

FCC Test Report

For

Shenzhen Mossloo Industrial Co.,Ltd

Wireless Charging Receiver with Micro Tip

Model No.: 7141-34

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

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Report Number : SZAWW180516011-01

Date of Test : May 16~Jun. 22, 2018

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TEST REPORT

Applicant : Shenzhen Mossloo Industrial Co.,Ltd
Manufacturer : Shenzhen Mossloo Industrial Co.,Ltd
Product Name : Wireless Charging Receiver with Micro Tip
Model No. : 7141-34
Trade Mark : N.A.
Rating(s) : Input: DC 5V, 800mA

Test Standard(s) : FCC Rules and Regulations Part 15 Subpart B: 2017 / ANSI C63.4-2014

The device described above is tested by Shenzhen Anbotech Compliance Laboratory Limited To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both radiated and conducted emissions. The measurement results are contained in this test report and Shenzhen Anbotech Compliance Laboratory Limited Is assumed full responsibility for the accuracy and completeness of these measurements.

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

Date of Test

May 16~Jun. 22, 2018

Prepared by

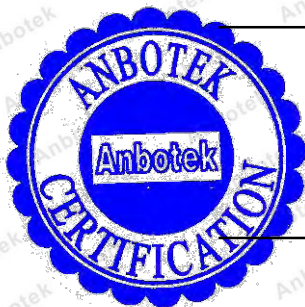
(Engineer / Oliay Yang)

Reviewer

(Supervisor / Calvin Liu)

Approved & Authorized Signer

(Manager / Tom Chen)



A rectangular box containing a handwritten signature in black ink, which appears to read "Calvin Liu".

A handwritten signature in black ink, which appears to read "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 with Micro Tip
Model No.	:	7141-34
Trade Mark	:	N.A.
Test Power Supply	:	AC 120V, 60Hz for adapter
Test Sample No.	:	S1
Product Description	:	Adapter: N/A
Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		

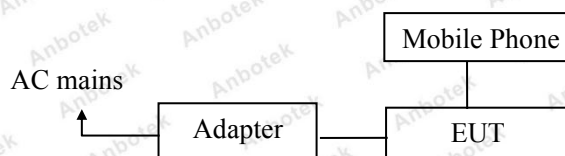
1.3. Auxiliary Equipment Used During Test

Adapter	:	Manufacturer: ZTE M/N: STC-A2050I1000USBA-C S/N: 201202102100876 Input: 100-240V~50/60Hz 0.3A Output: DC 5V, 1000mA
Mobile Phone	:	Manufacturer: HUAWEI M/N: C8650 S/N: L6W7NA11B1013157 CE, FCC, DOC

1.4. Description of Test Mode

Pretest Mode	Description
Mode 1	Wireless Charge Mode

For Mode 1 Block Diagram of Test Setup



1.5. Test Summary

Test Items	Test Mode	Status
Power Line Conducted Emission Test (150KHz To 30MHz)	Mode 1	P
Radiated Emission Test (30MHz To 1000MHz)	Mode 1	P
P) Indicates that the through the test. N) Don't test.		

1.6. Test Equipment List

Conducted Emission Measurement

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.	Software Name EZ-EMC	Ferrari Technology	ANB-03A	N/A	N/A	N/A

Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 17, 2017	1 Year
2.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Nov. 20, 2017	1 Year
3.	Pre-amplifier	SONOMA	310N	186860	Nov. 17, 2017	1 Year
4.	Software Name EZ-EMC	Ferrari Technology	ANB-03A	N/A	N/A	N/A

1.7. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)
		Ur = 3.8 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4 dB
Disturbance Uncertainty	:	Ud = 2.6 dB

1.8. Description of Test Facility

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

FCC-Registration No.: 184111

Shenzhen Anbotech Compliance Laboratory Limited, EMC Laboratory has been Registered 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 Anbotech 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 Anbotech Compliance Laboratory Limited.

