

# FCC TEST REPORT

For

Adam Elements International Co., LTD.

OMNIA Q 10W Wireless Charging Pad with Breathing lights

Model No.: OMNIA Q

Prepared For : Adam Elements International Co., LTD.

Address : Rm. 3, 10F., No.54, Songjiang Rd., Zhongshan Dist., Taipei City 104,

Taiwan

Prepared By : Shenzhen Anbotek Compliance Laboratory Limited

Address : 1/F, Building D, Sogood Science and Technology Park, Sanwei

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Report Number : SZAWW181115012-01

Date of Receipt : Nov. 15, 2018

Date of Test : Nov. 15~Dec. 04, 2018

Date of Report : Dec. 04, 2018



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# TEST REPORT

Applicant : Adam Elements International Co., LTD.

Manufacturer : Adam Elements International Co., LTD.

Product Name : OMNIA Q 10W Wireless Charging Pad with Breathing lights

Model No. : OMNIA Q

Trade Mark : N.A.

Rating(s) : Input: DC 5V, 2.1A / 9V, 2A

Output: DC 5V, 1A / 9V, 1.1A

Test Standard(s) : FCC Part15 Subpart C 2018, Paragraph 15.209

**Test Method(s)** : **ANSI C63.10: 2013** 

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

	Nov. 15~Dec. 04, 2018	
Laton Model	John no	
21/ by.	Anbotek Anbotek A	
Mek Aupor	(Engineer / Dolly Mo)	Anbot An
All tak	Snavy Meng	
	Alborok O M	
Anbotek Anbotek	(Supervisor / Snowy Meng)	nbotek Anboten
	S. My Zhama	
	Salm Zigrig	
notek Anhore Ani	tek potek Anbo	N Stok
	(Manager / Sally Zhang)	
	Anbotek	(Engineer / Dolly Mo)  Shary Many  (Supervisor / Snowy Meng)  Sally Zhang



# 1. General Information

### 1.1. Client Information

0	Applicant	:	Adam Elements International Co., LTD.
	Address	:	Rm. 3, 10F., No.54, Songjiang Rd., Zhongshan Dist., Taipei City 104, Taiwan
)	Manufacturer	:	Adam Elements International Co., LTD.
	Address	:	Rm. 3, 10F., No.54, Songjiang Rd., Zhongshan Dist., Taipei City 104, Taiwan
e	Factory	:	Adam Elements International Co., LTD.
0	Address	:	Rm. 3, 10F., No.54, Songjiang Rd., Zhongshan Dist., Taipei City 104, Taiwan

### 1.2. Description of Device (EUT)

	Product Name	:	OMNIA Q 10W Wireless Chargin	ng Pad with Breathing lights
Yes	Model No.	:	OMNIA Q	Anbotek Anbotek Anbotek Anbo
30	Trade Mark	:	N.A.	k Anbotek Anbotek Anbotek Ar
X	Test Power Supply	:	AC 240V, 60Hz for adapter/ AC 1	20V, 60Hz for adapter
	Test Sample No.		S1(Normal Sample), S2(Engineer	ring Sample)
14			Operation Frequency:	111~205KHz
0	Product :		Modulation Type:	MSK Anbotek Anbotek Anbotek An
. 1			Antenna Type:	Inductive loop coil Antenna
			Antenna Gain(Peak):	0 dBi
6	100 DI.		187	210

Remark: 1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

### 1.3. Auxiliary Equipment Used During Test

	Adapter	:	Manufacturer: ZTE	
			M/N: STC-A2050I1000USBA-C	
			S/N: 201202102100876	18
Š			Input: 100-240V~50/60Hz 0.3A	1
			Output: DC 5V, 1000mA	
3	Mobile Phone	:	Samsung	1
			hote And stek whole All Ik hotek	



#### 1.4. Description of Test Modes

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Remark: All the conditions have been tested. It is found that 10W is the worst mode, and the data in the report only reflects the worst mode.

