



C E R T I F I C A T E

Certificate registration number: G3.1701.124.1.C2

Certificate holder: Semtech Corporation

Platform designation: Enigma,
Hardware version EV8010, Firmware version 4.0

Certification date: January 16th, 2017

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 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 January 2017. The results and remarks can be found in the complete test report.

Table with 3 columns: Applied tests, Performed by, Document evidence. Row 1: Conformance and interoperability testing according to the test specification referenced by the test report, Laboratoire des Applications Numériques (LAN), LAN17AF002

The device tested is a G3-PLC platform: a solution providing an implementation of the G3-PLC specification. This certificate is valid from January 16th, 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, January 16th, 2017
For the G3-PLC Alliance:

Signature of Bernard Lassus
Bernard Lassus
Chairman

Signature of Madeleine Francillard
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, April 2015'.

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



## 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 3: Copy of test report cover sheet



**G3-PLC Certification Test Report**

SEMTECH	ENIGMA HW:EV8010 FW: 4.0		
LAN17AF002	Ed.00	January 11, 2017	Page 1/25

**G3-PLC Alliance**  
**G3-PLC Platform Certification Test Report**

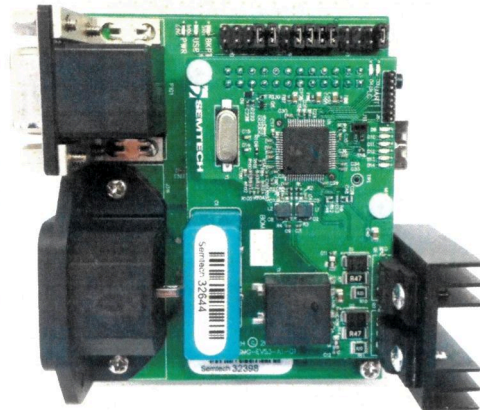
Vendor Name **SEMTECH**  
 Model Name **ENIGMA**  
 Serial N° **32644**  
 HW version **EV8010**  
 FW version **4.0**

Test Report # **TR\_LAN17AF002 Ed.00**  
 Date **January 11, 2017**

CONF Tests Specification **version 0.19. 01/09/2015**  
 CONF Tests Suite **version 2.1. 10/2015**  
 IOT Tests Specification **version 0.7. 21/04/2015**  
 IOT Tests Suite **version 2.1. 10/2015**

Test Tool **version 1.7**  
 Tester Modem **version 1.09**  
 Certification Test Procedures **version 1.8. 12/12/2016**

Certification Profile **C (FCC)**  
 Role **PAN Device**  
 Overall Verdict **PASS**



Initiation	Date	Description of modification	Ed.
Omar DIOUF	January 11, 2017	Creation	00

Name	Realised by	Checked by	Approved by
	Omar DIOUF	Vincent BUCHOUX	Thierry DOLIGEZ
Date	January 11, 2017	January 11, 2017	January 11, 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.



## Annex 4: Additional details of the certified platform

Platform model name:	ENIGMA
Platform hardware version:	EV8010
Platform firmware version:	4.0
Exact part number of all the chips running G3-PLC stack in the certified platform:	EV8010ILPT
What each part number runs: lower MAC (incl. CSMA/CA) or PHY or other parts of the stack:	PHY+MAC+6LowPAN
Hardware version of this chip:	EV8010
Software version running on this chip:	4.0
Internal CPU frequency:	240 MHz

*Handwritten signature*