
Intelligentni transportni sistemi - e-Varnost - Preskušanje skladnosti e-klica v zvezi pošiljatelj-prejemnik

Intelligent transport systems - ESafety - ECall end to end conformance testing

Intelligente Transportsysteme - ESicherheit - Ende Konformitätstests Ende

Systèmes de transport intelligents - eSécurité - Essais de conformité du système « eCall » de bout en bout

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Vollständige Konformitätsprüfungen für eCall

This European Standard was approved by CEN on 17 July 2015.

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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN 16454:2015) 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of an identical text or by endorsement, at the latest by March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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 CEN/TS 16454:2013.

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.

SIST EN 16454:2015

<https://standards.iteh.ai/catalog/standards/sist/8c20dea9-e8a2-460f-ad61-beeff1cd3dd0/sist-en-16454-2015>

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*.

NOTE 1 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. (See EC Communication on *eCall* Implementation 2009 [COM(2009) 434 final] 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.

This deliverable provides tests to enable actors in the *eCall* chain to be able to claim conformance to the *eCall* Standards, even though they are unable to control the behaviour of systems of other actors in the *eCall* chain

NOTE 2 Conformance tests in this document allow demonstration that a system complies with the *eCall* Standards. Compliance to Standards 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.

NOTE 3 The term PSAP (Public Safety Assistance Point), 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 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.

1 Scope

This European Standard defines the key actors in the eCall chain of service provision as:

- 1) In-Vehicle System (IVS)/vehicle,
- 2) Mobile network Operator (MNO),
- 3) Public safety assistance point [provider](PSAP),

in some circumstances may also involve:

- 4) Third Party Service Provider (TPSP),

and to provide conformance tests for actor groups 1) – 4).

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

This European Standard covers conformance testing (and approval) of new engineering developments, products and systems, and does not imply testing associated with individual installations in vehicles or locations.

iTeh STANDARD PREVIEW

2 Normative references(standards.iteh.ai)

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 15722:2015, *Intelligent transport systems — ESafety — ECall minimum set of data*

EN 16062:2015, *Intelligent transport systems — ESafety — eCall high level application requirements (HLAP) using GSM/UMTS circuit switched networks*

EN 16072:2015, *Intelligent transport systems — ESafety — Pan-European eCall operating requirements*

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

ETSI TS 102 936-1, *eCall Network Access Device (NAD) conformance specification; Part 1: Protocol test specification*

ETSI TS 102 936-2, *eCall Network Access Device (NAD), conformance specification; Part 2: Test Suites*

ETSI TR 102 937, *eCall communications equipment; Conformance to EU vehicle regulations, R&TTE, EMC & LV Directives, and EU regulations for eCall implementation*

ETSI TS 122 001, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN) [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) (3GPP TS 22.003 version 12.0.0 Release 12) [Teleservice 12/TC12] /E12]*

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ETSI TS 122 011, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Service accessibility (3GPP TS 22.011 version 8.9.0 Release 8)*

ETSI TS 122 101, *Universal Mobile Telecommunications System (UMTS); LTE ;Service aspects; Service principles (Release 8)*

ETSI TS 122 105, *Universal Mobile Telecommunications System (UMTS); Services and service capabilities (3GPP TS 22.105 version 8.4.0 Release 8)*

ETSI TS 123 107, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Quality of Service (QoS) concept and architecture (3GPP TS 23.107 version 6.4.0 Release 6)*

ETSI TS 123 122, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Non-Access-Stratum (NAS) functions related to Mobile Station (MS) in idle mode (3GPP TS 23.122 version 8.12.0 Release 8)*

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*

ETSI TS 126 267, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); eCall data transfer; In-band modem solution; General description [Version 8.6.0 or later]*

NOTE The provisions for eCall in Version 8.6.0 of ETSI TS 126 267 correspond to the provisions for eCall in versions 9.3.0, 10.0.0 and 11.0.0.

ETSI TS 126 269, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); eCall data transfer; In-band modem solution; Conformance testing (Version 8.3.0 or later)*

ETSI TS 127 007, *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; AT command set for User Equipment (UE)*

ETSI TS 131 102, *Universal Mobile Telecommunications System (UMTS); Characteristics of the Universal Subscriber Identity Module (USIM) application (3GPP TS 31.102 version 8.17.0 Release 8)*

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 version 8.6.0)*

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

act of ending a call, following call completion, the event is signalled in accordance with ISUP (ISDN User Part) 'Release Cause Codes'

Note 1 to entry: Usually achieved by hanging up the receiver or pressing 'end call' or similar on screen.

3.3

contracting MNO

mobile network operator which has responsibility for provisioning and managing a specific SIM

3.4

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

3.5

conformance test point

actual instantiation of equipment performing a conformance test process 'live', using 'live' equipment or equipment/systems that simulate behaviour of equipment at the point being tested in order to stimulate or observe the behaviour resultant from the stimulation and note the result of that stimulation

3.6

data

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

3.7

data concept

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

3.8

data element

single unit of information of interest (such as a fact, proposition, observation, etc.) about some (entity) class of interest (e.g. a person, place, process, property, concept, state, event) considered to be indivisible in a particular context

3.9

E112

emergency communications service using the single European emergency call number, 112, which is enhanced with location information of the calling user TS12

3.10

E164

ITU-T recommendation that defines the international public telecommunication numbering plan used in the PSTN and some other data networks and also defines the format of telephone number

Note 1 to entry: E.164 numbers can have a maximum of fifteen digits and are usually written with a + prefix.

3.11

eCall

emergency call generated either automatically via activation of in-vehicle sensors or manually by the *vehicle occupants*; when activated it provides notification and relevant location information to the most appropriate *Public Safety Answering Point*, by means of *mobile wireless communications networks*, carries a defined standardized *minimum set of data* (MSD) notifying that there has been an incident that