



IO-Link Device Test Report

TMG IO-Link Device Tool V5.1 - TS:

Revision: 5.1.1

Build: 8279

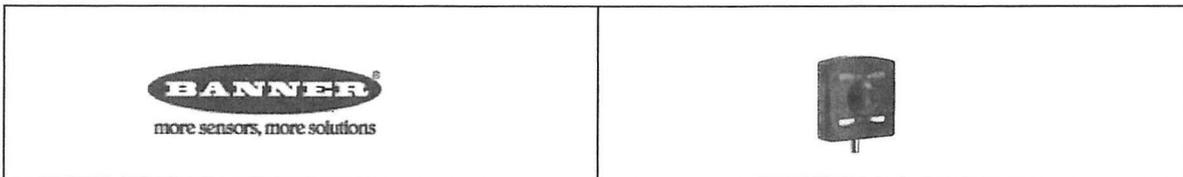
TEngBas V5.1.1:

Revision: 5.1.1

Build: 8279

Test ID:

751033753



Vendor : Banner Engineering Corporation

Device Name : Q90R-4040-6KUQ

Vendor ID : 0x01C3

Device ID : 0x0C0002

IO-Link Version : V1.1

Product ID : Q90R-4040-6KUQ

ISDU supported : True

SIO mode supported : True

Process Data Input Bits : 48

Process Data Output Bits : 0

Min Cycle Time : 3900 µs

Bitrate : COM2

Implemented Access Locks :

parameter="False" datastorage="False" localParameterization="False" localUserInterface="False"

IODD : Banner_Engineering-Q90R-Analog-20231215-IODD1.1.xml

Checker : IODD-Checker V1.1.9

CRC : 3982497498

Firmware Revision : 0.4.42174

Hardware Revision : 1.0

Test conditions: Test according IO-Link specification V1.1.3

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

Test operated by :

Company : Banner Engineering Corporation

Name : David S. Anderson

Signature : [Handwritten Signature]

Testreport : Test System Version information

| | | |
|------------------------------------|---------------------|-------------|
| TMG IO-Link Device Tool V5.1 - TS: | Revision: 5.1.1 | Build: 8579 |
| TEngBas V5.1.1: | Revision: 5.1.1 | Build: 8579 |
| Testcase DLL: | Name: ProtocolTests | Build: 8579 |
| USB Master Firmware Revision: | 3.1.F / 1.3.B | |

Testreport : Test Configuration

Test variable for 8 Bit index access :

| | | |
|------------|---------|-----------|
| Index | : 200 | Length: 2 |
| Data (hex) | : 00 00 | |

Test variable for 16 Bit index access :

| | | |
|------------|--------|-----------|
| Index | : 1000 | Length: 1 |
| Data (hex) | : 01 | |

Test variable for 8 Bit index extended length :

| | | |
|------------|---|------------|
| Index | : 24 | 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 6 129 131 65 66 126 127

M-sequence Capability (hex) :

2B

Commands to generate events :

| | | |
|------------------------------------|-------------|---------------------|
| Event trigger 1 : appear value = 1 | Index : 201 | disappear value = 2 |
| Event trigger 2 : appear value = 3 | | disappear value = 4 |

Testreport Overview (1)

| | |
|--|----|
| TC_Device_Identification | ok |
| Data Layer Tests V5.1.1.0 | |
| SDCI_TC_0034 TCD_DLPC_STUP_CYCTIME | ok |
| SDCI_TC_0035 TCD_DLPC_STUP_STUOPER1 | ok |
| SDCI_TC_0306 TCD_DLPC_CHK_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 |
| SDCI_TC_0312 TCD_DLPC_OPER_OUTINVALID | ok |
| SDCI_TC_0313 TCD_DLPC_OPER_CONNECTIONLOSS | ok |
| ISDU Tests V5.1.1.0 | |
| 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 |
| SDCI_TC_0309 TCD_DLIC_ISDU_ELEMENT_RETRY | ok |
| Event Tests V5.1.1.0 | |
| SDCI_TC_0069 TCD_DLIC_EVNT_OPERSINGLEEVENT | ok |
| SDCI_TC_0070 TCD_DLIC_EVNT_PROPSINGLEEVENT | ok |
| SDCI_TC_0071 TCD_DLIC_EVNT_OPEREVENTCLEAR | ok |

