

FCC Test Report

For

Qi Quick Technology Co,Ltd

Wireless Charge Qi Receiver

Model No.: QRC102

Prepared For : Qi Quick Technology Co,Ltd
Address : Room 1204-1210, Floor 12th Jiajun Center, No.8 Changdong Road
changping, Dongguan, Guangdong, China

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Report Number : SZAWW181109007-01
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TEST REPORT

Applicant : Qi Quick Technology Co,Ltd
Manufacturer : Qi Quick Technology Co,Ltd
Product Name : Wireless Charge Qi Receiverd
Model No. : QRC102
Trade Mark : QIQUICK
Rating(s) : Input: DC 5V, 2A

Test Standard(s) : FCC Rules and Regulations Part 15 Subpart B: 2018

Test Method(s) : ANSI C63.4-2014

The device described above is tested by Shenzhen Anbotek 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 Anbotek 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 Anbotek Compliance Laboratory Limited

Date of Test

Nov. 09~Dec. 17, 2018

Prepared By



Dolly Mo

(Engineer / Dolly Mo)

Reviewer

Snowy Meng

(Supervisor / Snowy Meng)

Approved & Authorized Signer

Sally Zhang

(Manager / Sally Zhang)

1. General Information

1.1. Client Information

Applicant	:	Qi Quick Technology Co,Ltd
Address	:	Room 1204-1210, Floor 12th Jiajun Center, No.8 Changdong Road changping, Dongguan, Guangdong, China
Manufacturer	:	Qi Quick Technology Co,Ltd
Address	:	Room 1204-1210, Floor 12th Jiajun Center, No.8 Changdong Road changping, Dongguan, Guangdong, China
Factory	:	Qi Quick Technology Co,Ltd
Address	:	Room 1204-1210, Floor 12th Jiajun Center, No.8 Changdong Road changping, Dongguan, Guangdong, China

1.2. Description of Device (EUT)

Product Name	:	Wireless Charge Qi Receiverd
Model No.	:	QRC102
Trade Mark	:	N.A.
Test Power Supply	:	AC 120V, 60Hz for adapter / AC 240V, 60Hz for adapter / DC 3.7V By battery
Test Sample No.	:	S1(Normal Sample), S2(Engineering Sample)
Product Description	:	Adapter: Model: YJC010W-0502000J Input: 100-240V~ 50/60Hz 500mA Output: DC 5V, 2000mA
Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		

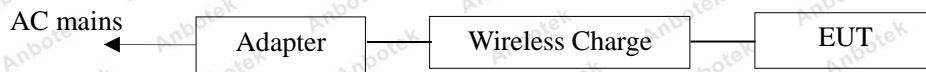
1.3. Auxiliary Equipment Used During Test

N/A	

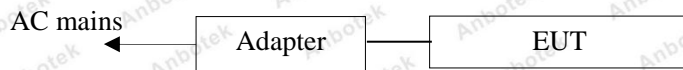
1.4. Description of Test Modes

Pretest Mode	Description
Mode 1	Wireless Charge Mode
Mode 2	USB Charge Mode
Mode 3	On Mode

For Mode 1 Block Diagram of Test Setup



For Mode 2 Block Diagram of Test Setup



For Mode 3 Block Diagram of Test Setup



1.5. Test Summary

Test Items	Test Modes	Status
Power Line Conducted Emission Test (150KHz To 30MHz)	Mode 1 Mode 2	P
Radiated Emission Test (30MHz To 1000MHz)	Mode 1 Mode 2 Mode 3	P
P) Indicates "PASS". N) Indicates "Not applicable".		

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. 26, 2018	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 05, 2018	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Nov. 05, 2018	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. 05, 2018	1 Year
2.	Pre-amplifier	Schwarzbeck	BBV-9745	9745-075	Nov. 05, 2018	1 Year
3.	Bilog Broadband Antenna	SCHWARZBECK	VULB 9163	01109	Nov. 05, 2018	1 Year
4.	Software Name EZ-EMC	Ferrari Technology	EMEC-3A1	N/A	N/A	N/A

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 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 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. Power Line Conducted Emission Test

2.1. Test Standard and Limit

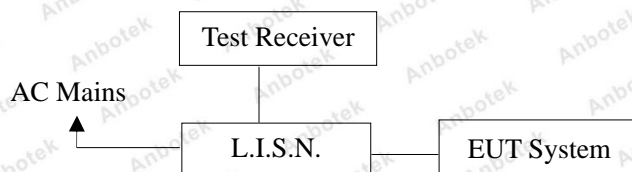
Test Standard	FCC Part 15 Subpart B
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Power Line Conducted Emission Measurement Limits (FCC Part 15 Class B)

