FCC TEST REPORT

For

Shenzhen Mossloo Industrial Co.,Ltd

Wireless Charging Receiver for iOS Phones

Model No.: 7141-44

Prepared For	:	Shenzhen Mossloo Industrial Co.,Ltd
Address	:	Road One No.4, Science Industrial Park,Shangxue Village, Bantian Street,Longgang District, Shenzhen,China
Prepared By	:	Shenzhen Anbotek Compliance Laboratory Limited
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Report Number	:	SZAWW180516010-01
Date of Test	:	May 16~Jun. 22, 2018
Date of Report	:	Jun. 22, 2018

Contents

TEST REPORT

Applicant	:	Shenzhen Mossloo Industrial Co.,Ltd
Manufacturer	:	Shenzhen Mossloo Industrial Co.,Ltd
Product Name	:	Wireless Charging Receiver for iOS Phones
Model No.	:	7141-44
Trade Mark	:	N.A.
Rating(s)	:	Input: DC 5V, 800mA

Test Standard(s)	**:**	**FCC Part 18 Subpart C 2017** **Test procedures: FCC MP5-5:1986**

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 18 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.

Date of Test May 16~Jun. 22, 2018

Prepared by

(Engineer / Oliay Yang)

Reviewer

(Supervisor / Calvin Liu)

Approved & Authorized Signer

(Manager / Tom Chen)

1. General Information

1.1. Client Information

Applicant	:	Shenzhen Mossloo Industrial Co.,Ltd
Address	:	Road One No.4, Science Industrial Park,Shangxue Village, Bantian Street,Longgang District, Shenzhen,China
Manufacturer	:	Shenzhen Mossloo Industrial Co.,Ltd
Address	:	Road One No.4, Science Industrial Park,Shangxue Village, Bantian Street,Longgang District, Shenzhen,China

1.2. Description of Device (EUT)

Product Name	:	Wireless Charging Receiver for iOS Phones	
Model No.	:	7141-44	
Trade Mark	:	N.A.	
Test Power Supply	:	AC 120V, 60Hz for adapter / AC 240V, 60Hz for adapter	
Product Description	:	Operation Frequency:	110-205KHz
		Number of Channel:	20 Channels
		Modulation Type:	MSK
		Antenna Type:	Loop Antenna
		Antenna Gain(Peak):	0 dBi
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 Input: 100-240V~50/60Hz 0.3A Output: DC 5V, 1000mA
Mobile Phone	:	iPhone 6s

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.

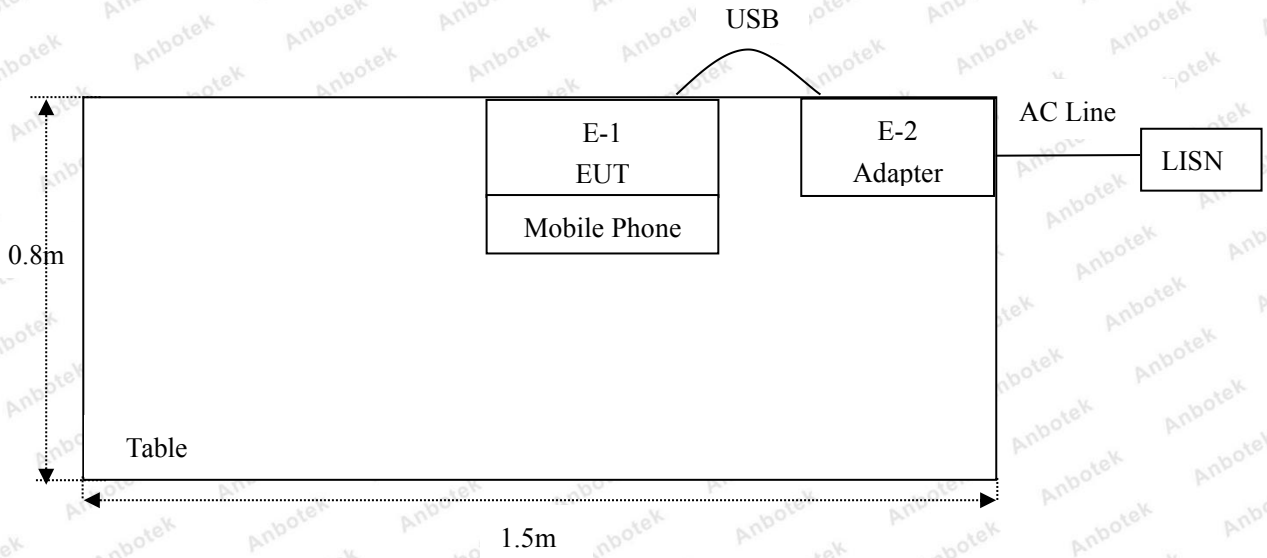
Pretest Mode	Description
Mode 1	Wireless Charge Mode

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

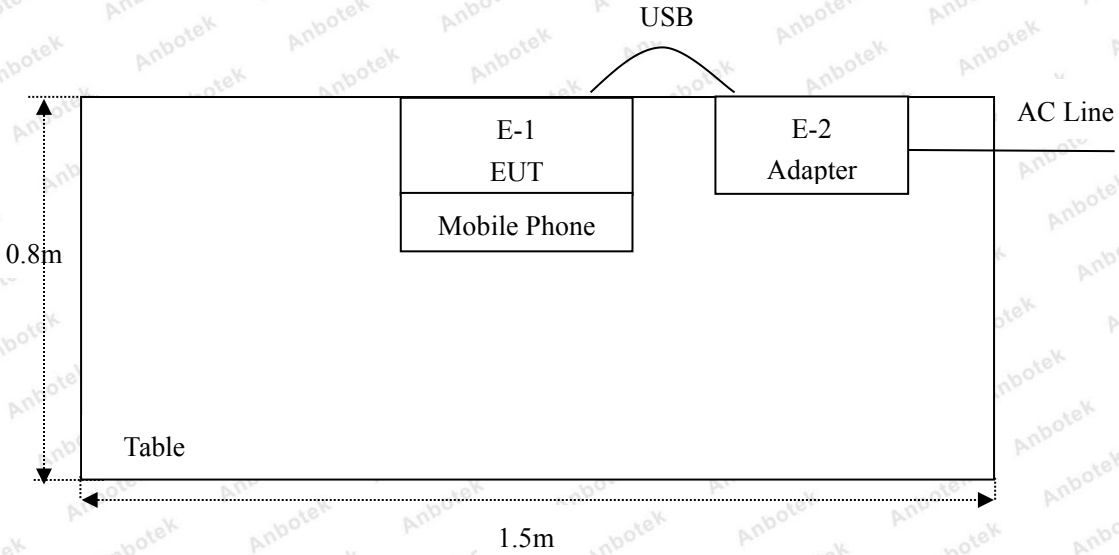
For Radiated Emission	
Final Test Mode	Description
Mode 1	Wireless Charge Mode

