

# EMC TEST REPORT



## For Electromagnetic Interference of

Report Reference No..... :	E01A22070245E00301
Test Engineer (name + signature)..... :	Duke Liu
Reviewed by (name + signature)..... :	Tiger Xu
Approved by (name + signature)..... :	Tomas Yang
Date of Receipt of EUT..... :	Jul. 12, 2022
Date of Test..... :	Jul. 12, 2022 to Jul. 15, 2022
Date of issue..... :	Jul. 29, 2022
Testing Laboratory..... :	Dongguan Anci Electronic Technology Co., Ltd.
Address..... :	1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong, China
Laboratory location..... :	EMC Laboratory
Applicant's name..... :	Master Battery, S.L.
Address..... :	Paseo de Extremadura, 39, 28935 Móstoles, Madrid, Spain
Manufacturer..... :	Same as Applicant
Address..... :	Same as Applicant
Factory's name..... :	Same as Applicant
Address..... :	Same as Applicant





**Test specification:**

EUT description.....:	LiFePO4 Battery
Trade Mark.....:	N/A
Model/Type reference .....	48V 100AH -15S1P, 48V 10Ah, 48V 20Ah, 48V 30Ah, 48V 40Ah, 48V 50Ah, 48V 75Ah
Test Sample.....:	48V 100AH -15S1P
Ratings.....:	See product information for details
Tested Power.....:	DC 48V, DC 54.6V
Standards .....	EN IEC 61000-6-3:2021 EN IEC 61000-6-1:2019

The device described above was tested by Dong Guan Anci Electronic Technology Co., Ltd. to determine the maximum emission levels emanated from the device and severity levels of the device endure and its performance criterion. The measurement results are contained in this test report and Dong Guan Anci Electronic Technology Co., Ltd. assumes full responsibility for the accuracy and completeness of these measurements. This report shows the EUT is technically compliance with the above official standards.

This report applies to the above sample only and shall not be reproduced in part without written approval of Dong Guan Anci Electronic Technology Co., Ltd.

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## 1. GENERAL INFORMATION

### 1.1 PRODUCT INFORMATION

The product is LiFePO<sub>4</sub> Battery for the use in residential, commercial and light-industrial environments.

Ratings:

Model	Nominal Capacity	Nominal Voltage	Nominal Energy	Charge Voltage
48V 100AH -15S1P	100Ah	DC 48V	4800Wh	DC 54.6 V±0.2V
48V 10AH	10Ah	DC 48V	480Wh	DC 54.6 V±0.2V
48V 20AH	20Ah	DC 48V	960Wh	DC 54.6 V±0.2V
48V 30AH	30Ah	DC 48V	1440Wh	DC 54.6 V±0.2V
48V 40AH	40Ah	DC 48V	1920Wh	DC 54.6 V±0.2V
48V 50AH	50Ah	DC 48V	2400Wh	DC 54.6 V±0.2V
48V 75AH	75Ah	DC 48V	3600Wh	DC 54.6 V±0.2V

All models are the same except for model name, capacity, energy and appearance.

All tests was performed on model 48V 100AH -15S1P.

The EUT passed the test.

The report shows worst-case pattern data.



## 1.2 Details about the Test Laboratory

### Test Site 1:

Company name: Dongguan Anci Electronic Technology Co., Ltd.

Address: 1-2 Floor, Building A, No.11, Headquarters 2 Road, Songshan Lake  
Hi-tech Industrial Development Zone, Dongguan City,  
Guangdong Pr., China.

Telephone: +86-769- 8507 5888

Fax: +86-769- 8507 5898

### Test Site 2:

Company name: Guangdong Dongguan Quality Supervision Testing Center

Address: No.2 South Industry Road, Dongguan Songshan Lake  
Sci.&Tech. Industrial Park, Guangdong Province, China

Telephone: +86 769 2307 1111

Fax: +86 769 2307 7221

Standard	Test Item	Test Site
EN IEC 61000-6-3:2021	Conducted Emission	N/A
	Radiated Emission Below 1 GHz	1
	Radiated Emission Above 1 GHz	N/A
EN 61000-4-2:2009	Electrostatic Discharge	1
EN 61000-4-3:2006+A1:2008+A2:2010	RF electromagnetic field	2

## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

<b>Emission</b>				
Standard	Test Item	Limit	Judgment	Remark
EN IEC 61000-6-3:2021	Conducted Emission	Class B	N/A	
	Radiated Emission Below 1 GHz	Class B	PASS	
	Radiated Emission Above 1 GHz	Class B	N/A	
<b>Immunity (EN IEC 61000-6-1:2019)</b>				
Section	Test Item	Performance Criteria	Judgment	Remark
EN 61000-4-2:2009	Electrostatic Discharge	B	PASS	
EN 61000-4-3:2006 +A1:2008+A2: 2010	RF electromagnetic field	A	PASS	

### NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report
- (2) If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1GHz, measurement shall only be made up to 5 GHz. If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 40 GHz, whichever is less.
- (3) Test in the shielding room.



**2.1 MEASUREMENT UNCERTAINTY**

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %.

A. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U (dB)	NOTE
S02	ANSI	30MHz ~ 200MHz	V	3.69	
S02	ANSI	30MHz ~ 200MHz	H	3.69	
S02	ANSI	200MHz ~ 1000MHz	V	3.67	
S02	ANSI	200MHz ~ 1000MHz	H	3.67	

