

EMC Test Report

Applicant : New Use Energy Solutions, Inc.

Address : 941 S Park Lane
: Tempe, Arizona 85281
: United States

Product Name : LiFePO4 Battery

Report Date : Sept. 13, 2023

Shenzhen Anbotek Compliance Laboratory Limited



Shenzhen Anbotek Compliance Laboratory Limited

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TEST REPORT

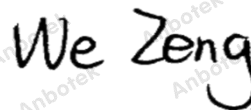
Applicant : New Use Energy Solutions, Inc.
Manufacturer : Shenzhen Grenergy Technology Co.,Ltd
Product Name : LiFePO4 Battery
Test Model No. : 25.6V 100Ah
Reference Model No. : N/A
Trade Mark : N/A
Rating(s) : 25.6V 100Ah
Test Standard(s) : **EN 55032:2015+A1:2020**
EN 55035:2017+A11:2020

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements. This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt: Aug. 30, 2023

Date of Test: Aug. 30, 2023 to Sept. 07, 2023

Prepared By:



(We Zeng)

Approved & Authorized Signer:



(KingKong Jin)

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1. General Information

1.1. Client Information

Applicant	:	New Use Energy Solutions, Inc.
Address	:	941 S Park Lane Tempe, Arizona 85281 United States
Manufacturer	:	Shenzhen Grenergy Technology Co.,Ltd
Address	:	Room 101, building a, No.10, Jinlong 2nd Road, Tongle community, Baolong street, Longgang District, Shenzhen City, Guangdong Province, P.R.China
Factory	:	Shenzhen Grenergy Technology Co.,Ltd
Address	:	Room 101, building a, No.10, Jinlong 2nd Road, Tongle community, Baolong street, Longgang District, Shenzhen City, Guangdong Province, P.R.China

1.2. Description of Device (EUT)

Product Name	:	LiFePO4 Battery
Test Model No.	:	25.6V 100Ah
Reference Model No.	:	N/A
Trade Mark	:	N/A
Test Power Supply	:	AC 230V, 50Hz / DC 30V / DC 25.6V
Test Sample No.	:	1-1-1
Adapter	:	Power Supply MODEL: AP-PF900CH02920300 INPUT: 100-240V~ 50-60Hz 12A MAX. OUTPUT: 29.2V --- 30.0A 876.0W

Remark:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



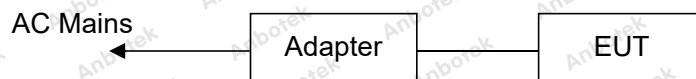
1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
/	/	/	/

1.4. Description of Test Modes

Pretest Modes	Descriptions
TM1	AC charging
TM2	DC charging
TM3	Full load

For Mode 1 Block Diagram of Test Setup



For Mode 2 Block Diagram of Test Setup



For Mode 3 Block Diagram of Test Setup



1.5. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.8dB
Radiated emissions (30MHz~1000MHz)	Horizontal: 3.92dB; Vertical: 4.52dB
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

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1.6. Test Summary

Test Items	Test Modes	Status
Conducted emissions from AC mains power ports (150kHz-30MHz)	Mode1	P
Radiated emissions (30MHz-1GHz)	Mode1,2,3	P
Electrostatic discharges	Mode1,2,3	P
RF electromagnetic field disturbances	Mode1,2,3	P
Electrical fast transients / burst for AC mains power ports	Mode1	P
Surges for AC mains power ports	Mode1	P
Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)	Mode1	P
Voltage dips and interruptions	Mode1	P
Note: P: Pass N: N/A, not applicable		

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1.7. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.:184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

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1.8. EMS Performance Criteria

General Performance Criteria

Performance Criteria A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer 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 Criteria B

During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test. After the test, 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 manufacturer, 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), or recovery time, 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 Criteria 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 manufacturer's instructions. A reboot or re-start operation is allowed.

Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.



1.9. Test Equipment List**Conducted emissions from AC mains power ports (150kHz-30MHz)**

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2022-10-23	2023-10-22
2	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040D T001	2023-07-05	2024-07-04
3	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	2022-10-13	2023-10-12
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Radiated emissions (30MHz-1GHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESR26	101481	2022-10-23	2023-10-22
2	Pre-amplifier	SONOMA	310N	186860	2022-10-23	2023-10-22
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Electrostatic discharges

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	ESD Simulators	emtest	ESD NX30.1	11936	2023-03-17	2024-03-16

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RF electromagnetic field disturbances						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Signal Generator	Agilent	N5181A	MY501431 07	2023-04-20	2024-04-19
2	Power Meter	Agilent	E4417A	MY451013 84	2023-04-20	2024-04-19
3	Amplifier	Micotop	MPA-80- 1000-600	MPA21103 18	2023-04-20	2024-04-19
4	Amplifier	Micotop	MPA-1000- 6000-100	MPA21103 27	2023-04-20	2024-04-19
5	Log.-Per.-Antenna	Schwarzbeck	VULP 9118E	01012	/	/
6	Microwave Log.- Per. Antenna	Schwarzbeck	STLP 9149	00788	/	/
7	Power Sensor	KEYSIGHT	E9323A	US404106 47	2023-04-20	2024-04-19
8	Power Sensor	KEYSIGHT	E9323A	MY531000 07	2023-04-20	2024-04-19
9	Electric field Probe	Narda S.T.S /PMM	EP 601	811ZX103 51	2023-04-20	2024-04-19
10	Software	EMtrace	EM 3	/	/	/

Electrical fast transients / burst for AC mains power ports						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Surge Generator	TESEQ	NSG 3060	1480	2022-10-23	2023-10-22
2	CDN	TESEQ	CDN 3061	1408	2022-10-23	2023-10-22
3	EFT-Clamp	PRIM	EFT-Clamp	/	2022-10-13	2023-10-13

Surges for AC mains power ports						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Combined Wave Lightning Surge Simulator	3Ctest	CCS600	ES377170 2	2023-07-05	2024-07-04
2	Three Phase Power Coupling Network	3Ctest	SEPN69100 T	ES080175 7	2023-07-05	2024-07-04
3	Telecom port surge generator	PMI	TW101	190411	2023-04-20	2024-04-19

