EMC Test Report

Applicant	:	**EVVA TECHNOLOGY CO., LIMITED**
Address	:	**Bld. A4, NO. 1 Chenwu Road, Zhongkai High-tech District, Huizhou 516025, China**
Product Name	:	**Lithium-ion rechargeable battery pack**
Report Date	:	**Nov. 25, 2024**

Shenzhen Anbotek Compliance Laboratory Limited

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TEST REPORT

Applicant	:	EVVA TECHNOLOGY CO., LIMITED
Manufacturer	:	EVVA TECHNOLOGY CO., LIMITED
Product Name	:	Lithium-ion rechargeable battery pack
Model No.	:	AXC18650-1S3P-MH1
Trade Mark	:	N/A
Rating(s)	:	DC 3.6V, 9.6Ah, 34.56Wh
Test Standard(s)	:	**EN IEC 61000-6-3:2021** **EN IEC 61000-6-1:2019**

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: Nov. 06, 2024

Date of Test: Nov. 06, 2024 to Nov. 12, 2024

Prepared By: _____

(Yee Huang)

Approved & Authorized Signer: _____

(KingKong Jin)

1. General Information

1.1. Client Information

Applicant	:	EVVA TECHNOLOGY CO., LIMITED
Address	:	Bld. A4, NO. 1 Chenwu Road, Zhongkai High-tech District, Huizhou 516025, China
Manufacturer	:	EVVA TECHNOLOGY CO., LIMITED
Address	:	Bld. A4, NO. 1 Chenwu Road, Zhongkai High-tech District, Huizhou 516025, China
Factory	:	EVVA TECHNOLOGY CO., LIMITED
Address	:	Bld. A4, NO. 1 Chenwu Road, Zhongkai High-tech District, Huizhou 516025, China

1.2. Description of Device (EUT)

Product Name	:	Lithium-ion rechargeable battery pack
Model No.	:	AXC18650-1S3P-MH1
Trade Mark	:	N/A
Test Power Supply	:	DC 3.6V
Test Sample No.	:	1-1-1
Adapter	:	N/A
Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		

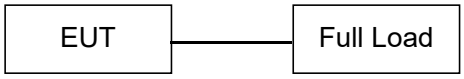
1.3. Auxiliary Equipment Used During Test

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

1.4. Description of Test Modes

Pretest Modes	Descriptions
TM1	Discharging mode

For Mode 1 Block Diagram of Test Setup



1.5. Measurement Uncertainty

Parameter	Uncertainty
Radiated emissions (30MHz~1000MHz)	Horizontal: 3.96dB; Vertical: 4.60dB
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.6. Test Summary

Test Items	Test Modes	Status
Radiation disturbance (30MHz-1GHz)	Mode1	P
Electrostatic discharge	Mode1	P
Radio-frequency electromagnetic field	Mode1	P
Note: P: Pass N: N/A, not applicable		

1.7. Description of Test Facility

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

FCC-Registration No.:434132
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. 434132.

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
Shenzhen Anbotek Compliance Laboratory Limited.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

1.8. EMS Performance Criteria

Performance criteria A

The EUT shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. If the performance level is not specified by the manufacturer, this may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.

Performance criteria B

The EUT shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. However, during the test degradation of performance is allowed but no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.

Performance criteria C

Temporary loss of function is allowed during the test, provided the function is self-recoverable or can be restored by the operation of the controls.

1.9. Test Equipment List

Radiation disturbance (30MHz-1GHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	2024-01-17	2025-01-16
2	Pre-amplifier	Schwarzbeck	BBV-9745	9745-075	2024-01-17	2025-01-16
3	Bilog Broadband Antenna	SCHWARZBECK	VULB 9163	01109	2022-10-16	2025-10-15
4	Software Name EZ-EMC	Farad Technology	EMEC-3A1	N/A	/	/

Electrostatic discharge						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	ESD Simulators	emtest	ESD NX30.1	11936	2024-03-11	2025-03-10