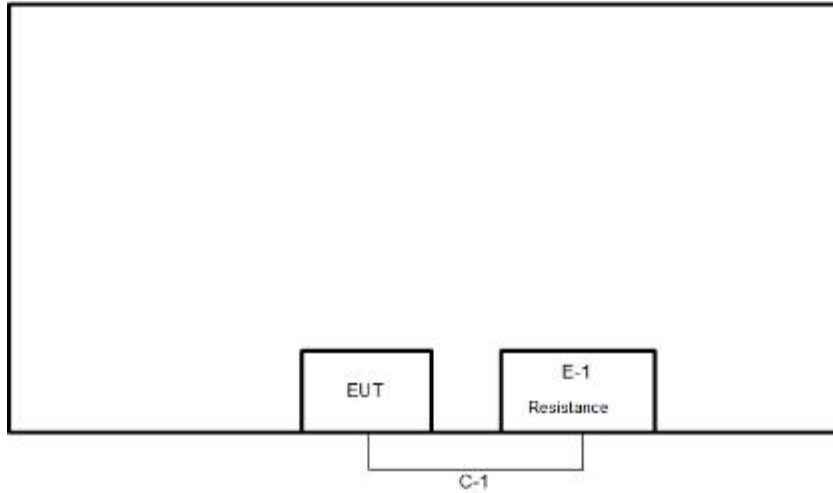
**2.2 DESCRIPTION OF TEST MODES**

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

For Emission Test	
Test Mode	Description
Mode 1	Discharging
Mode 2	Charging

For Immunity Test	
Test Mode	Description
Mode 1	Discharging

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment
E-1	Resistance

Item	Type of cable
C-1	DC Cable

**3. EMISSION TEST**

**3.1 RADIATED EMISSION MEASUREMENT**

**3.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT (Below 1000MHz)**

FREQUENCY (MHz)	Class A (at 3m)	Class B (at 3m)
	dBuV/m	dBuV/m
30 – 230	50	40
230 – 1000	57	47

Notes:

- (1) The limit for radiated test was performed according to as following:  
IEC 61000-6-3.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

**LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)**

FREQUENCY (GHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
1 ~ 3	76	56	70	50
3 ~ 6	80	60	74	54

Notes:

- (1) The limit for radiated test was performed according to IEC 61000-6-3.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

**3.1.2 MEASUREMENT INSTRUMENTS LIST**

3m Radiated Emission Measurement 30MHz-1GHz

Item	Instr.Code	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	AN-E023	EMI Test Receiver	Rohde & Schwarz	ESPI	100502	2022-11-11
2	AN-E006	Pre-Amplifier	HP	8447D	2727A06172	2023-05-12
3	AN-E009	Bilog Antenna	Schwarzbeck	VULB9163	VULB9163-588	2023-05-14
4	AN-E033	RF Cable	N/A	ZT06S-NJ-NJ-11M	04040071-VI	2023-05-12
5	AN-E007	RF Cable	N/A	ZT06S-NJ-NJ-0.5M	1007290	2023-05-12
6	AN-E043	3m Semi-anechoic Chamber	chengyu	9m*6m*6m	N/A	2024-11-11
7	AN-E045	Test Software	Farad	EZ-EMC Ver:ANCI-3A1	N/A	N/A

Remark: " N/A" denotes No Model No. / Serial No. and No Calibration specified.

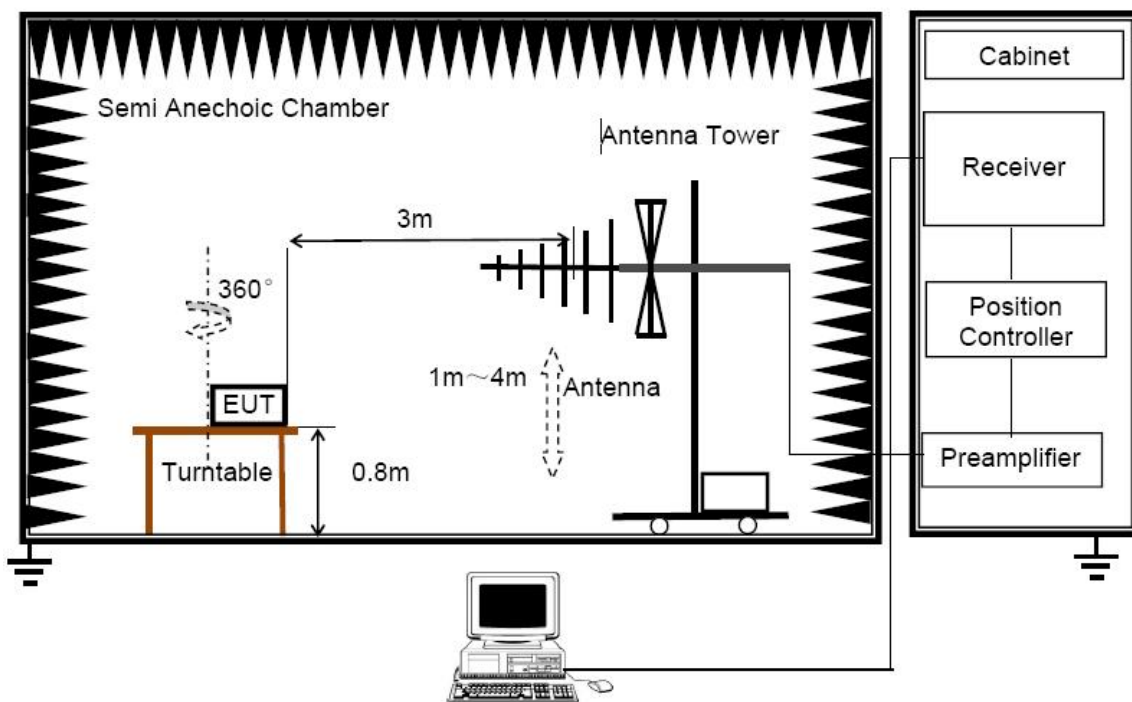
### 3.1.3 TEST PROCEDURE

- a. The measuring distance of at 3m or 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m or 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 3.1.4 DEVIATION FROM TEST STANDARD

No deviation

### 3.1.5 TEST SETUP



### 3.1.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 3.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

**3.1.7 TEST RESULTS**

<b>EUT:</b>	LiFePO4 Battery	<b>Model No.:</b>	48V 100AH -15S1P
<b>Temperature:</b>	22.5°C	<b>Relative Humidity:</b>	55%
<b>Pressure:</b>	1008 hPa	<b>Test Power :</b>	DC 48V,DC 54.6V
<b>Test Mode :</b>	Discharging, Charging		

