FCC Test Report

Report No: FCS202411232E01

Issued for

Applicant:	Shenzhen Baisheng New Energy Technology Co., LTD
Address:	106, No.14, Dayan Commercial Street, DaHom Community, Xili Street, Nanshan District, Shenzhen
Product Name:	Polymer Solid-State Battery Power Bank
Brand Name:	BOSEN
Model Name:	BS-320
Series Model:	N/A
Test Standard:	FCC Part 15 SUBPART B

Issued By: Flux Compliance Service Laboratory

Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan

Tel: 0769-27280901 Fax:0769-27280901 http://www.fcs-lab.com

TEST RESULT CERTIFICATION

Applicant's Name	:	Shenzhen Baisheng New Energy Technology Co., LTD
Address	:	106, No.14, Dayan Commercial Street, DaHom Community, Xili Street, Nanshan District, Shenzhen
Manufacture's Name	:	Shenzhen Baisheng New Energy Technology Co., LTD
Address	:	106, No.14, Dayan Commercial Street, DaHom Community, Xili Street, Nanshan District, Shenzhen

Product Description

Product Name	:	Polymer Solid-State Battery Power Bank
Brand Name	:	BOSEN
Model Name	:	BS-320
Series Model	:	N/A
Test Standards	:	FCC Part15 Subpart B
Test Procedure	:	ANSI C63.4-2014

This device described above has been tested by FCS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.
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Date of Test	:	
Date (s) of performance of tests	:	Nov 13, 2024~Nov 18, 2024
Date of Issue	:	Nov 18, 2024
Test Result	:	Pass

Tested by : Scott Shen
(Scott Shen)

Reviewed by : Duke Qian
(Duke Qian)

Approved by : Jack Wang
(Jack Wang)

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	Nov 18, 2024	FCS202411232E01	All	Initial Issue
Note: Format version of the report -V00				

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Rules and Regulations Part 15 Subpart B AND ANSI C63.4-2014.			
No.	Test Item	Result	Remark
1	Conducted Emission	PASS	--
2	Radiated Emission	PASS	--

1.1 TESTING LABORATORY

Company Name:	Flux Compliance Service Laboratory.
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan
Telephone:	+86-0769-27280901
Fax:	+86-0769-27280901
Laboratory Accreditations	
FCC Test Firm Registration Number: 514908 CNAS Number： L15566 Designation number：CN0127 A2LA accreditation number：5545.01 ISED Number：25801	

1.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Conducted Emission (9KHz-150KHz)	±4.13 dB
2	Conducted Emission (150KHz-30MHz)	±4.74 dB
3	All emissions,radiated(<1G) 30MHz-1000MHz	±5.2 dB
4	All emissions,radiated(>1G) 1000MHz -3000MHz	±4.66 dB
5	All emissions,radiated(<1G) 3000MHz -6000MHz	±5.31 dB

1.3 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2024.08.28	2025.08.27
Signal Analyzer	R&S	FSV40-N	FCS-E012	2024.08.28	2025.08.27
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2024.08.28	2025.08.27
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2024.08.28	2025.08.27
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2024.08.28	2025.08.27
SHF-EHF Horn Antenna (18GHz-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2024.08.28	2025.08.27
Pre-Amplifier(20MHz-3GHz)	EMCI	EM330N	FCS-E004	2024.08.28	2025.08.27
Pre-Amplifier (1GHz-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2024.08.28	2025.08.27
Temperature & Humidity	HTC-1	victor	FCS-E005	2024.08.28	2025.08.27
Testing Software	EZ-EMC(Ver.STSLAB 03A1 RE)				

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	FCS-E020	2024.08.28	2025.08.27
LISN	R&S	ENV216	FCS-E007	2024.08.28	2025.08.27
LISN	ETS	3810/2NM	FCS-E009	2024.08.28	2025.08.27
Temperature & Humidity	HTC-1	victor	FCS-E008	2024.08.28	2025.08.27
Testing Software	EZ-EMC(Ver.EMC-CON 3A1.1)				

Test Equipment Calibration

All of the test equipment is effective use and calibration certification institution, GRGT, the address is 163 tianhe district in huangpu road xiping cloud road .Guangzhou,China

2. GENERAL INFORMATION

2.1 General Description Of The EUT

Product Name	Polymer Solid-State Battery Power Bank
Trade Name	BOSEN
Model Name	BS-320
Series Mode	N/A
Model Difference	The same model comes in multiple colors.
Power Supply	Input parameters: (mirco) Input 5V⎓ 2A 9V⎓ 2A 12V⎓ 1.5A(Type-c)max Output parameters: Type-c PD: 5V⎓ 3A 9V⎓ .23A 12V⎓ 1.85A max Output:(UPS) 5V=3A
Battery	Battery capacity: 10000mAh Rated energy: 7500mAh
Hardware version number	V1.0
Software version number	V1.0

Note:

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

2.1 DESCRIPTION OF THE TEST MODES

To investigate the maximum EUT 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.

Pretest Mode	Description
Mode 1	Charging mode
Mode 2	Discharge mode

Note: The test modes were carried out for all operation modes. Only worst case will be show in this report.

