

# RF EXPOSURE REPORT

## For

### FCC ID: 2AIY2-MANTLE

Product Name:	Wireless Charger
Trademark:	N/A
Model Number:	Power Mantle
Prepared For :	Fortyfour group LLC
Address :	11397 Slater Ave, Fountain Valley, CA 92708 USA
Prepared By :	Shenzhen BCTC Testing Co., Ltd.
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Test Date:	Jan. 03, 2020 to Jan. 10, 2020
Date of Report :	Jan. 10, 2020
Report No.:	BCTC2001000157-1E

## TEST RESULT CERTIFICATION

**Applicant's name** ..... : Fortyfour group LLC

Address ..... : 11397 Slater Ave, Fountain Valley, CA 92708 USA

**Manufacture's Name** ..... : Fortyfour group LLC

Address ..... : 11397 Slater Ave, Fountain Valley, CA 92708 USA

### Product description

Product name ..... : Wireless Charger

Trademark ..... : N/A

Model and/or type reference : Power Mantle

Serial Model : N/A

Power Supply : Micro USB Input: DC5V/2.0A  
Wireless Output: 5W

**Standards** ..... : FCC CFR 47 part1, 1.1307(b), 1.1310

This device described above has been tested by BCTC, and the test results show that the equipment under And it is applicable only to the tested sample identified in the report.

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Prepared by(Engineer): Kelsey Tan



Reviewer(Supervisor): Eric Yang



Approved(Manager): Zero Zhou

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## . GENERAL INFORMATION

### . Independent Operation Mode

The basic operation mode is:

#### 1.1.1. Charging

### . Test Supporting System

Adapter

Description : Adapter

Model No. : BCTC-002

Power Input : AC 100-240V~50/60Hz

Output: 5V--- 2A

DC Line : Unshielded, Detachable 1m

Mobile phone

Model No. : iphone8P

Model No. : iphone

## LIST OF TEST AND MEASUREMENT INSTRUMENTS

- For conducted emission at the mains terminals test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Exposure Level Tester	Narda	ELT-400	N-0231	Jul. 15, 2019	Jul. 14, 2020
Magnetic field probe 100cm <sup>2</sup>	Narda	B-Field Probe 100cm <sup>2</sup>	M0675	Jul. 15, 2019	Jul. 14, 2020
843 Chamber	ETS	843	84301	Aug. 27, 2018	Aug. 26, 2021

### 3. METHOD OF MEASUREMENT

#### 3. 1. Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions 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. According to §1.1310 and §2.1093 RF exposure is calculated. According KDB680106 D01v03: RF Exposure Wireless Charging Apps v02.

#### 3. 2. Test Modes

Test Modes	keeping TX+Charging mode
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#### 3. 3. MAXIMUM PERMISSIBLE EXPOSURE