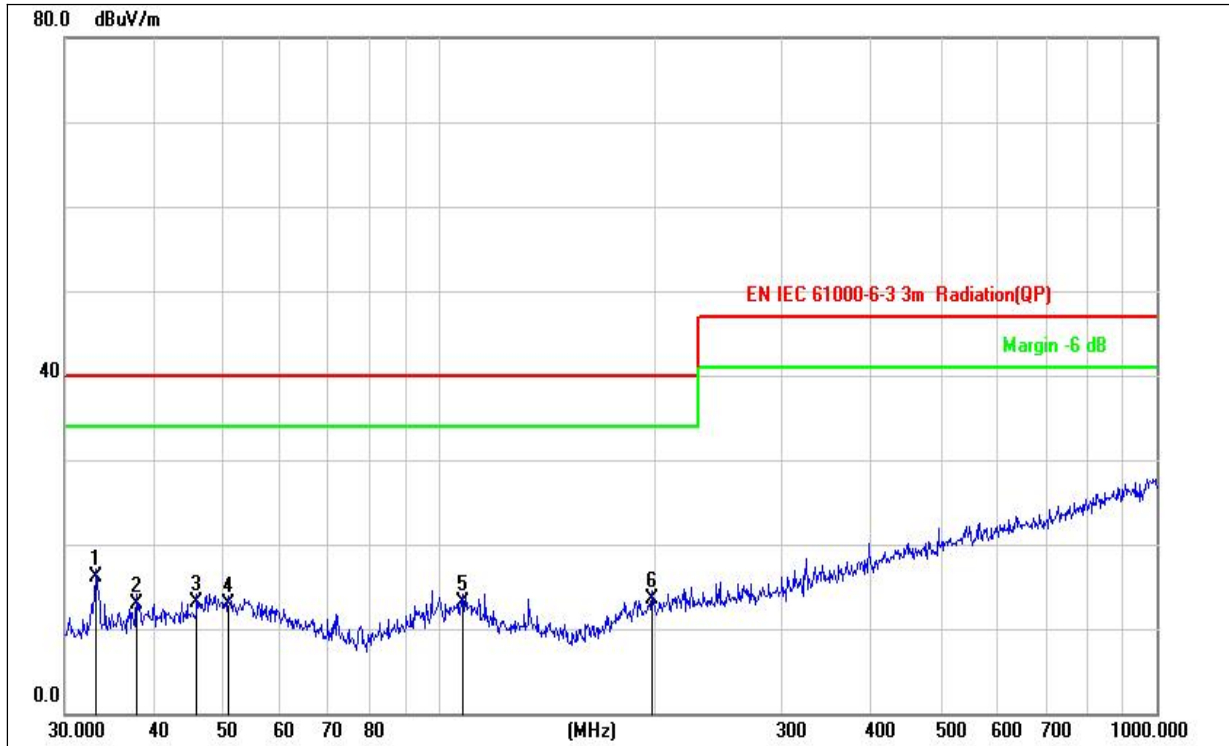
## Remark :

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Detector or Peak Detector.
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz.
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table.



<b>Site:</b> LAB	<b>Antenna::</b> Horizontal	<b>Temperature(C):</b> 22.5(C)
<b>Limit:</b> EN IEC 61000-6-3 3m Radiation(QP)	<b>Test Time:</b>	<b>Humidity(%):</b> 55%
<b>EUT:</b> LiFePO4 Battery	<b>Power Rating:</b>	<b>2022-07-12</b>
<b>M/N.:</b> 48V 100AH -15S1P	<b>Test Engineer:</b>	<b>DC 48V</b>
<b>Mode:</b> Discharging		<b>Rock</b>
<b>Note:</b>		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	48.3318	25.73	-12.05	13.68	40.00	-26.32	QP
2	52.5753	25.65	-12.18	13.47	40.00	-26.53	QP
3	100.2286	23.97	-11.87	12.10	40.00	-27.90	QP
4	104.5361	24.59	-11.87	12.72	40.00	-27.28	QP
5	180.0165	25.06	-12.43	12.63	40.00	-27.37	QP
6	216.0240	26.83	-10.90	15.93	40.00	-24.07	QP



<b>Site:</b> LAB	<b>Antenna::</b> Vertical	<b>Temperature(C):</b> 22.5(C)
<b>Limit:</b> EN IEC 61000-6-3 3m Radiation(QP)		<b>Humidity(%):</b> 55%
<b>EUT:</b> LiFePO4 Battery	<b>Test Time:</b>	2022-07-12
<b>M/N.:</b> 48V 100AH -15S1P	<b>Power Rating:</b>	DC 48V
<b>Mode:</b> Discharging	<b>Test Engineer:</b>	Rock
<b>Note:</b>		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.
1	33.2112	30.38	-14.28	16.10	40.00	-23.90	QP
2	37.8121	26.58	-13.58	13.00	40.00	-27.00	QP
3	45.8553	25.50	-12.40	13.10	40.00	-26.90	QP
4	50.7637	24.78	-11.92	12.86	40.00	-27.14	QP
5	107.8877	24.89	-11.86	13.03	40.00	-26.97	QP
6	197.8928	24.79	-11.29	13.50	40.00	-26.50	QP

**4. IMMUNITY TEST**

**4.1 STANDARD COMPLIANCE/SERVRITY LEVEL/CRITERIA**

Tests Standard No.	Test Specification	Test Mode Test Ports	Perform. Criteria	Remark
1. ESD IEC 61000-4-2	8KV air discharge 4KV contact discharge	Direct Mode	B	PASS
	4KV HCP discharge 4KV VCP discharge	Indirect Mode	B	PASS
2. RS IEC 61000-4-3	80 MHz - 1000 MHz; 1.4 GHz – 6.0 GHz 3V/m(rms), 1 KHz, 80%, AM modulated	Enclosure	A	PASS

\* Remark:

(1) "N/A": denotes test is not applicable in this Test Report.



