
Diagr	am							
		Level			2			
Ì		Mode			os			
Ì		Train Speed (k	m/h)		≤ 40 km/h (V1)			
Starting conditions		Additional starting conditions			The train runs in L2 OS towards the RBC-RBC transition border. Only 1 communication session can be handled simultaneously by the EVC. A radio communication session is established with the Handing Over RBC. The driver has toggled on the toggling function for speed information to show the supervision limits.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interface	s Des	cription	of what to be tested at the interface	OK?		
		DMI (O) MA is disp		s displa	played in the planning information area(*)			
Ì		DMI (I)						
1	RBC1 gives an MA including the RBC-		Pa L Pa [N L	ICKET 15 _ENDS ICKET 80 D_MAM M_MAM /_MAM MAM ACKN	ECTION=L1			
ii .		DMI (O)						
		DMI (O)						
2	The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).		Pac D_ NII NII	ket 131 RBCTF D_RBC D_RAD SLEEP				
2	perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).	DMI (I)	Pac D_ NII NII Q_	ket 131 RBCTF D_RBC D_RAD SLEEP	R=D1 = RBC2 IO = RADIO2			
2	perform a handover from RBC1 (Handing Over RBC) to the RBC2	DMI (I)	Pac D_ NII NII Q_	ket 131 RBCTF D_RBC D_RAD SLEEP	R=D1 = RBC2 IO = RADIO2			
	perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC). The EVC does not establish a	JRU DMI (O)	Pac D_ NII NII Q_	ket 131 RBCTF D_RBC D_RAD SLEEP	R=D1 = RBC2 IO = RADIO2			
3	perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC). The EVC does not establish a communication session with the	DMI (I) JRU DMI (O) DMI (I)	Pac D_ NII NII Q_ (D1s	ket 131 RBCTF D_RBC D_RAD SLEEP (L1)	R=D1 = RBC2 IO = RADIO2 SESSION=0			



	1		T	
	the first ETCS stop marker of the receiving system.		V_PERM=V_STATIC Message 3/33 (LRBG2) Packet 15 L_ENDSECTION=L3 Packet 80	
		JRU	D_MAMODE = D (D <d_lrbg2) (l3(lrbg2)="" l3="" l_ackmamode="0" l_mamode="L4" m_mamode="0" q_mamode="0/1" v_mamode="V1" ≤="">D1(LRBG1))</d_lrbg2)>	
		DMI (O)		
	The EVC sends to RBC1 a position	DMI (I)		
5	report when the max safe front end reaches the border location.	JRU	Estimated front end ≥ D1(LRBG1) - L_DOUBTUNDER Message 136 Packet 0 M_MODE = 1	
		DMI (O)	_	
		DMI (I)		
6	At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	JRU	MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC Packet 3	
		DMI (O)		
		DMI (I)		
7	The EVC sends to the RBC1 a position report when the min safe rear end has passed the border location.	JRU	Estimated front end ≥ D1(LRBG1) + L_TRAIN + L_DOUBTOVER Message 136 Packet 0 M_MODE = 1	
		DMI (O)		
	The RBC1 sends an order to terminate	DMI (I)		
8	communication session. Communication session is terminated with the RBC1.	JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39	
		DMI (O)		
		DMI (I)		
9	The EVC initiates communication with the RBC2.	JRU	Message 155 Message 32 Message 159 Packet 2(*) Message 129 Message 8 Message 3/24/33	
		Level	2	
		Mode	os	
Final	state	Train Speed (km/h)	≤ 40 km/h (V1)	
		Other parameters	The train runs in L2 OS in the area under the supervision of the Accepting RBC	
Final	Test Result			
Field	of Application	F-bane EAST, F-bane	e WEST	





	This test must be done at an RBC-RBC transition.
	(*) If the on-board is ETCS Baseline 3 Release 2
	(**) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1.
Briefing instructions	Check and note if Q_MAMODE ≠ 1.
_	(***) Packet 131 could be received also at step 1. This packet should not be sent in the
	same message together with a packet 42 containing a communication session
	establishment order with the Accepting RBC

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.13.5. RBCH3A

		TEST CASE DESCRIPTION					
		Code	Version	on 1	Title		
Test (Case	RBCH3a	5	F	Handover management. SR mode with 2 mobiles.		es.
Basel	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1899, OPS.1200				
Test o	case author	Ineco/CEDEX	neco/CEDEX				
Test Objective(s)		Verify that the tra RBCs. SR mode	Verify that the trackside sends the appropriate information for a handover between RBCs. SR mode				
Diagram							
		Level Mode				2 SR	
		Train Speed (km	n/h)			≤ 40 km/h	
Starti	ng conditions	Additional starting condition		S	The train runs in L2 SR towards the RBC-l transition border. Two communication sessions can be hand simultaneously by the EVC. A radio communication session is establish the Handing Over RBC.	dled	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s C)escr	iptio	n of what to be tested at the interface	OK?
		DMI (O)					
		DMI (I)					
1	At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	JRU		Pac D NI NI Q Q MESS rom R	ket 1 _RB(D_R D_R _SLE AGE	FROM BALISE 31(*) CTR = 0 BC = RBC2 ADIO = RADIO2 EEPSESSION=0 FROM BALISE or Message 3/24/33	
		DMI (O)		Pac	ket 3		
		DMI (0)	+				
2(**)	The EVC establishes a communication session with the RBC2.	DMI (I)	Ν	Message 15 Message 32 Message 15		2	
		JRU		Packet 2(***) Message 129 Message 8			
		DMI (O)					
	The EVC conde to the BBC4 a position	DMI (I)					
3	The EVC sends to the RBC1 a position report when the min safe rear end has passed the border location.	JRU	L	DOL_ Messa Pac	JBT0 age 1 ket 0		
		DMI (O)					
	T. 5504	DMI (I)					
	The RBC1 sends an order to terminate communication session. Communication session is terminated with the RBC1.	JRU	ľ	Pac	ket 4 LRB ge 1	C=0 56	



	Level	2			
	Mode	SR			
Final state	Train Speed (km/h)	≤ 40 km/h			
	Other parameters	The train runs in L2 SR in the area under the supervision of the Accepting RBC			
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
Briefing instructions	This test must be performed at an RBC-RBC transition. (*) This packet should not be sent in the same message together with a packet 42 containing a communication session establishment order with the Accepting RBC (**) This step could occur after steps 3 and 4 (***) If the on-board is ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.13.6. RBCH3B

TEST CASE DESCRIPTION							
		Code	Versio	n Title			
Test Case		RBCH3b	2	Hand	over management. SR mode with 1 mobile.		
Base	eline applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1899, OPS.1200					
Test	case author	Ineco/CEDE	Χ				
Test	Objective(s)	Verify that th RBCs. SR m		ide send	s the appropriate information for a handover	between	
Diag	ram						
		Level			2		
		Mode			SR		
		Train Speed	i (km/h)		≤ 40 km/h		
Starting conditions		Additional s conditions	starting		The train runs in L2 SR towards the RBC-RE border. Only one communication session can be har simultaneously by the EVC. A radio communication session is establishe Handing Over RBC.	ndled	
Sequ	uence of the Test Case	Checkpoint	s				
Step	Step description	Interface	es De	escriptio	n of what to be tested at the interface	OK?	
		DMI (O))				
		DMI (I)					
	At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	JRU	MI RE	Packet 7 D_RB NID_F NID_F Q_SLI	CTR = 0 PBC = RBC2 ADIO = RADIO2 EEPSESSION=0 FROM BALISE or Message 3/24/33 from		
		DMI (O		racket.)		
2	The EVC does not establish a	DMI (I)					
_	communication session with the RBC2.	JRU					
		DMI (O)	,				
		DMI (I)					
3	The EVC sends to the RBC1 a position report when the min safe rear end has passed the border location.	JRU	Es L_ M	Estimated front end ≥ D1(LRBG1) + L_TRAIN + L_DOUBTOVER Message 136 Packet 0 M MODE = 2			
		DMI (O)				
	The RBC1 sends an order to terminate	DMI (I)					
communication session. Communication session is terminated with the RBC1.		JRU	Me	essage 3 Packet 4 Q_RE essage 1 essage 3	12 5C=0 56		
_ The EVC initiates communication with		DMI (O)		<u> </u>			
5							



	JRU	Message 155 Message 32 Message 159 Packet 2(**) Message 129 Message 8 Message 3/24/33				
	Level	2				
	Mode	Mode SR				
Final state	Train Speed (km/h)					
	Other parameters	The train runs in L2 SR in the area under the supervision of the Accepting RBC				
Final Test Result						
Field of Application	F-bane EAST, F-bane WEST					
	This test must be performed at an RBC-RBC transition. (*) This packet should not be sent in the same message together with a packet 42 containing a communication session establishment order with the Accepting RBC (**) If the on-board is ETCS Baseline 3 Release 2					

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.13.7. RBCH4

		TEST CASE	DESCRI	PTION		
		Code	Versio	n Titl	е	
Test (Case	RBCH4 2		Har	Handover management. SL mode.	
Basel	ine applicable	Baseline 3 MR1 (S	SRS 3.4.0	0) / Bas	eline 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify the EVC sto from one RBC are			C information when the train is running in SL r	mode
Diagr	am					
		Level			2	
		Mode			SL	
Starti	ng conditions	Train Speed (km/	h)		NR	
		Additional startin	ng condi	tions	The train is running in the RBC1 area. A radio communication session is not estab with the Handing Over RBC.	lished
Sequence of the Test Case		Checkpoints				
Step	Step description	Interfaces	De	escripti	on of what to be tested at the interface Ok	(?
		DMI (O)				
		DMI (I)				
	At the border location the train receives from balise group the information of the RBC2. In addition, if applicable, the train also receives a set of national values.	JRU		Packet D_RI NID_ NID_ Q_SI	E FROM BALISE 131 (LRBG1) BCTR = 0 RBC = RBC2 RADIO = RADIO2 LEEPSESSION=0 E FROM BALISE or Message 3/24/33	
		DMI (O)	fro	om RBC Packet	;	
		DMI (O)		rain=0 l		
	The train is at standstill and the start of mission procedure is performed with the RBC2 when the train is located in the RBC2 area.	JRU	M M M M	Desk is opened Message 155 Message 32 Message 159 Packet 2(*) Message 157 Message 129 Message 8 DMI SYMBOL STATUS MO13		
		Level	2			
Final	stato	Mode	SE	В		
rınal	State	Train Speed (kr	m/h) Ni	R		
		Other paramet	ers			
Final	Test Result					
Field	of Application	F-bane EAST, F-b	ane WE	ST		
Briefi	ng instructions	(*) If the on-board	is ETCS	Baselir	ne 3 Release 2	

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						

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Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.13.8. RBCH5

		TEST CASE	E DESCR	IPTION	ı	
		Code	Versio	n Tit	le	
Test	Case	RBCH5	5		ncellation of RBC handover. Accepting RBC actioning appropriately.	is not
Base	line applicable	Baseline 3 MR1 ((SRS 3.4.	0) / Bas	seline 3 R2 (SRS 3.6.0)	
	case author	Ineco/CEDEX	-			
Test (Objective(s)	Verify that if RBC	2 is not f	unctioni	ing appropriately once RBC1 has given a MA	beyond
		the border, RBC1	RBC Ha		A up to the transition border RBC A epting	
Diagr	am	Shorten	ed MA		10 10 10 10 10 10 10 10 10 10 10 10 10 1	
		Level			2	
		Mode			FS	
		Train Speed (km/h) Additional starting conditions		itions	NR The train runs in L2 FS towards the RBC-RBC transition border Two communication sessions can be handled simultaneously by the EVC. A radio communication session is established with the Handing Over RBC.	
	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escript	tion of what to be tested at the interface	OK?
		DMI (O)				
1	RBC1 gives a MA including the RBC-	DMI (I)				
'	RBC Handover border.	JRU	M	Packet	⊋ 3/33 (LRBG1) : 15 IDSECTION=L1	
		DMI (O)				
		DMI (I)				
2	The RBC1 sends an announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).	JRU	F	Packet 7 D_RB(NID_R NID_R	e 3/24/33 (LRBG1) (*) 131 CTR=D1 BC = RBC2 ADIO = RADIO2 EEPSESSION=0	
		DMI (O)				
		DMI (I)				
3	The EVC establishes a communication session with the RBC2.	JRU	N N	lessage lessage lessage Packet lessage lessage	e 32 e 159 t 2(**) e 129	
		DMI (O)		1A is up		
	The RBC1 updates the MA (beyond the	DMI (I)		<u> </u>		
4	border) when a route has been established across the border up to the first ETCS stop marker of the receiving system.	JRU	M	lessage Packet L_EN	M=V_STATIC > 3/33 (LRBG2) : 15 IDSECTION=L2 G2)>D1(LRBG1))	



		DMI (O)	MA is shortened to the Handover transition point			
		DMI (I)				
5	RBC2 malfunctions before the train reaches the transition border. RBC1 sends a MA with End of Authority at the HO transition border.	JRU	Message 3/33 (LRBG3) Packet 15 L_ENDSECTION=L3 D_TARGET=L3-D_LRBG3 (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL)) (***) L3(LRBG3)=D1(LRBG1)			
		Level	2			
Final	state	Mode	FS			
rınaı	State	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefing instructions		It shall be checked all the different situations that could produce a loss of communication between the Handing RBC and the Accepting RBC. (*) Packet 131 could receive also at step 1. This packet should not be sent in the same message together with a packet 42 containing a communication session establishment order with the Accepting RBC (**) If the on-board is ETCS Baseline 3 Release 2 (***) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(****) or Target Speed Monitoring (TSM) (*****) If the on-board is ETCS Baseline 3 Maintenance Release 1				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.13.9. RBCH6

		TEST CASE	DESCRIP	TION		
		Code	Version	Title		
Test Case		RBCH6	5		agement of the overlapping TSRs information in lover area.	
Baseline app	licable	Baseline 3 MR1 (SRS 3.4.0)	/ Basel	line 3 R2 (SRS 3.6.0)	
Test case aut	thor	Ineco/CEDEX				
Test Objectiv	re(s)	manages the ove	rlapping TS	Rs runi	nation regarding TSR correctly and the EVC ning from one RBC area to another one. The s performed correctly.	
Diagram			RBC	Handin	TSR1 TSR2	
					2	
		Mode			FS	
		Train Speed (km	/h)		NR	
Starting conditions		Additional starti	ng conditio	ons	The train is running in a handover area where two TSR are overlapped. One TSR includes the area of overlapping TSR while the other (the most restrictive) is in the Accepting RBC area, at least 150 m away from the Handover border. Two communication sessions can be handled simultaneously by the EVC. A radio communication session is established with the Handing Over RBC.	
Sequence of	the Test Case	Checkpoints				
Step Step de	scription	Interfaces	Des	criptio	on of what to be tested at the interface OK?	
		DMI (O)				
₄ RBC1 g	ives an MA including the RBC-	DMI (I)				
1 RBC Ha	andover border.	JRU Packet		acket 15	5/33 (LRBG1) 5 SECTION=L	
, The RB	C1 sends a message with TSR1	DMI (O)				
2 includin	g the Handover border and an	DMI (I)				



	announcement to perform a handover from RBC1 (Handing Over RBC) to the RBC2 (Accepting RBC).	JRU	Message 3/24/33 (LRBG1) (*) Packet 15 (if Message 3/33) L_ENDSECTION=L Packet 65 NID_TSR= TSR1 D_TSR= D1 Q_FRONT=0 L_TSR=L1 V_TSR=V1 Packet 65 (**) NID_TSR= TSR2 D_TSR= D2 Q_FRONT=0 L_TSR=L2 V_TSR=L2 V_TSR=V2 Packet 72 Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = 01 D_TEXTDISPLAY = 15 L_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X_TEXT = "MH: XTSR1"/"TSR: XTSR1" L = D1 + L1	
			L = D1 + L1 Packet 72 (**) Q_TEXTCLASS = 00 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = D2-150m M_MODETEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10 Q_TEXTCONFIRM = 00 X_TEXT = "MH: XTSR2"/"TSR: XTSR2" Packet 131 D_RBCTR=D3 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 D3 ≤ L	
		DMI (O)		
		DMI (I)		
3	The EVC establishes a communication session with the RBC2.	JRU	Message 155 Message 32 Message 159 Packet 2(***) Message 129 Message 8	
	The RBC 1 updates the MA (beyond the	DMI (O)	MA is updated	
	border) when a route has been	DMI (I)		
4	established across the border up to the first ETCS stop marker of the receiving system and sends the two overlapping	JRU	Message 3/33 (LRBG2) Packet 15	
	•			,

	TOD -		I ENDOFOTION !!	
	TSRs.		L_ENDSECTION=L'	
l	The permitted speed of the TSR2 is		L'(LRBG2) > L(LRBG1)	
	lower than the permitted speed of the		Packet 65	
- 1	TSR1.		NID_TSR= TSR1	
	The distance to the beginning of TSR2 is further than the distance of the TSR1.		D_TSR= D1'	
			Q_FRONT=0 L TSR=L1'	
			V_TSR=V1	
			Packet 65	
			NID_TSR= TSR2	
			D TSR= D2	
			Q_FRONT=0	
			L TSR=L2	
			V_TSR=V2	
			Packet 72 (****)	
			Q_TEXTCLÁSS = 00	
			Q_TEXTDISPLAY = 0	
			D_TEXTDISPLAY = D2-150m	
			M_MODETEXTDISPLAY = 15	
			L_TEXTDISPLAY = 32767	
			T_TEXTDISPLAY = 10	
			Q_TEXTCONFIRM = 00	
			X_TEXT = "MH: XTSR2"/"TSR: XTSR2"	
			D1'(LRBG2)=D1(LRBG1)	
			L1' > L1	
			V1 > V2	
			D1' < D2 D2 < D1' + L1'	
			D2 < D1 + L1 L' ≥ D2 + L2	
			Braking curve V_target = V1	
	The trains starts the braking curve to the TSR1.	DMI (O)	Vtrain < Vpermitted	
_		DMI (I)	virain < vpointitiod	
		(-)	V_TRAIN < V_PERM	
		JRU	V TARGET = V1	
		0.10	D_TARGET <d1' -="" d_lrbg2="" l_doubtunder<="" td=""><td></td></d1'>	
\neg			Vpermitted does not decrease due to TSR	
	The train reaches a point 150 m in rear of the TSR1 area when the train has run the distance D1' - 150.	DMI (O)	Text message of the TSR appears	
		DMI (I)		
		.,	START DISPLAYING TEXT MESSAGE(1)	
		JRU	estimated train location = D1' (LRBG2) - 150 m	
		0.00	TIME = T1	
	10 seconds have passed since the Text message of the TSR1 began to be displayed on the DMI.	D111 (0)	Vpermitted does not decrease due to TSR	
		DMI (O)	Text message of the TSR disappears	
		DMI (I)		
- 1		IBU	STOP DISPLAYING TEXT MESSAGE(1)	
		JRU	TIME = T1+ 10 s	
	The train reaches with its maximum safe	DMI (O)	Vpermitted = V1 Vtrain ≤ V1	
		DMI (I)	The state of the s	
	front end the location of the permitted	DMI (I)		
8	front end the location of the permitted speed supervision limit calculated for the		V_PERM = V1	
8	front end the location of the permitted	DMI (I) JRU	V_PERM = V1 V_TRAIN ≤ V1	
8	front end the location of the permitted speed supervision limit calculated for the		V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) -	
8	front end the location of the permitted speed supervision limit calculated for the	JRU	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2	
8	front end the location of the permitted speed supervision limit calculated for the	JRU DMI (O)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER	
8	front end the location of the permitted speed supervision limit calculated for the	JRU	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted	
8	front end the location of the permitted speed supervision limit calculated for the target speed V1.	JRU DMI (O)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM	
8	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the	JRU DMI (O)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2	
8	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the	JRU DMI (O) DMI (I)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2 D_TARGET < D2 - D_LRBG2 - L_DOUBTUNDER	
8	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the	JRU DMI (O) DMI (I) JRU	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2	
8	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the	JRU DMI (O) DMI (I) JRU DMI (O)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2 D_TARGET < D2 - D_LRBG2 - L_DOUBTUNDER	
9	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the TSR2. The train is approaching the border	JRU DMI (O) DMI (I) JRU	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2 D_TARGET < D2 - D_LRBG2 - L_DOUBTUNDER M_SDMTYPE=2(***)/1(*****)	
9	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the TSR2. The train is approaching the border location. The EVC sends to both RBCs	JRU DMI (O) DMI (I) JRU DMI (O)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2 D_TARGET < D2 - D_LRBG2 - L_DOUBTUNDER M_SDMTYPE=2(***)/1(*****) Estimated front end ≥ D3(LRBG1)-	
9	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the TSR2. The train is approaching the border location. The EVC sends to both RBCs (RBC1 and RBC2) a position report when	JRU DMI (O) DMI (I) JRU DMI (O)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2 D_TARGET < D2 - D_LRBG2 - L_DOUBTUNDER M_SDMTYPE=2(***)/1(*****) Estimated front end ≥ D3(LRBG1)- L_DOUBTUNDER	
9	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the TSR2. The train is approaching the border location. The EVC sends to both RBCs (RBC1 and RBC2) a position report when the max safe front end reaches the	JRU DMI (O) DMI (I) JRU DMI (O) DMI (I)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2 D_TARGET < D2 - D_LRBG2 - L_DOUBTUNDER M_SDMTYPE=2(***)/1(*****) Estimated front end ≥ D3(LRBG1)- L_DOUBTUNDER Message 136	
9	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the TSR2. The train is approaching the border location. The EVC sends to both RBCs (RBC1 and RBC2) a position report when	JRU DMI (O) DMI (I) JRU DMI (O)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2 D_TARGET < D2 - D_LRBG2 - L_DOUBTUNDER M_SDMTYPE=2(***)/1(*****) Estimated front end ≥ D3(LRBG1)- L_DOUBTUNDER Message 136 Packet 0	
9	front end the location of the permitted speed supervision limit calculated for the target speed V1. The trains starts the braking curve to the TSR2. The train is approaching the border location. The EVC sends to both RBCs (RBC1 and RBC2) a position report when the max safe front end reaches the	JRU DMI (O) DMI (I) JRU DMI (O) DMI (I)	V_PERM = V1 V_TRAIN ≤ V1 Estimated front end < D1'(LRBG2) - L_DOUBTUNDER Braking curve V_target = V2 Vtrain < Vpermitted V_TRAIN < V_PERM V_TARGET = V2 D_TARGET < D2 - D_LRBG2 - L_DOUBTUNDER M_SDMTYPE=2(***)/1(*****) Estimated front end ≥ D3(LRBG1)- L_DOUBTUNDER Message 136	



	ond of the Fortalea.	JRU	estimated front end = D2 (LRBG2) + L2 + L_TRAIN + L_DOUBTOVER V_PERM = V_STATIC	
17	The supervision of the TSR2 finishes when the min safe rear has reached the end of the TSR area.	IDII	V_PERM = V1 V_TRAIN ≤ V1	
	The company data and the TORS (1)	DMI (I)		
		DMI (O)	L_DOUBTUNDER Vpermitted > V2	
16	speed supervision limit calculated for the target speed V2.	JRU	V_PERM = V1 V_TRAIN ≤ V1 estimated front end < D2 (LRBG2) -	
	The train reaches with its maximum safe front end the location of the permitted	DMI (I)	Vtrain ≤ V1	
		DMI (O)	Vpermitted = V2	
-	displayed on the DMI.	JRU	STOP DISPLAYING TEXT MESSAGE(2) TIME = T2+ 10 s	
15	10 seconds have passed since the Text message of the TSR2 began to be	DMI (I)	Text message of the TSR disappears	
	The train reaches a point 150 m in rear of the TSR2 area when the train has run the distance D2 - 150.	DMI (O)	TIME = T2 Vpermitted does not decrease	
-		JRU	START DISPLAYING TEXT MESSAGE(2) estimated train location = D2 (LRBG2) - 150 m	
14		DMI (I)		
		DMI (O)	Vpermitted does not decrease Text message of the TSR appears	
13	communication session. Communication session is terminated with the RBC1.	JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39	
	The RBC1 sends an order to terminate	DMI (I)	Managa 2/24/22	
		DMI (O)		
12	report when the min safe rear end has passed the border location.	JRU	Estimated front end ≥ D3(LRBG1) + L_TRAIN + L_DOUBTOVER Message 136 Packet 0	
	The EVC sends to the RBC1 a position	DMI (I)		
		DMI (O)	MESSAGE FROM BALISE or Message 3/24/33 from RBC Packet 3	
	At the border location the train receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	JRU	Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0	
		DMI (I)	MESSAGE FROM BALISE	



Briefing instructions	There are not jumps in the speed when the TSR information is received. Packet 27 SSP may be used instead of packet 65 for sending TSRs Depending on the distances D1 and D2, the TSR speeds V1 and V2 and the train speed, the sequence of the steps 7, 8, 9, and 12, 13, 14, 15, 16 may be altered. (*) Packet 131 could receive also at step 1. This packet should not be sent in the same message together with a packet 42 containing a communication session establishment order with the Accepting RBC (**) Depending the location of the TSR2 these packet could be receive at this step or could receive later. (***) If the on-board is ETCS Baseline 3 Release 2 (****) Only if this packet has not been received previously. (*****) If the on-board is ETCS Baseline 3 Maintenance Release 1
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	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.13.10. RBCH7

	<u> </u>	TEST CASE DESCRIPTION					
		Code	Version	sion Title			
Test	Case	RBCH7	4		Handover management with more than one train different tracks and same direction.		
Base	line applicable	Baseline 3 MR1	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)				
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that the RI circulating close	BCs mana to the RB0	ge cori C/RBC	ectly the RBC/RBC handover when two trail border in same direction.	ins are	
Diagr	am						
		Level			2		
		Mode			FS		
Starti	ng conditions	Train Speed (kn		tions	Two trains are running at the same time t different tracks and same direction. The train(a) and train(b) are running underesponsibility of the RBC1. The EVCs are able to manage two commsessions simultaneously.	er the	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	script	ion of what to be tested at the interface	OK?	
		DMI (O)					
1	The train(a) receives from the RBC1 a MA including the RBCs border location.	DMI (I)					
'		JRU		Message 3/33 (LRBG1) Packet 15 L_ENDSECTION=L1			
		DMI (O)					
	The train(b) receives from the RBC1 a MA including the RBCs border location.	DMI (I)					
2		JRU		Packet	3/33 (LRBG2) 15 DSECTION=L2		
		DMI (O)					
	The train(a) receives from RBC1 an announcement to perform a handover to RBC2.	DMI (I)					
3		JRU	P: 1 1	acket 1 D_RBC VID_RI VID_R/	3/24/33 (LRBG3) (*) 31 :TR=D1 3C = RBC2 ADIO = RADIO2 EPSESSION=0		
		DMI (O)					
		DMI (I)					
4	The train(b) receives from RBC1 an announcement to perform a handover to RBC2.	JRU	P: 1 1	acket 1 D_RBC VID_RI VID_R/	3/24/33 (LRBG4) (*) 31 TR=D2 3C = RBC2 ADIO = RADIO2 EPSESSION=0		
		DMI (O)					
		DMI (I)					
5	The train(a) establishes a communication session with the RBC2.	JRU	Me Me I Me	essage essage essage Packet essage	32 159 2(**) 129		



		DMI (O)		
		DMI (O)		
6	The train(b) establishes a communication session with the RBC2.	DMI (I) JRU	Message 155 Message 32 Message 159 Packet 2(**) Message 129 Message 8	
		DMI (O)	MA is updated	
	The RBC 1 updates the MA (beyond the	DMI (I)	·	
7	border) to train (a) when a route has been established across the border up to the first ETCS stop marker of the receiving system.		V_PERM=V_STATIC Message 3/33 (LRBG5) Packet 15 L_ENDSECTION=L3 (L3(LRBG5)>D1(LRBG3))	
		DMI (O)	MA is updated	
	The RBC 1 updates the MA (beyond the	DMI (I)		
8	border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system.	JRU	V_PERM=V_STATIC Message 3/33 (LRBG6) Packet 15 L_ENDSECTION=L4 (L4(LRBG6)>D2(LRBG4))	
		DMI (O)		
	The train(a) is approaching the border	DMI (I)		
9	location. The EVC sends to the RBC1 and RBC2 a position report when the max safe front end reaches the border location.	JRU	Estimated front end ≥ D1(LRBG3) - L_DOUBTUNDER Message 136 Packet 0 Message 136 Packet 0	
		DMI (O)		
	The train(b) is approaching the border	DMI (I)		
10	location. The EVC sends to the RBC1	JRU	Estimated front end ≥ D2(LRBG4) - L_DOUBTUNDER Message 136 Packet 0 Message 136 Packet 0	
		DMI (O)		
		DMI (I)		
11	At the border location the train(a) receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	JRU	MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC Packet 3	
		DMI (O)		
		DMI (I)		
12	At the border location the train(b) receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values.	JRU	MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC Packet 3	
13		DMI (O)		
13		DMI (I)		



	The train(a) sends to the RBC1 a position report when the min safe rear end has passed the border location.	JRU	Estimated front end ≥ D1(LRBG3) + L_TRAIN(a) + L_DOUBTOVER Message 136 Packet 0	
		DMI (O)		
	The train(b) sends to the RBC1 a	DMI (I)		
14	position report when the min safe rear end has passed the border location.	JRU	Estimated front end ≥ D2(LRBG4) + L_TRAIN(b) + L_DOUBTOVER Message 136 Packet 0	
		DMI (O)		
	The train(a) receives from RBC1 an	DMI (I)		
15	order to terminate communication session. Communication session is terminated with the RBC1.	JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39	
		DMI (O)		
	The train(b) receives from RBC1 an order to terminate communication session. Communication session is terminated with the RBC1.	DMI (I)		
16		JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39	
		Level	2	
L		Mode	FS	
Final	state	Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane \	VEST	
Brief	ing instructions	(*) Packet 131 could receive also at steps 1 and 2 respectively. This packet should not be sent in the same message together with a packet 42 containing a communication session establishment order with the Accepting RBC (**) If the on-board is ETCS Baseline 3 Release 2		

ADDITI	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.13.11. RBCH8

Starting conditions different tracks and opportunity	at the same time through osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Baseline applicable Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) Test case author Test Objective(s) Diagram Level Mode Train Speed (km/h) Starting conditions Level Additional starting conditions Sequence of the Test Case Step Step description The train(a) receives from the RBC1 a MA including the RBCs border location. Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) Verify that the RBCs manage correctly the handover when the close to the RBC/RBC border in opposite direction. Level 2 Mode FS Train Speed (km/h) Two trains are running a different tracks and opposite of the RBC and the train(a) is running unthe RBC1 and the train(a) responsibility of the RBC and the train	at the same time through osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Test Case author Test Objective(s) Diagram Level Mode Train Speed (km/h) Two trains are running a different tracks and opport the RBC are able to m communication sessions Sequence of the Test Case Step Step description Ineco/CEDEX Verify that the RBCs manage correctly the handover when to close to the RBC/RBC border in opposite direction. Level 2 Mode FS Train Speed (km/h) Two trains are running a different tracks and opport The train(a) is running unthe RBC1 and the train(in responsibility of the RBC). The EVCs are able to m communication sessions. Sequence of the Test Case Checkpoints Interfaces Description of what to be tested a DMI (O) DMI (I) The train(a) receives from the RBC1 a MA including the RBCs border location. Message 3/33 (LRBG1)	at the same time through osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Test Objective(s) Verify that the RBCs manage correctly the handover when to close to the RBC/RBC border in opposite direction. Level	at the same time through osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Close to the RBC/RBC border in opposite direction.	at the same time through osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Level 2 Mode FS Train Speed (km/h)	osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Starting conditions Additional starting conditions Additional starting conditions Additional starting conditions Additional starting conditions Two trains are running a different tracks and opport The train(a) is running under the RBC1 and the train(ling responsibility of the RBC The EVCs are able to make the communication sessions. Sequence of the Test Case Checkpoints Step Step description Interfaces Description of what to be tested a DMI (O) The train(a) receives from the RBC1 a MA including the RBCs border location. Message 3/33 (LRBG1)	osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Starting conditions Additional starting conditions Additional starting conditions Additional starting conditions Additional starting conditions Two trains are running a different tracks and opport The train(a) is running under the RBC1 and the train(the RBC1 and the train(the RBC2) and the RBC3 and the RBC4 and	osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Starting conditions Additional starting conditions Additional starting conditions Two trains are running a different tracks and opport The train(a) is running upon the RBC1 and the train(by responsibility of the RBC The EVCs are able to move communication sessions. Sequence of the Test Case Step Step description Interfaces Description of what to be tested and DMI (O) The train(a) receives from the RBC1 and MA including the RBCs border location. Message 3/33 (LRBG1)	osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Additional starting conditions Additional starting conditions Additional starting conditions Additional starting conditions The train(a) is running unthe RBC1 and the train(light responsibility of the RBC The EVCs are able to micrommunication sessions Sequence of the Test Case Checkpoints Step Step description Interfaces Description of what to be tested and the train(light responsibility of the RBC to micrommunication sessions) Description of what to be tested and the train(light responsibility of the RBC to micrommunication sessions) Description of what to be tested and the train(light responsibility of the RBC to micrommunication sessions) DMI (0) The train(a) receives from the RBC1 and the train(light responsibility of the RBC to micrommunication sessions) DMI (0) Message 3/33 (LRBG1)	osite direction. Inder the responsibility of b) is running under the C2. Inanage two
Step Step description Interfaces Description of what to be tested a DMI (0) The train(a) receives from the RBC1 a MA including the RBCs border location. Message 3/33 (LRBG1)	
The train(a) receives from the RBC1 a MA including the RBCs border location. DMI (0) DMI (I) Message 3/33 (LRBG1)	
The train(a) receives from the RBC1 a MA including the RBCs border location. DMI (I) Message 3/33 (LRBG1)	at the interface OK?
MA including the RBCs border location. Message 3/33 (LRBG1)	
MA including the RBCs border location. Message 3/33 (LRBG1)	
L_ENDSECTION=L1	
DMI (O)	
The train(b) receives from the RBC2 a DMI (I)	
MA including the RBCs border location. JRU Message 3/33 (LRBG2) Packet 15 L_ENDSECTION=L2	
DMI (O)	
DMI (I)	
The train(a) receives from RBC1 an announcement to perform a handover to RBC2. JRU Message 3/24/33 (LRBG3) (*) Packet 131 D_RBCTR=D1 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0	
DMI (O)	
DMI (I)	
The train(b) receives from RBC2 an announcement to perform a handover to RBC1. The train(b) receives from RBC2 an Announcement to perform a handover to BRU Message 3/24/33 (LRBG4) (*) Packet 131 D_RBCTR=D2 NID_RBC = RBC1 NID_RADIO = RADIO1 Q_SLEEPSESSION=0	
The train(a) establishes a DMI (O)	
5 Communication session with the RBC2. DMI (I)	