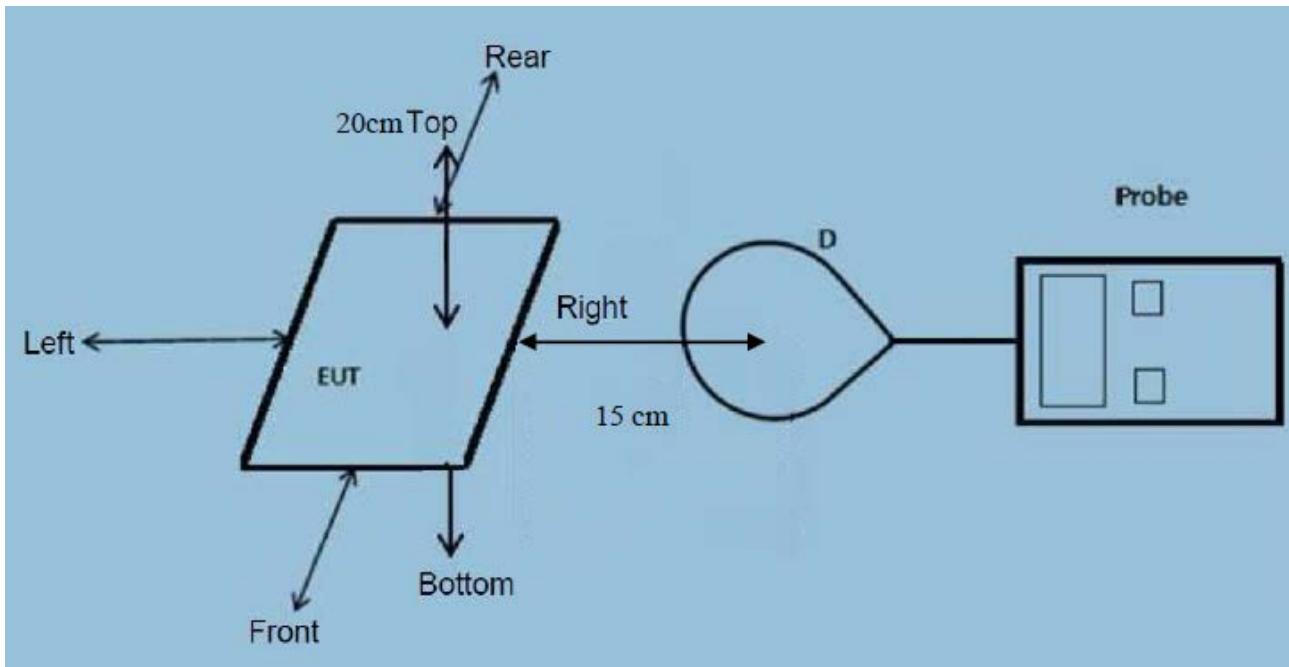
##### Limit of Maximum Permissible Exposure

Limits for Occupational / Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Limits for General Population / Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180 / f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1	30

## 4. TEST RESULT

### 4.1. Conducted Emission at the Mains Terminals Test



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm measured from the center of the probe(s) to the edge of the device

#### Test Procedure:

- The RF exposure test was performed on 360 degree turn table in anechoic chamber.
- The measurement probe was placed at test distance (15cm) which is between the edge of the charger and the geometric centre of probe.
- The turn table was rotated 360 degree to search of highest strength.
- The highest emission level was recorded and compared with limit as soon as measurement of each points (A, B, C, D, E) were completed.
- The EUT were measured according to the dictates of KDB 680106D01v03.

## 4.2. Equipment Approval Considerations:

The EUT does comply with item 5(b) of KDB 680106 D01v03

1) Power transfer frequency is less than 1MHz

Yes, the device operate in the frequency range from 120-220KHz

2) Output power from each primary coil is less than or equal to 10 watts.

YES, the maximum output power of the primary coil is 5W.

3) The transfer system includes only single primary and secondary coils. This includes charging systems that may have multiple primary coils and clients that able to detect and allow coupling onlybetween individual pair of coils.

Yes, the transfer system includes only single primary and secondary coils.

4) Client device is inserted in or placed directly in contact with the transmitter.

Yes, client device is placed directly in contact with the transmitter.

5) Mobile exposure conditions only (portable exposure conditions are not covered by this exclusion).

Yes, the EUT is a Wireless Charger.

6) The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Yes, the EUT field strength levels are 50% x MPE limit.

### 4.3. E and H field Strength

(The worst data)

