
Reference

RTS/MSG-001127

Keywords

eCall, GSM, UMTS

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at <https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:
<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2020.
All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.
3GPP™ and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

oneM2M™ logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.

GSM® and the GSM logo are trademarks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	9
Foreword.....	9
Modal verbs terminology.....	9
1 Scope	10
2 References	10
2.1 Normative references	10
2.2 Informative references.....	11
3 Definition of terms, symbols and abbreviations.....	12
3.1 Terms.....	12
3.2 Symbols.....	12
3.3 Abbreviations	12
4 Glossary.....	13
4.1 Intention of the glossary	13
4.2 General	14
4.3 States	14
4.4 Decisions	15
4.5 Procedures	15
4.6 Tester input/output, internal tester actions/trigger.....	15
5 Overview	17
5.1 Test definition methodology.....	17
5.1.1 Derivation of Test Case Descriptions from CEN EN 16454.....	17
5.1.2 Structure of Test Case Descriptions.....	17
5.1.3 Test Purposes	17
5.1.4 Pre-Test Conditions	17
5.1.5 Test Sequence	17
5.1.6 Final conditions	17
5.2 Abstract Test Architecture.....	18
5.2.0 Preface	18
5.2.1 Overview	18
5.2.1.1 IVS Testing	18
5.2.1.1.1 Test Model IVS	18
5.2.1.1.2 Interface descriptions.....	18
5.2.1.2 PSAP Testing	19
5.2.2 Interface Specifications.....	19
5.2.2.1 IVS Testing	19
5.2.2.1.0 Preface	19
5.2.2.1.1 IVS and Upper Tester.....	20
5.2.2.1.2 IVS and MNO	20
5.2.2.1.3 IVS and GNSS Simulator	21
5.2.2.2 MNO Testing	21
5.2.2.3 PSAP Testing	21
5.2.2.4 TPS-eCall Testing	21
5.2.3 State diagram	21
5.3 Specification in TTCN	24
5.4 Capabilities.....	24
5.5 Test Case Selection	25
5.6 Test Configuration Parameters.....	25
5.6.1 eCall Type Suffix.....	25
5.7 TTCN Implementation	25
5.8 Execution Guidelines	25
6 Generic Procedures.....	26
6.0 Preface.....	26
6.1 General	26