Test Limit	Frequency (MHz)	At mains terminals (dB μ V)	
		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

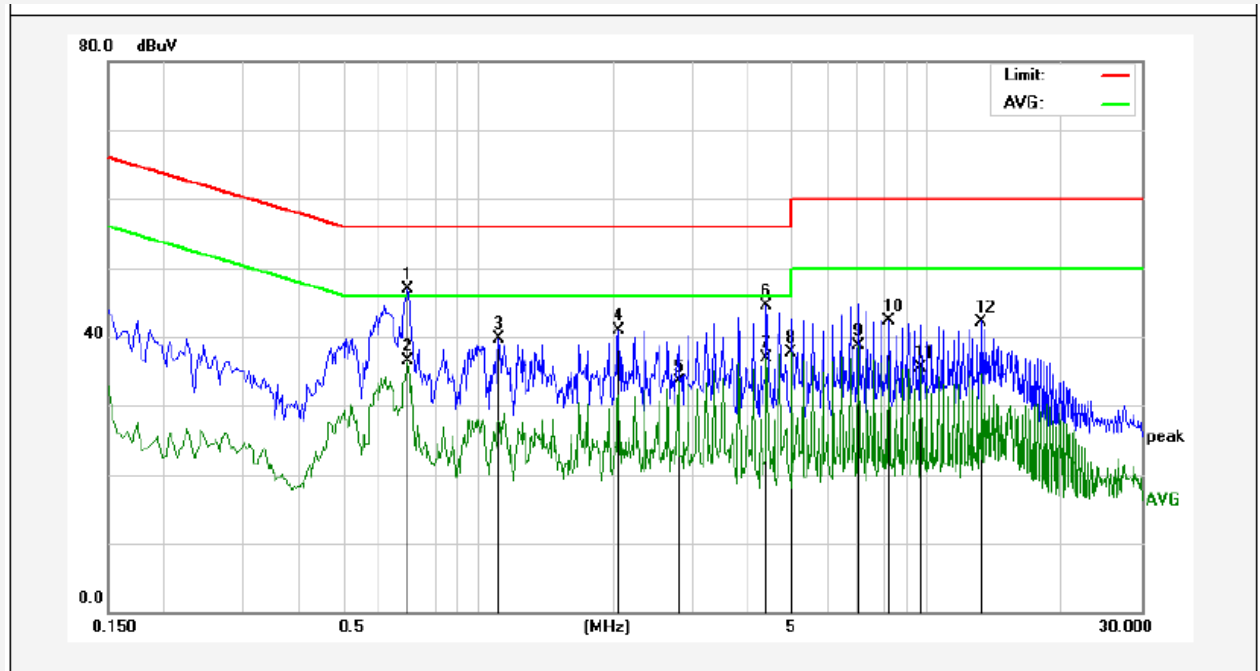
PASS

The test curves are shown in the following pages.

The EUT was tested on (Mode 1, Mode 2) modes, only the worst data of (Mode 1) are attached in the following pages.

Conducted Emission Test Data

Test Site: 1# Shielded Room
 Test Specification: AC 120V, 60Hz for adapter
 Comment: Live Line
 Temp.: 23.7°C Hum.: 41%

