

SUMMARY OF STANDARDS AND RESULTS

Description of Standards and Results

EMISSION (EN IEC 61000-6-3:2021)			
Description of Test Item	Standard	Limits	Results
Conducted disturbance at mains terminals	EN 55032: 2015+A11:2020	Class B	N/A
Conducted disturbance at telecommunication port	EN 55032: 2015+A11:2020	Class B	N/A
Radiated disturbance	EN 55032: 2015+A11:2020	Class B	PASS
Harmonic current emissions	EN IEC 61000-3-2:2019+A1:2021	Class A	PASS
Voltage fluctuations & flicker	EN 61000-3-3:2013+A1:2019+A2:2021	-----	PASS
IMMUNITY (EN IEC 61000-6-1:2019)			
Description of Test Item	Basic Standard	Performance Criteria	Results
Electrostatic discharge (ESD)	EN 61000-4-2:2009	B	PASS
Radio-frequency, Continuous radiated disturbance	EN 61000-4-3:2020	A	PASS
Electrical fast transient (EFT)	EN 61000-4-4:2012	B	N/A
Surge (Input a.c. power ports)	EN 61000-4-5: 2014+A1:2017	B	N/A
Surge (Telecommunication ports)		B	N/A
Radio-frequency, Continuous conducted disturbance	EN 61000-4-6: 2014+AC:2015	A	N/A
Power frequency magnetic field	EN 61000-4-8: 2010	A	PASS
Voltage dips, >95% reduction	EN 61000-4-11:2020+AC:2020	C	N/A
Voltage dips, 30% reduction		C	N/A
Voltage interruptions		C	N/A
N/A is an abbreviation for Not Applicable.			

Description of Performance Criteria

General Performance Criteria

Examples of functions defined by the manufacturer to be evaluated during testing include, but are not limited to, the following: – essential operational modes and states;

- tests of all peripheral access (hard disks, floppy disks, printers, keyboard, mouse, etc.);
 - quality of software execution;
 - quality of data display and transmission; –
- quality of speech transmission.

Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a performance level specified by the manufacture when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance criterion B

After the test, the equipment shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacture, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operation state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacture's instructions.

Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT	: Solar Inverter
Model Number	: 5.5KW, 3.5KW, 2.4KW, 1.5KW
	Input: AC 90V-280V, 50Hz/60Hz, 38.5A
Power Supply	: PV Input: DC 120-450V, Max.100A
	Output: AC 230V, 50Hz/60Hz, 23.9A

Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the AOC quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Measurement Uncertainty

Test Item		Frequency Range	Uncertainty	Note
Radiation Uncertainty	:	30MHz~200MHz	$\pm 2.96\text{dB}$	(1)
	:	200MHz~1000MHz	$\pm 3.10\text{dB}$	(1)
Conduction Uncertainty	:	150kHz~30MHz	$\pm 1.63\text{dB}$	(1)
Power disturbance	:	30MHz~300MHz	$\pm 1.60\text{dB}$	(1)

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

MEASURING DEVICES AND TEST EQUIPMENT

Conducted Disturbance

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	101142	2022/04/25
2	10dB Attenuator	SCHWARZBECK	OSPAM236	9729	2022/04/25
3	Artificial Mains	ROHDE & SCHWARZ	ENV216	101288	2022/04/25
4	EMI Test Software	AUDIX	E3	N/A	2022/04/25

Disturbance Power

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	101142	2022/04/25
2	Absorbing clamp	ROHDE & SCHWARZ	MDS 21	4033	2022/04/25
3	EMI Test Software	AUDIX	E3	N/A	2022/04/25
4	EMI Test Receiver	ROHDE & SCHWARZ	ESPI	101840	2022/04/25

Radiated Electromagnetic Disturbance

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	1011423	2022/04/25
2	Triple-loop Antenna	EVERFINE	LLA-2	11050003	2022/04/25
3	EMI Test Receiver	ROHDE & SCHWARZ	ESPI	101840	2022/04/25
4	EMI Test Software	AUDIX	E3	N/A	2022/04/25