## 4.2 GENERAL PERFORMANCE CRITERIA

According to **EN IEC 61000-6-1:2019** standard, the general performance criteria as following:

<b>Criterion A</b>	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 is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.
<b>Criterion B</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 phenomenon 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. During the test, degradation of performance is allowed. However, no change of operating state if stored data 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.
<b>Criterion C</b>	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. Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

## 4.3 GENERAL PERFORMANCE CRITERIA TEST SETUP

The EUT tested system was configured as the statements of **3.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

#### 4.4 ESD TESTING

##### 4.4.1 TEST SPECIFICATION

<b>Basic Standard:</b>	IEC 61000-4-2
<b>Discharge Impedance:</b>	330 ohm / 150 pF
<b>Required Performance</b>	B
<b>Discharge Voltage:</b>	Air Discharge: 2kV/4kV/8kV (Direct) Contact Discharge: 2kV/4kV (Direct/Indirect)
<b>Polarity:</b>	Positive & Negative
<b>Number of Discharge:</b>	Air Discharge: min. 20 times at each test point Contact Discharge: min. 200 times in total
<b>Discharge Mode:</b>	Contact and Air
<b>Discharge Period:</b>	1 second minimum

##### 4.4.2 MEASUREMENT INSTRUMENTS

Item	Instr.Code	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	AN-E002	ESD Simulator	TESEQ	NSG437	336	2023-05-23

Remark: " N/A " denotes No Model No. / Serial No. and No Calibration specified.

##### 4.4.3 TEST PROCEDURE

The test generator necessary to perform direct and indirect application of discharges to the EUT in the following manner:

- a. Contact discharge was applied to conductive surfaces and coupling planes of the EUT.
 

During the test, it was performed with single discharges. For the single discharge time between successive single discharges was at least 1 second. The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points. One of the test points shall be subjected to at least 50 indirect discharges to the center of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharges.

If no direct contact test points are available, then at least 200 indirect discharges shall be applied in the indirect mode. Test shall be performed at a maximum repetition rate of one discharge per second.

Vertical Coupling Plane (VCP):  
The coupling plane, of dimensions 0.5m x 0.5m, is placed parallel to, and positioned at a distance 0.1m from, the EUT, with the Discharge Electrode touching the coupling plane.  
The four faces of the EUT will be performed with electrostatic discharge.

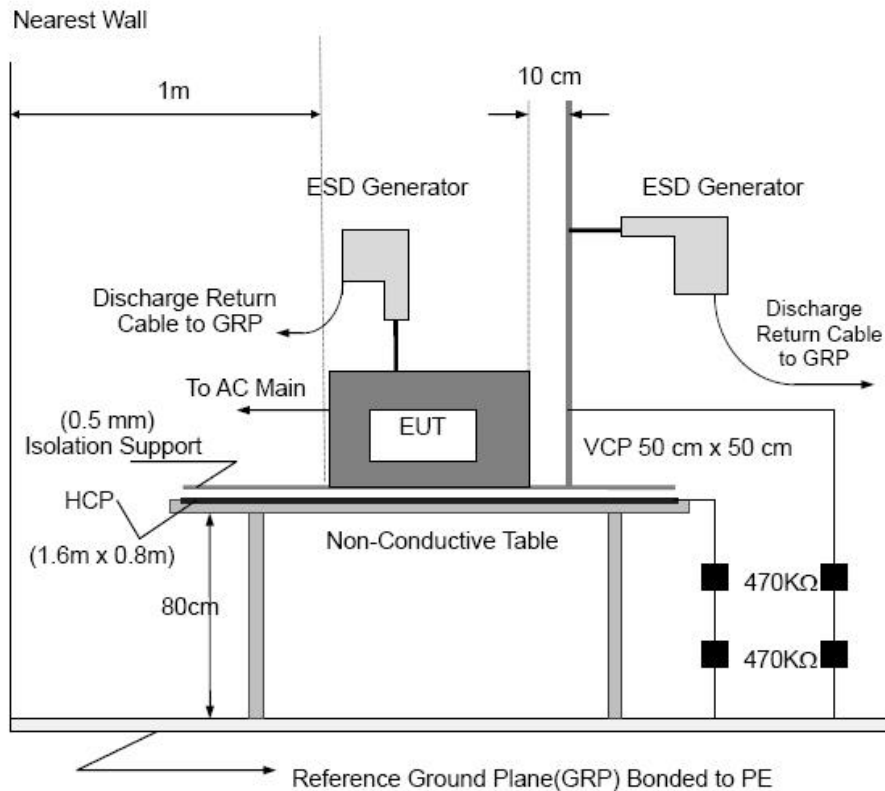
Horizontal Coupling Plane (HCP):  
The coupling plane is placed under to the EUT. The generator shall be positioned vertically at a distance of 0.1m from the EUT, with the Discharge Electrode touching the coupling plane.  
The four faces of the EUT will be performed with electrostatic discharge.
- b. Air discharges at insulation surfaces of the EUT.
 

It was at least ten single discharges with positive and negative at the same selected point.
- c. For the actual test configuration, please refer to the related Item –EUT Test Photos.

**4.4.4 DEVIATION FROM TEST STANDARD**

No deviation

**4.4.5 TEST SETUP**



Note:

**TABLE-TOP EQUIPMENT**

The configuration consisted of a wooden table 0.8 meters high standing on the Ground Reference Plane. The GRP consisted of a sheet of aluminum at least 0.25mm thick, and 2.5 meters square connected to the protective grounding system. A Horizontal Coupling Plane (1.6m x 0.8m) was placed on the table and attached to the GRP by means of a cable with 940k total impedance. The equipment under test, was installed in a representative system as described in section 7 of IEC /EN 61000-4-2, and its cables were placed on the HCP and isolated by an insulating support of 0.5mm thickness. A distance of 1-meter minimum was provided between the EUT and the walls of the laboratory and any other metallic structure.