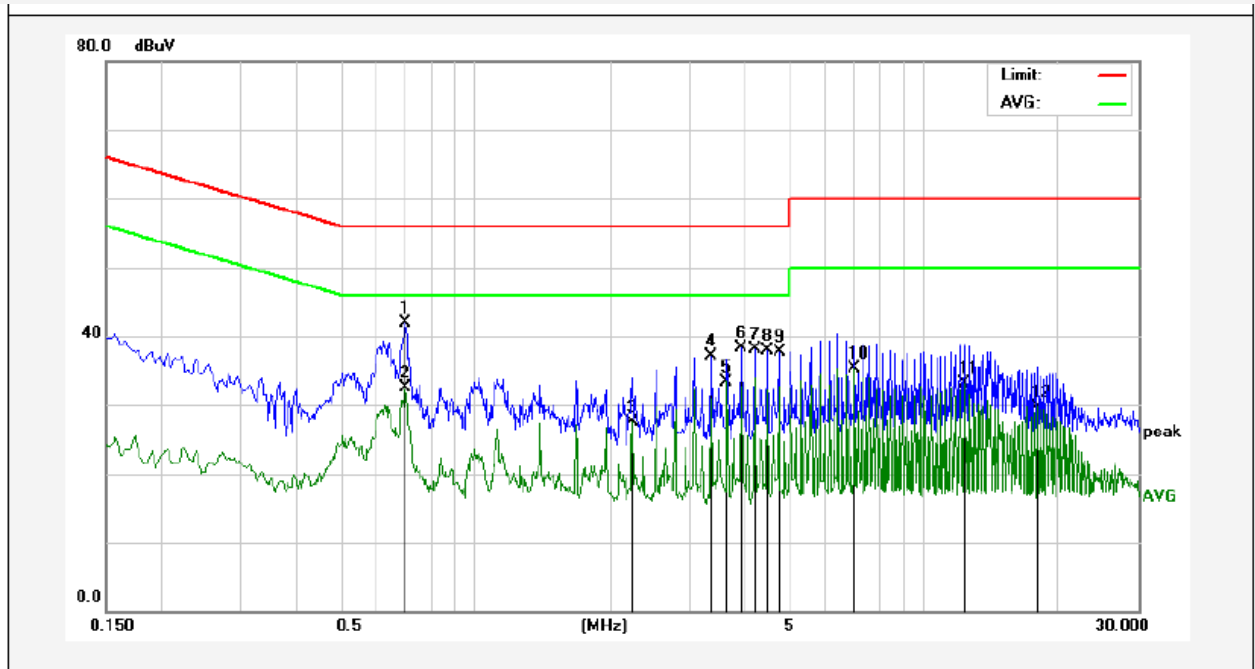


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.6980	26.95	20.04	46.99	56.00	-9.01	QP	
2	0.6980	16.45	20.04	36.49	46.00	-9.51	AVG	
3	1.1140	19.53	20.12	39.65	56.00	-16.35	QP	
4	2.0579	20.68	20.14	40.82	56.00	-15.18	QP	
5	2.7980	13.25	20.16	33.41	46.00	-12.59	AVG	
6	4.4060	24.22	20.19	44.41	56.00	-11.59	QP	
7	4.4060	16.76	20.19	36.95	46.00	-9.05	AVG	
8	4.9940	17.51	20.21	37.72	46.00	-8.28	AVG	
9	7.0500	18.41	20.26	38.67	50.00	-11.33	AVG	
10	8.2260	21.93	20.29	42.22	60.00	-17.78	QP	
11	9.6940	15.24	20.33	35.57	50.00	-14.43	AVG	
12	13.2180	21.91	20.29	42.20	60.00	-17.80	QP	

