G3-Hybrid CERTIFIED RF-BAT

C E R T I F I C A T E

Certificate registration number: G3.2611.835.1.F8

Certificate holder: Renesas Electronics Europe GmbH

Platform designation: REL-G3BPLN-G1H
Hardware version R5F11FLLDNA#20, Firmware version BPLN.08.00

Certification date: November 6th 2026

This certificate indicates the above-mentioned platform successfully completed certification testing with regards to the G3-Alliance G3 Specifications (July 2025) as published for G3-Alliance members on https://g3-alliance.com/technologies/specifications-user-guidelines/, plus the four changes listed in Annex 1.

This certificate applies to certification profile G3-Hybrid Battery-powered RF and the device was configured as a Leaf Node. The optional features of the G3 protocol support of AES-256 for MAC layer ciphering and frequency hopping are also covered by this certification.

Test cases have been performed as described in the test report referred to below. This certificate is granted on account of tests conducted by TÜV Rheinland in Yokohama, Japan in October 2026. 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	TÜV Rheinland Japan	JP263DPH 002

The device tested is a G3-Hybrid Battery-powered RF platform: a solution providing an implementation of the G3 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 6th 2026.

The certificate is only applicable to the platform 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, November 6th 2026

For the G3-Alliance:

Wassim Ballout
Chairman

Madeleine Francillard
Chair Certification Program

G3-Alliance

Annex 1:
Reference Version for Certification

The G3-Alliance G3 Specifications (July 2025) as published for G3-Alliance members on https://g3-alliance.com/technologies/specifications-user-guidelines/, plus the following four changes:

- HYB_C_90_APC oscillation in presence of noise v1.3
- HYB_C_91_Renesas_LN_Duplicate_TTL_v1.0
- HYB_C_92_Renesas_LN_POS_Table_Missing_Elements_v0.1
- CCTT_263 – Trialog_Typo in Link Cost computation for RF noise penalty_v01.

Annex 2: Protocol Implementation Conformance Statement (PICS)

Feature implementation statement

Name	Value	Description
BAND_PLAN	n/a	Indicates the band-plan supported by the device
BAND_PLAN_RF	863_Mode#1 / 863_Mode#2 866_Mode#1 / 866_Mode#2 870_Mode#1 / 870_Mode#2 915_Mode#1 / 915_Mode#3 915-a_Mode#1 / 915-a_Mode#4 915-b_Mode#1 / 915-b_Mode#4 915-c_Mode#1 / 915-c_Mode#4 919_Mode#1 / 919_Mode#4 920_Mode#1 / 920_Mode#6 920-b_Mode#1 / 920-b_Mode#4	Indicates the RF band plan(s) supported by the device
FEATURE_PAN_ COORDINATOR	FALSE	Indicates whether the device is a PAN-Coordinator (true) or a normal device (false)
FEATURE_COHERENT_ MODULATION	FALSE	Indicates whether coherent modulation is supported
FEATURE_D8PSK_ MODULATION	FALSE	Indicates whether D8PSK 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_ROUTING	FALSE	Indicates whether the 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	TRUE	Indicates whether the Frequency Hopping mechanism is supported
FEATURE_PREAMBLE_12_SYNCP	FALSE	Indicates whether the device supports the transmission and reception of frames with preamble of 12 SYNCP symbols
FEATURE_PARENTING_DAS	FALSE	Indicates whether the parenting feature is supported for 6LoWPAN routing delegation (DAS registration)
FEATURE_PARENTING_BP	FALSE	Indicates whether the parenting feature for battery-powered device is supported in RF MAC layer
FEATURE_PARENTING_FRAME_ PENDING	FALSE	Indicates whether continuous transmission (frame pending) is supported
FEATURE_AES_256_GMK	TRUE	Indicates whether the device supports AES-256 for the MAC Layer ciphering

Annex 3: Protocol Implementation Conformance Statement (PICS)

PICS related to RF performance

The device tested is a G3-Hybrid Battery-powered RF platform.
Operating voltage applied for certification testing was DC 5V.