Pretest Mode	Description			
Mode 1	Wireless Charge Mode			

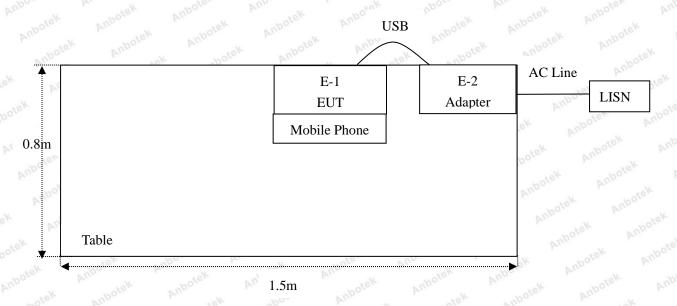
6	For Conducted Emission							
	Final Test Mode	Description						
tek	Mode 1	Wireless Charge Mode	k Aup					

For Radiated Emission							
Final Test Mode	Description						
Mode 1	Wireless Charge Mode						

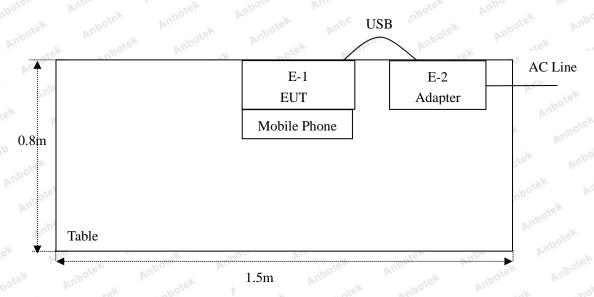


#### 1.5. Description Of Test Setup

CE



RE





### 1.6. Test Equip1.6. Test Equipment List

1	.V	VILLE	-00 No.	po-	Ye.	V U/2
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
otek 1. Inbotek	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	Nov. 05, 2018	1 Year
2.00	EMI Test Receiver	Rohde & Schwarz	ESPI3	101604	Nov. 05, 2018	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Nov. 05, 2018	1 Year
4.	Spectrum Analysis	Agilent	E4407B	US39390582	Nov. 05, 2018	1 Year
otek 5.	MAX Spectrum  Analysis	Agilent	N9020A	MY51170037	Nov. 05, 2018	1 Year
6.	Preamplifier	SKET Electronic	BK1G18G30D	KD17503	Nov. 05, 2018	1 Year
Anbor 7.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Nov. 20, 2018	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Nov. 19, 2018	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	Nov. 20, 2018	1 Year
10.	Horn Antenna	A-INFO	LB-180400-KF	J211060628	Nov. 20, 2018	1 Year
MI.	Pre-amplifier	SONOMA	310N	186860	Nov. 05, 2018	1 Year
12.	EMI Test Software EZ-EMC	SHURPLE	N/A MOON	N/A	N/A	N/A
13.	RF Test Control System	YIHENG	YH3000	2017430	Nov. 05, 2018	1 Year
14.	Power Sensor	DAER	RPR3006W	15I00041SN045	Nov. 05, 2018	1 Year
15.	Power Sensor	DAER	RPR3006W	15I00041SN046	Nov. 05, 2018	1 Year
16.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Nov. 05, 2018	1 Year
17.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Nov. 05, 2018	1 Year
18.	Signal Generator	Agilent	E4421B	MY41000743	Nov. 05, 2018	1 Year
19.	DC Power Supply	IVYTECH	IV3605	1804D360510	Apr. 02, 2018	1 Year
20.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	Nov. 01, 2018	1 Year



#### 1.7. Description of Test Facility

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

#### FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, July 31, 2017.

#### ISED-Registration No.: 8058A-1

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A-1, June 13, 2016.

#### **Test Location**

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518102



# 2. Summary of Test Results

Standard Section	Test Item	Result	
FCC Part 15, Paragraph 15.207	Conducted Emission Test	PASS	
FCC Part 15, Paragraph 15.209(a)(f)	Spurious Emission	PASS	
Part 15.203	Antenna Requirement	PASS	



# 3. Conducted Emission Test

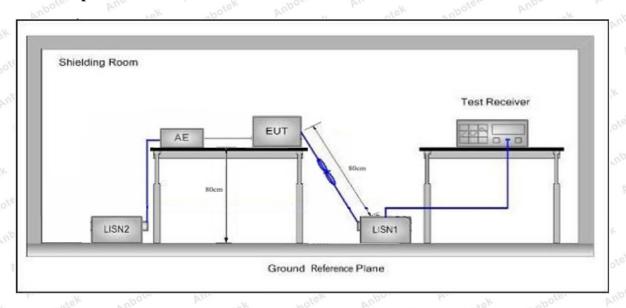
#### 3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207	Anbore And botek	Anbotek Anbo stek
	Ema guan av	Maximum RF	Line Voltage (dBuV)
	Frequency	Quasi-peak Level	Average Level
Test Limit	150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
ð	500kHz~5MHz	56	46 Ann
	5MHz~30MHz	Anbotek 60 Anbo	50 botter And

