



# RF EXPOSURE REPORT

## FOR

<b>Applicant</b>	:	Otter Products, LLC.
<b>Address</b>	:	209 S Meldrum St, Fort Collins, Co. 80521 United States
<b>Equipment under Test</b>	:	Wireless Charging Pad
<b>Model No.</b>	:	OBFTC-0119-A
<b>Trade Mark</b>	:	OTTERBOX
<b>FCC ID</b>	:	2AEEV-OBFTC0119A
<b>Manufacturer</b>	:	Otter Products, LLC.
<b>Address</b>	:	209 S Meldrum St, Fort Collins, Co. 80521 United States

**Issued By: Dongguan Dongdian Testing Service Co., Ltd.**

**Add.:** No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park,  
Dongguan City, Guangdong Province, China, 523808

**Tel.:** +86-0769-38826678, **E-mail:** ddt@dgddt.com, <http://www.dgddt.com>

# REPORT

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## Test Report Declare

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<b>Manufacturer</b>	:	Otter Products, LLC.
<b>Address</b>	:	209 S Meldrum St, Fort Collins, Co. 80521 United States
<b>Factory 1</b>	:	Power7 Technology (Dong Guan) Co., Ltd.
<b>Address 1</b>	:	No.28 Binjiang Street. Shishuikou Village, Qiaotou Town, Dongguan City, Guangdong Province P. R. China
<b>Factory 2</b>	:	POWER 7 TECHNOLOGY VIET NAM COMPANY LIMITED
<b>Address 2</b>	:	Lot P-9 Trang Due Industrial zone, a part of Dinh Vu - Cat Hai, An Hoa Commune, An Duong District, Hai Phong City, Viet Nam.

**Assess Standard Used:** FCC CFR 47 part1, 1.1307(b), 1.1310; KDB680106 DR03-44118

**We Declare:**

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above.

The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

**After evaluation, our opinion is that the equipment In Accordance with above standard.**

<b>Report No.:</b>	DDT-R22072008-2E02		
<b>Date of Receipt:</b>	Jul. 20, 2022	<b>Date of Test:</b>	Jul. 20, 2022~ Aug. 11, 2022

**Prepared By:**

*Ella Gong*

**Ella Gong /Engineer**

**Approved By:**



**Damon Hu /EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

## Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Aug. 11, 2022	

## 1. General Information

### 1.1. Description of equipment

EUT* Name	: Wireless Charging Pad
Model Number	: OBFTC-0119-A
EUT function description	: Please reference user manual of this device
Power Supply	: Input: 5V=3A, 9V=2.2A, 12V=1.67A Output: 5W, 7.5W, 10W, 15W
Wireless charging Operation frequency	: 128 kHz
Antenna Type	: Inductive loop coil antenna
Serial Number	: S22072008-01

Note: EUT is the abbreviation of equipment under test.

### 1.2. Assistant equipment used for test

Description of Accessories	Manufacturer	Model number	Serial No.	Other
Dummy load	N/A	N/A	N/A	N/A
Phone	APPLE	Iphone 12	N/A	N/A

### 1.3. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: [ddt@dgddt.com](mailto:ddt@dgddt.com).

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, G-20118

#### 1.4. Measurement uncertainty

Test Item	Uncertainty
Uncertainty for Electric field strength(V/m)	3.02 dB
Uncertainty for Magnetic field strength(A/m)	3.00 dB

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

#### 2. Equipment used during test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
Electric and Magnetic Field Analyzer	narda	EHP-200A	170ZX00105	Dec. 22, 2021	1 Year

