

Skapat av (Efternamn, Förnamn, org) Waksjö Claes, PRefst	Dokumentdatum 2023-06-19	Dokumentnummer ERTMS22-0328	Version 5.0
Dokumenttitel TEST RECORD TBD OBU VS. TBD TRACKSIDE ACCORDING TO SWEDISH TRACKSIDE - GENERIC OBU COMPATIBILITY TEST SPECIFICATION			Ärendenummer

Test Leader: NN, phone, e-mail

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History

Version	Date	By	Change	Approved
1.0	2018-08-17	Adam Sjölander		
2.1	2019-01-23	Adam Sjölander	Updated due to changes in test specification version 2.1	
2.2	2019-09-19	M. Mohammadi	Added other observation in summary, deviations chapter and start-end position in each test case information table. Divided OBU and wayside configuration from each other.	
2.3	2019-10-11	M. Mohammadi	Updated due to changes in test specification version 2.2	
2.4	2019-11-25	G. Jonsson	Minor updates	
2.5	-	-	-	
2.6	2020-02-12	M. Mohammadi	Minor updates	
2.7	2020-03-27	G. Jonsson	Update in ch 1.2.2, added TC_BL3_915, ..._916 and ..._917	
2.8	2020-03-29	G. Boeke	Updated due to changes in test specification version 2.4 Modified test cases (minor/clarifications): *_103, *_105, *_210, *_509, *_808, *_908, *_912, *_914 Modified test cases (technical): *_108, *_305, *_603, *_702, *_714, *_718, *_719, *_905, *_907 Added test case: *_915, *_916, *_917, *_211, *_722, *_723 Deleted test case *_404	
2.9	2020-05-14	G. Jonsson	Corr of chapter numbering for TC_BL3_211	
3.0	2020-06-17	G. Boeke	Update with an added description on the meaning of OK/NOK	
	2020-10-23	M.Mohammadi	Tables aligned with Testspec v2.4.2	
4.0	2021-02-25	G. Jonsson	Updated according to "Minnesanteckningar Upplägg testrecord" v3.0	
4.1	2021-05-21	G. Jonsson	Added column for date & time in ch 2.2	
4.2	2021-06-24	B. Truedsson	Added test case: *_608 Modified tables to be aligned with IOP Testspec v2.4.4	
4.3	2022-03-03	M. Mohammadi	Updated due to changes in test specification version 2.5	
4.4	2022-05-13	B. Truedsson	Updated with document number	

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5.0	2023-06-19	C. Waksjö	<p>Updated according Test Spec ver 3.0</p> <p>New test cases: *_410, *_411.</p> <p>Changed procedures in test cases: *_701, *_702, *_703, *_1010</p> <p>Changed title and/or description in test cases: *_108, *_206, *_501, *_502, *_503, *_601, *_605, *_707, *_805, *_902, *_903, *_904, *_911, *_915, *_917, *_918, *_1003, *_1004, *_1007, *_1009.</p> <p>Test summary table 2.1.2 updated accordingly.</p>

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1. INTRODUCTION

Text sections marked with yellow in chapter 1 (this text), chapter 1.4, chapter 2.1.1 and chapter 3 are intended as instructions, and shall be cut out while finalizing a test record.

1.1. Purpose of the document

This document contains the test results from the conducted compatibility tests according to ref [1] between the test objects according to chapter 1.2. This document is referred to as "APPENDIX A" in the test specification, see ref [1].

1.2. Test object and test environment

1.2.1. Wayside configurations

The trackside system under test is the supplier's system product aiming to comply with Trafikverket's requirements for a homologated **ERTMS trackside system for Level 2** according to ERTMS baseline 3, v.3.6.0. This is specified by Trafikverket through ref [2].

The current trackside supplier is **TBD** whose system is referred to as **TBD**. In this lab set-up it comprises three main blocks: RBC, Interlocking and CTC (external equipment such as object controllers and balises are not included).

Object	Product implementation	Version	Comment
Wayside system			
Track yard			
TCL			
RBC			
Interlocking			
CTC			
GSM-R connection (Trackside)			

Online confirmation of executed ERTMS Baseline:

Current M_VERSION (checked through Message 32 in log)	Corresponding Baseline
TBD	TBD

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1.2.2. OBU configurations

The current onboard supplier is **TBD** whose system is referred to as **TBD**.

Object	Product implementation	Version	Comment
ETCS onboard			NID_ENGINE = xxx
STM			
OBU Adapter			
GSM-R connection (OBU)	Update this info ! Baud rate = 4800 Timer T1 = 1380ms		
IP connection TCL-OBU			

1.2.3. Test environment

The test set-up for the trackside system was hosted in Trafikverket laboratory in **TBD**. This is described in ref [3].

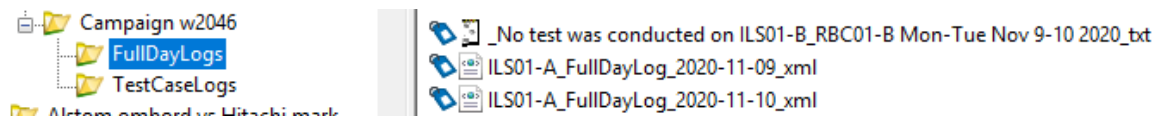
The test set-up for the onboard system was hosted in **TBD** laboratory in **TBD**.

1.3. Test logs

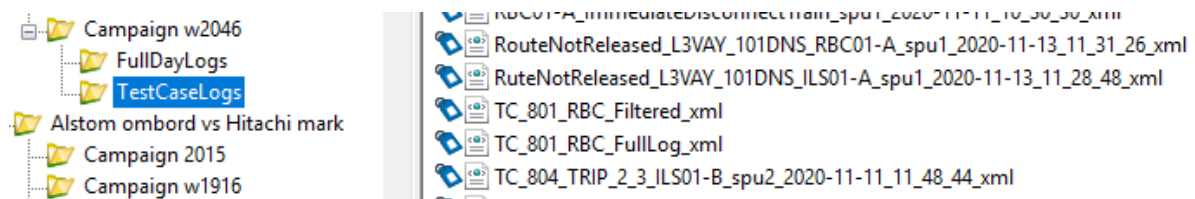
The execution of the tests are recorded by default both in the trackside and the onboard environment.