Radio-frequency electromagnetic field						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Signal Generator	Agilent	N5181A	MY50143107	2024-01-23	2025-01-22
2	Power Meter	Agilent	E4417A	MY45101384	2024-01-23	2025-01-22
3	Amplifier	Micotop	MPA-80-1000-600	MPA2110318	2024-01-17	2025-01-16
4	Amplifier	Micotop	MPA-1000-6000-100	MPA2110327	2024-01-17	2025-01-16
5	Log.-Per.-Antenna	Schwarzbeck	VULP 9118E	01012	/	/
6	Microwave Log.-Per. Antenna	Schwarzbeck	STLP 9149	00788	/	/
7	Power Sensor	KEYSIGHT	E9323A	US40410647	2024-01-23	2025-01-22
8	Power Sensor	KEYSIGHT	E9323A	MY53100007	2024-01-23	2025-01-22
9	Electric field Probe	Narda S.T.S /PMM	EP 601	811ZX10351	2024-01-19	2025-01-18
10	Software	EMtrace	EM 3	/	/	/

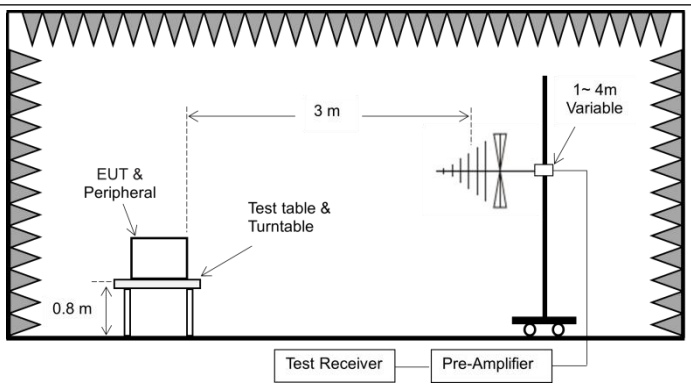
2. Radiation disturbance (30MHz-1GHz)

Test Requirement:	Table 3
Test Limit:	Frequency range / Limits at 10m / Limits at 3m 30 MHz to 230 MHz / 30 dB(uV/m) quasi-peak / 40 dB(uV/m) quasi-peak 230 MHz to 1 000 MHz / 37 dB(uV/m) quasi-peak / 47 dB(uV/m) quasi-peak At transitional frequencies the lower limit applies.
Test Method:	CISPR 16-2-3 Clause 7.3
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. Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor

