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Intelligent transport systems - ESafety - ECall end to end conformance testing for eCall HLAP in hybrid circuit switched/packet switched network environments

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Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 29.10.2025.	Date of Availability of the European standard is 29.10.2025.
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ICS 35.240.60

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EUROPEAN STANDARD

NORME EUROPÉENNE

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October 2025

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English Version

Intelligent transport systems - ESafety - ECall end to end conformance testing for eCall HLAP in hybrid circuit switched/packet switched network environments

Systèmes de transport intelligents - eSafety - Essais de conformité du système eCall de bout en bout pour le HLAP d'eCall dans les environnements réseaux hybrides à commutation de circuits et de paquets

Intelligente Verkehrssysteme - eSicherheit - eCall-Ende-zu-Ende Konformitätsprüfungen für übergeordnete eCall-Anwendungen in hybriden leitungs-/paketvermittelnden Netzwerkumgebungen

This European Standard was approved by CEN on 6 July 2025.

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Contents

Page

European foreword 5

Introduction 6

1 Scope 8

2 Normative references 8

3 Terms and definitions 9

4 Abbreviations 12

5 Conformance 14
5.1 General 14
5.2 General conditions 14

6 General overview of the eCall transaction for pan-European eCall 14
6.1 General principle 14

7 How to use this Standard 18
7.1 Layout and procedures 18
7.2 System under test 19

8 Requirements 20
8.1 General objectives 20
8.1.1 State transitions 20
8.1.2 Classification of testing 26
8.1.3 CTP naming conventions 28
8.1.4 CTP <stage> naming convention for conformance tests 28
8.2 CTP structure 29
8.3 eCall timers 30
8.4 CTP Test Applicability 30

9 Conformance tests for in-vehicle systems (IVS) 31
9.1 Taxonomy of testing 31
9.2 Conformance tests for eCall In-Vehicle Systems (IVS) to demonstrate compliance with EN 17905 31
9.2.1 General 31
9.2.2 CTP 1.1.1.1 Self-test and fault indication IVS 33
9.2.3 CTP 1.1.2.1 Domain selection skipped and IVS remains registered in CS domain - IVS 35
9.2.4 CTP 1.1.2.2 Domain selection skipped and IVS remains registered in PS domain - IVS 37
9.2.5 CTP 1.1.2.3 Domain selection performed and eCall initiated in CS domain - IVS 38
9.2.6 CTP 1.1.2.4 Domain selection performed and eCall initiated in PS domain - IVS 40
9.2.7 CTP 1.1.2.5 Domain selection performed and eCall initiated in PS domain in different RAT - IVS 42
9.2.8 CTP 1.1.6.1 eCall successful in CS domain - IVS 44
9.2.9 CTP 1.1.6.2 eCall successful in CS domain in limited service state - IVS 45
9.2.10 CTP 1.1.6.3 eCall successful in PS domain - IVS 46
9.2.11 CTP 1.1.10.1 Domain change and fallback to IMS emergency call in PS domain after network registration and eCall failed and after unsuccessful re-attempt in CS domain - IVS 47

