



RF EXPOSURE REPORT

Report No.: SET2018-13947

Product Name: Power Bank

FCC ID: 2AEEVOBFTC-0019-A

Model No. : OBFTC-0019-A

Applicant: Otter Products, LLC

Address: 209 South Meldrum Street Fort Collins, Colorado 80521

Dates of Testing: 11/08/2018-11/22/2018

Issued by: CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd.

Lab Location: Building 28/29, East of Shigu Xili Industrial Zone, Nanshan District
Shenzhen, Guangdong 518055, China

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Test Report

Product Name Power Bank

Brand Name OTTERBOX

Trade Name N/A

Applicant Otter Products,LLC

Applicant Address..... 209 South Meldrum Street Fort Collins, Colorado 80521

Manufacturer..... Dongguan NVT Technology Co., Ltd

Manufacturer Address No.8 Xingguo Middle Road, Jiaoshe Village, Dongkeng Town, Dongguan, Guangdong, P.R.China, 523407

Test Standards..... KDB680106 D01 RF Exposure Wireless Charging Apps v03

Test Result PASS

Tested by Yun Lei Fang 2018.11.22

Yun Lei Fang, Test Engineer

Reviewed by..... Chris You 2018.11.22

Chris You, Senior Engineer

Approved by Zhu Qi 2018.11.22

Zhu Qi, Manager



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Change History		
Issue	Date	Reason for change
1.0	2018.11.22	First edition

1. General Information

1.1. EUT Description

EUT Type	Power Bank
Hardware Version	V1.5
Software Version	V1.5
Power Supply	DC 3.7V from battery USB Input:5V-12V, 1.3A-3A Wireless Output: 5V-2A
Frequency Range	115-205KHz
Antenna Type	Coil Antenna

Operating Environment	
Temperature	24°C
Humidity	57 % RH
Atmospheric Pressure	1010 mbar
Test mode:	
Continuously transmitting mode	Keep loading

1.2. Measurement Uncertainty

Parameter	Uncertainty
Magnetic Field	+/-23%
Electric Field	+/-15%

Uncertainty figures are valid to a confidence level of 95%

1.3. Test and Measurement Equipment

Test equipment list			
Description	Manufacturer	Model	Cal Date
EMF Meter	NARDA	ELT-400	09/17/2019
EMF Probe	NARDA	B-Field Probe	07/24/2019

Support equipment list			
Description	Manufacturer	Model	Cal Date
AC adapter	DOCKOM	LPL-A0050501002	NA
Mobile Phone	Apple	Mate 20	NA



1.4. Test Facilities

CNAS-Lab Code: L1659

CCIC-SET is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659.

FCC-Registration No.: CN5031

CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd. 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. Designation Number: CN5031, valid time is until December 31, 2018.

ISED Registration: 11185A-1

CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A-1 on Aug. 04, 2016, valid time is until Aug. 03, 2019.

NVLAP Lab Code: 201008-0

CCIC-SET is a third party testing organization accredited by NVLAP according to ISO/IEC 17025. The accreditation certificate number is 201008-0.

2. Test Configuration and Test results

2.1. Requirement

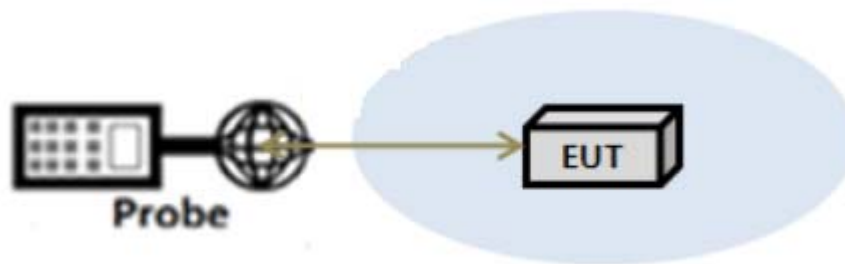
According to Part 1.1310, system operating under the provision of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the commission’s guidelines.