Radiated Disturbance (Electric Field)

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2022/04/25
2	EMI Test Receiver	ROHDE & SCHWARZ	ESPI	101840	2022/04/25
3	Log per Antenna	SCHWARZBECK	VULB9163	9163-470	2022/04/25
4	EMI Test Software	AUDIX	E3	N/A	2022/04/25
5	Positioning Controller	MF	MF-7082	/	2022/04/25
6	Horn Antenna	ETS.LINDGREN	3115	00034771	2022/04/25
7	Spectrum Analyzer	Agilent	E4407B	MY41440754	2022/04/25

Harmonic Current

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Power Analyzer Test System	Voltech	PM6000	20000670053	2022/04/25

Voltage fluctuation and Flicker

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Power Analyzer Test System	Voltech	PM6000	20000670053	2022/04/25

Electrostatic Discharge

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	ESD Simulator	KIKUSUI	KC001311	KES4021	2022/04/25

RF Field Strength Susceptibility

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	SIGNAL GENERATOR	HP	8648A	625U00573	2022/04/25
2	Amplifier	AR	500A100	17034	2022/04/25
3	Amplifier	AR	100W/1000M1	17028	2022/04/25
4	Isotropic Field Monitor	AR	FM2000	16829	2022/04/25
5	Isotropic Field Probe	AR	FP2000	16755	2022/04/25
6	Bi-conic Antenna	EMCO	3108	9507-2534	2022/04/25
7	By-log-periodic Antenna	AR	AT1080	16812	2022/04/25
8	EMS Test Software	ROHDE & SCHWARZ	ESK1	N/A	2022/04/25

Electrical Fast Transient/Burst

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Electrical fast transient(EFT)generator	3CTEST	EFT-4021	EC0461044	2022/04/25
2	Coupling Clamp	3CTEST	EFTC	EC0441098	2022/04/25

Surge

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Surge test system	3CTEST	SG5006G	EC5581070	2022/04/25
2	Coupling/decoupling network	3CTEST	SGN-5010G	CS5591033	2022/04/25

Conducted Susceptibility

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Simulator	EMTEST	CIT-10	A126A1195	2022/04/25
2	CDN	EMTEST	CDN-M2	A2210177	2022/04/25
3	CDN	EMTEST	CDN-M3	A2210177	2022/04/25
4	Attenuator	EMTEST	ATT6	50FP-006-H3B	2022/04/25

Power Frequency Magnetic Field Susceptibility

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Power frequency mag-field generator System	EVERFINE	EMS61000-8K	906003	2022/04/25

