IEC 61850 Certificate Level A[1]

Issued to:

PNC Technologies Co., Ltd.
68, Gwacheon-daero 7-gil,
Gwacheon-si, Gyeonggi-do, 13840,
Republic of Korea

For the server product:

Feeder Terminal Unit
FTU-R300
Software version : 1.00
Hardware version : 1.00
OS : SYS/BIOS 6.52.00.12 (Ti)
S/N : FTU-R300-2404-0002

Issued by: **Korea Testing Laboratory**

The server product has not been shown to be non-conforming to:
IEC 61850 Edition 2 with Amendment 1 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, the UCA International Users Group Edition 2 with Amendment 1 Server Test Procedures version 1.2 with product's protocol, model and tissues implementation conformance statements: "PNCTech_FTU-R300_Ed.2.1_PICS_v.1.0", "PNCTech_FTU-R300_Ed.2.1_MICS_v.1.0", "PNCTech_FTU-R300_Ed.2.1_TICS_v.1.0" and the extra information for testing: "PNCTech_FTU-R300_Ed.2.1_PIXIT_v.1.0".

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

1a	Basic Exchange (27/29)		9a	GOOSE Publish (12/13)	
2	Data Sets (7/7)		9b	GOOSE Subscribe (25/27)	
2+	Data Set Definition (24/24)		12a	Direct Control (9/18)	
4	Setting Group Selection (5/5)		12d	Enhanced SBO Control (17/28)	
5	Unbuffered Reporting (26/26)		13a	Time Synchronization with SNTP (6/8)	
6	Buffered Reporting (36/36)		14	File Transfer (7/8)	

This Certificate includes a summary of the test results as carried out at Seoul in Republic of Korea with IEC 61850 Ed2.1 KTL Testing Tool 1.0 with test suite IEC 61850 Ed2.1 Server Conformance Test V.1.0 and IEC 61850 Ed2.1 KTL Trace Manager V.1.0. This document has been issued for information purposes only, and the original paper copy of the KTL report: No. TR-24-032695-01-1 will prevail.

The test has been carried out on the specimen of the product as referred above and submitted to KTL by PNC Technologies Co., Ltd.. The manufacturer's production process has not been assessed. This certificate does not imply that KTL has certified or approved any product other than the specimen tested.

Seoul, Nov, 5, 2024

A. Han

Ah Han
Principal Engineer
IT Convergence Technology Center

윤영광

YoungKwang Yun
Assistant Research Engineer
IT Convergence Technology Center

1 Level A - Independent Test lab with accredited ISO/IEC 17025 Quality System

Korea Testing Laboratory
08389, 87, Digital-ro 26-gil, Guro-gu, Seoul, Rep. of KOREA
Tel: +82-2-860-1474   Fax: +82-2-860-1419

UCA International Users Group
P.O. Box 315, Shell Knob
MO 65747 USA

Applicable Server Test Procedures from the UCA International Users Group Edition 2 Amendment 1 Server Test Procedures version 1.2.

Conformance Block	Mandatory	Conditional
1a: Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrv8, sSrvN1abcdf, sSrvN4	sAssN6, sSrv6, sSrv9, sSrv10, sSrv11, sSrv12, sSrv13, sSrv15, sSrvN1e, sSrvN2, sSrvN3
2: Data Sets	sDs1, sDs10a, sDsN1ae	sDs10b, sDs15, sDsN1b, sDsN13
2+: Data Set Definition	sDs2, sDs3, sDs4, sDs5, sDs6, sDs7, sDs8, sDs9, sDs13, sDs14, sDsN1cd, sDsN2, sDsN3, sDsN4, sDsN5, sDsN6, sDsN7, sDsN8, sDsN9, sDsN10	sDs11, sDs12, sDsN11, sDsN12
4: Setting Group Selection	sSg1, sSg3, sSgN1	sSg11, sSg13
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRp23, sRpN1, sRpN2, sRpN3, sRpN4, sRpN5, sRpN7, sRpN8, sRpN9	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp13, sRp15, sRp17
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr23, sBr24, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN7, sBrN8, sBrN9, sBrN10	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr13, sBr15, sBr17
9a: GOOSE Publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1, sGop2b, sGop6, sGopN1, sGopN2
9b: GOOSE Subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGos12, sGos14, sGos15, sGos20, sGos21, sGos22, sGos23, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6, sGosN7	sGos4
12a: Direct Control	sCtl5a, sCtl10a, sDOns1, sDOns2	sCtl2a, sCtl7a, sCtl13a, sCtl15a, sCtl16a
12d: Enhanced SBO Control	sCtl5d, sCtl8d, sCtl9d, sCtl10d, sCtl11d, sCtl25d, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl2d, sCtl4d, sCtl6d, sCtl7d, sCtl15d, sCtl16d, sCtl26d
13a: Time sync SNTP	sTm1, sTm2, sTm7, sTmN1	sTm3, sTmN2
14: File Transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c