

IEC 61850 Certificate Level A¹

No. 20TC200681

Issued to:
Daum IT Co., Ltd.
 1007 ho Vision Tower, Bichgalam-ro,
 Naju-si, Jeonranam-do, 58217, Republic of Korea

For the CLIENT:
XGWC XGateway Client
Version: 1.0
LG notebook (LG15N54)
Linux (Red Hat Ent. R.6.9)

Issued by:
 Korea Electrotechnology Research Institute
 111, Hanggaul-ro, Sangrok-gu, Ansan-si, Gyeonggi-do, 15588, Republic of Korea

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 for 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 1.1.2 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in <XGWC V1.0>, v.1.0.0.0", "Model Implementation Conformance Statement for the IEC 61850 interface in <XGWC V1.0>, v.1.0.0.0", "TISSUES Implementation Conformance Statement for the IEC 61850 interface in <XGWC V1.0>, v.1.0.0.0" and product's extra information for testing: "Protocol Implementation eXtra Information for Testing for the IEC 61850 interface in <XGWC V1.0>, v.1.0.0.0".

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

| | | | |
|----|-------------------------------|-----|-------------------------------|
| 1 | Basic Exchange (23/24) | 12a | Direct Control (7/9) |
| 2 | Data Sets (4/10) | 12b | SBO Control (9/11) |
| 2+ | Data Set Definition (8/8) | 12c | Enhanced Direct Control (7/9) |
| 4 | Setting Group Selection (2/3) | 12d | Enhanced SBO Control (9/11) |
| 5 | Unbuffered Reporting (23/24) | 13 | Time Synchronization (4/4) |
| 6 | Buffered Reporting (26/28) | 14 | File Transfer (4/8) |

This Certificate includes a summary of the test results as carried out at KERI in Republic of Korea with UniCASim IED simulator version 6.1.31.19 and UniCA Analyzer version 5.34.02. This document has been issued for information purposes only, and the original paper copy of the KERI report: No. 20TC200681 will prevail.

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

Republic of Korea, August 7, 2020



D. J. Lee
 Executive Director
 High Voltage Evaluation Division



S. P. Ahn
 Technical Manager

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

Applicable Test Procedures from the UCA International Users Group Edition 2 Client Test Procedures version 1.1.2

| Conformance Block | Mandatory | Conditional |
|------------------------------|--|---|
| 1: Basic Exchange | cAss1, cAss2, cAss3, cAssN1, cAssN4, cAssN5 cAssN6 | cAssN7 cSrv1, cSrv2, cSrv3, cSrv4, cSrv5, cSrv6, cSrv7, cSrv8, cSrv9, cSrvN1, cSrvN2, cSrvN3, cSrvN4, cSrvN5, cSrvN6 |
| 2: Data Sets | | cDs1, cDs2, cDs5, cDs6 |
| 2+: Data Set Definition | | cDs10, cDs11, cDs12, cDs13, cDs14, cDsN10a, cDsN10b, cDsN11 |
| 4: Setting Group Selection | cSg2, cSgN1 | |
| 5: Unbuffered Reporting | cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRp11, cRp13a, cRp14, cRp15, cRp19, cRpN2, cRpN5, cRpN6 | cRp1, cRp2, cRp6, cRp7, cRp13b, 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, cBr13b, cBr16, cBr17, cBr18, cBr32, cBrN1 |
| 12a: Direct control | cCtl4, cCtl5 cDOns1, cDOns2 | cCtl1, cCtl2, cCtl3 |
| 12b: SBO control | cCtl4, cCtl5 cSBOs1, cSBOs2, cSBOs3 | cCtl1, cCtl2, cCtl3, cSBOs4 |
| 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 |