3. CONDUCTED EMISSION MEASUREMENT

3.1 Power Line Conducted Emission Limits

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

FREQUENCY (MHz)	Conducted Emissionlimit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.2 Test Procedure

a. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4.

b. Support equipment, if needed, was placed as per ANSI C63.4.

c. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

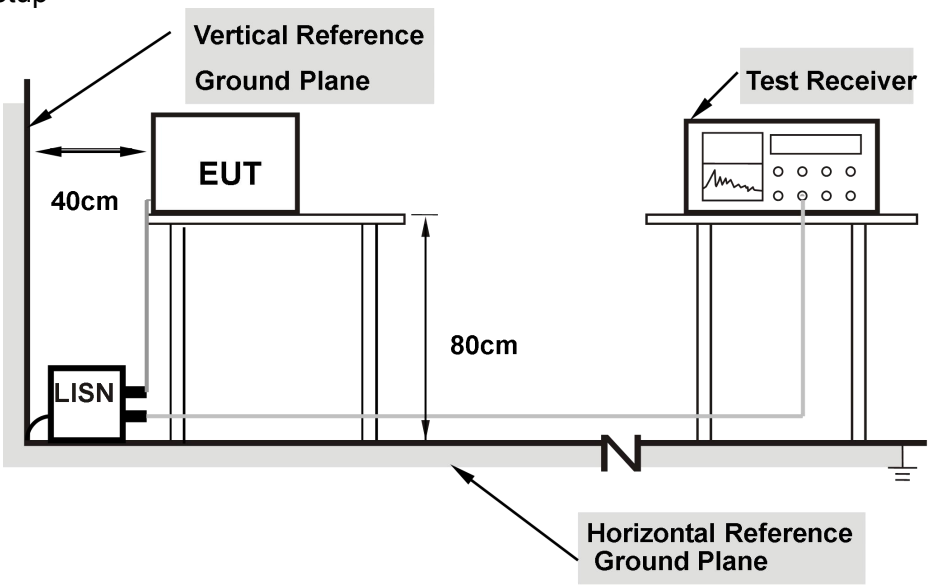
d. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.

e. All support equipments received AC power from a second LISN, if any.

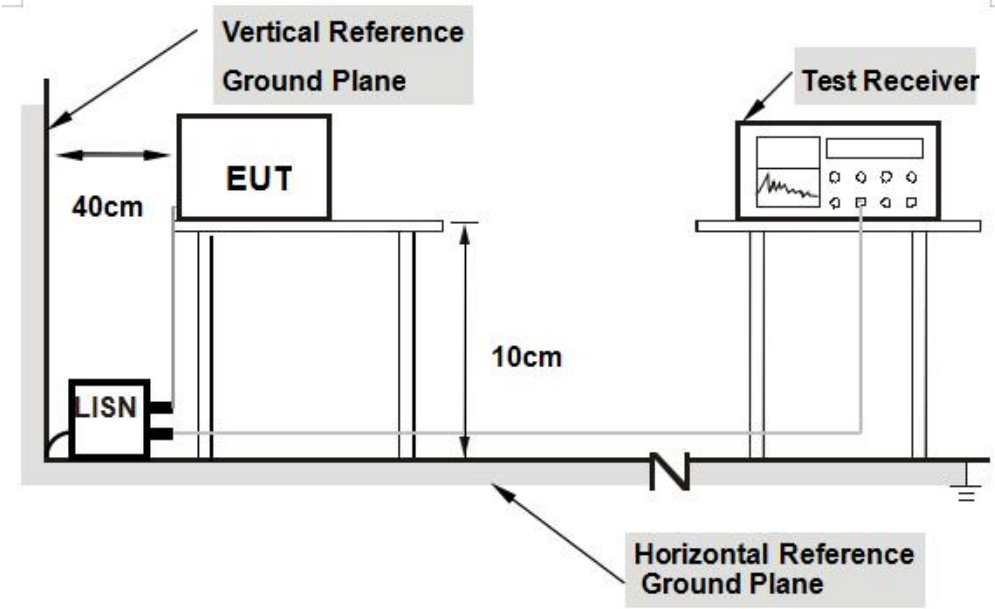
f. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.

g. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes. and the test data has been listed in 3.4

3.3 Test Setup



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

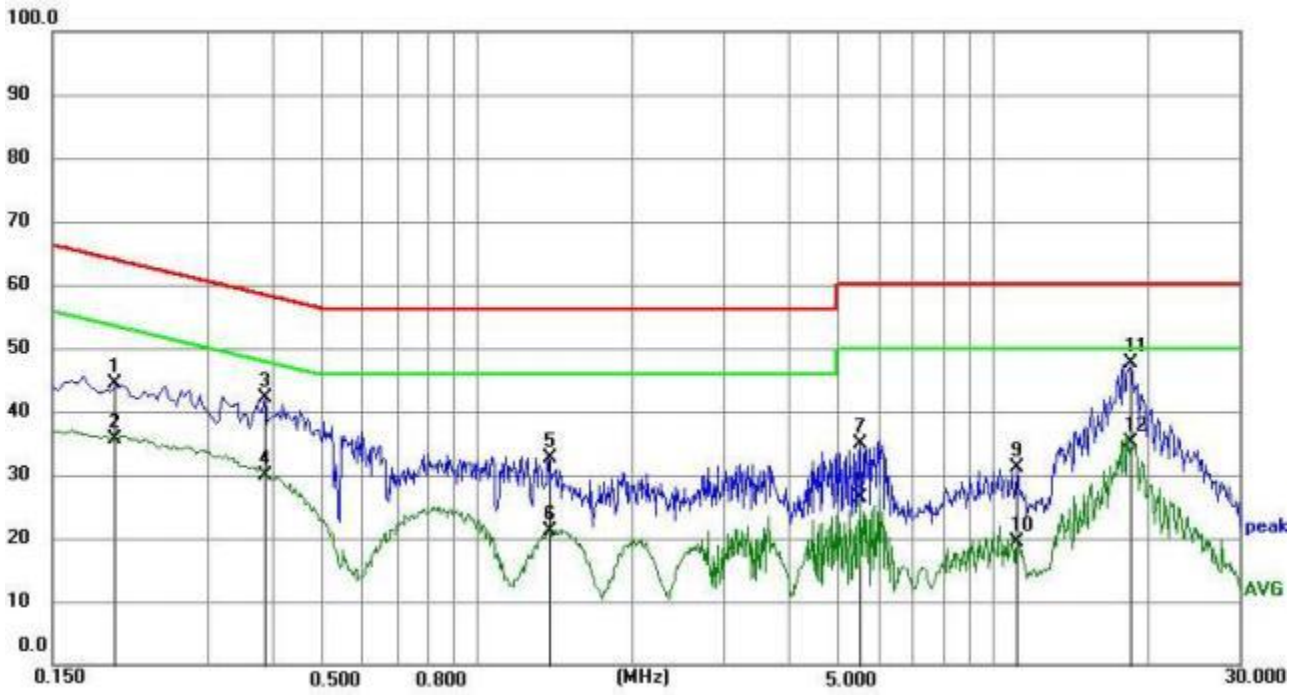


Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 10 cm from EUT and at least 10 cm from other units and other metal planes support. units.

