OSPD Verified Test Descriptions

1.40-2

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uses numbering from published 60839-11-5

Test Descriptions

Test Group 5 – Protocol

Test 050-01-01 Physical Interface

Test Reference: 050-01-01 (rev.01)
Test Title: Physical Interface
Criteria: (required: basic) supports RS-485 2-wire
Test action: plug it in to RS-485 test jig and make sure it works. Requires choosing a speed at which to test.
Operator action:
    confirm initial set-up.
    confirm interview form complete.
    set up at designated address/speed.
    connect DUT
    confirm at least 8 poll/ack sequences completed.
Recommended processing: n/a

Test-draft 050-01-02 TCP Interface

t.b.d.
Criteria: (optional) support TCP as implemented in the reference implementation including "kick-not-poll" processing.
Recommended processing: n/a

Test 050-02-01 Signalling

Test Reference: 050-02-01 (rev. 01)
Test Title: Signalling
Criteria: (required) supports at least one of the designated speeds.
Test action: confirm communications at designated speed. See interview form.
Operator action:
    use speed from form
    confirm testbed is running at that speed
    connect DUT
    confirm at least 8 poll/ack sequences completed
Recommended processing: n/a

Test 050-03-01 Character Encoding

Test Reference: 050-03-01 (rev. 01)
Test Title: Character Encoding
Criteria: (required) support use of all possible 8 bit patterns.
Test action: Use OSDP trace to confirm character coverage.
Operator action:
    Exercise DUT through full test set, collecting a trace
    Confirm successful operation
    Run trace analyzer

Report character coverage
Recommended processing: n/a

Test 050-04-01 Channel Access

Test Reference: 050-04-01 (rev. 02)
Test Title: Channel Access
Criteria: (required) Confirm only one reply per command; presence of busy; later processing if busy.
Test action: Use OSDP trace to confirm presence of busy, one reply per command.
Operator action:
　　　　Set up DUT and run a selection of commands, collecting a trace
　　　　Run trace analyzer
　　　　Confirm analyzer does not report response anomalies.
Recommended processing: n/a

Test-draft 050-04-02 Retry

tbd required
at test ACU by command drop a response and send the last command again. make sure the PD behaves
correctly - no nak, processes the command again (?)

Test-draft 050-05-01 Multibyte Encoding

tbd required
?? test from ACU to PD
?? test from PD to ACU
050-05-01,Multi-byte Data Encoding,lsb first unless otherwise noted; no padding.

Test-draft 050-06-01 Packet Size Limits

tbd required
RUN PDCAP TEST FIRST AND VERIFY PDCAP RESPONSE INCLUDES MAX PACKET SIZE
try a text out at the 128 limit, make sure you get "bad command" not "bad command", then try an out-
of-spec packet and make sure you get "bad packet" not "bad command". use pdcap to identify max size
claimed to be accepted by PD.

also, send a truly max sized packet using LED commands to a different address and ensure the PD does
not fail. fail is defined as reboot, stop accepting poll, etc.

Test 050-07-01 Timing

Test Reference: 050-07-01 (rev. 00)
Test Title: Timing
Criteria: (required) Confirm command (poll) response time is under 200 milliseconds.
Test action: Use OSDP trace log analyzer to confirm timing.
Operator action:
> Set up DUT in idle poll/ack configuration, collecting a trace
> Run trace analyzer
> Confirm analyzer does not report response time of 200ms exceeded.

Recommended processing: n/a

Test 050-08-01 Message Synchronization

Test Reference: 050-08-01 (rev. 00)
Test Title: Message Synchronization
Criteria: (required) Passes message traffic (implied.)
Test action: plug it in to RS-485 test jig and make sure it works. Requires choosing a speed at which to test. Assumes proper inter-character timing if the testing works.
Operator action: plug it in.
Recommended processing: n/a; Use a logic analyzer for further verification.

Test 050-09-01 Packet Format

050-09-01,Packet Format,follow table 1 packet format.

