DEKRA Testing and Certification (Shanghai) Ltd.
No.250, Jiangchangsan Road, Jing'an District, Shanghai, China
TEL: +86-21-6056 7666 / FAX: +86-21-6056 7555

Test report No:
6260988.51

TEST REPORT
Electromagnetic Compatibility (EMC)

Identification of item tested	Hybrid Inverter
Trademark	essis
Model and /or type reference	SUN-3K-H, SUN-3.6K-H, SUN-4K-H,SUN-4.6K-H, SUN-5K-H, SUN-6K-H, SUN-7.5K-H, SUN-8K-H
Ratings	See model list
Applicant´s name / address	Jiangsu Essis New Energy Technology Co., Ltd. No.029 Yangxing Road, Tongzhou District, Nantong City,Jiangsu Province, China
Test method requested, standard	EN 62920:2017+A11:2020+A1:2021 IEC 62920:2017+AMD1:2021
Verdict Summary	IN COMPLIANCE
Perpared by (name / position & signature)	Lei Chen Senior Project Manager
Approved by (name / position & signature)	Adrian Shi Technical Supervisor
Date of issue	2026-03-12
Report template No	TRF_EN62920_EMC V1.0

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COMPETENCES AND GUARANTEES

Xingsheng Certification Service (Suzhou) Co., Ltd. is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, Xingsheng Certification Service (Suzhou) Co., Ltd. has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

GENERAL CONDITIONS

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.
5. The information provided by the customer in this report may affect the validity of the results, the test lab is not responsible for it.
6. This report will not be used for social proof function in China market.

UNCERTAINTY

For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in EN 55016-4-2 (CISPR 16-4-2), EN/IEC 61000-4 series or a product standard, the measurement instrumentation uncertainty has been calculated and applied in accordance with these standards.

Uncertainties have been calculated according to the Xingsheng Certification Service (Suzhou) Co., Ltd. internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. Refer to the Annex 1 for furter information.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to calculate the uncertainty associated with the measurement result.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%
Atmospheric pressure	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

DEFINITION OF SYMBOLS USED IN THIS TEST REPORT

☒ Indicates that the listed condition, standard or equipment is applicable for this report/test/EUT.				
☐ Indicates that the listed condition, standard or equipment is not applicable for this report/test/EUT.				
Decimal separator used in this report	☒	Comma (,)	☐	Point (.)

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT : Equipment Under Test
QP : Quasi-Peak
CAV : CISPR Average
AV : Average
CDN : Coupling Decoupling Network
SAC : Semi-Anechoic Chamber
OATS : Open Area Test Site
BW : Bandwidth
AM : Amplitude Modulation
PM : Pulse Modulation
HCP : Horizontal Coupling Plane
VCP : Vertical Coupling Plane
U_N : Nominal voltage
Tx : Transmitter
Rx : Receiver

N/A : Not Applicable
N/M : Not Measured

DOCUMENT HISTORY

Report nr.	Date	Description
6260988.51	2026-03-12	First release.

REMARKS AND COMMENTS

The equipment under test (EUT) does meet the requirements of the stated standard(s)/test(s).

The test results relate only to the samples tested.

This report shall not be reproduced, except in full, without the written approval.

This report is issued base on Dekra report No. 6234683.51 to change trademark, model name and applicant's information and manufacturer's information. After technology evaluation, no additional test is required.

Model List:

Model	SUN-3K-H	SUN-3.6K-H	SUN-4K-H	SUN-4.6K-H	SUN-5K-H	SUN-6K-H	SUN-7.5K-H	SUN-8K-H
PV Input								
Max. DC Input Voltage (V)	600							
Rated DC Input Voltage (V)	360							
MPPT Voltage Range (V)	80-550							
No. of MPP Trackers	1	1	2	2	2	2	2	2
No. of DC Inputs per MPPT	1	1	1/1	1/1	1/1	1/1	1/1	1/1
Max. Input Current (A)	20	20	20/20	20/20	20/20	20/20	20/20	20/20
Max. Short-circuit Current (A)	25	25	25/25	25/25	25/25	25/25	25/25	25/25
Battery								
Battery Type	Lithium battery (with BMS)/Lead Acid							
Battery voltage range (V)	40-60							
Maximum charging current (A)	80	80	100	100	120	120	160	160
Maximum discharge current (A)	80	80	100	100	120	120	160	160

Output (Grid)								
Rated Output Power (kW)	3	3.68	4	4.6	5	6	7.5	8
Max. Output Power (kW)	3.3	3.68	4.4	5.06	5.5	6.6	8.25	8.8
AC output rated apparent power (kVA)	3	3.68	4	4.6	5	6	7.5	8
Max. Apparent Power (kVA)	3.3	3.68	4.4	5.06	5.5	6.6	8.25	8.8
Rated Output Voltage (V)	L/N/PE, 220/230							
Rated AC Frequency (Hz)	50/60							
AC output rated current (A)	13	16	17.4	20	21.7	26.1	32.6	34.8
Max. Output Current (A)	15	16	20	23	25	30	37.5	40
Power Factor	0.8 leading 0.8 lagging							
Output (Back-up)								
Rated Output Power (kW)	3	3.68	4	4.6	5	6	7.5	8
Max. Output Power (kW)	3.3	3.68	4.4	5.06	5.5	6.6	8.25	8.8
Back-up output rated apparent power (kVA)	3	3.68	4	4.6	5	6	7.5	8
Max. Apparent Power (kVA)	3.3	3.68	4.4	5.06	5.5	6.6	8.25	8.8
Back-up output rated current (A)	13	16	17.4	20	21.7	26.1	32.6	34.8
Max. Output Current (A)	15	16	20	23	25	30	37.5	40
Rated Output Voltage (V)	L/N/PE, 220/230							
Rated AC Frequency (Hz)	50/60							

Remark: The above models are the same in electrical characteristics. The model SUN-8K-H was selected for the full tests, and the model SUN-3.6K-H was additionally tested for Harmonic current emissions and Voltage changes, voltage fluctuations and flicker. The corresponding datas are representative for other models as well.

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Description of the item .....:	Hybrid Inverter
Model .....:	SUN-3K-H, SUN-3.6K-H, SUN-4K-H, SUN-4.6K-H, SUN-5K-H, SUN-6K-H, SUN-7.5K-H, SUN-8K-H
Serial number .....:	N/A
Trademark.....:	essis
Manufacturer.....:	Jiangsu Essis New Energy Technology Co., Ltd. No.029 Yangxing Road, Tongzhou District, Nantong City,Jiangsu Province, China

Rated power supply .....:	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☒	AC: 230 V, 50/60 Hz	☒	☐	☐	☒	☒
	☒	PV: 80-550 Vdc					
	☒	Battery: 40-60 Vdc					
Rated Power .....:	N/A						
Clock frequencies .....:	< 108 MHz						
Other parameters.....:	N/A						
Software version .....:	Not provided						
Hardware version.....:	Not provided						
Mounting position.....:	☐	Table top equipment					
	☒	Wall/Ceiling mounted equipment					
	☐	Floor standing equipment					
	☐	Hand-held equipment					
	☐	Other:					

Intended use of the Equipment Under Test (EUT)
EUT is a Hybrid Inverter that converts the DC power generated by PV strings into AC power and feeds the power into the power grid. For the further information, refer to the user's manual.

No	Module/parts of test item	Type	Manufacturer
---	---	---	---

No	Documents as provided by the applicant - Description	File name	Issue date
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Modifications to the test item during testing .....:	☒	N/A	☐	Refer to the chapter

Copy of marking plate:
Not provided.

1.2 The environment(s) in which the EUT is intended to be used

The equipment under test (EUT) is intended to be used in the following environment(s):

☒	Residential (domestic) environment.
☒	Commercial and light-industrial environment.
☒	Industrial environment.
☐	Healthcare environments (hospitals, clinics, doctor's offices)
☐	Vehicular environment

1.3 Test data

Test Location	Xingsheng Certification Service (Suzhou) Co., Ltd. Building 1, Xinjia Village Industrial Zone, Changqiao Street, Wuzhong District, Suzhou, Jiangsu Province, China.
Date (start)	2025-07-29
Date (finish)	2025-08-06

1.4 Classification according to EN 55032 (CISPR 32)

For the Equipment Under Test (EUT) the following classification is applicable.

☒	Class A	All ITE equipment that satisfies Class A limits but not Class B limits. Such equipment should not be restricted in its sale but the following warning shall be included in the instruction for use. Warning - This is a class A product. In a domestic environment this product may cause interference in which case the user may be required to take adequate measures.
☒	Class B	Equipment intended primarily for use in the domestic environment and may include portable equipment, telecom terminal equipment powered by a telecom network and personal computers and auxiliary connected equipment.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Operating mode	Operating mode description	Used for testing	
		Emission	Immunity
1	Standby mode	☒	☒
2	Operating mode to feed into AC grid (100 % of nominal power)	☒	☒
3	Operating mode to feed into AC grid (50 % of nominal power)	☒	☐
4	Operating mode to feed into AC grid (25 % of nominal power)	☒	☐
5	Operating mode to charge battery from AC grid (100 % of nominal power)	☒	☒
6	Operating mode to charge battery from AC grid (50 % of nominal power)	☒	☐
7	Operating mode to charge battery from AC grid (25 % of nominal power)	☒	☐
Supplemental information: The model SUN-8K-H was selected for the full tests, and the model SUN-3.6K-H was additionally tested for Harmonic current emissions and Voltage changes, voltage fluctuations and flicker.			

2.2 Port(s) of the EUT

Port name and description	Connected to / Termination	Cable		
		Length used during test [m]	Attached during test	Shielded
PV port	DC power Supply	> 3	☒	☐
AC mains port	Regenerative grid simulator	> 3	☒	☐
AC Load port	Load Bank	> 3	☒	☐
Battery port	DC power Supply	< 3	☒	☐
Supplemental information:				

2.3 Support / Auxiliary equipment / unit / software for the EUT

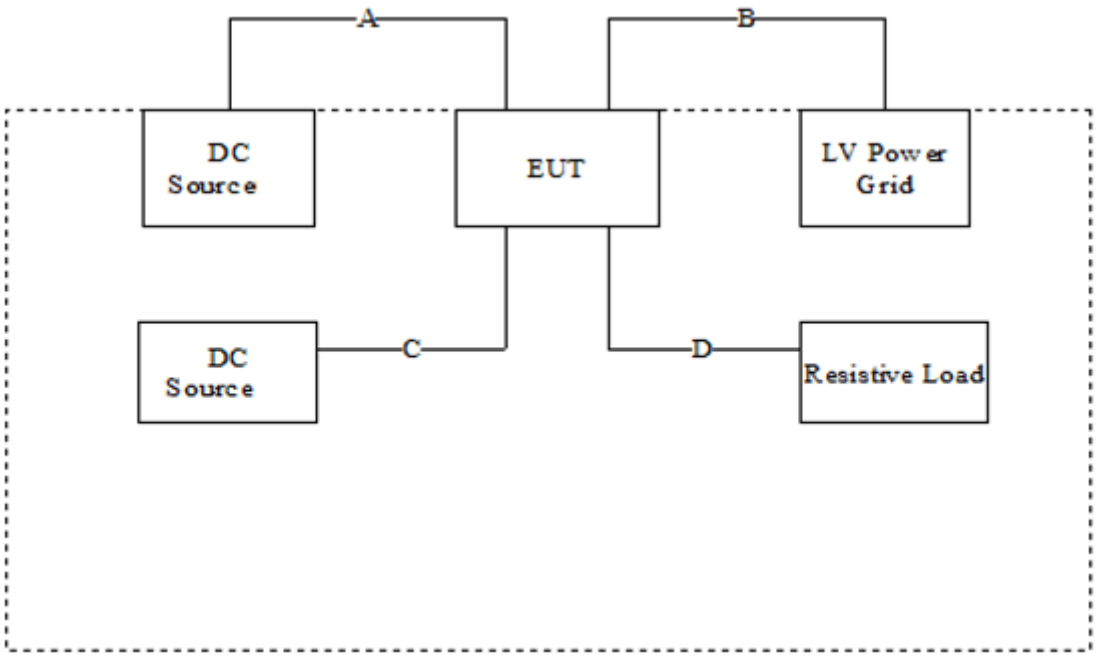
The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment / unit / software	Type / Version	Manufacturer	Supplied by
Regenerative grid simulator	IT7921E-350-105	ACTION	Lab
DC power Supply	N8957APV	KEYSIGHT	Lab
Load Bank	WS-2000	WENSHUN	Lab
DC power Supply	62120D-100	Chroma	Lab
Supplemental information:			

2.4 Test Configuration / Block diagram used for tests

The following test setup / configuration / block diagram has been used during the tests:

Test Configuration / Block diagram



Cable Type		Signal cable Description
A	Mains Cable	Non-Shielded, < 3 m
B	Mains Cable	Non-Shielded, > 3 m
C	Mains Cable	Non-Shielded, > 3 m
D	Mains Cable	Non-Shielded, > 3 m

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
EN 62920 +A11 +A1	2017 2020 2021	Photovoltaic power generating systems – EMC requirements and test methods for power conversion equipment
IEC 62920 +AMD1	2017 2021	Photovoltaic power generating systems – EMC requirements and test methods for power conversion equipment
CISPR 16-1-2	2014	Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Coupling devices for conducted disturbance measurements
CISPR 11 + AMD1	2015 2016	Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement
CISPR 32	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements
IEC 61000-3-2	2014	Limits – Limits for harmonic current emissions (equipment with input current ≤ 16 A per phase)
IEC 61000-3-3	2013	Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
IEC 61000-3-12	2011	Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16 A and ≤ 75 A per phase.
IEC 61000-3-11	2000	Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems – Equipment with rated current ≤ 75 A and subject to conditional connection
IEC 61000-4-2	2008	Electrostatic discharge immunity test.
EN 61000-4-3 +A1 +A2	2006 2007 2010	Radiated, radio-frequency, electromagnetic field immunity test.
IEC 61000-4-4	2012	Electrical fast transient/burst immunity test.
IEC 61000-4-5	2014	Surge immunity test.
IEC 61000-4-6	2013	Immunity to conducted disturbances, induced by radio-frequency fields.
IEC 61000-4-11	2004	Voltage dips, short interruptions and voltage variations immunity tests.
IEC 61000-4-34	2005	Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current more than 16 A per phase

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

N/A

3.3 Overview of results

EMISSION TESTS – EN 62690			
Requirement – Test case	**Basic standard(s)**	**Verdict**	**Remark**
Conducted disturbance voltage at AC power port(s)	CISPR 16-1-2 CISPR 11	PASS	---
Conducted disturbance voltage at DC power port(s)	CISPR 16-1-2 CISPR 11	PASS	---
Conducted disturbance voltage at the wired network port and the signal and control port	CISPR 16-1-2 CISPR 11	N/A	See 1)
Radiated electromagnetic disturbances (30-1000 MHz)	CISPR 11	PASS	---
Harmonic current emissions	IEC 61000-3-2 IEC 61000-3-11	PASS	---
Voltage changes, voltage fluctuations and flicker	IEC 61000-3-3 IEC 61000-3-12	PASS	---
Supplementary information: 1) The EUT does not have a telecommunications network port.			

IMMUNITY TESTS –EN 62690			
Requirement – Test case	**Basic standard(s)**	**Verdict**	**Remark**
Electrostatic discharge	IEC 61000-4-2	PASS	---
Radio-frequency electromagnetic fields	IEC 61000-4-3	PASS	---
Electrical fast transients	IEC 61000-4-4	PASS	---
Surge transient	IEC 61000-4-5	PASS	---
Injected currents (radio-frequency common mode)	IEC 61000-4-6	PASS	---
Voltage dips and short interruptions	IEC 61000-4-11 IEC 61000-4-34	PASS	---
Supplementary information:			

3.4 Test Matrix

EMISSION TESTS	Mode			
	Mode 1	Mode 2 & Mode 5	Mode 3 & Mode 6	Mode 4 & Mode 7
Conducted disturbance voltage at AC power port(s)	☐	☒	☐	☐
Conducted disturbance voltage at DC power port(s)	☐	☒	☐	☐
Conducted disturbance voltage at the wired network port and the signal and control port	☐	☐	☐	☐
Radiated electromagnetic disturbances (30-1000 MHz)	☐	☒	☐	☐
Harmonic current emissions	☐	☒	☒	☒
Voltage changes, voltage fluctuations and flicker	☐	☒	☒	☒
Supplamentary: Information:				

IMMUNITY TESTS	Mode			
	Mode 1	Mode 2 & Mode 5	Mode 3 & Mode 6	Mode 4 & Mode 7
Electrostatic discharge	☒	☒	☐	☐
Radio-frequency electromagnetic fields	☒	☒	☐	☐
Electrical fast transients	☒	☒	☐	☐
Surge transient	☒	☒	☐	☐
Injected currents (radio-frequency common mode)	☒	☒	☐	☐
Voltage dips and short interruptions	☒	☒	☐	☐
Supplamentary: Information:				

4 EMISSION TEST RESULTS

4.1 **Conducted disturbance voltage – AC power port(s)**	**VERDICT: PASS**

Standard	EN 62920
Basic standard(s)	CISPR 16-2-1, CISPR 11

Limits - Class A

Frequency range [MHz]	Rated power of ≤ 20 kVA		Rated power of > 20 kVA		High power electronic systems and equipment, rated power of > 75 kVA	
	Quasi-peak [dB(μV)]	Average [dB(μV)]	Quasi-peak [dB(μV)]	Average [dB(μV)]	Quasi-peak [dB(μV)]	Average [dB(μV)]
0,15 - 0,50	79	66	100	90	130	120
0,50 - 5	73	60	86	76	125	115
5 - 30	73	60	90 Decreasing linearly with logarithm of frequency to 73	80 Decreasing linearly with logarithm of frequency to 60	115	105
[1] At the transition frequency, the more stringent limit shall apply. [2] Limits only apply to low voltage AC mains power ports.						

Limits - Class B

Frequency range [MHz]	Quasi-peak [dB(μV)]	Average [dB(μV)]
0,15 - 0,50	66 Decreasing linearly with logarithm of frequency to 56	56 Decreasing linearly with logarithm of frequency to 46
0,50 - 5	56	46
5 - 30	60	50
[1] At the transition frequency, the more stringent limit shall apply.		

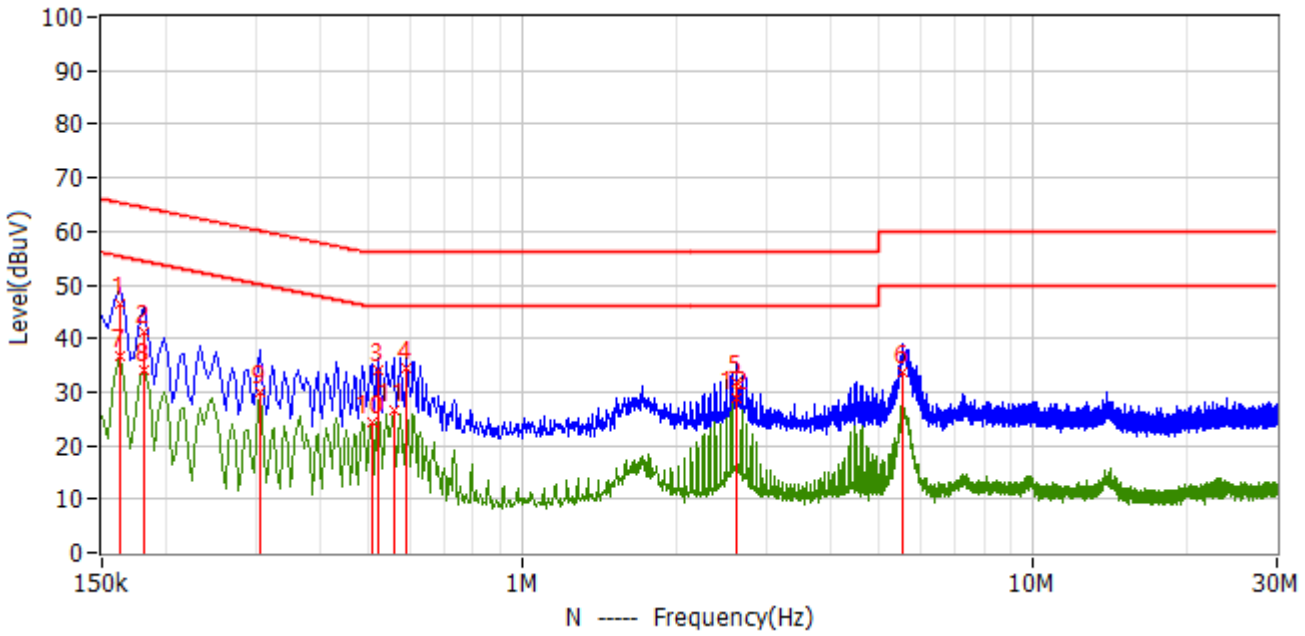
Performed measurements

Port under test		Terminal							
☒	AC mains port	☒	N	☒	L1	☐	L2	☐	L3
☐	Other:	☐	N	☐	L1	☐	L2	☐	L3

Voltage – Mains [V]	230 Vac			
Frequency – Mains [Hz]	50 Hz			
Test method applied	☒	Artificial mains network		
	☐	Voltage probe		
Test setup	☐	Table top	☐	Artificial hand applied
	☐	Floor standing	☒	Other: Wall-mounted
	Refer to the Annex 3 for test setup photo(s).			
Operating mode(s) used	Mode 2, Mode 5			
Remark	---			

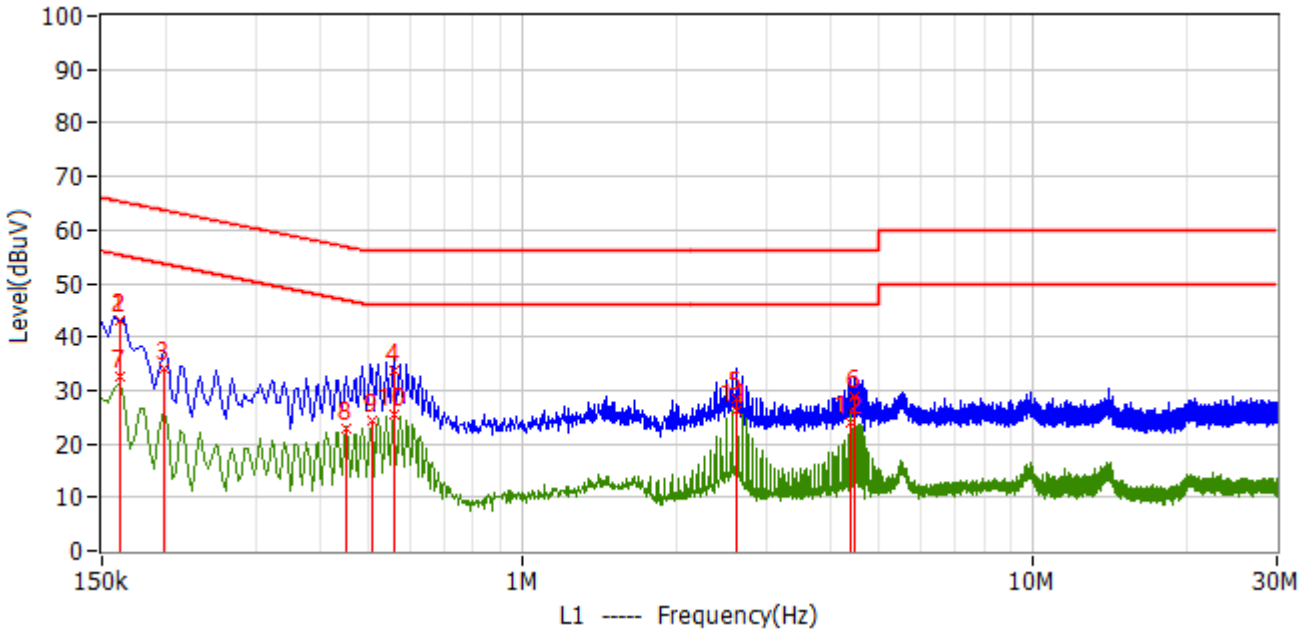
See next page.

Measurement data	Port under test	AC output port
Operating mode / voltage / frequency used during the test		Mode 2 / 230 Vac, 50Hz



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	162.000kHz	65.4	46.3	-19.1	26.0	20.3	QP	N
2	182.000kHz	64.4	41.3	-23.1	21.0	20.3	QP	N
3	522.000kHz	56.0	34.0	-22.0	13.7	20.3	QP	N
4	594.000kHz	56.0	34.5	-21.5	14.2	20.3	QP	N
5	2.626MHz	56.0	31.8	-24.2	11.4	20.4	QP	N
6	5.562MHz	60.0	33.6	-26.4	13.2	20.4	QP	N
7	162.000kHz	55.4	36.6	-18.8	16.3	20.3	CAV	N
8	182.000kHz	54.4	34.2	-20.2	13.9	20.3	CAV	N
9	306.000kHz	50.1	30.0	-20.1	9.7	20.3	CAV	N
10	506.000kHz	46.0	24.4	-21.6	4.1	20.3	CAV	N
11	558.000kHz	46.0	26.6	-19.4	6.3	20.3	CAV	N
12	2.626MHz	46.0	28.7	-17.3	8.3	20.4	CAV	N

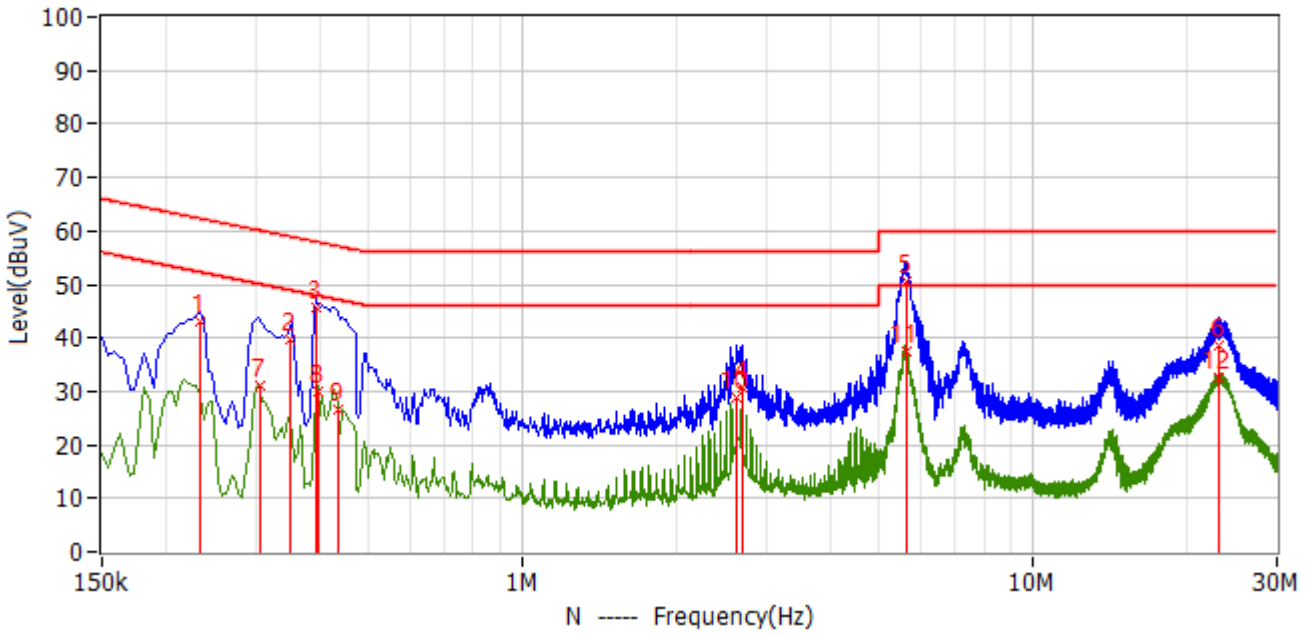
Measurement data	Port under test	AC output port



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	162.000kHz	65.4	42.9	-22.5	22.6	20.3	QP	L
2	162.000kHz	65.4	42.9	-22.5	22.6	20.3	QP	L
3	198.000kHz	63.7	34.1	-29.6	13.8	20.3	QP	L
4	558.000kHz	56.0	33.8	-22.2	13.5	20.3	QP	L
5	2.630MHz	56.0	28.5	-27.5	8.1	20.4	QP	L
6	4.462MHz	56.0	28.8	-27.2	8.4	20.4	QP	L
7	162.000kHz	55.4	32.6	-22.8	12.3	20.3	CAV	L
8	450.000kHz	46.9	23.0	-23.9	2.7	20.3	CAV	L
9	506.000kHz	46.0	24.2	-21.8	3.9	20.3	CAV	L
10	558.000kHz	46.0	25.6	-20.4	5.3	20.3	CAV	L
11	2.626MHz	46.0	26.4	-19.6	6.0	20.4	CAV	L
12	4.398MHz	46.0	23.9	-22.1	3.5	20.4	CAV	L

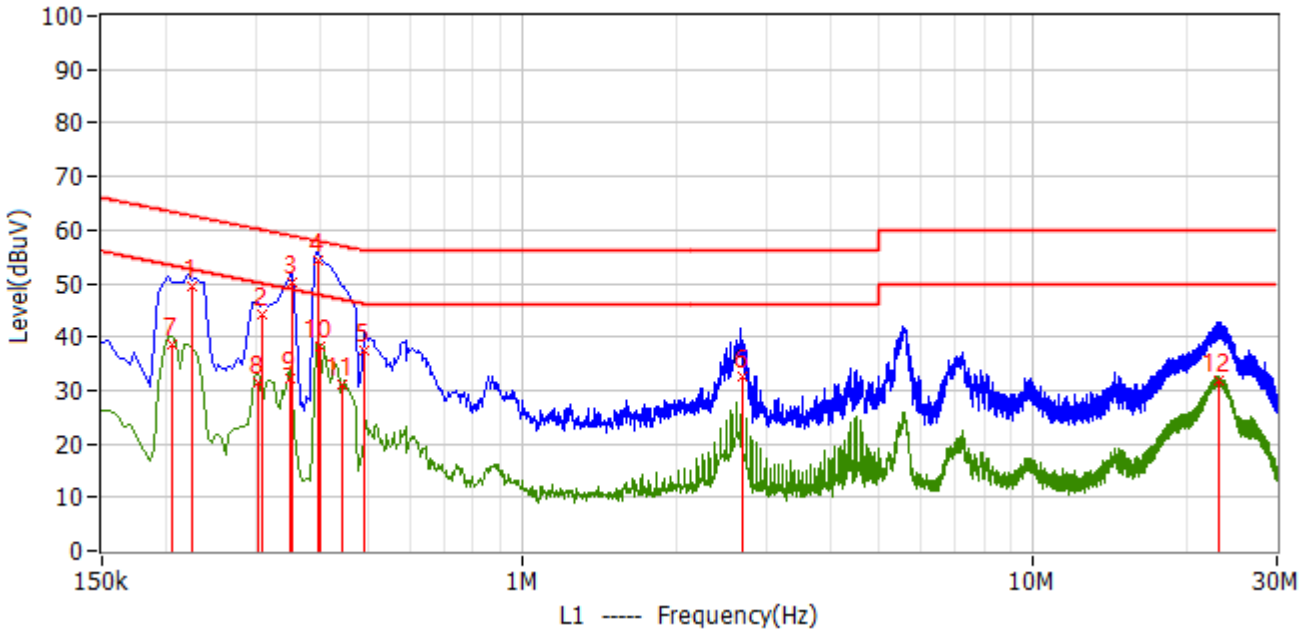
Remark	---

Measurement data	Port under test	AC input port
Operating mode / voltage / frequency used during the test		Mode 5 / 230 Vac, 50Hz



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	234.000kHz	62.3	42.9	-19.4	22.6	20.3	QP	N
2	350.000kHz	59.0	39.7	-19.3	19.4	20.3	QP	N
3	394.000kHz	58.0	45.6	-12.4	25.3	20.3	QP	N
4	2.694MHz	56.0	30.8	-25.2	10.4	20.4	QP	N
5	5.638MHz	60.0	50.4	-9.6	30.0	20.4	QP	N
6	23.082MHz	60.0	38.5	-21.5	18.0	20.5	QP	N
7	306.000kHz	50.1	31.2	-18.9	10.9	20.3	CAV	N
8	398.000kHz	47.9	29.8	-18.1	9.5	20.3	CAV	N
9	434.000kHz	47.2	26.6	-20.6	6.3	20.3	CAV	N
10	2.626MHz	46.0	28.9	-17.1	8.5	20.4	CAV	N
11	5.642MHz	50.0	37.6	-12.4	17.2	20.4	CAV	N
12	23.082MHz	50.0	32.5	-17.5	12.0	20.5	CAV	N

Measurement data	Port under test	AC input port



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	226.000kHz	62.6	49.3	-13.3	29.0	20.3	QP	L
2	310.000kHz	60.0	44.2	-15.8	23.9	20.3	QP	L
3	354.000kHz	58.9	50.1	-8.8	29.8	20.3	QP	L
4	398.000kHz	57.9	54.3	-3.6	34.0	20.3	QP	L
5	490.000kHz	56.2	37.6	-18.6	17.3	20.3	QP	L
6	2.694MHz	56.0	32.4	-23.6	12.0	20.4	QP	L
7	206.000kHz	53.4	38.4	-15.0	18.1	20.3	CAV	L
8	302.000kHz	50.2	31.4	-18.8	11.1	20.3	CAV	L
9	350.000kHz	49.0	32.3	-16.7	12.0	20.3	CAV	L
10	402.000kHz	47.8	38.1	-9.7	17.8	20.3	CAV	L
11	442.000kHz	47.0	31.1	-15.9	10.8	20.3	CAV	L
12	23.086MHz	50.0	31.9	-18.1	11.3	20.6	CAV	L

Remark	---

4.2 Conducted disturbance voltage – DC power port(s) — VERDICT: PASS

Standard	EN 62920
Basic standard(s)	CISPR 16-2-1, CISPR 11

Limits - Class A

Frequency range [MHz]	Rated power of ≤ 20 kVA		Rated power of > 20 kVA to ≤ 75 kVA		Rated power of > 75 kVA	
	Voltage limits		Voltage limits		Voltage limits	
	Quasi-peak [dB(μV)]	Average [dB(μV)]	Quasi-peak [dB(μV)]	Average [dB(μV)]	Quasi-peak [dB(μV)]	Average [dB(μV)]
0,15 - 5	97 to 89	84 to 76	116 to 106	106 to 96	132 to 122	122 to 112
5 - 30	89	76	106 to 89	96 to 76	122 to 105	112 to 92

[1] In certain frequency ranges, the limits in this table decrease linearly with logarithm of frequency.
[2] Selection of the appropriate set of limits shall be based on the rated AC power stated by the manufacturer.

Limits - Class B

Frequency range [MHz]	Quasi-peak [dB(μV)]	Average [dB(μV)]
0,15 - 0,50	84 Decreasing linearly with logarithm of frequency to 74	74 Decreasing linearly with logarithm of frequency to 64
0,50 - 30	74	64

Applicability of measurements at DC power ports

Cable length L	Class B group 1 equipment	Class A group 1 equipment
L < 3 m	No measurements are required	No measurements are required
3 m ≤ L < 30 m	For measurements, the limits - Class B apply. The frequency range for measurement starts at a frequency equal to: f(MHz) = 60/ L	For measurements, the limits - Class A apply. The frequency range for measurement starts at a frequency equal to: f (MHz) = 60/ L
L ≥ 30 m	For measurements, the limits - Class B apply.	For measurements, the limits – Class A apply.
L : maximum length of the installation cables (in metres) connected to an LV DC power port, and provided with the product or as specified by the manufacturer. Where no maximum cable length is specified, L shall be considered as longer than 30 m.		

