G3-PLC CERTIFIED CEN A

C E R T I F I C A T E

Certificate registration number: G3.2104.437.1.A4

Certificate holder: Hangzhou Vango Technologies, Inc

Platform designation: Vango PLC V6211C,
Hardware version VTPLCD6211C_Dual_2013_S1, Firmware version Phoenix.0.0.1_0.0.0.0

Certification date: April 22nd, 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 feature coherent mode of the G3-PLC protocol is also covered by this certification.

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 TÜV Rheinland in Yokohama, Japan in March - 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	TÜV Rheinland Japan	60399828 004

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 April 22nd, 2021.
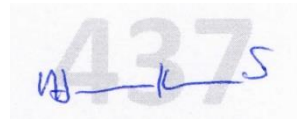
The certificate is only applicable to the platform described above and permits the use of the G3-PLC™ logo as laid down in the G3-PLC logo license agreement.

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, April 22nd, 2021
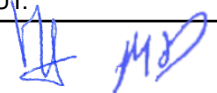
For the G3-PLC Alliance:

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.
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

Prüfbericht - Produkte
Test Report - Products

△ TÜVRheinland®

Prüfbericht-Nr.: *Test report no.:*	**60399828 004**	**Auftrags-Nr.:** *Order no.:*	150227723 30	Seite 1 von 44 *Page 1 of 44*
Kunden-Referenz-Nr.: *Client reference no.:*	none	**Auftragsdatum:** *Order date:*	2020-07-17	

Auftraggeber: *Client:*	Hangzhou Vango Technologies, Inc 368 Liuhe Rd, Ste B4004, North Bldg, Hi-Tech Park, Binjiang, Hangzhou, China, 310053
Prüfgegenstand: *Test item:*	G3-PLC CENELEC-A Platform (PAN Coordinator)
Bezeichnung / Typ-Nr.: *Identification / Type no.:*	Vango PLC V6211C
Auftrags-Inhalt: *Order content:*	G3-PLC Certification Test
Prüfgrundlage: *Test specification:*	G3-PLC Conformance L1-L2 Test Suite Specification v0.30 G3-PLC 1-to-1 Interoperability Test Suite Specification v0.13 G3-PLC Performance Test Suite Specification v0.27 G3-PLC Certification Test Procedures v1.14

Wareneingangsdatum: *Date of sample receipt:*	2021-03-17	
Prüfmuster-Nr.: *Test sample no:*	A003017282	
Prüfzeitraum: *Testing period:*	2021-03-17 - 2021-04-06	
Ort der Prüfung: *Place of testing:*	4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan	
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland Japan Ltd.	
Prüfergebnis*: *Test result*:*	Pass	

geprüft von: *tested by:*		**genehmigt von:** *authorized by:*	
Datum: *Date:* 2021-04-19		**Ausstellungsdatum:** *Issue date:* 2021-04-19	
Stellung / Position: Tester		**Stellung / Position:** Reviewer	

Sonstiges / *Other:*	Corrigendum of test report 60399828 002. Serial numbers in the table of reference devices were added.

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

* Legende: P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* 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

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.
This test report only relates to the a. m. 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.

TÜV Rheinland Japan Ltd., Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan
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Annex 4: Additional details of the certified platform

Platform model name:	Vango PLC V6211C
Platform hardware version:	VTPLCD6211C_Dual_2013_S1
Platform firmware version:	Phoenix.0.0.1_0.0.0.0
Exact part number of all the chips running G3-PLC stack in the certified platform:	V6211C
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:	Revision A0
Software version running on this chip:	Phoenix.0.0.1_0.0.0.0
Internal CPU frequency:	137.5 MHz