2.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Discharging mode

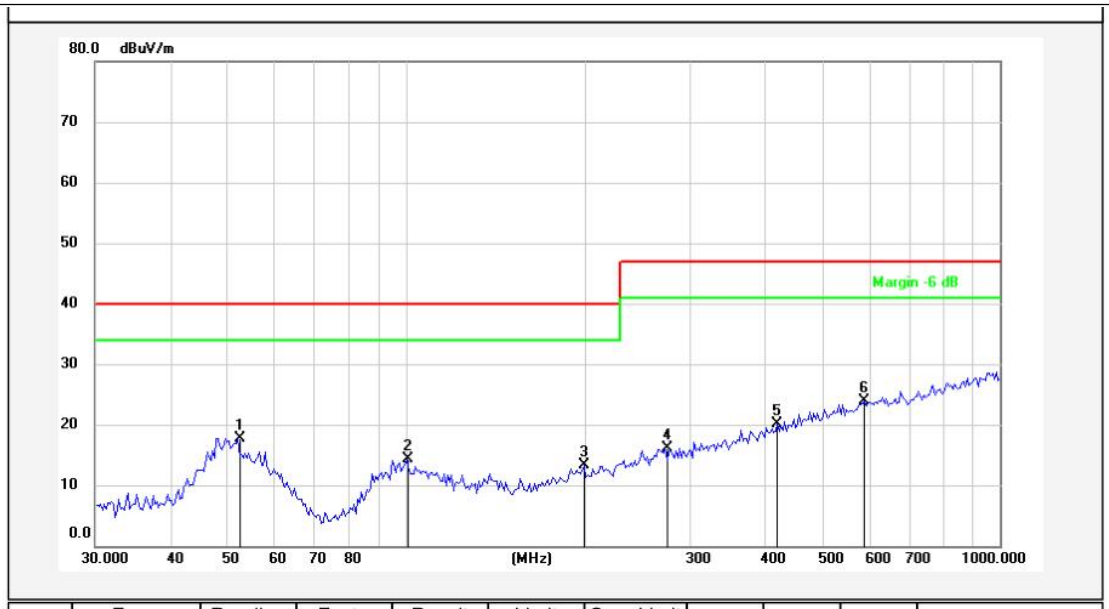
2.2. Test Setup



2.3. Test Data

Temperature:	25.1 °C	Humidity:	51 %	Atmospheric Pressure:	101 kPa

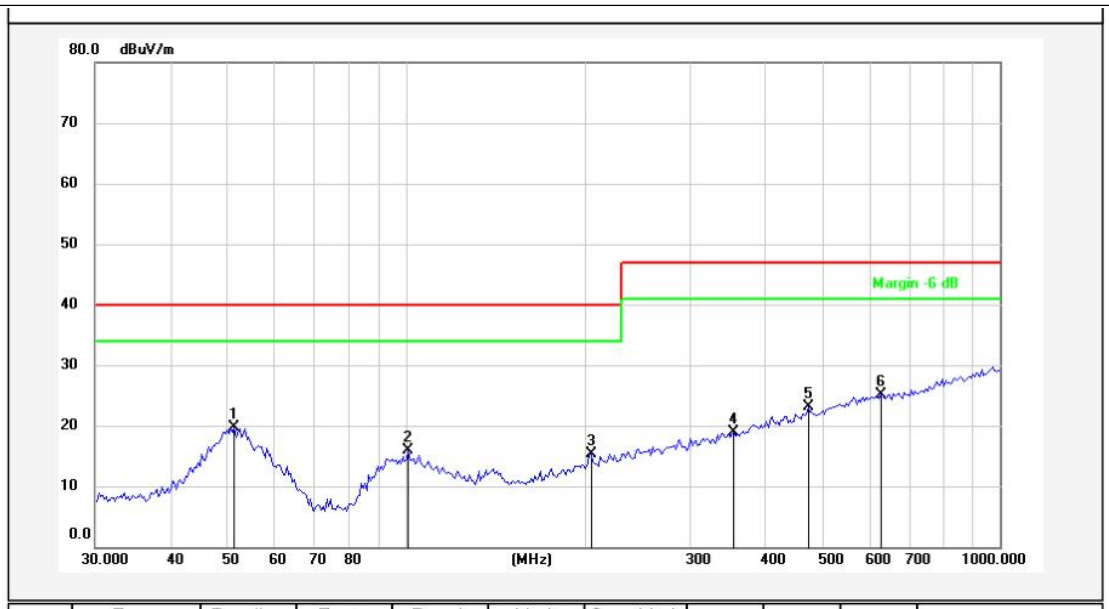
TM1 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor ()	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	52.2079	32.06	-14.32	17.74	40.00	-22.26	QP			
2	100.2286	31.74	-17.43	14.31	40.00	-25.69	QP			
3	199.2855	32.12	-18.89	13.23	40.00	-26.77	QP			
4	273.2341	32.22	-16.16	16.06	47.00	-30.94	QP			
5	422.0577	32.28	-12.22	20.06	47.00	-26.94	QP			
6	590.9737	32.45	-8.59	23.86	47.00	-23.14	QP			

Temperature:	25.1 °C	Humidity:	51 %	Atmospheric Pressure:	101 kPa

TM1 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor ()	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	51.4807	33.61	-13.98	19.63	40.00	-20.37	QP			
2	100.9339	33.37	-17.53	15.84	40.00	-24.16	QP			
3	203.5228	34.07	-18.70	15.37	40.00	-24.63	QP			
4	356.6758	32.83	-13.92	18.91	47.00	-28.09	QP			
5	475.4991	34.21	-11.04	23.17	47.00	-23.83	QP			
6	629.4772	33.39	-8.22	25.17	47.00	-21.83	QP			