Message 155 Message 32 Message 159 Packet 2(**) Message 159 Message 129 Message 129 Message 18 DMI (0) DMI (1) The train(t) establishes a communication session with the RBC1. The RBC 1 updates the MA (beyond the border) to train (a) when a route has been established across the border up to the first ETCS stop marker of the receiving system. The RBC 2 updates the MA (beyond the border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. DMI (0) The RBC 2 updates the MA (beyond the border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. DMI (0) The train(a) is approaching the border location. The EVC sends to the RBC1 and RBC2 a position report when the max safe front end reaches the border location. The EVC sends to the RBC2 and RBC2 and RBC1 a position report when the max safe front end reaches the border location. The EVC sends to the RBC2 and RBC2 and RBC1 a position report when the max safe front end reaches the border location. DMI (0)					
DMI (0) Message 155 Message 159 Packet 2(**) Message 180 Message 3/33 (RBG5) Packet 15 LENDSECTION=L3 (L3(LRBG5)>D1(LRBG3)) DMI (0) MA is updated DMI (0) Message 3/33 (LRBG5) Packet 15 LENDSECTION=L3 (L3(LRBG5)>D1(LRBG3)) Message 3/33 (LRBG6) Packet 15 LENDSECTION=L4 (L4(LRBG9)>D2(LRBG4)) DMI (0) DMI (JRU	Message 32 Message 159 Packet 2(**) Message 129	
The train(b) establishes a communication session with the RBC1. DMI (I) Message 155 Message 159 Packet 2(") Message 129 Message			DMI (O)	Intessage o	
The train(b) establishes a communication session with the RBC1. JRU Message 155 Message 159 Packet 2(**) Message 159 Packet 2(**) Message 159 Packet 2(**) Message 159 Message 129 Message 3/3 (LRBG5) Packet 15 LENDSECTION=13 (L3(LRBG5)>D1(LRBG3)) The RBC 2 updates the MA (beyond the border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. The RBC 2 updates the MA (beyond the border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. DMI (0) The RBC 2 updates the MA (beyond the border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. DMI (0) The train(a) is approaching the border location. The EVC sends to the RBC1 and RBC2 a position report when the max safe front end reaches the border location. The EVC sends to the RBC2 and RBC1 a position report when the max safe front end reaches the border location. The EVC sends to the RBC2 and RBC1 a position report when the max safe front end reaches the border location. At the border location the train(a) receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values. JRU Message 136 Packet 0 Message 136 Packet		-	. , ,		
The RBC 1 updates the MA (beyond the border) to train (a) when a route has been established across the border up to the first ETCS stop marker of the border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. DMI (0)				Message 32 Message 159 Packet 2(**) Message 129	
border) to train (a) when a route has been established across the border up to the first ETCS stop marker of the receiving system. The RBC 2 updates the MA (beyond the border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. DMI (0)			DMI (O)	MA is updated	
The train(a) is approaching the border location. The train(b) is approaching the border location. At the border location the train(a) receives from balise group an order to reserve to the switch to RBC2. In addition, if applicable, the train also receives a set of national values. JRU JRU JRU JRU JRU JRU JRU JR			DMI (I)		
The RBC 2 updates the MA (beyond the border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. DMI (I) V_PERM=V_STATIC Message 3/33 (LRBG6) Packet 15 L_ENDSECTION=L4 (L4(LRBG6)>D2(LRBG4))	7 k	been established across the border up to the first ETCS stop marker of the	JRU	Message 3/33 (LRBG5) Packet 15 L_ENDSECTION=L3	
border) to train (b) when a route has been established across the border up to the first ETCS stop marker of the receiving system. JRU			DMI (O)	MA is updated	
been established across the border up to the first ETCS stop marker of the receiving system. Date Dat			DMI (I)		
The train(a) is approaching the border location. The EVC sends to the RBC1 and RBC2 a position report when the max safe front end reaches the border location. Packet 0	8 k	been established across the border up to the first ETCS stop marker of the	JRU	Message 3/33 (LRBG6) Packet 15 L_ENDSECTION=L4	
location. The EVC sends to the RBC1 and RBC2 a position report when the max safe front end reaches the border location. State Stimated front end ≥ D1(LRBG3) - L_DOUBTUNDER			DMI (O)		
location. The EVC sends to the RBC1 and RBC2 a position report when the max safe front end reaches the border location.	H	location. The EVC sends to the RBC1 and RBC2 a position report when the max safe front end reaches the border	DMI (I)		
The train(b) is approaching the border location. The EVC sends to the RBC2 and RBC1 a position report when the max safe front end reaches the border location. JRU Estimated front end ≥ D2(LRBG4) - L_DOUBTUNDER Message 136 Packet 0 Message 136 Packet 0 DMI (0) DMI (0) DMI (1) At the border location the train(a) receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values. JRU MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC	9 a		JRU	L_DOUBTUNDER Message 136 Packet 0 Message 136	
location. The EVC sends to the RBC2 and RBC1 a position report when the max safe front end reaches the border location. JRU Bestimated front end ≥ D2(LRBG4) - L_DOUBTUNDER Message 136 Packet 0 Message 136 Packet 0 Message 136 Packet 0 Message 136 Packet 0 Message 136 Packet 10 Message 136 Packet 0 Message 136 Packet 0 Message 136 Packet 0 JRU JRU JRU MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBCTR = 0 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC			DMI (O)		
location. The EVC sends to the RBC2 and RBC1 a position report when the max safe front end reaches the border location. JRU Bestimated front end ≥ D2(LRBG4) - L_DOUBTUNDER Message 136 Packet 0 Message 136 Packet 0 Message 136 Packet 0 Message 136 Packet 0 JMI (0) DMI (0) DMI (I) MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC	h	The train(b) is approaching the border	DMI (I)		
At the border location the train(a) receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values. DMI (I) MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC	10 a	ocation. The EVC sends to the RBC2 and RBC1 a position report when the max safe front end reaches the border	JRU	L_DOUBTUNDER Message 136 Packet 0 Message 136	
At the border location the train(a) receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values. JRU MESSAGE FROM BALISE Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC			DMI (O)		
At the border location the train(a) receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national values. JRU Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2 Q_SLEEPSESSION=0 MESSAGE FROM BALISE or Message 3/24/33 from RBC			DMI (I)		
from RBC	11 s t	receives from balise group an order to switch to RBC2. In addition, if applicable, the train also receives a set of national	JRU	Packet 131 D_RBCTR = 0 NID_RBC = RBC2 NID_RADIO = RADIO2	
 				from RBC	
At the border location the train(b) DMI (O)			DMI (O)		
receives from balise group an order to DMI (I)	'- r	receives from balise group an order to	DMI (I)		



	switch to RBC1. In addition, if applicable, the train also receives a set of national		MESSAGE FROM BALISE Packet 131		
	values.	JRU	D_RBCTR = 0 NID_RBC = RBC1 NID_RADIO = RADIO1 Q_SLEEPSESSION=0		
			MESSAGE FROM BALISE or Message 3/24/33 from RBC Packet 3		
		DMI (O)			
	The train(a) sends to the RBC1 a	DMI (I)			
13	position report when the min safe rear end has passed the border location.	JRU	Estimated front end ≥ D1(LRBG3) + L_TRAIN(a) + L_DOUBTOVER Message 136 Packet 0		
		DMI (O)			
	The train(b) sends to the RBC2 a	DMI (I)			
14	position report when the min safe rear end has passed the border location. The train(a) receives from RBC1 an	JRU	Estimated front end ≥ D2(LRBG4) + L_TRAIN(b) + L_DOUBTOVER Message 136 Packet 0		
		DMI (O)			
		DMI (I)			
15	order to terminate communication session. Communication session is terminated with the RBC1.	JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39		
		DMI (O)			
	The train(b) receives from RBC2 an	DMI (I)			
16	order to terminate communication session. Communication session is terminated with the RBC2.	JRU	Message 3/24/33 Packet 42 Q_RBC=0 Message 156 Message 39		
		Level	2		
Final	state	Mode	FS		
	Sinto	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST, F-bane \			
Briefi	ing instructions	(*) Packet 131 could receive also at steps 1 and 2 respectively. This packet should not be sent in the same message together with a packet 42 containing a communication session establishment order with the Accepting RBC (**) If the on-board is ETCS Baseline 3 Release 2			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.14. MPV

2.14.1. MPV1

	TEST CASE DESCRIPTION						
		Code Vers		sion Title			
Test (Case	MPV1	7			not issued until a defined time when the lode after having performed an Override p	
Base	line applicable	Baseline 3 MR1	(SRS 3.4	.0) / Ba	asel	ine 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX					
Test	Objective(s)					a movement authority until a configured til de after having performed an Override pr	
Diagr	am						
		Level			2	2	
		Mode			F	FS	
Starti	ng conditions	Train Speed (kn	n/h)		C)	
		Additional start	ting cond	itions	k	The train is standstill in rear of the EoA wi known position and there is a communical session established.	
Sequ	ence of the Test Case	Checkpoints					_
Step	Step description	Interfaces	s D	escrip	tior	of what to be tested at the interface	OK?
	The driver colocte Override and the train	DMI (O)	Vt	train=0)		
1	The driver selects Override and the train sends a position report to the RBC with the change of mode.	DMI (I)	0	verride EoA selected			
		JRU		_TRAIN=0 _DRIVERACTIONS = 14			
	Transition to SR (OV) mode The driver toggles on the supervision limits	DMI (O)	S	Override EoA symbol SR symbol Vperm= V_NVSUPOVTRP			
2		DMI (I)	S	Supervision limits are toggled on			
		JRU	М	M_MODE = 2 M_DRIVERACTIONS = 27 V_PERM = V_NVSUPOVTRP			
		DMI (O)					
_	The EVC reports to the RBC the train	DMI (I)					
3	position when the mode transition is performed.	JRU		Message 136 Packet 0 M MODE = 2			
		DMI (O)					
		DMI (I)					
4	After a time "T≥60s", the RBC sends a MA to the train.	JRU	N 	Message 3/33 NID_BG = LRBG1 Packet 15 Packet 21 Packet 27 Packet 80 D_MAMODE < D_LRBG1 + L_DOUBTUNDER M_MAMODE = 0 V_MAMODE = V1			
5	The EVC switches to OS mode and shows the acknowledgment request to	DMI (O)		S syml	bol	ansition acknowledgement	
_	OS.	DMI (I)					



		JRU	M_MODE=1 DMI_SYMB_STATUS MO07 DMI_SYMB_STATUS MO08
		DMI (O)	
	The EVC reports to the RBC the train	DMI (I)	
6	position.	JRU	Message 136 Packet 0 M_MODE=1
	Acknowledgement of OS mode within 5 sec after the change to OS mode	DMI (O)	
7		DMI (I)	Acknowledgement of OS mode
		JRU	M_DRIVERACTIONS=0
		Level	2
- :	state	Mode	os
rınaı	state	Train Speed (km/h)	NR
		Other parameters	
Final	Test Result		
Field	of Application	F-bane EAST	
Brief	ing instructions		

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.14.2. MPV3

		TEST CASI	E DESC	RIP1	ION			
		Code	Version	on	Title			
Test	Case	MPV3	5	5		Position report parameters.		
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)						
Test	case author	Ineco/CEDEX						
Test (Objective(s)	Verify that the RE according to the i				mation regarding the position report paramirements.	neters	
Diagr	am				-			
		Level				2		
C4~"4:	nn agaitign	Mode			-	FS/OS		
Starti	ing conditions	Train Speed (km Additional starti		dition		NR The radio communication session is estab	olished	
Seau	ence of the Test Case	Checkpoints				with the RBC.		
	Step description	Interfaces	i Ir)esci	rintio	n of what to be tested at the interface	OK?	
Otep	otep description	DMI (O)	<u> </u>	7636	iptio	in or what to be tested at the interface	OK:	
		DMI (I)						
1	The RBC sends packet 58 "Position Report Parameters" to the train.	JRU	c	Message 3/24/33 LRBG1 Packet 58 T_CYCLOC = 5 D_CYCLOC = 32767 (the train has not to report cyclically its position) M_LOC = 1 N_ITER = k (*) D_LOC (k) = Dk (Dk=distance to next ATAF/inside a trusted area) Q_LGTLOC = 1				
		DMI (O)						
	The train reads the Balise group i while is running across the line and the EVC sends a position report to the RBC.	JRU		NID_BG=Bgi Message 136 Packet 0/1 NID_BG=Bgi D_LRBG Q_DIRLRBG Q_DLRBG (i=1,2n)		36 V1 3G=Bgi BG RLRBG RBG		
		DMI (O)						
	Each 5 seconds the EVC sends to the	DMI (I)						
-	RBC a position report	JRU			age 1: ket 0/			
		DMI (O)						
	The EVC sends a position report to the	DMI (I)						
	RBC when the "max safe front end" of the train reaches the location of the ATAF/trusted area.	JRU	N	Estimated front end=Dk(LRBG1)- L_DOUBTUNDER Message 136 Packet 0/1 D_LRBG Q_DIRLRBG Q_DLRBG				
		Level	2					
Final	state	Mode	F	s				
		Train Speed (k	(m/h) N	NR				



	Other parameters	
Final Test Result		
Field of Application	F-bane EAST, F-bane WEST	
Briefing instructions	Can be also tested in SR when the train has a valid position (*) Optional functionality	

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15. LX

2.15.1. LX1

	TEST CASE DESCRIPTION						
		Code Vers		on Ti	tle		
Test Case		LX1 7		Te	Management of Private Crossing. The RBC sends Temporary Speed Restriction with the value set to zero.		
Base	line applicable				nseline 3 R2 (SRS 3.6.0) profiles), CER 9.4.5, FbIS.F.307.		
Test	case author	Ineco/CEDEX					
Test	Objective(s)				nporary speed restriction with the value set to zo a private crossing.	ero	
Diagr	am						
		Level			2		
		Mode			FS		
Starti	ing conditions	Train Speed (km	n/h)		Maximum speed of the line		
		Additional starti	ing cond	litions	The radio communication session is establi- with the RBC. MA parameters request are stored on board Route is set across a Private Crossing.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s C	Descrip	otion of what to be tested at the interface Or	⟨ ?	
	Train sends an MA request according to the value of T_MAR stored on board	DMI (O)					
1		DMI (I)					
'		JRU	N	Message 132 Q_MARQSTREASON=xxx1x Packet 0/1			
		DMI (O)		Movement authority is updated Vpermitted does not decrease			
		DMI (I)					
2	The RBC issues a MA in where there is a Private Crossing	JRU	DMI (I) Messag LRBC Pack L1 ≥ D2 Messag LRBC Packet NII D_c crossing L_private V_Q Pack Q_ D_ L_ T_		et 15 ENDSECTION= L1 + L2 e 3/24 61 65(*) D_TSR = TSR1 TSR = D2 (50 meters in rear the private g start location) TSR = L2 (50 meters in advance the crossing end location) TSR = V2 = 0 km/h FRONT = 1		



3	The EVC enters in braking curve to the TSR start location.	DMI (O)	Vpermitted decreases Vtarget=0 Dtarget=Distance from the "Max safe front end" to the location of the permitted speed supervision limit calculated for the target speed.	
		JRU	SPEED AND DISTANCE MONITORING INFORMATION V_TARGET=0 Km/h D_TARGET <d2-d_lrbg1-l_doubtunder m_sdmtype="2(**)/1(***)</td"><td></td></d2-d_lrbg1-l_doubtunder>	
		DMI (O)		
	The Driver brings the train to a standstill. Train is at standstill in rear of the Private Crossing start location. The EVC reports to the RBC its position at standstill	DMI (I)		
		JRU	(LRBG2) Message 136 Packet 0/1 V_TRAIN = 0 Km/h M_MODE = 0 D LRBG = D3 (D3≤D2)	
		Level	2	
- :	atata	Mode	FS	
Finai	state	Train Speed (km/h)	0	
		Other parameters		
Final	Test Result			
Field of Application		F-bane EAST, F-bane V	VEST	
Briefing instructions		(*) Packet 27 SSP may be used instead of packet 65 for sending TSRs (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.15.2. LX2

		TEST CASE	DESCRI	IPTION		
		Code	Versio	n Title	•	
Test (Case	LX2	LX2 7		Management of Private Crossing. The RBC revokes a Temporary Speed Restriction previously sent.	
Basel	ine applicable	Baseline 3 MR1 CER DEF (2.9.4	(SRS 3.4. Dynamic	0) / Base speed p	eline 3 R2 (SRS 3.6.0) rofiles), CER 9.4.5, FbIS.F.308	
Test o	case author	Ineco/CEDEX				
Test Objective(s)		the RBC is able t that would pass t	o cease s hrough a	sending z private o	Control Room User for a specific Private Crossing zero speed temporary speed restriction to any train crossing and revoke any zero speed temporary d for the specific private crossing.	
Diagr	am					
		Level			2	
		Mode			FS	
Starti	ng conditions	Train Speed (km	n/h)			
Otarti	ng conditions	Additional starting conditions			The radio communication session is established with the RBC. MA parameters request are stored on board. Route is set across a Private Crossing.	
Seque	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escripti	on of what to be tested at the interface OK?	
		DMI (O)				
	Train sends an MA request according to the value of T_MAR stored on board	DMI (I)				
		JRU		lessage Q_MAR Packet (QSTREASON=xxx1x	
					t authority is updated d does not decrease	
		DMI (I)	Ť	pominico	d does not decrease	
	The RBC issues a MA in where there is a Private Crossing		L M P	1 ≥ D2 + lessage LRBG1 acket 65 NID_ D_Ts rossing s L_Ts rivate crr V_Ts Q_FI Packet Q_Ti Q_Ti D_Ts L_TE L_TE Q_Ti Q_TI	15 NDSECTION= L1 L2 3/24 i(*) TSR = TSR1 SR = D2 (50 meters in rear the private start location) SR = L2 (50 meters in advance the possing end location) SR = V2 = 0 km/h RONT = 1	
3	The EVC enters in braking curve to the TSR start location.	DMI (O)	V D th	Vpermitted decreases Vtarget=0 Dtarget=Distance from the "Max safe front end" to the location of the permitted speed supervision limicalculated for the target speed.		

		DMI (I)				
		JRU	SPEED AND DISTANCE MONITORING INFORMATION V_TARGET=0 Km/h D_TARGET <d2-d_lrbg1-l_doubtunder m_sdmtype="2(**)/1(***)</td"></d2-d_lrbg1-l_doubtunder>			
		DMI (O)	Vpermitted≈0			
		DMI (I)				
4	The Driver brings the train to a standstill. Train is at standstill in rear of the Private Crossing start location. The EVC reports to the RBC its position at standstill	JRU	V_PERM≈0 (LRBG1) Message 136 Packet 0/1 V_TRAIN = 0 Km/h M_MODE = 0 D_LRBG = D3 (D3≤D2)			
		DMI (O)	Vpermitted is updated			
	The Control Room User ceases issuing predefined zero speed temporary speed restrictions to the Train The RBC revokes the TSR.	DMI (I)				
5		JRU	V_PERM is updated (V_PERM>0) (LRBG2) Message 3/24 Packet 66 (****) NID_TSR=TSR1			
		DMI (O)	Vpermitted>0			
6	The train pass through the private crossing. No TSR is applied.	DMI (I)				
	orossing. No York is applied.	JRU	V_PERM>0			
		Level	2			
- :	state	Mode	FS			
rınaı	state	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefing instructions		(*) Packet 27 SSP may be used instead of packet 65 for sending TSRs (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2 (****) In case packet 27 has been used instead of packet 65 at step 2, the RBC shall send an MA with new SSP (packet 27) information that does not include the speed restriction.				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.15.3. LX3

	TEST CASE DESCRIPTION						
		Code	Versio	on ⁻	Title		
Test (Case	LX3	3		Level crossing procedure when the RBC can confirm that the status of level crossing is protected.		
Basel	ine applicable	Baseline 3 MR1 (FbIS.F.1160	(SRS 3.4	.0) / E	Baseline 3 R2 (SRS 3.6.0)		
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify the exchar approaching to a			es between the RBC and the EVC when the train is rel crossing area.		
Diagr	am						
		Level			2		
		Mode			FS		
		Train Speed (km	n/h)		Train is running at a maximum permitted speed		
Starti	ng conditions	Additional starting conditions		litions	The radio communication session is established with the RBC. MA parameters request are stored on board. MA until the maker board located before the LX is stored on board. Route is set from the train to at least one route after the LX		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D)escr	ription of what to be tested at the interface OK?		
		DMI (O)					
,	Train sends an MA request according to the value of T_MAR stored on board	DMI (I)					
1		JRU Message 2 Q_MAR0 Packet 0			MÄRQSTREASON=xxx1x		
		DMI (O)	N	/lover	ment authority is updated		
		DMI (I)					
LX1 activation starts and the LX1 is protected. The RBC extends the movement authority beyond the LX1		JRU	N	Pack L_ /lessa NID Packe NII D_ L_	age 3 cket 15 _ENDSECTION="L1" (L1>D2+L2) age 3/24 D_BG=BG1 et 88 ID_LX=LX1 _LX="D2" _LX="L2" _LXSTATUS=0		
	The train overpass the level crossing	DMI (O)			lon protected" symbol is not displayed. peed restriction is shown in the DMI.		
3	location. No speed restriction due to level	DMI (I)					
	crossing is received.	JRU			lated front D2(BG1)+L2+L_TRAIN+L_DOUBTOVER		
		Level	2	2			
Final	state	Mode	F	S			
mai	outo	Train Speed (km/h) T	rain i	is running at a maximum permitted speed		
		Other parame	eters				
Final	Test Result						
Field	of Application	F-bane EAST, F-	-bane WE	ST			
Briefi	ng instructions						



ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15.4. LX4

		TEST CASE	DESCRI	PTION		
		Code	Versio	sion Title		
Test Case		LX4	6		el crossing procedure when the RBC cannot irm that the status of level crossing is protected.	
Baseline applicable			S.F.326, (OR.DEF	eline 3 R2 (SRS 3.6.0) .456, OR.3095, CER 9.5.2, CER COM (2.9.5 Leve ER 9.5.1	
Test	case author	Ineco/CEDEX				
Test	Objective(s)	Verify the exchar approaching to a			etween the RBC and the EVC when the train is rel crossing area.	
Diagr	am					
		Level			2	
		Mode			FS	
		Train Speed (km	n/h)		Train is running at a maximum permitted speed	
Starting conditions		Additional starting condition		tions	The radio communication session is established with the RBC. MA parameters request are stored on board. MA until the maker board located before the LX istored on board. Route is set from the train to at least one route after the LX The status of the LX is failed/deactivated	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s Do	escriptio	on of what to be tested at the interface OK?	
		DMI (O)				
,	Train sends an MA request according to	DMI (I)				
1	the value of T_MAR stored on board	JRU		Message 132 Q_MARQSTREASON=xxx1x Packet 0/1		
		DMI (O)	М	ovement	t authority is updated	
		DMI (I)				
2	The RBC cannot confirm that the status of the level crossing is protected therefore the RBC extends the movement authority beyond the LX1 with the status of the level crossing set to "Non protected"	JRU	М	Message 3 LRBG1 Packet 15 L_ENDSECTION="L1" (L1>D2+L2) Message 3/24 LRBG1 Packet 88 NID_LX=LX1 D_LX="D2" L_LX="L2" Q_LXSTATUS=1 V_LX=10 Km/h Q_STOPLX=0		
		DMI (O)	V; Vt	permitted arget=0	vrotected" symbol is displayed d decreases (***) X start location	
	The EVC enters in the Pre-Indication	DMI (I)				
The EVC enters in the Pre-Indication Monitoring (PIM) area(*) / braking curve(**) to the LX1 start location and the symbol "LX non protected" is displayed.		JRU	IN Di	SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE=1 V_TARGET=0 D_TARGET=D2-D_LRBG1-L_DOUBTUNDER V_RELEASE = 0 DMI_SYMB_STATUS LX01		

	The Driver brings the train to a standstill	DMI (O)	Vtrain=0			
4	at the ETCS stop marker protecting the level crossing and inform the signaller.	DMI (I)				
	After having informed the signaller the train continues towards the LX.	JRU	V_TRAIN=0			
	The train reaches with the estimated or the max safe front end (depending	DMI (O)	Vtrain≤Vpermitted Vpermitted=Vlx			
	whether the most restrictive supervision limit at the LX speed is the SBI1 or the	DMI (I)				
SBI2) the location of supervision limit cate speed. The EVC in restriction in the MF supervise the LX state EoA and the Sv	SBI2) the location of the permitted speed supervision limit calculated for the LX speed. The EVC includes the LX speed restriction in the MRSP and no longer supervise the LX start location as both the EoA and the SvL. (train front end location is in rear the LX start location).	JRU	V_TRAIN≤V_PERM Estimated front end (LRBG1)+L_DOUBTUNDER <d2 and="" distance="" information="" lx<="" monitoring="" speed="" td="" v_perm="V_"></d2>			
	The train reaches with its "min safe front	DMI (O)	"LX Non protected" symbol is removed			
6	end" the LX end location. The icon "LX non protected" is removed	DMI (I)				
		JRU	Estimated front end=D2+L2+L_DOUBTOVER			
		DMI (O)	Vpermitted≥Vlx			
	The supervision of the speed restriction	DMI (I)				
7	finishes when the "min safe front end" has reached the end of the speed restriction.	JRU	Estimated front end=D2+L2+L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM=V_STATIC≥V_LX M_SDMTYPE=0			
		Level	2			
- :	atata.	Mode	FS			
Finai	state	Train Speed (km/h)	NR (Not Relevant)			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane V	VEST			
Brief	ing instructions	(*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2 (***) If the on-board is ETCS Baseline 3 Maintenance Release 1, this happens when the EVC is in the braking curve (M_SDMTYPE=2).				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15.5. LX6

	TEST CASE DESCRIPTION						
		Code	Version	on '	Title		
Test	Case	LX6	3			agement of Staff Crossing when the warnin m has been verified successfully for the ro	
Base	line applicable	Baseline 3 MR1 (FbIS.F.1170	(SRS 3.4	.0) / I	Basel	ine 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX					
Test	Objective(s)		Staff Cro	ossin		ween the RBC and the EVC when the train which the warning system has been verified	
Diagr	am						
		Level				2	
		Mode				FS	
		Train Speed (km	n/h)			Train is running at a maximum permitted s	•
Starti	ng conditions	Additional starting conditions		s	The radio communication session is estable with the RBC. MA parameters request are stored on boat Route is set across a Staff Crossing (SX), warning system has been verified successions.	ırd. whose	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s C	Descr	iptio	n of what to be tested at the interface C	K?
		DMI (O)					
1	Train sends an MA request according to	DMI (I)					
'	the value of T_MAR stored on board	JRU	V		•	QSTREASON=xxx1x	
		DMI (O) Movement		ment	authority is updated		
	The RBC issues a MA in where there is a	DMI (I)					
SX whose warning system has been verified successfully. No information about the SX is sent (neither TSR nor text message)		JRU		Message 3 LRBG1 Packet 15 L_ENDS L > end locati		5 DSECTION= L	
		Level	2	2			
Final	state	Mode	F	S			
····ai	out.	Train Speed (km/h) T	Train is running at a maximum permitted speed		ning at a maximum permitted speed	
		Other parame	eters				
Final	Test Result						
Field	of Application	F-bane EAST, F-	bane WE	ST			
Briefi	ng instructions						

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15.6. LX7

TEST CASE DESCRIPTION								
		Code	Versio	n Title				
Test Case		LX7	8		agement of Staff Crossing when the warning am has been verified unsuccessfully for the route.			
Base	line applicable		S.F.1701,	FbIS.F.4	line 3 R2 (SRS 3.6.0) 466, Text Messages 008, CER DEF R 9.4.2			
Test	case author	Ineco/CEDEX						
Test	Objective(s)		Staff Cros	ssing in v	tween the RBC and the EVC when the train is which the warning system has been verified			
Diag	ram							
		Level			2			
		Mode			FS			
0 4	to an analytic and	Train Speed (km	n/h)		Train is running at a maximum permitted speed			
Starting conditions		Additional starting conditions			The radio communication session is established with the RBC. MA parameters request are stored on board. Route is set across a Staff Crossing (SX), whose warning system has been verified unsuccessfully			
	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s D	escriptio	on of what to be tested at the interface OK?			
		DMI (O)						
1	Train sends an MA request according to	DMI (I)		14 400				
·	the value of T_MAR stored on board	JRU		essage 1 Q_MAR0 Packet 0	QSTREASON=xxx1x			
		DMI (O)			authority is updated I does not decrease			
		DMI (I)						
2	The RBC issues a MA in where there is a SX whose warning system has been verified unsuccessfully.	JRU	L´ M Pa	I ≥ D2 + essage 3 LRBG1 acket 65 NID_ D_TS V_TS Q_FF Packet 7 Q_TE Q_TE D_TE M_M0 L_TE T_TE Q_TE C_TE C_TE	15 DSECTION= L1 L2 8/24 **) TSR = TSR1 R = D2 R = L2 R = V2 ≤ 40 km/h CONT = 1			

	The EVC enters in braking curve to the TSR start location.	DMI (O)	Vpermitted decreases Vtarget=V2 Dtarget=Distance from the "Max safe front end" to the location of the permitted speed supervision limit calculated for the target speed.			
3		DMI (I)				
		JRU	SPEED AND DISTANCE MONITORING INFORMATION V_TARGET=V2 D_TARGET <d2-d_lrbg1-l_doubtunder m_sdmtype="2(***)/1(****)</td"><td></td></d2-d_lrbg1-l_doubtunder>			
		DMI (O)	Text message of the failed SX appears			
	The train moves towards the SX and reaches a point 150/331(**) m in rear of	DMI (I)				
4	the TSR1 area of the failed SX when the train has run the distance D2 - 150 / D2 - 331(**).	JRU	estimated train location = D2 (LRBG1) - 150 m / D2 (LRBG1) - 331 m(**) START DISPLAYING TEXT MESSAGE TIME = T1			
		DMI (O)	Vpermitted = V2 Vtrain ≤ V2			
	The train reaches with its maximum safe front end the location of the permitted	DMI (I)				
5	speed supervision limit calculated for the target speed 40 Km/h.	JRU	V_PERM = V2 V_TRAIN ≤ V2 estimated front end < D2 (LRBG1) - L_DOUBTUNDER			
	10/30(**) seconds have passed since the Text message began to be displayed on	DMI (O)	Text message of the failed SX disappears			
6		DMI (I)				
	the DMI	JRU	STOP DISPLAYING TEXT MESSAGE TIME = T1+ 10 s / T1+ 30 s(**)			
		DMI (O)	Vpermitted > 40 km/h (if possible)			
	T (II TODA (II	DMI (I)				
7	The supervision of the TSR1 area of the failed SX finishes when the min safe front end has reached the end of the TSR area.	JRU	estimated front end = D2 (LRBG1) + L2 + L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM=V_STATIC M_SDMTYPE=0			
		Level	2			
Eina!	otata	Mode	FS			
rınal	state	Train Speed (km/h)	Train is running at a maximum permitted speed			
		Other parameters				
Final	Test Result					
Field of Application		F-bane EAST, F-bane V	VEST			
Briefi	ing instructions	Depending on the distance D2, L2 and the train speed, the sequence of the steps 4, 5 and 6 may be altered. (*) Packet 27 SSP may be used instead of packet 65 for sending TSRs (**) Applicable to EDL WEST DK2.0 (***) If the on-board is ETCS Baseline 3 Maintenance Release 1 (****) If the on-board is ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15.7. LX8

	TEST CASE DESCRIPTION					
		Code	Version	Title		
Test Case		LX8	3		agement of Passenger Crossing when the warnin em has been verified successfully for the route.	
Base	line applicable	Baseline 3 MR1 (S FbIS.F.1177	RS 3.4.0) / Base	eline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test	Objective(s)		assenge		tween the RBC and the EVC when the train is ing in which the warning system has been verified	
Diagr	am					
		Level			2	
		Mode			FS	
		Train Speed (km/h	n)		Train is running at a maximum permitted speed	
Starting conditions		Additional starting conditions		ions	The radio communication session is established with the RBC. MA parameters request are stored on board. Route is set across a Passenger Crossing (PWS), whose warning system has been verified successfully	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	De	scriptio	on of what to be tested at the interface OK?	
		DMI (O)				
1	Train sends an MA request according to	DMI (I)				
•	the value of T_MAR stored on board	JRU	(essage 1 Q_MAR0 Packet 0	QSTREASON=xxx1x	
		DMI (O)	Мо	vement	authority is updated	
	The RBC issues a MA in where there is a	DMI (I)				
PWS whose warning system has been verified successfully. No information about the PWS is sent (neither TSR nor text message)		JRU		Message 3 LRBG1 Packet 15 L_ENDSECTION= L L > end location of PWS		
		Level	2			
Final	state	Mode	FS	FS		
ı ıııaı	State	Train Speed (km	n/h) Tra	ain is rur	nning at a maximum permitted speed	
		Other paramete	ers			
Final	Test Result					
Field	of Application	F-bane EAST, F-ba	ane WES	ST		
Briefi	ng instructions					

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15.8. LX9

TEST CASE DESCRIPTION							
		Code	Version	n Tit	le		
Test Case		LX9	9		nagement of Passenger Crossing when the warnin stem has been verified unsuccessfully for the route.		
Base	line applicable				seline 3 R2 (SRS 3.6.0) , CER DEF (2.9.4 Dynamic speed profiles), CER		
Test	case author	Ineco/CEDEX					
Test	Objective(s)		Passeng	er Cros	between the RBC and the EVC when the train is sing in which the warning system has been verified		
Diag	ram						
		Level			2		
		Mode			FS		
		Train Speed (km	n/h)		Train is running at a maximum permitted speed		
Starting conditions		Additional starting condition			The radio communication session is established with the RBC. MA parameters request are stored on board. Route is set across a Passenger Crossing (PWS), whose warning system has been verified unsuccessfully		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s C	escrip	tion of what to be tested at the interface OK?		
		DMI (O)					
	Train sends an MA request according to	DMI (I)					
1	the value of T_MAR stored on board	JRU	N	lessage Q_MA Packet	RQSTREASON=xxx1x		
		DMI (O)			nt authority is updated ed does not decrease		
		DMI (I)					
2	The RBC issues a MA in where there is a PWS whose warning system has been verified unsuccessfully.	JRU	L N F	1 ≥ D2 lessage LRBG cacket 6 NIC D_ L_1 V_ Packe Q_ D_ L_1 T_ T_ X_ Varning	1 bit 15 ENDSECTION= L1 + L2 9 3/24 1 15(*) 0_TSR = TSR1 TSR = D2 SR = L2 TSR = V2 ≤ 40 km/h FRONT = 1		

	The FVC enters is bestime some to the	DMI (O)	Vpermitted decreases Vtarget=V2 Dtarget=Distance from the "Max safe front end" to the location of the permitted speed supervision limit calculated for the target speed.	
3	The EVC enters in braking curve to the	DMI (I)		
	TSR start location.	JRU	SPEED AND DISTANCE MONITORING INFORMATION V_TARGET=V2 D_TARGET <d2-d_lrbg1-l_doubtunder m_sdmtype="2(***)/1(****)</td"><td></td></d2-d_lrbg1-l_doubtunder>	
	The trade are to the DIMO and	DMI (O)	Text message of the failed PWS appears	
	The train moves towards the PWS and reaches a point 150/331(**) m in rear of	DMI (I)		
4	the TSR1 area of the failed PWS when the train has run the distance D2 - 150/D2 - 331(**).	JRU	estimated train location = D2 (LRBG1) - 150 m / D2 (LRBG1) - 331 m(**) START DISPLAYING TEXT MESSAGE TIME = T1	
		DMI (O)	Vpermitted = V2 Vtrain ≤ V2	
	The train reaches with its maximum safe	DMI (I)		
5	front end the location of the permitted speed supervision limit calculated for the target speed ≤ 40 km/h.	JRU	V_PERM = V2 V_TRAIN ≤ V2 estimated front end < D2 (LRBG1) - L_DOUBTUNDER	
		DMI (O)	Text message of the failed PWS disappears	
6	10/30(**) seconds have passed since the Text message began to be displayed on	DMI (I)		
	the DMI	JRU	STOP DISPLAYING TEXT MESSAGE TIME = T1+ 10 s / T1+ 30 s(**)	
		DMI (O)	Vpermitted > 40 km/h (if possible)	
	The sum and discount the TCD4 area of the	DMI (I)		
7	The supervision of the TSR1 area of the failed PWS finishes when the min safe front end has reached the end of the TSR area.	JRU	estimated front end = D2 (LRBG1) + L2 + L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM=V_STATIC M_SDMTYPE=0	
		Level	2	
Final	state	Mode	FS	
Final	State	Train Speed (km/h)	Train is running at a maximum permitted speed	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane V		
		Depending on the distance D2, L2 and the train speed, the sequence of the steps 4, 5 and 6 may be altered. (*) Packet 27 SSP may be used instead of packet 65 for sending TSRs (**) Applicable to EDL WEST DK2.0 (***) If the on-board is ETCS Baseline 3 Maintenance Release 1 (****) If the on-board is ETCS Baseline 3 Release 2		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.15.9. LX10

