



**Smart Cards;
Test specification for the
Single Wire Protocol (SWP) interface;
Part 1: Terminal features
(Release 9)**

Reference

RTS/SCP-00SWPTv960

Keywords

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ETSI

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Contents

Intellectual Property Rights	4
Foreword.....	4
Modal verbs terminology.....	5
Introduction	5
1 Scope	6
2 References	6
2.1 Normative references	6
2.2 Informative references.....	7
3 Definition of terms, symbols and abbreviations.....	7
3.1 Terms.....	7
3.2 Symbols.....	7
3.3 Abbreviations	7
4 Test environment.....	7
5 Test cases.....	7
Annex A: Void	8
Annex B (informative): Core specification version information.....	9
Annex C (informative): Change history	10
History	12

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Foreword

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- 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).

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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.

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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 10)". |

2.2 Informative references

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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 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
2010-07	SCP #45	SCP(10)0118	002	-	F	Creation of the specification		7.0.0
2010-07	SCP #45	SCP(10)0118	003	-	F	Corrections to test case 5.9.2.2.2	7.0.0	7.1.0
		SCP(10)0118	004	-	F	Modify test case 5.9.2.1.2		
		SCP(10)0118	005	-	F	Improved testing of idle bits		
		SCP(10)0118	006	-	F	Test case 5.3.2.3.19: added RSET to last step of test case		
		SCP(10)0118	007	-	F	Test case 5.6.2.2.3: clear specification of sequence numbers		
		SCP(10)0118	008	-	F	Correction of specification regarding ACT_INFORMATION		
		SCP(10)0118	009	-	F	Test case 5.3.2.2.2: correction of applicability		
		SCP(10)0118	010	-	F	Test case 5.3.2.5.2: removal due to redundancy		
		SCP(10)0118	011	-	F	Test cases 5.6.3.2.X: Updated to send subsequent frames in order to check for response to invalid frame		
		SCP(10)0118	014	-	F	Change of usage of 10 I-frames throughout specification to 9 I-frames		
		SCP(10)0188	012	1	F	Removal of redundant applicability statements		
		SCP(10)0189	013	1	F	HCP message fragmentation		
		SCP(10)0189	013	1	F	Clarification of O_WS_3		
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		
		SCP(11)0016	019		F	Correction on SHDLIC link establishment		
		SCP(11)0017	021		F	Test case 5.3.2.3.3: allow for terminals which activate ETSI TS 102 221 interface first		
		SCP(11)0018r1	022	1	F	Correction of handling of CL_PROTO_INF(A) and of wrong specification of CLT_PAYLOAD length		
		SCP(11)0019	023		F	Corrections to test procedure 5.9.2.1.3 and 5.9.2.2.2		
		SCP(11)0020r1	024	1	F	Extended RESUME time and clarification of interface deactivation		
		SCP(11)0021	025		F	Modify the applicability of test case 5.7.7.6.2		
		SCP(11)0022	026		F	Correction to 'only one SREJ at any one time' test case		
		SCP(11)0025	020		F	Clarifications to CLT test cases related to REQA/WUPA		
		SCP(11)0026	018		F	Correction of SHDLIC window size negotiation		
2011-03	SCP #48	SCP(11)0102	029		F	Correction to test case 5.4.1.5.2.2 - addition of text for activation		
		SCP(11)0103	030		F	Corrections to test procedure 5.9.2.2.2 and add new test case 5.9.2.2.X		
		SCP(11)0104	031		F	Addition of testing for reception of closely spaced frames		
		SCP(11)0105	032		F	Corrections to test procedure 5.9.2.2.2		
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		
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		
		SCP(11)0339	040		F	Correction of test procedure in clause 5.7.6.4.2		
		SCP(11)0340	041		C	Modification of TC 5.9.2.1.3 for better reproducibility over test tools		
		SCP(11)0341r1	042	1	F	Correction of figure A.3.7		
2012-03	SCP#54	SCP(12)000027r2	043	2	F	Modify test procedure of test case 5.3.2.2.3.3	8.2.0	8.3.0
		SCP(12)000028r2	044	2	F	Removal of test case 5.3.2.3.18		
		SCP(12)000030r2	046	2	F	Usage of PCD for low power mode TCs		
		SCP(12)000031r1	047	1	F	Correction on TC 5.5.3.2.		
2012-06	SCP#55	SCP(12)000107	051		F	Clarification on incorrectly formed frames	8.2.0	8.3.0
		SCP(12)000108	052		F	Correction of applicability of TC 5.5.4.3 and TC 5.5.4.4		
		SCP(12)000109	053		F	Clarification on reception of RNR vs. window size		
		SCP(12)000110	054		F	Clarification of trigger requirements TR1 and TR2		
2012-03	SCP#54	SCP(12)000034r1	048	1	F	Creation of ETSI TS 102 694-1 Rel-9	8.3.0	9.0.0
2012-09	SCP#56	SCP(12)000178r1	035	2	F	Correction of test execution for test case 5.7.7.3.4	9.0.0	9.1.0
		SCP(12)000171r1	045	3	F	Modify the test procedure of TC 5.7.7.8.2	9.0.0	9.1.0
		SCP(12)000174r1	056	1	F	Definition of rise/fall time measurement accuracy	9.0.0	9.1.0
		SCP(12)000176r1	058	1	F	Add missing correction to CR047rev1 (TC 5.5.3)	9.0.0	9.1.0
		SCP(12)000177r1	059	1	F	Addition of execution requirement TR2/TR1 to TC 5.7.7.5.3 and TC 5.7.7.5.4.	9.0.0	9.1.0
		SCP(12)000178r1	035	2	F	Correction of test execution for test case 5.7.7.3.4	9.0.0	9.1.0

