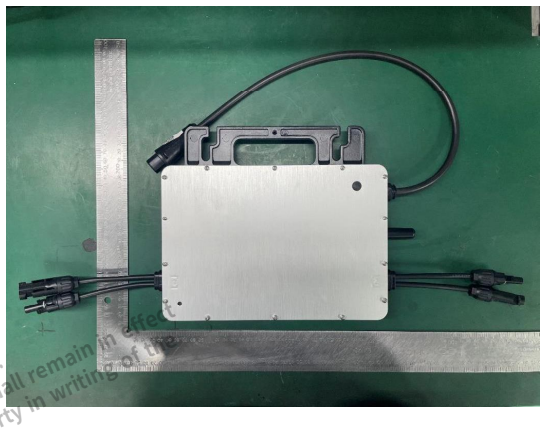
TEST REPORT N°: BMH-ESH-P23040043B-1-A1

Supplement "A1" to test report No.: BMH-ESH-P23040043B-1 dated on 2023-07-10

EMC TEST REPORT

To :	**Hoymiles Power Electronics Inc.**	Fax :	--
Attn :	--	Email :	--
Address :	No.18 Kangjing Road, HangZhou, Zhejiang Province, P.R. China		
Cc :	--	Fax/Email :	--
Attn :	--		
This document includes : 45 pages		Test date :	Oct,23 to Nov.10, 2023

MANUFACTURER:	Hoymiles Power Electronics Inc.
ADDRESS :	No.18 Kangjing Road, HangZhou, Zhejiang Province, P.R. China
PRODUCT :	PV Microinverter
TYPE REFERENCE :	HMS-1000W-2T, HMS-900W-2T, HMS-800W-2T, HMS-700W-2T, HMS-600W-2T
TRADE MARK :	hoymiles
RATED VOLTAGE :	Refer to section 3.1
RATED INPUT POWER :	Refer to section 3.1
PROTECTION CLASS :	I
TESTS REALISED :	On one sample of HMS-1000W-2T



STANDARDS USED(DATE) :	EN 62920:2017+A11:2020+A1:2020/ IEC 62920:2017+A1:2020 EN IEC 61000-6-3:2021/ IEC 61000-6-3:2020 EN IEC 61000-6-4:2019/ IEC 61000-6-4:2018 EN IEC 61000-6-1:2019/ IEC 61000-6-1:2016 EN IEC 61000-6-2:2019/ IEC 61000-6-2:2016 EN IEC 61000-3-2:2019+A1:2021/ IEC 61000-3-2:2018+A1:2020 EN 61000-3-3:2013+A1:2019+A2:2021/IEC 61000-3-3:2013+A1:2017+A2:2021
CLAUSES EXAMINED :	All Clauses Relevant.

Test Location of test items: Building C, No. 829, Xin Zhuan Road, Shanghai, CHINA

CONCLUSION :	**The sample does satisfy the clauses examined .**
Test done by:	Approved by:
Name : Yuan ZHANG Date : Nov.21, 2023	Name : Sean YU Date : Nov.21, 2023

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/ and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

1 TESTING PROGRAM

The tests have been carried out according to the requirements of the following standards:

Emission standard EN 62920:2017+A11:2020+A1:2020

- Measurement of the disturbance voltage levels.
- Measurement of the radiated disturbance levels.
- Measurement of the harmonic currents.
- Measurement of the voltage fluctuations and flickers.

Immunity standard EN 62920:2017+A11:2020+A1:2020

- Immunity to electrostatic discharges - publication EN 61000-4-2.
- Immunity to fast transients/bursts - publication EN 61000-4-4.
- Immunity to conducted disturbances induced by radio-frequency fields - publication EN 61000-4-6.
- Immunity to radiated radio-frequency electromagnetic field with amplitude modulation - publication EN 61000-4-3.
- Immunity to surges - publication EN 61000-4-5.
- Immunity to voltage dips -publication EN 61000-4-11.
- Immunity to voltage interruptions - publication EN 61000-4-11.

Emission standard EN IEC 61000-6-3:2021/ IEC 61000-6-3:2020

- Measurement of the radiated emission.
- Measurement of the conducted emission.
- Measurement of the discontinuous interference.
- Measurement of the harmonic currents.
- Measurement of the voltage fluctuations.

Emission standard EN IEC 61000-6-4:2019/ IEC 61000-6-4:2018

- Measurement of the radiated emission.
- Measurement of the conducted emission.
- Measurement of the discontinuous interference.

Immunity standard EN IEC 61000-6-1:2019/ IEC 61000-6-1:2016

- Immunity to electrostatic discharges - publication IEC 61000-4-2.
- Immunity to fast transients/bursts - publication IEC 61000-4-4.
- Immunity to conducted disturbances induced by radio-frequency fields - publication IEC 61000-4-6.
- Immunity to power frequency magnetic field- publication IEC 61000-4-8.
- Immunity to radiated radio-frequency electromagnetic field with amplitude modulation - publication IEC 61000-4-3.
- Immunity to surges - publication IEC 61000-4-5.
- Immunity to voltage dips -publication IEC 61000-4-11.
- Immunity to voltage interruptions - publication IEC 61000-4-11.

Immunity standard EN IEC 61000-6-2:2019/ IEC 61000-6-2:2016

- Immunity to electrostatic discharges - publication IEC 61000-4-2.
- Immunity to fast transients/bursts - publication IEC 61000-4-4.
- Immunity to conducted disturbances induced by radio-frequency fields - publication IEC 61000-4-6.
- Immunity to power frequency magnetic field- publication IEC 61000-4-8.
- Immunity to radiated radio-frequency electromagnetic field with amplitude modulation - publication IEC 61000-4-3.
- Immunity to surges - publication IEC 61000-4-5.
- Immunity to voltage dips -publication IEC 61000-4-11.
- Immunity to voltage interruptions - publication IEC 61000-4-11.

Emission standard EN IEC 61000-3-2:2019+A1:2021/ IEC 61000-3-2:2018+A1:2020

- Measurement of the harmonic currents.

Emission standard EN 61000-3-3:2013+A1:2019+A2:2021/ IEC 61000-3-3:2013+A1:2017+A2:2021

- Measurement of the voltage fluctuations and flickers.

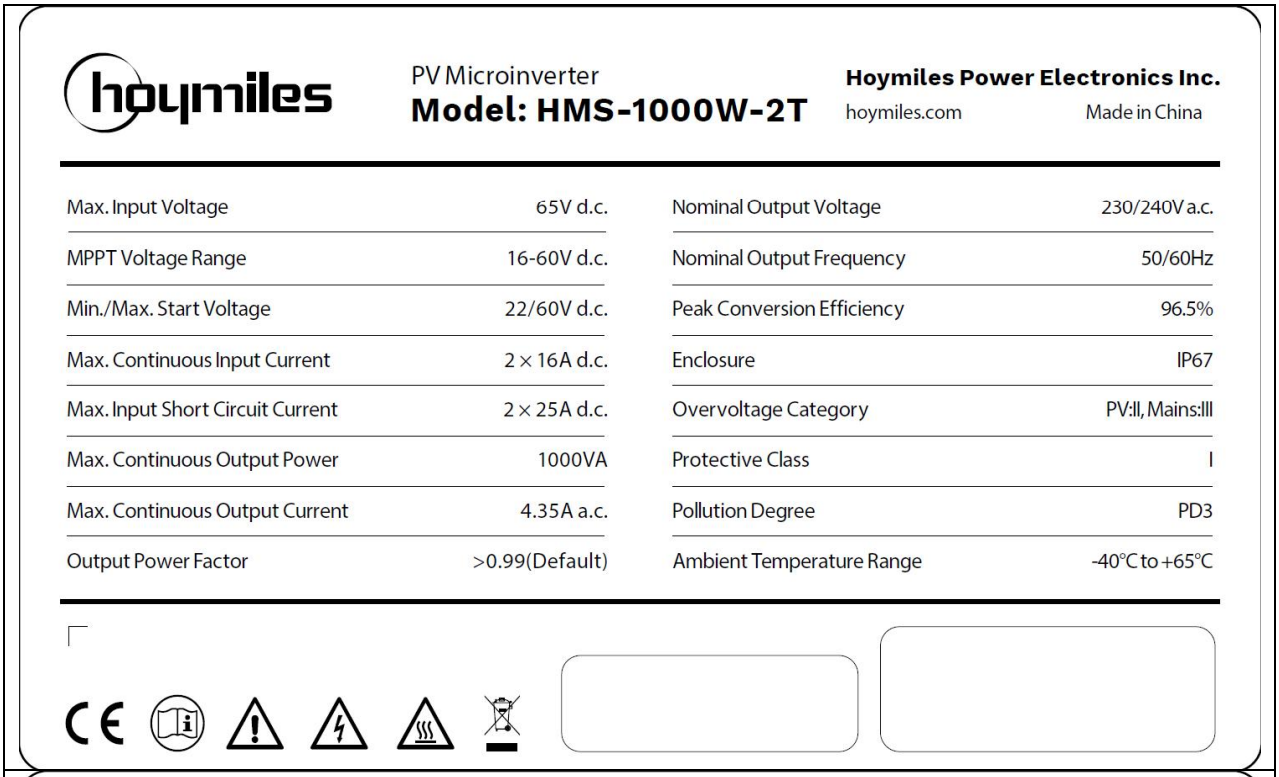
Special Comment : This report is based on history report BMH-ESH-P23040043B-1 for adding standard. After evaluation, We choose model HMS-1000W-2T to apply CE, RE, Harmonic , Flicker, EFT and CS tests, the test result is applicable to all models.

2 HISTORY OF FAILURE

None.

3 EQUIPMENT CHARACTERISTICS

3.1 Technical characteristics



hoymiles

PV Microinverter
Model: HMS-1000W-2T

Hoymiles Power Electronics Inc.
hoymiles.com Made in China

Max. Input Voltage	65V d.c.	Nominal Output Voltage	230/240V a.c.
MPPT Voltage Range	16-60V d.c.	Nominal Output Frequency	50/60Hz
Min./Max. Start Voltage	22/60V d.c.	Peak Conversion Efficiency	96.5%
Max. Continuous Input Current	2 × 16A d.c.	Enclosure	IP67
Max. Input Short Circuit Current	2 × 25A d.c.	Overvoltage Category	PV:II, Mains:III
Max. Continuous Output Power	1000VA	Protective Class	I
Max. Continuous Output Current	4.35A a.c.	Pollution Degree	PD3
Output Power Factor	>0.99(Default)	Ambient Temperature Range	-40°C to +65°C

hoymiles

PV Microinverter
Model: HMS-900W-2T

Hoymiles Power Electronics Inc.
hoymiles.com Made in China

Max. Input Voltage	65V d.c.	Nominal Output Voltage	230/240V a.c.
MPPT Voltage Range	16-60V d.c.	Nominal Output Frequency	50/60Hz
Min./Max. Start Voltage	22/60V d.c.	Peak Conversion Efficiency	96.5%
Max. Continuous Input Current	2 × 15A d.c.	Enclosure	IP67
Max. Input Short Circuit Current	2 × 25A d.c.	Overvoltage Category	PV:II, Mains:III
Max. Continuous Output Power	900VA	Protective Class	I
Max. Continuous Output Current	3.91A a.c.	Pollution Degree	PD3
Output Power Factor	>0.99(Default)	Ambient Temperature Range	-40°C to +65°C

hoymiles

PV Microinverter
Model: HMS-800W-2T

Hoymiles Power Electronics Inc.
hoymiles.com Made in China

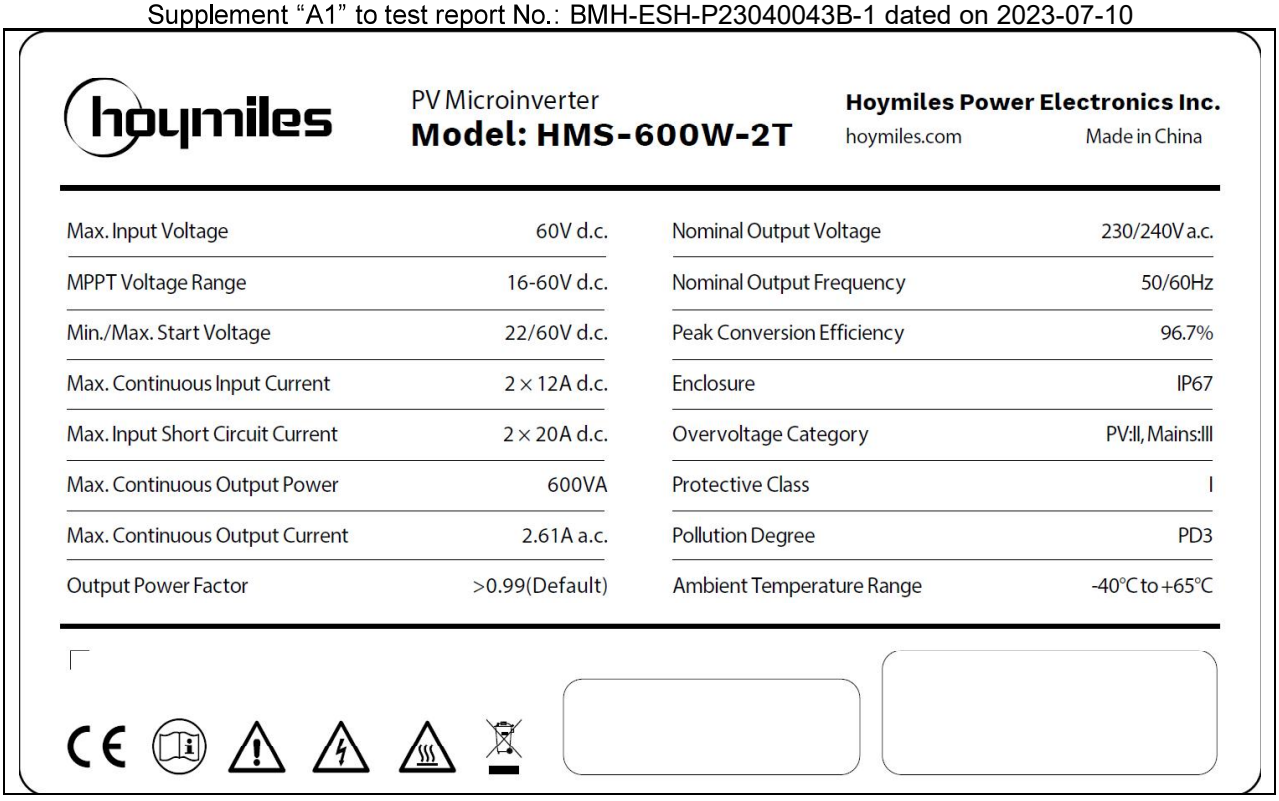
Max. Input Voltage	65V d.c.	Nominal Output Voltage	230/240V a.c.
MPPT Voltage Range	16-60V d.c.	Nominal Output Frequency	50/60Hz
Min./Max. Start Voltage	22/60V d.c.	Peak Conversion Efficiency	96.7%
Max. Continuous Input Current	2 × 14A d.c.	Enclosure	IP67
Max. Input Short Circuit Current	2 × 25A d.c.	Overvoltage Category	PV:II, Mains:III
Max. Continuous Output Power	800VA	Protective Class	I
Max. Continuous Output Current	3.48A a.c.	Pollution Degree	PD3
Output Power Factor	>0.99(Default)	Ambient Temperature Range	-40°C to +65°C

hoymiles

PV Microinverter
Model: HMS-700W-2T

Hoymiles Power Electronics Inc.
hoymiles.com Made in China

Max. Input Voltage	60V d.c.	Nominal Output Voltage	230/240V a.c.
MPPT Voltage Range	16-60V d.c.	Nominal Output Frequency	50/60Hz
Min./Max. Start Voltage	22/60V d.c.	Peak Conversion Efficiency	96.7%
Max. Continuous Input Current	2 × 13A d.c.	Enclosure	IP67
Max. Input Short Circuit Current	2 × 20A d.c.	Overvoltage Category	PV:II, Mains:III
Max. Continuous Output Power	700VA	Protective Class	I
Max. Continuous Output Current	3.04A a.c.	Pollution Degree	PD3
Output Power Factor	>0.99(Default)	Ambient Temperature Range	-40°Cto +65°C