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Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	C/S Conducted Immunity Test System	FRANKONIA	CIT-10	126A1196/2012	2022-10-23	2023-10-22
2	CDN	FRANKONIA	CDN - M2+ M3	A2210178/2012	2022-10-23	2023-10-22
3	6dB Attenuator	FRANKONIA	DAM 26W	1172202	2022-10-23	2023-10-22
4	CIT-10	FRANKONIA	Version1.1.7	N/A	/	/
5	EM-Clamp	FRANKONIA	EMCL-20	18101728-0103	2023-04-20	2024-04-19

Voltage dips and interruptions

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	CYCLE SAG Simulator	PRIMA	DRP61011A G	PR12046234	2022-10-23	2023-10-22

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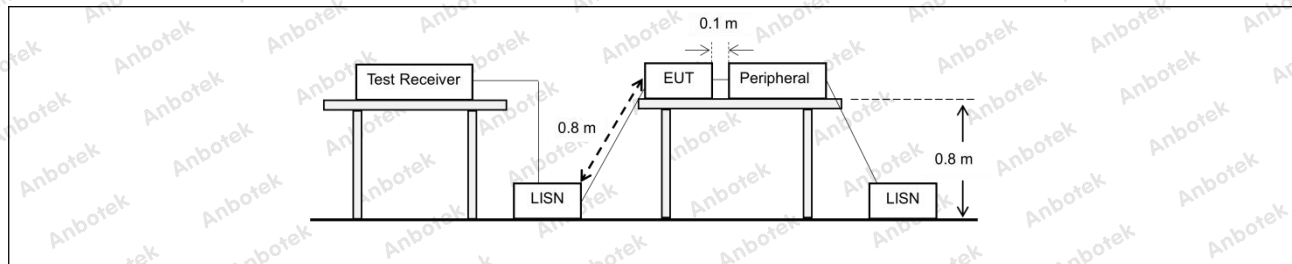
2. Conducted emissions from AC mains power ports (150kHz-30MHz)

Test Requirement:	Class B		
Test Limit:	Frequency Range	Limit (Quasi-Peak)	Limit (Average)
	0.15MHz to 0.5MHz	66dB(μV) to 56dB(μV)	56dB(μV) to 46dB(μV)
	0.5MHz to 5MHz	56dB(μV)	46dB(μV)
	5MHz to 30MHz	60dB(μV)	50dB(μV)
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz		
Test Method:	Clause 7 of CISPR 16-2-1:2014/AMD1:2017		
Procedure:	An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected. Remark: Level= Read Level+ Cable Loss+ LISN Factor		

2.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: AC charging

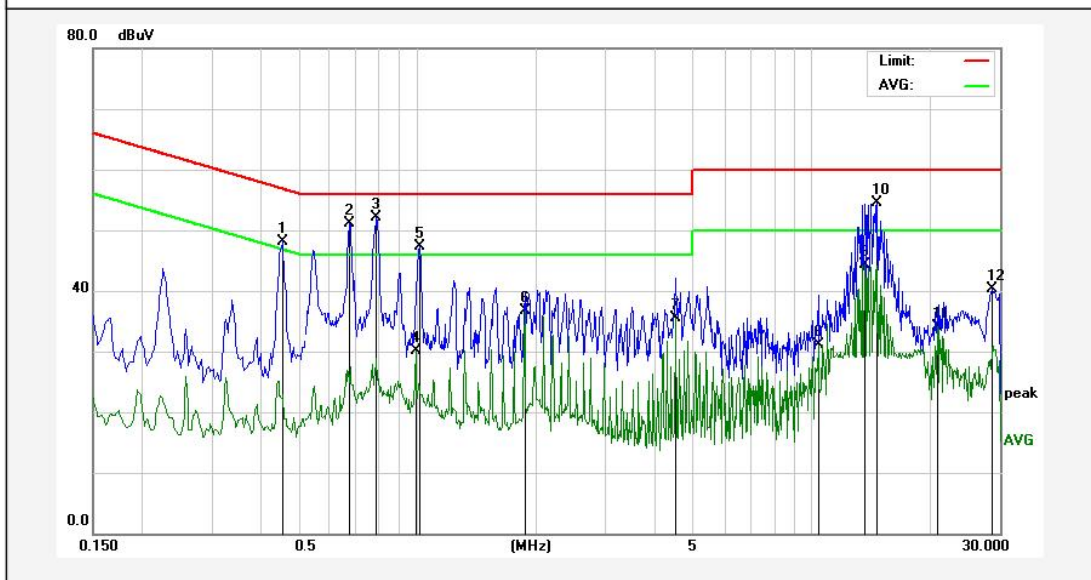
2.2. Test Setup



2.3. Test Data

Temperature:	23.9 °C	Humidity:	51.1 %	Atmospheric Pressure:	102 kPa
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TM1 / Line: Line