Device Test Report

Testreport Overview (2)

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|--|----|
| SDCI_TC_0072 TCD_DLIC_EVNT_OPERCOMMINTERRUPT | ok |
| 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 |
| Data Storage Tests V5.1.1.0 | |
| 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 |
| SDCI_TC_0321 TCD_APPS_DSBP_APPLDSSINGLEPARAM | ok |
| SDCI_TC_0322 TCD_DS_APP_IDLEFLAGCLEAR | ok |
| Legacy Master Tests V5.1.1.0 | |
| 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 V5.1.1.0 | |
| 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 V5.1.1.0 | |
| 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_0323 TCD_DLIC_DEFP_DSRECORDMARKER | 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)

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|--|----|
| 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 V5.1.1.0 | |
| 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_0146 TCD_DSBP_APPL_BPBREAKILLPARAM | ok |
| SDCI_TC_0147 TCD_DSBP_APPL_BPBREAK2DOWNLOADS | ok |
| SDCI_TC_0148 TCD_DSBP_APPL_BPBREAKLOCALLOCK | ok |
| SDCI_TC_0324 TCD_DSBP_APPL_UNEXPECTEDINIDLE | ok |
| SDCI_TC_0325 TCD_DSBP_APPL_WRITEINUPLOAD | ok |
| SDCI_TC_0326 TCD_DSBP_APPL_READINDOWNLOAD | ok |
| SDCI_TC_0327 TCD_DSBP_APPL_UNEXPINUPLOAD | ok |
| SDCI_TC_0328 TCD_DSBP_APPL_SWITCHSTATES | ok |
| SDCI_TC_0329 TCD_DSBP_APPL_UPBREAKRESET | ok |
| SDCI_TC_0330 TCD_DSBP_APPL_DNENDBYUPLOAD | ok |
| Parameter verification tests V5.1.1.0 | |
| SDCI_TC_0149 TCD_IODD_PARV_IDENT | ok |
| SDCI_TC_0150 TCD_IODD_PARV_COMPPROFILE | 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 |

Device Test Report

Testreport Overview (4)

Functional System Tests V5.1.1.0

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|--|----|
| SDCI_TC_0156 TCD_IODD_PARV_ACCESSLOCK | ok |
| SDCI_TC_0316 TCD_IODD_PARV_DEVICERESET | ok |
| SDCI_TC_0317 TCD_IODD_PARV_APPLRESET | ok |
| SDCI_TC_0155 TCD_IODD_PARV_FACTORYSETTINGS | ok |
| SDCI_TC_0318 TCD_IODD_PARV_BACKTOBOX | ok |
| SDCI_TC_0314 TCD_DLPC_DID_OVERWRITE_COMP | ok |
| SDCI_TC_0315 TCD_DLPC_DID_OVERRIDE_INCOMP | ok |

support of Physical Layer Tests V5.1.1.0

| | |
|---|----|
| 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 V5.1.1.0

| | |
|-------------------------------------|----|
| CP_TC_0001_TCD_CMPR_ID_ASCENDID | ok |
| CP_TC_0002_TCD_CMPR_ID_HIDDEN_I_D | ok |
| CP_TC_0003_TCD_CMPR_ID_LEASTPROFILE | ok |
| CP_TC_0004_TCD_CMPR_ID_EXTENSION | ok |
| CP_TC_0005_TCD_CMPR_ID_PDOUTDESCR | ok |
| CP_TC_0006_TCD_CMPR_ID_LOCATOR | ok |

Test Report Statistics:

Number of test cases overall : 133
Number of test cases ok : 133
Number of test cases failed : 0
Number of test cases skipped : 0
Test Operation : single