Human Exposure Report

Project No.	:	2006C186
Equipment	:	Wireless Charger
Brand Name	:	RAZER
Test Model	:	RC21-0160
Series Model	:	RC21-0160XXXX-XXXX (X can be 0-9 or A-Z)
Applicant	:	Razer Inc.
Address	:	9 Pasteur, Suite 100, Irvine, CA92618, USA.
Manufacturer	:	Razer (Asia-Pacific) Pte.,Ltd.
Address	:	514 Chai Chee Lane, #07-01-06,Singapore 469029
Factory	:	RAZER TECHNOLOGY AND DEVELOPMENT (SHENZHEN) CO., LTD
Address	:	East Wing, 3rd Floor, Block 2, Phase 1 of Vision Shenzhen Business Park Keji South Road, Hi-Tech Industrial Park, Shenzhen 518057, China
Date of Receipt	:	Jun. 28, 2020
Date of Test	:	Jun. 29, 2020 ~ Sep. 24, 2020
Issued Date	:	Sep. 25, 2020
Report Version	:	R01
Test Sample	:	Sample No.: DG2020070336
Standard(s)	:	47 CFR PART 1, Subpart I, Section 1.1310 KDB680106 D01 RF Exposure Wireless Charging Apps v03

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

Vincent. Tan

Prepared by : Vincent Tan

Add: No.3, Jinshagang 1st Road, Shixia, Dalang Town,Dongguan, Guangdong, China.
Tel: +86-769-8318-3000
Web: www.newbtl.com

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Aug. 18, 2020
R01	Revised report to address comments.	Sep. 25, 2020

1. GENERAL INFORMATION

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.
BTL's test firm number for FCC: 357015
BTL's designation number for FCC: CN1240

2. TEST RESULTS

2.1 LIMITS

For 47 CFR PART 1, Subpart I, Section 1.1310:

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density ($m/W/cm^2$)	Averaging time (minutes)
(A) Limits for Occupational / Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*($900/f^2$)	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100000	/	/	5	6
(B) Limits for General Population / Uncontrolled Exposures				
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
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30
F=frequency in MHz *=Plane-wave equivalent power density RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310 (use the 300kHz limits for 150kHz: 614V/m, 1.63A/m).				

For KDB680106 D01:

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. A KDB inquiry is required to determine the applicable exposure limits below 100 kHz.

2.2 MEASUREMENT DATA

Electric Field Emissions

Test Position(20cm)	Probe Measure Results (V/m)	Limit (V/m)
	intermediate charge	
Top	1.68	614

Test Position(15cm)	Probe Measure Results (V/m)	Limit (V/m)
	intermediate charge	
Top	1.81	614
Front Side	0.93	614
Back Side	1.01	614
Left Side	0.92	614
Right Side	0.84	614
Bottom	1.65	614

Note:
The maximum Probe Measure Results of this EUT is 1.81 V/m, less than 307 V/m(614 *50%).

Magnetic Field Emissions

Test Position(20cm)	Probe Measure Results (A/m)	Limit (A/m)
	intermediate charge	
Top	0.041	1.63

Test Position(15cm)	Probe Measure Results (A/m)	Limit (A/m)
	intermediate charge	
Top	0.053	1.63
Front Side	0.032	1.63
Back Side	0.034	1.63
Left Side	0.027	1.63
Right Side	0.023	1.63
Bottom	0.055	1.63

Note:
The maximum Probe Measure Results of this EUT is 0.055 A/m, less than 0.815 V/m(1.63*50%).

