

**FCC TEST REPORT**

For

GUANGDONG LITHIUM HUA NEW ENERGY TECHNOLOGY CO.,LTD.**LITHIUM ION BATTERIES****Test Model: LH-C0008-48100 STACKABLE**

Prepared for : GUANGDONG LITHIUM HUA NEW ENERGY
TECHNOLOGY CO.,LTD.

Address : Room 401, Bldg.2, No.3, Longjiang 2nd Road, Xiekeng,
Qingxi Town, Dongguan City, Guangdong, China.

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.

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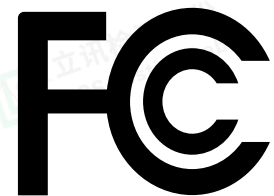
Date of receipt of test sample : June 17, 2023

Number of tested samples : 1

Serial number : Prototype

Date of Test : June 17, 2023 to June 28, 2023

Date of Report : June 28, 2023



**TEST REPORT****Report No.** : **LCSA061723018E**

Date of Issue : June 28, 2023

Testing Laboratory Name : **Shenzhen LCS Compliance Testing Laboratory Ltd.**

Address : Room 101, 201, Building A and Room 301, Building C, Juji Industrial Park, Yabianxueziwei, Shajing Street, Bao'an District, Shenzhen, Guangdong, China

Testing Location/ Procedure..... : Full application of Harmonised standards
Partial application of Harmonised standards
Other standard testing method **Applicant's Name** : **GUANGDONG LITHIUM HUA NEW ENERGY TECHNOLOGY CO.,LTD.**

Address : Room 401, Bldg.2, No.3, Longjiang 2nd Road, Xiekeng, Qingxi Town, Dongguan City, Guangdong, China.

Test Specification

Standard : 47 CFR Part 15, Subpart B

Test Report Form No. : LCSEMC-1.0

TRF Originator..... : Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF..... : Dated 2011-03

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Test Item Description. : **LITHIUM ION BATTERIES**

Trade Mark : LHNE

Test Model : LH-C0008-48100 STACKABLE

Result : **Positive****Compiled by:**

Coco Song / File Administrator

Supervised by:

Baron Wen / Technique principal

Approved by:

Gavin Liang / Manager





TEST REPORT

Test Report No.: LCSA061723018E	<u>June 28, 2023</u> Date of issue
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Test Model	: LH-C0008-48100 STACKABLE
EUT	: LITHIUM ION BATTERIES
Applicant	: GUANGDONG LITHIUM HUA NEW ENERGY TECHNOLOGY CO.,LTD.
Address	: Room 401, Bldg.2, No.3, Longjiang 2nd Road, Xiekeng, Qingxi Town, Dongguan City, Guangdong, China.
Telephone	: /
Fax	: /
Manufacturer	: GUANGDONG LITHIUM HUA NEW ENERGY TECHNOLOGY CO.,LTD.
Address	: Room 401, Bldg.2, No.3, Longjiang 2nd Road, Xiekeng, Qingxi Town, Dongguan City, Guangdong, China.
Telephone	: /
Fax	: /
Factory	: GUANGDONG LITHIUM HUA NEW ENERGY TECHNOLOGY CO.,LTD.
Address	: Room 401, Bldg.2, No.3, Longjiang 2nd Road, Xiekeng, Qingxi Town, Dongguan City, Guangdong, China.
Telephone	: /
Fax	: /

Test Result	Positive
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.





Revision History

Report Version	Issue Date	Revision Content	Revised By
000	June 28, 2023	Initial Issue	/





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1. TEST STANDARDS

The tests were performed according to following standards:

47 CFR Part 15, Subpart B: Unintentional Radiators





2. SUMMARY OF STANDARDS AND RESULTS

2.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

Description of Test Item	Standard	Limits	Result
Radiated emissions (Below 1GHz)	47 CFR Part 15, Subpart B	15.109, Class B	Pass





2.2 Description of Test Modes

No	Title	Description
TM1	Discharging(58.4V From battery)	Record





3. GENERAL INFORMATION

3.1 Description of Device (EUT)

EUT	: LITHIUM ION BATTERIES
Test Model	: LH-C0008-48100 STACKABLE
Power Supply	: Input:DC 58.4V, 50A, 5120W : Output:DC 51.2V, 100A
Highest Internal Frequency	: 1.705-108MHz
Classification of Equipment	: Class B

3.2 Support equipment List

The EUT was tested as an independent device.

