

Issued to:  
ABB AB  
SA Products  
S-721 59 Västerås  
Sweden

No. 74105096-OPE/INC 14-1384

For the server product:  
REC670  
Firmware version: 2.0  
Hardware version: 1MRK001535-29



Issued by:

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 1.0 with product's protocol, model and technical issue implementation conformance statements: "Protocol Implementation Conformance Statement for the IEC 61850 interface in ABB 670 series version 2.0 – IEC 61850 Edition 2", "Model Implementation Conformance Statement for the IEC 61850 Ed2 interface in ABB 670 series version 2.0" and "Tissues Implementation Conformance Statement for the IEC 61850 interface in ABB 670 series version 2.0 – IEC 61850 Edition 2" and the extra information for testing: "Protocol Implementation eXtra Information for Testing (PIXIT) for the IEC 61850 interface in ABB 670 series version 2.0 – IEC 61850 Edition 2".

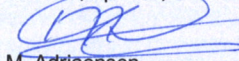
The following IEC 61850 conformance blocks have been tested with a positive result (number of relevant and executed test cases / total number of test cases):

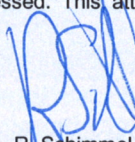
1	Basic Exchange (21/26)	9a	GOOSE Publish (8/12)
2	Data Sets (3/6)	9b	GOOSE Subscribe (13/14)
3	Substitution (3/3)	12a	Direct Control (13/20)
4	Setting Group Selection (3/5)	12d	Enhanced SBO Control (19/28)
5	Unbuffered Reporting (17/20)	13	Time Synchronization (5/7)
6	Buffered Reporting (24/29)	14	File Transfer (7/8)
		15	Service Tracking (10/17)

This certificate includes a summary of the test results as carried out at ABB in Sweden with UniCA 61850 Client simulator 4.27.03 with test suite Ed2 3.27.04 and UniCA 61850 Analyzer 5.27.07. This document has been issued for information purposes only, and the original paper copy of the DNV KEMA report No. 74105096-OPE/INC 14-1385 will prevail.

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

Arnhem, April 25, 2014

  
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Head of Department Operational Excellence

  
R. Schimmel  
Certification Manager

<sup>1</sup> 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 Server Test Procedures version 1.0

Conformance Block	Mandatory	Conditional
1: Basic Exchange	sAss1, sAss2, sAss3, sAssN2, sAssN3, sAssN4, sAssN5, sSrv1, sSrv2, sSrv3, sSrv4, sSrv5, sSrvN1abcd, sSrvN4	sSrv6, sSrv8, sSrv11, sSrv12, sSrv13, sSrvN1e, sSrvN1f
2: Data Sets	sDs1, sDs10a, sDsN1ae	
3: Substitution	sSub1, sSub2, sSub3	
4: Setting Group Selection	sSg1, sSg3, sSgN1	
5: Unbuffered Reporting	sRp1, sRp2, sRp3, sRp4, sRp8, sRp9, sRp10, sRp11, sRp12, sRp14, sRpN1, sRpN2, sRpN3, sRpN4, sRpN8	sRp5, sRpN5
6: Buffered Reporting	sBr1, sBr2, sBr3, sBr4, sBr8, sBr9, sBr10, sBr11, sBr12, sBr14, sBr20, sBr21, sBr22, sBr25, sBr26, sBr27, sBr28, sBrN1, sBrN2, sBrN3, sBrN4, sBrN5, sBrN8	sBr5
9a: GOOSE publish	sGop2, sGop3, sGop4, sGop7, sGop9, sGop10, sGop11	sGop1
9b: GOOSE subscribe	sGos1, sGos2, sGos3, sGos5, sGos6a, sGos7, sGosN1, sGosN2, sGosN3, sGosN4, sGosN5, sGosN6	sGos6b
12a Direct control	sCtl5, sCtl10, sCtl14, sDOns1, sDOns2	sCtl7, sCtl13, sCtl15, sCtl16, sCtl17, sCtl18, sCtl19, sCtl21
12d Enhanced SBO control	sCtl5, sCtl6, sCtl8, sCtl9, sCtl10, sCtl11, sCtl25, sSBOes1, sSBOes2, sSBOes6, sSBOes8	sCtl4, sCtl7, sCtl15, sCtl16, sCtl17, sCtl18, sCtl19, sCtl26
13 Time sync	sTm1, sTm2, sTmN1	sTm3, sTm4
14 File transfer	sFt1, sFt2ab, sFt4, sFt5, sFtN1ab	sFt2c, sFtN1c
15 Service tracking		sTrk1, sTrk2, sTrk4, sTrk7, sTrk8, sTrk9, sTrk10, sTrk11, sTrk13, sTrk17

All configuration file and data model tests have been successfully performed for the product variants using the same communication hardware and software version: REB670, RED670, REG670, REL670, RES670 and RET670.