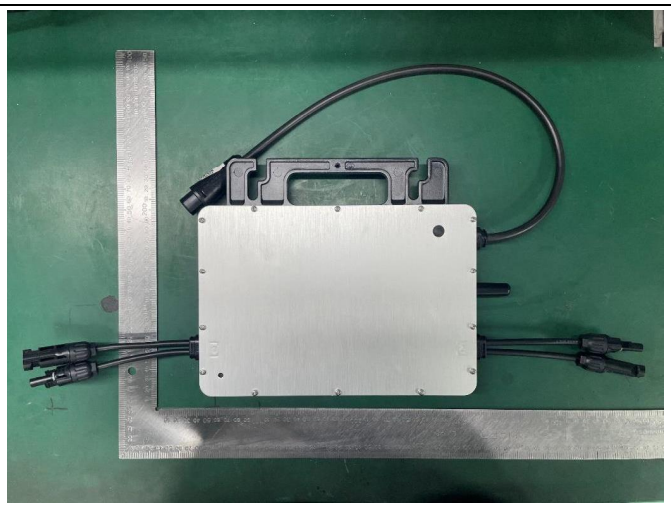
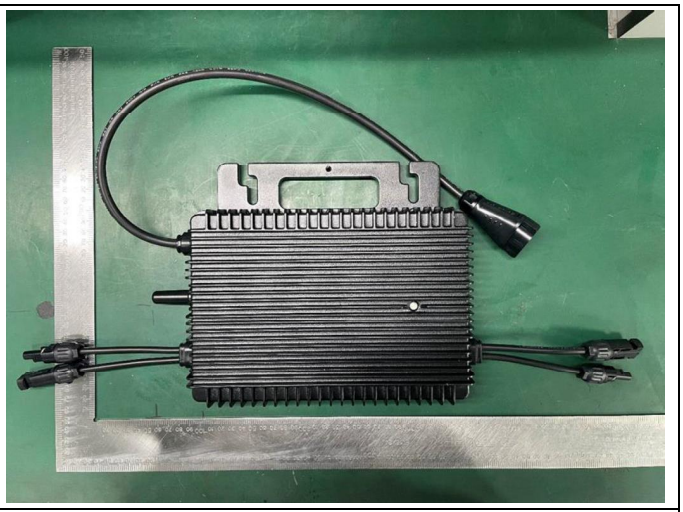
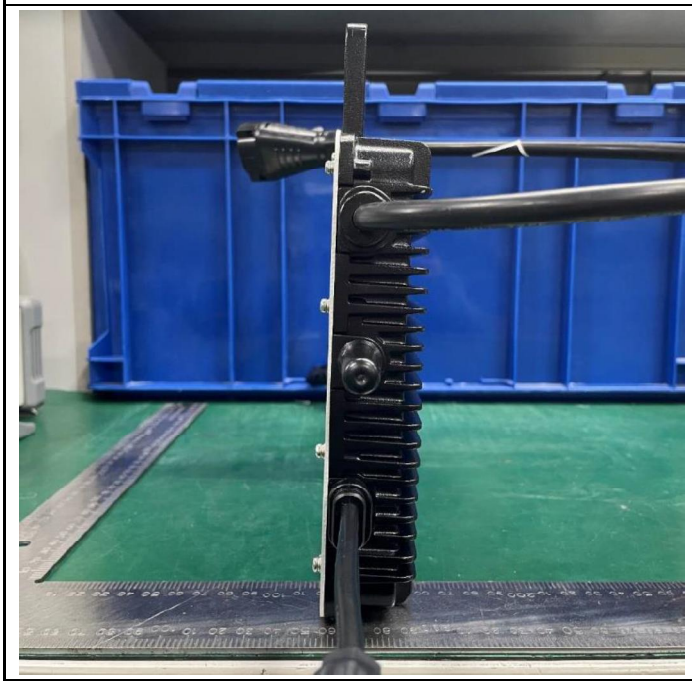
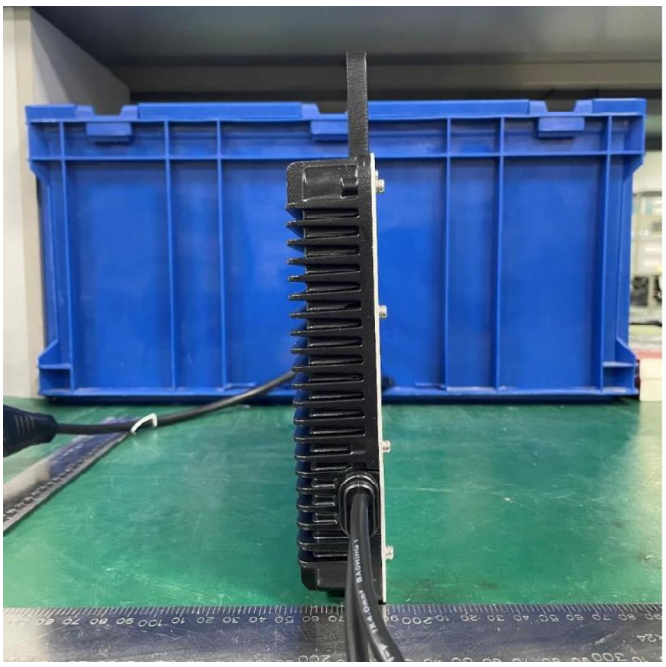
hoymiles

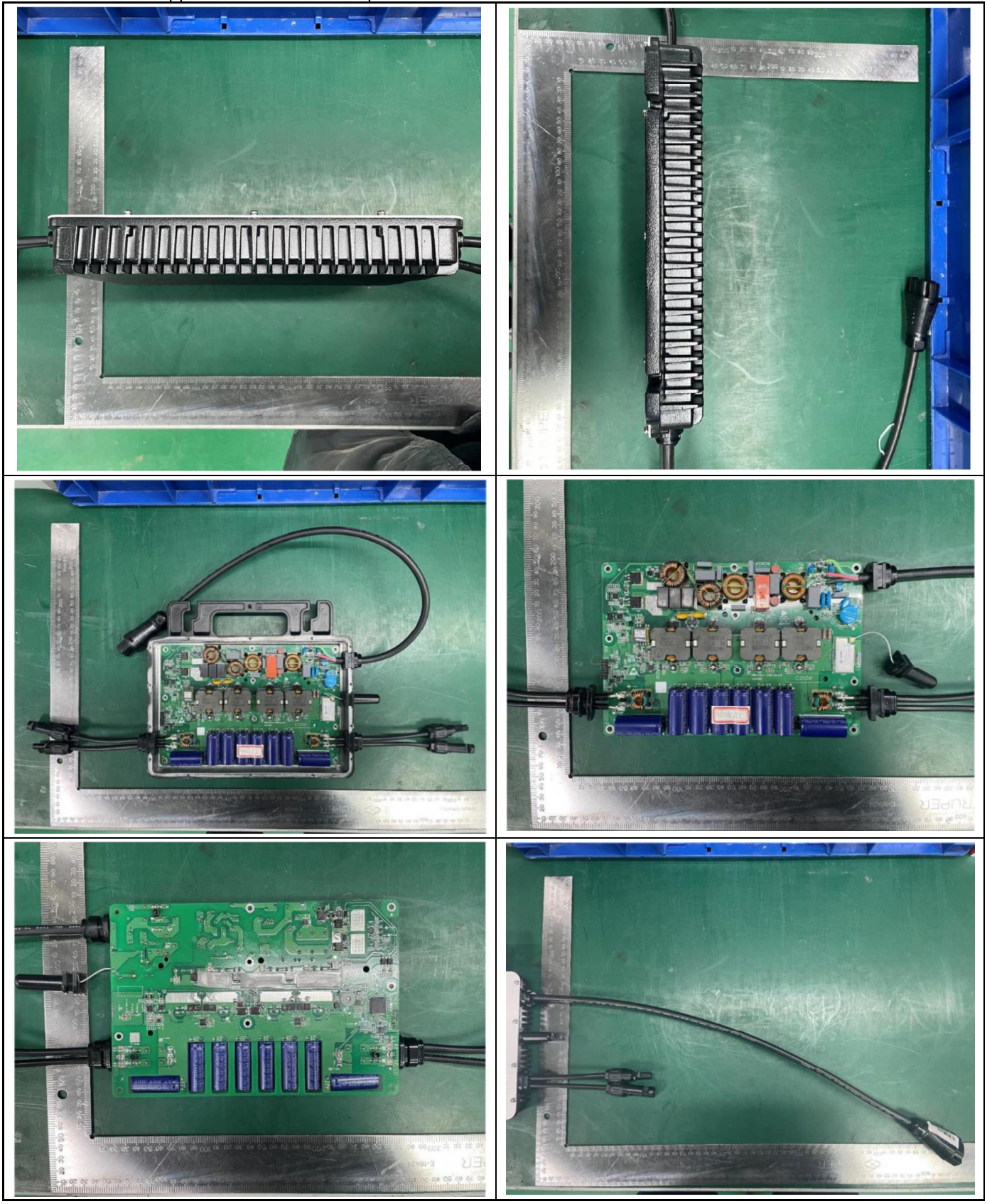
PV Microinverter
Model: HMS-600W-2T

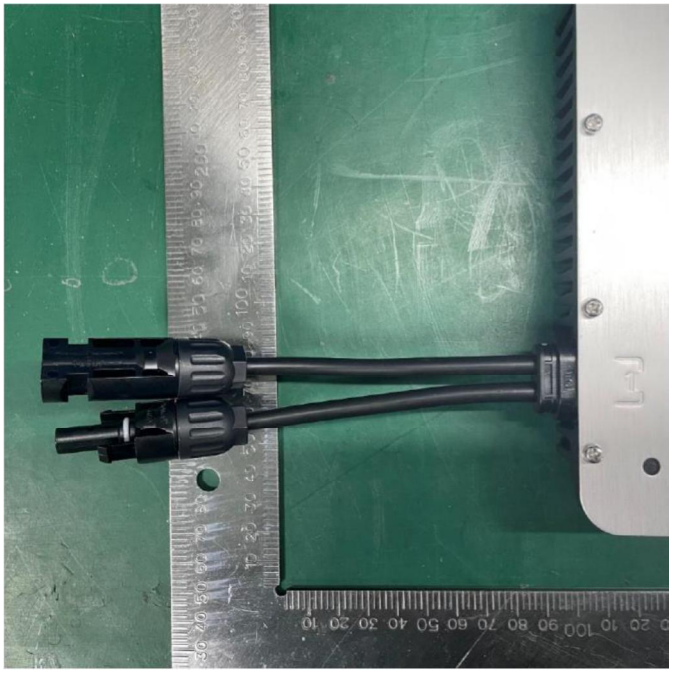
Hoymiles Power Electronics Inc.
hoymiles.com Made in China

Max. Input Voltage	60V d.c.	Nominal Output Voltage	230/240V a.c.
MPPT Voltage Range	16-60V d.c.	Nominal Output Frequency	50/60Hz
Min./Max. Start Voltage	22/60V d.c.	Peak Conversion Efficiency	96.7%
Max. Continuous Input Current	2 × 12A d.c.	Enclosure	IP67
Max. Input Short Circuit Current	2 × 20A d.c.	Overvoltage Category	PV:II, Mains:III
Max. Continuous Output Power	600VA	Protective Class	I
Max. Continuous Output Current	2.61A a.c.	Pollution Degree	PD3
Output Power Factor	>0.99(Default)	Ambient Temperature Range	-40°C to +65°C

3.2 Pictures of sample



	None

4 Configuration of Equipment under Test

4.1 DESCRIPTION OF TEST MODES

MODE	CONFIGURATION
1	DC input: dc 48V, AC output: 230V
2	DC input: dc 42V, AC output: 230V
3	DC input: dc 34V, AC output: 230V

4.2 Description of test modes

Test Item	Test Mode
Conducted Emission	1,2,3
Radiated Emission(Below 1GHz)	1,2,3
Radiated Emission(Above 1GHz)	1
Harmonics	1(Note)
Voltage Fluctuations	1(Note)
Electrostatic Discharge Immunity Test (ESD)	1
Radio electromagnetic field immunity test (RS)	1
Electrical Fast Transient/ Burst Immunity Test (EFT)	1
Surge Immunity Test	1
Conduction Disturbances induced by Radio-Frequency Fields	1
Voltage Dips and Voltage Interruptions Immunity Test	1

Note: Testing was conducted at 25 %, 50 % and 100 % of nominal power.