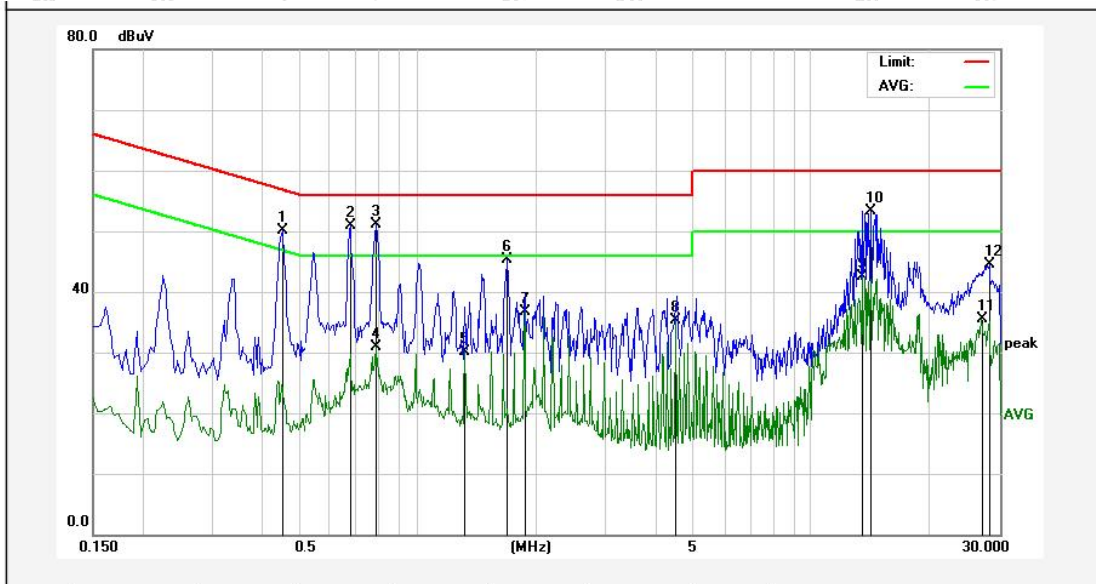


No.	Freq. (MHz)	Reading (dBUV)	Factor (dB)	Result (dBUV)	Limit (dBUV)	Over Limit (dB)	Detector	Remark
1	0.4540	30.91	17.29	48.20	56.80	-8.60	QP	
2	0.6740	33.62	17.45	51.07	56.00	-4.93	QP	
3	0.7900	34.63	17.48	52.11	56.00	-3.89	QP	
4	0.9899	12.56	17.54	30.10	46.00	-15.90	AVG	
5	1.0140	29.72	17.54	47.26	56.00	-8.74	QP	
6	1.8700	19.26	17.47	36.73	46.00	-9.27	AVG	
7	4.5099	18.08	17.41	35.49	46.00	-10.51	AVG	
8	10.4496	13.58	17.56	31.14	50.00	-18.86	AVG	
9	13.6379	26.55	17.72	44.27	50.00	-5.73	AVG	
10	14.7378	36.72	17.76	54.48	60.00	-5.52	QP	
11	20.8978	16.09	17.92	34.01	50.00	-15.99	AVG	
12	28.7420	22.13	18.13	40.26	60.00	-19.74	QP	



Temperature:	23.9 °C	Humidity:	51.1 %	Atmospheric Pressure:	102 kPa
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TM1 / Line: Neutral



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.4540	32.89	17.29	50.18	56.80	-6.62	QP	
2	0.6780	33.49	17.45	50.94	56.00	-5.06	QP	
3	0.7860	33.64	17.48	51.12	56.00	-4.88	QP	
4	0.7860	13.41	17.48	30.89	46.00	-15.11	AVG	
5	1.3220	12.59	17.52	30.11	46.00	-15.89	AVG	
6	1.6977	27.79	17.49	45.28	56.00	-10.72	QP	
7	1.8700	19.28	17.47	36.75	46.00	-9.25	AVG	
8	4.5099	17.97	17.41	35.38	46.00	-10.62	AVG	
9	13.4176	24.85	17.70	42.55	50.00	-7.45	AVG	
10	14.1897	35.53	17.73	53.26	60.00	-6.74	QP	
11	26.8617	17.46	18.03	35.49	50.00	-14.51	AVG	
12	28.1580	26.45	18.10	44.55	60.00	-15.45	QP	

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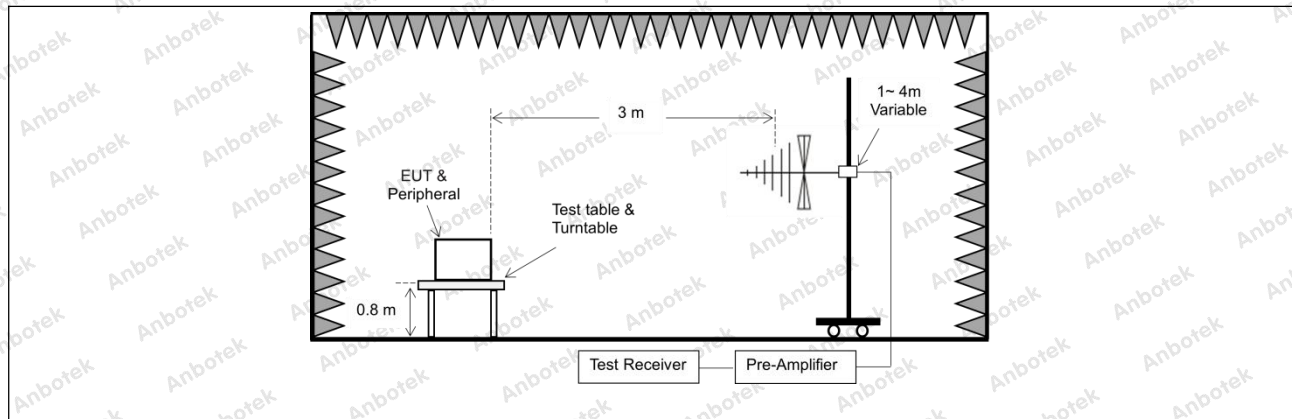
3. Radiated emissions (30MHz-1GHz)

Test Requirement:	Class B		
Test Limit:	Frequency (MHz)	Limit [dB(μV/m) at 10m]	Limit [dB(μV/m) at 3m]
	30 to 230	30	40
	230 to 1000	37	47
	Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz	
Test Method:	Clause 7.3 of CISPR 16-2-3:2016		
Procedure:	An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities. Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor		

