![UCA International Users Group logo]

IEC 61850 Certificate Level A[1]

No. 10245671-INC 20-2867

Issued to:
VIVAVIS AG
Nobelstraße 18
D-76275 Ettlingen
Germany

For the client system:
ACOS 750 CU74D
Automation and Telecontrol device
Software version: 7.5.1
Hardware version: 01.01.02
S/N: 5086801116320198

The client system 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 substations

The conformance test has been performed according to IEC 61850-10 Edition 2, the UCA International Users Group Edition 2 Client Conformance Test Procedures version 1.1.2 with product's protocol, model and technical issue implementation conformance statements: "VIVAVIS IEC 61850 CLIENT APPLICATION, Protocol Implementation Conformance Statement (PICS), Version 01.01", "VIVAVIS IEC 61850 CLIENT APPLICATION Model Implementation Conformance Statement (MICS), Version 01.02", "VIVAVIS IEC 61850 CLIENT APPLICATION Tissue Implementation Conformance Statement (TICS) EDITION 2 CLIENT TICS I Version 01.01"" and product's extra information for testing: "VIVAVIS IEC 61850 CLIENT APPLICATION Protocol Implementation Extended Information for Testing (PIXIT), Version 01.02".

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 (18/24)		12a	Direct Control (5/9)
2	Data Sets (6/10)		12c	Enhanced Direct Control (5/9)
2+	Data Set Definition (8/8)		12d	Enhanced SBO Control (7/11)
5	Unbuffered Reporting (23/24)		13	Time Synchronization (3/4)
6	Buffered Reporting (26/28)			

This certificate includes a summary of the test results as carried out at DNV GL in the Netherlands with UniCA 61850 IED Simulator version 6.1.31 and UniCA 61850 Analyzer version 6.40.01. This document has been issued for information purposes only, and the archived DNV GL report No. 10245671-INC 20-2866 Rev2 will prevail.

The test has been carried out on one single specimen of the product as referred above and submitted to DNV GL by VIVAVIS. 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, September 17, 2020

N. Heijker
Business Leader
Interoperability of smart power systems

Issued by:

DNV·GL
DNV KEMA is now DNV GL

R. Schimmel
Verification Manager

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

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

Conformance Block	Mandatory	Conditional
1: Basic Exchange	cAss1, cAss2, cAss3, cAssN1, cAssN4, cAss5, cAssN6	cAssN7 cSrv1, cSrv3, cSrv4, cSrv5, cSrv7, cSrv10 cSrvN1, cSrvN3, cSrvN5, cSrvN6
2: Data Sets		cDs1, cDs2, cDs5, cDs6 cDsN1a, cDsN1b
2+: Data Set Definition		cDs10, cDs11, cDs12, cDs13, cDs14, cDsN10a, CdsN10b, cDsN11
5: Unbuffered Reporting	cRp3, cRp4, cRp5, cRp8, cRp9, cRp10, cRp11, cRp13a, cRp14, cRp15, cRp19, cRpN2, cRpN5, cRpN6	cRp1, cRp2, cRp6, cRp7, cRp12, cRp13b, cRp16, 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, cBr13b, cBr16, cBr18, cBr32, cBrN1
12a: Direct Control	cCtl4, cCtl5, cDOns1, cDOns2	cCtl2
12c: Enhanced Direct Control	cCtl4, cCtl5, cDOes1, cDOes2	cCtl2
12d: Enhanced SBO Control	cCtl4, cCtl5, cSBOes1, cSBOes2, cSBOes3	cCtl2, cSBOes4
13: Time sync	cTm1, cTmN1	cTm2