ETSI TS 102 694-1 V8.3.0 (2019-06)

TECHNICAL SPECIFICATION

**Smart Cards;
Test specification for the
Single Wire Protocol (SWP) interface;
Part 1: Terminal features
(Release 8)**

Reference

RTS/SCP-00SWPTv830

Keywords

smart card, terminal

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00   Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:
http://www.etsi.org/standards-search

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or
print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any
existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI
deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at
https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services:
https://portal.etsi.org/People/CommiteeSupportStaff.aspx

ETSI

Contents

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (https://ipr.etsi.org/).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Smart Card Platform (SCP).

The contents of the present document are subject to continuing work within TC SCP and may change following formal TC SCP approval. If TC SCP 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:

Version x.y.z

where:

x   the first digit:

0   early working draft;

1   presented to TC SCP for information;

2   presented to TC SCP for approval;

3   or greater indicates TC SCP approved document under change control.

y   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z   the third digit is incremented when editorial only changes have been incorporated in the document.

The present document is part 1 of a multi-part deliverable covering the Test specification for the Single Wire Protocol (SWP) interface, as identified below:

Part 1:   "Terminal features";

Part 2:   "UICC features".

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).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Introduction

The present document defines test cases for the terminal relating to Single Wire Protocol (SWP). SWP is the communication interface between the UICC and a contactless frontend (CLF) as specified in ETSI TS 102 613 [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.

1 Scope

The present document covers the minimum characteristics which are considered necessary for the terminal in order to provide compliance to ETSI TS 102 613 [1].

The present document specifies the test cases for:

- the physical layer of the interface CLF - UICC;

- the electrical interface of the CLF;

- the initial communication establishment CLF - UICC;

- the data link layer.

Test cases for the UICC relating to ETSI TS 102 613 [1] and test cases for the host controller interface (HCI) covering both terminal and UICC are out of scope of the present document.

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 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 102 613: "Smart Cards; UICC - Contactless Front-end (CLF) Interface; Part 1: Physical and data link layer characteristics".

[2]   Void.

[3]   Void.

[4]   Void.

[5]   Void.

[6]   Void.

[7]   Void.

[8]   Void.

[9]   Void.

[10]   Void.

[11]   ETSI TS 102 694-1: "Smart Cards; Test specification for the Single Wire Protocol (SWP) interface; Part 1: Terminal features (Release 9)".

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 referenced 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.

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

Not applicable.

3 Definition of terms, symbols and abbreviations

3.1 Terms

Void.

3.2 Symbols

Void.

3.3 Abbreviations

Void.

4 Test environment

Void.

5 Test cases

All test cases are present in ETSI TS 102 694-1 [11].

Annex A:
Void

Annex B (informative):
Core specification version information

Void.

Annex C (informative):
Change history

This annex lists all Changes Requests (CR) applied to the present document.