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

2. Power Line Conducted Emission Test

2.1. Test Standard and Limit

Test Standard	FCC Part 15 Subpart B
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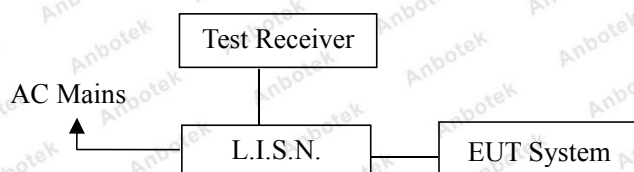
Power Line Conducted Emission Measurement Limits (FCC Part 15 Class B)

Test Limit	Frequency (MHz)	At mains terminals (dBμV)	
		Quasi-peak Level	Average Level
	0.15 ~ 0.50	66 ~ 56*	56 ~ 46*
	0.50 ~ 5.00	56	46
	5.00 ~ 30.00	60	50

Remark: (1) The lower limit shall apply at the transition frequencies.

(2) * Decreasing linearly with logarithm of frequency.

2.2. Test Setup



2.3. EUT Configuration on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

2.4. Operating Condition of EUT

2.4.1. Setup the EUT as shown in Section 2.2.

2.4.2. Turn on the power of all equipments.

2.4.3. Let the EUT work in test mode and measure it.

2.5. 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 C63.4-2014 on Conducted Emission Measurement.

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

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

All the test results are listed in Section 2.6.

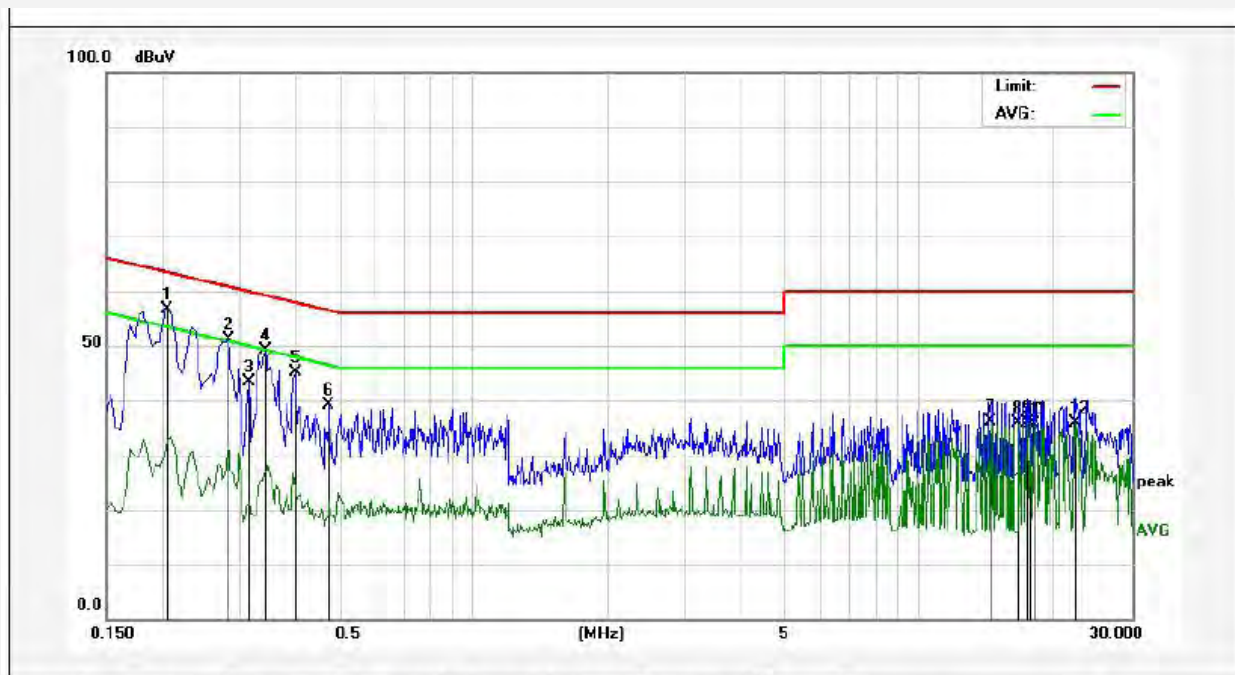
2.6. Test Results

PASS

The test curves are shown in the following pages.