3.3 Description of Test Facility

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 LCS 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.

3.4 Measurement Uncertainty

Test Item	Measurement Uncertainty
Radiated Emission (30MHz to 1000MHz)	± 3.48 dB
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	





4. MEASURING DEVICES AND TEST EQUIPMENT

Radiated emissions (Below 1GHz)					
Equipment	Manufacturer	Model No	Serial No.	Cal Date	Due Date
EMI Test Software	AUDIX	E3	/	/	/
By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-09-12	2024-09-11
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-09-05	2024-09-04
EMI Test Receiver	R&S	ESR3	102311	2022-08-17	2023-08-16
Broadband Preamp	/	BP-01M18G	P190501	2023-06-09	2024-06-08





5. EMISSION TEST RESULTS (EMI)

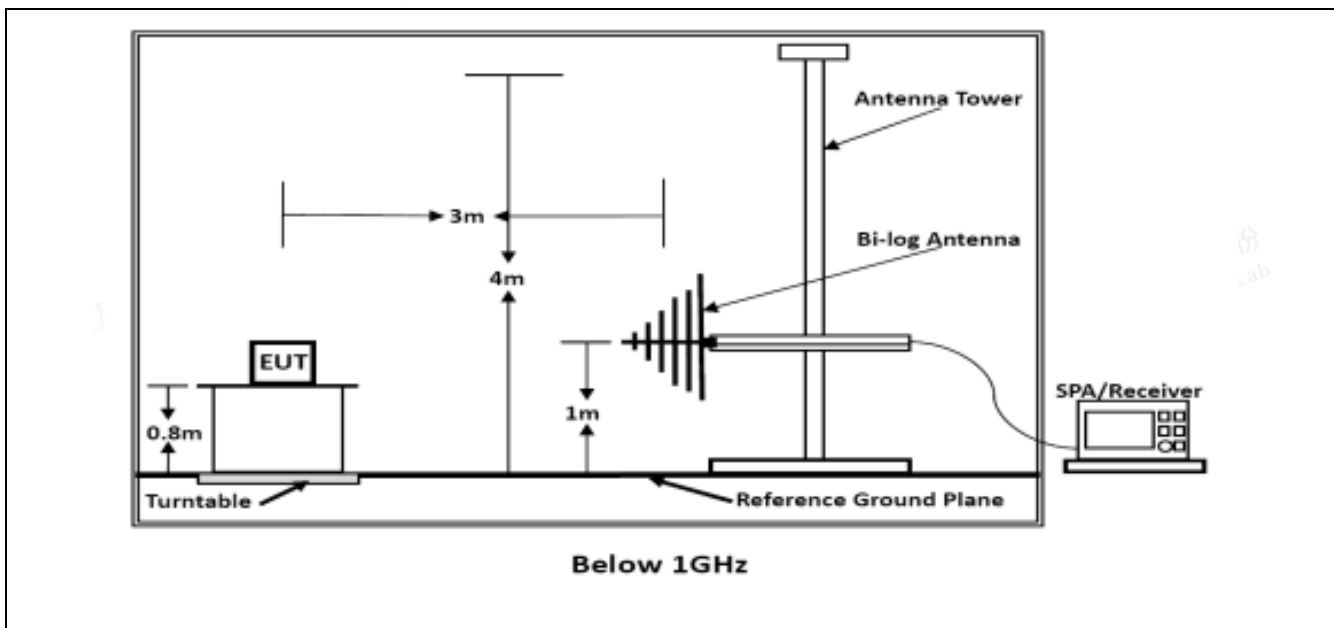
5.1 Radiated emissions (Below 1GHz)

Test Requirement:	15.109, Class B				
Test Limit:	Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:				
	Frequency of emission (MHz)	Field strength @3m		Field strength @10m	
		(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)
	30 – 88	100	40	30	29.5
	88 – 216	150	43.5	45	33.1
216 – 960	200	46	60	35.6	
Above 960	500	54	150	43.5	
Test Method:	ANSI C63.4-2014				
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				

