



## Device Test Report

TMG IO-Link Device Tool V5.1 - TS: Revision: 5.1.1 Build: 9510  
TEngBas V5.1.1: Revision: 5.1.1 Build: 9507  
Test ID: 799754804



Vendor ID : 451 Vendor : Banner Engineering Corporation  
Device ID : 393237 Device : K50PSTKQ  
IO-Link Version : V1.1 Product ID : K50PSTKQ  
Firmware Revision : 1.0.1 Hardware Revision : V00-01  
Serial Number : FSSSSSSSSPPPPDD

ISDU supported : True SIO mode supported : False  
Process Data Input Bits : 16 Process Data Output Bits : 64  
Min Cycle Time : 5000  $\mu$ s Bitrate : COM2  
Implemented Access Locks :  
parameter="True" datastorage="True" localParameterization="False" localUserInterface="False"  
IODD : Banner\_Engineering-K50PSTKQ-20250107-IODD1.1.xml  
Checker : IODD-Checker V1.1.4 R3 IODD Stamp : 3020853079  
Test conditions: Test according IO-Link specification V1.1.2

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IODD Check: The IODD was checked with a valid IODD checker.

Test result : All test were passed with positiv result in complete operation. Please note that some exceptions exist.

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Test operated by :

Company : Banner Engineering

Name : Nicolai Shlapunov

Signature : 

**Testreport : Test System Version information**

TMG IO-Link Device Tool V5.1 - TS:	Revision: 5.1.1	Build: 9510
TEngBas V5.1.1:	Revision: 5.1.1	Build: 9507
Testcase DLL:	Name: ProtocolTests	Build: 9507
USB Master Firmware Revision:	3.2.5 / 1.3.C	

**Testreport : Test Configuration**

Test variable for 8 Bit index access :

Index : 244	Length: 1
Data (hex) : 00	

Test variable for 16 Bit index access :

Index : 16368	Length: 1
Data (hex) : 01	

Test variable for 8 Bit index extended length :

Index : 243	Length: 16
Data (hex) : 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20	

Implemented system commands :

1 2 3 4 5 6 130 65 66 67 68 69

M-sequence Capability (hex) :

09

Commands to generate events :

Event trigger 1 : appear value = 0	disappear value = 1
Event trigger 2 : appear value = 2	disappear value = 3

===== Config Messages from Testcases =====

The testcase SDCI\_TC\_0080 TCD\_APPS\_DSUP\_VIALOCALCHANGE is skipped because the device is not capable to change a parameter via local user interface

===== Exception Messages from Testcases =====

The device did not react to the wakeup signal after TRDL. Since an exception has been granted, the test will not be treated as failed. But you have to document this deviation from the specification in your user's manual and the manufacturer declaration!

===== Reasons for negative test results =====

- some tests led to an exception. Please ensure that these deviations from the specification are documented in the user's manual. This is mandatory since IO-Link specification V1.1.3