5 OPERATING CONDITIONS

The apparatus was placed in a shielded room, full or semi anechoic chamber, and was powered with an alternative current source through filters mounted on the shielded room wall. The apparatus was worked continuously.

Climatic conditions :	Temperature	:	23 °C
	Relative humidity	:	53 %
	Atmospheric pressure	:	101 kPa

6 Measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2 Ed 1.0.

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

This lab's measurement uncertainty ULab, is low than UCispr , Table 1 – Values of UCispr of CISPR 16-4-2 Ed. 1.0, therefore compliance is deemed to occur if no measured disturbance exceeds the disturbance limit.

Measurement		Value
Conducted emissions		2.55 dB
Conducted emissions at telecom port		2.60 dB
Radiated emissions	30 MHz ~ 1GHz	3.22 dB
	Above 1GHz	2.89 dB

7 PERFORMANCE CRITERIA

EN 61000-6-2

Criterion A : The apparatus operate as intended during the test. No degradation of performance or loss of function is allowed below the performance level.

Criterion B : The apparatus operate as intended after the test. No change of operating state and the stored data are allowed. During the test, degradation of performance is allowed.

Criterion C : Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls, or by any operation specified in the instructions for use.

EN 62920:

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

8 TEST RESULTS

8.1 EMISSION STANDARD EN IEC 61000-6-3:2021/ IEC 61000-6-3:2020

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
9	**Radiated disturbance** Frequency range: 30 – 1000 MHz Table 1: Emission Enclosure	Operating conditions : according to the article 9 Measuring Distance: 10 m Antenna : - horizontal position - vertical position Diagram(s) No. <1>	[X] [X]	[ ] [ ]	[ ] [ ]	[ ] [ ]
9	**Conducted disturbance** Frequency range: 0,15 – 30 MHz Table 4: Emission AC mains	Operating conditions : according to the article 9 Port(s) : • AC mains port Diagram(s) No. <3>	[X]	[ ]	[ ]	[ ]
9	**Discontinuous interference** Frequency range: 0,15 – 30 MHz Table 1: Emission AC mains Basic standard: EN 55014-1	Operating conditions : according to the article 9 Port(s) : • AC mains port Table(s) No. < >	[ ]	[ ]	[X]	[ ]
9	**Limits for harmonic currents emission** Basic standard: EN 61000-3-2	Frequency range: 0 to 2 kHz Class of the apparatus : A Table(s) No. <1>	[X]	[ ]	[ ]	[ ]
9	**Limitation of voltage fluctuations and flicker in low-voltage supply systems** Basic standard: EN 61000-3-3	Frequency range: 0 to 2 kHz Table(s) No. <2>	[X]	[ ]	[ ]	[ ]

P : pass – F : Fail – NA : not applicable – Rem : remark

8.2 IMMUNITY STANDARD EN IEC 61000-6-2:2019/ IEC 61000-6-2:2016

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
9	**Electrostatic discharges** Table 1 Enclosure Performance criteria B	Contact discharges Level : ± 4 kV Application points : • horizontal coupling plane • vertical coupling plane • metal part	 [X] [X] [X]	 [ ] [ ] [ ]	 [ ] [ ] [ ]	 [1] [1] [1]
	Performance criteria B	Air discharges Level : ± 8 kV Application points : • enclosure	 [X]	 [ ]	 [ ]	 [1]
9	**Radio-frequency electromagnetic fields 80 to 1000 MHz** Table 1 Enclosure Performance criteria A	Test field strength : 10 V/m (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time : 2 s Logperiodic antenna : - horizontal position - vertical position	 [X] [X]	 [ ] [ ]	 [ ] [ ]	 [1] [1]
9	**Radio-frequency electromagnetic fields 1400 to 6000 MHz** Performance criteria A	Test field strength : 3 V/m (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time : 2 s Horn antenna : - horizontal position - vertical position	 [X] [X]	 [ ] [ ]	 [ ] [ ]	 [1] [1]
	Radio-frequency electromagnetic fields 1000 to 6000 MHz **Performance criteria A**	Test field strength : 3 V/m (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time : 2 s Horn antenna : - horizontal position - vertical position	 [X] [X]	 [ ] [ ]	 [ ] [ ]	 [1] [1]
9	**Power Frequency Magnetic Field** Table 1 Enclosure Performance criteria A	Field frequency : 50/60 Hz Level : 30 A/m	[ ]	[ ]	[X]	[2]

P : pass – F : Fail – NA : not applicable – Rem : remark

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
9	**Fast transients/bursts** Table 4 Alternative current power input and output ports Performance criteria B	Level : ± 2 kV Rise time/hold time : 5/50 ns Repetition rate : 5 kHz Testing time : 2 min Port(s) : • AC mains	[X]	[ ]	[ ]	[1]
9	**Injected current 0,15 to 80 MHz** Table 4 Alternative current power input and output ports Performance criterion A	Voltage level : 10 V (unmodulated signal) Modulation frequency : 1 kHz Frequency Step : 1% Dwell Time: 2 s Modulation depth : 80 % Application with Port(s) : • AC mains	[X]	[ ]	[ ]	[1]
9	**Surges** Table 4 Alternative current power input and output ports Performance criterion B	Tr/Th(µs) : 1.2/50 (8/20) Number of surges : 5 positive and 5 negative Phase angles : 0°, 90°, 180° and 270° Level : ± 1 kV Port(s) : • power input, between lines and neutral	[X]	[ ]	[ ]	[1]
	Performance criterion B	Level : ± 2 kV Port(s) : • power input, between lines and earth • power input, between neutral and earth	[X] [X]	[ ] [ ]	[ ] [ ]	[1] [1]
9	**Voltage dips and voltage interruptions** Table 4 Alternative current power input port(s) Performance criterion C	Voltage interruptions Test level : 0 % Ut-> 0 V Duration : 5 s Phase angles : 0° Port(s) : • AC mains	[X]	[ ]	[ ]	[1]
	Table 4 Alternative current power input port(s) Performance criterion C	Voltage dips Test level : 40 % Ut-> 92 V Duration : 100 ms Phase angles : 0° Port(s) : • AC mains	[X]	[ ]	[ ]	[1]
	Table 4 Alternative current power input port(s) Performance criterion B	Voltage dips Test level : 70 % Ut-> 161 V Duration : 10 ms Phase angles : 0° and 180° Port(s) : • AC mains	[X]	[ ]	[ ]	[1]

P : pass – F : Fail – NA : not applicable – Rem : remark

8.3 EMISSION STANDARD EN 62920:2017+A11:2020+A1:2021

Class: ☐ **Class A**
☒ **Class B**

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
8.2	**Disturbance voltage limits** Frequency range: 0.15 to 30 MHz Table 7 & 9 & 11	Port(s) : • auxiliary AC power input ports • DC power input port • Wired network port and signal/control port Diagram(s) No. <2>	[X] [ ] [ ]	[ ] [ ] [ ]	[ ] [X] [X]	[ ] [3] [4]
8.2	**Radiated disturbance limits** Frequency range: 30 to 1000 MHz Table 13	Measuring Distance: 10 m Port(s) : • Enclosure port Diagram(s) No. <1>	[X]	[ ]	[ ]	[ ]
8.1	**Limits for harmonic currents emission**	Frequency range: 0 to 2 kHz Class of the apparatus : A Table(s) No. <1>	[X]	[ ]	[ ]	[ ]
8.1	**Limitation of voltage fluctuations and flicker in low-voltage supply systems**	Frequency range: 0 to 2 kHz Table(s) No. <2>	[X]	[ ]	[ ]	[ ]

P : pass – F : Fail – NA : not applicable – Rem : remark

8.4 IMMUNITY STANDARD EN 62920:2017+A11:2020+A1:2021

Class: ☐ **Class A**
☒ **Class B**

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
7.1	**Electrostatic discharges** Table 1 Enclosure Performance Criterion B	Contact discharges Level : ± 4kV Application points : • horizontal coupling plane • vertical coupling plane • enclosure • screw	 [X] [X] [X] [X]	 [ ] [ ] [ ] [ ]	 [ ] [ ] [ ] [ ]	 [1] [1] [1] [1]
		Air discharges Level : ± 8 kV Application points : • enclosure • panel • ports	 [X]	 [ ]	 [ ]	 [1]
7.1	**Fast transients/bursts** Table 1 AC power port, DC power port and signal/control port Performance Criterion B	Level : ± 1 kV for AC power port ± 0.5 kV for DC power port and signal/control port Repetition rate : 5 kHz Testing time : 2 min Port(s) : • AC power output port • DC power input port • Signal/control port	 [X] [X] [ ]	 [ ] [ ] [ ]	 [ ] [ ] [X]	 [1] [1] [4]
7.1	**Injected current 0.15 to 80 MHz** Table 1 AC power port, DC power port and signal/control port Performance Criterion A	Voltage level : 3V Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time: 3 s Application with CDN Port(s) : • AC power output port • DC power input port • Signal/control port	 [X] [X] [ ]	 [ ] [ ] [ ]	 [ ] [ ] [X]	 [1] [1] [4]

P : pass - F : Fail - NA : not applicable - Rem : remark

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
7.1	**Radio-frequency electromagnetic fields 80 to 1000 MHz** Table 1 Enclosure Performance Criterion A	Test field strength : 3 V/m (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time : 3 s ☒ Logperiodic antenna - horizontal position - vertical position	[X] [X]	[ ] [ ]	[ ] [ ]	[1] [1]
7.1	**Radio-frequency electromagnetic fields 1400 to 6000 MHz** Performance criteria A	Test field strength : 3 V/m (unmodulated signal) Modulation frequency : 1 kHz Modulation depth : 80 % Frequency Step : 1% Dwell Time :3 s Horn antenna : - horizontal position - vertical position	[X] [X]	[ ] [ ]	[ ] [ ]	[1] [1]
7.1	**Surges** Table 1 AC power port, DC power port and signal/control port Performance Criterion B	Tr/Th(μs) : 1.2/50 (8/20) Number of surges : 5 positive and 5 negative Phase angles : 0°, 90°, 180° and 270° Level : ± 1 kV for AC power port ± 0.5 kV for DC power port Port(s) : • power input, between positive and negative • DC power input port	[X] [ ]	[ ] [ ]	[ ] [X]	[1] [3]
		Level : ± 2 kV for AC power port ± 1 kV for DC power port Port(s) : • power input, between lines and earth • power input, between neutral and earth • DC power input port	[X] [X] [ ]	[ ] [ ] [ ]	[ ] [ ] [X]	[1] [1] [3]

Article	TEST	TEST SPECIFICATION	RESULTS			
			P	F	NA	Rem
7.1	**Voltage dips and voltage interruptions** Table 3 AC power port Performance criterion B	Voltage dips Test level : 0 % Ut-> 0 V Duration : 10 ms Phase angles : 0° and 180° Port(s) : • AC output port	[X]	[ ]	[ ]	[1]
		Voltage dips Test level : 0 % Ut-> 0 V Duration : 20 ms Phase angles : 0° and 180° Port(s) : • AC output port	[X]	[ ]	[ ]	[1]
		Voltage dips Test level : 70 % Ut-> 161 V Duration : 500 ms Phase angles : 0° and 180° Port(s) : • AC output port	[X]	[ ]	[ ]	[1]
	Table 3 AC power port Performance criterion C	Voltage interruptions Test level : 0 % Ut-> 0 V Duration : 5000 ms Phase angles : 0° Port(s) : • AC output port	[X]	[ ]	[ ]	[1]

8.5 EMISSION STANDARD EN IEC 61000-3-2:2019+A1:2021/ IEC 61000-3-2:2018+A1:2020

TEST	TEST SPECIFICATION	RESULTS			
		P	F	NA	Rem
Limits for harmonic currents emission	Frequency range: 0 to 2 kHz Class of the apparatus : A Table(s) No. <1>	[X]	[ ]	[ ]	[ ]

P : pass - F : Fail - NA : not applicable - Rem : remark

8.6 EMISSION STANDARD EN 61000-3-3:2013+A1:2019+A2:2021/ IEC 61000-3-3:2013+A1:2017+A2:2021

TEST	TEST SPECIFICATION	RESULTS			
		P	F	NA	Rem
Limitation of voltage fluctuations and flicker in low-voltage supply systems	Frequency range: 0 to 2 kHz Table(s) No. <2>	[X]	[ ]	[ ]	[ ]

P : pass - F : Fail - NA : not applicable - Rem : remark

Remark(s) :

1 : During and after the test, there are no loss of function and no change of power consumption and operating state.
2 As there are no components in the EUT susceptible to magnetic fields, so it is not needed to perform this test.
3 The cable length of DC power port is less than 30 m.

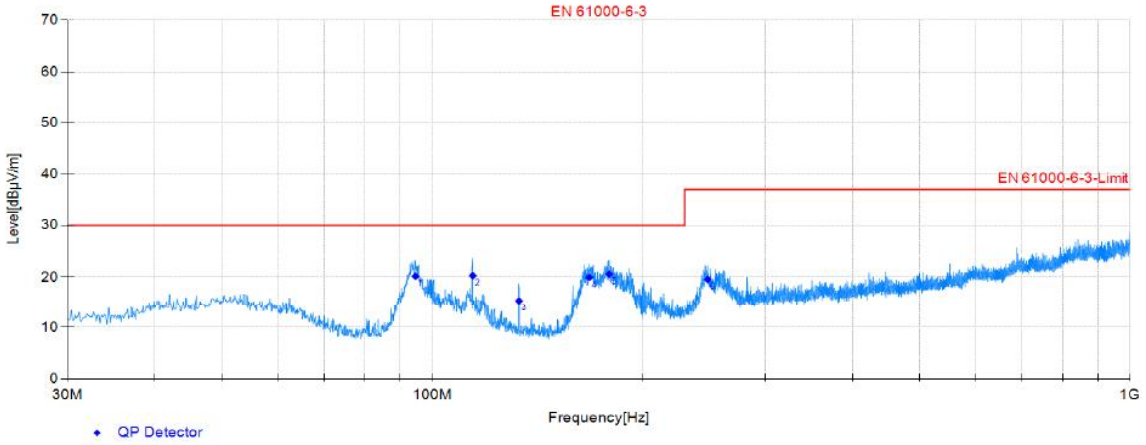
Note: The highest internal frequency of the EUT is less than 108MHz, the measurement shall only be made up to 1GHz.

There is no need for DC ports test to be performed on this product with the cable shorter than 3m, the DC ports don't connect to a local DC power network or local battery.