Other 050 tests

050-02-01,,
050-04-04,,
050-09-16,,
050-01-03,TLS,
050-02-02,"SIgnalling 19,200",
050-02-03,"Signalling 38,400",
050-02-04,"Signalling 115,200",
050-02-05,"Signalling 57,600",
050-02-06,"Signalling 230,400",
050-04-03,resend busy,
050-04-04,new after busy,

050-06-01,Packet Size Limits ACU to PD,accept at least 128 bytes total pdu size; accept max 1440 bytes total PDU size.
050-06-02,Packet Size Limits PD to ACU,

050-09-02,,process sequence 0
050-09-03,SOM - Start of Message,SOM starts each OSDP command and response
050-09-04,ADDR - Address,Address field indicates PD address 0x00-0x7e inclusive or special configuration address 0x7f
050-09-05,,"must not use 7f except for ID,PDID, CAP, PDCAP, COM, COMSET"
050-09-06,LEN - Length,Length field (2 bytes LSB MSB) indicates length of OSDP command and

response
050-09-07,CTRL - Control,
050-09-08,Security Block,
050-09-09,CMND / REPLY,
050-09-10,Valid command / reply,Command / Reply value in range
050-09-11,CHECKSUM,must support both
050-09-12,SOM Sent,(see old code)
050-09-13,Config address test,
050-09-14,Rogue SCS Poll,
050-09-15,CRC,
050-10-01,Large Data Arrays,Multi-part message fields added to certain commands and responses

Test Group 6 – Commands

Test 3-10-1 LED Test (Red)

Test 3-10-2 LED Test (Green)

Test 3-11-1 Buzzer Control

Test 060-12-01 osdp_COMSET

Test Reference: 060-12-01 (rev.00)
Test Title: osdp_COMSET – set port and speed.
Criteria: (required: basic) supports RS-485 2-wire; cleartext
Test action: issue osdp_COMSET and change ACU speed to match.
Operator action:
>   confirm acu and pd are communicating (poll/ack counters)
>   issue osdp_COMSET and also change the test ACU's speed to match
>   operator monitors statistics to confirm stabilized poll/ack traffc at new speed/address (
>   confirm at least 8 poll/ack sequences completed.)
>   issue osdp_ID and capture response
>   issue osdp_CAP and capture response.

Recommended processing: Note – reset speed and address to 0/9600 before removing DUT from testbed.
Development status: available in current release of libosdp_conformance (0.80-1.)

Test 060-12-02 osdp_COMSET (SCS)

Test Reference: 060-12-02 (rev.00)
Test Title: osdp_COMSET – set port and speed, within a secure channel session.
Criteria: (required: basic) supports RS-485 2-wire
Test action: within a secure channel session issue osdp_COMSET and change ACU speed to match.
Operator action:
>   configure for secure channel
>   execute procedure for 060-12-01.
Recommended processing: Note – reset speed and address to 0/9600 before removing DUT from testbed.
Development status: available in current release of libosdp_conformance (0.80-1.)

Test Group 7 – Responses

Test 070-02-01 osdp_ACK

Test Reference: 070-02-01 (rev. 01)
Test Title: osdp_ACK response
Description: Default benign response to a poll.
Purpose: PD proof of life.
Criteria: (required: basic) must appear at least once in test sequence.
Test action: capture in trace during automated sequence.
Operator action:
      PD test: run test ACU via sequencer, confirm trace analysis shows poll test
      ACU test: prepare test PD and run ACU test sequencer.
Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1

Test 070-02-02 OSTATR response to POLL

Test Reference: 070-02-02 (rev. 00)
Test Title: osdp_OSTATR response to a poll
Description:
Purpose:
Criteria: (optional: basic) should work if pdcap reports outputs.
Test action:
Operator action:
      PD test:
      ACU test:
Recommended processing:
Development status: Available in libosdp-conformance 0.81-2
Example use:

Test 070-03-01 osdp_NAK

Test Reference: 070-03-01 (rev. 01)
Test Title: osdp_NAK response
Description: Negative acknowledgement with optional reason.
Purpose: Negative feedback..
Criteria: (required: basic) expected at least once due to induced NAK.
Test action: capture in trace during automated sequence.
Operator action:
      PD test: run test ACU via sequencer, run nak test
      ACU test: prepare test PD and run test to respond with a NAK.
Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1
Example use: exceptions reported via the protocol.