Conducted Emission Test Data

Test Site: 1# Shielded Room
Test Specification: AC 120V, 60Hz for adapter
Comment: Live Line
Tem.: 22.3°C Hum.: 57%

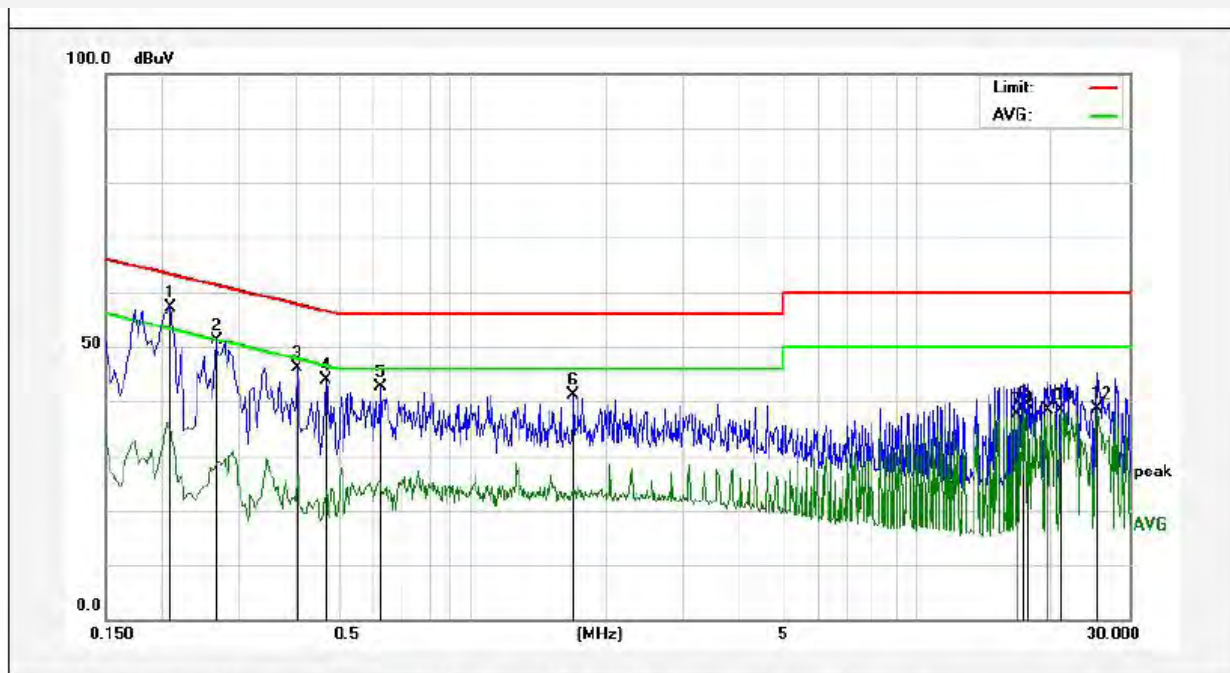


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.2060	36.76	19.90	56.66	63.36	-6.70	QP	
2	0.2819	31.22	19.89	51.11	60.76	-9.65	QP	
3	0.3140	23.39	19.90	43.29	59.86	-16.57	QP	
4	0.3420	29.33	19.91	49.24	59.15	-9.91	QP	
5	0.3980	25.22	19.93	45.15	57.89	-12.74	QP	
6	0.4740	19.18	19.97	39.15	56.44	-17.29	QP	
7	14.4700	15.76	20.27	36.03	50.00	-13.97	AVG	
8	16.6860	15.49	20.29	35.78	50.00	-14.22	AVG	
9	17.5540	15.63	20.30	35.93	50.00	-14.07	AVG	
10	17.8100	15.30	20.30	35.60	50.00	-14.40	AVG	
11	18.1020	15.34	20.31	35.65	50.00	-14.35	AVG	
12	22.3740	15.54	20.31	35.85	50.00	-14.15	AVG	

