CERTIFICATE

Certificate registration number: G3.1710.168.2.C3

Certificate holder: Andrea Informatique

Product designation: PEGASUS,
Hardware version 2.2_NXP_TI, Firmware version 2.4.4F

Certification date: October 2nd, 2017

This certificate indicates the above mentioned product successfully completed certification testing with regards to the reference specification ITU G.9903 (02-2014) plus the changes listed in an 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 Laboratoire des Applications Numériques (LAN) in Tauxigny, France in September 2017. The results and remarks can be found in the complete test report.

Applied tests	Performed by	Document evidence
Conformance, interoperability and performance testing according to the test specification referenced by the test report	Laboratoire des Applications Numériques (LAN)	LAN17AF046

The device tested is a G3-PLC FCC 1-phase meter. The meter is equipped with the G3-PLC certified platform THUNDER with certificate no. G3.1709.165.1.C3. The Protocol Implementation Conformance Statement in the Annex includes the PICS related to performance and is an integral part of this certificate. This certificate is valid from October 2nd, 2017.

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.

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, October 2nd, 2017

For the G3-PLC Alliance:

Bernard Lassus
Chairman

Madeleine Francillard
Chair Certification Program

G3-PLC Alliance

Annex 1:
Reference Version for Certification

The reference version for this certificate is published in 'Narrowband OFDM PLC specifications for G3-PLC network, March 2017'.

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 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 #172: Windowing in coherent mode
- CCTT #173: Clarification of LOADng mechanism used to detect bidirectional links
- CCTT #174: Avoiding duplicated MAC packets
- CCTT #175: LOADng - subsequent RREP generation
- CCTT #176: Link cost function of LQI v3
- CCTT #177: Broadcast routing - filtering frames on the source
- CCTT #178: Coexistence of G3-PLC with other PLC technologies v3
- CCTT #179: RREP Filtering v3
- CCTT #181: Route Repair v2
- CCTT #182: Lowering the modulation order for transmission v3
- CCTT #183: Destination Address Set v5
- CCTT #186: TXGAIN / TXCOEF Definition
- CCTT #187: Route Advertisement after Association v3
- CCTT #188: Maximum CSMA Window for normal priority broadcast packets v2
- CCTT #189: Updated default values of MAC and ADP attributes v2
- CCTT #191: Phase detection and MAC repetitions v3
- CCTT #192: Device network leave behaviour in case of LBP KICK failure v2
- CCTT #193: Frame Counter Preservation after kick leave v2
- CCTT #194: Limiting the output level v3
- CCTT #195: Removing the S-FSK notching mechanism
- CCTT #196: Destination Address Set (addendum)
- CCTT #198: Convolutional Encoder clarification
- CCTT #199: Route Repair mechanism clarification
- CCTT #200: Neighbour table storing only device information issued from unicast communications v2
- CCTT #201: Annex D title
- CCTT #203/203R: Transferring the spectral flatness section from G.9901 to G.9903
- CCTT #204/204R: Detecting and removing loops v3
- CCTT #205: Remove Limit on RERR generation v2
- CCTT #206: Reset of TMRValidTime after macMaxFrameRetries attempts v3
- CCTT #207: Rounding definition for Link Cost v2
- CCTT #208: Creation of a POS table v3
- CCTT #209: Clarification of PN sequence for 2 RS Blocks

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.
FEATURE_PREAMBLE_COEXISTENCE_MECHANISM	FALSE	Indicate if the preamble-based coexistence mechanism is used by the IUT.

Annex 2: Protocol Implementation Conformance Statement (PICS)

PICS related to performance (1/2)

The device tested is a G3-PLC FCC 1-phase meter.

Operating voltage applied for certification testing was 230V/50Hz.

Name	Value	Unit	Description
PICS related to performance are available through vendor only.			

Annex 2: Protocol Implementation Conformance Statement (PICS)

PICS related to performance (2/2)

Name	Value	Unit	Description
PICS related to performance are available through vendor only.			

Annex 3:
Copy of test report cover sheet

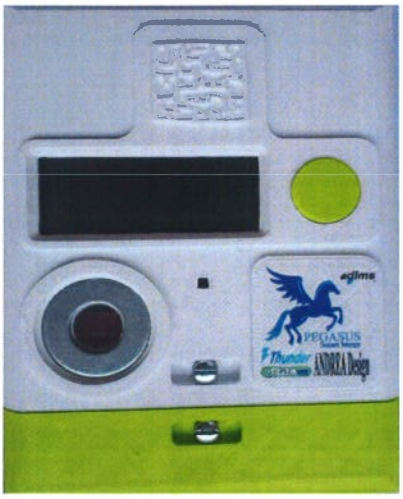
G3-PLC Alliance

G3-PLC Product Certification Test Report

Vendor Name	ANDREA
Model Name	PEGASUS
Serial N°	**3375110738_020203F**
HW version	**2.2_NXP_TI**
FW version	**2.4.4F**
Test Report #	**TR_LAN17AF046 Ed.01**
Date	**October 2, 2017**

CONF Tests Specification	**version 0.24.**	**16/07/2017**
CONF Tests Suite	**version 2.5.**	**08/2017**
IOT Tests Specification	**version 0.10.**	**08/09/2017**
IOT Tests Suite	**version 2.3.**	**09/2017**
PERF Tests Specification	**version 0.23**	**16/08/2017**
PERF Tests Suite	**version 2.5.**	**08/2017**
Test Tool	**version 1.8**	
Tester Modem	**version 1.10**	
Certification Test Procedures	**version 1.11**	**11/09/2017**

Certification Profile	**C (FCC)**
Role	**Meter**
Overall Verdict	**PASS**



Initiation	Date	Description of modification	Ed.
Omar DIOUF	September 28, 2017	Creation	00
Omar DIOUF	October 2, 2017	Update of Test CONF_MAC_SECURITY_IB_005_REJECT_FRAME_UNCIPHERED	01

	Realised by	Checked by	Approved by
Name	Omar DIOUF	Vincent BUCHOUX	Thierry DOLIGEZ
Date	October 2, 2017	October 2, 2017	October 2, 2017
Sign			

The current report and the test results produced in this current are given for information only and must not be relied on by any third person for any reason.

This report contains an assessment of the apparatus carried out on samples submitted to the laboratory. The results in this report relate only to the items tested and were obtained in the period between the initial receipt of samples and the issue of the report. It should be noted that technical hardware or software modifications on the apparatus may impact the results reported in this document.