1.5. Description Of Test Setup

CE



RE



1.6. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	Nov. 17, 2017	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 17, 2017	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Nov. 17, 2017	1 Year
4.	Spectrum Analysis	Agilent	E4407B	US39390582	Nov. 17, 2017	1 Year
5.	Spectrum Analysis	Agilent	N9038A	MY53227295	Nov. 17, 2017	1 Year
6.	Preamplifier	SKET Electronic	BK1G18G30D	KD17503	Nov. 17, 2017	1 Year
7.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 17, 2017	1 Year
8.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Nov. 20, 2017	1 Year
9.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Nov. 20, 2017	1 Year
10.	Loop Antenna	Schwarzbeck	HFH2-Z2	100047	Nov. 17, 2017	1 Year
11.	Horn Antenna	Schewarzbeck	BBHA9170	9170-375	Nov. 17, 2017	1 Year
12.	Pre-amplifier	SONOMA	310N	186860	Nov. 17, 2017	1 Year
13.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
14.	RF Test Control System	YIHENG	YH3000	2017430	Nov. 18, 2017	1 Year
15.	Power Sensor	DAER	RPR3006W	15I00041SN045	Nov. 17, 2017	1 Year
16.	Power Sensor	DAER	RPR3006W	15I00041SN046	Nov. 17, 2017	1 Year
17.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Nov. 18, 2017	1 Year
18.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Nov. 18, 2017	1 Year
19.	Signal Generator	Agilent	E4421B	MY41000743	Nov. 18, 2017	1 Year
20.	DC Power Supply	LW	TPR-6410D	349315	Nov. 01, 2017	1 Year
21.	Constant Temperature Humidity Chamber	Sertep	ZJ-HWHS80B	ZJ-17042804	Nov. 01, 2017	1 Year

1.7. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)
		Ur = 3.8 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4 dB

1.8. 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

All Emissions tests were performed at Shenzhen Anbotek Compliance Laboratory Limited. at 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

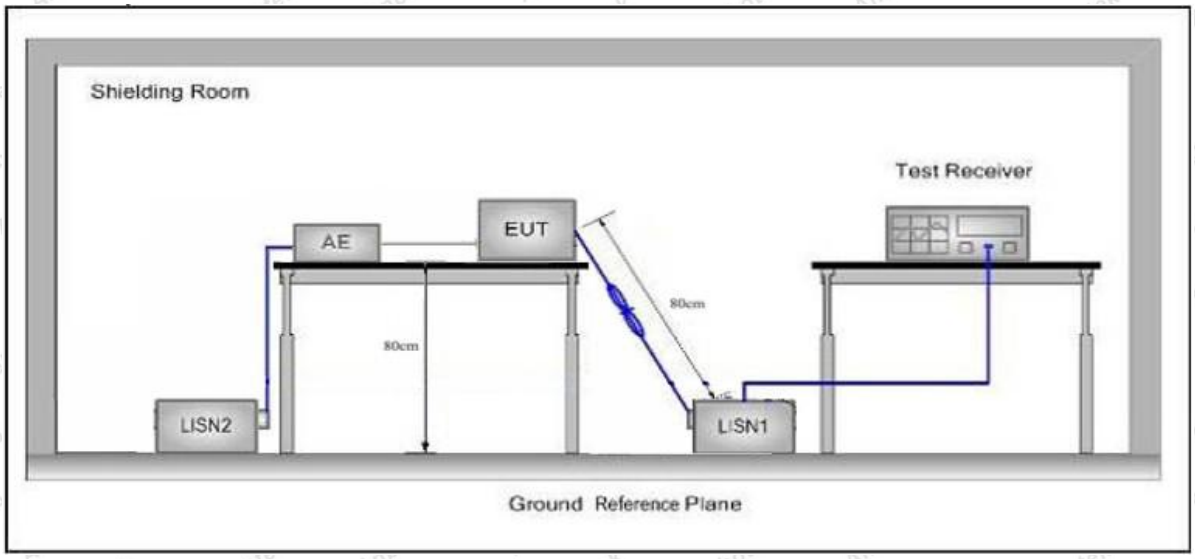
Standard Section	Test Item	Result
FCC Part 18, Paragraph 18.307(b)	Conducted Emission Test	PASS
FCC Part 18, Paragraph 18.305(b)	Spurious Emission	PASS

3. Conducted Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part18 Section 18.307		
Test Limit	Frequency	Maximum RF Line Voltage (dBuV)	
		Quasi-peak Level	Average Level
	150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
	500kHz~5MHz	56	46
	5MHz~30MHz	60	50
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 on Conducted Emission Measurement.

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

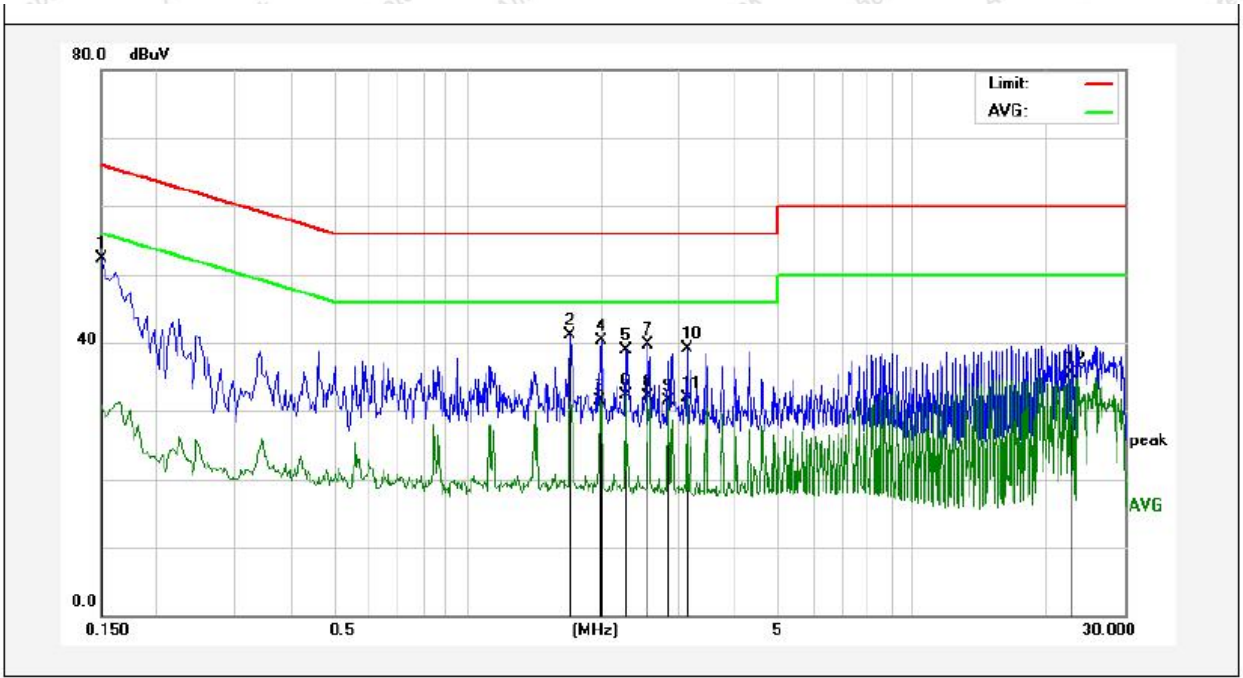
The frequency range from 150kHz to 30MHz is checked.