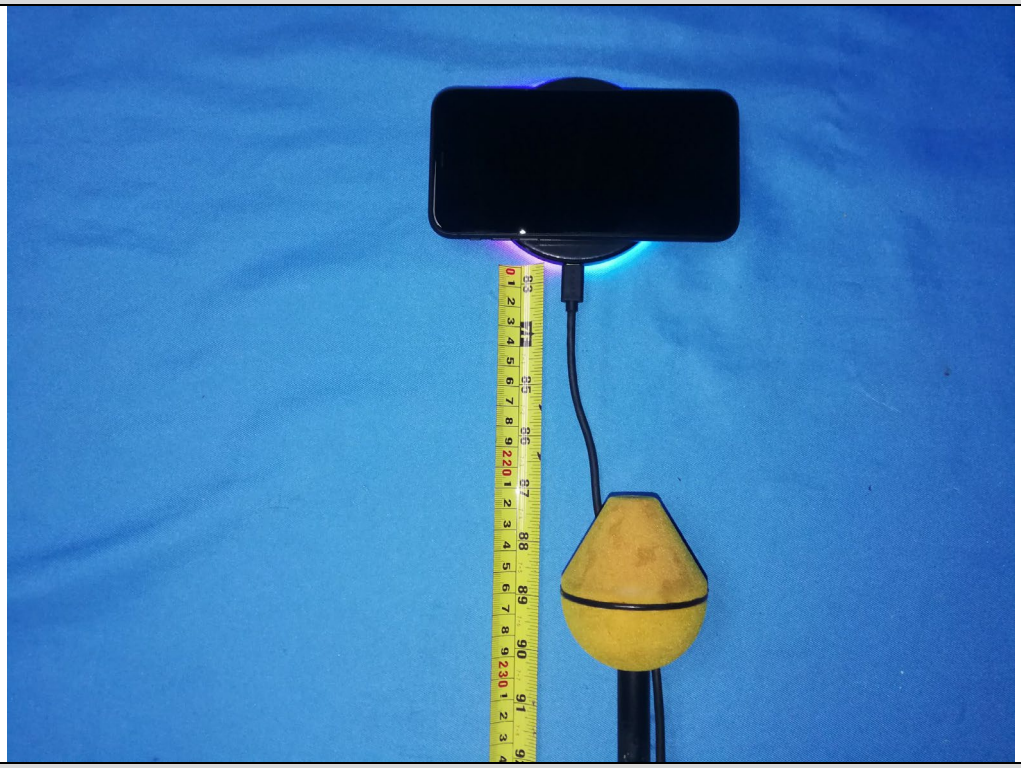
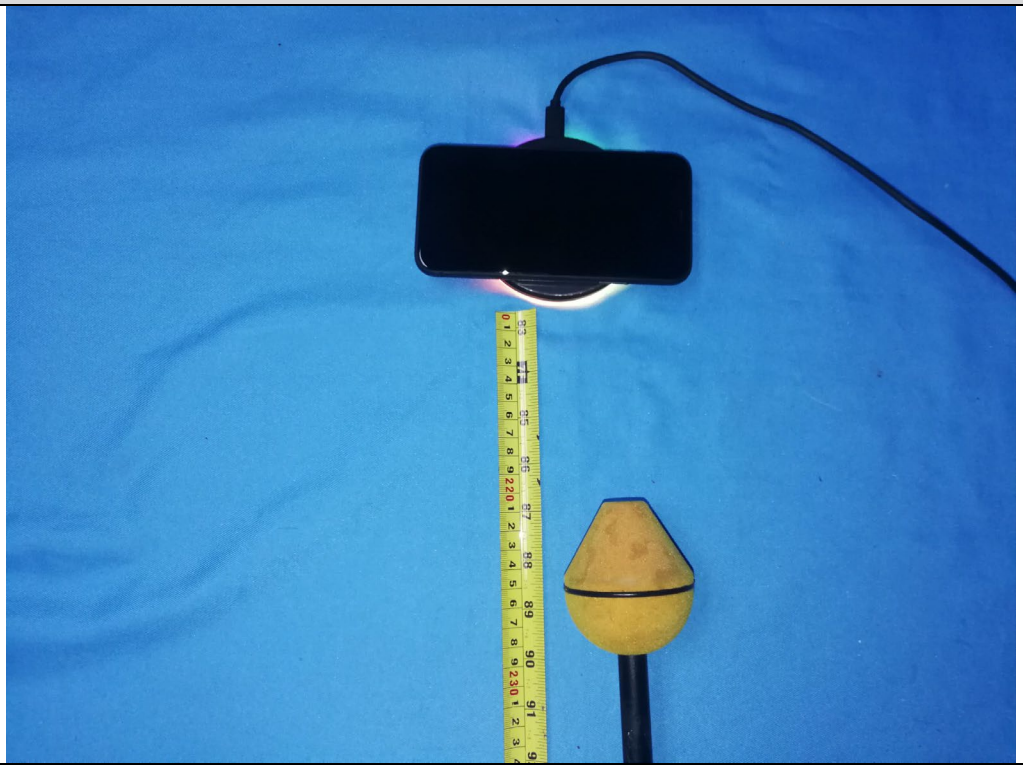
Remark:
1. The EUT has the maximum average output power when the support unit is in low power and being charged by EUT.
2. The transfer system includes only single primary. The transfer system desinged by Wireless Power Consortium (WPC). The main purpose is Provide convenient and universal wireless charging for mobile phones and other portable electronic devices. Under the Qi standard, the transmission and reception use flat inductors to transmit energy by inductive coupling.