9 CONCLUSION

The apparatus PV Microinverter and models HMS-1000W-2T, HMS-900W-2T, HMS-800W-2T, HMS-700W-2T, HMS-600W-2T are in compliance with the requirements of the standards EN 62920:2017+A11:2020+A1:2020, IEC 62920:2017+A1:2020, EN IEC 61000-6-3:2021, IEC 61000-6-3:2020, EN IEC 61000-6-4:2019, IEC 61000-6-4:2018, EN IEC 61000-6-1:2019, IEC 61000-6-1:2016, EN IEC 61000-6-2:2019, IEC 61000-6-2:2016, EN IEC 61000-3-2:2019+A1:2021 , IEC 61000-3-2:2018+A1:2020, EN 61000-3-3:2013+A1:2019+A2:2021 and IEC 61000-3-3:2013+A1:2017+A2:2021.

Diagram No. 1
Mode 1
H

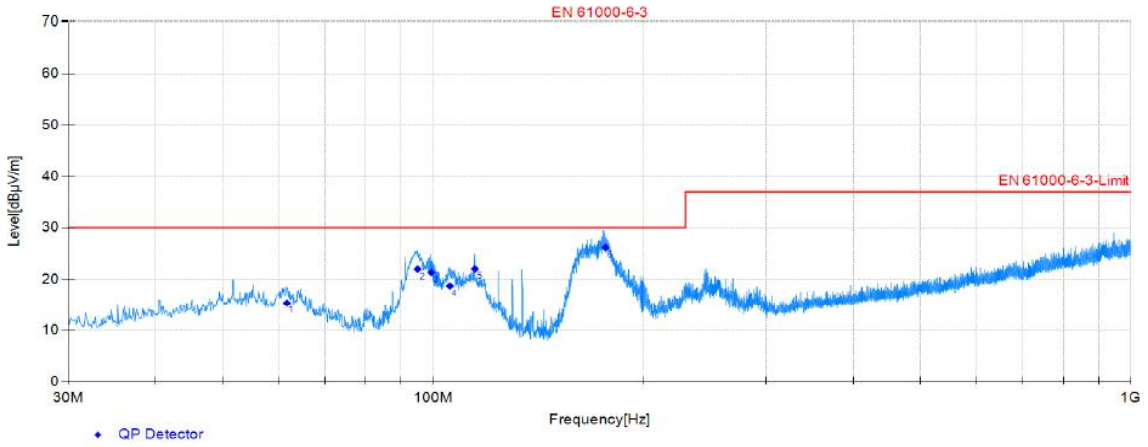


Final Data List

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Value [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	94.608	34.18	-14.00	20.18	30.00	9.82	QP	400	0	Horizontal
2	114.30	34.35	-14.07	20.28	30.00	9.72	QP	300	79	Horizontal
3	133.21	31.69	-16.31	15.38	30.00	14.62	QP	300	222	Horizontal
4	167.94	35.82	-15.87	19.95	30.00	10.05	QP	400	72	Horizontal
5	179.29	35.82	-15.24	20.58	30.00	9.42	QP	400	8	Horizontal
6	248.17	31.75	-12.19	19.56	37.00	17.44	QP	400	177	Horizontal

Continued

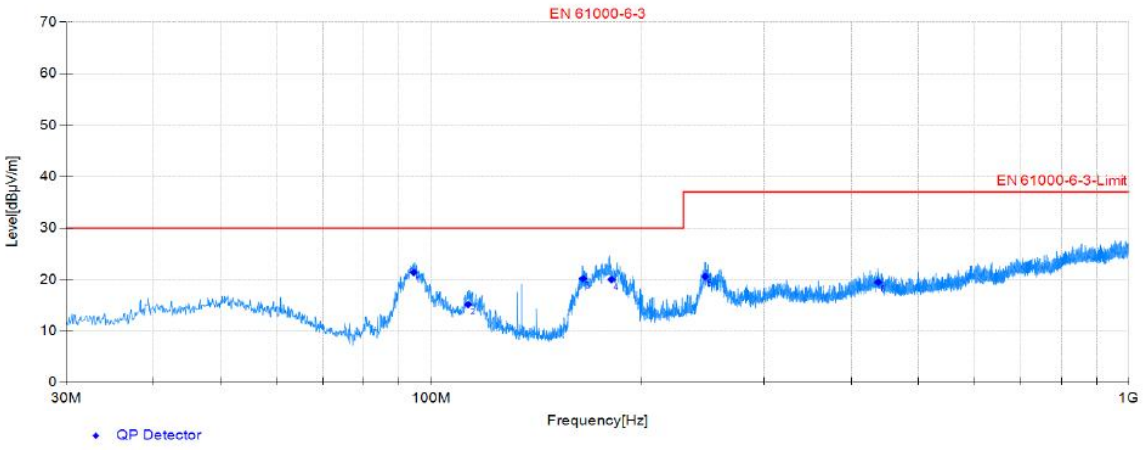
V



Final Data List

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Value [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	61.722	40.17	-24.88	15.29	30.00	14.71	QP	100	58	Vertical
2	94.996	48.45	-26.51	21.94	30.00	8.06	QP	100	360	Vertical
3	99.458	47.29	-25.99	21.30	30.00	8.70	QP	100	360	Vertical
4	105.66	44.42	-25.76	18.66	30.00	11.34	QP	100	360	Vertical
5	114.78	48.6	-26.63	21.97	30.00	8.03	QP	300	222	Vertical
6	176.60	53.44	-27.34	26.10	30.00	3.90	QP	190.5	30.4	Vertical

Continued
Mode 2
H

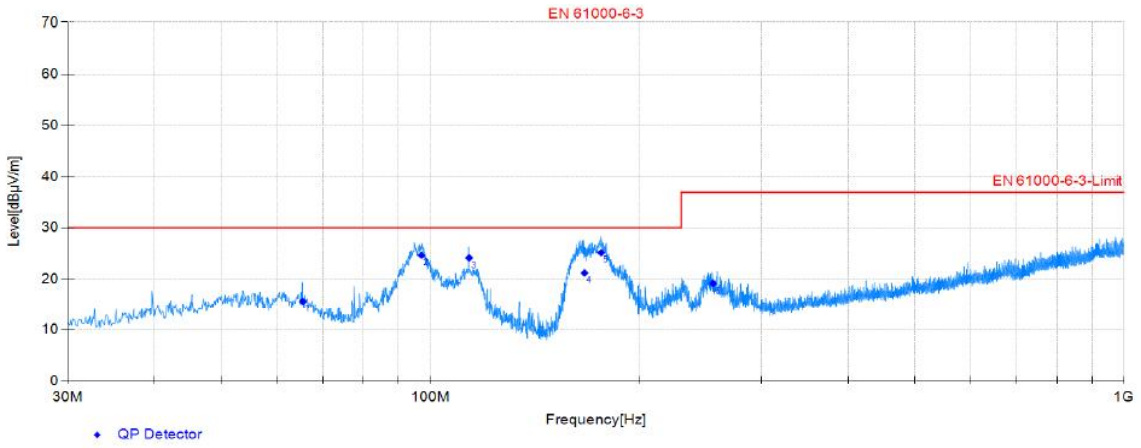


Final Data List

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Value [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	94.391	35.32	-13.98	21.34	30.00	8.66	QP	387.9	13.7	Horizontal
2	113.04	28.96	-13.85	15.11	30.00	14.89	QP	400	360	Horizontal
3	165.13	36.11	-15.96	20.15	30.00	9.85	QP	300	82	Horizontal
4	181.36	35.12	-15.15	19.97	30.00	10.03	QP	380.4	226	Horizontal
5	247.20	32.76	-12.21	20.55	37.00	16.45	QP	300	197	Horizontal
6	437.14	27.89	-8.45	19.44	37.00	17.56	QP	200	360	Horizontal

Continued

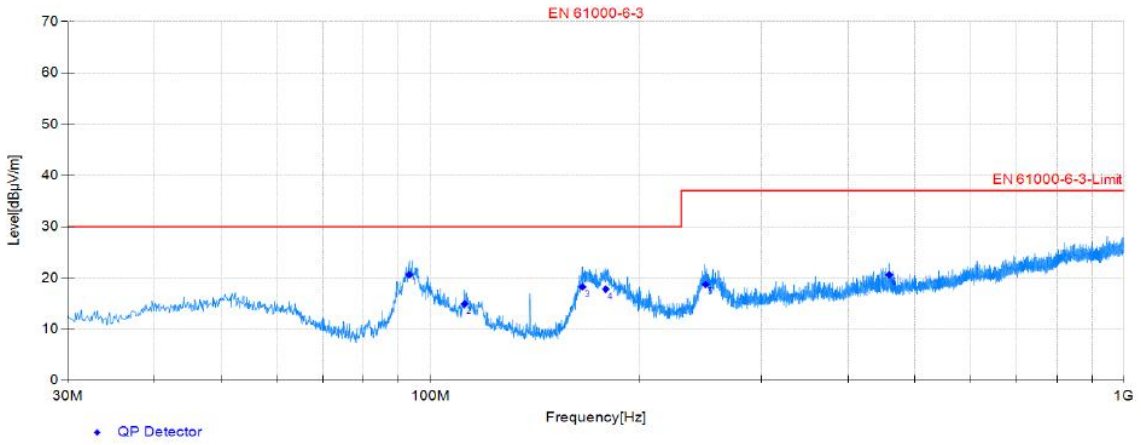
V



Final Data List

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Value [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	65.505	41.47	-25.93	15.54	30.00	14.46	QP	100	54	Vertical
2	97.052	50.78	-26.18	24.60	30.00	5.40	QP	114.1	358.3	Vertical
3	113.71	50.58	-26.49	24.09	30.00	5.91	QP	200	236	Vertical
4	166.82	49.04	-27.90	21.14	30.00	8.86	QP	180	359.9	Vertical
5	176.24	52.42	-27.32	25.10	30.00	4.90	QP	189.1	35.9	Vertical
6	255.45	42.32	-23.24	19.08	37.00	17.92	QP	200	14	Vertical

Continued
Mode 3
H

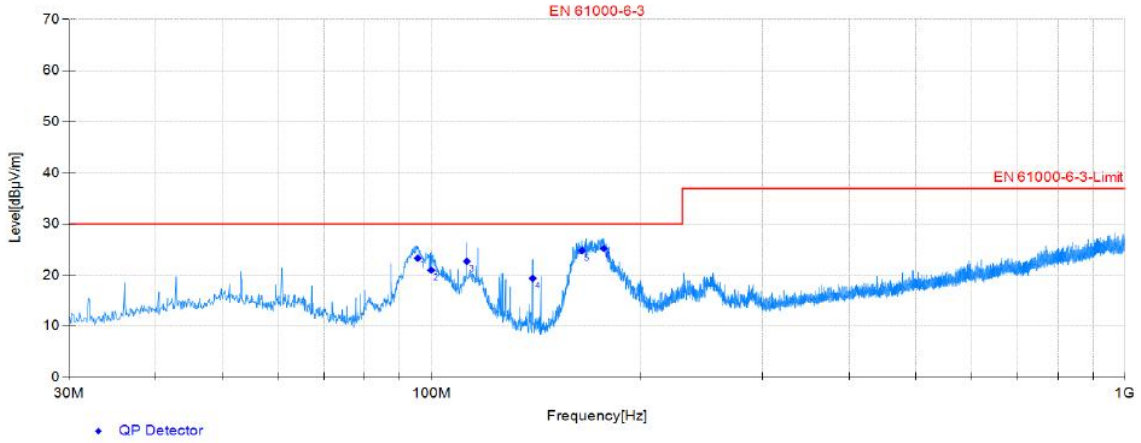


Final Data List

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Value [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	93.250	34.93	-14.33	20.60	30.00	9.40	QP	400	221	Horizontal
2	112.07	28.6	-13.71	14.89	30.00	15.11	QP	400	241	Horizontal
3	165.71	34.16	-15.94	18.22	30.00	11.78	QP	400	61	Horizontal
4	179.00	33.04	-15.27	17.77	30.00	12.23	QP	400	0	Horizontal
5	249.33	30.86	-12.16	18.70	37.00	18.30	QP	300	223	Horizontal
6	458.78	28.48	-7.92	20.56	37.00	16.44	QP	200	360	Horizontal

Continued

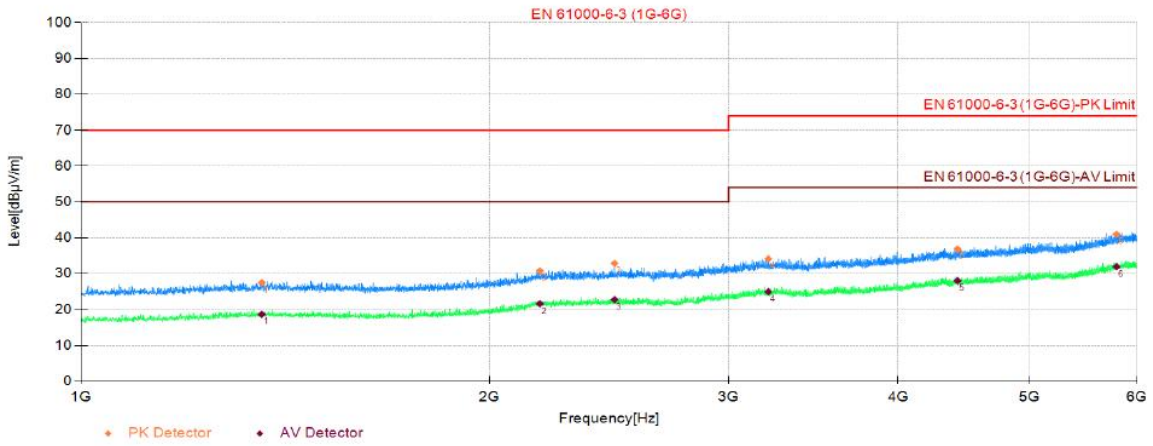
V



Final Data List

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Value [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	95.481	49.72	-26.44	23.28	30.00	6.72	QP	100	8	Vertical
2	99.944	46.9	-25.97	20.93	30.00	9.07	QP	100	309	Vertical
3	112.45	49	-26.33	22.67	30.00	7.33	QP	300	299	Vertical
4	139.91	47.85	-28.52	19.33	30.00	10.67	QP	100	164	Vertical
5	164.84	52.71	-27.96	24.75	30.00	5.25	QP	200	62	Vertical
6	177.16	52.42	-27.24	25.18	30.00	4.82	QP	100	13	Vertical

