| ERTMS/ETCS |
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| **FFFIS STM Test Specification** **Traceability of testing the packets specified in the FFFIS STM Application Layer** |

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| Company | Technical Approval | Management approval |
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# 1. MODIFICATION HISTORY

| Issue Number Date | Section Number | Modification / Description | Author |
|---|---|---|---|
| 0.0.1 2004-12-21 | All | Creation of the document. List of Test Cases for Functional Identities 3 (ETCS->STM) and 12 (Override) included. | P. Lührs (Siemens AG) |
| 0.0.2 2005-01-14 | 5 | List of Test Cases for Functional Identities 4 (STM->ETCS), 10 (Data Entry/Data View) and 11 (Test) included. | A. Schoevaerts (ALSTOM) |
| 0.0.3 2005-01-18 | 5 | List of Test Cases for Functional Identities 5a (STM->STM) included. | P. Lührs (Siemens AG) |
| 0.0.4 2005-01-20 | 5 | List of Test Cases for Functional Identities 1 (SOM) and 2 (ASU) included. | R. Ramos Invensys Rail |
| 0.0.5 2005-01-25 | 5 | List of Test Cases for FI 6 (DA) and 9 (FA) included. | F. Bernaudin (Ansaldo) |
| 0.0.6 2005-01-27 | 5 | Add the new DA test case (6.15.0.0.0) for testing packet 15 & 43. List of Test Cases for Functional Identities 5b, 5c, 5c1 (STM->STM) included. Update of list of Test Cases for Functional Identities 9a, 9b, 9c, 9d, 9e (FA). | F. Bernaudin (Ansaldo) |
| 0.0.7 2005-01-27 | 5 | Review Comments included. | P. Lührs (Siemens AG) |
| 0.1.0 2005-01-27 | | Editorial changes for delivery. | P. Lührs (Siemens AG) |
| 1.0.0 13.10.2005 | | Editorial changes for delivery | R. Ramos Invensys Rail |
| 2.9.1 2013-01-30 | All | Updated to be in line with Subset 35 issue 3.0.0 date 2010-02-29, SRS issue 3.3.0 date 2012-03-07 and ETCS DMI specification issue 3.3.0 date 2012-03-01 | F. Dönges (Thales) |
| 2.9.2 2013-08-30 | All | Updated according to comments from 2nd internal review and from ERA traceability review | F. Dönges (Thales) |

| Issue Number Date | Section Number | Modification / Description | Author |
|---|---|---|---|
| 2.9.3<br>2013-10-31 | 5 | Update according to impact from CR 1173 and CR 1148 | F. Dönges (Thales) |
| 2.9.4<br>2014-02-28 | No change | No change to this part of the Subset | Thomas Mandry (Alstom) |
| 2.9.5<br>2014-04-24 | Front page | Baseline 3 1st Maintenance pre-release version | Thomas Mandry (Alstom) |
| 3.0.0<br>2014-05-09 | – | Baseline 3 1st Maintenance release version | Philippe Prieels |

# 2. TABLE OF CONTENTS

# 3. REFERENCES

| Ref. N° | Document Reference | Title |
|---------|-------------------|-------|
| [1] | SUBSET-026 | System Requirements Specification |
| [2] | SUBSET-035 | Specific Transmission Module FFFIS |
| [3] | SUBSET-058 | FFFIS STM Application Layer |

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# 4. SCOPE

This document is part of the FFFIS STM Test Specification (SUBSET-074).


The scope of this document is to provide the traceability between the specification of the information transmitted via the PROFIBUS [3] and the FFFIS STM Test Specification.

Chapter 5 of this document includes a list of all packets specified in [3] which are transmitted via the PROFIBUS according to the FFFIS STM Specification. For each packet all the test cases of the FFFIS STM Test Specification, in which the packets are used, are listed. If a packet is not used in the test cases of the FFFIS STM Test Specification, a justification is added to explain why the packet is not tested.