Logs and **TBD** are stored in IDA, Trafikverket: **TBD**

Full (unfiltered) logs shall be taken after each test day, for all ILS & RBC nodes, and stored in a IDA subdirectory for the campaign. Naming shall be descriptive, example:



For testcases which results are treated as non-conformant, separate logs shall be taken be stored in another IDA subdirectory. Naming shall be descriptive, example:



The above is only applicable to TrV-lab @Alstom. How to take logs in TrV-lab @Hitachi lab need be sorted out .

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1.4. References

Ref.	Reference number	Version	Title of the document
[1]	ERTMS19-0593	3.0	Swedish Trackside – Generic OBU Compatibility Test specification
[2]	ERTMS2020-0117	3.1	Release note, Functional product 5.2.1 TRV-ERTMS-L2 (collection of all the system specifications that in a high level functional oriented way describes Trafikverket's signaling system ERTMS L2) Note: The release note is not frozen at the moment.??
[3]	TBD	TBD	Description of test environment in [supplier] lab.

1.5. Acronyms and definitions

Term	Descriptions
TS	Test Specification
OBU	On Board Unit
RBC	Radio Block Centre
IL	Inter Locking
CTC	Centralised Traffic Control
Trv	Trafikverket
VPN	Virtual Private Network

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2. SUMMARY

2.1. Tests according to IOP Test Specification

The following table summarizes the result from the testing performed during this test campaign.

Note that the status of test equipment and test spec is set as “NOK” even due to small deviations, and in most cases this has not obstructed the execution of the test cases and the intended validation. Hence, in spite of these “NOKs”, the compatibility validation is still obtained in most of the cases. In a few cases though, the test equipment (and also the lack of needed preconditions in the track yard) obstructed the test execution.

A NOK in the “compatibility” column implies that one or more steps in a test case did not achieve the expected result specified in the test specification (see ref. [1]). The reason why the expected result was not observed is often not apparent and therefore may need analysis by the OBU or wayside supplier after the tests. The analysis may conclude that there is an error in the *system under test* or in the test conditions (equipment, site data, testers actions etc.) or that the test specification needs a clarification or correction.

A NOK in the “Test equipment status” column implies that the test environment (test yard or simulators etc.) did not behave as expected for one or more steps in a test case.

A NOK in the “test spec status” column implies that there are flaws/faults in the test specification for one or more test steps or their respective expected result. These flaws are obvious to the test leader already at the moment of issuing the test record and therefore does not require any further action by the supplier of the *system under test*.

To get a deeper understanding of the “NOKs” the reader should check the comments of the dedicated test case chapter.

In the table below, Test case rows which are **greyed out** are not included in the scope of current campaign. These exclusions may be caused because of limitations in the test yard, or other similar reasons.

2.1.1. Test Scope Remarks

Another reason for cut-out of test cases might be that test cases been executed in an earlier test campaign, and do not need to be executed another time.

If such cut-out have been done, it shall be described in this sub-chapter and reference(s) to the earlier test record(s) shall be included here.

A reference to earlier test campaigns might also be mentioned in “comment” field for each test case.

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2.1.2. Test Summary table

Test case	Executed YES/NO	Compatibility OK/NOK	Test equipment status OK/NOK	Test spec status OK/NOK	Comment
TC_BL3_101					
TC_BL3_102					
TC_BL3_103					
TC_BL3_104					
TC_BL3_105					
TC_BL3_106					
TC_BL3_107					
TC_BL3_108					
TC_BL3_109					
TC_BL3_110					
TC_BL3_111					
TC_BL3_112					
TC_BL3_201					
TC_BL3_202					
TC_BL3_203					
TC_BL3_204					
TC_BL3_205					
TC_BL3_206					
TC_BL3_207					

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Test case	Executed YES/NO	Compatibility OK/NOK	Test equipment status OK/NOK	Test spec status OK/NOK	Comment
TC_BL3_208					
TC_BL3_209					
TC_BL3_210					
TC_BL3_211					
TC_BL3_301					
TC_BL3_302					
TC_BL3_303					
TC_BL3_304					
TC_BL3_305					
TC_BL3_306					
TC_BL3_401					
TC_BL3_402					
TC_BL3_403					
TC_BL3_404					INTENTIONALLY DELETED
TC_BL3_405					
TC_BL3_406					
TC_BL3_407					
TC_BL3_408					
TC_BL3_409					
TC_BL3_410					
TC_BL3_411					

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Test case	Executed YES/NO	Compatibility OK/NOK	Test equipment status OK/NOK	Test spec status OK/NOK	Comment
TC_BL3_501					
TC_BL3_502					
TC_BL3_503					
TC_BL3_504					
TC_BL3_505					
TC_BL3_506					
TC_BL3_507					
TC_BL3_508					
TC_BL3_509					
TC_BL3_601					
TC_BL3_602					
TC_BL3_603					
TC_BL3_604					
TC_BL3_605					
TC_BL3_606					
TC_BL3_607					
TC_BL3_608					
TC_BL3_701					
TC_BL3_702					
TC_BL3_703					
TC_BL3_704					

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Test case	Executed YES/NO	Compatibility OK/NOK	Test equipment status OK/NOK	Test spec status OK/NOK	Comment
TC_BL3_705					
TC_BL3_706					
TC_BL3_707					
TC_BL3_708					
TC_BL3_709					
TC_BL3_710					
TC_BL3_711					
TC_BL3_712					
TC_BL3_713					
TC_BL3_714					
TC_BL3_715					
TC_BL3_716					
TC_BL3_717					
TC_BL3_718					
TC_BL3_719					
TC_BL3_720					
TC_BL3_721					
TC_BL3_722					
TC_BL3_723					
TC_BL3_801					

