FCC TEST REPORT

Report Reference No.....:	**ZKT-2019124409E**
Date of issue.....:	Jan. 06, 2020
Total number of pages.....	14
Testing Laboratory.....:	**Shenzhen ZKT Technology Co., Ltd.**
Address.....:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China
Applicant's name.....:	
Address.....:	
Test specification:	
Standards.....:	FCC Part 15 B ANSI C63.4:2014
Test procedure.....:	N/A
Non-standard test method……..:	N/A
Test Report Form No.....:	--
Test Report Form(s) Originator.....:	ZKT Testing
Master TRF.....:	Dated: 2017-06

This test report is specially limited to the above client company and product model only. It may not be duplicated without prior written consent of ZKT Test.

Test item description.....:	**POWER BANK**
Trade Mark.....:	N/A
Manufacturer.....:	Same as applicant
Model/Type reference.....:	PB30
Ratings.....:	INPUT: DC 5V, 1A OUTPUT: DC 5V, 1A

Testing procedure and testing location:

Testing Laboratory.....:	**Shenzhen ZKT Technology Co., Ltd.**
Address.....:	1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China.
Date of Test.....:	Jan. 02, 2020 – Jan. 06, 2020
Tested by (name + signature).....:	Peter Huang
Reviewer (name + signature).....:	Simon Gong
Approved (name + signature).....:	Awen He

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1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	POWER BANK
Trademark	:	N/A
Model Number	:	
Model Difference	:	N/A
Power Supply	:	INPUT: DC 5V, 1A OUTPUT: DC 5V, 1A

1.2. Tested System Details

None.

1.3. Test Uncertainty

Conducted Emission Uncertainty	:	±2.66dB
Radiated Emission Uncertainty	:	±4.26dB

2. Test Instrument Used

For Conducted Emission at the mains terminals Test

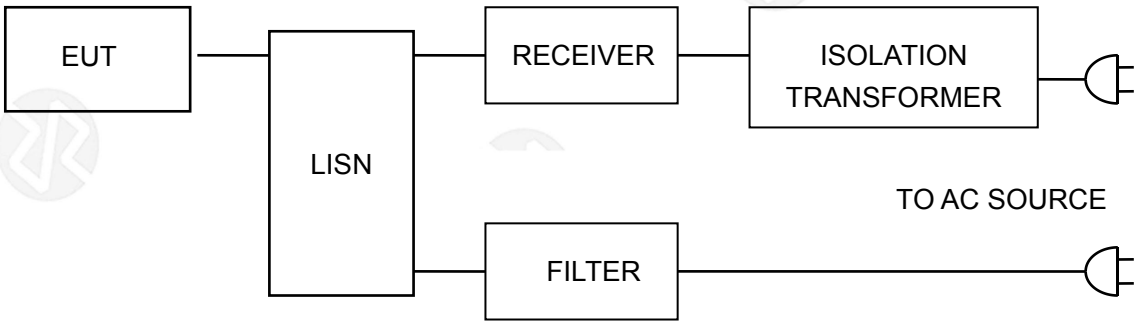
Conducted Emission Test (A --- site)					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
843 Shielded Room	ChengYu	843 Room	843	Aug. 25, 2019	Aug. 24, 2020
EMI Receiver	R&S	ESCI	101421	Aug. 25, 2019	Aug. 24, 2020
LISN	Schwarzbeck	NSLK8127	8127739	Aug. 25, 2019	Aug. 24, 2020
Attenuator	R&S	ESH3-Z2	ZKT021E	Aug. 25, 2019	Aug. 24, 2020
843 Cable 1#	FUJIKURA	843C1#	001	Aug. 25, 2019	Aug. 24, 2020

For Radiated Emission Test

Radiation Emission Test (966 chamber)					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
966 chamber	ChengYu	966 Room	966	Aug. 25, 2019	Aug. 24, 2020
Spectrum Analyzer	Agilent	E4407B	MY45109572	Aug. 25, 2019	Aug. 24, 2020
Amplifier	Schwarzbeck	BBV9743	9743-119	Aug. 25, 2019	Aug. 24, 2020
Amplifier	Schwarzbeck	BBV9718	9718-270	Aug. 25, 2019	Aug. 24, 2020
Log-periodic Antenna	Schwarzbeck	VULB9160	VULB9160-3369	Aug. 25, 2019	Aug. 24, 2020
EMI Receiver	R&S	ESCI	101421	Aug. 25, 2019	Aug. 24, 2020
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1275	Aug. 25, 2019	Aug. 24, 2020
966 Cable 1#	CHENGYU	966	004	Aug. 25, 2019	Aug. 24, 2020
966 Cable 2#	CHENGYU	966	003	Aug. 25, 2019	Aug. 24, 2020