3.1. EUT Operation

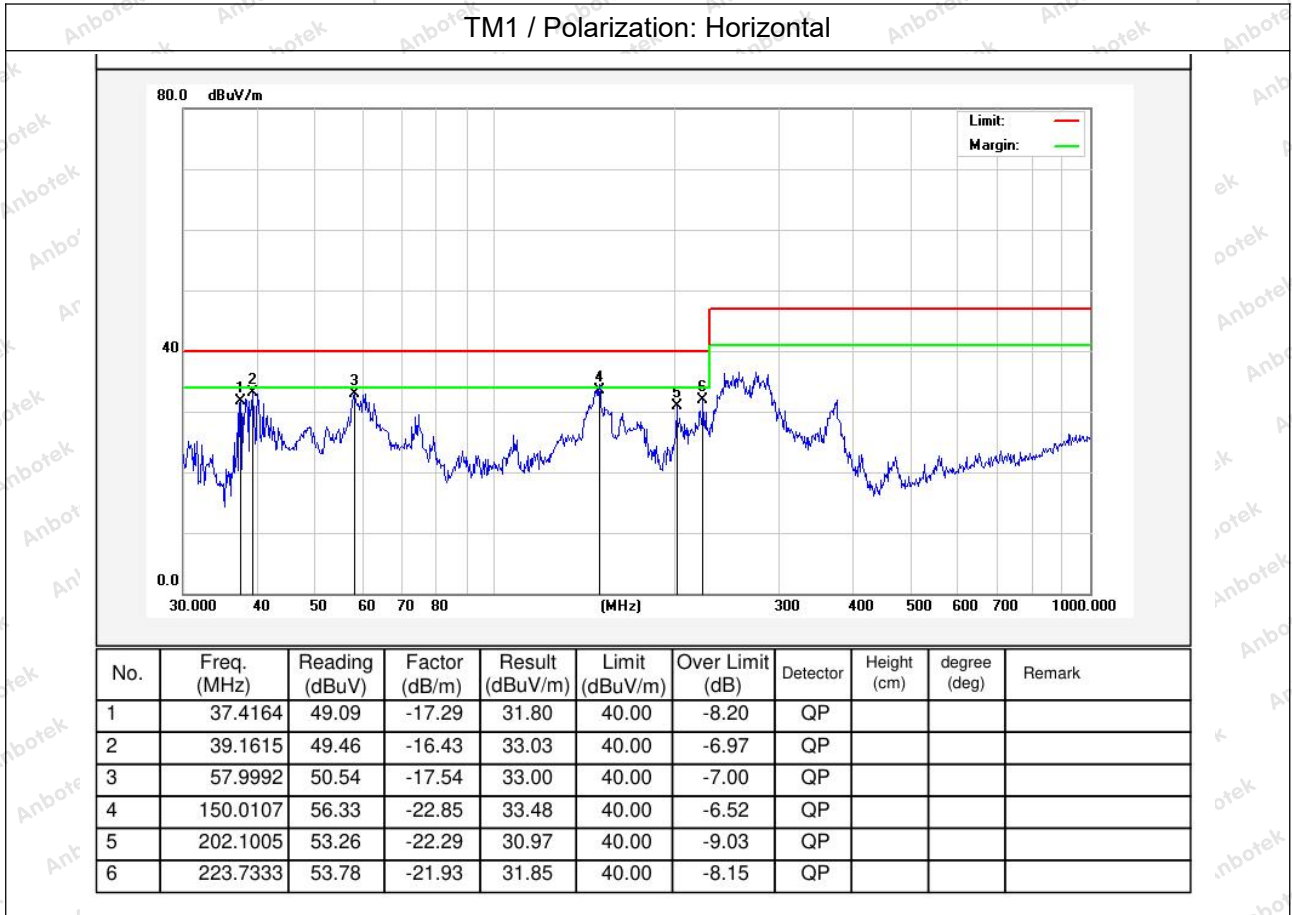
Operating Environment:	
Test mode:	1: TM1: AC charging 2: TM2: DC charging 3: TM3: Full load

3.2. Test Setup



3.3. Test Data

Temperature:	22.9 °C	Humidity:	47 %	Atmospheric Pressure:	99 kPa
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Temperature:	22.9 °C	Humidity:	47 %	Atmospheric Pressure:	99 kPa
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TM1 / Polarization: Vertical

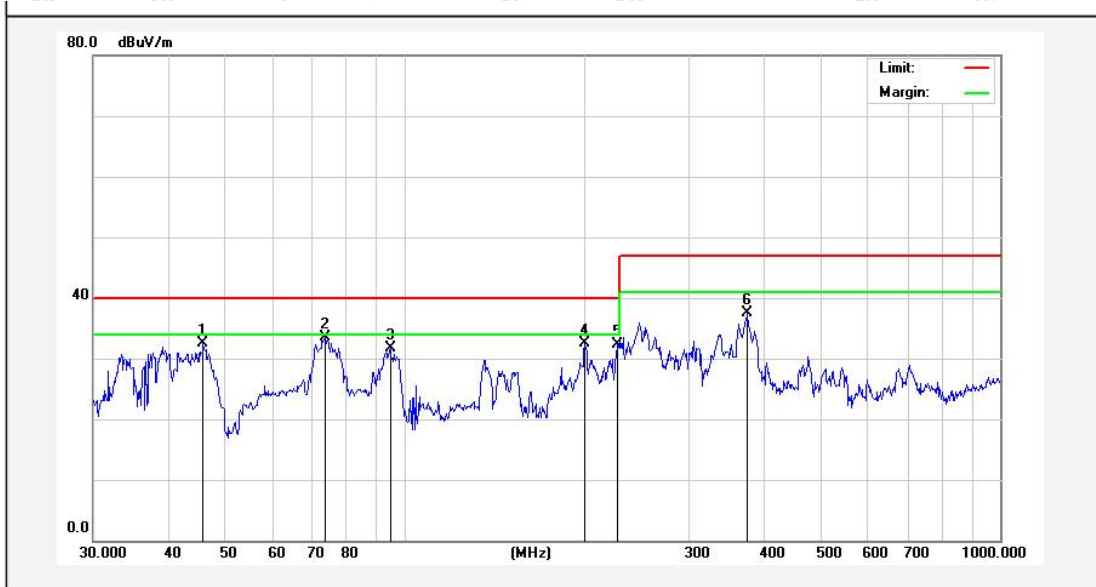


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	30.3172	50.88	-17.90	32.98	40.00	-7.02	QP			
2	39.8541	48.33	-14.63	33.70	40.00	-6.30	QP			
3	49.0144	48.94	-15.63	33.31	40.00	-6.69	QP			
4	58.8185	50.83	-17.52	33.31	40.00	-6.69	QP			
5	87.4176	51.41	-18.07	33.34	40.00	-6.66	QP			
6	127.2176	54.44	-21.04	33.40	40.00	-6.60	QP			