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Test case	Executed YES/NO	Compatibility OK/NOK	Test equipment status OK/NOK	Test spec status OK/NOK	Comment
TC_BL3_802					
TC_BL3_803					
TC_BL3_804					
TC_BL3_805					
TC_BL3_806					
TC_BL3_807					
TC_BL3_808					
TC_BL3_809					
TC_BL3_901					
TC_BL3_902					
TC_BL3_903					
TC_BL3_904					
TC_BL3_905					
TC_BL3_906					
TC_BL3_907					
TC_BL3_908					
TC_BL3_909					
TC_BL3_910					
TC_BL3_911					
TC_BL3_912					

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Test case	Executed YES/NO	Compatibility OK/NOK	Test equipment status OK/NOK	Test spec status OK/NOK	Comment
TC_BL3_913					
TC_BL3_914					
TC_BL3_915					
TC_BL3_916					
TC_BL3_917					
TC_BL3_918					
TC_BL3_919					
TC_BL3_1001					
TC_BL3_1002					
TC_BL3_1003					
TC_BL3_1004					
TC_BL3_1005					
TC_BL3_1006					
TC_BL3_1007					
TC_BL3_1008					
TC_BL3_1009					
TC_BL3_1010					

2.2. Other observation

The following table summarizes deviations that were observed during testing which were not directly related with the execution of a test case and its expected results. Still, the deviation is considered important and therefore needs further attention.

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OtherObs ID	Date & time	Related Test Case	OBU equipment OK/NOK	Test equipment OK/NOK	Test specification OK/NOK	Detailed description, position in test yard etc.

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3. TEST SPECIFICATION

In chapter 3, level-3 subchapters shall be kept even if the test case not have been executed! This shall be done in order to keep the subchapter numbering in line with the test case numbering.

However, the tables shall be deleted, just keeping the chapter headline.

3.1. START-UP SCENARIOS

3.1.1. TC_BL3_101 – MA IN FS (ROLL-IN CLEAR)

Brief description	Test of a Start-of-Mission leading to a mode transition SB->FS
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

3.1.2. TC_BL3_102 – MA OS-FS AND TAF GRANTED

Brief description	Test of a Start-of-Mission leading to a mode transition SB-> OS -> FS, via granting of TAF
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

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Step	Result	Reference or comment
8		

3.1.3. TC_BL3_103 – MA OS-FS AND TAF NOT GRANTED

Brief description	Test of a Start-of-Mission leading to a mode transition SB-> OS -> FS, not via TAF granting
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

3.1.4. TC_BL3_104 – MA OS-FS (TRAIN OUT OF BERTH SECTION)

Brief description	Test of a Start-of-Mission with train moving in SR into a signal berth, then being upgraded to OS.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		

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Step	Result	Reference or comment
9		

3.1.5. TC_BL3_105 – ENTERING SIGNAL SECTION WITHOUT TRAIN ROUTE LOCKED

Brief description	Test of a Start-of-Mission with a train reporting KNOWN position and moving by use of the Override procedure.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

3.1.6. TC_BL3_106 – POSITION APPROXIMATION OF TRAIN WITH UNKNOWN POSITION

Brief description	Test of a Start-of-Mission with a train reporting UNKNOWN position. Handling of “Stop if in SR” with and without an SR Authorization.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
0		
1		
2		
3		
4		

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Step	Result	Reference or comment
5		
6		
7		
8		
9		
10		

3.1.7. TC_BL3_107 – MA OS-FS TO A TRAIN WITH INVALID POSITION, ROUTE SET

Brief description	Test of a Start-of-Mission with a train reporting INVALID position. Handling of SR Authorization with long distance.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
0		
1		
2		
3		
4		
5		
6		
7		

3.1.8. TC_BL3_108 – MA OS-FS TO A TRAIN WITH INVALID POSITION - INFLUENCE BY CMD

Brief description	Test of a Start-of-Mission with a train reporting INVALID position. Handling of SR Authorization with short distance. Moreover this test case has optional steps (marked O:x) for verification of the influence of a CMD unit.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
O:8		
O:9		
O:10		
O:11		
O:12		
O:13		
O:14		
O:15		

3.1.9. TC_BL3_109 – START WITH SHIFTED MA

Brief description	Test of a Start-of-Mission with a train having “shifted location”.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		

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3.1.10. TC_BL3_110 - START WTH ANTENNA OVER BALISE

Brief description	To verify that the continued mission is not disturbed by a Start-of-Mission over a balise group.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		

3.1.11. TC_BL3_111 – DRIVER SELECTS “START” TWICE ON DMI

Brief description	Test of a potential deadlock caused by a repeated pressing of “START” on DMI. The purpose is to see how the train reacts and to develop a workaround procedure if necessary.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
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7		
8		
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11		
12		

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3.1.12. TC_BL3_112 – START-OF-MISSION AFTER CAB SWITCH

Brief description	To test that change of cab is correctly handled, with regard to the reporting of train front position.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		

3.2. NORMAL TRAIN OPERATION

3.2.1. TC_BL3_201 – NOMINAL RUN ON A LONG LINE IN BOTH DIRECTIONS

Brief description	To test nominal train operation over a long line, with several stations (at least 8-10). This will improve confidence in compatibility with railway lines engineered according to Trafikverkets rules and principles.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
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7		
8		
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10		
11		
12		

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Step	Result	Reference or comment
13		

3.2.2. TC_BL3_202 – MA EXTENSION WITH FRONT PROTECTION OCCUPIED

Brief description	Test of handling of OS profile starting almost at the end of an MA.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		

3.2.3. TC_BL3_203 – CHANGING OF TRAIN DATA IN FS MODE, ACCEPTED BY RBC

Brief description	Test of train data change in FS mode, causing shortening of MA
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