Diagram No. 2
Mode 1
H

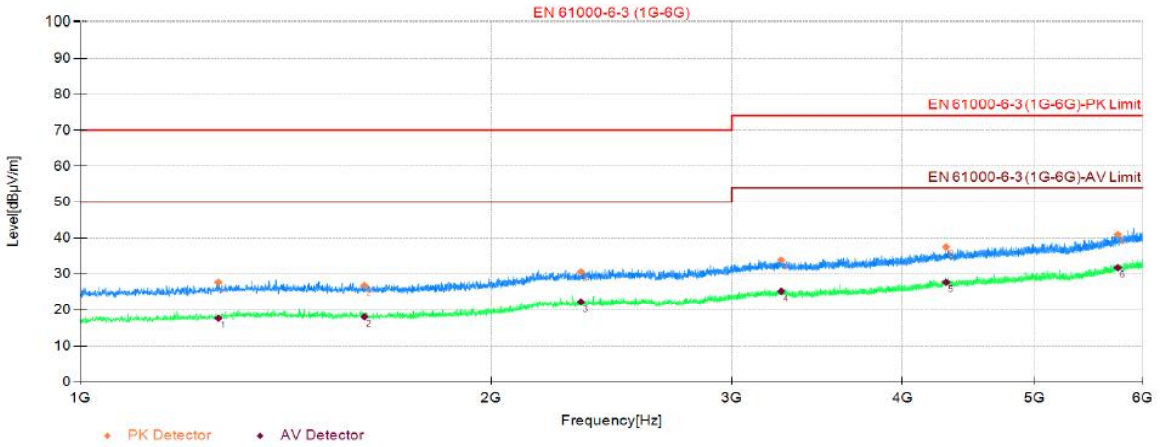


Final Data List

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Value [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	1359.0	47.67	-20.20	27.47	70.00	42.53	PK	100	318	Horizontal
2	1359.0	38.86	-20.20	18.66	50.00	31.34	AV	100	318	Horizontal
3	2178.1	48.97	-18.19	30.78	70.00	39.22	PK	100	204	Horizontal
4	2178.1	39.81	-18.19	21.62	50.00	28.38	AV	100	204	Horizontal
5	2472.1	51.14	-18.26	32.88	70.00	37.12	PK	100	232	Horizontal
6	2472.1	41.00	-18.26	22.74	50.00	27.26	AV	100	232	Horizontal
7	3209.2	50.93	-16.79	34.14	74.00	39.86	PK	300	360	Horizontal
8	3209.2	41.75	-16.79	24.96	54.00	29.04	AV	300	360	Horizontal
9	4425.3	51.7	-14.81	36.89	74.00	37.11	PK	100	327	Horizontal
10	4425.3	42.85	-14.81	28.04	54.00	25.96	AV	100	327	Horizontal
11	5795.4	53.94	-12.94	41.00	74.00	33.00	PK	300	0	Horizontal
12	5795.4	44.88	-12.94	31.94	54.00	22.06	AV	300	0	Horizontal

Continued

V

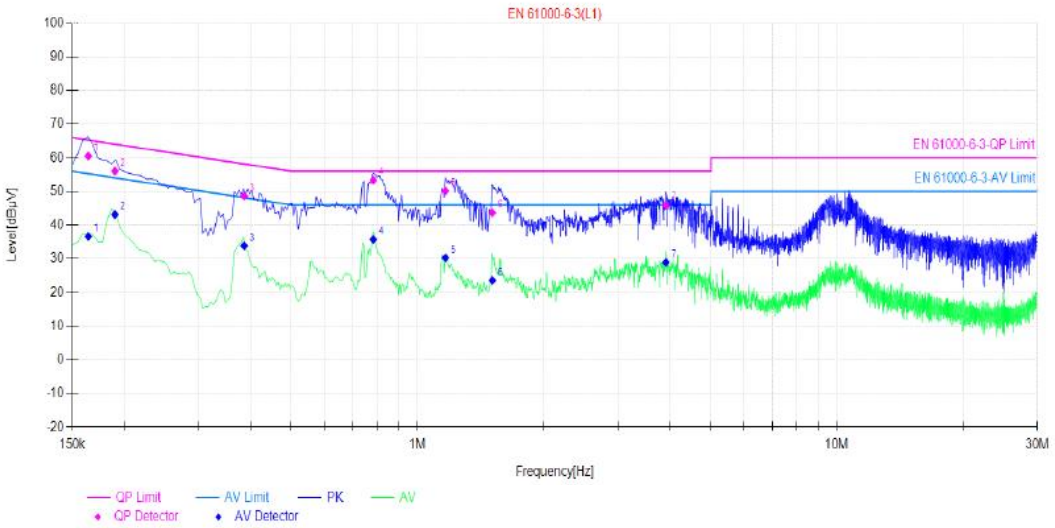


Final Data List

NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB]	Value [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Height [cm]	Angle [°]	Polarity
1	1262.0	48.27	-20.51	27.76	70.00	42.24	PK	300	0	Vertical
2	1262.0	38.12	-20.51	17.61	50.00	32.39	AV	300	0	Vertical
3	1614.5	47.9	-21.02	26.88	70.00	43.12	PK	100	260	Vertical
4	1614.5	39.05	-21.02	18.03	50.00	31.97	AV	100	260	Vertical
5	2326.1	48.59	-17.93	30.66	70.00	39.34	PK	300	233	Vertical
6	2326.1	40.17	-17.93	22.24	50.00	27.76	AV	300	233	Vertical
7	3261.2	50.91	-16.97	33.94	74.00	40.06	PK	300	279	Vertical
8	3261.2	42.23	-16.97	25.26	54.00	28.74	AV	300	279	Vertical
9	4305.8	52.6	-15.08	37.52	74.00	36.48	PK	300	353	Vertical
10	4305.8	42.86	-15.08	27.78	54.00	26.22	AV	300	353	Vertical
11	5752.9	54.08	-13.07	41.01	74.00	32.99	PK	100	98	Vertical
12	5752.9	44.87	-13.07	31.80	54.00	22.20	AV	100	98	Vertical

Diagram No. 3
Mode 1

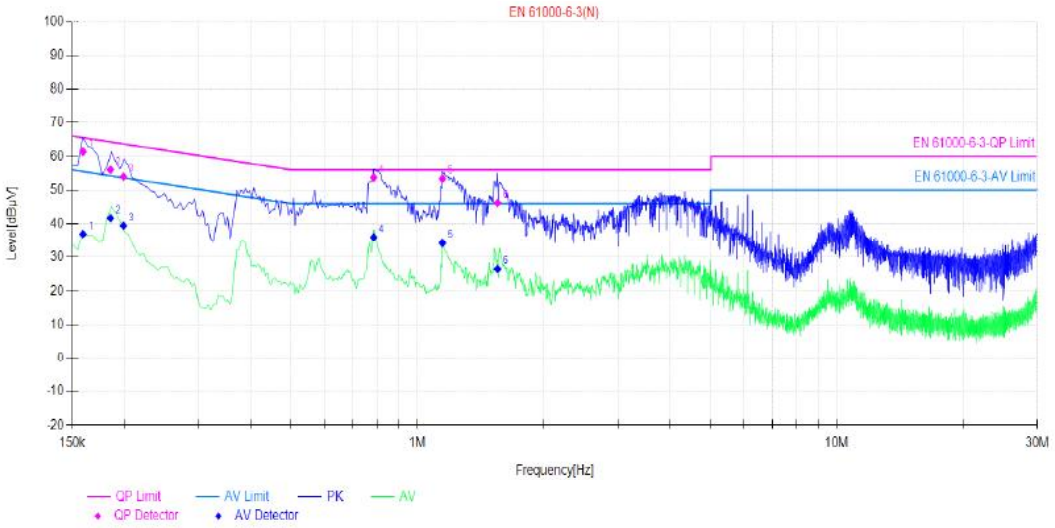
L



Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.16	10.23	60.51	65.27	4.76	36.63	55.27	18.64	PASS
2	0.19	10.23	56.01	64.05	8.04	43.17	54.05	10.88	PASS
3	0.39	10.08	48.67	58.16	9.49	33.84	48.16	14.32	PASS
4	0.78	10.10	53.33	56.00	2.67	35.72	46.00	10.28	PASS
5	1.16	10.03	50.12	56.00	5.88	30.25	46.00	15.75	PASS
6	1.51	10.05	43.68	56.00	12.32	23.56	46.00	22.44	PASS
7	3.91	10.15	45.97	56.00	10.03	28.91	46.00	17.09	PASS

Continued

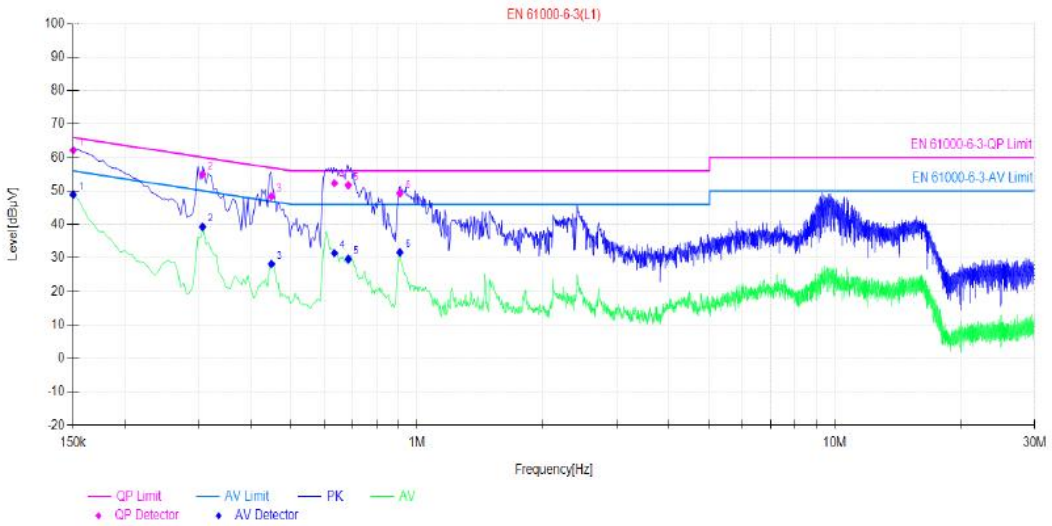
N



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.16	10.34	61.36	65.51	4.15	36.95	55.51	18.56	PASS
2	0.19	10.34	56.03	64.25	8.22	41.71	54.25	12.54	PASS
3	0.20	10.34	54.01	63.66	9.65	39.48	53.66	14.18	PASS
4	0.79	10.20	53.75	56.00	2.25	35.98	46.00	10.02	PASS
5	1.14	10.14	53.36	56.00	2.64	34.29	46.00	11.71	PASS
6	1.55	10.16	46.21	56.00	9.79	26.54	46.00	19.46	PASS

Continued
Mode 2
L

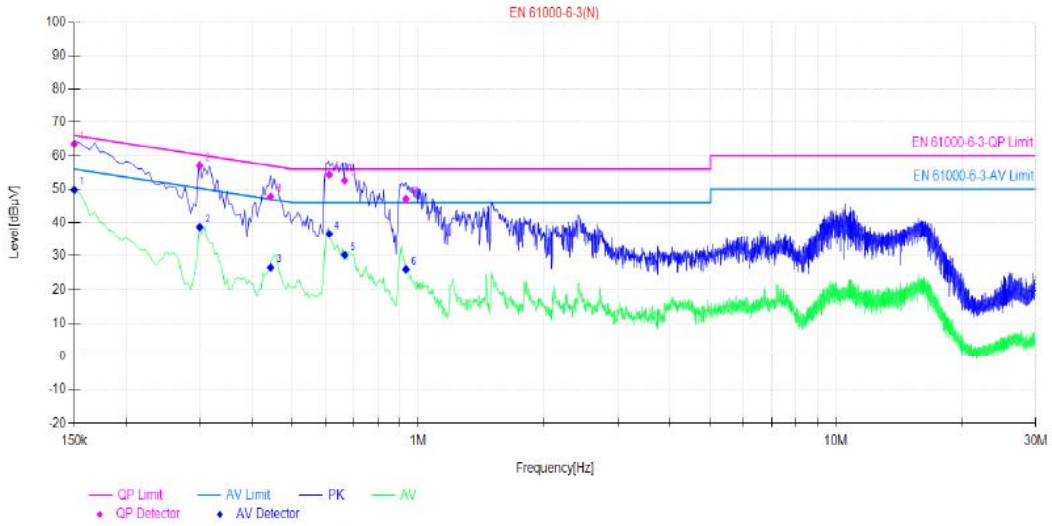


Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.15	10.24	62.16	65.98	3.82	48.90	55.98	7.08	PASS
2	0.31	10.06	54.98	60.07	5.09	39.28	50.07	10.79	PASS
3	0.45	10.10	48.42	56.91	8.49	28.21	46.91	18.70	PASS
4	0.63	10.12	52.34	56.00	3.66	31.44	46.00	14.56	PASS
5	0.68	10.12	51.71	56.00	4.29	29.62	46.00	16.38	PASS
6	0.91	10.05	49.34	56.00	6.66	31.65	46.00	14.35	PASS