**Remark:** (1) \*Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequency.

### 3.2. Test Setup



#### 3.3. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10-2013 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

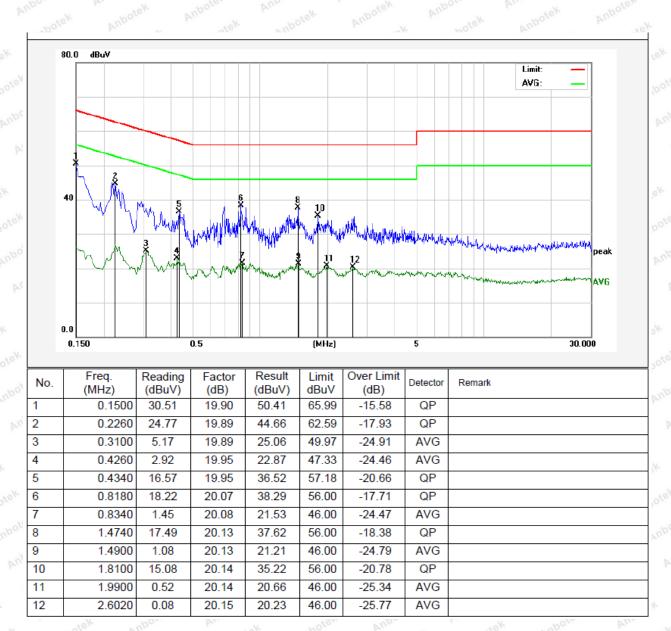
#### 3.4. Test Data

Please to see the following pages



Test Site: 1# Shielded Room
Operating Condition: Wireless Charge Mode
Test Specification: AC 240V, 60Hz for adapter

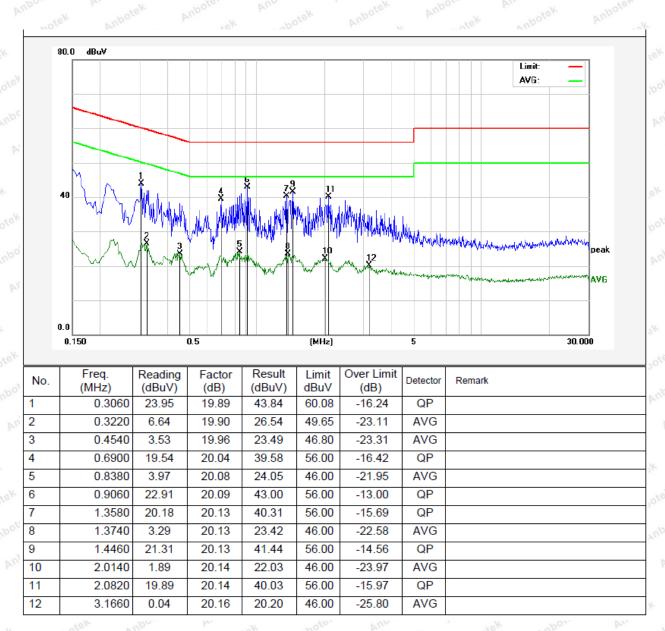
Comment: Live Line





Test Site: 1# Shielded Room
Operating Condition: Wireless Charge Mode
Test Specification: AC 240V, 60Hz for adapter