**FLOOR-STANDING EQUIPMENT**

The equipment under test was installed in a representative system as described in section 7 of IEC/EN 61000-4-2, and its cables were isolated from the Ground Reference Plane by an insulating support of 0.1-meter thickness. The GRP consisted of a sheet of aluminum that is at least 0.25mm thick, and 2.5meters square connected to the protective grounding system and extended at least 0.5 meters from the EUT on all sides.



**4.4.6 TEST RESULTS**

Mode	Air Discharge								Contact Discharge							
	2KV		4KV		8KV		12KV		2KV		4KV		6KV		8KV	
Location	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N
1	--	--					--	--	A	A	A	A	--	--	--	--
2	--	--	A	A	A	A	--	--	A	A	A	A	--	--	--	--
3	-	--	A	A	A	A	--	--	--	--	--	--	--	--	--	--
4	--	--	A	A	A	A	--	--	--	--	--	--	--	--	--	--
5	--	--	A	A	A	A	--	--	--	--	--	--	--	--	--	--
6	-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
8	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--	--
9	--	--	--	--	-	--	--	--	--	--	--	--	--	--	--	--
Criteria	<b>B</b>								<b>B</b>							
Result	<b>A</b>								<b>A</b>							
Judgment	<b>PASS</b>								<b>PASS</b>							

Mode	HCP Discharge								VCP Discharge							
	2KV		4KV		6KV		8KV		2KV		4KV		6KV		8KV	
Location	P	N	P	N	P	N	P	N	P	N	P	N	P	N	P	N
1	-	--	A	A	--	--	--	--	-	--	A	A	--	--	--	--
2	--	--	A	A	--	--	--	--	--	--	A	A	--	--	--	--
3	--	--	A	A	-	--	--	--	--	--	A	A	-	--	--	--
4	-	--	A	A	--	--	--	--	-	--	A	A	--	--	--	--
Criteria	<b>B</b>								<b>B</b>							
Result	<b>A</b>								<b>A</b>							
Judgment	<b>PASS</b>								<b>PASS</b>							

Note:

- 1) P/N denotes the Positive/Negative polarity of the output voltage.
- 2) Test condition:  
 Direct discharges: Minimum 50 times (Positive/Negative) at each point.  
 Air discharges / Indirect (HCP/VCP): Minimum 20 times (Positive/Negative) at each point.
- 3) Test location(s) in which discharge (Air and contact discharge) to be described as following
- 4) The Indirect (HCP/VCP) discharges description of test point as following:  
 1.left side 2.right side 3.front side 4.rear side
- 5) N/A - denotes test is not applicable in this test report
- 7) Criteria B: The EUT function loss during the test, but self-recoverable after the test.

Test location description:

No	Description	No	Description
1	Metal shell 2 points	4	Button 5 points
2	Output/Input port 2 points	5	Gaps 4 points
3	Network port 5 points	6	

**4.5 RS TESTING**

**4.5.1 TEST SPECIFICATION**

<b>Basic Standard:</b>	IEC 61000-4-3
<b>Required Performance</b>	A
<b>Frequency Range:</b>	80 MHz - 1000 MHz; 1.4 GHz – 6.0 GHz
<b>Field Strength:</b>	3 V/m
<b>Modulation:</b>	1kHz Sine Wave, 80%, AM Modulation
<b>Frequency Step:</b>	1 % of fundamental
<b>Polarity of Antenna:</b>	Horizontal and Vertical
<b>Test Distance:</b>	3 m
<b>Antenna Height:</b>	1.5 m
<b>Dwell Time:</b>	at least 3 seconds

**4.5.2 MEASUREMENT INSTRUMENTS**

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.
Signal Generator	Agillet	N5171B-50B	MY53050160	2022-11-29
Amplifier	A&R	150W1000M3	313157	2022-08-25
Amplifier	A&R	50SIG6M1	0342835	2022-08-25
Power Meter	Boonton	4232A	15102	2022-08-11
Isotropic Field Probe	A&R	FL7006	0342652	2022-10-24
Log-periodic Antenna	SCHWARZBECK	STLP 9128E	9128E-012	2022-12-30
Microwave log-periodic antenna	SCHWARZBECK	STLP 9149	9149.222	2022-12-10

Remark: " N/A" denotes No Model No. / Serial No. and No Calibration specified.

**4.5.3 TEST PROCEDURE**

The EUT and support equipment, which are placed on a table that is 0.8 meter above ground and the testing was performed in a fully-anechoic chamber.

The testing distance from antenna to the EUT was 3 meters.

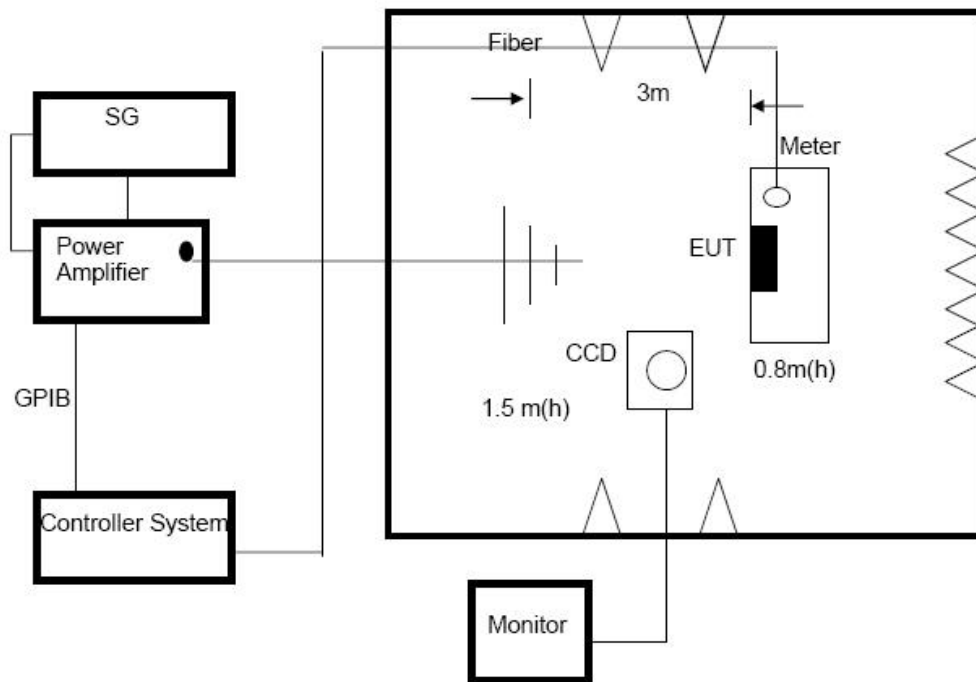
The other condition as following manner:

- a. The field strength level was 3V/m.
- b. The frequency range is swept from 80 MHz to 1000 MHz and 1800 MHz, 2600 MHz, 3500 MHz, 5000 MHz, with the signal 80%amplitude modulated with a 1kHz sine wave. The rate of sweep did not exceed 1.5x 10-3 decade/s. Where the frequency range is swept incrementally, the step size was 1% of fundamental.
- c. The dwell time at each frequency shall be not less than the time necessary for the EUT to be able to respond.
- d. The test was performed with the EUT exposed to both vertically and horizontally polarized fields on each of the four sides.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

**4.5.4 DEVIATION FROM TEST STANDARD**

No deviation

**4.5.5 TEST SETUP**



Note:

**TABLE-TOP EQUIPMENT**

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

**FLOOR-STANDING EQUIPMENT**

The EUT installed in a representative system as described in section 7 of IEC/EN 61000-4-3 was placed on a non-conductive wood support 0.1 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.

**4.5.6 TEST RESULTS**

Frequency Range (MHz)	Polarity of Antenna	R.F. Field Strength	Azimuth	Perform. Criteria	Results	Judgment
80MHz - 1000MHz	H / V	3 V/m (rms) AM Modulated 1000Hz, 80%	Front	A	A	PASS
			Rear			
			Left			
			Right			

Frequency Range (MHz)	Polarity of Antenna	R.F. Field Strength	Azimuth	Perform. Criteria	Results	Judgment
1.4GHz –6.0G Hz	H / V	3 V/m (rms) AM Modulated 1000Hz, 80%	Front	A	A	PASS
			Rear			
			Left			
			Right			

Note:

- 1) H/V denotes the Horizontal/Vertical polarity of Antenna.
- 2) N/A - denotes test is not applicable in this test report.
- 3) Criteria A: There was no change operated with initial operating during the test.
- 4) Criteria B: The EUT function loss during the test, but self-recoverable after the test.
- 5) Criteria C: The system shut down during the test.

