ICS 35.240.60, 43.040.15 SLOVENSKÁ TECHNICKÁ NORMA December 2016

STN	**Elektronický výber poplatkov. Skúšobné postupy pre používateľa a pevné zariadenia. Časť 2: Skúška zhody pre palubnú jednotku rozhranie aplikácie (ISO/TS 14907-2: 2016).**	**STN P CEN ISO/TS 14907-2** 01 8572

Electronic fee collection - Test procedures for user and fixed equipment - Part 2: Conformance test for the on-board unit application interface (ISO/TS 14907-2:2016)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/16

Táto predbežná STN je určená na overenie. Pripomienky zasielajte ÚNMS SR najneskôr do 31. 8. 2018.

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TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

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CEN ISO/TS 14907-2

August 2016

ICS 43.040.15; 35.240.60

Supersedes CEN ISO/TS 14907-2:2011

English Version

Electronic fee collection - Test procedures for user and fixed equipment - Part 2: Conformance test for the on-board unit application interface (ISO/TS 14907-2:2016)

Perception du télépéage - Modes opératoires relatifs aux équipements embarqués et aux équipements fixes - Partie 2: Essai de conformité de l'interface d'application de l'unité embarquée (ISO/TS 14907-2:2016)

Elektronische Gebührenerhebung - Testverfahren für straßenseitige und fahrzeugseitige Einrichtungen - Teil 2: Konformitätsprüfungen für die Anwendungsschnittstelle der fahrzeugseitigen Einrichtung (ISO/TS 14907-2:2016)

This Technical Specification (CEN/TS) was approved by CEN on 26 June 2016 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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (CEN ISO/TS 14907-2:2016) has been prepared by Technical Committee ISO/TC 204 “Intelligent transport systems” in collaboration with 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 [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN ISO/TS 14907-2:2011.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO/TS 14907-2:2016 has been approved by CEN as CEN ISO/TS 14907-2:2016 without any modification.

TECHNICAL SPECIFICATION

ISO/TS 14907-2

Third edition
2016-07-15

Electronic fee collection — Test procedures for user and fixed equipment —

Part 2: Conformance test for the on-board unit application interface

Perception du télépéage — Modes opératoires relatifs aux équipements embarqués et aux équipements fixes —

Partie 2: Essai de conformité de l'interface d'application de l'unité embarquée

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: Foreword — Supplementary information.

The committee responsible for this document is ISO/TC 204, *Intelligent transport systems*.

This third edition cancels and replaces the second edition (ISO/TS 14907-2:2011), which has been technically revised with the following changes:

— updated references to clauses and annexes in accordance with ISO 14906:2011/Amd1:2015;

— updated Annex D to reflect current situation in Japan.

ISO/TS 14907 consists of the following parts, under the general title *Electronic fee collection — Test procedures for user and fixed equipment*:

— *Part 1: Description of test procedures*

— *Part 2: Conformance test for the on-board unit application interface*

Introduction

This part of ISO/TS 14907 describes tests that verify on-board unit (OBU) conformance of implementations of functions and data structures for electronic fee collection (EFC) applications.

Electronic fee collection — Test procedures for user and fixed equipment —

Part 2: Conformance test for the on-board unit application interface

1 Scope

This part of ISO/TS 14907 describes tests that verify on-board unit (OBU) conformance of implementations of functions and data structures, as defined in the implementation conformance statement based on ISO 14906:2011/Amd1:2015, for electronic fee collection (EFC) applications. After the tests of isolated data items and functions (C.2 to C.4), an example is given for testing of a complete EFC transaction (C.3).

The scope of this part of ISO/TS 14907 comprises definitions of OBU conformance assessment tests of

— basic dedicated short-range communication (DSRC) L7 functionality,

— EFC application functions,

— EFC attributes (i.e. EFC application information),

— the addressing procedures of EFC attributes and (hardware) components [e.g. integrated circuit cards (ICC) and man-machine interfaces (MMI)],

— the EFC transaction model, which defines the common elements and steps of any EFC transaction, and

— the behaviour of the interface so as to support interoperability on an EFC-DSRC application interface level, see Figure 1.