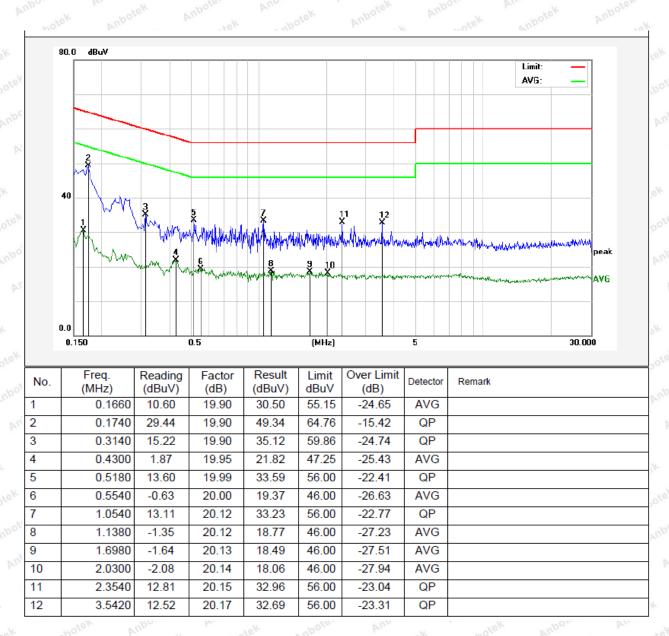
Comment: Neutral Line





Test Site: 1# Shielded Room
Operating Condition: Wireless Charge Mode
Test Specification: AC 120V, 60Hz for adapter

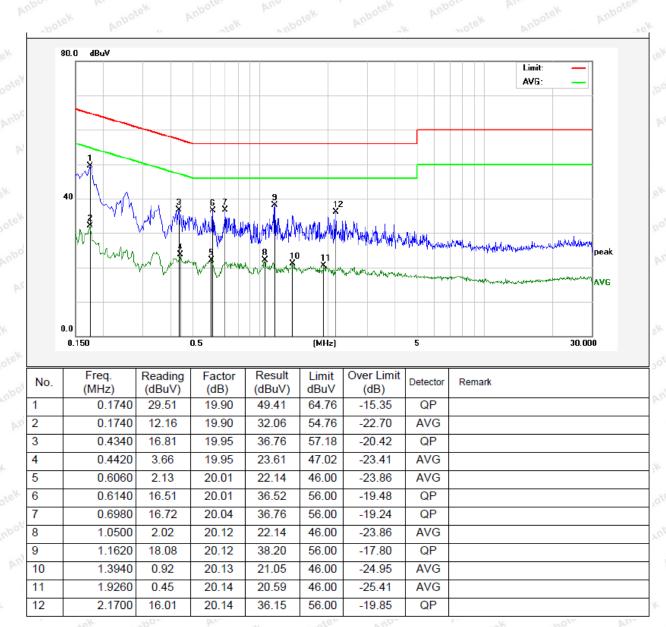
Comment: Live Line





Test Site: 1# Shielded Room
Operating Condition: Wireless Charge Mode
Test Specification: AC 120V, 60Hz for adapter

Comment: Neutral Line





# 4. Radiation Spurious Emission and Band Edge

#### 4.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.20	99 and 15.205			
	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~0.490MHz	2400/F(kHz)	stek - Aupor	ek Ai.	300
	0.490MHz-1.705MHz	24000/F(kHz)	nbotek - Anbe	rek by	30 Maria
	1.705MHz-30MHz	30	Anbotek A	loo stek	obotek 30 Anbi
Test Limit	30MHz~88MHz	100	40.0	Quasi-peak	Anbote3
	88MHz~216MHz	150	43.5	Quasi-peak	Anb3tek
	216MHz~960MHz	200	46.0	Quasi-peak	3
	960MHz~1000MHz	500	54.0	Quasi-peak	tek 3 Anbotek
	Al 1000MII-	500	54.0	Average	botek 3 Anbo
	Above 1000MHz	All botek	74.0	Peak	anbote 3

#### Remark:

- (1)The lower limit shall apply at the transition frequency.
- (2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