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
 Temp.: 23.7°C Hum.: 41%

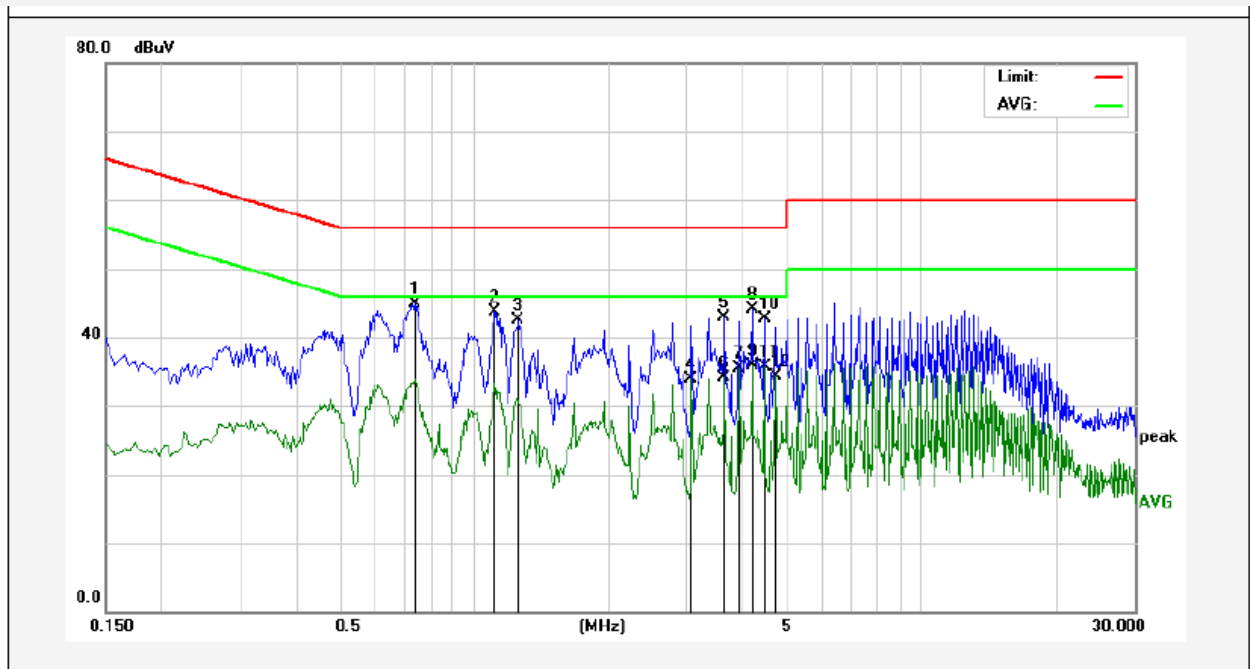


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.6980	21.91	20.04	41.95	56.00	-14.05	QP	
2	0.6980	12.37	20.04	32.41	46.00	-13.59	AVG	
3	2.2380	7.35	20.14	27.49	46.00	-18.51	AVG	
4	3.3580	16.84	20.17	37.01	56.00	-18.99	QP	
5	3.6380	13.23	20.17	33.40	46.00	-12.60	AVG	
6	3.9180	18.21	20.18	38.39	56.00	-17.61	QP	
7	4.1979	17.96	20.19	38.15	56.00	-17.85	QP	
8	4.4780	17.75	20.19	37.94	56.00	-18.06	QP	
9	4.7540	17.46	20.20	37.66	56.00	-18.34	QP	
10	6.9940	15.08	20.26	35.34	50.00	-14.66	AVG	
11	12.3100	12.83	20.30	33.13	50.00	-16.87	AVG	
12	17.9020	9.42	20.31	29.73	50.00	-20.27	AVG	

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

Conducted Emission Test Data

Test Site: 1# Shielded Room
 Test Specification: AC 240V, 60Hz for adapter
 Comment: Live Line
 Temp.: 23.7°C Hum.: 41%