		TEST CASE	DESCRI	PTIOI	N	
		Code	Versio	sion Title		
Test	Case	LX10	3	st	vel crossing procedure when before reaching the art location of the LX the status of the LX changes m "Non-protected" to "Protected".	
Base	line applicable				aseline 3 R2 (SRS 3.6.0) 1098, OR.DEF.456	
Test	case author	Ineco/CEDEX				
Test	Objective(s)		non-prote	ected I	between the RBC and the EVC when the trailevel crossing and before reaching the LX the stected.	
Diagr	am					
		Level			2	
		Mode			FS	
		Train Speed (km	n/h)		Train is running at a maximum permitted s	speed
Starting conditions		Additional starting conditions		tions	The radio communication session is established with the RBC. MA parameters request are stored on board.	
Sequ	ence of the Test Case	Checkpoints			•	
Step	Step description	Interfaces	s D	escrip	otion of what to be tested at the interface (OK?
•	•	DMI (O)		•		
		DMI (I)				
1	Train sends an MA request according to the value of T_MAR stored on board	JRU			ge 132 ARQSTREASON=xxx1x et 0/1	
		DMI (O)		Movement authority is updated Dtarget=(Distance beyond the LX)		
		DMI (I)				
2	The RBC cannot confirm that the status of the level crossing is protected therefore the RBC extends the movement authority beyond the LX1 with the status of the level crossing set to "Non protected"	JRU	M Pa	Message 3 LRBG1 Packet 15 L_ENDSECTION="L1" (L1>D2+L2) Message 3/24 LRBG1 Packet 88 NID_LX=LX1 D_LX="D2" L_LX="L2" Q_LXSTATUS=1 V_LX=10 Km/h Q_STOPLX=0		
		DMI (O)	V _I V1	"LX Non protected" symbol is displayed Vpermitted decreases (****) Vtarget=0 Dtarget=LX start location		
	The EVC enters in the Pre-Indication	DMI (I)				
Monitoring (PIM) area(**) / braking (*)3 curve(***) to the LX1 start location and the symbol "LX non protected" is displayed.		JRU	IN Di	IFORI M_SC V_TA D_TA V_RE	O AND DISTANCE MONITORING MATION DMTYPE=1 .RGET=0 .RGET=D2-D_LRBG1-L_DOUBTUNDER ELEASE = 0 YMB_STATUS	



	Before reaching the LX1 start location the RBC is able to confirm that the status of the level crossing has changed from "Non Protected" to "Protected"	DMI (O)	"LX Non protected" symbol is removed Vpermitted is updated Dtarget is updated			
		DMI (I)				
4		JRU	Message 3/24 LRBG1 Packet 88 NID_LX=LX1 D_LX="D2" L_LX="L2" Q_LXSTATUS=0 SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE=0 V_PERM=V_STATIC			
	The train pass through the level crossing	DMI (O)	LX restriction is not considered Vpermitted≠Vlx			
5		DMI (I)				
		JRU	V_PERM=V_STATIC≠ V_LX			
		Level	2			
- :	atata	Mode	FS			
Final	state	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefing instructions		(*) This step may not occur if the RBC can confirm that the Status of the LX has changed to "Protected" before the EVC has entered in barking curve. (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2 (****) If the on-board is ETCS Baseline 3 Maintenance Release 1, this happens whe the EVC is in the braking curve (M_SDMTYPE=2).				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.15.10. LX11

	TEST CASE DESCRIPTION						
		Code	Versio	n Ti	tle		
Test	Case	LX11	4	st	evel crossing procedure when before reaching the art location of the LX the status of the LX changes om "Protected" to "Non Protected".		
Base	line applicable	FbIS.F.1698, FbI crossing restriction	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1698, FbIS.F.326, OR.DEF.456, OR.3095, CER 9.5.2, CER COM (2.9.5 crossing restriction), CER 9.5.3, CER 9.5.1				
Test	case author	Ineco/CEDEX					
	Objective(s)	approaching to a	LX and t	he RB	between the RBC and the EVC when the train is C after having sent the Status "protected" detects that if from "protected" to "Non protected".		
Diagr	am				1		
		Level			2		
		Mode			FS		
		Train Speed (km	n/h)		Train is running at a maximum permitted speed		
Starting conditions		Additional starting conditions		itions	The radio communication session is established with the RBC. MA parameters request are stored on board. MA until the maker board located before the LX is stored on board. Route are set from the train to at least one route after the LX		
Sequ	ence of the Test Case	Checkpoints	1				
Step	Step description	Interfaces	s D	escrip	otion of what to be tested at the interface OK?		
	Train sends an MA request according to	DMI (O)					
,		DMI (I)					
1	the value of T_MAR stored on board	JRU	Ν	lessag Q_M <i>l</i> Packe	ARQSTREASON=xxx1x		
		DMI (O) Movement		1ovem	ent authority is updated		
		DMI (I)	DMI (I)				
2	LX1 activation starts and the LX1 is protected. The RBC extends the movement authority beyond the LX1	JRU	N	Message 3 LRBG1 Packet 15 L_ENDSECTION="L1" (L1>D2+L2) Message 3/24 LRBG1 Packet 88 NID_LX=LX1 D_LX="D2" L_LX="L2" Q_LXSTATUS=0			
		DMI (O)					
		DMI (I)					
3	The status of the LX changes from "Protected" to "Non Protected"	JRU	JRU D_LX= L_LX= Q_LX: V_L		G1		
4	The EVC enters in the Pre-Indication Monitoring (PIM) area(*) / braking curve(**) to the LX1 start location and the symbol "LX non protected" is displayed.	DMI (O)	V	LX Nor permit target:	n protected" symbol is displayed ted decreases		

		DMI (I)			
		JRU	SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE=1 V_TARGET=0 D_TARGET=D2-D_LRBG1-L_DOUBTUNDER V_RELEASE = 0 DMI_SYMB_STATUS LX01		
	The Driver brings the train to a standstill	DMI (O)	Vtrain=0		
	at the ETCS stop marker protecting the level crossing and inform the signaller.	DMI (I)			
	After having informed the signaller the train continues towards the LX.	JRU	V_TRAIN=0		
	The train reaches with the estimated or the max safe front end (depending	DMI (O)	Vtrain≤Vpermitted Vpermitted=Vlx		
	whether the most restrictive supervision limit at the LX speed is the SBI1 or the	DMI (I)			
	Ilmit at the LX speed is the SBI1 of the SBI2) the location of the permitted speed supervision limit calculated for the LX speed. The EVC includes the LX speed restriction in the MRSP and no longer supervise the LX start location as both the EoA and the SvL. (train front end location is in rear the LX start location).	JRU	V_TRAIN≤V_PERM Estimated front end (LRBG1)+L_DOUBTUNDER <d2 and="" distance="" information="" monitoring="" speed="" v_perm="V_LX</td"><td></td></d2>		
	The train reaches with its "min safe front end" the LX end location. The icon "LX	DMI (O)	"LX Non protected" symbol is removed		
7		DMI (I)			
	non protected" is removed	JRU	Estimated front end=D2+L2+L_DOUBTOVER		
		DMI (O)	Vpermitted≥Vlx		
	The supervision of the speed restriction	DMI (I)			
	finishes when the "min safe front end" has reached the end of the speed restriction.	JRU	Estimated front end=D2+L2+L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM=V_STATIC≥V_LX M_SDMTYPE=0		
		Level	2		
Final	stato	Mode	FS		
Final state		Train Speed (km/h)	NR (Not Relevant)		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST, F-bane V			
Briefi	ng instructions	(*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15.11. LX12

	TEST CASE DESCRIPTION						
		Code	Version	sion Title			
Test (Case	LX12	6		anagement of LXs when the LX start location is ated in the overlap area.		
Basel	line applicable				line 3 R2 (SRS 3.6.0) el crossing restriction), CER 9.5.3, CER 9.	5.1	
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify the correct located in the over		ent of th	ne LX information when the LX start location	on is	
Diagr	am						
		Level Mode			PS		
		Train Speed (km	n/h)		Train is running at a maximum permitted	speed	
Starti	ng conditions	Additional start	ing conditi	ons	The radio communication session is esta with the RBC. MA parameters request are stored on bo Route is set until the maker board located the LX	ard.	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	S Des	scriptio	n of what to be tested at the interface	OK?	
		DMI (O)					
	Train sends an MA request according to	DMI (I)					
	the value of T_MAR stored on board	JRU	Q	ssage 1 _MARC acket 0/	QSTREASON=xxx1x		
		DMI (O)	Mo	Movement authority is updated			
		DMI (I)					
2	The RBC issues a MA in where there is a non-protected Level Crossing within the overlap area	JRU	Me: L Pac	Message 3 LRBG1 Packet 15 L_ENDSECTION= L1 Q_OVERLAP = 1 D_OL = D1 V_RELEASEOL = V1 Message 3/24 (*) LRBG1 Packet 88 NID_LX= LX1 D_LX= D2 L_LX= L2 L1+ D1 > D2 > L1 D2+L2 ≤ L1 + D1 Q_LXSTATUS=1 V_LX = V2 = 15 Km/h Q_STOPLX=0			
		DMI (O)		Vtarget=0 Dtarget=MB in stop aspect			
		DMI (I)					
3	The EVC enters in braking curve to the MB in stop aspect.	JRU	INF V_1 D_* ma: L_0	ORMATARGETARGET TARGET X(D_DP DOUBTI			
4		DMI (O)			· / / /		

		DMI (I)		
	The Driver brings the train to a standstill at the ETCS stop marker protecting the level crossing and inform the Signaller. The EVC reports to the RBC its position at standstill within a configurable distance from the EoA (and the marker board is closed).	JRU	(LRBG2) Message 136 Packet 0/1 V_TRAIN = 0 Km/h M_MODE = 0 D_LRBG = D3 D3 > L1(LRBG1) - D_overlap_release	
		DMI (O)	Dtarget to new SvL	
		DMI (I)		
5	The RBC issues a new Movement Authority shortened without Danger Point and Overlap information. (****)	JRU	(LRBG2) Message 3 Packet 15 V_LOA(**)/V_EMA(***) = 0 L_ENDSECTION = L3 = L1 (LRBG1) Q_DANGERPOINT = 0 Q_OVERLAP = 0	
			D_TARGET = L3 - D_LRBG2 - L_DOUBTUNDER	
	A route is established beyond the Level Crossing, and the RBC issues a MA extension to the train. Information about LX is received from the RBC.	DMI (O)	Movement authority is updated "LX Non protected" symbol is not displayed	
		DMI (I)		
6		JRU	(LRBG2) Message 3 Packet 15 L_ENDSECTION= L4 > L3(LRBG2) (L4>D2(LRBG1)+L2) Message 3/24 LRBG2 Packet 88 NID_LX= LX1 D_LX= D4 = D2(LRBG1) L_X= L4 = L2 Q_LXSTATUS=0	
		DMI (O)	No speed restriction is shown in the DMI.	
7	The train overpass the level crossing	DMI (I)		
	location. No speed restriction due to level crossing is received.	JRU	Estimated front end>D2(LRBG1)+L2+L_TRAIN+L_DOUBTOVER	
		Level	2	
-:	atata.	Mode	FS	
rınal	state	Train Speed (km/h)	NR (Not Relevant)	
		Other parameters		
Final Test Result				
Field	of Application	F-bane EAST, F-bane V	VEST	
Briefing instructions		D_overlap_release = Distance from the EoA where the overlap can be released if the train reports its position within thereof and no new route is set. (*) It is possible not to receive LX information at step 2. (**) ETCS Baseline 3 Maintenance Release 1 (***) ETCS Baseline 3 Release 2 (****) Depending on the type of the previous established route the RBC could send shortened MA up to the estimated front end position of the train.		

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15.12. LX13

TEST CASE DESCRIPTION							
	Code	Versio	n Title	•			
Test Case	LX13	8		agement of PWS/SXs when the PWS/SX tion is located in the overlap area.	start		
Baseline applicable	Baseline 3 MR1 (FbIS.F.1701, FbI profiles), CER 9.4	S.F.1703	0) / Base , Text Me	eline 3 R2 (SRS 3.6.0) essages 008, CER DEF (2.9.4 Dynamic sp	peed		
Test case author	Ineco/CEDEX						
Test Objective(s)		oA and th		he permitted speed when a train is moving PWS/SX which its start location is located			
Diagram							
	Level			2			
	Mode			FS			
	Train Speed (km/h)			Train is running at a maximum permitted speed			
Starting conditions			itions	The radio communication session is established with the RBC. MA parameters request are stored on board. Route is set until the maker board located before the PWS/SX			
Sequence of the Test Case	Checkpoints			•			
Step Step description	Interfaces	S D	escription	on of what to be tested at the interface	OK?		
	DMI (O)						
Train sends an MA request according to	DMI (I)						
the value of T_MAR stored on board	JRU		Message 132 Q_MARQSTREASON=xxx1x Packet 0/1		-		
	DMI (O)	М	Movement authority is updated				
2	DMI (I)						



п	•		T	
	The RBC issues a MA in where there is a Passenger/Staff Crossing (PWS/SX) within the overlap area	JRU	Message 3 LRBG1 Packet 15 L_ENDSECTION= L1 Q_OVERLAP = 1 D_OL = D1 V_RELEASEOL = V1 Message 3/24 LRBG1 Packet 65(*) NID_TSR = TSR1 D_TSR = D2 L_TSR = L2 V_TSR = V2 ≤ 40 km/h Q_FRONT = 1 Packet 72 Q_TEXTCLASS = 01 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = D2-150m/D2-331m(**) M_MODETEXTDISPLAY = 15 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 10/30(**) Q_TEXTCONFIRM = 00 X_TEXT = "Fejiramt advarselssystem/Failed Warning system" / "Advarselssystem ikke aktiveret"/"Warning system not activated"(**) L1(LRBG1) D2(LRBG1) + L2(LRBG1) ≤ L1(LRBG1) + D1(LRBG1)	
		DMI (O)		
	The Driver brings the train to a standstill	DMI (I)		
3	before reaching the EoA and the EVC reports to the RBC its position at standstill within a configurable distance from the EoA (and the marker board is closed).	JRU	(LRBG2) Message 136 Packet 0/1 V_TRAIN = 0 Km/h M_MODE = 0 D_LRBG = D3 D3 > L1(LRBG1) - D_overlap_release	
		DMI (O)	Dtarget to new SvL	
		DMI (I)		
4	The RBC issues a new Movement Authority shortened without Danger Point and Overlap information.(***)	JRU	(LRBG2) Message 3 Packet 15 V_LOA(****)/V_EMA(*****) = 0 L_ENDSECTION = L3 = L1 (LRBG1) Q_DANGERPOINT = 0 Q_OVERLAP = 0	
			D_TARGET = L3 - D_LRBG2 - L_DOUBTUNDER	
	A route is established beyond the PWS/SX, the warning system has been verified successfully, and the RBC issues a MA extension to the train without TSR information about the PWS/SX. The train overpass the PWS/SX location. No speed restriction due to level crossing	DMI (O)	Movement authority is updated	
		DMI (I)		
5		JRU	(LRBG2) Message 3 Packet 15 L_ENDSECTION= L4 > L3(LRBG2) (L4>D2(LRBG1)+L2)	
		DMI (O)	No speed restriction is shown in the DMI.	
6		DMI (I)		
	is received.(******)	JRU	Estimated front end>D2(LRBG1)+L2+L_TRAIN+L_DOUBTOVER	
		Level	2	
Final	state	Mode	FS	
Final State		Train Speed (km/h)	NR (Not Relevant)	
		Other parameters		
Final	Test Result			





Field of Application	F-bane EAST, F-bane WEST		
Briefing instructions	D_overlap_release = Distance from the EoA where the overlap can be released if the train reports its position within thereof and no new route is set. Depending on the distance D4 (D2(LRBG1)), L2 and the train speed, the sequence of the steps 6, 7 and 8 may be altered. (*) Packet 27 SSP may be used instead of packet 65 for sending TSRs (**) Applicable to EDL WEST DK2.0 (***) Depending on the type of the previous established route the RBC could send a shortened MA up to the estimated front end position of the train. (****) ETCS Baseline 3 Maintenance Release 1 (*****) ETCS Baseline 3 Release 2 (******) If the SvL after the shortening of the MA is beyond the location where the text message associated to the PWS/SX in the overlap is programmed to be displayed, the text message will be shown		

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.15.13. LX14

TEST CASE DESCRIPTION								
		Code	Vers	ion	Title			
Test Case		LX14	4		Management of a CES information beyond a temporary EoA/SvL. Mitigation of HZ-68.			
Baseline applicable		Baseline 3 MR1	(SRS 3.	4.0) /	/ Baseline 3 R2 (SRS 3.6.0)			
Test	case author	Ineco/CEDEX						
Test Objective(s)		Verify that if the EVC receives a CES beyond a "non-protected" level crossing and after that the status of the level crossing changes to "protected", the EVC considers the Stop location given by the CES as the EoA/SvL.						
Diag	am							
		Level			2			
		Mode			FS			
		Train Speed (km	n/h)		Train is running at a maximum permitted speed			
Starting conditions		Additional starting conditions			The radio communication session is established with the RBC. MA parameters request are stored on board. MA until the maker board located before the LX is stored on board. Route are set from the train to at least one route after the LX			
Sequ	ence of the Test Case	Checkpoints	-					
Step	Step description	Interfaces	5	Desc	scription of what to be tested at the interface OK?			
		DMI (O)						
4	Train sends an MA request according to	DMI (I)						
1	the value of T_MAR stored on board	JRU		Message 132 Q_MARQSTREASON=xxx1x Packet 0/1				
		DMI (O)			vement authority is updated rget=(Distance beyond the LX)			
		DMI (I)						
2	The RBC cannot confirm that the status of the level crossing is protected therefore the RBC extends the movement authority beyond the LX1 with the status of the level crossing set to "Non-protected"	JRU		Message 3				
(*)3	The EVC enters in the Pre-Indication Monitoring (PIM) area(**) / braking curve(***) to the LX1 start location and the symbol "LX non protected" is displayed.	DMI (O)		Vperr Vtarg	LX Non protected" symbol is displayed /permitted decreases (****) /target=0 Otarget=LX start location			
		DMI (I)						
		JRU		SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE=1 V_TARGET=0 D_TARGET=D2-D_LRBG1-L_DOUBTUNDER V_RELEASE = 0 DMI_SYMB_STATUS LX01				
4		DMI (O)		LAU	NI .			
	I and the second	(0)	ı		l l			

		DMI (I)			
	The RBC sends a CES to the train. (beyond the LX)	JRU	Message 15 LRBG1 NID_EM=EM1 D_EMERGENCYSTOP = D3 L1(LRBG1) > D3 > D2(LRBG1)		
		DMI (O)	Conditional emergency Stop symbol is displayed Dtarget doesn't change		
	The train has not yet passed with its "min	DMI (I)			
5	safe front end" the new stop location therefore the CES is accepted.	JRU	Estimated front end < D3(LRBG1) + L_DOUBTOVER Message 147 NID_EM=EM1 Q_EMERGENCYSTOP=0		
		DMI (O)	"LX Non protected" symbol is removed Vpermitted is updated Dtarget is updated to the CES Stop location		
		DMI (I)			
6	Before reaching the LX1 start location the RBC is able to confirm that the status of the level crossing has changed from "Non Protected" to "Protected"	JRU	Message 3/24 LRBG1 Packet 88 NID_LX=LX1 D_LX="D2" L_LX="L2" Q_LXSTATUS=0 SPEED AND DISTANCE MONITORING INFORMATION V_TARGET=0 D_TARGET=D3(LRBG1)-D_LRBG1- L_DOUBTUNDER (*****) M_SDMTYPE=2(**)/1(***)		
		DMI (O)	LX restriction is not considered Vpermitted≠Vlx		
7	The train pass through the level crossing	DMI (I)			
		JRU	V_PERM≠ V_LX		
		DMI (O)	Vtrain=0 Vpermitted≈0		
	L	DMI (I)			
8	The train stops in the new location	JRU	Estimated front end≈D3(LRBG1)+L_DOUBTUNDER V_PERM≈0 V_TRAIN=0		
		Level	2		
Finel	state	Mode	FS		
'''a'	Side	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane WEST			
Briefi		(*) This step may not occur if the RBC can confirm that the Status of the LX has changed to "protected" before the EVC has entered in braking curve. (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2 (****) If the on-board is ETCS Baseline 3 Maintenance Release 1, this happens whe the EVC is in the braking curve (M_SDMTYPE=2). (*****) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(**) or Target Speed Monitoring (TSM)			

ADDITIONAL TEST CASE REPORTING INFORMATION		
System configuration		
Test location		
Date and time (Start/End)		
Names		
Test log reference		



Observations



2.15.14. LX15

	TEST CASE DESCRIPTION						
		Code	Versio	n 1	Γitle		
Test (Case	LX15	3	ľ	MA request during a level crossing procedure		
Basel	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1698, FbIS.F.326, OPS.1098, OR.DEF.456				
Test o	case author	Ineco/CEDEX					
Test Objective(s)					ending MA request when the protected status of LX is cted LX in MA and EoA far away)		
Diagr	am						
		Level			2		
		Mode			FS		
		Train Speed (km	n/h)		Train is running at a maximum permitted speed		
Starting conditions		Additional starti	tional starting conditions		The radio communication session is established with the RBC. MA parameters request are stored on board. MA until the maker board located before the LX is stored on board. Route are set from the train to at least one route after the LX		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escr	iption of what to be tested at the interface OK?		
		DMI (O)					
١,	Train sends an MA request according to	DMI (I)					
1	the value of T_MAR stored on board	JRU		Q_N	ge 132 IARQSTREASON=xxx1x set 0/1		
		DMI (O)			nent authority is updated st=(Distance beyond the LX)		
		DMI (I)					
2	The RBC cannot confirm that the status of the level crossing is protected therefore the RBC extends the movement authority beyond the LX1 with the status of the level crossing set to "Non protected"	JRU	M	L_ lessa LRE acke NII D_ L_ Q_	GG1 set 15 _ENDSECTION="L1" (L1>D2+L2) ige 3/24 GG1		
		DMI (O)					
(*\2	The EVC sends an MA requests	DMI (I)					
(")3	according to the value of T_CYCRQST stored on-board	JRU		Q_N	ge 132 IARQSTREASON=xxx1x set 0/1		
(**)4	The EVC enters in the Pre-Indication Monitoring (PIM) area(***) / braking curve(****) to the LX1 start location and the symbol "LX non protected" is	DMI (O)	V	perm targe	on protected" symbol is displayed itted decreases (*****) it=0 it=LX start location		
	displayed.	DMI (I)					

		JRU DMI (O)	SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE=1 V_TARGET=0 D_TARGET=D2-D_LRBG1-L_DOUBTUNDER V_RELEASE = 0 DMI_SYMB_STATUS LX01 "LX Non protected" symbol is removed Vpermitted is updated			
		J (0)	Dtarget is updated			
		DMI (I)				
5	Before reaching the LX1 start location the RBC is able to confirm that the status of the level crossing has changed from "Non Protected" to "Protected"	JRU	Message 3/24 LRBG1 Packet 88 NID_LX=LX1 D_LX="D2" L_LX="L2" Q_LXSTATUS=0 SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE=0 V_PERM=V_STATIC			
		DMI (O)	LX restriction is not considered Vpermitted≠Vlx			
6	The train pass through the level crossing	DMI (I)				
		JRU	V_PERM=V_STATIC≠ V_LX			
		Level	2			
Final	stato	Mode	FS			
ııııaı	siate	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefi	ng instructions	(*) Depending on the value of T_CYCRQST this step could occur at any time. This step shall be repeated according to the value of T_CYCRQST until the RBC sends the protected status of the LX (step 5). (**)This step may not occur if the RBC can confirm that the Status of the LX has changed to "Protected" before the EVC has entered in braking curve. (***) If the on-board is ETCS Baseline 3 Maintenance Release 1 (****) If the on-board is ETCS Baseline 3 Release 2 (*****) If the on-board is ETCS Baseline 3 Maintenance Release 1, this happens when the EVC is in the braking curve (M_SDMTYPE=2).				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration	ystem configuration			
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.15.15. LX16

	TEST CASE DESCRIPTION					
		Code	Versio	n Tit	le	
Test	Case	LX16	6	cor	vel crossing procedure when the RBC cannot nfirm that the status of level crossing is protected ide a OS mode area	
Base	line applicable	FbIS.F.1698, FbI	aseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) bIS.F.1698, FbIS.F.326, OR.DEF.456, OR.3095, CER 9.5.2, CER COM (2.9.5 Leve rossing restriction), CER 9.5.3, CER 9.5.1			
Test	case author	Ineco/CEDEX				
Test	Objective(s)	approaching to a	non-prot	ected le	between the RBC and the EVC when the train is evel crossing area inside a OS mode area and that splayed when the mode changes to OS.	
Diagı	am					
		Level			2	
		Mode			FS	
		Train Speed (km	n/h)		Train is running at a maximum permitted speed	
Start	ing conditions	Additional starting cor		itions	The radio communication session is established with the RBC. MA parameters request are stored on board. MA until the maker board located before the LX is stored on board. Route is set from the train to at least one route after the LX. The route starting before the LX is set to OS	
Sequ	ence of the Test Case	Checkpoints			•	
Step	Step description	Interfaces	s D	escript	ion of what to be tested at the interface OK?	
		DMI (O)				
	Train sends an MA request according to	DMI (I)				
1	the value of T_MAR stored on board	JRU	N	lessage Q_MAI Packet	RQSTREASON=xxx1x	
		DMI (O)	N	1oveme	nt authority is updated	
		DMI (I)				
2	The RBC cannot confirm that the status of the level crossing is protected therefore the RBC extends the movement authority beyond the LX1 with the status of the level crossing set to "Non protected" and a OS mode profile	JRU	M P ttr frr o	Message LRBG Packet 8 NID_ D_L> L_LX Q_L> V_ Packet 8 D_MAN M_MAN V_MAN L_MAN L_MAN t_LACk the ETC:	1 15 NDSECTION="L1" (L1>D2+L2) 3/24 1 8 LX=LX1 (="D2" ="L2" (STATUS=1 LX=10 Km/h _STOPLX=0	



	The EVC enters in the Pre-Indication Monitoring (PIM) area(**) / braking	DMI (O)	Braking curve to the beginning of the OS area with no release speed (****) "LX Non protected" symbol is not displayed Dtarget=OS mode start location Vpermitted decreases (****)			
	curve(***). The beginning of the OS area	DMI (I)				
3	is considered as an EoA with no release speed and the symbol "LX non protected" is not displayed.	DMI (O) DMI (I) DMI (O) DMI (I) DMI (O) DMI (I) DMI (O) DMI (I) SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE = 1 V_TARGET=0 D_TARGET=D2-L_DOUBTUNDER-D_LRBG1 V_RELEASE = 0				
	The train follows the braking curve until	DMI (O)	to release speed (******) LX Non protected" symbol is not displayed bizarget=0S mode start location //permitted decreases (*****) SPEED AND DISTANCE MONITORING NFORMATION M_SDMTYPE = 1 V_TARGET=0 D_ TARGET=0Z-L_DOUBTUNDER-D_LRBG1 V_RELEASE = 0 Acknowledgement for On Sight" symbol is lisplayed (train < V_MAMODE //permitted decreases /_TRAIN < V_MAMODE //permitted //permit			
4	reaches the acknowledgement area and	DMI (I)				
	the driver is requested to acknowledge the transition to OS mode		V_TRAIN < V_MAMODE Estimated front end > D3-L_ACK DMI_SYMB_STATUS MO08			
		DMI (O)	Vtrain < V_MAMODE Vpermitted decreases V_TRAIN < V_MAMODE Estimated front end > D3-L_ACK DMI_SYMB_STATUS MO08 "Acknowledgement for On Sight" symbol is removed OS symbol is displayed "LX Non protected" symbol is displayed Dtarget=LX start location Planning information is displayed (***) Driver acknowledges OS mode Supervision limits are toggled on M_DRIVERACTIONS = 0 M_DRIVERACTIONS = 27 M_MODE = 1 DMI_SYMB_STATUS MO07 SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE = 1 V_RELEASE = 0 V_TARGET=0 D_TARGET=D2-L_DOUBTUNDER-D_LRBG1 DMI_SYMB_STATUS LX01 Vtrain=0			
		DMI (I)	Driver acknowledges OS mode			
5	The driver acknowledges the transition and the EVC switches to OS mode. The non protected LX becomes the MRDT The driver toggles on the supervision limits	JRU	M_DRIVERACTIONS = 27 M_MODE = 1 DMI_SYMB_STATUS MO07 SPEED AND DISTANCE MONITORING INFORMATION M_SDMTYPE = 1 V_RELEASE = 0 V_TARGET=0 D_TARGET=D2-L_DOUBTUNDER-D_LRBG1 DMI_SYMB_STATUS			
	The Driver brings the train to a standstill	DMI (O)	Vtrain=0			
	at the ETCS stop marker protecting the					
6	level crossing and inform the signaller. After having informed the signaller the train continues towards the LX.		V_TRAIN=0			
	The train reaches with the estimated or the max safe front end (depending	DMI (O)	Vtrain≤Vpermitted Vpermitted=Vlx			
	whether the most restrictive supervision limit at the LX speed is the SBI1 or the	DMI (I)				
7	SBI2) the location of the permitted speed supervision limit calculated for the LX speed. The EVC includes the LX speed restriction in the MRSP and no longer supervise the LX start location as both the EoA and the SvL. (train front end location is in rear the LX start location).	JRU	V_TRAIN≤V_PERM Estimated front end (LRBG1)+L_DOUBTUNDER <d2 and="" distance="" information="" monitoring="" speed="" v_perm="V_LX</td"></d2>			
	The train reaches with its "min safe front	DMI (O)	"LX Non protected" symbol is removed			
8	end" the LX end location. The icon "LX	DMI (I)				
	non protected" is removed	JRU	Estimated front end=D2+L2+L_DOUBTOVER			
		DMI (O)	Vpermitted≥Vlx			
	The companion of the same of markets	DMI (I)				
9	The supervision of the speed restriction finishes when the "min safe front end" has reached the end of the speed restriction.	JRU	Estimated front end=D2+L2+L_DOUBTOVER SPEED AND DISTANCE MONITORING INFORMATION V_PERM=V_MAMODE ≥V_LX M_SDMTYPE=0			



	Level	2		
Final state	Mode	os		
Final state	Train Speed (km/h)	NR (Not Relevant)		
	Other parameters			
Final Test Result				
Field of Application	F-bane EAST, F-bane WEST			
Briefing instructions	(*) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1. (**) If the on-board is ETCS Baseline 3 Maintenance Release 1 (***) If the on-board is ETCS Baseline 3 Release 2 (****) If the on-board is ETCS Baseline 3 Maintenance Release 1, this happens when the EVC is in the braking curve (M_SDMTYPE=2).			

ADDITIONAL TEST CASE REPORTING INFORMATION		
System configuration		
Test location		
Date and time (Start/End)		
Names		
Test log reference		
Observations		



2.15.16. LX17

	TEST CASE DESCRIPTION				
		Code	Versio	n	Title
Test	Case	LX17	6		Level crossing procedure when the RBC can confirm that the status of level crossing is protected inside a OS mode area.
Base	line applicable	Baseline 3 MR1 (FbIS.F.1160	(SRS 3.4.0	0) /	Baseline 3 R2 (SRS 3.6.0)
Test	case author	Ineco/CEDEX			
Test	Objective(s)				es between the RBC and the EVC when the train is el crossing area inside a OS mode area.
Diagr	am				
		Level			2
		Mode			FS
		Train Speed (km	n/h)		Train is running at a maximum permitted speed
Starti	ing conditions	Additional starting con		tion	The radio communication session is established with the RBC. MA parameters request are stored on board. MA until the maker board located before the LX is stored on board. Route is set from the train to at least one route after the LX. The route starting before the LX is set to OS
Sequ	ence of the Test Case	Checkpoints			
Step	Step description	Interfaces	s De	esc	iption of what to be tested at the interface OK?
	Train sends an MA request according to	DMI (O)			
		DMI (I)			
1	the value of T_MAR stored on board	JRU		Q_1	age 132 MARQSTREASON=xxx1x ket 0/1
		DMI (O)	M	ove	ment authority is updated
		DMI (I)			
2	LX1 activation starts and the LX1 is protected. The RBC extends the movement authority beyond the LX1 and a OS mode profile	JRU	M Pa Pa th fro	Pac Less NIE acke N D L Q acke D M I V L L L C C C C C C C C C C C C C C C C	age 3 ket 15 _ENDSECTION="L1" (L1>D2+L2) age 3/24 _BG=BG1 et 88 D_LX=LX1 _LX="D2" LX="L2" _LXSTATUS=0 et 80 MAMODE = D3 (D3 <d2) (*)<="" (min{="" (os)="" 300="" before="" distance="" fcs="" iamode="L_ACK" in="" location="" m="" mamode="0/1" marker="" mode})="" of="" os="" preceding="" rear="" restriction,="" start="" stop="" td="" the="" to=""></d2)>
		DMI (O)			ng curve to the beginning of the OS area with ease speed
	The EVC enters in braking curve. The	DMI (I)			
3	beginning of the OS area is considered as an EoA with no release speed	JRU	IN	IFO M_	D AND DISTANCE MONITORING RMATION SDMTYPE=2(**)/1(***) PERM decreases



			"Acknowledgement for On Sight" symbol is
		DMI (O)	displayed Vtrain < V_MAMODE
	The train follows the braking curve until		Vpermitted decreases
4	reaches the acknowledgement area and the driver is requested to acknowledge	DMI (I)	
	the transition to OS mode	DMI (I)	V_TRAIN < V_MAMODE Estimated front end > D3-L_ACK DMI_SYMB_STATUS MO08
		DMI (O)	"Acknowledgement for On Sight" symbol is removed OS symbol is displayed "LX Non protected" symbol is not displayed. Planning information is displayed (****)
5	The driver acknowledges the transition and the EVC switches to OS mode. The	DMI (I)	Driver acknowledges OS mode Supervision limits are toggled on
	driver toggles on the supervision limits	JRU	M_DRIVERACTIONS = 0 M_MODE = 1 DMI_SYMB_STATUS MO07 M_DRIVERACTIONS = 27
	The train overpass the level crossing	DMI (O)	"LX Non protected" symbol is not displayed. No speed restriction due to LX is shown in the DMI.
6	location. No speed restriction due to level	DMI (I)	
	crossing is received.	DMI (0) OS s "LX I Plan	Estimated front end>D2(BG1)+L2+L_DOUBTOVER
		Level	2
Einal	state	Mode	os
riiiai	siale	Train Speed (km/h)	At maximum the permitted speed for OS mode
		Other parameters	
Final	Test Result		
Field	of Application	F-bane EAST, F-bane V	VEST
(*) Current F-bane East Check and note if Q_N (**) If the on-board is E (***) If the on-board is (***) If the on-board is (***) If the on-board is			and F-bane West implementations use only Q_MAMODE = 1. AMODE ≠ 1. FCS Baseline 3 Maintenance Release 1 TCS Baseline 3 Release 2 ETCS Baseline 3 Maintenance Release 1, this happens when g curve (M_SDMTYPE=2).

