

English Version

**Identification card systems - European Citizen Card - Part 1:  
Physical, electrical and transport protocol characteristics**

Systèmes de cartes d'identification - Carte Européenne du  
Citoyen - Partie 1: Caractéristiques physiques, électriques  
et des protocoles de transmission

Identifikationskartensysteme - Europäische Bürgerkarte -  
Teil 1: Physikalische, elektrische und  
transportprotokollbezogene Merkmale

This Technical Specification (CEN/TS) was approved by CEN on 18 June 2012 for provisional application.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## Foreword

This document (CEN/TS 15480-1:2012) has been prepared by Technical Committee CEN/TC 224 “Personal identification, electronic signature and cards and their related systems and operations”, the secretariat of which is held by AFNOR.

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/TS 15480-1:2007.

Compared with the previous version, the following changes have been made:

- Framework information, which was mainly included in the former Clause 5, has been moved to Part 5.
- Re-drafting to include the existence of contactless or dual (i.e. contact and contactless) technology in a European Citizen Card (in the previous version only contact-based ICCs were considered).
- The ECC security evaluation has been removed as it is considered outside the scope of this part.
- Annex A has been changed completely in order to allow different formats which are not necessarily related to the European driving licence defined in Directive 96/47/EC. The new version of this annex defines layouts to consider using contacts, or having exclusively a contactless interface. In all these formats, a high level of compatibility with ICAO 9303 has been the aim.
- Annex B concerning durability testing has been removed from the standard; instead only some reference information is provided in 6.4.
- Annex C has been removed as it was not considered physical information and therefore outside the scope of this standard.

CEN/TS 15480 *Identification card systems — European Citizen Card* consist of the two following parts:

- *Part 1: Physical, electrical and transport protocol characteristics*
- *Part 2: Logical data structures and card services*
- *Part 3: ECC interoperability using an application interface*
- *Part 4: Recommendations for ECC issuance, operation and use*
- *Part 5: General Introduction*

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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.

## Introduction

This Technical Specification describes a set of requirements covering the physical, electrical and transport protocol characteristics of the European Citizen Card. Part of these requirements come from ISO/IEC JTC 1 SC 17 published standards and ICAO specifications, in order to maximise the ECC interoperability and acceptance for the OSI layers addressed by this specification.

This Technical Specification is intended to offer the card issuer with a great deal of flexibility for the ECC specification, in connection with services that the ECC provides, the authentication mechanisms supported and the national specific public policy with a special concern to protect the citizen privacy according to the applicable European legislation.

The relationships between this document and the other parts of the ECC specification can be found in ECC part 5.

The reader is warned that the ECC Durability methodology available in the original version of this Technical Specification has been replaced by a reference to the ISO/IEC 24789-1 and ISO/IEC 24789-2 standards.

## 1 Scope

This Technical Specification specifies Electronic Citizen Card (ECC) requirements.

The requirements described in this Technical Specification are used to:

- 1) define a plastic body card with associated physical and logical securities;
- 2) specify the electrical interface and data transport protocols for the ECC;
- 3) support the basic set of Identification and, authentication elements visible at the card surface;
- 4) provide guidance for the specification of the ECC Durability.

In addition to the above requirements, informative Annex A in this document recommends different Physical Layouts for the ECC for two scenarios:

- when the ECC is issued to act as a travelling document;
- when the ECC is not issued to act as a travelling document.

## 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 7810, *Identification cards — Physical characteristics*

ISO/IEC 7816-1, *Identification cards — Integrated circuit(s) card(s) with contacts — Part 1: Physical characteristics*

ISO/IEC 7816-2, *Identification cards — Integrated circuit(s) cards with contacts — Part 2: Cards with contacts — Dimensions and location of the contacts*

ISO/IEC 7816-3, *Information technology — Identification cards — Integrated circuit(s) cards with contacts — Part 3: Electronic signals and transmission protocols*

ISO/IEC 7816-12, *Identification cards — Integrated circuit cards — Part 12: Cards with contact — USB electrical interface and operating*

ISO/IEC 14443 (all parts), *Identification cards — Contactless integrated circuit(s) cards — Proximity cards*

Supplement to ICAO Doc 9303 - Release 10,  
[http://www2.icao.int/en/MRTD/Downloads/Supplements%20to%20Doc%209303/Supplement%20to%20ICAO%20Doc%209303%20-%20Release\\_10.pdf](http://www2.icao.int/en/MRTD/Downloads/Supplements%20to%20Doc%209303/Supplement%20to%20ICAO%20Doc%209303%20-%20Release_10.pdf)

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.