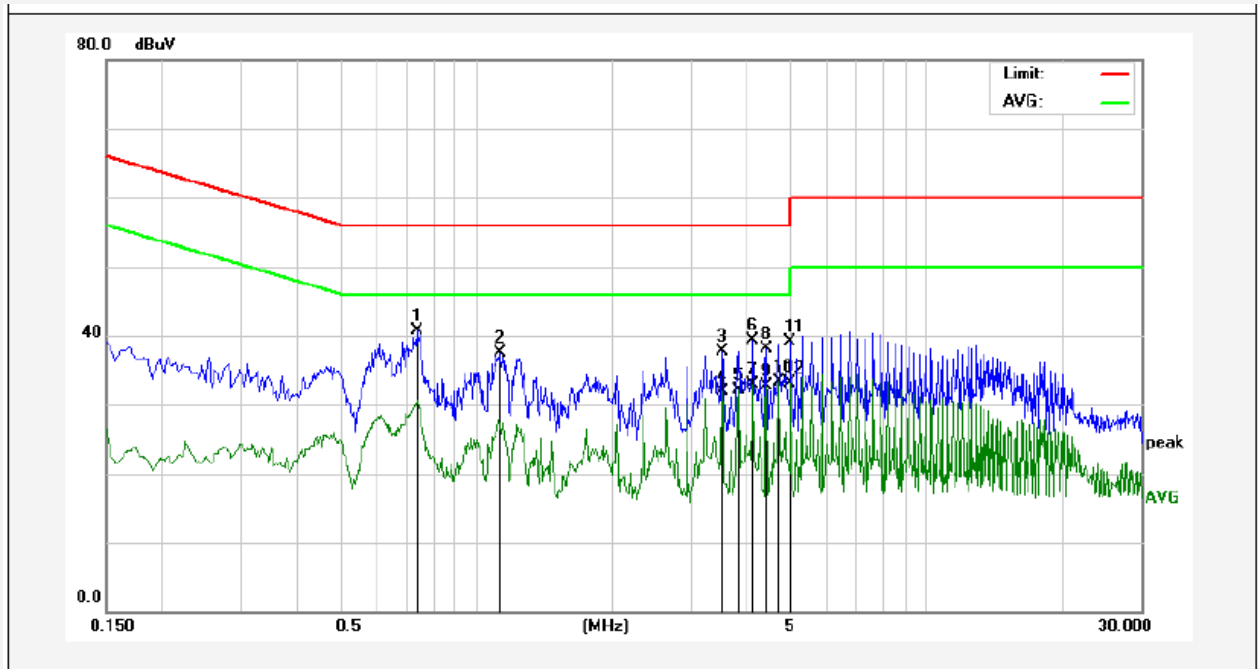


No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.7380	24.95	20.05	45.00	56.00	-11.00	QP	
2	1.1140	23.67	20.12	43.79	56.00	-12.21	QP	
3	1.2620	22.30	20.13	42.43	56.00	-13.57	QP	
4	3.0700	13.80	20.16	33.96	46.00	-12.04	AVG	
5	3.6260	22.66	20.17	42.83	56.00	-13.17	QP	
6	3.6260	13.96	20.17	34.13	46.00	-11.87	AVG	
7	3.9060	15.30	20.18	35.48	46.00	-10.52	AVG	
8	4.1860	23.96	20.18	44.14	56.00	-11.86	QP	
9	4.1860	15.78	20.18	35.96	46.00	-10.04	AVG	
10	4.4660	22.57	20.19	42.76	56.00	-13.24	QP	
11	4.4660	15.56	20.19	35.75	46.00	-10.25	AVG	
12	4.7420	14.11	20.20	34.31	46.00	-11.69	AVG	

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

Conducted Emission Test Data

Test Site: 1# Shielded Room
 Test Specification: AC 240V, 60Hz for adapter
 Comment: Neutral Line
 Temp.: 23.7°C Hum.: 41%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.7380	20.58	20.05	40.63	56.00	-15.37	QP	
2	1.1260	17.42	20.12	37.54	56.00	-18.46	QP	
3	3.5260	17.51	20.17	37.68	56.00	-18.32	QP	
4	3.5260	11.77	20.17	31.94	46.00	-14.06	AVG	
5	3.8220	12.00	20.18	32.18	46.00	-13.82	AVG	
6	4.1140	19.06	20.18	39.24	56.00	-16.76	QP	
7	4.1140	12.81	20.18	32.99	46.00	-13.01	AVG	
8	4.4100	17.94	20.19	38.13	56.00	-17.87	QP	
9	4.4100	12.61	20.19	32.80	46.00	-13.20	AVG	
10	4.7020	13.11	20.20	33.31	46.00	-12.69	AVG	
11	4.9980	18.97	20.21	39.18	56.00	-16.82	QP	
12	4.9980	12.83	20.21	33.04	46.00	-12.96	AVG	

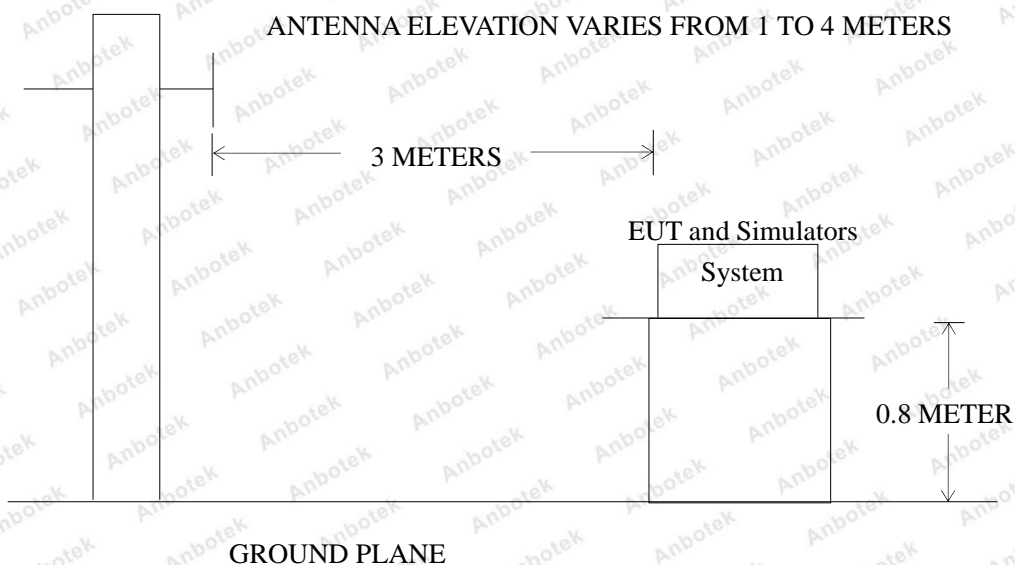
Note: Result=Reading+Factor Over Limit=Result-Limit

3. Radiated Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part 15 Subpart B			
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
<p>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)</p>				

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.