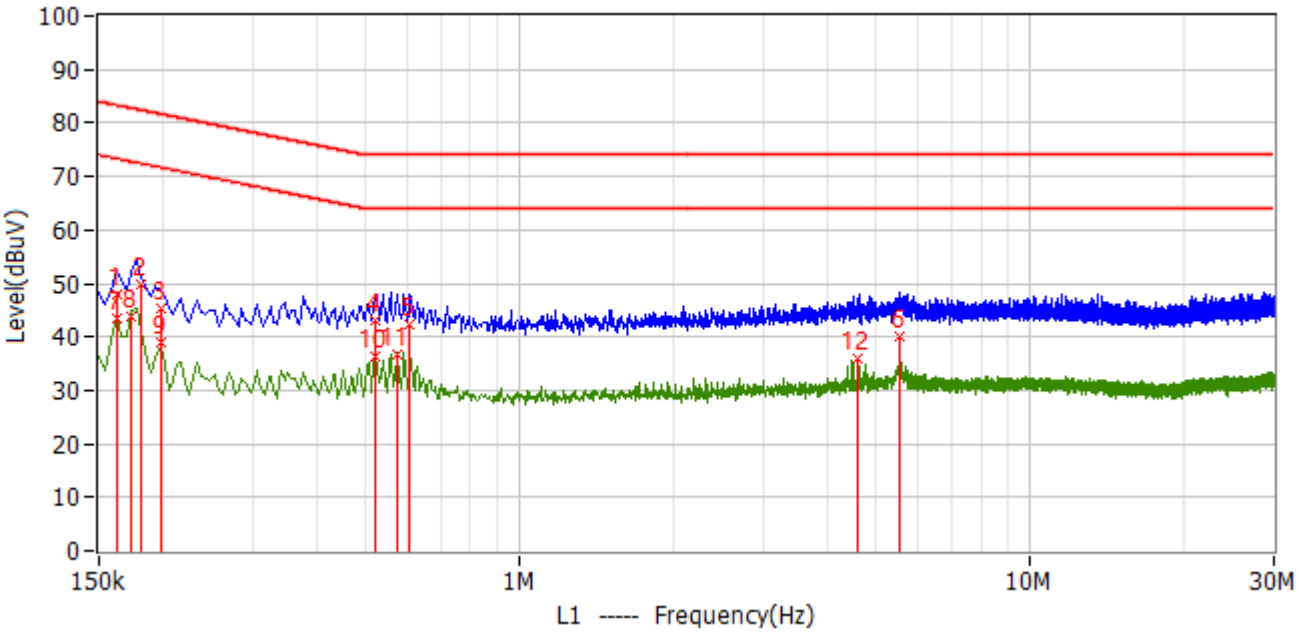
Performed measurements

Port under test		Terminal							
☒	DC power input port (PV port)	☒	Positive (+)	☒	Negative (-)	☒	CM	☒	DM
☐	Other:	☐	Positive (+)	☐	Negative (-)	☐	CM	☐	DM

Voltage – Input [VDC]	360 Vdc			
Voltage – Output [V_{DC}]	---			
Test method applied	☒	Artificial mains network		
	☐	Voltage probe		
Test setup	☐	Table top	☐	Artificial hand applied
	☐	Floor standing	☒	Other: Wall-mounted
	Refer to the Annex 3 for test setup photo(s).			
Operating mode(s) used	Mode 2			
Remark	---			

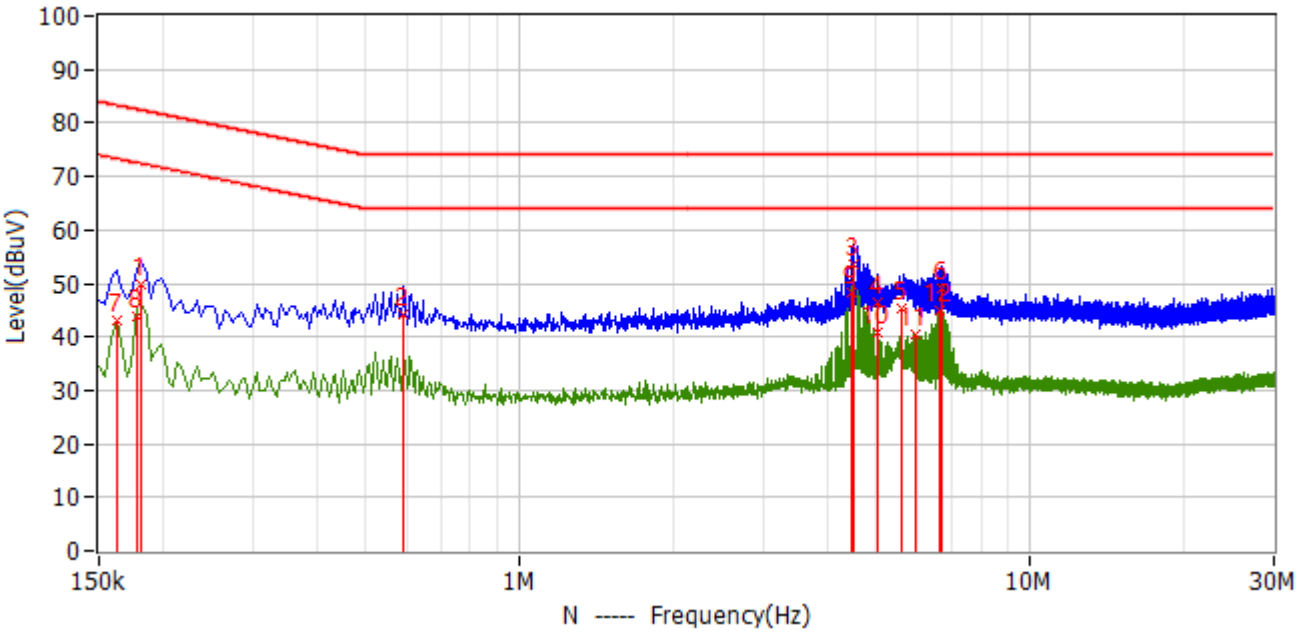
See next page.

Measurement data	Port under test	DC power port
Operating mode / voltage		Mode 2 / 360 Vdc



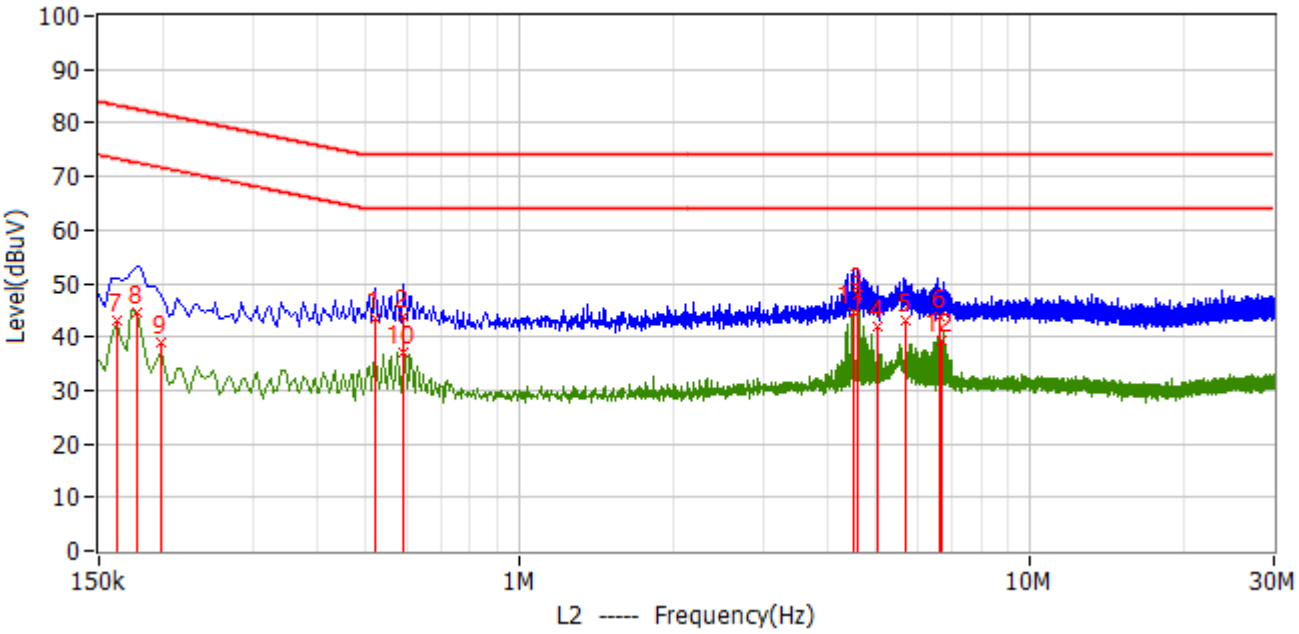
No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	162.000kHz	83.4	48.1	-35.3	7.9	40.2	QP	Pos
2	182.000kHz	82.4	49.9	-32.5	9.8	40.1	QP	Pos
3	198.000kHz	81.7	45.5	-36.2	5.4	40.1	QP	Pos
4	522.000kHz	74.0	43.2	-30.8	3.2	40.0	QP	Pos
5	610.000kHz	74.0	42.2	-31.8	2.3	39.9	QP	Pos
6	5.550MHz	74.0	40.1	-33.9	0.0	40.1	QP	Pos
7	162.000kHz	73.4	43.5	-29.9	3.3	40.2	CAV	Pos
8	174.000kHz	72.8	43.9	-28.9	3.8	40.1	CAV	Pos
9	198.000kHz	71.7	38.9	-32.8	-1.2	40.1	CAV	Pos
10	522.000kHz	64.0	36.3	-27.7	-3.7	40.0	CAV	Pos
11	578.000kHz	64.0	36.6	-27.4	-3.4	40.0	CAV	Pos
12	4.578MHz	64.0	35.9	-28.1	-4.2	40.1	CAV	Pos

Measurement data	Port under test	DC power port



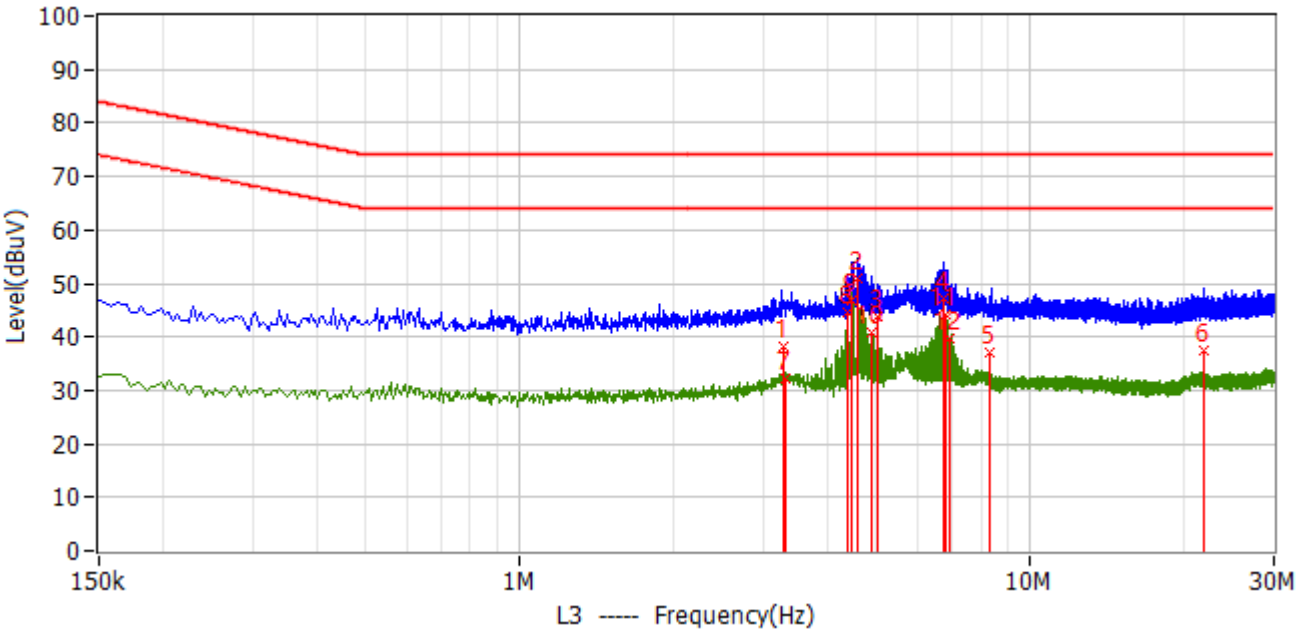
No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	182.000kHz	82.4	50.0	-32.4	9.9	40.1	QP	Neg
2	594.000kHz	74.0	44.1	-29.9	4.1	40.0	QP	Neg
3	4.518MHz	74.0	53.6	-20.4	13.5	40.1	QP	Neg
4	5.006MHz	74.0	46.3	-27.7	6.2	40.1	QP	Neg
5	5.614MHz	74.0	45.4	-28.6	5.3	40.1	QP	Neg
6	6.714MHz	74.0	49.0	-25.0	8.9	40.1	QP	Neg
7	162.000kHz	73.4	43.1	-30.3	2.9	40.2	CAV	Neg
8	178.000kHz	72.6	43.9	-28.7	3.8	40.1	CAV	Neg
9	4.458MHz	64.0	48.2	-15.8	8.1	40.1	CAV	Neg
10	5.006MHz	64.0	41.0	-23.0	0.9	40.1	CAV	Neg
11	5.982MHz	64.0	40.3	-23.7	0.2	40.1	CAV	Neg
12	6.654MHz	64.0	44.8	-19.2	4.7	40.1	CAV	Neg

Measurement data	Port under test	DC power port



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	522.000kHz	74.0	43.4	-30.6	3.2	40.2	QP	CM
2	594.000kHz	74.0	43.9	-30.1	3.7	40.2	QP	CM
3	4.574MHz	74.0	48.0	-26.0	7.7	40.3	QP	CM
4	5.006MHz	74.0	42.1	-31.9	1.8	40.3	QP	CM
5	5.674MHz	74.0	43.0	-31.0	2.7	40.3	QP	CM
6	6.650MHz	74.0	43.9	-30.1	3.6	40.3	QP	CM
7	162.000kHz	73.4	43.1	-30.3	2.9	40.2	CAV	CM
8	178.000kHz	72.6	44.6	-28.0	4.4	40.2	CAV	CM
9	198.000kHz	71.7	38.9	-32.8	-1.3	40.2	CAV	CM
10	594.000kHz	64.0	37.0	-27.0	-3.2	40.2	CAV	CM
11	4.514MHz	64.0	44.6	-19.4	4.2	40.4	CAV	CM
12	6.714MHz	64.0	39.4	-24.6	-0.9	40.3	CAV	CM

Measurement data	Port under test	DC power port



No.	Frequency	Limit dBuV	Level dBuV	Delta dB	Reading dBuV	Factor dB	Detector	Phase
1	3.278MHz	74.0	38.1	-35.9	-2.3	40.4	QP	DM
2	4.578MHz	74.0	50.9	-23.1	10.5	40.4	QP	DM
3	5.002MHz	74.0	43.8	-30.2	3.4	40.4	QP	DM
4	6.770MHz	74.0	47.3	-26.7	6.8	40.5	QP	DM
5	8.326MHz	74.0	37.0	-37.0	-3.6	40.6	QP	DM
6	21.966MHz	74.0	37.3	-36.7	-3.6	40.9	QP	DM
7	3.326MHz	64.0	32.2	-31.8	-8.2	40.4	CAV	DM
8	4.394MHz	64.0	44.5	-19.5	4.1	40.4	CAV	DM
9	4.454MHz	64.0	47.0	-17.0	6.6	40.4	CAV	DM
10	4.882MHz	64.0	41.0	-23.0	0.6	40.4	CAV	DM
11	6.834MHz	64.0	44.2	-19.8	3.7	40.5	CAV	DM
12	6.958MHz	64.0	39.8	-24.2	-0.7	40.5	CAV	DM

Remark	---

4.3	**Conducted disturbance voltage – Wired network port and the signal and control port**	**VERDICT: N/A**

Standard	EN 62920
Basic standard(s)	CISPR 16-2-1, CISPR 11

Limits - Class A

Frequency range [MHz]	Quasi-peak [dB(μV) / dB(μA)]	Average [dB(μV) / dB(μA)]
0,15 - 0,50	97 / 53 Decreasing linearly with logarithm of frequency to 87 / 43	84 / 40 Decreasing linearly with logarithm of frequency to 74 / 30
0,50 - 30	87 / 43	74 / 30

Limits - Class B

Frequency range [MHz]	Quasi-peak [dB(μV) / dB(μA)]	Average [dB(μV) / dB(μA)]
0,15 - 0,50	84 / 40 Decreasing linearly with logarithm of frequency to 74 / 30	74 / 30 Decreasing linearly with logarithm of frequency to 64 / 20
0,50 - 30	74 / 30	64 / 20

Performed measurements

Port under test			
☐	LAN / Ethernet	☐	Other:
☐	Other:	☐	Other:

Voltage – Mains [V]	---			
Frequency – Mains [Hz]	---			
Test method applied	☐	ISN – Impedance Stabilisation Network		
	☐	Voltage probe		
	☐	Current probe		
	☐	Artificial mains network		
	☐	Other:		
Test setup	☐	Table top	☐	Artificial hand applied
	☐	Floor standing	☐	Other:
	Refer to the Annex 3 for test setup photo(s).			
Operating mode(s) used	---			
Remark	---			

See next page.

Measurement data	Port under test	---
Operating mode / voltage / frequency used during the test		---

The EUT does not have a telecommunications network port., so it needs not to perform the test item.

Remark	---

4.4 Radiated electromagnetic disturbances (30 – 1000 MHz) — VERDICT: PASS

Standard	EN 62920
Basic standard(s)	CISPR 11

Limits – Class A

Frequency range [MHz]	10 m measuring distance rated power of		5 m measuring distance rated power of		3 m measuring distance rated power of	
	≤ 20 kVA	> 20 kVA	≤ 20 kVA	> 20 kVA	≤ 20 kVA	> 20 kVA
	Quasi-peak dB(µV/m)	Quasi-peak dB(µV/m)	Quasi-peak dB(µV/m)	Quasi-peak dB(µV/m)	Quasi-peak dB(µV/m)	Quasi-peak dB(µV/m)
30 to 230	40	50	46	56	50	60
230 to 1000	47	50	53	56	57	60
At the transition frequency, the more stringent limit shall apply.						

Limits – Class B

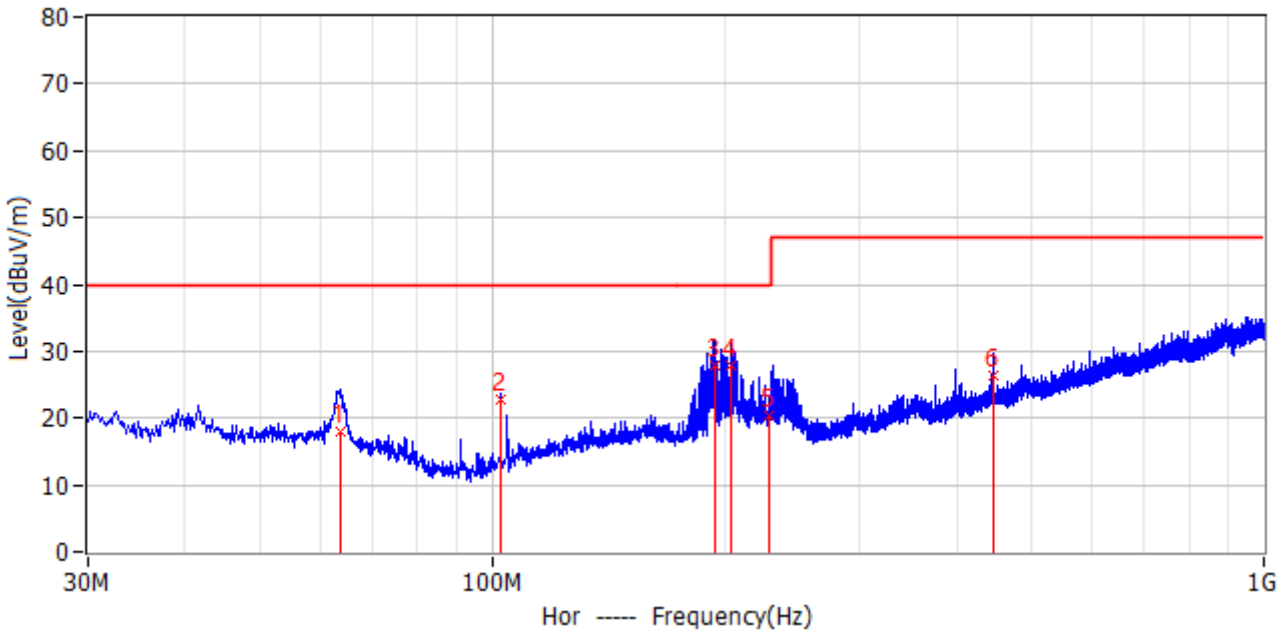
Frequency range [MHz]	10 m measuring distance	5 m measuring distance	3 m measuring distance
	Quasi-peak dB(µV/m)	Quasi-peak dB(µV/m)	Quasi-peak dB(µV/m)
30 to 230	30	36	40
230 to 1000	37	43	47
At the transition frequency, the more stringent limit shall apply.			

Performed measurements

Port under test	Enclosure	
Voltage – Mains [V]	PV: 360 Vdc, Battery: 60 Vdc, AC mains: 230 Vac	
Frequency – Mains [Hz]	50 Hz	
Test method applied	☒	OATS or SAC with measurement distance [m]: 3 m.
	☐	OATS or SAC with measurement distance [m]: 5 m.
	☐	OATS or SAC with measurement distance [m]: 10 m.
Test setup	☐	Equipment on a table of 80 cm height
	☐	Equipment on the floor (insulated from ground plane)
	☒	Other: Equipment wall-mounted of 80 cm height
	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 2, Mode 5	
Remark	---	

See next page.

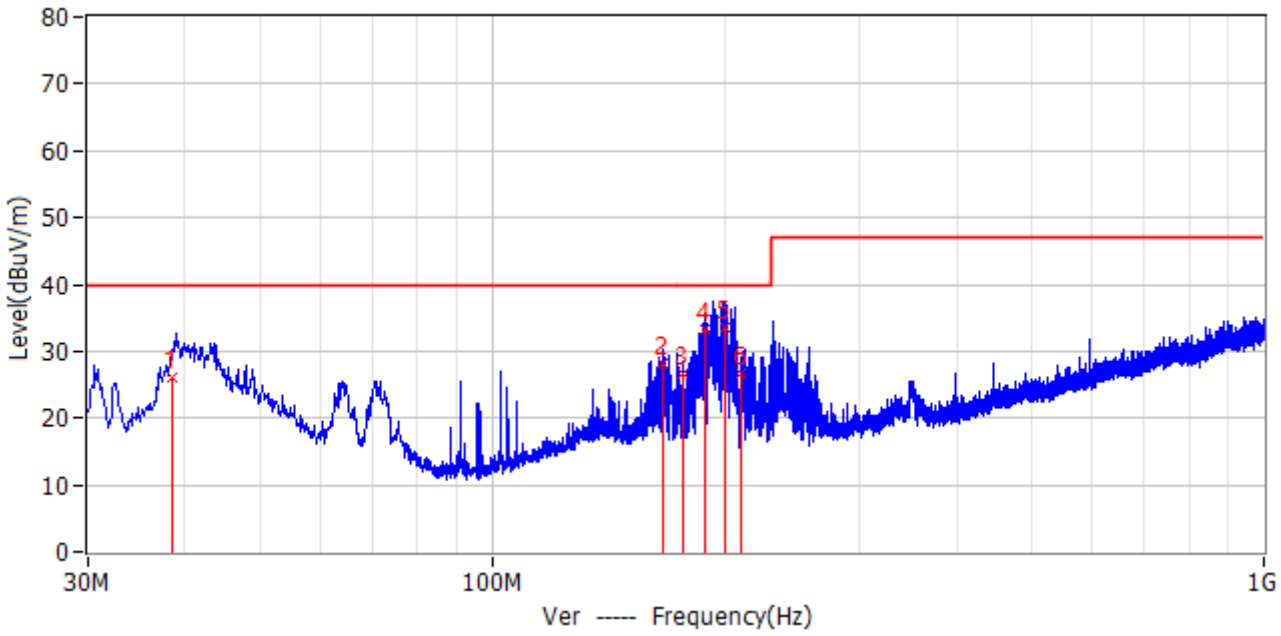
Measurement data	☒	**Horizontal**	☐	**Vertical**
Operating mode / voltage / frequency used during the test		Mode 2 / PV: 360 Vdc, AC mains: 230 Vac, 50 Hz		



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1	63.553MHz	40.0	18.1	-21.9	-1.2	19.3	QP	Hor	100.0	0.2
2	102.761MHz	40.0	22.8	-17.2	6.5	16.3	QP	Hor	100.0	352.3
3	195.025MHz	40.0	27.8	-12.2	10.2	17.6	QP	Hor	100.0	156.2
4	204.318MHz	40.0	28.0	-12.0	10.7	17.3	QP	Hor	100.0	156.2
5	228.965MHz	40.0	20.5	-19.5	2.7	17.8	QP	Hor	100.0	11.2
6	445.512MHz	47.0	26.5	-20.5	1.4	25.1	QP	Hor	100.0	0.2

Remark	---

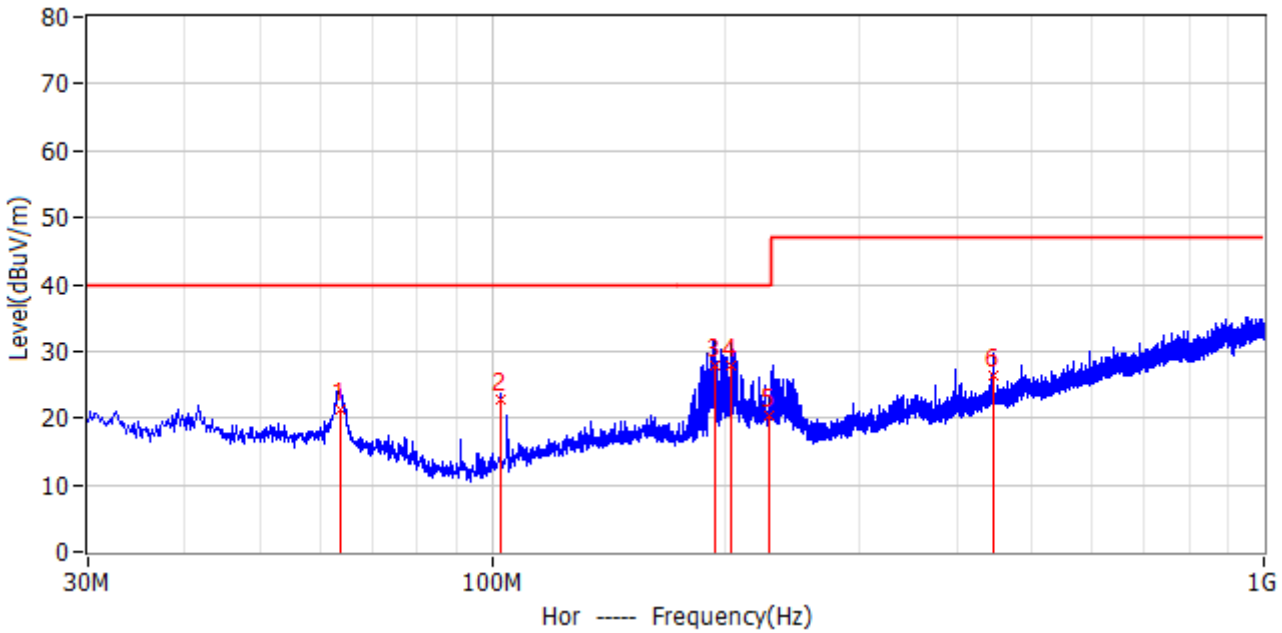
Measurement data	☐	**Horizontal**	☒	**Vertical**
Operating mode / voltage / frequency used during the test		Mode 2 / PV: 360 Vdc, AC mains: 230 Vac, 50 Hz		



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1	38.661MHz	40.0	26.0	-14.0	6.2	19.8	QP	Ver	100.0	348.0
2	166.840MHz	40.0	28.1	-11.9	7.9	20.2	QP	Ver	100.0	334.0
3	176.649MHz	40.0	26.8	-13.2	7.4	19.4	QP	Ver	100.0	334.1
4	188.883MHz	40.0	33.2	-6.8	15.2	18.0	QP	Ver	100.0	210.8
5	199.971MHz	40.0	33.7	-6.3	16.3	17.4	QP	Ver	100.0	267.0
6	210.872MHz	40.0	26.6	-13.4	9.4	17.2	QP	Ver	100.0	240.0

Remark	---

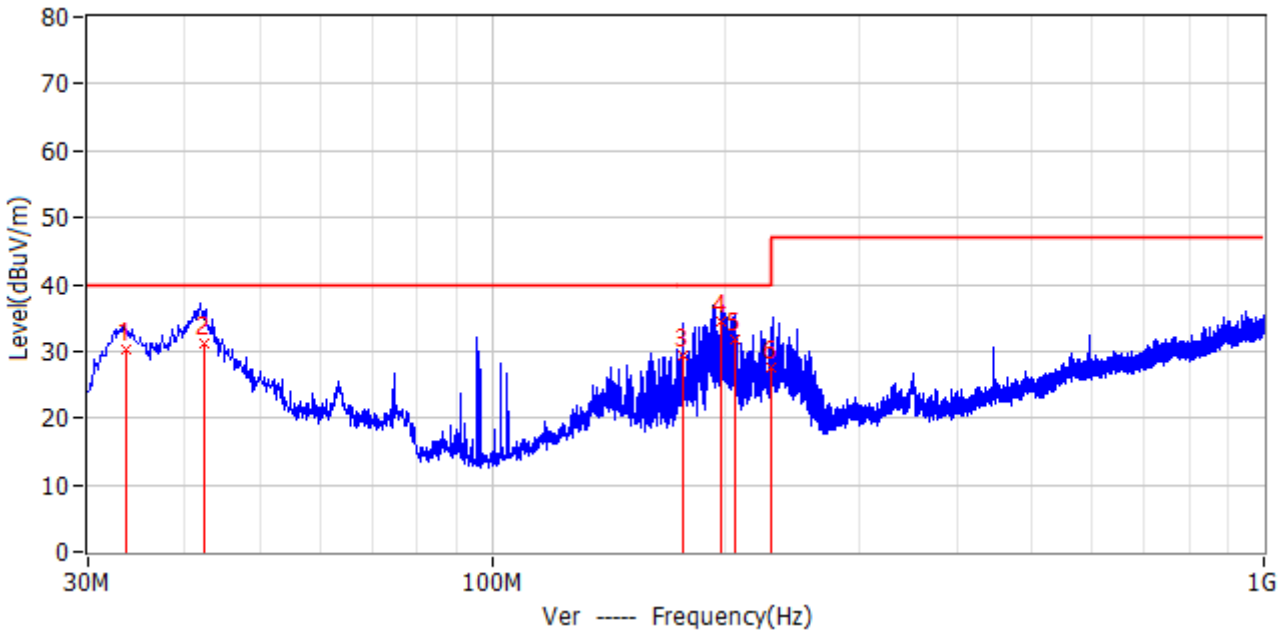
Measurement data	☒	**Horizontal**	☐	**Vertical**
Operating mode / voltage / frequency used during the test		Mode 5 / Battery: 60 Vdc, AC mains: 230 Vac, 50 Hz		



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1	63.553MHz	40.0	21.3	-18.7	2.0	19.3	QP	Hor	100.0	0.2
2	102.761MHz	40.0	22.8	-17.2	6.5	16.3	QP	Hor	100.0	352.3
3	195.025MHz	40.0	27.8	-12.2	10.2	17.6	QP	Hor	100.0	156.2
4	204.318MHz	40.0	28.0	-12.0	10.7	17.3	QP	Hor	100.0	156.2
5	228.965MHz	40.0	20.5	-19.5	2.7	17.8	QP	Hor	100.0	11.2
6	445.512MHz	47.0	26.5	-20.5	1.4	25.1	QP	Hor	100.0	0.2

Remark	---

Measurement data	☐	**Horizontal**	☒	**Vertical**
Operating mode / voltage / frequency used during the test		Mode 2 / Battery: 60 Vdc, AC mains: 230 Vac, 50 Hz		



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1	33.630MHz	40.0	30.3	-9.7	10.9	19.4	QP	Ver	100.0	339.3
2	42.348MHz	40.0	31.1	-8.9	11.0	20.1	QP	Ver	100.0	243.2
3	176.633MHz	40.0	29.4	-10.6	10.0	19.4	QP	Ver	100.0	307.3
4	198.201MHz	40.0	34.4	-5.6	16.9	17.5	QP	Ver	100.0	193.2
5	206.047MHz	40.0	31.9	-8.1	14.6	17.3	QP	Ver	100.0	182.2
6	229.419MHz	40.0	27.6	-12.4	9.7	17.9	QP	Ver	100.0	0.0

Remark	---

4.5 Harmonic current emissions — VERDICT: PASS

Standard	EN 62920	
Basic standard	IEC 61000-3-2, IEC 61000-3-12	
Exlusions (For these categories of equipment, limits are not specified in the IEC 61000-3-2 standard)	☐	Arc welding equipment intended for professional use.
	☐	System(s) with nominal voltage(s) less than 220 V_{AC} (line-to-neutral).
	☐	Equipment with rated power of ≤ 75 W (other than lighting equipment).
	☐	Professional equipment with total rated power > 1 kW.
	☐	Symmetrically controlled heating elements with a rated power ≥ 200 W.
	☐	Independent dimmers for incandescent lamps with rated power ≤ 1 kW.

Classification（I_{input}≤ 16A）			
☒	Class A	All apparatus not classified as Class B, C or D	
☐	Class B	Portable tools	
☐	Class C	☐	Lighting equipment with active input power > 25 W
		☐	Lighting equipment with active input power ≤ 25 W (First requirement, Table 3 column 2)
		☐	Lighting equipment with active input power ≤ 25 W (Second requirement)
☐	Class D	Personal computers, television receivers	
Classification（16A≤ I_{input}<75A）			
☒	Table 2	other than balanced three-phase equipment	
☐	Table 3	balanced three-phase equipment	
☐	Table 4	balanced three-phase equipment under specified conditions	
☐	Table 5	balanced three-phase equipment under specified conditions	

Performed measurements

Port under test	AC mains port					
Voltage – Mains [V]	230 Vac					
Frequency – Mains [Hz]	50 Hz					
Observation peroid	☐	6.5 min.	☐	2.5 min.	☒	Other: 7.5 min.
Version of measurement instrument standard used EN / IEC61000-4-7 (Cl. 7)	☒	EN 61000-4-7:2002 + AM1:2009 (IEC 61000-4-7:2002+AM1:2008)				
	☐	EN 61000-4-7:1991				
Control principle used in the EUT	☒	Comply with the requirements of the Clause 6.2 (EN / IEC 61000-3-2).				
	☒	Comply with the requirements of the Clause 5.1 (EN / IEC 61000-3-12).				
	☐	Not comply with the requirements of the Clause 6.2 (EN / IEC 61000-3-2).				
	☐	Not comply with the requirements of the Clause 5.1 (EN / IEC 61000-3-12).				
Operating mode(s) used	Mode 2, Mode 3, Mode 4, Mode 5, Mode 6, Mode 7					
Remark	---					

See next page.