Change History								
Date	Meeting	Plenary Doc	CR	Rev	Cat	Subject/Comment	Old	New
						Creation of the specification		7.0.0
2010-07	SCP #45	SCP(10)0118	002	-	F	Corrections to test case 5.9.2.2.2	7.0.0	7.1.0
2010-07	SCP #45	SCP(10)0118	003	-	F	Modify test case 5.9.2.1.2	7.0.0	7.1.0
		SCP(10)0118	004	-	F	Improved testing of idle bits	7.0.0	7.1.0
		SCP(10)0118	005	-	F	Test case 5.3.2.3.19: added RSET to last step of test case	7.0.0	7.1.0
		SCP(10)0118	006	-	F	Test case 5.6.2.2.3: clear specification of sequence numbers	7.0.0	7.1.0
		SCP(10)0118	007	-	F	Correction of specification regarding ACT_INFORMATION	7.0.0	7.1.0
		SCP(10)0118	008	-	F	Test case 5.3.2.2.2: correction of applicability	7.0.0	7.1.0
		SCP(10)0118	009	-	F	Test case 5.3.2.5.2: removal due to redundancy	7.0.0	7.1.0
		SCP(10)0118	010	-	F	Test cases 5.6.3.2.X: Updated to send subsequent frames in order to check for response to invalid frame	7.0.0	7.1.0
		SCP(10)0118	011	-	F	Change of usage of 10 I-frames throughout specification to 9 I-frames	7.0.0	7.1.0
		SCP(10)0118	014	-	F	Removal of redundant applicability statements	7.0.0	7.1.0
		SCP(10)0188	012	1	F	HCP message fragmentation	7.0.0	7.1.0
		SCP(10)0189	013	1	F	Clarification of O_WS_3	7.0.0	7.1.0
2010-10	SCP #46	SCP(10)0221	015	-	F	Clarification of Test cases 2: I-frame reception - single I-Frame reception and Test case 3: I-frame reception - multiple I-Frame reception	7.1.0	7.2.0
2011-01	SCP #47	SCP(11)0014	016		F	Removal of redundant options and conditional items	7.2.0	7.3.0
		SCP(11)0015	017		F	Removal of redundant requirement related to non-support of Class A	7.2.0	7.3.0
		SCP(11)0016	019		F	Correction on SHDLC link establishment	7.2.0	7.3.0
		SCP(11)0017	021		F	Test case 5.3.2.3.3: allow for terminals which activate ETSI TS 102 221 interface first	7.2.0	7.3.0
		SCP(11)0018r1	022	1	F	Correction of handling of CL_PROTO_INF(A) and of wrong specification of CLT_PAYLOAD length	7.2.0	7.3.0
		SCP(11)0019	023		F	Corrections to test procedure 5.9.2.1.3 and 5.9.2.2.2	7.2.0	7.3.0
		SCP(11)0020r1	024	1	F	Extended RESUME time and clarification of interface deactivation	7.2.0	7.3.0
		SCP(11)0021	025		F	Modify the applicability of test case 5.7.7.6.2	7.2.0	7.3.0
		SCP(11)0022	026		F	Correction to 'only one SREJ at any one time' test case	7.2.0	7.3.0
		SCP(11)0025	020		F	Clarifications to CLT test cases related to REQA/WUPA	7.2.0	7.3.0
		SCP(11)0026	018		F	Correction of SHDLC window size negotiation	7.2.0	7.3.0
2011-03	SCP #48	SCP(11)0102	029		F	Correction to test case 5.4.1.5.2.2 – addition of text for activation	7.2.0	7.3.0
		SCP(11)0103	030		F	Corrections to test procedure 5.9.2.2.2 and add new test case 5.9.2.2.X	7.2.0	7.3.0
		SCP(11)0104	031		F	Addition of testing for reception of closely spaced frames	7.2.0	7.3.0
		SCP(11)0105	032		F	Corrections to test procedure 5.9.2.2.2	7.2.0	7.3.0
2011-03	SCP #48	SCP(11)0100	027		F	Creation of Rel-8 of ETSI TS 102 694-1 to cover Rel-8 conformance requirements of ETSI TS 102 613	7.3.0	8.0.0
2011-07	SCP #50	SCP(11)0231r1	033	1	F	Clarification of trigger requirements	8.0.0	8.1.0
		SCP(11)0232	034		F	Clarification of test execution parameters in test case 5.5.3.2	8.0.0	8.1.0
2011-12	SCP#53	SCP(11)0336	037		F	Definition of the conditional item of test case 5.7.7.6.2	8.1.0	8.2.0
		SCP(11)0337	038		F	Deletion of test case 5.7.7.9.3	8.1.0	8.2.0
		SCP(11)0339	040		F	Correction of test procedure in clause 5.7.6.4.2	8.1.0	8.2.0
		SCP(11)0340	041		C	Modification of TC 5.9.2.1.3 for better reproductibility over test tools	8.1.0	8.2.0
		SCP(11)0341r1	042	1	F	Correction of figure A.3.7	8.1.0	8.2.0
2012-03	SCP#54	SCP(12)000035r1	049	1	F	Deletion of Rel-8 content of ETSI TS 102 694-1	8.2.0	8.3.0

History

Document history		
V8.0.0	July 2011	Publication
V8.1.0	September 2011	Publication
V8.2.0	March 2012	Publication
V8.3.0	June 2019	Publication