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Popsockets LLC

MPE ASSESSMENT REPORT

Report Type:
FCC MPE assessment report

Model:
PW15A

REPORT NUMBER:
191100178SHA-003

ISSUE DATE:
Oct. 31, 2019

DOCUMENT CONTROL NUMBER:
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TEST REPORT

Report no.: 191100178SHA-003

Applicant:	Popsockets LLC
Address of Applicant:	5757 Central Ave Boulder, CO 80301
Manufacturer:	JABIL
Address of Manufacturer:	CARRETERA NOGALES KM13.5, TECHNOLOGY PARK INT AV. Guadalupe No. 225, ZIP CODE: 45010, Zapopan, Jalisco, Mexico
FCC ID:	2ATTRPW15A

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:
KDB447498 D01 General RF Exposure Guidance v06 FCC Part2.1091, FCC Part2.1093 FCC Part1.1307(b)

TESTED, PREPARED AND CHECKED BY :	**REVIEWED AND APPROVED BY :**
Team Leader Henry Lu Shenzhen UnionTrust Quality and Technology Co., Ltd.	Reviewer Daniel Zhao Intertek Testing Services Shanghai

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Revision History

Report No.	Version	Description	Issued Date
191100178SHA-003	Rev. 01	Initial issue of report	Oct. 31, 2019

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Product name:	Qi Certified 15w Home Wireless Charger
Type/Model:	PW15A
Description of EUT:	Qi Certified 15w Home Wireless Charger
Rating:	Model of Adapter: ASSA67A-190130 Input: 100-240 V~50/60 Hz 0.8 A Max Output: 19.0 VDC ⎓ 1.3 A Provided by applicant
Category of EUT:	Class B
EUT type:	☒ Table top ☐ Floor standing
Operating Frequency Range:	127.772 KHz
Antenna Type:	Coil antenna
Sample received date:	Oct. 18, 2019
Date of test:	Oct. 18, 2019 to Oct. 23, 2019

1.2 Description of Test Facility

All tests were sub-contracted and conducted by Shenzhen UnionTrust Quality and Technology Co., Ltd.

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China 518109

Telephone: +86 (0) 755 2823 0888

Fax: +86 (0) 755 2823 0886

Tested, Prepared and Checked by Henry Lu from Shenzhen UnionTrust Quality and Technology Co., Ltd.

Reviewed and Approved by Daniel Zhao from Intertek Testing Services Shanghai.

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

ISED Wireless Device Testing Laboratories

CAB identifier: CN0032

A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

1.3 Instrument list

Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☒	Broadband Field meter	STT	SEM-600	D-1044	May 28, 2019	May 27, 2020
☒	Probe	STT	LF-04	I-1044	May 28, 2019	May 27, 2020
☒	Probe holder	STT	TR-01	N/A	N/A	N/A
☒	Optical fiber line	STT	L=5M	N/A	N/A	N/A

2 MPE Assessment

Test result: Pass

2.1 MPE Assessment Limit

According to KDB680106 D01 RF Exposure Wireless Charging Apps v03 (April 9, 2018), the requirement of RF exposure for the Wireless Charging device shall be met.
For devices designed for typical desktop applications, such a wireless charging pads, RF exposure evaluation should be conducted assuming a user separation distance of 15 cm. E and H field strength measurements or numerical modeling may be used to demonstrate compliance. 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. Emissions between 100 kHz to 300 kHz should be assessed versus the limits at 300 kHz in Table 1 of Section 1.1310: 614 V/m and 1.63 A/m.

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^2)	Averaging Times | E |^2, | H |^2 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
1500-100000	/	/	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^2)	Averaging Times | E |^2, | H |^2 or S (minutes)
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f^2	30
30-300	27.5	0.073	0.2	30
300-1,500	/	/	f/1500	30
1,500-100,000	/	/	1.0	30

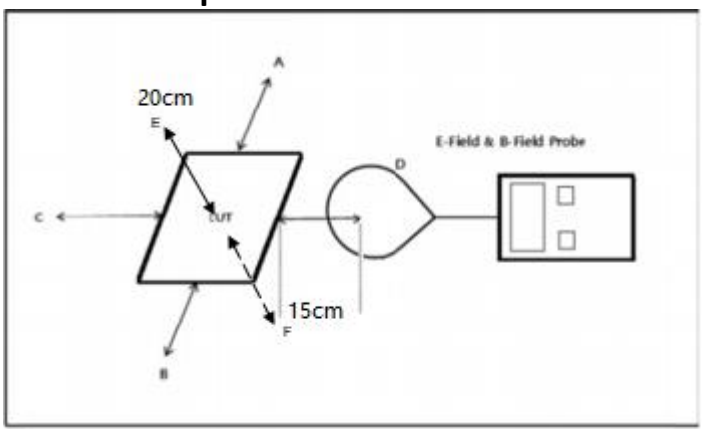
Note: f = frequency in MHz: * = Plane-wave equivalents power density.