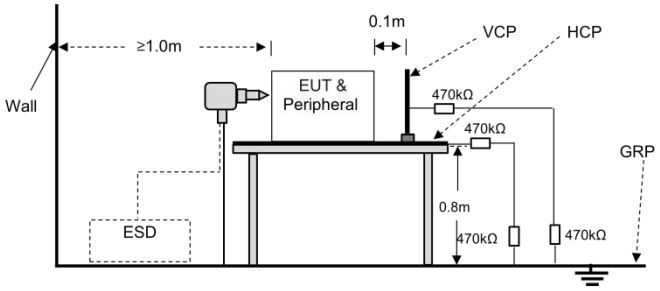
3. Electrostatic discharge

Test Requirement:	Table 1.4
Test Method:	EN 61000-4-2: 2009
Procedure:	Discharge Impedance: 330 Ω / 150 pF Discharge Voltage: Air Discharge: 8 kV; Contact Discharge:4 kV; VCP/HCP: 4 kV. Polarity: Positive & Negative Number of Discharge: Minimum 10 times at each test point Discharge Mode: Single Discharge Discharge Period: 1 second minimum
Performance Criteria:	B

3.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Discharging mode

3.2. Test Setup



3.3. Test Data

Temperature:	24.3 °C	Humidity:	53 %	Atmospheric Pressure:	101 kPa

Discharge type	Volt (kV)	Polarity	Test Point	Result/ Observations
Air discharge	8	+	1	A
Air discharge	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.

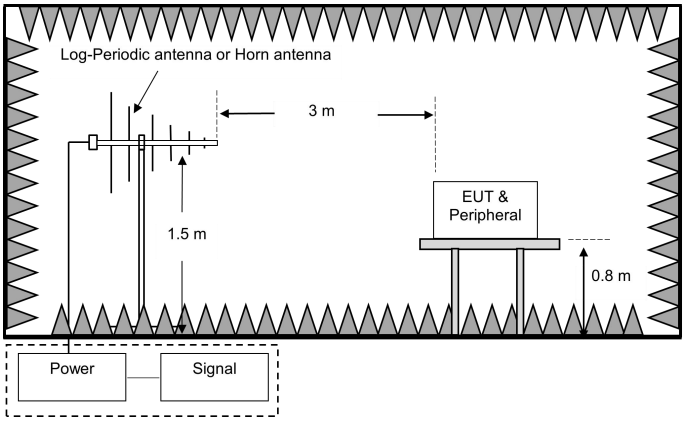
4. Radio-frequency electromagnetic field

Test Requirement:	Table 1.2 & 1.3
Test Method:	EN IEC 61000-4-3:2020
Procedure:	Antenna Polarisation: Vertical and Horizontal Modulation: 1kHz,80% Amp. Mod,1% increment Frequency Range: 80MHz to 1GHz, 1.4GHz to 6GHz
Performance Criteria:	A

4.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Discharging mode

4.2. Test Setup



4.3. Test Data

Temperature:	24.1 °C	Humidity:	50 %	Atmospheric Pressure:	101 kPa

Frequency	Field Strength (V/m)	EUT face	Dwell time	Result/ Observations
80MHz-1GHz	3	Front	2s	A
80MHz-1GHz	3	Back	2s	A
80MHz-1GHz	3	Left	2s	A
80MHz-1GHz	3	Right	2s	A
80MHz-1GHz	3	Top	2s	A
80MHz-1GHz	3	Bottom	2s	A
1.4GHz-6GHz	3	Front	2s	A
1.4GHz-6GHz	3	Back	2s	A
1.4GHz-6GHz	3	Left	2s	A
1.4GHz-6GHz	3	Right	2s	A
1.4GHz-6GHz	3	Top	2s	A
1.4GHz-6GHz	3	Bottom	2s	A