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 2 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-12:2011
Test Standard:	IEC 61000-3-12:2011
Test Classification:	
Test Result	Pass
Test Start Time:	2025/08/01 13:10:55
Test End Time:	2025/08/01 13:18:29
	7Minute33Second
Power Specification:	IEC 61000-3-12
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	230.43/654.02/1.42	Frequency(Hz):	50.00005
Irms(A)/Ipk/Icf:	35.5289/104.9286/1.4797	Power(W)	8186.92
Fund Current(A)	35.4814		
V-PHD(%):	0.08	I-PHD(%):	1.83
POHC(A):	0	POHC Limit(A):	0
I-THC(A):	0.6477	H5 Phase(deg)	-101.95

Test Result

L1Tested average values table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.3317	8	0.93	0.5708	Pass
4	0.0888	4	0.25	0.1734	Pass
5	0.0762	10.7	0.21	0.1554	Pass
6	0.0443	2.7	0.12	0.0973	Pass
7	0.0416	7.2	0.12	0.0951	Pass
8	0.0363	2	0.1	0.0854	Pass
10	0.0365	1.6	0.1	0.0785	Pass
11	0.2673	3.1	0.75	0.3302	Pass
12	0.0311	1.3	0.09	0.0773	Pass
13	0.2511	2	0.71	0.2987	Pass

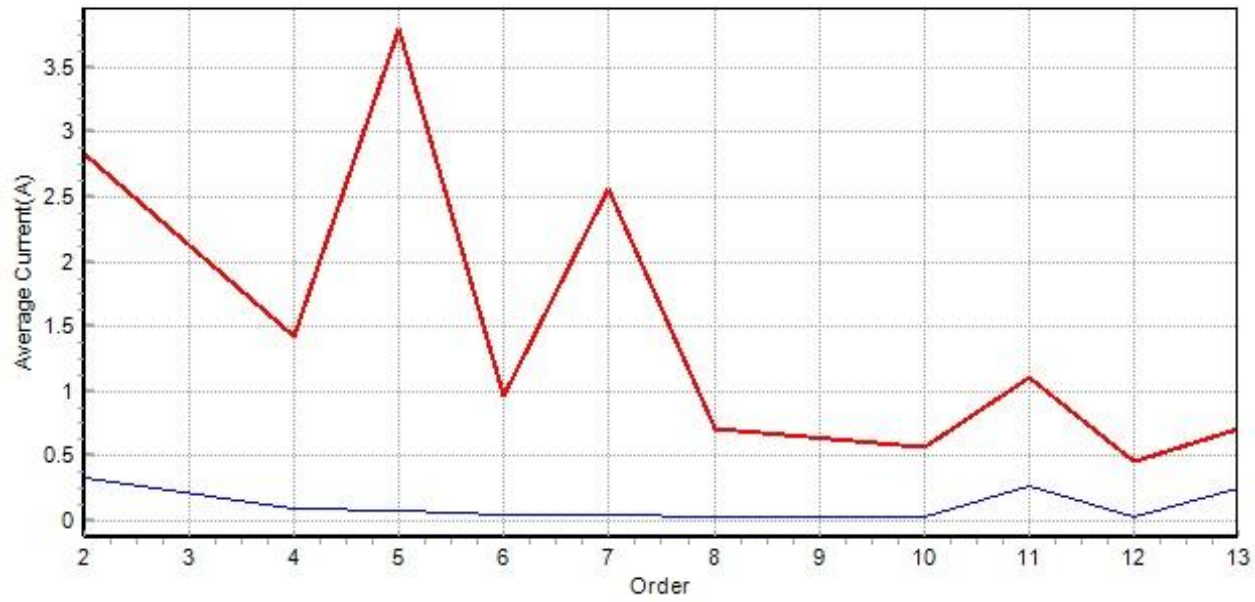
Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Smoothed RMS Data Table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.341	12	1.29	0.4573	Pass
4	0.0913	6	0.37	0.1312	Pass
5	0.0786	16.05	0.32	0.1127	Pass
6	0.0474	4.05	0.21	0.0742	Pass
7	0.0441	10.8	0.2	0.0709	Pass
8	0.0386	3	0.17	0.0589	Pass
10	0.0392	2.4	0.16	0.0557	Pass
11	0.2676	4.65	0.86	0.3042	Pass
12	0.0334	1.95	0.14	0.0495	Pass
13	0.2514	3	0.81	0.2868	Pass

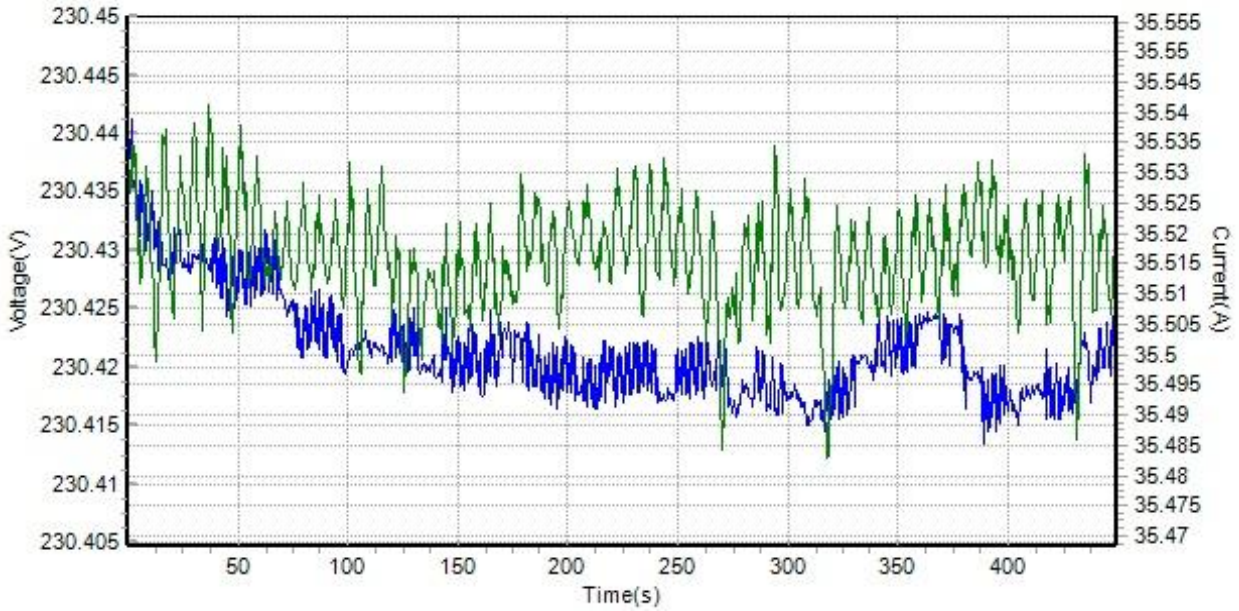
L1	Test Result (%)	Limit (%)	Pass/Fail
THD(Orders of 2～40)	1.83	13	Pass
PWHD(Orders of 14～40)	2.83	22	Pass

L1 Frequency Spectrum:



Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Real time voltage and current



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 3 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-12:2011
Test Standard:	IEC 61000-3-12:2011
Test Classification:	
Test Result	Pass
Test Start Time:	2025/08/01 13:10:55
Test End Time:	2025/08/01 13:18:29
	7Minute33Second
Power Specification:	IEC 61000-3-12
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	230.43/654.02/1.42	Frequency(Hz):	50.00005
Irms(A)/Ipk/Icf:	35.5289/104.9286/1.4797	Power(W)	8186.92
Fund Current(A)	35.4814		
V-PHD(%):	0.08	I-PHD(%):	1.83
POHC(A):	0	POHC Limit(A):	0
I-THC(A):	0.6477	H5 Phase(deg)	-101.95

Test Result

L1Tested average values table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.3317	8	0.93	0.5708	Pass
4	0.0888	4	0.25	0.1734	Pass
5	0.0762	10.7	0.21	0.1554	Pass
6	0.0443	2.7	0.12	0.0973	Pass
7	0.0416	7.2	0.12	0.0951	Pass
8	0.0363	2	0.1	0.0854	Pass
10	0.0365	1.6	0.1	0.0785	Pass
11	0.2673	3.1	0.75	0.3302	Pass
12	0.0311	1.3	0.09	0.0773	Pass
13	0.2511	2	0.71	0.2987	Pass

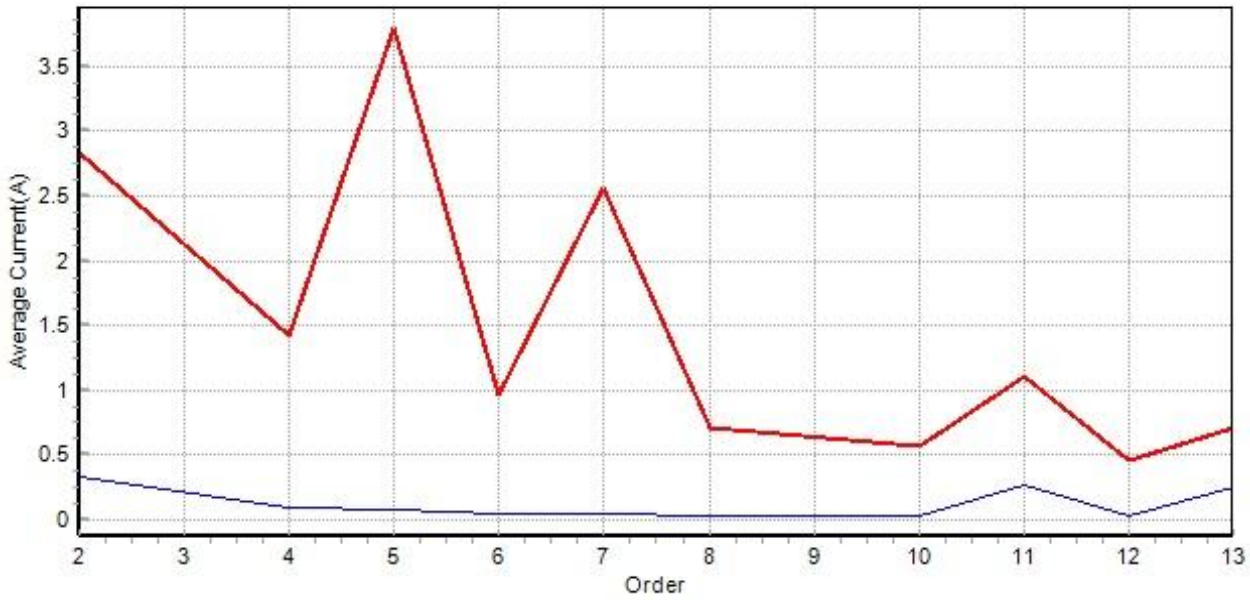
Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Smoothed RMS Data Table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.341	12	1.29	0.4573	Pass
4	0.0913	6	0.37	0.1312	Pass
5	0.0786	16.05	0.32	0.1127	Pass
6	0.0474	4.05	0.21	0.0742	Pass
7	0.0441	10.8	0.2	0.0709	Pass
8	0.0386	3	0.17	0.0589	Pass
10	0.0392	2.4	0.16	0.0557	Pass
11	0.2676	4.65	0.86	0.3042	Pass
12	0.0334	1.95	0.14	0.0495	Pass
13	0.2514	3	0.81	0.2868	Pass

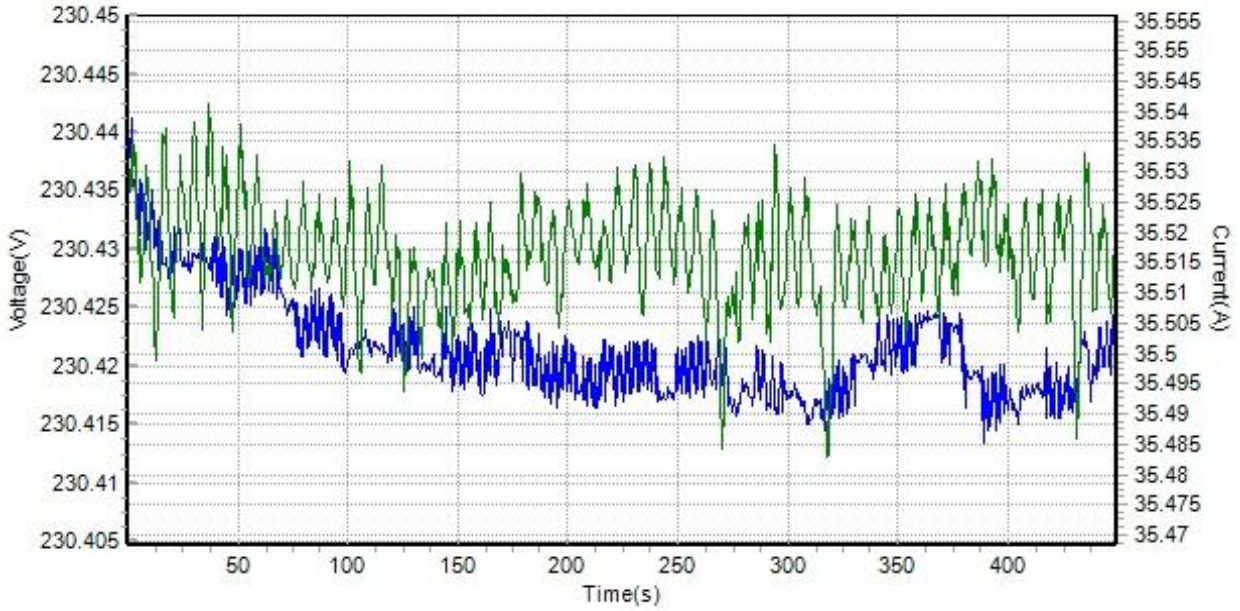
L1	Test Result (%)	Limit (%)	Pass/Fail
THD(Orders of 2～40)	1.83	13	Pass
PWHD(Orders of 14～40)	2.83	22	Pass

L1 Frequency Spectrum:



Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Real time voltage and current



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 4 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-12:2011
Test Standard:	IEC 61000-3-12:2011
Test Classification:	
Test Result	Pass
Test Start Time:	2025/08/01 14:03:37
Test End Time:	2025/08/01 14:11:10
	7Minute33Second
Power Specification:	IEC 61000-3-12
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (PV 输入并网 AC 输出)25% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	230.17/651.6/1.42	Frequency(Hz):	50.00005
Irms(A)/Ipk/Icf:	8.8665/26.3174/1.5026	Power(W)	2040.8
Fund Current(A)	8.7924		
V-PHD(%):	0.05	I-PHD(%):	4.38
POHC(A):	0	POHC Limit(A):	0
I-THC(A):	0.3852	H5 Phase(deg)	35.45

Test Result

L1Tested average values table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.2684	8	3.05	0.4389	Pass
4	0.0862	4	0.98	0.1468	Pass
5	0.0407	10.7	0.46	0.1141	Pass
6	0.0432	2.7	0.49	0.1039	Pass
7	0.0259	7.2	0.29	0.0686	Pass
8	0.0375	2	0.43	0.0946	Pass
10	0.0409	1.6	0.47	0.0943	Pass
11	0.1875	3.1	2.13	0.2292	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

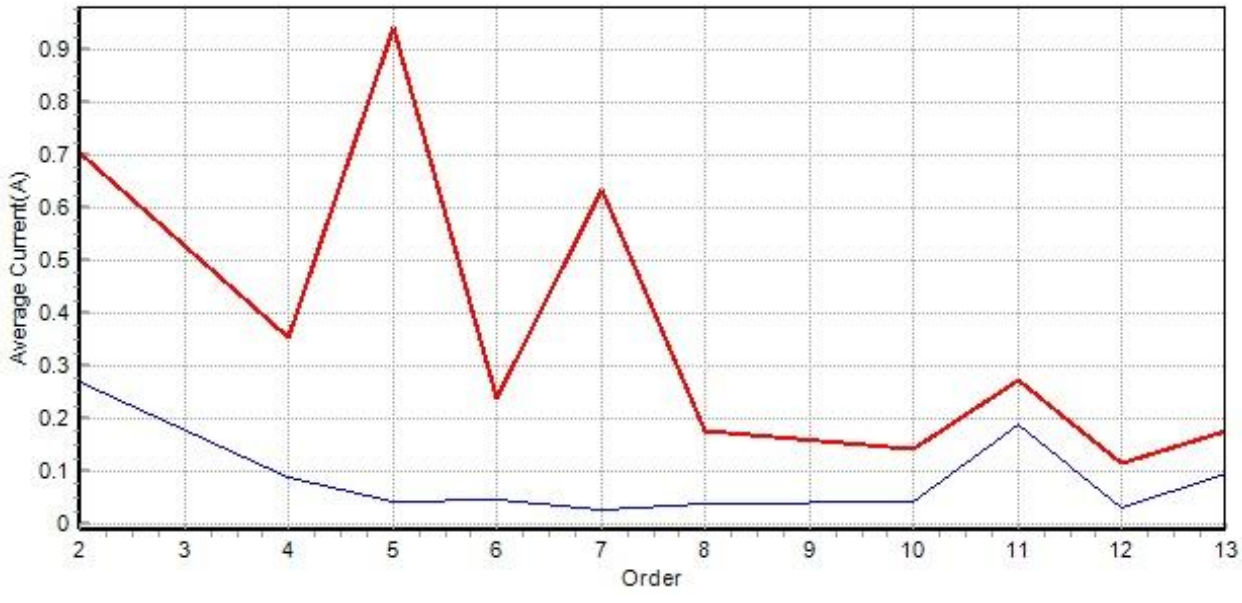
12	0.0288	1.3	0.33	0.0691	Pass
13	0.096	2	1.09	0.1217	Pass

L1 Smoothed RMS Data Table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.2734	12	3.68	0.3234	Pass
4	0.0894	6	1.22	0.107	Pass
5	0.043	16.05	0.68	0.0599	Pass
6	0.0459	4.05	0.72	0.0629	Pass
7	0.0282	10.8	0.47	0.0409	Pass
8	0.0413	3	0.73	0.0643	Pass
10	0.044	2.4	0.73	0.0643	Pass
11	0.1879	4.65	2.31	0.203	Pass
12	0.0308	1.95	0.49	0.043	Pass
13	0.0962	3	1.27	0.1115	Pass

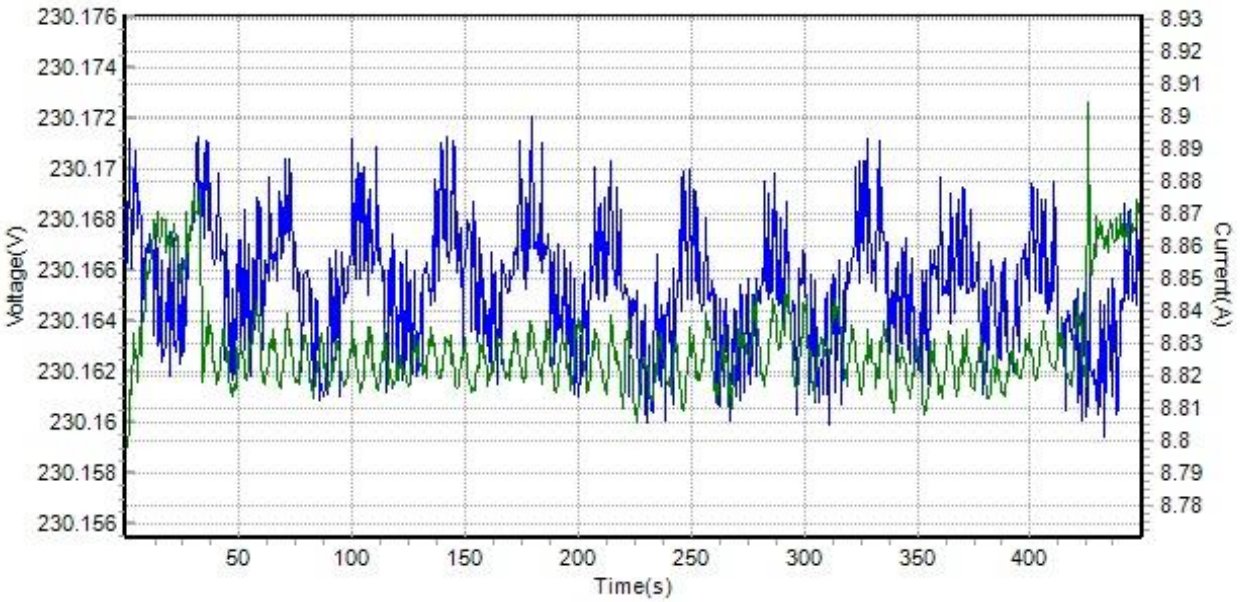
L1	Test Result (%)	Limit (%)	Pass/Fail
THD(Orders of 2～40)	4.38	13	Pass
PWHD(Orders of 14～40)	4.55	22	Pass

L1 Frequency Spectrum:



Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Real time voltage and current



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 5 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-12:2011
Test Standard:	IEC 61000-3-12:2011
Test Classification:	
Test Result	Pass
Test Start Time:	2025/08/04 10:42:00
Test End Time:	2025/08/04 10:49:33
	7Minute33Second
Power Specification:	IEC 61000-3-12
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (AC 给电池充电 8kw)100% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	229.74/657.06/1.43	Frequency(Hz):	49.9984
Irms(A)/Ipk/Icf:	34.8735/112.79/1.6327	Power(W)	8011.84
Fund Current(A)	34.7534		
V-PHD(%):	0.09	I-PHD(%):	2.96
POHC(A):	0	POHC Limit(A):	0
I-THC(A):	1.0285	H5 Phase(deg)	-137.89

Test Result

L1Tested average values table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.8539	8	2.46	1.3966	Pass
4	0.2183	4	0.63	0.396	Pass
5	0.1478	10.7	0.43	0.2627	Pass
6	0.1398	2.7	0.4	0.2344	Pass
7	0.0551	7.2	0.16	0.1285	Pass
8	0.1003	2	0.29	0.1711	Pass
10	0.0923	1.6	0.27	0.1733	Pass
11	0.2954	3.1	0.85	0.3628	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

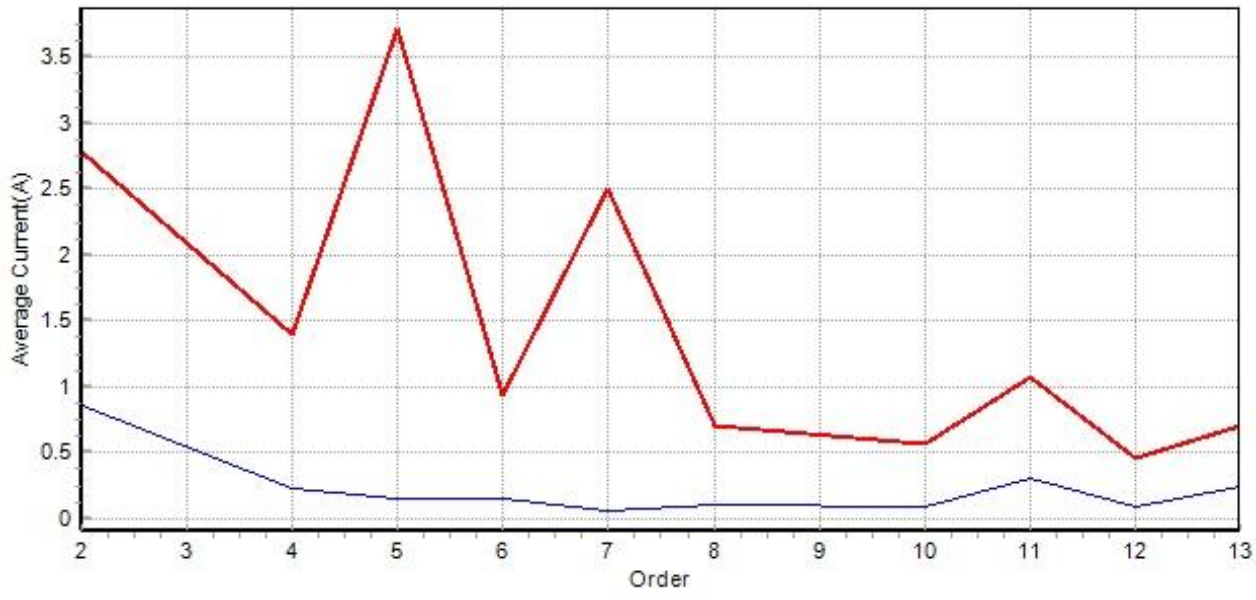
12	0.0893	1.3	0.26	0.1651	Pass
13	0.238	2	0.68	0.2985	Pass

L1 Smoothed RMS Data Table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.9106	12	2.91	1.0123	Pass
4	0.2303	6	0.81	0.2828	Pass
5	0.1527	16.05	0.53	0.1851	Pass
6	0.1437	4.05	0.5	0.1752	Pass
7	0.0596	10.8	0.25	0.0881	Pass
8	0.1032	3	0.36	0.1254	Pass
10	0.0961	2.4	0.33	0.1153	Pass
11	0.2962	4.65	0.94	0.325	Pass
12	0.0922	1.95	0.31	0.1094	Pass
13	0.2385	3	0.76	0.2646	Pass

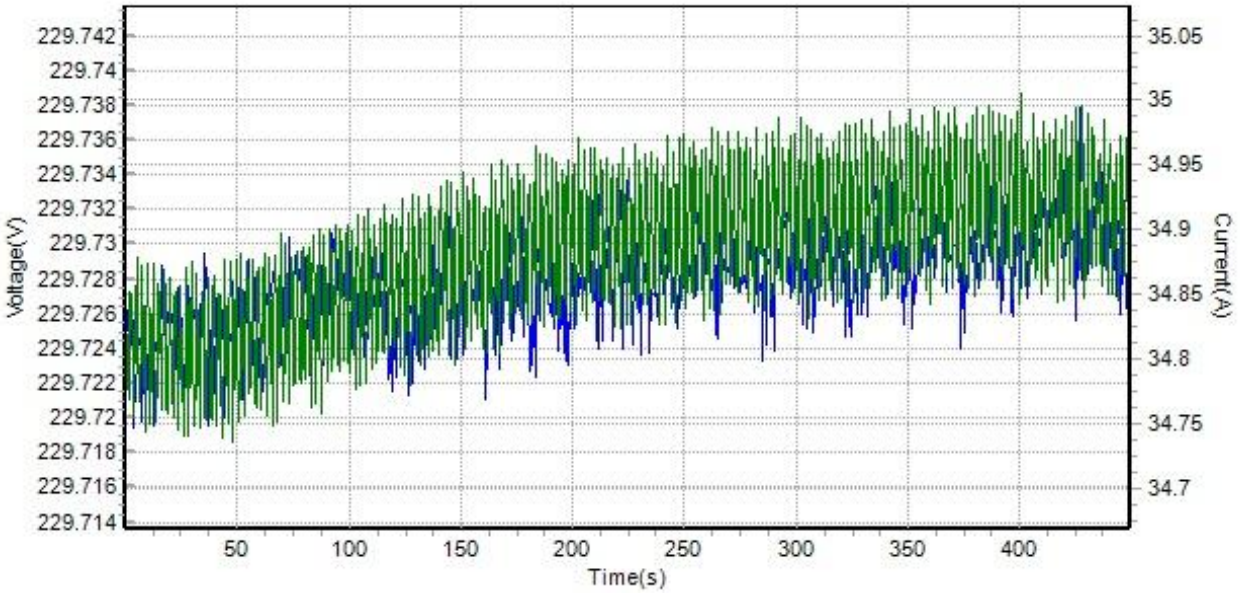
L1	Test Result (%)	Limit (%)	Pass/Fail
THD(Orders of 2～40)	2.96	13	Pass
PWHD(Orders of 14～40)	2.7	22	Pass

L1 Frequency Spectrum:



Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Real time voltage and current



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 6 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-12:2011
Test Standard:	IEC 61000-3-12:2011
Test Classification:	
Test Result	Pass
Test Start Time:	2025/08/04 11:32:01
Test End Time:	2025/08/04 11:39:34
	7Minute33Second
Power Specification:	IEC 61000-3-12
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (AC 给电池充电 8kw)50% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	229.89/653.04/1.42	Frequency(Hz):	49.9984
Irms(A)/Ipk/Icf:	17.2392/55.3818/1.631	Power(W)	3963.12
Fund Current(A)	17.1242		
V-PHD(%):	0.06	I-PHD(%):	4.5
POHC(A):	0	POHC Limit(A):	0
I-THC(A):	0.7708	H5 Phase(deg)	-97.1

Test Result

L1Tested average values table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.6217	8	3.63	1.0702	Pass
4	0.1788	4	1.04	0.3228	Pass
5	0.0724	10.7	0.42	0.1625	Pass
6	0.1135	2.7	0.66	0.1711	Pass
7	0.0407	7.2	0.24	0.0904	Pass
8	0.0794	2	0.46	0.1568	Pass
10	0.082	1.6	0.48	0.1482	Pass
11	0.2924	3.1	1.71	0.3372	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

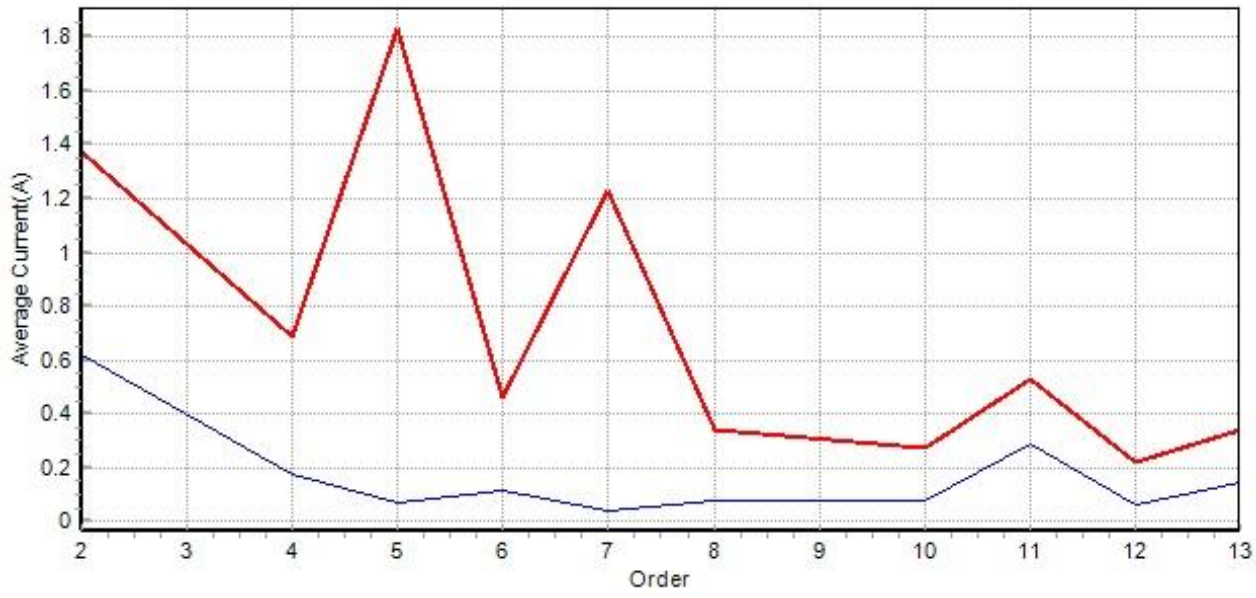
12	0.0645	1.3	0.38	0.1158	Pass
13	0.1468	2	0.86	0.1891	Pass

L1 Smoothed RMS Data Table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.6661	12	4.07	0.6978	Pass
4	0.1925	6	1.26	0.2164	Pass
5	0.078	16.05	0.59	0.1006	Pass
6	0.115	4.05	0.77	0.1313	Pass
7	0.0436	10.8	0.33	0.0557	Pass
8	0.0832	3	0.57	0.0983	Pass
10	0.0856	2.4	0.58	0.0986	Pass
11	0.2927	4.65	1.83	0.3127	Pass
12	0.066	1.95	0.44	0.0751	Pass
13	0.1471	3	0.94	0.1617	Pass

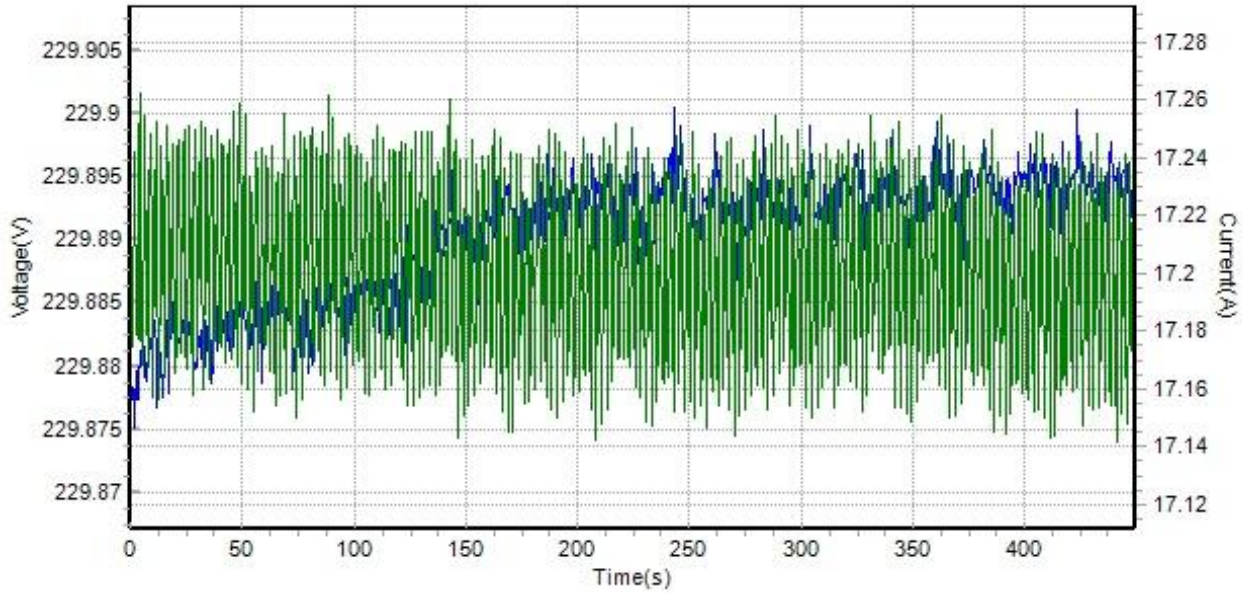
L1	Test Result (%)	Limit (%)	Pass/Fail
THD(Orders of 2～40)	4.5	13	Pass
PWHD(Orders of 14～40)	3.74	22	Pass

L1 Frequency Spectrum:



Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Real time voltage and current



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 7 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-12:2011
Test Standard:	IEC 61000-3-12:2011
Test Classification:	
Test Result	Pass
Test Start Time:	2025/08/04 11:40:53
Test End Time:	2025/08/04 11:48:26
	7Minute33Second
Power Specification:	IEC 61000-3-12
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (AC 给电池充电 8kw)25% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	229.98/652.35/1.42	Frequency(Hz):	49.99675
Irms(A)/Ipk/Icf:	8.5697/27.4738/1.6345	Power(W)	1970.86
Fund Current(A)	8.5224		
V-PHD(%):	0.05	I-PHD(%):	5.6
POHC(A):	0	POHC Limit(A):	0
I-THC(A):	0.4769	H5 Phase(deg)	-39.59

Test Result

L1Tested average values table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.3561	8	4.18	0.5825	Pass
4	0.1403	4	1.65	0.2219	Pass
5	0.0452	10.7	0.53	0.0992	Pass
6	0.0949	2.7	1.11	0.1484	Pass
7	0.0324	7.2	0.38	0.071	Pass
8	0.0764	2	0.9	0.1342	Pass
10	0.0766	1.6	0.9	0.1223	Pass
11	0.1884	3.1	2.21	0.2298	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

