



# C E R T I F I C A T E

**Certificate registration number:** G3.2111.470.1.C5

**Certificate holder:** STMicroelectronics S.r.l

**Platform designation:** ST8500 + S2-LP,  
Hardware version EVALMODSTST8500-1, Firmware version 6.1.20 v15a0c666 r1.9rc1

**Certification date:** November 5<sup>th</sup>, 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 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 October 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) | LAN21AF058        |

The device tested is a G3-PLC Hybrid PLC&RF 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 November 5<sup>th</sup>, 2021.

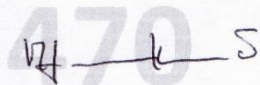
The certificate is only applicable to the platform described above and permits the use of the G3-PLC™ logo as laid down in the G3-PLC logo license agreement.

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, November 5<sup>th</sup> 021

For the G3-PLC Alliance:

  
**Marc Delandre**  
Chairman

  
470-5

**Madeleine Francillard**  
Chair Certification Program



# Annex 1: Protocol Implementation Conformance Statement (PICS)

## Feature implementation statement

| Name                                   | Value                | Description  |
|--|----------------------|--|
| BAND_PLAN                              | FCC                  | 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                | 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.<br>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 FCC platform. Testing was performed on phase 1. Operating voltage applied for certification testing was 230V/50Hz .

| Name  | Value | Unit | Description |
|---|-------|------|-------------|
| <i>PICS related to performance are available through vendor only.</i> |       |      |             |

# Annex 3: Copy of test report cover sheet



| G3-PLC Certification Test Report |   |                  |           |
|----------------------------------|---|------------------|-----------|
| STMicroelectronics S.r.l         | ST8500 + S2-LP HW:EVALMODSTST8500-1<br>FW: 6.1.20 v15a0c666 r1.9rc1 |                  |           |
| LAN21AF058                       | Ed.00   | November 2, 2021 | Page 1/57 |

**G3-PLC**  
Alliance

## G3-PLC Hybrid Platform Certification Test Report

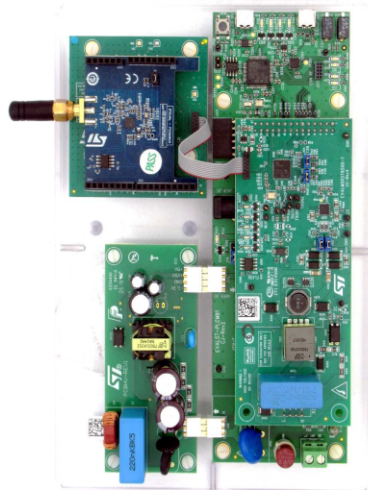
Vendor Name **STMicroelectronics S.r.l**  
 Model Name **ST8500 + S2-LP**  
 Serial N° **CL030-1.3**  
 HW version **EVALMODSTST8500-1**  
 FW version **6.1.20 v15a0c666 r1.9rc1**

Test Report # **TR\_LAN21AF058 Ed.00**  
 Date **November 2, 2021**

|                                 |                         |                   |
|---------------------------------|-------------------------|-------------------|
| CONF G3-PLC Tests Specification | <b>version 0.32.</b>    | <b>15/03/2021</b> |
| CONF G3-PLC Tests Suite         | <b>version 2.11.p2.</b> | <b>04/2021</b>    |
| CONF HYBRID Tests Specification | <b>version 0.7.</b>     | <b>15/03/2021</b> |
| CONF HYBRID Tests Suite         | <b>version 1.2.p5.</b>  | <b>07/2021</b>    |
| IOT G3-PLC Tests Specification  | <b>version 0.13.</b>    | <b>28/12/2018</b> |
| IOT G3-PLC Tests Suite          | <b>version 2.6.p2.</b>  | <b>03/2021</b>    |
| IOT HYBRID Tests Specification  | <b>version 0.4.</b>     | <b>15/03/2021</b> |
| IOT RF Tests Suite              | <b>version 1.2.p1.</b>  | <b>03/2021</b>    |
| PERF G3-PLC Tests Specification | <b>version 0.27.</b>    | <b>05/03/2019</b> |
| PERF G3-PLC Tests Suite         | <b>version 2.11.p2.</b> | <b>04/2021</b>    |

|                               |                    |                   |
|-------------------------------|--------------------|-------------------|
| Test Tool PLC                 | <b>version 2.3</b> |                   |
| Tester Modem PLC              | <b>version 2.0</b> |                   |
| Test Tool PLC+RF              | <b>version 3.1</b> |                   |
| Tester Modem PLC+RF           | <b>version 7</b>   |                   |
| Certification Test Procedures | <b>version 2.0</b> | <b>12/04/2021</b> |

Certification Profile **HYBRID : FCC - RF**  
 Role **PAN Device**  
 Overall Verdict **PASS**



| Initiation | Date             | Description of modification | Ed. |
|------------|------------------|-----------------------------|-----|
| Omar DIOUF | November 2, 2021 | Creation                    | 00  |

| Name | Realised by      | Checked by       | Approved by      |
|------|------------------|------------------|------------------|
|      | Omar DIOUF       | Vincent BUCHOUX  | Thierry DOLIGEZ  |
| Date | November 2, 2021 | November 2, 2021 | November 2, 2021 |
| 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

|  |  |                   |
|--|--|-------------------|
| <b>Platform model name:</b>  | ST8500 + S2-LP                         |                   |
| <b>Platform hardware version:</b>  | EVALMODSTST8500-1                      |                   |
| <b>Platform firmware version:</b>  | 6.1.20 v15a0c666 r1.9rc1               |                   |
| <b>Exact part number of all the chips running G3-PLC stack in the certified platform:</b>        | Chip #1:<br>ST8500                     | Chip #2:<br>S2-LP |
| <b>What each part number runs: lower MAC (incl. CSMA/CA) or PHY or other parts of the stack:</b> | PLC PHY, PLC MAC, RF MAC, 6LowPAN      | RF PHY            |
| <b>Hardware version of this chip:</b>  | revBB                                  | 2.1               |
| <b>Software version running on this chip:</b>  | 6.1.20 v15a0c666 r1.9rc1               | n/a               |
| <b>Internal CPU frequency:</b>   | 100 MHz for Cortex and 400 MHz for RTE | n/a               |