# 5. TRACEABILITY LIST

| Packet ID | Packet Name | Tested In Test Case | Comment |
|-----------|-------------|---------------------|---------|
| STM-1 | STM/ETCS function version number | 2a1, 2a.2, 2a.3, 2a.4, 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24, 3g.1, 3g.2, 6g.1, 12a.1 | |
| STM-2 | ERTMS/ETCS on-board physical addresses and safety levels | 2a.4, 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24 | |
| STM-5 | ETCS status data | 1a.1, 1a.2, 1a.3, 1a.4, 1a.5, 1a.6, 1a.7, 1a.8, 1b.1, 1b.2, 2a.4, 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24, 3a.5, 3a.6, 3a.8, 3b.1, 3b.3, 3b.6, 3b.9, 3d.1, 3f.1, 3f.2, 3g.1, 3g.2, 3h.1, 3h.2, 3i.1, 3j.1, 4a.1, 4a.2, 4a.3, 4b.1, 4c.1, 4c.2, 4d.1, 4d.2, 4e.1, 4e.2, 5c.1, 5c.2, 5c.3, 5c.4, 5c.5, 5c.6, 5c.7, 5c.8, 5c.9, 5c.10, 5c.11, 5d.1, 5d.2, 5d.3, 5d.4, 5d.5, 5d.6, 5d.7, 7h.1 - 7h.9, 7i2.1 - 7i2.3, 7i2.7 - 7i2.9, 7i2.13, 7i2.14, 7i3.1 - 7i3.6, 12a.1, 12a.2, 12b.2, 12c.1, 12c2, 12c.3 | |
| STM-6 | Override activation | 7g.11 - 7g.14, 12b.1 | |
| STM-7 | Override status | 12a.1, 12a.2, 12b.1, 12c.3 | |
| STM-8 | Odometer multicast | 2a.7, 2a.8, 6f.1, 6f.2, 6i.1, 6i.2 | |
| STM-9 | Odometer parameters to STM | 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 6f.1, 6f.2 | |
| STM-13 | State request from STM | 1a.1, 1a.7, 1a.8, 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24, 7i3.1 - 7i3.4, 10a.1, 10a.2, 10a.3, 10a.4, 10a.5, 10a.6, 10e.1, 10e.2, 10e.3, 10e.4 | |
| STM-14 | State order to STM | 1a.1, 1a.2, 1a.3, 1a.4, 1a.5, 1a.6, 1a.7, 1a.8, 1b.1, 1b.2, 2a.2, 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24, 3a.1, 3a.2, 3a.3, 3a.5, 3a.6, 3a.8, 3b.1, 3b.3, 3b.6, 3b.9, 3c.1, 3c.2, 3c.4, 3d.1, 3e.1, 3e.2, 3f.1, 3f.2, 3g.1, 3g.2, 3h.1, 3h.2, 3i.1, 3j.1, 4a.1, 4a.2, 4a.3, 4b.1, 4c.1, 4c.2, 4d.1, 4d.2, 4e.1, 4e.2, 5a.1, 5a.2, 5a.3, 5a.4, 5a.5, 5b.3, 5c.1, 5c.2, 5c.3, 5c.4, 5c.5, 5c.6, 5c.7, 5c.8, 5c.9, 5c.11, 5d.1, 5d.2, 5d.3, 5d.4, 5d.6, 5d.7, 7g.9, 7g.10, 7h.1 - 7h.9, 7i2.1 - 7i2.14, 7i3.1 - 7i3.6, 9a.1, 9b.1, 10a.1, 10a.2, 10a.3, 10a.4, 10a.5, 10a.6, 10e.1, 10e.2, 10e.3, 10e.4, 10f.2, 10f.3, 12a.2, 12b.2, 12c.1, 12c.2, 12c.3 | |
| STM-15 | State report from STM | 1a.1, 1a.2, 1a.4, 1a.5, 1a.6, 1a.7, 1a.8, 1b.1, 2a.1, 2a.2, 2a.3, 2a.4, 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24, 3a.1, 3a.3, 3a.5, 3b.1, 3b.3, 3b.6, 3b.9, 3d.1, 3e.1, 3f.1, 3g.1, 3g.2, 3h.1, 3h.2, 3i.1, 3j.1, pre (4a, 4b, 4d, 4e), 4a.1, 4a.2, 4b.1, 4c.1, 4d.1, 4d.2, 4e.1, 5a.1, | |

