

ETSI TS 102 223 V17.2.0 (2023-03)



Smart Cards; Card Application Toolkit (CAT) (Release 17)

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Secure Element Technologies (SET).

It is based on work originally done in the 3GPP in TSG-terminals WG3.

The contents of the present document are subject to continuing work within TC SET and may change following formal TC SET approval. If TC SET modifies the contents of the present document, it will then be republished by ETSI with an identifying change of release date and an increase in version number as follows:

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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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1 Scope

The present document defines the interface between the UICC and the terminal, and mandatory terminal procedures, specifically for "NAA Card Application Toolkit".

The Card Application Toolkit (CAT) is a set of generic commands and procedures for use by the ICC, irrespective of the access technology of the network. Within the scope of the present document, the UICC refers here to an ICC which supports at least one application in order to access a network. This application is called here Network Access Application (NAA).

The ICC is considered as a platform, which is either based on ETSI TS 102 221 [1] or ETSI TS 102 600 [38], here called "3G platform" or ETSI TS 151 011 [8], here called "2G platform".

NAA can be:

- a USIM application, as defined in ETSI TS 131 102 [6], which can reside only on a 3G platform;
- a SIM application, as defined in ETSI TS 151 011 [8], which can reside either on a 3G or a 2G platform;
- a TSIM application, as defined in ETSI TS 100 812 [i.2], which can reside only on a 3G platform;
- a ISIM application, as defined in ETSI TS 131 103 [36], which can reside only on a 3G platform;
- a CSIM application, as defined in 3GPP2 C.S0065-B [53];
- an R-UIM application, as defined in 3GPP2 C.S0023-D [30]; or
- other applications residing on a 3G platform or a 2G platform. Specifying the interface is to ensure interoperability between an ICC and a terminal independently of the respective manufacturers and operators.

The present document specifies as well mechanisms in order to expand the generic set of commands and procedures by access technology specific ones.

The present document defines:

- the commands;
- the application protocol;
- the mandatory requirements on the ICC and terminal for each procedure.

The present document does not specify any aspects related to the administrative management phase. Any internal technical realization of either the ICC or the terminal are only specified where these reflect over the interface. The present document does not specify any of the security algorithms that may be used.

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 referenced document (including any amendments) applies.

- In the case of a reference to a TC SET 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 <https://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] [ETSI TS 122 001](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN) (3GPP TS 22.001)".
 - [3] [ETSI TS 123 038](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Alphabets and language-specific information (3GPP TS 23.038)".
 - [4] Void.
 - [5] [ETSI TS 127 007](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; AT command set for User Equipment (UE) (3GPP TS 27.007)".
 - [6] [ETSI TS 131 102](#): "Universal Mobile Telecommunications System (UMTS); LTE; Characteristics of the Universal Subscriber Identity Module (USIM) application (3GPP TS 31.102)".
 - [7] [ETSI TS 131 110](#): "Universal Mobile Telecommunications System (UMTS); Numbering system for telecommunication IC card applications (3GPP TS 31.110)".
 - [8] [ETSI TS 151 011](#): "Digital cellular telecommunications system (Phase 2+); Specification of the Subscriber Identity Module - Mobile Equipment (SIM-ME) interface (3GPP TS 51.011)".
 - [9] [IETF RFC 768](#): "User Datagram Protocol".
 - [10] [IETF RFC 793](#): "Transmission Control Protocol".
 - [11] [IETF RFC 1738](#): "Uniform Resource Locators (URL)".
- NOTE: Obsoleted by IETF RFC 4248 and IETF RFC 4266.
- [12] [ISO 639 \(all parts\)](#): "Codes for the representation of names of languages".
 - [13] [ISO/IEC 7816-3](#): "Identification cards -- Integrated circuit cards -- Part 3: Cards with contacts -- Electrical interface and transmission protocols".
 - [14] [ISO/IEC 7816-4](#): "Identification cards -- Integrated circuit cards -- Part 4: Organization, security and commands for interchange".
 - [15] Void.
 - [16] Specification of the [Bluetooth®](#) system; Volume 2; Profiles of the Bluetooth system.
 - [17] Void.
 - [18] Void.
 - [19] [ETSI TS 100 922](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Subscriber Identity Modules (SIM); Functional characteristics (GSM 02.17)".
 - [20] [ETSI TS 124 008](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Mobile radio interface Layer 3 specification; Core network protocols; Stage 3 (3GPP TS 24.008)".
 - [21] Void.
 - [22] [Recommendation ITU-T E.164](#): "The international public telecommunication numbering plan".
 - [23] [Recommendation ITU-T X.121](#): "International numbering plan for public data networks".
 - [24] [Recommendation ITU-T F.69](#): "The international telex service - Service and operational provisions of telex destination codes and telex network identification codes".