IEC 61850 Certificate Level A[1]

No. 10179750-INC 20-2096

Issued to:

Kalki Communication Technologies
Private Limited (Kalkitech)
17/1, The Address, 4th Floor
Outer Ring Road, Kadubeesanahalli
Bangalore 560103, Karnataka
India

For the server product:

SYNC 2000
Protocol Gateway / Data Concentrator Unit
Application firmware version:
SyncConnect_GPC_V4.2
IEC 61850 communication version:
IEC61850_V4.0
S/N: BKB000052000020

The server product 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 Server Test Procedures version 2.0_rev2 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement (PICS) for the IEC 61850 Edition 2 server in Kalkitech SYNC 2000, 31-January-2020", "Model Implementation Conformance Statement for the IEC 61850 interface in Kalkitech SYNC 2000, 31-January-2020" and "TISSUEs Implementation Conformance Statement (TICS) for the IEC 61850 Edition 2 Server interface in Kalkitech SYNC 2000, 31-January-2020" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 Edition 2 server interface in Kalkitech SYNC 2000, 31-January-2020".

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 (19/28)	9a	GOOSE Publish (8/13)
2	Data Sets (4/7)	9b	GOOSE Subscribe (16/18)
2+	Data Set Definition (24/24)	12a	Direct Control (6/17)
5	Unbuffered Reporting (21/22)	12b	SBO Control (12/26)
6	Buffered Reporting (29/32)	12c	Enhanced Direct Control (8/19)
		12d	Enhanced SBO Control (14/27)
		13	Time Synchronization (3/7)
		14	File Transfer (5/8)

This certificate includes a summary of the test results as carried out at DNV GL in The Netherlands with UniGrid SA Simulator 1.6.8 with test suite 1.0.26 and UniCA 61850 Analyzer 5.34.01. This document has been issued for information purposes only, and the archived DNV GL verification report No. 10179750-INC 20-2098 will prevail.

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

Arnhem, January 31, 2020

Issued by:

N.A. Heijker
Business Leader
Interoperability of Smart Power Systems

DNV·GL
DNV KEMA is now DNV GL

R. Schimmel
Verification Manager

[1] Level A - Independent test lab with certified ISO 9001 Quality System

Applicable Test Procedures from the UCA International Users Group Edition 2 Server Test Procedures version 2.0_rev2

Conformance Block		Mandatory	Conditional
1:	Basic Exchange	sAss1, sAss2, sAss3, sAss4, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sAssN6, sSrv8, sSrv12, sSrvN1f
2:	Data Sets	sDs1, sDs10a, sDsN1ae	sDs15
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
5:	Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp5, sRp9, sRp14, sRp16, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp6, sRp7, sRp8, sRp10, sRp11, sRp12, sRp15, sRpN5
6:	Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr5, sBr9, sBr14, sBr16, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBr29, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr6, sBr7, sBr8, sBr10, sBr11, sBr12, sBr15
9a:	GOOSE publish	sGop2a, sGop3, sGop4, sGop9, sGop10, sGop11, sGop12	sGop1
9b:	GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGos8, sGos9, sGos10, sGos11, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	
12a:	Direct control	sCtl5, sCtl10, sDOns1, sDOns2	sCtl15, sCtl16
12b:	SBO control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOns1, sSBOns2, sSBOns6	sCtl6, sCtl15, sCtl16
12c:	Enhanced Direct Control	sCtl5, sCtl10, sDOes1, sDOes2	sCtl14, sCtl15, sCtl16, sCtl26
12d:	Enhanced SBO Control	sCtl5, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl6, sCtl15, sCtl16, sCtl26
13:	Time sync	sTm1, sTm2, sTmN1	
14:	File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	