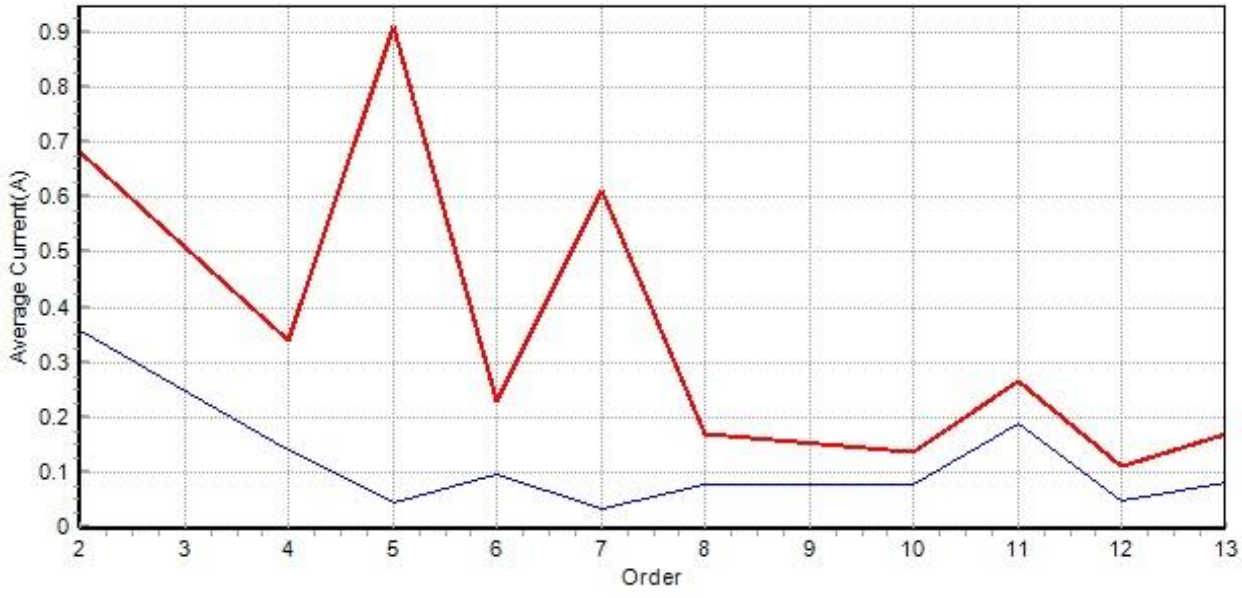
12	0.0454	1.3	0.53	0.0843	Pass
13	0.0804	2	0.94	0.1057	Pass

L1 Smoothed RMS Data Table

Harmonics Order	Harmonics average in (A)	Acceptable harmonic limit in (%)	Single harmonics percent (%)	Harmonics maximum (A)	Pass/Fail
2	0.3719	12	4.69	0.3995	Pass
4	0.1437	6	1.86	0.1589	Pass
5	0.0477	16.05	0.67	0.0572	Pass
6	0.097	4.05	1.26	0.1078	Pass
7	0.0341	10.8	0.51	0.0431	Pass
8	0.0793	3	1.06	0.0905	Pass
10	0.0787	2.4	1.05	0.0893	Pass
11	0.1887	4.65	2.4	0.2042	Pass
12	0.0468	1.95	0.65	0.0555	Pass
13	0.0807	3	1.07	0.0909	Pass

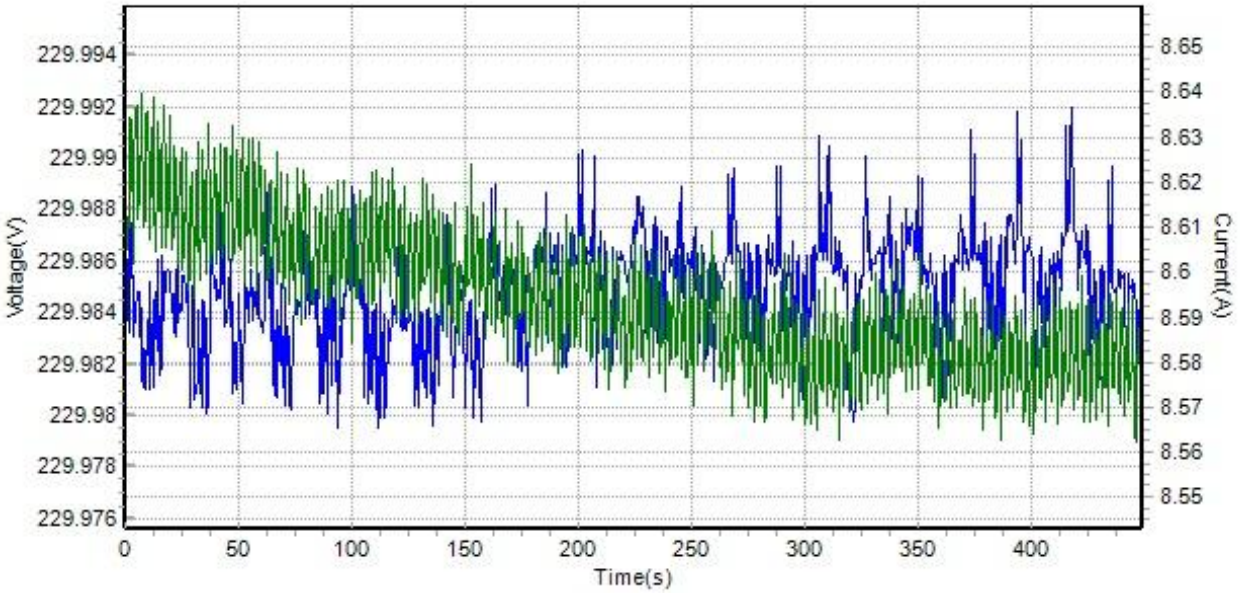
L1	Test Result (%)	Limit (%)	Pass/Fail
THD(Orders of 2～40)	5.6	13	Pass
PWHD(Orders of 14～40)	3.85	22	Pass

L1 Frequency Spectrum:



Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Real time voltage and current



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 2 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-2:2014
Test Standard:	IEC 61000-3-2:2014
Test Classification:	A
Test Result	Pass
Test Start Time:	2025/08/01 14:52:36
Test End Time:	2025/08/01 15:00:09
	7Minute33Second
Power Specification:	Consistent to IEC61000-3-2
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (PV 输入并网 AC 输出)100% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	230.25/651.96/1.42	Frequency(Hz):	49.99675
Irms(A)/Ipk/Icf:	15.9152/46.6557/1.4777	Power(W)	3664.47
Fund Current(A)	15.8858		
V-PHD(%):	0.05	I-PHD(%):	2.78
POHC(A):	0.0728	POHC Limit(A):	0.2514
I-THC(A):	0.4411	H5 Phase(deg)	37.29

L1 Average Data Table

Harmonics Order	Limit (A)	Average (A)	Pass/Fail
2	1.08	0.2489	Pass
3	2.3	0.1097	Pass
4	0.43	0.0734	Pass
5	1.14	0.0373	Pass
6	0.3	0.0366	Pass
7	0.77	0.029	Pass
8	0.23	0.0326	Pass
9	0.4	0.0365	Pass
10	0.184	0.0336	Pass
11	0.33	0.2513	Pass
12	0.1533	0.026	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port	
13	0.21	0.1499	Pass
14	0.1314	0.0193	Pass
15	0.15	0.0859	Pass
16	0.115	0.0161	Pass
17	0.1324	0.0691	Pass
18	0.1022	0.0146	Pass
19	0.1184	0.0514	Pass
20	0.092	0.0131	Pass
21	0.1071	0.0419	Pass
22	0.0836	0.0122	Pass
23	0.0978	0.0326	Pass
24	0.0767	0.0113	Pass
25	0.09	0.0284	Pass
26	0.0708	0.0099	Pass
27	0.0833	0.0221	Pass
28	0.0657	0.0093	Pass
29	0.0776	0.0198	Pass
30	0.0613	0.0085	Pass
31	0.0726	0.0153	Pass
32	0.0575	0.0075	Pass
33	0.0682	0.014	Pass
34	0.0541	0.0069	Pass
35	0.0643	0.011	Pass
36	0.0511	0.0063	Pass
37	0.0608	0.0102	Pass
38	0.0484	0.0057	Pass
39	0.0577	0.0078	Pass
40	0.046	0.0052	Pass

L1 Smoothed RMS Data Table

Harmonics Order	150% Limit (A)	1.5S Smoothed RMS (A)	Pass/Fail
2	1.62	0.306	Pass
3	3.45	0.1367	Pass
4	0.64	0.095	Pass
5	1.71	0.0545	Pass
6	0.45	0.0556	Pass
7	1.16	0.0444	Pass
8	0.34	0.0463	Pass
9	0.6	0.0533	Pass
10	0.28	0.0534	Pass

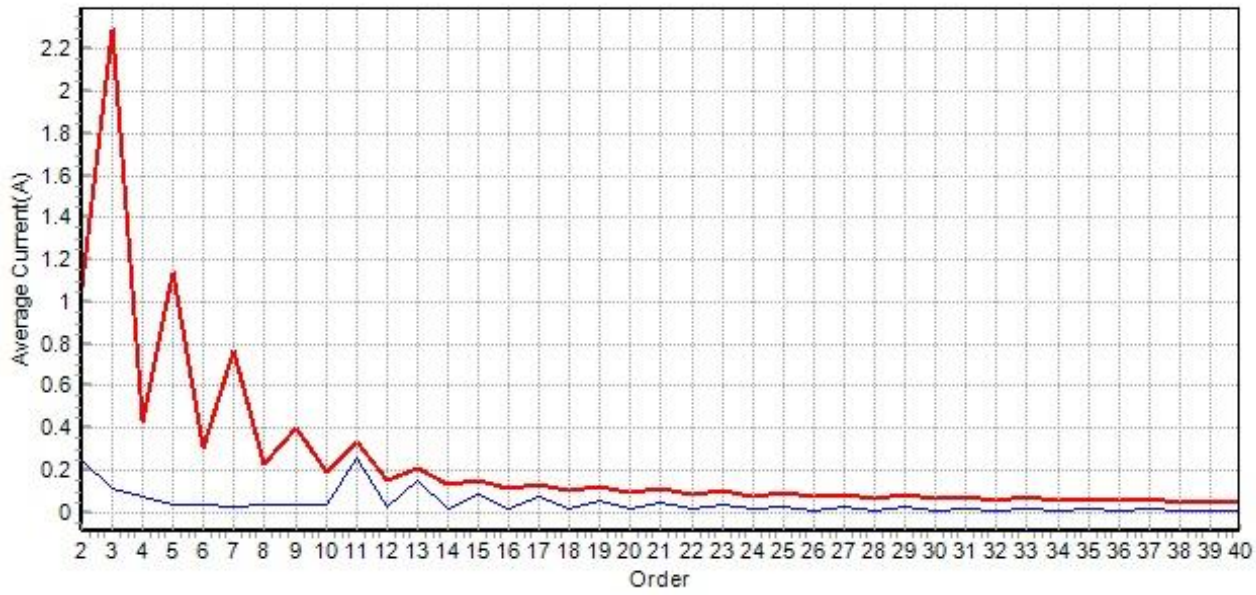
Measurement data (SUN-3.6K-H)	Port under test	AC mains port

11	0.5	0.2689	Pass
12	0.23	0.0394	Pass
13	0.32	0.1671	Pass
14	0.2	0.0298	Pass
15	0.22	0.0961	Pass
16	0.17	0.0266	Pass
17	0.2	0.0765	Pass
18	0.15	0.0219	Pass
19	0.18	0.0562	Pass
20	0.14	0.0189	Pass
21	0.16	0.0482	Pass
22	0.13	0.0171	Pass
23	0.15	0.0396	Pass
24	0.12	0.0163	Pass
25	0.14	0.0353	Pass
26	0.11	0.0139	Pass
27	0.12	0.0286	Pass
28	0.1	0.0138	Pass
29	0.12	0.025	Pass
30	0.09	0.013	Pass
31	0.11	0.0203	Pass
32	0.09	0.0109	Pass
33	0.1	0.0193	Pass
34	0.08	0.0115	Pass
35	0.1	0.0176	Pass
36	0.08	0.0096	Pass
37	0.09	0.0157	Pass
38	0.07	0.0094	Pass
39	0.09	0.0137	Pass
40	0.07	0.0082	Pass

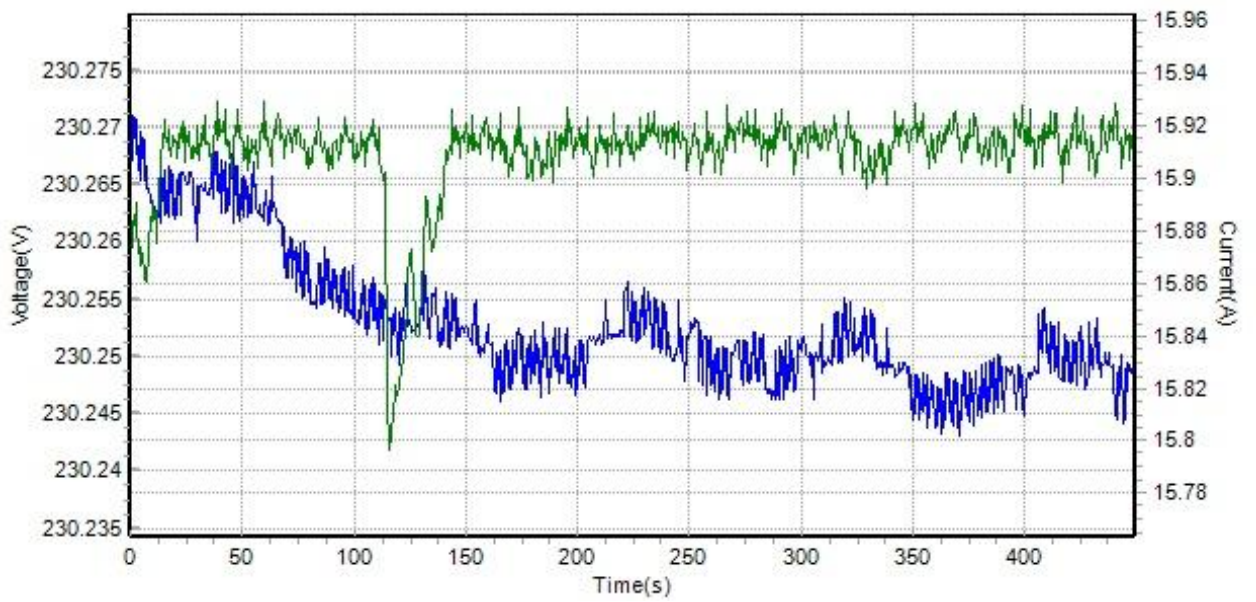
Standard Requirements	Test Result	Pass/Fail
Average values must be lower than applied limit Smoothed RMS values must be lower than 150% of the limit	Average values are lower than the applied limits Smoothed RMS values are lower than 150% of the limits	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Frequency Spectrum:



L1 Real time voltage and current



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 3 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-2:2014
Test Standard:	IEC 61000-3-2:2014
Test Classification:	A
Test Result	Pass
Test Start Time:	2025/08/04 09:48:25
Test End Time:	2025/08/04 09:55:59
	7Minute34Second
Power Specification:	Consistent to IEC61000-3-2
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (PV 输入并网 AC 输出)50% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	230.16/651.66/1.42	Frequency(Hz):	49.9984
Irms(A)/Ipk/Icf:	9.1367/27.1896/1.4994	Power(W)	2102.9
Fund Current(A)	9.0739		
V-PHD(%):	0.05	I-PHD(%):	4.26
POHC(A):	0.0378	POHC Limit(A):	0.2514
I-THC(A):	0.3864	H5 Phase(deg)	36.13

L1 Average Data Table

Harmonics Order	Limit (A)	Average (A)	Pass/Fail
2	1.08	0.2659	Pass
3	2.3	0.0793	Pass
4	0.43	0.0838	Pass
5	1.14	0.0413	Pass
6	0.3	0.043	Pass
7	0.77	0.0264	Pass
8	0.23	0.0374	Pass
9	0.4	0.0333	Pass
10	0.184	0.0394	Pass
11	0.33	0.1919	Pass
12	0.1533	0.0286	Pass
13	0.21	0.0988	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

14	0.1314	0.02	Pass
15	0.15	0.062	Pass
16	0.115	0.0163	Pass
17	0.1324	0.0464	Pass
18	0.1022	0.0133	Pass
19	0.1184	0.0306	Pass
20	0.092	0.0114	Pass
21	0.1071	0.0253	Pass
22	0.0836	0.0094	Pass
23	0.0978	0.0167	Pass
24	0.0767	0.0077	Pass
25	0.09	0.0153	Pass
26	0.0708	0.0065	Pass
27	0.0833	0.0093	Pass
28	0.0657	0.0055	Pass
29	0.0776	0.0086	Pass
30	0.0613	0.0045	Pass
31	0.0726	0.0048	Pass
32	0.0575	0.0039	Pass
33	0.0682	0.0049	Pass
34	0.0541	0.0033	Pass
35	0.0643	0.0029	Pass
36	0.0511	0.003	Pass
37	0.0608	0.003	Pass
38	0.0484	0.0026	Pass
39	0.0577	0.0029	Pass
40	0.046	0.0025	Pass

L1 Smoothed RMS Data Table

Harmonics Order	150% Limit (A)	1.5S Smoothed RMS (A)	Pass/Fail
2	1.62	0.3423	Pass
3	3.45	0.1147	Pass
4	0.64	0.1038	Pass
5	1.71	0.0629	Pass
6	0.45	0.0637	Pass
7	1.16	0.044	Pass
8	0.34	0.0633	Pass
9	0.6	0.0541	Pass
10	0.28	0.0568	Pass
11	0.5	0.206	Pass

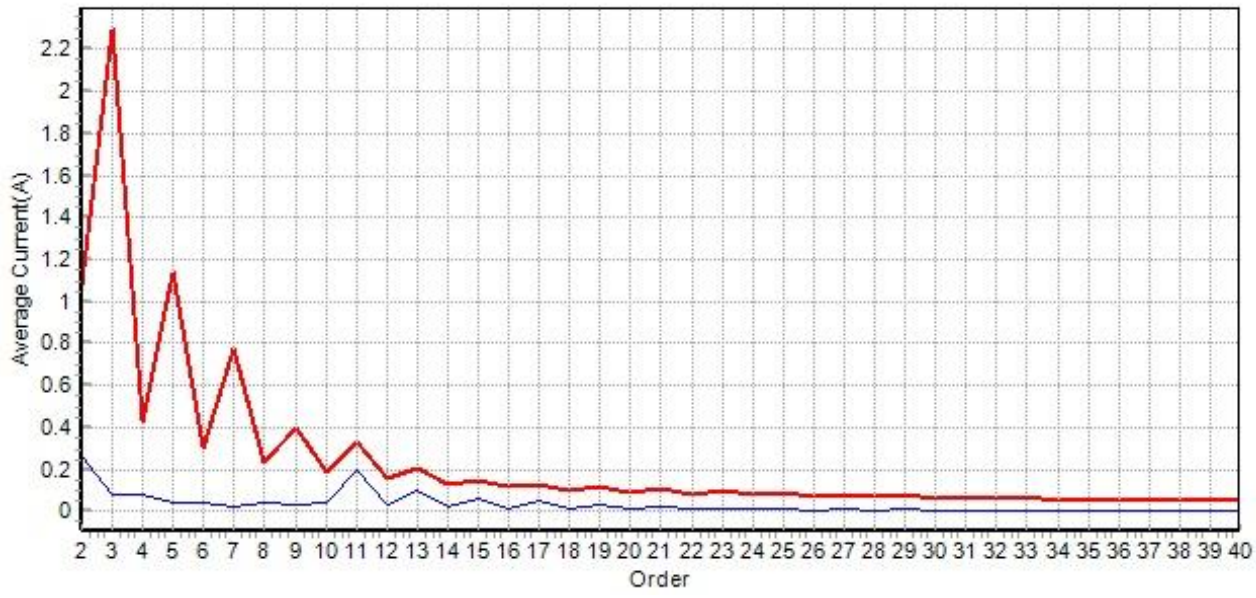
Measurement data (SUN-3.6K-H)	Port under test	AC mains port

12	0.23	0.0438	Pass
13	0.32	0.1123	Pass
14	0.2	0.0292	Pass
15	0.22	0.073	Pass
16	0.17	0.0237	Pass
17	0.2	0.0549	Pass
18	0.15	0.0179	Pass
19	0.18	0.0371	Pass
20	0.14	0.0161	Pass
21	0.16	0.0295	Pass
22	0.13	0.013	Pass
23	0.15	0.0222	Pass
24	0.12	0.0108	Pass
25	0.14	0.0199	Pass
26	0.11	0.0097	Pass
27	0.12	0.0128	Pass
28	0.1	0.0095	Pass
29	0.12	0.0116	Pass
30	0.09	0.007	Pass
31	0.11	0.0078	Pass
32	0.09	0.0062	Pass
33	0.1	0.0077	Pass
34	0.08	0.0065	Pass
35	0.1	0.0053	Pass
36	0.08	0.005	Pass
37	0.09	0.0054	Pass
38	0.07	0.0043	Pass
39	0.09	0.0049	Pass
40	0.07	0.0044	Pass

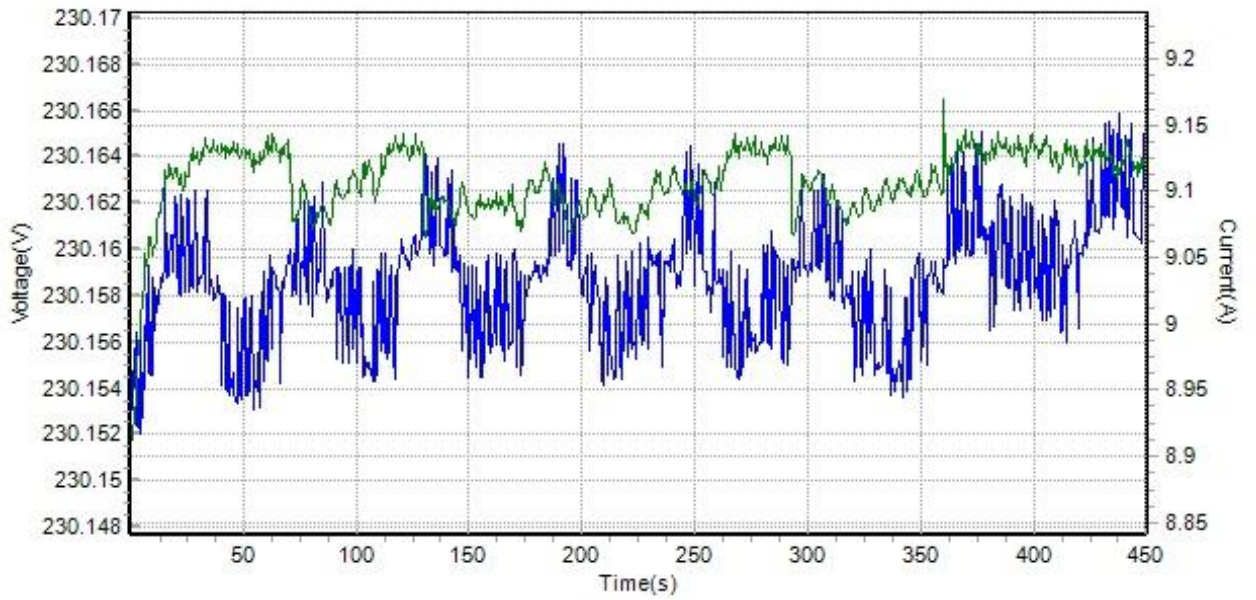
Standard Requirements	Test Result	Pass/Fail
Average values must be lower than applied limit Smoothed RMS values must be lower than 150% of the limit	Average values are lower than the applied limits Smoothed RMS values are lower than 150% of the limits	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Frequency Spectrum:



L1 Real time voltage and current



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 4 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-2:2014
Test Standard:	IEC 61000-3-2:2014
Test Classification:	A
Test Result	Pass
Test Start Time:	2025/08/04 10:28:38
Test End Time:	2025/08/04 10:36:12
	7Minute33Second
Power Specification:	Consistent to IEC61000-3-2
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (PV 输入并网 AC 输出)25% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	230.14/651.55/1.42	Frequency(Hz):	49.9984
Irms(A)/Ipk/Icf:	4.2531/12.9662/1.5595	Power(W)	978.81
Fund Current(A)	4.1803		
V-PHD(%):	0.04	I-PHD(%):	8.07
POHC(A):	0.0317	POHC Limit(A):	0.2514
I-THC(A):	0.3372	H5 Phase(deg)	45.01

L1 Average Data Table

Harmonics Order	Limit (A)	Average (A)	Pass/Fail
2	1.08	0.2681	Pass
3	2.3	0.063	Pass
4	0.43	0.1118	Pass
5	1.14	0.0348	Pass
6	0.3	0.0692	Pass
7	0.77	0.0204	Pass
8	0.23	0.0524	Pass
9	0.4	0.023	Pass
10	0.184	0.0432	Pass
11	0.33	0.0893	Pass
12	0.1533	0.0219	Pass
13	0.21	0.0427	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

14	0.1314	0.0123	Pass
15	0.15	0.0257	Pass
16	0.115	0.0076	Pass
17	0.1324	0.0237	Pass
18	0.1022	0.0058	Pass
19	0.1184	0.0177	Pass
20	0.092	0.0057	Pass
21	0.1071	0.0188	Pass
22	0.0836	0.0069	Pass
23	0.0978	0.0133	Pass
24	0.0767	0.008	Pass
25	0.09	0.0136	Pass
26	0.0708	0.0087	Pass
27	0.0833	0.0086	Pass
28	0.0657	0.0096	Pass
29	0.0776	0.0071	Pass
30	0.0613	0.0099	Pass
31	0.0726	0.005	Pass
32	0.0575	0.0098	Pass
33	0.0682	0.0035	Pass
34	0.0541	0.0092	Pass
35	0.0643	0.005	Pass
36	0.0511	0.0085	Pass
37	0.0608	0.0043	Pass
38	0.0484	0.0073	Pass
39	0.0577	0.0063	Pass
40	0.046	0.0062	Pass

L1 Smoothed RMS Data Table

Harmonics Order	150% Limit (A)	1.5S Smoothed RMS (A)	Pass/Fail
2	1.62	0.3107	Pass
3	3.45	0.0894	Pass
4	0.64	0.134	Pass
5	1.71	0.049	Pass
6	0.45	0.0849	Pass
7	1.16	0.0332	Pass
8	0.34	0.0736	Pass
9	0.6	0.0385	Pass
10	0.28	0.0626	Pass
11	0.5	0.1024	Pass

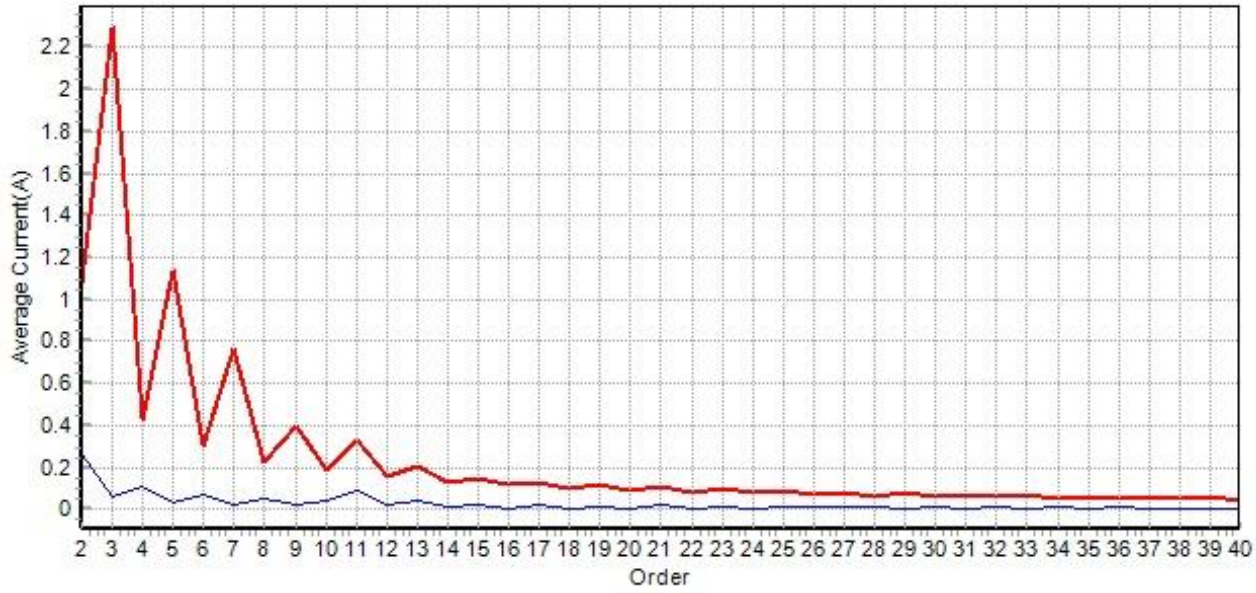
Measurement data (SUN-3.6K-H)	Port under test	AC mains port

12	0.23	0.0314	Pass
13	0.32	0.0532	Pass
14	0.2	0.0217	Pass
15	0.22	0.0346	Pass
16	0.17	0.0127	Pass
17	0.2	0.0298	Pass
18	0.15	0.0107	Pass
19	0.18	0.0217	Pass
20	0.14	0.0092	Pass
21	0.16	0.0227	Pass
22	0.13	0.01	Pass
23	0.15	0.0167	Pass
24	0.12	0.0116	Pass
25	0.14	0.0167	Pass
26	0.11	0.0118	Pass
27	0.12	0.0117	Pass
28	0.1	0.0121	Pass
29	0.12	0.0093	Pass
30	0.09	0.0125	Pass
31	0.11	0.0073	Pass
32	0.09	0.0128	Pass
33	0.1	0.0057	Pass
34	0.08	0.0117	Pass
35	0.1	0.007	Pass
36	0.08	0.0106	Pass
37	0.09	0.0067	Pass
38	0.07	0.0093	Pass
39	0.09	0.0086	Pass
40	0.07	0.0082	Pass

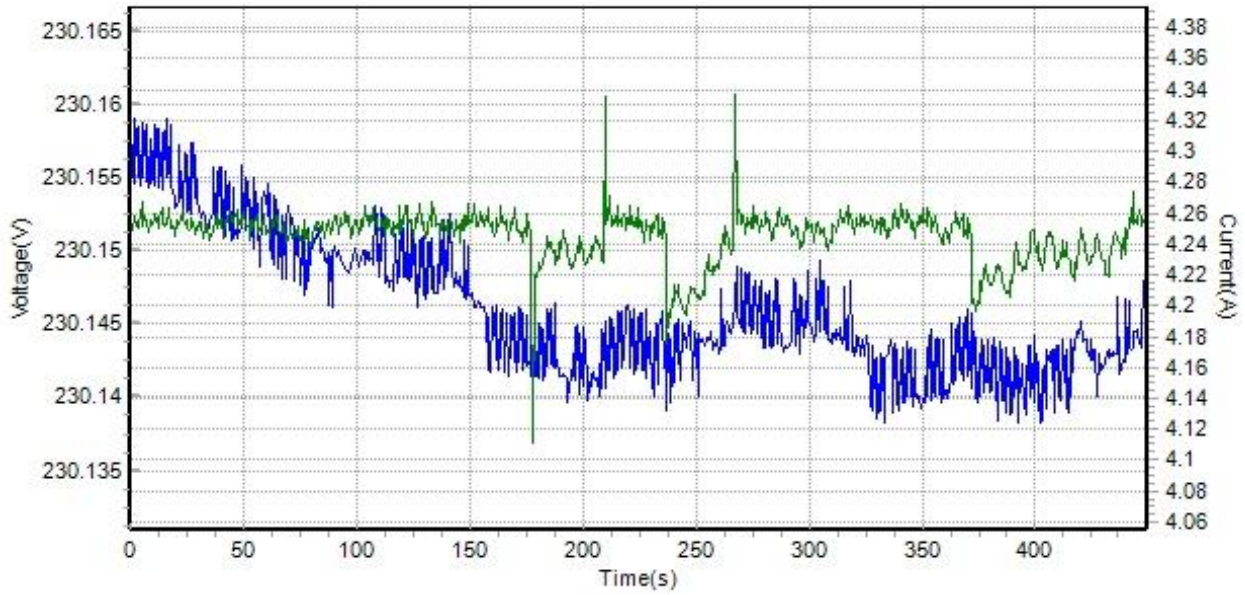
Standard Requirements	Test Result	Pass/Fail
Average values must be lower than applied limit Smoothed RMS values must be lower than 150% of the limit	Average values are lower than the applied limits Smoothed RMS values are lower than 150% of the limits	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Frequency Spectrum:



L1 Real time voltage and current



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 5 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-2:2014
Test Standard:	IEC 61000-3-2:2014
Test Classification:	A
Test Result	Pass
Test Start Time:	2025/08/05 17:22:19
Test End Time:	2025/08/05 17:29:52
	7Minute33Second
Power Specification:	Consistent to IEC61000-3-2
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (AC 输入到电池)100% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	229.89/652.68/1.42	Frequency(Hz):	49.9984
Irms(A)/Ipk/Icf:	15.3363/49.6371/1.6386	Power(W)	3525.66
Fund Current(A)	15.2729		
V-PHD(%):	0.06	I-PHD(%):	4.64
POHC(A):	0.0569	POHC Limit(A):	0.2514
I-THC(A):	0.7081	H5 Phase(deg)	-108.94

L1 Average Data Table

Harmonics Order	Limit (A)	Average (A)	Pass/Fail
2	1.08	0.5546	Pass
3	2.3	0.0941	Pass
4	0.43	0.1634	Pass
5	1.14	0.0687	Pass
6	0.3	0.1067	Pass
7	0.77	0.0374	Pass
8	0.23	0.0806	Pass
9	0.4	0.0373	Pass
10	0.184	0.0816	Pass
11	0.33	0.2873	Pass
12	0.1533	0.0612	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port	
13	0.21	0.138	Pass
14	0.1314	0.0364	Pass
15	0.15	0.0872	Pass
16	0.115	0.0299	Pass
17	0.1324	0.0617	Pass
18	0.1022	0.0252	Pass
19	0.1184	0.0467	Pass
20	0.092	0.0204	Pass
21	0.1071	0.0336	Pass
22	0.0836	0.0172	Pass
23	0.0978	0.0272	Pass
24	0.0767	0.0141	Pass
25	0.09	0.0215	Pass
26	0.0708	0.0114	Pass
27	0.0833	0.0172	Pass
28	0.0657	0.0094	Pass
29	0.0776	0.0137	Pass
30	0.0613	0.0077	Pass
31	0.0726	0.0115	Pass
32	0.0575	0.0062	Pass
33	0.0682	0.0092	Pass
34	0.0541	0.0048	Pass
35	0.0643	0.0077	Pass
36	0.0511	0.0039	Pass
37	0.0608	0.0063	Pass
38	0.0484	0.0033	Pass
39	0.0577	0.0051	Pass
40	0.046	0.0029	Pass

L1 Smoothed RMS Data Table

Harmonics Order	150% Limit (A)	1.5S Smoothed RMS (A)	Pass/Fail
2	1.62	0.6463	Pass
3	3.45	0.1309	Pass
4	0.64	0.1986	Pass
5	1.71	0.0921	Pass
6	0.45	0.1285	Pass
7	1.16	0.0535	Pass
8	0.34	0.0997	Pass
9	0.6	0.0548	Pass
10	0.28	0.0991	Pass