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			
Test log reference			
Observations			



2.16. TC

2.16.1. TC1

	TEST CASE DESCRIPTION						
		Code	Versio	n Title	9		
Test (Case	TC1	2	Cha	ange of the adhesion factor.		
Basel	line applicable	Baseline 3 MR1 (OR.DEF.29, Fbls		.0) / Base	eline 3 R2 (SRS 3.6.0)		
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that the RE through packet 7		e to send	the information regarding the adhesion factor		
Diagr	am						
		Level			2		
		Mode			FS, OS		
Starti	ng conditions	Train Speed (km	n/h)		NR		
		Additional starti	ing cond	itions	The radio communication session is establish with the RBC. A low adhesion area is set through the TMS.	ned	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escripti	on of what to be tested at the interface OK?	?	
		DMI (O)					
1	The EVC receives information about a low adhesion area from the RBC	JRU		(LRBG1) Message 3/33/24 Packet 15 (if received within message 3/33) L_ENDSECTION=L Packet 71 D_ADHESION = D1 L_ADHESION = L1 M_ADHESION = 0 (Slippery rail) L ≥ D1 + L1			
		DMI (O)	S	lippery r	ail symbol is displayed		
2	The train reaches the beginning of the	DMI (I)					
2	low adhesion area	JRU		ST02	MBOL_STATUS If front end = D1(LRBG1)		
				Slippery rail symbol is removed			
3	The train runs the distance of the low	DMI (I)					
	adhesion area.	JRU		Estimated front end = D1(LRBG1) + L1(LRBG1) + L_TRAIN			
		Level	2				
Final	state	Mode	F	S,OS			
		Train Speed (km/h) N	IR			
		Other parame	eters				
Final	Test Result						
Field	of Application	F-bane EAST, F-	bane WE	ST			
Briefi	ng instructions						



ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location	_			
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.16.2. TC3

		TEST CASE	DESCR	IPTION		
		Code	Versio	n Titl	le	
Test	Case	TC3	6		conditional emergency stop due to an emergency in ascule bridge.	
Base	line applicable	Baseline 3 MR1 FbIS.F.1769	(SRS 3.4.	.0) / Bas	seline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test	Objective(s)	unconditional em	nergency	stop to t	a bascule bridge occurs, the RBC sends an he train and the EVCs switches to TR mode. mode is received from the RBC to continue	
Diagr	am					
		Level			2	
		Mode			FS	
		Train Speed (km	n/h)		NR	
Starting conditions		Additional start	ing cond	itions	The train is approaching a bascule bridge, or it is running through it, with a MA up to a point beyond the bridge and the track conditions associated with the bridge are stored. An emergency has happened in the bridge and the Bridge Guard has pressed the emergency stop button.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escript	ion of what to be tested at the interface OK?	
		DMI (O)				
1	The RBC sends a message with the unconditional emergency stop.	DMI (I)				
•		JRU		Message 16 NID_EM = EM1		
				mergen	ol ocy brake symbol on "Emergency stop" displayed	
		DMI (I)				
2	Train switches to Trip mode. The emergency brakes are applied.	JRU	N M P E D D	MERGE MI SYN MO04 MI SYN TO1 SYSTEN	= EM1 ± 136	
		DMI (O)				
3	Train becomes standstill and Driver	DMI (I)			edgement for Trip symbol	
3	acknowledgement the Train Trip due to Unconditional Emergency Stop.	JRU		DMI SYMBOL STATUS MO05 M_DRIVERACTIONS = 2		
		DMI (O)	P	T symb	ol	
		DMI (I)				
4	The EVC reports the mode change to PT mode.	JRU	E M	MO06 MERGE lessage acket 0		

		DMI (O)		
5	The RBC sends a message with	DMI (I)		
	recognition of exit from Trip mode.	JRU	Message 6	
		DMI (O)		
	The emergency has finished. The RBC sends a message with the unconditional emergency stop revocation.	DMI (I)		
6		JRU	Message 18 M_ACK=1 NID_EM = EM1	
		DMI (O)	"Start" button active	
7	The EVC sends the acknowledgement of the emergency stop revocation message.	DMI (I)		
	and differency stop revocation message.	JRU	Message 146	
		DMI (O)		
		DMI (I)	Driver selects start	
8	Driver selects "Start" button. The EVC sends a Movement Authority Request to the RBC	JRU	M_DRIVERACTIONS = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0 M_MODE = 8	
		DMI (O)	Acknowledgement for SR is shown	
	L	DMI (I)		
9	The RBC grant an authorisation for SR mode. (*)	JRU	Message 2 D_SR DMI_SYMB_STATUS MO10	
		DMI (O)	SR symbol Trip reason: "Emergency stop" is not longer displayed (**)	
	Driver acknowledges the SR mode and	DMI (I)	Driver acknowledges SR mode	
10	the EVC sends a position report to inform RBC about change of mode is SR.(*)	JRU	M_DRIVERACTIONS=3 DMI_SYMB_STATUS MO09 Message 136 Packet 0 M_MODE=2	
		DMI (O)		
	The train reports position inside a trusted	DMI (I)		
11	The train reports position inside a trusted area.(*)	JRU	Message 136 Packet 0 M_MODE=2	
		DMI (O)		
		DMI (I)		
12	The RBC sends a message with the authorization to run in OS mode. The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=D2 L_MAMODE=L2 Estimated front end ≥ D2-L_DOUBTUNDER	
	The EVC shows the cakeoutled amont	DMI (O)	OS mode transition acknowledgement Trip reason: "Emergency stop" is not longer displayed (**)(***)	
13	The EVC shows the acknowledgment request to OS.	DMI (I)		
		JRU	DMI_SYMB_STATUS MO08	
14	Acknowledgement of OS	DMI (O)		
'-	. to the degerment of Go	DMI (I)	Acknowledgement of OS mode	



		JRU	M_DRIVERACTIONS = 0		
		DMI (O)	OS symbol		
		DMI (I)			
15	The EVC switches to OS mode and reports to the RBC the train position	JRU	M_MODE=1 DMI_SYMB_STATUS MO07" Message 136 Packet 0/1 M_MODE=1		
		Level	2		
- :	atata	Mode	os		
Final	state	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST, F-bane WEST			
Briefing instructions		(*) These steps only take place in the F-bane WEST if the train is outside a trustworthy area (**) If the on-board is ETCS Baseline 3 Release 2 (***) Only applicable to F-bane EAST			

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.16.3. TC4

	TEST CASE DESCRIPTION							
		Code	Version	on T	Γitle			
Test (Case	TC4	4	N	Management of powerless sections.			
Basel	line applicable	OR.DEF.75, OR.	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.75, OR.DEF.38, OR.DEF.66, OR.DEF.67, OR.DEF.46, OPS.1074, OPS.1102, OPS.1105, OPS.1107, OPS.1106, CER DEF (2.9.6 Track condition					
Test o	case author	Ineco/CEDEX						
Test (Objective(s)				nformation related the powerless section track side requirements.			
Diagr	am				1			
		Level			2			
Starti	ng conditions	Mode			FS/OS			
J.a	ng continuenc	Train Speed (km	n/h)		Maximum speed			
		Additional starti	ing cond	litions	S			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s C	Descri	iption of what to be tested at the interface OK?			
		DMI (O)			condition "Powerless section" is shown in ng area.			
		DMI (I)			ige 3/33			
The RBC sends information regarding the powerless track condition		JRU		NID_BG=LRBG1 D_LRBG(LRBG1)=A Packet 15 L_ENDSECTION=L L(LRBG1)>(D1(LRBG1)+L1) Message 3/24/33 (*) Packet 68 D_TRACKCOND(0)=D1 (Powerless section start location) L_TRACKCOND(0)=L1 (Powerless section end location) M_TRACKCOND(0)=3/9				
		DMI (O)		_ Neر f M_T	RACKCOND=9: utral section announcement" is displayed RACKCOND=3: wer Pantograph announcement" is displayed			
		DMI (I)						
2	The EVC reaches the Neutral Section announcement/lower pantograph announcement start location (with its max safe front end)	JRU		DMI STATUS SYMBOL If M_TRACKCOND=9: TC06/TC07 If M_TRACKCOND=3: TC02/TC03 TRACK CONDITIONS(**) (D_LRBG - L_TRAIN - L_DOUBTOVER < D1(LRBG1)) M_TRACKCOND_TI(k)=0/1 D_MINSFE_TO_END(k)= D1(LRBG1) + L1 - (D_LRBG - L_DOUBTOVER) D_MAXSFE_TO_START(k)= D1(LRBG1) - (D_LRBG + L_DOUBTUNDER)				
		DMI (O)	lf	f M_T "Ne	RACKCOND=9: utral section" is displayed			
3	The EVC reaches the Powerless section start location (with its max safe front end)		lf		RACKCOND=3: wered Pantograph" is displayed			

			Estimated front end =D1 (LRBG1)- L_DOUBTUNDER
		JRU	DMI STATUS SYMBOL If M_TRACKCOND=9: TC06 If M_TRACKCOND=3: TC01
		DMI (O)	If M_TRACKCOND=9: "Neutral section" is displayed If M_TRACKCOND=3: "Lowered Pantograph" is displayed
	The MinCDE of the train reaches the	DMI (I)	
4(**)	The MinSRE of the train reaches the Powerless section start location	JRU	D1(LRBG1) ≤ D_LRBG - L_TRAIN - L_DOUBTOVER < D1(LRBG1) + L1 TRACK CONDITIONS M_TRACKCOND_TI(k)=0/1 D_MINSFE_TO_END(k)= D1(LRBG1) + L1 - (D_LRBG - L_DOUBTOVER) D_MAXSFE_TO_START(k)= -32768
		DMI (O)	If M_TRACKCOND=9: "Neutral section" disappears "End of neutral section" is displayed If M_TRACKCOND=3: "Lowered Pantograph" disappears "Raise pantograph" is displayed
5	The EVC has left the powerless section	DMI (I)	
0	(with the "min safe front end").	JRU	Estimated front end =D1(LRBG1)+L1+L_DOUBTOVER DMI STATUS SYMBOL If M_TRACKCOND=9: TC08/TC09 If M_TRACKCOND=3: TC04/TC05
		DMI (O)	If M_TRACKCOND=9: "End of neutral section" is displayed If M_TRACKCOND=3: "Raise pantograph" is displayed
	The MinSRE of the train reaches the	DMI (I)	
0()	Powerless section end location	JRU	D_LRBG - L_TRAIN - L_DOUBTOVER ≥ D1(LRBG1) + L1 No track condition information about de track condition Powerless section is stored in TRACK CONDITIONS message
	The EVC has left the powerless section (With its min safe rear end) plus an	DMI (O)	If M_TRACKCOND=9: "End of neutral section" disappears If M_TRACKCOND=3: "Raise pantograph" disappears
7	equivalent distance to the one that the train has reached in 5s at max powerless	DMI (I)	
	section speed.	JRU	Estimated front end =D1 (LRBG1)+L1+Ltrain+L_DOUBTOVER+ d(5s at max speed)
		Level	2
Final	state	Mode	FS/OS
		Train Speed (km/h)	Maximum speed
		Other parameters	The train has passed the powerless section.
Final	Test Result		
Field	of Application	F-bane EAST, F-bane V	
Briefi	ng instructions	not.	g track condition could be received together with the MA or e on-board is ETCS Baseline 3 Release 2

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					

banedanmark

Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.16.4. TC5

		TEST CASE L	DESCRIPT	ION		
		Code	Version	Title		
Test Case		TC5	2	Management of a radio hole.		
Basel	line applicable				ine 3 R2 (SRS 3.6.0) 6, OPS.1128, CER 9.6.1	
Test o	case author	Ineco/CEDEX				
Γest (Objective(s)	Verify that the RBC according to the tra			nation related the radio hole track condition ents.	
Diagr	am					
		Level			2	
Starti	ng conditions	Mode			FS/OS	
)lai li	ng conditions	Train Speed (km/h	1)		Maximum speed	
		Additional starting	g conditio	ns		
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	Des	riptio	n of what to be tested at the interface OF	(?
	•	DMI (O)	Trac area		ition "Radio hole" is shown in planning	
		DMI (I)				
	The RBC sends information regarding the track condition JRU		NII D_ Pac L(LR Mes Pac Q_ D_	Message 3/33 NID_BG=LRBG1 D_LRBG(LRBG1)=A Packet 15 L_ENDSECTION=L L(LRBG1)>(D1(LRBG1)+L1) Message 3/24/33 (*) Packet 68 Q_TRACKINIT=0 D_TRACKCOND=D1 L_TRACKCOND=L1 (D1(LRBG1)+L1)=Radio hole end location)		
		DMI (O)	"Rad	lio hole	e" symbol is displayed	
		DMI (I)				
2	The EVC reaches the start location of the radio hole with its Max safe front end	start location of the		Estimated front end=D1(LRBG1)- L_DOUBTUNDER DMI SYMBOL STATUS TC12		
		DMI (O)	"Rad	"Radio hole" symbol disappears.		
	The EVC has left the radio hole (With its	DMI (I)				
	min safe rear end).	JRU			front end=D1 _1+Ltrain+L_DOUBTOVER	
		Level	2			
'!	atata	Mode	FS/C)S		
Final state		Train Speed (km	n/h) Max	mum s	speed	
		Other paramete	rs The	train h	as passed the radio hole.	
inal	Test Result		•		<u> </u>	
ield	of Application	F-bane EAST, F-ba	ane WEST			
	ng instructions				ition could be received together with the MA	or

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					

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Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.16.5. TC6

TEST CASE DESCRIPTION						
		Code	Code Version Title		Title	
Test (Case	TC6	3		Track condition Station Platform.	
Baseline applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.397, CER 9.6.1				
Test case author		Ineco/CEDEX				
Test Objective(s)		Verify that the RBC sends the information related to the track station platforms condition according to the trackside requirements.				
Diagram						
		Level Mode			2 FS, OS	
C44!		Train Speed (km	n/h)		NR	
Starti	ng conditions	Additional starti	ing cond	dition	The radio communication session is established with the RBC. There are one or more platforms within the established route.	
Sequ	ence of the Test Case	Checkpoints			•	
Step	Step description	Interfaces	s [Desc	scription of what to be tested at the interface OK?	
		DMI (O)				
		DMI (I)				
1	The EVC receives information about station platforms from the RBC	JRU	Ň	(LRBG1) Message 3/33/24 Packet 15 (if received within message 3/33) L_ENDSECTION=L Packet 69 Q_TRACKINIT = 0 D_TRACKCOND(k) = Dk L_TRACKCOND(k) = Lk M_PLATFORM(k) Q_PLATFORM(k) L ≥ Dk + Lk		
		DMI (O)				
		DMI (I)				
	The MaxSFE of the train reaches the point where the on-board equipment shall start the generation of the information of the station platform to the ERTMS/ETCS external function	JRU	[]	D_LRBG - L_TRAIN - L_DOUBTOVER < Dk(LRBG1) TRACK CONDITIONS M_TRACKCOND_TI(k)=9 D_MINSFE_TO_END(k)= Dk(LRBG1) + Lk - (D_LRBG - L_DOUBTOVER) M_PLATFORM (k) Q_PLATFORM (k) D_MAXSFE_TO_START(k)= Dk(LRBG1) - (D_LRBG + L_DOUBTUNDER)		
		DMI (O)				
		DMI (I)				
3(*)	The MinSRE of the train reaches the start location of the station platform	JRU	L 7	DO FRAC M_ D_I D_LF M_ Q_	(LRBG1) ≤ D_LRBG - L_TRAIN - DOUBTOVER < Dk(LRBG1) + Lk ACK CONDITIONS M_TRACKCOND_TI(k)=9 D_MINSFE_TO_END(k)= Dk(LRBG1) + Lk - LRBG - L_DOUBTOVER) M_PLATFORM (k) Q_PLATFORM (k) D_MAXSFE_TO_START(k)= -32768	
4(*)		DMI (O)			5	



		DMI (I)			
	The MinSRE of the train reaches the end location of the station platform	JRU	D_LRBG - L_TRAIN - L_DOUBTOVER ≥ Dk(LRBG1) + Lk No track condition information about de track condition (k) station platform is stored in TRACK CONDITIONS message		
		Level	2, NTC, 0		
: :	state	Mode	FS, OS, SR, SN, UN		
rınaı	State	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field of Application		F-bane EAST, F-bane WEST			
Brief	ing instructions	ns (*) Only applicable if the on-board is ETCS Baseline 3 Release 2			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.16.6. TC10

TEST CASE DESCRIPTION					
		Code	Versio	sion Title	
Test Case		TC10	5		Operative Shortening of MA due to a bascule ge closure.
		Baseline 3 MR1 (SRS 3.4.0) / Base FbIS.F.298, CER 9.6.1, OPS 1015			
Test	case author	Ineco/CEDEX			
Test (Objective(s)	Verify that the EoA is updated when the train receives a Co-operative shortening MA due to a bridge (for example bascule bridge) closure (new EoA to the start bridge) followed by an extension of the MA. FS mode.		ascule bridge) closure (new EoA to the start of the	
Diagr	am				
		Level			2
		Mode			FS
Starti	ng conditions	Train Speed (km	n/h)		NR
Starting conditions		Additional starting conditions		itions	The train is approaching a bascule bridge, with a MA up to a point beyond the bridge and the track conditions associated with the bridge are stored. The bridge has been closed
Sequ	ence of the Test Case	Checkpoints			
Step	Step description	Interfaces	s D	escripti	on of what to be tested at the interface OK?
		DMI (O)	F	S symbo	ol .
		DMI (I)			
1	The RBC proposes a shorter Movement Authority.	JRU Pa			
		DMI (O)		target sh	nortened (***) (****) creased (***)
		DMI (I)			
2	The EVC checks that the requirements for the acceptance of the new MA are met and informs the RBC	JRU	L S III (i a m	Message 137 Packet 0/1 M_MODE = 0 D_LRGB = D1(LRBG1) L1(LRBG1) < Indication supervision limit of MA SPEED AND DISTANCE MONITORING INFORMATION D_TARGET = D2 (D2= L1(LRBG1)-D1(LRBG1) (if L_DOUBTUNDER > max(D_DP, D_OL) then also subtract the distance L_DOUBTUNDER - max(D_DP, D_OL))) (***)(****) V_PERM = V2 < V_PERM before receiving message 9	
3	The bridge has been reopened	DMI (O)	D	target le	ngthened (*) creased (*)
-		DMI (I)		_	



Final state	JRU Level Mode	Message 3/33 Packet 15 L_ENDSECTION = L2 > L1(LRBG1) and L2 > D3(LRBG2)+L3 SPEED AND DISTANCE MONITORING INFORMATION(*) D_TARGET = D4 > L1(LRBG1)- D_LRBG(LRBG1)-L_DOUBTUNDER (***) V_PERM = V3 > V2 FS			
	Train Speed (km/h) Other parameters	NR No CES (message 15) or UES (message 16) has been received.			
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
Briefing instructions	(*) ETCS Baseline 3 Maintenance Release 1 (**) ETCS Baseline 3 Release 2 (***) Only if there are not affecting intermediate targets between the train location and the bridge start location. (****) Dtarget is shown and stored if the train is in the monitoring status of Pre-Indication Monitoring (PIM)(*) or Target Speed Monitoring (TSM)				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.16.7. TC11

	TEST CASE DESCRIPTION					
		Code	Version	n Title	•	
Test	Case	TC11	2	Trac	k Condition Big Metal Masses	
Base	ine applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)				
Test	case author	Ineco				
Test	Objective(s)				ends the information related to the big metal to the trackside requirements	
Diagr	am					
		Level			2	
		Mode			NR	
Starti	ng conditions	Train Speed (km/h	h)		NR	
		Additional startin	g condit	ions	There is a big metal masses area in advarthe train location	nce of
Sequ	ence of the Test Case	Checkpoints			_	
Step	Step description	Interfaces	De	escription	on of what to be tested at the interface C	K?
		DMI (O)				
		DMI (I)				
1	The EVC receives information about a big metal masses track condition from balise	JRU		MESSAGE FROM BALISE (LRBG1) Packet 67 D_TRACKCOND = D (Big Metal Masses area start location) L_TRACKCOND = L (Big Metal Masses area length)		
		DMI (O)				
2	The max safe antenna position reaches the point where the big metal masses	DMI (I)				
	track condition starts	JRU	JRU D_LRBG+		L_DOUBTUNDER-(offset between front ntenna position) = D(LRBG1)	
	The train runs throughout the whole length of the big metal masses area and	DMI (O)	Nothing re		elated to integrity check alarms of balise on is displayed	
3	any onboard integrity check alarms of balise transmission are ignored up to	DMI (I)				
	when the min safe antenna position reaches the end of the track condition	JRU			L_DOUBTOVER-(offset between front ntenna position) = D(LRBG1) + L	
		Level	2	2		
Cinal	atata	Mode	NF	NR		
Final	Sidle	Train Speed (kn	n/h) NF	₹		
		Other paramete	ers			
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Briefi	ng instructions	It shall be checked	l in both	direction	ns of the running tracks	

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					





2.17. LT

2.17.1. LT1

	TEST CASE DESCRIPTION					
		Code	Version	Title		
Test C	case	LT1	4	board	I transition from LNTC to L2. The first marker d after the transition border is in proceed aspect he train is running at the maximum permitted d.	
Basel	ine applicable	FbIS.N.1002, Fb	OR.DEF.204, OPS.1118, CER 8.2.:		line 3 R2 (SRS 3.6.0) 081, FbIS.F.1734, OPS.1146, OR.DEF.201, 20, CER 8.2.23, CER DEF (2.8.2 Legacy systems,	
Test c	ase author	Ineco/CEDEX				
Test C	Objective(s)	Verify that the level transition from LNTC to L2 is performed correctly when the marker board after the transition border is in proceed aspect and the train is ru at the maximum permitted speed.				
Diagra	am					
		Level			NTC	
		Mode			SN	
		Train Speed (km	n/h)		Maximum speed of the line	
Starting conditions		Additional starting conditions		ons	The train is approaching the level transition to Level 2 at the maximum speed of the line and the last lineside signal (or equivalent) in the Level ATC area displays proceed aspect and all the marker board at the level 2 area are also in proceed aspect.	
Seque	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s Des	criptio	n of what to be tested at the interface OK?	
	The train runs in Level NTC at the	DMI (O)			symbol is the maximum of the line	
	The train runs in Level NTC at the maximum speed of the line towards the	DMI (I)				
1	ETCS border, which is placed at a main signal (or equivalent).	IDII		EVEL MODE= SYME		
				02	3_31A103	
		DMI (O)			3_3TAT03	
2	The EVC receives the order to register with the appropriate radio network via	DMI (O)			3_318103	
2	The EVC receives the order to register with the appropriate radio network via balise group.		Pac			
2	with the appropriate radio network via	DMI (I)	Pac	:02 ket 45		
2	with the appropriate radio network via	DMI (I) JRU	Pac	:02 ket 45		
2	with the appropriate radio network via balise group.	DMI (I) JRU DMI (O)	Pac N Pac N N	ket 45 ID_MN	C ≠ 16383 DIO	
	with the appropriate radio network via balise group. The EVC receives the order to connect with the RBC via balise group of at least	DMI (I) JRU DMI (O) DMI (I)	Pac N N N C	ket 45 ID_MN ket 42 ID_RB ID_RA Q_RBC	C ≠ 16383 DIO	

		JRU	Message 155 Message 32 Message 159 Packet 2(*) Message 129 Message 8 DMI_SYMB_STATUS ST03	
		DMI (O)	Level 2 transition announcement	
		DMI (I)		
5	The train receives the level transition announcement via balise group or RBC.	JRU	(Message 3/24(**)/33 if received from RBC) Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" M_LEVELTR = 3 DMI_SYMB_STATUS LE12	
		DMI (O)		
	The train receives the "Track ahead free	DMI (I)		
6(***)	up to level 2/3 transition location" via balise group.	JRU	NID_BG=BG1 Packet 90 NID_BG = BG2 (Level transition balise group)	
		DMI (O)		
		DMI (I)		
7(***)	The train requests a MA and reports the identity of the level 2/3 transition location balise group to the RBC	JRU	Message 132 Q_MARQSTREASON = 1xxxx (TAF up to level 2/3 transition location) Packet 0/1 Packet 9 NID_LTRBG = (NID_C+) BG2	
	The EVC receives the MA from the RBC	DMI (O)	No MA related information is displayed	
		DMI (I)		
8		JRU	Message 3/33 (LRBG1) Packet 15 L_ENDSECTION Packet 21 Packet 27	
		DMI (O)	Level 2 acknowledgement is displayed	
	The EVC runs the distance at which the	DMI (I)		
	acknowledgement window of the transition to L2 is shown to the driver.	JRU	DMI_SYMB_STATUS LE13 Estimated front end = D1 - L1-L DOUBTUNDER	
		DMI (O)	Level 2 transition acknowledgement disappears	
10	The driver acknowledges the transition	DMI (I)	Driver acknowledges the level transition	
10	The driver acknowledges the transition	JRU	M_DRIVERACTIONS = 8	
		DMI (O)	W_DITTY ETAO HONG = 0	
	The EVC runs the distance "D1" or the balise group with level transition order to L2 is read.	DMI (I) JRU	NID_BG = BG2(*) Packet 41 D_LEVELTR = "now"/0 M_LEVELTR = 3	
		DMI (O)	Level 2 symbol FS symbol Vpermitted in Level 2 is not lower than the last Permitted Speed in LNTC. Level 2 transition announcement disappears	
12	Transition to L2 is performed	DMI (I)		
12	Transition to L2 is performed.	JRU	M_LEVEL = 3 M_MODE = 0 DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11	
13		DMI (O)	Vpermitted= maximum of the line	



	The speed at the transition point is the	DMI (I)				
	maximum allowed by the speed in the L2 and the speed in the LNTC area	JRU	V_PERM = maximum of the line			
		DMI (O)				
	The FMO seasons to the PRO the tests	DMI (I)				
14	The EVC reports to the RBC the train position due to the level transition.	JRU	Message 136 Packet 0 M_LEVEL = 3 M_MODE = 0			
		Level	2			
Final	atata	Mode	FS			
rınaı	state	Train Speed (km/h)	Maximum of the line			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane WEST, F-bane EAST				
Briefi		track ahead is free from transition location is ser	CS Baseline 3 Release 2 F-bane EAST			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.17.2. LT2

		TEST CASE	DESCRI	PTION		
		Code	Versio	n Title	е	
Test	Case	LT2	6	boa asp perr	el transition from L2 to LNTC. The last marker d before the level transition border is in proceed ect and the train is running at the maximum nitted speed.	
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.N.1002, FbIS.F.275, FbIS.F.1939, OPS.1146, OR.DEF.203, FbIS.F.1080, OPS.1097, CER 8.2.20, CER 8.2.22, CER 8.2.27, CER 8.2.28				
Test	case author	Ineco/CEDEX				
	Objective(s)		arker board	before	L2 to LNTC is performed correctly and sm the transition border is in proceed aspect ermitted speed.	
Diagr	ram					
		Level			2	
		Mode			FS	
		Train Speed (km	n/h)		Maximum speed of the line	
Starting conditions		Additional starting conditions		tions	The train is approaching the level transition to level ATC at the maximum speed of the line ar the last marker board before the level transition border, displays proceed aspect, and the first signal of the LNTC area is also in proceed aspect.	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s De	escripti	ion of what to be tested at the interface	OK?
		DMI (O)	Le	evel NT	C transition announcement	
		DMI (I)				
1	The train receives the level transition announcement via balise group or RBC.	JRU	Pr (L D bc	(Message 3/24/33 if received from RBC) Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" (L1≥10s*Vmax_system_border) D1-L1 > Last ETCS stop marker before to border M_LEVELTR = 1 NID_NTC = NTC N_ITER = 1 M_LEVELTR = 0 DMI_SYMB_STATUS LE08		
		DMI (O)	Le	vel NT	C acknowledgement is displayed	
^	The EVC runs the distance at which the	DMI (I)				
2	acknowledgement window of the transition to NTC is shown to the driver.	JRU		LE09	MB_STATUS d front end = D1 - L1- L_DOUBTUNDER	
		DMI (O)	Le	evel NT	C acknowledgement disappears	
3	The drives acknowledges the transition	DMI (I)	Di	iver acl	knowledges the level transition.	
		JRU	M	DRIVE	ERACTION = 10	
		DMI (O)				
		DMI (I)				
The EVC runs the distance "D1" or the balise group with level transition order to LNTC is read.		JRU	1 1 1	- //_LEVE NID_NT N_ITER	ELTR = "now"/0 ELTR = 1 'C = NTC	



П			L LNTO 0 L L		
	The EVC switches to Level NTC and reports its position to the RBC due to the level transition.	DMI (O)	Level NTC Symbol Level transition announcement to Level NTC disappears		
		DMI (I)			
		JRU	Message 136 Packet 0 M_LEVEL = 1 M_MODE = 13 DMI_SYMB_STATUS LE02		
	The speed at the transition point is the	DMI (O)	Vpermitted is the maximum of the line /SN mode		
	maximum allowed by the speed in the LNTC while no negative jumps in the	DMI (I)			
	permitted speed occurs.	JRU	V_PERM = maximum of the line/SN mode		
		DMI (O)			
	The EVC runs the distance of the train from the transition border. (*)	DMI (I)			
7		JRU	Message 136 Packet 0/1 estimated front end = L_TRAIN + L_DOUBTOVER		
		DMI (O)	Radio Connection symbol disappears		
	The RBC sends an order to terminate the	DMI (I)			
8	communication session and the termination of the communication session is performed.	JRU	Packet 42 Q_RBC = 0 Message 156 Message 39		
		Level	NTC		
Final	state	Mode	SN		
ııııaı	State	Train Speed (km/h)	Maximum of the line		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST, F-bane V	VEST		
		(*) When the train leaves L2 it is possible that the RBC sends the order to terminate the session before the entire length of the train leaves the L2 area. BDK accepts this behaviour.			

	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration	System configuration					
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.17.3. LT3

	TEST CASE DESCRIPTION					
		Code	Versio	on Title)	
Test	Case	LT3	4		el transition from LNTC to L2. The first mark rd after the transition border is in OS aspect	
Base	line applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1081, FbIS.F.1734, OR.DEF.201, OR.DEF.204, CER 9.2.8, CER 8.2.20 8.2.23			
Test	case author	Ineco/CEDEX				
Test	Objective(s)	Verify that the leve marker board after	vel transit er the tra	ion from	LNTC to L2 is performed correctly when the order is in OS aspect.	first
Diagr	am					
		Level			NTC	
		Mode			SN	
Starti	ing conditions	Train Speed (km	n/h)		NR	
		Additional starti	ing cond	itions	The train is approaching the level transition Level 2 and the first marker board in the Luarea displays On-sight aspect. A communi session has already been established	evel 2
	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s D	escripti	on of what to be tested at the interface O	K?
		DMI (O)	L	evel 2 tra	ansition announcement	
	The train receives the level transition announcement via balise group or RBC.	DMI (I)				
1		JRU	P	Packet 41 D_LEV L_ACK M_LEV	23/24(**)/33 if received from RBC) ELTR = "D1" LEVELTR = "L1" ELTR = 3 IB_STATUS	
		DMI (O)				
2(*)	The train receives the "Track ahead free	DMI (I)				
2()	up to level 2/3 transition location" via balise group.	JRU		NID_BG=BG1 Packet 90 NID_BG = BG2 (Level transition balise group)		
		DMI (O)				
		DMI (I)				
3(*)	The train requests a MA and reports the identity of the level 2/3 transition location balise group to the RBC	JRU		Message 132 Q_MARQSTREASON = 1xxxx (TAF up to level 2/3 transition location) Packet 0/1 Packet 9 NID_LTRBG = (NID_C+) BG2		
		DMI (O)	N		lated information is displayed	
		DMI (I)				
4	The EVC receives the MA from the RBC, with an OS mode profile(***)	JRU		Packet L_EN Packet 2 Packet 3 Packet 3 Packet 3 D_M/ Oard disp V_M/	IDSECTION ≠ 0 21 27	

		DMI (O)	Level 2 acknowledgement is displayed	
	The EVC runs the distance at which the	DMI (I)	Level 2 deknowledgement is displayed	
5	acknowledgement window of the transition to L2 is shown to the driver.	JRU	DMI_SYMB_STATUS LE13 Estimated front end = D1 - L1-L_DOUBTUNDER	
		DMI (O)	Level 2 transition acknowledgement disappears	
6	The driver acknowledges the transition	DMI (I)	Driver Acknowledges the level transition	
	The arrest desiries medges the transition	JRU	M_DRIVERACTIONS = 8	
		DMI (O)	W_DIVIVERNOTIONS = 0	
		DMI (I)		
7	The EVC runs the distance "D1" or the balise group with level transition order to L2 is read.	JRU	NID_BG = BG2(*) Packet 41 D_LEVELTR = "now"/0 M_LEVELTR = 3	
		DMI (O)	Level 2 symbol FS symbol Level 2 transition announcement disappears	
		DMI (I)		
8	Transition to L2 is performed.	JRU	DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11 M_LEVEL = 3 M_MODE = 0	
		DMI (O)		
		DMI (I)		
9	The EVC reports to the RBC the train position due to the level transition.	JRU	Message 136 Packet 0 M_LEVEL = 3 M_MODE = 0	
4.0	The train is approaching to OS area and	DMI (O)	Braking curve to the entry point of OS area without release speed.	
10	the EVC supervises the entry in OS area as an EoA without release speed.	DMI (I)		
	as an 20/1 minout release special	JRU	V_PERM decreases	
		DMI (O)	Vtrain < Vos OS mode transition acknowledgement is displayed	
11	The request for acknowledgement OS	DMI (I)		
11	mode is displayed to the driver.	JRU	V_TRAIN < V_MAMODE Estimated front end≥D2-L2 DMI_SYMB_STATUS MO08	
		DMI (O)	OS mode transition acknowledgement disappears	
12	The driver acknowledges the OS mode	DMI (I)	The driver Acknowledges the OS mode	
		JRU	M_DRIVERACTIONS = 0	
		DMI (O)	OS symbol	
		DMI (I)		
13	The EVC switches to OS mode.	JRU	DMI_SYMB_STATUS MO07 M_MODE=1 M_LEVEL=3	
		DMI (O)		
14	The EVC reports to the RBC the train	DMI (I)		
14	position due to mode change	JRU	Message 136 Packet 0/1 M_MODE=1	
		Level	2	
Final	state	Mode	os	
		Train Speed (km/h)	NR	
		Other parameters		
Final	Test Result			





Field of Application	F-bane WEST, F-bane EAST				
Briefing instructions	In F-bane EAST it would be additionally checked that the notification to on board that track ahead is free from the balise group transmitting this information up to the level 2 transition location is sent correctly. (*) This only takes place in F-bane EAST (**) Only message 24 in F-bane EAST (***) In F-bane WEST it may be necessary that the train occupies the track section in rear of the MB to set that MB in OS aspect, so in this step it could be possible that a OS mode profile related to that MB is not attached to the MA, and it would be sent later on, when the MB is set to OS aspect.				