3.4. Test Data

Please to see the following pages.

Conducted Emission Test Data

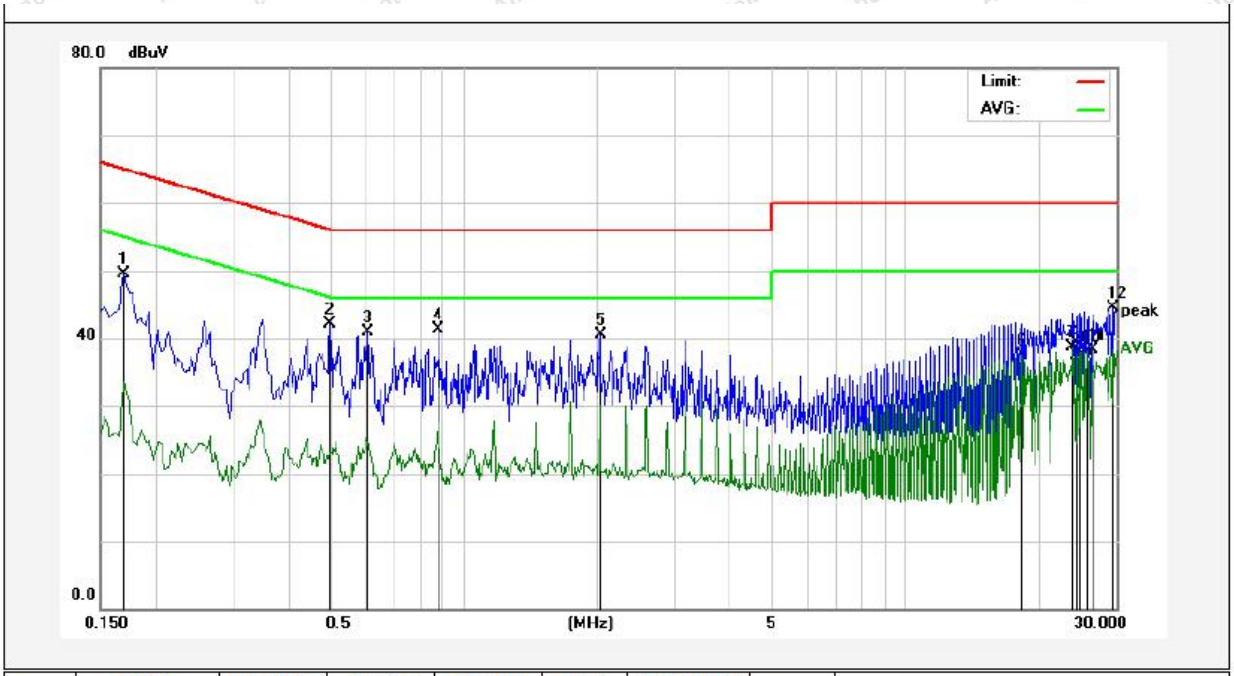
Test Site: 1# Shielded Room
Operating Condition: Wireless Charge Mode
Test Specification: AC 120V, 60Hz for adapter
Comment: Live Line
Tem.: 22.3℃ Hum.: 57%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	32.46	19.90	52.36	65.99	-13.63	QP	
2	1.7020	20.88	20.13	41.01	56.00	-14.99	QP	
3	1.9820	11.30	20.14	31.44	46.00	-14.56	AVG	
4	2.0020	20.23	20.14	40.37	56.00	-15.63	QP	
5	2.2659	18.77	20.15	38.92	56.00	-17.08	QP	
6	2.2659	12.12	20.15	32.27	46.00	-13.73	AVG	
7	2.5500	19.54	20.15	39.69	56.00	-16.31	QP	
8	2.5500	11.91	20.15	32.06	46.00	-13.94	AVG	
9	2.8340	11.32	20.16	31.48	46.00	-14.52	AVG	
10	3.1180	19.01	20.16	39.17	56.00	-16.83	QP	
11	3.1180	11.83	20.16	31.99	46.00	-14.01	AVG	
12	22.7260	15.12	20.31	35.43	50.00	-14.57	AVG	