#### 4.2. Test Setup

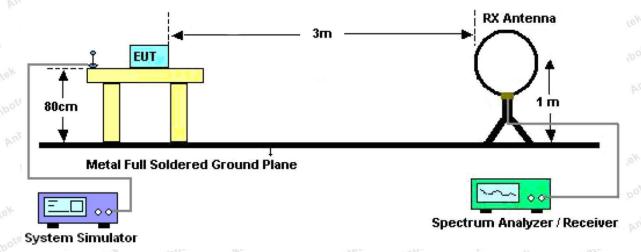


Figure 1. Below 30MHz

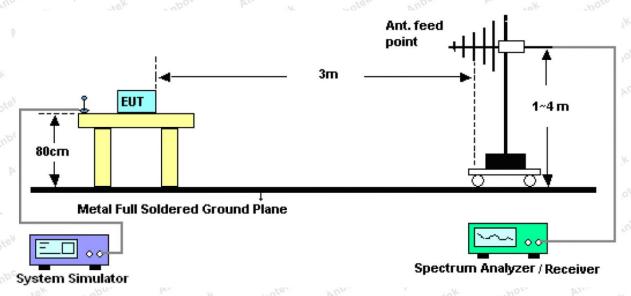


Figure 2. 30MHz to 1GHz

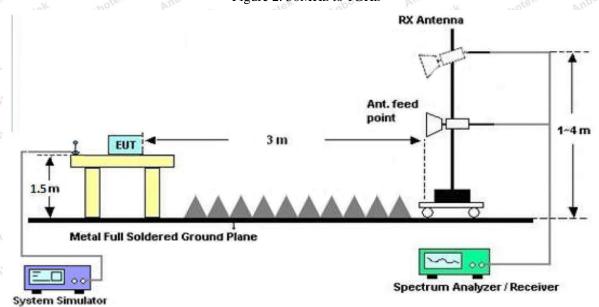


Figure 3. Above 1 GHz

#### 4.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane.

For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9\*6\*6 Chamber. The device is evaluated in xyz orientation.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW = 1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:



RBW = 9KHz, VBW = 30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW =300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

4.4. Test Data

**PASS** 



#### **Test Results**

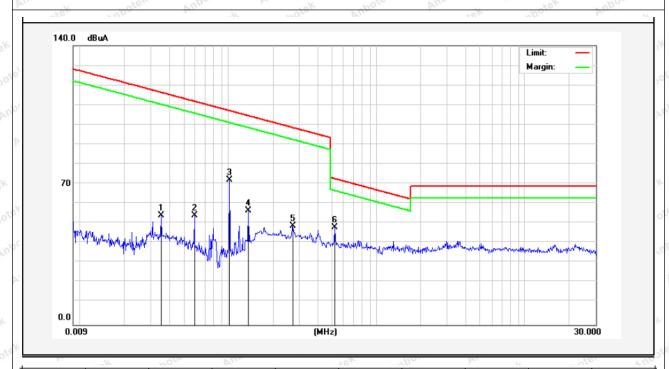
(Between 9KHz - 30MHz)

Job No.: SZAWW181115012-01

Standard: FCC PART15 C \_3m Power Source: AC 120V, 60Hz for adapter

Test item: Radiation Test Temp.(C)/Hum.(%RH): 24.7°C/51%RH

Test Mode: Mode 1 Distance: 3m



0.	Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	degree (dge)
Š	0.0352	42.04	19.28	2.53	0	63.85	136.55	-72.70	Peak	318
1	0.0352	33.03	19.28	2.53	0	54.84	116.55	-61.71	AV	318
1	0.0592	41.32	19.30	2.54	0	63.16	132.05	-68.89	Peak	79
	0.0592	33.02	19.30	2.54	0	54.86	112.05	-57.19	AV	79
6	0.1019	50.68	19.30	2.54	0	72.52	107.36	-34.84	QP	138
	0.1373	44.64	19.53	2.59	0	66.76	124.79	-58.03	Peak	231
3	0.1373	34.99	19.53	2.59	0	57.11	104.79	-47.68	AV	231
	0.2716	36.17	19.53	2.59	0	58.29	118.90	-60.61	Peak	182
a	0.2716	27.29	19.53	2.59	0	49.41	98.90	-49.49	AV	182
20	0.5260	26.68	19.53	2.59	0	48.80	73.18	-24.38	QP	251

**Remark:** According to FCC PART 15.209 (d), the emission limits for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz, Radiated emission limits in these three bands are based on measurements employing an average detector.

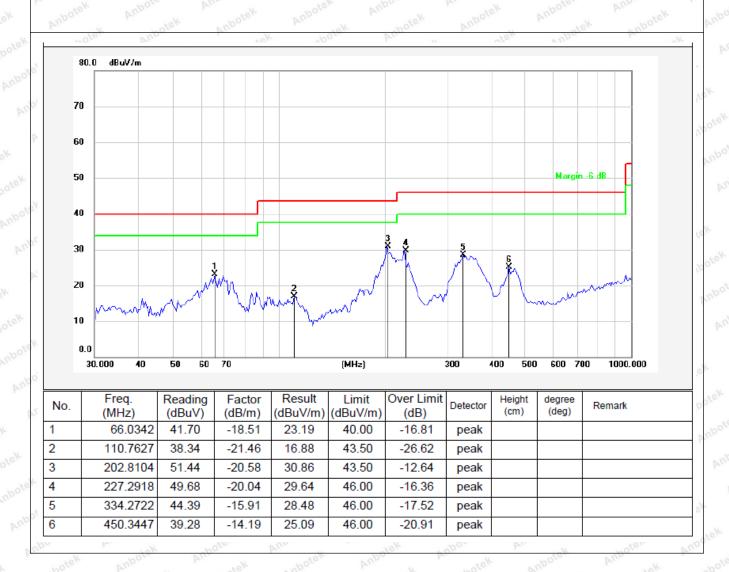


(Between 30MHz -1000 MHz)