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration	System configuration					
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.17.4. LT5

		TEST CASE	DESCR	IPTION			
		Code	Version	n Title	•		
Test	Case	LT5	3		evel transition from LNTC to L2. The first marker ard after the transition border is in stop aspect.		
Baseline applicable		FbIS.F.1081, FbI	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1081, FbIS.F.1734, OR.DEF.201, OR.DEF.204, OR. 3186, OR. 3187, OR 3188, CER 8.2.20, CER 8.2.23				
Test	case author	Ineco/CEDEX					
Test	Objective(s)				LNTC to L2 is performed correctly when the order is in stop aspect.	e first	
Diagr	am						
		Level			NTC		
		Mode			SN		
Starti	ng conditions	Train Speed (km	n/h)		NR		
otarti		Additional start	ing cond	itions	The train is approaching the level transition Level 2 and the first marker board in the Larea displays stop aspect. A communication session has already been established	evel 2	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escription	on of what to be tested at the interface C	OK?	
		DMI (O)	L	evel 2 tra	ansition announcement		
		DMI (I)					
1	The train receives the level transition announcement via balise group or RBC.	JRU	P	acket 41 D_LEVI L_ACKI M_LEVI	D_LEVELTR = "D1" _ACKLEVELTR = "L1" 1_LEVELTR = 3 I_SYMB_STATUS		
		DMI (O)					
	The train receives the "Track ahead free	DMI (I)					
	up to level 2/3 transition location" via balise group.	JRU		NID_BG=BG1 Packet 90 NID_BG = BG2 (Level transition balise group)			
		DMI (O)					
		DMI (I)					
	The train requests a MA and reports the identity of the level 2/3 transition location balise group to the RBC	JRU		Message 132 Q_MARQSTREASON = 1xxxx (TAF up to level 2/3 transition location) Packet 0/1 Packet 9 NID_LTRBG = (NID_C+) BG2			
		DMI (O)	N	lo MA rel	ated information is displayed		
		DMI (I)					
4	The EVC receives the MA from the RBC	JRU		Message 3/33 (LRBG1) Packet 15 L_ENDSECTION = the location of the Level ETCS marker board showing stop aspect Packet 21 Packet 27			
		DMI (O)	L	evel 2 ac	knowledgement is displayed		
_	The EVC runs the distance at which the	DMI (I)			1		
	acknowledgement window of the transition to L2 is shown to the driver.	JRU		LE13	MI_SYMB_STATUS LE13 stimated front end = D1 - L1- L_DOUBTUNDER		

1	T		
	<u></u>	DMI (O)	Level 2 transition acknowledgement disappears
6	The driver acknowledges the transition	DMI (I)	Driver Acknowledges the level transition
		JRU	M_DRIVERACTIONS = 8
		DMI (O)	
	The EVC runs the distance "D1" or the	DMI (I)	
7	balise group with level transition order to L2 is read.	JRU	NID_BG = BG2(*) Packet 41 D_LEVELTR = "now"/0 M_LEVELTR = 3
		DMI (O)	Level 2 symbol FS symbol Level 2 transition announcement disappears
		DMI (I)	
8	Transition to L2 is performed.	JRU	DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11 M_LEVEL = 3 M_MODE = 0
		DMI (O)	
		DMI (I)	
9	The EVC reports to the RBC the train position due to the level transition.	JRU	Message 136 Packet 0 M_LEVEL = 3 M_MODE = 0
	The train is approaching the marker	DMI (O)	Braking curve. Vtarget=0 Vpermitted and Dtarget decreases
10	board displaying stop aspect.	DMI (I)	
	, , , , ,	JRU	V_PERM decreases D_TARGET decreases
		DMI (O)	Vtrain = 0 km/h Vperm ≈ 0 Dtarget ≈ 0
11	The train is brought to a standstill in front of the marker board showing stop aspect.	DMI (I)	
	or the marker board showing stop dispect.	JRU	V_TRAIN = 0 V_PERM ≈ 0 D_TARGET ≈ 0
		Level	2
Fine!	ototo	Mode	FS
rınal	state	Train Speed (km/h)	0
		Other parameters	
Final	Test Result		
Field	of Application	F-bane WEST, F-bane	EAST
Briefi			in F-bane EAST

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.5. LT6

TEST CASE DESCRIPTION						
		Code	Versio	n Titl	le	
Test	Case	LT6	5		el transition from L2 to LNTC. The first signal after transition border is in stop aspect.	
Baseline applicable		OR.DEF.201, OF	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.201, OR.DEF.202, OR.DEF.203, OR. 3194, OR. 3196, OR. 3198, CER 8.2.20, CER 8.2.22, CER 8.2.27, CER 8.2.28			
Test	case author	Ineco/CEDEX				
Test	Objective(s)	Verify that the leve signal after the tr	vel transiti ansition b	on from order is	n L2 to LNTC is performed correctly when the fir in stop aspect.	rst
Diagr	ram					
		Level			2	
		Mode			FS	
		Train Speed (km	n/h)		NR	
Starting conditions		Additional starting conditions		tions	The train is approaching the level transition to Level NTC and the first signal (or equivalent) in the Level NTC area displays stop aspect. A communication session has already been established The last Level 2 Movement Authority covers ar area up to the signal (or equivalent) displaying the stop aspect.	
Sequence of the Test Case		Checkpoints	Checkpoints			
Step	Step description	Interfaces	s D	escript	tion of what to be tested at the interface OK?	?
		DMI (O) Level N7		evel NT	C transition announcement	
		DMI (I)				
1	The train receives the level transition announcement via balise group or RBC.	JRU	Pi (L D bo	acket 4 D_LE\ L_ACh .1≥10s* 1-L1 > order M_LE\ NID_N N_ITE M_LE	VELTR = "D1" KLEVELTR = "L1" Vmax_system_border) Last ETCS stop marker before the system VELTR = 1 ITC = NTC	
		DMI (O)	Le	evel NT	C acknowledgement is displayed	
0	The EVC runs the distance at which the	DMI (I)				
2	acknowledgement window of the transition to NTC is shown to the driver.	JRU		LE09	MB_STATUS d front end = D1 - L1- L_DOUBTUNDER	
		DMI (O)			C acknowledgement disappears	
3	The drives acknowledges the transition	DMI (I)	D	river ac	knowledges the level transition.	
		JRU	М	M_DRIVERACTION = 10		
		DMI (O)				
		DMI (I)				
The EVC runs the distance "D1" or the balise group with level transition order to LNTC is read.		JRU] 1 1	M_LEV NID_NT N_ITER	ELTR = "now"/0 ELTR = 1 ΓC = NTC	



1	1		1 1		
	The EVC switches to Level NTC and reports its position to the RBC due to the level transition.	DMI (O)	Level NTC Symbol Level transition announcement to Level NTC disappears		
		DMI (I)			
5		JRU	Message 136 Packet 0 M_LEVEL = 1 M_MODE = 13 DMI_SYMB_STATUS LE02		
		DMI (O)			
	L	DMI (I)			
6	The EVC runs the distance of the train from the transition border. (*)	JRU	Message 136 Packet 0/1 estimated front end = L_TRAIN + L_DOUBTOVER		
	The RBC sends an order to terminate the communication session and the termination of the communication session is performed.	DMI (O)	Radio Connection symbol disappears		
		DMI (I)			
7		JRU	Packet 42 Q_RBC = 0 Message 156 Message 39		
	The train is brought to a standstill in front	DMI (O)	Vtrain = 0 km/h		
8	of the signal (or equivalent) showing stop aspect.	JRU	V_TRAIN = 0		
		Level	NTC		
- :	-1-1-	Mode	SN		
Final	state	Train Speed (km/h)	0		
		Other parameters			
Final	Test Result		·		
Field	of Application	F-bane EAST, F-bane V	VEST		
Briefing instructions		(*)When the train leaves L2 it is possible that the RBC sends the order to terminate the session before the entire length of the train leaves the L2 area. BDK accepts this behaviour.			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.17.6. LT7

		TEST CASE	DESCR	<u>IPTI</u>	ON
		Code	Versio	n	Title
Test Case		LT7	5		Level transition from LNTC to L2 when level transition order is not received.
Base	line applicable				Baseline 3 R2 (SRS 3.6.0) R.DEF.204, CER 8.2.20, CER 8.2.23
Test	case author	Ineco/CEDEX			
Test	Objective(s)	Verify that the level transition or			om LNTC to L2 is performed correctly although the pived.
Diagr	am				
		Level Mode			NTC SN
		Train Speed (km	n/h)		NR
	ng conditions	Additional starting conditions		ition	The train is approaching the level transition to Level 2 and the last lineside signal (or equivalent) in the Level ATC area displays proceed aspect. A communication session has already been established. A balise of the transition order BG shall be covered
Sequ	ence of the Test Case	Checkpoints			
Step	Step description	Interfaces	s D	esci	iption of what to be tested at the interface OK?
		DMI (O)	L	evel	2 transition announcement
	The train receives the level transition announcement via balise group or RBC.	DMI (I)			
1		JRU		Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" M_LEVELTR = 3 DMI_SYMB_STATUS LE02	
		DMI (O)			
0(*)	The train receives the "Track ahead free	DMI (I)			
	up to level 2/3 transition location" via balise group.	JRU		NID_BG=BG1 Packet 90 NID_BG = BG2 (Level transition balise group)	
		DMI (O)			
		DMI (I)			
	The train requests a MA and reports the identity of the level 2/3 transition location balise group to the RBC	JRU		Message 132 Q_MARQSTREASON =1xxxx (TAF up to level 2/3 transition location) Packet 0/1 Packet 9 NID_LTRBG = (NID_C+) BG2	
		DMI (O)	N	lo M	A related information is displayed
		DMI (I)	1		
4	The EVC receives the MA from the RBC	JRU	Packet 1		_ENDSECTION ket 21
		DMI (O)	L		2 acknowledgement is displayed
	The EVC runs the distance at which the	DMI (I)			
	acknowledgement window of the transition to L2 is shown to the driver.	JRU		DMI_SYMB_STATUS LE13 Estimated front end = D1 - L1 - L_DOUBTUNDER	



		DMI (O)	Level 2 transition acknowledgement disappears		
6	The driver acknowledges the transition	DMI (I)	Driver Acknowledges the level transition		
		JRU	M_DRIVERACTIONS = 8		
		DMI (O)	Message of balise read error Service brake symbol is displayed		
		DMI (I)			
7	BG with packet 41 ordering immediate transition is not read correctly.(***)	JRU	BALISE GROUP ERROR M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS ST01		
		DMI (O)			
_	The EVC reports the balise group	DMI (I)			
8	inconsistency	JRU	Message 136 Packet 4 M_ERROR = 1		
		DMI (O)	Level 2 symbol FS symbol Level 2 transition announcement disappears		
	The EVC runs the distance "D1" and transition to L2 is performed.	DMI (I)			
9		JRU	M_LEVEL = 3 M_MODE = 0 Estimated front end=D1 DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11		
	The EVC reports to the RBC the train position due to the level transition.	DMI (O)			
		DMI (I)			
10		JRU	Message 136 Packet 0 M_LEVEL = 3		
		DMI (O)	Movement authority is shortened		
	The train comes at standstill and the	DMI (I)			
11	movement authority is shortened to the current position.	JRU	V_TARGET=0 D_TARGET=0 SERVICE BRAKE COMMAND STATE=Not Commanded		
	After 30 seconds since the train has	DMI (O)	Message of balise read error is not displayed		
12	reached the standstill, the Balise read error message is no longer displayed	DMI (I)			
	(****)	JRU			
		Level	2		
-: !	-1-1-	Mode	FS		
rmal	state	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane WEST, F-bane	EAST		
Briefing instructions		In F-bane EAST it would be additionally checked that the notification to on board that track ahead is free from the balise group transmitting this information up to the level 2 transition location is sent correctly. (*) This only takes place in F-bane EAST (**) Only message 24 in F-bane EAST (***) It has been considered the conditions specified in req 3.16.2.4.4 of Subset 026. In case that the whole BG has not been read by the EVC (and this BG is included in linking information stored on board) this step could occur when the transition is already been performed. In this case no service brake reaction is applied and the value of M_ERROR is set to zero and in consequence step 11 does not apply (****) If the on-board is ETCS Baseline 3 Release 2			



	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.17.7. LT8

	TEST CASE DESCRIPTION						
		Code	Versio	n	Title		
Test (Case	LT8	3		Level transition from LNTC to L2 with no communication session established between the and the RBC.	e EVC	
Basel	ine applicable				Baseline 3 R2 (SRS 3.6.0) ER 8.2.20, CER 8.2.23		
Test o	case author	Ineco/CEDEX					
Test (Objective(s)				hen a level transition from LNTC to L2 is perform n established between the EVC and the EVC.	ned	
Diagr	am						
		Level Mode			NTC SN		
		Train Speed (km	n/h)		NR		
Starti	ng conditions	Additional starti		tion	The train is approaching the level transition Level 2 and the last lineside signal (or equi in the Level ATC area displays proceed as balise of the session management BG sha covered	ivalent) spect. A	
Sequ	ence of the Test Case	Checkpoints	•				
Step	Step description	Interfaces	s De	esci	ription of what to be tested at the interface O	K?	
	The OB receives the order to register	DMI (O)					
1	with the appropriate radio network via	DMI (I)					
	balise group.	JRU		NIC	et 45 D_MN		
		DMI (O)		Message of balise read error Service brake symbol is displayed			
		DMI (I)	D.				
	BG with packet 42 ordering to connect with the RBC is not read correctly.(*) JRU M_ERI SYSTEM Ballise I SERVICE STATE=0		SE GROUP ERROR ERROR = 1 'EM_STATUS_MESSAGE se read error VICE BRAKE COMMAND E=Commanded SYMB_STATUS				
	No	DMI (O)					
3	No communication session is established between the EVC and the RBC.	DMI (I)					
		JRU					
		DMI (O)	Le	evel	2 transition announcement		
		DMI (I)					
4	The train receives the level transition announcement via balise group.	JRU	DN	Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" M_LEVELTR = 3 DMI_SYMB_STATUS LE12			
		DMI (O)					
F (++\	The train receives the "Track ahead free	DMI (I)					
	up to level 2/3 transition location" via balise group.	JRU	Pa	NID_BG=BG1 Packet 90 NID_BG = BG2 (Level transition balise group)			
6		DMI (O)	Le	evel	2 acknowledgement is displayed		
0		DMI (I)	T				

e EVC runs the distance at which the mowledgement window of the sition to L2 is shown to the driver. The driver acknowledges the transition are EVC runs the distance "D1" or the ise group with level transition order to is read.	JRU DMI (O) DMI (I) JRU DMI (O) DMI (I) JRU	DMI_SYMB_STATUS LE13 Estimated front end = D1 - L1 - L_DOUBTUNDER Level 2 transition acknowledgement disappears Driver acknowledges the level transition. M_DRIVERACTIONS = 8				
e driver acknowledges the transition E EVC runs the distance "D1" or the lise group with level transition order to	DMI (I) JRU DMI (O) DMI (I)	Level 2 transition acknowledgement disappears Driver acknowledges the level transition. M_DRIVERACTIONS = 8				
e EVC runs the distance "D1" or the ise group with level transition order to	DMI (I) JRU DMI (O) DMI (I)	Driver acknowledges the level transition. M_DRIVERACTIONS = 8				
e EVC runs the distance "D1" or the ise group with level transition order to	JRU DMI (O) DMI (I)	M_DRIVERACTIONS = 8				
se group with level transition order to	DMI (O) DMI (I)					
se group with level transition order to	DMI (I)					
se group with level transition order to	, ,					
se group with level transition order to	.IRU	·				
	J. Company	NID_BG = BG2(**) Packet 41 D_LEVELTR = "now"/0 M_LEVELTR = 3				
	DMI (O)	Level 2 symbol TR symbol Emergency Brake symbol Trip reason: "No MA received at level transition" Level 2 transition announcement disappears				
	DMI (I)					
Transition to L2 and TR mode is performed. Emergency brakes are applied	JRU	M_LEVEL = 3 M_MODE = 7 EMERGENCY BRAKE COMMAND STATE = Commanded DMI_SYMB_STATUS ST01 DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO04 SYSTEM_STATUS_MESSAGE No MA received at level transition				
	Level	2				
	Mode	TR				
te	Train Speed (km/h)	NR				
	Other parameters					
t Result						
Application	F-bane WEST, F-bane EAST					
	(*) It has been considered the conditions specified in req 3.16.2.4.4 of Subset 026. After service brake intervention the train could come to standstill before having reached the transition border. In this case the service brake will be released at standstill. In case that the whole BG has not been read by the EVC this step could occur when the transition is already been performed. In this case no service brake reaction is applied and no balise consistency message is displayed in the DMI and recorded in the JRU.					
	structions	After service brake inter reached the transition be standstill. In case that the whole B the transition is already applied and no balise co	After service brake intervention the train could come to standstill before having reached the transition border. In this case the service brake will be released at standstill. In case that the whole BG has not been read by the EVC this step could occur the transition is already been performed. In this case no service brake reaction applied and no balise consistency message is displayed in the DMI and record			

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.17.8. LT10

		Code	Version	Title		
Test Case		LT10	4		transition from L2 to LNTC when level transition is not received.	
Base	line applicable				ine 3 R2 (SRS 3.6.0) 2.20, CER 8.2.22, CER 8.2.27, CER 8.2.2	28
Test	case author	Ineco/CEDEX				
Test	Objective(s)	Verify that the level transition or			2 to LNTC is performed correctly although	h the
Diagr	am					
		Level			2	
		Mode			FS	
		Train Speed (km	n/h)		NR	
Starting conditions		Additional starting conditions			The train is approaching the level transition to level NTC and the marker board which is located at the level transition border displays proceed aspect. The last Level 2 Movement Authority covers an area beyond the ETCS border while no braking curve are shown to the driver due to the length of the Level 2 transition. A balise of the transition order BG shall be covered	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s De	scriptio	n of what to be tested at the interface	OK?
		DMI (O)	Lev	vel NTC	transition announcement	
		DMI (I)				
1	The train receives the level transition announcement via balise group or RBC.	JRU	Par [L1 (L1 D1- bor !	(Message 3/24/33 if received from RBC) Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" (L1≥10s*Vmax_system_border) D1-L1 > Last ETCS stop marker before the system border M_LEVELTR = 1 NID_NTC = NTC N_ITER = 1 M_LEVELTR = 0 DMI_SYMB_STATUS LE08		
		DMI (O)	Lev	vel NTC	acknowledgement is displayed	
	The EVC runs the distance at which the	DMI (I)				
2	acknowledgement window of the transition to NTC is shown to the driver.	JRU	l	LE09	S_STATUS front end = D1 - L1- L_DOUBTUNDER	
		DMI (O)	Lev	vel NTC	acknowledgement disappears	
3	The drives acknowledges the transition	DMI (I)	Dri	ver ackn	owledges the level transition	
	•	JRU	M_	M_DRIVERACTION = 10		
		DMI (O)				
4	BG with packet 41 ordering immediate	DMI (I)				
4	BG with packet 41 ordering immediate transition is not read correctly(*)	DMI (I) JRU		LISE GF M_ERRO	ROUP ERROR DR = 1	
4						



		JRU	Message 136 Packet 4 M_ERROR = 1
		DMI (O)	Level NTC Symbol Level transition announcement to Level NTC disappears
6	The EVC runs the distance "D1" and the EVC switches to level NTC.	DMI (I)	
	Eve switches to level in e.	JRU	M_LEVEL=1 DMI_SYMB_STATUS LE02
		DMI (O)	
		DMI (I)	
7	The EVC reports to the RBC the train position due to the level transition.	JRU	Message 136 Packet 0 M_LEVEL = 1 M_MODE = 13
		DMI (O)	
		DMI (I)	
8	The EVC runs the distance of the train from the transition border. (**)	JRU	Message 136 Packet 0/1 estimated front end = L_TRAIN + L_DOUBTOVER
		DMI (O)	Radio Connection symbol disappears
	The RBC sends an order to terminate the	DMI (I)	
9	communication session and the termination of the communication session is performed.	JRU	Packet 42 Q_RBC = 0 Message 156 Message 39
		Level	NTC
F:	-1-1-	Mode	SN
Finai	state	Train Speed (km/h)	NR
		Other parameters	
Final	Test Result		
Field	of Application	F-bane EAST, F-bane V	VEST
(*) In case that the whole BG has not been read by the EVC this before the level transition is carried out and the value of M_ERF (**) When the train leaves L2 it is possible that the RBC sends the session before the entire length of the train leaves the L2 ar behaviour.			on is carried out and the value of M_ERROR is set to zero. es L2 it is possible that the RBC sends the order to terminate

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.17.9. LT11

	TEST CASE DESCRIPTION					
		Code	Versio	on Title	9	
Test (Case	LT11 3			mination of communication session sent by the C after the transition L2> LNTC	
Base	line applicable	Baseline 3 MR1 (CER 8.2.20	SRS 3.4	.0) / Bas	eline 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX				
Test	Objective(s)				VC an order to terminate the communication I the level transition border.	
Diagr	am					
		Level			NTC	
		Mode			SN	
Starti	ng conditions	Train Speed (km	/h)		NR	
		Additional starti	ng cond	litions	The train has reached the transition border and the level transition to NTC has been performed	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	S [Descripti	on of what to be tested at the interface OK?	
	The EVC reports to the RBC the train position due to the level transition.	DMI (O)				
		DMI (I)				
1		JRU		Message 136 Packet 0 M_LEVEL = 1 M_MODE = 13		
		DMI (O)		_		
		DMI (I)				
2	The EVC runs the distance of the train from the transition border. (*)	JRU	1	Message Packet 0 estimate _DOUB	/1 d front end = L_TRAIN +	
		DMI (O)	F	Radio Connection symbol disappears		
	The RBC sends an order to terminate the	DMI (I)				
3	communication session and the termination of the communication session is performed.		N	Packet 42 Q_RB0 Iessage Iessage	C = 0 156	
		Level		ITC		
		Mode	S	SN		
Final	state	Train Speed ((m/h)	IR .		
		Other parame	ters			
Final	Test Result		<u> </u>		<u>.</u>	
Field	of Application	F-bane EAST, F-	bane WE	ST		
Briefi	ng instructions	(*)When the train leaves L2 it is possible that the RBC sends the order to terminat the session before the entire length of the train leaves the L2 area. BDK accepts t behaviour.				

ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration			
Test location			
Date and time (Start/End)			
Names			

Test log reference	
Observations	



2.17.10. LT12

	TEST CASE DESCRIPTION						
		Code	Version	Title			
Test	Case	LT12	6		el transition from L2 to L0/LNTC. The di owledge the transition.	river does not	
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.201, OR.DEF.207, OR.DEF.203, OPS.1115, CER 8.2.20, CER 8.2.21, 8.2.22, CER 8.2.27, CER 8.2.28			8.2.21, CER		
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify the reaction	n on-board	when	the driver does not acknowledge the le	vel transition.	
Diagr	am						
		Level			2		
		Mode			FS		
		Train Speed (kn	n/h)		NR		
Starti	ng conditions	Additional start	ing condit	ons	The train is approaching the level tran ATC at the maximum speed of the line marker board before the level transition displays proceed aspect, and the first LO/LNTC area is also in proceed aspe	e and the last on border, signal of the	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces		cription	on of what to be tested at the	OK?	
		DMI (O)		Level 0/NTC transition announcement			
		DMI (I)					
1	The train receives the level transition announcement via balise group or RBC.	JRU	Pac [L (L1 D1- sys N N	ket 41)_LEVI _ACKL ≥10s*V L1 > Latem bo I_LEVI IID_NT I_ITER M_LEV	ELTR = 1 TC = NTC L = 1 /ELTR = 0 B_STATUS		
		DMI (O)			C acknowledgement is displayed		
_	The EVC runs the distance at which the acknowledgement window of the	DMI (I)					
	transition to level 0/NTC is shown to the driver.	JRU	L	DMI_SYMB_STATUS LE09/LE07 Estimated front end = D1 - L1- L_DOUBTUNDEF		8	
		DMI (O)	Lev	el 0/N7	C acknowledgement is displayed		
		DMI (I)					
3	The EVC runs the distance "D1" or the balise group with level transition order to L0/LNTC is read.	JRU	D. M. NI N.	_ LEVE D_NT(_ITER :	LTR = "now"/0 LTR = 1 C = NTC = 1 ELTR = 0		
	The EVC switches to Level 0/NTC and reports its position to the RBC due to the level transition.	DMI (O)	Lev Lev	el 0/N7	C Symbol sition announcement to Level 0/NTC		
	นาย เองอเ นสเเจเนบน.	DMI (I)					



			Message 136	
		JRU	Packet 0 M_LEVEL = 1/0 M_MODE = 13/4 DMI_SYMB_STATUS LE02/LE01	
	5 seconds have passed since the train	DMI (O)	Service brake symbol Level 0/NTC acknowledgement is displayed	
	passed the transition border without	DMI (I)		
	level transition acknowledgement by the driver. The service brake command is triggered	JRU	SERVICE BRAKE COMMAND STATE = COMMANDED DMI_SYMB_STATUS ST01	
	The drives acknowledges the transition and the service brake command is revoked	DMI (O)		
		DMI (I)	Driver acknowledges the transition	
_		JRU	M_DRIVERACTION = 6/10 SERVICE BRAKE COMMAND STATE = NOT COMMANDED	
		Level	0, NTC	
- :	state	Mode	UN, SN	
rınaı	state	Train Speed (km/h)	NR	
		Other parameters		
Final Test Result				
Field	of Application	F-bane EAST, F-bane	WEST	
Briefi	ing instructions			

	ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.11. LT13

	TEST CASE DESCRIPTION						
		Code	Versio	n Ti	itle		
Test Case		LT13	5	af	evel transition from L0 to L2. The first marker fer the transition border is in proceed aspect ain is running at the maximum permitted spee	and the	
Baseline applicable		FbIS.F.275, FbIS	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FblS.F.275, FblS.F.1081, FblS.F.1734, OPS.1146, OR.DEF.201, OR.DEF.204, OPS.1114, CER 8.2.20, CER 8.2.23, CER DEF (2.8.2 Legacy systems, non-ATC				
Test c	ase author	Ineco/CEDEX					
	Objective(s)		er the trai	nsition	om L0 to L2 is performed correctly when the find border is in proceed aspect and the train is red.		
Diagra	am						
		Level			0		
		Mode			UN		
		Train Speed (km	n/h)		Maximum speed of the line		
Starting conditions		Additional starting conditions		itions	The train is approaching the level transition Level 2 at the maximum speed of the line last lineside signal (or equivalent) in the Larea displays proceed aspect and all the board at the level 2 area are also in process	and the evel 0 marker	
Seque	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escrip	otion of what to be tested at the interface	OK?	
		DMI (O) Mod		Level 0 symbol Mode Unfitted Symbol Vpermitted is the maximum of the line			
	The train runs in Level 0 at the maximum	DMI (I)					
1	speed of the line towards the ETCS border, which is placed at a main signal (or equivalent).	JRU	M D D	_MO[MI_S\ LE01	YMB_STATUS YMB_STATUS		
		DMI (O)					
2	The EVC receives the order to register with the appropriate radio network via	DMI (I)					
	balise group.	JRU	Р	acket NID_	-		
		DMI (O)					
	The EVC receives the order to connect	DMI (I)					
3	with the RBC via balise group of at least two balises.	JRU	P	Packet 42 NID_RBC ≠ 16383 NID_RADIO Q_RBC = 1			
		DMI (O)	s	afe ra	dio connection symbol is displayed		
		DMI (I)					
4	The EVC starts to establish safe radio connection.	JRU	M M M D	lessag lessag Packe lessag lessag	ge 159 et 2(*) ge 129 ge 8 YMB_STATUS		
5		DMI (O)			transition announcement		



		DMI (I)		
	The train receives the level transition announcement via balise group or RBC.	JRU	(Message 3/24(**)/33 if received from RBC) Packet 41 D_LEVELTR = "D1" M_LEVELTR = 3 DMI_SYMB_STATUS LE12	
		DMI (O)	LE 12	
	The train receives the "Track ahead free	DMI (I)		
	up to level 2/3 transition location" via	J (.)	NID_BG=BG1	
	balise group.	JRU	Packet 90 NID_BG = BG2 (Level transition balise group)	
		DMI (O)		
		DMI (I)		
	The train requests a MA and reports the identity of the level 2/3 transition location balise group to the RBC	JRU	Message 132 Q_MARQSTREASON = 1xxxx (TAF up to level 2/3 transition location) Packet 0/1 Packet 9 NID_LTRBG = (NID_C+) BG2	
		DMI (O)	No MA related information is displayed	
		DMI (I)		
8	The EVC receives the MA from the RBC	JRU	Message 3/33 (LRBG1) Packet 15 L_ENDSECTION Packet 21 Packet 27	
	The EVC runs the distance "D1" or the balise group with level transition order to L2 is read.	DMI (O)		
		DMI (I)		
9		JRU	NID_BG = BG2(*) Packet 41 D_LEVELTR = "now"/0 M LEVELTR = 3	
		DMI (O)	Level 2 symbol FS symbol Vpermitted in Level 2 is not lower than the last Permitted Speed in L0. Level 2 transition announcement disappears	
10	Transition to L2 is performed.	DMI (I)		
	Transmissing LL to ponomious	JRU	M_LEVEL = 3 M_MODE = 0 DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11	
	The speed at the transition point is the	DMI (O)	Vpermitted= maximum of the line	
	maximum allowed by the speed in the L2	DMI (I)		
	and the speed in the L0 area	JRU	V_PERM = maximum of the line	
		DMI (O)		
	The EVC reports to the DDC the train	DMI (I)		
	The EVC reports to the RBC the train position due to the level transition.	JRU	Message 136 Packet 0 M_LEVEL = 3 M_MODE = 0	
		Level	2	
Final state		Mode	FS	
. mai s	Sidio	Train Speed (km/h)	Maximum of the line	
		Other parameters		
Final	Test Result			
Field o	of Application	F-bane WEST, F-bane	EAST	



Briefing instructions	In F-bane EAST it would be additionally checked that the notification to on board that track ahead is free from the balise group transmitting this information up to the level 2 transition location is sent correctly. (*) If the on-board is ETCS Baseline 3 Release 2 (**) Only message 24 in F-bane EAST (***) This only takes place in F-bane EAST
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ADDITIO	ADDITIONAL TEST CASE REPORTING INFORMATION			
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.12. LT14

	TEST CASE DESCRIPTION						
		Code	Version	Title			
Test Case		LT14	6	befor	I transition from L2 to L0. The last marker te the transition border is in proceed aspe- rain is running at the maximum permitted	ct and	
Base	line applicable		.1146, OR.I	DEF.20	line 3 R2 (SRS 3.6.0) 11, OR.DEF.202, OPS.1097, FbIS.F.1083 ER 8.2.28	, CER	
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that the leve the last marker be running at the ma	oard before	the tra	.2 to L0 is performed correctly and smootl nsition border is in proceed aspect and th speed.	hly when e train is	
Diagr	am				,		
		Level Mode			2 FS		
	154	Train Speed (km	ı/h)		NR		
Starting conditions		Additional starting conditions		ons	The train is approaching the level transition to level 0 at the maximum speed of the line and the last marker board before the level transition border, displays proceed aspect, and the first signal of the L0 area is also in proceed aspect.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	Des	criptio	n of what to be tested at the interface	OK?	
		DMI (O)	Leve	el 0 trai	nsition announcement		
		DMI (I)					
1	(Message 3/24/33 if received Packet 41 The train receives the level transition announcement via balise group or RBC. (Message 3/24/33 if received Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" (L1≥10s*Vmax_system_bord		EVELTR = "L1" max_system_border) ast ETCS stop marker before the system /ELTR = 0				
		DMI (O)	Leve	Level 0 acknowledgement is displayed			
	The EVC runs the distance at which the	DMI (I)					
2	acknowledgement window of the transition to L0 is shown to the driver.	JRU	L	E07	B_STATUS front end = D1 - L1- L_DOUBTUNDER		
		DMI (O)	Leve	el 0 acl	knowledgement disappears		
3	The drives acknowledges the transition	DMI (I)	Driv	er ackr	nowledges the level transition.		
		JRU	M_E	DRIVER	RACTION = 6		
		DMI (O)					
	The EVC runs the distance "D1" or the balise group with level transition order to L0 is read.	DMI (I)	Driv	er ackr	nowledges the level transition.		
4		JRU	D_		TR = "now"/0 TR = 0		
The EVC switches to Level 0 and reports its position to the RBC due to the level		1	Leve	el 0 Syı			
5		DMI (O)		el trans ippears	ition announcement to Level 0		



		JRU	Message 136 Packet 0 M_LEVEL = 0 M_MODE = 4 DMI_SYMB_STATUS LE01	
	The speed at the transition point is the	DMI (O)	Vpermitted is the maximum of the line/UN mode	
	maximum allowed by the speed in the L0 while no negative jumps in the permitted	DMI (I)		
	speed occurs.	JRU	V_PERM = maximum of the line/UN mode	
		DMI (O)		
		DMI (I)		
7	The EVC runs the distance of the train from the transition border. (*)	JRU	Message 136 Packet 0/1 estimated front end = L_TRAIN + L_DOUBTOVER	
		DMI (O)	Radio Connection symbol disappears	
	The RBC sends an order to terminate the	DMI (I)		
8	communication session and the termination of the communication session is performed.	JRU	Packet 42 Q_RBC = 0 Message 156 Message 39	
		Level	0	
- :	atata	Mode	UN	
Final	state	Train Speed (km/h)	Maximum of the line	
		Other parameters		
Final	Test Result			
Field	of Application	F-bane EAST, F-bane V	VEST	
Briefi	(*) When the train leaves L2 it is possible that the RBC sends the order to termin the session before the entire length of the train leaves the L2 area. BDK accepts behaviour.			