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3.2.4. TC_BL3_204 – CHANGE OF TRAIN RUNNING NUMBER FROM TRACKSIDE

Brief description	Test of the possibility for the RBC to change the train's Train Running Number.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

3.2.5. TC_BL3_205 – TEXT MESSAGE TO TRAIN

Brief description	Test of the possibility for the Dispatcher/RBC to send a text message to the train, including Swedish characters.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

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3.2.6. TC_BL3_206 – TEXT MESSAGES ABOUT “INDICATION OF REAR END FREE” – LONG TRAIN

Brief description	To test a standardized use of text messages issued from RBC to support the driver to perform an optimized brake to standstill at a train meeting. It is verified that the text display criterions are properly handled since this will guide the driver about when to stop the train.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		

3.2.7. TC_BL3_207 – TEXT MESSAGES ABOUT “INDICATION OF REAR END FREE” – SHORT TRAIN

Brief description	This test case is a complement to the previous test case, with a slightly different order of events.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
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3.2.8. TC_BL3_208 – TEXT MESSAGE TO TRAIN - WITH ACKNOWLEDGE TO TRACKSIDE

Brief description	To test that OBU can handle a text message requiring dispatcher's acknowledged routed back to the RBC
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

3.2.9. TC_BL3_209 – GEOGRAPHICAL POSITIONING

Brief description	To test that OBU is able to handle geographical positioning information (packet 79)
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
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5		
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7		

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3.2.10. TC_BL3_210 – SLEEPING

Brief description	To test mode transitions to and from Sleeping mode (SL)
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		

3.2.11. TC_BL3_211 – NON-LEADING

Brief description	To test Non-Leading mode in nominal train operation.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

3.3. MANAGEMENT OF TEMPORARY SPEED RESTRICTIONS

3.3.1. TC_BL3_301 – SENDING AND REVOKING A TSR TO/FROM THE TRAIN

Brief description	To test the basic function of sending a TSR and revoking a TSR to a train in FS.
Test leader (responsible)	
Date & time	

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Start-end position	
General comment	

Step	Result	Reference or comment
1		
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14		

3.3.2. TC_BL3_302 – TSR VALID FOR THE FULL LENGTH OF THE TRAIN

Brief description	To test that OBU handles the train length delay property of the TSR as expected.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
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10		
11		
12		

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Step	Result	Reference or comment
13		
14		
15		

3.3.3. TC_BL3_303 – MULTIPLE TSRs SUPERVISED BY OBU

Brief description	To test that OBU can handle multiple TSR:s properly
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
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7		
8		
9		

3.3.4. TC_BL3_304 – TSR HANDLING IN A “SHIFTED LOCATION” SITUATION

Brief description	To test that the OBU can handle TSR:s while in a “shifted location situation”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		

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Step	Result	Reference or comment
7		

3.3.5. TC_BL3_305 – TSR “UNDER THE TRAIN”

Brief description	To test that OBU correctly supervises a TSR with a start location behind the train
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

3.3.6. TC_BL3_306 –PREMATURE ACCELERATION WHEN ENTERING FROM A PSA

Brief description	To test the inter-action between OBU and RBC when obtaining and supervising an MA containing a speed reduction.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

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3.4. TRACK DESCRIPTION AND MODE PROFILES

3.4.1. TC_BL3_401 – PERMITTED SPEED DEPENDING ON CANT DEFICIENCY TRAIN CATEGORY

Brief description	To test that train categories are managed by OBU as expected, both regarding train data entry and deduction from SSP.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		

3.4.2. TC_BL3_402 – PERMITTED SPEED DEPENDING ON AXLE LOAD CATEGORY

Brief description	To test that axle load categories are managed by OBU as expected, both regarding train data entry and deduction from axle load speed profile.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		

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3.4.3. TC_BL3_403 – TRACK CONDITION: POWERLESS SECTION

Brief description	To test scenario with track condition of type “powerless section”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

3.4.4. TC_BL3_404 – INTENTIONALLY DELETED

3.4.5. TC_BL3_405 – TRACK CONDITION: CHANGE OF TRACTION SYSTEM

Brief description	To test scenario with track condition of type “change of traction system”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		

3.4.6. TC_BL3_406 – TRACK CONDITION: CHANGE OF ALLOWED CURRENT CONSUMPTION

Brief description	To test scenario with track condition of type “change of allowed current consumption”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

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Step	Result	Reference or comment
1		
2		

3.4.7. TC_BL3_407 – ROUTE SUITABILITY

Brief description	To test handling of the “Route Suitability” condition with regard to traction system “not electrified”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

3.4.8. TC_BL3_408 – REVERSING

Brief description	To test handling of reversing areas.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
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9		
10		
11		

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Step	Result	Reference or comment
12		
13		
14		
15		
16		

3.4.9. TC_BL3_409 – TWO OS PROFILES IN THE SAME MA

Brief description	To test that two OS profiles in the same MA are properly handled by OBU, with special attention to the case where next OS ack distance starts while the train is still within the 1 st OS profile.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
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3.4.10. TC_BL3_410 – MANAGING OF BIG METAL MASSES

Brief description	To test that the basic function related to managing Big Metal Masses (BMM) is in place in the OBU, thus allowing for this to be engineered at trackside as needed.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

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Step	Result	Reference or comment
1		
2		
3		

3.4.11. TC_BL3_411 – BRAKE APPLICATION DUE TO CSM WITHIN A TSM SITUATION

Brief description	To test that a brake application is not released too soon while being supervised by CSM within a TSM situation when passing the permitted speed (which is under the release speed). This test case is developed due to hazard H0123 in Subset-113.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		

3.5. EMERGENCY STOP AND MA SHORTENING

3.5.1. TC_BL3_501 – CoSMA, WITH NEW EOA CLOSE TO TRAIN FRONT /GRANTED

Brief description	To test Co-operative MA shortening, with proposed EOA rather close to train front (granting scenario)
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		

