



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

**Certificate registration number:** G3.2107.449.2.C5

**Certificate holder:** Smart Metering Solution (Changsha) Co., Ltd.

**Product designation:** IM351,  
Hardware version V1.0.0, Firmware version 3.04.05

**Certification date:** July 14<sup>th</sup>, 2021

This certificate indicates the above mentioned product 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 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 TÜV Rheinland in Yokohama, Japan in June - July 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	JP217P0E 004

The device tested is a G3-PLC FCC 3-phase meter. The meter is equipped with the G3-PLC certified platform REL-G3PLC-CPX3 with certificate no. G3.1907.306.1.C4. Modifications of the platform 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 July 14<sup>th</sup>, 2021.

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, July 14<sup>th</sup>, 2021

For the G3-PLC Alliance:

**Marc Delandre**  
Chairman

**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.
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. 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 (1/2)

The device tested is a G3-PLC FCC 3-phase meter communicating on 1 phase. Testing was performed on phase 1.

Operating voltage applied for certification testing was 230V L-N (400V L-L)/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

Prüfbericht - Produkte  
Test Report - Products



<b>Prüfbericht-Nr.:</b> <i>Test report no.:</i>	JP217P0E 004	<b>Auftrags-Nr.:</b> <i>Order no.:</i>	150243331 10 Seite 1 von 48 Page 1 of 48
<b>Kunden-Referenz-Nr.:</b> <i>Client reference no.:</i>	IM351	<b>Auftragsdatum:</b> <i>Order date:</i>	2021-05-28
<b>Auftraggeber:</b> <i>Client:</i>	Smart Metering Solutions (Changsha) Co., Ltd. No.468 West Tongzipo Road High-Tech Industrial Development Zone,410205, Changsha City Hunan Province, China		
<b>Prüfgegenstand:</b> <i>Test item:</i>	Polyphase,Active Import/Export(kWh),Electricity Meter (FCC)		
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type no.:</i>	IM351		
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	G3-PLC Certification Test		
<b>Prüfgrundlage:</b> <i>Test specification:</i>	G3 PLC Conformance Tests Specification v0.32 G3-PLC 1-to-1 Interoperability Tests Specification v0.13 G3-PLC Performance Test Suite Specification v0.27 G3-PLC Certification Test Procedures v2.0 G3-PLC Hybrid PLC&RF Conformance Tests Specification v0.7 G3-PLC Hybrid RF 1 to 1 Interoperability Tests Specification v0.4		
<b>Wareneingangsdatum:</b> <i>Date of sample receipt:</i>	2021-06-24		
<b>Prüfmuster-Nr.:</b> <i>Test sample no.:</i>	A003078589		
<b>Prüfzeitraum:</b> <i>Testing period:</i>	2021-06-28 – 2021-07-05		
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	4-25-2 Kita-Yamata, Tsuzuki-ku Yokohama 224-0021, Japan		
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland Japan Ltd.		
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass		
<b>geprüft von:</b> <i>tested by:</i>	<b>genehmigt von:</b> <i>authorized by:</i>		
<b>Datum:</b> <i>Date:</i> 2021-07-12	<b>Ausstellungsdatum:</b> <i>Issue date:</i> 2021-07-12		
<b>Stellung / Position:</b> Tester	<b>Stellung / Position:</b> Reviewer		
<b>Sonstiges / Other:</b>	Corrigendum of test report JP217P0E 002: Updated software and firmware version, test case CONF_MAC_DATA_VB_015 added.		
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
<p>* 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</p>			
<p><b>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.</b>  <i>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 vörs/plicated in extracts. This test report does not entitle to carry any test mark.</i></p>			