3.4 Test Result

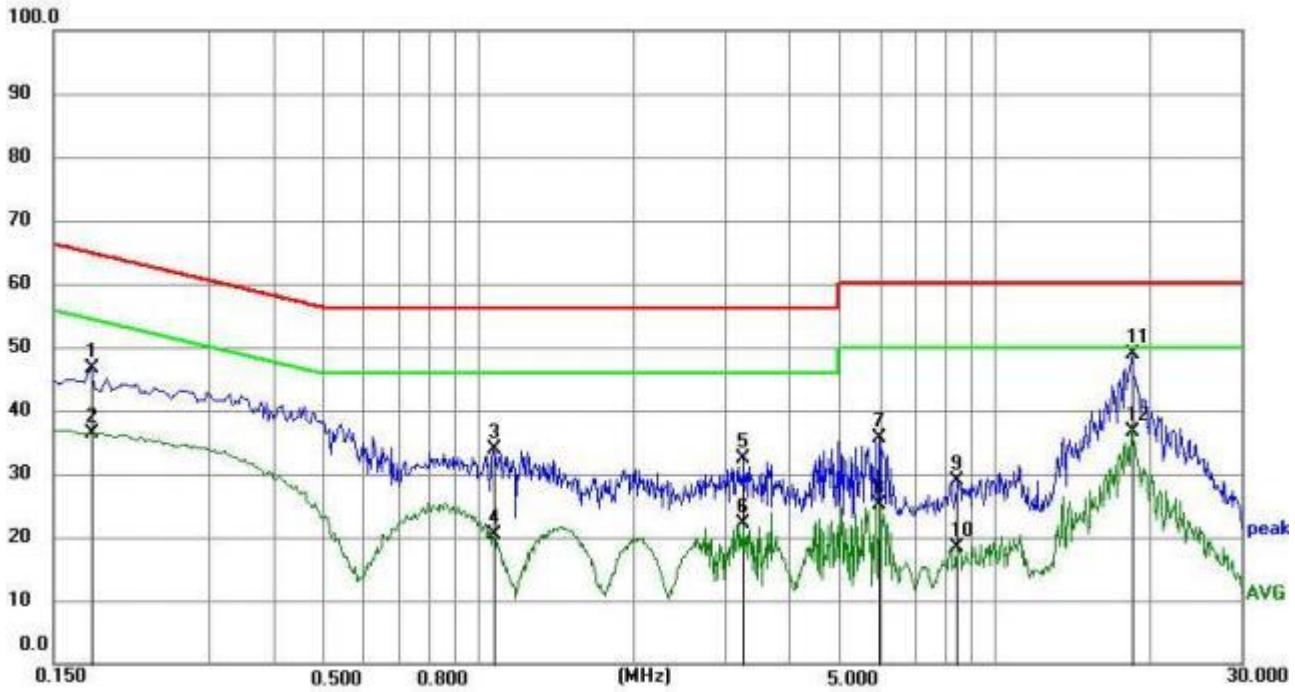
Temperature:	25.3℃	Relative Humidity:	55 %
Phase:	L	Test Mode:	Mode 1
Test Voltage:	DC 5V		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1995	34.20	10.08	44.28	63.63	19.35	QP
2	0.1995	25.63	10.08	35.71	53.63	17.92	AVG
3	0.3885	32.03	10.02	42.05	58.10	16.05	QP
4	0.3885	19.97	10.02	29.99	48.10	18.11	AVG
5	1.3740	22.62	9.99	32.61	56.00	23.39	QP
6	1.3740	11.18	9.99	21.17	46.00	24.83	AVG
7	5.5410	24.95	9.87	34.82	60.00	25.18	QP
8	5.5410	16.52	9.87	26.39	50.00	23.61	AVG
9	11.1885	21.22	9.80	31.02	60.00	28.98	QP
10	11.1885	9.70	9.80	19.50	50.00	30.50	AVG
11	18.6044	37.79	9.91	47.70	60.00	12.30	QP
12	18.6044	25.23	9.91	35.14	50.00	14.86	AVG



Temperature:	25.3℃	Relative Humidity:	55%
Phase:	N	Test Mode:	Mode 1
Test Voltage:	DC 5V		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.1770	36.60	10.06	46.66	64.63	17.97	QP
2	0.1770	26.44	10.06	36.50	54.63	18.13	AVG
3	1.0680	23.81	9.99	33.80	56.00	22.20	QP
4	1.0680	10.38	9.99	20.37	46.00	25.63	AVG
5	3.2595	22.38	9.93	32.31	56.00	23.69	QP
6	3.2595	12.09	9.93	22.02	46.00	23.98	AVG
7	5.9775	25.72	9.86	35.58	60.00	24.42	QP
8	5.9775	15.23	9.86	25.09	50.00	24.91	AVG
9	8.4570	19.08	9.82	28.90	60.00	31.10	QP
10	8.4570	8.51	9.82	18.33	50.00	31.67	AVG
11	18.4920	38.94	9.95	48.89	60.00	11.11	QP
12	18.4920	26.64	9.95	36.59	50.00	13.41	AVG



4. RADIATED EMISSION MEASUREMENT

4.1 Radiated Emission Limits

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz /10 Hz

4.2 Test Procedure

a. The EUT is placed on a turntable, which is 0.8m above ground plane.

