UCA International Users Group

IEC 61850 Certificate Level A[1]

No. 10010206-OPE/INC 16-1709

Issued to:

TOSHIBA Corporation
Power Systems Protection and Control
Fuchu Complex 1, TOSHIBA-Cho
Fuchu-shi, Tokyo, 183-8511
Japan

For the server product:

GRL 200 Line Differential Protection
IEC 61850 Software version: G2M850-02-A
Main Software version: GS2RLIM13006
Hardware: GRL200-11-234-21-33-31-110

The server product has not been shown to be non-conforming to:

IEC 61850 Edition 2 Parts 6, 7-1, 7-2, 7-3, 7-4 and 8-1

Communication networks and systems for power utility automation

The conformance test has been performed according to IEC 61850-10 Edition 2, the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL[2] 1.1.1 with product's protocol, model and technical issue implementation conformance statements: "Protocol implementation conformance statement (PICS) of the IEC 61850 communication interface in G2 series IED, 6F2S1921, rev. 0.0", "Model implementation conformance Statement (MICS) of the IEC 61850 Ed.2 GRL200, 6F2S1919, rev. 0.0" and "Tissues conformance statement (TICS) of the IEC 61850 Ed.2 communication interface in G2 series IED, 6F2S1920, rev. 0.0" and the extra information for testing: "Protocol implementation extra information for testing (PIXIT) of the IEC 61850 communication interface in G2 series IED, 6F2S1875, rev. 0.7".

The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

1	Basic Exchange (20/26)	12a	Direct Control (6/18)
2	Data Sets (4/7)	12b	SBO Control (11/27)
4	Setting Group Selection (4/4)	12c	Enhanced Direct Control (8/20)
5	Unbuffered Reporting (20/20)	12d	Enhanced SBO Control (13/28)
6	Buffered Reporting (27/29)	13	Time Synchronization (4/7)
9a	GOOSE Publish (11/13)	14	File Transfer (5/8)
9b	GOOSE Subscribe (12/14)	15	Service Tracking (4/17)

This certificate includes a summary of the test results as carried out at TOSHIBA Corporation in Japan with UniCA 61850 Client Simulator 4.29.03 with test suite Ed2 4.30.00 and UniCA 61850 Analyzer 5.29.02. This document has been issued for information purposes only, and the original paper copy of the DNV GL verification report No. 10010206-OPE/INC 16-1708 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by TOSHIBA Corporation. The manufacturer's production process has not been assessed. This certificate does not imply that DNV GL has approved any product other than the specimen tested.
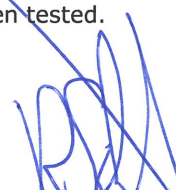
Arnhem, March 4, 2016

M. Adriaensen
Head of Department
Operational Excellence

Issued by:

DNV·GL

DNV KEMA is now DNV GL

R. Schimmel
Verification Manager

[1] Level A - Independent test lab with certified ISO 9001 Quality System
[2] TPCL - Test procedures change list

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 1.0 with TPCL 1.1.1

Conformance Block		Mandatory	Conditional
1:	Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sSrv6, sSrv8, sSrv12, sSrvN1e, sSrvN1f, sSrvN3
2:	Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
4:	Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
5:	Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp9, sRp14, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp5, sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp13, sRpN5
6:	Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr9, sBr14, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr5, sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr13
9a:	GOOSE publish	sGop2a, sGop3, sGop4, sGop7, sGop9, sGop10, sGop11	sGop1, sGop6, sGopN1, sGopN2
9b:	GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a:	Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl7, sCtl16
12b:	SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl7, sCtl16
12c:	Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl7, sCtl14, sCtl16, sCtl26
12d:	Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl7, sCtl16, sCtl26
13:	Time sync	sTm1, sTm2, sTmN1	sTm3
14:	File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	
15:	Service tracking		sTrk1, sTrk2, sTrk4, sTrk7