Temperature:	22.9 °C	Humidity:	47 %	Atmospheric Pressure:	99 kPa
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TM2 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	45.8551	47.79	-15.30	32.49	40.00	-7.51	QP			
2	73.8756	55.58	-22.04	33.54	40.00	-6.46	QP			
3	94.7600	53.47	-21.75	31.72	40.00	-8.28	QP			
4	200.6880	54.73	-22.32	32.41	40.00	-7.59	QP			
5	227.6905	54.17	-21.87	32.30	40.00	-7.70	QP			
6	375.9384	53.62	-16.08	37.54	47.00	-9.46	QP			

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Temperature:	22.9 °C	Humidity:	47 %	Atmospheric Pressure:	99 kPa
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TM2 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	72.8465	52.92	-19.92	33.00	40.00	-7.00	QP			
2	125.8863	53.04	-20.84	32.20	40.00	-7.80	QP			
3	146.8876	54.55	-22.12	32.43	40.00	-7.57	QP			
4	167.2366	51.02	-21.26	29.76	40.00	-10.24	QP			
5	227.6905	50.76	-18.70	32.06	40.00	-7.94	QP			
6	242.5252	54.57	-18.19	36.38	47.00	-10.62	QP			

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Temperature:	22.9 °C	Humidity:	47 %	Atmospheric Pressure:	99 kPa
--------------	---------	-----------	------	-----------------------	--------

TM3 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	55.6094	50.70	-17.61	33.09	40.00	-6.91	QP			
2	76.5121	56.39	-22.40	33.99	40.00	-6.01	QP			
3	155.3642	56.87	-23.48	33.39	40.00	-6.61	QP			
4	174.4241	55.59	-23.41	32.18	40.00	-7.82	QP			
5	226.8934	53.11	-21.88	31.23	40.00	-8.77	QP			
6	240.8302	60.17	-21.65	38.52	47.00	-8.48	QP			

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Temperature:	22.9 °C	Humidity:	47 %	Atmospheric Pressure:	99 kPa
--------------	---------	-----------	------	-----------------------	--------

TM3 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBUV)	Factor (dB/m)	Result (dBUV/m)	Limit (dBUV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	30.2110	49.82	-17.93	31.89	40.00	-8.11	QP			
2	45.0583	47.86	-15.06	32.80	40.00	-7.20	QP			
3	77.3212	53.29	-19.62	33.67	40.00	-6.33	QP			
4	94.7600	47.44	-17.23	30.21	40.00	-9.79	QP			
5	105.2717	46.92	-17.42	29.50	40.00	-10.50	QP			
6	134.5592	48.22	-21.80	26.42	40.00	-13.58	QP			



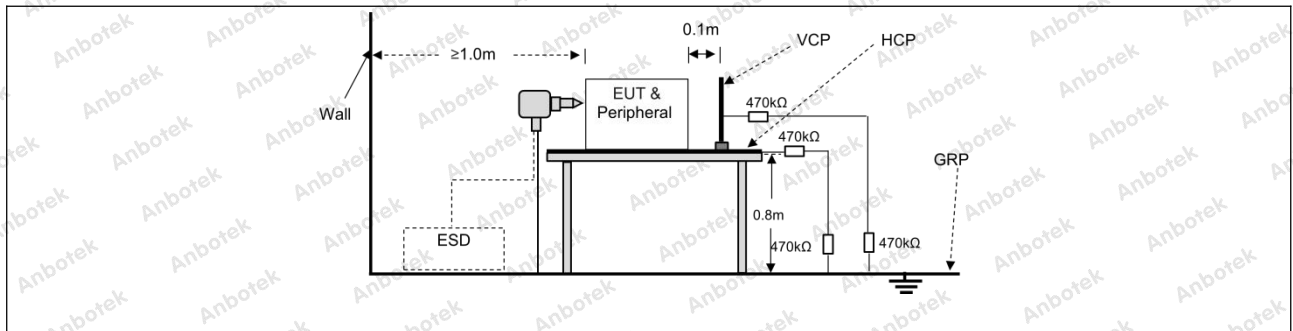
4. Electrostatic discharges

Test Requirement:	Contact Discharge: +/- 4kV Air Discharge: +/- 8kV
Test Method:	EN 61000-4-2: 2009
Procedure:	Discharge Impedance: 330Ω/150pF Number of Discharge: Minimum 10 times at each test point Discharge Mode: Single Discharge Discharge Period: 1 second minimum
Performance Criteria:	B

4.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: AC charging 2: TM2: DC charging 3: TM3: Full load

4.2. Test Setup



4.3. Test Data

Temperature:	24 °C	Humidity:	44 %	Atmospheric Pressure:	98 kPa
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Discharge type	Volt (kV)	Polarity	Test Point	Result/ Observations
Air discharge	2,4,8	+	1	A
Air discharge	2,4,8	-	1	A
Contact discharge	4	+	2	A
Contact discharge	4	-	2	A
Horizontal Coupling	4	+	3	A
Horizontal Coupling	4	-	3	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A

Test Point: 1. All insulated enclosure and seams.

2. All accessible metal parts of the enclosure.

3. All side.

A: No degradation in the performance of the EUT was observed.



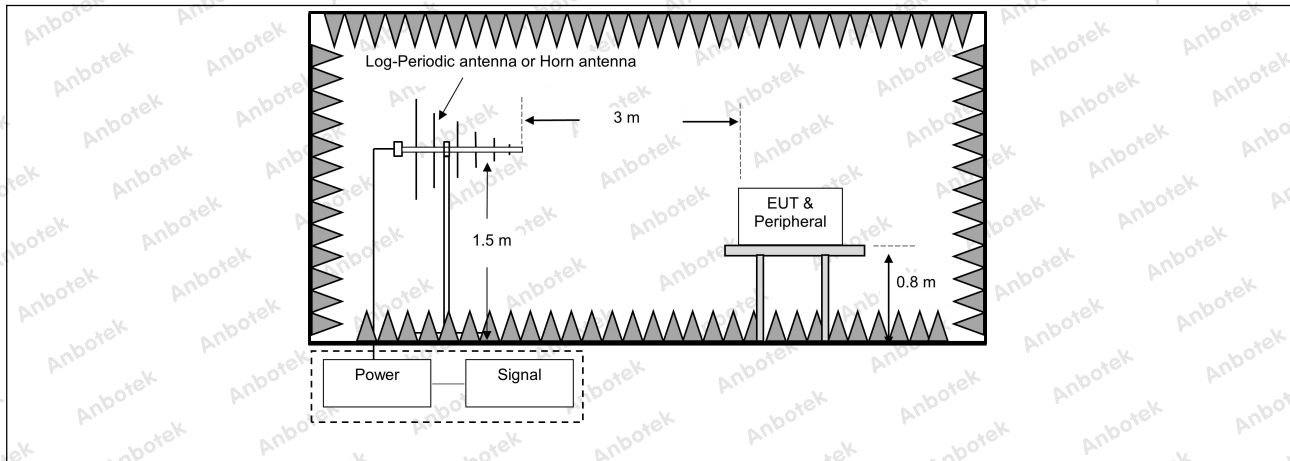
5. RF electromagnetic field disturbances