Voltage Dips

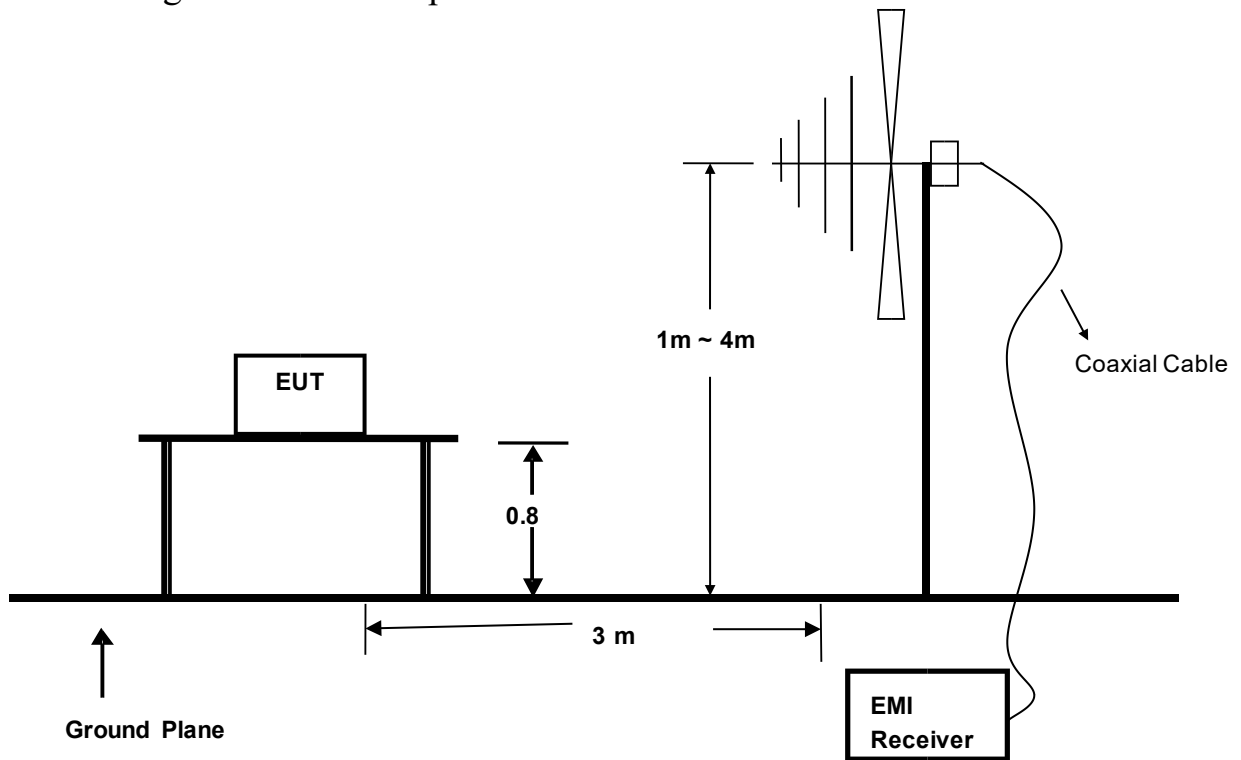
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Voltage dips and up generator	3CTEST	VDG-1105G	EC0171014	2022/04/25

Voltage Short Interruptions

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	Voltage dips and up generator	3CTEST	VDG-1105G	EC0171014	2022/04/25

RADIATED EMISSION MEASUREMENT

Block Diagram of Test Setup



Test Standard

EN IEC 61000-6-3:2021 (EN 55032: 2015+A11: 2020)

Radiated Emission Limits

All emanations from a class B device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT (dB μ V/m)
30 ~ 230	3	40
230 ~ 1000	3	47

Note: (1) The smaller limit shall apply at the combination point between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

EUT Configuration on Test

The EN 55022 regulations test method must be used to find the maximum emission during radiated emission measurement.

Operating Condition of EUT

Turn on the power. After that, let the EUT work in test mode (ON) and measure it.

Test Procedure

The EUT is placed on a turntable, which is 0.8 meter high above the ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 10 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. By-log antenna (calibrated by Dipole Antenna) is used as a receiving antenna. Both horizontal and vertical polarization of the antenna is set on test.

The bandwidth of the Receiver is set at 120kHz.

The frequency range from 30MHz to 1000MHz is investigated.

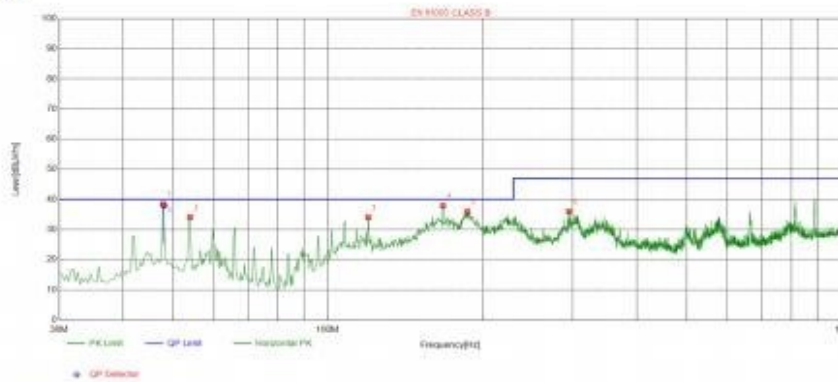
Test Results

PASS.