Note: Result=Reading+Factor Over Limit=Result-Limit

Conducted Emission Test Data

Test Site: 1# Shielded Room
Test Specification: AC 120V, 60Hz for adapter
Comment: Neutral Line
Tem.: 22.3°C Hum.: 57%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.2100	37.29	19.90	57.19	63.20	-6.01	QP	
2	0.2660	31.34	19.89	51.23	61.24	-10.01	QP	
3	0.4060	26.29	19.94	46.23	57.73	-11.50	QP	
4	0.4700	23.88	19.97	43.85	56.51	-12.66	QP	
5	0.6220	22.51	20.02	42.53	56.00	-13.47	QP	
6	1.6900	21.03	20.13	41.16	56.00	-14.84	QP	
7	16.7779	17.27	20.29	37.56	50.00	-12.44	AVG	
8	17.2939	18.22	20.30	38.52	50.00	-11.48	AVG	
9	17.8099	17.61	20.30	37.91	50.00	-12.09	AVG	
10	19.6579	18.07	20.33	38.40	50.00	-11.60	AVG	
11	20.9380	18.00	20.33	38.33	50.00	-11.67	AVG	
12	25.5700	18.34	20.28	38.62	50.00	-11.38	AVG	

Note: Result=Reading+Factor Over Limit=Result-Limit

3. Radiated Emission Test

3.1. Test Standard and Limit

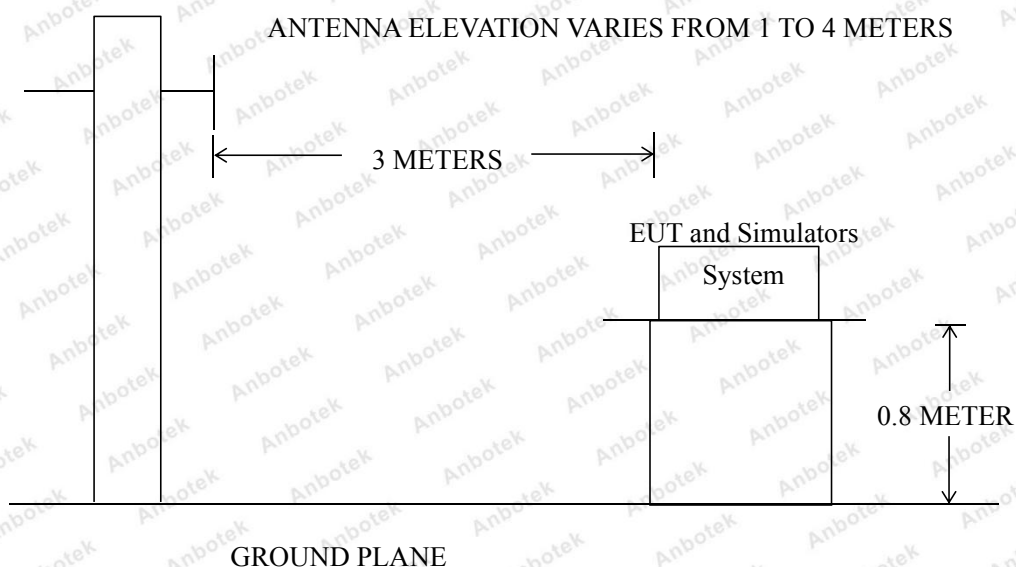
Test Standard	FCC Part 15 Subpart B
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Radiated Emission Test Limit (Subpart B Class B)