## Device Test Report

**Testreport Overview (1)**

TC_Device_Identification	ok
Data Layer Tests V5.1.1.9507	
SDCI_TC_0034 TCD_DLPC_STUP_CYCTIME	ok
SDCI_TC_0035 TCD_DLPC_STUP_STUOPER1	ok
SDCI_TC_0306 TCD_DLPC_CHCK_OVERRIDOK	ok
SDCI_TC_0036 TCD_DLPC_STUP_STUOPER2	ok
SDCI_TC_0037 TCD_DLPC_OPER_OPERSTUP1	ok
SDCI_TC_0038 TCD_DLPC_STAR_OPERSTAR2	ok
SDCI_TC_0039 TCD_DLPC_PREO_READDPP1	ok
SDCI_TC_0040 TCD_DLPC_PREO_WRITEDPP1	ok
SDCI_TC_0041 TCD_DLPC_PROP_SHORT_MESSAGE	ok
SDCI_TC_0043 TCD_DLPC_PROP_SIMRESET	ok
SDCI_TC_0044 TCD_DLPC_PROP_MSEQFAULT	ok
SDCI_TC_0377 TCD_DLPC_PROP_RECOVERY_TIME	ok
SDCI_TC_0045 TCD_DLPC_OPER_READ	ok
SDCI_TC_0046 TCD_DLPC_OPER_WRITE	ok
SDCI_TC_0047 TCD_DLPC_OPER_NEGWRITE	ok
SDCI_TC_0049 TCD_DLPC_OPER_SIMRESET	ok
SDCI_TC_0376 TCD_DLPC_OPER_PDVALIDITYINDICATION	ok
ISDU Tests V5.1.1.9507	
SDCI_TC_0052 TCD_DLPC_ISDU_AVAILMSEQCAP	ok
SDCI_TC_0053 TCD_DLIC_ISDU_IDLEBUSYCHECK	ok
SDCI_TC_0054 TCD_DLIC_ISDU_READINDEX8	ok
SDCI_TC_0055 TCD_DLIC_ISDU_READ8EXTLENGTH	ok
SDCI_TC_0056 TCD_DLIC_ISDU_WRITE8	ok
SDCI_TC_0057 TCD_DLIC_ISDU_READ8RESERVED	ok
SDCI_TC_0058 TCD_DLIC_ISDU_READ8NOSUBINDEX	ok
SDCI_TC_0059 TCD_DLIC_ISDU_READ16	ok
SDCI_TC_0060 TCD_DLIC_ISDU_WRITE16	ok
SDCI_TC_0061 TCD_DLIC_ISDU_READ16RESERVED	ok
SDCI_TC_0062 TCD_DLIC_ISDU_READ16NOSUBINDEX	ok
SDCI_TC_0063 TCD_DLIC_ISDU_WRITE8LENOVERRUN	ok
SDCI_TC_0064 TCD_DLIC_ISDU_WRITE8WRONGLEN	ok
SDCI_TC_0065 TCD_DLIC_ISDU_WRITE8WRONGCHECKSUM	ok
SDCI_TC_0066 TCD_DLIC_ISDU_WRITE8ROINDEX	ok
SDCI_TC_0067 TCD_DLIC_ISDU_ABORTREADREQ	ok
SDCI_TC_0068 TCD_DLIC_ISDU_ABORTREADRESP	ok
Event Tests V5.1.1.9507	
SDCI_TC_0069 TCD_DLIC_EVNT_OPERSINGLEEVENT	ok
SDCI_TC_0070 TCD_DLIC_EVNT_PROPSINGLEEVENT	ok
SDCI_TC_0071 TCD_DLIC_EVNT_OPEREVENTCLEAR	ok
SDCI_TC_0072 TCD_DLIC_EVNT_OPERCOMMINTERRUPT	ok