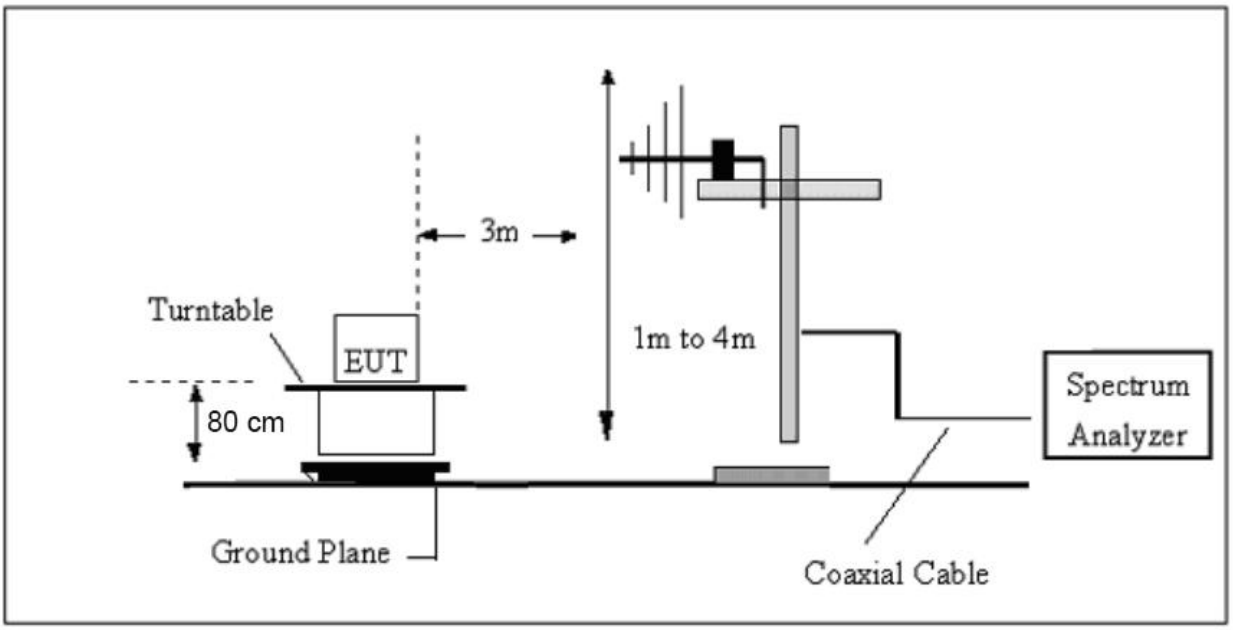
b. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.

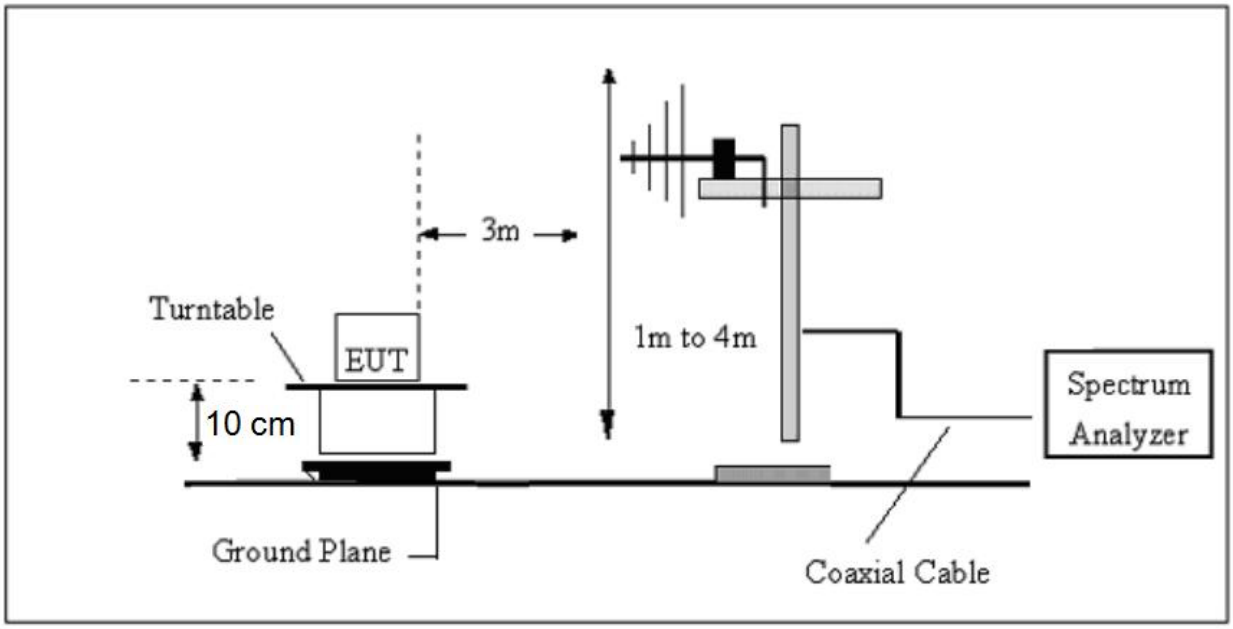
c. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.

d. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

e. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical

4.3 Test setup



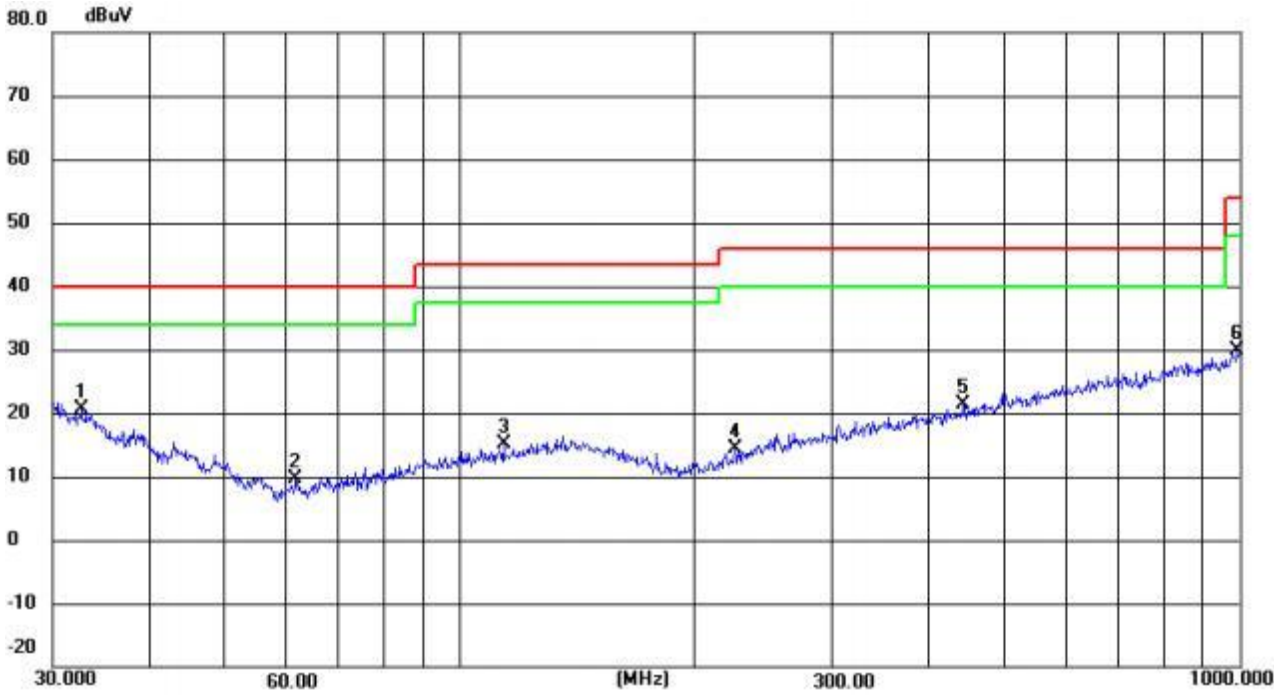


4.4 Test Results

Temperature:	26.1℃	Relative Humidity:	54%
Test Voltage:	DC 5V	Phase:	Horizontal
Test Mode:	Mode 1		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	32.6340	29.49	-8.95	20.54	40.00	-19.46	QP
2	61.5618	30.47	-20.89	9.58	40.00	-30.42	QP
3	113.7143	47.20	-32.18	15.02	43.50	-28.48	QP
4	225.3080	46.37	-32.01	14.36	46.00	-31.64	QP
5	441.7426	52.87	-31.47	21.40	46.00	-24.60	QP
6	993.0114	60.52	-30.61	29.91	54.00	-24.09	QP

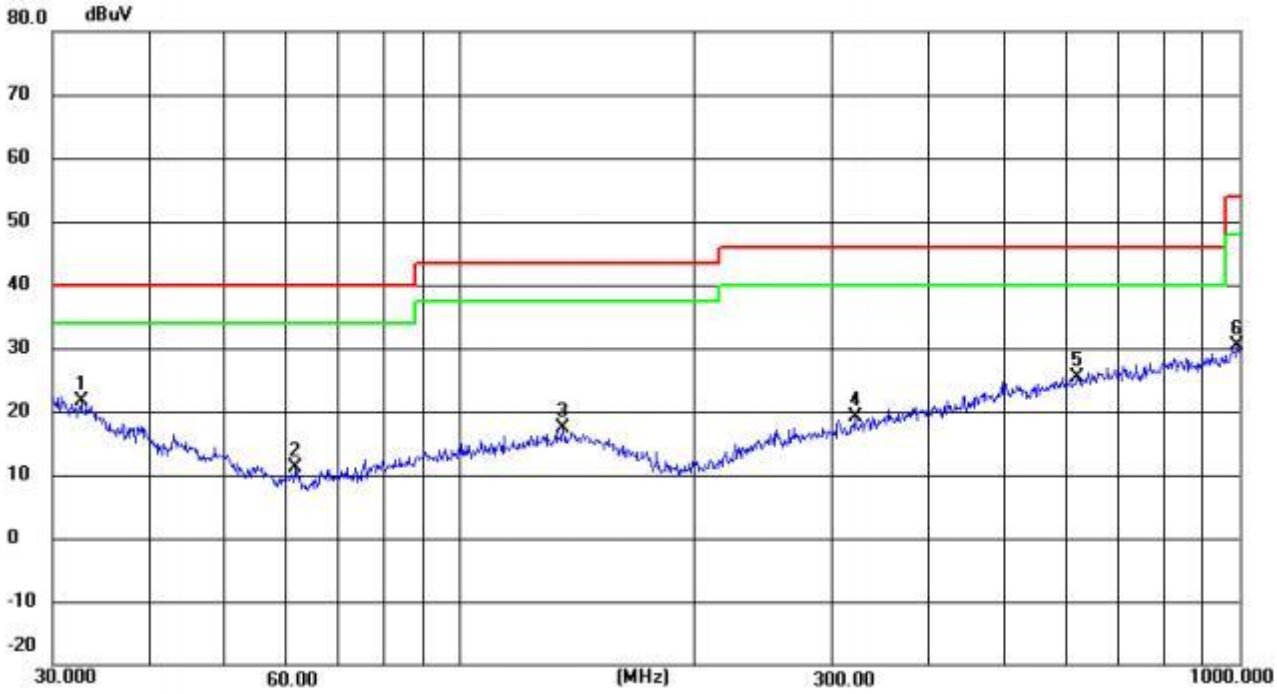
Remark:
1. Margin = Result (Result =Reading + Factor)–Limit



Temperature:	26.1℃	Relative Humidity:	54%
Test Voltage:	DC 5V	Phase:	Vertical
Test Mode:	Mode 1		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	32.6340	30.49	-8.95	21.54	40.00	-18.46	QP
2	61.5618	31.97	-20.89	11.08	40.00	-28.92	QP
3	135.5062	49.64	-32.15	17.49	43.50	-26.01	QP
4	321.0608	51.06	-31.84	19.22	46.00	-26.78	QP
5	618.5369	56.49	-31.10	25.39	46.00	-20.61	QP
6	993.0114	61.02	-30.61	30.41	54.00	-23.59	QP

