



**NSAI**  
Standards

Irish Standard Recommendation  
S.R. CEN/TS 17234:2018

# Intelligent transport systems - eSafety - eCall: Tests to enable PSAPs to demonstrate conformance and performance

**S.R. CEN/TS 17234:2018**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

*This document is based on:*

CEN/TS 17234:2018

*Published:*

2018-11-28

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2018-12-17

ICS number:

03.220.20

35.240.60

NOTE: If blank see CEN/CENELEC cover page

NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

S.R. CEN/TS 17234:2018 is the adopted Irish version of the European Document CEN/TS 17234:2018, Intelligent transport systems - eSafety - eCall: Tests to enable PSAPs to demonstrate conformance and performance

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

This page is intentionally left blank

**TECHNICAL SPECIFICATION**

**CEN/TS 17234**

**SPÉCIFICATION TECHNIQUE**

**TECHNISCHE SPEZIFIKATION**

November 2018

ICS 03.220.20; 35.240.60

English Version

## **Intelligent transport systems - eSafety - eCall: Tests to enable PSAPs to demonstrate conformance and performance**

Systèmes de transport intelligents - eSécurité - eCall:  
Essais pour permettre aux PSAPs de démontrer leur  
conformité et leur performance

Intelligente Verkehrssysteme - eSicherheit - eCall:  
Prüfungen, die Rettungsleitstellen die Darstellung von  
Konformität und Leistung ermöglichen

This Technical Specification (CEN/TS) was approved by CEN on 15 July 2018 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

<b>Contents</b>	<b>Page</b>
<b>European foreword .....</b>	<b>4</b>
<b>Introduction.....</b>	<b>5</b>
<b>1 Scope .....</b>	<b>6</b>
<b>2 Normative references .....</b>	<b>6</b>
<b>3 Terms and definitions.....</b>	<b>7</b>
<b>4 Abbreviations.....</b>	<b>11</b>
<b>5 Technical requirements.....</b>	<b>12</b>
5.1 Overview of eCall service provision.....	12
5.2 Technical set-up of GSM/UMTS eCall.....	12
5.3 Technical set-up of an IMS eCall.....	13
<b>6 Conformity assessment procedures for PSAPs.....</b>	<b>13</b>
6.1 Legal requirements.....	13
6.2 Procedures .....	14
<b>7 Generic conformity assessment procedures for PSAPs — Generic eCall component assessment — Conformance test.....</b>	<b>14</b>
<b>8 CS conformity assessment procedures for PSAPs (GSM/UMTS) — eCall Component Assessment — Conformance Test.....</b>	<b>15</b>
<b>9 PS conformity assessment procedures for PSAPs (IMS) — eCall Component Assessment — Conformance Test.....</b>	<b>16</b>
<b>10 Optional Additional Data — Context.....</b>	<b>16</b>
10.1 General .....	16
10.2 CTP 3.3.1 — PSAP supports OAD .....	17
10.3 CTP 3.3.2 — PSAP supports most recent OAD .....	18
<b>11 Performance testing.....</b>	<b>18</b>
11.1 General .....	18
11.2 Key performance indicators .....	20
11.2.1 General .....	20
11.2.2 Performance levels .....	20
11.3 Tests for suppliers of equipment to PSAPs.....	21
11.4 MSD transmission time for different channel conditions (GSM/UMTS CS) (OPTIONAL) .....	21
<b>12 Conformance Requirements.....</b>	<b>22</b>
12.1 GSM/UMTS MSD transmission time (OPTIONAL) .....	22
12.1.1 General .....	22
12.1.2 Test purpose.....	24
12.1.3 Method of test .....	24
12.2 Suitability for use (OPTIONAL).....	26
12.2.1 General .....	26
12.2.2 PSAP Key Performance Indicators (KPIs) (OPTIONAL) .....	26
<b>13 Security — Context.....</b>	<b>31</b>
<b>14 Test Procedures — Definition of Test plan .....</b>	<b>31</b>

<b>14.1</b>	<b>Planning of Test drives .....</b>	<b>31</b>
<b>14.2</b>	<b>IVS.....</b>	<b>31</b>
<b>14.3</b>	<b>Number of Calls .....</b>	<b>31</b>
<b>14.4</b>	<b>PSAP.....</b>	<b>32</b>
<b>14.5</b>	<b>Location.....</b>	<b>32</b>
<b>14.6</b>	<b>Execution .....</b>	<b>32</b>
<b>14.7</b>	<b>Result and analysis.....</b>	<b>32</b>
	<b>Bibliography .....</b>	<b>33</b>

## **CEN/TS 17234:2018 (E)**

### **European foreword**

This document (CEN/TS 17234:2018) has been prepared by Technical Committee CEN/TC 278 “Intelligent transport systems”, the secretariat of which is held by NEN.