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9.2.12 CTP 1.1.10.2 Domain change and fallback to IMS emergency call in PS domain after eCall failed and after unsuccessful re-attempt in CS domain - IVS 49
9.2.13 CTP 1.1.10.3 Fallback to IMS emergency call in PS domain after missing AL-ACK for initial MSD - IVS 51
9.2.14 CTP 1.1.10.4 Domain change and fallback to IMS emergency call in PS domain after eCall is dropped before the MSD is acknowledged and after unsuccessful re-attempt in CS domain - IVS 53
9.2.15 CTP 1.1.10.5 Fallback to emergency call in CS domain - IVS 55
9.2.16 CTP 1.1.10.6 Domain change to PS domain after network registration and eCall failed in CS domain - IVS 57
9.2.17 CTP 1.1.10.7 Domain change to PS domain after eCall failed in CS domain - IVS 59
9.2.18 CTP 1.1.10.8 Domain change to CS domain after eCall failed in PS domain - IVS 61
9.2.19 CTP 1.1.10.9 Domain change to CS domain after eCall failed and after unsuccessful re-attempt in PS domain - IVS 63
9.2.20 CTP 1.1.10.10 Domain change and fallback to eCall (emergency call) in CS domain after eCall failed in PS domain - IVS 65
9.2.21 CTP 1.1.10.11 Domain change and fallback to eCall (emergency call) in CS domain after eCall failed and after unsuccessful re-attempt in PS domain - IVS 67
9.2.22 CTP 1.1.10.12 Domain change to PS domain after eCall is dropped before the MSD is acknowledged and after unsuccessful re-attempt in CS domain - IVS 69
9.2.23 CTP 1.1.10.13 Domain change to PS domain and MSD transfer using in-band modem after eCall is dropped before the MSD is acknowledged and after unsuccessful re-attempt in CS domain - IVS 71
9.2.24 CTP 1.1.10.14 Domain change to CS domain after eCall is rejected and MSD acknowledged in PS domain - IVS 73
9.2.25 CTP 1.1.10.15 No Call reattempt or domain change to CS domain after eCall is rejected and MSD acknowledged in PS domain - IVS 75
9.2.26 CTP 1.1.10.16 Domain change to CS domain after eCall is rejected and negative AL-ACK and unsuccessful re-attempt in PS domain - IVS 77
9.2.27 CTP 1.1.10.17 Domain change to CS domain after eCall is rejected and negative AL-ACK in PS domain - IVS 79
9.2.28 CTP 1.1.10.18 Domain change to CS domain after eCall is rejected and missing AL-ACK and unsuccessful re-attempt in PS domain - IVS 81
9.2.29 CTP 1.1.10.19 Domain change to CS domain after eCall is rejected and missing AL-ACK in PS domain - IVS 83
9.2.30 CTP 1.1.10.20 Domain change to CS domain after eCall is not answered and unsuccessful re-attempt in PS domain - IVS 85
9.2.31 CTP 1.1.10.21 Domain change to CS domain after eCall is not answered in PS domain - IVS 87
9.2.32 CTP 1.1.10.22 Domain change to CS domain after eCall is dropped before the MSD is acknowledged and after unsuccessful re-attempt in PS domain - IVS 89
9.2.33 CTP 1.1.10.23 Domain change to CS domain after eCall is dropped before the MSD is acknowledged in PS domain - IVS 91
9.2.34 CTP 1.1.15.1 New/updated MSD after in-call domain handover - IVS 93
9.2.35 CTP 1.1.17.1 Call-back allowed after domain change to CS domain - IVS 95
9.2.36 CTP 1.1.17.2 Call-back allowed after domain change to PS domain - IVS 97
9.2.37 CTP 1.1.17.3 Remain registered for ≥ 1 hr after in-call domain handover - IVS 99
9.2.38 CTP 1.1.17.4 Remain registered for ≥ 1 hr after domain change to CS domain - IVS 101
9.2.39 CTP 1.1.17.5 Remain registered for ≥ 1 hr after domain change to PS domain - IVS 103
9.2.40 CTP 1.1.18.1 MSD transfer using in-band modem in PS domain after negative AL-ACK for initial MSD - IVS 105

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9.2.41 CTP 1.1.18.2 MSD transfer using in-band modem in PS domain after missing AL-ACK for initial MSD - IVS 107
9.3 Additional conformance tests for eCall-only in-vehicle systems to demonstrate compliance with EN 17905 109
9.3.1 General 109
9.3.2 CTP 1.2.6.1 eCall successful in PS domain in limited service state - eCall-only IVS 110
9.3.3 CTP 1.2.10.1 Domain change to CS domain after eCall is rejected and MSD acknowledged in limited service state in PS domain - eCall-only IVS 112
9.3.4 CTP 1.2.10.2 Domain change to CS domain after network registration and eCall failed in PS domain - eCall-only IVS 114
9.3.5 CTP 1.2.10.3 Domain change to CS domain after network registration and eCall failed and after unsuccessful re-attempt in PS domain - eCall-only IVS 116
9.3.6 CTP 1.2.17.1 Remain registered for ≥ 1 hr ≤ 12 hr after in-call domain handover - eCall-only IVS 118