Test 070-03-02 NAK not 1

Test Reference: 070-03-02 (rev. 01)
Test Title: osdp_NAK response (not code 1)
Description: Negative acknowledgement with a cause code other than 1.
Purpose: Exercise NAK mechanism to proove it can provide details.
Criteria: (optional) expected at least once due to induced NAK.
Test action: capture in trace during automated sequence.
Operator action:
>PD test: run test ACU via sequencer, run nak test
>ACU test: prepare test PD and run test to respond with a NAK.

Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1
Example use: NAK with unknown command upon receipt of unimplemented osdp_ACURXSIZE.

Test 070-04-01 osdp_PDID

Test Reference: 070-04-01 (rev. 01)
Test Title: osdp_PDID response
Description: Confirm PDID response to ID
Purpose: Confirm PD can be identified.
Criteria: (required: basic)
Test action: capture in trace during automated sequence.
Operator action:
>PD test: run test ACU via sequencer, send osdp_ID
>ACU test: prepare test PD and respoknd with PDID when the ACU test harness induces an ID rquest.

Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1
Example use: returns PD identification for ACU set-up.

Test 070-04-02 Bad PDID

Test Reference: 070-04-02 (rev. 01)
Test Title: osdp_PDID invalid response
Description: Declared if PDID is present but wrong.
Purpose: Confirm PD contains usable and/or documented details.
Criteria: (optional)
Test action: capture in trace during automated sequence.
Operator action:
>PD test: run test ACU via sequencer, examine PDID response
>ACU test: prepare test PD and respoknd with PDID when the ACU test harness induces an ID request.

Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1
Example use: test reflects identified issues in PDID response data.

Test 070-05-01 osdp_PDCAP

Test Reference: 070-05-01 (rev. 01)
Test Title: osdp_PDCAP response
Description: Confirm PDCAP response to osdp_CAP
Purpose: Confirm PD capabilities can be queried.
Criteria: (required: basic)
Test action: capture in trace during automated sequence; analysis process also checks specific capabilities.
Operator action:
> PD test: run test ACU via sequencer, send osdp_CAP
> ACU test: prepare test PD and respoknd with PDCAP when the ACU test harness induces an osdp_CAP request.

Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1
Example use: retrieve PD capabilities to confirm it supports secure channel.

Test 070-05-02 Capability: number of inputs

Test Reference: 070-05-02 (rev. 01)
Test Title: Capability - number of inputs
Description: Identify presence of capability no. 1 (number of inputs.)
Purpose: Confirm capability presence and values.
Criteria: (optional: basic)
Test action: capture in trace during automated sequence.
Operator action:
> PD test: run test ACU via sequencer, send osdp_CAP, analyze osdp_PDCAP response
> ACU test: prepare test PD and respond with PDCAP containing a known value.

Recommended processing: use an ACU-PD configuration that includes I/O signalling.
Development status: Available in libosdp-conformance 0.81-1
Example use: confirm PD has inputs before configuring.

tbd 070-05-03 through 070-05-xx

070-04-04,capability 2 - number and type of outputs,
070-04-06,capability 4 - number and type of LED,
070-04-07,capability 5 - audible output,
070-04-08,capability 6 - text display,
070-04-11,capability 9 - - report secure channel yes/no,
070-04-15,capability 13 - Number of Readers,

Test 070-05-17 Capability: OSDP version

Test Reference: 070-05-17 (rev. 00)
Test Title: Capability – OSDP version.
Description: Identify which version of the OSDP protocol this PD implements.
Purpose: Compatibility
Criteria: (recommended: basic)
Test action: capture in trace during automated sequence.
Operator action:
>   PD test: run test ACU via sequencer, send osdp_CAP, analyze osdp_PDCAP response
>   ACU test: prepare test PD and respond with PDCAP containing a known value.

Recommended processing: use standard ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-2
Example use: confirm PD supports SIA 2.2 spec.

Test 070-06-01 osdp_LSTATR

Test Reference: 070-06-01 (rev. 01)
Test Title: local status report
Description: Reports poweron and tamper state
Purpose: Notify ACU of losso of power or tamper state.
Criteria: (required: basic)
Test action: capture in trace during automated sequence. look for any example including LSTAT response.
Operator action:
>   PD test: run test ACU via sequencer, send osdp_LSTAT, analyze osdp_LSTATR response
>   ACU test: prepare test PD and respond with LSTATR simulating power cycle or tamper

Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1
Example use: detect PD has gone into Tamper state.