5.1.1 E.U.T. Operation:

Operating Environment:					
Temperature:	22.3 °C	Humidity:	53 %	Atmospheric Pressure:	102 kPa
Pre test mode:	TM1				
Final test mode:	TM1				

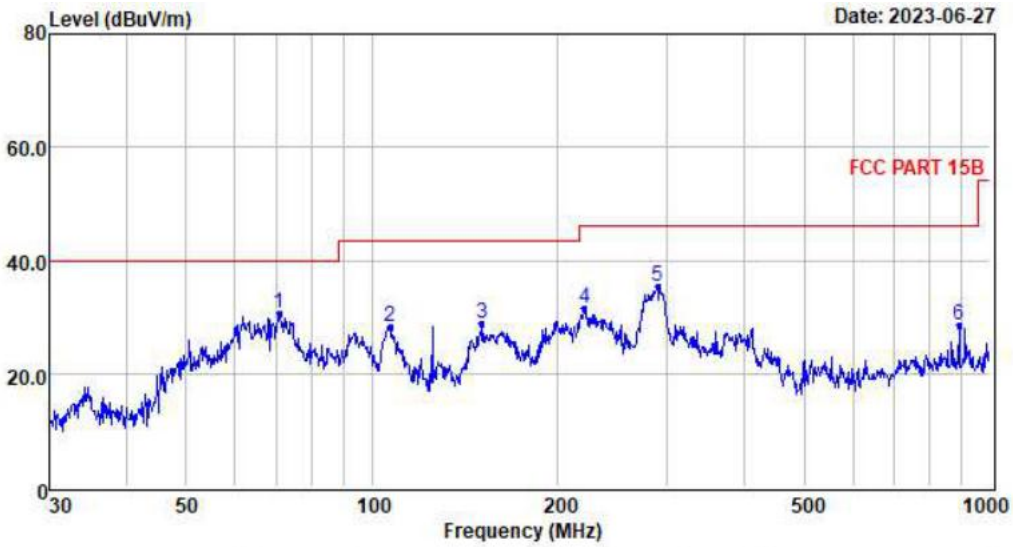
5.1.2 Test Setup Diagram:





5.1.3 Test Data:

TM1 / Polarization: Horizontal



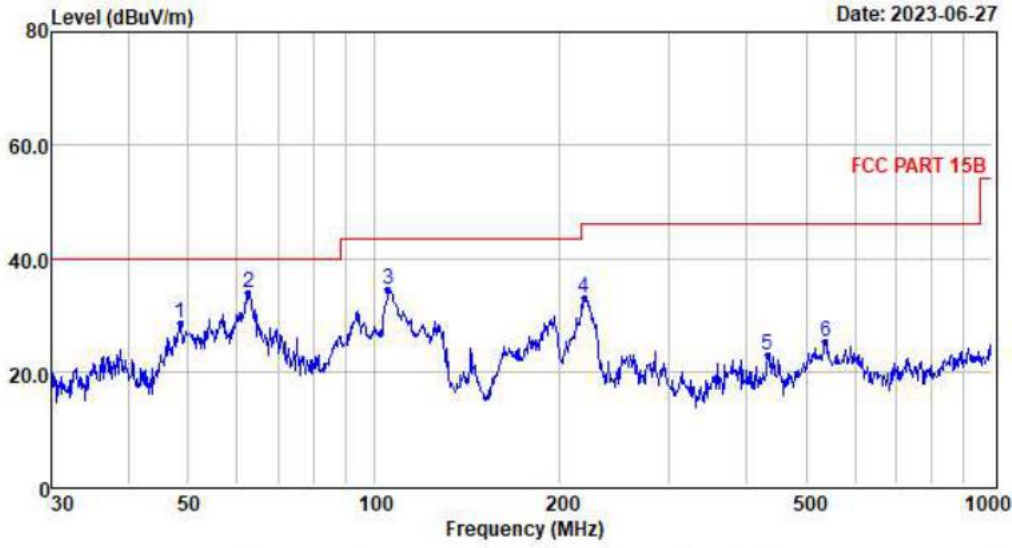
	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	70.83	19.78	0.70	10.16	30.64	40.00	-9.36	QP
2	107.13	16.20	0.84	11.21	28.25	43.50	-15.25	QP
3	150.54	19.18	1.04	8.73	28.95	43.50	-14.55	QP
4	220.62	18.63	1.23	11.72	31.58	46.00	-14.42	QP
5	290.02	20.47	1.31	13.51	35.29	46.00	-10.71	QP
6	890.73	5.08	2.09	21.26	28.43	46.00	-17.57	QP

