

Electronic fee collection - Evaluation of on-board and roadside equipment for conformity to EN 15509 - Part 1: Test suite structure and test purposes

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

**Electronic fee collection - Evaluation of on-board and
roadside equipment for conformity to EN 15509 - Part 1:
Test suite structure and test purposes**

Perception de télépéage - Evaluation de conformité de
l'équipement embarqué et de l'équipement au sol à la
EN 15509 - Partie 1: Structure des suites de tests et
intention des tests

Elektronische Gebührenerhebung -
Konformitätsprüfung von Fahrzeuggeräten und
straßenseitigen Einrichtungen nach EN 15509 - Teil 1:
Struktur und Zweck des Prüfprogramms

This European Standard was approved by CEN on 5 September 2016.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 15876-1:2016) 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of an identical text or by endorsement, at the latest by April 2017, and conflicting national standards shall be withdrawn at the latest by April 2017.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document supersedes EN 15876-1:2010+A1:2012.

This second edition of EN 15876-1 incorporates the following main modifications compared to the previous one:

- amendment of terms, in order to reflect harmonization of terms across electronic fee collection (EFC) standards;
- addition of a new clause (i.e. Clause 5) on conformance;
- amendments to reflect changes to the underlying base standard, with emphasis on backward compatibility with the first edition of this standard.

For the revision of this European Standard, the following principles have been used:

- take into account the evolution of some of the underlying standard, i.e. EN 15509:2014
- maintain compatibility with the previous edition of this European Standard.

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

CEN/TC 278 has produced a set of standards that support interoperable DSRC-EFC-systems e.g. EN ISO 14906 (a "toolbox" for defining EFC-application transaction) and CEN ISO/TS 14907-2 (EFC application interface conformance tests for On Board Units). However, these standards are only of an enabling nature and do not guarantee unambiguous technical interoperability. Therefore EN 15509, *Electronic fee collection – Interoperability application profile for DSRC* was developed to support technical interoperability between EFC-systems.

This European Standard defines the test suite structure and the test purposes for conformity evaluation of OBUs and RSE designed for compliance with the requirements set up in EN 15509. A test standard for evaluation of conformity of on-board and roadside equipment is a necessary element for coherent, practical and effective appraisal of products' compliance to EN 15509.

This document forms Part 1 of a two-part standard:

- EN 15876-1, *Electronic fee collection – Evaluation of on-board and roadside equipment for conformity to EN 15509 – Part 1: Test suite structure and test purposes*
- EN 15876-2, *Electronic fee collection – Evaluation of on-board and roadside equipment for conformity to EN 15509 – Part 2: Abstract test suites*

Together, the two parts of EN 15876 provide the necessary foundation for implementation of the interoperability requirements as stated in EN 15509:

- industry is provided with an easy-to-use toolbox for product assessment;
- operators can easily assess conformity to EN 15509 and reference to the standard in tendering processes;
- authorities and joint undertakings may reference to the test standard when stating interoperability requirements;
- certification organisations are given an effective tool for certification of products.

1 Scope

The objective of this document is to provide a basis for conformance tests for DSRC equipment (on-board and roadside units) to support interoperability between different equipment supplied by different manufacturers.

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 15509:2014, *Electronic fee collection — Interoperability application profile for DSRC*

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes (ISO 3166-1)*

EN ISO 14816, *Road transport and traffic telematics — Automatic vehicle and equipment identification — Numbering and data structure (ISO 14816)*

EN ISO 14906:2011, *Electronic fee collection — Application interface definition for dedicated short-range communication (ISO 14906:2011)*

CEN ISO/TS 14907-2, *Electronic fee collection — Test procedures for user and fixed equipment — Part 2: Conformance test for the on-board unit application interface (ISO/TS 14907-2)*

ETSI EN 300 674-1:2004, *Electromagnetic compatibility and Radio spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Dedicated Short Range Communication (DSRC) transmission equipment (500 kbit/s / 250 kbit/s) operating in the 5,8 GHz Industrial, Scientific and Medical (ISM) band; Part 1: General characteristics and test methods for Road Side Units (RSU) and On-Board Units (OBU)*

ETSI/TS 102 486-1-2:2008, *Intelligent Transport Systems (ITS); Road Transport and Traffic Telematics (RTTT); Test specifications for Dedicated Short Range Communication (DSRC) transmission equipment; Part 1: DSRC data link layer: medium access and logical link control; Sub-Part 2: Test Suite Structure and Test Purposes (TSS&TP)*

ETSI/TS 102 486-2-2:2008, *Intelligent Transport Systems (ITS); Road Transport and Traffic Telematics (RTTT); Test specifications for Dedicated Short Range Communication (DSRC) transmission equipment; Part 2: DSRC application layer; Sub-Part 2: Test Suite Structure and Test Purposes (TSS&TP)*

3 Terms and definitions

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

3.1

attribute

addressable package of data consisting of a single data element or structured sequences of data elements

[SOURCE: ISO 17575-1:2016, 3.2]