

FCC Part 15B Test Report

Application No. : TB14119572
Applicant : USC056
Equipment Under Test (EUT)
EUT Name : Power Bank
Model No. : PB06
Series Model No. : Please see the page of 3
Brand Name :
Receipt Date : 2014-11-27
Test Date : 2014-11-27 to 2014-12-08
Issue Date : 2014-12-08
Standards : FCC Part 15:2013 Subpart B
Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above
The EUT technically complies with the FCC requirements

Test/Witness Engineer :



Approved & Authorized :

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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1. General Information

1.1 Client Information

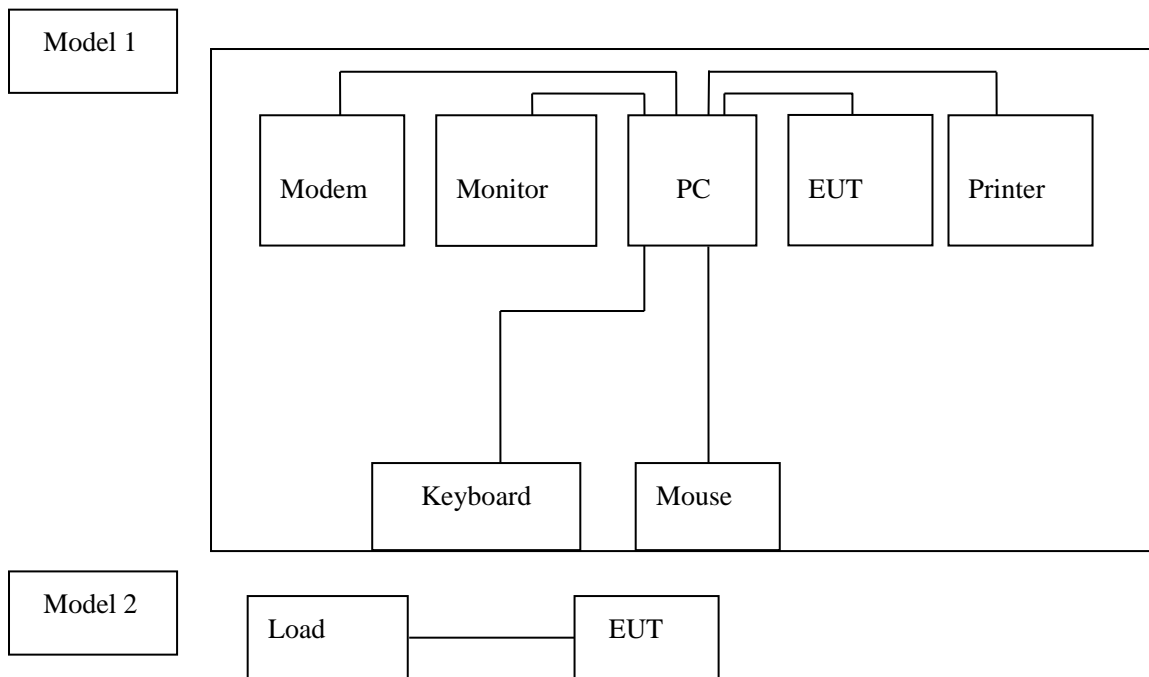
Applicant	:	USC056
Address	:	
Manufacturer	:	USC056
Address	:	

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Power Bank
Model No.	:	PB06
Series Model No.	:	#2621, SM-3925, 1558, cpp-3794, CU1528
Brand Name	:	
Power Supply	:	Input: DC 5V 550mA Output: 5V 1000mA Capacity: 2200mAh

Remark: All above models are identical in schematic, structure and critical components except for different model number, color and different enclosure, therefore, FCC testing was performed with PB06 only.

1.3 Block Diagram Showing The Configuration of System Tested



1.4 Description of Support Units

Name	Model	S/N	Manufacturer	Used "√"
Printer	HP1505n	VNF3G06957	HP	√
Modem	RX304Xv2	----	ASUS	√
LCD Monitor	E170Sc	----	DELL	√
PC	OPTIPLEX380	----	DELL	√
Keyboard	L100	U01C	DELL	√
Mouse	M-UARDEL7	----	DELL	√

1.5 Test standards

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.107, 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.6 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

May 22, 2014 certificated by TUV Rheinland(China) Co., Ltd. with TUV certificate No.: UA 50282953 0001 and report No.: 17026822 002. The certificate is valid until the next scheduled audit or up to 18 months, at the discretion of TUV Rhineland.

1.7 Equipment Used Test

Radiation Emission Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Mar. 20, 2014	Mar. 19, 2015
Spectrum Analyzer	Rohde & Schwarz	FSP30	DE25181	Aug. 08, 2014	Aug.07, 2015
EMI Test Receiver	Rohde & Schwarz	ESCI	101165	Aug. 08, 2014	Aug.07, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 07, 2014	Mar.06, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117542	Mar. 07, 2014	Mar.06, 2015
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 07, 2014	Mar.06, 2015
Horn Antenna	ETS-LINDGREN	3117	00143209	Mar. 07, 2014	Mar.06, 2015
Pre-amplifier	HP	11909A	185903	Mar. 07, 2014	Mar.06, 2015
Pre-amplifier	HP	8447B	3008A00849	Mar. 07, 2014	Mar.06, 2015
Cable	HUBER+SUHNE R	100	SUCOFLEX	Mar. 07, 2014	Mar.06, 2015
Signal Generator	Rohde & Schwarz	SML03	IKW682-054	Feb. 11, 2014	Feb.10, 2015
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A

2. Test Summary

Test Items	Test Requirement	Test Method	Result
Conducted Emission	FCC Part 15:2013 Subpart B	ANSI C63.4	N/A
Radiated Emission	FCC Part 15:2013 Subpart B	ANSI C63.4	Pass

Note: N/A is an abbreviation for Not Applicable.