**Testreport Overview (2)**

SDCI_TC_0073 TCD_DLIC_EVNT_OPERPOWERINTERRUPT	ok
SDCI_TC_0074 TCD_DLIC_EVNT_OPERAPPEARDISAPPEAR	ok
SDCI_TC_0075 TCD_DLIC_EVNT_OPERMULTEVENT	ok
SDCI_TC_0076 TCD_DLIC_EVNT_OPERSHORTEVENT	ok
SDCI_TC_0373 TCD_DLIC_DEFP_EVENTDEVSTAT	ok
Data Storage Tests V5.1.1.9507	
SDCI_TC_0077 TCD_APPS_DSUP_NOFLAG	ok
SDCI_TC_0078 TCD_APPS_DSUP_VIADOWNLOADSTORE	ok
SDCI_TC_0079 TCD_APPS_DSUP_VIADOWNLOADSTORENOWRITE	ok
SDCI_TC_0080 TCD_APPS_DSUP_VIALOCALCHANGE	ok
SDCI_TC_0081 TCD_APPS_DSUP_PARABREAKABORT	ok
SDCI_TC_0378 TCD_APPS_DSUP_INDEXLIST	ok
SDCI_TC_0082 TCD_APPS_DSDN_PARAMODIFICATION	ok
SDCI_TC_0083 TCD_APPS_DSDN_FACTORYRESET	ok
SDCI_TC_0084 TCD_APPS_DSDN_PARABREAKABORT	ok
SDCI_TC_0374 TCD_DS_APP_UPLOAD_FLAG_NON_VOLATILE	ok
Legacy Master Tests V5.1.1.9507	
SDCI_TC_0085 TCD_DLIC_COMP_STARTUP	ok
SDCI_TC_0086 TCD_DLIC_COMP_TYPE1INTERLEAVE	ok
SDCI_TC_0087 TCD_DLIC_COMP_PDINVALIDEVENT	ok
Direct Parameter Page 1 Tests V5.1.1.9507	
SDCI_TC_0089 TCD_DLPC_STDP_MASTERCYCLETIME	ok
SDCI_TC_0090 TCD_DLPC_STDP_MINCYCLETIME	ok
SDCI_TC_0091 TCD_DLPC_STDP_MSEQCAPABILITY	ok
SDCI_TC_0092 TCD_DLPC_STDP_REVISIONID	ok
SDCI_TC_0093 TCD_DLPC_STDP_PDIN	ok
SDCI_TC_0094 TCD_DLPC_STDP_PDOUT	ok
SDCI_TC_0095 TCD_DLPC_STDP_VENDORID	ok
SDCI_TC_0096 TCD_DLPC_STDP_DEVICEID	ok
SDCI_TC_0097 TCD_DLPC_STDP_FUNCTIONID	ok
SDCI_TC_0100 TCD_DLPC_STDP_READRESPAR	ok
SDCI_TC_0101 TCD_DLPC_STDP_WRITERESPAR	ok
SDCI_TC_0375 TCD_DLPC_STDP_MINCYCLETIME_VALID	ok
Predefined Device Parameter Tests V5.1.1.9507	
SDCI_TC_0104 TCD_DLIC_DEFP_SYSCMDRES	ok
SDCI_TC_0107 TCD_DLIC_DEFP_DSINDEX	ok
SDCI_TC_0108 TCD_DLIC_DEFP_DSRECORD	ok
SDCI_TC_0109 TCD_DLIC_DEFP_ACCESSLOCKSVAL	ok
SDCI_TC_0110 TCD_DLIC_DEFP_ACCESSLOCKSINVAL	ok
SDCI_TC_0111 TCD_DLIC_DEFP_PROFILCHARAC	ok
SDCI_TC_0112 TCD_DLIC_DEFP_PDINDESC	ok
SDCI_TC_0113 TCD_DLIC_DEFP_PDOUTDESC	ok

**Testreport Overview (3)**

SDCI_TC_0114 TCD_DLIC_DEFP_VENDORNAM	ok
SDCI_TC_0115 TCD_DLIC_DEFP_VENDORTEXT	ok
SDCI_TC_0116 TCD_DLIC_DEFP_PRODUCTNAM	ok
SDCI_TC_0117 TCD_DLIC_DEFP_PRODUCTID	ok
SDCI_TC_0118 TCD_DLIC_DEFP_PRODUCTTEXT	ok
SDCI_TC_0119 TCD_DLIC_DEFP_SERNUM	ok
SDCI_TC_0120 TCD_DLIC_DEFP_HARDREV	ok
SDCI_TC_0121 TCD_DLIC_DEFP_FIRMREV	ok
SDCI_TC_0122 TCD_DLIC_DEFP_TAGVALID	ok
SDCI_TC_0123 TCD_DLIC_DEFP_TAGINVALID	ok
SDCI_TC_0124 TCD_DLIC_DEFP_ERRCOUNT	ok
SDCI_TC_0128 TCD_DLIC_DEFP_DEVSTAT	ok
SDCI_TC_0129 TCD_DLIC_DEFP_DETAILDEVSTAT	ok
SDCI_TC_0131 TCD_DLIC_DEFP_DETAILDEVSTATACTIVE	ok
SDCI_TC_0132 TCD_DLIC_DEFP_PDIN	ok
SDCI_TC_0133 TCD_DLIC_DEFP_PDOUT	ok
SDCI_TC_0134 TCD_DLIC_DEFP_OFFTIMEVALID	ok
SDCI_TC_0136 TCD_DLIC_DEFP_PROFILEPARREAD	ok
SDCI_TC_0137 TCD_DLIC_DEFP_PROFILEPARWRITE	ok
SDCI_TC_0140 TCD_DLIC_DEFP_WRITETOREADONLY	ok
SDCI_TC_0141 TCD_DLIC_DEFP_WRITETOOSHORT	ok
SDCI_TC_0142 TCD_DLIC_DEFP_WRITETOOLONG	ok
Block Parameter Tests V5.1.1.9507	
SDCI_TC_0143 TCD_DSBP_APPL_BPDOWNLOAD	ok
SDCI_TC_0144 TCD_DSBP_APPL_BPBREAKCMD	ok
SDCI_TC_0145 TCD_DSBP_APPL_BPBREAKRESET	ok
SDCI_TC_0147 TCD_DSBP_APPL_BPBREAK2DOWNLOADS	ok
SDCI_TC_0148 TCD_DSBP_APPL_BPBREAKLOCALLOCK	ok
Parameter verification tests V5.1.1.9507	
SDCI_TC_0149 TCD_IODD_PARV_IDENT	ok
SDCI_TC_0150 TCD_IODD_PARV_COMPROFILE	ok
SDCI_TC_0151 TCD_IODD_PARV_READVERIFY	ok
SDCI_TC_0152 TCD_IODD_PARV_WRITEVERIFY	ok
SDCI_TC_0157 TCD_IODD_PARV_INDEXCONSISTENT	ok
Functional System Tests V5.1.1.9507	
SDCI_TC_0156 TCD_IODD_PARV_ACCESSLOCK	ok
SDCI_TC_0155 TCD_IODD_PARV_FACTORYSETTINGS	ok
Common Profile V5.1.1.9507	
CP_TC_0001_TCD_CMPR_ID_ASCENDID	skipped (optional)
CP_TC_0002_TCD_CMPR_ID_HIDDEN_I_D	skipped (optional)
CP_TC_0003_TCD_CMPR_ID_LEASTPROFILE	skipped (optional)
CP_TC_0004_TCD_CMPR_ID_EXTENSION	skipped (optional)