3. CONDUCTED emission at the mains terminals test

3.1. Block Diagram Of Test Setup



3.2. Test Standard

FCC PART 15 B

3.3. Power Line Conducted Emission Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
0.50 ~ 5.00	56	46
5.00 ~ 30.00	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

3.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 15 B requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.
3.5.2 Turn on the power of all equipments.
3.5.3 Let the EUT work in test modes and test it.

3.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 15 B** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

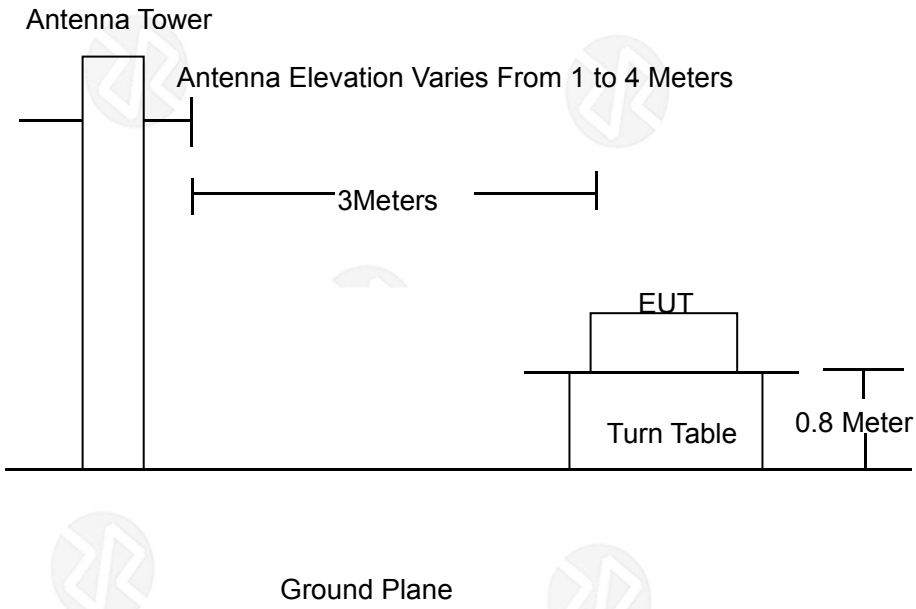
The frequency range from 150 KHz to 30 MHz is investigated.

3.7. Test Result

The EUT is powered by the DC only, the test item is not applicable

4. Radiation emission test

4.1. Block Diagram of Test Setup



4.2. Test Standard

FCC PART 15 B

4.3. Radiation Limit

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dBμV/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0

4.4. EUT Configuration on Test

The FCC PART 15 B regulations test method must be used to find the maximum emission during radiated emission test.
The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.

4.5. Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6. Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 15 B on radiated emission test.
The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz
The frequency range from 30MHz to 1000MHz is checked.

