# IEC 61850 Certificate Level A[1]

Issued to:

KEPCO Knowledge Data & Network Co., Ltd.
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Naju-si, Jeollanam-do,
Republic of Korea

For the client system:

xGrids Transfer
KPG-v1
Software Version 1.0
HW : DELL EMC R750
OS : RedHat 8
S/N : 2022-0001

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: "KDN_xGrids Transfer_KPG-v1_Client_PICS_v.1", "KDN_xGrids Transfer_KPG-v1_Client _MICS_v.1", "KDN_xGrids Transfer_ KPG-v1_Client_TICS_v.1" and product's extra information for testing: "KDN_xGrids Transfer_KPG-v1_Client_PIXIT_v.1".
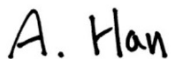
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

| | | | | |
|---|---|---|---|---|
| 1 | Basic Exchange (21/24) | | 12b | SBO Control (9/11) |
| 2 | Data Sets (8/10) | | 12c | Enhanced Direct Control (7/9) |
| 4 | Setting Group Selection (3/3) | | 12d | Enhanced SBO Control (9/11) |
| 5 | Unbuffered Reporting (22/24) | | 13 | Time Sync (4/4) |
| 6 | Buffered Reporting (26/28) | | 14 | File Transfer (6/8) |
| 12a | Direct Control (7/9) | | 15 | Service Tracking (5/17) |

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-23-010225-01-1 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to KTL by KEPCO Knowledge Data & Network 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, Feb 03, 2023

*A. Han*

Ah Han
Principal Engineer
IT Convergence Technology Center

*HwiYoung Lee (signature)*

HwiYoung Lee
Engineer
IT Convergence Technology Center

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, cSrvN1, cSrvN3, cSrvN4, cSrvN5, cSrvN6 |
| 2: Data Sets | | cDs1, cDs2, cDs3, cDs5, cDs6, cDsN1a, cDsN1b, cDsN1c |
| 4: Setting Group Selection | cSg2, cSgN1 | cSg1 |
| 5: Unbuffered Reporting | cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRp11, cRp13a, cRp14, cRp15, cRp19, cRpN2, cRpN5, cRpN6 | cRp1, cRp2, cRp6, cRp7, cRp17, cRpN1 |
| 6: Buffered Reporting | cBr3, cBr4, cBr5, cBr8, cBr9, cBr10, cBr11, cBr13a, cBr14, cBr15, cBr19, cBr30, cBr31, cBrN2, cBrN5, cBrN6 | cBr1, cBr2, cBr6, cBr7, cBr17, cBr32, cBr33, cBrN1 |
| 12a: Direct Control | cCtl4a, cCtl5a, cDOns1, cDOns2 | cCtl1a, cCtl2a, cCtl3a |
| 12b: SBO Control | cCtl4b, cCtl5b, cSBOns1, cSBOns2, cSBOns3 | cCtl1b, cCtl2b, cCtl3b, cSBOns4 |
| 12c: Enhanced Direct Control | cCtl4c, cCtl5c, cDOes1, cDOes2 | cCtl1c, cCtl2c, cCtl3c |
| 12d: Enhanced SBO Control | cCtl4d, cCtl5d, cSBOes1, cSBOes2, cSBOes3 | cCtl1d, cCtl2d, cCtl3d, cSBOes4 |
| 13: Time Sync | cTm1, cTmN1 | cTm2, cTmN2 |
| 14: File Transfer | cFt1, cFt3, cFtN1 | cFt2, cFt5, cFtN2 |
| 15: Service Tracking | cAss1, cAss2, cAss3, cAssN1, cAssN4, cAssN5, cAssN6 | cTrk1, cTrk2, cTrk7, cTrk8, cTrk9 |

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