3. Conducted Emission Test

3.1 Test Standard and Limit

3.1.1 Test Standard

FCC Part 15 B: 2013

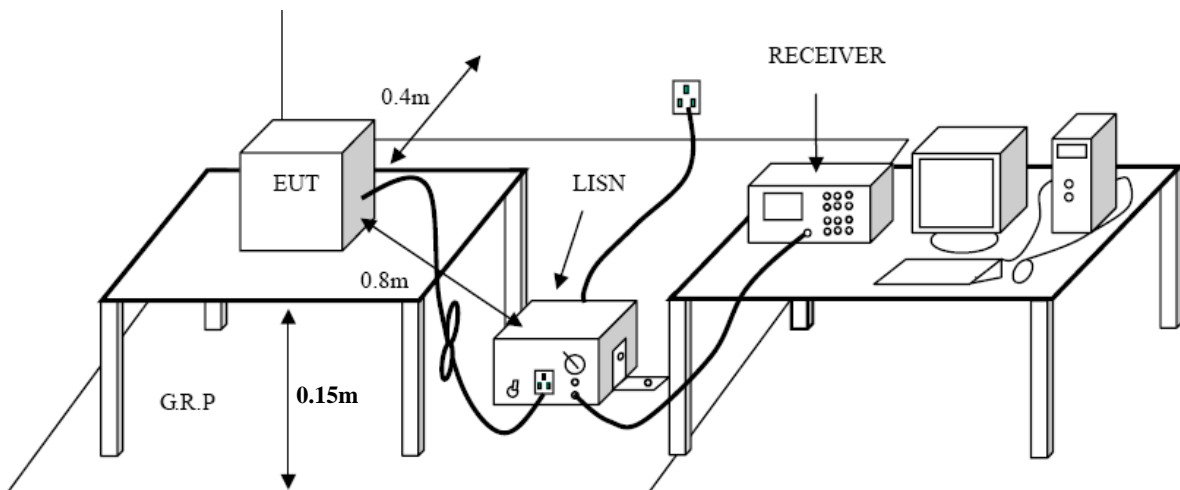
3.1.2 Test Limit

Conducted Emission Test Limit (Class B)

Frequency	Maximum RF Line Voltage (dB μ V)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

*decreasing linearly with logarithm of the frequency

3.2 Test Setup



3.3 Test Procedure

The EUT was placed 0.15 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

The cables shall be insulated (by up to 15 cm) from the horizontal ground reference plane, and shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

3.4 Test Data

This test is not applicable.

4. Radiated Emission Test

4.1 Test Standard and Limit

4.1.1 Test Standard
FCC Part 15 B: 2013

4.1.2 Test Limit

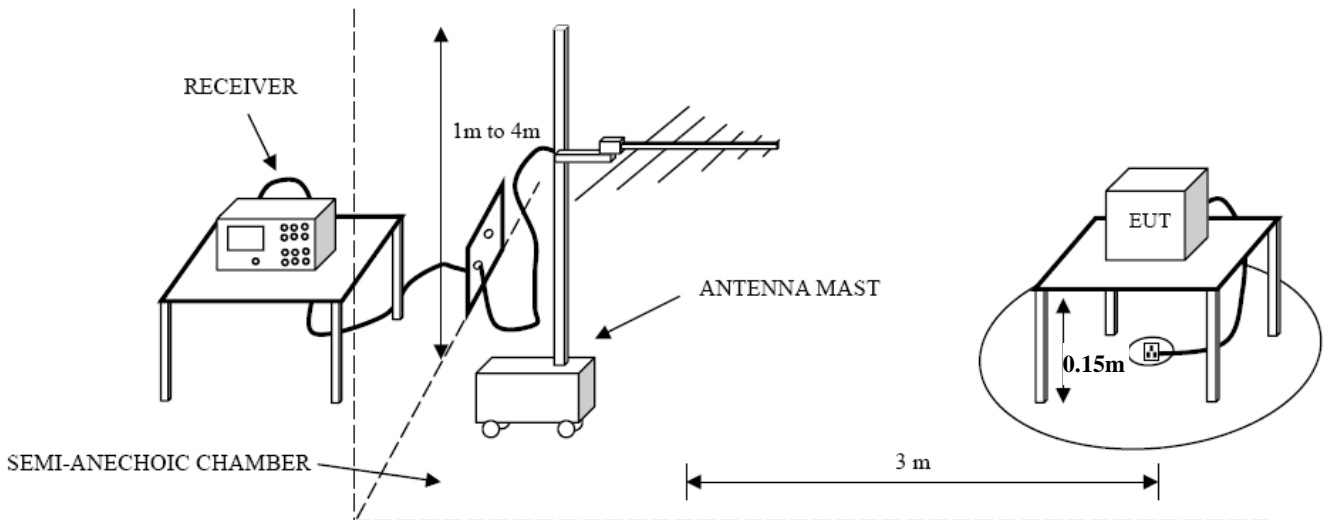
Radiated Emission Test Limit (Class B)

Frequency MHz	Field Strengths Limits dB(μ V/m)
30 ~ 88	40.0
88 ~ 216	43.5
216 ~ 960	46.0
960 ~ 1000	54.0

* The lower limit shall apply at the transition frequency.