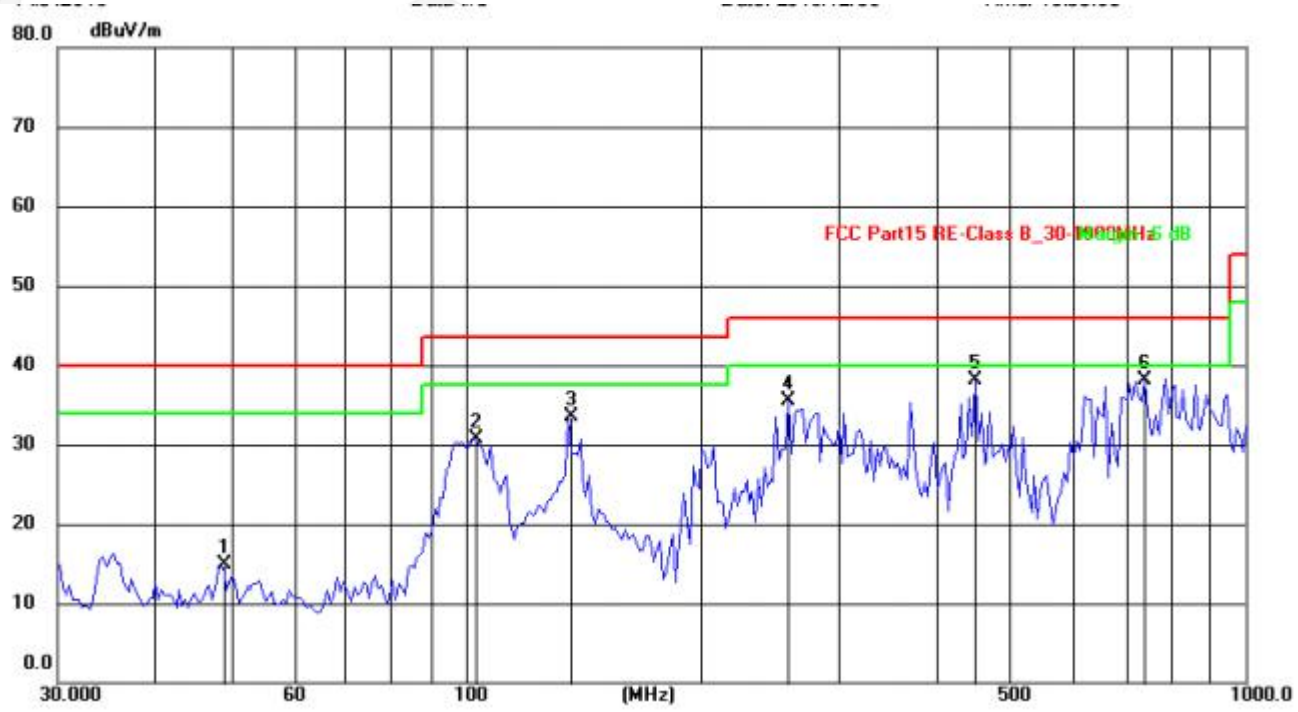
The highest frequency of the internal sources of the EUT was 1.3GHz, so the measurement was only made up to 6GHz.

4.7. Test Result

PASS

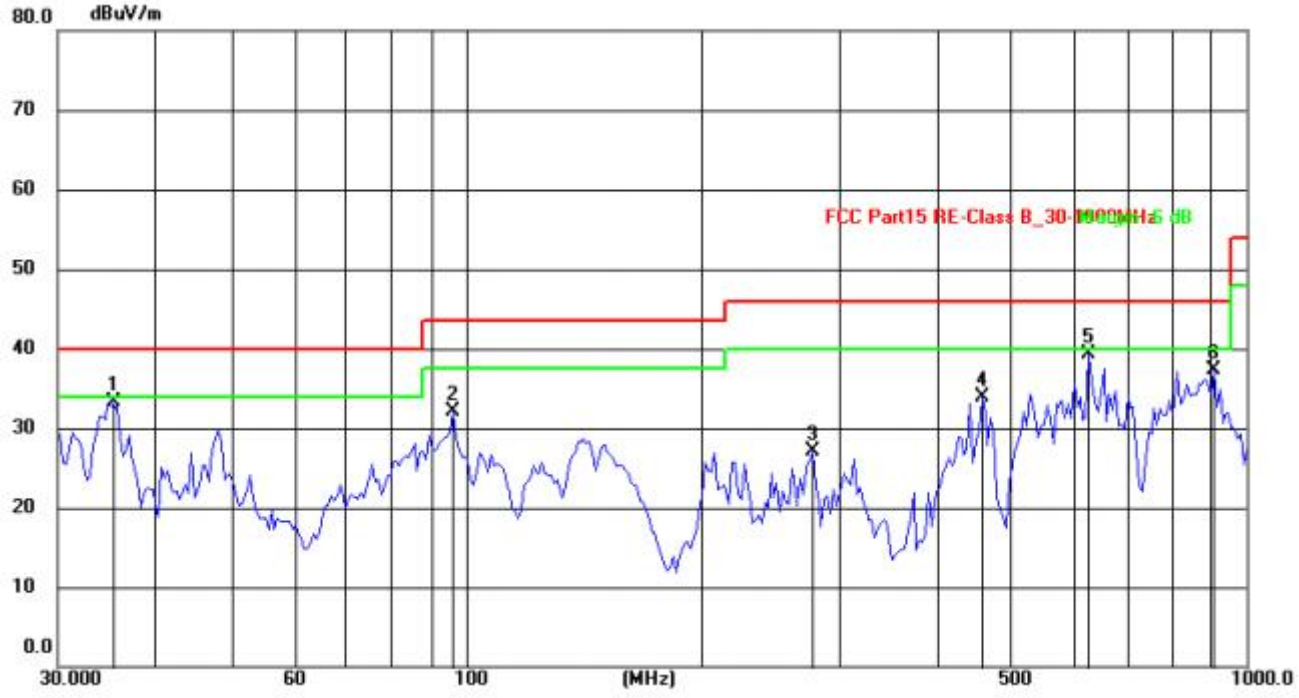
Please refer to the following page.