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Step	Result	Reference or comment
4		

3.5.2. TC_BL3_502 – CoSMA, FURTHER BEYOND THE TRAIN /REJECTED

Brief description	To test Co-operative MA shortening (CoSMA), with proposed MA further beyond train front under a reject condition. It is verified that any attached packet in the CoSMA message is also rejected.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
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3		
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9		
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3.5.3. TC_BL3_503 – CoSMA, WITH NEW EOA DIRECTLY AT TRAIN FRONT /GRANTED

Brief description	To test Co-operative MA shortening, with proposed EOA directly at train front, position calculated by RBC as a result of a train route being released under the train.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		

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Step	Result	Reference or comment
4		
5		
6		

3.5.4. TC_BL3_504 – CES ACCEPTED BY TRAIN

Brief description	To test conditional emergency stop (CES), causing an acceptance and EOA update situation.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
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11		
12		
13		
14		
15		
16		
17		

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3.5.5. TC_BL3_505 – CES REJECTED BY TRAIN, WHILE ENTERING A LOCKED TRAIN ROUTE

Brief description	To test conditional emergency stop (CES), causing a reject situation. The used scenario is a train with long FS MA passing onto the subsequent train route. The RBC performs a safety check for legitimate train route release by use of the CES method.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

3.5.6. TC_BL3_506 – UES SCENARIO, WITH REVOKATION FROM RBC

Brief description	To test the basic function of sending an unconditional emergency stop (UES) to OBU, then to recover normal train operation by producing of a new MA.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

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3.5.7. TC_BL3_507 – UES SCENARIO, WITH OVERRIDE ACTION BY DRIVER

Brief description	To test that an emergency stop situation (created with UES from RBC) can be overridden by the driver.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
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7		
8		
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11		
12		

3.5.8. TC_BL3_508 - MA SHORTENING AT SIGNAL IN FRONT OF A RUNNING TRAIN

Brief description	To test that a Shortening of MA situation is correctly handled by OBU.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

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3.5.9. TC_BL3_509 – MA SHORTERNING TO A TRAIN AT STANDSTILL WITH SHIFTED LOCATION

Brief description	To test that a train with shifted location correctly handles a shortened MA. This is the ordinary method applied towards a train having shifted location when an authorized train route need to be released. The scenario used is: Train is located in a station. It exits beyond the station border, then changes the orientation. While having shifted location it gets an MA for entrance to the station, then the MA is shortened (due to train route release), and then extended again (due to new train route)
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

3.6. SHUNTING

3.6.1. TC_BL3_601 – SHUNTING REQUEST FROM SB/SR MODE WITH UNKNOWN/INVALID POSITION

Brief description	To test that an OBU with unknown or invalid position can be given “shunting granted”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		

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Step	Result	Reference or comment
4		
5		
6		
7		
8		
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10		

3.6.2. TC_BL3_602 – SHUNTING ACROSS "DANGER FOR SHUNTING"

Brief description	To test that OBU handles the message "Danger for shunting" as expected. Additionally, as a variation the mode transition to SH is done from OS mode.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		

3.6.3. TC_BL3_603 – SHUNTING ORDERED FROM TRACKSIDE, (FROM FS AND OS)

Brief description	To test that the OBU is able to switch to shunting mode based on a mode profile given by trackside
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

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Step	Result	Reference or comment
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		

3.6.4. TC_BL3_604 – SHUNTING CONDITIONED BY TRACKSIDE

Brief description	<p>To test that the OBU can handle that a shunting request is refused by the RBC.</p> <p>This test case addresses the situation when the RBC applies a trackside condition related to active temporary shunting area to grant a shunting request. This is typically used on the line between stations.</p>
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		

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Step	Result	Reference or comment
15		

3.6.5. TC_BL3_605 – PASSIVE SHUNTING

Brief description	To test the basic passive shunting scenario for a single engine.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

3.6.6. TC_BL3_606 – UPDATE OF NATIONAL VALUES AT ENTRY TO SHUNTING

Brief description	To test that an OBU updates the national values at entry to shunting, based on variable “now”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		

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Step	Result	Reference or comment
9		
10		
11		

3.6.7. TC_BL3_607 – SHUNTING REQUEST WITH REF. LOCATION AHEAD OF TRAIN FRONT

Brief description	To test that the OBU properly reports its orientation so that shunting authorization can be achieved consistently between trackside and onboard.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

3.6.8. TC_BL3_608 – STOP OF PASSIVE SHUNTING AT DESK OPENING

Brief description	To test the consequence of message “stop SH on desk opening” from bg.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		

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Step	Result	Reference or comment
6a		
6b		
7a		
7b		
8		

3.7. RBC/RBC and LEVEL TRANSITIONS

3.7.1. TC_BL3_701 – RBC -> RBC TRANSITION – NOMINAL CASE

Brief description	To test the capability of running across an RBC/RBC border according to the normal procedure, i.e. maintaining simultaneous communication with two RBC:s.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

a) Hand-over at full speed

Step	Result	Reference or comment
1		
2		
3		
4		

b) Hand-over at slow speed

Step	Result	Reference or comment
1		
2		
3		
4		

c) Opposite direction, hand-over at full speed

Step	Result	Reference or comment
1		
2		
3		
4		

d) Opposite direction, hand-over at slow speed

Step	Result	Reference or comment
1		
2		

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Step	Result	Reference or comment
3		
4		

3.7.2. TC_BL3_702 – RBC -> RBC TRANSITION - MODEM FAILURE

Brief description	To test the capability of running across an RBC/RBC border when one of the modems is out of control.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

a) Hand-over at full speed

Step	Result	Reference or comment
1		
2		
3		
4		
5		

b) Hand-over at slow speed

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

c) Opposite direction, hand-over at full speed

Step	Result	Reference or comment
1		
2		
3		
4		
5		

d) Opposite direction, hand-over at slow speed

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Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

