

PD CEN/TS 16794-2:2015



BSI Standards Publication

Public transport — Communication between contactless readers and fare media

Part 2: Test plan for ISO/IEC 14443

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National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

**Public transport - Communication between contactless readers
and fare media - Part 2: Test plan for ISO/IEC 14443**

Transport Public - Système billettique interopérable -
Communication entre terminaux et objets sans contact -
Partie 2: Plan de test pour l'ISO/IEC 14443

Öffentlicher Verkehr - Kommunikation zwischen
berührungslosen Ladegeräten und Fahrscheinmedien - Teil
2: Prüfplan zur ISO/IEC 14443

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Foreword

This document (CEN/TS 16794-2:2015) has been prepared by Technical Committee CEN/TC 278 "Intelligent transport systems", the secretariat of which is held by NEN.

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Introduction

This test plan represents a necessary step in a process designed to ensure contactless communications interoperability between fare management system terminals and any fare media liable to be accepted by them. The end-purpose of this document is to provide the test conformance plan that needs to be performed to ensure compliancy of fare management system terminals and any fare media in accordance to CEN/TS 16794-1, *Public transport - Communication between contactless readers and fare media - Part 1: Implementation requirements for ISO/IEC 14443*.

This test plan is not designed to repeat or duplicate the referenced specifications and associated test method (essentially ISO/IEC 14443 and ISO/IEC 10373-6 standards) but to list the test conditions to be performed in addition to the ones already described in the ISO/IEC 10373-6 standard and to define their testing and use conditions.

This test plan includes the following key clauses:

- Clause 5 describes the test environment;
- Clause 6 sets out the analog test plan for fare management system terminals;
- Clause 7 sets out the analog test plan for contactless fare media;
- Clause 8 sets out the protocol and digital test plan for fare management system terminals;
- Clause 9 sets out the protocol and digital test plan for contactless fare media.

1 Scope

This Technical Specification comes as a complement to the technical requirements expressed in CEN/TS 16794-1, *Public transport - Communication between contactless readers and fare media - Part 1: Implementation requirements for ISO/IEC 14443*, for ensuring contactless communication interoperability between contactless fare management system terminals and contactless fare media hosting a transport ticketing application.

This test plan lists all the test conditions to be performed on a contactless reader or a contactless fare media in order to ensure that all the requirements specified in CEN/TS 16794-1 are met for the device under test.

This Technical Specification is then applicable to:

- any **contactless fare management system terminals** acting as a PCD **contactless reader** based on ISO/IEC 14443-series standards;
- any **contactless fare media** acting as a PICC **contactless object** based on ISO/IEC 14443-series standards.

This test plan applies solely to the contactless communication layers described in parts 1 to 4 of the ISO/IEC 14443- series of standards. Application-to-application exchanges executed once contactless communication has been established at RF level fall outside the scope of this test plan. However, a transport ticketing application will need to be used so as to make end-to-end transactions during tests on the RF communication layer.

This test plan does not duplicate the contents of ISO/IEC 14443- series or ISO/IEC 10373-6 standards. It makes reference to the ISO/IEC 10373-6 applicable tests methods, specifies the test conditions to be used and describes the additional specific test conditions that may be run.

The list of test conditions applicable to the device under test will be conditioned by the Information Conformance Statement (ICS) declaration made by the device manufacturer. For each test case, the test conditions are clearly specified in order to determine the pertinence to run or not the test case in accordance with the device capabilities or in accordance with the device manufacturer's choice.

In order to facilitate the test report issuance, a test report template is included in Annex A of the present test plan.

Although the present test plan aims at becoming the primary basis for certification of contactless communication protocol between contactless reader and contactless object, it does not describe any certification or qualification processes as such processes should be defined between local or global transit industry stakeholders and not within this CEN work group.

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/IEC 10373-6:2011, *Identification cards — Test methods — Part 6: Proximity cards*

ISO/IEC 10373-6:2011/Amd.1:2012, *Identification cards — Test methods — Part 6: Proximity cards / Amendment 1: Additional PICC classes*

ISO/IEC 10373-6:2011/Amd.2:2012, *Identification cards — Test methods — Part 6: Proximity cards / Amendment 2: Test methods for electromagnetic disturbance*