2.2 Testing Procedure

Enabled the EUT to transmit and receive data continue
a. The field strength of both E-field and H-field was measured at 15 cm surrounding the device and 20 cm above the top surface using the equipment list above for determining compliance with the MPE requirements of FCC Part 1.1310.
b. The RF power density was measured with the battery at 3 different charge conditions:

battery at less than 1 % , battery at 50% charger, battery at 99% charger,.
c. Maximum E-field and H-field measurements were made 15cm from each side of the EUT. Along the side of the EUT and still 15cm away from the edge of the EU T, the field probes were positioned at the location where there is maximum field strength. The maximum E-field and H-field is reported below.
d. This device uses a wireless charging circuit for power transfer operating at the frequency of X kHz. Thus, the 300 kHz limits were used: E-field Limit = 614 (V/m); H-field limit = 1.63 (A/m).

2.3 Test setup



Note
The RF exposure test is performed in the shield room
The test distance is between the edge of the charger and the geometric center of probe
The aggregate at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated.

2.4 TEST DATA

E-Field Strength

Test Mode	Battery status	Probe Position A (V/m)	Probe Position B (V/m)	Probe Position C (V/m)	Probe Position D (V/m)	Probe Position E (V/m)	Probe Position F (V/m)	Limits (V/m)
Mode 1	<1% Battery status	0.31	0.26	0.21	0.20	0.22	0.28	614
Mode 2	50% Battery status	0.44	0.29	0.25	0.25	0.28	0.37	614
Mode 3	99% Battery status	0.33	0.21	0.28	0.19	0.34	0.31	614

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H-Field Strength

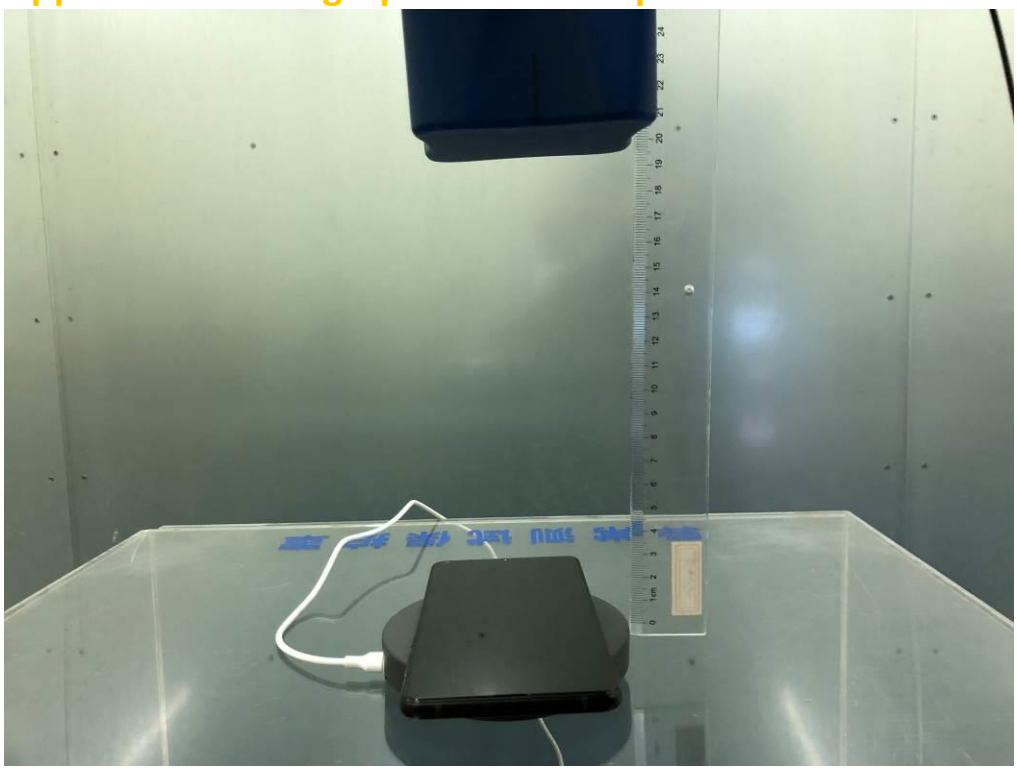
Test Mode	Battery status	Probe Position A (A/m)	Probe Position B (A/m)	Probe Position C (A/m)	Probe Position D (A/m)	Probe Position E (A/m)	Probe Position F (A/m)	Limits (A/m)
Mode 1	<1% Battery status	0.0155	0.0161	0.0124	0.0114	0.0132	0.0269	1.63
Mode 2	50% Battery status	0.0257	0.0256	0.0155	0.0218	0.0165	0.0312	1.63
Mode 3	99% Battery status	0.137	0.0187	0.0278	0.0167	0.0222	0.0326	1.63

Remark:

The device meets the mobile RF exposure limit at a 15cm and 20cm separation distance as specified in &2.1091 of the FCC Rules.

All simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

Appendix I: Photograph of test setup



Appendix II: Photograph of equipment under test

Refer to Appendix 2 for EUT external and internal photos.

********** END **********