3.7.3. TC_BL3_703 – TRANSITION SYSTEM H (ATC) -> E2, IN FS-MODE

Brief description	To test the basic transition scenario from Level NTC to Level 2, train in FS mode. Note: this test case shall be executed at different speeds, e.g. low speed (30 km/h) and full line speed
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

a) Transition at full speed

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

b) Transition at slow speed

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

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3.7.4. TC_BL3_704 – TRANSITION SYSTEM H (ATC) -> E2, IN OS-MODE

Brief description	To test transition from Level NTC to Level 2, with train in OS mode.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

3.7.5. TC_BL3_705 – TRANSITION SYSTEM H (ATC) -> E2, IN FS-MODE WITH TSR

Brief description	To test transition from Level NTC to Level 2, and there is an active TSR in the MA.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
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8		
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10		
11		

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Step	Result	Reference or comment
12		

3.7.6. TC_BL3_706 – TRANSITION SYSTEM H (ATC) -> E2, WITH LOSS OF CONNECTION

Brief description	To test transition from Level NTC to Level 2, combined with a loss of connection provoking an MA section timeout within the OBU.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

3.7.7. TC_BL3_707 – TRANSITION SYSTEM H (ATC) -> E2, USING TRACK AHEAD FREE

Brief description	To test transition from Level NTC to Level 2, where track ahead free is to be confirmed by the train (P9), triggered by P90 programmed in a balise group.
Test leader (responsible)	
Date & time	
Start-end position	
General comments	

Step	Result	Reference or comment
1		
2		

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Step	Result	Reference or comment
3		
4		
5		
6		
7		

3.7.8. TC_BL3_708 – TRANSITION E2 -> SYSTEM M (ATC/TAM), IN FS

Brief description	To test the basic transition scenario from Level 2 to Level NTC, with MA using V_EMA, applicable towards “System M”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

3.7.9. TC_BL3_709 – TRANSITION E2 -> SYSTEM H (ATC), IN FS

Brief description	To test the basic transition scenario from Level 2 to Level NTC, with MA extending into the NTC area, applicable towards “System H”
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		

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Step	Result	Reference or comment
4		
5		
6		
7		
8		

3.7.10. TC_BL3_710 – TRANSITION E2 -> SYSTEM H (ATC), from standstill, EXIT SIGNAL “CLEAR”

Brief description	To test a transition scenario from Level 2 to Level NTC where the train starts at the border, implying the LTA information is sent from the RBC instead of a balise group.
Test leader (responsible)	
Date & time	
Start-end position	
General comments	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

3.7.11. TC_BL3_711 – TRANSITION E2 -> SYSTEM H (ATC), IN OS

Brief description	To test a transition scenario from Level 2 to Level NTC, with train in OS mode
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		

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Step	Result	Reference or comment
4		
5		
6		
7		
8		
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3.7.12. TC_BL3_712 – TRANSITION E2 -> SYSTEM H (ATC), IN SR

Brief description	To test a transition scenario from Level 2 to Level NTC, with train in SR mode
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

3.7.13. TC_BL3_713 – TRANSITION L2 -> L0, ENDING WITH CLOSING OF CAB

Brief description	To test a transition scenario from Level 2 to Level 0, applicable for a train moving out to a permanent shunting area (PSA) parameterized as a L0 area. Operation ends with closing of cab.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

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Step	Result	Reference or comment
1		
2		
3		
4		
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7		

3.7.14. TC_BL3_714 – TRANSITION L2 -> L0, ENDING WITH “EXIT SHUNTING”

Brief description	To test a transition scenario from Level 2 to Level 0, applicable for a train moving out to a PSA parameterized as a Lo area. Operation ends with driver’s action “Exit shunting”.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		

3.7.15. TC_BL3_715 – TRANSITION L0 -> L1 -> L2, SLOW RADIO CONNECTION

Brief description	To test a transition scenario from Level 0 to Level 2 potentially via Level 1, applicable for a train coming from a PSA area. The intermediate Level 1 step is necessary to achieve a fast transition due to short access track. This variant exposes the case of “slow radio connection” implying the Level 1 transition is executed.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

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Step	Result	Reference or comment
1		
2		
3		
4		
5		

3.7.16. TC_BL3_716 – TRANSITION L0 -> L1 -> L2, FAST RADIO CONNECTION

Brief description	To test a transition scenario from Level 0 to Level 2 potentially via Level 1, applicable for a train coming from a PSA area. This variant exposes the case of “fast radio connection” implying the Level 1 transition is not executed.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		

3.7.17. TC_BL3_717 – TRANSITION L0 -> L1 -> L2, FAILED RADIO CONNECTION

Brief description	To test a transition scenario from Level 0 to Level 2 potentially via Level 1, applicable for a train coming from a PSA area. This variant exposes the case of failed radio connection, causing MA end section timeout in OBU.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

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Step	Result	Reference or comment
2		
3		
4		
5		
6		
7		
8		

3.7.18. TC_BL3_718 – TRANSITION L0 -> L1 -> L2, PASSING OF A STOP SIGNAL

Brief description	To test a transition scenario from Level 0 to Level 2 potentially via Level 1, applicable for a train coming from a PSA area. This variant exposes the case of a train exiting the PSA without train route being locked, thus causing a brake intervention caused by a “signal in stop (V_MAIN=0).
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		

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3.7.19. TC_BL3_719 – TRANSITION L0 -> L1 -> L2, ENTRY IN SHUNTING

Brief description	To test a transition scenario from Level 0 to Level 2 potentially via Level 1, applicable for a train coming from a PSA area. This variant exposes the case of a train exiting the PSA in shunting (by mistake)
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		

3.7.20. TC_BL3_720 – MANUAL LEVEL CHANGE TO LEVEL NTC (ATC STM)

Brief description	To test that OBU correctly manages the conditional level transition order programmed in all balise groups in level 2 areas.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		