6.1.1	General assumptions	26
6.1.2	Generic procedures	26
6.1.2.0	Preface.....	26
6.1.2.1	Procedure for network registration.....	27
6.1.2.2	Procedure for eCall establishment.....	27
6.1.2.3	Procedure for eCall in progress.....	30
6.1.2.4	Procedure for eCall release (PSAP initiated)	30
6.1.2.5	Procedure for eCall release (IVS initiated, preceding AL-ACK call clear down).....	30
6.1.2.6	Procedure for PSAP callback	30
6.1.2.7	Procedure for call rejection	31
6.2	Preambles	32
6.3	Postambles.....	36
6.3.0	Preface	36
6.3.1	Postambles for eCall capable devices	36
6.3.2	Postambles for eCall only devices	36
6.3.3	Special case: Limited Service Condition	37
7	Test Cases.....	37
7.1	In-vehicle equipment and system (IVS)	37
7.1.1	Conformance tests for in-vehicle user equipment for Pan European eCall.....	37
7.1.1.1	CTP 1.1.0.1 Conformance to ETSI TS 102 936-1 and ETSI TS 102 936-2 - PE eCall IVS.....	37
7.1.1.2a	CTP 1.1.0.2 Test for conformance to valid SIM/USIM - PE eCall capable IVS	37
7.1.1.2a.1	Test Purpose (TP).....	37
7.1.1.2a.2	Test applicability	37
7.1.1.2a.3	Conformance requirements.....	37
7.1.1.2a.4	Test description	37
7.1.1.2b	CTP 1.1.0.2 Test for conformance to valid SIM/USIM - PE eCall only IVS	38
7.1.1.2b.1	Test Purpose (TP).....	38
7.1.1.2b.2	Test applicability	38
7.1.1.2b.3	Conformance requirements.....	38
7.1.1.2b.4	Test description	38
7.1.1.3	CTP 1.1.0.3 Automatic eCall triggering does not occur when ignition OFF - PE eCall IVS.....	39
7.1.1.3.1	Test Purpose (TP).....	39
7.1.1.3.2	Test applicability	39
7.1.1.3.3	Conformance requirements.....	39
7.1.1.3.4	Test description	39
7.1.1.4	CTP 1.1.1.1 Power on and self test - PE eCall IVS.....	40
7.1.1.4.1	Test Purpose (TP).....	40
7.1.1.4.2	Test applicability	40
7.1.1.4.3	Conformance requirements.....	40
7.1.1.4.4	Test description	40
7.1.1.5	CTP 1.1.2.1 eCall automatically activated - PE eCall IVS	40
7.1.1.5.1	Test Purpose (TP).....	40
7.1.1.5.2	Test applicability	41
7.1.1.5.3	Conformance requirements.....	41
7.1.1.5.4	Test description	41
7.1.1.6	CTP 1.1.2.2 Automatically triggered eCall in progress was not disconnected upon a new eCall trigger - PE eCall IVS	41
7.1.1.6.1	Test Purpose (TP).....	41
7.1.1.6.2	Test applicability	41
7.1.1.6.3	Conformance requirements.....	42
7.1.1.6.4	Test description	42
7.1.1.7	CTP 1.1.2.3 Post-side-crash performance of automatic trigger - IVS.....	42
7.1.1.7.1	Test Purpose (TP).....	42
7.1.1.7.2	Test applicability	42
7.1.1.7.3	Conformance requirements.....	42
7.1.1.7.4	Test description	43
7.1.1.8	CTP 1.1.2.4 Post-frontal-crash performance of automatic trigger - IVS.....	43
7.1.1.9	CTP 1.1.2.5 Performance of automatic trigger - different crash types - IVS	43
7.1.1.9.1	Test Purpose (TP).....	43
7.1.1.9.2	Test applicability	43
7.1.1.9.3	Conformance requirements.....	44

7.1.1.9.4	Test description	44
7.1.1.10	CTP 1.1.3.1 eCall manually activated - PE eCall IVS	44
7.1.1.10.1	Test Purpose (TP)	44
7.1.1.10.2	Test applicability	44
7.1.1.10.3	Conformance requirements.....	44
7.1.1.10.4	Test description	44
7.1.1.11	CTP 1.1.3.2 Manually triggered eCall in progress was not disconnected upon a new eCall trigger - PE eCall IVS.....	45
7.1.1.11.1	Test Purpose (TP)	45
7.1.1.11.2	Test applicability	45
7.1.1.11.3	Conformance requirements.....	45
7.1.1.11.4	Test description	45
7.1.1.12	CTP 1.1.4.1 Test eCall activated - PE eCall IVS	46
7.1.1.12.1	Test Purpose (TP)	46
7.1.1.12.2	Test applicability	46
7.1.1.12.3	Conformance requirements.....	46
7.1.1.12.4	Test description	46
7.1.1.13	CTP 1.1.5.1 Network registration - PE eCall IVS.....	47
7.1.1.13.1	Test Purpose (TP)	47
7.1.1.13.2	Test applicability	47
7.1.1.13.3	Conformance requirements.....	47
7.1.1.13.4	Test description	47
7.1.1.14	CTP 1.1.5.2 Manual termination of eCall by vehicle occupants not allowed (automatically triggered eCall) - PE eCall IVS.....	48
7.1.1.14.1	Test Purpose (TP)	48
7.1.1.14.2	Test applicability	48
7.1.1.14.3	Conformance requirements.....	48
7.1.1.14.4	Test description	48
7.1.1.15	CTP 1.1.5.3 Manual termination of eCall by vehicle occupants not allowed (manually triggered eCall) - PE eCall IVS	49
7.1.1.15.1	Test Purpose (TP)	49
7.1.1.15.2	Test applicability	49
7.1.1.15.3	Conformance requirements.....	49
7.1.1.15.4	Test description	49
7.1.1.16	CTP 1.1.5.4 Automatically triggered eCall in progress was not disconnected when ignition is switched to OFF - PE eCall IVS.....	49
7.1.1.16.1	Test Purpose (TP)	49
7.1.1.16.2	Test applicability	50
7.1.1.16.3	Conformance requirements.....	50
7.1.1.16.4	Test description	50
7.1.1.17	CTP 1.1.5.5 Manually triggered eCall in progress was not disconnected when ignition is switched to OFF - PE eCall IVS	50
7.1.1.17.1	Test Purpose (TP)	50
7.1.1.17.2	Test applicability	50
7.1.1.17.3	Conformance requirements.....	50
7.1.1.17.4	Test description	50
7.1.1.18	Void.....	51
7.1.1.18a	CTP 1.1.5.6 Priority over conflicting communication - PE eCall capable IVS	51
7.1.1.18a.1	Test Purpose (TP)	51
7.1.1.18a.2	Test applicability	52
7.1.1.18a.3	Conformance requirements.....	52
7.1.1.18a.4	Test description	52
7.1.1.18b	CTP 1.1.5.6 Priority over conflicting communication - PE eCall only IVS.....	52
7.1.1.19	CTP 1.1.5.7 Network registration is re-tried when network registration attempt was not successful - PE eCall IVS	53
7.1.1.20a	CTP 1.1.6.1 Mute IVS and vehicle audio - PE eCall capable IVS.....	53
7.1.1.20a.1	Test Purpose (TP)	53
7.1.1.20a.2	Test applicability	53
7.1.1.20a.3	Conformance requirements.....	54
7.1.1.20a.4	Test description	54
7.1.1.20b	CTP 1.1.6.1 Mute IVS and vehicle audio - PE eCall only IVS.....	54
7.1.1.20b.1	Test Purpose (TP).....	54

