G3-PLC CERTIFIED CEN A

C E R T I F I C A T E

Certificate registration number: G3.1411.011.1.A

Certificate holder: RENESAS Electronics Corporation,

Platform designation: Y-EU-OFDM-PLC-A2,
Hardware version V.2.20, Firmware version CENELEC-A v41310

Certification date: November 21st, 2014

This certificate indicates the above mentioned platform successfully completed certification testing with regards to the reference specification ITU G.9903 (02-2014) plus the changes listed in the annex to this certificate. The optional feature coherent modulation of the G3-PLC protocol is also covered by this certification.

The certificate applies to certification profile Metering Cenelec A and the device was configured as a PAN Coordinator.

Test cases have been performed as described in the test report referred to below. This certificate is granted on account of tests conducted by Laboratoire des Applications Numériques (LAN) in Tauxigny, France in November 2014. The results and remarks can be found in the complete test report.

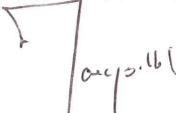| Applied tests	Performed by	Document evidence
Conformance and interoperability testing according to the test specification referenced by the test report	Laboratoire des Applications Numériques (LAN)	TR_LAN14AF055

The device tested is a G3-PLC platform: a solution providing an implementation of the G3-PLC specification. This certificate is valid from November 21st, 2014.

The certificate is only applicable to the platform described above and permits the use of the G3-PLC™ logo as laid down in the G3-PLC logo license agreement. The certificate may only be reproduced in full.

This certificate does not imply assessment of the production. This certificate shall not be defined, or used as a guarantee covering quality of a product which includes G3- PLC. The liability of the Alliance and the test laboratory or any of her representatives is excluded for any damages or losses of the certified company.

Paris, November 21st, 2014

For the G3-PLC Alliance:

Marc Boillot
Chairman

Lonneke Driessen
Chair Certification Program

G3-PLC Alliance

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Annex 1:
Reference Version for Certification

The reference version for this certificate is published in 'Narrowband OFDM PLC specifications for G3-PLC network, October 2014'.

The reference version for this certification is:
ITU-T G.9903 (02-2014)
+ CCTT #24-25-30: Implementation of MAC security (anti-replay) solution F1
+ CCTT #61 : ADPM-Buffer behavior clarification
+ CCTT #143: AC Phase Detection v2
+ CCTT #144: Hop Limit usage during route repair v3
+ CCTT #145: Value of RCCoord when the node is at adpMaxHops hops from the coordinator
+ CCTT #146: Pilot tone generation
+ CCTT #147: Link-cost computation for Path discovery v2
+ CCTT #148: Path discovery frame routing v3
+ CCTT #152: Scrambler reset
+ CCTT #154: Clarification of PANCount and PANDescriptor
+ CCTT #156: Clarification of ADPM-NETWORK-STATUS.indication
+ CCTT #157: Interleaver Equation v2
+ CCTT #158: Unicast Routing Process
+ CCTT #159: Correct the windowing function description
+ CCTT #160: Clarify 16QAM quantisation and optionality
+ CCTT #161: Correct aMaxFrameSize and aMinFrameSize for FCC/ARIB bandplans
+ CCTT #162: Interleaver co-prime number clarification v2
+ CCTT #163: CRC5 and CRC8 packing order
+ CCTT #164: Route Repair v2
+ CCTT #165: Clarification Neigbour Table v2
+ CCTT #167: HOP COUNT metric identifier v2
+ CCTT #169: Clarification on PLME_GET v4
+ CCTT #170: Clarification to Frame Counter Handling Mechanism v2
+ CCTT #173: Clarification of LOADng mechanism used to detect bidirectional links

Annex 2: Protocol Implementation Conformance Statement (PICS)

Feature implementation statement

Name	Value	Description
BAND_PLAN	CENELEC A	Indicate the band-plan supported by the device.
FEATURE_PAN_COORDINATOR	TRUE	Indicate if the device is a PAN-Coordinator (true) or a normal device (false)
FEATURE_COHERENT_MODULATION	TRUE	Indicate if coherent modulation is supported
FEATURE_EAP_SERVER	TRUE	Indicate if an EAP-PASK server is implemented by the DUT. Apply only if FEATURE_PAN_COORDINATOR = true
FEATURE_D8PSK_MODULATION	TRUE	True / False
FEATURE_ROUTING	TRUE	Indicate if the routing is implemented by the IUT
FEATURE_SECURITY	F1	Indicate the security implemented by the device. Possible values are: F1, F2.
FEATURE_ACTIVE_SCAN	TRUE	Indicate if the active scan process is done by the IUT after power-up

Annex 3:
Copy of test report cover sheet

G3-PLC
Alliance

G3-PLC Platform Certification Test Report

RENESAS – Y-EU-OFDM-PLC-A2

HW version	V.2.20
FW version	CENELEC-A v41310
Test Report #	TR_LAN14AF055 Ed.00
Date	November 18, 2014
CONF tests suite	version 0.12, 10/09/2014
CONF tests scripts	version 1.7 bugfix 2, 31/10/2014
IOT tests suite	version 0.4, 12/08/2014
IOT tests scripts	version 1.1 bugfix 9, 13/10/2014
Certification Profile	A
Role	PAN Coordinator
Overall Verdict	PASS

Initiation	Date	Description of modification	Ed.
Omar DIOUF	November 18, 2014	Creation	00

	Realised by	Checked by	Approved by
Name	Omar DIOUF	Vincent BUCHOUX	Thierry DOLIGEZ
Date	November 18, 2014	November 18, 2014	November 18, 2014
Sign			

Certificate registration number: G3.1411.011.1.A