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| Packet ID | Packet Name | Tested In Test Case | Comment |
|---|---|---|---|
| | | 5a.2, 5a.3, 5b.1, 5b.2, 5b.3, 5b.4, 5c.1, 5c.2, 5c.3, 5c.4, 5c.5, 5c.6, 5c.7, 5c.8, 5c.9, 5c.11, 5d.1, 5d.2, 5d.3, 5d.6, 5d.7, 6a.1, 6b.1, 6c.1, 6d.1, 6e.1, 6e.2, 6g.1, 7b2.1 - 7b2.12, 7b3.1 - 7b3.9, 7b4.1 - 7b4.4, 7b5.1 - 7b5.3, 7b6.1 - 7b6.4, 7c2.1 - 7c2.20, 7c3.1 - 7c3.10, 7c5.1 - 7c5.12, 7c6.1 - 7c6.8, 7c7.1 - 7c7.4, 7c8.1 - 7c8.7, 7d.1 - 7d.17, 7e.1 - 7e.40, 7f.2 - 7f.9, 7g.1 - 7g.22, 7h.1 - 7h.9, 7i2.1 - 7i2.4, 7i2.6 - 7i2.10, 7i2.12 - 7i2.14, 7i3.1 - 7i3.6, 9a.1, 9a.2, 9b.1, 9b.2, 9b.3, 10a.1, 10a.2, 10a.3, 10a.4, 10a.5, 10a.6, 10b.1, 10b.2, 10b.3, 10b.3, 10b.4, 10b.5, 10c.1, 10d.1, 10e.1, 10e.2, 10e.3, 10e.4, 10f.2, 10f.3, 11a.1, 12a.1, 12a.2, 12b.1, 12b.2, 12c.1, 12c.2, 12c.3 | |
| STM-16 | Transition variables STM max speed from STM | 3b.1, 3b.6, 3b.9, 5b.1, 5b.2, 5b.3, 5b.4, 5c.1 | |
| STM-17 | Transition variables STM system speed and distance from STM | 3b.3, 5b.1, 5b.2 | |
| STM-18 | National Trip Procedure | 4d.1, 4d.2, 5c.7, 5c.8, 5c.9, 5d.6, 12b.2 | |
| STM-20 | Antenna/BTM ID | 8a.1, 8a.2 | |
| STM-21 | Test Procedure Permission Request | 11a.1 | |
| STM-22 | Test Procedure Permission | 11a.1 | |
| STM-23 | End of Test Procedure | 11a.1 | |
| STM-30 | Driver language transmission | 1a.4, 2a.4, 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24 | |
| STM-31 | Active DMI channel | 2a.4, 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24 | |
| STM-32 | Button Request | 1a.1, 1a.7, 3g.1, 3g.2, pre (4a, 4b, 4d, 4e), 5c.7, 5c.8, 7c2.1 - 7c2.20, 7c3.1 - 7c3.10, 7c5.1 - 7c5.12, 7c6.1 - 7c6.8, 7c7.1 - 7c7.4, 7c8.1 - 7c8.7, 7g.1, 7g.2, 7g.4, 7g.6, 7g.8, 7g.10, 7g.12, 7g.14, 7g.16, 7g.18, 7g.19, 7g.20, 7h.2 - 7h.9 | |
| STM-34 | Button event report | 7c3.1 - 7c3.10, 7g.1, 7g.2, 7g.4, 7g.6, 7g.8, 7g.10, 7g.12, 7g.14, 7g.16, 7g.18, 7g.19, 7g.20 | |
| STM-35 | Indicator request | 1a.1, 1a.7, 3g.1, 3g.2, pre (4a, 4b, 4d, 4e), 5c.7, 5c.8, 7b2.1 - 7b2.12, 7b3.1 - 7b3.9, 7b4.1 - 7b4.4, 7b5.1 - 7b5.3, 7b6.1 - 7b6.4, 7g.2 - 7g.22, 7h.2 - 7h.9 | |
| STM-38 | Text message | 3g.1, 3g.2, pre (4a, 4b, 4d, 4e), 5c.7, 5c.8, 7d.1 - 7d.17, 7h.1 - 7h.9 | |
| STM-39 | Delete text message | 3g.1, 3g.2, 7d.1 - 7d.17 | |
| STM-40 | Acknowledgement | 7d.7 - 7d.14 | |