7.1.1.20b.2	Test applicability	55
7.1.1.20b.3	Conformance requirements.....	55
7.1.1.20b.4	Test description	55
7.1.1.21	CTP 1.1.7.1 Set-up TS12 call with eCall identifier (flag) set to "automatic" - PE eCall IVS.....	56
7.1.1.21.1	Test Purpose (TP).....	56
7.1.1.21.2	Test applicability	56
7.1.1.21.3	Conformance requirements.....	56
7.1.1.21.4	Test description	56
7.1.1.22	CTP 1.1.8.1 Set-up TS12 call with eCall identifier (flag) set to "manual" - PE eCall IVS.....	57
7.1.1.22.1	Test Purpose (TP).....	57
7.1.1.22.2	Test applicability	57
7.1.1.22.3	Conformance requirements.....	57
7.1.1.22.4	Test description	57
7.1.1.23	CTP 1.1.9.1 Set-up TS11 call to test number - PE eCall IVS	58
7.1.1.23.1	Test Purpose (TP).....	58
7.1.1.23.2	Test applicability	58
7.1.1.23.3	Conformance requirements.....	58
7.1.1.23.4	Test description	58
7.1.1.24a	CTP 1.1.10.1 eCall is attempted when no networks are available (limited service condition with forbidden PLMN on SIM/USIM) - PE eCall IVS.....	59
7.1.1.24a.1	Test Purpose (TP).....	59
7.1.1.24a.2	Test applicability	59
7.1.1.24a.3	Conformance requirements.....	59
7.1.1.24a.4	Test description	59
7.1.1.24b	CTP 1.1.10.1 eCall is attempted when no networks are available (limited service condition, location update rejected by network) - PE eCall IVS.....	60
7.1.1.24b.1	Test Purpose (TP).....	60
7.1.1.24b.2	Test applicability	60
7.1.1.24b.3	Conformance requirements.....	60
7.1.1.24b.4	Test description	61
7.1.1.25	CTP 1.1.10.2 Re-dial attempt completed within 2 minutes after eCall is dropped - PE eCall IVS.....	61
7.1.1.25.1	Test Purpose (TP).....	61
7.1.1.25.2	Test applicability	62
7.1.1.25.3	Conformance requirements.....	62
7.1.1.25.4	Test description	62
7.1.1.26	CTP 1.1.10.3 Duration of eCall Initiation signal - PE eCall IVS.....	62
7.1.1.26.1	Test Purpose (TP).....	62
7.1.1.26.2	Test applicability	63
7.1.1.26.3	Conformance requirements.....	63
7.1.1.26.4	Test description	63
7.1.1.27	CTP 1.1.11.1 Send MSD with indicator set to "Automatically Initiated eCall" (AleC) - PE eCall IVS.....	63
7.1.1.27.1	Test Purpose (TP).....	63
7.1.1.27.2	Test applicability	63
7.1.1.27.3	Conformance requirements.....	63
7.1.1.27.4	Test description	63
7.1.1.28	CTP 1.1.12.1 Send MSD with indicator set to "Manually Initiated eCall" (MieC) - PE eCall IVS.....	64
7.1.1.28.1	Test Purpose (TP).....	64
7.1.1.28.2	Test applicability	64
7.1.1.28.3	Conformance requirements.....	64
7.1.1.28.4	Test description	64
7.1.1.29	CTP 1.1.13.1 Send MSD with indicator set to "Test eCall" - PE eCall IVS	65
7.1.1.29.1	Test Purpose (TP).....	65
7.1.1.29.2	Test applicability	65
7.1.1.29.3	Conformance requirements.....	65
7.1.1.29.4	Test description	65
7.1.1.30	CTP 1.1.14.1 Verify MSD transfer - PE eCall IVS.....	66
7.1.1.30.1	Test Purpose (TP).....	66
7.1.1.30.2	Test applicability	66
7.1.1.30.3	Conformance requirements.....	67
7.1.1.30.4	Test description	67
7.1.1.31	CTP 1.1.14.2 Un-mute IVS audio when AL-ACK received - PE eCall IVS	67

