Subsystem

Building Block

Test Report

Document code	FP2-WP35-D-SNCF-010-03				Pages	17
Date	**Revision**	**Description**	**Editing**	**Check**	**Approval**	**Authorization**
06/11/2025	3.0	D35.3 Annex 1: Test Report Template				

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Revision History:

Revision	Date	Author	Description
1.0	06/06/2025	Paolo Stoico	First version
2.0	03/10/2025	Paolo Stoico	Update after review by task participants
3.0	24/10/2025	Paolo Stoico	Update after WP review

Index

TABLES LIST **3**

1 INTRODUCTION **4**

1.1 References Documents 4
1.1.1 CENELEC/ETSI/IEC Normatives *4*
1.1.2 ERA/UNISIG Specifications *4*
1.1.3 Applicable Documents *4*
1.2 Definitions and Acronyms 5
1.2.1 Acronyms *5*
1.2.2 Definitions *6*
1.3 Scope of the Document 8
1.4 Structure of the Document 8

2 EUT DESCRIPTION **9**

2.1 EUT Main Features and Functionalities 9
2.2 EUT Composition 9

3 TEST SETUP DESCRIPTION **10**

3.1 Hardware Tools 10
3.2 Software Tools 10
3.3 Auxiliary Instrumentation 11
3.4 Additional Information 11
3.5 Environmental Conditions 11

4 TEST RESULTS SUMMARY **12**

5 TEST REPORT **13**

5.1 Test Case BB_TC_XX 13

6 CONCLUSIONS **14**

7 APPENDIX A - GAP ANALYSIS **15**

7.1 EUT Versions Overview 15
7.2 Test Cases Applicability 15

8 LOG FILES **17**

Tables List

Table 1 – Acronyms 5
Table 2 - Definitions 8
Table 3 – EUT composition 9
Table 4 - Hardware modules in the test setup 10
Table 5 - Software used during the test 10
Table 6 - Instrumentation used in the test setup 11
Table 7 – Test results summary 12
Table 8 – Test results 14
Table 9 - EUT versions overview 15
Table 10 – EUT versions vs test cases matrix 16

Interne

1 Introduction

1.1 References Documents

1.1.1 CENELEC/ETSI/IEC Normatives

[Nrm.1]
[Nrm.1]
[Nrm.2]
[Nrm.3]
[Nrm.4]

1.1.2 ERA/UNISIG Specifications

[Stnd.1].
[Stnd.2].
[Stnd.3].
[Stnd.4].

1.1.3 Applicable Documents

[App.1] *<System Requirements Specification> / <SW Requirements Specification>*
[App.2] *<System Test Specification> / <SW Test Specification>*
[App.3] *<EUT Configuration Log> / <SW Version>*
[App.4] *<Test Setup Configuration Log> / <SW Version>*
[App.5]

1.2 Definitions and Acronyms

1.2.1 Acronyms

Acronym	Description
BB	Building Block
EUT	Equipment Under Test
HW	Hardware
SPR	Software Problem Report
SW	Software
WI	Work Item

Table 1 – Acronyms

1.2.2 Definitions

Definition	Description
System	Single Building Block or group of Building Blocks representing the Equipment Under Test
Result category	Value associated to the generic test step or overall test (where specified). It can assume one of the following values
Passed (Result category)	*For test steps:* value in case the test step results fully compliant with the test step description / validation range (applicable to steps of both validation and performance tests) *For overall test:* value for the test result in case **none** of the steps have one of the following results: Non-Passed or Test Error
Passed with comments (Result category)	*For test steps:* value in case the test step results compliant with the test step description, but the behaviour has some minor differences to the expected one (for example optional variables, different range of values...) (applicable to steps of validation tests) When a step is evaluated with this step result category, the comment describing why the step has been evaluated in this way, shall be included in the test evaluation.
Non-passed (Result category)	*For test steps:* value for the test step result in case the test step is different from the test step description or the step result is outside the validation range defined (applicable to steps of both validation and performance tests) *For overall test:* value for the test result in case **one or more** steps have the result Non-Passed
Linked to previous error (Result category)	*For test steps:* value for the test step result in case it cannot be evaluated because a previous error (Non Passed step) has occurred in the test and affects the following steps. (applicable to steps of both validation and performance tests) With this classification it is possible to distinguish between the source error and the inherited errors of previous steps.
Optional functionality (Result category)	*For test steps:* value for the test step result in case of optional functionalities included in the tests but not implemented in the equipment under test. (For example, in Subset 076 STM, RIU, Euroloop and Train Data acquired from ERTMS/ETCS external sources functions are considered as “Optional Functionality”) (applicable to steps of validation tests)
Not applicable (Result category)	*For test steps:* value for the test step result in case the test step has no associated interface in the test sequence or internal interface steps not relevant to verify the system under test conformity. (applicable to steps of both validation and performance tests)
Test error (Result category)	*For test steps:* value for the test step result in case the test step is affected by detected errors in the test. (applicable to steps of both validation and performance tests) *For overall test:* value for the test result in case **one or more** steps have the result Test error and **none** of the steps have the result Non-Passed