Conducted Emission Test Data

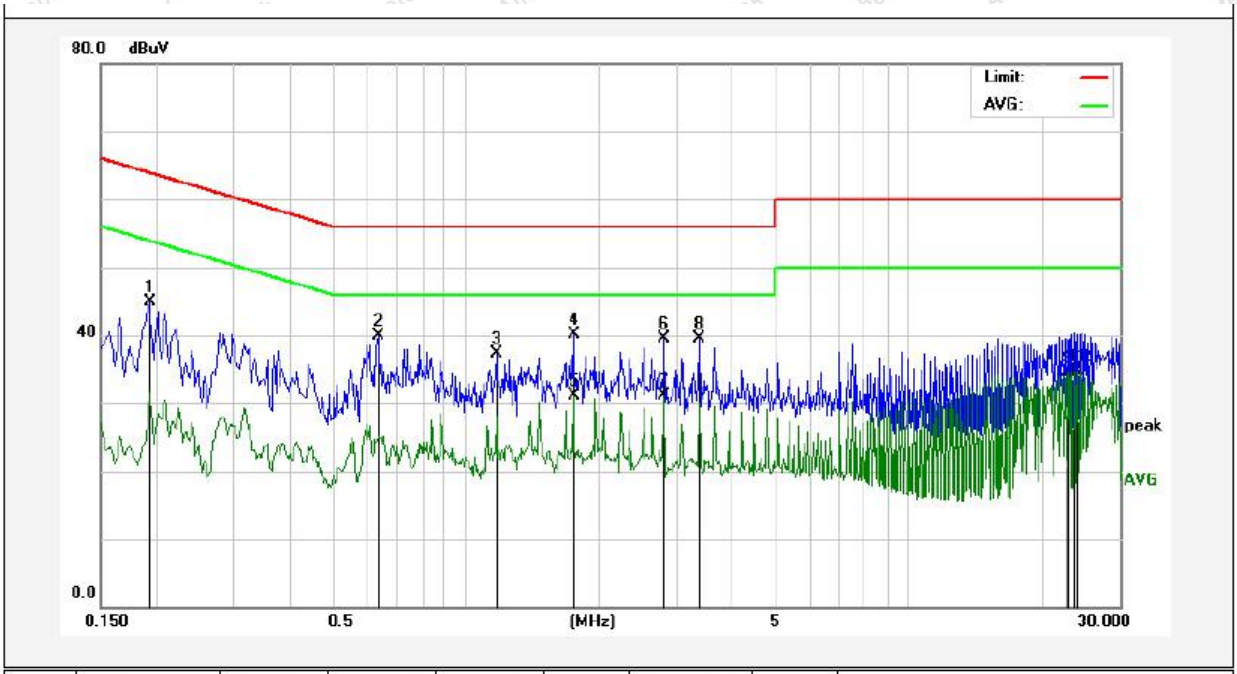
Test Site: 1# Shielded Room
Operating Condition: Wireless Charge Mode
Test Specification: AC 120V, 60Hz for adapter
Comment: Neutral Line
Tem.: 22.3℃ Hum.: 57%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1700	29.65	19.90	49.55	64.96	-15.41	QP	
2	0.4980	22.06	19.98	42.04	56.03	-13.99	QP	
3	0.6060	20.93	20.01	40.94	56.00	-15.06	QP	
4	0.8780	21.25	20.09	41.34	56.00	-14.66	QP	
5	2.0380	20.43	20.14	40.57	56.00	-15.43	QP	
6	18.3420	17.13	20.31	37.44	50.00	-12.56	AVG	
7	24.0140	18.34	20.29	38.63	50.00	-11.37	AVG	
8	24.2939	17.13	20.29	37.42	50.00	-12.58	AVG	
9	24.8620	17.58	20.28	37.86	50.00	-12.14	AVG	
10	25.7860	17.77	20.28	38.05	50.00	-11.95	AVG	
11	26.4460	18.09	20.28	38.37	50.00	-11.63	AVG	
12	29.4260	24.24	20.27	44.51	60.00	-15.49	QP	

Conducted Emission Test Data

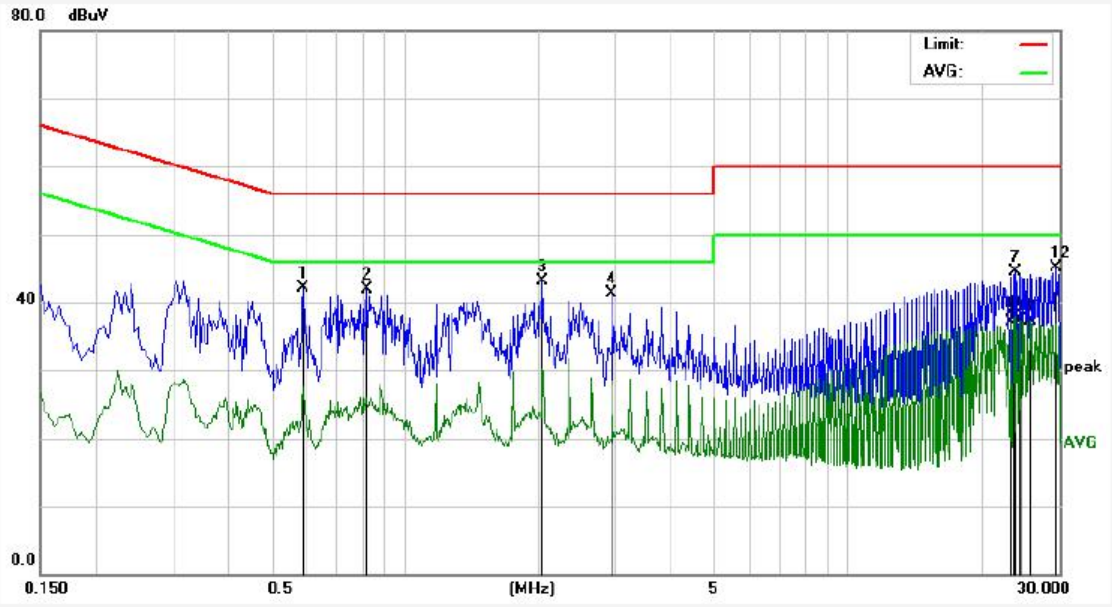
Test Site: 1# Shielded Room
Operating Condition: Wireless Charge Mode
Test Specification: AC 240V, 60Hz for adapter
Comment: Live Line
Tem.: 22.3℃ Hum.: 57%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1940	25.10	19.90	45.00	63.86	-18.86	QP	
2	0.6340	19.85	20.02	39.87	56.00	-16.13	QP	
3	1.1740	17.23	20.12	37.35	56.00	-18.65	QP	
4	1.7620	19.94	20.14	40.08	56.00	-15.92	QP	
5	1.7620	11.02	20.14	31.16	46.00	-14.84	AVG	
6	2.8100	19.31	20.16	39.47	56.00	-16.53	QP	
7	2.8100	10.97	20.16	31.13	46.00	-14.87	AVG	
8	3.3700	19.27	20.17	39.44	56.00	-16.56	QP	
9	22.8460	14.23	20.31	34.54	50.00	-15.46	AVG	
10	23.1380	14.27	20.30	34.57	50.00	-15.43	AVG	
11	23.7220	14.37	20.30	34.67	50.00	-15.33	AVG	
12	24.0180	14.38	20.29	34.67	50.00	-15.33	AVG	

Conducted Emission Test Data

Test Site: 1# Shielded Room
Operating Condition: Wireless Charge Mode
Test Specification: AC 240V, 60Hz for adapter
Comment: Neutral Line
Tem.: 22.3℃ Hum.: 57%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.5899	22.05	20.01	42.06	56.00	-13.94	QP	
2	0.8260	21.84	20.07	41.91	56.00	-14.09	QP	
3	2.0540	22.89	20.14	43.03	56.00	-12.97	QP	
4	2.9380	21.20	20.16	41.36	56.00	-14.64	QP	
5	23.4340	16.83	20.30	37.13	50.00	-12.87	AVG	
6	23.7260	17.39	20.30	37.69	50.00	-12.31	AVG	
7	24.0140	24.16	20.29	44.45	60.00	-15.55	QP	
8	24.0140	17.68	20.29	37.97	50.00	-12.03	AVG	
9	24.3060	17.10	20.29	37.39	50.00	-12.61	AVG	
10	24.5980	17.03	20.28	37.31	50.00	-12.69	AVG	
11	25.7580	16.94	20.28	37.22	50.00	-12.78	AVG	
12	29.6700	24.81	20.27	45.08	60.00	-14.92	QP	

