

Intelligent transport systems - ESafety - eCall high level application requirements (HLAP) using GSM/UMTS circuit switched networks

EESTI STANDARDI EESSÕNA

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English Version

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

Systèmes de transport intelligents - ESafety - Exigences de
protocole d'application de haut niveau (HLAP) relatives à
l'eCall via des réseaux commutés de circuits GSM/UMTS

Intelligente Transportsysteme - ESicherheit - Allgemeine
eCall Anforderungen (HLAP) unter Verwendung von
geschalteten GSM/UTMS Netzwerken

This European Standard was approved by CEN on 1 February 2015.

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Foreword

This document (EN 16062:2015) 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of an identical text or by endorsement, at the latest by October 2015, and conflicting national standards shall be withdrawn at the latest by October 2015.

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

This document supersedes EN 16062:2011.

The following changes have been introduced in this revision:

- Improvements in the precision of technical description and update of references;
- 7.4.2 (initiation sequence) has been revised to enable faster connections;
- Timer values have been changed;
- Some Notes have been removed;
- Grammar/presentation has been improved;
- An optional network echo cancellation suppression tone has been added;
- SIM and SIM/USIM have been replaced by USIM throughout for consistency with ETSI *eCall* standards deliverables;
- IVS has been replaced by ‘IVS responsible for the *eCall* system’ for clarity, throughout;
- 7.3.8, 7.4.2, 7.5.4, 7.6.1 reworded for clarity and some rearrangement between 7.5.4 and 7.6.1;
- 7.9 Cleardown clarified;
- Table of timings revised;
- Annex C truncated as CEN/TS 16454 (*eCall* Conformance Tests) now exists.

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

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 Points (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.

EN 15722 specifies a standardized MSD 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. See EC Communication on *eCall* Implementation 2009 [COM(2009) 434 final] and Official Journal *eCall* Recommendation C_2011_6269, for more information).

The operating requirements for pan-European *eCall* are made using Public Land Mobile Networks (PLMN) (such as GSM and 3G), as 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 effect this service provision. This European Standard specifies the protocols to put into effect the pan-European *eCall* operating requirements using PLMNs, and also identifies common elements that can be used in the link between third party services supporting *eCall* and PSAPs.

NOTE 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.

The European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with this European Standard may involve the use of patents concerning *eCall* given in this European Standard.

The patents held may refer to the implementation of *eCall* in general using the specifications in this European Standard, but do not specifically directly refer to specifications of any of the clauses defined herein.

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

The holder of these patent rights has assured to CEN that they are willing to negotiate licenses under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of these patent rights is registered with CEN. Information may be obtained from:

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1 Scope

In respect of pan-European *eCall* (operating requirements defined in EN 16072), this European Standard defines the high level application protocols, procedures and processes required to provide the *eCall* service using a TS12 emergency call over a mobile communications network.

NOTE 1 The objective of implementing the pan-European in-vehicle emergency call system (*eCall*) is to automate the notification of a traffic accident, wherever in Europe, with the same technical standards and the same quality of services objectives by using a PLMN (such as ETSI prime medium) which supports the European harmonized 112/E112 emergency number (TS12 ETSI/TS 122 003) and to provide a means of manually triggering the notification of an emergency incident.

NOTE 2 HLAP requirements for third party services supporting *eCall* can be found in EN 16102, and have been developed in conjunction with the development of this work item, and is consistent in respect of the interface to the PSAP. This deliverable makes reference to those provisions but does not duplicate them.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 15722:2011, *Intelligent transport systems — eSafety — eCall minimum set of data (MSD)*

EN 16072:2011, *Intelligent transport systems — eSafety — Pan-European eCall operating requirements*

EN 16102:2011, *Intelligent transport systems — eCall — Operating requirements for third party support*

CEN/TS 16454:2013, *Intelligent transport systems — ESafety — ECall end to end conformance testing*

ETSI/TS 122 101, *Universal Mobile Telecommunications System (UMTS); LTE; Service aspects; Service principles (3GPP TS 22.101 [Release 8 or later])*

ETSI/TS 124 008, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Mobile radio interface Layer 3 specification; Core network protocols; Stage 3 [Release 8 or later]*

ETSI/TS 126 267, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); eCall data transfer; In-band modem solution; General description [Release 8 or later]*

ETSI/TS 126 268, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); eCall data transfer; In-band modem solution; ANSI-C reference code [Release 8 or later]*

ETSI/TS 126 269, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); eCall data transfer; In-band modem solution; Conformance testing [Release 8 or later]*

ETSI/TS 122 003, *Digital cellular communications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Circuit Teleservices supported by a Public Land Mobile Network (PLMN) (Teleservice 12/TC12) /E12 [Release 8 or later]*

ETSI/TS 122 011, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Service accessibility [Release 8 or later]*

ETSI/TS 127 007, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); AT command set for user equipment [Release 8 or later]*

ETSI/TS 102 164, *Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Emergency Location Protocols (version 1.3.1)*

ETSI/TS 151 010-1, *Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (3GPP TS 51.010-1 version 8.1.0) [Release 8 or later]*

ETSI/TS 121 133, *Universal Mobile Telecommunications System (UMTS); 3G Security; Security Threats and Requirements; (3GPP TS 21.133 version 4.1.0) [Release 4 or later]*

ETSI/TS 122 071, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Location Services (LCS); Service description; Stage 1 [Release 8 or later]*

ISO/IEC 9646 (all parts), *Information technology — Open Systems Interconnection — Conformance testing methodology and framework*

ITU-T:2009, Recommendation G.168 "Digital network echo cancellers"

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

112

single European emergency call number supporting Teleservice 12

[SOURCE: ETSI/TS 122 003]

3.2

call clear-down

termination of call and freeing up of line (usually achieved by hanging up the receiver or pressing 'end call' or similar on screen)

3.3

cellular network

wireless communications network consisting of multiple adjacent access points (cells) with the capability of homogeneous transfer of a communications session instance to an adjacent cell without significant interruption to the session

3.4

data

representations of static or dynamic objects in a formalized manner suitable for communication, interpretation, or processing by humans or by machines

3.5

data concept

any of a group of *data* structures (i.e. object class, property, value domain, *data elements*, message, interface dialogue, *association*) referring to abstractions or things in the natural world that can be identified with explicit boundaries and meaning and whose properties and behaviour all follow the same rules