* The test distance is 3m.

4.2 Test Setup



4.3 Test Procedure

The EUT was placed on the top of a rotating table which is 0.15 meters above the ground. EUT is set 3.0 meters away from the receiving antenna that mounted on a antenna tower. The table was rotated 360 degrees to determine the position of the highest radiation, the antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

Measurements shall be made with a quasi-peak measuring receiver in the frequency range

30MHz to 1000MHz. 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.

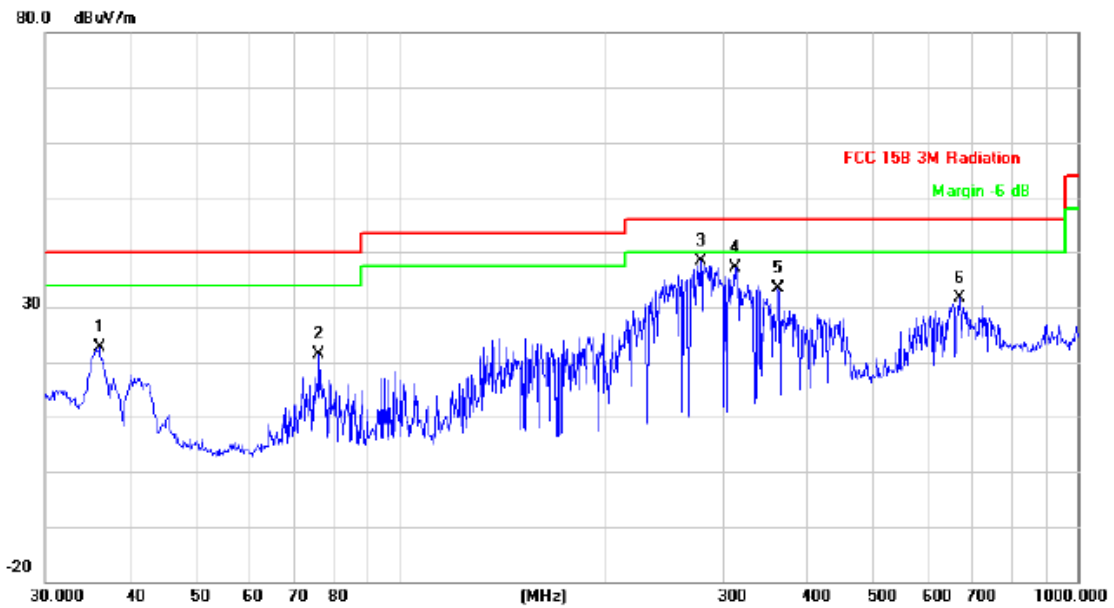
4.4 Test Condition

Temperature	:	25 °C
Relative Humidity	:	48 %
Pressure	:	1010 hPa
Test Power	:	DC 5V

4.5 Test Data

Please refer to the following pages.

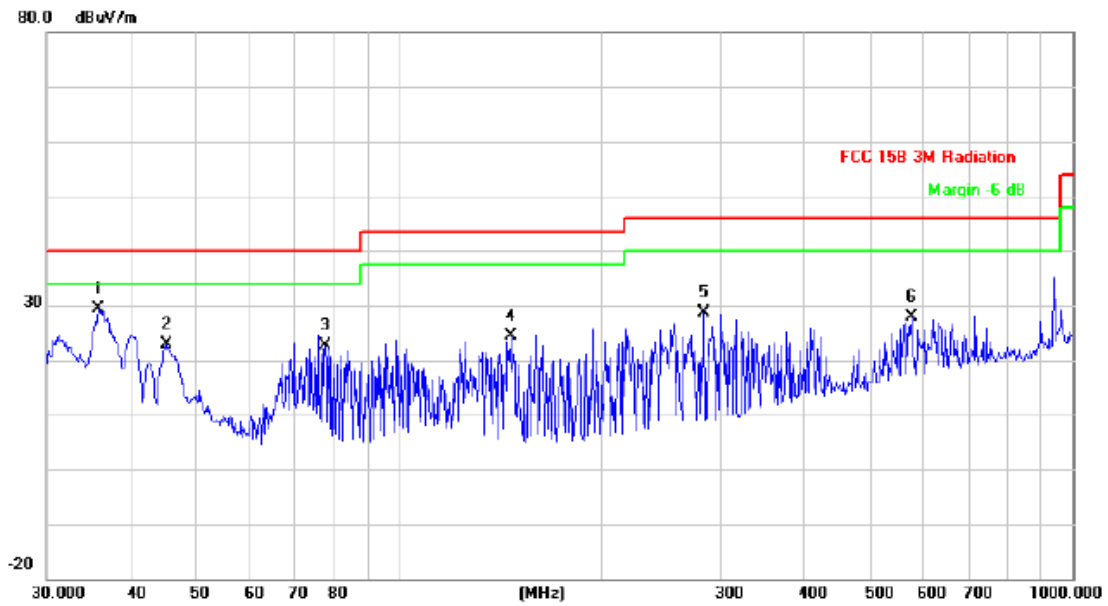
EUT:	Power Bank	Model Name :	PB06
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	Charging Mode		
Remark:			