4. Radiation Spurious Emission and Band Edge

4.1. Test Standard and Limit

Test Standard	FCC Part18 B Section 18.305			
Test Limit	Frequency (MHz)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~30MHz	63.5	Quasi-peak	3
	30MHz~88MHz	40.0	Quasi-peak	3
	88MHz~216MHz	43.5	Quasi-peak	3
	216MHz~1000MHz	46.0	Quasi-peak	3
Remark: (1)The lower limit shall apply at the transition frequency. (2) According to the article 18.305(b), The operating frequency is non-ISM frequency;the RF Power generated by equipment is below 500(watts).				

4.2. Test Setup

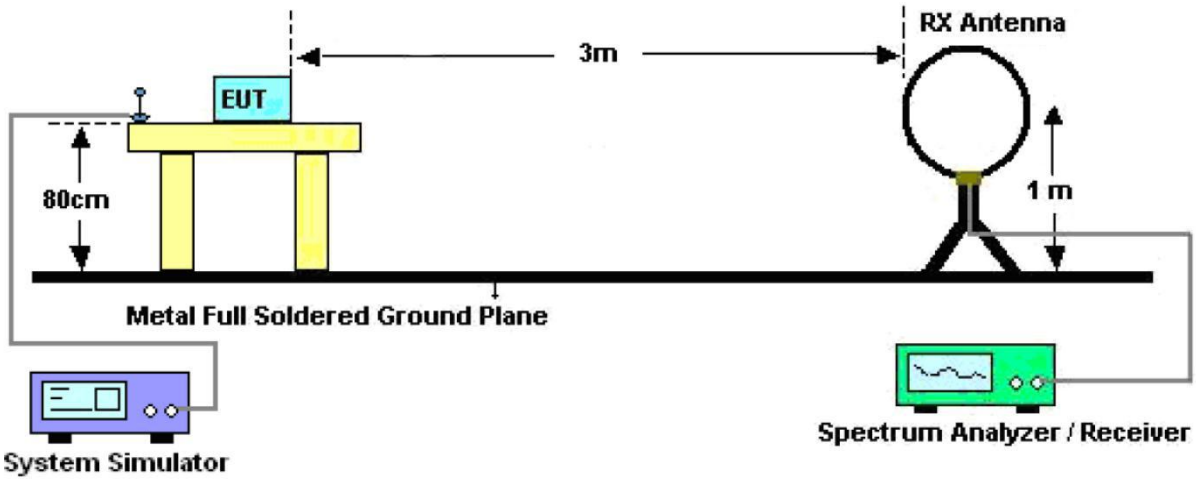


Figure 1. Below 30MHz

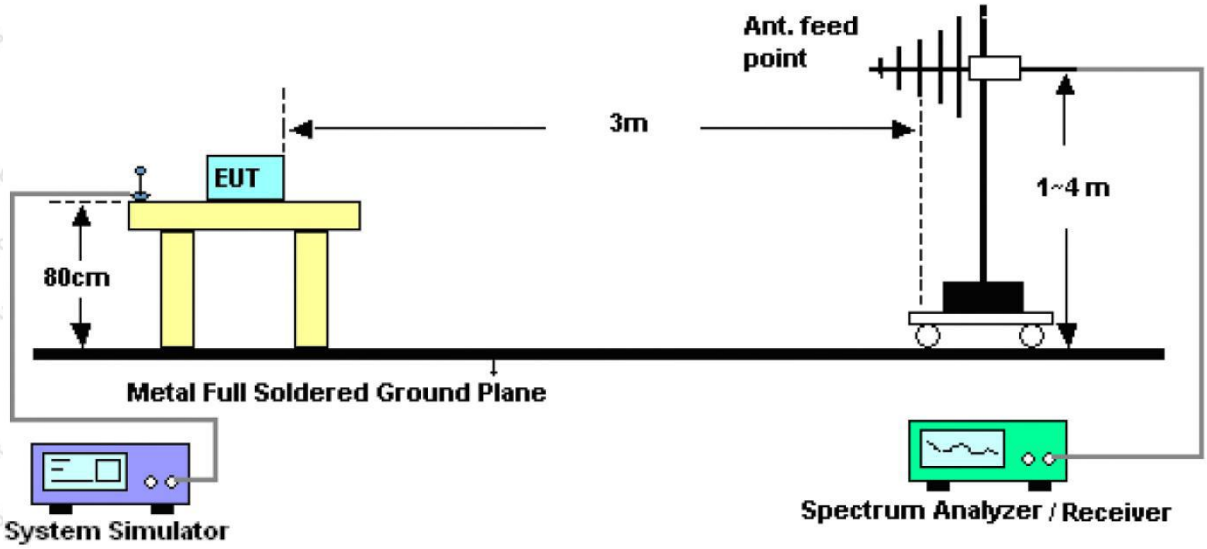


Figure 2. 30MHz to 1GHz

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 ≥RBW, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:
RBW = 9KHz, VBW ≥RBW, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