Test Limit	Frequency (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMIT	
			μV/m	(dBμV/m)
	30 ~ 88	3	100	40
	88 ~ 216	3	150	43.5
	216 ~ 960	3	200	46
	960 ~ 1000	3	500	54

Remark: (1) Emission level (dB)μV = 20 log Emission level μV/m
 (2) The smaller limit shall apply at the cross point between two frequency bands.
 (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.
 (4) $3M \text{ Limit} = 10M \text{ Limit} + k$ $k = 20 \log(D1/D2) = 10$
 $3M \text{ Limit} = 10M \text{ Limit} + 10$
 (D1= 10M D2=3M)

3.2. Test Setup



3.3. EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

3.4. Operating Condition of EUT

3.4.1. Setup the EUT as shown in Section 3.2.

3.4.2. Turn on the power of all equipments.

3.4.3. Let the EUT work in test mode and measure it.

3.5. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (Trilog Broadband Antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver (ESCI) is set at 120kHz.

The frequency range from 30MHz to 1000MHz is checked.

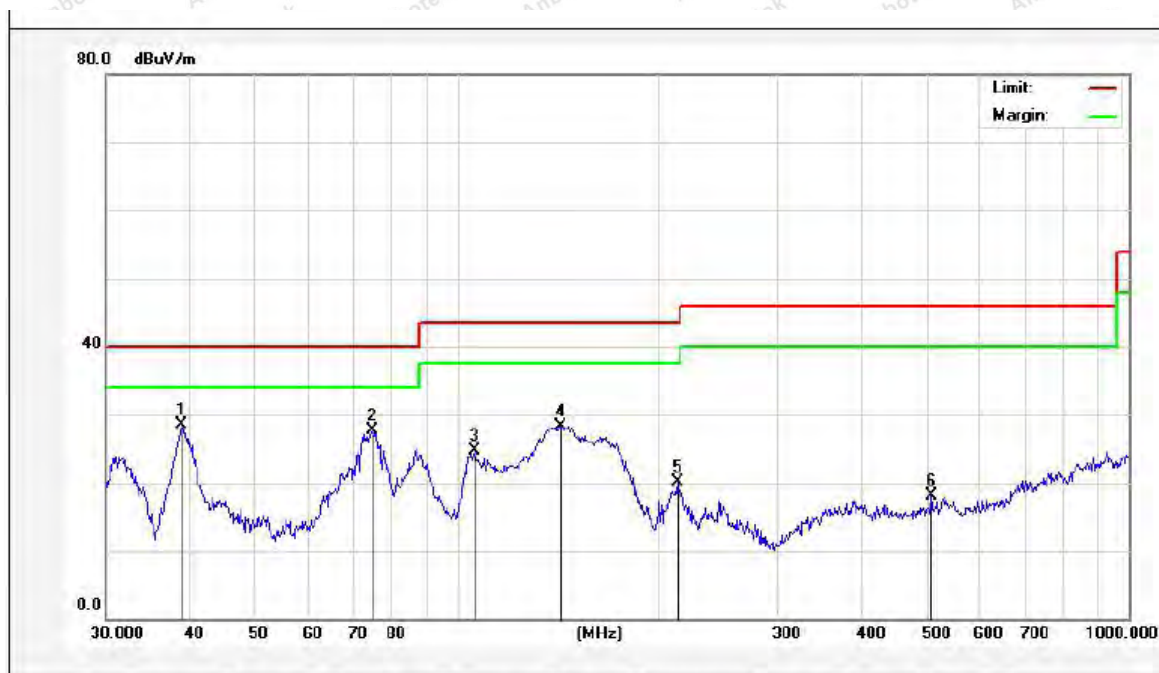
The test results are listed in Section 3.6.

3.6. Test Results

PASS

The test curves are shown in the following pages.