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Definition	Description
Observation (Result category)	*For test steps:* value for the test result or behaviours of the system under test that are not considered into the test description but are relevant for the test evaluation, although they fulfil all requirements of the system under test. (applicable to steps of both validation and performance tests) When a result is evaluated with this result category, the comment describing the behaviour of the system under test shall be included in the test evaluation.
Deviation (Result category)	*For test steps:* Value for the test result or behaviours of the system under test that are not considered into the test description but are relevant for the test evaluation, because they don't fulfil some requirements of the system under test. (applicable to steps of both validation and performance tests) When a result is evaluated with this result category, the comment describing the behaviour of the system under test shall be included in the test evaluation.

Table 2 - Definitions

1.3 Scope of the Document

The present document constitutes the Test Report of the BB / group of BBs *[insert BB name]* : it describes the results of validation / performance test activities carried out on the EUT described in Chapter 2.

1.4 Structure of the Document

Here is a brief description of the content of each chapter of this document:

- Chapter §1 represents the introduction to the present document, containing:
  - Reference documents (Normatives/Regulations, specifications, configuration logs)
  - Definitions and Acronyms used in the document
  - Scope of the document
- Chapter §2 contains the description of the Equipment Under Test
- Chapter §3 contains the description of the Test Setup
- Chapter §4 contains the summary of the test campaign, reporting a general overview of the test results and the related information for each test performed
- Chapter §5 contains the details about each test performed
- Chapter §6 contains the conclusions regarding the test campaign
- Chapter §7 contains the gap analysis among the current EUT version and the previous ones, and a traceability among test cases and EUT versions, making clear which tests, performed on previous EUT versions, can still be considered:
  - fully applicable to the present EUT version (i.e. they do not need to be re executed, their results are still valid)
  - partially applicable to the present EUT version (i.e. they need to be re executed with slight modifications, their results are still valid)
  - not applicable to the present EUT version (i.e. they need to be re executed, their previous results are no longer valid)
- Chapter §8 contains a reference to the whole log files list

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2 EUT Description

2.1 EUT Main Features and Functionalities

[This section shall contain a short description of EUT features and functionalities]

2.2 EUT Composition

[This subsection refers to the latest version of the EUT]

The detailed description of all the items of the Equipment Under Test is reported in Table 3.

The laboratory must verify the following data: Part Number, Serial Number, HW Revision, SW Revision, FW Revision

Disclaimer: The sampling of the equipment to be tested has been carried out by the Supplier; the laboratory disclaims any liability for the data provided by the customer/manufacturer which may affect the validity of the results.

Supplier											
Equipment name											
Equipment receipt date											
Equipment identifier											
					Acronym	***Description***	***P/N***	***S/N***	***HW Rev***	***SW/FW Rev***	***Note***
Equipment Version		***Version Description Document***	See [App.3] *<EUT Configuration Log> / <SW Version>*	***Items***							

Table 3 – EUT composition

3 Test Setup Description

This section is aimed to:

- ✓ report the complete of the essential items (HW tools, SW tools, auxiliary instrumentation) of the test setup used to carry out the tests reported in this document (§3.1, §3.2, §3.3)
- ✓ describe how these tools interact with each other, how (manually, automatically, using scripts...) the specific test must be performed (§3.4)
- ✓ describe the specific environmental conditions which the test must be performed under (§3.5)

3.1 Hardware Tools

Test Setup Version						
Item	***Quantity***	***Producer***	***HW Module Code***	***Version***	***HW Module Description***	***Reference Documentation***
1						
2						
3						
4						
5						
6						
7						

Table 4 - Hardware modules in the test setup

3.2 Software Tools

Test Setup Version				
Item	***Software file name***	***Version***	***Software Description***	***Reference Documentation***
1				
2				
3				
4				

