# IEC 61850 Certificate Level A[1]

Issued to:
GENAD SYSTEM Co.,Ltd.
78, Hyeoksinsandan 5-gil,
Naju-si, Jeollanam-do,
Republic of Korea

For the server product:
Realtime Operation Information Monitoring
and Diagnosis Equipment for a Substation-
Automation System
GMT-116
Software Version 1.0
OS : Windows Server 2012 R2
S/N : K_GND-001

Issued by: **Korea Testing Laboratory**

## The server product has not been shown to be non-conforming to:
### IEC 61850 First Edition Parts 6, 7-1, 7-2, 7-3, 7-4 and 8-1
### Communication networks and systems in substations

The conformance test has been performed according to IEC 61850-10, the UCA International Users Group Server Device Test Procedures version 3.2, the product's protocol, model and technical issue implementation conformance statements: "GENAD_GMT-116_PICS_v.1", "GENAD_GMT-116_MICS_v.1", "GENAD_GMT-116_TICS_v.1" and the extra information for testing: "GENAD_GMT-116_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 (20/25)<br>2 Data Sets (3/6)<br>5 Unbuffered Reporting (18/18)<br>6 Buffered Reporting (25/27) | 12a Direct Control (5/11)<br>12c Enhanced Direct Control (6/13)<br>12d Enhanced SBO Control (12/19)<br>13 Time Synchronization (4/5)<br>14 File Transfer (7/7) |

This Certificate includes a summary of the test results as carried out at KTL in Republic of Korea with IEC 61850 KTL Testing Tool with test suite IEC 61850 Server Conformance Test V.1.0 and IEC 61850 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-19-051652-03-5 will prevail.

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

Seoul, Nov. 11, 2019

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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 Server Device Test Procedures version 3.2.

| Conformance Block | Mandatory | Conditional |
|---|---|---|
| 1: Basic Exchange | Ass1, Ass2, Ass3, AssN2, AssN4, AssN5, Srv1, Srv2, Srv3, Srv4, Srv5, SrvN1abcd, SrvN4 | AssN3, AssN6, Srv6, Srv7, Srv8, SrvN1e, SrvN1f |
| 2: Data Sets | Dset1, Dset10a, DsetN1ae | |
| 5: Unbuffered Reporting | Rp1, Rp2, Rp3, Rp4, Rp9, RpN1, RpN2, RpN3, RpN4, RpN8 | Rp5, Rp6, Rp7, Rp8, Rp10, Rp11, Rp12, RpN5 |
| 6: Buffered Reporting | Br1, Br2, Br3, Br4, Br9, Br20, Br21, Br22, Br25, Br26, Br27, Br28 BrN1, BrN2, BrN3, BrN4, BrN5, BrN8 | Br5, Br6, Br7, Br8, Br10, Br11, Br12 |
| 12a: Direct control | CtlN3, DOns1 | Ctl2, Ctl7, DOns3 |
| 12c: Enhanced Direct control | CtlN3, DOes2, DOes5 | Ctl2, Ctl7, CtlN6 |
| 12d: Enhanced SBO control | CtlN1, CtlN2, CtlN3, CtlN4, CtlN9 SBOes1, SBOes2, SBOes3 | Ctl2, Ctl3, Ctl7, CtlN6 |
| 13: Time sync | Tm1, Tm2 | TmN1, TmN2 |
| 14: File transfer | Ft1, Ft2ab, Ft4, FtN1ab | Ft2c, Ft3, FtN1c |