Test item: Radiation Test **Polarization:** Horizontal
Standard: (RE)FCC Part 15 Subpart B **Power Source:** AC 120V, 60Hz for adapter
Distance: 3m **Temp.(°C)/Hum.(%RH):** 23.2(°C)/54%RH



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	38.8878	43.43	-14.97	28.46	40.00	-11.54	QP	300	0	
2	74.6569	49.16	-21.54	27.62	40.00	-12.38	QP	300	36	
3	106.3850	45.44	-20.68	24.76	43.50	-18.74	QP	300	164	
4	142.3243	49.73	-21.45	28.28	43.50	-15.22	QP	300	196	
5	213.0151	39.17	-19.15	20.02	43.50	-23.48	QP	300	300	
6	508.2582	29.09	-10.97	18.12	46.00	-27.88	QP	300	360	

Note: Result=Reading+Factor Over Limit=Result-Limit

Test item:	Radiation Test	Polarization:	Vertical
Standard:	(RE)FCC Part 15 Subpart B	Power Source:	AC 120V, 60Hz for adapter
Distance:	3m	Temp.(°C)/Hum.(%RH):	23.2(°C)/54%RH



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	31.8427	50.83	-17.01	33.82	40.00	-6.18	QP	300	0	
2	37.6798	48.26	-14.63	33.63	40.00	-6.37	QP	300	36	
3	74.1351	51.81	-20.46	31.35	40.00	-8.65	QP	300	123	
4	88.3421	49.48	-17.51	31.97	43.50	-11.53	QP	300	173	
5	155.3644	48.50	-17.09	31.41	43.50	-12.09	QP	300	233	
6	170.7926	46.59	-16.50	30.09	43.50	-13.41	QP	300	360	

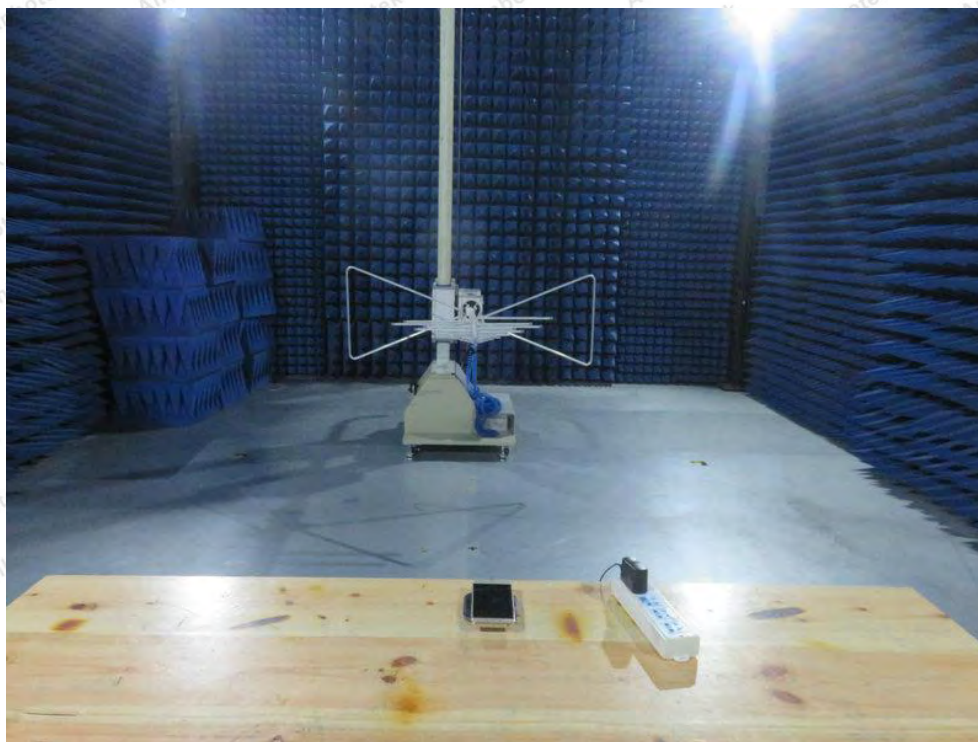
Note: **Result=Reading+Factor** **Over Limit=Result-Limit**

