IEC 61850 Conformance Certificate Level B[1]

Issued to: ABB Schweiz AG Mr. Sergio Marchese Jurastrasse 45 5430 Wettingen Switzerland	*For the product:* FOCS-FST kit (Fiber Optic Current Sensor kit) Firmware version 1.2.0.0 S/N: 1HCACG2SC111 *Supporting:* 3 phase current (Neutral calculated)

Issued by: ABB Switzerland Ltd, Power Grids, SVC Baden

The server product has not shown to be non-conforming to:

IEC 61850-6, 7-2 and 9-2

Communication networks and systems in substations

The conformance test has been performed according to IEC 61850-10 and the UCAIUG: Test procedures version 1.1 for Sampled Values Publishers according to the "Implementation Guideline for Digital Interface to Instrument Transformers using IEC 61850-9-2 (9-2LE version 2.1)" with TPCL[2] version 1.1 with 9-2LE publisher's protocol implementation conformance statement: "1HC0096004 FOCS G2 PICS PIXIT Document, version AD" and extra information for testing: "1HC0096004 FOCS G2 PICS PIXIT Document, version AD".

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):

11a Sampled Value publish (12/15)	50 Hz with 80 samples per cycle
11a Sampled Value publish (12/15)	60 Hz with 80 samples per cycle
11a Sampled Value publish (12/15)	50 Hz with 256 samples per cycle
11a Sampled Value publish (12/15)	60 Hz with 256 samples per cycle

This Certificate includes a summary of the test results as carried out at ABB Switzerland PGHV-O, in Wettingen, Switzerland with Allegro Network Multimeter v.2.0.2-8, Wireshark v.2.6 and ITT600 v.2.0.2.1. This document has been issued for information purposes only, and the original paper copy of the test report: No. 1KHL050118 will prevail.

The test has been carried out on one single specimen of the client system as referred above and submitted to SVC by ABB Switzerland PGHV-O. The manufacturer's production process has not been assessed. This Certificate does not imply that SVC has certified or approved any product other than the specimen tested.

Baden, 2018-05-16

S. Gerspach
Certification Manager

C. Vottis
Test engineer

1 Level B - Tester with ISO 9001 Quality System
2 TPCL - Test procedures change list

ABB Switzerland Ltd
Power Grids, System Verification and Validation Center, SVC Baden
Bruggerstrasser 72, CH-5400 Baden

Applicable Test Procedures from the UCAIUG "Test procedures for Sampled Values Publishers according to the "Implementation Guideline for Digital Interface to Instrument Transformers using IEC 61850-9-2 (9-2LE)", version 1.1"

Conformance Block	Mandatory	Conditional
Configuration	Cnf1, Cnf2, Cnf3, Cnf4, Cnf5, Cnf6, Cnf7, Cnf8	Cnf9
11a Sampled Value Publishing 50 Hz, 80 samples/cycle	Svp1, Svp2, Svp3, Svp6, Svp10, Svp11, Svp14	Svp4, Svp7, Svp8, Svp15, Svp17
11a Sampled Value Publishing 60Hz, 80 samples/cycle	Svp1, Svp2, Svp3, Svp6, Svp10, Svp11, Svp14	Svp4, Svp7, Svp8, Svp15, Svp17
11a Sampled Value Publishing 50 Hz, 256 samples/cycle	Svp1, Svp2, Svp3, Svp6, Svp10, Svp11, Svp14	Svp5, Svp7, Svp9, Svp15, Svp17
11a Sampled Value Publishing 60Hz, 256 samples/cycle	Svp1, Svp2, Svp3, Svp6, Svp10, Svp11, Svp14	Svp5, Svp7, Svp9, Svp15, Svp17

ABB Switzerland Ltd
Power Grids, System Verification and Validation Center, SVC Baden
Bruggerstrasser 72, CH-5400 Baden