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.13. LT15

		TEST CASE	DESCR	<u>IPT</u> IO	N		
		Code	Versio	on T	itle		
Test Case		LT15	4		evel transition from L0 to L2. The first marker board fter the transition border is in OS aspect.		
Baseline applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.201, CER 8.2.20, CER 8.2.23					
Test o	case author	Ineco/CEDEX					
Test (Objective(s)				om L0 to L2 is performed correctly when the find the second of the contract of	rst	
Diagr	am						
		Level			0		
		Mode			UN		
Starti	ng conditions	Train Speed (km	n/h)		NR		
		Additional starti	ing cond	itions	The train is approaching the level transition Level 2 and the first marker board in the larea displays On-sight aspect. A communication has already been established	Level 2	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D)escri	ption of what to be tested at the interface	OK?	
		DMI (O)	L	evel 2	2 transition announcement		
		DMI (I)					
1	The train receives the level transition announcement via balise group or RBC.	JRU	P	(Message 3/24(**)/33 if received from RBC) Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" M_LEVELTR = 3 DMI_SYMB_STATUS LE12			
		DMI (O)					
- (1)	The train receives the "Track ahead free	DMI (I)					
	up to level 2/3 transition location" via balise group.	JRU		NID_BG=BG1 Packet 90 NID_BG = BG2 (Level transition balise group)			
		DMI (O)					
		DMI (I)					
3(*)	The train requests a MA and reports the identity of the level 2/3 transition location balise group to the RBC	JRU 2/3		Q_M /3 trai Pack Pack	ge 132 IARQSTREASON = 1xxxx (TAF up to level nsition location) ket 0/1 ket 9 ID_LTRBG = (NID_C+) BG2		
		DMI (O)	Ν	lo MA	related information is displayed		
		DMI (I)					
	The EVC receives the MA from the RBC, with an OS mode profile	JRU		Message 3/33 (LRBG1) Packet 15 L_ENDSECTION ≠ 0 Packet 21 Packet 27 Packet 80 M_MAMODE = 0 D_MAMODE = D2 -> distance to the marker board displaying on-sight aspect V_MAMODE = V			
5		DMI (O)			ACKMAMODE= L2		

		DMI (I)					
	The EVC runs the distance "D1" or the		$NID_BG = BG2(*)$				
	balise group with level transition order to L2 is read.	JRU	Packet 41				
	LZ is read.		D_LEVELTR = "now"/0 M_LEVELTR = 3				
			Level 2 symbol				
		DMI (O)	FS symbol				
			Level 2 transition announcement disappears				
		DMI (I)					
6	Transition to L2 is performed.		DMI_SYMB_STATUS LE04				
		JRU	DMI_SYMB_STATUS				
		JKU	MO11				
			M_LEVEL = 3 M_MODE = 0				
		DMI (O)					
		DMI (I)					
7	The EVC reports to the RBC the train	(4)	Message 136				
	position due to the level transition.	JRU	Packet 0				
		0.1.0	M_LEVEL = 3 M_MODE = 0				
			Braking curve to the entry point of OS area without				
	The train is approaching to OS area and	DMI (O)	release speed.				
8	the EVC supervises the entry in OS area as an EoA without release speed.	DMI (I)					
	as an LoA without release speed.	JRU	V_PERM decreases				
		DMI (O)	Vtrain < Vos				
	The request for acknowledgement OS mode is displayed to the driver.		OS mode transition acknowledgement is displayed				
9		DMI (I)	V TRAIN V MANORE				
		IRII	V_TRAIN < V_MAMODE Estimated front end≥D2-L2				
			DMI_SYMB_STATUS				
			MO08				
		DMI (O)	OS mode transition acknowledgement disappears				
10	The driver acknowledges the OS mode	DMI (I)	The driver acknowledges the OS mode				
		JRU	M_DRIVERACTIONS = 0				
		DMI (O)	OS symbol				
		DMI (I)					
11	The EVC switches to OS mode.		DMI_SYMB_STATUS				
		JRU	MO07 M_MODE=1				
			M_LEVEL=3				
		DMI (O)					
	The EVC reports to the RBC the train	DMI (I)					
12	position due to mode change		Message 136				
	,	JRU	Packet 0/1				
	L	Lavral	M_MODE=1	 			
		Level	2	-			
Final	state	Mode	OS L.,	 			
		Train Speed (km/h)	NR	<u> </u>			
<u> </u>		Other parameters					
Final	Test Result						
Field	of Application	F-bane WEST, F-bane I					
			be additionally checked that the notification to on be				
Briefi	ing instructions	track ahead is free from the balise group transmitting this information up to the level 2 transition location is sent correctly.					
		(*) This only takes place in F-bane EAST					
		(**) Only message 24 in F-bane EAST					

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					

Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.17.14. LT17

		TEST CASE	DESCR	IPTIO	N		
		Code	Versio	on T	itle		
Test (Case	LT17	4		evel transition from L0 to L2. The first marker board ter the transition border is in stop aspect.		
Baseline applicable					aseline 3 R2 (SRS 3.6.0) 3.2.20, CER 8.2.23		
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that the lever marker board after	Verify that the level transition from L0 to L2 is performed correctly when the marker board after the transition border is in stop aspect.				
Diagr	am						
		Level Mode			0 UN		
C4 = #4:	na conditions	Train Speed (km	n/h)		NR		
Starti	ng conditions	Additional starti	ing cond	litions	The train is approaching the level transiti Level 2 and the first marker board in the area displays stop aspect. A communicat session has already been established	Level 2	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s C	Descri	ption of what to be tested at the interface	OK?	
		DMI (O)	L	evel 2	transition announcement		
		DMI (I)					
The train receives the level transition announcement via balise group or RBC.		JRU	F	(Message 3/24(**)/33 if received from RBC) Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" M_LEVELTR = 3 DMI_SYMB_STATUS LE12			
		DMI (O)					
	The train receives the "Track ahead free	DMI (I)					
	up to level 2/3 transition location" via balise group.	JRU		NID_BG=BG1 Packet 90 NID_BG = BG2 (Level transition balise group)			
		DMI (O)			, , ,		
		DMI (I)					
3(*)	The train requests a MA and reports the identity of the level 2/3 transition location balise group to the RBC	JRU		Q_M 3 trant Pack Pack	ge 132 IARQSTREASON = 1xxxx (TAF up to level asition location) Set 0/1 Set 9 D_LTRBG = (NID_C+) BG2		
		DMI (O)	N	lo MA	related information is displayed		
		DMI (I)					
4	The EVC receives the MA from the RBC	JRU		Message 3/33 (LRBG1) Packet 15 L_ENDSECTION = the location of the Level 2 ETCS marker board showing stop aspect Packet 21 Packet 27			
		DMI (O)					
	The EVC runs the distance "D1" or the	DMI (I)					
5	The EVC runs the distance "D1" or the balise group with level transition order to L2 is read.	JRU	F	acket D_LE	G=BG2(*) 41 VELTR = "now"/0 VELTR = 3		

		DMI (O)	Level 2 symbol FS symbol			
			Level 2 transition announcement disappears			
	Transition to L2 is performed.	DMI (I)				
6		JRU	DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11 M_LEVEL = 3 M_MODE = 0			
		DMI (O)				
		DMI (I)				
7	The EVC reports to the RBC the train position due to the level transition.	JRU	Message 136 Packet 0 M_LEVEL = 3 M_MODE = 0			
		DMI (O)	Braking curve. Vtarget=0 Vpermitted and Dtarget decreases			
8	The train is approaching the marker board displaying stop aspect.	DMI (I)				
		JRU	V_PERM decreases D_TARGET decreases M_SDMTYPE=2(***)/1(****)			
		DMI (O)	Vtrain = 0 km/h Vperm ≈ 0 Dtarget ≈ 0			
9	The train is brought to a standstill in front	DMI (I)				
	of the marker board showing stop aspect.	JRU	V_TRAIN = 0 V_PERM ≈ 0 D_TARGET ≈ 0			
		Level	2			
L		Mode	FS			
Final	state	Train Speed (km/h)	0			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane WEST, F-bane EAST				
Briefing instructions		In F-bane EAST it would be additionally checked that the notification to on board that track ahead is free from the balise group transmitting this information up to the level 2 transition location is sent correctly. (*) This only takes place in F-bane EAST (**) Only message 24 in F-bane EAST (***) If the on-board is ETCS Baseline 3 Maintenance Release 1 (****) If the on-board is ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.15. LT18

TEST CASE DESCRI					RIPTION		
		Code	Versio	n T	itle		
Test Case		LT18	4		evel transition from L2 to L0. The first signal after th ansition border is in stop aspect.		
Baseline applicable					aseline 3 R2 (SRS 3.6.0) 8.2.21, CER 8.2.27, CER 8.2.28		
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that the levafter the transition	vel transiti n border i	on fro s in st	om L2 to L0 is performed correctly when the first signop aspect.		
Diagr	ram						
		Level Mode			2 FS		
		Train Speed (km	n/h)		NR		
Starting conditions		Additional starting conditions		tions	The train is approaching the level transition to Level 0 and the first signal (or equivalent) in the Level 0 area displays stop aspect. A communication session has already been established The last Level 2 Movement Authority covers ar area up to the signal (or equivalent) displaying the stop aspect.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	escri	ption of what to be tested at the interface OK?		
		DMI (O)	Le	evel 0	transition announcement		
		DMI (I)					
1	The train receives the level transition announcement via balise group or RBC.	JRU	Pr (L D bc	acket D_LE L_A(.1≥10: 1-L1 : order M_LE NID_ N_IT M_I	EVELTR = "D1" CKLEVELTR = "L1" *Vmax_system_border) Last ETCS stop marker before the system EVELTR = 1 NTC = NTC ER = 1 LEVELTR = 0 YMB_STATUS		
		DMI (O)			acknowledgement is displayed		
	The EVC runs the distance at which the	DMI (I)					
2	acknowledgement window of the transition to L0 is shown to the driver.	JRU		DMI_SYMB_STATUS LE07 Estimated front end = D1 - L1- L DOUBTUNDER			
		DMI (O)			acknowledgement disappears		
3	The drives acknowledges the transition	DMI (I)			acknowledges the level transition.		
	19:11:11:11:11:11	JRU			VERACTION = 6		
		DMI (O)					
	The EVC runs the distance "D1" or the	DMI (I)					
4	balise group with level transition order to L2 is read.	JRU	1	_	41 VELTR = "now"/0 VELTR = 0		
5	The EVC switches to Level 0 and reports its position to the RBC due to the level transition. No negative jumps in the	DMI (O)	Le		Symbol cansition announcement to Level 0 cars		
	permitted speed occurs.	DMI (I)					



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		JRU	Message 136 Packet 0 M_LEVEL = 0 M_MODE = 4 DMI_SYMB_STATUS LE01	
		DMI (O)		
	TI 5)(0 II	DMI (I)		
6	The EVC runs the distance of the train from the transition border. (*)	JRU	Message 136 Packet 0/1 estimated front end = L_TRAIN + L_DOUBTOVER	
	The RBC sends an order to terminate the communication session and the termination of the communication session is performed.	DMI (O)	Radio Connection symbol disappears	
		DMI (I)		
7		JRU	Packet 42 Q_RBC = 0 Message 156 Message 39	
	The train is brought to a standstill in front	DMI (O)	Vtrain = 0 km/h	
8	of the signal (or equivalent) showing stop aspect.	JRU	V_TRAIN = 0	
		Level	0	
Einal	state	Mode	UN	
Filiai	state	Train Speed (km/h)	0	
		Other parameters		
Final	Test Result			
Field of Application		F-bane EAST, F-bane V	VEST	
Briefi	ing instructions	(*)When the train leaves L2 it is possible that the RBC sends the order to terminate the session before the entire length of the train leaves the L2 area. BDK accepts this behaviour.		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.16. LT19

	TEST CASE DESCRIPTION						
		Code	Versio	n Title	e		
Test (Case	LT19	5		el transition from L0 to L2 when level transition r is not received.		
Basel	ine applicable	Baseline 3 MR1 (OR.DEF.201, CE			eline 3 R2 (SRS 3.6.0) .2.23		
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that the lever transition order is			L0 to L2 is performed correctly although the	ne level	
Diagr	am						
		Level			0		
		Mode			UN		
		Train Speed (km	n/h)		NR		
Starting conditions		Additional starting conditions			The train is approaching the level transiti Level 2 and the last lineside signal (or ed in the Level 0 area displays proceed asp communication session has already been established. A balise of the transition ord shall be covered	quivalent) ect. A n	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escripti	ion of what to be tested at the interface	OK?	
		DMI (O)	Le	evel 2 tr	ansition announcement		
		DMI (I)					
1	The train receives the level transition announcement via balise group or RBC. JRU		P: D	(Message 3/24(**)/33 if received from RBC) Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" M_LEVELTR = 3 DMI_SYMB_STATUS LE12			
		DMI (O)					
	The train receives the "Track ahead free	DMI (I)					
	up to level 2/3 transition location" via balise group.	JRU		acket 90	D_BG=BG1 acket 90 NID_BG = BG2 (Level transition balise group)		
		DMI (O)					
		DMI (I)					
3(*)	The train requests a MA and reports the identity of the level 2/3 transition location balise group to the RBC	JRU		3 transi Packet Packet	RQSTREASON = 1xxxx (TAF up to level tion location): 0/1		
		DMI (O)	N	o MA re	elated information is displayed		
		DMI (I)					
4	The EVC receives the MA from the RBC	JRU		Packet	NDSECTION 21		
	BG with packet 41 ordering immediate	DMI (O)			of balise read error rake symbol is displayed		
ll	transition is not read correctly.(***)	DMI (I)		_			

	•	-				
		JRU	BALISE GROUP ERROR M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS ST01			
		DMI (O)				
	The EVC reports the balise group	DMI (I)				
6	inconsistency	JRU	Message 136 Packet 4 M_ERROR = 1			
		DMI (O)	Level 2 symbol FS symbol Level 2 transition announcement disappears			
		DMI (I)				
7	The EVC runs the distance "D1" and transition to L2 is performed.	JRU	M_LEVEL = 3 M_MODE = 0 Estimated front end=D1 DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11			
		DMI (O)				
	The EVC reports to the RBC the train position due to the level transition.	DMI (I)				
8		JRU	Message 136 Packet 0 M_LEVEL = 3			
	The train comes at standstill and the movement authority is shortened to the current position.	DMI (O)	Movement authority is shortened			
		DMI (I)				
9		JRU	V_TARGET=0 D_TARGET=0 SERVICE BRAKE COMMAND STATE=Not Commanded			
	After 30 seconds since the train has	DMI (O)	Message of balise read error is not displayed			
10	reached the standstill, the Balise read	DMI (I)				
	error message is no longer displayed	JRU				
	· ·	Level	2			
		Mode	FS			
Final	state	Train Speed (km/h)	0			
		Other parameters				
Final	Test Result		I			
Field of Application		F-bane WEST				
Briefing instructions		In F-bane EAST it would be additionally checked that the notification to on board that track ahead is free from the balise group transmitting this information up to the level transition location is sent correctly. (*) This only takes place in F-bane EAST (**) Only message 24 in F-bane EAST (***) It has been considered the conditions specified in req 3.16.2.4.4 of Subset 026. In case that the whole BG has not been read by the EVC (and this BG is included in linking information stored on board) this step could occur when the transition is already been performed. In this case no service brake reaction is applied and the value of M_ERROR is set to zero and in consequence step 9 does not apply (*****) If the on-board is ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				

Test log reference	
Observations	



2.17.17. LT20

	TEST CASE DESCRIPTION						
	Code Version Title			tle			
Test Case		LT20	5		evel transition from L0 to L2 with no communication ssion established between the EVC and the RBC.		
Basel	ine applicable	Baseline 3 MR1 OR.DEF.201, CE			seline 3 R2 (SRS 3.6.0) 8.2.23		
Test o	case author	Ineco/CEDEX					
Test (Objective(s)				n a level transition from L0 to L2 is performed with no led between the EVC and the EVC.		
Diagr	am						
		Level			0		
		Mode			UN		
		Train Speed (km	n/h)		NR		
Starti	ng conditions	Additional start	ing cond	itions	The train is approaching the level transition to Level 2 and the last lineside signal (or equivalent) in the Level 0 area displays proceed aspect. A balise of the session management BG shall be covered		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s D	escrip	tion of what to be tested at the interface OK?		
	The OD receives the order to register	DMI (O)					
	The OB receives the order to register with the appropriate radio network via	DMI (I)					
	balise group.	JRU		acket 4 NID_N	N		
		DMI (O)			e of balise read error brake symbol is displayed		
		DMI (I)					
	BG with packet 42 ordering to connect with the RBC is not read correctly.(*)	JRU	M_E SYSTE JRU Balise SERVIO		GROUP ERROR RROR = 1 M_STATUS_MESSAGE read error EE BRAKE COMMAND STATE=Application MB_STATUS		
		DMI (O)					
3	No communication session is established between the EVC and the RBC.	DMI (I)					
	255511 and £1.5 and the NBS.	JRU					
		DMI (O)	L	evel 2 t	transition announcement		
		DMI (I)					
4	The train receives the level transition announcement via balise group.	ement via balise group. JRU D L M DMI		L_AC M_LE	41 VELTR = "D1" KLEVELTR = "L1" EVELTR = 3 IMB_STATUS		
		DMI (O)					
_,	The train receives the "Track ahead free	DMI (I)					
	up to level 2/3 transition location" via balise group.	JRU		NID_BG=BG1 Packet 90 NID_BG = BG2 (Level transition balise group)			
-		DMI (O)					
6		DMI (I)					

	The EVC runs the distance "D1" or the balise group with level transition order to L2 is read.	JRU	NID_BG = BG2(**) Packet 41 D_LEVELTR = "now"/0 M_LEVELTR = 3			
		DMI (O)	Level 2 symbol TR symbol Emergency Brake symbol Trip reason: "No MA received at level transition"			
		DMI (I)				
7	Transition to L2 and TR mode is performed. Emergency brakes are applied	JRU	M_LEVEL = 3 M_MODE = 7 EMERGENCY BRAKE COMMAND STATE = COMMANDED DMI_SYMB_STATUS ST01 DMI_SYMB_STATUS MO04 SYSTEM_STATUS_MESSAGE No MA received at level transition			
		Level	2			
- :	-4-4-	Mode	TR			
Finai	state	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane WEST, F-bane EAST				
Brief	ing instructions	(*) It has been considered the conditions specified in req 3.16.2.4.4 of Subset 026. After service brake intervention the train could come to standstill before having reached the transition border. In this case the service brake will be released at standstill. In case that the whole BG has not been read by the EVC no service brake reaction is applied and no balise consistency message is displayed in the DMI and recorded in the JRU. (**) This only takes place in F-bane EAST				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.18. LT22

	TEST CASE DESCRIPTION						
		Code	Version	n Title			
Test Case		LT22	7		rel transition from L2 to L0 when level transer is not received.	I transition from L2 to L0 when level transition r is not received.	
Base	line applicable				eline 3 R2 (SRS 3.6.0) .2.21, CER 8.2.27, CER 8.2.28		
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify that the lever transition order is			L2 to L0 is performed correctly although the	ne level	
Diagı	ram						
		Level			2		
		Mode			FS		
ì		Train Speed (km	n/h)		NR		
Starting conditions		Additional starting conditions			The train is approaching the level transition to level 0 and the marker board which is located at the level transition border displays proceed aspect. The last Level 2 Movement Authority covers an area beyond the ETCS border while no braking curve are shown to the driver due to the length of the Level 2 transition. A balise of the transition order BG shall be covered		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	escripti	ion of what to be tested at the interface	OK?	
		DMI (O)	Le	vel 0 tr	ansition announcement		
		DMI (I)					
1	The train receives the level transition announcement via balise group or RBC.	JRU	Pa (L´ D1 bo	(Message 3/24/33 if received from RBC) Packet 41 D_LEVELTR = "D1" L_ACKLEVELTR = "L1" (L1≥10s*Vmax_system_border) D1-L1 > Last ETCS stop marker before the system border M_LEVELTR = 0 DMI_SYMB_STATUS LE06			
		DMI (O)	Le	vel 0 a	cknowledgement is displayed		
	The EVC runs the distance at which the	DMI (I)					
2	acknowledgement window of the transition to L0 is shown to the driver.	JRU		DMI_SYMB_STATUS LE07 Estimated front end = D1 - L1- L_DOUBTUNDER			
		DMI (O)	Le	vel 0 tr	ansition acknowledgement disappears		
3	The driver acknowledges the transition	DMI (I)	Dri	iver acl	knowledges the level transition.		
		JRU	M_	DRIVE	ERACTIONS = 6		
		DMI (O)					
4	BG with packet 41 ordering immediate	DMI (I)					
-	transition is not read correctly(*)	JRU			GROUP ERROR ROR = 1		
		DMI (O)					
_	The EVC reports the balise group	DMI (I)					
5	inconsistency(*)	JRU		essage Packet M_EI			

		DMI (O)	Level 0 Symbol Level transition announcement to Level 0 disappears		
6	The EVC runs the distance "D1" and the EVC switches to level 0.	DMI (I)			
	EVC switches to level 0.	JRU	M_LEVEL=0 DMI_SYMB_STATUS LE01		
		DMI (O)			
	L	DMI (I)			
7	The EVC reports to the RBC the train position due to the level transition.	JRU	Message 136 Packet 0 M_LEVEL = 0 M_MODE = 4		
		DMI (O)			
		DMI (I)			
8	The EVC runs the distance of the train from the transition border. (**)	JRU	Message 136 Packet 0/1 estimated front end = L_TRAIN + L_DOUBTOVER		
		DMI (O)	Radio Connection symbol disappears		
	The RBC sends an order to terminate the	DMI (I)			
9	communication session and the termination of the communication session is performed.	JRU	Packet 42 Q_RBC = 0 Message 156 Message 39		
		Level	0		
		Mode	UN		
Finai	state	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	tion F-bane EAST, F-bane WEST			
Briefi	(*) In case that the whole BG has not been read by the EVC this step could only oc before the level transition is carried out and the value of M_ERROR is set to zero. (**) When the train leaves L2 it is possible that the RBC sends the order to terminat the session before the entire length of the train leaves the L2 area. BDK accepts th behavior.				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.19. LT29

	TEST CASE DESCRIPTION						
		Code Version		on Titl	Title		
Test Case		LT29 4		L2"	vel transition from LNTC to L2 (use of "TAF") when the information related track ahead evel 2/3 transition location is not received.		
Base	line applicable	Baseline 3 MR1 OR.DEF.201, CE			seline 3 R2 (SRS 3.6.0) 3.2.23		
Test	case author	Ineco/CEDEX					
	Objective(s)		C does no	ot send a	e up to level 2/3 transition location" informat an MA request (packet 9) and in consequen ent authority.		
Diagr	am				luzo.		
		Level			NTC		
		Mode			SN		
Starting conditions		Train Speed (km/h) Additional starting conditions		litions	NR The train is approaching the level transition to Level 2 and the last lineside signal (or equivalen in the Level ATC area displays proceed aspect. communication session has already been established. A balise of the TAF up to transition border BG shall be covered		
Sequence of the Test Case		Checkpoints	Checkpoints				
Step	Step description	Interfaces	s C	escript	tion of what to be tested at the interface	OK?	
		DMI (O)			e of balise read error orake symbol is displayed		
		DMI (I)					
1	BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read correctly. EVC does not send a MA request to the RBC afterwards. (*)	JRU	9	M_ER SYSTEM Balise BERVICE TATE=0	GROUP ERROR ROR = 1 1_STATUS_MESSAGE read error E BRAKE COMMAND Commanded MB_STATUS		
		DMI (O)		0.0.			
	The EVC reports the balise group	DMI (I)	<u> </u>				
2 inconsistency JRU		N	lessage Packe M_E				
		DMI (O)					
	The balise group with level transition	DMI (I)					
3	order to L2 is read.	JRU		Packet 41 D_LEVELTR = "now"/0 M_LEVELTR = 3			
4	Transition to L2 and TR mode is performed. Emergency brakes are applied	DMI (O)	T E T	Level 2 symbol TR symbol Emergency Brake symbol Trip reason: "No MA received at level transition" Level 2 transition announcement disappears			
		DMI (I)					



	JRU	M_LEVEL = 3 M_MODE = 7 EMERGENCY BRAKE COMMAND STATE = Commanded DMI_SYMB_STATUS ST01 DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO04 SYSTEM_STATUS_MESSAGE No MA received at level transition			
	Level	2			
Final state	Mode	TR			
rinai state	Train Speed (km/h)	NR			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST				
Briefing instructions	(*) It has been considered the conditions specified in req 3.16.2.4.4 of Subset 026. In case that the whole BG has not been read by the EVC no balise message consistency is shown, no service brake is applied and the step 2 does not apply. Etions After service brake intervention the train could come to standstill before having reached the transition border. In this case the service brake will be released at standstill.				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.20. LT35

Test Case LT35 5 when the information related track ahead free up to level 2/3 transition location is not received. Baseline applicable Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.201, CER 8.2.20, CER 8.2.23 Test case author Ineco/CEDEX Verify that if the "Track ahead free up to level 2/3 transition location" information is received the EVC does not send an MA request (packet 9) and in consequence to RBC is not able to send a movement authority. Diagram Level 0 Mode UN Train Speed (km/h) NR The train is approaching the level transition to Level 2 and the last lineside signal (or equivalent to the Level 2 and the last lineside signal (or equivalent to the Level 3 are displays proceed aspect. communications session has alfered been established. A balise of the TAF up to transition for the Test Case Checkpoints Sequence of the Test Case Checkpoints Sequence of the Test Case Checkpoints BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) DMI (0) BALISE GROUP ERROR STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=COMMAND STATE=COMMA	TEST CASE DESCRIPTION						
Test Case LT35 5 when the information related track ahead free up to level 2/3 transition location is not received. Baseline applicable Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.201, CER 8.2.20, CER 8.2.23 Test case author Ineco/CEDEX Verify that if the "Track ahead free up to level 2/3 transition location" information is received the EVC does not send an MA request (packet 9) and in consequence to RBC is not able to send a movement authority. Diagram Level 0 Mode UN Train Speed (km/h) NR The train is approaching the level transition to Level 2 and the last lineside signal (or equivalent to the Level 2 and the last lineside signal (or equivalent to the Level 3 are displays proceed aspect. communications session has alfered been established. A balise of the TAF up to transition for the Test Case Checkpoints Sequence of the Test Case Checkpoints Sequence of the Test Case Checkpoints BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) DMI (0) BALISE GROUP ERROR STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DML SYMB_STATUS MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=COMMAND STATE=COMMA			Code Version T		n Title	itle	
Test case author Test Case author Test Objective(s) Diagram Level Mode UN Train Speed (km/h) Additional starting conditions Sequence of the Test Case Step Step description BG with packet 90 "Track ahead free up to level 2/3 transition location" information is received the EVC does not send an MA request (packet 9) and in consequence to receive the EVC does not send a movement authority. Diagram Level Mode UN Train Speed (km/h) The train is approaching the level transition to Level 2 and the last lineside signal (or equival in the Level 0 area displays proceed aspect, communication seasion has already been established. A ballise of the TAF up to transition border BG shall be covered Sequence of the Test Case Step Step description Interfaces Description of what to be tested at the interface OK3 DMI (O) Message of ballise read error Service brake symbol is displayed DMI (I) BALISE GROUP ERROR M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS STO1 JRU Message 136 DMI (O) DMI (I) Message 136 Packet 4 M_ERROR = 1 DMI (O) DMI (I) Message 136 Packet 4 M_ERROR = 1	Test Case		LT35	5		Level transition from L0 to L2 (use of "TAF up to L2") when the information related track ahead free up to level 2/3 transition location is not received.	
Verify that if the "Track ahead free up to level 2/3 transition location" information in received the EVC does not send an MA request (packet 9) and in consequence the RBC is not able to send a movement authority. Diagram	Base	line applicable	Baseline 3 MR1 (OR.DEF.201, CE	(SRS 3.4. R 8.2.20,	0) / Base CER 8.2	eline 3 R2 (SRS 3.6.0) 2.23	
Test Objective(s) received the EVC does not send an MA request (packet 9) and in consequence to RBC is not able to send a movement authority. Level 0 Mode UN Train Speed (km/h) NR Starting conditions Additional starting conditions Additional starting conditions The train is approaching the level transition to Level 2 and the last lineside signal (or equival in the Level 0 area displays proceed aspect. communication session has already been established. A balise of the TAF up to transition border BG shall be covered Sequence of the Test Case Checkpoints Sequence of the Test Case The Evc ahead free up to level 2/3 transition location" is not read. Evc does not send a MA request to the RBC afterwards.(*) PMI (0) BALISE GROUP ERROR M. ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS ST01 DMI (0) DMI (1) ARESSAGE 136 Packet 4 M. ERROR = 1 DMI (0) DM	Test	case author	Ineco/CEDEX				
Level D Mode UN			received the EVC	does not	t send ar	MA request (packet 9) and in consequence the	
Starting conditions	Diagr	am				1	
Starting conditions Train Speed (km/h) Additional starting conditions Additional starting conditions Additional starting conditions Additional starting conditions The train is approaching the level transition to Level 2 and the last lineside signal (or equiva in the Level 0 area displays proceed aspect, communication session has already been established. A balise of the TAF up to transition border BG shall be covered Sequence of the Test Case Checkpoints Step Step description Interfaces Description of what to be tested at the interface OK of Service brake symbol is displayed DMI (0) Message of balise read error Service brake symbol is displayed DMI (I) BALISE GROUP ERROR M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS STO1 DMI (0) DMI (I) The EVC reports the balise group inconsistency.(*) DMI (0)			Level				
Starting conditions Additional starting conditions The train is approaching the level transition to Level 2 and the last lineside signal (or equival in the Level 0 area displays proceed aspect. communication session has already been established. A balise of the TAF up to transition border BG shall be covered Sequence of the Test Case Step Step description Interfaces Description of what to be tested at the interface OK? DMI (O) BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVG does not send a MA request to the RBC afterwards.(*) JRU BALISE GROUP ERROR M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE—Commanded DMI_SYMB_STATUS STO1 DMI (O) DMI (I) DMI (O) DMI (I) Amessage 136 Packet 4 M_ERROR = 1 DMI (O)			Mode			UN	
Additional starting conditions Level 2 and the last lineside signal (or equival in the Level 0 area displays proceed aspect. communication session has already been established. A balise of the TAF up to transition border BG shall be covered Sequence of the Test Case			Train Speed (km	n/h)			
Step Step description Interfaces Description of what to be tested at the interface OK?	Starting conditions		Additional starting conditions		tions	established. A balise of the TAF up to transition	
DMI (O) BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) JRU BALISE GROUP ERROR M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS ST01 DMI (O) DMI (I) JRU Message 136 Packet 4 M_ERROR = 1 DMI (O) DMI (O) DMI (O) DMI (O) DMI (O)	Sequ	ence of the Test Case	Checkpoints	Checkpoints			
BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) The EVC reports the balise group inconsistency.(*) BALISE GROUP ERROR M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS ST01 DMI (0) DMI (1) Message 136 Packet 4 M_ERROR = 1 DMI (0) DMI (0) DMI (0) DMI (0) DMI (0)	Step	Step description	Interfaces				
BG with packet 90 "Track ahead free up to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) JRU BALISE GROUP ERROR M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS ST01 DMI (0) DMI (I) JRU Message 136 Packet 4 M_ERROR = 1 DMI (O)			DMI (O)				
to level 2/3 transition location" is not read. EVC does not send a MA request to the RBC afterwards.(*) JRU M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS ST01 DMI (0) DMI (I) JRU Message 136 Packet 4 M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS ST01 DMI (0) DMI (0) DMI (0) DMI (0) DMI (0)			DMI (I)	DMI (I)			
The EVC reports the balise group inconsistency.(*) DMI (0) DMI (I) Message 136 Packet 4 M_ERROR = 1 DMI (0)	1	to level 2/3 transition location" is not read. EVC does not send a MA request	JRU	S' SI DI	M_ERROR = 1 SYSTEM_STATUS_MESSAGE Balise read error SERVICE BRAKE COMMAND STATE=Commanded DMI_SYMB_STATUS		
The EVC reports the balise group inconsistency.(*) The EVC reports the balise group inconsistency.(*) Message 136 Packet 4 M_ERROR = 1 DMI (0)			DMI (O)				
2 inconsistency.(*) JRU Message 136 Packet 4 M_ERROR = 1 DMI (0)		The EVC reports the balise group					
DW (t)	2		,,	М	Packet 4		
The halice group with level transition DMI (I)			DMI (O)				
The ballse group with level transition		The balise group with level transition	DMI (I)				
order to L2 is read. Packet 41 D_LEVELTR = "now"/0 M_LEVELTR = 3	3	order to L2 is read.	JRU	[D_LEVELTR = "now"/0		
Level 2 symbol Transition to L2 and TR mode is 4 performed. Emergency brakes are applied DMI (O) Level 2 symbol TR symbol Emergency Brake symbol Trip reason: "No MA received at level transition" Level 2 transition announcement disappears	4	performed. Emergency brakes are	DMI (O)	TF Ei Tr	Level 2 symbol TR symbol Emergency Brake symbol Trip reason: "No MA received at level transition"		
DMI (I)			DMI (I)				



Final Test Result Field of Application Briefing instructions	Other parameters F-bane EAST (*) It has been considered the conditions specified in req 3.16.2.4.4 of Subset 026. In case that the whole BG has not been read by the EVC no balise message consistency is shown and no service brake is applied.		
Final state	Mode Train Speed (km/h)	TR NR	
	Level	2	
	JRU	M_LEVEL = 3 M_MODE = 7 EMERGENCY BRAKE COMMAND STATE = Commanded DMI_SYMB_STATUS ST01 DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO04 SYSTEM_STATUS_MESSAGE No MA received at level transition	

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.21. LT36

	TEST CASE DESCRIPTION							
		Code	Versi	on Tit	tle			
Test	Case	LT36	2		ancelation of communication session at the ansition.	level		
Baseline applicable		Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)						
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify that a vehicle that approaches the ETCS border in a diverging route does not perform any transition. It shall be verified that in case a train take a diverging route after having received order to establish the communication session with the RBC there is a balise group that sends an order to disconnect with the RBC.						
Diagr	ram							
		Level			0, NTC			
		Mode			UN, SN			
		Train Speed (km/h)			NR			
Starting conditions		Additional starting conditions			The train is approaching the level transition border through a route set. The radio communication session is established. The route set is changed to another route which does not goes through the level transition border.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces Description of what to be tested at the inte		tion of what to be tested at the interface	OK?			
	The OB receives the order to terminate radio communication session with the	DMI (O)						
1		DMI (I)						
balises.	RBC via balise group of at least two balises.	JRU	F		Packet 42 Q_RBC = 0			
"Terminatio	The EVC sends the message of	DMI (O)	9	afe radio connection symbol disappears				
	"Termination of a communication 2 session" and the RBC report the message of "Acknowledgement of termination of a communication session"	DMI (I)						
		JRU		Message 156 Message 39				
	Final state	Level	(),NTC				
Einal		Mode	l	JN,SN				
Final state		Train Speed (k	(m/h)	ΝR				
		Other parame	ters					
Final	Test Result							
Field	of Application	F-bane EAST, F-bane WEST						
Briefi	ing instructions							

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.22. LT37

		TEST CASE	DESCR	RIPTION	V			
		Code	Versi	on Ti	tle			
Test (Case	LT37		Ca	ancelation of level transition.			
Basel	ine applicable	Baseline 3 MR1 (S CER 8.2.20	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) CER 8.2.20					
Test o	case author	Ineco/CEDEX						
Test Objective(s)		perform any transi after having receiv	Verify that a vehicle that approaches the ETCS border in a diverging route does not perform any transition. It shall be verified that in case a train take a diverging route after having received the level transition announcement there is a balise group that cancels the level transition.					
Diagr	am							
		Level			0, NTC, 2			
		Mode			UN, SN, FS, OS			
		Train Speed (km/	/h)		NR			
Starti	ng conditions	Additional startir	ng cond	ditions	The train is approaching the level transition border through a route set. A level transition announcement is stored on board. The route set is changed to another route which does not goes through the level transition border.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces		Descrip	otion of what to be tested at the interface OK?			
		DMI (O)						
	The train receives a level transition	DMI (I)						
1	cancellation order via balise group.	JRU			41 VELTR = "now"/0 VELTR = 0/1/3			
		Level	(O, NTC,	, 2			
Final	stato	Mode	ι	JN, SN	, FS, OS			
ai	outo	Train Speed (ki	m/h)	NR				
		Other paramet	ters					
Final	Test Result							
Field	of Application	F-bane EAST, F-b	F-bane EAST, F-bane WEST					
Briefi	ng instructions							

ADDITIONAL TEST CASE REPORTING INFORMATION							
System configuration	System configuration						
Test location							
Date and time (Start/End)							
Names							
Test log reference							
Observations							