10 Conformance tests for Mobile Network Operator (MNO) systems 120
10.1 Taxonomy of testing 120
10.2 Conformance tests for MNOs to demonstrate compliance with EN 17905 120
10.2.1 General 120
10.2.2 CTP 2.1.3.1 New/updated MSD after in-call domain handover - MNO 122
10.2.3 CTP 2.1.3.2 New/updated MSD after in-call domain handover - Roaming - MNO 124
10.2.4 CTP 2.1.5.1 Call-back after in-call domain handover - MNO 126
10.2.5 CTP 2.1.5.2 Call-back after in-call domain handover - Roaming - MNO 128
10.2.6 CTP 2.1.5.3 Call-back after domain change to CS domain - MNO 130
10.2.7 CTP 2.1.5.4 Call-back after domain change to PS domain - MNO 131

11 Conformance tests for Public Safety Answering Point (PSAP) systems 132
11.1 Taxonomy of testing 132
11.2 Conformance tests for PSAPs to demonstrate compliance with EN 17905 132
11.2.1 General 132
11.2.2 CTP 3.1.10.1 Logging of MSD transfer type of eCall in CS domain - PSAP 134
11.2.3 CTP 3.1.10.2 Logging of MSD transfer type of eCall in PS domain - PSAP 135
11.2.4 CTP 3.1.10.3 Logging of MSD transfer type (in-band modem) of eCall in PS domain - PSAP 136
11.2.5 CTP 3.1.13.1 Request new MSD after in-call domain handover before call clear-down - PSAP 138
11.2.6 CTP 3.1.15.1 Call-back to vehicle after in-call domain handover - PSAP 140
11.2.7 CTP 3.1.15.2 Call-back to vehicle after domain change to CS domain - PSAP 141
11.2.8 CTP 3.1.15.3 Call-back to vehicle after domain change to PS domain - PSAP 142
11.2.9 CTP 3.1.16.1 Request new MSD failed after call clear-down and domain change to CS domain - PSAP 143
11.2.10 CTP 3.1.16.2 Request new MSD failed after call clear-down and domain change to PS domain - PSAP 145
11.2.11 CTP 3.1.16.3 Request new MSD after call clear-down and domain change to CS domain - PSAP 147
11.2.12 CTP 3.1.16.4 Request new MSD after call clear-down and domain change to PS domain - PSAP 149

12 Marking, labelling and packaging 151

13 Declaration of patents and intellectual property 151

Bibliography 152

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European foreword

This document (EN 18052:2025) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document is the result of narrowing down the scope of EN 17240 to exclusively describe end to end conformance tests for the eCall High Level Application Protocols in packet switched networks.

This document complements EN 16454 and EN 17240.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom

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Introduction

An *eCall* is an emergency call generated either automatically via activation of in-vehicle sensors or manually by the *vehicle occupants*; when activated, to provide notification and relevant location information to the most appropriate *Public Safety Answering Point* (PSAP), by means of *mobile wireless communications networks* and carries a defined standardized *Minimum Set of Data*, notifying that there has been an incident that requires response from the emergency services and establishes an audio channel between the occupants of the vehicle and the *most appropriate PSAP*.

NOTE 1 The term PSAP, which is most widely used in the *eCall* documentation, European Commission documents, etc., is used throughout this document and equates to the term *emergency call response centre* used in the ITS Implementation Directive.

EN 15722 specifies a standardized MSD for eCall, EN 16062 specifies high level application protocols for eCall and EN 16072 specifies pan-European eCall operating requirements. For third party systems, EN 16102 specifies third party services supporting eCall operating requirements.

The pan-European *eCall* are made using Public Land Mobile Networks (PLMN) for which operating requirements are specified in a number of ETSI standards and technical specifications. In order to provide the *eCall service* across a wireless network, high level application protocols are required as an important essential element to affect this service provision. Originally PLMN were circuit switched networks for which EN 16062 specifies High Level Application Protocols. In these networks eCall uses Teleservice No 12 (TS12) and in-band modem transfer of data.