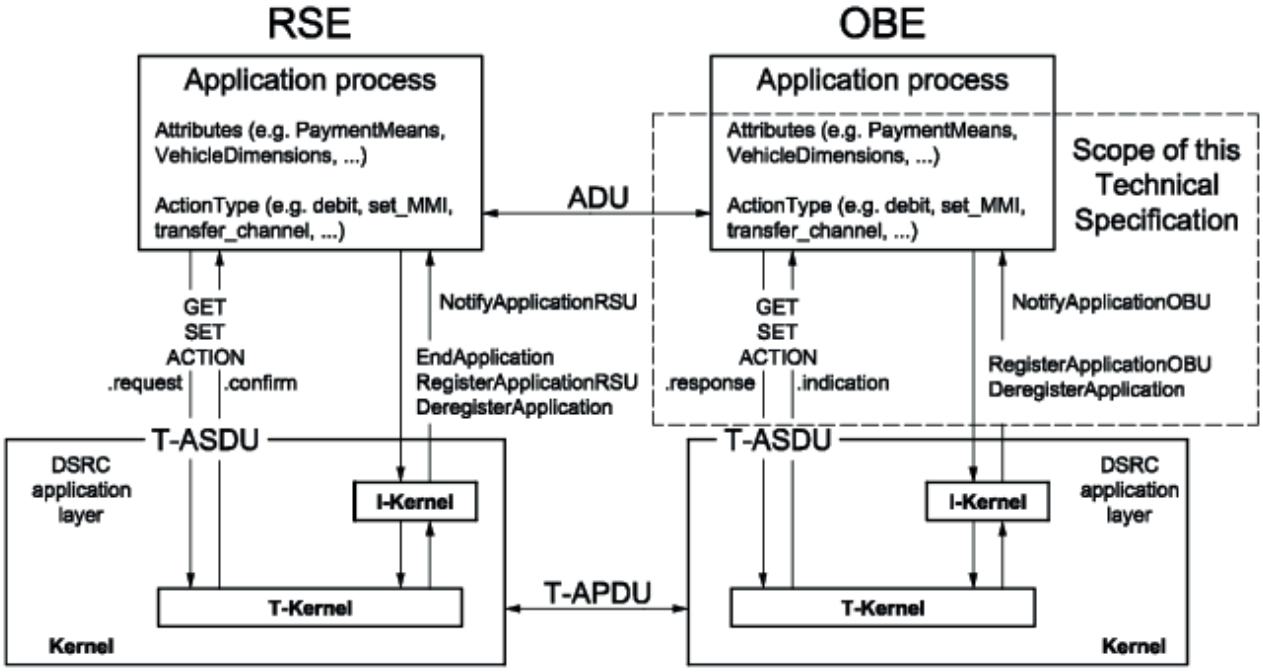

Figure 1 — The EFC application interface

The purpose of this part of ISO/TS 14907 is to define tests that

— assess OBU capabilities,

— assess OBU behaviour,

— serve as a guide for OBU 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.

Whereas, this part of ISO/TS 14907 defines examples of test cases for DSRC and EFC functionality in Annex C, it does not intend to specify a complete test suite for a certain implementation. To compose a test suite for a specific EFC implementation, the test cases may have to be modified and new test cases may have to be defined and added in order for the conformance test to be complete. It can be useful to take into account the following considerations when defining a complete test suite

— small range: “exhaustive testing” of critical interoperability/compatibility features,

— large range: testing of boundaries and random values, and

— composite types: testing of individual items in sequence or parallel.

Figure 2 shows the overall procedure of conformance testing.

