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English Version

**Electronic fee collection - Evaluation of on-board and roadside
equipment for conformity to ISO/TS 13141 - Part 2: Abstract test
suite (ISO 13140-2:2012)**

Perception du télépéage - Évaluation des équipements
embarqués et en bord de route quant à la conformité avec
l'ISO/TS 13141 - Partie 2: Suite d'essai abstraite (ISO
13140-2:2012)

Elektronische Gebührenerhebung - Bewertung der
Konformität von On Board Ausrüstungen und
straßenseitigen Ausrüstungen mit CEN ISO/TS 13141 - Teil
2: Abstrakte Prüfreihe (ISO 13140-2:2012)

This Technical Specification (CEN/TS) was approved by CEN on 30 January 2012 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.

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Foreword

This document (CEN ISO/TS 13140-2:2012) has been prepared by Technical Committee CEN/TC 278 "Road transport and traffic telematics", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 204 "Intelligent transport systems".

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Introduction

ISO/TS 17575 is part of a set of standards that supports interoperability of autonomous EFC-systems. It defines the EFC context data, their charge reports and their use of communication infrastructure.

The set of standards also supports short range communication links in the context of autonomous electronic fee collection (EFC) on-board equipment (OBE) to enable spot checks for the enforcement process. The application interface is defined in ISO/TS 13141:2010.

Within the set of EFC standards this part of ISO/TS 13140 defines the process and tests for conformity evaluation of OBE and roadside equipment (RSE) that comply with the requirements in ISO/TS 13141:2010.

This part of ISO/TS 13140 is intended to

- assess OBE and RSE capabilities,
- assess OBE and RSE behaviour,
- serve as a guide for OBE and RSE conformance evaluation and type approval,
- achieve comparability between the results of the corresponding tests applied in different places at different times, and
- facilitate communication between parties (for example between equipment manufacturers and test houses).

This part of ISO/TS 13140 is based on

- ISO/TS 13141:2010,
- the set of dedicated short range communication (DSRC) standards defining the communication stack, and
- ISO 9646.

This part of ISO/TS 13140 is based on using the tree and tabular combined notation (TTCN) that is a standardized language suitable for specification of test cases and steps for assessment of protocol and application behaviour. The TTCN language is also supported by modern automated tools that accelerate software design, implementation and testing.

Electronic fee collection — Evaluation of on-board and roadside equipment for conformity to ISO/TS 13141 —

Part 2: Abstract test suite

1 Scope

This part of ISO/TS 13140 specifies the abstract test suite (ATS) to evaluate the conformity of on-board equipment (OBE) and roadside equipment (RSE) to ISO/TS 13141:2010.

It provides a basis for conformance tests for dedicated short range communication (DSRC) equipment (on-board equipment and roadside equipment) to enable interoperability between different equipment supplied by different manufacturers.

NOTE The OBE and RSE are subject to additional testing in order to ascertain that they fulfil the essential radio requirements as set out in European Directives, a pre-requisite for CE marking and placing on the European market. They are also likely to be subject to additional testing of physical, environmental endurance, quality assurance and control at manufacturing, charge point integration, as part of factory, site and system acceptance testing. The definition of these tests is outside the scope of this part of ISO/TS 13140.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO/IEC 9646-3:1998, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 3: The Tree and Tabular Combined Notation (TTCN)*

ISO/TS 13141:2010, *Electronic fee collection — Localisation augmentation communication for autonomous systems*

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 (RSE) application process entity

[ISO 14906:2011, definition 3.1]

NOTE The access credentials carry 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.