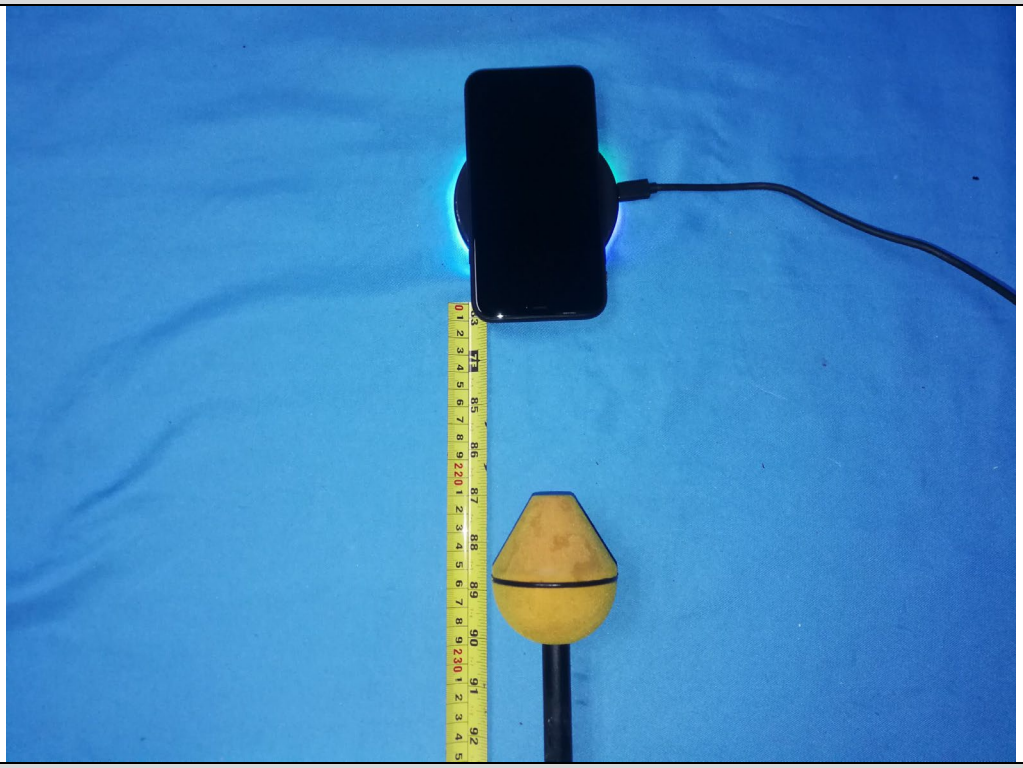
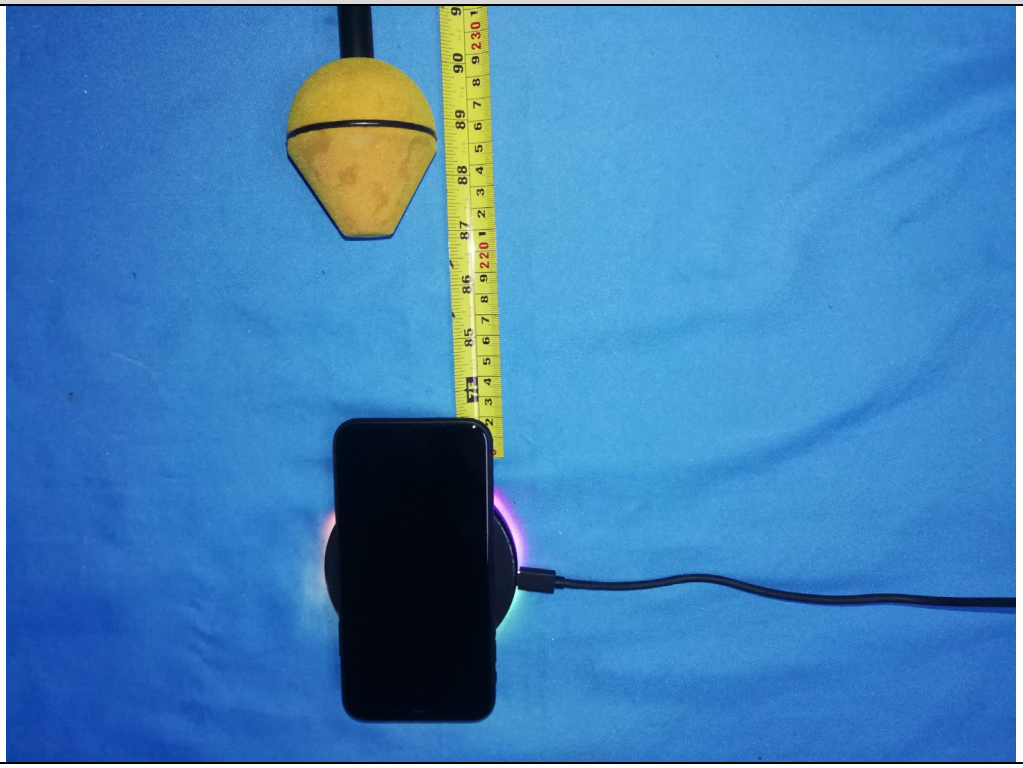
3. MEASUREMENT INSTRUMENTS LIST

