G3-PLC CERTIFIED CEN A HYB

C E R T I F I C A T E

Certificate registration number: G3.2105.441.1.A5

Certificate holder: Microchip Technology Inc.

Platform designation: PL360G55CF+ATREB215,
Hardware version PL360G55CF-EK v1+ATREB215-XPRO-A,
Firmware version G3_v2.0.0

Certification date: May 7th,2021

This certificate indicates the above mentioned platform successfully completed certification testing with regards to the reference specification ITU G.9903 (08-2017). The optional features Hybrid PLC&RF and coherent mode of the G3-PLC protocol are also covered by this certification.

The reference version for the optional hybrid feature is the G3-PLC Hybrid PLC&RF companion specification v0.11 (31-07-2020). The certificate applies to certification profile 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 April 2021. 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)	LAN21AF014

The device tested is a G3-PLC platform: a solution providing an implementation of the G3-PLC specification. 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 May 7th, 2021.
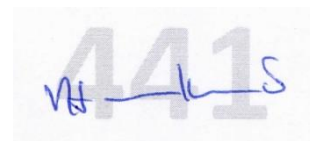
The certificate is only applicable to the platform described above and permits the use of the G3-PLC™ logo as laid down in the G3-PLC logo license agreement.

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, May 7th 2021

For the G3-PLC Alliance:

Marc Delandre
Chairman

Madeleine Francillard
Chair Certification Program

G3-PLC Alliance

Annex 1: Protocol Implementation Conformance Statement (PICS)

Feature implementation statement

Name	Value	Description
BAND_PLAN	CENELEC A	Indicate the band-plan supported by the device.
BAND_PLAN_RF	863-870 MHz, mode #1	Indicate the RF band-plan.
FEATURE_HYBRID_RF	TRUE	Indicate if Hybrid PLC&RF feature is supported.
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.
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

The device tested is a G3-PLC CENELEC A platform. Operating voltage applied for certification testing was 230V / 50Hz.

Name	Value	Unit	Description

PICS related to performance are available through vendor only.

Annex 3:
Copy of test report cover sheet

G3-PLC Certification Test Report

Microchip Technology Inc.	PL360G55CF+ATREB215 HW:PL360G55CF-EK v1+ATREB215-XPRO-A FW: G3_v2.0.0	
LAN21AF014	Ed.00	May 3, 2021	Page 1/53

LANPARK Expanding networks

G3-PLC Alliance

G3-PLC Hybrid Platform Certification Test Report

Vendor Name **Microchip Technology Inc.**
Model Name **PL360G55CF+ATREB215**
Serial N° **3100069335452301**
HW version **PL360G55CF-EK v1+ATREB215-XPRO-A**
FW version **G3_v2.0.0**

Test Report # **TR_LAN21AF014 Ed.00**
Date **May 3, 2021**

CONF G3-PLC Tests Specification	version 0.32.	15/03/2021
CONF G3-PLC Tests Suite	version 2.11.p2.	04/2021
CONF HYBRID Tests Specification	version 0.7.	15/03/2021
CONF HYBRID Tests Suite	version 1.2.p2.	03/2021
IOT G3-PLC Tests Specification	version 0.13.	28/12/2018
IOT G3-PLC Tests Suite	version 2.6.p2.	03/2021
IOT HYBRID Tests Specification	version 0.4.	15/03/2021
IOT RF Tests Suite	version 1.2.p1.	03/2021
PERF G3-PLC Tests Specification	version 0.27.	05/03/2019
PERF G3-PLC Tests Suite	version 2.11.p2.	04/2021

Test Tool PLC	version 2.3	
Tester Modem PLC	version 2.0	
Test Tool PLC+RF	version 3.1	
Tester Modem PLC+RF	version 6	
Certification Test Procedures	version 2.0	12/04/2021

Certification Profile **HYBRID : CENELEC A - RF**
Role **PAN Coordinator**
Overall Verdict **PASS**

Initiation	Date	Description of modification	Ed.
Omar DIOUF	May 3, 2021	Creation	00

	Realised by	Checked by	Approved by
Name	Omar DIOUF	Vincent BUCHOUX	Thierry DOLIGEZ
Date	May 3, 2021	May 3, 2021	May 3, 2021
Sign			

Annex 4: Additional details of the certified platform

Platform model name:	PL360G55CF+ATREB215		
Platform hardware version:	PL360G55CF-EK v1+ATREB215-XPRO-A		
Platform firmware version:	G3_v2.0.0		
Exact part number of all the chips running G3-PLC stack in the certified platform:	Chip #1: PL360B	Chip #2: ATSAMG55J19-MU	Chip #3: AT86RF215
What each part number runs: lower MAC (incl. CSMA/CA) or PHY or other parts of the stack:	PLC PHY + PLC lower MAC	PLC MAC & RF MAC & 6LowPAN	RF PHY
Hardware version of this chip:	B	B	V3
Software version running on this chip:	36.01.05	G3_v2.0.0	V3
Internal CPU frequency:	216 MHz	96 MHz	26 MHz