Test 070-06-02 LSTATR Tamper

Test Reference: 070-06-02 (rev. 00)
Test Title: Local Status Report - Tamper
Description: Reports tamper state
Purpose: Notify ACU of tamper state.
Criteria: (optional: basic)
Test action: capture in trace during automated sequence. look for any example including LSTAT response.
Operator action:
>   PD test: run test ACU via sequencer, send osdp_LSTAT, analyze osdp_LSTATR response
>   ACU test: prepare test PD and respond with LSTATR simulating tamper

Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1
Example use: detect PD has gone into Tamper state.

Test 070-06-03 LSTATR Power

Test Reference: 070-05-03 (rev. 00)
Test Title: Local Status Report - Power
Description: Reports power-on state
Purpose: Notify ACU of power cycling.
Criteria: (optional: basic)
Test action: capture in trace during automated sequence. look for any example including LSTAT response.
Operator action:
      PD test: run test ACU via sequencer, send osdp_LSTAT, analyze osdp_LSTATR response
      ACU test: prepare test PD and respond with LSTATR simulating power restoral.
Recommended processing: use a conventional ACU-PD configuration.
Development status: Available in libosdp-conformance 0.81-1
Example use: detect PD has cycled power.

Test 070-07-01 osdp_ISTATR

Test Reference: 070-07-01 (rev 00)
Test Title: Input Status Report
Description: reports digital in status
Purpose: Notify ACU of alarm point value changes.
Criteria: optional: basic, required if PDCAP reports inputs.
Test action: Operator-induced I/O signal change.
Operator action:
      PD test: query with osdp_ISTAT
      ACU test: confirm detection of exerciser-induced input status change.
Recommended processing: Use ACU-PD configuration with 1 digital input and 1 digital output.
Development status: Available in libosdp-conformance 0.80-1
Example use: Alarm points, REX, DFS.

Test 070-08-01 osdp_OSTATR

Test Reference: 070-08-01 (rev 00)
Test Title: Output Status Report
Description: reports digital out status
Purpose: energize relay.
Criteria: optional: basic, required if PDCAP reports outputs.
Test action: Operator-induced I/O signal change.
Operator action:
      PD test: query with osdp_OSTAT
      ACU test: confirm exerciser PD detects exerciser-induced output change.
Recommended processing: Use ACU-PD configuration with 1 digital input and 1 digital output.
Development status: Available in libosdp-conformance 0.80-1
Example use: Lock/Unlock.

Test 070-09-01 osdp_RSTATR

Test Reference: 070-09-01 (rev 00)
Test Title: Reader status report
Description: reports on status of downstream (not the primary) reader
Purpose: control downstream attached readers.
Criteria: (optional: basic)
Test action: checked through automatic sequencer.
Operator action:
  PD test: sequencer uses exerciser to request status
  ACU test: exerciser reports PD status when queried by ACU
Recommended processing: Use standard ACU/PD with zero downstream readers.
Development status: Available in libosdp-conformance 0.80-1
Example use: (deprecated?)

Test 070-10-01 osdp_RAW

Test Reference: 070-10-01 (rev 00)
Test Title: Raw card read
Description: reads raw (bits) from credential
Purpose: collect card data.
Criteria: (required: basic)
Test action: Operator controlled.
Operator action:
  PD test: operator presents credential, sequencer uses exerciser to record card read.
  ACU test: exerciser reports a card read, check it gets through.
Recommended processing: Use standard ACU/PD.
Development status: Available in libosdp-conformance 0.80-1
Example use: card read test

Test 070-12-01 osdp_KEYPAD

Test Reference: 070-12-01 (rev 00)
Test Title: Keypad
Description: reads keypad input
Purpose: reads keypad
Criteria: optional: basic
Test action: Operator controlled.
Operator action:
  PD test: operate keypad and check for input.
  ACU test: confirm acu reports induced keypad input.
Recommended processing: Use ACU with a keypad PD.
Development status: Available in libosdp-conformance 0.80-1
Example use: card read test