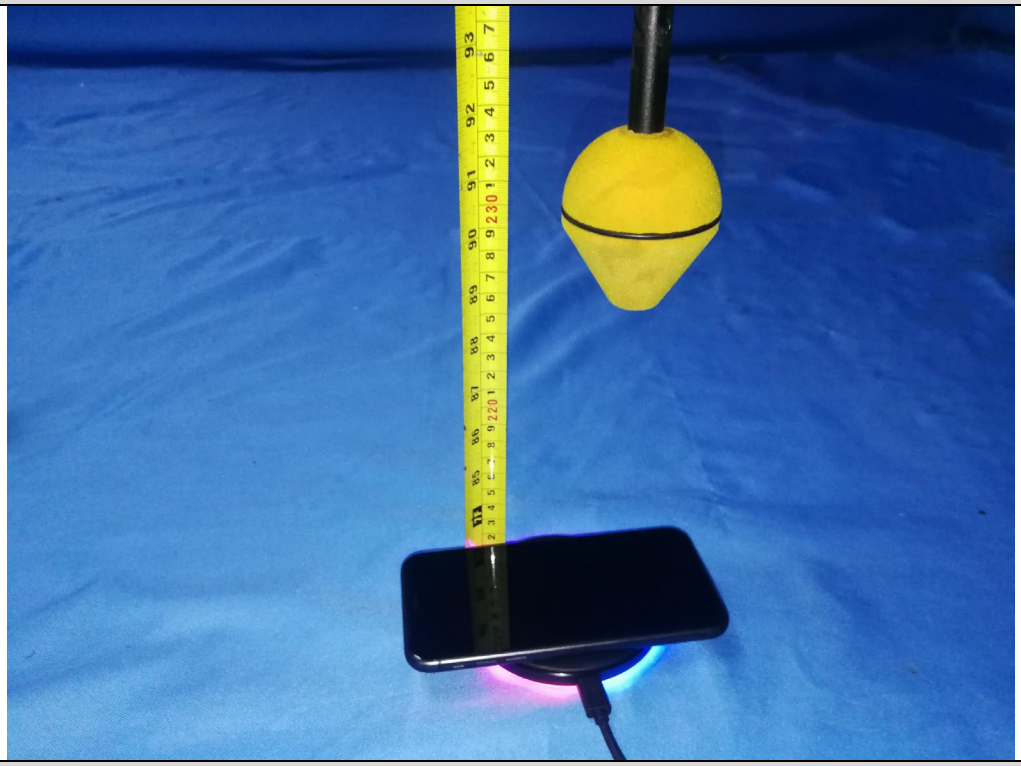
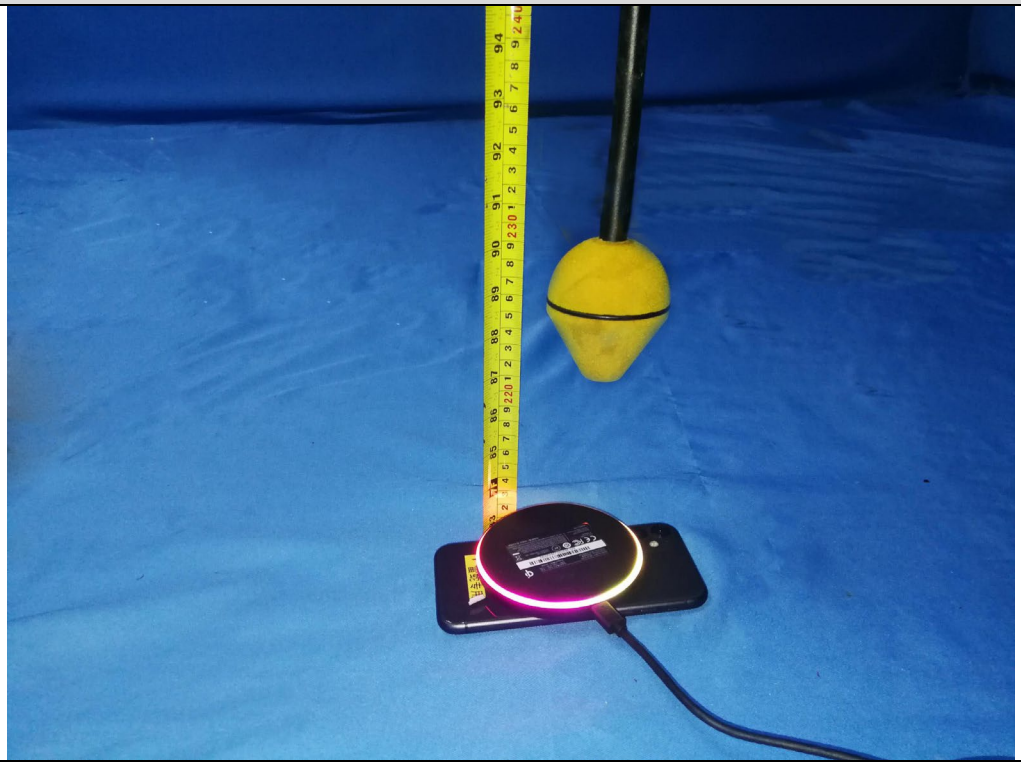
Human Exposure					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EM Radiation Meter	N/A	EMR-30	E-081	Apr. 14, 2021

