

Electronic fee collection - Evaluation of on-board and roadside equipment for conformity to EN 15509 - Part 2: Abstract test suite

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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 2: Abstract test suite

Perception de télépéage - Evaluation de conformité de l'équipement embarqué et de l'équipement au sol à l'EN 15509 - Partie 2: Suite d'essais abstraite

Elektronische Gebührenerhebung - Konformitätsprüfung von Fahrzeuggeräten und straßenseitigen Einrichtungen mit der EN 15509 - Teil 2: Abstrakte Prüfreihe

This European Standard was approved by CEN on 17 December 2010.

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Foreword

This document (EN 15876-2:2011) has been prepared by Technical Committee CEN/TC 278 "Road transport and traffic telematics", 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of an identical text or by endorsement, at the latest by September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

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.

CEN/TC 278 (WG 1) 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 the standard profile Electronic fee collection – Interoperable application profile for DSRC (EN 15509) was developed to support technical interoperability between EFC-systems.

To evaluate the conformity of On-Board and Roadside Equipment to EN 15509 a two-part standard has been prepared:

Electronic fee collection – Evaluation of on-board and roadside equipment for conformity to EN 15509:

- *Part 1: Test suite structure and test purposes*
- *Part 2: Abstract test suite*

Part 1 of the 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.

Part 2 of the standard (this standard) provides the Abstract Test Suites (ATS), which are translations of the "human-readable" TSS&TP suite into Tree and Tabular Combined Notation (TTCN). The ATS will be based on the Tree and Tabular Combined Notation test script language that is suitable for implementation in computer-aided test tools. TTCN is a test language that is widespread, dedicated test programming language for compliance testing and is standardized in ISO/IEC 9646-3.

Together, the two parts of the present standard 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.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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1 Scope

This European Standard specifies the Abstract Test Suites (ATs) to evaluate the conformity of On Board Equipment (OBE) and Roadside Equipment (RSE) to EN 15509.

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

2 Normative references

Not applicable.

3 Terms and definitions

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

3.1 access credentials

data that is transferred to *on-board equipment (OBE)*, in order to establish the claimed identity of a roadside equipment (RSE) application process entity

NOTE The access credentials data carries information needed to fulfil access conditions in order to perform the operation on the addressed element in the OBE. The access credentials can carry passwords as well as cryptographic based information such as authenticators.

[EN ISO 14906:2004]

3.2 action

function that an application process resident at the *roadside equipment* can invoke in order to make the *on-board equipment* execute a specific operation during the *transaction*

[EN ISO 14906:2004]

3.3 attribute

application information formed by one or by a sequence of data elements, and is managed by different actions used for implementation of a *transaction*

[EN ISO 14906:2004]

3.4 authenticator

data appended to, or a cryptographic transformation (see 3.8) of, a data unit that allows a recipient of the data unit to prove the source and/or the integrity of the data unit and protect against forgery

[EN ISO 14906:2004]

3.5 channel

information transfer path

[EN ISO 14906:2004]