SLOVENSKI STANDARD
SIST-TS CEN/TS 15480-1:2013

01-januar-2013

Nadomešča:
SIST-TS CEN/TS 15480-1:2009

Sistemi z identifikacijskimi karticami - Kartica evropskih državljanov - 1. del: Fizične, električne in transportne značilnosti protokola

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

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

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

Ta slovenski standard je istoveten z: **CEN/TS 15480-1:2012**

ICS:

35.240.15	Identifikacijske kartice in sorodne naprave	Identification cards and related devices

SIST-TS CEN/TS 15480-1:2013 **en,fr,de**

TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CEN/TS 15480-1

October 2012

ICS 35.240.15

Supersedes CEN/TS 15480-1:2007

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.

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.

CEN members are the national standards bodies of 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 United Kingdom.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. CEN/TS 15480-1:2012: E

Contents

Page

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

3 Terms and definitions

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

3.1
alteration
fraudulent action of changing a part of an original document, e.g. by changing the biographical data of the document holder

3.2
authentication
provision of assurance of the claimed identity of an entity (see ISO/IEC 10181-2:1996)

3.3
card holder
legal holder of the ECC

3.4
card issuing authority
entity that issues the ECC

3.5
Certification Authority (CA)
means an entity or a legal or natural person who issues certificates or provides other services related to electronic signatures (see Directive 1999/93/EC)

3.6
counterfeiting
unauthorised document that has the same security characteristics as the original document and that cannot be distinguished from a legitimate one

Note 1 to entry: For instance a card made from a blank stolen document.

3.7
credentials
known data attesting to the truth of certain citizen identity attributes and stored in the ECC

3.8
electronic certificate
means an electronic attestation which links signature-verification data to a person and confirms the identity of that person (see Directive 1999/93/EC)

3.9
fingerprint minutia(e)
characteristics of digital fingerprint ridges (start, end, ridge bifurcation), each of which is represented by a mathematical point and an angle defining a position and a direction

Note 1 to entry: Minutiae are represented by a dot map used to single out digital fingerprints and people.

3.10
falsification
refer to alteration and simulation

3.11
fixed administrative information
general information on an identity document in a predefined, precise order, pre-printed or otherwise, constituting the structure for all personal information contained in the said document

3.12
identification
process necessary to recognise the identity of the cardholder

3.13
interoperability
property enabling heterogeneous equipment concerned by electronic exchanges, to inter-communicate in compliance with standards

Note 1 to entry: These standards specify the following common characteristics:

— electrical and mechanical interfaces;

— structure and coding of exchanged messages;

— data identifiers;

— commands structure and coding for data processing.

3.14
machine readable zone (MRZ)
three lines of OCR-B characters on the back of a ID1 card that may be read by a machine (see ICAO 9303)

3.15
microcontroller
electronic component integrating the different physical elements of a card (CPU, ROM, RAM, EEPROM and possibly a cryptoprocessor etc.)

3.16
micromodule

electronic part of the ECC including the integrated circuit and components required to connect to the outside world

Note 1 to entry: There are several micromodule types. The main types are:

— contact micromodule: this type of micromodule is designed to communicate using embedded mechanical characteristics in compliance with the rules of ISO/IEC 7816;

— contactless micromodule: this type of micromodule is designed to allow the card to only communicate using radio frequencies whose characteristics are defined in ISO/IEC 14443;

— mixed micromodule: this type of micromodule is designed to allow the card to communicate in both contact and contact-less modes via a radio frequency link, whose characteristics are defined in ISO/IEC 14443, with the reader. Cards with this type of micromodule are called “combination cards” or “dual interface cards”.

3.17
optical variable feature
image or device whose colour and/or design changes depending on the angle of vision or the amount of light used

3.18
private key
key of an entity’s asymmetric key pair which should only be used by that entity (see ISO/IEC 11770-1:1996)

3.19
public key
key of an entity’s asymmetric key pair which can be made public (see ISO/IEC 11770-1:1996)

3.20
remote procedure
paperless exchange of administrative processes between public authorities (ministers, public bodies etc.) and their partners and citizens

Note 1 to entry: The main stages are:

— request for access to an on-line procedure;

— loading of an on-line procedure;

— loading of procedure-related data;

— filling up of document on screen;

— signature and transfer of procedure-related data.

3.21
remote transmission
transmission via a paperless data network of non-secure and secure data (encoding and/or electronic signature)

3.22
simulation
unauthorised document that simulates the original document in term of overall aspect and in terms of security characteristics but without having the original ones

3.23
variable information
personal information on an identity document, summarising data linked to the document holder

3.24
visual inspection
inspection in which an agent responsible for this procedure inspects the document and information specifications without instrumentation

Note 1 to entry: If the agent uses a device to inspect all or part of a document's characteristics, this inspection is considered to be automatic.

4 Symbols and abbreviations

ECC European Citizen Card

ICAO International Civil Aviation Organization

ISO International Organization for Standardization

MRZ Machine Readable Zone

OVF Optical Variable Feature

UV Ultra Violet

5 ECC requirements for citizen identification using physical means

The ECC may be issued to identify the citizen using electronic and physical means or by electronic means only.

The ECC shall serve to verify the identity of its holder by physical means when:

1) The ECC body includes both issuer and cardholder personalised visual data. These visual data are intended to avoid the ECC being used by a third party and to prevent this third party illegally using a found or stolen ECC. In order for the ECC to protect its cardholder, these visual data are to be consistent with logical identification & authentication information stored in the chip which is to be accessed and processed using ECC-2 and ECC-3 mechanisms. In particular the following applies:

   — the information in the identity electronic certificate shall match the information printed on the card;

   — the link between the “proof of identity” and its holder is confirmed by a microcontroller with textual data, digital certificates and related key pairs, routines for execution of cryptographic calculations and possibly execution of biometric based authentication;

   — the photograph and signature of the cardholder on the card body are mandatory.

NOTE Refer to Annex A for additional information for the position of visual information on the card body.

2) The ECC body is protected against different types of risk by incorporating security features as per Clause 6. The card shall reflect sufficiently the outcome of the national global risk analysis incorporating visual identification risks, natural or accidental risks, fraud or counterfeiting risks and risks linked to the voluntary degradation of the protective covering and micromodule. In particular, these physical security features:

   — shall avoid any text or graphics on the card surfaces from being modified for fraudulent or improper use;

   — shall be designed for visual inspection by suitable technological means;

   — shall be designed for easy control only by visual inspection;

   — shall offer stringent security to match the level of the threat of fraud;

   — shall enable the owner to check the personal data printed on the card with the information contained in the chip of the card.

6 ECC physical characteristics

6.1 General

The ECC shall be a personalised smart card with an ID-1 format as defined in ISO/IEC 7810 and a chip compliant with ISO/IEC 7816 parts 1 and 2 (for an ECC using a contact interface) and/or a chip and interface compliant with ISO/IEC 14443 (for an ECC using a contactless interface).