

ISO/IEC 23917:2023-12 (E)

Telecommunications and information exchange between systems - Near Field Communication Interface and Protocol 1 (NFCIP-1) - Protocol test methods

Contents		Page
Foreword		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols and abbreviated terms	2
5	Notational conventions	4
5.1	Representation of numbers	4
5.2	Names	4
5.3	Test report	4
6	Conformance	4
7	Apparatus for testing	4
7.1	General	4
7.2	Generating the I/O character timing in reception mode	4
7.3	Measuring and monitoring the RF I/O protocol	4
7.4	Test scenario and report	5
7.5	RFU bits	6
7.6	General rules	6
8	Target test methods	6
8.1	General	6
8.2	Apparatus for testing the Target (Target-test-apparatus)	6
8.3	List of protocol test methods related to ISO/IEC 18092	6
8.4	Activation in Passive communication mode at $f_c/128$	7
8.4.1	SDD for transport protocol activation	7
8.5	Activation in Passive communication mode at $f_c/64$ and $f_c/32$	8
8.5.1	Activation time	8
8.5.2	Frame format	8
8.5.3	SDD timing	9
8.5.4	SDD for transport protocol activation	9
8.6	Activation in Active communication mode	10
8.6.1	RFCA	10
8.7	Logical operation of the Target Transport Protocol	11
8.7.1	Handling of ATR_REQ	11
8.7.2	Handling of PSL_REQ	12
8.7.3	Handling of DEP_REQ Information PDUs	13
8.7.4	Handling of DEP_REQ Information PDUs with chaining Initiator to Target and Target to Initiator	15
8.7.5	Handling of DEP_REQ supervisory PDUs with timeout bit set to ONE	17
8.7.6	Handling of DEP_REQ supervisory PDUs with timeout bit set to ZERO	19
8.7.7	Handling of DSL_REQ	20
8.7.8	Handling of RLS_REQ	21
8.7.9	Handling of WUP_REQ (Active communication mode only)	22
9	Initiator test methods	23
9.1	Apparatus for testing the Initiator (Initiator-test-apparatus)	23
9.1.1	Initiator-test-apparatus concept	23
9.1.2	Protocol activation procedure for Passive communication mode at $f_c/128$	24

9.1.3	Protocol activation procedures for Passive communication mode at $f_c/64$ and $f_c/32$	24
9.1.4	Protocol activation procedures for Active communication mode	24
9.2	List of protocol test methods for Initiators	24
9.3	Activation in Passive communication mode at $f_c/128$	26
9.3.1	Initial RFCA	26
9.3.2	SDD for transport protocol activation	26
9.4	Activation in Passive communication mode at $f_c/64$ and $f_c/32$	27
9.4.1	Initial RFCA	27
9.4.2	Frame format	27
9.4.3	SDD for transport protocol activation	28
9.5	Activation in Active communication mode	28
9.5.1	Initial RFCA	28
9.5.2	Response RFCA with time jitter $n=0$	29
9.6	Logical operation of the Transport Protocol	29
9.6.1	Handling of ATR_RES	29
9.6.2	Handling of PSL_RES	30
9.6.3	Handling of DEP_RES Information PDUs	31
9.6.4	Handling of DEP_RES Information PDUs with chaining Initiator to Target and Target to Initiator	32
9.6.5	Handling of DEP_RES supervisory PDUs with timeout bit set to ONE	35
9.6.6	Handling of DEP_RES supervisory PDUs with timeout bit set to ZERO	36
9.6.7	Handling of DSL_RES	37
9.6.8	Handling of RLS_RES	38
9.6.9	Handling of WUP_RES (Active communication mode only)	39
Annex A	(normative) Test report template for Target tests	41
Annex B	(normative) Test report template for Initiator tests	45