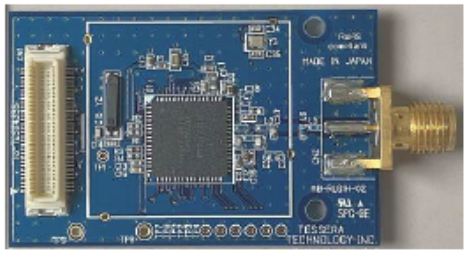
Name	Value	Unit	Description
PICS related to performance are available through manufacturer only.			

Annex 4:
Copy of test report cover sheet

Test Report – Products
Prüfbericht - Produkte

TÜVRheinland®

Test report no.: *Prüfbericht-Nr.:*	**JP263DPH 002**	**Order No.:** *Auftragsnr.:*	150331310 10	Page 1 of 13 *Seite 1 von 13*
Client reference no.: *Kunden-Referenz-Nr.:*	4500276131	**Order date:** *Auftragsdatum:*	2024-11-05	
Client: *Auftraggeber:*	Renesas Electronics Europe GmbH Arcadiastr. 10, 40472 Düsseldorf, Germany			
Test item: *Prüfgegenstand:*	Battery Leaf Node Platform			
Identification / Type no.: *Bezeichnung / Typ-Nr.:*	REL-G3BPLN-G1H			
Order content: *Auftrags-Inhalt:*	G3 Certification Test			
Test specification *Prüfgrundlage:*	Certification Test Procedures for G3-Alliance Certification - v8.2 G3-Alliance - G3-Hybrid BPLN Conformance Tests Suite Specification - v0.2 G3-Alliance - 1to1 PHY RF BPLN Interoperability Tests Suite Specification - v0.4 G3-Alliance - G3-Hybrid BPLN Performance Tests Suite Specification - v0.3			
Date of sample receipt: *Wareneingangsdatum:*	2026-06-22			
Test sample no: *Prüfmuster-Nr.:*	A004314800-012			
Testing period: *Prüfzeitraum:*	2026-10-16 - 2026-10-16			
Place of testing: *Ort der Prüfung:*	4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan			
Testing laboratory: *Prüflaboratorium:*	TÜV Rheinland Japan Ltd.			
Test result*: *Prüfergebnis*:*	Pass			



tested by: *geprüft von:*		**authorized by:** *genehmigt von:*	
Date: 2026-10-30 *Datum:*	Rajib Tamang	**Issue date:** 2026-10-30 *Ausstellungsdatum:*	Martin Zietz
Position / *Stellung:*	Tester	**Position** / *Stellung:*	Authorizer

Other: *Sonstiges:* This report is an addendum to test report JP263DPH 001 and covers the Interoperability testing for an additional reference device.

Condition of the test item at delivery: *Zustand des Prüfgegenstandes bei Anlieferung:* Test item complete and undamaged / Prüfmuster vollständig und unbeschädigt

* Legend:	P(ass) = passed a.m. test specification(s)	F(ail) = failed a.m. test specification(s)	N/A = not applicable	N/T = not tested
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet

This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.

vos

TÜV Rheinland Japan Ltd., Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan
Mail: g3plc@tuv.com · Web: www.tuv.com/

Annex 5: Additional details of the certified platform

Platform model name:	REL-G3BPLN-G1H
Platform hardware version:	R5F11FLLDNA#20
Platform firmware version:	BPLN.08.00
Exact part number of all the chips running G3 stack in the certified platform:	R5F11FLLDNA
What each part number runs: lower MAC (incl. CSMA/CA) or PHY or other parts of the stack:	PHY, MAC and 6LowPAN
Hardware version of this chip:	R5F11FLLDNA
Software version running on this chip:	v8.00
Internal CPU frequency:	32 MHz