Change History								
Date	Meeting	Plenary Doc	CR	Rev	Cat	Subject/Comment	Old	New
2012-12	SCP#57	SCP(12)000231	060		B	Addition of test case to check the SHDLIC timings defined in ETSI TS 102 613 clause 12.1.	9.1.0	9.2.0
		SCP(12)000232	061		F	Clarification of communication conditions for SHDLIC LLC	9.1.0	9.2.0
		SCP(12)000236	063		F	Correction of SWIO and Vcc deactivation requirement RQ8 according to changes in ETSI TS 102 613	9.1.0	9.2.0
		SCP(12)000235	064		F	Correction of S1 measurement range for H and L states	9.1.0	9.2.0
		SCP(12)000245	066		F	Clarification of test case 5.7.7.3.4 to indicate allowed values in RSET frame from CLF	9.1.0	9.2.0
2013-02	SCP#58	SCP(13)000022	067		F	Clarification of the UICC processing time simulation	9.1.0	9.2.0
		SCP(13)000023	068		F	Clarification of setting uncertainty	9.1.0	9.2.0
		SCP(13)000024	069		F	Improved specification of UICC simulator behaviour	9.1.0	9.2.0
2013-04	SCP#59	SCP(13)000065	070		F	Clarification of test case 5.6.2.3.2	9.2.0	9.3.0
		SCP(13)000066	071		B	Addition of test procedures for Type F	9.2.0	9.3.0
		SCP(13)000067	072		F	Improved definition of TR2	9.2.0	9.3.0
		SCP(13)000068	073		F	Clarification of test case 5.7.7.8.2 to not allow empty I-frames	9.2.0	9.3.0
		SCP(13)000069	074		F	Make the content of test case 5.3.2.3.3 FFS	9.2.0	9.3.0
2013-07	SCP#60	SCP(13)000126r1	076	1	F	Test cases 5.5.4.3/4: clarification of interface activation	9.3.0	9.4.0
		SCP(13)000127r1	077	1	F	Test case 5.6.2.3.2: removal of invalid I-frame bit pattern	9.3.0	9.4.0
		SCP(13)000128r1	078	1	F	Test case 5.7.7.3.5: removal of unnecessary conditional statement	9.3.0	9.4.0
		SCP(13)000130r1	062	3	F	Modification of test case 5.7.7.6.3 to avoid inconclusive results	9.3.0	9.4.0
		SCP(13)000147r1	080	1	F	Section 5.5.3 correction of RQ4 and RQ8 and addition of an appropriate test case	9.3.0	9.4.0
2013-10	SCP#61	SCP(13)000210	079	2	B	Additional tests for Type F	9.4.0	9.5.0
		SCP(13)000211	081		F	Subsequent SWP interface activation no longer optional	9.4.0	9.5.0
		SCP(13)000212	082		F	Alignment of conditions for test case 5.5.3.3	9.4.0	9.5.0
2014-12	SCP#61	SCP(14)000298	091		F	Deletion of REL-9 content of ETSI TS 102 694-1	9.5.0	9.6.0

History

Document history		
V9.0.0	September 2012	Publication
V9.1.0	December 2012	Publication
V9.2.0	April 2013	Publication
V9.3.0	July 2013	Publication
V9.4.0	September 2013	Publication
V9.5.0	December 2013	Publication
V9.6.0	June 2019	Publication