Continued

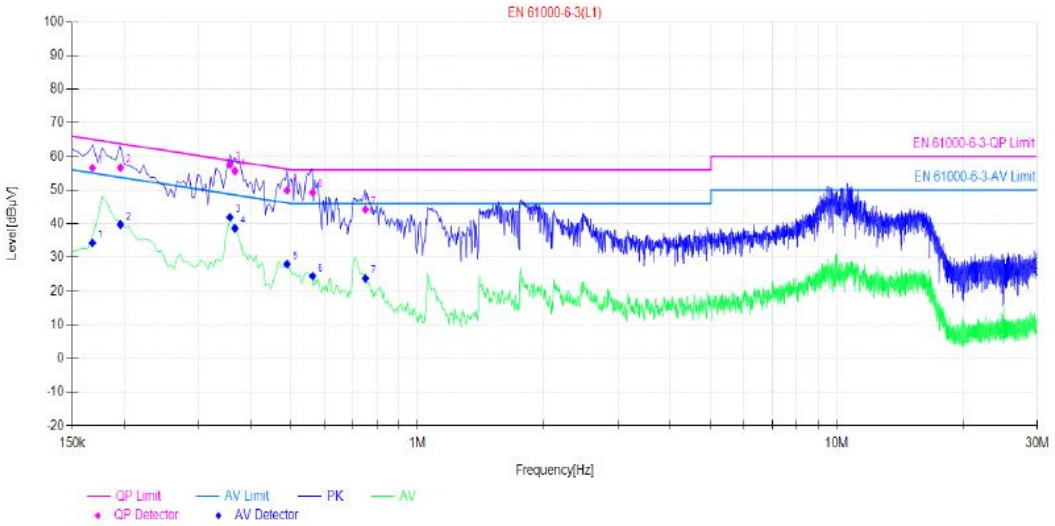
N



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.15	10.35	63.48	66.00	2.52	49.77	56.00	6.23	PASS
2	0.30	10.17	56.96	60.25	3.29	38.69	50.25	11.56	PASS
3	0.44	10.21	47.82	57.00	9.18	26.56	47.00	20.44	PASS
4	0.61	10.23	54.32	56.00	1.68	36.64	46.00	9.36	PASS
5	0.67	10.23	52.55	56.00	3.45	30.24	46.00	15.76	PASS
6	0.93	10.15	47.07	56.00	8.93	26.01	46.00	19.99	PASS

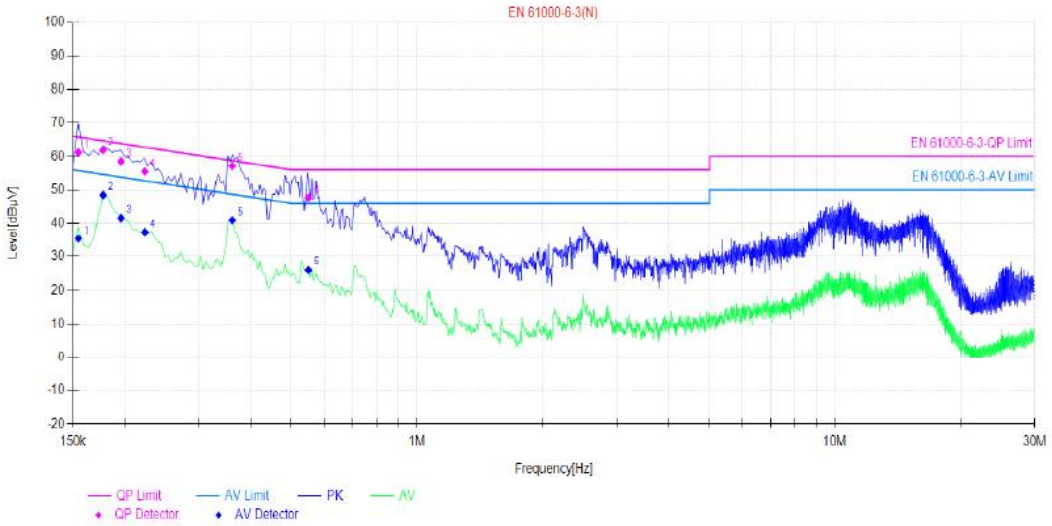
Continued
Mode 3
L



Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.17	10.23	56.55	65.08	8.53	34.30	55.08	20.78	PASS
2	0.20	10.23	56.63	63.80	7.17	39.77	53.80	14.03	PASS
3	0.36	10.07	57.46	58.81	1.35	41.94	48.81	6.87	PASS
4	0.37	10.08	55.66	58.58	2.92	38.66	48.58	9.92	PASS
5	0.49	10.11	49.91	56.20	6.29	28.03	46.20	18.17	PASS
6	0.56	10.12	49.27	56.00	6.73	24.47	46.00	21.53	PASS
7	0.75	10.10	44.22	56.00	11.78	23.74	46.00	22.26	PASS

Continued

N



Final Data List

NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.15	10.35	61.16	65.75	4.59	35.44	55.75	20.31	PASS
2	0.18	10.34	61.93	64.62	2.69	48.46	54.62	6.16	PASS
3	0.20	10.34	58.48	63.80	5.32	41.58	53.80	12.22	PASS
4	0.22	10.30	55.51	62.71	7.20	37.39	52.71	15.32	PASS
5	0.36	10.19	57.13	58.71	1.58	40.96	48.71	7.75	PASS
6	0.55	10.22	47.66	56.00	8.34	26.04	46.00	19.96	PASS

Table No. 1
100% Load

Average and Maximum harmonic current results									
Hn	Average				Maximum				Harmonic Result
	Ieff [A]	of Limit [%]	Limit [A]	Result	Ieff [A]	of Limit [%]	Limit [A]	Result	
1	4.312				4.355				
2	0.002	0.214	1.080	n/a	0.003	0.156	1.620	n/a	PASS
3	0.046	2.018	2.300	PASS	0.050	1.446	3.450	PASS	PASS
4	0.003	0.593	0.430	n/a	0.003	0.430	0.645	n/a	PASS
5	0.032	2.850	1.140	PASS	0.033	1.933	1.710	PASS	PASS
6	0.002	0.793	0.300	n/a	0.003	0.599	0.450	n/a	PASS
7	0.015	1.948	0.770	n/a	0.016	1.356	1.155	n/a	PASS
8	0.002	0.887	0.230	n/a	0.002	0.688	0.345	n/a	PASS
9	0.006	1.516	0.400	n/a	0.007	1.164	0.600	n/a	PASS
10	0.002	1.027	0.184	n/a	0.002	0.787	0.276	n/a	PASS
11	0.015	4.597	0.330	n/a	0.016	3.199	0.495	n/a	PASS
12	0.002	1.484	0.153	n/a	0.002	1.082	0.230	n/a	PASS
13	0.014	6.729	0.210	n/a	0.015	4.743	0.315	n/a	PASS
14	0.002	1.419	0.131	n/a	0.002	1.087	0.197	n/a	PASS
15	0.008	5.315	0.150	n/a	0.009	4.202	0.225	n/a	PASS
16	0.002	1.633	0.115	n/a	0.002	1.221	0.173	n/a	PASS
17	0.004	3.270	0.132	n/a	0.005	2.542	0.199	n/a	PASS
18	0.002	1.864	0.102	n/a	0.002	1.391	0.153	n/a	PASS
19	0.007	5.873	0.118	n/a	0.007	4.204	0.178	n/a	PASS
20	0.002	2.100	0.092	n/a	0.002	1.571	0.138	n/a	PASS
21	0.014	13.337	0.107	n/a	0.015	9.390	0.161	n/a	PASS
22	0.002	2.180	0.084	n/a	0.002	1.696	0.125	n/a	PASS
23	0.019	19.729	0.098	n/a	0.020	13.409	0.147	n/a	PASS
24	0.002	2.088	0.077	n/a	0.002	1.552	0.115	n/a	PASS
25	0.018	20.504	0.090	n/a	0.019	14.161	0.135	n/a	PASS
26	0.002	2.146	0.071	n/a	0.002	1.613	0.106	n/a	PASS
27	0.015	17.824	0.083	n/a	0.016	12.750	0.125	n/a	PASS
28	0.001	2.212	0.066	n/a	0.002	1.694	0.099	n/a	PASS
29	0.013	16.279	0.078	n/a	0.013	11.566	0.116	n/a	PASS
30	0.001	2.377	0.061	n/a	0.002	1.791	0.092	n/a	PASS
31	0.014	19.175	0.073	n/a	0.014	13.202	0.109	n/a	PASS
32	0.001	2.563	0.058	n/a	0.002	1.931	0.086	n/a	PASS
33	0.017	25.224	0.068	n/a	0.018	17.413	0.102	n/a	PASS
34	0.002	2.917	0.054	n/a	0.002	2.211	0.081	n/a	PASS
35	0.019	29.085	0.064	n/a	0.019	19.596	0.096	n/a	PASS
36	0.002	3.441	0.051	n/a	0.002	2.541	0.077	n/a	PASS
37	0.017	27.717	0.061	n/a	0.018	19.389	0.091	n/a	PASS
38	0.002	3.310	0.048	n/a	0.002	2.494	0.073	n/a	PASS
39	0.014	24.013	0.058	n/a	0.015	16.913	0.087	n/a	PASS
40	0.001	3.239	0.046	n/a	0.002	2.550	0.069	n/a	PASS

50% Load

Average and Maximum harmonic current results									
Hn	Average				Maximum				Harmonic Result
	Ieff [A]	of Limit [%]	Limit [A]	Result	Ieff [A]	of Limit [%]	Limit [A]	Result	
1	2.243				2.258				
2	0.002	0.221	1.080	n/a	0.004	0.218	1.620	n/a	PASS
3	0.026	1.114	2.300	PASS	0.026	0.764	3.450	PASS	PASS
4	0.002	0.431	0.430	n/a	0.002	0.380	0.645	n/a	PASS
5	0.023	1.975	1.140	PASS	0.023	1.353	1.710	PASS	PASS
6	0.001	0.484	0.300	n/a	0.002	0.407	0.450	n/a	PASS
7	0.033	4.348	0.770	PASS	0.034	2.976	1.155	PASS	PASS
8	0.001	0.596	0.230	n/a	0.002	0.460	0.345	n/a	PASS
9	0.030	7.606	0.400	PASS	0.031	5.158	0.600	PASS	PASS
10	0.002	0.838	0.184	n/a	0.002	0.629	0.276	n/a	PASS
11	0.021	6.336	0.330	PASS	0.022	4.382	0.495	PASS	PASS
12	0.002	1.434	0.153	n/a	0.002	1.037	0.230	n/a	PASS
13	0.008	3.993	0.210	n/a	0.009	2.954	0.315	n/a	PASS
14	0.001	0.991	0.131	n/a	0.001	0.733	0.197	n/a	PASS
15	0.005	3.143	0.150	n/a	0.005	2.255	0.225	n/a	PASS
16	0.001	1.052	0.115	n/a	0.001	0.789	0.173	n/a	PASS
17	0.009	6.593	0.132	n/a	0.009	4.650	0.199	n/a	PASS
18	0.001	1.238	0.102	n/a	0.001	0.917	0.153	n/a	PASS
19	0.010	8.295	0.118	n/a	0.010	5.889	0.178	n/a	PASS
20	0.001	1.502	0.092	n/a	0.002	1.137	0.138	n/a	PASS
21	0.007	6.273	0.107	n/a	0.007	4.576	0.161	n/a	PASS
22	0.001	1.685	0.084	n/a	0.002	1.229	0.125	n/a	PASS
23	0.002	1.688	0.098	n/a	0.002	1.348	0.147	n/a	PASS
24	0.001	1.433	0.077	n/a	0.001	1.113	0.115	n/a	PASS
25	0.008	8.534	0.090	n/a	0.009	6.588	0.135	n/a	PASS
26	0.001	1.508	0.071	n/a	0.001	1.162	0.106	n/a	PASS
27	0.011	13.304	0.083	n/a	0.012	9.434	0.125	n/a	PASS
28	0.001	1.729	0.066	n/a	0.001	1.331	0.099	n/a	PASS
29	0.010	12.629	0.078	n/a	0.010	8.925	0.116	n/a	PASS
30	0.001	1.960	0.061	n/a	0.001	1.500	0.092	n/a	PASS
31	0.008	10.966	0.073	n/a	0.008	7.557	0.109	n/a	PASS
32	0.001	2.302	0.058	n/a	0.001	1.696	0.086	n/a	PASS
33	0.007	10.527	0.068	n/a	0.008	7.523	0.102	n/a	PASS
34	0.001	2.352	0.054	n/a	0.001	1.819	0.081	n/a	PASS
35	0.007	10.997	0.064	n/a	0.008	8.352	0.096	n/a	PASS
36	0.001	2.265	0.051	n/a	0.001	1.745	0.077	n/a	PASS
37	0.008	13.512	0.061	n/a	0.009	9.727	0.091	n/a	PASS
38	0.001	2.370	0.048	n/a	0.001	1.830	0.073	n/a	PASS
39	0.009	15.411	0.058	n/a	0.010	12.062	0.087	n/a	PASS
40	0.001	2.720	0.046	n/a	0.001	1.998	0.069	n/a	PASS

25% Load

Average and Maximum harmonic current results									
Hn	Average				Maximum				Harmonic Result
	Ieff [A]	of Limit [%]	Limit [A]	Result	Ieff [A]	of Limit [%]	Limit [A]	Result	
1	0.976				1.031				
2	0.001	0.134	1.080	n/a	0.002	0.100	1.620	n/a	PASS
3	0.010	0.423	2.300	PASS	0.010	0.300	3.450	PASS	PASS
4	0.001	0.311	0.430	n/a	0.002	0.233	0.645	n/a	PASS
5	0.016	1.412	1.140	PASS	0.018	1.024	1.710	PASS	PASS
6	0.001	0.387	0.300	n/a	0.001	0.292	0.450	n/a	PASS
7	0.024	3.122	0.770	PASS	0.025	2.184	1.155	PASS	PASS
8	0.001	0.446	0.230	n/a	0.001	0.331	0.345	n/a	PASS
9	0.025	6.208	0.400	PASS	0.026	4.304	0.600	PASS	PASS
10	0.001	0.559	0.184	n/a	0.002	0.721	0.276	n/a	PASS
11	0.020	5.929	0.330	PASS	0.020	4.038	0.495	PASS	PASS
12	0.002	1.271	0.153	n/a	0.002	0.904	0.230	n/a	PASS
13	0.011	5.121	0.210	PASS	0.011	3.569	0.315	PASS	PASS
14	0.001	0.777	0.131	n/a	0.001	0.597	0.197	n/a	PASS
15	0.002	1.517	0.150	n/a	0.003	1.446	0.225	n/a	PASS
16	0.001	0.844	0.115	n/a	0.001	0.715	0.173	n/a	PASS
17	0.005	3.822	0.132	n/a	0.006	3.022	0.199	n/a	PASS
18	0.001	0.957	0.102	n/a	0.001	0.699	0.153	n/a	PASS
19	0.007	6.247	0.118	PASS	0.008	4.617	0.178	PASS	PASS
20	0.001	1.142	0.092	n/a	0.001	0.864	0.138	n/a	PASS
21	0.007	6.244	0.107	PASS	0.008	4.691	0.161	PASS	PASS
22	0.001	1.565	0.084	n/a	0.001	1.162	0.125	n/a	PASS
23	0.005	4.656	0.098	n/a	0.005	3.727	0.147	n/a	PASS
24	0.001	1.605	0.077	n/a	0.001	1.190	0.115	n/a	PASS
25	0.003	2.869	0.090	n/a	0.003	2.342	0.135	n/a	PASS
26	0.001	1.493	0.071	n/a	0.001	1.111	0.106	n/a	PASS
27	0.002	2.029	0.083	n/a	0.002	1.622	0.125	n/a	PASS
28	0.001	1.426	0.066	n/a	0.001	1.084	0.099	n/a	PASS
29	0.002	2.830	0.078	n/a	0.003	2.219	0.116	n/a	PASS
30	0.001	1.464	0.061	n/a	0.001	1.087	0.092	n/a	PASS
31	0.004	4.992	0.073	n/a	0.004	3.875	0.109	n/a	PASS
32	0.001	1.532	0.058	n/a	0.001	1.134	0.086	n/a	PASS
33	0.005	7.149	0.068	n/a	0.006	5.455	0.102	n/a	PASS
34	0.001	1.684	0.054	n/a	0.001	1.267	0.081	n/a	PASS
35	0.006	8.621	0.064	n/a	0.006	6.522	0.096	PASS	PASS
36	0.001	1.788	0.051	n/a	0.001	1.329	0.077	n/a	PASS
37	0.006	9.262	0.061	n/a	0.006	6.885	0.091	PASS	PASS
38	0.001	1.845	0.048	n/a	0.001	1.378	0.073	n/a	PASS
39	0.005	8.806	0.058	n/a	0.006	6.467	0.087	n/a	PASS
40	0.001	1.998	0.046	n/a	0.001	1.540	0.069	n/a	PASS