The test result please refer to the next page.

Model No.	5.5KW, 3.5KW, 2.4KW, 1.5KW	Test Mode	ON
Environmental Conditions	24°C/ 56% RH	Detector Function	Quasi-peak
Pol	Vertical	Distance	3m
Test Engineer	Liang	Test Date	June 07, 2022

Test Graph

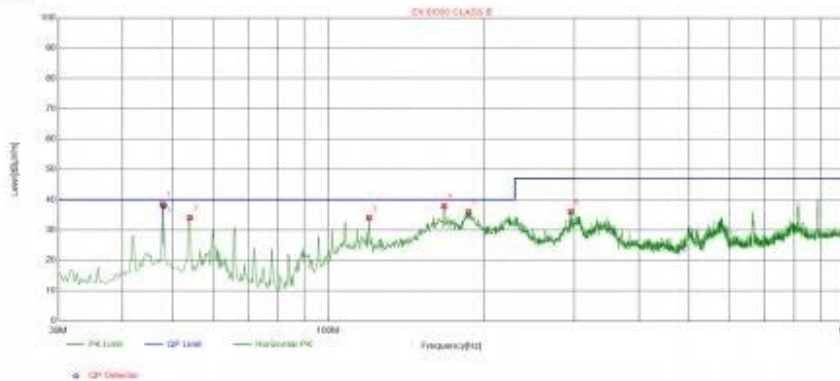


Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	41.9673	-14.19	48.44	34.25	40.00	5.75	100	38	Vertical
2	47.7893	-13.65	49.84	36.19	40.00	3.81	100	43	Vertical
3	53.9346	-14.24	46.97	32.73	40.00	7.27	100	58	Vertical
4	65.9020	-16.64	46.01	29.37	40.00	10.63	100	51	Vertical
5	119.9166	-17.09	47.58	30.49	40.00	9.51	100	169	Vertical
6	155.4952	-18.54	49.33	30.79	40.00	9.21	100	350	Vertical

Model No.	5.5KW, 3.5KW, 2.4KW, 1.5KW	Test Mode	ON
Environmental Conditions	24°C/ 56% RH	Detector Function	Quasi-peak
Pol	Horizontal	Distance	3m
Test Engineer	Liang	Test Date	June 07, 2022