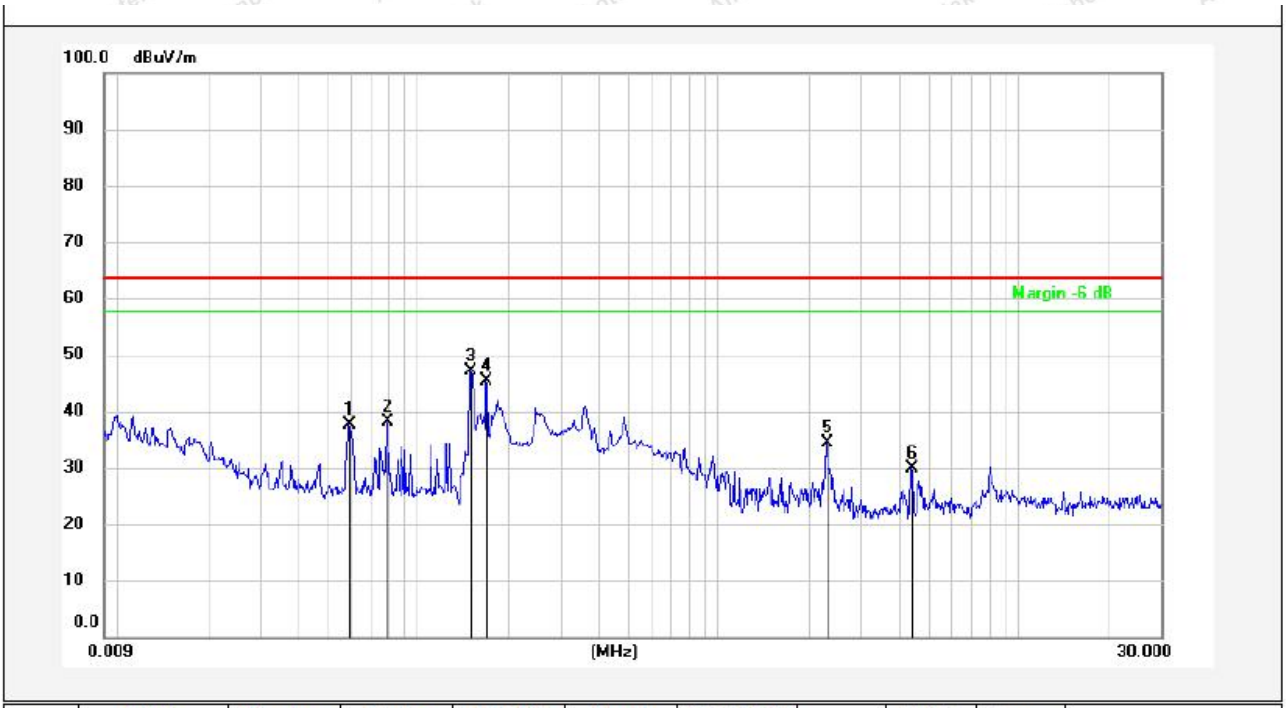
For 30MHz to 1000MHz, Set the spectrum analyzer as:
RBW = 100kHz, VBW ≥RBW, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

4.4. Test Data

PASS

(Between 0.009MHz –30MHz)

Job No.:	**SZAWW180516010-01**	**Polarization:**	
Standard:	**FCC PART18 C _3m**	**Power Source:**	**AC 120V, 60Hz for adapter**
Test item:	**Radiation Test**	**Temp.(C)/Hum.(%RH):**	**24.4(C)/50%RH**
Test Mode:	**Mode 1**	**Distance:**	**3m**

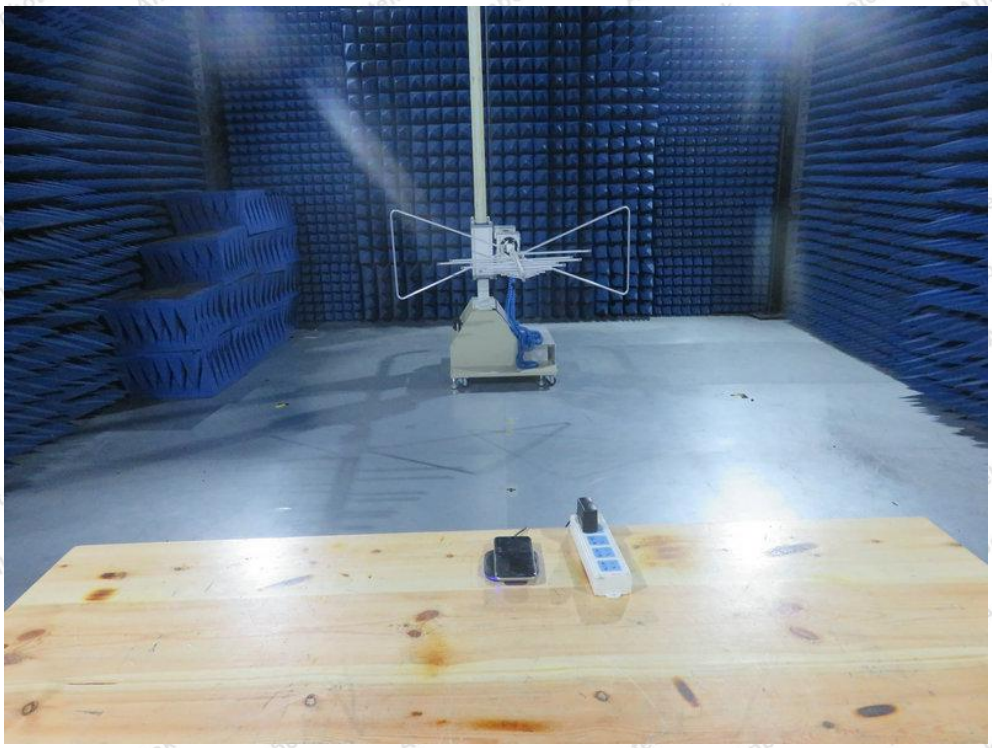


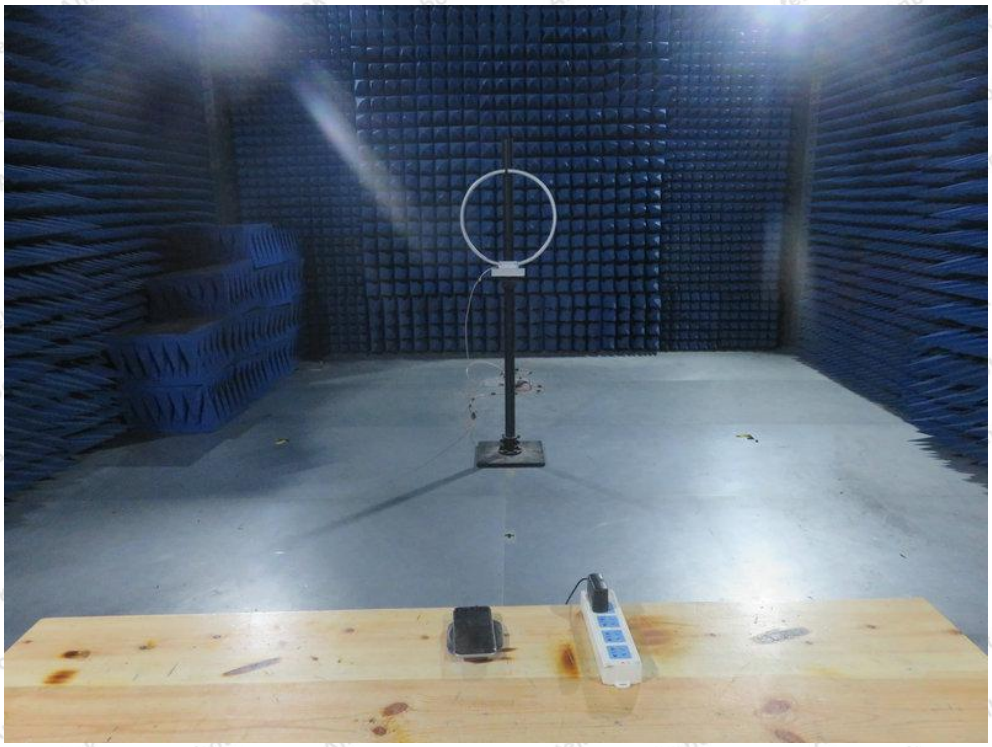
No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	0.0589	17.34	20.34	37.68	63.52	-25.84	QP			
2	0.0791	17.85	20.33	38.18	63.52	-25.34	QP			
3	0.1500	26.84	20.29	47.13	63.52	-16.39	QP			
4	0.1683	25.03	20.28	45.31	63.52	-18.21	QP			
5	2.3100	14.16	20.15	34.31	63.52	-29.21	QP			
6	4.4100	9.74	20.20	29.94	63.52	-33.58	QP			