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Step	Result	Reference or comment
9		
10		

3.7.21. TC_BL3_721 – LEVEL TRANSITION, IN SLEEPING MODE

Brief description	To test that a traction unit in sleeping mode executes a level transition correctly
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		

3.7.1. TC_BL3_722 – TRANSITION SYSTEM H (ATC) -> E2, IN NL-MODE

Brief description	To test the basic transition scenario from Level NTC to Level 2, train in NL mode.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

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3.7.1. TC_BL3_723 – TRANSITION E2 -> SYSTEM H (ATC), IN NL-MODE

Brief description	To test the basic transition scenario from Level 2 to Level NTC, in NL mode
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
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7		
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11		

3.8. MANAGEMENT OF LEVEL CROSSINGS (LX)

3.8.1. TC_BL3_801 – LX – NOMINAL CASE

Brief description	To test the normal scenario of passing a level crossing, using P88.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		

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Step	Result	Reference or comment
6		
7		

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3.8.2. TC_BL3_802 – LX – STATUS LOST AFTER “PROTECTED”

Brief description	To test approaching of a level crossing that becomes out of control when barriers are already down; the event causing a CES/P88 event.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

3.8.3. TC_BL3_803 – LX OUT OF CONTROL – MA EXTENSION AT PASSAGE

Brief description	To test approaching of a level crossing which does never become protected. Moreover to have the MA extended and verify that the LX status “not protected” is not “forgotten” by the train.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		

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3.8.4. TC_BL3_804 – LX - MANAGEMENT OF CONSECUTIVE LEVEL CROSSINGS

Brief description	To test multiple level crossings communicated to the train closely enough to have their barriers closing partly at the same time, i.e. to verify that the OBU is able to supervise more than one LX object at a time.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		
9		

3.8.5. TC_BL3_805 – LX CLOSELY AHEAD OF A TRAIN DOING START-OF-MISSION

Brief description	To test the scenario of the train starting up in front of a level crossing, e.g. located inside the berth section of a train route. Focus is on appearance of LX symbol on the DMI.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		
6		
7		
8		

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Step	Result	Reference or comment
9		

3.8.6. TC_BL3_806 – LX TYPE *PREPARED* – NOMINAL CASE

Brief description	To test the normal scenario of passing a level crossing of type <i>Prepared</i> , using time limited MA.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
3		
4		
5		

3.8.7. TC_BL3_807 – LX TYPE *PREPARED* – PROTECTED STATUS IS LOST

Brief description	To test approaching of a level crossing of type <i>prepared</i> that becomes out of control when barriers are already down (status change: good condition -> bad condition); the event causing a CES/P88 event.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
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3.8.8. TC_BL3_808 – LX TYPE *PREPARED* – PROTECTED STATUS NOT OBTAINED

Brief description	To test approaching of a level crossing of type <i>prepared</i> that is continuously out of control, provoking an MA section timeout in OBU.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
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3.8.1. TC_BL3_809 – LX FOR PLATFORM BARRIERS – NOMINAL CASE

Brief description	To test the nominal scenario of passage of an LX configured as a PBLX (Platform Barrier LX). This implies inter-action with RBC using text message acknowledgements for delaying and/or closing the barriers.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
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Step	Result	Reference or comment
9		

3.9. OTHER DEGRADED SITUATIONS

3.9.1. TC_BL3_901 – SR AUTHORISATION, TRAIN ENTERS INTENDED TRACK

Brief description	To test a basic scenario using SR Authorization with balise list. The scenario applied is a train that enters a track which is locked by the dispatcher as an SR train route.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.2. TC_BL3_902 – SR AUTHORISATION, TRAIN ENTERS WRONG TRACK

Brief description	To test a scenario using SR Authorization with balise list, provoking the train to enter the wrong track, thus causing a brake intervention due to balise supervision. Moreover, to see that an SR authorisation can be renewed.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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Step	Result	Reference or comment
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3.9.3. TC_BL3_903 – LOSS OF RADIO → RECONNECTION BEFORE T_NVCONTACT EXPIRES

Brief description	To test loss of connection for a time shorter than T_NVCONTACT (“no action” expected).
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.4. TC_BL3_904 – LOSS OF RADIO → RECONNECTION AFTER T_NVCONTACT EXPIRES

Brief description	To test loss of connection for a time longer than T_NVCONTACT (brake intervention expected). Subsequently, at re-connection it must be possible to resume normal communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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Step	Result	Reference or comment
7		

3.9.5. TC_BL3_905 – LOSS OF COMMUNICATION SESSION → NEW COMM. SESSION

Brief description	To test loss of connection for a time longer than 5 min (connection is expected to be closed). Subsequently it must be possible to establish a new connection.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.6. TC_BL3_906 – CHANGE OF TRAIN DATA WHILE RADIO CONNECTION LOST

Brief description	To test the OBU behavior in case train data is changed while there is a loss of connection with RBC (repetition of train data message is expected).
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
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Step	Result	Reference or comment
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3.9.7. TC_BL3_907 – LOSS OF ONE BALISE IN A BG WITH DUPLICATED BALISES

Brief description	To test the OBU behavior at loss of one single balise in a bg with duplicated balises. The OBU is expected to execute the data read from the duplicated balise if linking is established.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.8. TC_BL3_908 – SYSTEM FAILURE IN OBU

Brief description	To test the OBU behavior when an onboard technical failure occurs leading to System Failure mode (SF). It is verified that the data produced by OBU does not cause the train to be “decoupled” from the train route, which could make it releasable unconditionally.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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Step	Result	Reference or comment
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3.9.9. TC_BL3_909 – VBC – NOMINAL CASE

Brief description	To test the basic VBC function. The train is supposed to ignore the information provided by bg:s in the active VBC zone.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
2		
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3.9.10. TC_BL3_910 – VBC – MEMORISATION