2.2. Test Configuration

According to KDB KDB680106 D01 RF Exposure Wireless Charging Apps v03, E and H Field measurements were performed at a distance of 15cm or 0.5cm laterally six sides from the edges of the EUT. Testing was performed with the configurations:

1. EUT +Adapter charging + Wireless charging(phone) at 15cm distance
2. EUT+ Wireless Charging(phone) at 0.5cm distance

Setup block



2.3. Test Results

1. EUT +Adapter charging + Wireless charging(phone), Mobile exposure condition.

Phone at 5% level Battery					
Position	Distance(cm)	Electric Field Strength(V/m)	Limit(V/m)	Magnetic Field Strength(A/m)	Limit(A/m)
Edge A	15	1.02	614.0	0.125	1.63
Edge B	15	2.11	614.0	0.239	1.63
Edge C	15	1.12	614.0	0.098	1.63
Edge D	15	2.01	614.0	0.200	1.63
Top	15	1.10	614.0	0.100	1.63
Back Side	15	1.48	614.0	0.092	1.63



Phone at 50% level Battery					
Position	Distance(cm)	Electric Field Strength(V/m)	Limit(V/m)	Magnetic Field Strength(A/m)	Limit(A/m)
Edge A	15	0.098	614.0	0.102	1.63
Edge B	15	1.91	614.0	0.210	1.63
Edge C	15	1.02	614.0	0.079	1.63
Edge D	15	1.79	614.0	0.178	1.63
Top	15	0.089	614.0	0.081	1.63
Back Side	15	1.11	614.0	0.100	1.63

Phone at 95% level Battery					
Position	Distance(cm)	Electric Field Strength(V/m)	Limit(V/m)	Magnetic Field Strength(A/m)	Limit(A/m)
Edge A	15	0.89	614.0	0.08	1.63
Edge B	15	2.09	614.0	0.168	1.63
Edge C	15	0.77	614.0	0.081	1.63
Edge D	15	1.70	614.0	0.156	1.63
Top	15	0.08	614.0	0.072	1.63
Back Side	15	0.88	614.0	0.79	1.63

2. EUT+ Wireless Charging(phone), Portable Exposure Condition.

Phone at 5% level Battery					
Position	Distance(cm)	Electric Field Strength(V/m)	Limit(V/m)	Magnetic Field Strength(A/m)	Limit(A/m)
Edge A	0.5	6.16	614.0	0.338	1.63
Edge B	0.5	8.22	614.0	0.612	1.63
Edge C	0.5	5.02	614.0	0.349	1.63
Edge D	0.5	8.14	614.0	0.668	1.63
Top	0.5	4.20	614.0	0.281	1.63
Back Side	0.5	4.67	614.0	0.273	1.63



Phone at 50% level Battery					
Position	Distance(cm)	Electric Field Strength(V/m)	Limit(V/m)	Magnetic Field Strength(A/m)	Limit(A/m)
Edge A	0.5	6.05	614.0	0.322	1.63
Edge B	0.5	8.41	614.0	0.600	1.63
Edge C	0.5	4.93	614.0	0.313	1.63
Edge D	0.5	8.02	614.0	0.626	1.63
Top	0.5	4.33	614.0	0.277	1.63
Back Side	0.5	4.55	614.0	0.265	1.63

Phone at 95% level Battery					
Position	Distance(cm)	Electric Field Strength(V/m)	Limit(V/m)	Magnetic Field Strength(A/m)	Limit(A/m)
Edge A	0.5	5.48	614.0	0.287	1.63
Edge B	0.5	7.69	614.0	0.562	1.63
Edge C	0.5	4.86	614.0	0.301	1.63
Edge D	0.5	7.60	614.0	0.599	1.63
Top	0.5	4.05	614.0	0.243	1.63
Back Side	0.5	4.11	614.0	0.234	1.63