Note: 1. All readings are Quasi-peak values.
 2. Measured= Reading + Antenna Factor + Cable Loss
 3. The emission that are 20db below the official limit are not reported





TM1 / Polarization: Vertical



	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark
	MHz	dBuV	dB	dB/m	dBuV/m	dBuV/m	dB	
1	48.50	15.66	0.59	12.25	28.50	40.00	-11.50	QP
2	62.65	21.36	0.67	11.85	33.88	40.00	-6.12	QP
3	105.27	22.48	0.83	11.08	34.39	43.50	-9.11	QP
4	219.08	20.05	1.23	11.65	32.93	46.00	-13.07	QP
5	434.07	5.88	1.44	15.64	22.96	46.00	-23.04	QP
6	537.59	6.17	1.50	17.48	25.15	46.00	-20.85	QP

Note: 1. All readings are Quasi-peak values.
 . Measured= Reading + Antenna Factor + Cable Loss
 . The emission that are 20db below the official limit are not reported





6. TEST SETUP PHOTOS

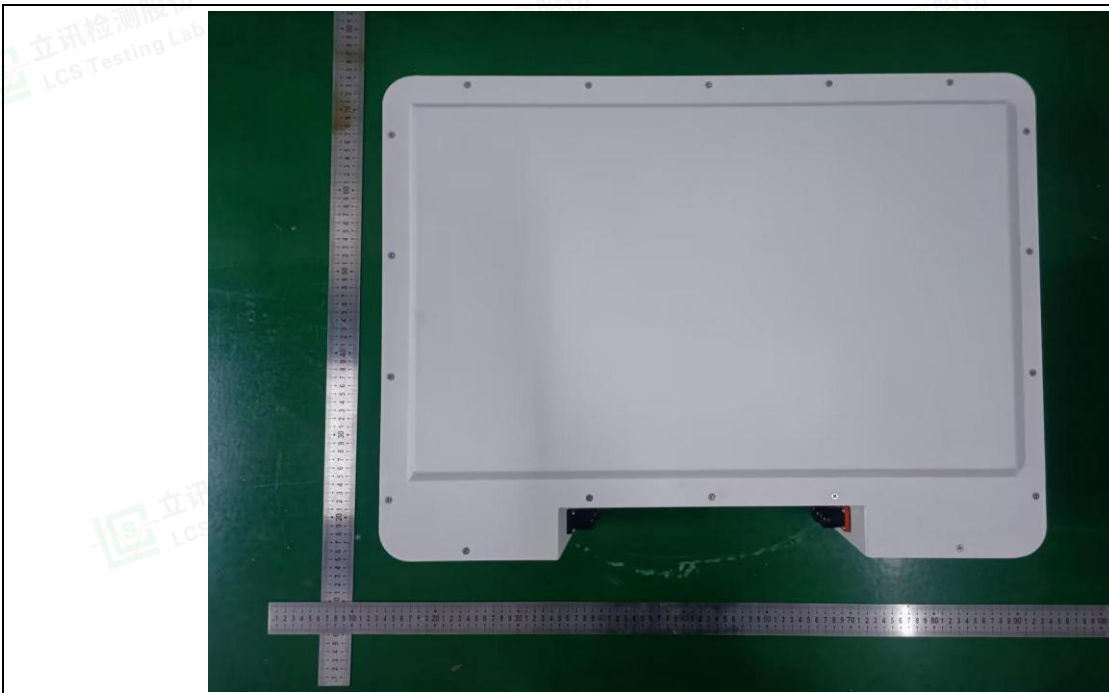
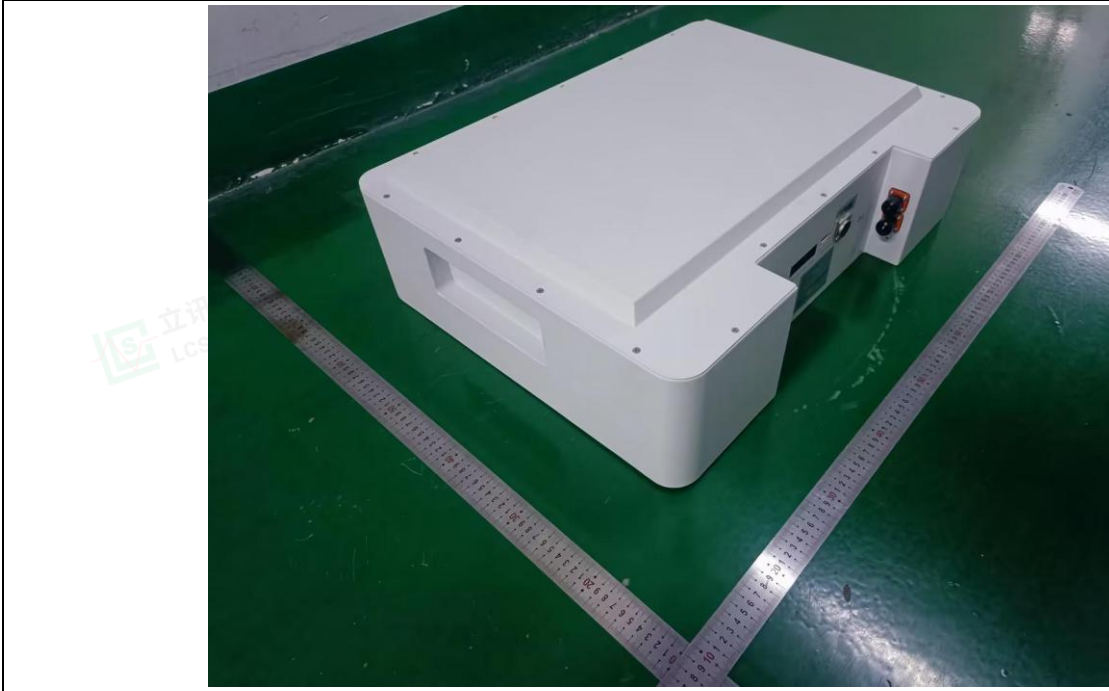
Radiated emissions (Below 1GHz)