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 complementary to EN 15722, EN 16072, EN 16062, and EN 16454.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



## Introduction

*eCall* is an emergency call generated either automatically via activation of in-vehicle sensors or manually by the *vehicle occupants* <sup>(3.23)</sup>; when activated it provides notification and relevant location information to the most appropriate *Public Safety Answering Point* <sup>(3.21)</sup>, by means of *mobile wireless communications networks* <sup>(3.16)</sup>, carries a defined standardized *minimum set of data* <sup>(3.15)</sup> (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*. *eCall* has been regulated to be installed and available in all new model vehicles in Europe from 2018. Mobile Network operators have agreed to forward these calls, and 'Public Safety Answering Points' are required by European Regulation to be able to receive *eCalls* by 2017. A large aftermarket is also expected, and vehicle manufacturers are also expected to voluntarily equip their existing model vehicles as well as new models. *eCall* currently only covers light vehicles, but is expected to be expanded to cover HGVs, long distance coaches, and powered two vehicle vehicles in the near future. *eCall* is expected to be a significant contributor in the fight to reduce road deaths and serious injuries.

*eCall* is regulated in the European Commission Recommendation 2011/750/EU of 8 September 2011 on support for an EU-wide *eCall* service in electronic communication networks for the transmission of in-vehicle emergency calls based on 112 <sup>(3.1)</sup> (112-*eCall*), Decision no 585/2014/EU of the European Parliament and of the council of 15 May 2014 on the deployment of the interoperable EU-wide *eCall service* <sup>(3.9)</sup>; Commission Delegated Regulation (EU) no 305/2013 of 26 November 2012 supplementing Directive 2010/40/EU of the European Parliament and of the council with regard to the harmonized provision for an interoperable EU-wide *eCall*, and Regulation (EU) 2015/758 of the European Parliament and of the Council of 29 April 2015 concerning type-approval requirements for the deployment of the *eCall in-vehicle system* <sup>(3.14)</sup> based on the 112 <sup>(3.1)</sup> service and amending Directive 2007/46/EC.

These Regulations refer to, and are dependent on, the CEN Standards EN 15722:2015, *Intelligent transport systems — eSafety — eCall minimum set of data (MSD)*; 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*; EN 16454:2015, *Intelligent transport systems — eSafety — eCall end to end conformance testing*. Standards are also in development to support *eCall* using packet switched networks using IMS, *eCall* using cooperative ITS 'ITS Stations', and standards to broaden the scope of *eCall* to other classes of vehicle. ETSI standards deliverables for communications networks provide the communications specifications that underpin these application level standards.

EN 16454 provides the basis for conformance tests for all actors in the *eCall* chain.

Crucial to the success of *eCall* is the response offered by the 1st level PSAP and subsequent responses from the emergency response chain.

Building on, and consistent to EN 16454, this deliverable provides a suite of conformance and performance tests to enable PSAPs to claim conformance to the regulations and *eCall* Standards.

Unlike EN 16454, this standards deliverable also takes into account standards deliverables in development to carry *eCall* over packet switched networks using IMS.

## CEN/TS 17234:2018 (E)

## 1 Scope

The scope of this document is to define conformance and performance tests to demonstrate whether a PSAP is in compliance with the *eCall* Regulations and Standards.

This deliverable:

- a) identifies the MANDATORY tests specified within EN 16454 that are appropriate for a PSAP to demonstrate its conformance to EN 16454 in accordance with European Commission Delegated Regulation (EU) No 305/2013;
- b) specifies tests to verify that a PSAP has procedures in place to identify and decode registered optional additional *data concepts* (3.5) included in the *Minimum set of data* (3.15);
- c) provides OPTIONAL tests to measure aspects of PSAP performance in handling aspects of *eCall*.

## 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 15722:2015, *Intelligent transport systems — eSafety — eCall minimum set of data (MSD)*

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*

EN 16454:2015, *Intelligent transport systems — eSafety — eCall end to end conformance testing*

CEN/TS 17148, *Intelligent Transport Systems — eSafety — ProForma eCall Agreement between TPSP and PARES*

CEN/TS 17184, *Intelligent transport systems — eSafety — eCall High level application Protocols (HLAP) using IMS packet switched networks*

CEN/TS 17240, *Intelligent transport systems — eSafety — eCall end to end conformance testing for IMS packet switched based systems*

ETSI TS 100 910 V8.20.0 (2005-11), *Digital cellular telecommunications system (Phase 2+); Radio Transmission and Reception (3GPP TS 05.05 version 8.20.0 Release 1999)*

ETSI TS 103 412 V1.1.1 (2016-04), *Mobile Standards Group (MSG); Pan-European eCall end to end and in-band modem conformance testing; Prose test specification*

ETSI TS 121 133, *Universal Mobile Telecommunications System (UMTS); 3G Security; Security Threats and Requirements (3G TS 21.133 version 3.1.0 Release 1999)*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-