Job No.: SZAWW181115012-01 Polarization: Horizontal

Standard: FCC PART15 C \_3m Power Source: AC 120V, 60Hz for adapter

Test item: Radiation Test Temp.(C)/Hum.(%RH): 24.3 °C/56 %RH

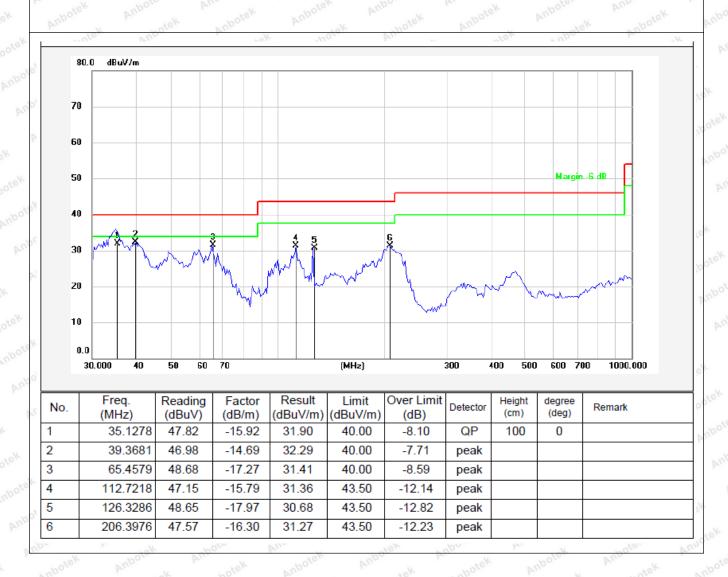




Job No.: SZAWW181115012-01 Polarization: Vertical

Standard: FCC PART15 C \_3m Power Source: AC 120V, 60Hz for adapter

Test item: Radiation Test Temp.(C)/Hum.(%RH): 24.3 °C/56 %RH

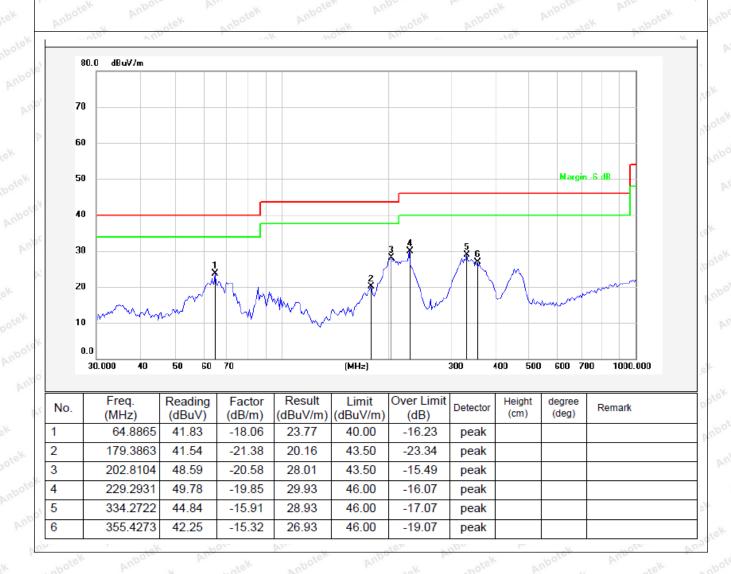




Job No.: SZAWW181115012-01 Polarization: Horizontal

Standard: FCC PART15 C \_3m Power Source: AC 240V, 60Hz for adapter

Test item: Radiation Test Temp.(C)/Hum.(%RH): 24.3 °C/56 %RH

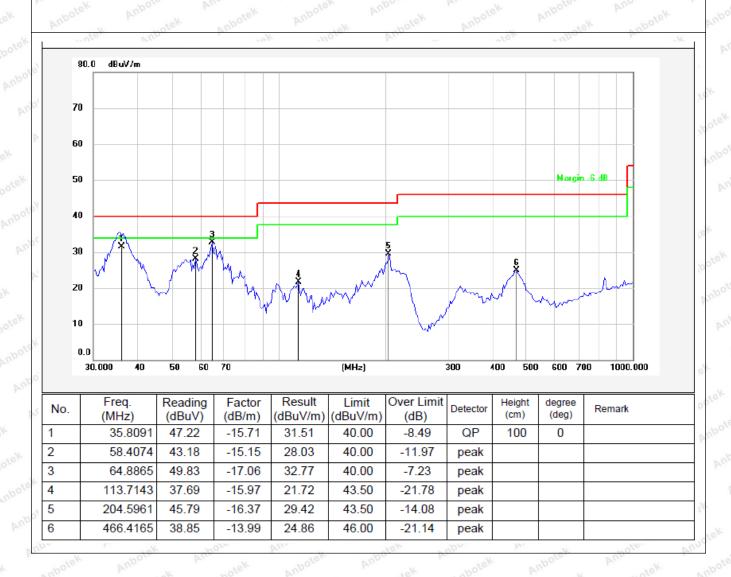




Job No.: SZAWW181115012-01 Polarization: Vertical

Standard: FCC PART15 C \_3m Power Source: AC 240V, 60Hz for adapter

Test item: Radiation Test Temp.(C)/Hum.(%RH): 24.3 °C/56 %RH





### 5. Antenna Requirement

### 5.1. Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203
Requirement	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard

#### 5.2. Antenna Connected Construction

The antenna is a Inductive loop coil Antenna which permanently attached, and the best case gain of the antenna is 0 dBi. It complies with the standard requirement.