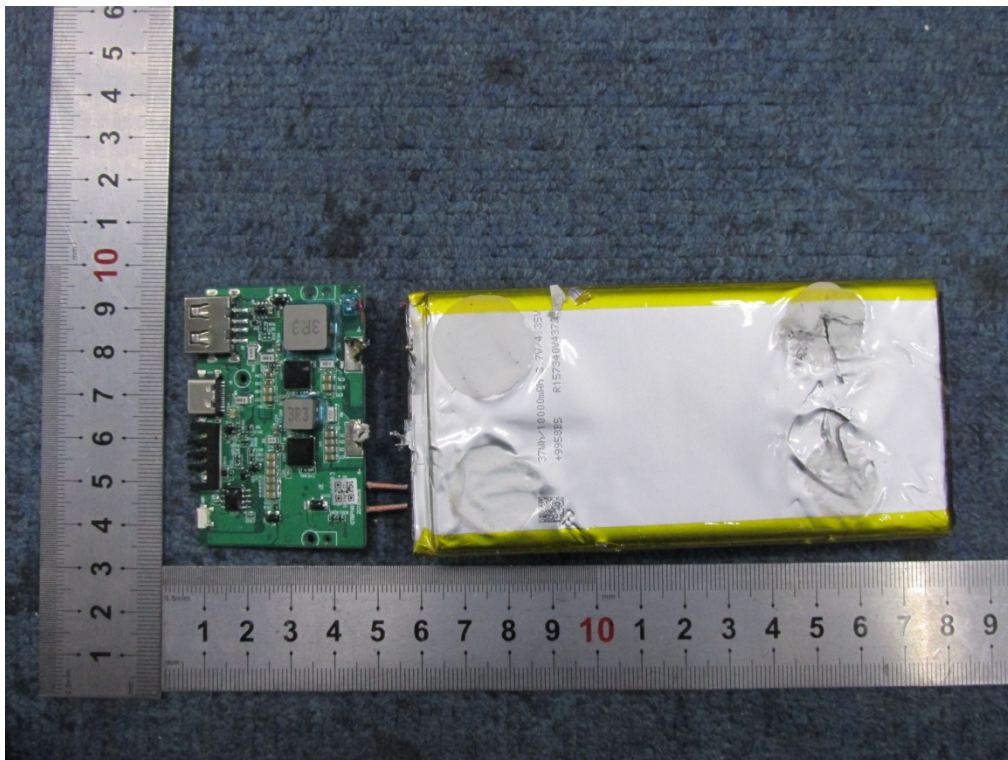
Reported Measurements are the RMS average of multiple sweeps over a period of 30s