Remark:
1. Margin = Result (Result =Reading + Factor)–Limit



5. TEST SETUP

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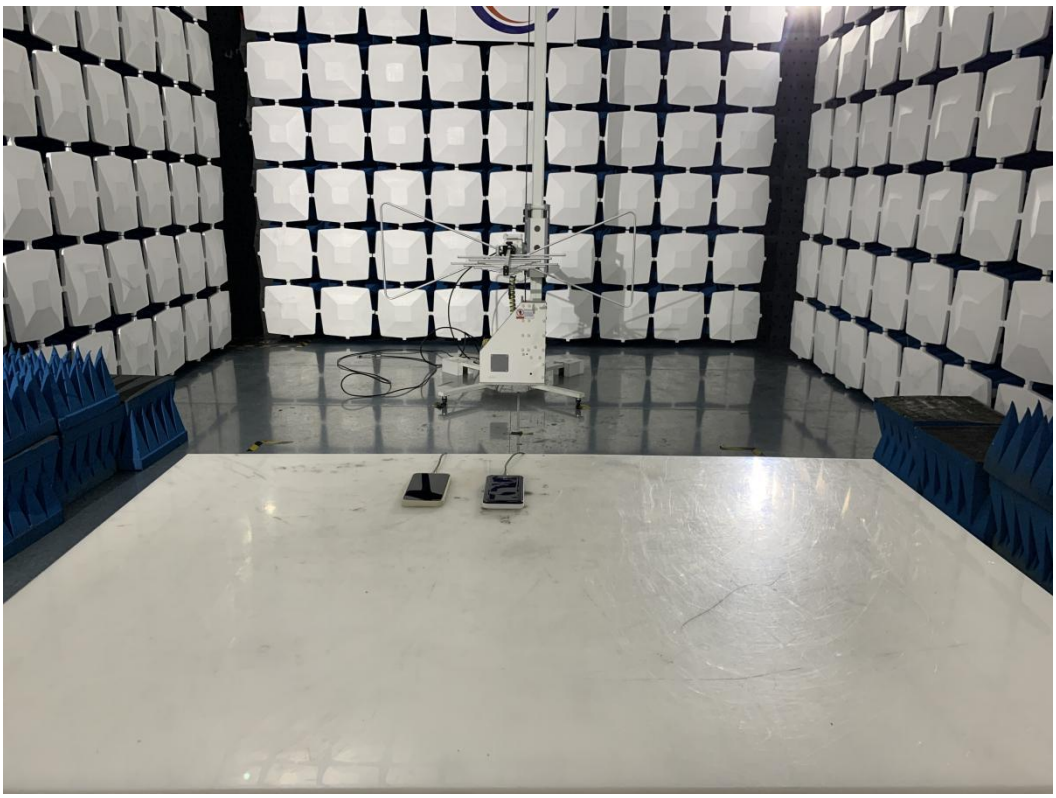

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APPENDIX 1

Supplementary information for the User manual, labeling requirements

1. Devices subject to FCC part 15 Subpart B must be labelled with the following statement.
The label can be affixed at any space external to the product except the battery door or detachable parts.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2)this device must accept any Interference received, including interference that may cause undesired operation.

2. In addition, for a Class B digital device or peripheral, the instructions furnished the user shall include the following statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with The instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: -- Reorient or relocate the receiving antenna. -- Increase the separation between the equipment and receiver. -- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. -- Consult the dealer or an experienced radio/TV technician for help.
Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the use's authority to operate the equipment.

Note: If shielded cables or other specialized accessories are necessary for the unit to achieve compliance, a statement similar to the following should be added:

Shielded cables must be used with this unit to ensure compliance with the Class B FCC limits.