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		36.0007	40.39	-17.67	22.72	40.00	-17.28	peak
2		75.9773	44.84	-23.42	21.42	40.00	-18.58	peak
3	*	278.0668	55.87	-17.51	38.36	46.00	-7.64	peak
4		312.1794	53.86	-16.63	37.23	46.00	-8.77	peak
5		361.7139	47.85	-14.54	33.31	46.00	-12.69	peak
6		670.4893	39.29	-7.77	31.52	46.00	-14.48	peak

Emission Level= Read Level+ Correct Factor

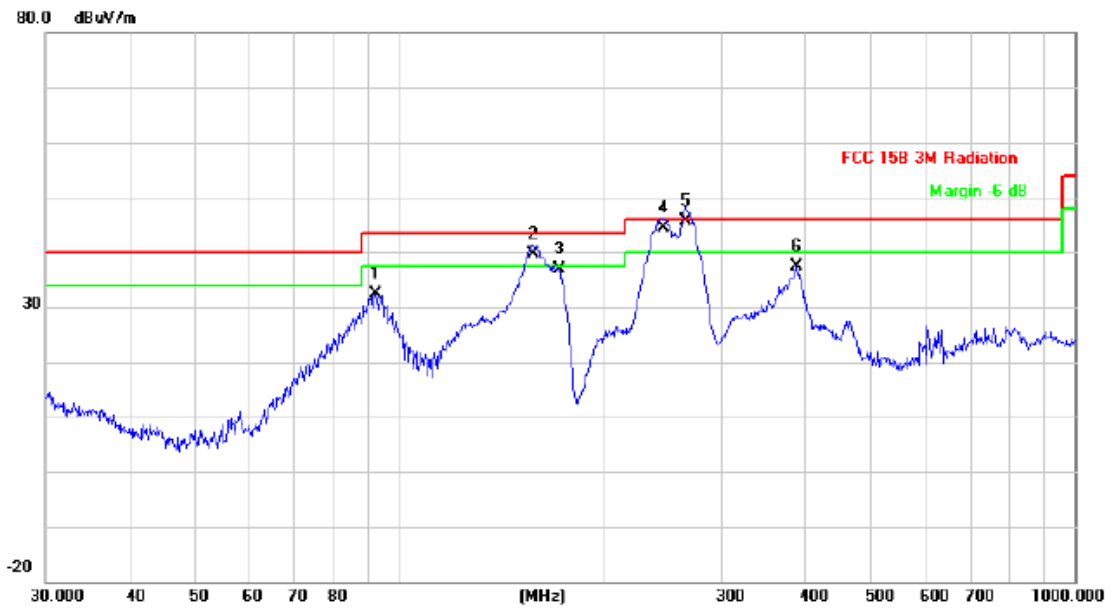
EUT:	Power Bank	Model Name :	PB06
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	Charging Mode		
Remark:			



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	35.7490	46.82	-17.53	29.29	40.00	-10.71	peak
2		45.2166	45.23	-22.37	22.86	40.00	-17.14	peak
3		77.5928	46.05	-23.36	22.69	40.00	-17.31	peak
4		146.3735	45.85	-21.47	24.38	43.50	-19.12	peak
5		283.9791	46.02	-17.40	28.62	46.00	-17.38	peak
6		576.6443	38.04	-10.09	27.95	46.00	-18.05	peak

Emission Level= Read Level+ Correct Factor

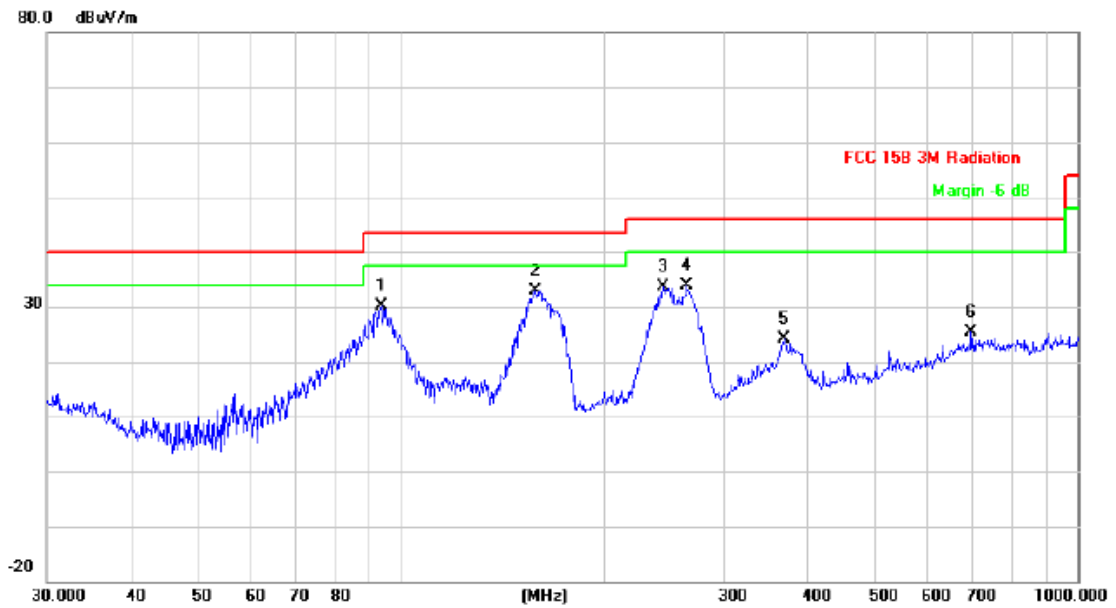
EUT:	Power Bank	Model Name :	PB06
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	Discharging Mode		
Remark:			



