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UICC-Terminal interface;
Physical, electrical and logical test specification
(Release 10)**

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Foreword

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Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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Introduction

The present document defines the interface tests for the Terminal/UICC interface.

The aim of the present document is to ensure interoperability between an UICC and a Terminal independently of the respective manufacturer, card issuer or operator.

Application specific tests for applications residing on an UICC are specified in ETSI TS 131 121 [4].

1 Scope

The present document specifies the interface test for the Terminal/UICC.

The present document specifies the tests of:

- physical characteristics of the UICC;
- the electrical interface between the UICC and the Terminal;
- the initial communication establishment and the transport protocols;
- the application independent procedures.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

- In the case of a reference to a TC SCP document, a non specific reference implicitly refers to the latest version of that document in the same Release as the present document.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 102 221: "Smart Cards; UICC-Terminal interface; Physical and logical characteristics".
- [2] ISO/IEC 7816-3: "Identification cards Integrated circuit cards - Part 3: Cards with contacts - Electrical interface and transmission protocols".
- [3] ETSI TS 121 111: "Universal Mobile Telecommunications System (UMTS); LTE; USIM and IC card requirements (3GPP TS 21.111)".
- [4] ETSI TS 131 121: "Universal Mobile Telecommunications System (UMTS); LTE; UICC-terminal interface; Universal Subscriber Identity Module (USIM) application test specification (3GPP TS 31.121)".
- [5] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

Not applicable.

3 Definitions, symbols, abbreviations and coding conventions

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

3 V technology Smart Card: Smart Card operating at $3\text{ V} \pm 10\%$ and $5\text{ V} \pm 10\%$

1,8 V technology Smart Card: Smart Card operating at $1,8\text{ V} \pm 10\%$ and $3\text{ V} \pm 10\%$

3 V technology Terminal: Terminal operating the Smart Card - Terminal interface at $3\text{ V} \pm 10\%$ and $5\text{ V} \pm 10\%$

1,8 V technology Terminal: Terminal operating the Smart Card - Terminal interface at $1,8\text{ V} \pm 10\%$ and $3\text{ V} \pm 10\%$

access conditions: set of security attributes associated with a file

data object: information coded as TLV objects, i.e. consisting of a Tag, a Length and a Value part

Dedicated File (DF): file containing access conditions and, optionally, Elementary Files (EFs) or other Dedicated Files (DFs)

directory: general term for MF, DF and ADF

Elementary File (EF): file containing access conditions and data and no other files

file: directory or an organized set of bytes or records in the UICC

file identifier: 2 bytes which address a file in the UICC

Master File (MF): unique mandatory file containing access conditions and optionally DFs and/or EFs

plug-in UICC: second format of UICC

3.2 Symbols

For the purposes of the present document, the following symbols apply:

f	frequency
Fi	Clock rate conversion factor
I	Current
Icc	Current at VCC
Lc	Length of Command data sent by the application layer in a case 3 or 4 Command
Le	Maximum length of data Expected by the application layer in response to a case 2 or 4 Command
Luicc	Exact Length of data available in the UICC to be returned in response to the case 2 or 4 Command received by the UICC