Test Graph

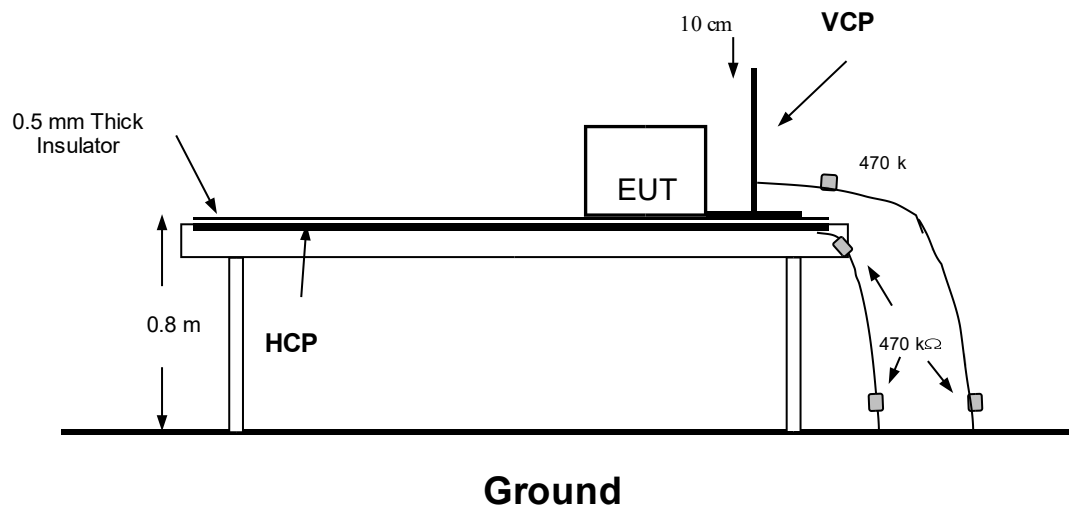


Suspected List

NO.	Freq. [MHz]	Factor [dB]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	47.7893	-13.65	52.06	38.41	40.00	1.59	100	337	Horizontal
2	53.9346	-14.24	48.31	34.07	40.00	5.93	100	358	Horizontal
3	119.9166	-17.09	51.07	33.98	40.00	6.02	100	22	Horizontal
4	167.7859	-17.50	55.39	37.89	40.00	2.11	100	17	Horizontal
5	187.1924	-16.25	52.19	35.94	40.00	4.06	100	10	Horizontal
6	295.2217	-12.79	48.77	35.98	47.00	11.02	100	25	Horizontal

ELECTROSTATIC DISCHARGE TEST

Block Diagram of Test Setup



Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-2: 2009, Severity Level: Air Discharge: Level 3, \pm 8KV Contact Discharge: Level 2, \pm 4KV)

Severity Levels and Performance Criterion

Severity level

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	\pm 2	\pm 2
2.	\pm 4	\pm 4
3.	\pm 6	\pm 8
4.	\pm 8	\pm 15
X	Special	Special

Performance criterion: **B**

Operating Condition of EUT

Setup the EUT as shown. Turn on the power of all equipments. Let the EUT work in test mode (ON) and measure it.

Test Procedure

Air Discharge

This test is done on a non-conductive surfaces. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

Because the case of the EUT is metal surface, so it does not need to be tested.

Contact Discharge

All the procedure shall be same except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

Indirect Discharge For Horizontal Coupling Plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

Indirect Discharge For Vertical Coupling Plane

At least 20 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

Test Results

PASS.

Please refer to the following page.