Table No. 2

MEASUREMENT OF THE VOLTAGE FLUCTUATIONS AND FLICKERS

100% Load

Parameter	Plt	Pst	d (t) (s)	dc (%)	dmax (%) (AVERAGE)
Measured value	0.028	0.028	0.00	0	< 0.2
Limit value	0.65	1.00	0.50	3.30	4.00

50% Load

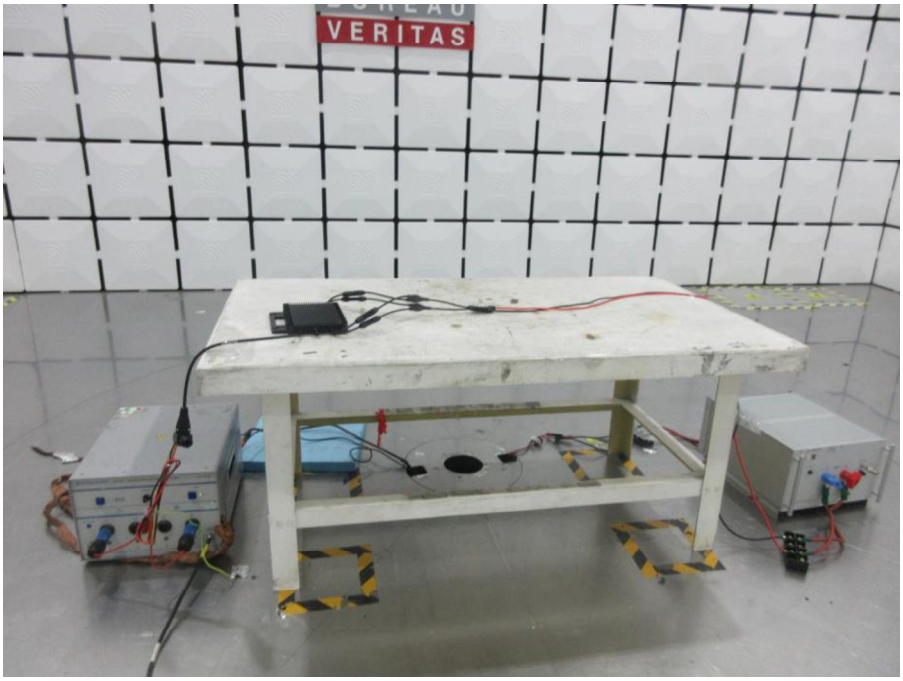
Parameter	Plt	Pst	d (t) (s)	dc (%)	dmax (%) (AVERAGE)
Measured value	0.031	0.050	0.00	0.339	0.455
Limit value	0.65	1.00	0.50	3.30	4.00

25% Load

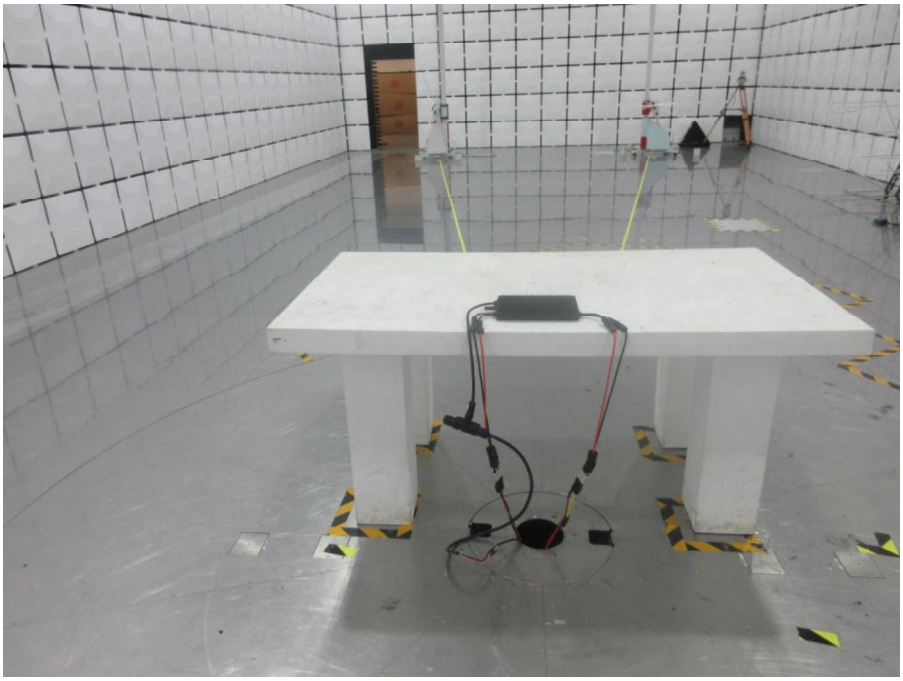
Parameter	Plt	Pst	d (t) (s)	dc (%)	dmax (%) (AVERAGE)
Measured value	0.031	0.050	0.00	0.151	0.295
Limit value	0.65	1.00	0.50	3.30	4.00