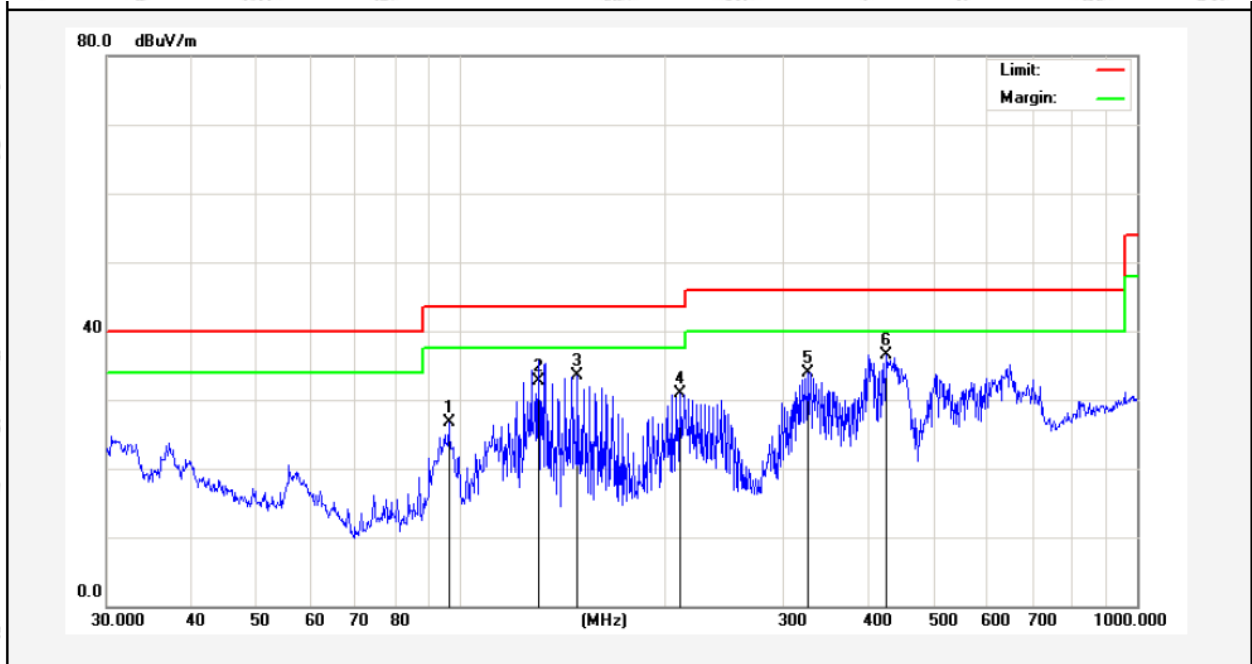
3.6. Test Results

PASS

The test curves are shown in the following pages.

The EUT was tested on (Mode 1, Mode 2, Mode 3) modes, only the worst data of (Mode 1) are attached in the following pages.

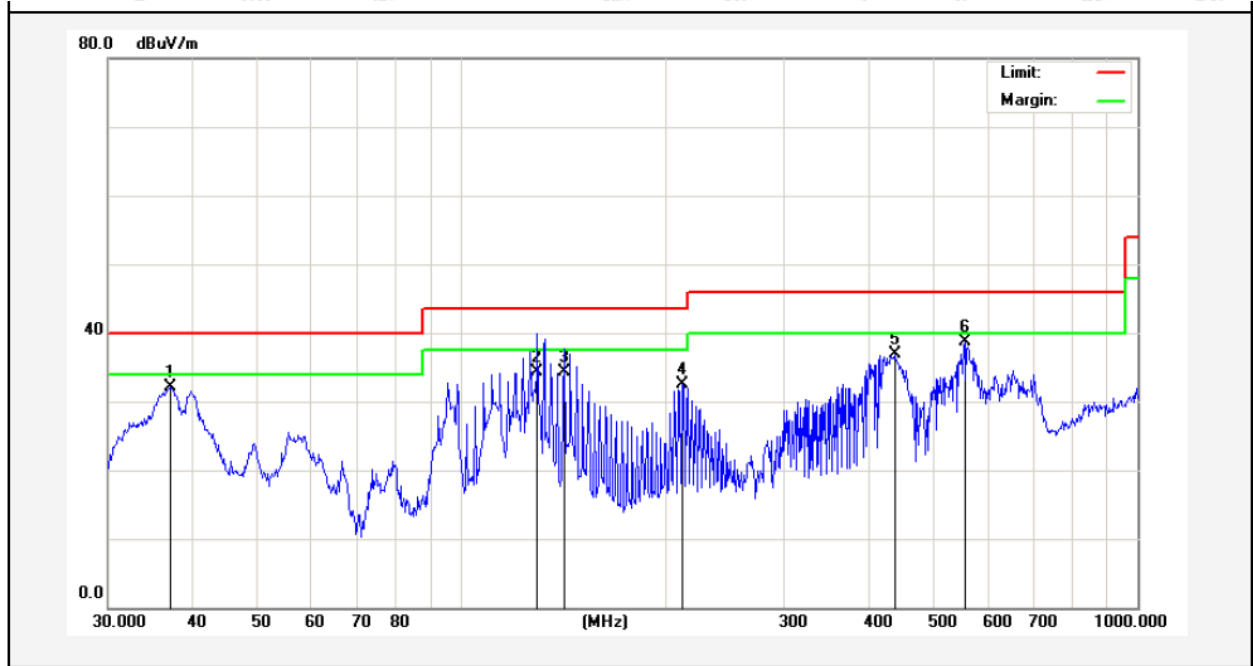
Test item: Radiation Test **Polarization:** Horizontal
Standard: (RE)FCC Part 15 Subpart B **Power Source:** AC 120V, 60Hz for adapter
Distance: 3m **Temp.(°C)/Hum.(%RH):** 24.2(°C)/54%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	96.0986	48.79	-22.12	26.67	43.50	-16.83	QP	300	71	
2	130.3789	55.44	-22.70	32.74	43.50	-10.76	QP	300	123	
3	148.9625	55.77	-22.36	33.41	43.50	-10.09	QP	300	230	
4	211.5265	51.00	-20.12	30.88	43.50	-12.62	QP	300	330	
5	325.5958	49.69	-15.73	33.96	46.00	-12.04	QP	300	150	
6	425.0280	48.80	-12.33	36.47	46.00	-9.53	QP	300	256	