EUT：	POWER BANK	Model Name ：	PB30
Temperature：	24 ℃	Relative Humidity：	54%
Pressure：	1010 hPa	Polarization :	Horizontal
Test Voltage ：	DC 5V	Test Mode：	Working



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	48.5867	32.35	-17.51	14.84	40.00	-25.16	QP				
2	102.3597	51.75	-21.09	30.66	43.50	-12.84	QP				
3	135.5062	51.77	-18.28	33.49	43.50	-10.01	QP				
4	259.2338	53.79	-18.24	35.55	46.00	-10.45	QP				
5	450.3447	50.93	-12.85	38.08	46.00	-7.92	QP				
6	742.2587	44.59	-6.44	38.15	46.00	-7.85	QP				

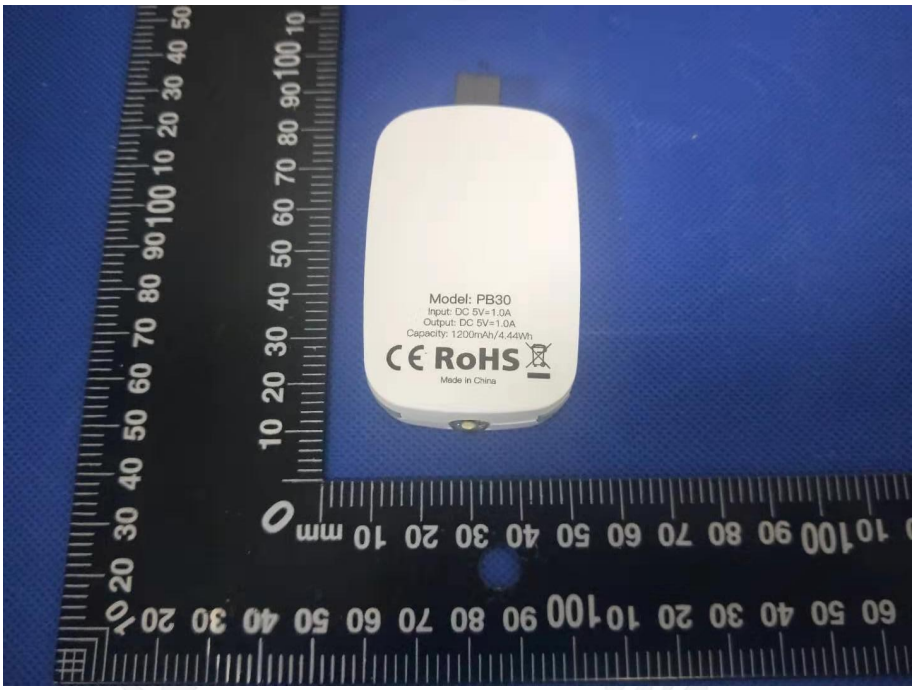
EUT：	POWER BANK	Model Name ：	PB30
Temperature：	24 ℃	Relative Humidity：	54%
Pressure：	1010 hPa	Polarization :	Vertical
Test Voltage ：	DC 5V	Test Mode：	Working