APPENDIX I-- TEST SETUP PHOTOGRAPH

Photo of Power Line Conducted Emission Test



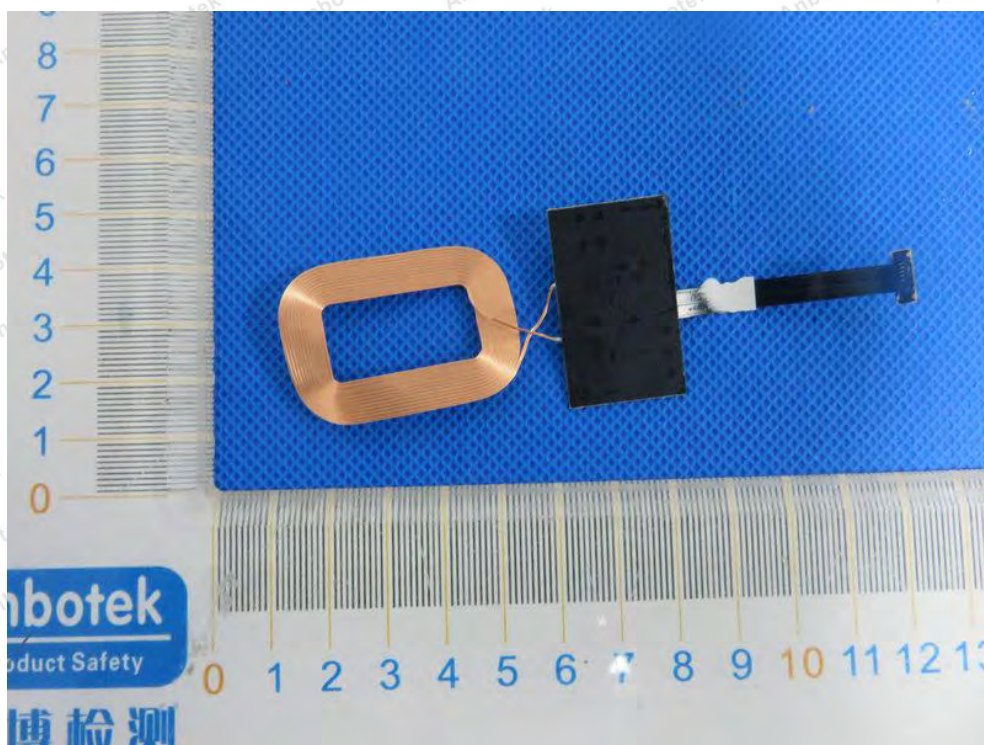
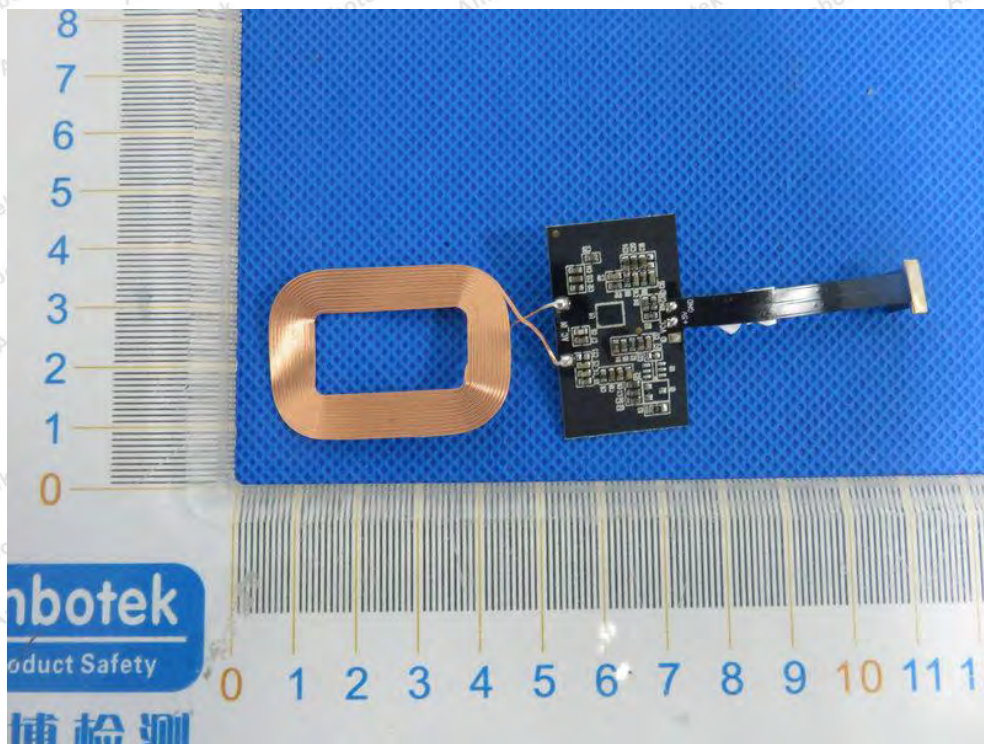
Photo of Radiated Emission Test