APPENDIX 2-PHOTOGRAPHS OF THE EUT

Photo 1

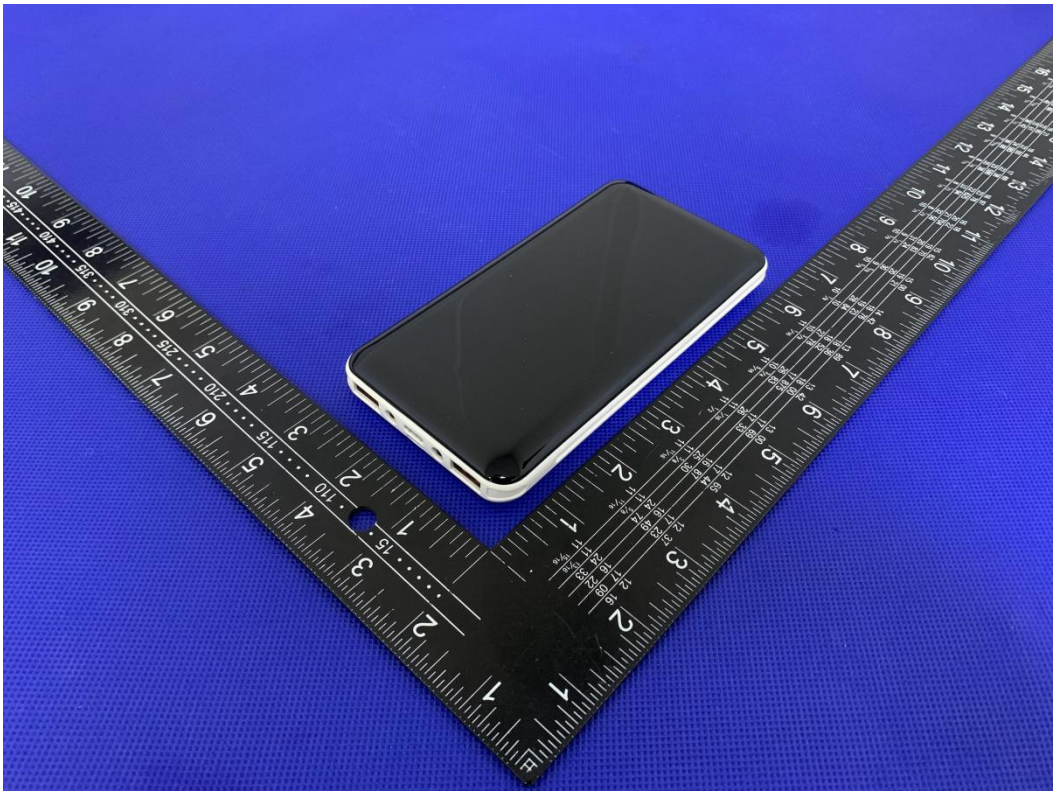

Photo 2

Photo 3

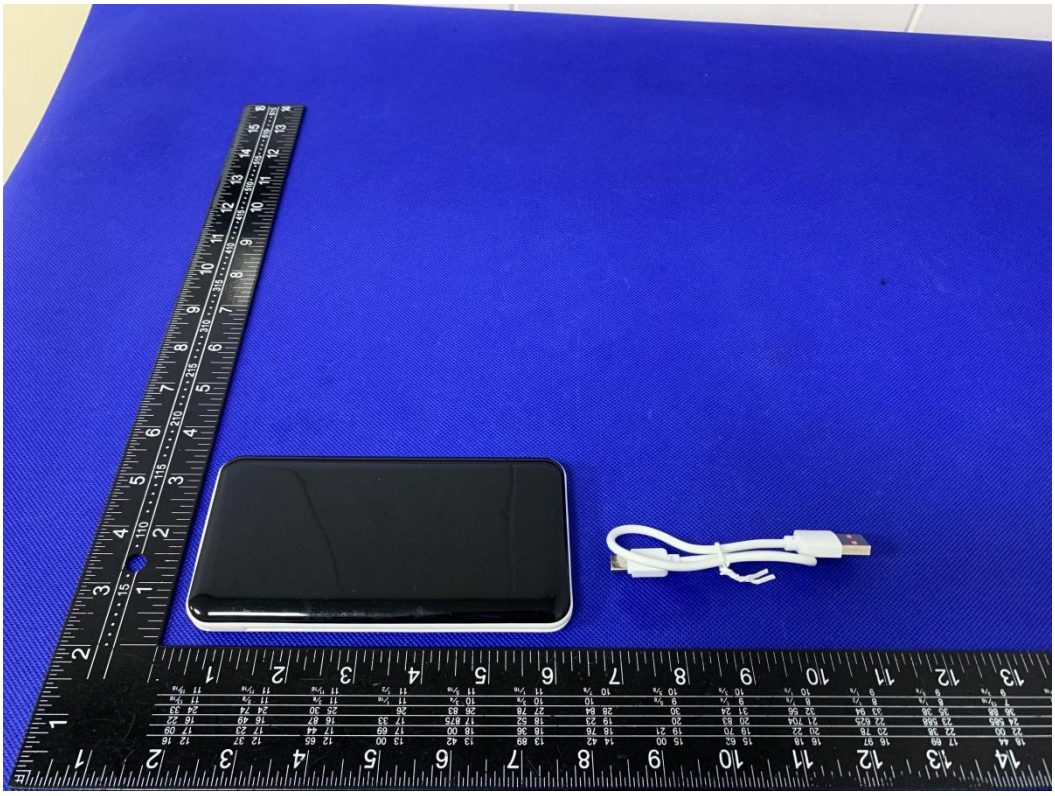

Photo 4

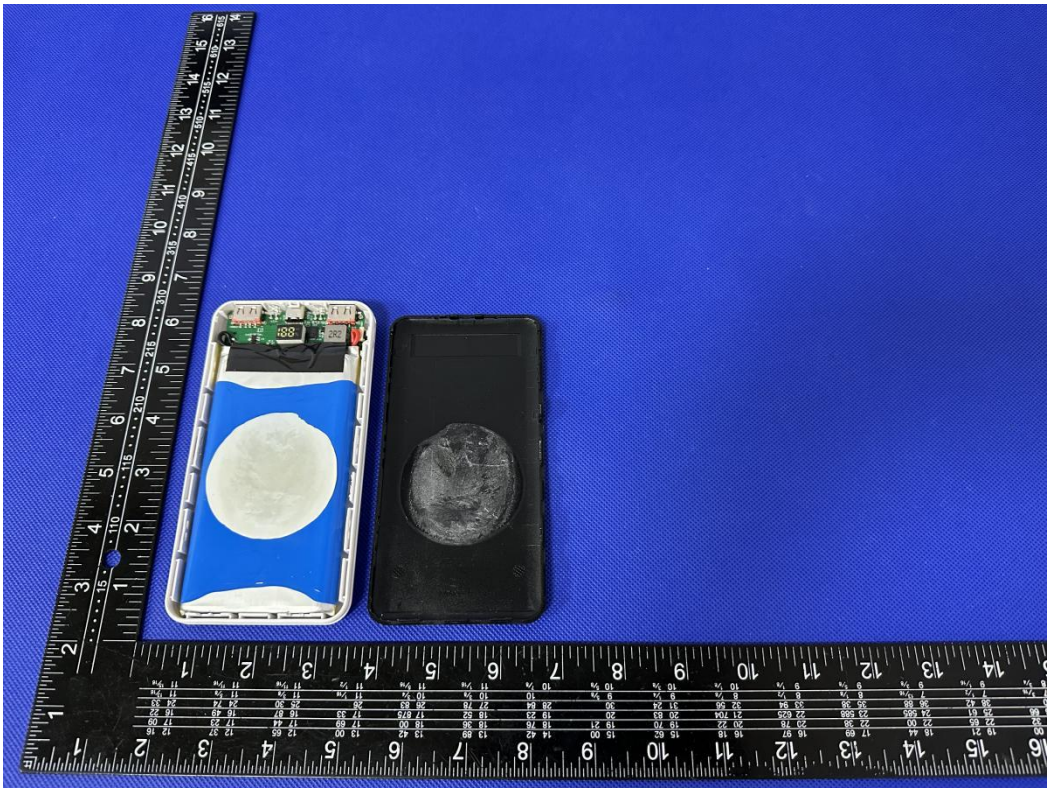

Photo 5