Over time, new communication technologies have become available. These technologies use so called 'packet switched' technologies using Internet protocols (IP). Particularly, 3GPP have evolved a communication management system called IMS (IP Multimedia Subsystem) which is suitable to operate over a number of bearer technologies, including LTE, NR and their successors. It is anticipated that packet switched networks (such as LTE, NR and their successors), which now co-exist with circuit switched networks (like GSM/UMTS), will, over the course of time, replace circuit switched networks.

EN 17184 provides High Level Application Protocols (HLAP) for eCall using IMS over packet switched networks. It provides the equivalent of EN 16062 for circuit switched networks and should be suitable for all/any packet switched networks and wireless access such as LTE, NR and their successors. A new Standards Deliverable EN 17905 has been developed for the provision of *eCall* HLAP in hybrid circuit switched/packet switched network environments.

In some areas both circuit switched and packet switched networks will co-exist, but there will be areas that only have packet switched network services. This document specifies the protocols in this hybrid situation, in order to make sure that pan-European *eCall* will function as efficiently as possible.

NOTE 2 A (possibly) large number of vehicles support circuit switched in-band eCall only (and not eCall using IMS over packet switched networks). For these to be able to continue using the *eCall service* either the onboard equipment will need to be upgraded (to support eCall using IMS) or sufficient circuit switched networks need to remain operational. This falls outside the scope of this document and is not addressed herein.

This document complements EN 16454 and EN 17240 and provides a set of end to end conformance tests in order to verify the support of *eCall* HLAP in hybrid circuit switched/packet switched network environments. This document provides tests to enable actors in the eCall chain to be able to claim conformance with EN 17905, even though they are unable to control the behaviour of systems of other actors in the eCall chain.

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NOTE 3 Conformance tests in this document allow demonstration that a system complies with EN 17905 and is a prerequisite to providing an interoperable compliant system, but do not by themselves demonstrate that a system will function nor guarantee the quality of service.

The European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with this document may involve the use of patents concerning eCall given in EN 16062 and various ETSI standards for the *network access device* and cellular mobile networks.

CEN takes no position concerning the evidence, validity and scope of these patent rights.

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1 Scope

This document describes the key actors in the eCall chain of service provision in hybrid circuit switched/packet switched network environments as:

1) *In-Vehicle System* (IVS)/vehicle,

2) Mobile Network Operator (MNO),

3) *Public Safety Answering Point* (PSAP),

and to provide conformance tests for actor groups 1) – 3).

NOTE 1 Conformance tests are not appropriate nor required for *vehicle occupants*, although they are the recipients of the service.

NOTE 2 Third party eCall systems (*TPS-eCall*) are not within the scope of this document. This is because the core *TPS-eCall* standard (EN 16102) does not specify the communications link between the vehicle and the TPS *service provider*.

NOTE 3 These conformance tests are partly based on the appropriate conformance tests from EN 16454 and EN 17240. This deliverable therefore adapts and revises Conformance Test Procedures (CTPs) from EN 16454 and EN 17240 for hybrid circuit switched/packet switched network environments.

This document complements EN 16454 and EN 17240 and provides a suite of conformance tests for IVS equipment, MNOs and PSAPs, required to ensure and demonstrate compliance with EN 17905.

The scope covers conformance testing of new engineering developments, products and systems, and does not imply testing associated with individual installations in vehicles or locations.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 17905:2023, *Intelligent transport systems - eSafety - eCall HLAP in hybrid circuit switched/packet switched network environments*

EN 17184:2024, *Intelligent transport systems - eSafety - eCall High level application Protocols (HLAP) using IMS packet switched networks*

EN 16062:2023, *Intelligent transport systems - ESafety - eCall high level application requirements (HLAP) using GSM/UMTS circuit switched networks*

EN 15722, *Intelligent transport systems - ESafety - ECall minimum set of data*

EN 16072:2025, *Intelligent transport systems - ESafety - Pan-European eCall operating requirements*

ETSI TS 124 229 (Release 16), *Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 (3GPP TS 24.229 Release 16)*

ETSI TS 123 167 (Release 16), *Universal Mobile Telecommunications System (UMTS); LTE; IP Multimedia Subsystem (IMS) emergency sessions (3GPP TS 23.167 Release 16)*

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