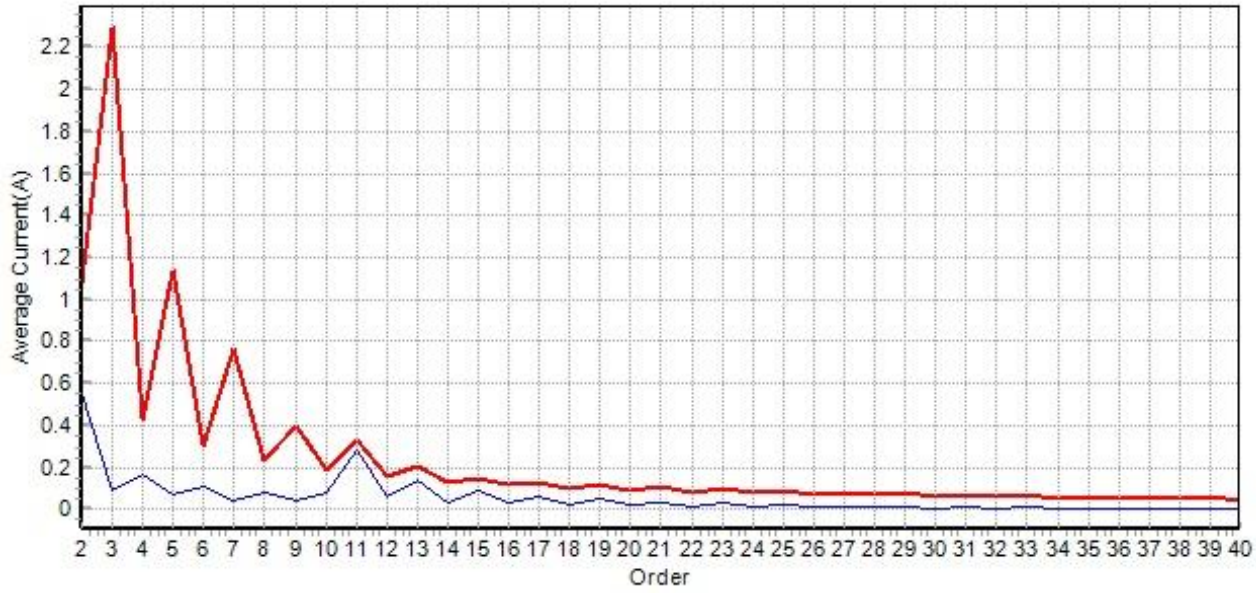
Measurement data (SUN-3.6K-H)	Port under test	AC mains port

11	0.5	0.3046	Pass
12	0.23	0.0726	Pass
13	0.32	0.154	Pass
14	0.2	0.0472	Pass
15	0.22	0.0965	Pass
16	0.17	0.037	Pass
17	0.2	0.0675	Pass
18	0.15	0.0306	Pass
19	0.18	0.0524	Pass
20	0.14	0.026	Pass
21	0.16	0.0378	Pass
22	0.13	0.0219	Pass
23	0.15	0.0311	Pass
24	0.12	0.0179	Pass
25	0.14	0.0267	Pass
26	0.11	0.0147	Pass
27	0.12	0.0217	Pass
28	0.1	0.0128	Pass
29	0.12	0.0165	Pass
30	0.09	0.0103	Pass
31	0.11	0.0143	Pass
32	0.09	0.0092	Pass
33	0.1	0.0127	Pass
34	0.08	0.0069	Pass
35	0.1	0.0113	Pass
36	0.08	0.0063	Pass
37	0.09	0.0097	Pass
38	0.07	0.0055	Pass
39	0.09	0.0079	Pass
40	0.07	0.0046	Pass

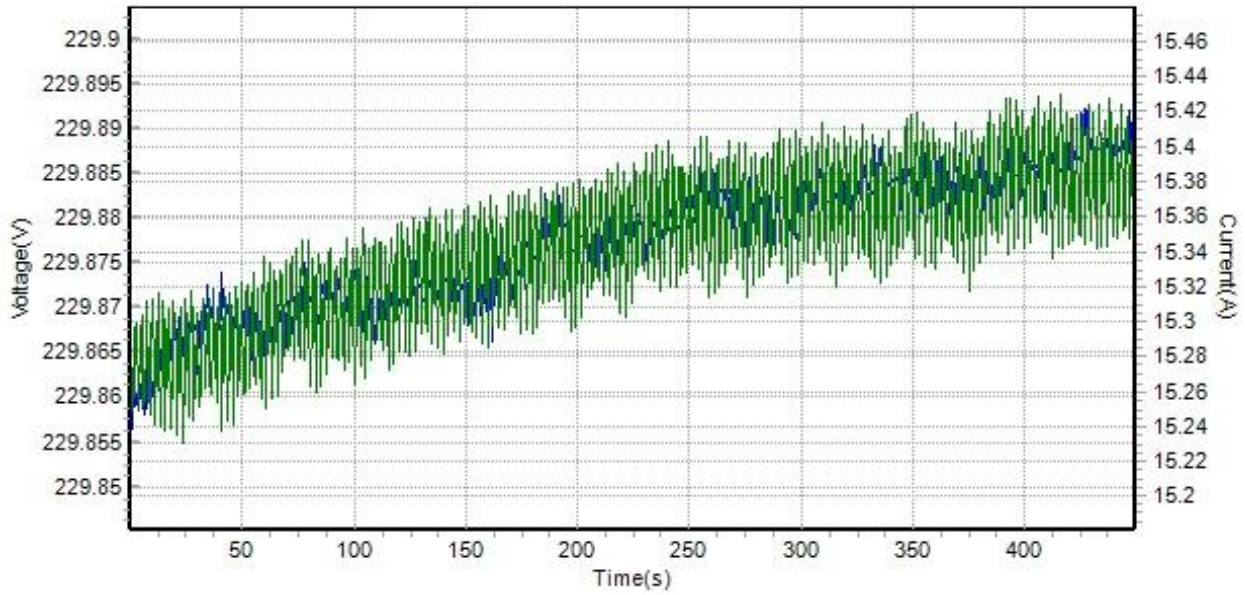
Standard Requirements	Test Result	Pass/Fail
Average values must be lower than applied limit Smoothed RMS values must be lower than 150% of the limit	Average values are lower than the applied limits Smoothed RMS values are lower than 150% of the limits	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Frequency Spectrum:



L1 Real time voltage and current



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 6 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-2:2014
Test Standard:	IEC 61000-3-2:2014
Test Classification:	A
Test Result	Pass
Test Start Time:	2025/08/05 18:08:14
Test End Time:	2025/08/05 18:15:47
	7Minute33Second
Power Specification:	Consistent to IEC61000-3-2
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (AC 输入到电池)50% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	229.95/652.14/1.42	Frequency(Hz):	49.99675
Irms(A)/Ipk/Icf:	7.8043/24.5916/1.6084	Power(W)	1794.6
Fund Current(A)	7.7383		
V-PHD(%):	0.05	I-PHD(%):	5.77
POHC(A):	0.0214	POHC Limit(A):	0.2514
I-THC(A):	0.4463	H5 Phase(deg)	-28.1

L1 Average Data Table

Harmonics Order	Limit (A)	Average (A)	Pass/Fail
2	1.08	0.3312	Pass
3	2.3	0.0737	Pass
4	0.43	0.1361	Pass
5	1.14	0.0452	Pass
6	0.3	0.0954	Pass
7	0.77	0.0317	Pass
8	0.23	0.0775	Pass
9	0.4	0.0317	Pass
10	0.184	0.0748	Pass
11	0.33	0.1717	Pass
12	0.1533	0.0434	Pass
13	0.21	0.07	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

14	0.1314	0.027	Pass
15	0.15	0.0411	Pass
16	0.115	0.0189	Pass
17	0.1324	0.0251	Pass
18	0.1022	0.0126	Pass
19	0.1184	0.0172	Pass
20	0.092	0.0083	Pass
21	0.1071	0.0124	Pass
22	0.0836	0.0062	Pass
23	0.0978	0.0104	Pass
24	0.0767	0.0043	Pass
25	0.09	0.0079	Pass
26	0.0708	0.0037	Pass
27	0.0833	0.006	Pass
28	0.0657	0.0033	Pass
29	0.0776	0.0041	Pass
30	0.0613	0.0031	Pass
31	0.0726	0.0032	Pass
32	0.0575	0.0029	Pass
33	0.0682	0.0027	Pass
34	0.0541	0.0025	Pass
35	0.0643	0.0027	Pass
36	0.0511	0.0024	Pass
37	0.0608	0.0029	Pass
38	0.0484	0.0025	Pass
39	0.0577	0.0036	Pass
40	0.046	0.0023	Pass

L1 Smoothed RMS Data Table

Harmonics Order	150% Limit (A)	1.5S Smoothed RMS (A)	Pass/Fail
2	1.62	0.3624	Pass
3	3.45	0.0903	Pass
4	0.64	0.1549	Pass
5	1.71	0.0599	Pass
6	0.45	0.1083	Pass
7	1.16	0.0443	Pass
8	0.34	0.0923	Pass
9	0.6	0.0481	Pass
10	0.28	0.0887	Pass
11	0.5	0.1875	Pass

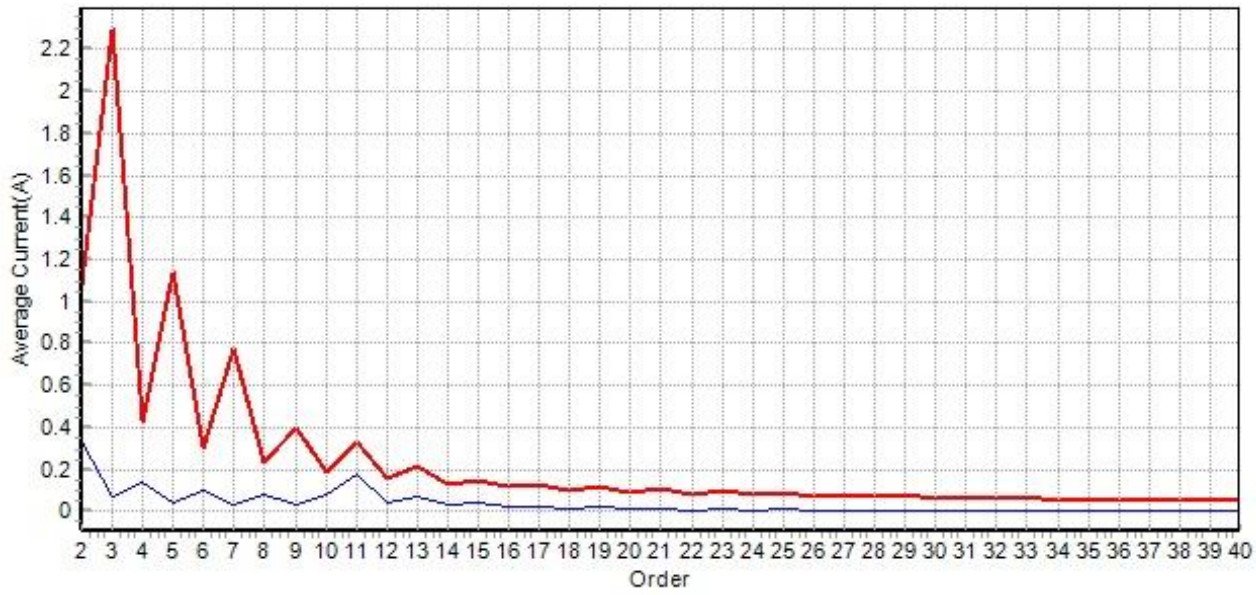
Measurement data (SUN-3.6K-H)	Port under test	AC mains port

12	0.23	0.0529	Pass
13	0.32	0.0793	Pass
14	0.2	0.0333	Pass
15	0.22	0.0482	Pass
16	0.17	0.0243	Pass
17	0.2	0.0314	Pass
18	0.15	0.0168	Pass
19	0.18	0.0212	Pass
20	0.14	0.0116	Pass
21	0.16	0.0163	Pass
22	0.13	0.0101	Pass
23	0.15	0.0137	Pass
24	0.12	0.0076	Pass
25	0.14	0.0116	Pass
26	0.11	0.0065	Pass
27	0.12	0.0087	Pass
28	0.1	0.0055	Pass
29	0.12	0.0068	Pass
30	0.09	0.0052	Pass
31	0.11	0.0058	Pass
32	0.09	0.0051	Pass
33	0.1	0.0054	Pass
34	0.08	0.0045	Pass
35	0.1	0.0048	Pass
36	0.08	0.0044	Pass
37	0.09	0.0049	Pass
38	0.07	0.0043	Pass
39	0.09	0.0064	Pass
40	0.07	0.0044	Pass

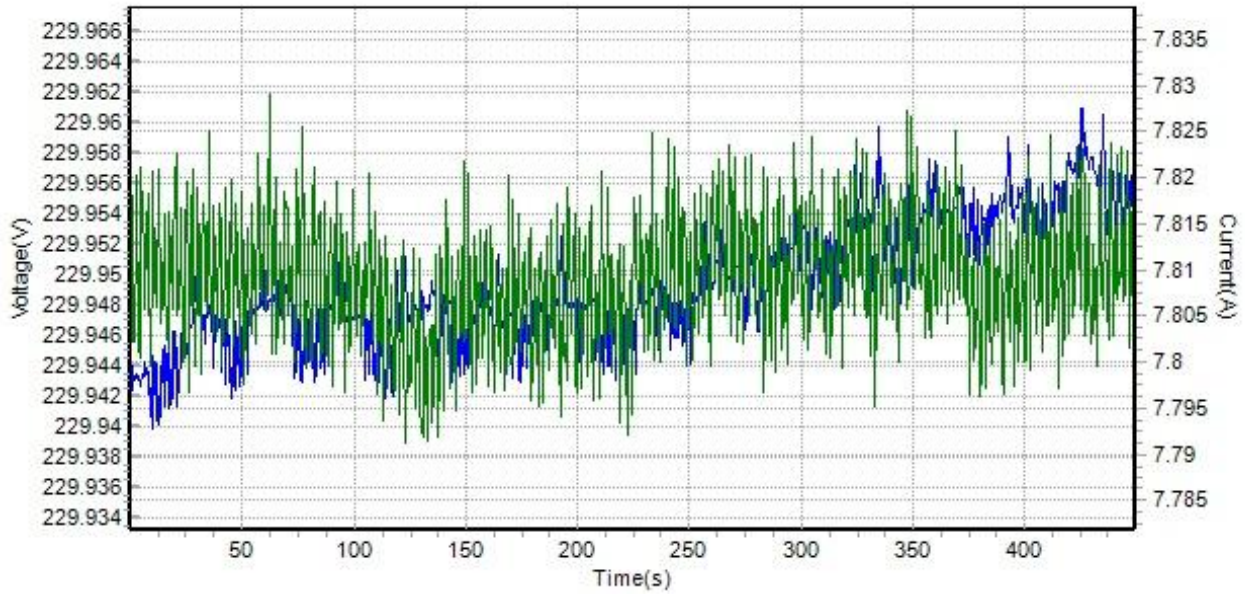
Standard Requirements	Test Result	Pass/Fail
Average values must be lower than applied limit Smoothed RMS values must be lower than 150% of the limit	Average values are lower than the applied limits Smoothed RMS values are lower than 150% of the limits	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Frequency Spectrum:



L1 Real time voltage and current



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 7 / 230 Vac, 50 Hz

Test Template	IEC 61000-3-2:2014
Test Standard:	IEC 61000-3-2:2014
Test Classification:	A
Test Result	Pass
Test Start Time:	2025/08/05 18:19:19
Test End Time:	2025/08/05 18:26:53
	7Minute33Second
Power Specification:	Consistent to IEC61000-3-2
Power Distortion:	OK
Temperature(°C):	20
Humidity(%):	55
Custom:	WTSZ2507082 并网模式 (AC 输入到电池)25% of nominal power
Test Engineer:	Kayn.Ge

Test Data Summary(L1)

Vrms(V)/Vpk/Vcf:	230.03/652.22/1.42	Frequency(Hz):	50.00005
Irms(A)/Ipk/Icf:	4.1038/14.2542/1.8373	Power(W)	944
Fund Current(A)	3.9937		
V-PHD(%):	0.04	I-PHD(%):	9.78
POHC(A):	0.0362	POHC Limit(A):	0.2514
I-THC(A):	0.3904	H5 Phase(deg)	111.67

L1 Average Data Table

Harmonics Order	Limit (A)	Average (A)	Pass/Fail
2	1.08	0.2931	Pass
3	2.3	0.0563	Pass
4	0.43	0.1771	Pass
5	1.14	0.0272	Pass
6	0.3	0.1416	Pass
7	0.77	0.0177	Pass
8	0.23	0.0754	Pass
9	0.4	0.0203	Pass
10	0.184	0.0254	Pass
11	0.33	0.0259	Pass
12	0.1533	0.0186	Pass
13	0.21	0.011	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

14	0.1314	0.0202	Pass
15	0.15	0.0154	Pass
16	0.115	0.017	Pass
17	0.1324	0.0114	Pass
18	0.1022	0.0135	Pass
19	0.1184	0.0077	Pass
20	0.092	0.0113	Pass
21	0.1071	0.0079	Pass
22	0.0836	0.0091	Pass
23	0.0978	0.009	Pass
24	0.0767	0.0073	Pass
25	0.09	0.0119	Pass
26	0.0708	0.0055	Pass
27	0.0833	0.0132	Pass
28	0.0657	0.0039	Pass
29	0.0776	0.0135	Pass
30	0.0613	0.0035	Pass
31	0.0726	0.0142	Pass
32	0.0575	0.0036	Pass
33	0.0682	0.012	Pass
34	0.0541	0.0039	Pass
35	0.0643	0.0116	Pass
36	0.0511	0.0045	Pass
37	0.0608	0.0089	Pass
38	0.0484	0.0049	Pass
39	0.0577	0.0081	Pass
40	0.046	0.0055	Pass

L1 Smoothed RMS Data Table

Harmonics Order	150% Limit (A)	1.5S Smoothed RMS (A)	Pass/Fail
2	1.62	0.3137	Pass
3	3.45	0.0685	Pass
4	0.64	0.1902	Pass
5	1.71	0.0393	Pass
6	0.45	0.1515	Pass
7	1.16	0.0263	Pass
8	0.34	0.0863	Pass
9	0.6	0.0318	Pass
10	0.28	0.0356	Pass
11	0.5	0.0361	Pass

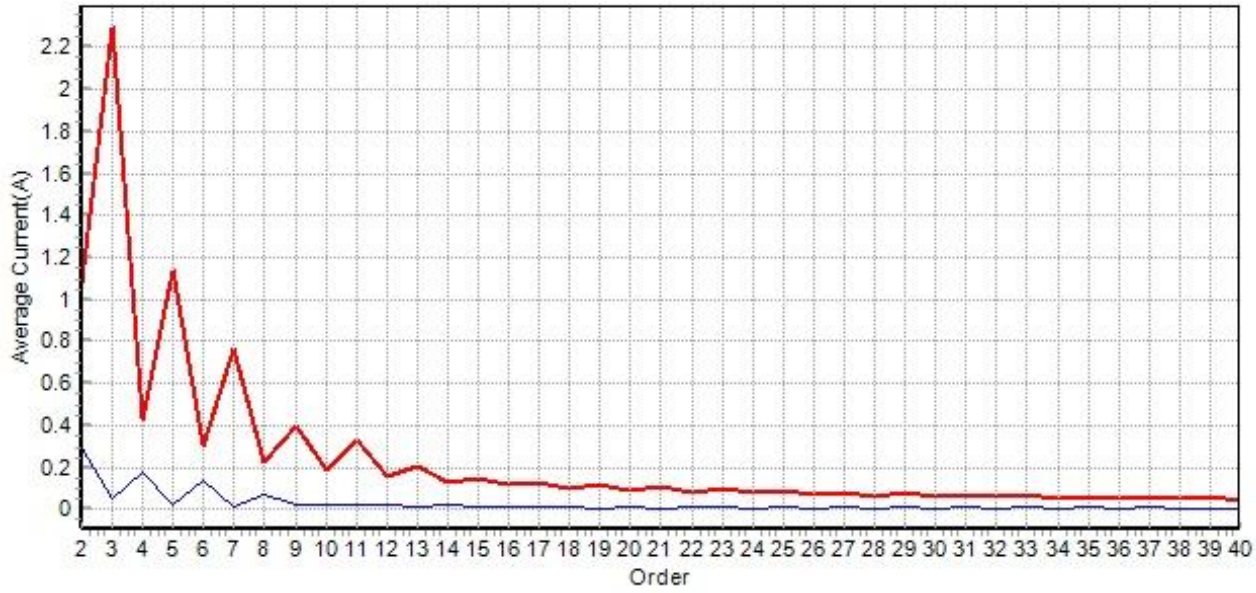
Measurement data (SUN-3.6K-H)	Port under test	AC mains port

12	0.23	0.0269	Pass
13	0.32	0.0206	Pass
14	0.2	0.0263	Pass
15	0.22	0.0222	Pass
16	0.17	0.0235	Pass
17	0.2	0.0176	Pass
18	0.15	0.0204	Pass
19	0.18	0.0121	Pass
20	0.14	0.0166	Pass
21	0.16	0.0118	Pass
22	0.13	0.0146	Pass
23	0.15	0.0133	Pass
24	0.12	0.0121	Pass
25	0.14	0.0156	Pass
26	0.11	0.0097	Pass
27	0.12	0.0186	Pass
28	0.1	0.0063	Pass
29	0.12	0.0183	Pass
30	0.09	0.0058	Pass
31	0.11	0.0184	Pass
32	0.09	0.0059	Pass
33	0.1	0.0164	Pass
34	0.08	0.0067	Pass
35	0.1	0.0155	Pass
36	0.08	0.0071	Pass
37	0.09	0.0127	Pass
38	0.07	0.008	Pass
39	0.09	0.0114	Pass
40	0.07	0.0084	Pass

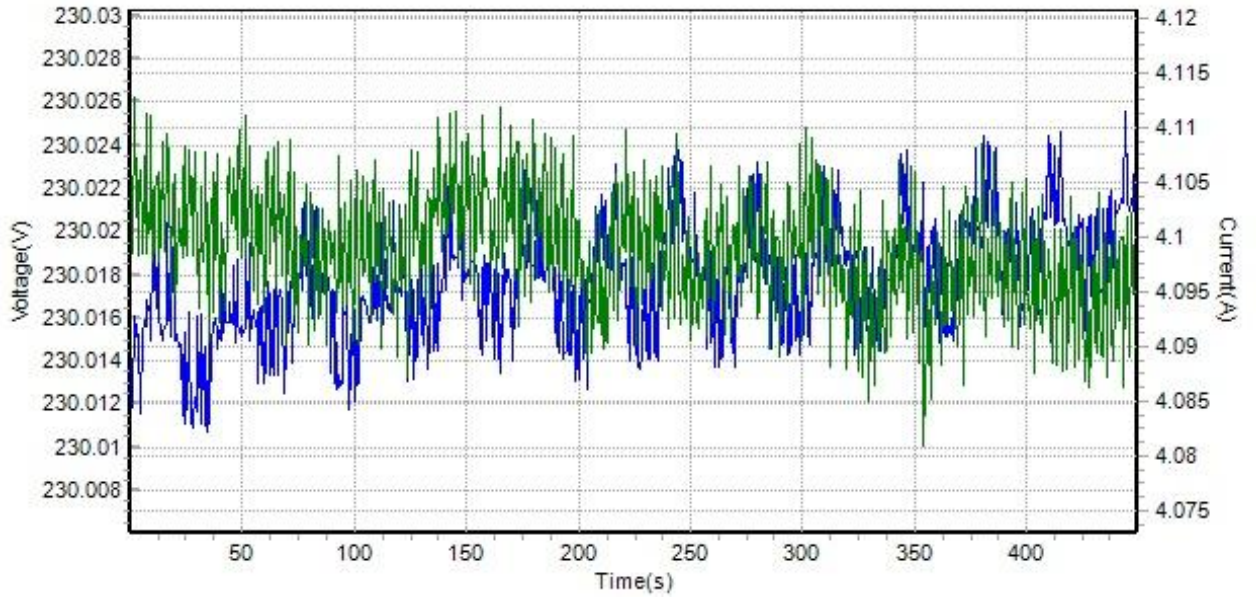
Standard Requirements	Test Result	Pass/Fail
Average values must be lower than applied limit Smoothed RMS values must be lower than 150% of the limit	Average values are lower than the applied limits Smoothed RMS values are lower than 150% of the limits	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Frequency Spectrum:



L1 Real time voltage and current



Remark	---

4.6 Voltage changes, voltage fluctuations and flicker — VERDICT: PASS

Standard	EN 62920
Basic standard	IEC 61000-3-3, IEC 61000-3-11

Limits

P_{ST} (Short term flicker)	☒	≤ 1	☐	Not Applicable
P_{LT} (Long term flicker)	☒	≤ 0,65	☐	Not Applicable
d_C (Relative Voltage change)	☒	≤ 3,3%	☐	Not Applicable
T_{max} (Maximum time duration)	☒	≤ 500ms	☐	Not Applicable
d_{MAX} (Max. voltage change)	☒	≤ 4%	☐	6%
	☐	7%	☐	Not Applicable
Supplemental information:				

Performed measurements

Reason for not performing the measurement(s)	☐	Tests are not necessary because the EUT is unlikely to produce significant voltage fluctuations or flicker (clause 6.1).				
Port under test	AC mains port					
Voltage – Mains [V]	230 Vac					
Frequency – Mains [Hz]	50 Hz					
Test method	☒	Flickermeter according EN / IEC 61000-4-15:2011				
	☐	Simulation (Clause 4.2.3 of EN / IEC 61000-3-3)				
	☐	Analytical method (Clause 4.2.4 of EN / IEC 61000-3-3)				
	☐	Use of P_{st} = 1 curve (Clause 4.2.5 of EN / IEC 61000-3-3)				
Observation peroid	☒	10 min.	☐	120 min.	☐	Other:
	☐	24 times switching according to Annex B				
Operating mode(s) used	Mode 2, Mode 3, Mode 4, Mode 5, Mode 6, Mode 7					
Remark	---					

See next page.

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 2 / 230 Vac, 50 Hz

Test Template: IEC 61000-3-11:2000
Test Standard: IEC 61000-3-11:2000
Test Result: Pass
Test Start Time: 2025/8/1 13:19:0
Test End Time: 2025/8/1 13:29:24
Test Duration: 10Minute23 Second

Temperature(°C) 20
Humidity(%) 55

Test Result

L1 Measured Values:

Voltage(V):	238.54	Current(A):	34.358
Power(W):	8195.8	Frequency(Hz)	50

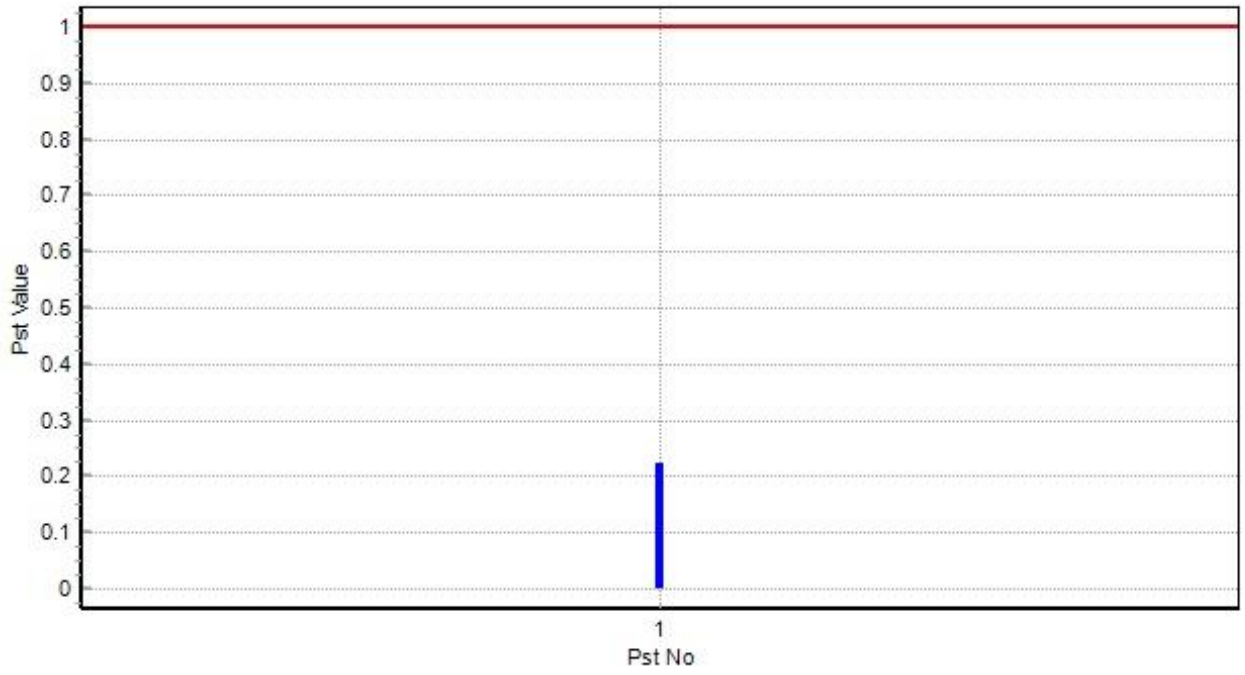
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.224	Pst value not greater than 1.0	Pass
Long term Plt	0.098	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	1.57	dmax not greater than 6%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	6	1.57	Pass

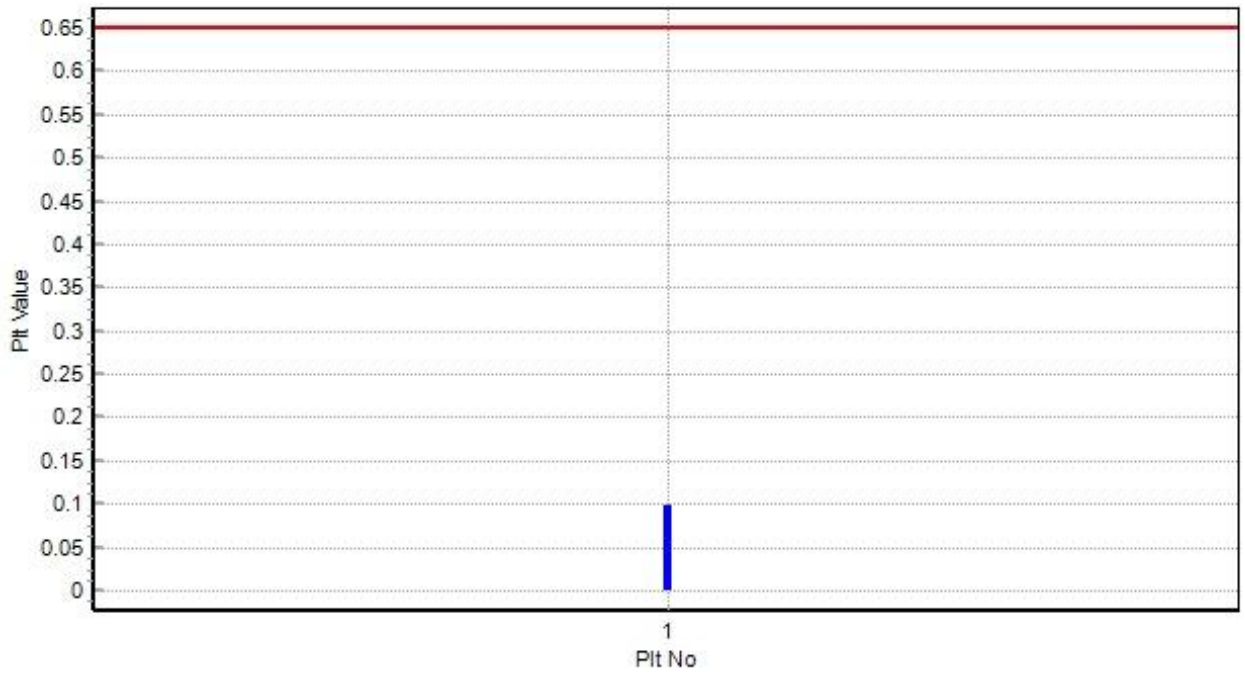
Name	Limit	L1	L1 Result
Pst No1	1	0.224	Pass
Plt	0.65	0.098	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 3 / 230 Vac, 50 Hz

Test Template: IEC 61000-3-11:2000
Test Standard: IEC 61000-3-11:2000
Test Result: Pass
Test Start Time: 2025/8/1 13:35:51
Test End Time: 2025/8/1 13:46:15
Test Duration: 10Minute23 Second

Temperature(°C) 20
Humidity(%) 55

Test Result

L1 Measured Values:

Voltage(V):	234.51	Current(A):	17.609
Power(W):	4129.6	Frequency(Hz)	50

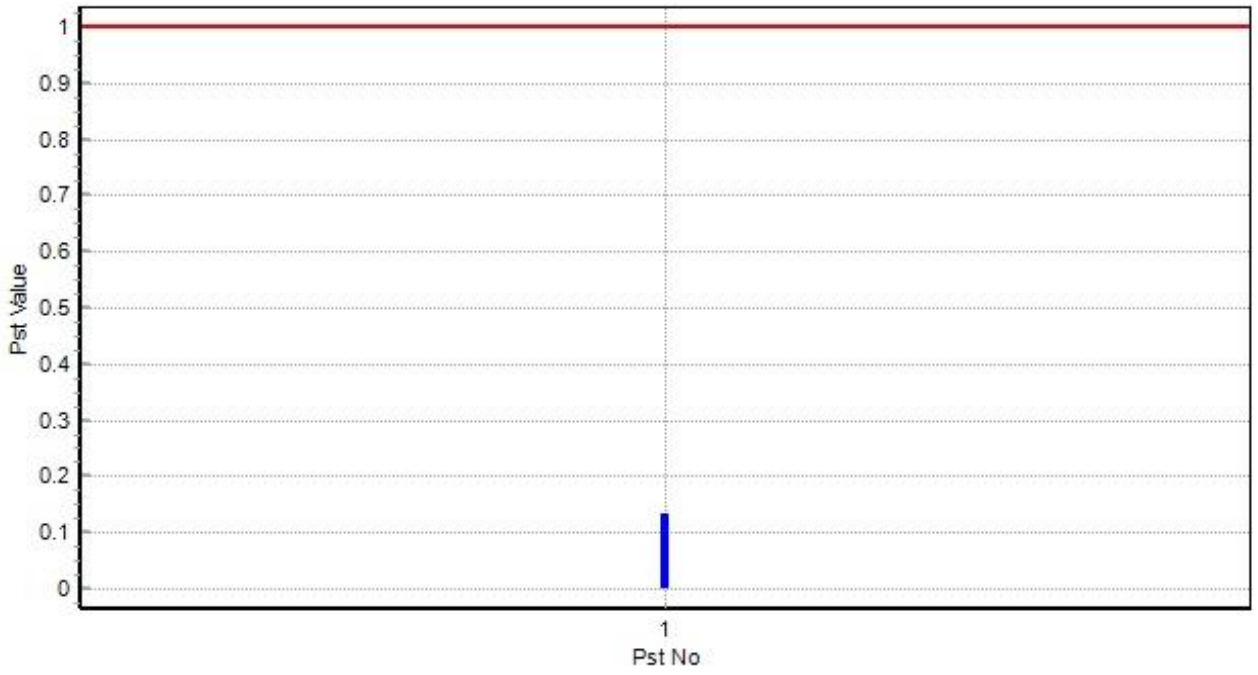
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.132	Pst value not greater than 1.0	Pass
Long term Plt	0.058	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.71	dmax not greater than 6%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	6	0.71	Pass

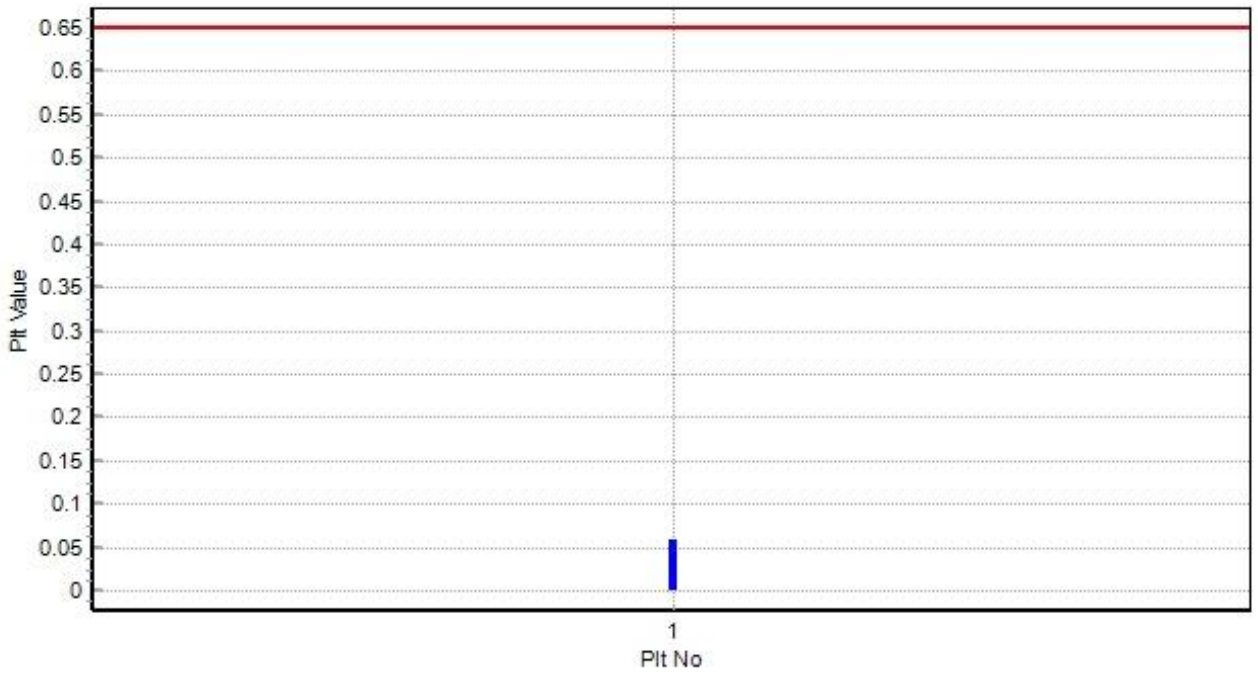
Name	Limit	L1	L1 Result
Pst No1	1	0.132	Pass
Plt	0.65	0.058	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 4 / 230 Vac, 50 Hz