Test Requirement:	3V/m, 80%, 1kHz Amp. Mod.
Test Method:	EN IEC 61000-4-3: 2020
Procedure:	Frequency Range: 80MHz to 1GHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz Antenna Polarisation: Vertical and Horizontal Modulation: 1kHz, 80% Amp. Mod, 1% increment
Performance Criteria:	A

5.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: AC charging 2: TM2: DC charging 3: TM3: Full load

5.2. Test Setup



5.3. Test Data

Temperature:	24.1 °C	Humidity:	51 %	Atmospheric Pressure:	99 kPa
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Frequency	Field Strength (V/m)	EUT face	Dwell time	Result/ Observations
80MHz-1GHz	3	Front	3s	A
80MHz-1GHz	3	Back	3s	A
80MHz-1GHz	3	Left	3s	A
80MHz-1GHz	3	Right	3s	A
80MHz-1GHz	3	Top	3s	A
80MHz-1GHz	3	Bottom	3s	A
1800MHz	3	Front	3s	A
1800MHz	3	Back	3s	A
1800MHz	3	Left	3s	A
1800MHz	3	Right	3s	A
1800MHz	3	Top	3s	A
1800MHz	3	Bottom	3s	A
2600MHz	3	Front	3s	A
2600MHz	3	Back	3s	A
2600MHz	3	Left	3s	A
2600MHz	3	Right	3s	A
2600MHz	3	Top	3s	A
2600MHz	3	Bottom	3s	A
3500MHz	3	Front	3s	A
3500MHz	3	Back	3s	A
3500MHz	3	Left	3s	A
3500MHz	3	Right	3s	A
3500MHz	3	Top	3s	A
3500MHz	3	Bottom	3s	A
5000MHz	3	Front	3s	A
5000MHz	3	Back	3s	A
5000MHz	3	Left	3s	A
5000MHz	3	Right	3s	A
5000MHz	3	Top	3s	A
5000MHz	3	Bottom	3s	A

A: No degradation in the performance of the EUT was observed.

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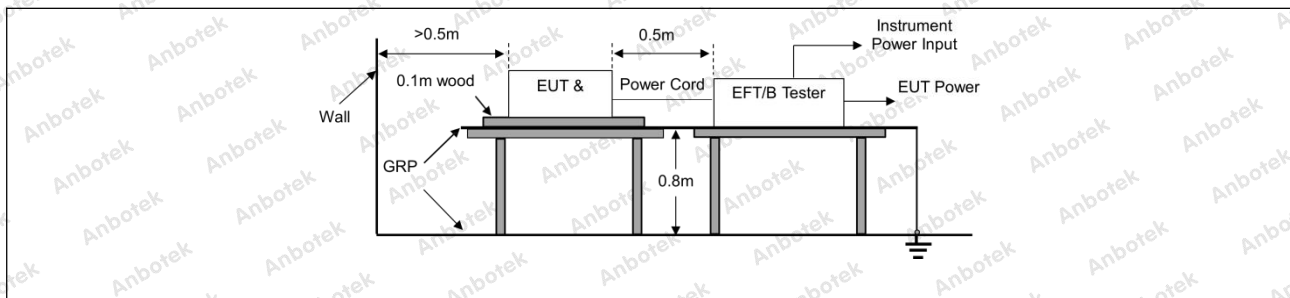
6. Electrical fast transients / burst for AC mains power ports

Test Requirement:	1kV; 5/50ns Tr/Th; 5kHz Repetition Frequency
Test Method:	EN 61000-4-4: 2012
Procedure:	Repetition Frequency: 5kHz Burst Period: 300ms Test Duration: 2 minute per level & polarity
Performance Criteria:	B

6.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: AC charging

6.2. Test Setup



6.3. Test Data

Temperature:	23.8 °C	Humidity:	57 %	Atmospheric Pressure:	99 kPa
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Port	Volt (kV)	Polarity	CDN/ Clamp	Result/ Observations
AC power port	1	+	CDN	A
AC power port	1	-	CDN	A

A: No degradation in the performance of the EUT was observed.



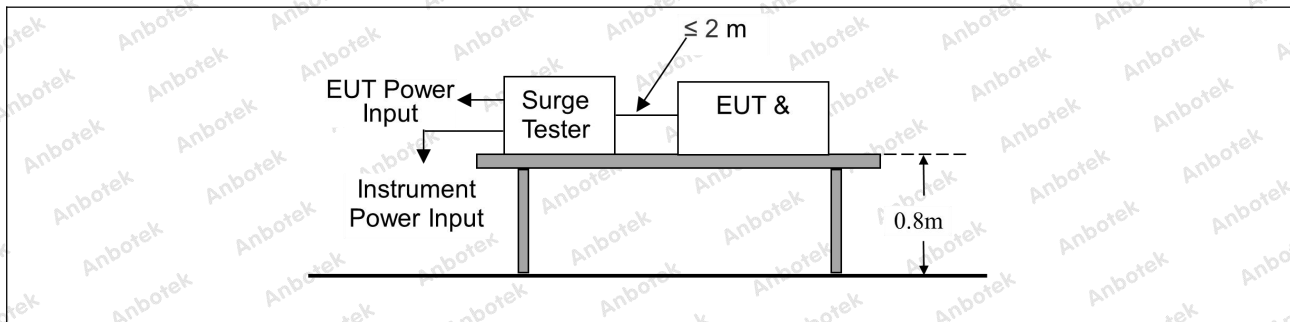
7. Surges for AC mains power ports

Test Requirement:	1.2/50 μ s Tr/Td; 1kV Line to Line; 2kV Line to Ground
Test Method:	EN 61000-4-5: 2014 +A1: 2017
Procedure:	Interval: 60s between each surge No. of surges: 5 positive, 5 negative at 90°, 270°
Performance Criteria:	B

7.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: AC charging

7.2. Test Setup



7.3. Test Data

Temperature:	23.8 °C	Humidity:	57 %	Atmospheric Pressure:	99 kPa
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Port	Volt (kV)	Polarity	Phase(degree)	Result/ Observations
L-N	1	+	90°	A
L-N	1	-	270°	A
L-PE	2	+	90°	A
L-PE	2	-	270°	A
N-PE	2	-	90°	A
N-PE	2	+	270°	A

A: No degradation in the performance of the EUT was observed.