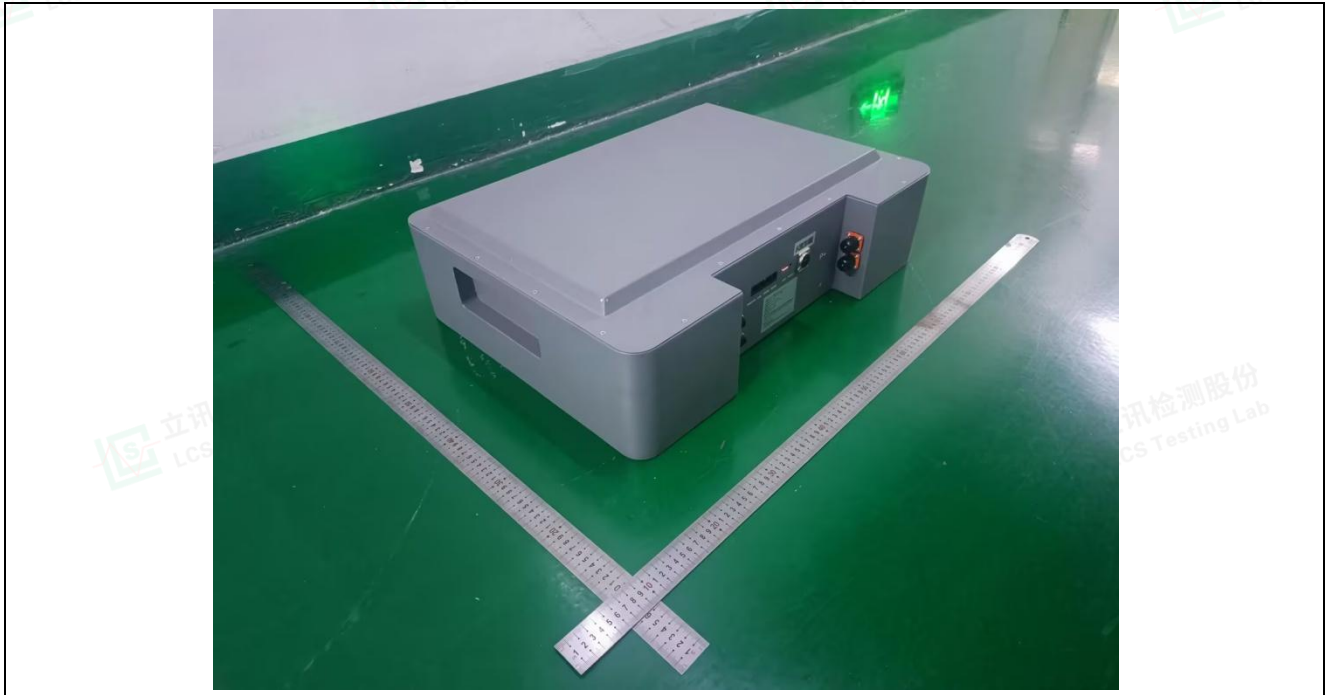


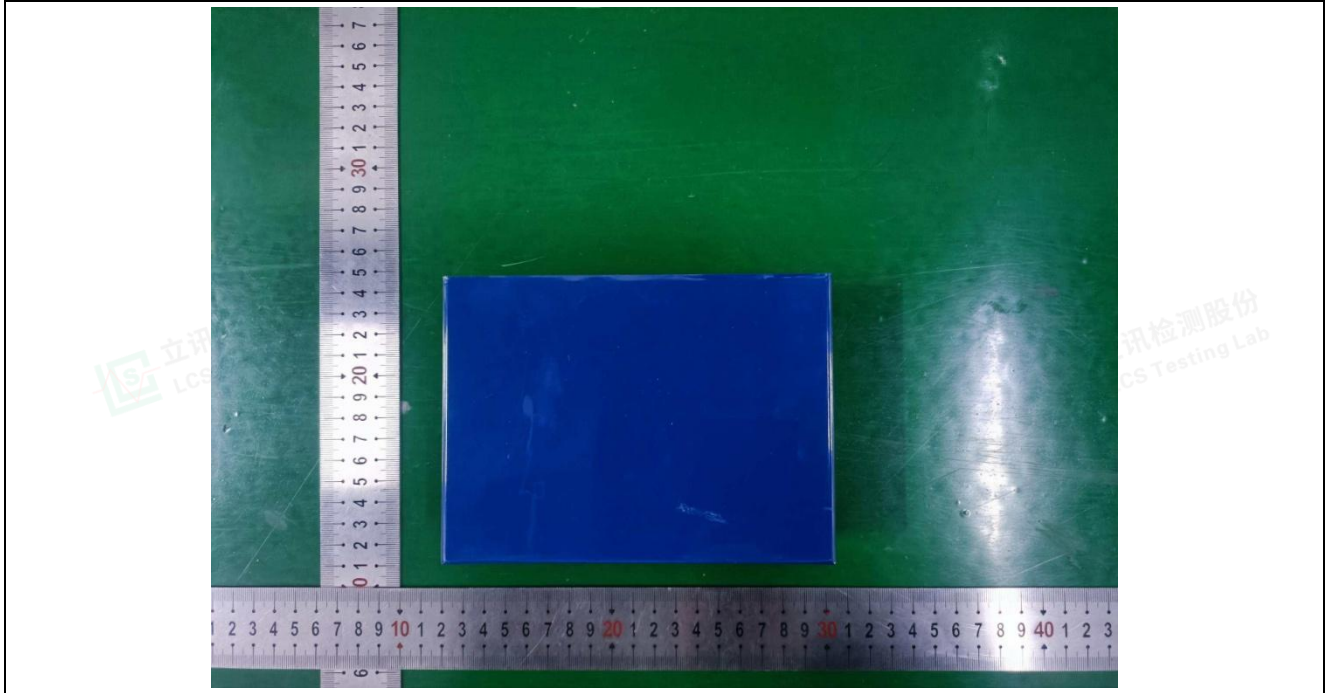


7. EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)

External







--- End of Report ---