Test Template:	IEC 61000-3-11:2000
Test Standard:	IEC 61000-3-11:2000
Test Result:	Pass
Test Start Time:	2025/8/1 14:11:44
Test End Time:	2025/8/1 14:22:8
Test Duration:	10Minute23 Second
Temperature(°C)	20
Humidity(%)	55

Test Result

L1 Measured Values:

Voltage(V):	232.3	Current(A):	8.727
Power(W):	2027.3	Frequency(Hz)	50

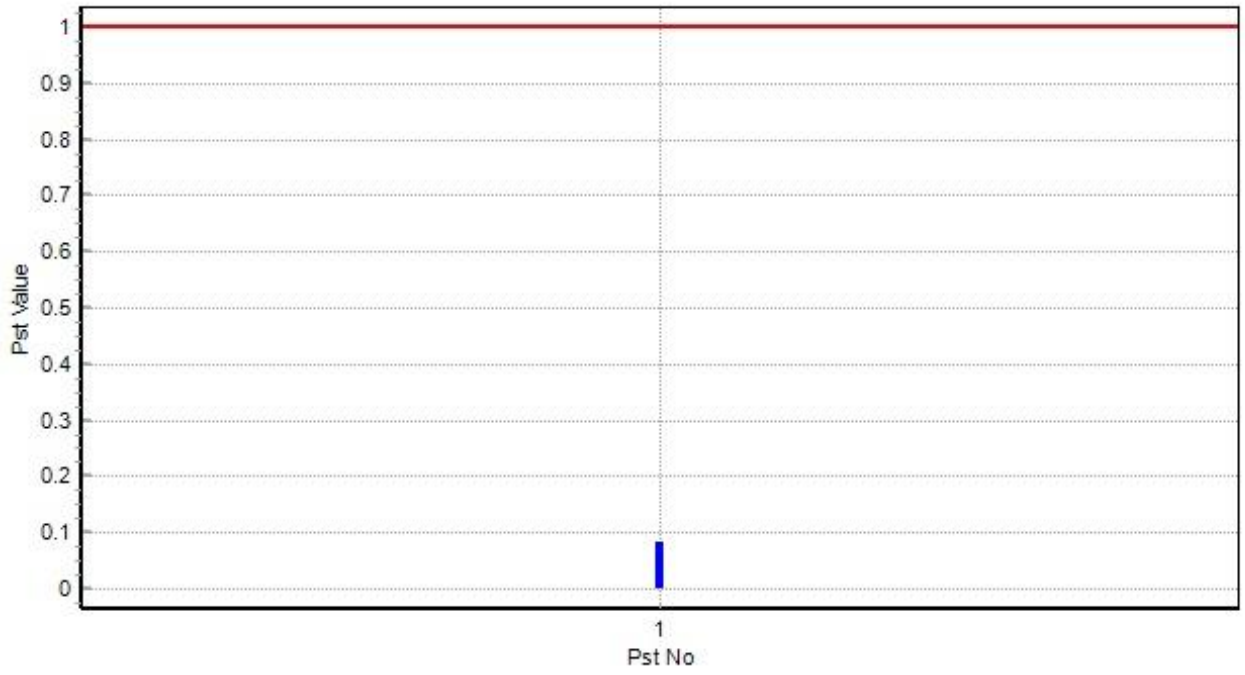
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.083	Pst value not greater than 1.0	Pass
Long term Plt	0.036	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.38	dmax not greater than 6%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	6	0.38	Pass

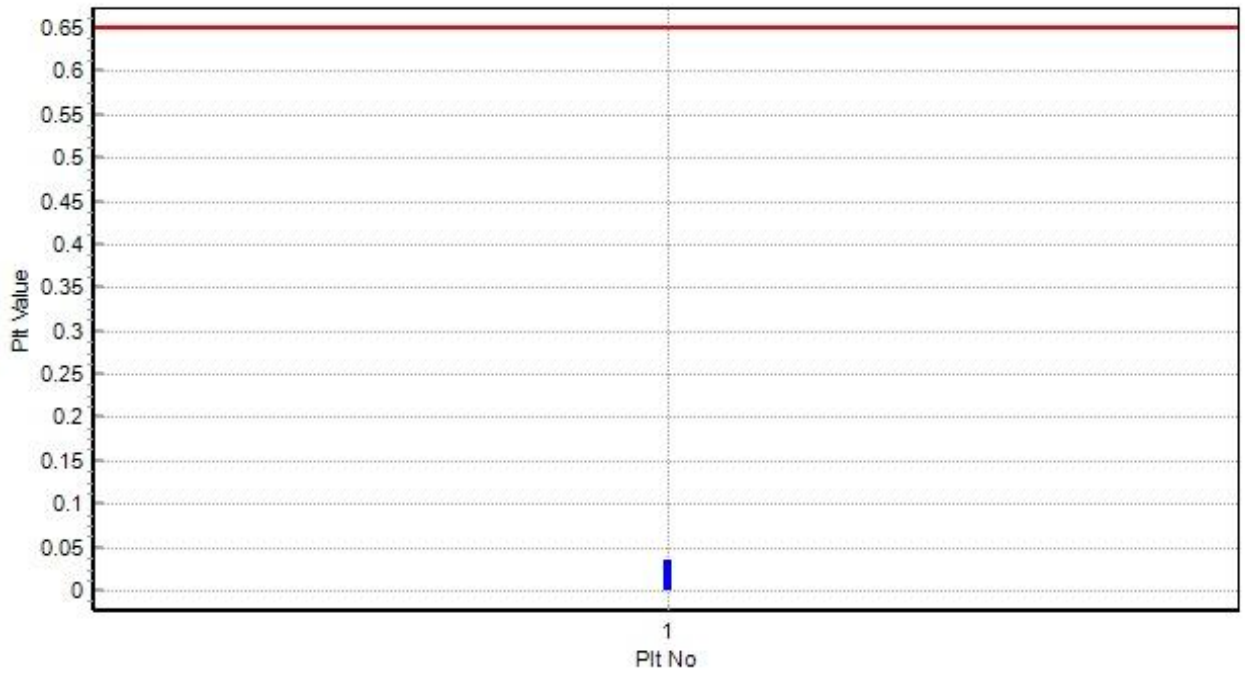
Name	Limit	L1	L1 Result
Pst No1	1	0.083	Pass
Plt	0.65	0.036	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 5 / 230 Vac, 50 Hz

Test Template: IEC 61000-3-11:2000
Test Standard: IEC 61000-3-11:2000
Test Result: Pass
Test Start Time: 2025/8/4 11:07:57
Test End Time: 2025/8/4 11:18:21
Test Duration: 10Minute23 Second

Temperature(°C) 20
Humidity(%) 55

Test Result

L1 Measured Values:

Voltage(V):	221.35	Current(A):	34.831
Power(W):	7709.8	Frequency(Hz)	50

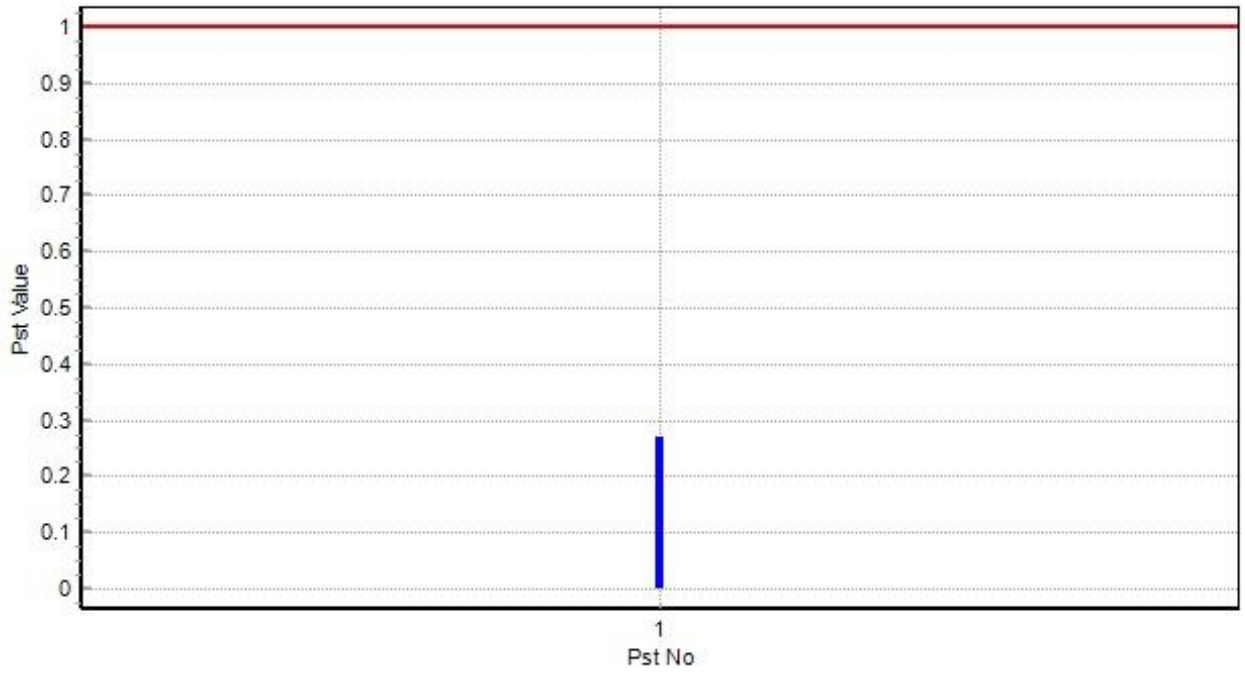
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.269	Pst value not greater than 1.0	Pass
Long term Plt	0.117	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.79	dmax not greater than 6%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	6	0.79	Pass

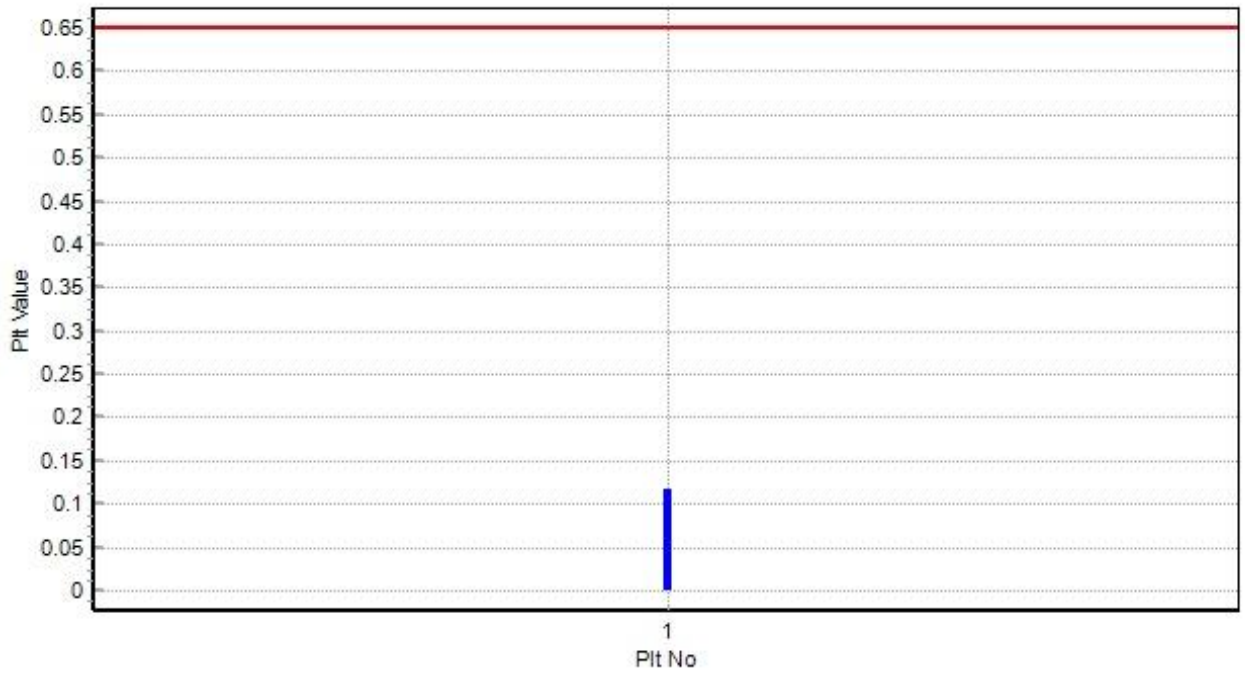
Name	Limit	L1	L1 Result
Pst No1	1	0.269	Pass
Plt	0.65	0.117	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 6 / 230 Vac, 50 Hz

Test Template:	IEC 61000-3-11:2000
Test Standard:	IEC 61000-3-11:2000
Test Result:	Pass
Test Start Time:	2025/8/4 11:19:52
Test End Time:	2025/8/4 11:30:16
Test Duration:	10Minute23 Second
Temperature(°C)	20
Humidity(%)	55

Test Result

L1 Measured Values:

Voltage(V):	225.8	Current(A):	17.454
Power(W):	3941	Frequency(Hz)	50

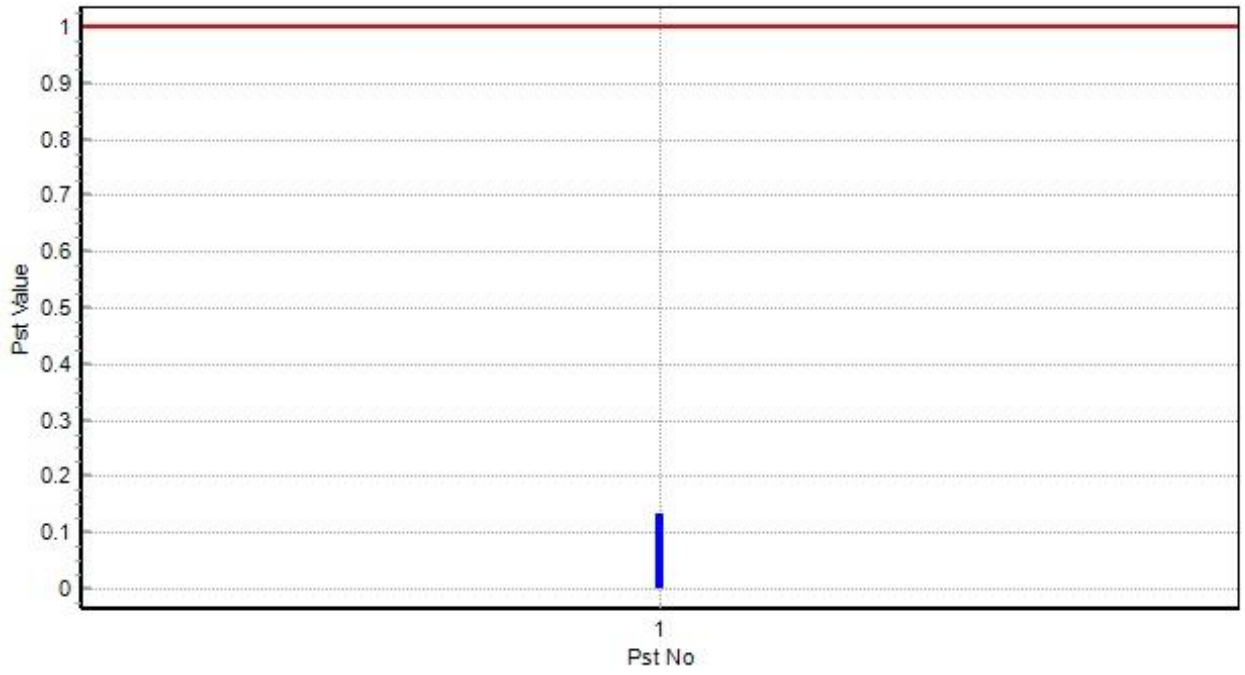
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.132	Pst value not greater than 1.0	Pass
Long term Plt	0.058	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.8	dmax not greater than 6%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	6	0.80	Pass

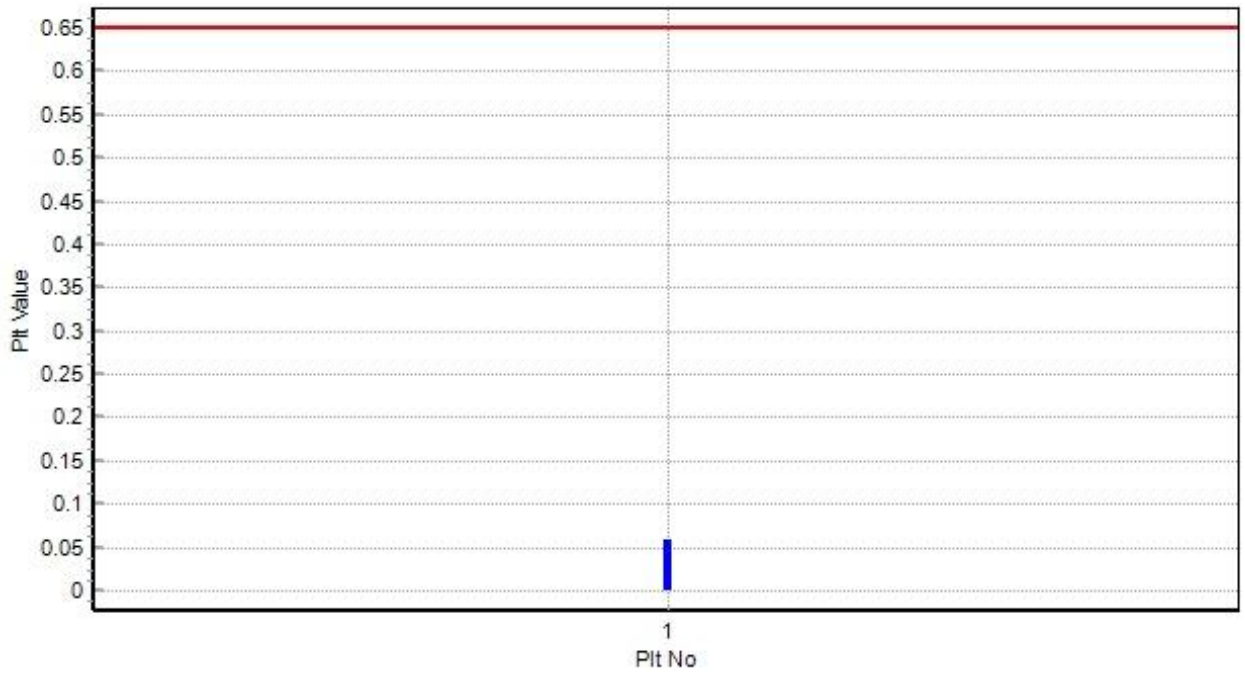
Name	Limit	L1	L1 Result
Pst No1	1	0.132	Pass
Plt	0.65	0.058	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-8K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 7 / 230 Vac, 50 Hz

Test Template: IEC 61000-3-11:2000
Test Standard: IEC 61000-3-11:2000
Test Result: Pass
Test Start Time: 2025/8/4 11:49:24
Test End Time: 2025/8/4 11:59:48
Test Duration: 10Minute23 Second

Temperature(°C) 20
Humidity(%) 55

Test Result

L1 Measured Values:

Voltage(V):	228	Current(A):	8.596
Power(W):	1959.9	Frequency(Hz)	50

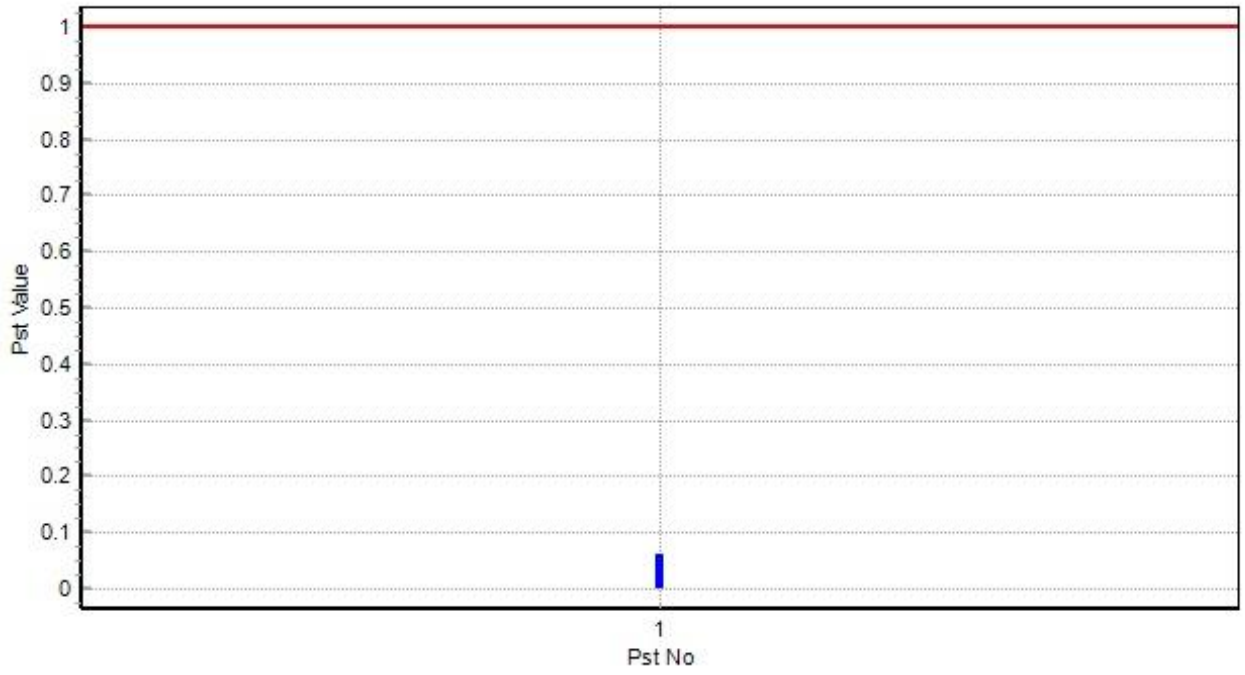
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.062	Pst value not greater than 1.0	Pass
Long term Plt	0.027	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.45	dmax not greater than 6%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	6	0.45	Pass

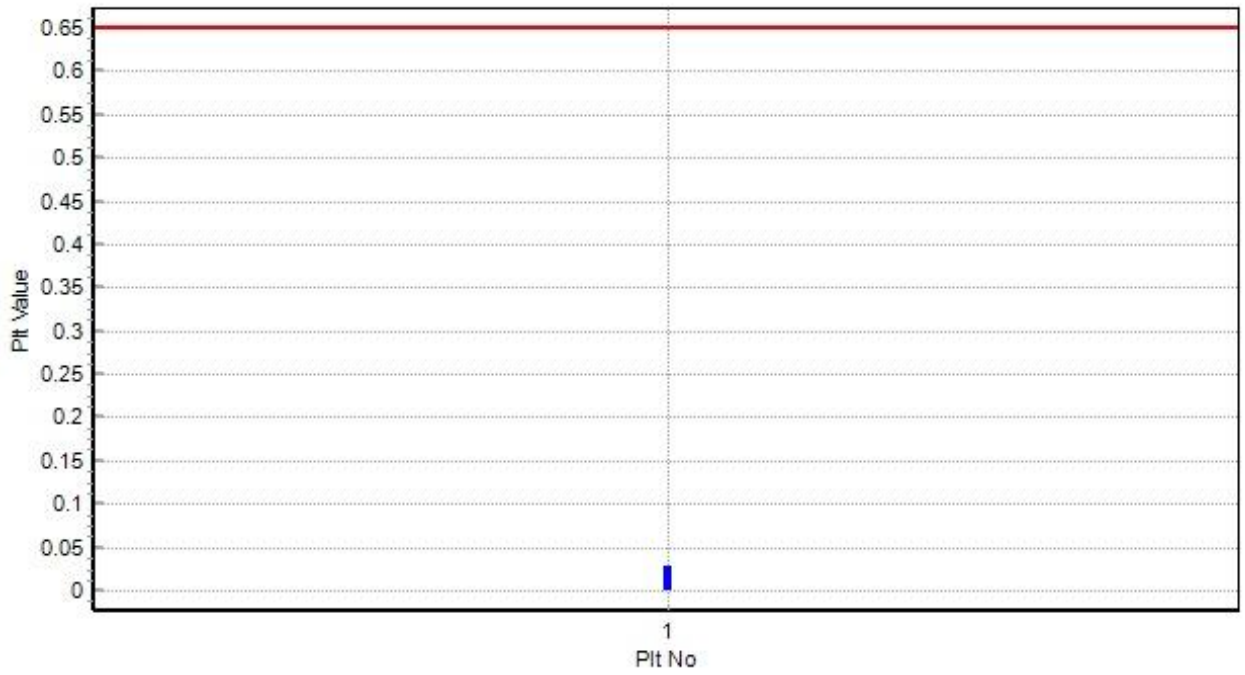
Name	Limit	L1	L1 Result
Pst No1	1	0.062	Pass
Plt	0.65	0.027	Pass

Measurement data (SUN-8K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 2 / 230 Vac, 50 Hz

Test Template: IEC 61000-3-3:2013
Test Standard: IEC 61000-3-3:2013
Test Result: Pass
Test Start Time: 2025/8/1 14:40:22
Test End Time: 2025/8/1 14:50:46
Test Duration: 10Minute23 Second

Temperature(°C) 20
Humidity(%) 55

Test Result

L1 Measured Values:

Voltage(V):	236.38	Current(A):	15.426
Power(W):	3646.5	Frequency(Hz)	50

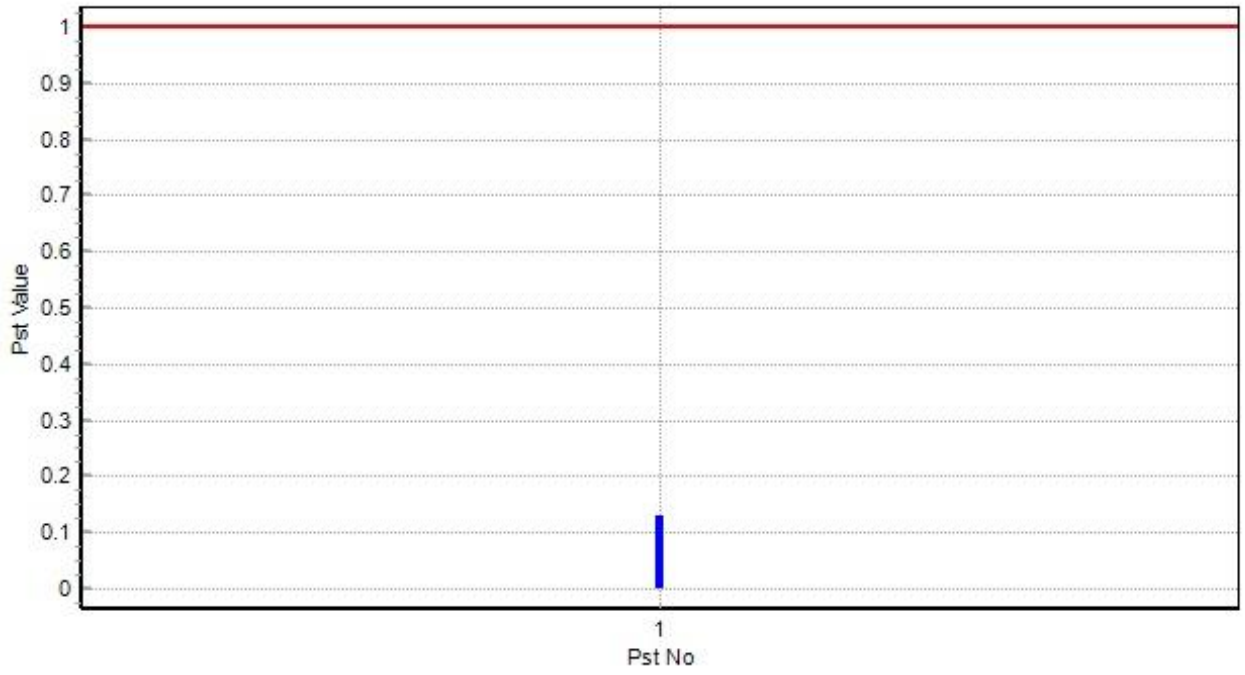
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.13	Pst value not greater than 1.0	Pass
Long term Plt	0.057	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.75	dmax not greater than 4%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	4	0.75	Pass

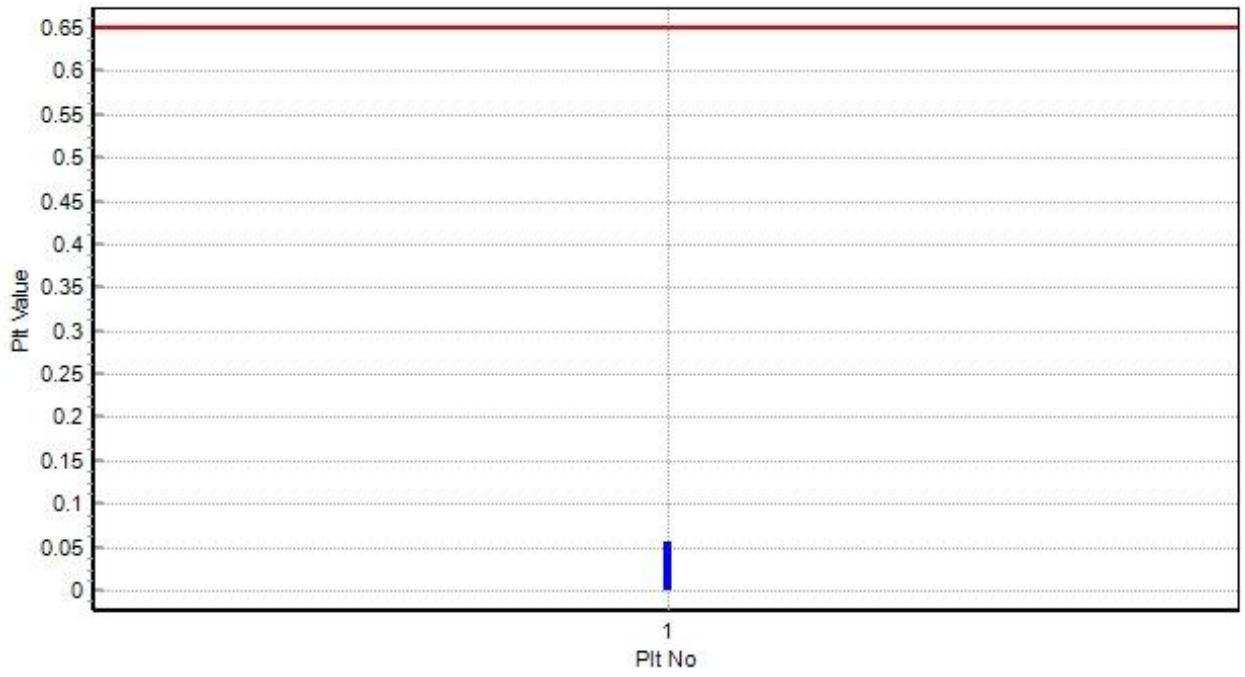
Name	Limit	L1	L1 Result
Pst No1	1	0.13	Pass
Plt	0.65	0.057	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 3 / 230 Vac, 50 Hz

Test Template: IEC 61000-3-3:2013
Test Standard: IEC 61000-3-3:2013
Test Result: Pass
Test Start Time: 2025/8/4 10:00:56
Test End Time: 2025/8/4 10:11:20
Test Duration: 10Minute23 Second

Temperature(°C) 20
Humidity(%) 55

Test Result

L1 Measured Values:

Voltage(V):	233.73	Current(A):	8.928
Power(W):	2086.9	Frequency(Hz)	50

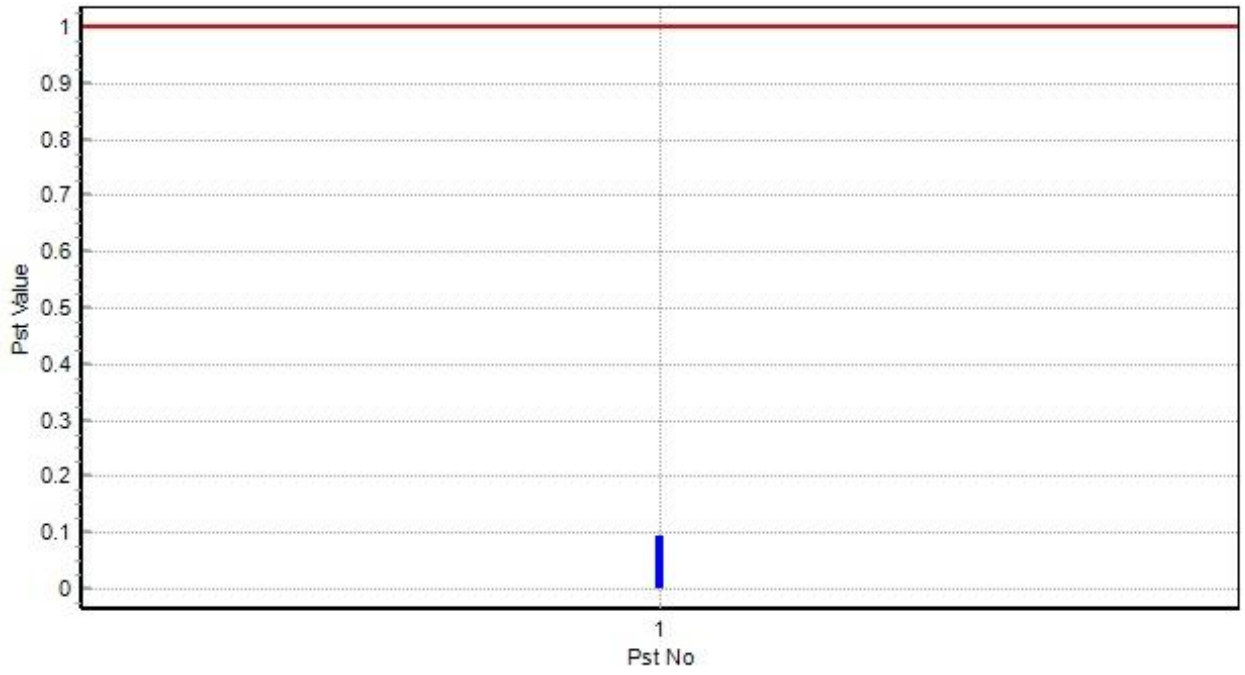
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.095	Pst value not greater than 1.0	Pass
Long term Plt	0.041	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.5	dmax not greater than 4%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	4	0.50	Pass