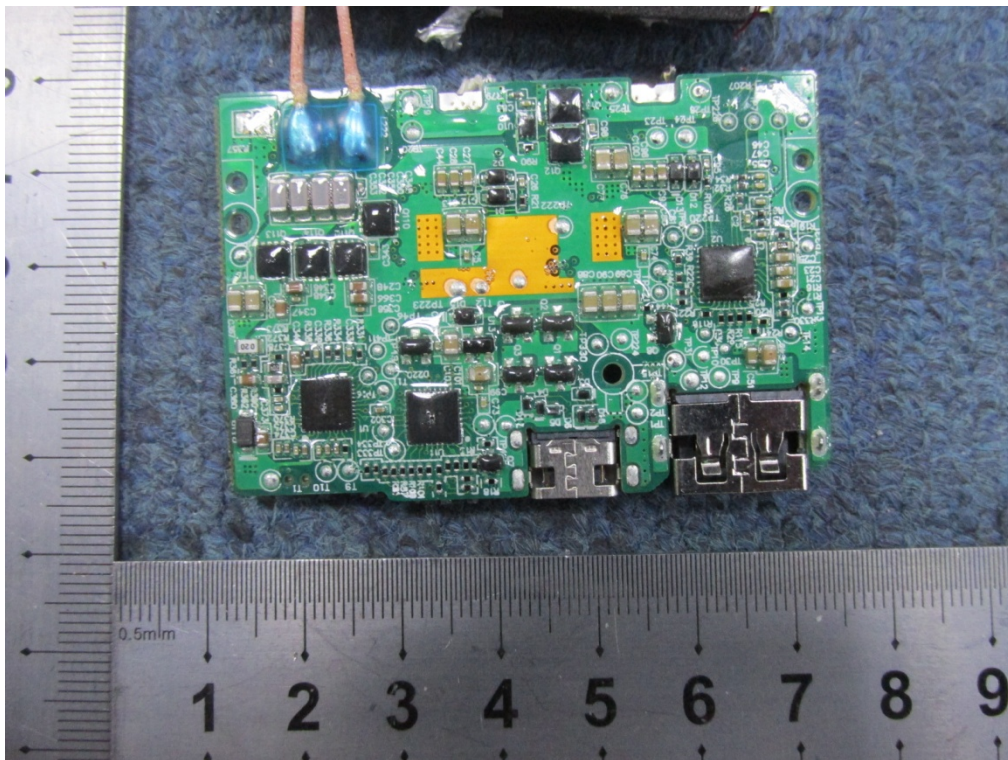
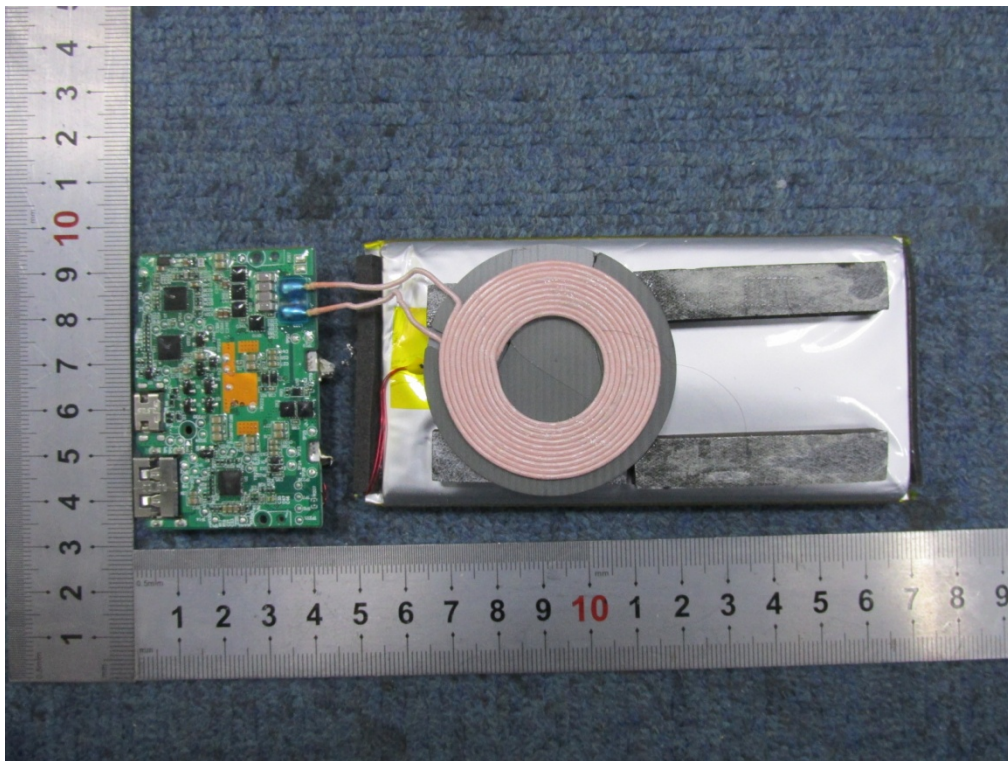
Appendix I: Photographs of the EUT