Table 5 - Software used during the test

3.3 Auxiliary Instrumentation

Item	*Quantity*	*Producer*	*Model Code*	*Version*	*Instrument Description*	*Reference Documentation*	*Calibration deadline*
1							
2							
3							
4							
5							
6							

Table 6 - Instrumentation used in the test setup

3.4 Additional Information

[This section shall contain info about tools interaction, tests execution typology (manual, automatic, scripts driven,…)]

3.5 Environmental Conditions

All tests reported in this document have been carried out in the following environmental conditions in accordance with *[Report reference standards as Subset 085, national standards...]*

- Ambient temperature:
- Relative humidity:

4 Test Results Summary

Test Case	Test Specification	EUT Version	Test Setup						Execution Date (optional)	Logs	Test Result (*)	WI/SPR (**)	Notes (***)
			HW Module Code	HW Version	Software file name	SW Version	Instrument Model Code	Instrument Version					
BB_TC_01	See [App.2]<*System Test Specification*> / <*SW Test Specification*>												
BB_TC_02	See [App.2]<*System Test Specification*> / <*SW Test Specification*>												

*: Possible values for Tests Results are defined in Table 2

**: This column must contain the unique identifier of the WI/SPR recording the problem observed in case the test is Non-Passed

***: in case the test has been performed on a previous EUT version and it does not need to be executed on the current EUT version again, this field must contain justification for this choice

Table 7 – Test results summary

5 Test Report

5.1 Test Case BB_TC_XX

Step	***Row (***)***	***Dist. (m) (***)***	***Previous (***)***		***I/O***	***Interface***	***Comments (****)***	***Next (***)***		***Steps Results (*)***	***WI/SPR (**)***
			Levels	Mode				Levels	Mode		
Overall Test Result											
Operator Name											
Execution Date											

*: Possible values for test step results defined in Table 2

**: This column must contain the unique identifier of the WI/SPR recording the problem observed in case the test is Non-Passed

***: to be filled only if applicable (for instance, Subset 076 tests)

****: In case a test step is modified respect to the original one in the Test Specification or not executed, this column must contain:

- a justification for the change
- a justification that the change has no impact on the coverage of the requirements under test
- a justification for partial / no execution

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6 Conclusions

The following table lists all the tests results reported in this document:

Reference Equipment Version			
Total Number of Tests		***Passed***	
		Non-Passed	
		Test error	

Test ID	***Overall Test Result***	***WI/SPR (**)***

Table 8 – Test results

**: This column must contain:
the unique identifier of the WI/SPR recording the problem observed in case the test is Non-passed
- the list of requirements not implemented or wrongly implemented related to the WI/SPR

7 Appendix A - Gap Analysis

[This section shall be written only when allowed (for instance, several versions in Subset 076 test campaigns reports are not allowed]

This section has two main objectives:

- ✓ to highlight the differences between the EUT version under test and the previous EUT versions
- ✓ to show which tests carried out on previous EUT versions are still valid for the latest version under test

7.1 EUT Versions Overview

In this section the composition of all the EUT versions is reported:

Equipment identifier										
					Acronym	***Description***	***P/N***	***S/N***	***SW/FW Revision***	***Notes***
Equipment Version		***Version Description Document***	See [App.3] *<EUT Configuration Log> / <SW Version >*	***Items***						
Equipment Version		***Version Description Document***	See [App.3] *<EUT Configuration Log> / <SW Version >*	***Items***						

Table 9 - EUT versions overview

7.2 Test Cases Applicability

The following Table 10 has the aim of making clear which tests, performed on previous EUT versions, can be considered:

- fully applicable to the present EUT version (i.e. they do not need to be re-executed, their results are still valid). They are reported as *A*.

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- partially applicable to the present EUT version (i.e. they need to be re-executed with slight modifications, their results are still valid). They are reported as *A**.
- not applicable to the present EUT version (i.e. they need to be re-executed, their previous results are no longer valid). They are reported as *NA*.

Equipment identifier						
		BB_TC_XX	***BB_TC_YY***	***…***	***…***	***…***
Equipment Version	0.1	*NA*	*A**	*A*	*A*	*NA*
Equipment Version	0.1	*NA*	*A**	*A*	*A*	*NA*
…						
Equipment Version	0.N	*A*	*A*	*A*	*A*	*A*

Table 10 – EUT versions vs test cases matrix

8 Log Files

For the whole test logs list please refer to the table in Chapter 4.