

IEC 61850 Certificate Level B¹

Issued to:

ABB Oy

Medium Voltage Products

Distribution Automation

FI-65101 Vaasa , Finland

For the product:

REF630 series 1.3 Feeder Protection &Control

Software Version: 1.3.0.A0

Hardware Version: SBFNABACBABZAZNAXD

Serial Number: 1VHR91004829

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

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

IEC 61850-5 First Edition Performance class P1(10ms)

The performance test has been performed according to the UCA International Users Group GOOSE performance Test Procedures version 1.5 with product's protocol implementation conformance statements: "630_series_ver_1.3_IEC61850_PICS_189726_EN¹", and product's extra information for testing: "630_series_ver_1.3_IEC61850_PIXIT_189727_ENe".

The test has been carried out on one single specimen of the product as referred above and submitted to SVC Baden by ABB Oy, Medium Voltage Products. The manufacturer's production process has not been assessed. This certificate does not imply that SVC Baden has certified or approved any product other than the specimen tested.

This Certificate summaries test results as carried out at SVC in Switzerland with *Omicron Test Universe V3.01* and *Nethunter V2.2.33*. This document has been issued for information purposes only, and the original paper copy of the test report: No. "1KHL050071 Test procedures for GOOSE PerformanceEd1_rev1p5 ABB series 630 1.3" will prevail.

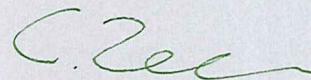
The GOOSE performance has been measured with Boolean and Double Point information's.

Baden 2015-09-18



S. Gerspach

Responsible Test Manager



C. Zehnder

Responsible Test Engineer

¹ ISO 9000 certified test lab, allowed to issue UCA® level B

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ABB Switzerland Ltd

Power Systems, System Verification and Validation Center, SVC Baden

Bruggstrasser 72, CH-5400 Baden



GOOSE Performance Measured Results:

Performance class = P1 (10ms)

Goose Performance Benchmark summary results (compensated for scan cycle delays if any)

Test ID	Large dataset	Correlated subscribed	Back-ground	Minimum Transfer time [ms]	Maximum Transfer time [ms]	Average Transfer time [ms]
Gpf1	-	-	-	1.29	3.31	2.23
Gpf2	X	-	-	3.40	3.61	3.21
Gpf3	-	X	-	2.30	3.50	2.44
Gpf4	X	X		4.80	3.10	1.13
Gpf5	-	-	X	1.29	3.31	2.18
Gpf6	X	-	X	2.70	4.51	1.87
Gpf7	-	X	X	2.20	3.31	2.45
Gpf8	X	X	X	6.49	4.40	0.27

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