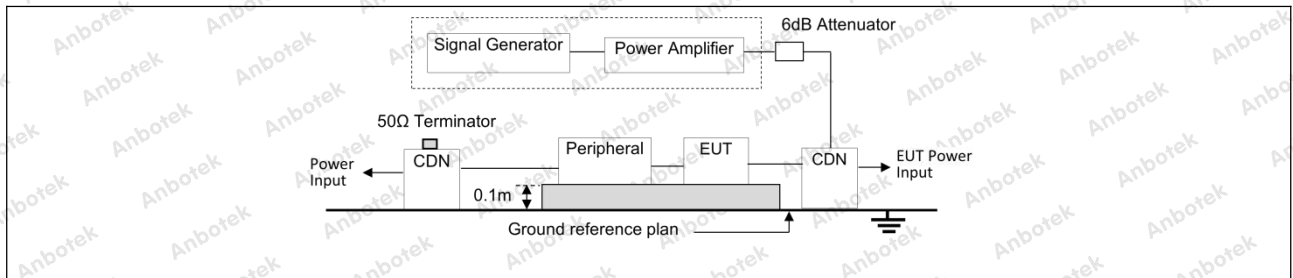
8. Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)

Test Requirement:	0,15 to 10MHz 3Vrms (emf), 10 to 30MHz 3V to 1Vrms(emf), 30 to 80MHz 1Vrms(emf), 80%,1kHz Amp. Mod.
Test Method:	EN 61000-4-6: 2014
Procedure:	Frequency Range: 0.15MHz to 80MHz Modulation: 80%, 1kHz Amplitude Modulation Step Size: 1%
Performance Criteria:	A

8.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: AC charging

8.2. Test Setup



8.3. Test Data

Temperature:	23.8 °C	Humidity:	57 %	Atmospheric Pressure:	99 kPa
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Port	Strength (Vrms)	CDN/Clamp	Dwell time	Result/ Observations
AC power port	3(0.15MHz-10MHz)	CDN	3s	A
AC power port	3 to 1(10MHz-30MHz, Lines)	CDN	3s	A
AC power port	1(30MHz-80MHz)	CDN	3s	A

A: No degradation in the performance of the EUT was observed.



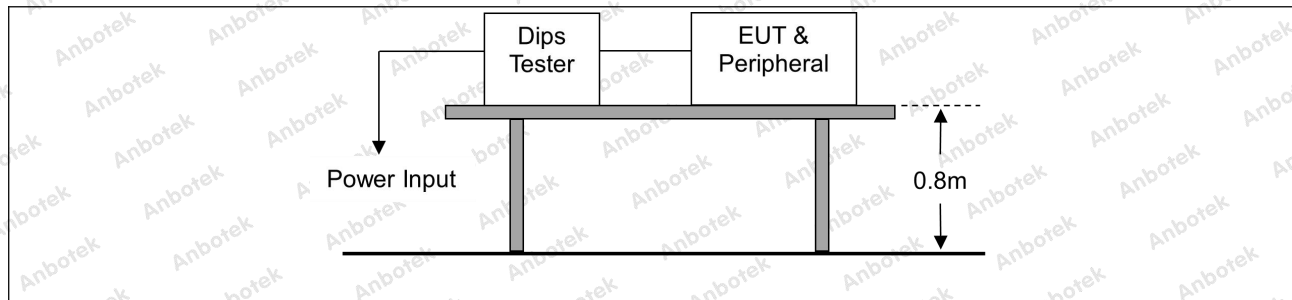
9. Voltage dips and interruptions

Test Requirement:	<5% residual voltage for 0.5 periods 70% residual voltage for 25 periods <5% residual voltage for 250 periods
Test Method:	EN IEC 61000-4-11:2020
Procedure:	<5% residual voltage for 0.5 period 70% residual voltage for 25 period <5% residual voltage for 250 period No. of Dips / Interruptions: 3 per Level Time between dropout: 10s
Performance Criteria:	B, C

9.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: AC charging

9.2. Test Setup



9.3. Test Data

Temperature:	23.8 °C	Humidity:	57 %	Atmospheric Pressure:	99 kPa
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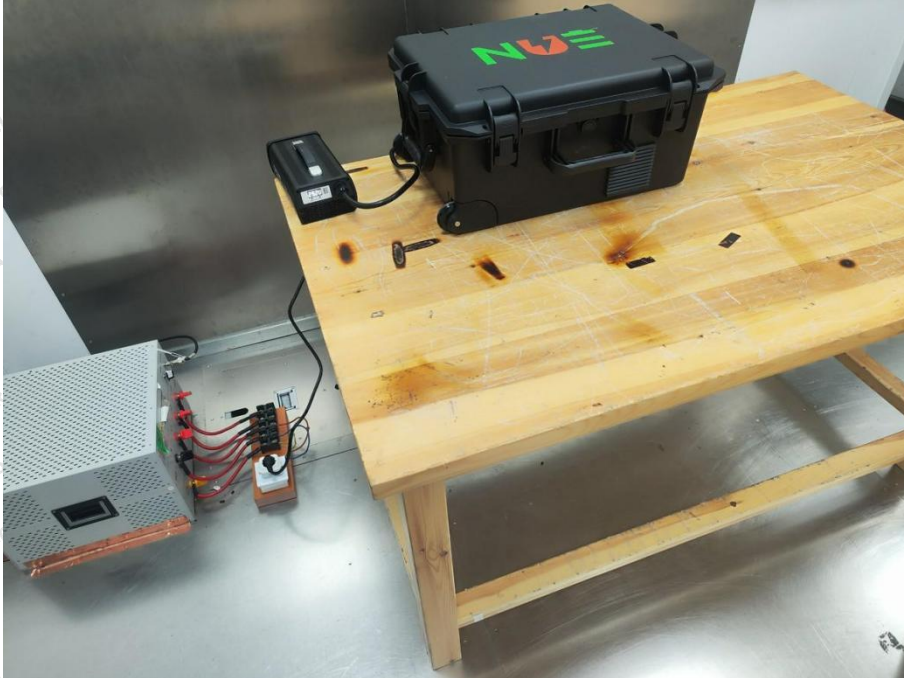
Level %UT	Phase (degree)	Duration	No. of Dips/ Interruptions	Result/ Observations
0	0°	0.5 Cycles	3	A
0	0°	250 Cycles	3	A
70	0°	25 Cycles	3	A