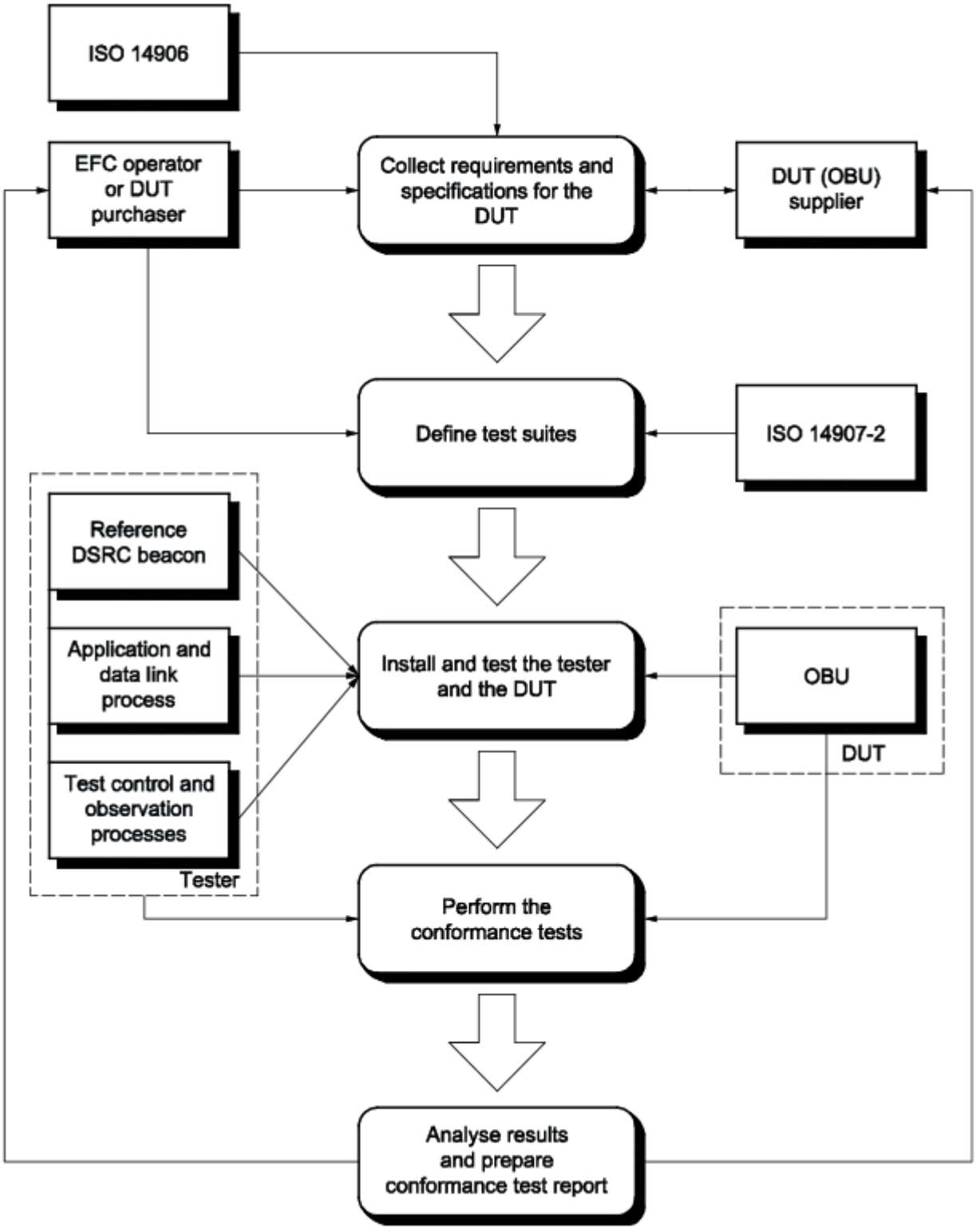

Figure 2 — Conformance testing process

Figure 3 gives a more detailed picture of the interface between the entity performing the conformance test and the supplier of the Device Under Test (DUT). By the EFC application specification, the implementation conformance statement proforma and the implementation extra information for testing proforma the supplier is requested to provide the DUT (OBU), containing the Implementation

Under Test (IUT), as well as the documentation needed to perform the tests. More details on the content of the different documents are given in Clause 5 on OBU and supporting information.

NOTE 1 The Device Under Test contains the Implementation Under Test.

