IEC 61850 Certificate Level A[1]

Issued to:

PNC Technologies Co., Ltd.
62, Jeonpa-ro 104beon-gil,
Dongan-gu, Anyang-si, Gyeonggi-do, 14042,
Republic of Korea

For the client system:

Substation Automation System
SAS-PYLON-V2
Software Version 2.0
HW : ECU-4784
OS : Windows Server 2016
S/N : SAS-PYLON-V2-21001

Issued by: **KOREA TESTING LABORATORY**

The CLIENT 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 in power utility automation

The conformance test has been performed according to IEC 61850-10 Edition 2, the UCA International Users Group Edition 2 Client Test Procedures version 1.2 with product's protocol, model and technical issue implementation conformance statements: "PNCTech_SAS-PYLON-V2_PICS_v.2", "PNCTech_SAS-PYLON-V2_MICS_v.2", "PNCTech_SAS-PYLON-V2_TICS_v.2" and product's extra information for testing: "PNCTech_SAS-PYLON-V2_PIXIT_v.2".

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 (22/24)		9	GOOSE Control Block (2/2)	
2	Data Sets (8/10)		12a	Direct Control (7/9)	
2+	Data Set Definition (8/8)		12b	SBO Control (9/11)	
3	Substitution (3/3)		12c	Enhanced Direct Control (7/9)	
4	Setting Group Selection (3/3)		12d	Enhanced SBO Control (9/11)	
4+	Setting Group Definition (4/5)		13	Time Synchronization (4/4)	
5	Unbuffered Reporting (23/24)		14	File Transfer (6/8)	
6	Buffered Reporting (27/28)		15	Service Tracking (8/17)	

This certificate includes a summary of the test results as carried out at Seoul in the Republic of Korea with IEC 61850 Ed2 Virtual Server version 1 with test suite IEC 61850 Ed2 Client Conformance Verifier1.0 and KEPCO ANALYZER 1.0. This document has been issued for information purposes only, and the original paper copy of KTL report: No. TR-21-003589-02-1 will prevail.

The test has been carried out on one single 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, Jun. 25. 2021

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

Applicable Test Procedures from the UCA International Users Group Edition 2 Client Test Procedures version 1.2

Conformance Block	Mandatory	Conditional
1: Basic Exchange	cAss1, cAss2, cAss3, cAssN1, cAssN4, cAssN5 cAssN6	cAssN7 cSrv1, cSrv2, cSrv3, cSrv4, cSrv5, cSrv6, cSrv7, cSrv8, cSrvN1, cSrvN2, cSrvN3, cSrvN4, cSrvN5, cSrvN6
2: Data Sets		cDs1, cDs2, cDs3, cDs5, cDs6, cDsN1a, cDsN1b, cDsN1c
2+: Data Set Definition		cDs10, cDs11, cDs12, cDs13, cDs14, cDsN10a, cDsN10b, cDsN11
3: Substitution	cSub1, cSub3	cSub2
4: Setting Group Selection	cSg2, cSgN1	cSg1
4+: Setting Group Definition	cSg11, cSg14	cSg10, cSg12
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRp11, cRp13a, cRp14, cRp15, cRp19, cRpN2, cRpN5, cRpN6	cRp1, cRp2, cRp6, cRp7, Rp12, cRp16, cRp17, cRp18, cRpN1
6: Buffered Reporting	cBr3, cBr4, cBr5, cBr8, cBr9, cBr10, cBr11, cBr13a, cBr14, cBr15, cBr19, cBr30, cBr31, cBrN2, cBrN5, cBrN6	cBr1, cBr2, cBr6, cBr7, cBr12, cBr16, cBr17, cBr18, cBr32, cBr33, cBrN1
9: GOOSE control block		cGcb1, cGcb2
12a: Direct control	cCtl4, cCtl5 cDOns1, cDOns2	cCtl1, cCtl2, cCtl3
12b: SBO control	cCtl4, cCtl5 cSBOns1, cSBOns2, cSBOns3	cCtl1, cCtl2, cCtl3, cSBOns4
12c: Enhanced Direct Control	cCtl4, cCtl5 cDOes1, cDOes2	cCtl1, cCtl2, cCtl3
12d: Enhanced SBO control	cCtl4, cCtl5 cSBOes1, cSBOes2, cSBOes3	cCtl1, cCtl2, cCtl3 cSBOes4
13: Time sync	cTm1, cTmN1	cTm2, cTmN2
14: File transfer	cFt1, cFt3, cFtN1	cFt2, cFt5, cFtn2
15: Service Tracking		cTrk1, cTrk2, cTrk4, cTrk7, cTrk8, cTrk9, cTrk11, cTrk17