7.1.1.31.1	Test Purpose (TP).....	67
7.1.1.31.2	Test applicability	68
7.1.1.31.3	Conformance requirements.....	68
7.1.1.31.4	Test description	68
7.1.1.32	CTP 1.1.15.1 Establish voice link to PSAP - PE eCall IVS.....	68
7.1.1.32.1	Test Purpose (TP).....	68
7.1.1.32.2	Test applicability	69
7.1.1.32.3	Conformance requirements.....	69
7.1.1.32.4	Test description	69
7.1.1.33	CTP 1.1.15.2 MSD transfer request while eCall conversation in progress - PE eCall IVS	69
7.1.1.33.1	Test Purpose (TP).....	69
7.1.1.33.2	Test applicability	70
7.1.1.33.3	Conformance requirements.....	70
7.1.1.33.4	Test description	70
7.1.1.34	CTP 1.1.15.3 eCall continuation when SEND MSD request not received (T5 expired) - PE eCall IVS	71
7.1.1.34.1	Test Purpose (TP).....	71
7.1.1.34.2	Test applicability	71
7.1.1.34.3	Conformance requirements.....	71
7.1.1.34.4	Test description	72
7.1.1.35	CTP 1.1.15.4 Call continuation when AL-ACK not received (T6 expired) - PE eCall IVS	72
7.1.1.35.1	Test Purpose (TP).....	72
7.1.1.35.2	Test applicability	72
7.1.1.35.3	Conformance requirements.....	73
7.1.1.35.4	Test description	73
7.1.1.36	CTP 1.1.15.5 MSD is transferred continuously until T7 expires and IVS reconnects loudspeaker and microphone on its expiry - PE eCall IVS	73
7.1.1.36.1	Test Purpose (TP).....	73
7.1.1.36.2	Test applicability	73
7.1.1.36.3	Conformance requirements.....	74
7.1.1.36.4	Test description	74
7.1.1.37	CTP 1.1.16.1 Clear down call automatically - PE eCall IVS.....	74
7.1.1.37.1	Test Purpose (TP).....	74
7.1.1.37.2	Test applicability	75
7.1.1.37.3	Conformance requirements.....	75
7.1.1.37.4	Test description	75
7.1.1.38	CTP 1.1.16.2 IVS clears down the eCall upon T2 expiry - PE eCall IVS	76
7.1.1.38.1	Test Purpose (TP).....	76
7.1.1.38.2	Test applicability	76
7.1.1.38.3	Conformance requirements.....	77
7.1.1.38.4	Test description	77
7.1.1.39	CTP 1.1.16.3 IVS registers recent eCalls - PE eCall IVS	77
7.1.1.39.1	Test Purpose (TP).....	77
7.1.1.39.2	Test applicability	78
7.1.1.39.3	Conformance requirements.....	78
7.1.1.39.4	Test description	78
7.1.1.40	CTP 1.1.17.1 Call-back allowed and able to be answered by IVS - PE eCall IVS	78
7.1.1.40.1	Test Purpose (TP).....	78
7.1.1.40.2	Test applicability	79
7.1.1.40.3	Conformance requirements.....	79
7.1.1.40.4	Test description	79
7.1.1.41	CTP 1.1.17.2 Call-back answered by IVS in the event of abnormal termination - PE eCall IVS.....	79
7.1.1.41.1	Test Purpose (TP).....	79
7.1.1.41.2	Test applicability	80
7.1.1.41.3	Conformance requirements.....	80
7.1.1.41.4	Test description	80
7.1.1.42	CTP 1.1.17.3 MSD transfer occurs upon PSAP request during call-back - PE eCall IVS.....	81
7.1.1.42.1	Test Purpose (TP).....	81
7.1.1.42.2	Test applicability	81
7.1.1.42.3	Conformance requirements.....	82
7.1.1.42.4	Test description	82
7.1.1.43	CTP 1.1.17.4 Remain registered for ≥ 1 hr - PE eCall IVS.....	82