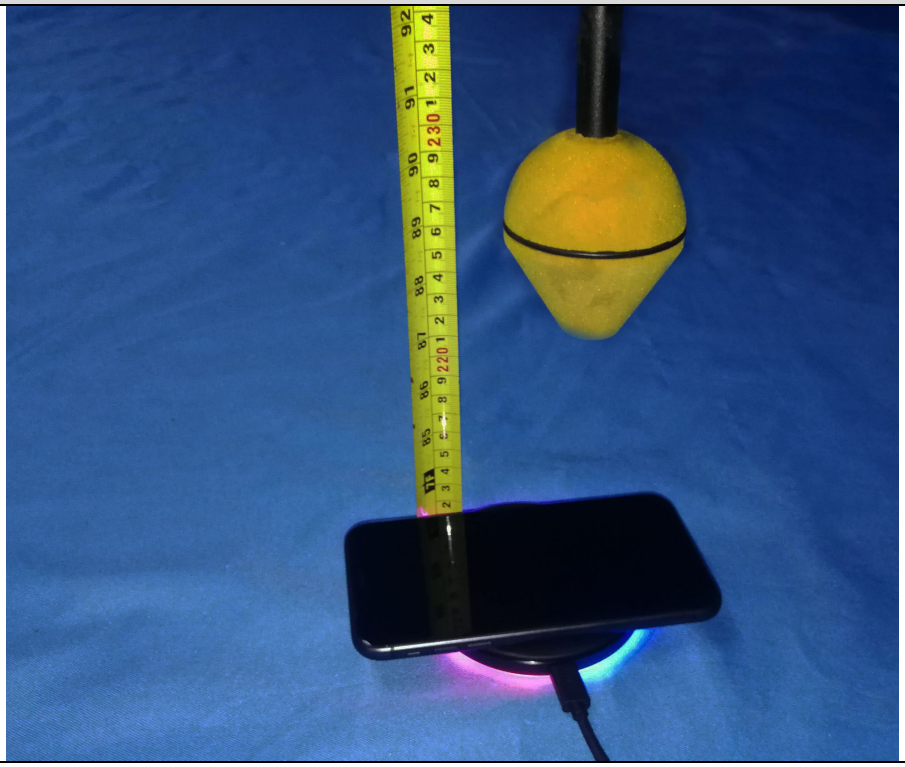
Remark: “N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

4. TEST PHOTOS

Front Side(15 cm)

Back Side(15 cm)


Left Side(15 cm)

Right Side(15 cm)


Top(20 cm)

Bottom(15 cm)


Top(15 cm)


End of Test Report