G3-Hybrid CERTIFIED CEN A

C E R T I F I C A T E

Certificate registration number: G3.2408.619.2.A7

Certificate holder: SAGEMCOM ENERGY AND TELECOM SAS

Product designation: MT212
Hardware version 254037659,
Firmware version 6.3.4 v17a1a45a, r1.15rc2

Certification date: August 6th 2024

This certificate indicates the above-mentioned product successfully completed certification testing with regards to the G3-Alliance reference specification ITU G.9903 (08-2017) including Amendment 1 (05/21), Amendment 2 (03/23) and Corrigendum 1 (03/23), as published on https://www.itu.int/rec/T-REC-G.9903 plus the three changes listed in Annex 1.

The device is certified for both G3-PLC and G3-Hybrid. The optional features of the G3 protocol coherent mode and support of 12 SYNCP symbols are also covered by this certification. The certificate applies to certification profile CENELEC A 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 July 2024. 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)	LAN24AF034

The device tested is a G3-Hybrid PLC+RF CENELEC A 3-phase meter. The product is equipped with the G3-Alliance certified platform MT212 with certificate no. G3.2408.618.1.A7. 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 August 6th 2024.

The certificate is only applicable to the product described above and permits the use of the G3-Hybrid logo as laid down in the G3-Alliance 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-Hybrid. 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, August 6th 2024

For the G3-Alliance:

Marc Delandre
Chairman

Madeleine Francillard
Chair Certification Program

G3-Alliance

Annex 1:
Reference Version for Certification

The reference version for this certificate is ITU G.9903 (08-2017) including Amendment 1 (05/21), Amendment 2 (03/23) and Corrigendum 1 (03/23), as published on https://www.itu.int/rec/T-REC-G.9903, plus the following three changes:

– HYB_C_067: Clarification on Media Probing for PLC with valid tone-map
– HYB_C_068: Guard time for broadcast and slot alignment
– HYB_C_069: 802.15.4 Cor1 Reference

Annex 2: Protocol Implementation Conformance Statement (PICS)

Feature implementation statement

Name	Value	Description
BAND_PLAN	CENELEC A	Indicates the band-plan supported by the device
BAND_PLAN_RF	863_Mode#1	Indicates the RF band plan(s) supported by the device
FEATURE_HYBRID_RF	TRUE	Indicates whether Hybrid PLC&RF feature is supported
FEATURE_PAN_COORDINATOR	FALSE	Indicates whether the device is a PAN-Coordinator (true) or a normal device (false)
FEATURE_COHERENT_MODULATION	TRUE	Indicates whether coherent modulation is supported
FEATURE_EAP_SERVER	FALSE	Indicates whether an EAP-PASK server is implemented by the DUT Applies only if FEATURE_PAN_COORDINATOR = true
FEATURE_D8PSK_MODULATION	TRUE	Indicates whether D8PSK modulation is supported
FEATURE_ROUTING	TRUE	Indicates whether routing is implemented by the IUT
FEATURE_SECURITY	F1	Indicates the security implemented by the device. Possible values are: F1, F2
FEATURE_ACTIVE_SCAN	TRUE	Indicates whether the active scan process is done by the IUT after power-up
FEATURE_PREAMBLE_COEXISTENCE_MECHANISM	FALSE	Indicates whether the preamble-based coexistence mechanism is used by the IUT
FEATURE_HYBRID_RF	TRUE	Indicates whether Hybrid PLC+RF feature is supported
FEATURE_FREQUENCY_HOPPING	FALSE	Indicates whether the Frequency Hopping mechanism is supported
FEATURE_PREAMBLE_12_SYNCP	TRUE	Indicates whether the device supports the transmission and reception of frames with preamble of 12 SYNCP symbols

Annex 3: Protocol Implementation Conformance Statement (PICS)

PICS related to PLC performance (1/2)

The device tested is a G3-Hybrid CENELEC A 3-phase meter communicating on 1 phase. Testing was performed on phase 1.

Operating voltage applied for certification testing was 3 x 230V / 50Hz.

Name	Value	Unit	Description

PICS related to performance are available through manufacturer only.

Annex 3: Protocol Implementation Conformance Statement (PICS)

PICS related to PLC performance (2/2)

Name	Value	Unit	Description

PICS related to performance are available through manufacturer only.

Annex 3: Protocol Implementation Conformance Statement (PICS)

PICS related to RF performance

The device tested is a G3-Hybrid CENELEC A 3-phase meter communicating on 1 phase. Operating voltage applied for certification testing was 3 x 230V / 50Hz.

Name	Value	Unit	Description

PICS related to performance are available through manufacturer only.

* Note: The values for [HYB_MESH_XXX] have been determined on a fixed RF channel. With Frequency Hopping enabled, these values may be different.

Annex 4:
Copy of test report cover sheet

G3-Alliance
G3 Hybrid Product Certification
Test Report

Vendor Name	SAGEMCOM ENERGY AND TELECOM SAS
Model Name	MT212
Serial N°	1SAG2024000113
HW version	254037659
FW version	6.3.4 v17a1a45a, r1.15rc2

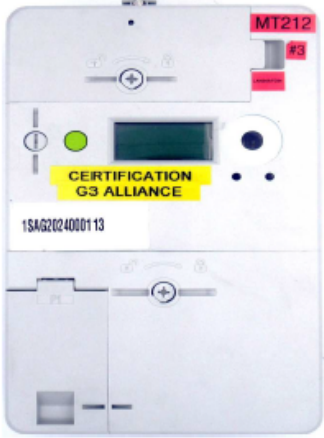|			
Test Report #	TR_LAN24AF034 Ed.00		
Date	August 4, 2024		
CONF G3-PLC Tests Specification	version 0.39	06/06/2023	
CONF G3-PLC Tests Suite	version 2.15.p2.	10/2023	
CONF HYBRID Tests Specification	version 0.13.	29/09/2023	
CONF HYBRID Tests Suite	version 1.5.p7.	07/2024	
IOT G3-PLC Tests Specification	version 0.15.	06/06/2023	
IOT G3-PLC Tests Suite	version 2.8p1.	10/2023	
IOT HYBRID Tests Specification	version 0.8.	06/06/2023	
IOT RF Tests Suite	version 1.5.	10/2023	
PERF G3-PLC Tests Specification	version 0.28.	06/06/2023	
PERF G3-PLC Tests Suite	version 2.15.p2.	10/2023	
PERF HYBRID Tests Specification	version 0.4.	29/09/2023	
PERF HYBRID Tests Suite	version 1.5.p7.	07/2024	

Test Tool PLC+RF	version 3.3.1
Tester Modem PLC	version 2.0.1
Tester Modem RF	version 16_20231024_update.bin
Certification Test Procedures	version 7.2 20/12/2023
Certification Profile	HYBRID : CENELEC A - RF
Role	Meter
Overall Verdict	PASS

Test Methodology for test RFPHY_006 test (LQI) was modified to compensate by 15dB the amplification introduced by the presence of a Low Noise Amplifier present at the DUT RX path. This compensated Methodology was described within the email from LANPARK to the G3 Alliance on Friday, July 19th (object : RFPHY_006 LQI - cas d'un meter avec amplification de ligne).

Initiation	Date	Description of modification	Ed.
Omar DIOUF	August 4, 2024	Creation	00

	Realised by	Checked by	Approved by
Name	Omar DIOUF	Vincent BUCHOUX	Thierry DOLIGEZ
Date	August 4, 2024	August 4, 2024	August 4, 2024
Sign			