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		92.1388	54.91	-22.50	32.41	43.50	-11.09	peak
2	!	158.1123	60.34	-20.64	39.70	43.50	-3.80	peak
3		172.5988	57.83	-21.02	36.81	43.50	-6.69	peak
4	!	246.8149	62.54	-18.27	44.27	46.00	-1.73	QP
5	*	265.6757	63.50	-17.78	45.72	46.00	-0.28	QP
6		387.9920	51.02	-13.60	37.42	46.00	-8.58	peak

Emission Level= Read Level+ Correct Factor

EUT:	Power Bank	Model Name :	PB06
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	Discharging Mode		
Remark:			



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		93.4402	52.53	-22.39	30.14	43.50	-13.36	peak
2	*	158.1123	53.45	-20.64	32.81	43.50	-10.69	peak
3		244.2321	52.08	-18.40	33.68	46.00	-12.32	peak
4		264.7457	51.56	-17.80	33.76	46.00	-12.24	peak
5		368.1116	38.54	-14.50	24.04	46.00	-21.96	peak
6		696.8567	32.43	-6.95	25.48	46.00	-20.52	peak

Emission Level= Read Level+ Correct Factor

5. Photographs - Constructional Details

Photo 1 Appearance of EUT



Photo 2 Appearance of EUT

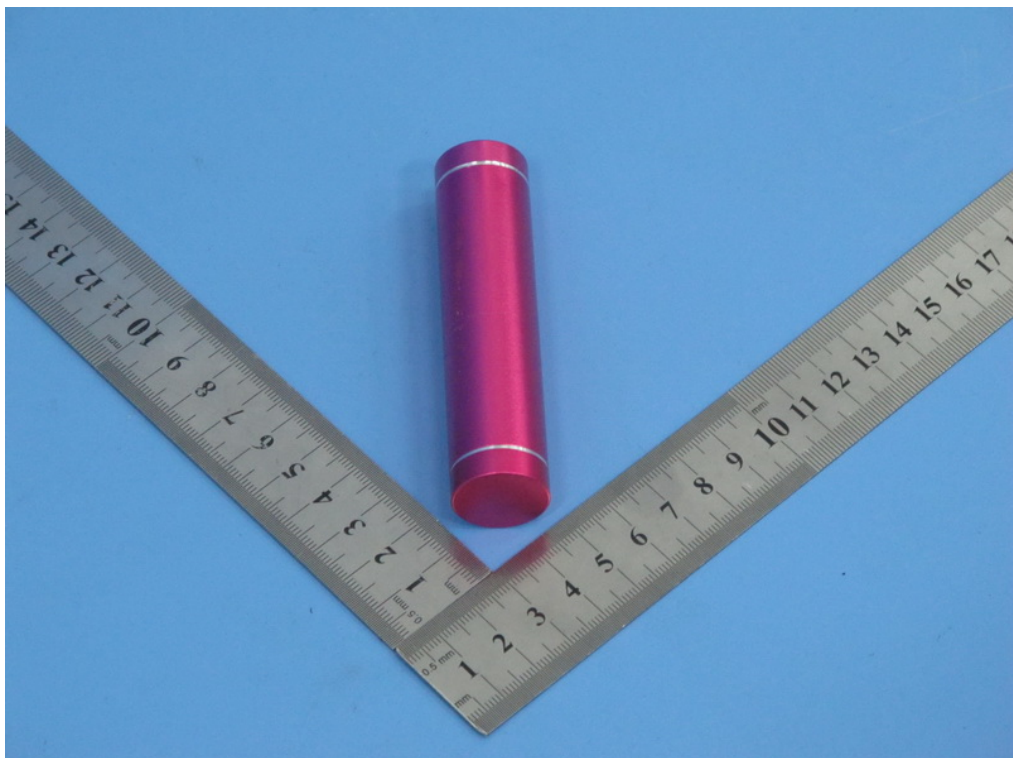


Photo 3 Appearance of EUT

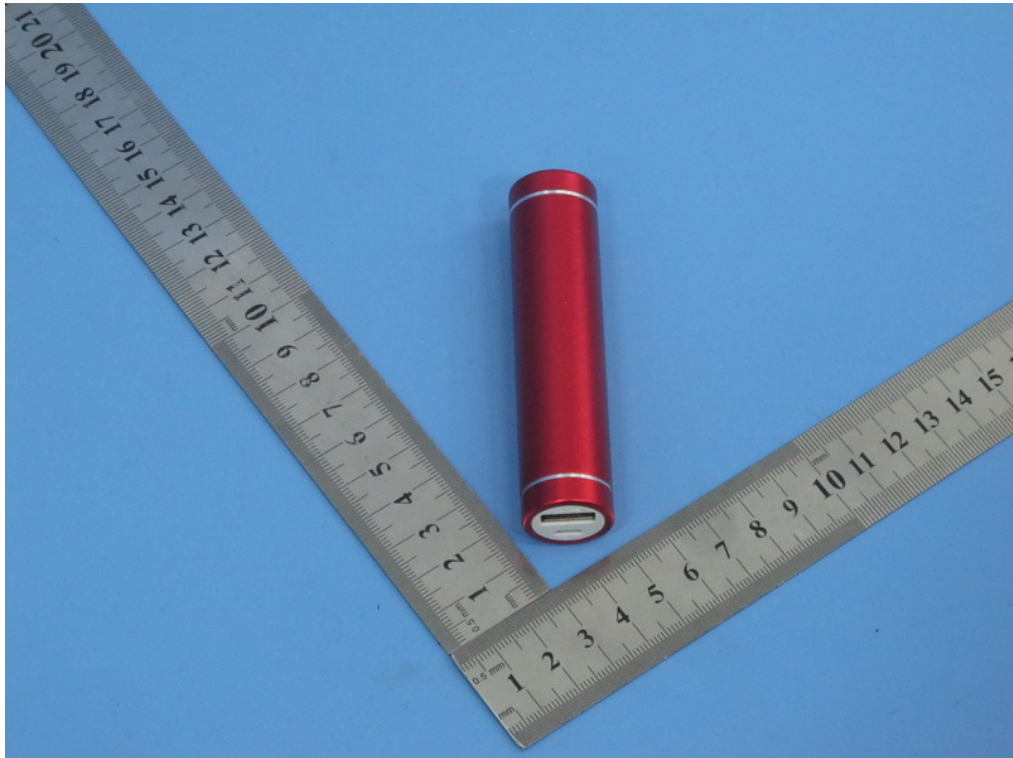


Photo 4 Appearance of EUT

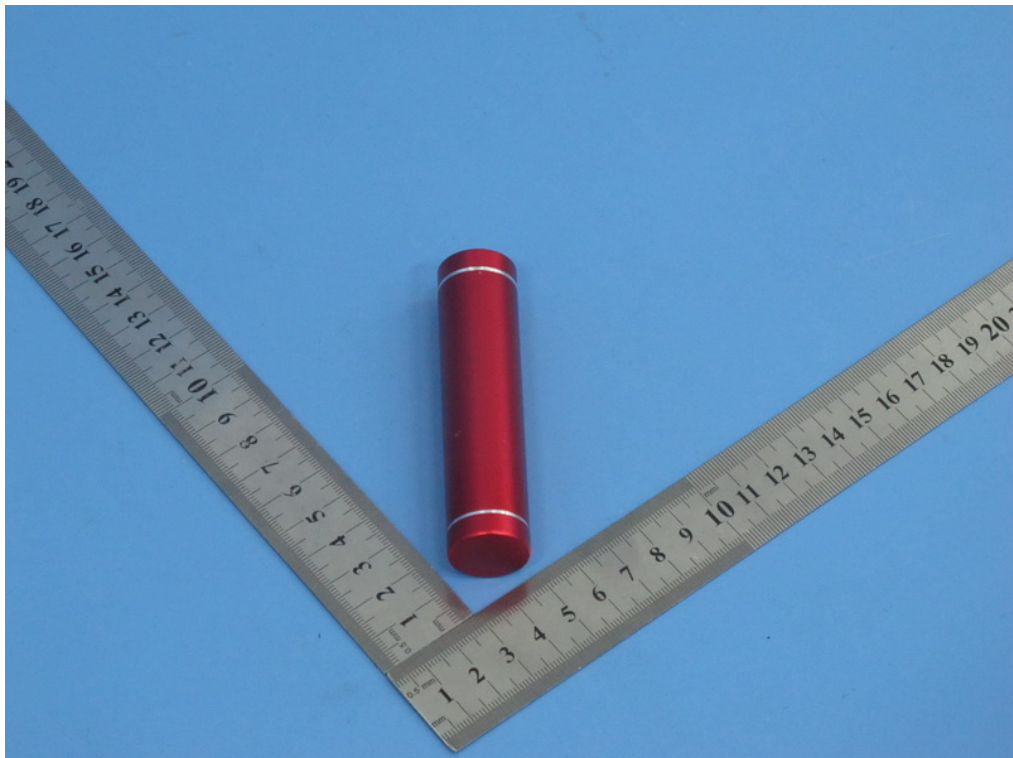


Photo 5 Internal of EUT

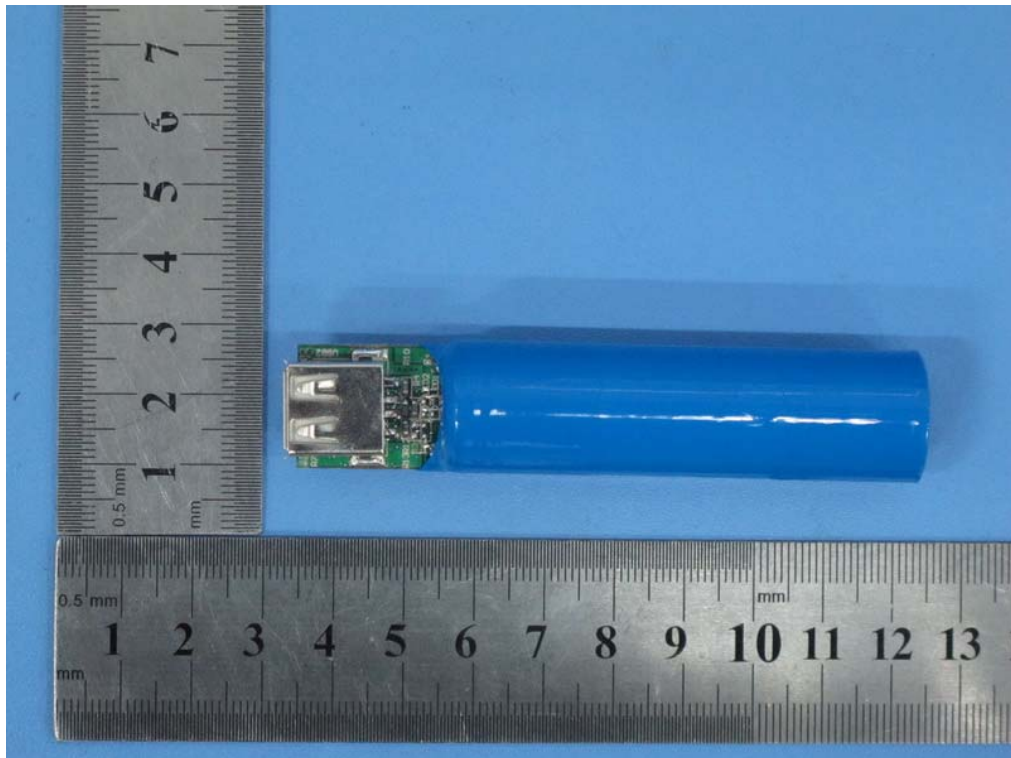


Photo 6 Appearance of PCB

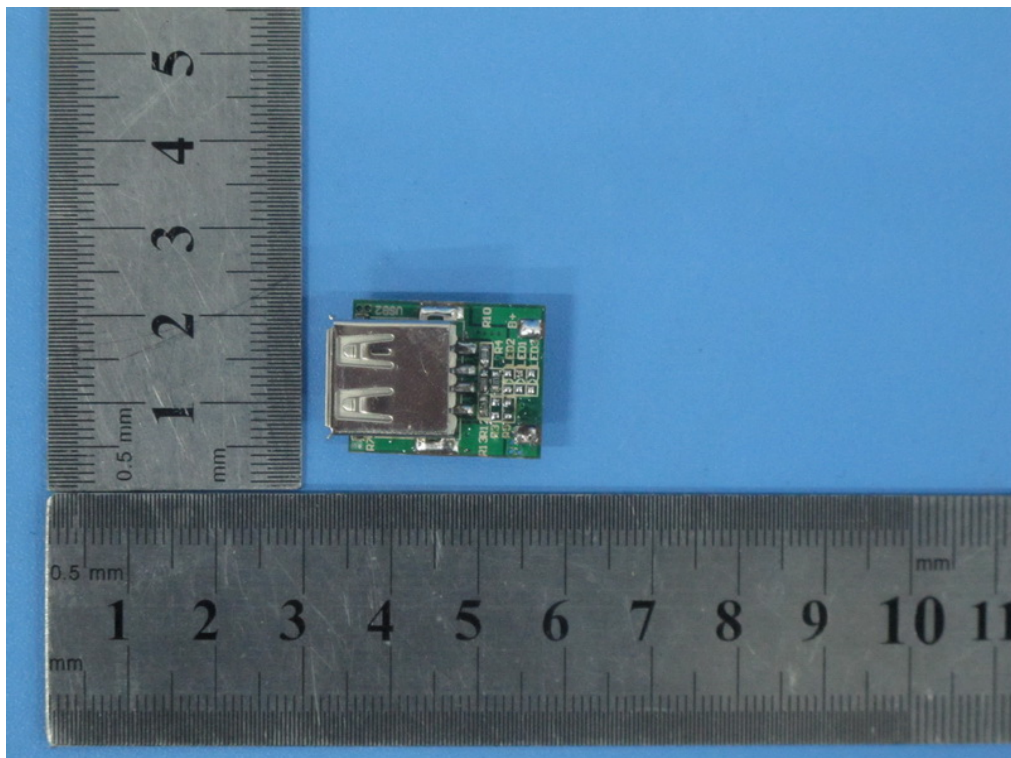
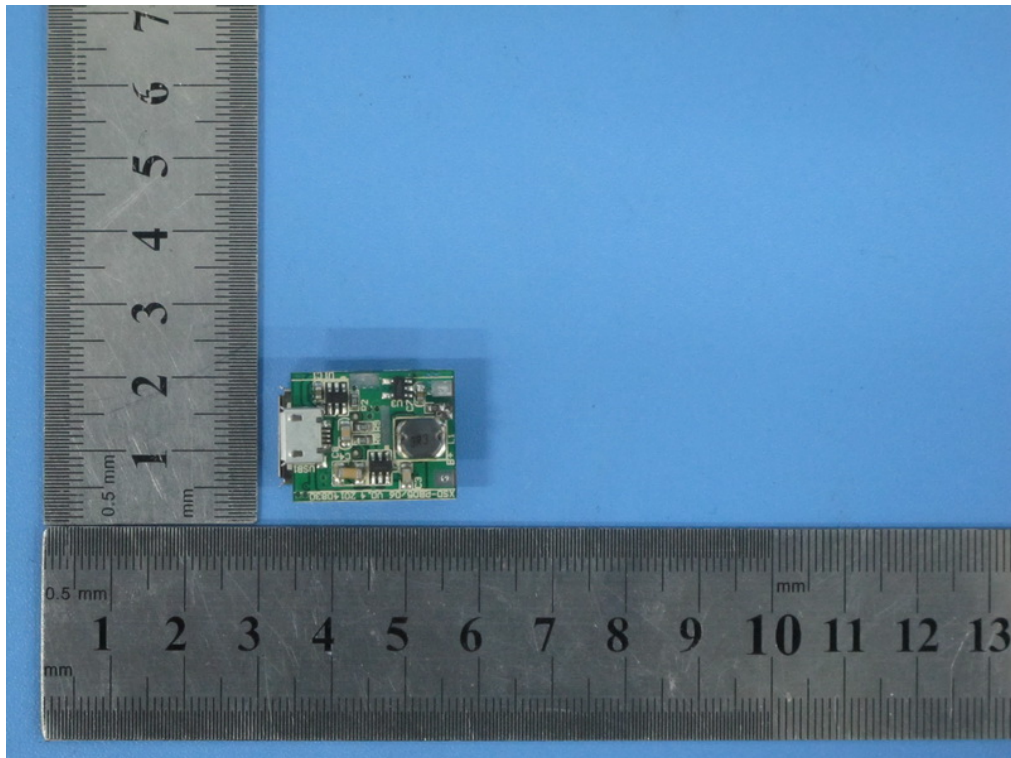