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

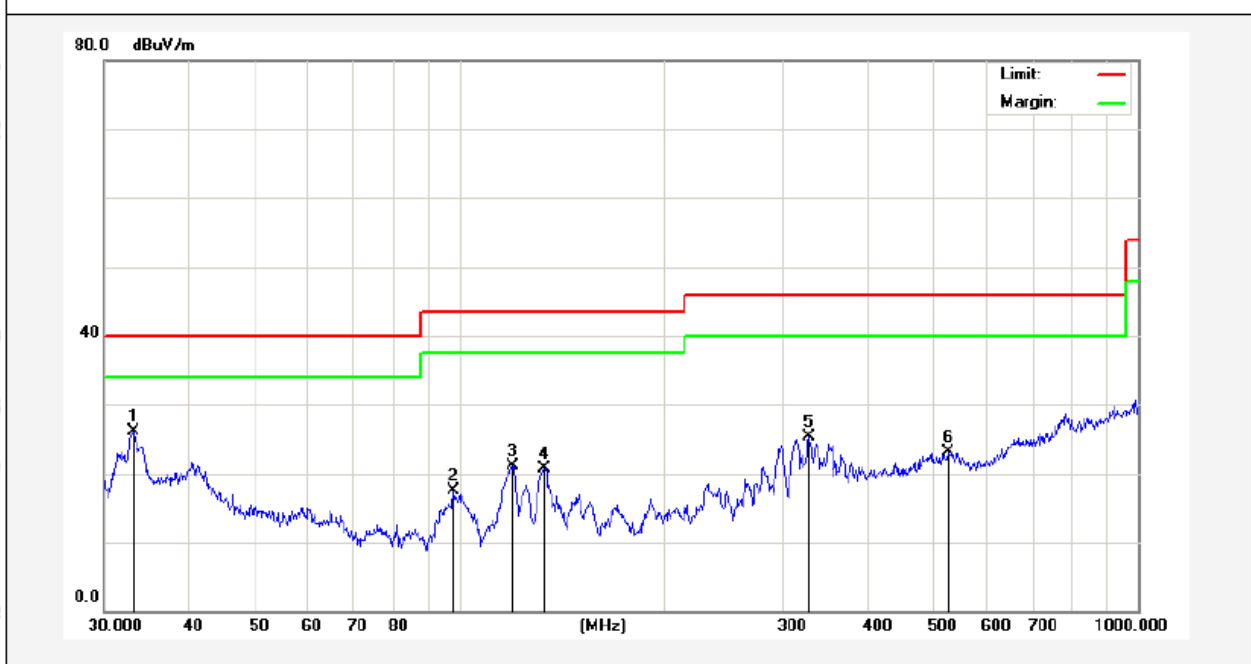
Test item: Radiation Test **Polarization:** Vertical
Standard: (RE)FCC Part 15 Subpart B **Power Source:** AC 120V, 60Hz for adapter
Distance: 3m **Temp.(°C)/Hum.(%RH):** 24.2(°C)/54%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	37.0248	47.14	-14.98	32.16	40.00	-7.84	QP	300	76	
2	129.3978	52.05	-17.72	34.33	43.50	-9.17	QP	300	110	
3	141.8262	52.73	-18.47	34.26	43.50	-9.24	QP	300	102	
4	212.2695	47.94	-15.52	32.42	43.50	-11.08	QP	300	130	
5	437.1199	48.16	-11.22	36.94	46.00	-9.06	QP	300	320	
6	554.8254	48.80	-10.00	38.80	46.00	-7.20	QP	300	263	