### 3. Method of Measurement

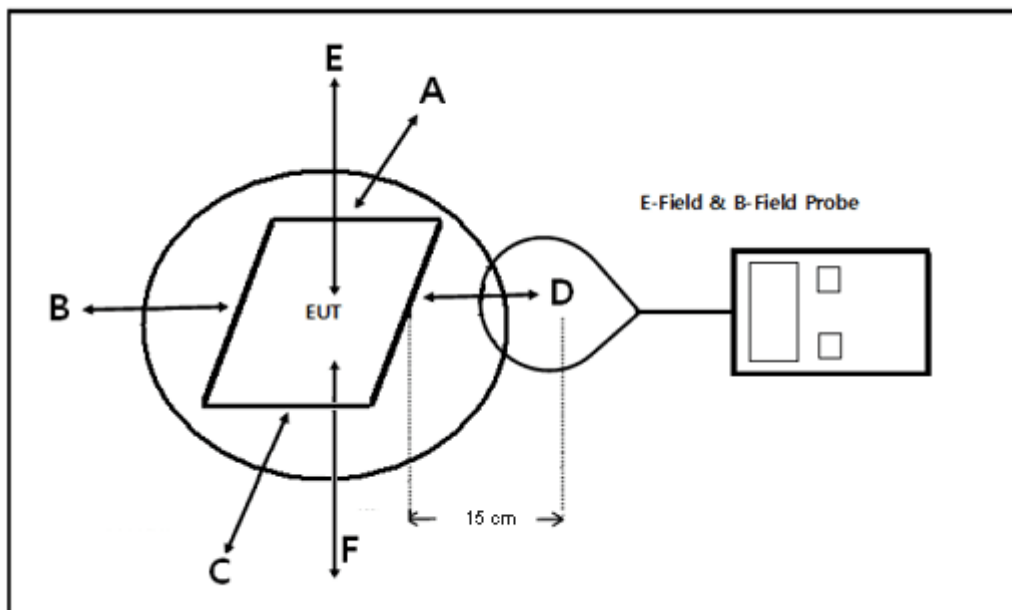
#### 3.1. Applicable standard

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 §2.1091 RF exposure is calculated.

According KDB 680106 D01: RF Exposure Wireless Charging Apps v03r01.

#### 3.2. Block diagram of test setup



Note: Due to installation limitations no tests from the underside of the charging device (Test Position F) are required. The test position F is required when the distance is 0cm.

#### 3.3. Test procedure

- The RF exposure test was performed in shielded chamber.
- The measurement probe was placed at test distance (0cm ,2cm, 4cm, 6cm, 8cm, 10cm,15 cm or 20 cm for E side ) which is between the edge of the charger and the geometric centre of probe.
- The measurement probe used 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, F) were completed.
- The EUT were measured according to the dictates of KDB680106 DR03-44118.

### 3.4. Equipment approval considerations:

The EUT does comply with section 5 b) of KDB 680106 D01 RF Exposure Wireless Charging Apps v03r01.

(1) Power transfer frequency is less than 1 MHz.

Yes, the device operates in the frequency 128kHz.

(2) Output power from each primary coil is less than or equal to 15 watts

Yes, the maximum output power of the primary coil is 15 W.

(3) The system may consist of more than one source primary coils, charging one or more clients.

If more than one primary coil is present, the coil pairs may be powered on at the same time.

Yes, the transfer system includes only one primary coils.

(4) Client device is 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 for Mobile exposure.

(6) The aggregate H-field strengths anywhere at or beyond 15 cm surrounding the device, and 20 cm away from the surface from all coils that by design can simultaneously transmit, and while those coils are simultaneously energized, are demonstrated to be less than 50% of the applicable MPE limit.

Yes, the EUT H-field strengths levels are less than 50% of MPE limit.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(A) Limits for Occupational/Controlled Exposure</b>				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density



### 3.5. E and H Field Strength

Mobile phone has been charge at zero charge, intermediate charge, and full charge with iphone mobile phone A2404(With Magnetic Phone Stand).

Magnetic Field Emissions(WPC)

Note:

1. During the test the phone is attached the network in WWAN traffic mode and Wifi/BT is connected.
2. All test modes were pre-tested, but we only recorded the worst case in this report.

Frequency (kHz)	Test Distance (cm)	Test Position	Probe Measure Result (A/m) @5W	Probe Measure Result (A/m) @7.5W	Probe Measure Result (A/m) @15W	50% Limit (A/m)
128	15	A	0.1127	0.2309	0.0737	0.815
		B	0.1301	0.0847	0.1136	0.815
		C	0.2075	0.1070	0.1326	0.815
		D	0.1040	0.1275	0.0808	0.815

Frequency (kHz)	Test Distance (cm)	Test Position	Probe Measure Result (A/m) @5W	Probe Measure Result (A/m) @7.5W	Probe Measure Result (A/m) @15W	50% Limit (A/m)
128	20	E	0.3443	0.2177	0.2322	0.815

Frequency (kHz)	Test Distance (cm)	Test Position	Probe Measure Result (A/m) @5W	Probe Measure Result (A/m) @7.5W	Probe Measure Result (A/m) @15W	50% Limit (V/m)
128	15	A	3.6241	3.8326	4.4820	307
		B	3.5806	3.6122	4.2641	307
		C	3.7267	4.0074	4.4599	307
		D	3.6834	3.7538	4.2981	307

Frequency (kHz)	Test Distance (cm)	Test Position	Probe Measure Result (A/m) @5W	Probe Measure Result (A/m) @7.5W	Probe Measure Result (A/m) @15W	50% Limit (V/m)
128	20	E	5.9868	6.7104	7.4158	307