Test 070-13-01 osdp_COM

Test Reference: 070-13-01 (rev 00)
Test Title: Communications report
Description: reports new actual speed and address

Purpose: PD configuration
Criteria: (optional: basic)
Test action: Operator controlled.
Operator action:
> PD test: operator tests at least 2 speeds.
> ACU test: confirm pd exerciser can be configured..
Recommended processing: Use standard ACU/PD.
Development status: Available in libosdp-conformance 0.80-1
Example use: change address from 0 to 1 and back

tbd 070-14-01 osdp_BIOREADR

00

tbd 070-15-01 osdp_BIOMATCHR

t.b.d.

Test 070-16-01 osdp_CCRYPT

Test Reference: 060-16-01 (rev 00)
Test Title: Client Cryptogram response
Description: part of secure channel session set-up sequence
Purpose: return challenge data to ACU to complete session set-up
Criteria: (required: basic)
Test action: activate secure channel and confirm sequence completes properly.
Operator action:
> PD test: operator initiates secure channel through exerciser.
> ACU test: ACU is induced to establish a secure channel
Recommended processing: Use standard ACU/PD
Development status: Available in libosdp-conformance 0.80-1
Example use: t.b

Test 070-17-01 osdp_RMAC_I

Test Reference: 070-17-01 (rev 00)
Test Title: Recieve MAC Initialization
Description: return initial rmac value from PD to ACU
Purpose: complete set-up for secure channel.
Criteria: (required: basic)
Test action: activate secure channel and confirm sequence completes properly.
Operator action:
> PD test: operator initiates secure channel through exerciser.
> ACU test: ACU is induced to establish a secure channel
Recommended processing: Use standard ACU/PD
Development status: Available in libosdp-conformance 0.80-1
Example use: t.b.d.

Test 070-18-01 osdp_MFGREP

Test Reference: 070-18-01 (rev 00)
Test Title: Manufacturer-specific response
Description:
Purpose:
Criteria: (optional: basic)
Test action:
Operator action:
      PD test:
      ACU test:
Recommended processing:
Development status:
Example use:

,osdp_FTSTAT,

7-18 busy

7-19 pivdatar

7-20 genauthr

7-21 crauthr

7-22 mfgstatr

7-23 mfgerrr

7-24 ftstat

7-26 xrd
,osdp_BIOREADR,
,osdp_BIOMATCHR,

command list 2

060-01-01,osdp_POLL,
060-02-01,osdp_ID,
060-03-01,osdp_CAP,
060-04-01,osdp_LSTAT,
060-05-01,osdp_ISTAT,required unless PDCAP reports 0 inputs
060-06-01,osdp_OSTAT,required unless PDCAP reports 0 outputs
060-07-01,osdp_RSTAT,required unless PDCAP reports 0 readers
060-08-01,osdp_OUT,required unless PDCAP reports 0 outputs
060-09-01,osdp_LED,required if PDCAP reports >0 LED's
060-10-01,osdp_BUZ,required if PDCAP reports >0 annunicators
060-11-01,osdp_TEXT,required if PDCAP reports >0 displays
060-13-01,osdp_BIOREAD,
060-14-01,osdp_BIOMATCH,
060-15-01,osdp_KEYSET,used by secure channel
060-16-01,osdp_CHLNG,used by secure channel
060-17-01,osdp_SCRYPT,used by secure channel
060-19-01,osdp_ACURXSIZE,
060-25-01,osdp_FILETRANSFER,
060-18-01,osdp_MFG,required if manufacturer has their own special commands.
,osdp_XWR,
,osdp_ABORT,
,osdp_PIVDATA,
,osdp_GENAUTH,
,osdp_CRAUTH,
,osdp_KEEPACTIVE,

Test 999-99-99 TEMPLATE

Test Reference: 999-99-01 (rev 04)
Test Title: Template
Description:
Purpose:
Criteria: (required: basic) as documented
Test action: as documented
Operator action:
        PD test: as documented
        ACU test: as documented
Recommended processing: n/a
Development status: Available in libosdp-conformance 0.80-1
Example use: t.b.d.