Brief description	To test the VBC function with regard to memorization of the VBC data in OBU.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.11. TC_BL3_911 – VBC – VALIDITY PERIOD

Brief description	To test the VBC function with regard to the validity period of
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	the received VBC data.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.12. TC_BL3_912 – VBC – ENTRY OF VBC CODE FROM DMI

Brief description	To test whether a VBC code can be entered from the DMI and managed equally as if read from a VBC bg.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
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3.9.13. TC_BL3_913 – MULTIPLE ACKNOWLEDGE REQUESTS, case 1

Brief description	To test how the OBU handles timing regarding multiple acknowledge requests. Specifically this tests aims to verify if the timer for brake application at transition to OS mode can be inhibited by other pending acknowledge requests.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

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Step	Result	Reference or comment
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3.9.14. TC_BL3_914 – MULTIPLE ACKNOWLEDGE REQUESTS, case 2

Brief description	See BL3_913
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		
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3.9.15. TC_BL3_915 – ROUTE RELEASING UNDER A TRAIN IN SR ON AN SR TRAIN ROUTE

Brief description	To test that a shortened SR Authorisation is accepted and executed by the train.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.16. TC_BL3_916 – LINKING FAILURE (LOSS OF ENTIRE BG)

Brief description	To test the OBU behavior at loss of entire balise group(s). The OBU reaction is verified, including error reporting to RBC
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.17. TC_BL3_917 – RBC/RBC HANDOVER WITH LOST RADIO CONTACT TO RBC HOV, 1 MODEM

Brief description	To test how OBU interacts with trackside RBC:s when losing contact with RBC HOV, and the OBU has only one modem working. This is regarded a safety critical event and it needs to be verified how the situation develops.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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Step	Result	Reference or comment
7		

3.9.18. TC_BL3_918 – RBC/RBC HANDOVER WITH LOST RADIO CONTACT TO BOTH RBC:s, 2 MODEMS

Brief description	To test how OBU interacts with trackside RBC:s when loosing contact with RBC ACC, after having established a session with RBC ACC. The focus is on the handling of T_NVCONTACT.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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3.9.19. TC_BL3_919 – RBC SUPERVISION OF OBU REPORTED CONFIDENCE INTERVAL

Brief description	To test the inter-action between OBU and RBC when the RBC detects abnormal odometry data as reported by OBU, and the effect of the safety barriers applied as a consequence of this.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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Step	Result	Reference or comment
8		

3.10. PACKET SWITCHED DATA COMMUNICATION (OVER GPRS)

3.10.1. TC_BL3_1001 – NORMAL START-UP SCENARIO [TC_BL3_101]

Brief description	To test that the OBU is able to perform a normal start-up scenario, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

3.10.2. TC_BL3_1002 – NOMINAL RUNNING SCENARIO [TC_BL3_201]

Brief description	To test that the OBU is able to perform a nominal run, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

3.10.3. TC_BL3_1003 – RBC/RBC HANDOVER – NORMAL SCENARIO [TC_BL3_701]

Brief description	To test that the OBU is able to pass an RBC/RBC border, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

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Step	Result	Reference or comment
1		

3.10.4. TC_BL3_1004 – RBC-RBC HANDOVER – MODEM FAILURE [TC_BL3_702]

Brief description	To test that the OBU is able to pass an RBC/RBC border with a single modem, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

3.10.5. TC_BL3_1005 – LEVEL TRANSITION – ENTRY TO LEVEL 2 [TC_BL3_703]

Brief description	To test that the OBU is able to establish a connection with RBC based on an order from a balise while entering an L2 area, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

3.10.6. TC_BL3_1006 – LEVEL TRANSITION – ENTRY TO LEVEL 2 WITH COMM.FAILURE [TC_BL3_706]

Brief description	To test that the OBU is able to re-establish a connection with RBC after a communication error while entering an L2 area, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment

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Step	Result	Reference or comment
1		

3.10.7. TC_BL3_1007 – LEVEL TRANSITION – EXIT FROM LEVEL 2 [TC_BL3_709]

Brief description	To test that the OBU is able to close communication with RBC while exiting an L2 area, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

3.10.8. TC_BL3_1008 – "FORCED" COMM. ESTABLISHMENT DUE TO P46 [TC_BL3_720]

Brief description	To test that the OBU is able to establish RBC communication at a "forced level transition to L2" due to a P46 order in a balise, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
1		

3.10.9. TC_BL3_1009 – COMM. MANAGEMENT AFTER T_NVCONTACT EXPIRES [TC_BL3_904]

Brief description	To test that the OBU is able to resume normal communication after a temporary loss of communication, using PS data communication.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

Step	Result	Reference or comment
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Step	Result	Reference or comment
1		

3.10.10. TC_BL3_1010 – CONNECTION SET-UP TOWARDS A MALFUNCTIONING DNS

Brief description	To test various cases of OBU not getting all needed information from the ETCS-DNS when connecting to an RBC that offers PS connection (GPRS). In this case the OBU is supposed to set up a CS connection to the RBC.
Test leader (responsible)	
Date & time	
Start-end position	
General comment	

1. Not in service (OBU not able to connect to DNS)

Step	Result	Reference or comment
1		
2		
3		
4		
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2. No information about RBC:s ETCS-ID (no IP address to RBC in DNS answer)

Step	Result	Reference or comment
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3. No IP address and a TXT field indication CS Mode

Step	Result	Reference or comment
1		
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4. DNS gives wrong/non-existing IP address to RBC

Step	Result	Reference or comment
1		
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4. DEVIATIONS

This field summarizes the deviations from the testing performed during this test campaign. A more thorough description of each deviation is reported in Trafikverkets database for deviations (CCM). An export from this database is sent to the relevant organisation along with this test record.

4.1. Trackside

Deviation – ID	Reference	Subsystem	Summary	Detected day

4.2. OBU

Deviation – ID	Reference	Summary	Detected day

4.3. Test specification

Deviation – ID	Reference	Summary	Detected day