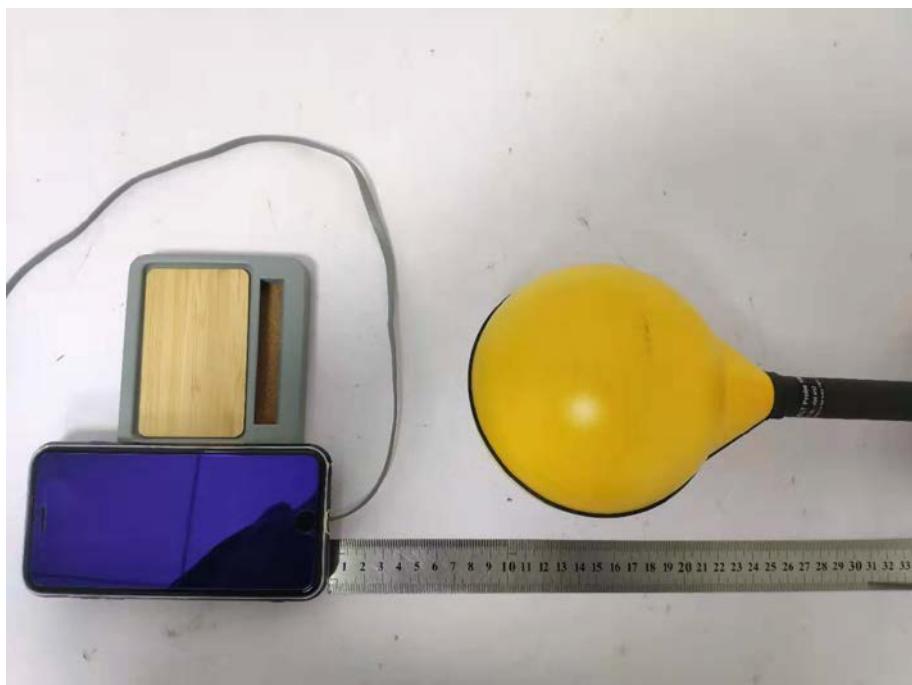
E-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	50% Limits Test (V/m)	Limits Test (V/m)
1%	0.120-0.220	0.75	0.63	0.65	0.63	0.73	0.63	307	614
50%	0.120-0.220	0.67	0.51	0.61	0.49	0.61	0.50	307	614
99%	0.120-0.220	0.47	0.37	0.55	0.33	0.47	0.39	307	614

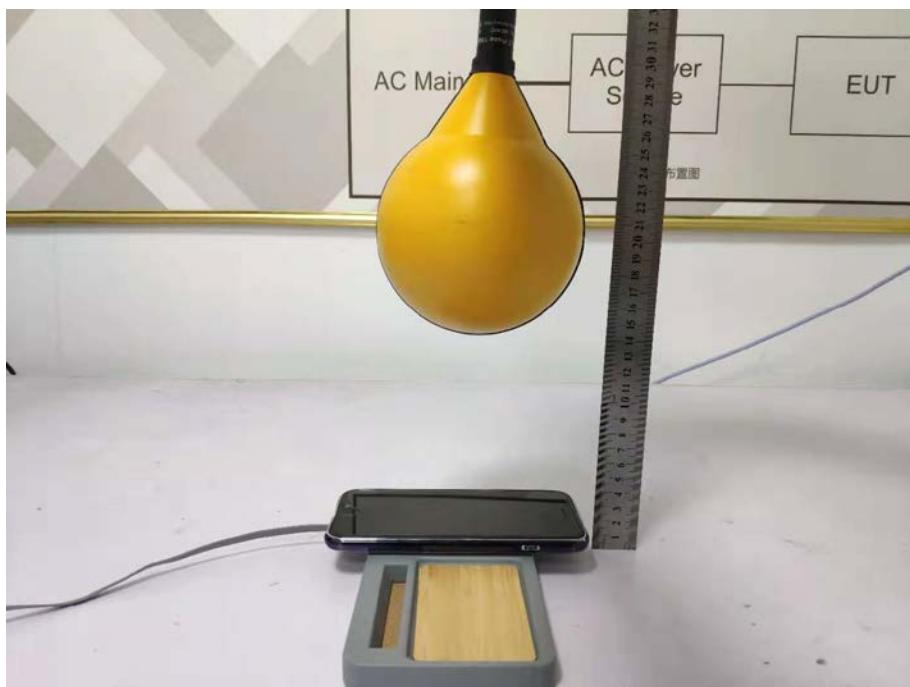
H-Field Strength at 15 cm surrounding the EUT and 20cm above the top surface of the EUT

Battery level	Frequency Range (MHz)	Test Position A	Test Position B	Test Position C	Test Position D	Test Position E	Test Position F	50% Limits Test (A/m)	Limits Test (A/m)
1%	0.120-0.220	0.33	0.26	0.27	0.15	0.13	0.17	0.815	1.63
50%	0.120-0.220	0.22	0.24	0.16	0.19	0.12	0.11	0.815	1.63
99%	0.120-0.220	0.11	0.18	0.17	0.12	0.09	0.14	0.815	1.63

## 5. Photographs of test set-up







\*\*\*\*\* END OF REPORT \*\*\*\*\*