



C E R T I F I C A T E

Certificate registration number: G3.2305.573.2.A6

Certificate holder: Hangzhou Sunrise Technology Co., Ltd

Product designation: ST12-HW06,
Hardware version DF76DX, Firmware version ESG3SD-V003212

Certification date: May 18th 2023

This certificate indicates the above-mentioned product successfully completed certification testing with regards to the G3-Alliance reference specification 06/2021. 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-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 TÜV Rheinland in Yokohama, Japan in April - May 2023. 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	JP230ESZ 001

The device tested is a G3-PLC CENELEC A 1-phase meter. The meter is equipped with the G3-PLC certified platform ESPLC-CEN-HYB with certificate no. G3.2204.509.1.A6. Modifications of the platform that are not related to the G3-PLC protocol have been done by the platform manufacturer. 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 18th 2023.

The certificate is only applicable to the product 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 18th 2023

For the G3-Alliance:


Marc Delandre
Chairman

Madeleine Francillard
Chair Certification Program

G3-Alliance

Annex 1: Protocol Implementation Conformance Statement (PICS)

Feature implementation statement

Name	Value	Description
BAND_PLAN	CENELEC A	Indicates whether the band-plan supported by the device
BAND_PLAN_RF	N/A	Indicates whether the RF band plan(s) supported by the device
FEATURE_HYBRID_RF	FALSE	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 Apply only if FEATURE_PAN_COORDINATOR = true
FEATURE_D8PSK_MODULATION	TRUE	Indicates whether D8PSK modulation is supported
FEATURE_ROUTING	TRUE	Indicates whether the routing is implemented by the IUT
FEATURE_SECURITY	F1	Indicates whether 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





Annex 2: Protocol Implementation Conformance Statement (PICS)

PICS related to performance (1/2)

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

Operating voltage applied for certification testing was AC 220V / 50Hz.

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







Annex 2: Protocol Implementation Conformance Statement (PICS)

PICS related to performance (2/2)

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

Annex 3: Copy of test report cover sheet

Test Report – Products <i>Prüfbericht - Produkte</i>		
Test report no.: <i>Prüfbericht-Nr.:</i>	JP230ESZ 001	Order No.: <i>Auftragsnr.:</i>
		150276703 10
		Page 1 of 55 Seite 1 von 55
Client reference no.: <i>Kunden-Referenz-Nr.:</i>	ST12-HW06	Order date: <i>Auftragsdatum:</i>
		2023-03-29
Client: <i>Auftraggeber:</i>	Hangzhou Sunrise Technology Co., Ltd No.1099, Cangxing Road, Cangqian Street, Yuhang District, Hangzhou, Zhejiang, China	
Test item: <i>Prüfgegenstand:</i>	Single Phase Smart Meter (CENELEC A)	
Identification / Type no.: <i>Bezeichnung / Typ-Nr.:</i>	ST12-HW06	
Order content: <i>Auftrags-Inhalt:</i>	G3 Certification Test	
Test specification <i>Prüfgrundlage:</i>	G3-Alliance - Conformance Tests Suite Specification - v0.37 G3-Alliance - 1to1-PHY-Interoperability-Tests-Specification-v0.14 G3-Alliance - Performance Test Suite Specification - v0.27 G3-Alliance Certification Test Procedures version 6.02	
Date of sample receipt: <i>Wareneingangdatum:</i>	2023-04-26	
Test sample no.: <i>Prüfmuster-Nr.:</i>	A003464451-002	
Testing period: <i>Prüfzeitraum:</i>	2023-04-27 - 2023-05-10	
Place of testing: <i>Ort der Prüfung:</i>	4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan	
Testing laboratory: <i>Prüflaboratorium:</i>	TÜV Rheinland Japan Ltd.	
Test result*: <i>Prüfergebnis*:</i>	Pass	
tested by: <i>geprüft von:</i>	 Martin Zietz	
Date: 2023-05-11 <i>Datum:</i>		 Shuji Saito
Position / Stellung:	Tester	Issue date: 2023-05-11 <i>Ausstellungsdatum:</i>
		Position / Stellung:
		Reviewer
Other: <i>Sonstiges:</i>		
Condition of the test item at delivery: <i>Zustand des Prüfgegenstandes bei Anlieferung:</i>	Test item complete and undamaged Prüfmuster vollständig und unbeschädigt	
<small>* Legend: P(pass) = passed a.m. test specification(s) F(fail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested</small> <small>* Legende: P(pass) = entspricht o.g. Prüfgrundlage(n) F(fail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet</small>	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. <i>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.</i>	
<small>V05</small>	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/	