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| Packet ID | Packet Name | Tested In Test Case | Comment |
|---|---|---|---|
| | reply | | |
| STM-43 | Speed and distance supervision information | 3g.1, 3g.2, pre (4a, 4b, 4d, 4e), 5b.1, 5b.2, 5b.3, 5b.4, 7f.2 - 7f.9, 7h.2 - 7h.6, 7h.8, 7h.9 | |
| STM-45 | ETCS airgap message for STM | 3c.1, 6i.1, 6i.2 | |
| STM-46 | Sound command | 3g.1, 3g.2, pre (4a, 4b, 4d, 4e), 7e.1 - 7e.40, 7h.2 - 7h.5, 7h.7 - 7h.9 | |
| STM-47 | ETCS BTM status message to STM | 8b.1 | |
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| STM-129 | STM specific brake control command | 6a.1 | |
| STM-130 | STM commands to train interface | 6b.1, 6c.1 | |
| STM-136 | Brake interface emergency and service brake status/availability to STM | 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24, 3g.1, 3g.2, 6e.1 | |
| STM-139 | Train interface inputs status/availability to STM | 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 3g.1, 3g.2, 6b.1, 6c.1 | |
| STM-141 | Train interface command configuration to STM | 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 3g.1, 3g.2 | |
| STM-143 | Emergency and service brake parameters to STM | 2a.5, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, 2a.12 - 23, 2a.24, 3g.1, 3g.2 | |
| STM-161 | STM information to JD | 2a.10, 2a.12 - 23, 6d.1 | |
| STM-175 | Train Data | 2a.9, 2a.10, 2a.11, 2a.12 - 23, 7h.6, 7i3.1, 7i3.2, 10a.1, 10a.2, 10a.3, 10a.4, 10a.5, 10a.6, 10b.1, 10b.2, 10b.3, 10b.3, 10b.4, 10b.5, 10e.1, 10e.2, 10e.3, 10e.4 | |
| STM-176 | Train data traction/brake parameters to STM | 2a.9, 2a.10, 2a.11, 2a.12 - 23, 7h.6, 7i3.1, 7i3.2, 10a.1, 10a.2, 10a.3, 10a.4, 10a.5, 10a.6, 10b.1, 10b.2, 10b.3, 10b.3, 10b.4, 10b.5, 10e.1, 10e.2, 10e.3, 10e.4 | |
| STM-177 | Additional data values and date/time to STM | 2a.9, 2a.10, 2a.11, 2a.12 - 23, 6h.1, 7g.3, 7g.4 | |
| STM-178 | National Values to STM | 2a.9, 2a.10, 2a.11, 2a.12 - 23, 6h.1 | |
| STM-179 | Specific NTC Data Entry request | 2a.10, 2a.11, 2a.12 - 23, 7h.6, 7i3.1, 7i3.2, 10a.1, 10a.2, 10a.4, 10a.5, 10a.6, 10b.1, 10b.3, 10b.4, 10b.5, 10e.1, 10e.2, 10e.3, 10e.4 | |
| STM-180 | Specific NTC Data values | 10a.1, 10a.2, 10a.5, 10a.6, 10b.1, 10e.1, 10e.2, 10e.3, 10e.4 | |
| STM-181 | Specific NTC Data | 2a.4, 2a.6, 2a.7, 2a.8, 2a.9, 2a.10, 2a.11, | |

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| Packet ID | Packet Name | Tested In Test Case | Comment |
|---|---|---|---|
|  | Need | 2a.12 - 23, 10d.1 |  |
| STM-182 | Request for Specific NTC Data View values | 10c.1, 10f.2, 10f.3 |  |
| STM-183 | Specific NTC Data View values | 10c.1, 10f.2, 10f.3 |  |
| STM-184 | Specific NTC Data Entry flag | 2a.9, 2a.10, 2a.11, 2a.12 - 23, 7h.6, 7i3.1, 7i3.2, 10a.1, 10a.2, 10a.3, 10a.4, 10a.5, 10a.6, 10b.1, 10b.2, 10b.3, 10b.4, 10b.5, 10e.1, 10e.2, 10e.3, 10e.4 |  |

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