7.1.1.43.1	Test Purpose (TP).....	82
7.1.1.43.2	Test applicability	83
7.1.1.43.3	Conformance requirements.....	83
7.1.1.43.4	Test description	83
7.1.2	Conformance tests for in-vehicle user equipment for Pan European eCall - additional tests for eCall only systems.....	84
7.1.2.1	CTP 1.1.1.2 IVS does not perform registration after power-up - PE eCall only IVS.....	84
7.1.2.1.1	Test Purpose (TP).....	84
7.1.2.1.2	Test applicability	84
7.1.2.1.3	Conformance requirements.....	84
7.1.2.1.4	Test description	84
7.1.2.2	CTP 1.1.1.3 IVS periodically scans and maintains a list of available PLMNs - PE eCall only IVS.....	84
7.1.2.3	CTP 1.1.10.4 Verify that PLMN registration procedure is executed upon initiating an eCall - PE eCall only IVS.....	85
7.1.2.3.1	Test Purpose (TP).....	85
7.1.2.3.2	Test applicability	85
7.1.2.3.3	Conformance requirements.....	85
7.1.2.3.4	Test description	85
7.1.2.4	CTP 1.1.17.5 Remain registered for ≥ 1 hr ≤ 12 hr - PE eCall only IVS	86
7.1.2.4.1	Test Purpose (TP).....	86
7.1.2.4.2	Test applicability	86
7.1.2.4.3	Conformance requirements.....	86
7.1.2.4.4	Test description	86
7.1.3	Conformance tests for in-vehicle user equipment for Pan European eCall via a third party service provider.....	87
7.1.4	Minimum Performance requirements for in-vehicle user equipment for Pan-European eCall	87
7.1.4.1	MSD transmission time for different channel conditions.....	87
7.1.4.1.1	Definition.....	87
7.1.4.1.2	Conformance requirements.....	87
7.1.4.1.3	Test purpose	87
7.1.4.1.4	Method of test.....	87
7.1.4.1.5	Test requirements	89
7.1.4.2	MSD transmission time in noisy conditions.....	90
7.1.4.3	MSD transmission time with scaling of PCM signals.....	90
7.2	Mobile Network Operators.....	90
7.3	PSAP Systems.....	90
7.4	TPS-eCall	90
Annex A (informative):	Recommended test case applicability.....	91
Annex B (informative):	Change History	94
History		95

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Mobile Standards Group (MSG).