2.17.23. LT38

		TEST CASE	DESCRIP1	ION					
		Code	Version	Title					
Test	Case	LT38	5	Shorte	rtening of MA in the level transition.				
Base	line applicable	Baseline 3 MR1 (CER 8.2.20, CER	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) CER 8.2.20, CER 8.2.23						
Test	case author	Ineco/CEDEX							
Test Objective(s)		stored on board i	f the status	of the fi	hing to a Level 2 transition border with and MA rst marker board changes from "Proceed" to shorter MA through message 3				
Diagr	am								
		Level			0, NTC,				
		Mode			UN, SN				
		Train Speed (km	ı/h)		NR				
Starting conditions		Additional starting conditions			The train is approaching the level transition border through a route set. A level transition announcement is stored on board. MA is stored on board. The first marker board after the transition border is in proceed aspect. A communication session has already been established				
Sequ	ence of the Test Case	Checkpoints							
Step	Step description	Interfaces	Des	criptio	n of what to be tested at the interface OK?				
		DMI (O)	Leve	Level 2 transition announcement					
		DMI (I)							
1	The train receives the level transition announcement via balise group or RBC.	JRU	Paci D L M DMI	ket 41 _LEVEI _ACKLE _LEVE	LTR = "D1" EVELTR = "L1" LTR = 3 S_STATUS				
		DMI (O)	No I	//A rela	ted information is displayed				
		DMI (I)							
	The EVC receives the MA from the RBC		Pa	Message 3/33 (LRBG1) Packet 15 L_ENDSECTION=L2 (beyond the first marker board) L2 > D1 Packet 21 Packet 27					
2		JRU	L2 >	d) D1 cket 21	L.				
2		JRU DMI (O)	L2 > Pa Pa	d) D1 Icket 21 Icket 27	L.				
2	The status of the first marker board after		L2 > Pa Pa	d) D1 Icket 21 Icket 27	,				
3	The status of the first marker board after the transition border changes from "Proceed" to "Non proceed". The RBC sends a shorter MA (non-cooperative shortening of MA) according to the new information.	DMI (O)	L2 > Pa Pa No N Mes Pa 2 ET Pa Pa	d) D1 acket 21 acket 27 MA relates	ted information is displayed (33 (LRBG1) 5 SECTION=L3 (the location of the Level rker board showing stop aspect)				
	the transition border changes from "Proceed" to "Non proceed". The RBC sends a shorter MA (non-cooperative shortening of MA) according to the new	DMI (O)	L2 > Pa Pa No N Mes Pa 2 ET Pa Pa	rd) D1 cket 21 cket 27 MA relar sage 3/ cket 15 L_END CS ma cket 21 cket 27 cket 27	ted information is displayed (33 (LRBG1) 5 SECTION=L3 (the location of the Level rker board showing stop aspect)				

	The EVC runs the distance at which the		DMI_SYMB_STATUS		
	acknowledgement window of the	JRU	LE13		
	transition to L2 is shown to the driver.(*)	DMI (O)	Estimated front end = D1 - L1- L_DOUBTUNDER Level 2 transition acknowledgement disappears		
5	The driver acknowledges the	DMI (O)	3 11		
5	transition.(*)	DMI (I)	Driver Acknowledges the level transition		
		JRU	M_DRIVERACTIONS = 8		
	The FMC was the distance "D4" on the	DMI (O)			
6	The EVC runs the distance "D1" or the balise group with level transition order to	DMI (I)			
	L2 is read.	JRU	Packet 41 D_LEVELTR = "now"/0 M_LEVELTR = 3		
		DMI (O)	Level 2 symbol FS symbol Level 2 transition announcement disappears		
		DMI (I)	20101 2 transition amountoment disappears		
7	Transition to L2 is performed.	JRU	DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11 M_LEVEL = 3 M MODE = 0		
		DMI (O)			
	The EVC reports to the RBC the train position due to the level transition.	DMI (I)			
8		JRU	Message 136 Packet 0 M_LEVEL = 3 M_MODE = 0		
		DMI (O)	Braking curve. Vtarget=0 Vpermitted and Dtarget decreases		
9	The train is approaching the marker board displaying stop aspect.	DMI (I)			
	board displaying stop aspect.	JRU	V_PERM decreases D_TARGET decreases M_SDMTYPE=2(**)/1(***)		
		DMI (O)	Vtrain = 0 km/h Vperm ≈ 0 Dtarget ≈ 0		
10	The train is brought to a standstill in front of the marker board showing stop aspect.	DMI (I)			
	or the marker board showing stop aspect.	JRU	V_TRAIN = 0 V_PERM ≈ 0 D_TARGET ≈ 0		
		Level	2		
		Mode	FS		
rınal	state	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result		<u> </u>		
Field	of Application	F-bane EAST, F-bane V	VEST		
Briefi	ing instructions	(**) If the on-board is E1	ccur when the train is running in Level NTC. ICS Baseline 3 Maintenance Release 1 TCS Baseline 3 Release 2		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.17.24. LT39

		TEST CASE DESCRIPTION						
		Code	Versio	ion Title				
Test	Case	LT39	6		Level transition from L2 to LNTC/L0. Train is running in L2 SR.			
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) OR.DEF.201, OR.DEF.203, CER 8.2.20, CER 8.2.22, CER 8.2.27, CER 8.2.28						
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify that the level transition from L2 to LNTC/L0 is performed correctly when the train is approaching to the level transition in SR mode.						
Diagr	am							
		Level Mode			2 SR			
Starti	ing conditions	Train Speed (km	n/h)		≤ 40 km/h			
O tair ti		Additional starti		litions	The train is approaching the level transition to			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces Description			ption of what to be tested at the interface OK?)		
		DMI (O)	L	evel N	ITC/0 transition announcement			
		DMI (I)						
1	The train receives the level transition announcement via balise group.	L_A (L1≥10 D1-L1 border JRU M_L NID N_IT M_ area) DMI_S		D_LE L_AC L1≥10s D1-L1 > Forder M_LE NID_ N_IT M_L Irea)	EVELTR = "D1" CKLEVELTR = "L1" *Vmax_system_border) Last ETCS stop marker before the system EVELTR = 1/0 NTC = NTC (if M_LEVELTR = 1) ER = 1 LEVELTR = 0 (if running towards a LNTC YMB_STATUS			
		DMI (O)	L		ITC/0 acknowledgement is displayed			
	The EVC runs the distance at which the acknowledgement window of the	DMI (I)						
2	transition to Level NTC/0 is shown to the driver.	JRU		LE09/	L_SYMB_STATUS E09/LE07 mated front end = D1 - L1- L_DOUBTUNDER			
		DMI (O)	L	evel N	ITC/0 acknowledgement disappears			
3	The drives acknowledges the transition	DMI (I)		Driver Acknowledges the level transition				
	_	JRU	N	/LDRI	VERACTION = 10/6			
		DMI (O)						
		DMI (I)						
The EVC runs the distance "D1" or the balise group with level transition order to LNTC/L0 is read.		JRU		M_LE' NID_N N_ITE	VELTR = "now"/0 VELTR = 1/0 NTC = NTC (if M_LEVELTR = 1)			
5	The EVC switches to Level NTC/0 and reports its position to the RBC due to the level transition.	DMI (O)	L	evel N	ITC/0 Symbol ransition announcement to Level NTC/0 pars			
	ievei tialisitioli.	DMI (I)						



		JRU	Message 136 Packet 0 M_LEVEL = 1/0 M_MODE = 13/4			
		DMI (O)				
	The FMO was the first are a of the train	DMI (I)				
6	The EVC runs the distance of the train from the transition border. (*)	JRU	Message 136 Packet 0/1 Estimated front end = L_TRAIN + L_DOUBTOVER			
	The RBC sends an order to terminate the communication session and the termination of the communication session is performed.	DMI (O)	Radio Connection symbol disappears			
		DMI (I)				
/		JRU	Packet 42 Q_RBC = 0 Message 156 Message 39			
		Level	NTC, 0			
Final	atata.	Mode	SN, UN			
Finai	state	Train Speed (km/h)	NR			
		Other parameters				
Final Test Result						
Field of Application		F-bane EAST, F-bane WEST				
Briefing instructions		(*) When the train leaves L2 it is possible that the RBC sends the order to terminate the session before the entire length of the train leaves the L2 area. BDK accepts this behaviour.				

ADDITIONAL TEST CASE REPORTING INFORMATION							
System configuration	System configuration						
Test location							
Date and time (Start/End)							
Names							
Test log reference							
Observations							



2.18. TM

2.18.1. TM1

		TEST CA	ASE DE	SCRI	PTIC	ON		
		Code	Versi	on ⁻	Γitle			
Test	Case	TM1	3			S Text Message to inform the Train that no M by the RBC at SoM. Timetable issue.	A can be	
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.351, FbIS.F.466, OPS.1131, Text Messages ID001.						
Test	case author	Ineco/CEDEX						
Test Objective(s)		RBC when the F	RBC can	not s	end a	ng that no MA can be delivered is received from a movement authority. It shall be verified that trackside requirements.		
Diag	ram	<u> </u>						
		Level				2		
		Mode				SB		
C4 = = -		Train Speed (kr	m/h)			0		
Start	ing conditions	Additional starting conditions		ns	The train is at standstill. The radio communication session is established with the RBC. Train data has been already sent to the RBC. The marker board in front of the train is closed			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s [Descr	iptic	tion of what to be tested at the interface OK?		
		DMI (O)						
1	The driver selects "Start" button.	DMI (I)		Driver	sele	ects start		
		JRU	N	M_DR	IVE	VERACTIONS=19		
		DMI (O)						
		DMI (I)						
2	The EVC sends to the RBC an MA request	JRU	N	Message 132 Q_MARQTREASON=xxxx1 Packet 0/1				
		DMI (O)	7	Text n	ness still")	age "Afvent kørtilladelse"("Intentional is displayed		
		DMI (I)						
3	The RBC cannot send a MA to the train. The RBC sends a plain text message (packet 72) to inform the train.(*)	JRU	9 55	D_TEX M_MOI M_LEV L_TEX T_TEX M_MOI M_LEV Q_TEX X_TEX standstill")		2 (TDISPLAY=1 TDISPLAY=32767 DETEXTDISPLAY=6/15 (ELTEXTDISPLAY=3/5 TDISPLAY=32767 TDISPLAY=20s DETEXTDISPLAY=15 (ELTEXTDISPLAY=5 (TCONFIRM=0 T="Afvent kørtilladelse"("Intentional		
4	The text message is no longer displayed according to the final	DMI (O)			tt message "Afvent kørtilladelse"("Intentional ndstill") is removed.			



11	conditions given by packet 72 (after 20	DMI (I)					
	seconds).	JRU	STOP_DISPLAYING_PLAIN_TEXT_MESSAGE X_TEXT="Afvent kørtilladelse"("Intentional standstill") (T_TEXTDISPLAY=20)				
		Level	2				
Final	state	Mode	SB				
rınaı	State	Train Speed (km/h)	0				
		Other parameters					
Final	Test Result						
Field	of Application	F-bane EAST, F-bane WEST					
Brief	ing instructions	(*) Provisions shall be made in order to meet the required conditions for the trackside subsystem to issue the text message					

ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.18.2. TM2

		TEST CAS	SE DES	CRIPT	101	V			
		Code	Vers	ion 1	itle				
Test	Case	TM2	5		ETCS Text Message to inform the Train about a joining procedure.				
Base	line applicable	Baseline 3 MR1 FbIS.F.167, OPS	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.167, OPS.784, OPS.981, FbIS.F.466, OPS.1131, Text Messages ID003.						
Test case author		Ineco/CEDEX							
Test	Objective(s)					cing a joining procedure is sent by the RBC. Is sent according the trackside requirements.	t shall		
Diagr	ram								
		Level				2			
		Mode				FS			
Starti	ing conditions	Train Speed (kn	n/h)			NR			
Starting conditions		Additional starting condition		ndition	s	The train is approaching an occupied track s in order to couple with another train. A route for joining trains has been set (the jo procedure is planned in the timetable)			
Sequence of the Test Case		Checkpoints							
Step	Step description	Interfaces	5	Descr	ptic	on of what to be tested at the interface	OK?		
		DMI (I)		Message 3/33 LRBG1 Packet 15 Packet 80 D_MAMODE=D1 M_MAMODE=0 V_MAMODE=V		5 0 MODE=D1 MODE=0			
1	OS mode profile. Also, the RBC sends a plain text message (packet 72) to inform the train about the joining process.	message (packet 72) to		L_/ Q_ Pack Q D M_ M_ L_1 M_ M_ Q	NCK MAN Het 72 TEX TEX TEX MOI LEV TEX TEX	MAMODE=L1 MODE=0/1 (*)			
				Vtrain < Vos OS mode transition acknowledgement					
•	The request for acknowledgement OS	DMI (I)							
2	mode is displayed to the driver.	JRU		Estimated		< V_MAMODE front end≥D1-L1 B_STATUS			
•		DMI (O)		OS syı	nbo	ol			
3		DMI (I)		Ackno	vler	dgement of OS mode			



	The driver acknowledges the entry in OS. The EVC switches to OS mode and reports to the RBC the train position.	JRU	M_MODE=1 M_LEVEL=3 M_DRIVERACTIONS=0 Message 136 Packet 0 M_MODE=1 DMI_SYMB_STATUS MO07		
		DMI (O)	Text message "Planlagt sammenkobling"("Planned joining") is displayed		
4	The joining message is displayed to the driver when the train reaches the	DMI (I)			
_	location where entering OS mode.	JRU	Estimated front end = D2 START DISPLAYING PLAIN TEXT MESSAGE X_TEXT="Planlagt sammenkobling"("Planned joining")		
	The text message is no longer displayed according to the final	DMI (O)	Text message "Planlagt sammenkobling"("Planned joining") is removed		
5		DMI (I)			
	conditions given by the packet 72 (after 10 seconds).	JRU	STOP_DISPLAYING_PLAIN_TEXT_MESSAGE X_TEXT="Planlagt sammenkobling"("Planned joining") (T_TEXTDISPLAY=10)		
		Level	2		
- :	state	Mode	os		
Finai	state	Train Speed (km/h)	NR		
		Other parameters			
Final	Test Result				
Field	of Application	F-bane EAST, F-bane	WEST		
Brief	ing instructions	(*) Current F-bane East and F-bane West implementations use only Q_MAMODE = 1. Check and note if Q_MAMODE ≠ 1.			

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.18.3. TM3

		TEST CAS	SE DESCR	<u>PTIO</u> N	<u> </u>	
		Code	Version	Title		
Test Case		TM3	3	ETCS Text Message. The Control Room contact the driver via text message.		
Basel	line applicable				eline 3 R2 (SRS 3.6.0) , Text Messages ID004.	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)		a specific lo	cation.	trol Room the RBC is able to send a text mess It shall be verified that the text message is se nents.	
Diagr	am					
		Level			2	
		Mode			FS	
Starti	ng conditions	Train Speed (kn	n/h)		NR	
		Additional start		ons	The control room user finds it necessary to condrivers via a text message and composes a message and activates it in an ETCS MB	ontact
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	s Des	criptic	on of what to be tested at the interface	OK?
		DMI (O)				
		DMI (I)				
	The RBC sends an MA covering a route with several marker boards.	JRU	LR Pa I Pa	Message 3/33 LRBG1 Packet 15 L_ENDSECTION =D1 Packet 21 Packet 27		
		DMI (O)				
		DMI (I)				
-/	The RBC sends to the EVC a text message in order to inform the driver.	JRU	JRU :		3/24/33 72 TDISPLAY=1 TDISPLAY= D2 (D1(LRBG1)>D2(LRBG1)) DETEXTDISPLAY=0 ELTEXTDISPLAY=3 TDISPLAY=32767 TDISPLAY=10s DETEXTDISPLAY=15 ELTEXTDISPLAY=5 TCONFIRM=0 T ≤ 50 T="Custom string entered by CR User"	
		DMI (O)	Mes	Message (Custom string entered by CR User)		
•	The text message is displayed when the train reaches the marker board where	DMI (I)				
3	the text message is configured to be displayed.	JRU	STA	Estimated front end=D2 START_DISPLAYING PLAIN TEXT MESSAGE X_TEXT = "Custom string entered by CR User"		
_	The text message is no longer	DMI (O)		t mess oved	age (Custom string entered by CR User) is	
	displayed according to the final conditions given by the packet 72 (after	DMI (I)				
	10 seconds).		CT	STOP DISPLAYING PLAIN TEXT MESSAGE X_TEXT = Custom string entered by CR User		
4		JRU				
4		JRU Level				



	Train Speed (km/h) NR	
	Other parameters	
Final Test Result		
Field of Application	F-bane EAST, F-bane WEST	
Briefing instructions		

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.18.4. TM4

	TEST CASE DESCRIPTION						
		Code	Versio	n Title			
Test	Case	TM4	5		ETCS Text Message to warn the train as it enters in a platform that is too short.		
Base	line applicable				eline 3 R2 (SRS 3.6.0) 1, Text Messages ID005.		
Test	case author	Ineco/CEDEX			-		
	Objective(s)	the RBC sends a	a text mes	sage to	d to stop at a Platform for which the Train is to warn the Train as it enters the Platform. It shaent according to the trackside requirements.		
Diagr	ram				1		
		Level			2		
. .		Mode			FS		
Starti	ng conditions	Train Speed (kn	n/h)		NR		
		Additional start	ting cond	litions	The train is planned to stop at a platform that short for its length.	is too	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	s De	escription	on of what to be tested at the interface	OK?	
	The RBC sends a MA with EoA at the end of the platform	DMI (O)					
		DMI (I)					
1		JRU		Message 3/33 LRBG1 Packet 15 L_ENDSECTION = L1 Packet 21 Packet 27			
		DMI (O)					
		DMI (I)					
	The RBC sends to the EVC a text message informing that the platform is too short	JRU		D_TEX art of pla M_MO M_LEV L_TEX T_TEX M_MO M_LEV Q_TEX	2 (TDISPLAY=1 (TDISPLAY= D1 (100 meters in rear of the	เท	
	The text message is displayed when the	DMI (O)		Text Message "Tog længere end perron"("Train longer than platform") is displayed			
	train reaches the distance where the	DMI (I)					
	text message is configured to be displayed (100 meters in rear the platform start location)	JRU	S ⁻) pl	Estimated front end=D1(LRBG2) START_DISPLAYING_PLAIN_TEXT_MESSAGE X_TEXT = "Tog længere end perron"("Train longer t platform")			
4	Text message is removed	DMI (O)			age "Tog længere end perron"("Train longer orm") is removed		
•		DMI (I)					



	JRU	STOP_DISPLAYING_PLAIN_TEXT_MESSAGE X_TEXT="Tog længere end perron"("Train longer than platform") (T_TEXTDISPLAY=10)			
	Level	2			
Final state	Mode	FS			
Final state	Train Speed (km/h)	NR			
	Other parameters				
Final Test Result					
Field of Application	F-bane EAST, F-bane WEST				
Briefing instructions					

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.18.5. TM5

		TEST CAS	SE DESC	RIPTIO	N		
		Code	Versio	n Title	е		
Test	Case	TM5	2		in reports in Non Leading mode a train number in the production plan	n reports in Non Leading mode a train number that is n the production plan	
Base	line applicable	Baseline 3 MR1 (FbIS.F.396, OPS	(SRS 3.4 3.371, OF	1.0) / Ba R.DEF.1	seline 3 R2 (SRS 3.6.0) 24, OR.DEF.125, Text Messages 2		
Test	case author	Ineco/CEDEX					
Test	Objective(s)				ed Train reports a Train Number that is not pla tt regarding the train running number displaye		
Diagr	am				_		
		Level			2		
Ctout:	ng oonditions	Mode			NL		
Starti	ng conditions	Train Speed (km	n/h)		NR		
		Additional starti	ing cond	ditions	A communication session is established. The has valid location information	e train	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	D	escripti	ion of what to be tested at the interface	OK?	
		DMI (O)					
		DMI (I)					
1	The driver enters a train running number not planned in the Online Production Plan JRU			ADDITIONAL DATA NID_OPERATIONAL=ID1 Message 136 Packet 0/1 M_MODE = 11 Packet 5 NID_OPERATIONAL = ID1			
				Inconsistent train running number message is not displayed			
		DMI (I)					
3	The RBC sends a text message indicating train running number inconsistency, but it's not displayed in the DMI	JRU		Message 24 Packet 72 Q_TEXTDISPLAY = 0 D_TEXTDISPLAY = 0 M_MODETEXTDISPLAY = 15 M_LEVELTEXTDISPLAY = 5 L_TEXTDISPLAY = 32767 T_TEXTDISPLAY = 1023 M_MODETEXTDISPLAY=15 M_LEVELTEXTDISPLAY=5 Q_TEXTCONFIRM=1 Q_CONFTEXTDISPLAY = 0 X_TEXT="Tognummerfejl/Inconsistent trainumber"			
		Level	2				
Final	state	Mode N		IL			
rııldi	Siaic	Train Speed (km/h) N		IR			
		Other parame	ters				
Final	Test Result						
Field	of Application	F-bane EAST, F-	bane WI	EST			
Briefi	ng instructions	This test case ap	plies to I	ETCS B	aseline 3 Release 2 on-boards		

ADDITIONAL TEST CASE REPORTING INFORMATION

banedanmark



System configuration	
Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.19. KM

2.19.1. KM1-RBC

	TEST CASE DESCRIPTION						
		Code	Vers	ion	Title		
Test Case		KM1-RBC	2		Key (generation and installation.	
Basel	ine applicable	Baseline 3 MR1 (FbIS.F.1985, FbI			Base	line 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX					
Test (Objective(s)	Verify whether the this key.	e KMC	is abl	e to g	enerate a key and is able to install and to r	nanage
Diagr	am						
		Level				L2	
Ctorti	ng conditions	Mode				SB	
Starti	ng conditions	Train Speed (km/h)			0		
		Additional starting cond		ditior	Itions The keys have already been installed in the		ne EVC.
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	3	Description of what to be tested at the interface OK		K?	
	The RBC establishes a secure online connection for the distribution of "secret key racks" by using a product based on the IP-protocol.	RBC					
2	The RBC installs the "secret key rack".	RBC		Installed keys are included in the RBC keys list			
3	The Start of Mission is performed in the EVC.	RBC		Connection with the EVC is shown			
		Level		2			
Einal	stato	Mode		SB			
Final state		Train Speed (km/h)		0			
		Other parameters		Communication session is established.			
Final	Test Result						
Field	of Application	F-bane EAST, F-bane WEST					
Briefi	ng instructions						

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.19.2. KM1-EVC

Test ca Test Ol	ne applicable ase author bjective(s) m	FbIS.F.1985, FbI Ineco/CEDEX	S.F.474	Key I.0) / Base	generation and installation. line 3 R2 (SRS 3.6.0) generate a key and is able to install and to ma	nage
Baselir Test ca Test Ol	ne applicable ase author bjective(s) m	Baseline 3 MR1 (FbIS.F.1985, FbI Ineco/CEDEX Verify whether thithis key. Level Mode	(SRS 3.4 S.F.474	I.0) / Base	eline 3 R2 (SRS 3.6.0)	nage
Test ca Test Ol	ase author bjective(s) m	FbIS.F.1985, FbI Ineco/CEDEX Verify whether the this key. Level Mode	S.F.474			nage
Test Ol	bjective(s) m g conditions	Verify whether the this key. Level Mode	e KMC is	s able to g	penerate a key and is able to install and to ma	ınage
Diagra	m g conditions	this key. Level Mode	e KMC is	s able to g	enerate a key and is able to install and to ma	nage
	g conditions	Mode				
Startin	g conditions	Mode			ı	
Starting	g conditions				L2	
Starting		Train Speed (km			SB	
			/h)		0	
		Additional starti	ng cond	ditions	The keys have already been installed in the and in the RBC.	EVC
Sequer	nce of the Test Case	Checkpoints	T		_	
Step S	tep description	Interfaces			on of what to be tested at the interface OK	?
		DMI (O)	C	Connection	n Symbol	
		DMI (I)				
	The establishment of a communication session is initiated by the EVC.	JRU	N N N	Message 1 Message 3 Message 1 Packet 2 Message 1 Message 8 DMI_SYM ST03	e 32 e 159 t 2(*) e 129	
		DMI (O)				
		DMI (I)		Driver selects Data Entry Driver enters the train running number		
2 d	The driver selects train data entry. Train data and train running number is entered or revalidated. JRU		N N N N N N N N N N N N N N N N N N N	M_DRIVEI M_DRIVEI Message 1 Message 8 Message 1 Packet 9 NID_0 ADDITION NUMBER	RACTION = 20 RACTION = 21 129 1 3	
		DMI (O)				
		DMI (I)		Oriver sele	ects Start	
3 [Driver selects Start.	JRU	N	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start selected by driver) Packet 0/1		
, т	he RBC sends a Movement authority	DMI (O)				
	vith an OS mode profile.	DMI (I)				



	The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=0 L_MAMODE=L2 Estimated front end ≥ D2-L_DOUBTUNDER			
		DMI (O)	OS mode transition acknowledgement			
5	The EVC shows the acknowledgment	DMI (I)				
	request to OS.	JRU	DMI_SYMB_STATUS MO08			
	l	DMI (O)				
	Acknowledgement of OS mode within 5 sec after the change to OS mode	DMI (I)	Acknowledgement of OS mode			
	see after the change to de mode	JRU	M_DRIVERACTIONS = 0			
		DMI (O)				
_	The EVC reports to the RBC the train	DMI (I)				
7	position	JRU	Message 136 Packet 0/1 M_MODE=1			
		Level	2			
Final	ctata	Mode	os			
rınal	Sidie	Train Speed (km/h)	At maximum the permitted speed for SR mode			
		Other parameters	Communication session is established.			
Final	Test Result					
Field	of Application	F-bane EAST, F-bane V	VEST			
Briefi	ng instructions	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1				

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.19.3. KM2-RBC

TEST CASE DESCRIPTION							
		Code	Vers	ion	Title		
Test Case		KM2-RBC	2		Key (deletion.	
Base	line applicable	Baseline 3 MR1 (FbIS.F.474	SRS 3.	4.0) /	Base	line 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX					
Test (Objective(s)	Verify the correct	key del	etion	in the	RBC.	
Diagr	am						
		Level				L2	
Ctort:	na conditions	Mode				SB	
Starti	ng conditions	Train Speed (km/h)			0		
		Additional starting cor		ditions The keys have already been installed		The keys have already been installed in the EVC	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	5	Desc	riptio	n of what to be tested at the interface OK?	
1	The Start of Mission is performed in the EVC.	RBC		Conn	ectior	ion with the EVC is shown	
2	The EVC starts the "End of Mission" procedure.	RBC		Disco	isconnection with the EVC is shown		
3	Key is deleted in the RBC.	RBC		Delet	ed ke	y is not included in the RBC keys list	
4	The Start of Mission is performed in the EVC.	RBC				ry to establish a safe connection (3 no connection session is established	
		Level		2			
Final	atata	Mode		SB			
Final state		Train Speed (k	(m/h)	0			
		Other parame	neters No comm		mmu	nication session is established	
Final	Test Result						
Field	of Application	F-bane EAST, F-bane WEST					
Briefi	ng instructions					_	

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.19.4. KM2-EVC

	TEST CASE DESCRIPTION								
		Code Vers		ion Title					
Test	Case	KM2-EVC	5	K	Key deletion.				
Base	line applicable	Baseline 3 MR1 (FbIS.F.474	(SRS 3.4	.0) / Ba	aselir	ne 3 R2 (SRS 3.6.0)			
Test	case author	Ineco/CEDEX							
Test	Objective(s)	Verify the correct	key dele	tion in	the F	RBC.			
Diagı	am								
		Level			L	2			
		Mode			S	SB			
Start	ing conditions	Train Speed (km	n/h)		0)			
		Additional starti	ing cond	litions		he keys have already been installed in and in the RBC.	the EVC		
Sequ	ence of the Test Case	Checkpoints							
Step	Step description	Interfaces	s [)escri _l	ption	of what to be tested at the interface	OK?		
		DMI (O)	C	Connec	ction S	Symbol			
		DMI (I)							
1	The establishment of a communication session is initiated by the EVC.	JRU		Message 155 Message 32 Message 159 Packet 2(*) Message 129 Message 8 DMI_SYMB_STATUS ST03					
		DMI (O)							
		DMI (I)		Driver selects Data Entry Driver enters the train running number					
2	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	N N N N	M_DRI' M_DRI' Messag Packe Messag Messag Pack NI NDDITI	VERA VERA ge 12: ge 13: ge 13: ge 13: Get 5 D_OF IONA	ACTION = 20 ACTION = 21 9			
		DMI (O)							
		DMI (I)		river s	select	s Start			
3	Driver selects Start.	JRU	V	M_DRIVERACTION = 19 Message 132 Q_MARQSTREASON =xxxx1 (Start driver) Packet 0/1		2 STREASON =xxxx1 (Start selected by			
	The RBC sends a Movement authority	DMI (O)							
4	with an OS mode profile.	DMI (I)							
	1								

	The max safe front end of the train is at or in advance of the beginning of the OS area.	JRU	Message 3/33 LRBG1 Packet 15 L_ENDSECTION=L1 Packet 21 Packet 27 Packet 80 D_MAMODE=D2 M_MAMODE=D2 L_MAMODE=0 L_MAMODE=L2 Estimated front end ≥ D2-L_DOUBTUNDER				
		DMI (O)	OS mode transition acknowledgement				
5	The EVC shows the acknowledgment	DMI (I)					
	request to OS.	JRU	DMI_SYMB_STATUS MO08				
	A demanded described (OO and de within 5	DMI (O)					
6	Acknowledgement of OS mode within 5 sec after the change to OS mode	DMI (I)	Acknowledgement of OS mode				
		JRU	M_DRIVERACTIONS = 0				
		DMI (O)					
_	The EVC reports to the RBC the train	DMI (I)					
7	position	JRU	Message 136 Packet 0/1 M_MODE=1				
		DMI (O)	Desk is closed				
		DMI (I)					
8	The EVC starts the "End of Mission" procedure.	JRU	Message 150 Message 156 Message 39 M_MODE=6				
		DMI (O)					
9	Key is deleted in the RBC.	DMI (I)					
		JRU					
		DMI (O)					
10	The EVC tries to establish a safe connection.	DMI (I)					
		JRU					
		DMI (O)	Connection Lost/Set-Up failed Symbol				
11	No communication session is established with the RBC.	DMI (I)					
	with the KDC.	JRU	DMI_SYMB_STATUS ST04				
		Level	2				
Final state		Mode	SB				
		Train Speed (km/h)	0				
		Other parameters	No communication session is established				
Final	Test Result						
Field	of Application	F-bane EAST, F-bane WEST					
Briefi	ing instructions	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1					

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.19.5. KM3-RBC

TEST CASE DESCRIPTION								
		Code	Versio	n Title	9			
Test	Case	KM3-RBC	2	Key	modification.			
Base	ine applicable	Baseline 3 MR1 (S FbIS.F.1915, KM.2			eline 3 R2 (SRS 3.6.0) 4			
Test	case author	Ineco/CEDEX						
Test	Objective(s)	Verify the correct I	key mod	ification	in the RBC and in the EVC.			
Diagr	am							
		Level			L2			
Ctorti	ng conditions	Mode			SB			
Starti	ing conditions	Train Speed (km/	h)		0			
		Additional starting con		itions	The keys have already been installed in the EVC.			
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	D	escripti	on of what to be tested at the interface OK?			
1	The Start of Mission is performed in the EVC.	RBC	С	onnectio	on with the EVC is shown			
2	The EVC starts the "End of Mission" procedure.	RBC	D	isconne	ction with the EVC is shown			
	The RBC installs the modified "secret key rack", but this modified keys are not installed in the EVC.	RBC	N	lodified k	keys are included in the RBC keys list			
4	The Start of Mission is performed in the EVC in which the initial "secret key rack" has already been installed.	RBC			try to establish a safe connection (3 t no connection session is established			
5	The modified key is also installed in the EVC.	RBC						
6	The Start of Mission is performed in the EVC in which the modified "secret key rack" has been installed.	RBC	С	Connection with the EVC is shown				
		Level	2	2				
Final	stato	Mode	S	В				
rınaı	State	Train Speed (kr	m/h) 0					
		Other paramet	ers C	ommuni	cation session is established.			
Final	Test Result							
Field	of Application	F-bane EAST, F-bane WEST						
Briefi	ng instructions							

