



C E R T I F I C A T E

Certificate registration number: : G3.1504.031.1.C

Certificate holder: Renesas Electronics Corporation

Platform designation: REL-G3PLC-CPX2,
Hardware version UPD809508K8-711-BAA-A, Firmware version FCC 2.0.3

Certification date: April 2nd, 2015

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 mode of the G3-PLC protocol is also covered by this certification.

The certificate applies to certification profile FCC Multipurpose Worldwide and the device was configured as a PAN-Device.

Test cases have been performed as described in the test report referred to below. This certificate is granted on account of tests conducted by TÜV Rheinland in Yokohama, Japan in March 2015. 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	TÜV Rheinland Japan	Test report # 5002 5422 002

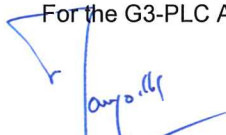
The device tested is a G3-PLC platform: a solution providing an implementation of the G3-PLC specification. This certificate is valid from April 2nd, 2015.

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, April 2nd, 2015

For the G3-PLC Alliance:


Marc Boillot
 Chairman


Madeleine Francillard
 Chair Certification Program





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 RCoord 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 Neighbour 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	FCC	Indicate the band-plan supported by the device.
FEATURE_PAN_COORDINATOR	FALSE	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	FALSE	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

Produkte
Products



Prüfbericht - Nr.: Test Report No.	5002 5422 002	Seite Page	1 of	von of	25												
Auftraggeber: Client:	Renesas Electronics Corporation 1753 Shimonumabe, Nakahara-Ku, Kawasaki, Kanagawa 211-8668, Japan																
Gegenstand der Prüfung: Test Item:	REL-G3PLC-CPX2																
Bezeichnung: identification:	REL-G3PLC-CPX2	Serien-Nr.: Serial No.	No. F20485														
Wareneingangs-Nr.: Receipt No.:	A000172337	Eingangsdatum: Date of receipt:	2015-03-06														
Zustand des Prüfgegenstandes bei Anlieferung: Condition of test item at delivery:	Test item complete and undamaged																
Prüfort: Testing location:	TÜV Rheinland Japan Ltd. Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan																
Prüfgrundlage: Test specification:	G3-PLC Conformance L1-L2 Tests Suite Specification v0.14 G3-PLC 1-to-1 Interoperability Tests Suite Specification v0.6 G3-PLC Certification Test Procedures v1.3																
Prüfresultat: Test Result:	Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). The test item passed the test specification(s).																
Prüflaboratorium: Testing Laboratory:	TÜV Rheinland Japan Ltd. Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan																
geprüft/ tested by:	kontrolliert/ reviewed by:																
2015-03-25	Olga Kozerek		2015-03-25	Tran Thanh Tam													
Datum Date	Name/Stellung Name/Position	Unterschrift Signature	Datum Date	Name/Stellung Name/Position	Unterschrift Signature												
Sonstiges / Other Aspects:																	
<table border="0"> <tr> <td>Abkürzungen</td> <td>OK, Pass = entspricht Prüfgrundlage</td> <td>Abbreviations</td> <td>OK, Pass = passed</td> </tr> <tr> <td></td> <td>Fail = entspricht nicht Prüfgrundlage</td> <td></td> <td>Fail = failed</td> </tr> <tr> <td></td> <td>NA = nicht anwendbar</td> <td></td> <td>NA = not applicable</td> </tr> </table>						Abkürzungen	OK, Pass = entspricht Prüfgrundlage	Abbreviations	OK, Pass = passed		Fail = entspricht nicht Prüfgrundlage		Fail = failed		NA = nicht anwendbar		NA = not applicable
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