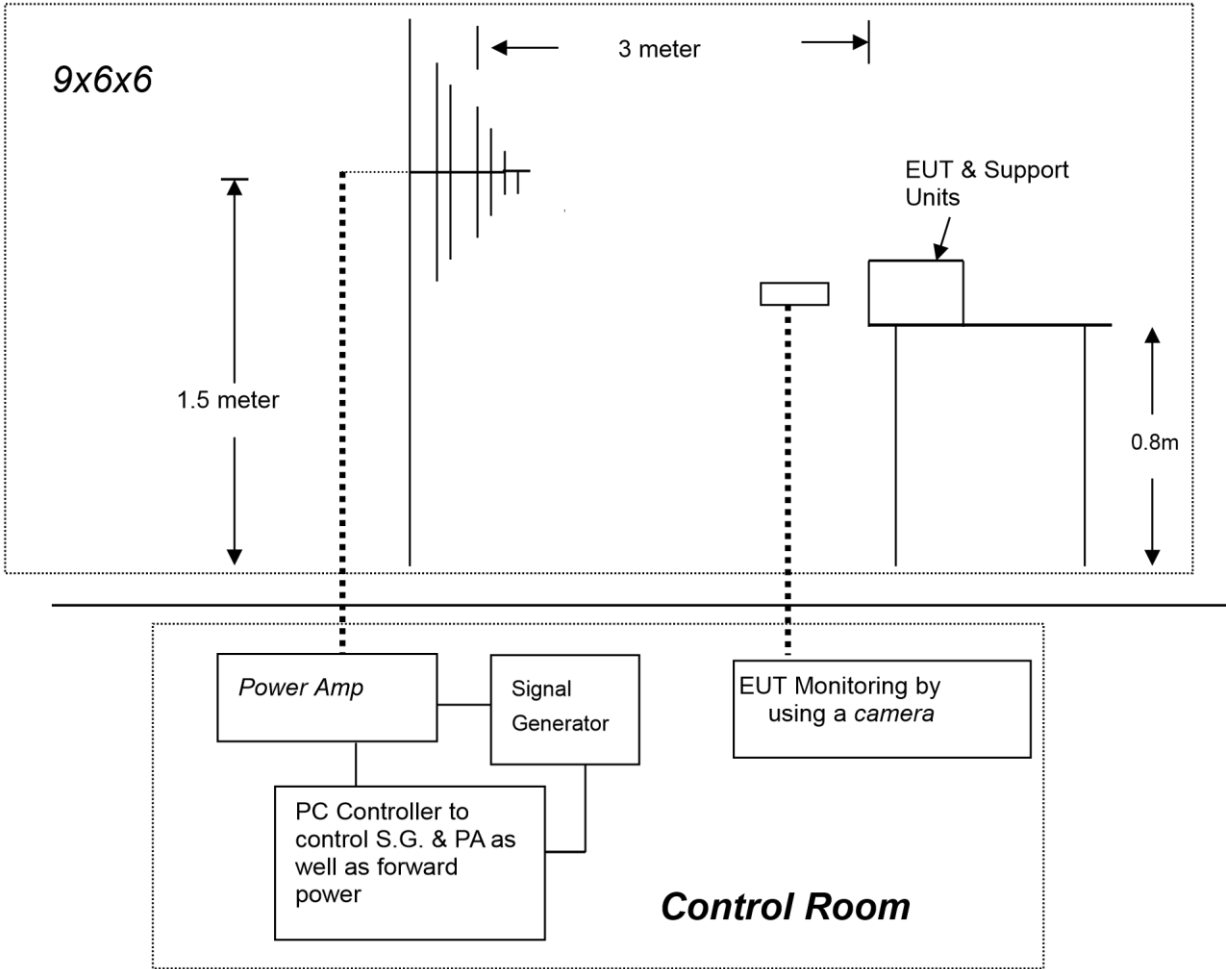
Electrostatic Discharger Test Results

Standard	<input type="checkbox"/> IEC 61000-4-2 <input checked="" type="checkbox"/> EN 61000-4-2		
EUT	Solar Inverter	Temperature	26°C
M/N	5.5KW, 3.5KW, 2.4KW, 1.5KW	Humidity	51%
Criterion	B	Pressure	1021mbar
Test Mode	ON	Test Engineer	Liang

Air Discharge						
Test Points	Test Levels			Results		
	± 2KV	± 4KV	± 8KV	Pass	Fail	Performance Criterion
Front	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B
Back	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B
Left	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B
Right	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B
Top	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B
Bottom	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B
Contact Discharge						
Test Points	Test Levels		Results			
	± 2 KV	± 4 KV	Pass	Fail	Performance Criterion	
Front	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Back	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Left	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Right	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Top	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Bottom	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Discharge To Horizontal Coupling Plane						
Side of EUT	Test Levels		Results			
	± 2 KV	± 4 KV	Pass	Fail	Performance Criterion	
Front	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Back	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Left	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Right	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Discharge To Vertical Coupling Plane						
Side of EUT	Test Levels		Results			
	± 2 KV	± 4 KV	Pass	Fail	Performance Criterion	
Front	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Back	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Left	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	
Right	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B	

RF FIELD STRENGTH SUSCEPTIBILITY TEST

Block Diagram of Test Setup



Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-3:2020 , Severity Level: 2, 3V / m)

Severity Levels and Performance Criterion

Severity level

Level	Field Strength (V/m)
1	1
2	3
3	10
X	Special

Performance criterion: A

Operating Condition of EUT

Setup the EUT as shown. Turn on the power of all equipments. Let the EUT work in test mode (On) and measure it.

Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. EUT is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD camera is used to monitor EUT screen. All the scanning conditions are as follows:

Condition of Test	Remarks
1. Fielded Strength	3 V/m (Severity Level 2)
2. Radiated Signal	Unmodulated
3. Scanning Frequency	80 - 1000 MHz
4. Dwell time of radiated	0.0015 decade/s
5. Waiting Time	3 Sec.

Test Results

PASS.