## Device Test Report

**Testreport Overview (4)**

CP_TC_0005_TCD_CMPR_ID_PDOUTDESCR	skipped (optional)
CP_TC_0006_TCD_CMPR_ID_LOCATOR	skipped (optional)
support of Physical Layer Tests V5.1.1.9507	
SDCI_TC_0029 TCD_PHYL_INTF_TRDL	exception
SDCI_TC_0304 TCD_PHYL_INTF_UARTTRANSDELAY	ok
SDCI_TC_0305 TCD_PHYL_INTF_RESPONSETIME	ok
SDCI_TC_0319 TCD_PHYL_INTF_TRANSMISSIONERRORS	ok

## Test Report Statistics:

Number of test cases overall : 121  
Number of test cases ok : 114  
Number of test cases ok with exception : 1  
Number of test cases failed : 0  
Number of test cases skipped : 6  
Test Operation : complete

## Testreport Details (1)

support of Physical Layer Tests

SDCI\_TC\_0029 TCD\_PHYL\_INTF\_TRDL

exception

Abbreviation: SDCI\_TC\_0029 TCD\_PHYL\_INTF\_TRDL

Description : SDCI Receive Enable Delay after Power-On

Firmware: 3.2.5 - 1.3.C

Testcase Version: 5.1.1.9507 Build:9507 Date:2025-04-02

Precondition: switch Power off

Power has been switched off. Wait for the Power Down Time until the Power will be switched on again.

Now the Power will be switched on, and after TRDL time a Wakeup will be started.

Port has been started, waiting for reaction.

Connection Loss detected

The device did not react to the wakeup signal after TRDL. Since an exception has been granted, the test will not be treated as failed. But you have to document this deviation from the specification in your user's manual and the manufacturer declaration!

The device has responded to the first wakeup sequence after TRDL. Test has passed

Set Device To SIO mode (Fallback)

Device doesn't support SIO, so we reset the master

----- Result of the Protocol test -----

Testcase was finished successful, but with exception

----- Result of the Timing Tests -----

The Timing tests didn't show any problem with the answer time of the device

The min. answer time (1 bit allowed) during the protocol tests was 221.3 µs (8.5 bit)

The max. answer time (10 bit allowed) was 223 µs (8.6bit)

The Timing tests didn't show any problem with the inter character gap time of the device

The max. gap time (3 bit allowed) was 5.7 µs (0.2bit)