



TECHNICAL SPECIFICATION

**Smart Cards;**  
**Test specification for the Host Controller Interface (HCI);**  
**Part 1: Terminal features**  
**(Release 13)**

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The present document is part 1 of a multi-part deliverable covering the Test specification for the Host Controller Interface (HCI), as identified below:

- Part 1: "Terminal features";**
- Part 2: "UICC features";
- Part 3: "Host Controller features".

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## Modal verbs terminology

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## Introduction

The present document defines test cases for the terminal relating to the Host Controller Interface (HCI) as specified in ETSI TS 102 622 [1].

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

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# 1 Scope

The present document covers the minimum characteristics which are considered necessary for the terminal in order to provide compliance to ETSI TS 102 622 [1].

The present document specifies the test cases for:

- the HCI core as described in the first part of ETSI TS 102 622 [1];
- the contactless platform as described in the second part of ETSI TS 102 622 [1].

Test cases for the UICC relating to ETSI TS 102 622 [1] and test cases for the Single Wire Protocol (SWP) covering both terminal and UICC are out of scope of the present document.

---

# 2 References

## 2.1 Normative references

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

- [1] ETSI TS 102 622: "Smart Cards; UICC - Contactless Front-end (CLF) Interface; Host Controller Interface (HCI)".
- [2] ETSI TS 102 613: "Smart Cards; UICC - Contactless Front-end (CLF) Interface; Physical and data link layer characteristics".
- [3] ETSI TS 102 223: "Smart Cards; Card Application Toolkit (CAT)".
- [4] ISO/IEC 18092: "Information technology -- Telecommunications and information exchange between systems -- Near Field Communication -- Interface and Protocol (NFCIP-1)".
- [5] ISO/IEC 14443-2: "Identification cards -- Contactless integrated circuit cards -- Proximity cards - Part 2: Radio frequency power and signal interface".
- [6] ISO/IEC 14443-3: "Cards and security devices for personal identification -- Contactless proximity objects -- Part 3: Initialization and anticollision".
- [7] ISO/IEC 14443-4: "Cards and security devices for personal identification -- Contactless proximity objects -- Part 4: Transmission protocol".
- [8] ISO/IEC 7816-4: "Identification cards -- Integrated circuit cards -- Part 4: Organization, security and commands for interchange".
- [9] ISO/IEC 9646-7: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".
- [10] ETSI TS 102 695-3: "Smart Cards; Test specification for the Host Controller Interface (HCI); Part 3: Host Controller features".

- [11] ISO/IEC 7816-3: "Identification cards -- Integrated circuit cards -- Part 3: Cards with contacts - Electrical interface and transmission protocols".
- [12] ETSI TS 102 221: "Smart Cards; UICC-Terminal interface; Physical and logical characteristics".
- [13] GlobalPlatform: "Multiple Contactless Card Emulation Environments - Managing Entity v1.0".
- NOTE: Available at <http://www.globalplatform.org/>.
- [14] NFC Forum: "NFC Controller Interface (NCI) Technical Specification Version 2.0".

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the terms given in ETSI TS 102 622 [1] and the following apply:

**allowed error response code:** response code which is not ANY\_OK and which is allowed for the referenced command as specified in ETSI TS 102 622 [1]

**non-occurrence RQ:** RQ which has been extracted from ETSI TS 102 622 [1], but which indicates a situation which should never occur

NOTE: The consequence is that such RQs cannot be explicitly tested.

**user:** describes any logical or physical entity which controls the test equipment in a way that it is able to trigger activities of the DUT

### 3.2 Symbols

For the purposes of the present document, the symbols given in ETSI TS 102 622 [1] and the following apply:

PIPE0 the static pipe connected to the link management gate of the device under test  
PIPE1 the static pipe connected to the administration gate of the device under test

### 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 102 622 [1] and the following apply:

(U)SIM	(Universal) Subscriber Identity Module
AC	AntiCollision
AFI	Application Family Identifier
AID	Application IDentifier
ATQA	Answer To reQuest of type A
ATQB	Answer To reQuest of type B
ATS	Answer To Select
CLF	ContactLess Front-end
CLT	ContactLess Tunnelling
CRC	Cyclic Redundancy Code
DUT	Device Under Test
FFS	For Further Study
HCI	Host Controller Interface
HCUT	Host Controller Under Test
HS	Host Simulator
ICRx	Initial Condition Requirement (where x is a number)

NOTE: As used in the applicability table, see clauses 4.2 and 4.5.2.

LEN	LENgth
MH	Managing Host
NAA	Network Access Application
PCD	Proximity Coupling Device
PICC	Proximity Integrated Circuit Card
PPS	Protocol and Parameter Selection
RATS	Request for Answer To Select
REQA	REQuest command, type A
RF	Radio Frequency
RO	Read-Only
RQ	Conformance requirement
RW	Read-Write
SAK	Select AcKnowledge
SRx	Static Requirement (where x is a number)

NOTE: As used in the applicability table, see clauses 4.2 and 4.5.2.

TC	Test Case
TRx	Trigger requirement (where x is a number)
UID	Unique IDentification
WO	Write Only
WUPB	Wake-Up command for PICC type B

NOTE: As used in the applicability table, see clauses 4.2 and 4.5.2.

### 3.4 Void

Content of this clause has been moved to clause 3A.