**5. ATTACHMENT**  
5.1 EUT TEST PHOTO

**Radiated Measurement Photo**



**ESD Measurement Photo**





5.2 EUT PHOTO

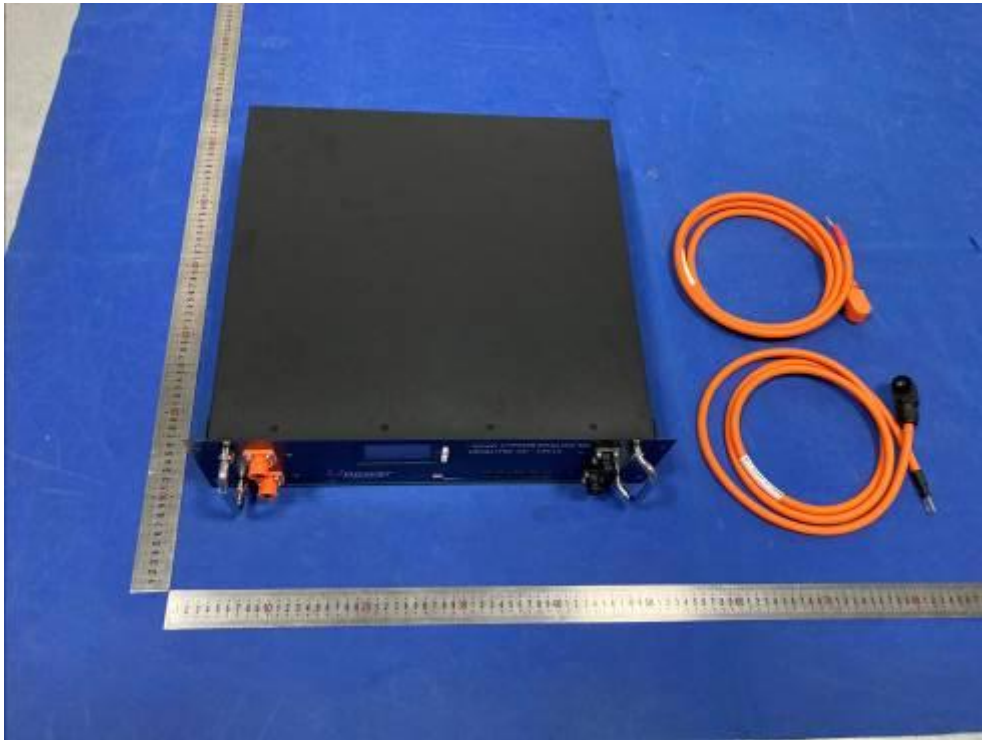


Figure 1. Overall view of unit

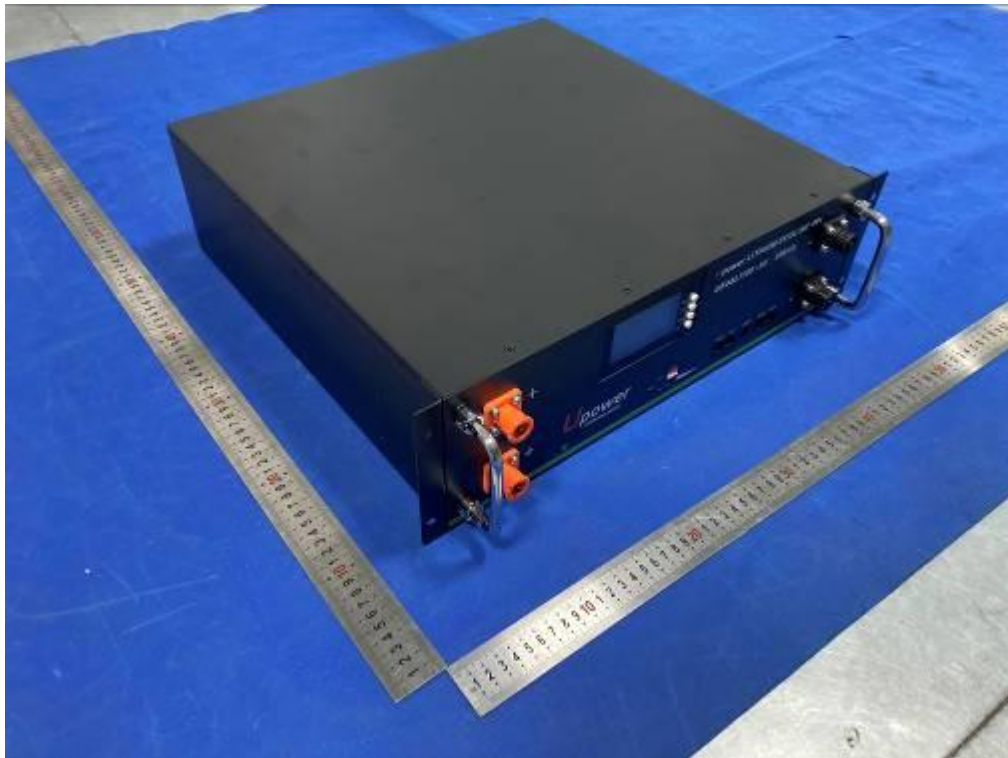


Figure 2. Overall view of unit

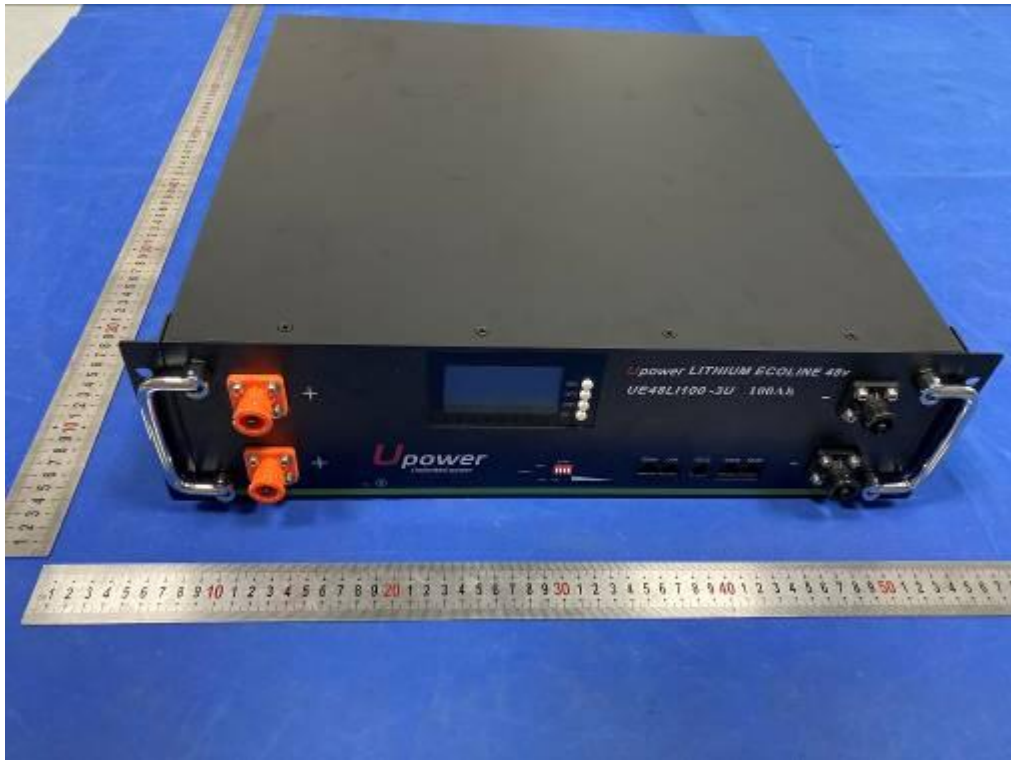


Figure 3. Overall view of unit