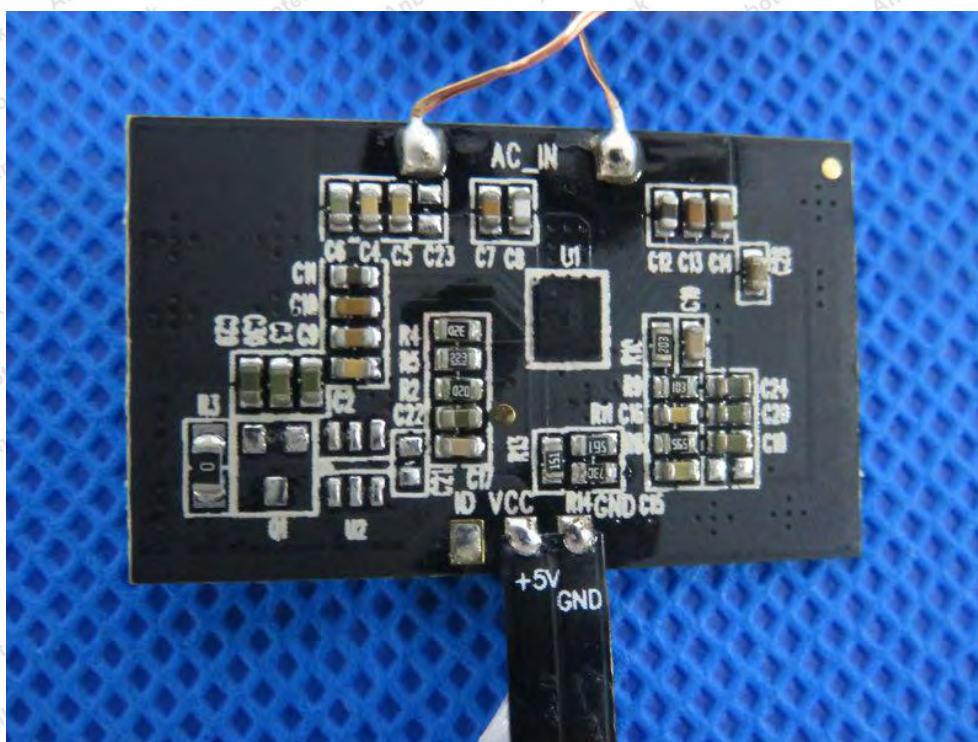


APPENDIX II -- EXTERNAL PHOTOGRAPH



APPENDIX III -- INTERNAL PHOTOGRAPH





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