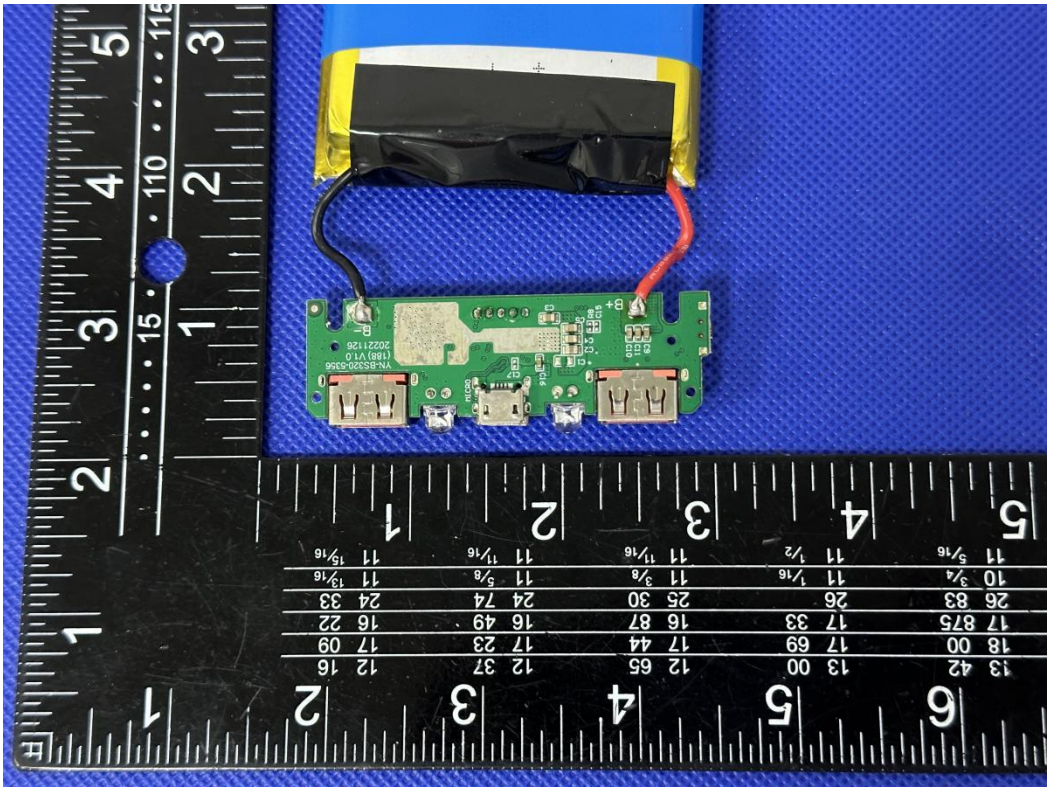

Photo 6

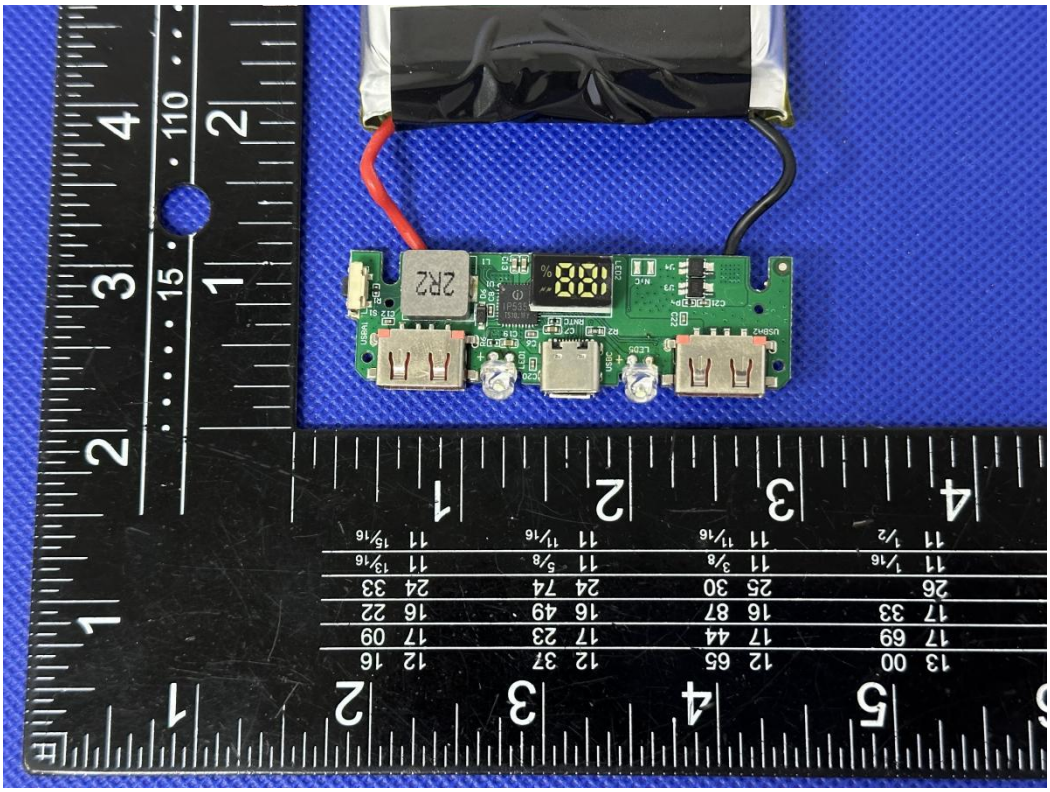

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

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