APPENDIX I -- TEST SETUP PHOTOGRAPH

Photo of Conducted Emission Measurement

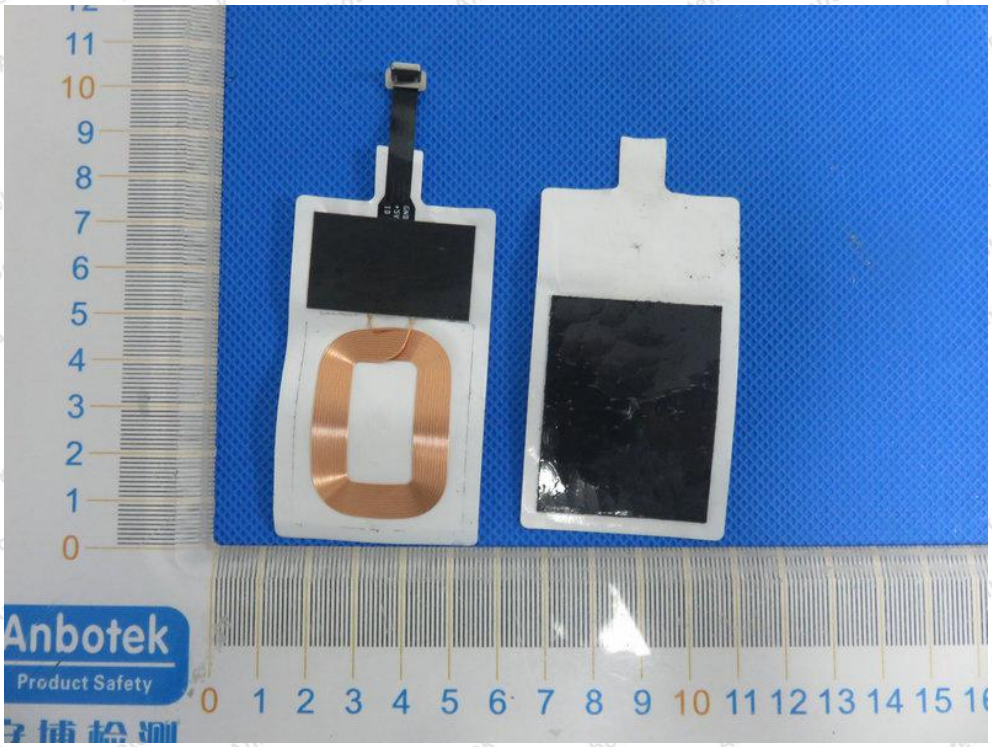
Photo of Radiation Emission Test

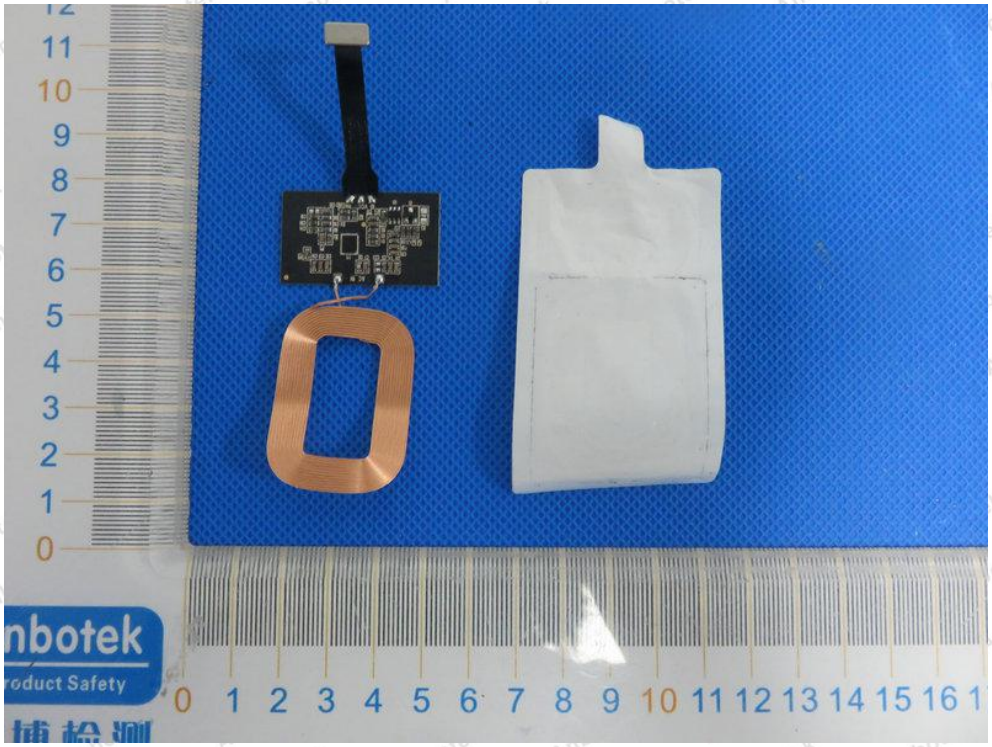


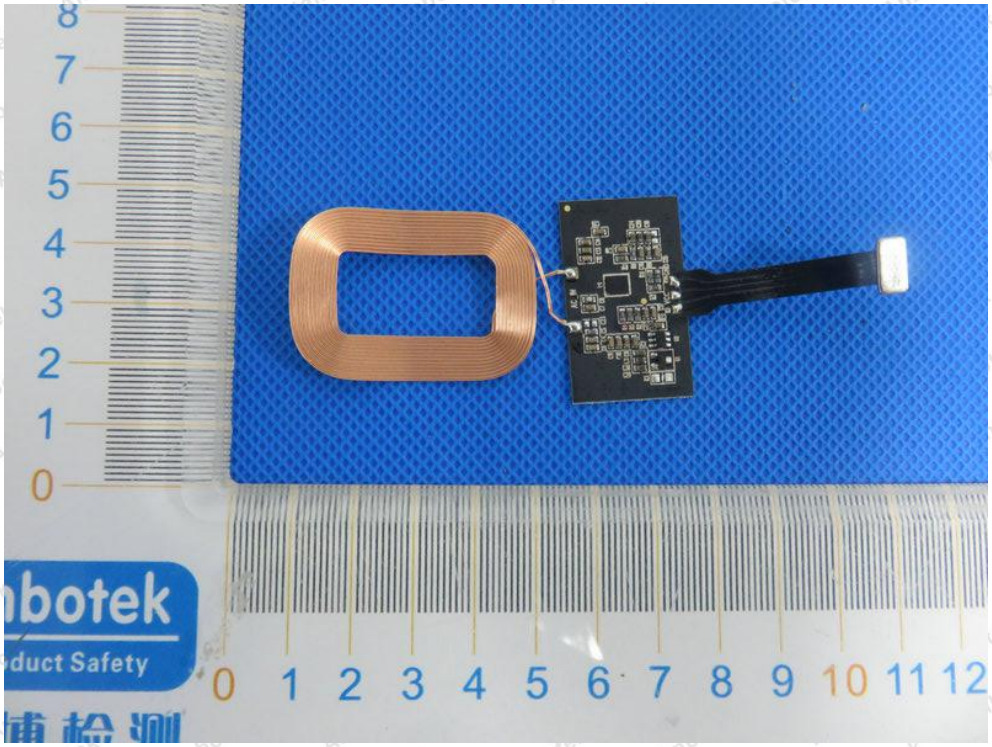


