



BSI Standards Publication

Public transport — Communication between contactless readers and fare media

Part 1: Implementation requirements for ISO/IEC 14443

National foreword

This Published Document is the UK implementation of CEN/TS 16794-1:2019. It supersedes PD CEN/TS 16794-1:2017, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/278, Intelligent transport systems.

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 1: Implementation
 requirements for ISO/IEC 14443**

Transport Public - Système billettique interopérable -
 Communication entre terminaux et objets sans contact
 - Partie 1: Exigences d'implémentation pour l'ISO/IEC
 14443

Öffentlicher Verkehr - Kommunikation zwischen
 berührungslosen Lesegeräten und Fahrscheinmedien -
 Teil 1: Implementierungsanforderungen zur ISO/IEC
 14443

This Technical Specification (CEN/TS) was approved by CEN on 17 June 2019 for provisional application.

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (CEN/TS 16794-1:2019) has been prepared by 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 shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TS 16794-1:2017.

This edition updates the requirements applicable to the contactless interface of PT readers and objects to introduce interoperability with NFC mobile devices compliant to NFC Forum specifications.

According to the CEN/CENELEC Internal Regulations, the national standards organization of the following countries are bound to announce this Technical Specification: 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document constitutes the 3rd edition of CEN/TS 16794-1. It sets out the technical requirements to be met by contactless Public Transport (PT) devices in order to be able to interface together using the ISO/IEC 14443 series (ISO/IEC 14443-1, ISO/IEC 14443-2, ISO/IEC 14443-3 and ISO/IEC 14443-4) contactless communications protocol.

This document applies to PT devices:

- PT readers which are contactless fare management system terminals acting as a PCD contactless reader based on the ISO/IEC 14443 series;
- PT objects which are contactless fare media acting as a PICC contactless object based on the ISO/IEC 14443 series.

This edition addresses interoperability of consumer-market NFC mobile devices compliant to NFC Forum specifications, with above mentioned PT devices, aligns with the 4th edition of the ISO/IEC 14443 series and maintains the possibility for PT readers to comply with the requirements from EMV Contactless Interface Specification and the present document.

An interface-oriented test approach is used to evaluate the conformity of PT devices and is defined in CEN/TS 16794-2.

Application-to-application exchanges executed once contactless communication has been established at RF level fall outside the scope of this document. In line with the rules on independence between OSI protocol layers, this document works on the assumption that application-to-application exchanges are not contingent on the type of contactless communication established or the parameters used for the low-level protocol layers that serve as the platform for these application-to-application exchanges.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

CEN/TS 16794-2, *Public transport - Communication between contactless readers and fare media — Part 2: Test plan for ISO/IEC 14443*

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

ISO/IEC 14443 (all parts), *Cards and security devices for personal identification — Contactless proximity objects*

EMV Level 1 Specifications for Payment Systems — EMV Contactless Interface Specification — Version 3.0 March 2018

NFC Forum™ - NFC Analog Specification, Technical Specification - NFC Forum™ - ANALOG 2.1 - NFC Forum-TS-Analog-2.1 - August 2018 (or later)

NFC Forum™ - NFC Digital Specification, Technical Specification - NFC Forum™ - DIGITAL 2.1 - NFC Forum-TS-Digital-2.1 - September 2018(or later)

NFC Forum™ - NFC Activity Specification, Technical Specification - NFC Forum™ - ACTIVITY 2.0 - NFC Forum-TS-Activity-2.0 - April 2017 (or later)