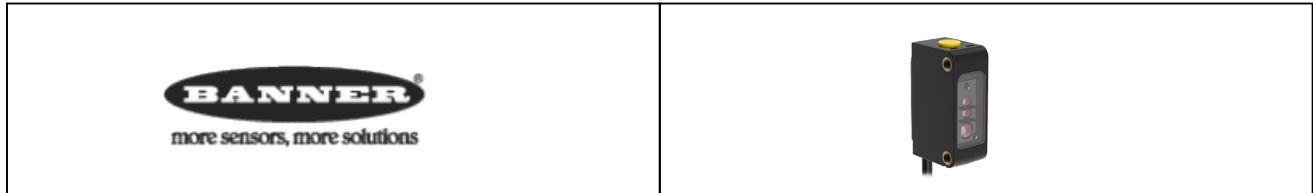


## Device Test Report

TMG IO-Link Device Tool V5.1 - TS:      Revision: 5.1.1      Build: 8868  
TEngBas V5.1.1:      Revision: 5.1.1      Build: 8861  
Test ID:      796134209



Vendor ID : 451      Vendor : Banner Engineering Corporation  
Device ID : 458759      Device : Q20-2KLAF3-Q  
IO-Link Version : V1.1      Product ID : Q20-2KLAF3-Q  
Firmware Revision : 1.0.54514      Hardware Revision : 1.0  
Serial Number : FSSSSSSSSPPPPDD

ISDU supported : True      SIO mode supported : True  
Process Data Input Bits : 32      Process Data Output Bits : 8  
Min Cycle Time : 2600 µs      Bitrate : COM2  
Implemented Access Locks :  
parameter="True" datastorage="True" localParameterization="True" localUserInterface="True"  
IODD : Banner\_Engineering-Q20-2-TOF-20250321-IODD1.1.xml  
Checker : IODD-Checker V1.1.4 R1      IODD Stamp : 3288492150  
Test conditions: Test according IO-Link specification V1.1.2

Test result : All test were passed with positiv result in complete operation.

Test operated by :      Company : Banner Engineering  
Name : Olivia Peterjohn  
Signature : Olivia Peterjohn

**Testreport : Test System Version information**

TMG IO-Link Device Tool V5.1 - TS:	Revision: 5.1.1	Build: 8868
TEngBas V5.1.1:	Revision: 5.1.1	Build: 8861
Testcase DLL:	Name: ProtocolTests	Build: 8861
USB Master Firmware Revision:	3.2.2 / 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 67 68 79 162 163 164  
165

M-sequence Capability (hex) :

09

Commands to generate events :

Event trigger 1 : appear value = 0	Index : 16376	disappear value = 1
Event trigger 2 : appear value = 2		disappear value = 3

**Testreport Overview (1)**

TC_Device_Identification	ok
Data Layer Tests V5.1.1.8851	
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_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
ISDU Tests V5.1.1.8851	
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 V5.1.1.8851	
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
SDCI_TC_0073 TCD_DLIC_EVNT_OPERPOWERINTERRUPT	ok
SDCI_TC_0074 TCD_DLIC_EVNT_OPERAPPEARDISAPPEAR	ok

## Device Test Report

**Testreport Overview (2)**

SDCI_TC_0075 TCD_DLIC_EVNT_OPERMULTEVENT	ok
SDCI_TC_0076 TCD_DLIC_EVNT_OPERSHORTEVENT	ok
Data Storage Tests V5.1.1.8851	
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_0082 TCD_APPS_DSDN_PARAMODIFICATION	ok
SDCI_TC_0083 TCD_APPS_DSDN_FACTORYRESET	ok
SDCI_TC_0084 TCD_APPS_DSDN_PARABREAKABORT	ok
Legacy Master Tests V5.1.1.8851	
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 V5.1.1.8851	
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
Predefined Device Parameter Tests V5.1.1.8851	
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
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

### Testreport Overview (3)

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 V5.1.1.8851	
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 V5.1.1.8851	
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 V5.1.1.8851	
SDCI_TC_0156 TCD_IODD_PARV_ACCESSLOCK	ok
SDCI_TC_0155 TCD_IODD_PARV_FACTORYSETTINGS	ok
support of Physical Layer Tests V5.1.1.8851	
SDCI_TC_0304 TCD_PHYL_INTF_UARTTRANSDELAY	ok
SDCI_TC_0305 TCD_PHYL_INTF_RESPONSETIME	ok
SDCI_TC_0319 TCD_PHYL_INTF_TRANSMISSIONERRORS	ok
Common Profile V5.1.1.8851	
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)
CP_TC_0005_TCD_CMPR_ID_PDOUTDESCR	skipped (optional)
CP_TC_0006_TCD_CMPR_ID_LOCATOR	skipped (optional)

**Testreport Overview (4)**

Test Report Statistics:

Number of test cases overall : 114

Number of test cases ok : 108

Number of test cases failed : 0

Number of test cases skipped : 6

Test Operation : single