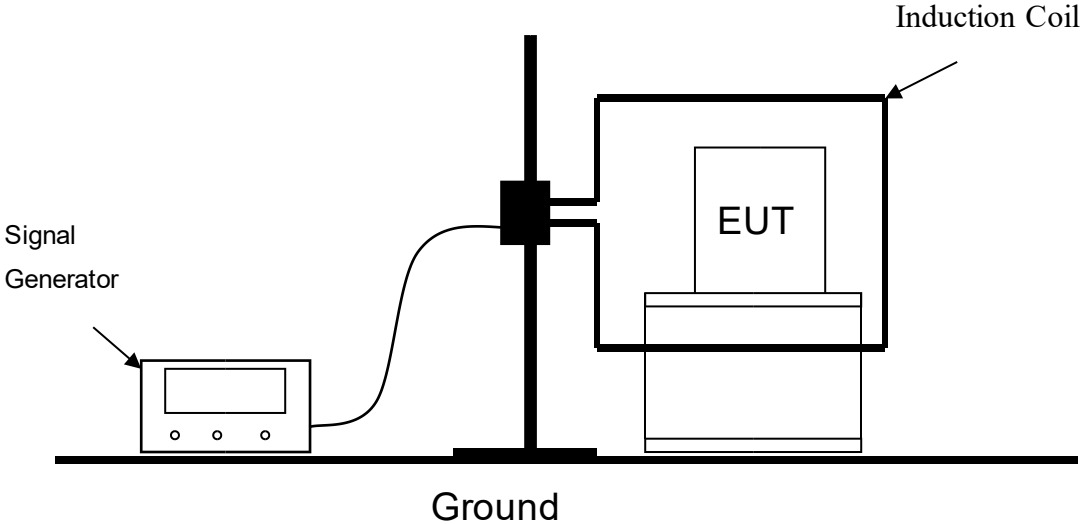
Please refer to the following page.

RF Field Strength Susceptibility Test Results

Standard	<input type="checkbox"/> IEC 61000-4-3 <input checked="" type="checkbox"/> EN 61000-4-3		
EUT	Solar Inverter	Temperature	26°C
M/N	5.5KW, 3.5KW, 2.4KW, 1.5KW	Humidity	51%
Field Strength	3 V/m	Criterion	A
Test Mode	ON	Test Engineer	Liang
Frequency Range	80 MHz to 1000 MHz		
Modulation	<input type="checkbox"/> None <input type="checkbox"/> Pulse <input checked="" type="checkbox"/> AM 1KHz 80%		
Steps	1%		
	Horizontal	Vertical	
Front	PASS	PASS	
Right	PASS	PASS	
Rear	PASS	PASS	
Left	PASS	PASS	
Test Equipment: 1. Signal Generator: 2031 (MARCONI) 2. Power Amplifier: 500A100 & 100W/1000M1 (A&R) 3. Power Antenna: 3108 (EMCO) & AT1080 (A&R) 4. Field Monitor: FM2000 (A&R)			

MAGNETIC FIELD IMMUNITY TEST

Block Diagram of Test Setup



Test Standard

EN IEC 61000-6-1:2019 (EN 61000-4-8: 2010, Severity Level 2: 3A/m)

Severity Levels and Performance Criterion

Severity level

Level	Magnetic Field Strength (A/m)
1.	1
2.	3
3.	10
4.	30
5.	100
X	Special

Performance criterion: A

Operating Condition of EUT

- Turn on the power of all equipments.
- Let the EUT work in test mode (On) and measure it.

Test Procedure

The Induction coil is set up in horizontal or vertical.

Let the EUT work in test mode and measure it.

Test Results

PASS.

Magnetic Field Immunity Test Result				
Standard	<input type="checkbox"/> IEC 61000-4-8 <input checked="" type="checkbox"/> EN 61000-4-8			
EUT	Solar Inverter	Temperature	26°C	
M/N	5.5KW, 3.5KW, 2.4KW, 1.5KW	Humidity	51%	
Test Mode	Normal	Criterion	A	
Test Engineer	Liang	Test Date	June 07, 2022	
Test Level (A/M)	Testing Duration	Coil Orientation	Criterion	Result
3	5 mins	X	A	PASS
3	5 mins	Y	A	PASS
3	5 mins	Z	A	PASS
Note:				