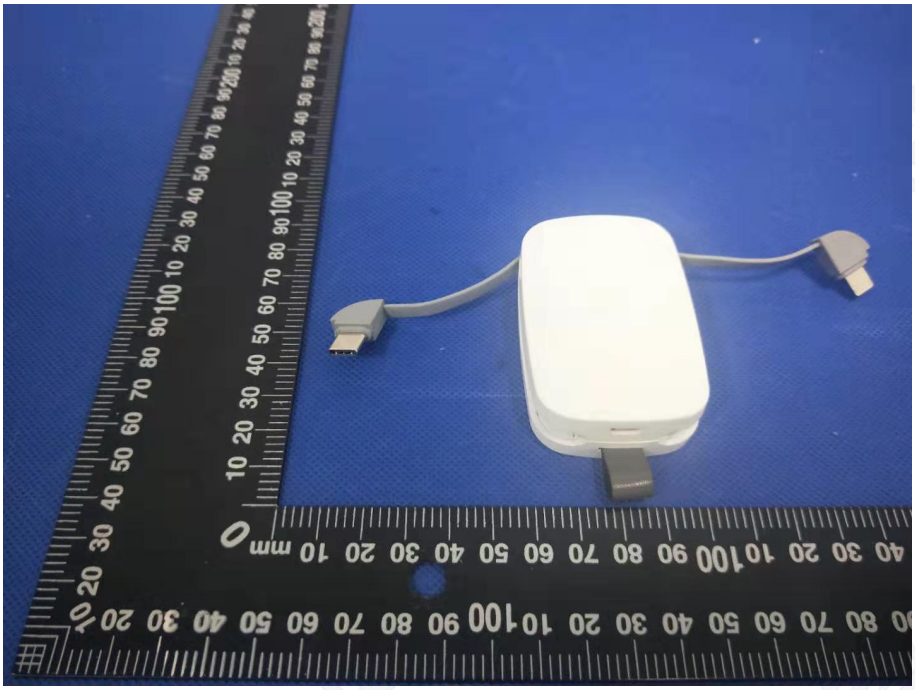
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	35.1278	51.02	-17.80	33.22	40.00	-6.78	QP				
2	96.2672	53.76	-21.64	32.12	43.50	-11.38	QP				
3	278.0668	44.51	-17.36	27.15	46.00	-18.85	QP				
4	458.3101	46.56	-12.65	33.91	46.00	-12.09	QP				
5	628.3745	47.77	-8.39	39.38	46.00	-6.62	QP				
6	908.0731	40.94	-3.63	37.31	46.00	-8.69	QP				