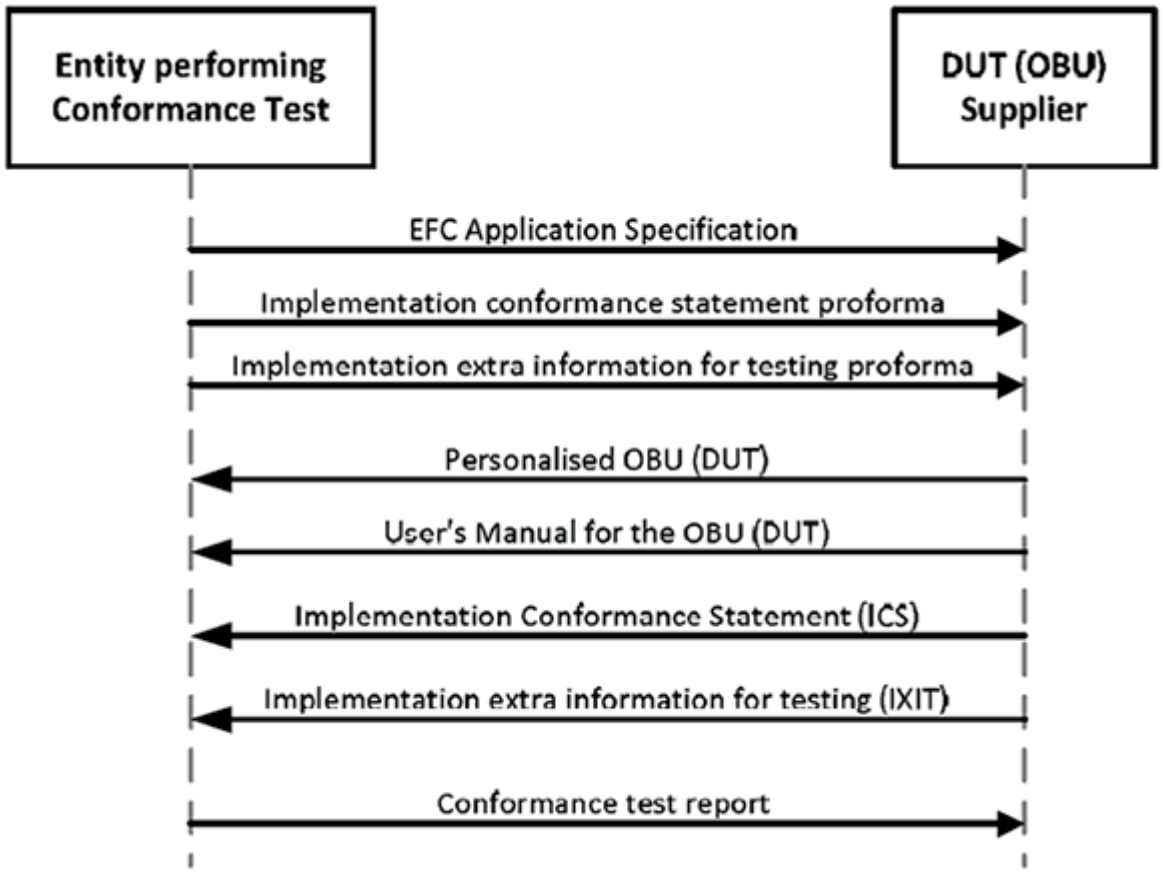

Figure 3 — Documentation DUT supplier

It is outside the scope of this part of ISO/TS 14907 to define tests that assess

— performance,

— robustness, and

— reliability of an implementation.

NOTE 2 ISO/TS 14907-1 defines test procedures that are aimed at assessing performance, robustness and reliability of EFC equipment and systems.

NOTE 3 The ISO/IEC 10373 series defines test methods for proximity, vicinity, integrated circuit(s) cards and related devices that may be relevant for OBUs that support such cards.

Annex D provides an informative overview of Japanese OBE conformance tests that are based on the ISO/TS 14907 series, in order to illustrate how these can be applied in practice.

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.

ISO 14906:2011/Amd1:2015, *Electronic fee collection — Application interface definition for dedicated short-range communication*

EN 12834:2003, *Road transport and traffic telematics — Dedicated short-range communication (DSRC) — DSRC application layer*