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document specifies the Pan-European eCall end to end and in-band modem conformance testing.

This is a complete test specification. The following information can be found in the present document:

- the overall test structure;
- the test configurations;
- the conformance requirement and reference to the core specifications;
- the test purposes; and
- a brief description of the test procedure, the specific test requirements and <eventually> short message exchange table;
- the default setting of the test parameters;
- the applicability of each test case.

The present document is valid for a Pan-European (PE) eCall IVS.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- [1] CEN EN 16454:2015: "Intelligent transport systems - ESafety - ECall end to end conformance testing".
- [2] ETSI TS 134 123-1: "Universal Mobile Telecommunications System (UMTS); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification (3GPP TS 34.123-1)".
- [3] ETSI TS 102 936-1 (V1.1.1) (2011-04): "eCall Network Access Device (NAD) conformance specification; Part 1: Protocol test specification".
- [4] ETSI TS 102 936-2 (V1.1.1) (2011-04): "eCall Network Access Device (NAD) conformance specification; Part 2: Test suites".
- [5] ETSI TS 126 269 (V13.0.0) (2016-02): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); eCall data transfer; In-band modem solution; Conformance testing (3GPP TS 26.269 version 13.0.0 Release 13)".
- [6] CEN EN 16062:2015: "Intelligent transport systems - ESafety - eCall high level application requirements (HLAP) using GSM/UMTS circuit switched networks".
- [7] ETSI TS 127 007: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; AT command set for User Equipment (UE) (3GPP TS 27.007)".

- [8] CEN EN 16072:2015: "Intelligent transport systems - ESafety - Pan-European eCall operating requirements".
- [9] ETSI TS 151 010-1: "Digital cellular telecommunications system (Phase 2+) (GSM); Mobile Station (MS) conformance specification; Part 1: Conformance specification (3GPP TS 51.010-1)".
- [10] ETSI TS 136 508: "LTE; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); Common test environments for User Equipment (UE) conformance testing (3GPP TS 36.508)".
- [11] ETSI TS 124 008: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; Mobile radio interface Layer 3 specification; Core network protocols; Stage 3 (3GPP TS 24.008)".
- [12] CEN EN 15722:2015: "Intelligent transport systems - ESafety - ECall minimum set of data".
- [13] Void.
- [14] Directive 96/27/EC of the European Parliament and of the Council of 20 May 1996 on the protection of occupants of motor vehicles in the event of a side impact and amending Directive 70/156/EEC or equivalent Regulation No 95 of the Economic Commission for Europe of the United Nations (UN/ECE) Uniform provisions concerning the approval of vehicles with regard to the protection of the occupants in the event of a lateral collision. Addendum 94: Regulation No 95.
- NOTE: Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:313:0001:0057:EN:PDF>.
- [15] ETSI TS 100 910: "Digital cellular telecommunications system (Phase 2+); Radio Transmission and Reception (3GPP TS 05.05)".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI TS 103 321: "Mobile Standards Group (MSG); eCall HLAP Conformance Testing; Abstract Test Suite (ATS) and Protocol Implementation eXtra Information for Testing (PIXIT)".
- [i.2] ETSI MSG(14)042005r1: "STF483(eCallHLAPTesting)-Feedback-CEN16454".
- [i.3] 3GPP RAN5 PRD 13: "3rd Generation Partnership Project; Technical Specification Group RAN WG5; Permanent Reference Document (PRD); EPS (E-UTRAN & EPC) TC prose specification requirements".
- [i.4] ISO 15031-3:2004: "Road vehicles -- Communication between vehicle and external equipment for emissions-related diagnostics -- Part 3: Diagnostic connector and related electrical circuits, specification and use".
- [i.5] ETSI TS 134 108: "Universal Mobile Telecommunications System (UMTS); LTE; Common test environments for User Equipment (UE); Conformance testing (3GPP TS 34.108)".
- [i.6] ETSI TS 122 011: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Service accessibility (3GPP TS 22.011)".
- [i.7] ETSI TS 123 122: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Non-Access-Stratum (NAS) functions related to Mobile Station (MS) in idle mode (3GPP TS 23.122)".