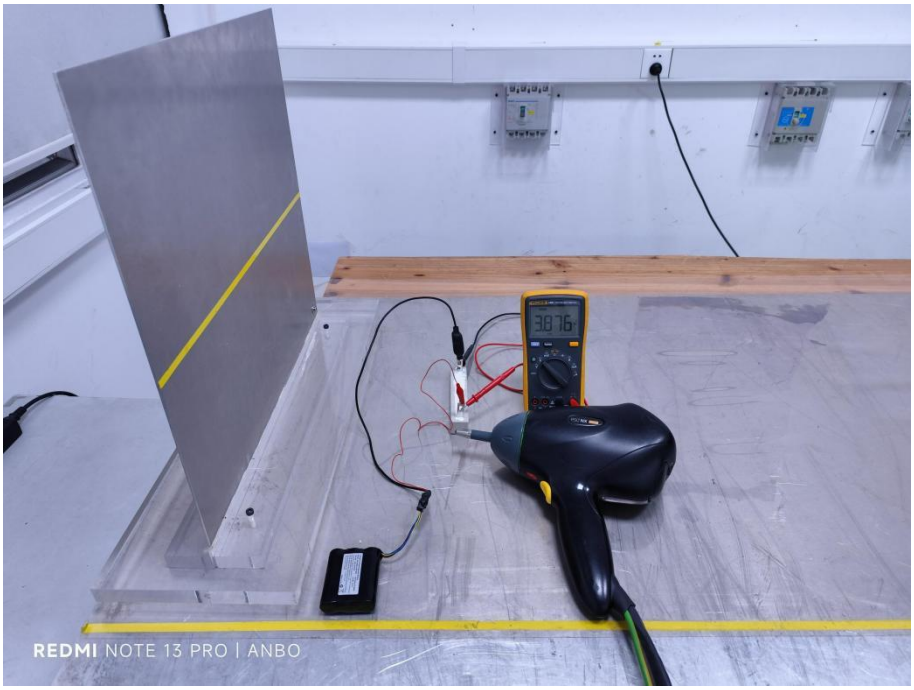
A: No degradation in the performance of the EUT was observed.

APPENDIX I -- TEST SETUP PHOTOGRAPH

Radiation disturbance (30MHz-1GHz)