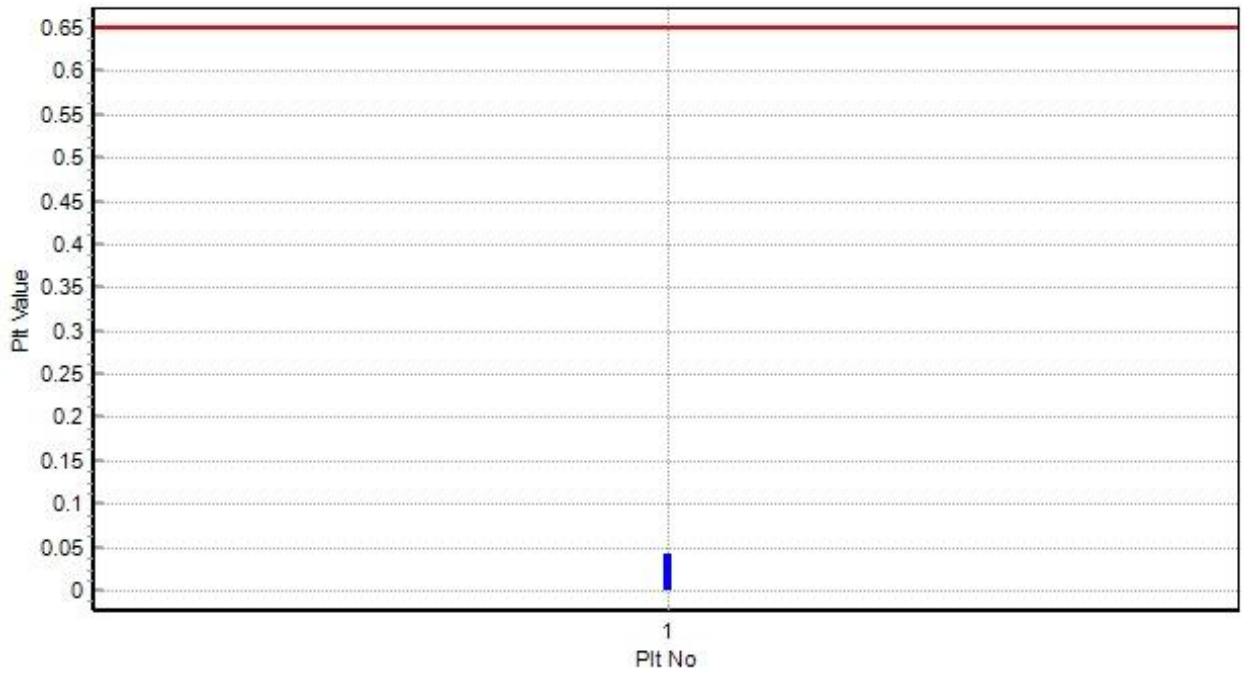
Name	Limit	L1	L1 Result
Pst No1	1	0.095	Pass
Plt	0.65	0.041	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 4 / 230 Vac, 50 Hz

Test Template:	IEC 61000-3-3:2013
Test Standard:	IEC 61000-3-3:2013
Test Result:	Pass
Test Start Time:	2025/8/4 10:16:16
Test End Time:	2025/8/4 10:26:40
Test Duration:	10Minute23 Second
Temperature(°C)	20
Humidity(%)	55

Test Result

L1 Measured Values:

Voltage(V):	231.84	Current(A):	4.18
Power(W):	969	Frequency(Hz)	50

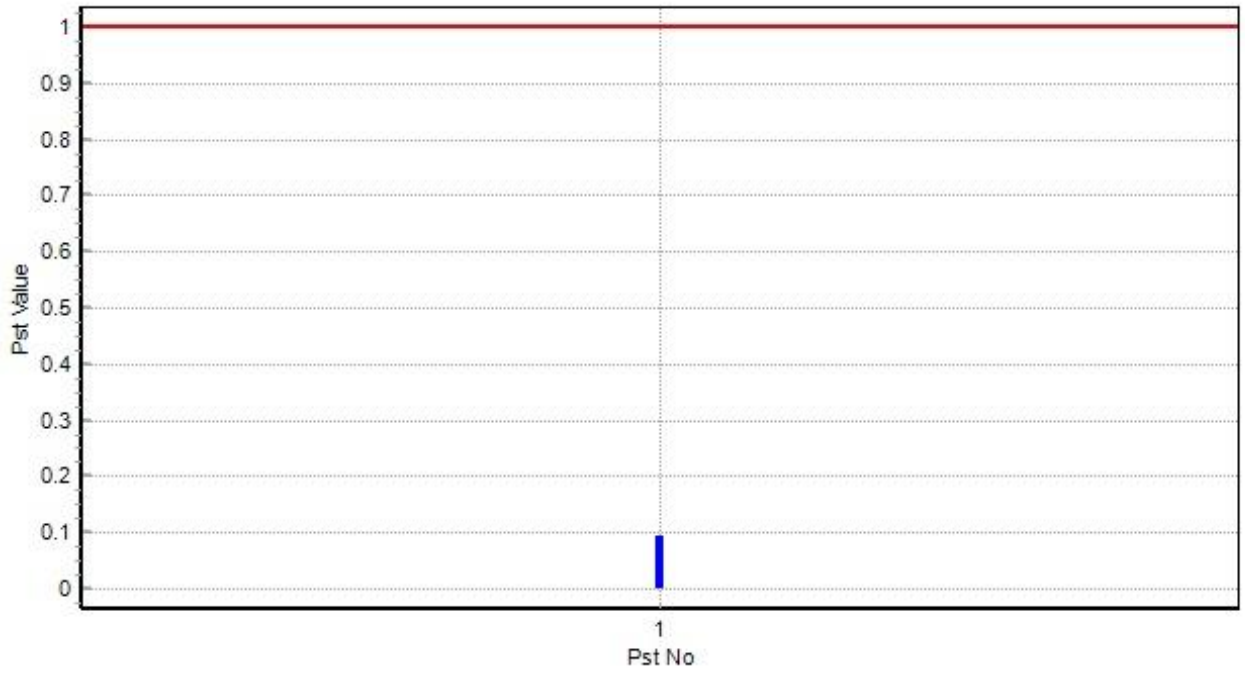
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.094	Pst value not greater than 1.0	Pass
Long term Plt	0.041	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0.01	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.95	dmax not greater than 4%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	4	0.95	Pass

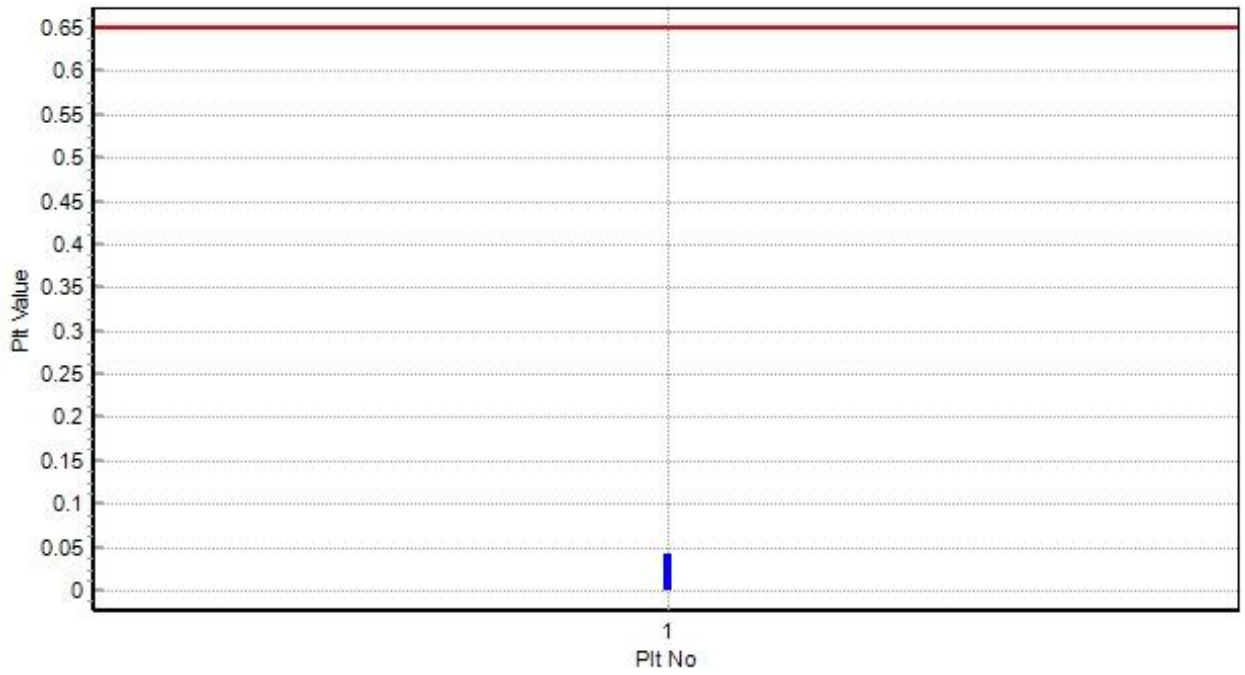
Name	Limit	L1	L1 Result
Pst No1	1	0.094	Pass
Plt	0.65	0.041	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 5 / 230 Vac, 50 Hz

Test Template:	IEC 61000-3-3:2013
Test Standard:	IEC 61000-3-3:2013
Test Result:	Pass
Test Start Time:	2025/8/5 17:44:30
Test End Time:	2025/8/5 17:54:54
Test Duration:	10Minute24 Second
Temperature(°C)	20
Humidity(%)	55

Test Result

L1 Measured Values:

Voltage(V):	223.71	Current(A):	15.846
Power(W):	3544.9	Frequency(Hz)	50

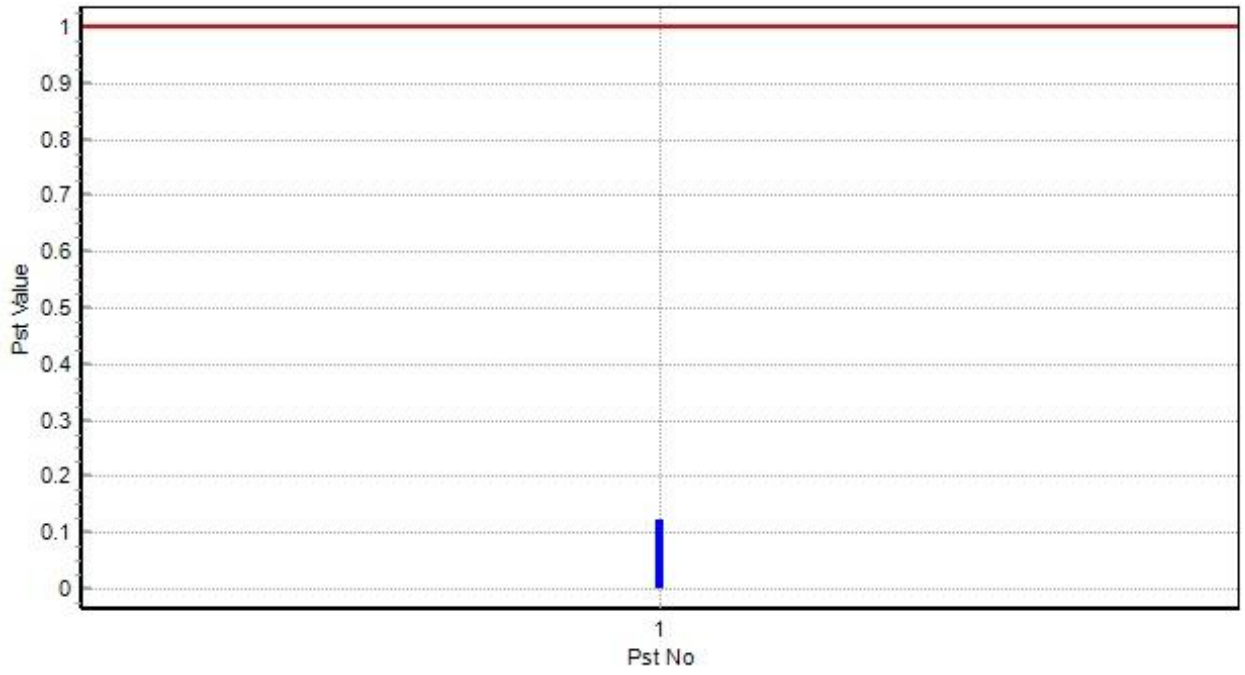
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.121	Pst value not greater than 1.0	Pass
Long term Plt	0.053	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.88	dmax not greater than 4%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	4	0.88	Pass

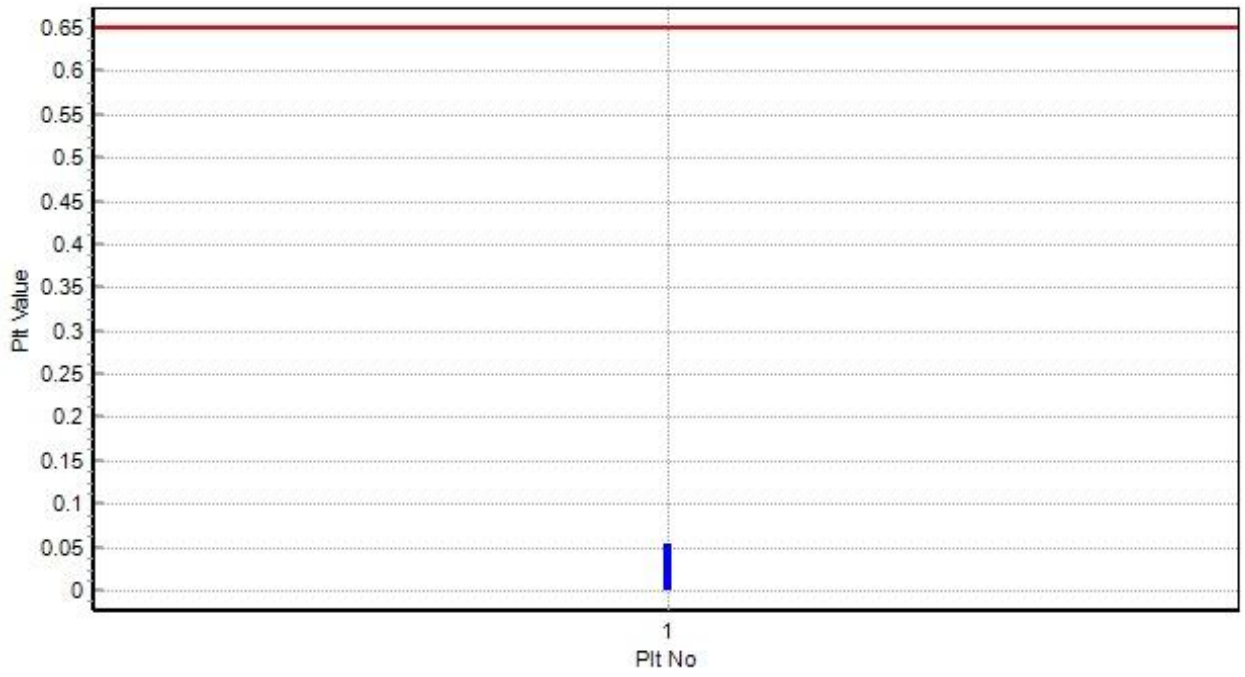
Name	Limit	L1	L1 Result
Pst No1	1	0.121	Pass
Plt	0.65	0.053	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Pst:



L1 Plt:



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 6 / 230 Vac, 50 Hz

Test Template: IEC 61000-3-3:2013
Test Standard: IEC 61000-3-3:2013
Test Result: Pass
Test Start Time: 2025/8/5 17:56:48
Test End Time: 2025/8/5 18:07:11
Test Duration: 10Minute23 Second

Temperature(°C) 20
Humidity(%) 55

Test Result

L1 Measured Values:

Voltage(V):	226.94	Current(A):	7.853
Power(W):	1782.2	Frequency(Hz)	50

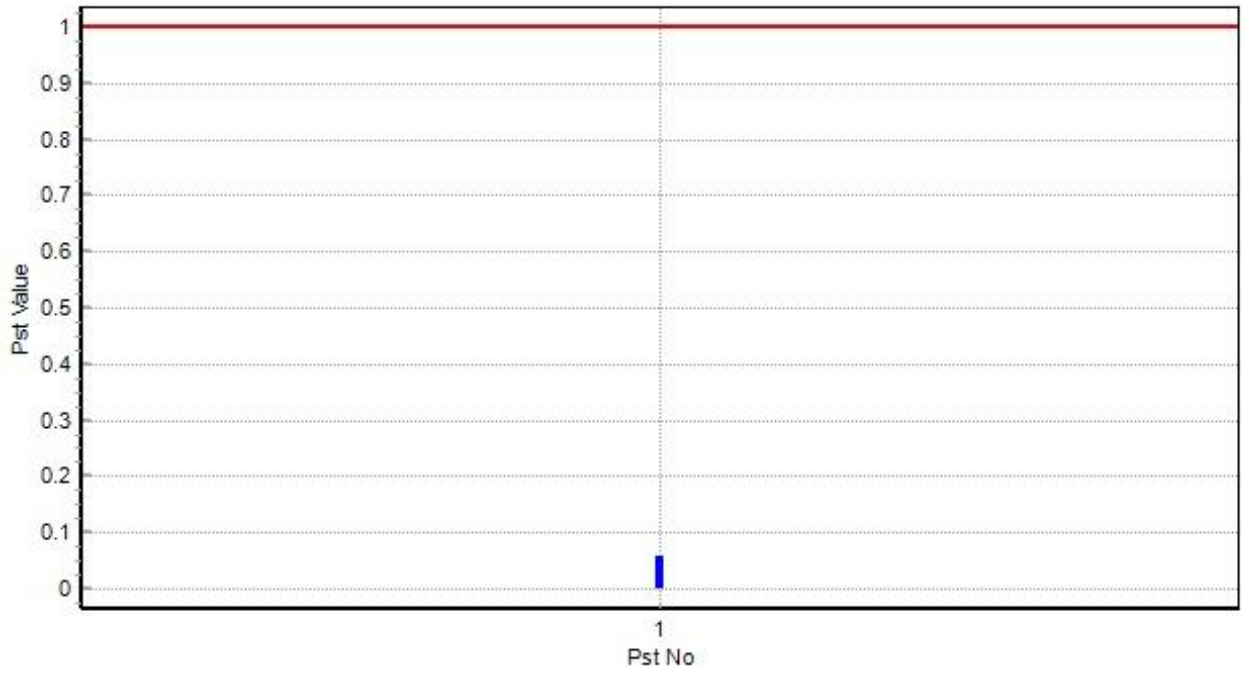
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.059	Pst value not greater than 1.0	Pass
Long term Plt	0.026	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.44	dmax not greater than 4%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	4	0.44	Pass

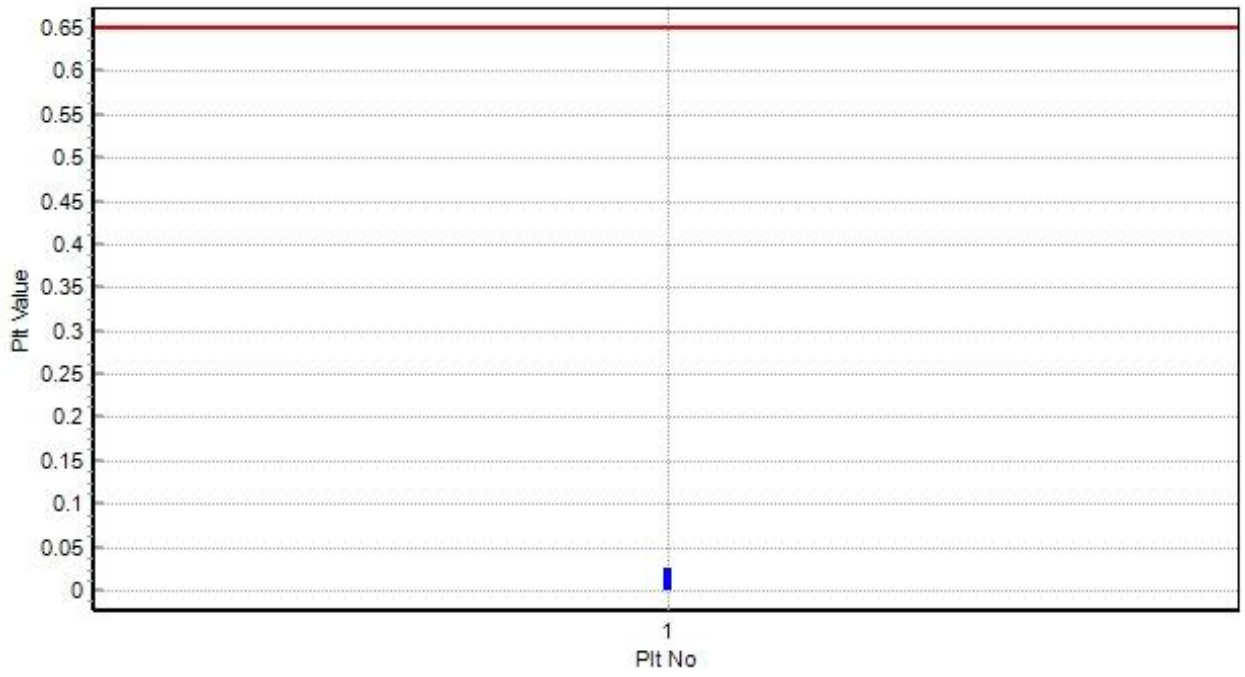
Name	Limit	L1	L1 Result
Pst No1	1	0.059	Pass
Plt	0.65	0.026	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Pst：



L1 Plt：



Remark	---

Measurement data (SUN-3.6K-H)	Port under test	AC mains port
Operating mode / voltage / frequency used during the test		Mode 7 / 230 Vac, 50 Hz

Test Template: IEC 61000-3-3:2013
Test Standard: IEC 61000-3-3:2013
Test Result: Pass
Test Start Time: 2025/8/5 18:27:40
Test End Time: 2025/8/5 18:38:4
Test Duration: 10Minute23 Second

Temperature(°C) 20
Humidity(%) 55

Test Result

L1 Measured Values:

Voltage(V):	228.52	Current(A):	4.029
Power(W):	920.7	Frequency(Hz)	50

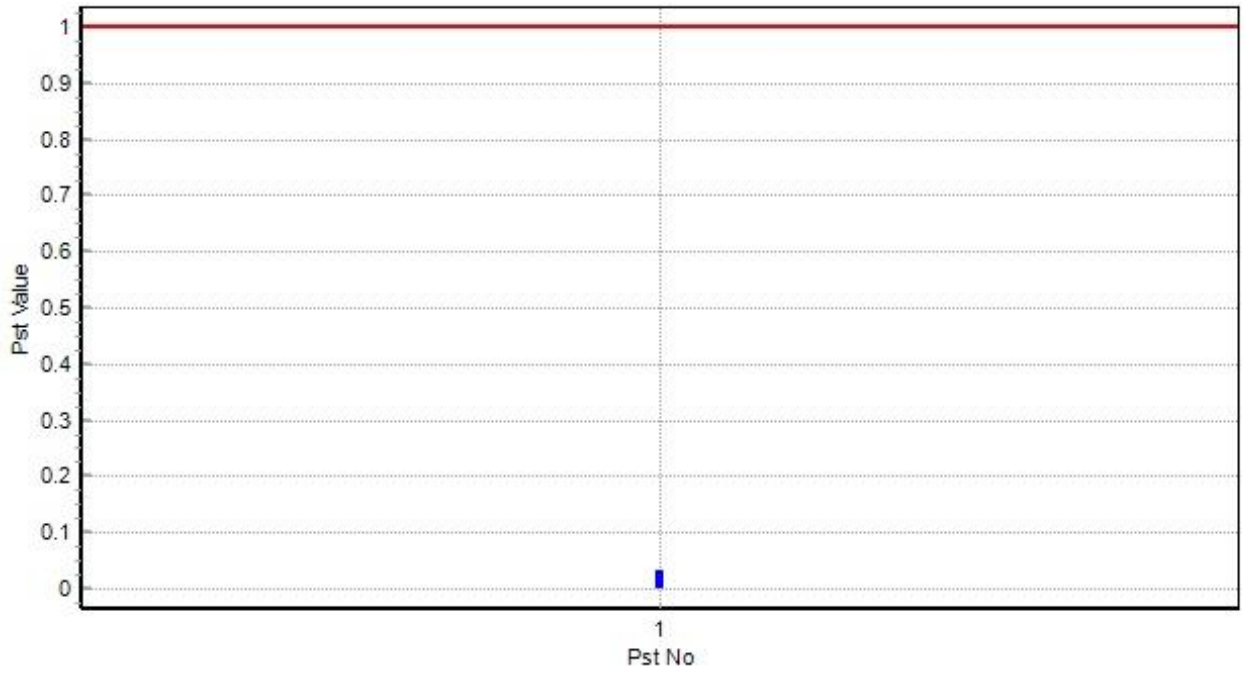
Item	Measured Values	Standard Requirements	Pass/Fail
Short term Pst	0.034	Pst value not greater than 1.0	Pass
Long term Plt	0.015	Plt value not greater than 0.65	Pass
Relatively static voltage variation dc	0	dc not greater than 3.3%	Pass
Maximum ralative voltage variation dmax	0.52	dmax not greater than 4%	Pass
d(t) time greater than 3.3% for volgate	0	Not greater than 500ms	Pass

No	Limit(%)	L1 dmax(%)	L1 Result
1	4	0.52	Pass

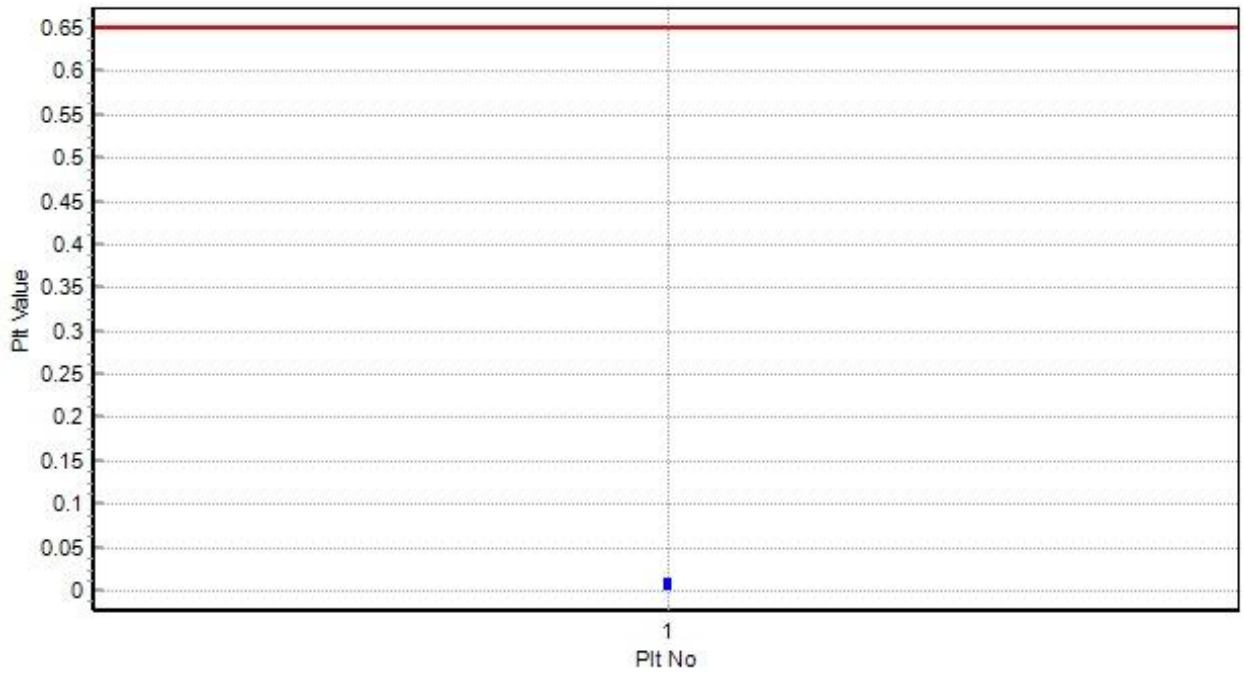
Name	Limit	L1	L1 Result
Pst No1	1	0.034	Pass
Plt	0.65	0.015	Pass

Measurement data (SUN-3.6K-H)	Port under test	AC mains port

L1 Pst:



L1 Plt:



Remark	---

5 IMMUNITY TEST RESULTS

5.1 Performance criteria

Item	Criterion A	Criterion B	Criterion C
Operating status	No noticeable change of the operating status. Operating as intended.	Noticeable changes of the operating characteristic. Self-recoverable.	Shutdown, changes in operating status. Triggering of protective devices. Not self-recoverable.
Power output	Power output permitted to vary only within ± 25 %.	Power output permitted to temporarily vary outside ± 25 %. Self-recoverable.	Loss of power output. Not self-recoverable.
External and internal indications and metering	No noticeable change of the operating status.	Changes only during test.	Shutdown, triggering of protective devices. Not self-recoverable.
Control signal to external devices	Undisturbed communication and data exchange to external devices	Temporarily disturbed communication, but no error reports of the internal or external devices which could cause shut-down.	Errors in communication, loss of data and information. No loss of stored program, no loss of user program. Not self-recoverable.

5.1.1 Performance criteria related to immunity tests

Immunity test	Performance criteria
Electrostatic discharge	B
Radio-frequency electromagnetic fields	A
Electrical fast transients	B
Surge transient	B
Injected currents (radio-frequency common mode)	A
Voltage dips and short interruptions	B, C

5.1.2 Manufacturer defined performance criteria

Not provided.

5.2 Monitored – Checked Functions / Parameters

During the immunity tests the following functions of the EUT has/have been monitored/checked.

☐	Motor speed	☐	Display data
☐	Switching	☐	Data storage
☐	Standby mode	☐	Sensor functions
☐	Temperature	☐	Audible signals
☐	Power consumption	☒	Others : Upper Computer
☐	AC mains input current	☐	Others :
☐	Timing	☐	Others :
☐	Illumination	☐	Others :
Supplementary information :			

Immunity test	**Monitored - Checked function(s)/parameter(s) during / after the test**	**Method**
Electrostatic discharge	PASS	Visual
Radio-frequency electromagnetic fields	PASS	Visual / Camera
Fast transients	PASS	Visual
Surge transient	PASS	Visual
Injected currents (radio-frequency common mode)	PASS	Visual
Voltage dips and short interruptions	PASS	Visual
Supplementary information :		

5.3 Electrostatic discharge immunity — VERDICT: PASS

Electrostatic discharges (ESD) are the result of persons or objects that accumulate static electricity due to for instance walking on synthetic carpets. The ESD can influence the operation of equipment or damage its electronics, either by a direct discharge or indirectly by coupling or radiation. Both effects are simulated during the tests.

Requirements

Standard	EN 62920							
Basic standard	IEC 61000-4-2							
Port under test	Enclosure							
Air discharges	☐	±2 kV	☐	±4 kV	☒	±8 kV	☐	kV
Contact discharges	☐	±2 kV	☒	±4 kV	☐	±8 kV	☐	kV
Number of discharges	≥ 10 per polarity with ≥ 1 sec interval.							

Performed tests

Set-up	☒	Wall-mounted	☐	Floor standing	
Ambient temperature [°C]	25			Relative Humidity air [%]	51
Voltage – Mains [V]	PV: 360 Vdc, Battery: 60 Vdc, AC mains: 230 Vac				
Frequency – Mains [Hz]	50 Hz				
Operating mode(s) used	Mode 1, Mode 2, Mode 5				

Test Point		Test Voltage [kV] & Polarity	Coupling type	# of applied discharges / polarity	Discharge interval [s]
☒	All accessible metallic part around the enclosure	±4	Contact	10	1
☒	Slots, seams, non-metallic part of the enclosure	±2 / ±4 / ±8	Air	10	1
☒	HCP top side.	±4	Contact	10	1
☒	HCP bottom side.	±4	Contact	10	1
☒	VCP right side.	±4	Contact	10	1
☒	VCP left side.	±4	Contact	10	1
☒	VCP front side.	±4	Contact	10	1
☒	VCP rear side.	±4	Contact	10	1

Observation(s)	During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance or data was observed.

Supplementary information:

5.4 Radio-frequency electromagnetic fields immunity — VERDICT: PASS

During the test it is verified if the equipment under test (EUT) has sufficient immunity against radiated electromagnetic fields. Industrial electromagnetic sources, walkie-talkies, radio transmitters, television transmitters and telecommunication equipment including cellular telephones and other emitting devices can generate these fields.

Requirements

Standard	EN 62920			
Basic standard	IEC 61000-4-3			
Port under test	Enclosure			
Immunity requirements for class A				
Frequency range	Test level	Modulation	Dwell time	Step size
80 – 1000 MHz	10 V/m	80% AM (1kHz)	≥ 0,5 s	≤ 1%
1400 – 6000 MHz	3 V/m	80% AM (1kHz)	≥ 0,5 s	≤ 1%
Immunity requirements for class B				
Frequency range	Test level	Modulation	Dwell time	Step size
80 – 1000 MHz	3 V/m	80% AM (1kHz)	≥ 0,5 s	≤ 1%
1400 – 6000 MHz	3 V/m	80% AM (1kHz)	≥ 0,5 s	≤ 1%
Supplementary information:				

Performed tests

Test method	☒	IEC 61000-4-3	☐	IEC 61000-4-20		
Test set-up (see annex 3 for photo)	☒	Equipment wall-mounted (0,8 m height)				
	☐	Equipment standing on floor (0,05 – 0,15 m height)				
Voltage – Mains [V]	PV: 360 Vdc, Battery: 60 Vdc, AC mains: 230 Vac			Frequency – Mains [Hz]	50 Hz	
Operating mode(s) used	Mode 1, Mode 2, Mode 5					
Frequency range (applied)	Antenna Polarization	Test level (applied)		Modulation (applied)	Dwell time (applied)	Remark
80 – 1000 MHz (step size 1%)	H	10 V/m		80% AM (1kHz)	3 s	---
	V	10 V/m		80% AM (1kHz)	3 s	---
1400 – 6000 MHz (step size 1%)	H	3 V/m		80% AM (1kHz)	3 s	---
	V	3 V/m		80% AM (1kHz)	3 s	---
Exposed side of the EUT	☒	Front (0°)	☒	Right (90°)	☐	Top
	☒	Rear (180°)	☒	Left (270°)	☐	Bottom
Observation(s)	During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance was observed.					
Supplementary information:						

5.5 Electrical Fast Transients immunity — VERDICT: PASS

The EFT immunity test simulates disturbances by bursts of very short transients caused for example by switching off loads such as an AC motor or bouncing relay contacts. The transients are likely to disturb electronics but less likely to cause damage.

Requirements

Standard	EN 62920		
Basic standard	IEC 61000-4-4		
Pulse characteristics	5/50 ns		
Immunity requirements for class A			
Port under test	Test level	Repetition frequency	Duration
AC power	± 2 kV	5 kHz or 100 kHz[1)]	≥1 min. / polarity
DC power	± 1 kV	5 kHz or 100 kHz[1)]	≥1 min. / polarity
Signal and control (wired network)[2)]	± 1 kV	5 kHz or 100 kHz[1)]	≥1 min. / polarity
Immunity requirements for class B			
Port under test	Test level	Repetition frequency	Duration
AC power	± 1 kV	5 kHz or 100 kHz[1)]	≥1 min. / polarity
DC power	± 0.5 kV	5 kHz or 100 kHz[1)]	≥1 min. / polarity
Signal and control (wired network)[2)]	± 0.5 kV	5 kHz or 100 kHz[1)]	≥1 min. / polarity

[1)] The test may be performed at one or at both repetition frequencies. The use of 5 kHz repetition frequency is traditional; however, 100 kHz is closer to reality.

[2)] Applicable only to ports or interfaces with cables whose total length may exceed 3 m according to the manufacturer's functional specification.