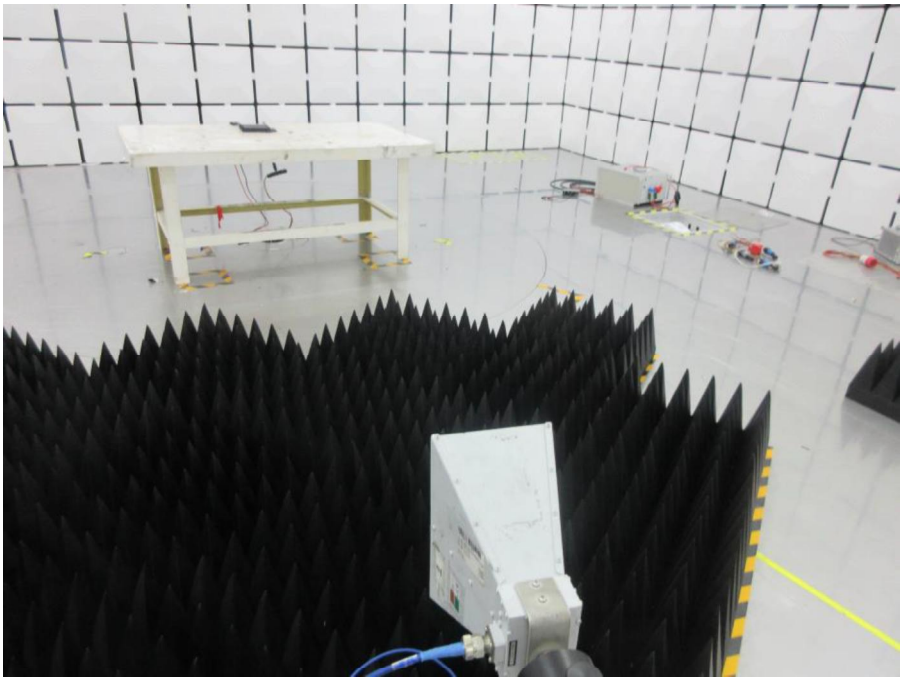
10 TEST PHOTO

Conducted emission test

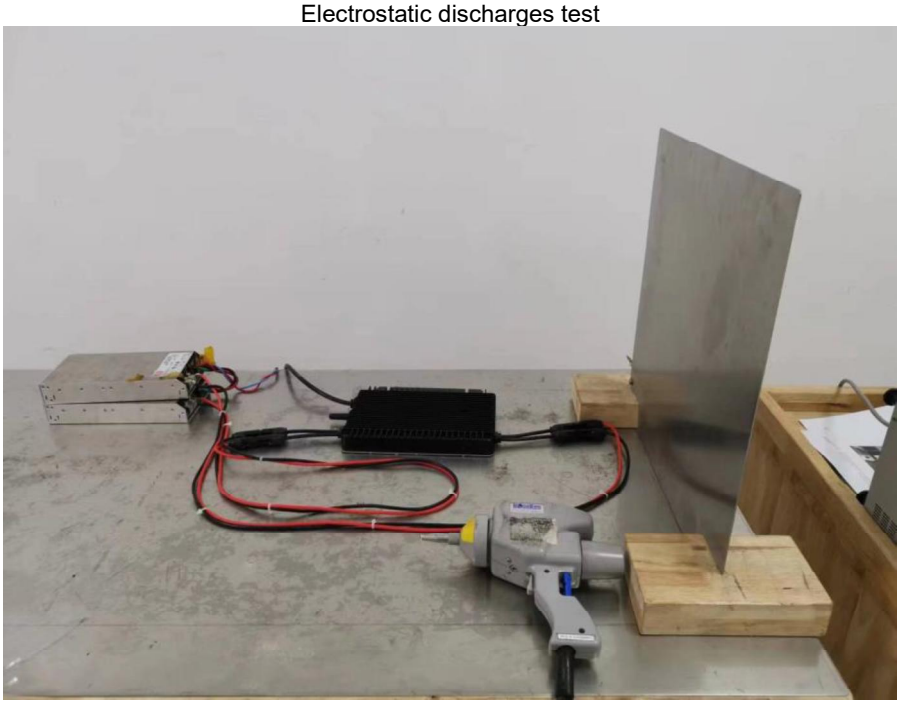


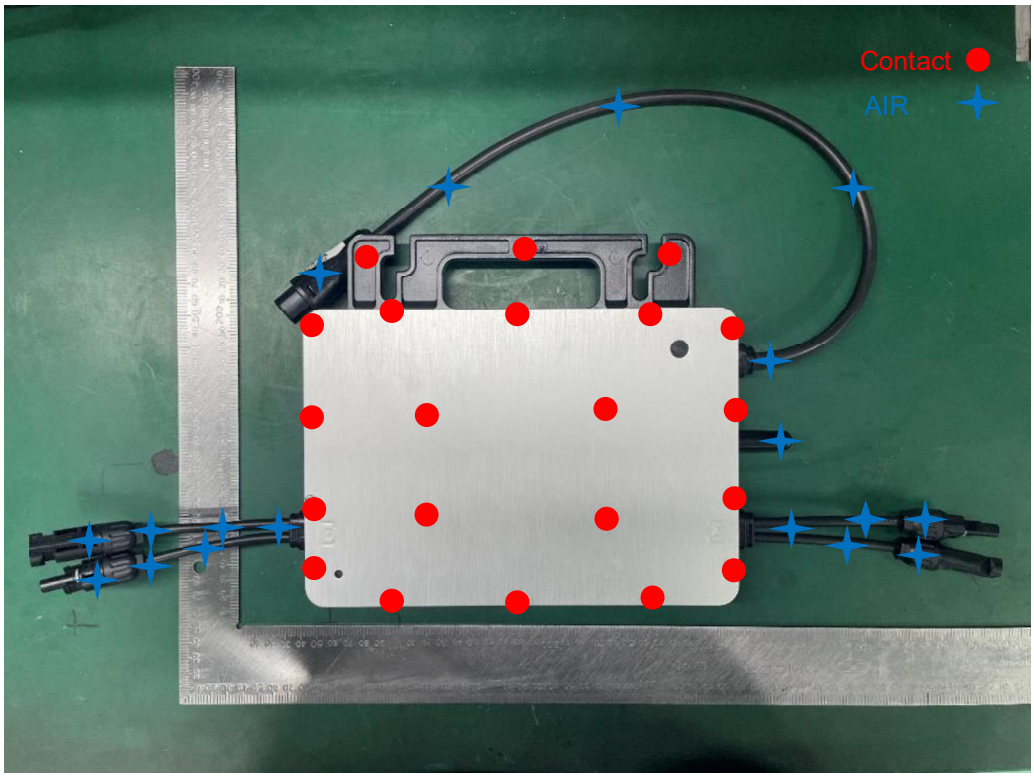
Radiated emission test

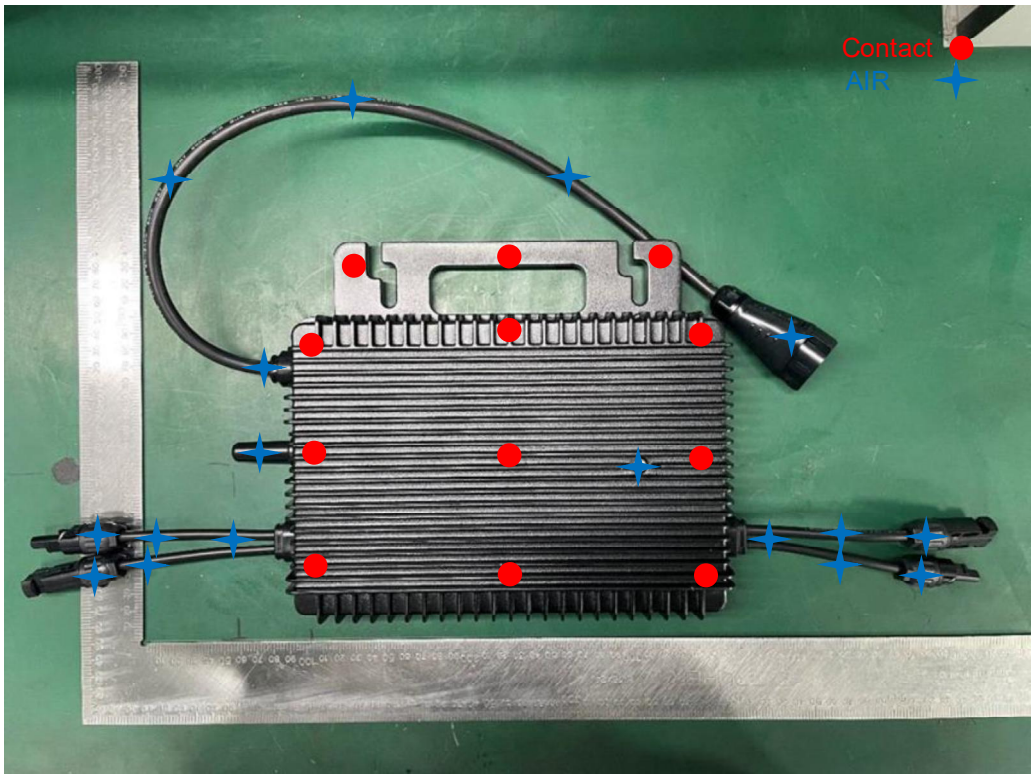




Electrostatic discharges test

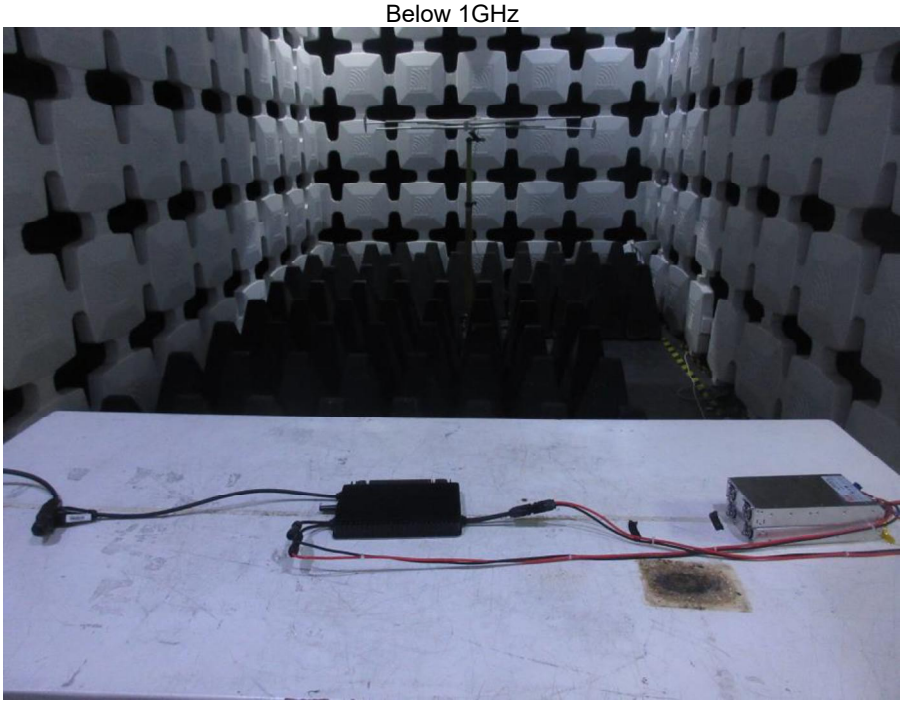



Contact
AIR

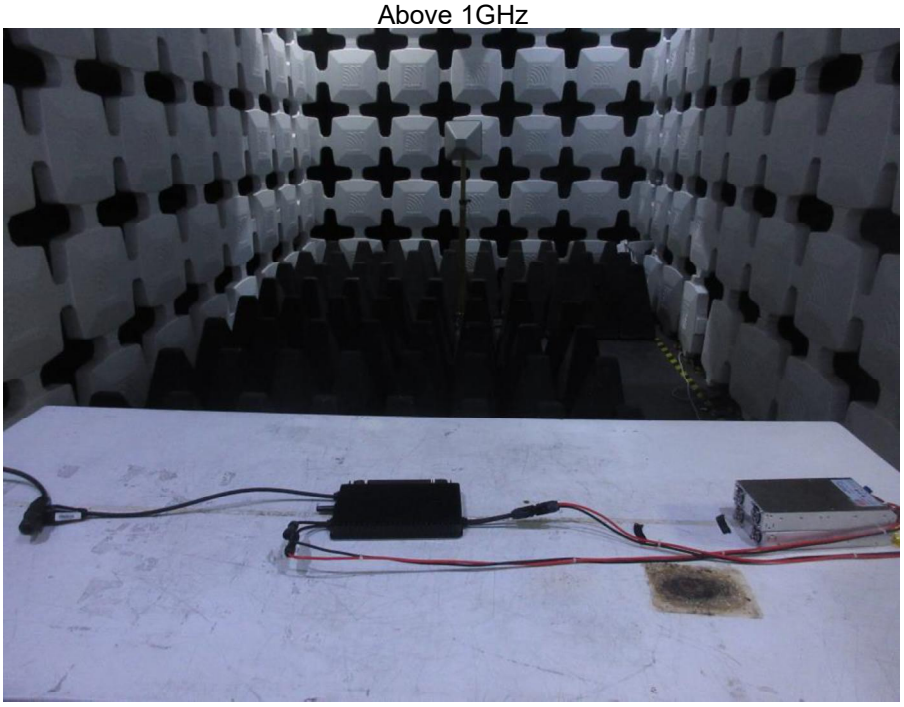

Contact
AIR

Radiated radio-frequency electromagnetic field test

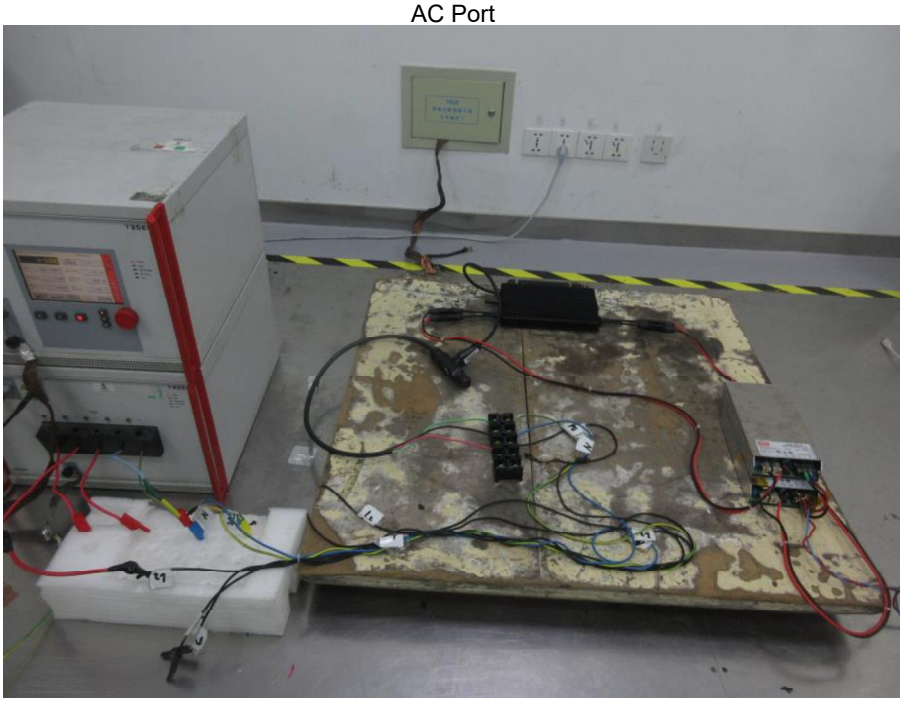
Below 1GHz



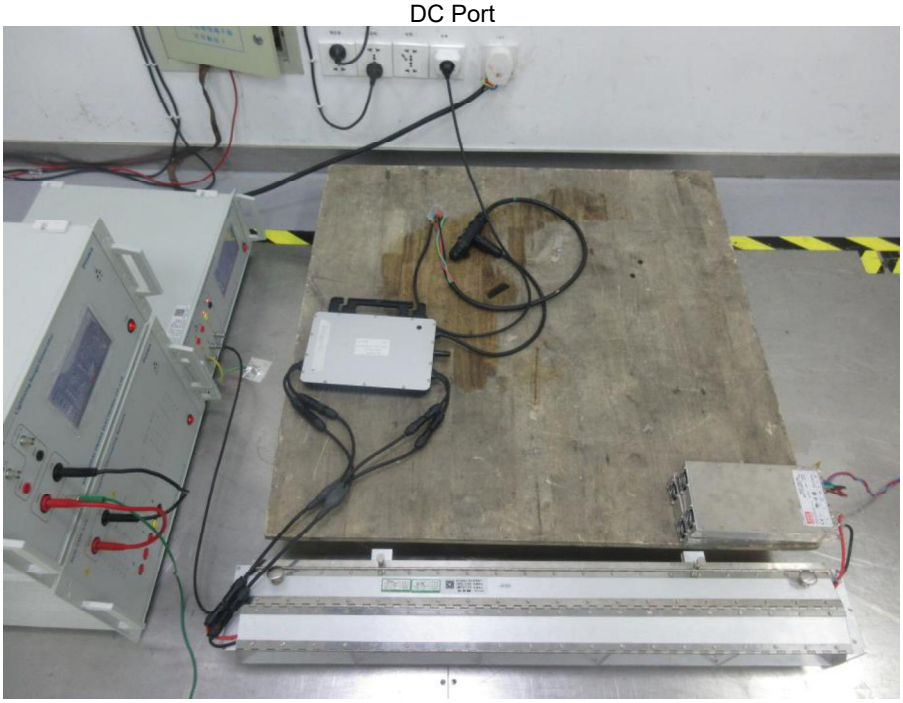
Above 1GHz



Fast transients/bursts test and surge test
AC Port

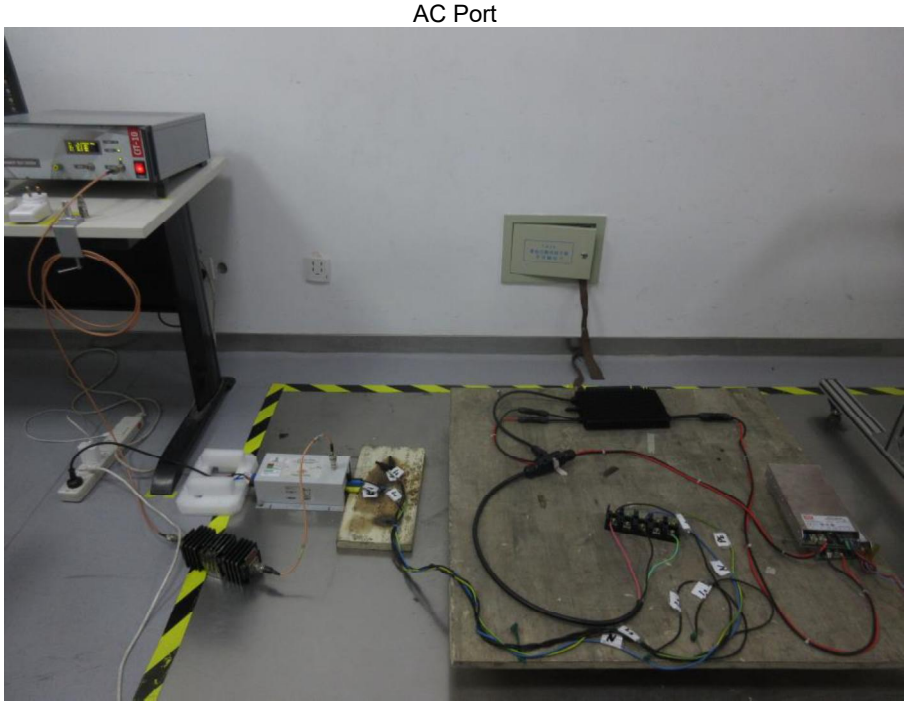


Fast transients/bursts test
DC Port

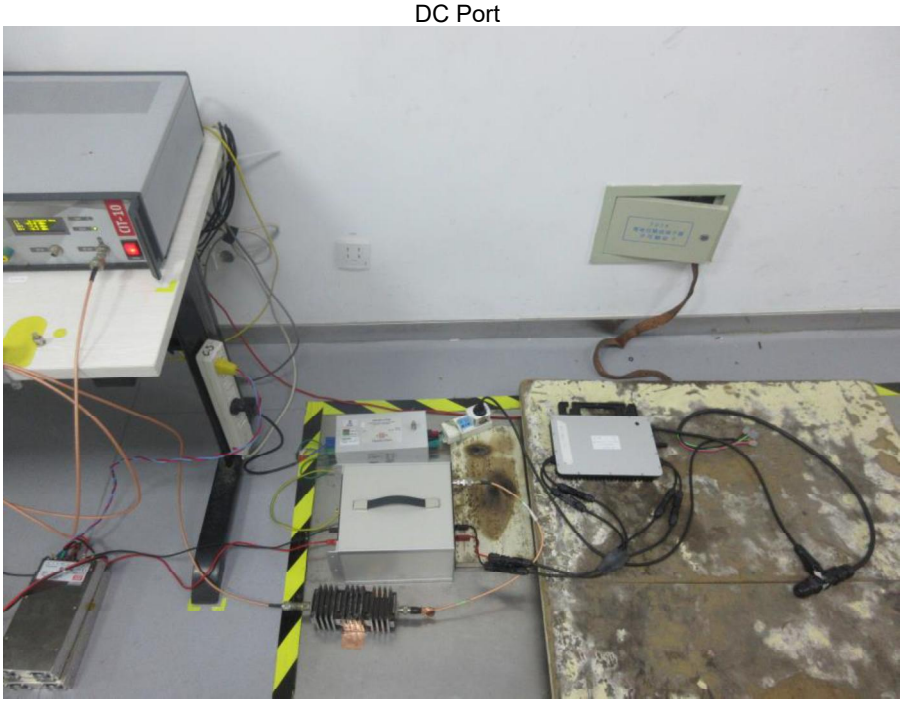


Conducted disturbances induced by radio-frequency fields test

AC Port



DC Port



Harmonic, Voltage dips and voltage interruptions test