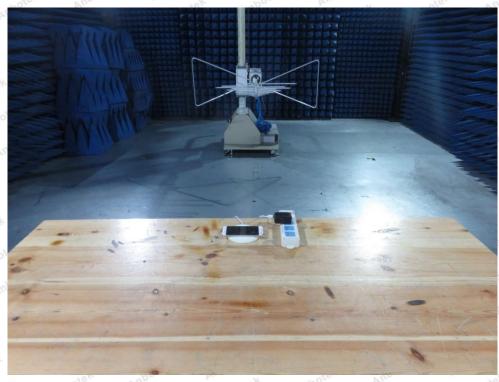


# APPENDIX I -- TEST SETUP PHOTOGRAPH





Photo of Radiation Emission Test







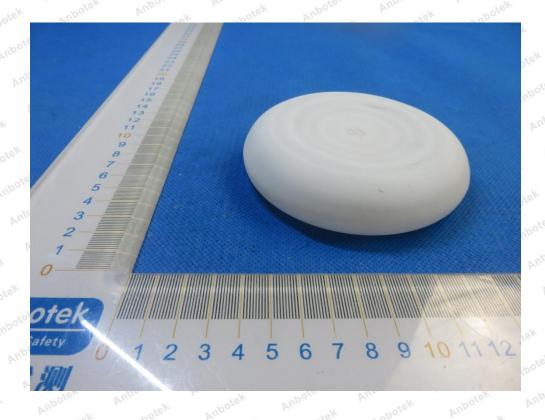


# APPENDIX II -- EXTERNAL PHOTOGRAPH



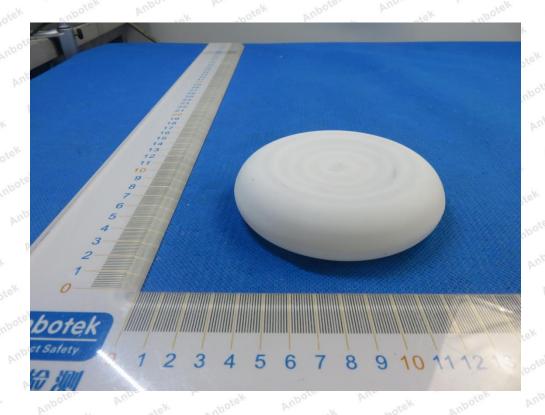


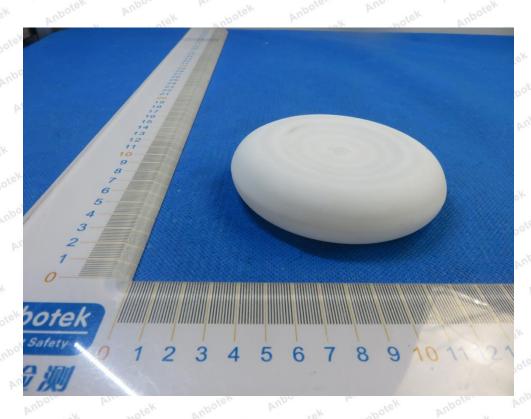