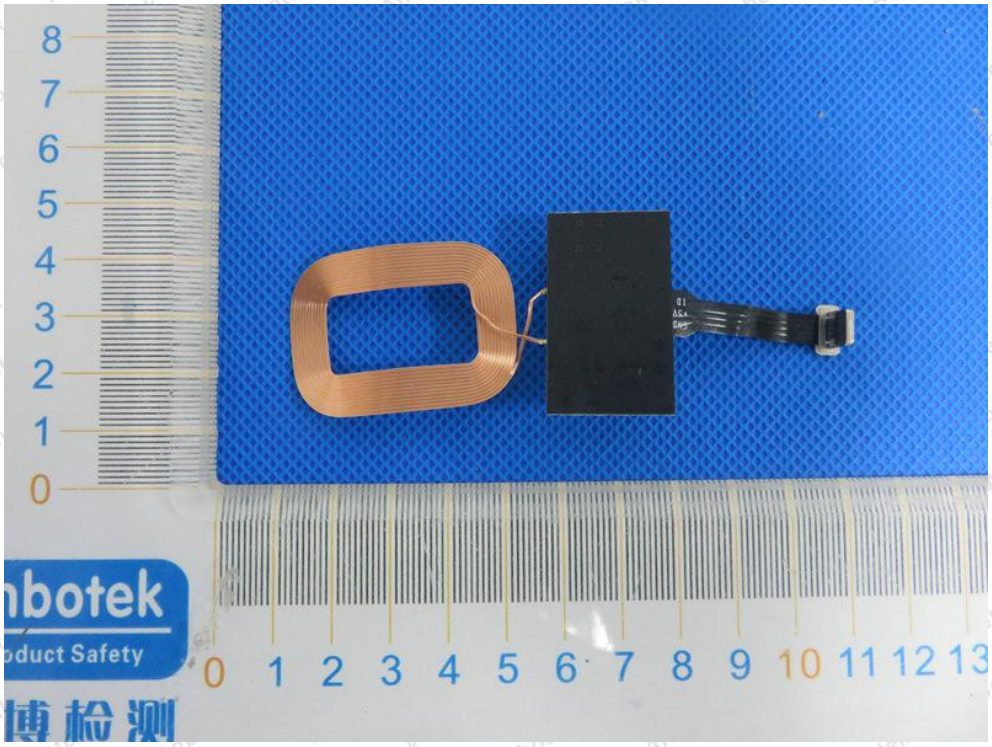
APPENDIX II -- EXTERNAL PHOTOGRAPH

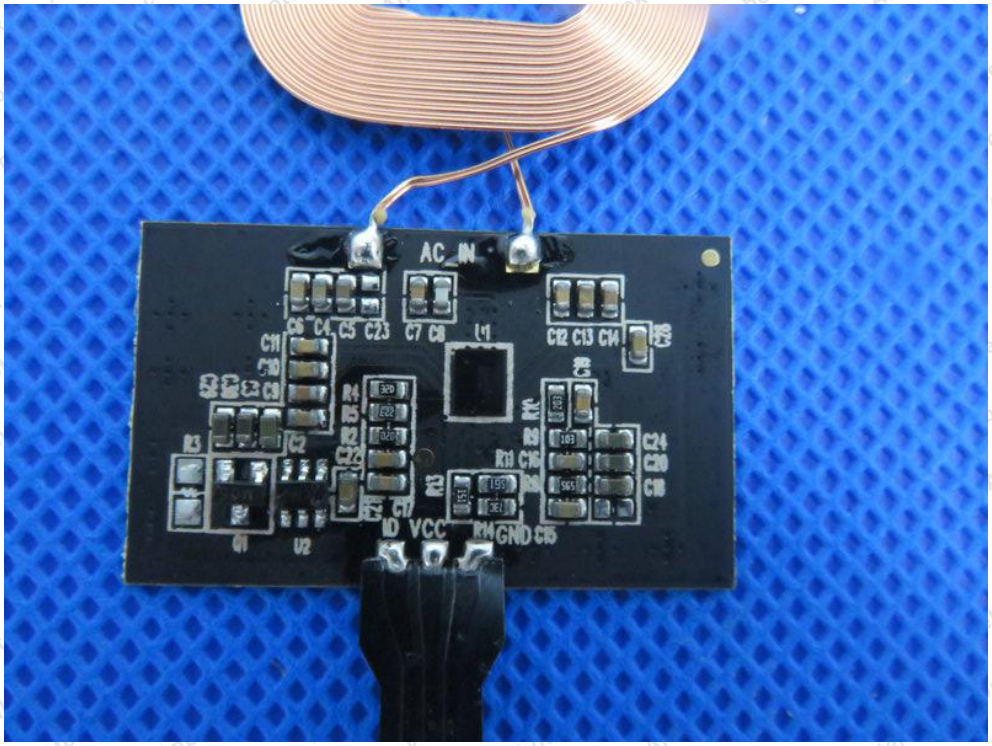
APPENDIX III -- INTERNAL PHOTOGRAPH











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