Photo 7 Appearance of PCB



6. Photographs - Test Setup

Photo 1 Radiated Emission Test Setup

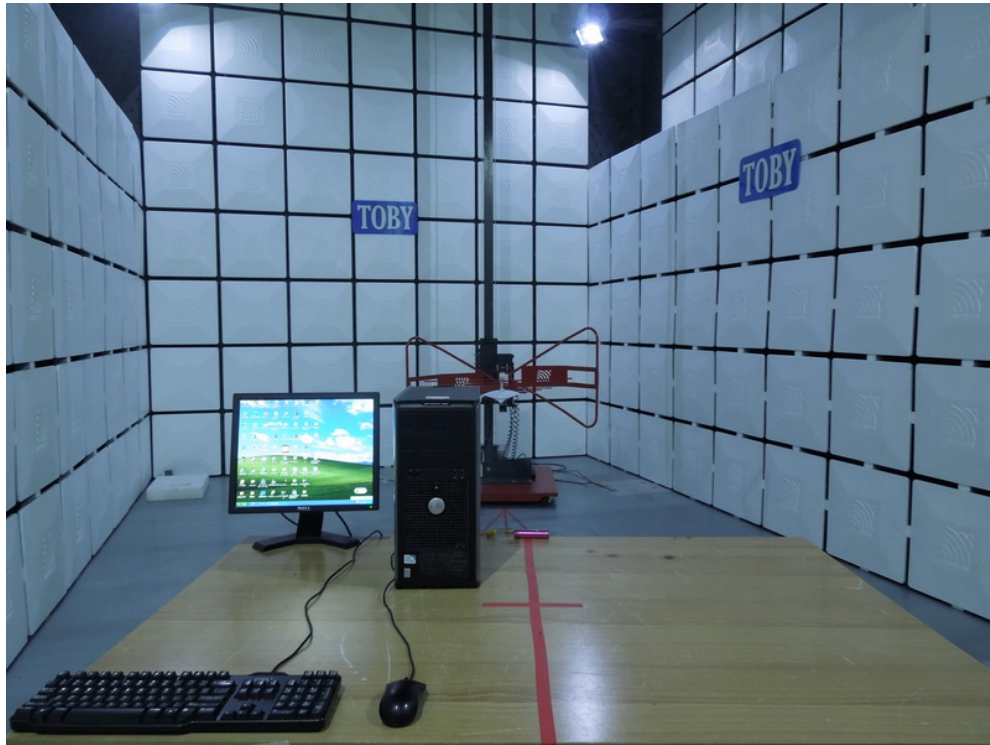


Photo 2 Radiated Emission Test Setup