Performed tests

Voltage – Mains [V]	PV: 360 Vdc, Battery: 60 Vdc, AC mains: 230 Vac			
Frequency – Mains [Hz]	50 Hz			
Operating mode(s) used	Mode 1, Mode 2, Mode 5			
Test Set-up (see annex 3 for photo)	☐	Equipment standing on floor at (0,1 ± 0,01) m above ground plane		
	☒	Equipment wall-mounted (0,1 ± 0,01) m above ground plane		
	☐	Artificial hand applied. Location refer to chapter 9.		
Coupling	☒	Common mode	☐	Other:

Port under test	Test Voltage &Polarity	Repetition Frequency	Test duration / polarity	Injection method			
DC input power	± 1 kV	5 KHz	1 min.	☒	CDN	☐	Clamp
AC mains power	± 2 kV	5 KHz	1 min.	☒	CDN	☐	Clamp
Observation(s)	During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance was observed.						
Supplementary information:							

5.6 Surge transient immunity — VERDICT: PASS

The surge transient immunity test simulates the surges that are caused by over-voltages due to indirect (induced) lightning transients. The pulse is a slow transient with high-energy contents and due to its long duration may cause damage to an unprotected EUT.

Requirements

Standard	EN 62920		
Basic standard	IEC 61000-4-5		
Pulse characteristics	1,2/50µs Voltage; 8/20µs Current		
Repetition rate	≤ 60 secs. (for each test level and phase angle)		
Number of pulses	5 pulses (at each polarity and phase angle)		
Immunity requirements for class A			
Port under test	Test level & Polarity & Coupling		Phase angle [°]
	Line to Line	Line to Earth	
AC power [1)]	±1 kV	±2 kV	0, 90, 180, 270
DC power [2)]	±0.5 kV	±1 kV	---
Signal and control (wired network) [2)]	N/A	±1 kV	---
Immunity requirements for class B			
Port under test	Test level & Polarity & Coupling		Test level & Polarity & Coupling
	Line to Line	Line to Earth	
AC power	±1 kV	±2 kV	0, 90, 180, 270
DC power [2)]	±0.5 kV	±1 kV	---

[1)] PCE-MV may be tested on the LV side in case that test equipment is not applicable to MV side.

[2)] Applicable only to ports with cables whose total length according to the manufacturer's functional specification may exceed 30 m. In the case of shielded cable, a direct coupling to the shield is applied. This immunity requirement does not apply to field bus or other signal interfaces where the use of surge protection devices is not practical for technical reasons. The test is not required where normal functioning cannot be achieved because of the impact of the CDN on the PCE even if an alternative test method shown in D.2.2 is applied.

Performed tests

Voltage – Mains [V]	PV: 360 Vdc, Battery: 60 Vdc, AC mains: 230 Vac
Frequency – Mains [Hz]	50 Hz
Operating mode(s) used	Mode 1, Mode 2, Mode 5
Repetition rate	60 secs. (for each test level and phase angle)
Number of pulses	5 pulses (at each polarity and phase angle)

See next page.

Port under test	Coupling	Test level & Polarity	Phase angle [°]	Remark
DC input port	Line to Line	± 0.5 kV	---	---
	Line to Earth	± 1 kV	---	---
AC mains port	Line to Line	± 1 kV	0, 90, 180, 270	---
	Line to Earth	± 2 kV	0, 90, 180, 270	---
Observation(s)	During the testing process, the EUT output port stops outputting and automatically returns to normal after the pulse ends.			
Supplementary information:				

5.7 Injected currents (RF common mode) immunity — VERDICT: PASS

During this test the immunity of the equipment for induced or conducted electromagnetic fields is checked. Fields generated by radio and other transmitters cause RF voltages in long cables like the mains network. This test reproduces these induced disturbing voltages by injecting them to the EUT via the cabling.

Requirements

Standard	EN 62920			
Basic standard	IEC 61000-4-6			
Frequency range	0,15 – 80 MHz			
Immunity requirements for class A				
Port under test	Test level, *Uo*	Modulation	Step size	Dwell time
AC power [1)]	10 V	80% AM (1kHz)	≤ 1%	≥ 0,5 s
DC power	10 V	80% AM (1kHz)	≤ 1%	≥ 0,5 s
Signal and control (wired network)	10 V	80% AM (1kHz)	≤ 1%	≥ 0,5 s
Immunity requirements for class B				
Port under test	Test level, *Uo*	Modulation	Step size	Dwell time
AC power	3 V	80% AM (1kHz)	≤ 1%	≥ 0,5 s
DC power	3 V	80% AM (1kHz)	≤ 1%	≥ 0,5 s
Signal and control (wired network)	3 V	80% AM (1kHz)	≤ 1%	≥ 0,5 s
[1)] PCE-MV may be tested on the LV side in case that test equipment is not applicable to MV side.				

Performed tests

Test method (applied)	Frequency range (applied)		Modulation (applied)	Step size (applied)
IEC 61000-4-6	0,15 – 80 MHz		80% AM (1kHz)	1%
Voltage – Mains [V]	PV: 360 Vdc, Battery: 60 Vdc, AC mains: 230 Vac		Frequency – Mains [Hz]	50 Hz
Operating mode(s) used	Mode 1, Mode 2, Mode 5			
Test set-up (see annex 3 for photo)	☐	Equipment standing on floor at (0,1 ± 0,01) m above ground plane.		
	☒	Equipment wall-mounted (0,1 ± 0,01) m above ground plane.		
	☐	Artificial hand applied. Location refer to Annex 3.		
Port under test	Test Level (applied	Injection method	Dwell time (applied)	Remark
DC input port	10 V	Clamp	3 s	---
AC mians port	10 V	Clamp	3 s	---
Observation(s)	During the test no loss of performance was observed. After the test the EUT functioned as intended. No unacceptable loss of performance or data was observed.			
Supplementary information:				

5.8 Power supply interruptions and dips immunity — VERDICT: PASS

The purpose of the test is to verify the immunity of the equipment against voltage dips and voltage interruptions. It helps to ensure that the equipment functions properly (as expected and safely) with power supply fluctuations. Voltage dips and interruptions are caused by faults in the LV, MV, HV networks (short-circuit or ground faults).

Requirements

Standard	EN 62920			
Basic standard	IEC 61000-4-11, IEC 61000-4-34			
# of dips & interruptions	3 dips / interruptions for each test level and phase angle			
Interval between events	≥ 10 seconds			
Immunity requirements for class A				
Port under test	Test level	Period (Cycles)		Performance Criteria
		50 Hz	60 Hz	
AC power [1)]	0%	1	1	B; Refer to the chapter 5.1 for details.
AC power [1)]	40%	10	12	C; Refer to the chapter 5.1 for details.
AC power [1)]	70%	25	30	C; Refer to the chapter 5.1 for details.
AC power	0%	250	300	C; Refer to the chapter 5.1 for details.
Immunity requirements for class B				
Port under test	Test level [1)]	Period (Cycles)		Performance Criteria
		50 Hz	60 Hz	
AC power	0%	0.5	0.5	B; Refer to the chapter 5.1 for details.
AC power	0%	1	1	B; Refer to the chapter 5.1 for details.
AC power	70%	25	30	C; Refer to the chapter 5.1 for details.
AC power	0%	250	300	C; Refer to the chapter 5.1 for details.
[1)] This requirement is not applicable for PCE-MV.				

Performed tests

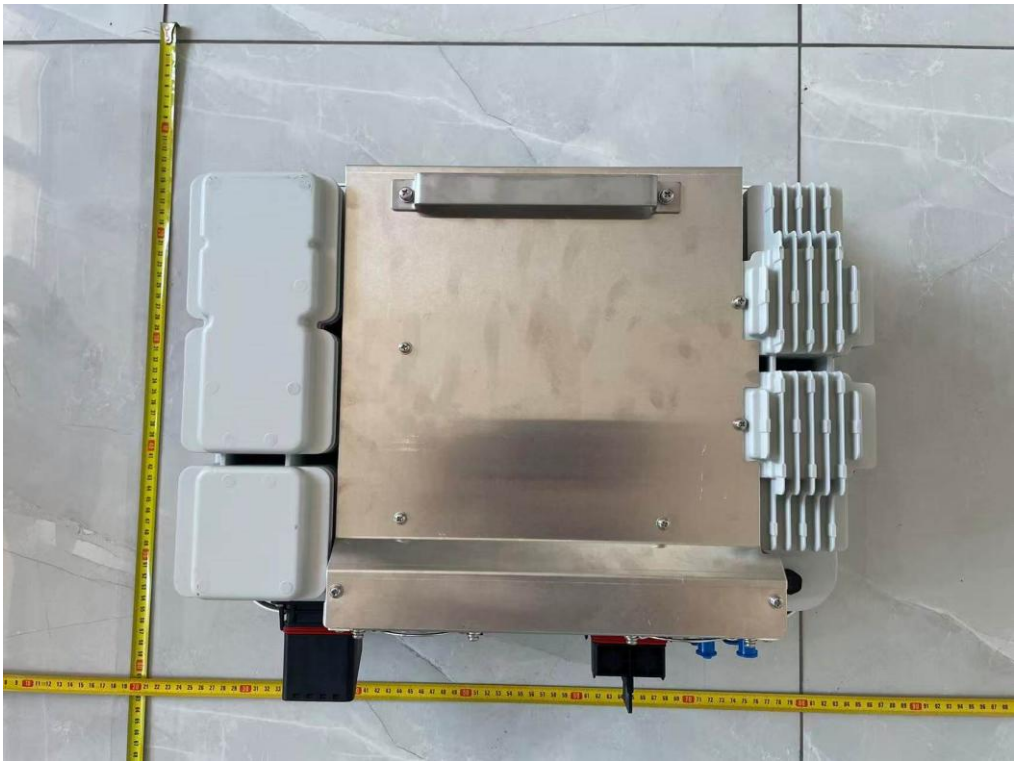
U_{NOM} [V_{AC}]	Test level [% U_{NOM}]	Duration [cycles]		Repetion rate [s]	Number of dips per test	Phase angle [°]	Test Criteria
		50 Hz	60 Hz				
230	0	0.5, 1	---	10	3	0,45,90,135,180,225,270,315	B Note1
230	40	10	---	10	3	0,45,90,135,180,225,270,315	B Note 1
230	70	25	---	10	3	0,45,90,135,180,225,270,315	B Note 1
230	0	250	---	10	3	0,45,90,135,180,225,270,315	B Note 1

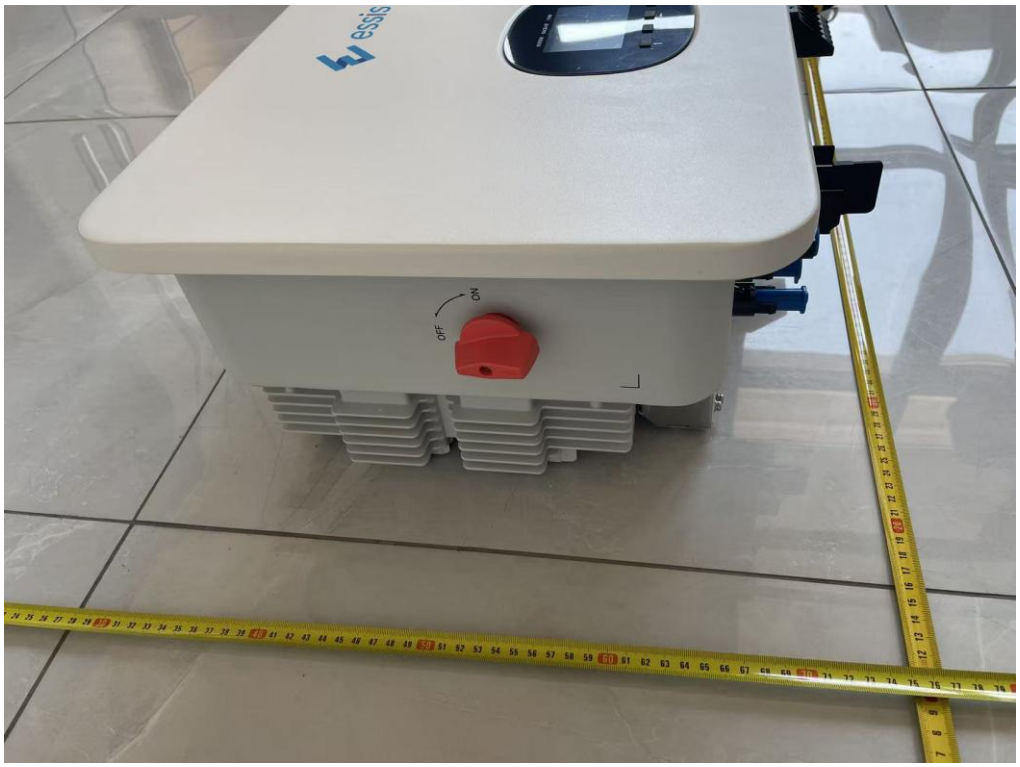
Operating mode(s) used	Mode 1, Mode 2, Mode 5
Observation(s)	Note 1: During the test, the grid-connected state of the EUT is stopped, and the original working state is automatically restored after the test.

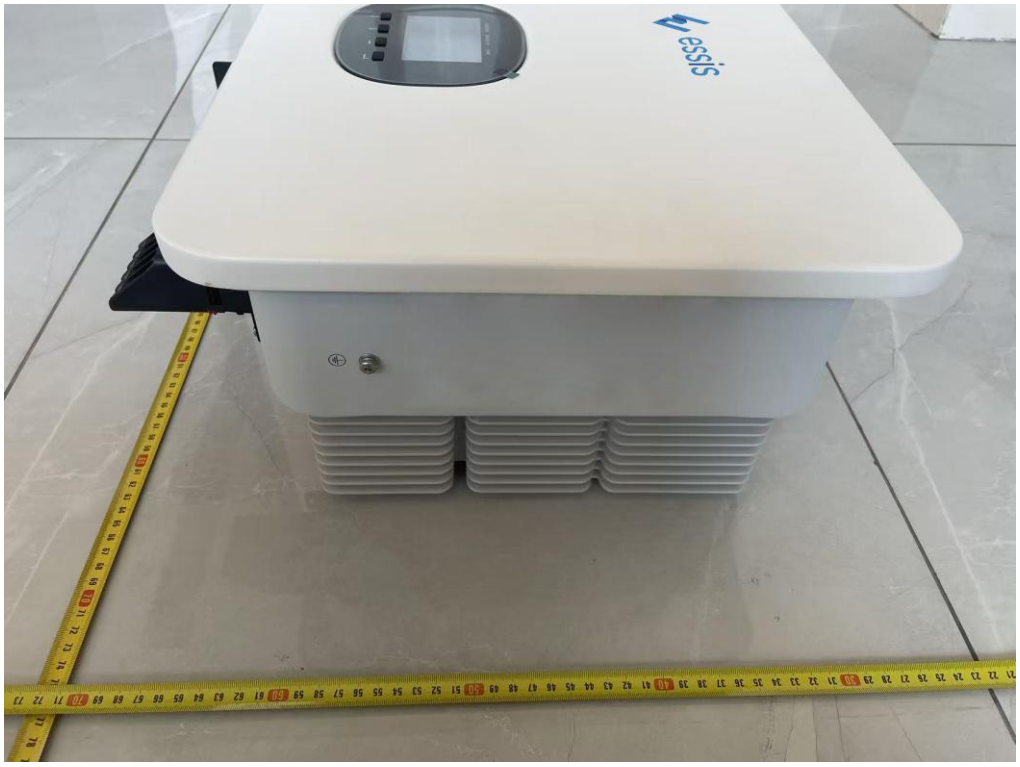
Supplementary information:

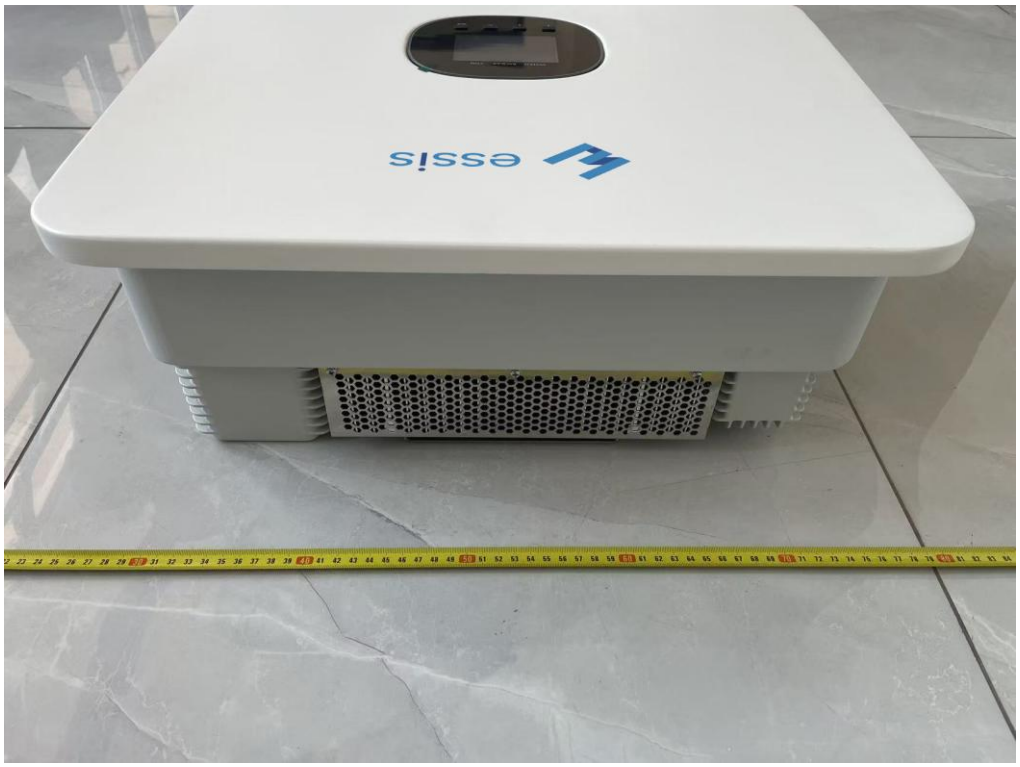
The test results are applicable to both model SUN-8K-H and model SUN-3.6K-H simultaneously.

6 IDENTIFICATION OF THE EQUIPMENT UNDER TEST




OFF
ON




essis


BAT+
BAT-
COM1
COM2

7 ANNEX 1 - MEASUREMENT UNCERTAINTIES

The table(s) below show(s) measurment uncertainties of the EMC test set-ups. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

Emission tests		**Uncertainty**
Radiated emissions; (Hor.)	30 MHz – 200 MHz	4.66dB
	200 MHz – 1000 MHz	4.74dB
Radiated emissions; (Ver.)	30 MHz –200 MHz	4.22dB
	200 MHz – 1000 MHz	4.16dB
Conducted Emissions from the AC/DC mains power ports	0.15MHz –30MHz	3.38dB
LF harmonic current emissions		0.12%
LF voltage fluctuations		0.12%

Immunity tests		**Uncertainty**
Electrostatic discharge		Rise Time: 6.4 % Peak Current: 6 % Current at 30 ns: 6 % Current at 60 ns: 6 %
Radio frequency electromagnetic field-	80 MHz –6000MHz	1.98dB
Fast transients		Voltage: 4 % Time: 2 %
Surge		Voltage: 4 % Time: 2 %
Radio frequency common mode		1.96dB
Power frequency magnetic field immunity		magnetic field strength: 10%
Voltage dips and short interruptions		Voltage: 4 % Time: 2 %

8 ANNEX 2 – USED EQUIPMENT

Location: Xingsheng Certification Service (Suzhou) Co., Ltd.

Conducted disturbance voltage

Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
EMI Test Receiver	R&S	ESR3	103071	2026/5/9
Pulse Limiter	Schwarzbeck	VTSD 9561 F-N	01202	2025/9/22
Pulse Limiter	Schwarzbeck	VTSD 9561 F-N	01111	2025/9/22
V-LISN	Schwarzbeck	NNLK 8130	00453	2026/3/21
PVDC	Schwarzbeck	PVDC8301	8301-00126	2026/3/21
PVDC	Schwarzbeck	PVDC8301	8301-00128	2026/5/9
Impedance	SHX	TF2-1-BNC	/	2026/1/8
Impedance	SHX	TF2-1-BNC	/	2026/5/9
Coaxial Cable	XH	RG 223	SR1-1	2026/5/9

Radiated electromagnetic disturbances

Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
EMI Test Receiver	R&S	ESR7	102682	2026/5/9
TRILOG Broadband Antenna	Schwarzbeck	VULB 9168	01541	2025/11/22
Coaxial Cable	XH	RG214	23061543	2025/9/22
Coaxial Cable	XH	RG214	23052346, #06	2025/11/8
Attenuator	SHX	TS2-6-1-B	220601218	2025/11/22

Harmonic current and flicker emissions

Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
Regenerative grid simulator	CD	PADC-63	/	2026/5/9
Flicker Measurement Impedance	CD	FI-3P75	/	2026/5/9
Analyzer	ZES ZIMMER	LMG671	/	2026/5/9

Electrostatic discharge

Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
Electrostatic Simulator	AMETEK	ESD NX30	P2347281702	2026/3/21
Temperature/Humidity Meter	Anymetre	TH605F	002212260647	2026/5/9
Air Gauge	XLY	BARO	N/A	2026/5/9

Radio-frequency electromagnetic field

Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
Vector Signal Generator	R&S	SMB100B	104436	2025/12/3
Average Power Sensor	R&S	NRP6A	104318	2026/5/9
Average Power Sensor	R&S	NRP6A	104319	2026/5/9
Power Amplifier	RFLIGHT	NTWPA-00810500	22123354	2026/5/9
Power Amplifier	RFLIGHT	NTWPA-1060200P	23013003	2026/5/9
Stacked Log.-Per.-Antenna	Schwarzbeck	STLP 9129	03055	N/A
Electric field probe	narda	EP 601	811ZX20710	2026/4/17
Switch	XH	RFSW606P	/	N/A

Electrical fast transients

Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
Compact immunity simulator	3C TEST	CCS 500	ES014000522027	2026/5/9
CDN for EFT/Burst and Surge Immunity Tests	3C TEST	SEPN 15200T	ES066002022005	2026/5/9

Surges

Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
Compact immunity simulator	3C TEST	CCS 500	ES014000522027	2026/5/9
CDN for EFT/Burst and Surge Immunity Tests	3C TEST	SEPN 15200T	ES066002022005	2026/5/9

Radio-frequency continuous conducted

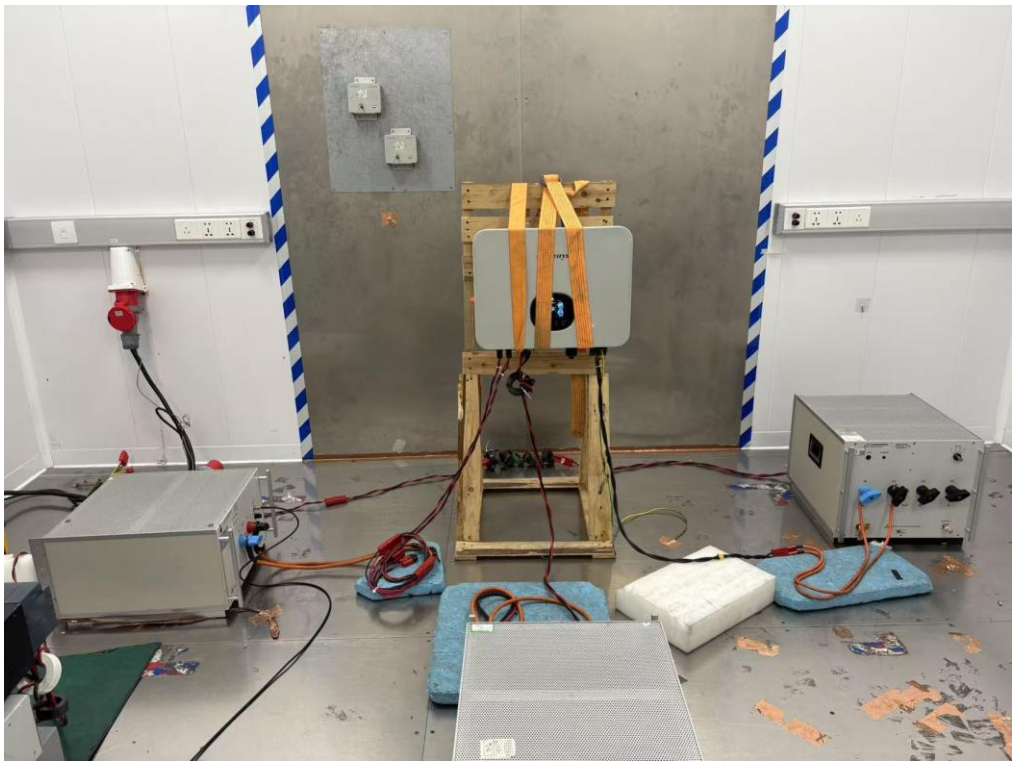
Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
Conducted Immunity Test System	CD	CITS-3075	80552403601	2026/5/9
Bulk Current Injection Probe	FCC	F-120-8F	198222	2026/5/9
CDN	3C TEST	CDN RJ45	ES064003723002	2025/6/27
6dB Attenuator	CD	ATN-06-100	95102402006	2026/5/9

Voltage dips and short interruptions

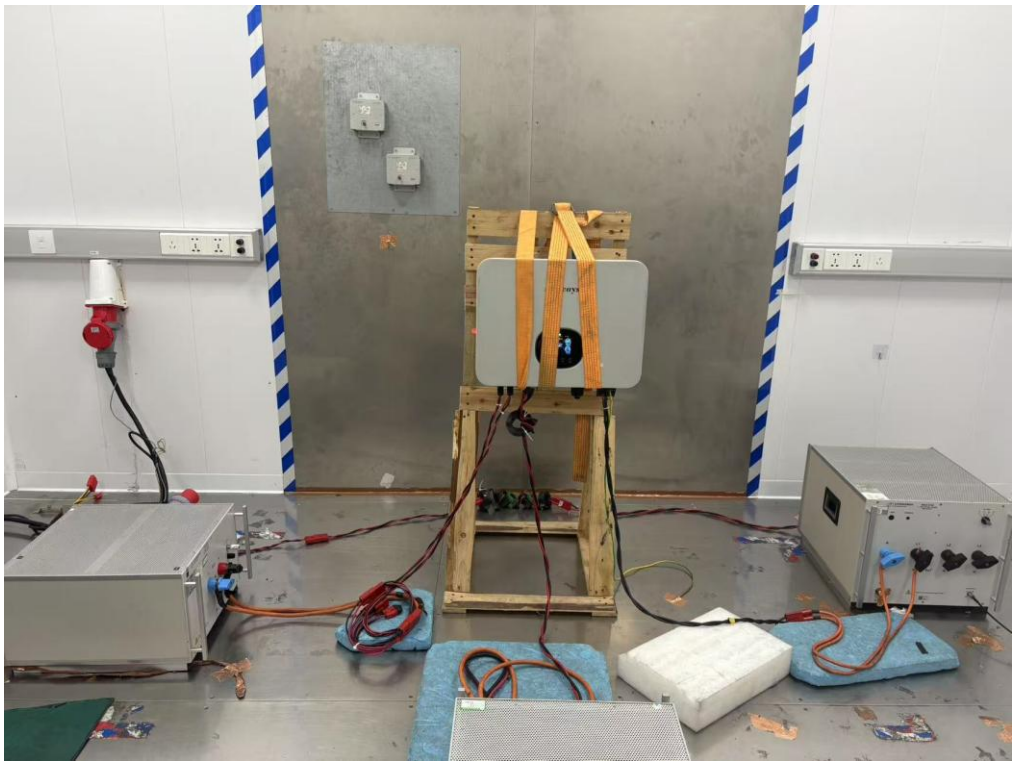
Equipment	Manufacturer	Model No.	Serial No.	Cal. due date
Voltage interruption Simulator with Step Transformer	CD	VIS-3P100	251308	2026/7/31

9 ANNEX 3 - TEST PHOTOS

Conducted disturbance voltage at AC power port



Conducted disturbance voltage at PV port



Radiated electromagnetic disturbances (30 MHz to 1000 MHz)

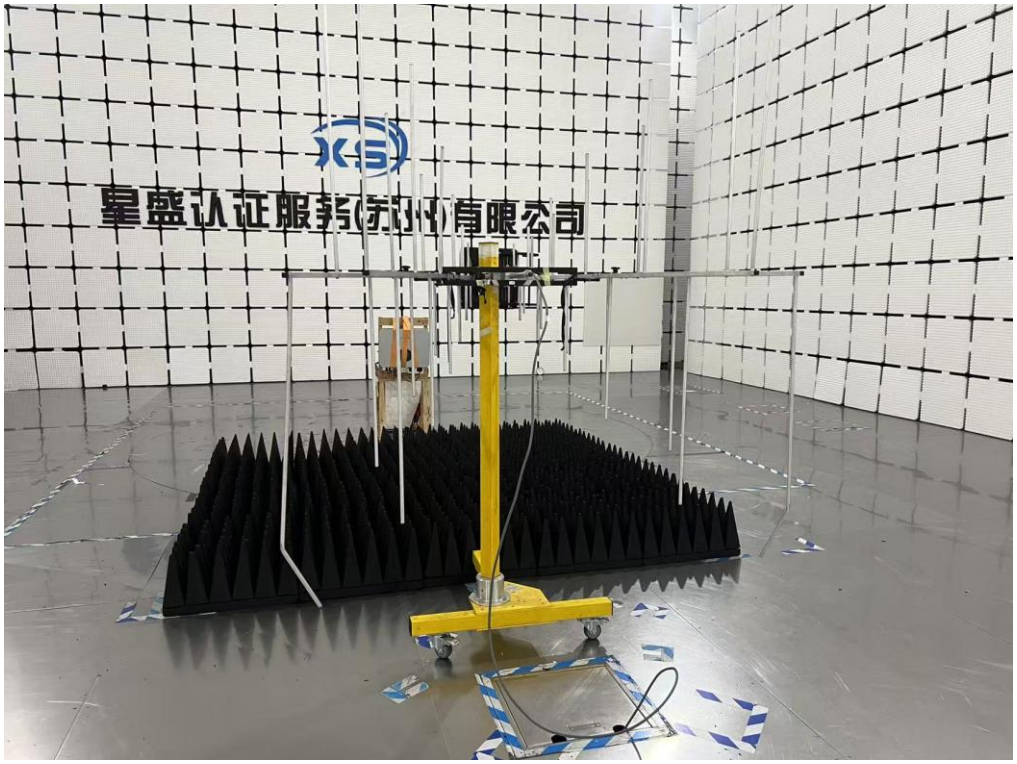
Harmonic current emissions & Flicker

SUN-8K-H

SUN-3.6K-H

Electrostatic discharge

Radiated EM Field Immunity



Electrical fast transient (EFT) / Burst transients immunity

AC mains port

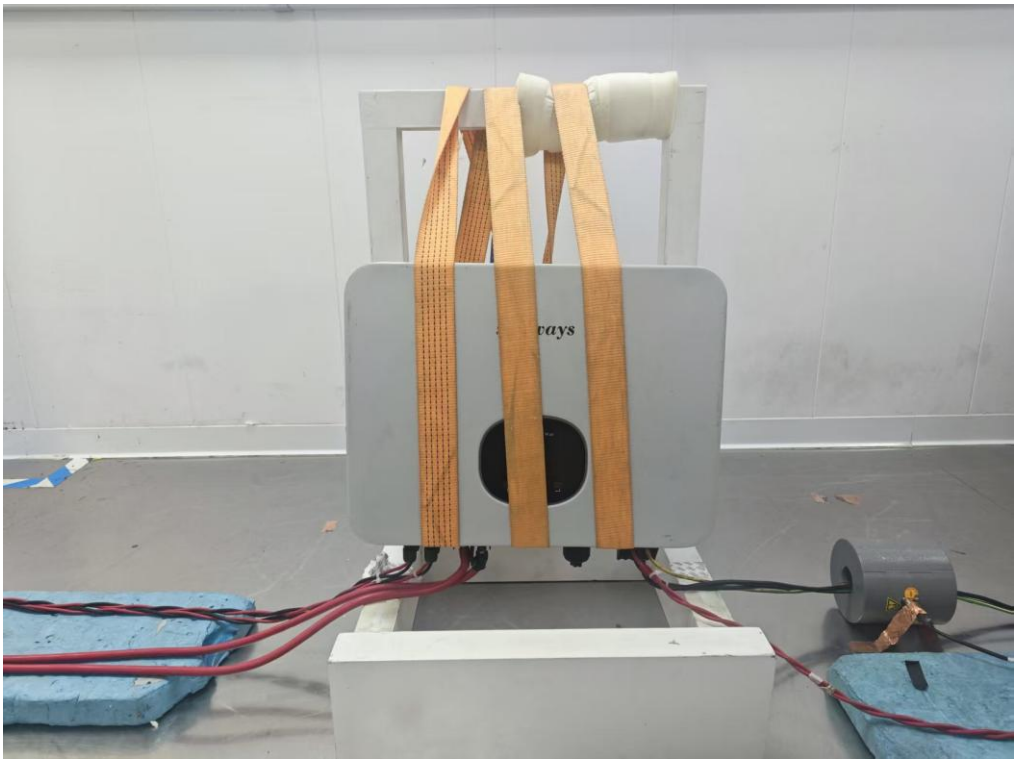
PV port

Surge transients immunity

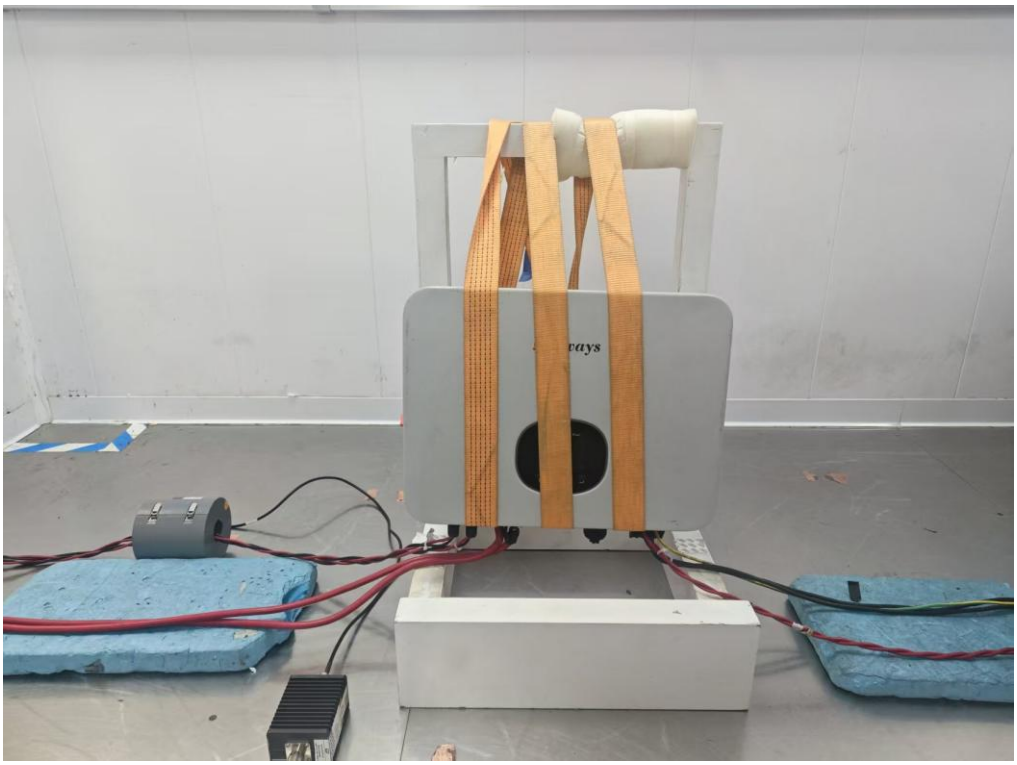
AC mains port

PV port

Conducted RF disturbances immunity



AC mains port



PV port

Power supply interruptions and dips immunity

SUN-8K-H

SUN-3.6K-H

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