

English Version

**Electronic fee collection - Evaluation of on-board and roadside  
equipment for conformity to ISO/TS 13141 - Part 1: Test suite  
structure and test purposes (ISO/TS 13140-1:2011)**

Perception du télépéage - Évaluation des équipements  
embarqués et en bord de route quant à la conformité avec  
l'ISO/TS 13141 - Partie 1: Structure de suite d'essai et buts  
des essais (ISO/TS 13140-1:2011)

Elektronische Gebührenerfassung -  
Konformitätsuntersuchung für bordeigene und  
straßenseitige Ausrüstung zur Ortsbestimmung - Teil 1:  
Struktur und Zweck des Prüfprogrammes (ISO/TS 13140-  
1:2011)

This Technical Specification (CEN/TS) was approved by CEN on 18 October 2010 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 13140-1:2011) 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 OBU and RSE capabilities,
- assess OBU and RSE behaviour,
- serve as a guide for OBU 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 communications between parties.

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 1:

## Test suite structure and test purposes

### 1 Scope

This part of ISO/TS 13140 specifies the test suite structure (TSS) and test purposes (TP) to evaluate the conformity of on-board units (OBU) 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 units and roadside units) to enable interoperability between different equipment supplied by different manufacturers.

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

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

ISO/TS 14907-2:2011, *Road transport and traffic telematics — Electronic fee collection — Test procedures for user and fixed equipment — Part 2: Conformance test for the onboard unit application interface*

EN 15509:2007, *Road transport and traffic telematics — Electronic fee collection — Interoperability application profile for DSRC*

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*

ETSI TS 102 486-2-2 V1.2.1 (2008-10), *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)*