5. EUT Photographs

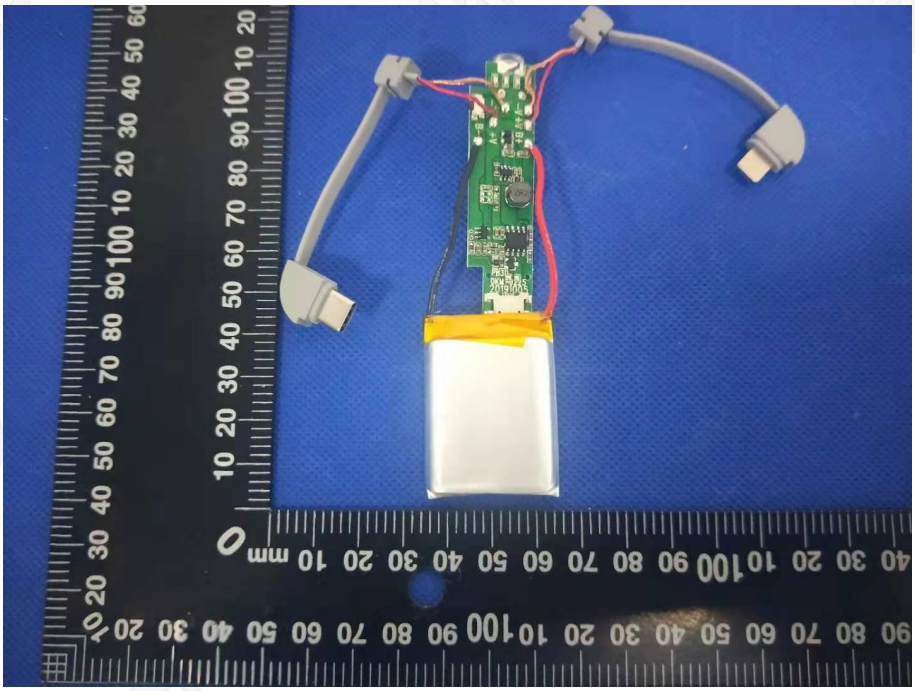
EUT Photo 1



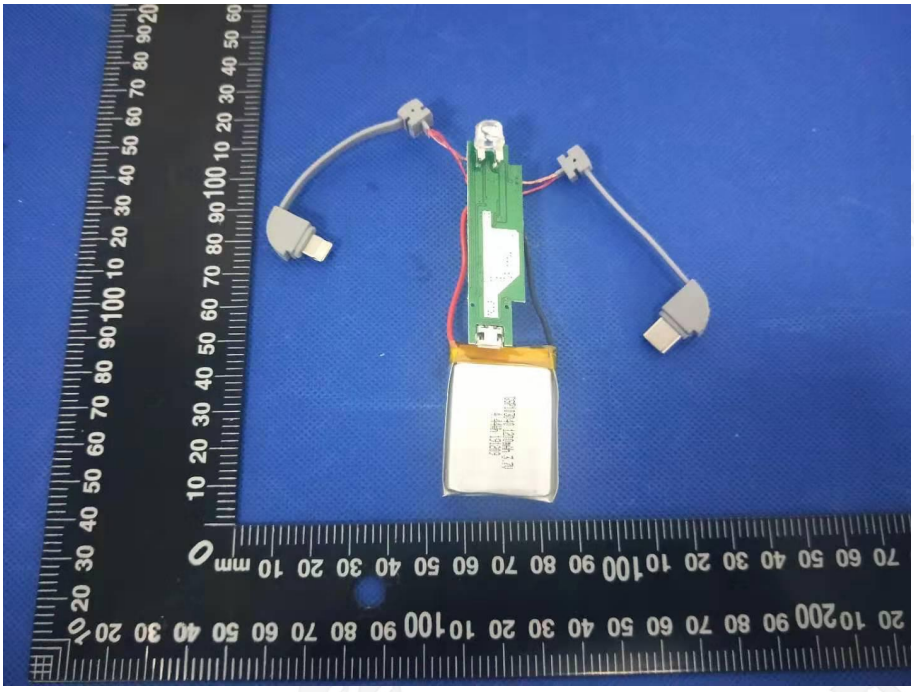
EUT Photo 2



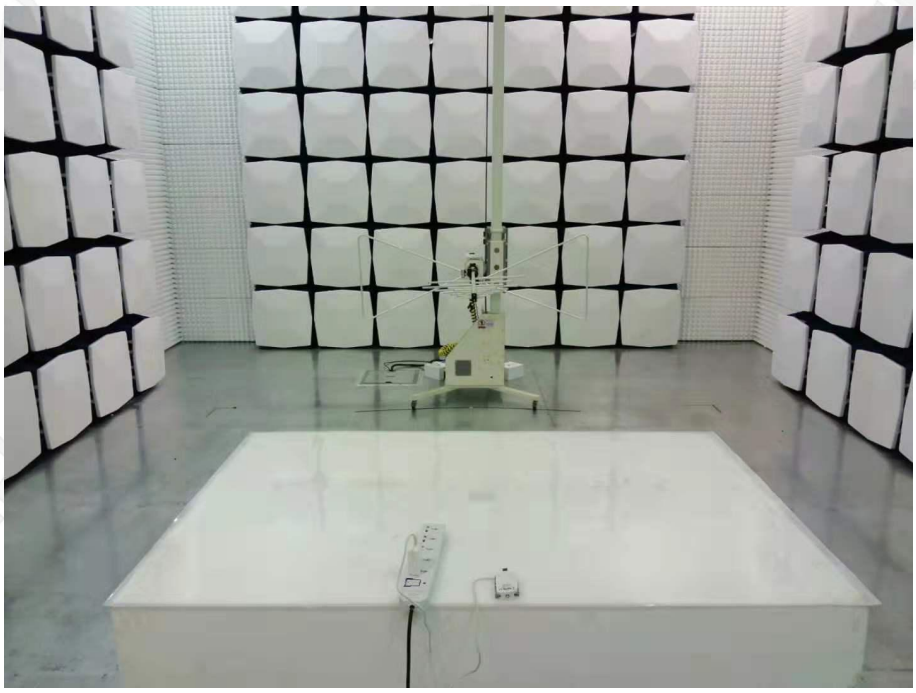
EUT Photo 3



EUT Photo 4



6. EUT TEST Photographs



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