EXPOSURE REPORT

FCC ID: 2AQRH-UIRM1808

Date of issue: Aug. 17, 2018

Report Number:	MTi180918E091
Sample Description:	Wireless charging receiving board
Model(s):	UTL-BK-IWTRM505016010
Applicant:	Sector 5, Inc.
Address:	2000 Duke Street, Suite 110 Alexandria, VA 22314, USA
Date of Test:	June 28, 2018 to Aug. 17, 2018

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com

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Applicant's name:	Sector 5, Inc.
Address:	2000 Duke Street, Suite 110 Alexandria, VA 22314, USA
Manufacture's name:	SHENZHEN WISEBRIGHT POWER SUPPLY CO., LTD.
Address:	RM 805, R&D BLDG, EVOC INDUSTRIAL PARK, NO.11 GAOXIN ROAD, GUANGMING DISTRICT, SHENZHEN, GUANGDONG, CHINA
Product name:	Wireless charging receiving board
Trademark:	N/A
Model name:	UTL-BK-IWTRM505016010
Standard:	FCC CFR 47 PART 1 , 1.1310
RF Exposure Procedures:	KDB 680106 D01 RF Exposure Wireless Charging App v03

This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by:	Demi Mu	Aug. 17, 2018
Reviewed by:	Blue Zheng	Aug. 17, 2018
Approved by:	Smith Chen	Aug. 17, 2018

1 General Information

1.1 Description of EUT

Product name:	Wireless charging receiving board
Brand name:	N/A
Model name:	UTL-BK-IWTRM505016010
Series model:	N/A
Deference in serial model:	N/A
Operation frequency:	115 – 205 kHz
Operational mode:	Wireless charging
Modulation type:	Load modulation
Antenna type:	Coil Antenna
Power supply:	DC 12V from adapter
Adapter information:	Model:GM25-120200-1A Input:100-240V 50/60Hz 1.0A Output: 12V 2.0A
Battery:	DC 3.7V 4200mAh*2

1.2 Ancillary equipment list

Equipment	Model	S/N	Manufacturer
Adapter	GM25-120200-1A	/	/
Chromebook	CB116E1	/	/

1.3 Measurement uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %, U=2xUc(y)

Radiated emission(150kHz~30MHz)	± 2.5 dB
Radiated emission(30MHz~1GHz)	± 4.2 dB
Radiated emission (above 1GHz)	± 4.3 dB
Temperature	±1 degree
Humidity	± 5 %

2 Testing site

Test Site	Shenzhen Microtest Co., Ltd
Test Site Location	No.102A & 302A, East Block, Hengfang Industrial Park, Xingye Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China
FCC Registration No.:	448573

3 List of test equipment

Equipment No.	Equipment Name	Manufacturer	Model	Serial No.	Calibration date	Due date
MTI-E068	Broadband Field Meter	Narda Safety Test Solutions GmbH	NBM-520	D-1699	2018/07/13	2019/07/12
MTI-E069	Probe E-Field	Narda Safety Test Solutions	EF0691	H-0571	2018/07/13	2019/07/12

4 Test Results

1.4 Maximum permissible exposure

1.4.1 Limit

Frequency range(MHz)	Electric field strength(V/m)	Magnetic field strength(A/m)	Power density(mW/cm2)	Averaging time(minutes)
(A) Limits for Occupational/Controlled Exposure				
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	6
300-1500			f/300	6
1500-100000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
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	30
f = frequency in MHz * = Plane-wave equivalent power density				

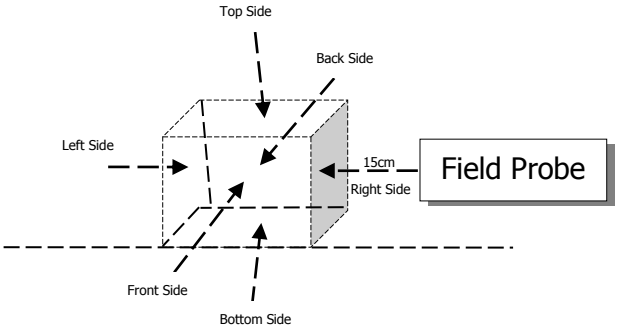
1.4.2 Test Procedures

E and H-field measurements should be made with the center of the probe at a distance of 10 cm from all sides and the top of the primary/client pair.

These measurements should be repeated for three different client battery levels, 1%, 50%, and 99%.

Record the test results.

1.4.3 Test Setup



1.4.4 Test Result

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

(Conform) The EUT operates at 115kHz-205kHz

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

(Conform) The output power is less than 15W in the manual.

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

(Conform) It is confirmed that the sample has only one primary coil and one secondary coil.

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

(Conform) The client is in direct contact with the product to charge

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

(Conform) This EUT is compatible with mobile devices

(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.

(Conform) Please refer to the following test data

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<1%	Top	20	0.420	0.123
<1%	Bottom	15	0.417	0.112
<1%	Left	15	0.409	0.110
<1%	Right	15	0.414	0.109
<1%	Front	15	0.412	0.105
<1%	Back	15	0.411	0.107
Limit			614	1.63
Margin Limit (%)			0.068	7.546

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<50%	Top	20	0.419	0.123
<50%	Bottom	15	0.411	0.118
<50%	Left	15	0.418	0.119
<50%	Right	15	0.412	0.107
<50%	Front	15	0.409	0.118
<50%	Back	15	0.417	0.120
Limit			614	1.63
Margin Limit (%)			0.068	7.546

Maximum permissible Exposure				
Battery levels	Test sides	Test distance(cm)	E –field(V/m)	H–field(A/m)
<99%	Top	20	0.431	0.127
<99%	Bottom	15	0.409	0.124
<99%	Left	15	0.421	0.101
<99%	Right	15	0.422	0.105
<99%	Front	15	0.420	0.113
<99%	Back	15	0.40	0.115
Limit			614	1.63
Margin Limit (%)			0.070	7.791

1.4.5 MPE Setup photo

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