IEC 61850 Certificate Level A[1]

Ref. No: 2016TS00470

Issued to:

KEPCO Research Institute
105 Munji-Ro , Yuseong-Gu, 34056, Daejeon,
Republic of Korea

For the server product:

xGRIDs-PGv1
xGRIDs Proxy Gateway
Software version 1.0
Embedded System Advantech with
Red hat Enterprise Linux 6.5

Issued by:

Korea Electrotechnology Research Institute

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] version 1.2 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in <xGRIDs-PGv1>, v1.0", "Model Implementation Conformance Statement for the IEC 61850 interface in <xGRIDs-PGv1>, v1.0", "TISSUES Implementation Conformance Statement for the IEC 61850 interface in <xGRIDs-PGv1>, v1.0" and product's extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in <xGRIDs-PGv1>, v1.0".

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

1	Basic Exchange (21/26)		12a	Direct Control (9/18)	
2	Data Sets (4/7)		12b	SBO Control (16/27)	
2+	Data Set Definition (24/24)		12c	Enhanced Direct Control (11/20)	
4	Setting Group Selection (4/4)		12d	Enhanced SBO Control (17/28)	
5	Unbuffered Reports (20/21)		13	Time Synchronization (4/7)	
6	Buffered Reports (27/30)		14	File Transfer (5/8)	

This Certificate includes a summary of the test results as carried out at KERI in Republic of Korea with UniCA 61850 Client simulator version 4.29.03 with test suite Ed2 3.27.09(TPCL 1.2) and UniCA 61850 analyzer version 5.29.02. This document has been issued for information purposes only, and the original paper copy of the KERI report: 2016TS00470 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KERI by KEPCO Research Institute. The manufacturer's production process has not been assessed. This Certificate does not imply that KERI has approved any product other than the specimen tested.

Republic of Korea, February 24, 2016

Y. J. Lee
Executive Director
Power Apparatus Testing and Evaluation Division

J. I. Jeong
Technical Manager

[1] Level A – Independent Tester with certified ISO 17025 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 version 1.2

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, sSrvN2, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
2+: Data Sets Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs11, sDs13, sDs14, sDsN1cd sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs12, sDsN11, sDsN12
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp15, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr15, sBr20, sBr21, sBr22, sBr25. sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12
12a: Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl2, sCtl7, sCtl13, sCtl15, sCtl16
12b: SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl2, sCtl4, sCtl6, sCtl7, sCtl15, sCtl16, sCtl27
12c: Enhanced Direct control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl2, sCtl7, sCtl13, sCtl14, sCtl15, sCtl16, sCtl26
12d: Enhanced SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2, sCtl4, sCtl6, sCtl7, sCtl15, sCtl16, sCtl26
13: Time sync	sTm1, sTm2, sTmN1	sTmN2
14: File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	