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.19.6. KM3-EVC

TEST CASE DESCRIPTION								
		Code Vers		sion Title		le		
Test Case		KM3-EVC	5		Key modification.			
Basel	ine applicable	Baseline 3 MR1 (FbIS.F.1915, KM	(SRS 3.4 l.2.2.3, F	1.0) / E blS.F.	Baseli 474	ne 3 R2 (SRS 3.6.0)		
Test o	case author	Ineco/CEDEX						
Test (Objective(s)	Verify the correct	t key mod	dificati	on in	the RBC and in the EVC.		
Diagra	am							
		Level				L2		
		Mode			,	SB		
Starti	ng conditions	Train Speed (km	n/h)			0		
		Additional starti	ing cond	ditions		The keys have already been installed in and in the RBC.	the EVC	
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces	s [Descri	iptio	n of what to be tested at the interface	OK?	
		DMI (O)	(Connection Symbol				
		DMI (I)						
	The establishment of a communication session is initiated by the EVC.	e establishment of a communication ssion is initiated by the EVC. JRU M M		Message 155 Message 32 Message 159 Packet 2(*) Message 129 Message 8 DMI_SYMB_STATUS ST03				
		DMI (O)						
		DMI (I)		Driver selects Data Entry Driver enters the train running number				
2	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	1	Driver enters the train running number M_DRIVERACTION = 20 M_DRIVERACTION = 21 Message 129 Packet 11 Message 8 Message 136 Packet 5 NID_OPERATIONAL ADDITIONAL DATA(**)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(*)		ACTION = 20 ACTION = 21 29 36 DPERATIONAL AL DATA(**)/TRAIN RUNNING		
		DMI (O)						
		DMI (I)		Driver	selec	cts Start		
3	Driver selects Start.	JRU		Messa Q_N driver)	ge 13 //ARC	QSTREASON =xxxx1 (Start selected by		
ļ		The RBC sends a Movement authority DMI (O)						
4	The RBC sends a Movement authority	DMI (O)						

and an advantagement of the beginning of the OS area. JRU Packet 27 Packet		The max safe front end of the train is at		Message 3/33	
Packet 80 D.MAMODE=D2 M.MAMODE=D2 M.MAMODE=D3 M.		or in advance of the beginning of the OS		LRBG1 Packet 15 L_ENDSECTION=L1	
Estimated front end ≥ D2-L_DOUBTUNDER DMI (O) OS mode transition acknowledgement f OS mode DMI (O) Acknowledgement of OS mode JRU M_DRIVERACTIONS = 0 DMI (O) DMI (O) DMI (O) DMI (O) DMI (O) DMI (O) DMI (O) DMI (O) Desk is closed DMI (O) DMI (JRU	Packet 80 D_MAMODE=D2 M_MAMODE=0	
The EVC shows the acknowledgment request to QS. The EVC shows the acknowledgment request to QS. Acknowledgement of QS mode within 5 sec after the change to QS mode The EVC reports to the RBC the train position The EVC starts the "End of Mission" procedure. DMI (Q) Message 156 Message 150 Message 156 Message 156 Message 150 DMI (Q)					
request to OS. JRU DMI (SYMB_STATUS MO08 Acknowledgement of OS mode within 5 sec after the change to OS mode JRU M_DRIVERACTIONS = 0 DMI (0) Acknowledgement of OS mode JRU M_DRIVERACTIONS = 0 DMI (0) DM			DMI (O)		
Bodis to US. JRU DMI (SYMB_STATUS MO08	5		DMI (I)		
Acknowledgement of OS mode within 5 sec after the change to OS mode The EVC reports to the RBC the train position The EVC starts the "End of Mission" procedure. The EVC starts the "End of Mission" procedure. The EVC tries to establish a safe connection. The EVC tries to establish a safe connection. No communication session is established with the RBC. The EVC tries to established with the RBC. Modified automatically distributed "secret key rack" is installed in the EVC DMI (0) DMI (0	Ů		JRU		
sec after the change to OS mode JRIN M_DRIVERACTIONS = 0 DMI (O) DMSES ages 136 Packet 0/1 M_MODE=1 DMI (O) DMSES age 156 Message 150 Message 156 Message 39 M_MODE=6 DMI (O) JRU Message 39 M_MODE=6 DMI (O) JRU The EVC tries to establish a safe connection. DMI (O) JRU DMI (O) DMSES adosed DMI (O) JRU DMI (O)		DMI (O)			
The EVC reports to the RBC the train position The EVC starts the "End of Mission" procedure. DMI (O) DMI (O) DMI (O) DMI (O) Desk is closed DMI (O) DMI	6		DMI (I)	Acknowledgement of OS mode	
The EVC reports to the RBC the train position The EVC starts the "End of Mission" DMI (0) Desk is closed		see after the shange to Go mode	JRU	M_DRIVERACTIONS = 0	
The EVC starts the "End of Mission" procedure. DMI (O)			DMI (O)		
JRU Packet 0/1 M_MODE=1 DMI (O) Desk is closed DMI (I) Message 150 Message 150 Message 150 Message 150 Message 150 Message 166 Message 39 M_MODE=6 DMI (O) JRU Message 39 M_MODE=6 DMI (O) JRU DMI (I) The EVC tries to establish a safe connection. DMI (O) JRU DMI (O) DMI (O) JRU DMI (O) DMI (O) JRU DMI (O) DMI (O) DMI (O) JRU DMI (O) Connection Lost/Set-Up failed Symbol DMI (O) JRU DMI (O) DMI (O) DMI (O) DMI (O) JRU DMI (O) DMI (O	_	The EVC reports to the RBC the train	DMI (I)		
The EVC starts the "End of Mission" JRU Message 150 Message 156 Message 39 M MODE=6 DMI (0) DMI (1) JRU The EVC tries to establish a safe connection. DMI (0)	7		JRU	Packet 0/1	
The EVC starts the "End of Mission" procedure. Page			DMI (O)	Desk is closed	
procedure. JRU Message 150 Message 150 Message 150 Message 39 M_MODE=6 Modified automatically distributed "secret key rack" is installed in the EVC The EVC tries to establish a safe connection. DMI (O) Connection Lost/Set-Up failed Symbol DMI (O) JRU DMI (O) DMI (DMI (I)		
Modified automatically distributed "secret key rack" is installed in the EVC 10 The EVC tries to establish a safe connection. 11 No communication session is established with the RBC. 12 Modified automatically distributed "secret key rack" is installed in the RBC. 13 Communication session is established. 14 Principle of the triangle of triangle	8		JRU	Message 156 Message 39	
Section Sect		Maratiff and another or a few all and the original districts and the another or	DMI (O)		
The EVC tries to establish a safe connection. DMI (I) JRU DMI (O) DMI (O) DMI (SYMB_STATUS STO4 DMI (O) DMI (SYMB_STATUS STO4 DMI (O) DMI (9		DMI (I)		
The EVC tries to establish a safe connection. DMI (I)			JRU		
Tonnection. DMI (0) DMI (0) Connection Lost/Set-Up failed Symbol			DMI (O)		
SRU DMI (O) Connection Lost/Set-Up failed Symbol	10		DMI (I)		
No communication session is established with the RBC. DMI (I)		0.1.1.00.10.1.1	JRU		
with the RBC. JRU DMI_SYMB_STATUS ST04 DMI (0) DMI (0) DMI (1) DMI (0) DMI (0			DMI (O)	Connection Lost/Set-Up failed Symbol	
JRU DMI_SYMB_STATUS ST04 DMI (O) DMI (I) JRU DMI (O) DMI (I) Message 155 Message 155 Message 159 Packet 2(*) Message 129 Message	11		DMI (I)		
Modified automatically distributed "secret key rack" is installed in the RBC. DMI (I)		with the RBC.	JRU		
Level 2 Mode SB Train Speed (km/h) 0 Other parameters Communication session is established. DMI (t) DMI (t		Modified automatically diatributed "accest			
The state JRU DMI (O) Connection Symbol DMI (I) DMI (I) Message 155 Message 32 Message 159 Packet 2(*) Message 129 Message 8 DMI_SYMB_STATUS ST03 ST03 DMI_SYMB_STATUS ST03 DMI_STATUS ST03					
DMI (I) Communication session is established. JRU Message 155 Message 32 Message 159 Packet 2(*) Message 129 Message 8 DMI_SYMB_STATUS ST03 Level 2 Mode SB Train Speed (km/h) 0 Other parameters Communication session is established.		·	JRU		
Communication session is established. JRU Message 155 Message 159 Packet 2(*) Message 129 Message 8 DMI_SYMB_STATUS ST03 Level 2 Mode SB Train Speed (km/h) 0 Other parameters Communication session is established.				Connection Symbol	
Communication session is established. JRU Message 32 Message 159 Packet 2(*) Message 129 Message 8 DMI_SYMB_STATUS ST03 Level 2 Mode SB Train Speed (km/h) 0 Other parameters Communication session is established.			DMI (I)		
Final state Mode SB Train Speed (km/h) 0 Other parameters Communication session is established. Final Test Result	13	Communication session is established.	JRU	Message 32 Message 159 Packet 2(*) Message 129 Message 8 DMI_SYMB_STATUS	
Final state Train Speed (km/h) 0 Other parameters Communication session is established. Final Test Result			Level	2	
Train Speed (km/h) 0 Other parameters Communication session is established. Final Test Result	Final	state	Mode	SB	
Final Test Result	ı ıııal	Sidio	Train Speed (km/h)	0	
			Other parameters	Communication session is established.	
F-bane EAST, F-bane WEST	Final	Test Result			
	Field	of Application	F-bane EAST, F-bane \	WEST	



Briefing instructions	(*) If the on-board is ETCS Baseline 3 Release 2 (**) If the on-board is ETCS Baseline 3 Maintenance Release 1	
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ADDITIONAL TEST CASE REPORTING INFORMATION						
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.19.7. KM4-RBC

	TEST CASE DESCRIPTION						
		Code Version Title					
Test (Case	KM4-RBC 2		I	Key v	validity period.	
Basel	line applicable	Baseline 3 MR1 (FbIS.F.474	SRS 3.	4.0) / E	Basel	ine 3 R2 (SRS 3.6.0)	
Test	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that the ke	ys only	can be	use	d within the validity period.	
Diagr	am						
		Level				L2	
		Mode				SB	
Starti	ng conditions	Train Speed (km/h)				0	
		Additional starting conditions			s	The keys have already been installed in the EVC. The key validity period has expired.	
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	i	Descr	iptio	n of what to be tested at the interface	OK?
1	The Start of Mission is performed in the EVC.	RBC				y to establish a safe connection (3 no connection session is established	
		Level 2		2			
Einal	state	Mode		SB			
Final state		Train Speed (k	m/h)	0	0		
		Other parameters No comm		mmu	nication session is established		
Final	Test Result						
Field	of Application	F-bane EAST, F-bane WEST					
Briefi	ng instructions						

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.19.8. KM4-EVC

	TEST CASE DESCRIPTION					
		Code	Versio	n Title		
Test Case		KM4-EVC 4		Key	validity period.	
Basel	ine applicable	Baseline 3 MR1 (FbIS.F.474	SRS 3.4.	0) / Base	line 3 R2 (SRS 3.6.0)	
Test o	case author	Ineco/CEDEX				
Test (Objective(s)	Verify that the key	s only ca	an be use	ed within the validity period.	
Diagr	am					
		Level			L2	
		Mode			SB	
Starti	ng conditions	Train Speed (km/	/h)		0	
		Additional starting condition		itions	The keys have already been installed in the EVC and in the RBC. The Key validity period has been expired	
Sequ	ence of the Test Case	Checkpoints				
Step	Step description	Interfaces	D	escriptio	on of what to be tested at the interface OK?	
		DMI (O)				
1	The EVC tries to establish a safe connection.	DMI (I)				
		JRU				
		DMI (O)	С	onnectio	n Lost/Set-Up failed Symbol	
	No communication session is established with the RBC.	DMI (I)				
	with the RBC.	JRU		DMI_SYMB_STATUS ST04		
		Level	2			
Final	stato	Mode	s	SB		
riiiai	state	Train Speed (k	m/h) 0			
		Other parame	ters N	o commu	unication session is established	
Final	Test Result					
Field	of Application	F-bane EAST, F-b	bane WE	ST		
Briefi	ng instructions				-	

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.20. NV

2.20.1. NV1

	TEST CASE DESCRIPTION						
		Code	Versio	n Title			
Test (Case	NV1	4	Natio L2 a	onal values sent from trackside at the entry of the rea.		
Basel	ine applicable	FbIS.F.1734, CEI	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0) FbIS.F.1734, CER DEF (2.9.3 Static speed profiles), CER DEF (2.9.7 Release speed), CER DEF (2.10.1 National values), CER 10.1.1, CER 10.1.2				
Test o	case author	Ineco/CEDEX					
Test (Objective(s)	Verify that the information regarding the national values is sent by the trackside subsystem at every entry of the L2 area.					
Diagr	am						
		Level			NR		
		Mode			NR		
Starti	ng conditions	Train Speed (km/h)			NR		
Starting conditions		Additional starting conditions		tions	The train is approaching the level transition to Level 2. The radio communication session is established with the RBC.		
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces Descripti		escriptio	on of what to be tested at the interface OK?		
		DMI (O)					
1 1	The EVC receives the National values from balise and/or RBC.	DMI (I)					
		JRU					

		(Message 3/33/24 if the national values are sent by
		the RBC)
		Packet 3 NID_C = NIDC
		V_NVSHUNT = 25 Km/h
		V_NVSTFF = 40 Km/h
		V_NVONSIGHT = 40 Km/h
		V_NVLIMSUPERV = 0 Km/h
		V_NVUNFIT = 120 Km/h V_NVREL = 0 Km/h
		D_NVROLL = 0 KNI/II
		Q_NVSBTSMPERM = 0 (= No)
		Q_NVEMRRLS = 1(=revoke when below Permitted
		speed limit)
		Q_NVGUIPERM = 0 (= No) Q_NVSBFBPERM = 1 (= Yes)
		Q_NVINHSMICPERM = 0 (= No)
		V_NVALLOWOVTRP = 0 Km/h
		V_NVSUPOVTRP = 40 Km/h
		D_NVOVTRP = 200 m T_NVOVTRP = 60 s
		D_NVPOTRP = 60 S D_NVPOTRP = 2 m
		M_NVCONTACT = 1 (= Apply service brake)
		T_NVCONTACT = 50 s
		M_NVDERUN = 1 (= Yes)
		D_NVSTFF = 32767 (= Infinite) Q_NVDRIVER_ADHES = 1 (= Allowed)
		A_NVMAXREDADH1 = 0.45m/s^2
		$A_{NVMAXREDADH2} = 0.45 \text{m/s}^2$
		A_NVMAXREDADH3 = 0.45m/s^2
		Q_NVLOCACC = 6 m M_NVAVADH = 0
		M_NVEBCL = 9 (= 99,9999999%)
		Q_NVKINT = 1 (= Integrated correction factors
		follow)
		Q_NVKVINTSET = 00 (= Freight trains)
		V_NVKVINT = 0 Km/h M_NVKVINT = 0.8
		N_ITER = 0
		N_ITER = 1
		Q_NVKVINTSET(1) = 01 (= Conventional
		passenger trains) A NVP12(1) = 0.60 m/s^2
		A_NVP23(1) = 1.05 m/s^2
		$V_NVKVINT(1) = 0 \text{ Km/h}$
		$M_NVKVINT(1) = 0.80$
		M_NVKVINT(1) = 0.92
		N_ITER(1) = 4 V_NVKVINT(1,1) = 100 km/h
		$M_NVKVINT(1,1) = 0.68$
		M_NVKVINT(1,1) = 0.78
		V_NVKVINT(1,2) = 120 km/h M_NVKVINT(1,2) = 0.90
		M_NVKVINT(1,2) = 0.90 M_NVKVINT(1,2) = 0.64
		V_NVKVINT(1,3) = 150 km/h
		$M_NVKVINT(1,3) = 0.82$
		M_NVKVINT(1,3) = 0.80
		V_NVKVINT(1,4) = 180 km/h M_NVKVINT(1,4) = 0.98
		M_NVKVINT(1,4) = 0.98 M_NVKVINT(1,4) = 0.88
		L_NVKRINT = 0 m
		M_NVKRINT = 1
		N_ITER = 0 M_NVKTINT = 1
	Level	NR
	Mode	NR
II—	Train Speed (km/h)	NR
Final state		
Final state		
	Other parameters	
Final state Final Test Result Field of Application		



Briefing instructions	Also verify that packet 3 is sent by the balise groups at repair shops and wherever there is a change in NID_C or similar parameters to ensure that all vehicles receive the proper national values when entering the ETCS level 2 infrastructure, or being restarted from repair or maintenance. For F-bane East NID_C = 345, for F-bane West NID_C = 344
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ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.21. OTH

2.21.1. OTH1

	TEST CASE DESCRIPTION						
		Code	Versi	on Title	•		
Test (Case	OTH1	4	Mode transition from SB to SL.			
Basel	ine applicable	Baseline 3 MR1 FbIS.F.2114	(SRS 3.4	.0) / Base	eline 3 R2 (SRS 3.6.0)		
Test o	case author	Ineco/CEDEX					
Test (received the position report informing that an order to terminate de communication		
Diagr	am						
		Level			2		
		Mode			SB		
		Train Speed (km	n/h)		0		
Starti	ng conditions	Additional start	ing cond	litions	The train has two EVCs (one for each of physically connected (with sleeping inp EVC is in SB mode with closed desk in There is no communication session est between the EVC and the RBC.	ut signal). cab A.	
Seque	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces		Descripti nterface	on of what to be tested at the	OK?	
	Driver open desk B, therefore desk A	DMI (O)					
4		DMI (I)					
	changes to SL mode.	JRU	N	M_SLEEF M_LEVEL M_MODE	.=3		
		DMI (O)					
	The FVC establish communication	DMI (I)					
2	The EVC establish communication session with the RBC.	JRU	N	Message Message Message Packet 2	32 159		
		DMI (O)					
	The EVC sends a position report	DMI (I)					
	informing the RBC about the mode change.	JRU	ľ	Message Packet 0 M_MO			
		DMI (O)					
	The RBC sends an order to terminate the	DMI (I)					
4	communication session.	JRU Message : JRU Packet 4 Q_RB0		Packet 4	2		
	The EVC sends the termination of a	DMI (O)					
5	communication session message and the	DMI (I)					
	RBC sends the acknowledgement of termination of a communication session.	JRU		Message Message			
Final	stato	Level	2	2			
ııılal	Siaic	Mode		SL			





	Train Speed (km/h)	0				
	Other parameters					
Final Test Result						
Field of Application	F-bane EAST, F-bane W	/EST				
Briefing instructions	other than opening a diff	n order to perform this TC in the lab it may be needed to execute specific actions other than opening a different desk in another cab to trigger the sleeping input signal. *) If the on-board is ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.21.2. OTH3

		TEST CASE	DESCR	IPTIO	N		
		Code	Versi	on 1	Title		
Test (Case	OTH3	2			O Hole - Loss of comms for more than //CONTACT. CT_121	
Basel	ine applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)					
Test (case author	Ineco/CEDEX					
Test Objective(s) Check that M_NVCONTACT reaction does not apply w announced radio hole area.			n does not apply when the train enters in	nside an			
Diagr	am						
		Level				2	
		Mode				FS	
Starti	ng conditions	Train Speed (km	,	litions		NR The radio communication session is est with the RBC. The train is approaching a radio hole, a EVC has stored the national values (T_NVCONTACT = 50 s and M_NVCOI 1, Apply service brake)	nd the
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	ì	nterfa	се	n of what to be tested at the	OK?
		DMI (O)		Frack of area.(*	condition "Radio hole" is shown in planning		
		DMI (I)					
1	The RBC sends MA with information regarding the track condition of the radio hole.	the radio Packet 15 L_ENDSECTION=L L(LRBG1)>(D1(LRBG1)+L1) Packet 68 Q_TRACKINIT=0 D_TRACKCOND=D1 (Radio hole s L_TRACKCOND=L1		ELRBG1 (LRBG1)=A BECTION=L E(D1(LRBG1)+L1) KINIT=0 KCOND=D1 (Radio hole start location)			
		DMI (O)	,			/24/33	
	The train receives the last RBC message	DMI (I)		3			
	before entering the radio hole	JRU	L	Estimated front end < D1(LRBG1)- L_DOUBTUNDER TIME = T1			
		DMI (O)	"	Radio	hole	" symbol is displayed	
		DMI (I)					
3	The EVC reaches the start location of the radio hole with its Max safe front end	JRU	L C 7	Estimated front end=D1(LRBG1)- L_DOUBTUNDER DMI SYMBOL STATUS TC12 TIME = T2 T2 < T1 + 50 s			
	T. T. N. (00NTA 0T ::	DMI (O)					
	The T_NVCONTACT time elapses without the reception of any RBC	DMI (I)					
4	message and the train front end is still in the radio hole. No brake is triggered.	JRU	h	ΓIME =	Estimated front end < D1(LRBG1) + L1 TIME = T3 T3 ≥ T1 + 50 s		
Final	stato	Level	2	2			
ıııaı	Siaio	Mode	F	-S			



	Train Speed (km/h)	NR	
	Other parameters		
Final Test Result			
Field of Application	F-bane EAST, F-bane W	/EST	
Briefing instructions			

	ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					



2.21.3. OTH4

		TEST CASE	DESCRI	PTION				
		Code	Versio	n Title	•			
Test (Case	OTH4	5		T_NVCONTACT - No exchange of data for mo 5 minutes. CT_173			
Basel	ine applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)						
Test o	case author	Ineco/CEDEX						
Test (Objective(s)				safe radio connection the EVC and the RI on still established for a defined time (5 m			
Diagr	am				.			
		Level			2			
		Mode			FS			
Starti	ng conditions	Train Speed (km		itions	NR The radio communication session is es with the RBC. The EVC has stored the national values (T_NVCONTACT = 50 s and M_NVCO 1, Apply service brake). There are no rain the route established for the train.	s NTACT =		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces		escripti nterface	on of what to be tested at the	OK?		
		DMI (O)						
1	The train receives the last RBC message	DMI (I)						
		JRU		lessage IME = T				
	The EURORADIO indicates the loss of	DMI (O)						
2	the safe radio connection(TIME=T2)(*)	DMI (I)						
		JRU DMI (O)		"Communication error" message is displayed				
				Brake symbol is displayed				
		DMI (I)	T-1	IN 4	2			
3	The T_NVCONTACT time elapses without the reception of any RBC message.	TIME = T3 T3 ≥ T1 + 50 s SERVICE BRAKE COMMAND STATE = Commanded DMI STATUS SYMBOL ST01 SYSTEM STATUS MESSAGE Communication error RADIO ERROR M_ERROR = 5		50 s BRAKE COMMAND STATE = ded FUS SYMBOL STATUS MESSAGE unication error RROR ROR = 5				
	No valid RBC message is received and	DMI (O)		rake syn train = 0	nbol disappears			
4	the train is brought to standstill by the	DMI (I)		TDAIL				
	service brake.	JRU		_TRAIN ERVICE ommand	BRAKE COMMAND STATE = Not			
	After 30 seconds since the train has	DMI (O)	"C	Commun	ication error" message is not displayed			
5	reached the standstill, the Communication error message is no	DMI (I)						
	longer displayed (**)	JRU						
5	The "Connection status" timer for safe	DMI (O)	С	onnectic	on Lost/Set-Up failed symbol is displayed			
ာ	radio connection indication elapse,	DMI (I)						

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	without the safe communication connection being set-up.	JRU	TIME = T4 T4 > T1 + Connection status timer (45 s) (T4 = T2 + 45 s) DMI STATUS SYMBOL ST04			
	Maximum time to maintain a	DMI (O)				
	communication session	DMI (I)				
6	in case of failed re-connection attempts elapses, without the safe communication connection being set-up. Both, EVC and RBC considers the session as terminated	JRU	TIME = T5 T5 > T1 + 5 min (T5 = T2 + 5 min) (To be checked in the RBC JRU that the communication session has been deemed terminated)			
		Level	2			
Final	state	Mode	FS			
rina	state	Train Speed (km/h)	0			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Brief	ing instructions	After the communication session is considered terminated, if the communication link is re-established, the EVC initiates the establishment of a new communication session and the RBC issues an UES to the train. (*) The loss of safe connection (and the timestamp T2 when it takes place) is not registered in the JRU log (**) If the on-board is ETCS Baseline 3 Release 2				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.21.4. OTH5

		TEST CASE	DESCR	IPTIC	N			
		Code	Versi	on	Title			
Test (Case	OTH5 4			VBC - Virtual Balise Cover at entry from L0/LNT0 L2. CT_217		0/LNTC to	
Basel	ine applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)						
Test (case author	Ineco/CEDEX						
Test (Objective(s)	Verify that at the the virtual balise	entry froi cover inf	m L0/ orma	LNTC	C to L2 there is a temporary balise gr	oup setting	
Diagr	am							
		Level				0/NTC		
Starti	ng conditions	Mode				UN/SN		
Starti	ng conditions	Train Speed (km	n/h)			NR		
		Additional starti	ing cond	lition	s	Train is approaching to a L2 area		
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces		Descr nterfa		n of what to be tested at the	OK?	
		DMI (O)						
		DMI (I)						
1	Before entering in the level 2 area the EVC receives a VBC order via balise group setting the VBC.(*)	JRU		NID_BG=BG Packet 6 Q_VBCO= NID_VBCN NID_C=N2 T_VBC=		=1 CMK=N1 I2		
		DMI (O)	١	No communication session is established				
		h JRU NID_C=N NID_BG= Packet 0 NID_VB Packet 42 Q_RBC						
	The EVC receives via balise group the order to connect to the RBC together with the VBC marker information.			NID_E Packe NID Packe Q_R	G=B t 0 _VBC t 42 BC=	G2 CMK=N1		
		DMI (O)	L	evel	2 trar	nsition announcement is not shown		
		DMI (I)						
	The EVC receives via balise group a level transition announcement together with the VBC marker information	NID_C=N NID_BG= Packet 0 NID_VB Packet 41 D_LEV M_LEV		G=B t 0 _VBC t 41 _EVE _EVE	G3 CMK=N1 LTR=D1			
	The EVC runs the distance at which the	DMI (O)	<u> </u>	lo Le	vel 2	acknowledgement is displayed		
	acknowledgement window of the	DMI (I)						
	transition to L2 is shown to the driver.(**)	JRU						
5		DMI (O)	N	lo lev	el tra	insition to Level 2 is performed		
၁		DMI (I)						





	The EVC receives via balise group the level transition order to L2 together with the VBC marker information.	JRU	NID_C=N2 NID_BG=BG4 Packet 0 NID_VBCMK=N1 Packet 41 D_LEVELTR=0/Now M_LEVELTR=3			
	The EVC runs the distance "D1" and no	DMI (O)	No level transition to Level 2 is performed			
6	6 level transition to level 2 is performed	DMI (I)				
	(***)	JRU	Estimated front end(LRBG3)=D1(LRBG3)			
		Level	0/NTC			
- :	-1-1-	Mode	UN/SN			
Finai	state	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field	of Application	F-bane EAST, F-bane WEST				
Brief	ing instructions	A commercial train should be used to perform this TC This TC shall be verified at every entry from L0/LNTC to L2 (*) The VBC order may be received twice with the same information valid for the train running direction. The second VBC order is received from another balise group. (**) This step is not relevant if the train runs in Level 0 (***) This step could occur at the same time as step 5				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.21.5. OTH6

	TEST CASE DESCRIPTION							
		Code	Vers	ion	Title			
Test (Case	ОТН6	3	3 VBC		Virtual Balise Cover at exit from L2 to	L0/LNTC.	
Basel	ine applicable	Baseline 3 MR1 (Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)					
Test (case author	Ineco/CEDEX						
Test (Objective(s)	Verify that at the overtual balise cover				here are a temporary balise group re	moving the	
Diagr	am					T		
		Level				L2		
		Mode				FS		
Starti	ng conditions	Train Speed (km.	/h)			NR		
		Additional starting conditi			ns approaching to a Level 2 area and approaching to a L0/LNTC area A VBC has been set by an order read fro			
Sequence of the Test Case		Checkpoints						
Step	Step description	Interfaces Description of who		n of what to be tested at the	OK?			
		DMI (O)						
		DMI (I)						
	At the exit from L2 to L0/LNTC area the EVC receives a VBC order via balise group removing the VBC.(*)	JRU		Q_LIN Packe Q_\ NID	D_BG=BG1 LINK=0 cket 6 D_VBCO=0 UID_VBCMK=N1 UID_C			
		Level		0/NT(2			
Final	atata	Mode		UN/S	N			
rınaı	state	Train Speed (k	m/h)	NR				
		Other parame	ters					
Final	Test Result							
Field	of Application	F-bane EAST, F-l	bane W	/EST				
A commercial train should be used to perform this TC This TC shall be verified at every exit from L2 to L0/LNTC (*) The VBC order may be received twice with the same information valid for the running direction. The second VBC order is received from another balise group.								

	ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration						
Test location						
Date and time (Start/End)						
Names						
Test log reference						
Observations						



2.21.6. OTH8

	TEST CASE DESCRIPTION							
		Code	Version	n Title				
Test Case		OTH8	6		-Virtual Balise Cover. Driver set as VBC os which sends the VBC order.	the balise		
Base	line applicable	Baseline 3 MR1	(SRS 3.4.0) / Basel	line 3 R2 (SRS 3.6.0)			
	case author	Ineco/CEDEX	,	,	,			
Test	Objective(s)	Check that the driver has the opportunity to set as a VBC the balise groups which send the VBC information (Packet 6). In addition it shall be verified that the balise groups which send the virtual balise cover order (Packet 6) also include the information regarding the virtual balise cover marker (Packet 0).						
Diagr	am							
		Level			0/NTC			
C44:		Mode			SB			
Starti	ng conditions	Train Speed (km	n/h)		0			
		Additional starti	ing condit	tions				
Sequ	ence of the Test Case	Checkpoints						
Step	Step description	Interfaces		escriptio terface	on of what to be tested at the	OK?		
	L	DMI (O)						
1	The driver validates or introduces the Driver ID	DMI (I)		The driver validates or introduces the DRIVER ID				
		JRU D		DRIVER_ID				
	The driver enters or revalidates L0/LNTC	DMI (O)						
2		DMI (I) The driver		ne driver	enters L0/LNTC			
		JRU	M_	M_DRIVERACTIONS=34/38				
	The driver sets a Virtual Balise Cover	DMI (O)	'V	'VBC set code'				
		DMI (I)		The driver introduces the VBC code in the VBC set code window				
3		JRU		VIRTUAL BALISE COVER SET BY THE DRIVER NID_VBCMK=N1 NID_C=N2 T_VBC=T1				
		DMI (O)		1_1_1				
		DMI (I)		Driver selects Data Entry Driver enters the train running number				
4	The driver selects train data entry. Train data and train running number is entered or revalidated.	JRU	M_ M_ AC NU	M_DRIVERACTION = 20 M_DRIVERACTION = 21 ADDITIONAL DATA(*)/TRAIN RUNNING NUMBER ENTERED BY THE DRIVER(**) NID_OPERATIONAL				
		DMI (O)						
5	Driver selects START	DMI (I)	Dr	Driver selects "Start"				
		JRU	M_DRIVERACTIO		RACTION = 19			
	UN/SN mode is proposed to the driver.			UN/SN mode is proposed				
6		DMI (I)						
		JRU						
		DMI (O)	UN	UN/SN Icon				
7	The driver acknowledges the entry in	DMI (I)	Th	The driver acknowledges the entry in UN/SN mode				
,	UN/SN mode.	JRU		M_DRIVERACTIONS=4/28 M_MODE=4/13				
8		DMI (O)						



1				T T
		DMI (I)		
	The train starts to run and before entering in the level 2 area the EVC receives a VBC order via balise group setting the VBC.(***)	JRU	NID_C=N2 NID_BG=BG1 Q_LINK=0 Packet 0 NID_VBCMK=N1 Packet 6 Q_VBCO=1 NID_VBCMK=N3 NID_C=N2 T_VBC=T2	
		DMI (O)		
		DMI (I)		
9	The EVC receives via balise group the order to connect to the RBC together with the VBC marker information.	JRU	NID_C=N2 NID_BG=BG2 Packet 0 NID_VBCMK=N3 Packet 42 Q_RBC=1 NID_RBC ≠ 16383	
		DMI (O)	Safe radio connection symbol is displayed	
		DMI (I)		
10	The EVC starts to establish safe radio connection.	JRU	Message 155 Message 32 Message 159 Packet 2(**) Message 129 Message 8 DMI_SYMB_STATUS ST03	
	The EVC receives via balise group a level transition announcement together with the VBC marker information	DMI (O)	Level 2 transition announcement is shown	
		DMI (I)		
11		JRU	NID_C=N2 NID_BG=BG3 Packet 0 NID_VBCMK=N3 Packet 41 D_LEVELTR=D1 M_LEVELTR=3 L_ACKLEVELTR=L1 DMI_SYMB_STATUS LE12	
		DMI (O)	No MA related information is displayed	
		DMI (I)		
12	The EVC receives the MA from the RBC	JRU	Message 3/33 (LRBG1) Packet 15 L_ENDSECTION Packet 21 Packet 27	
	The EVC runs the distance at which the	DMI (O)	Level 2 acknowledgement is displayed	
13		DMI (I)		
	acknowledgement window of the transition to L2 is shown to the driver (****)	JRU	DMI_SYMB_STATUS LE13 Estimated front end(LRBG3) = D1 - L1- L_DOUBTUNDER	
	The driver acknowledges the transition(****)	DMI (O)	Level 2 transition acknowledgement disappears	
14		DMI (I)	Driver acknowledges the level transition	
'	,	JRU	M_DRIVERACTIONS = 8	
15		DMI (O)		
13		DMI (I)		

	The EVC runs the distance "D1" or the balise group with level transition order to L2 is read.	JRU	NID_C=N4 NID_BG=BG4 Packet 0 NID_VBCMK=N3 Packet 41 D_LEVELTR=0/Now M_LEVELTR=3			
		DMI (O)	Level 2 symbol FS symbol Vpermitted in Level 2 is not lower than the last Permitted Speed in LNTC. Level 2 transition announcement disappears			
16	Transition to L2 is performed	DMI (I)				
16	Transition to L2 is performed.	JRU	M_LEVEL = 3 M_MODE = 0 DMI_SYMB_STATUS LE04 DMI_SYMB_STATUS MO11			
		Level	2			
L		Mode	FS			
Final	state	Train Speed (km/h)	NR			
		Other parameters				
Final	Test Result					
Field of Application		F-bane EAST, F-bane WEST				
Briefing instructions		A testing train should be used to perform this TC This TC shall be verified at every entry from L0/LNTC to L2 (*) If the on-board is ETCS Baseline 3 Maintenance Release 1 (**) If the on-board is ETCS Baseline 3 Release 2 (***) The VBC order may be received twice with the same information valid for the train running direction. The second VBC order is received from another balise group. (****) This step does not apply if the train runs in Level 0				

ADDITIONAL TEST CASE REPORTING INFORMATION				
System configuration				
Test location				
Date and time (Start/End)				
Names				
Test log reference				
Observations				



2.22. EOM

2.22.1. EOM1

	TEST CASE DESCRIPTION						
		Code	Version Title				
Test Case		EoM1	2	Mode transition from FS mode to SB mode. CT_027			
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)					
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify the bi-directional exchange of messages between RBC and EVC is recorded in the JRU and the EVC switches from FS mode to SB mode.					
Diag	ram			- In			
		Level		2			
Start	ing conditions	Mode		FS .			
Otari	ing conditions	Train Speed (km/	h)	0			
		Additional startin	ng condi	There is an established communication session betwee the train and the RBC.			
Sequ	ence of the Test Case	Checkpoints					
Step	Step description	Interfaces	Des	scription of what to be tested at the interface OK?			
		DMI (O)					
	The driver closes the desk and the system switches to SB mode.	DMI (I)					
		JRU		MODE=6 LEVEL=3			
	The EVC sends the "End of Mission" message to the RBC.	DMI (O)					
2		DMI (I)					
2		JRU	Pa	ssage 150 acket 0 M_MODE=6			
		DMI (O)					
	The RBC request to terminate the communication session.	DMI (I)					
		JRU	Pa	ssage 24 acket 42 Q_RBC=0			
		DMI (O)					
4	The EVC terminates the communication session and the RBC acknowledges it.	DMI (I)					
		JRU		ssage 156 ssage 39			
		Level	2				
		Mode	SB				
Final	state	Train Speed (km	n/h) 0				
		Other paramete	re l	communication session is established between the C and the RBC			
Final	Test Result						
	of Application	F-bane EAST, F-b	ane WE	ST			
Brief	ing instructions						

ADDITIONAL TEST CASE REPORTING INFORMATION

banedanmark



System configuration	
Test location	
Date and time (Start/End)	
Names	
Test log reference	
Observations	



2.22.2. EOM2

	TEST CASE DESCRIPTION						
		Code	Versio	n Title			
Test Case		EoM2	2	Mode	Mode transition from OS mode to SB mode.		
Base	line applicable	Baseline 3 MR1 (SRS 3.4.0) / Baseline 3 R2 (SRS 3.6.0)					
Test	case author	Ineco/CEDEX					
Test	Objective(s)	Verify the bi-directional exchange of messages between RBC and EVC is recorded in the JRU and the EVC switches from OS mode to SB mode.					
Diag	ram						
		Level			2		
		Mode			os		
Start	ing conditions	Train Speed (kn	n/h)		0		
		Additional start	ting cor		There is an established communication session the train and the RBC.	n between	
Sequ	ence of the Test Case	Checkpoints				-	
Step	Step description	Interfaces	D	escription	on of what to be tested at the interface	OK?	
	The driver closes the desk and the	DMI (O)					
		DMI (I)					
1	system switches to SB mode. The EVC sends the "End of Mission" message to the RBC.			1_MODE: 1_LEVEL 1essage ² Packet 0 M_MOI	=3 50		
		DMI (O)					
	The RBC request to terminate the	DMI (I)					
2	communication session.	JRU		lessage 2 Packet 4: Q_RB0	2		
		DMI (O)					
3	The EVC terminates the communication session and the RBC	DMI (I)					
	acknowledges it.	JRU		lessage : lessage :			
		Level					
Final state		Mode		В			
		Train Speed (km/h) 0					
		Other parame	ters				
Final	Test Result						
Field	of Application	F-bane EAST, F-bane WEST					
Briefing instructions							

ADDITIONAL TEST CASE REPORTING INFORMATION					
System configuration					
Test location					
Date and time (Start/End)					
Names					
Test log reference					
Observations					