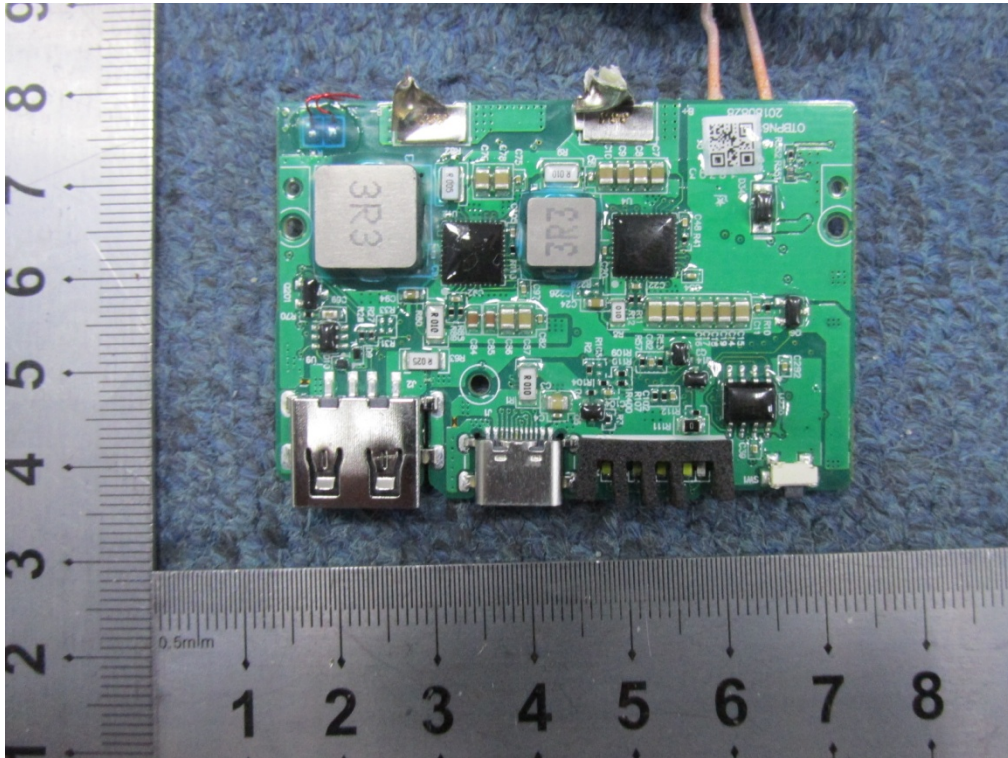




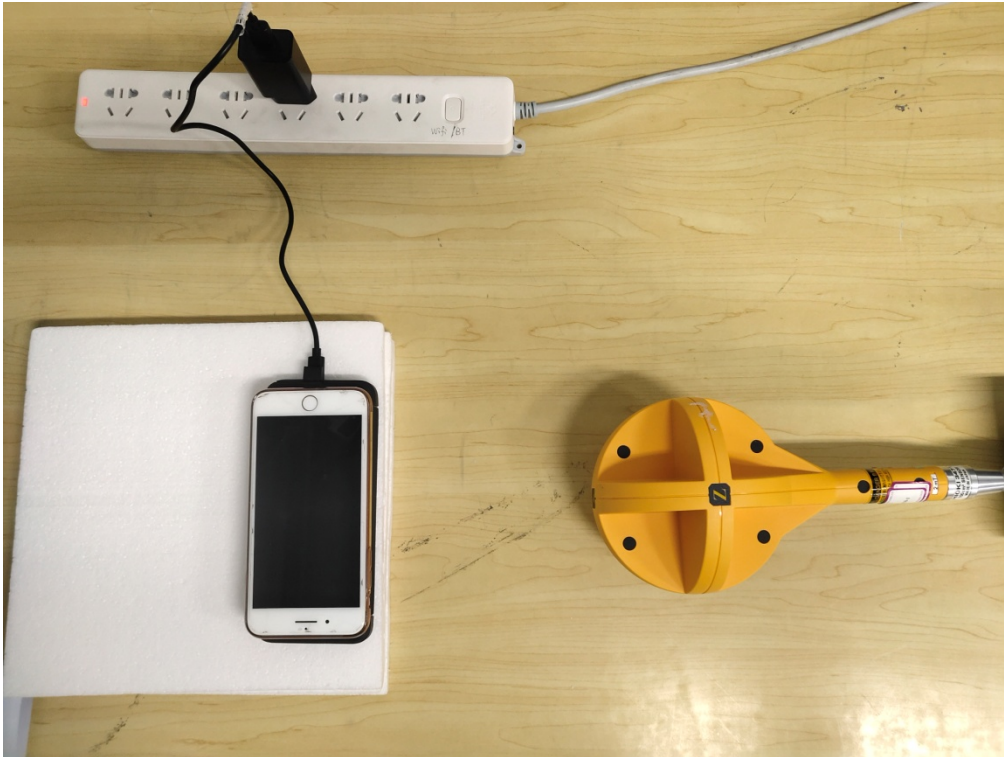








Appendix II: Photographs of Test Configuration



AC Adapter +EUT + Charging(phone)



EUT + Charging(phone)

----End of Report----