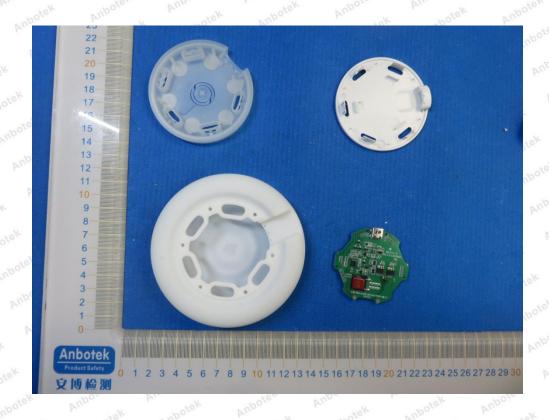


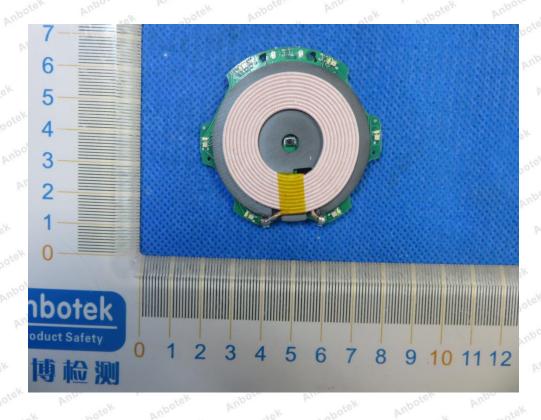






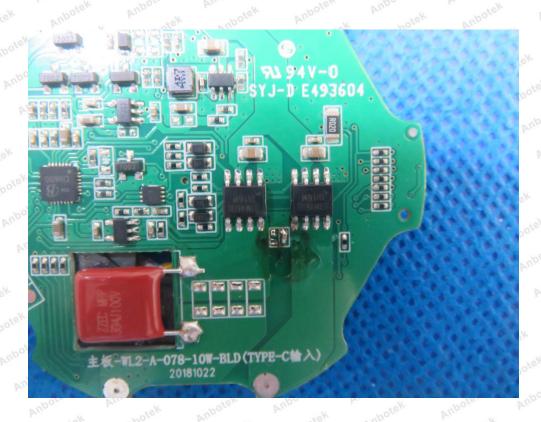
### APPENDIX III -- INTERNAL PHOTOGRAPH



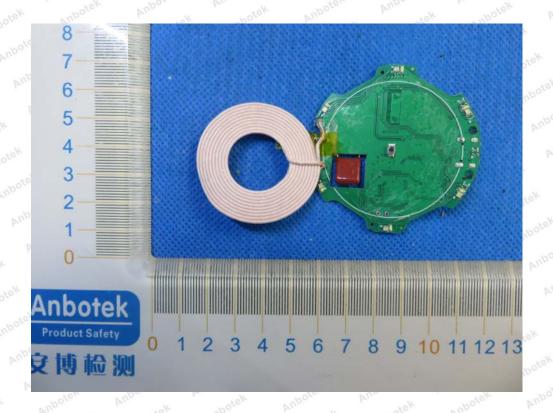


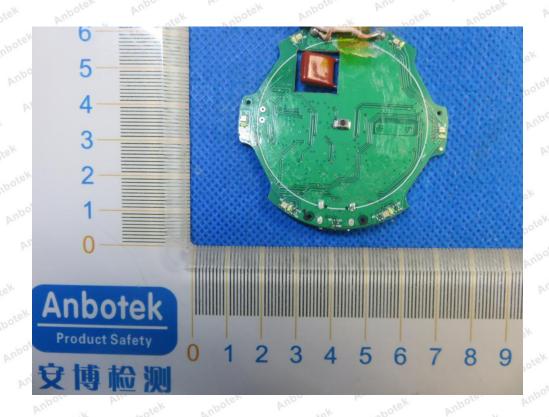












----- End of Report -----