SLOVENSKI STANDARD
oSIST prEN 16454:2014

01-november-2014

Inteligentni 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

Ta slovenski standard je istoveten z: **prEN 16454**

ICS:

13.200	Preprečevanje nesreč in katastrof	Accident and disaster control
35.240.60	Uporabniške rešitve IT v transportu in trgovini	IT applications in transport and trade
43.040.15	Avtomobilska informatika. Vgrajeni računalniški sistemi	Car informatics. On board computer systems

oSIST prEN 16454:2014 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 16454

July 2014

ICS 35.240.60

Will supersede CEN/TS 16454:2013

English Version

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

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

Intelligente Transportsysteme - ESicherheit - Ende Konformitätstests Ende

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 278.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

Contents

Page

Foreword

This document (prEN 16454:2014) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

This document is currently submitted to the CEN Enquiry.

This document will supersede CEN/TS 16454:2013.

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 standardised *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 standardised 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 Technical Specification 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.

The Scope 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.

2 Conformance

2.1 General

This Technical Specification provides conformance tests for each of the key actor groups such that each actor group may be able to ascertain if it is in conformance with the eCall Standards deliverables, and to demonstrate its conformance to eCall standards requirements relevant to that actor group.

Where a supplier elects to claim conformance that its product or service is in accordance with the provisions of this document, it shall only do so if it can evidence that it has undertaken the test procedures relevant to its product(s) and/or service(s) as defined herein and has met all of the PASS criteria requirements defined in the tests appropriate to its product(s) and/or service(s) that are defined herein.

2.2 General conditions

A CTP-PASS condition is only confirmed if ALL individual pass conditions written in the “pass conditions” column of a given CTP (conformance test procedure) are observed.

A CTP-FAIL condition occurs if one or more of the given individual pass conditions written in the “pass conditions” column of a given CTP are *not* observed (failed).

To be explicitly clear, if a supplier has undertaken the test procedures relevant to its product(s) and/or service(s) as defined herein and has NOT MET all of the PASS criteria requirements defined in the tests appropriate to its product and/or service(s) that are defined herein, i.e. its product or service has failed ANY of the tests relevant to its product or service according to the methods and criteria determined herein, it SHALL NOT claim compliance to this document. A supplier shall not claim ‘partial compliance’ nor ‘compliance to selected tests’ of this document.

3 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 15722:2014, *Intelligent transport systems — eSafety — eCall minimum set of data (MSD)*

EN 16062:2014, *Intelligent transport systems — eSafety — eCall high level application requirements (HLAP)*

EN 16072:2014, *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)* [Teleservice 12/TC12) /E12]

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 6.3.0 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 8.2.0 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)*

4 Terms and definitions

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

4.1
112
single European emergency call number supporting ‘Teleservice 12’

[SOURCE: ETSI TS 122 003]

4.2
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’. (usually achieved by hanging up the receiver or pressing ‘end call’ or similar on screen)

4.3
contracting MNO
mobile network operator which has responsibility for provisioning and managing a specific SIM

4.4
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

4.5
conformance test point
may be an actual instantiation of equipment performing a conformance test process ‘live’, using ‘live’ equipment or may be 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

4.6
data
representations of static or dynamic objects in a formalised manner suitable for communication, interpretation, or processing by humans or by machines

4.7
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

4.8
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

4.9
E112
emergency communications service using the single European emergency call number, 112, which is enhanced with location information of the calling user TS12

4.10
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.

4.11
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 standardised *minimum set of data* (MSD) 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 *Public Safety Answering point*

4.12
eCall+
provision of eCall service plus availability of wireless communication network to undertake other application services

4.13
eCall generator
occupant of a vehicle or equipment within a vehicle that has cause to trigger an *eCall* transaction by automatic or manual means

4.14
eCall flag
alternative term for eCall identifier

4.15
eCall identifier
one of two mandatory information element bits (flags) included in the emergency call set-up message that may be used by the mobile network to filter and route automatically and manually initiated *eCalls* to a designated PSAP

4.16
eCall service
end-to-end emergency service to connect occupants of an affected vehicle to the *most appropriate PSAP* via an audio link across a PLMN together with the transfer of a *minimum set of data* to the PSAP

4.17
eCall transaction
establishment of a *mobile wireless communications session* across a *public wireless communications network* and the transmission of a *minimum set of data* from a vehicle to a *public safety answering point* and the establishment of an audio channel between the vehicle and the PSAP

4.18
emergency call response centre
term used in ITS Implementation Directive to mean *Public Safety Answering point* (PSAP)