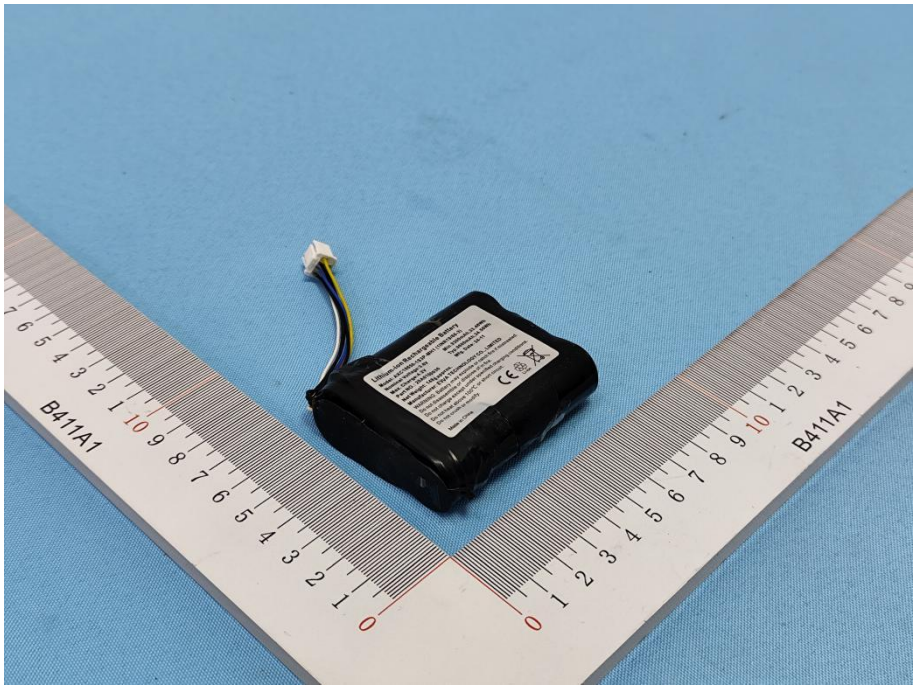
Electrostatic discharge

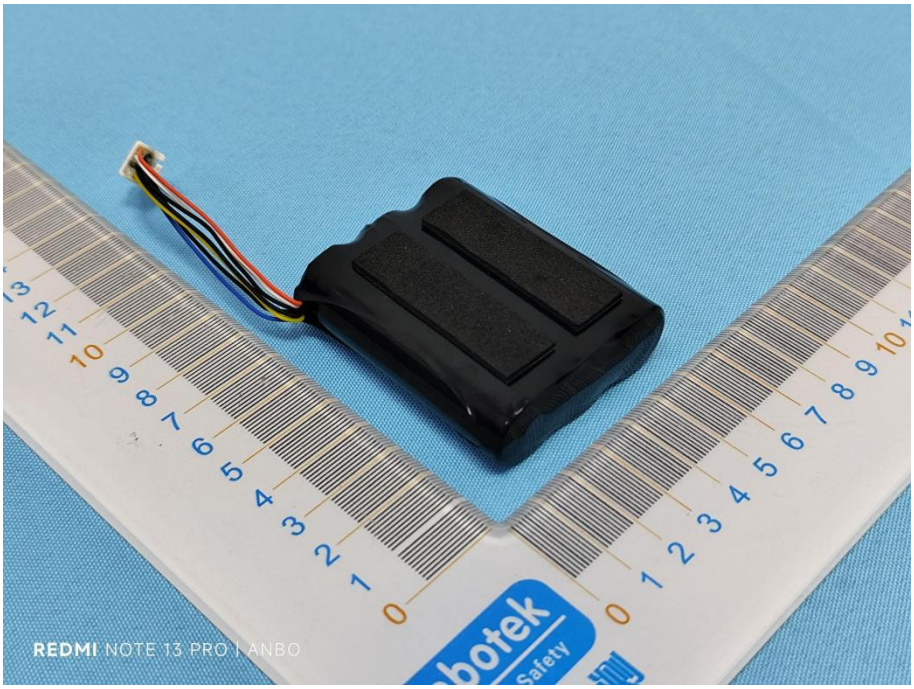


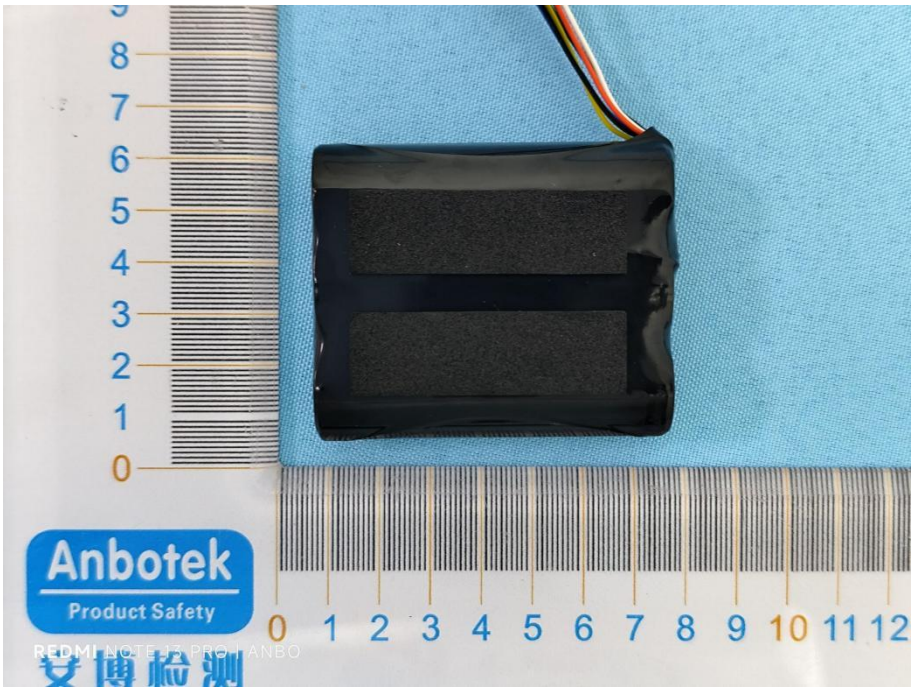
Radio-frequency electromagnetic field

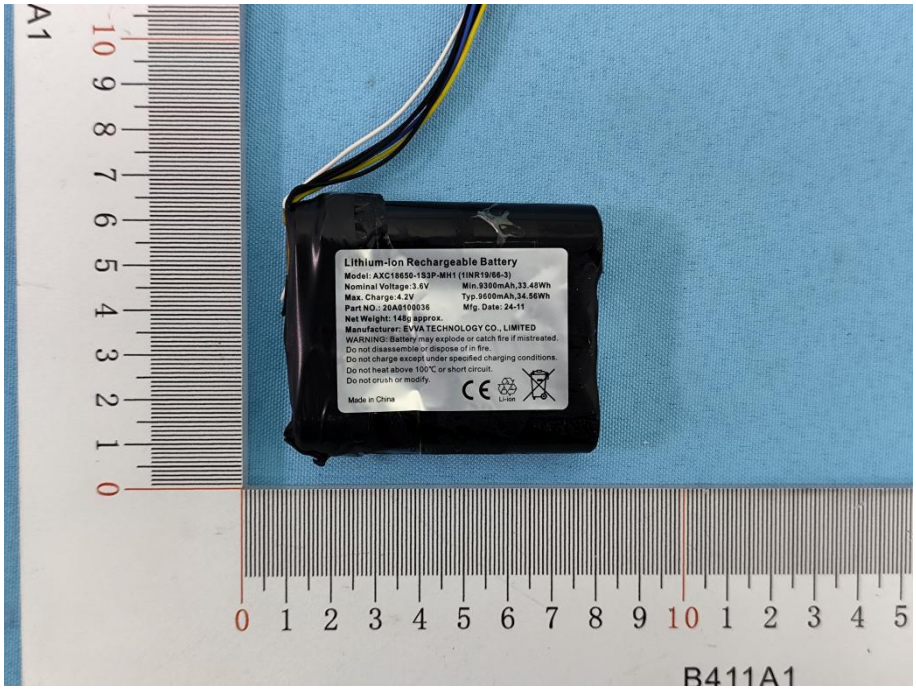


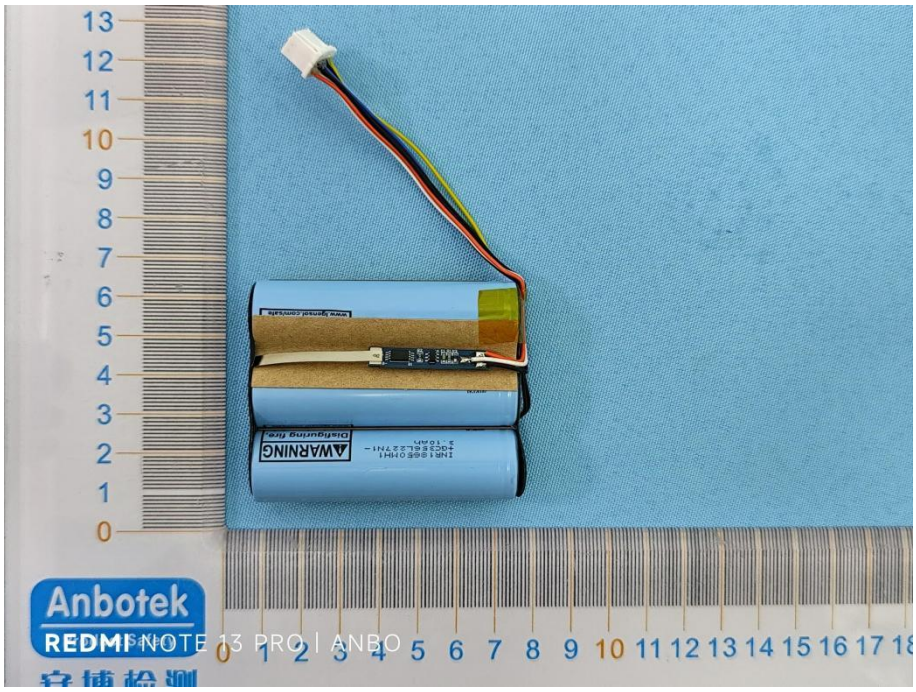
APPENDIX II -- Photo documentation

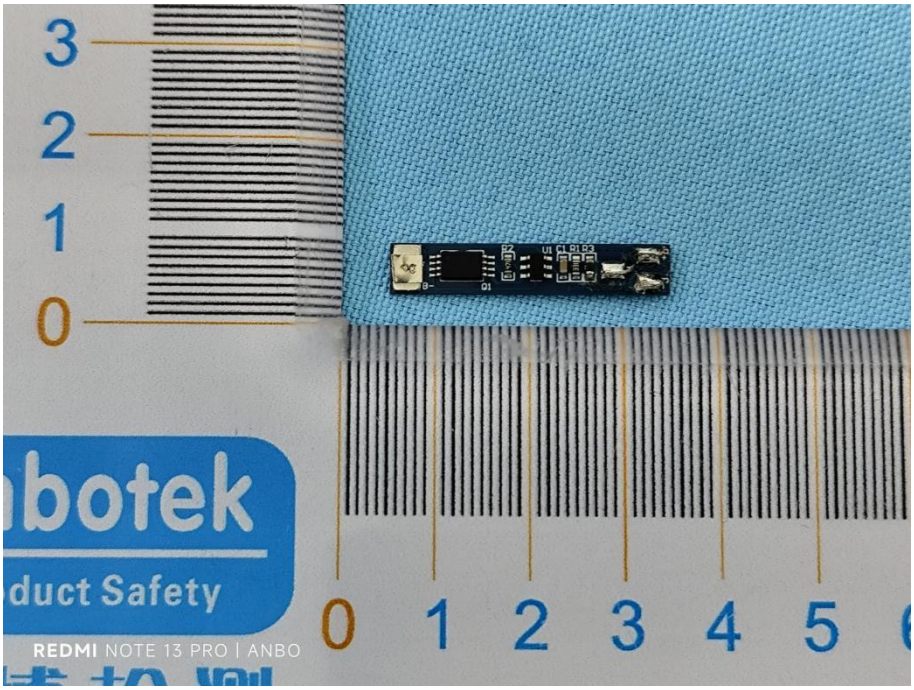


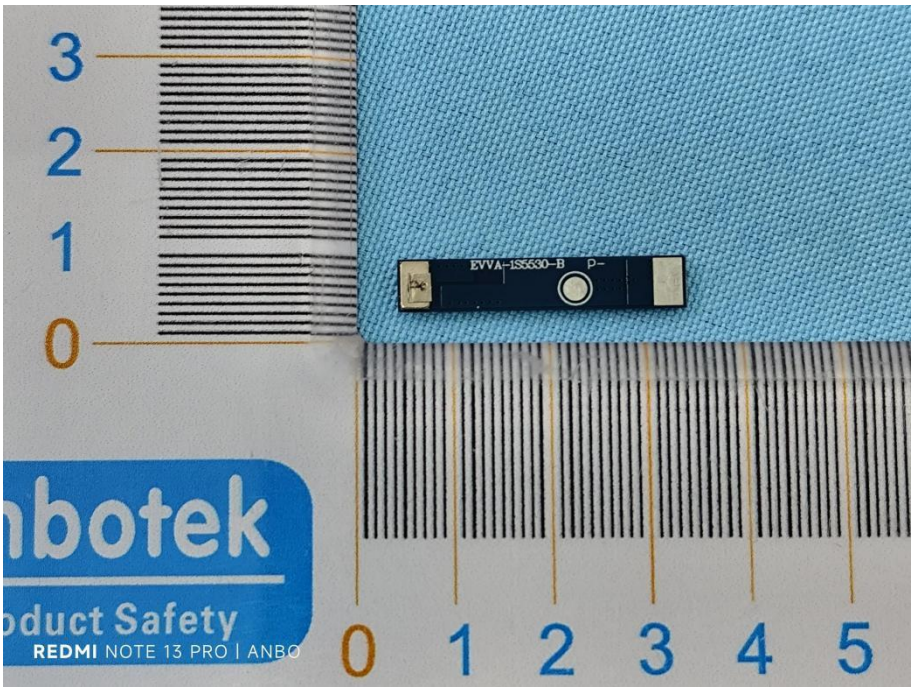



Anbotek
Product Safety


Lithium-ion Rechargeable Battery
Model: AXC18650-1S3P-MH1 (1INR19/66-3)
Nominal Voltage:3.6V
Max. Charge:4.2V
Min.9300mAh,33.48Wh
Typ.9600mAh,34.56Wh
Part NO.: 20A8100036
Mfg. Date: 24-11
Net Weight:148g approx.
Manufacturer: EVVA TECHNOLOGY CO., LIMITED
WARNING: Battery may explode or catch fire if mistreated.
Do not disassemble or dispose of in fire.
Do not charge except under specified charging conditions.
Do not heat above 100℃ or short circuit.
Do not crush or modify.
Made in China
B411A1


Anbotek
REDMI NOTE 13 PRO | ANBO


REDMI NOTE 13 PRO | ANBO


EVVA-1S5630-B P-
REDMI NOTE 13 PRO | ANBO


INR18650MH1
+GC356L227N1-
3.10Ah
WARNING
Disfiguring fire,
REDMI NOTE 13 PRO | ANBO

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 ----------