- [i.8] ETSI TS 126 132: "Universal Mobile Telecommunications System (UMTS); LTE; Speech and video telephony terminal acoustic test specification (3GPP TS 26.132)".
- [i.9] ETSI TR 126 969: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); eCall data transfer; In-band modem solution; Characterization report (3GPP TR 26.969)".

3 Definition of terms, symbols and abbreviations

3.1 Terms

Void.

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ACK	ACKnowledgement
AL	Application Layer
AL-ACK	Application Layer - ACKnowledgement
AMR-NB	Adaptive Multirate codec - Narrow Band
AMR-WB	Adaptive Multirate codec - Wide Band
AT	ATtention
CAN	Controller Area Network
CCFT	Call Cleardown Fallback Timer
CEN	European Committee for Standardization
CM	Communication Management
CRC	Cycle Redundancy Check
CTP	Conformance Test Point
DTX	Discontinuous Transmission
DUT	Device Under Test
EC	European Commission
ECE	(United Nations) Economic Commission for Europe
EF	Elementary File
EN	European Norm
EST	Enabled Services Table
FDN	Fixed Dialling Number
FDN	Fixed Dialling Number
GERAN	GSM/EDGE Radio Access Network
GMSK	Gaussian Minimum Shift Keying
GNSS	Global Navigation Satellite System
GSM	Global System for Mobile communications
GSM-FR	Global System for Mobile communications Full Rate codec
GSM-HR	Global System for Mobile communications Half Rate codec
HLAP	Higher Layer Application Protocol
HMI	Human Machine Interface
ICS	Implementation Conformance Statement
IE	Information Element
IGN_ON	IGNition ON
IMSI	International Mobile Subscriber Identity
ISO	International Standardization Organization
IVS	In-Vehicle System
LL	Link Layer

LL-ACK	Link Layer - ACKnowledgement
MM	Mobility Management
MMI	Man Machine Interface
MNO	Mobile Network Operator
MS	Mobile Station
MSD	Minimum Set of Data
MSG	Mobile Standards Group
NACK	Negative ACKnowledge
NAD	Network Access Device
PCM	Pulse Code Modulation
PE	Pan-European
PIXIT	Protocol Implementation eXtra Information for Testing
PLMN	Public Land Mobile Network
PRD	Permanent Reference Document
PSAP	Public Safety Answering Point
RACH	Random Access CHannel
RAN	Radio Access Network
RAT	Radio Access Technology
REQ	Request
RRC	Radio Resource Control
SDN	Service Dialling Number
SDN	Service Dialling Number
SIM	Subscriber Identity Module
SS	System Simulator
TC	Test Case
TMSI	Temporary Mobile Subscriber Identity
TP	Test Purpose
TTCN	Testing and Test Control Notation
TX	Transmission
UE	User Equipment
UMTS	Universal Mobile Telecommunications System
UN	United Nations
USIM	Universal Subscriber Identification/Identity Module
UST	USIM Service Table
UTRA	UMTS Terrestrial Radio Access

4 Glossary

4.1 Intention of the glossary

For eCall there exists several specifications that use different wording. The main intention of the glossary is to provide background information on the formulations used in the present document, especially in figures 5.2.3-1 to 5.2.3-3, and to prevent ambiguities. The expressions are used throughout the whole document e.g. in the test case section as well. Please note that other documents may contain the same formulation with a different meaning.

The state diagram introduces several categories (see legend in figure 5.2.3-1) according to which the glossary is sorted:

- States are the mirrored states of the IVS as perceived monitored at the tester. A mirror state will remain until there is any tester input/output, internal tester actions/trigger.
- Decisions are alternatives in the process. The tester makes the decision.
- Procedures describe multiple step message exchange between the IVS and the MNO/PSAP/tester. The messages may vary for different Radio Access Technologies used.