A: No degradation in the performance of the EUT was observed.



APPENDIX I -- TEST SETUP PHOTOGRAPH

Conducted emissions from AC mains power ports (150kHz-30MHz)



Radiated emissions (30MHz-1GHz)



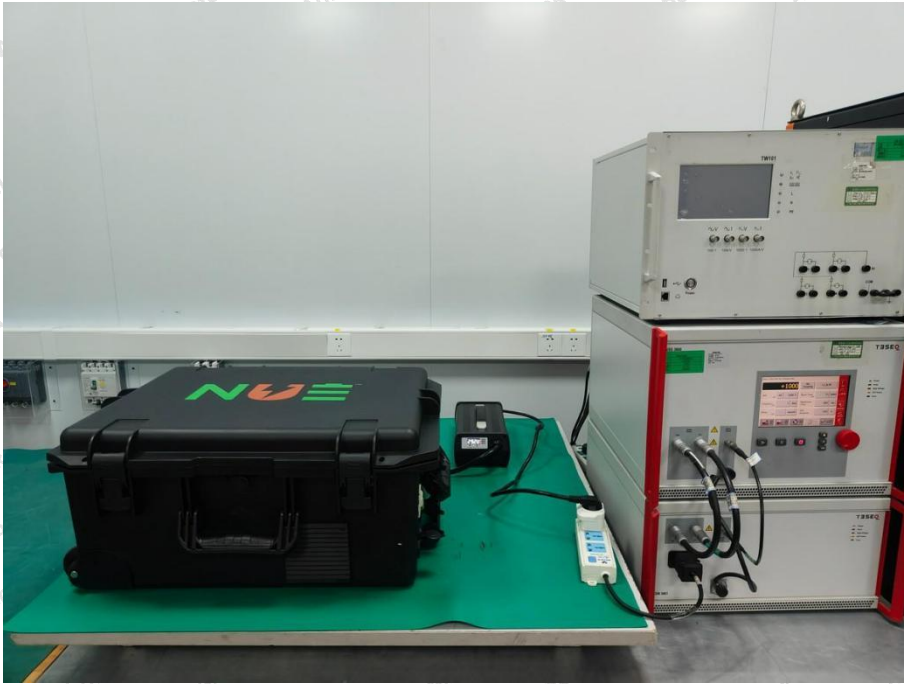
Electrostatic discharges



RF electromagnetic field disturbances



Electrical fast transients / burst for AC mains power ports



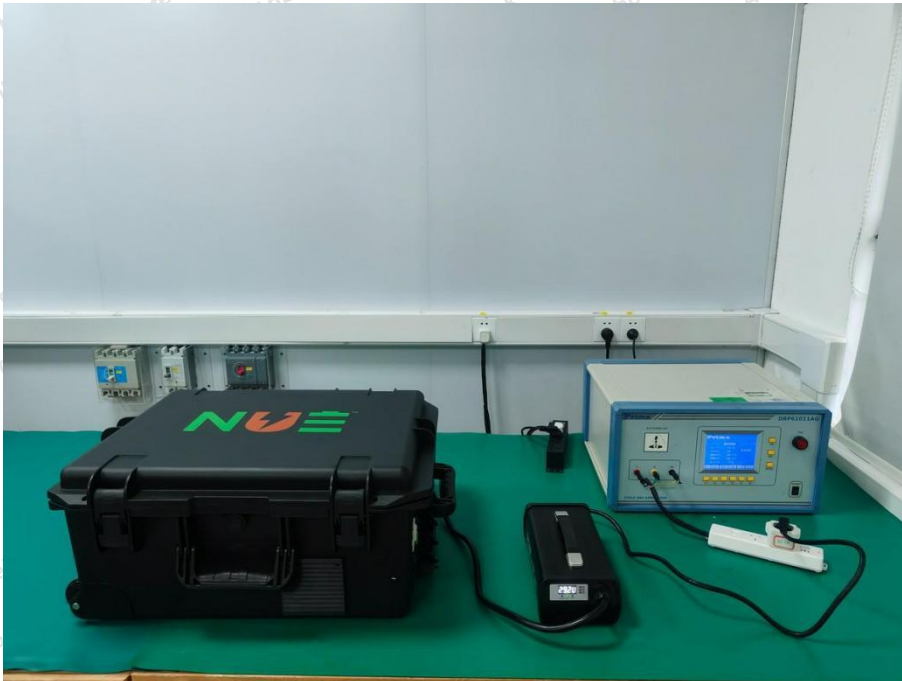
Surges for AC mains power ports



Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)



Voltage dips and interruptions



APPENDIX II -- Photo documentation





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CE Label

1. The CE conformity marking must consist of the initials 'CE' taking the following form:
If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
2. The CE marking must have a height of at least 5 mm except where this is not possible on account of the nature of the apparatus.
3. The CE marking must be affixed to the product or to its data plate. Additionally it must be affixed to the packaging, if any, and to the accompanying documents.
4. The CE marking must be affixed visibly, legibly and indelibly.
It must have the same height as the initials 'CE'.

----- End of Report -----