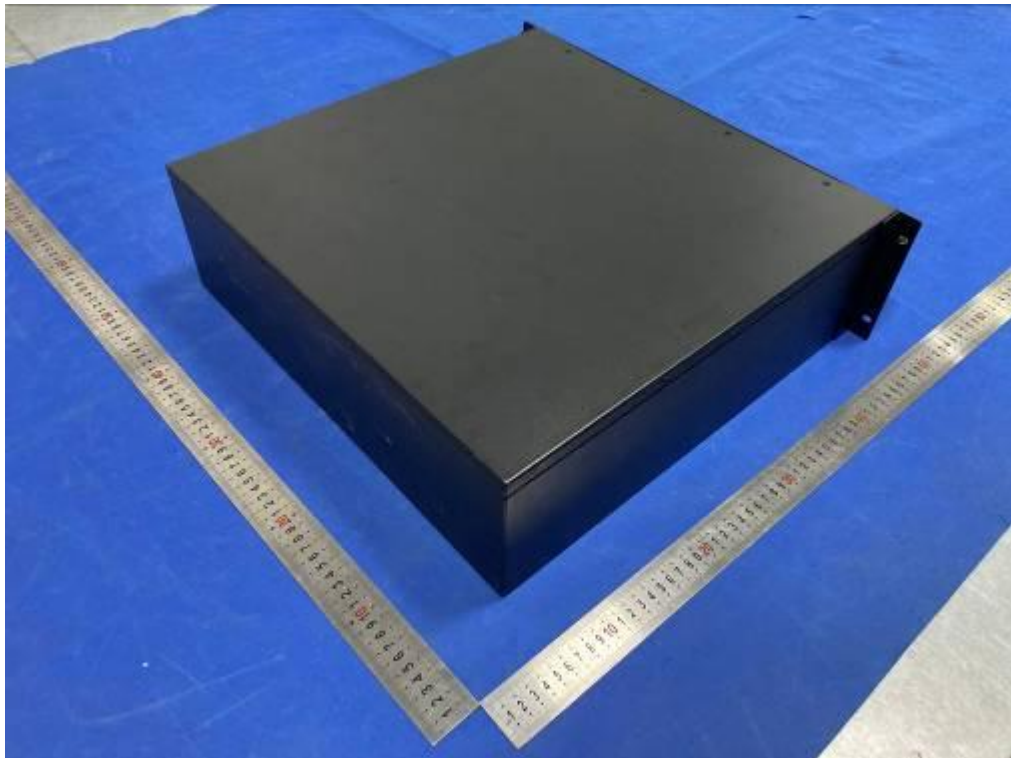


Figure 4. Overall view of unit



Figure 5. Inside view of unit

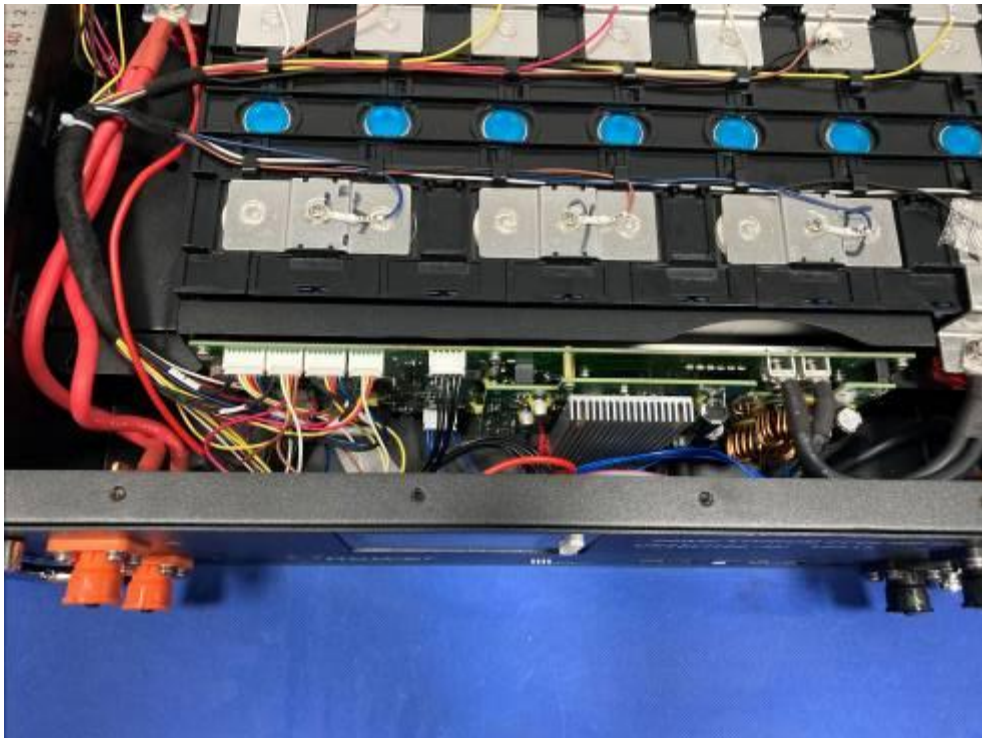


Figure 6. Inside view of unit

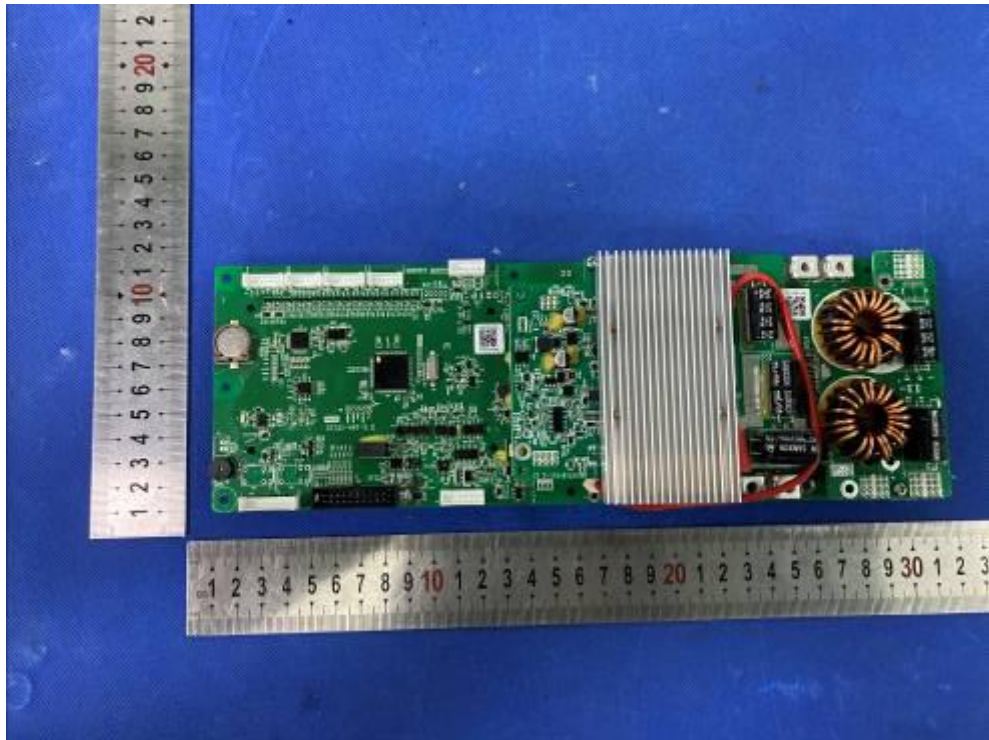


Figure 7. Top view of PCB



Figure 8. Bottom view of PCB

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