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

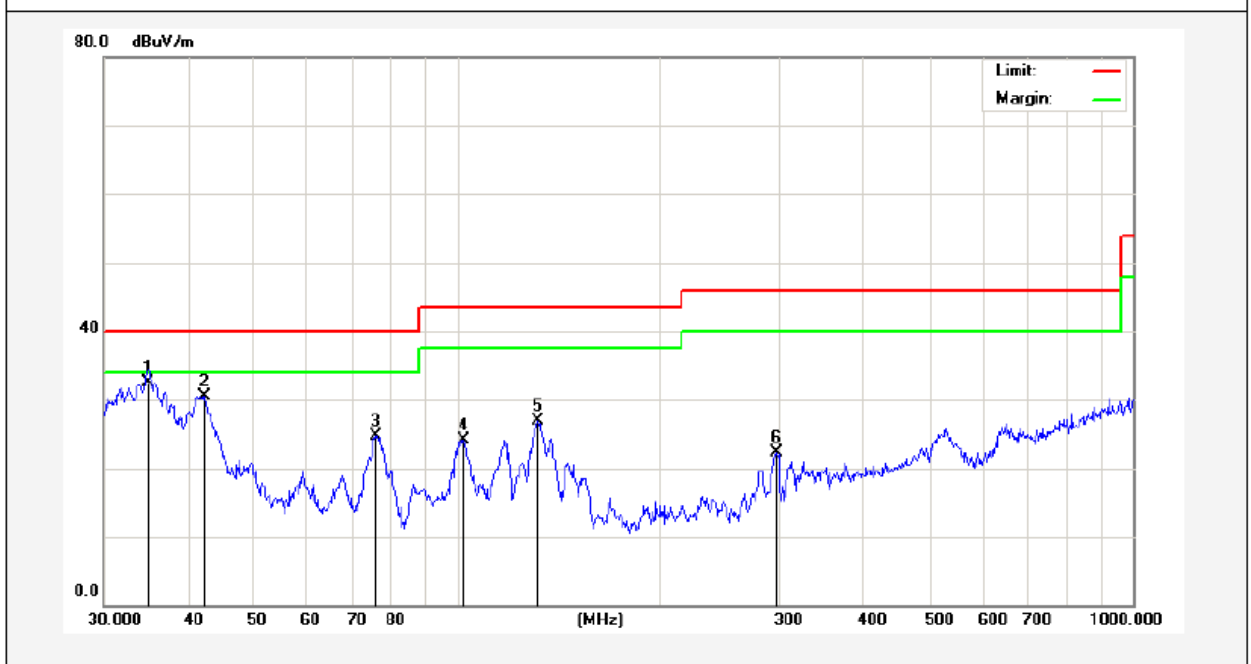
Test item: Radiation Test **Polarization:** Horizontal
Standard: (RE)FCC Part 15 Subpart B **Power Source:** AC 240V, 60Hz for adapter
Distance: 3m **Temp.(°C)/Hum.(%RH):** 24.2(°C)/54%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	33.0950	43.75	-17.64	26.11	40.00	-13.89	QP	300	185	
2	98.1419	39.46	-21.94	17.52	43.50	-25.98	QP	300	225	
3	119.8556	43.40	-22.32	21.08	43.50	-22.42	QP	300	341	
4	133.6188	43.41	-22.63	20.78	43.50	-22.72	QP	300	203	
5	327.8873	40.89	-15.60	25.29	46.00	-20.71	QP	300	302	
6	524.5541	34.06	-11.02	23.04	46.00	-22.96	QP	300	332	

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

Test item: Radiation Test **Polarization:** Vertical
Standard: (RE)FCC Part 15 Subpart B **Power Source:** AC 240V, 60Hz for adapter
Distance: 3m **Temp.(°C)/Hum.(%RH):** 24.2(°C)/54%RH



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	34.8823	48.58	-16.12	32.46	40.00	-7.54	QP	300	145	
2	42.3022	44.59	-14.04	30.55	40.00	-9.45	QP	300	276	
3	75.7114	46.23	-21.47	24.76	40.00	-15.24	QP	300	302	
4	102.3597	39.90	-15.73	24.17	43.50	-19.33	QP	300	241	
5	131.7577	44.74	-17.93	26.81	43.50	-16.69	QP	300	269	
6	297.2241	38.00	-15.74	22.26	46.00	-23.74	QP	300	333	

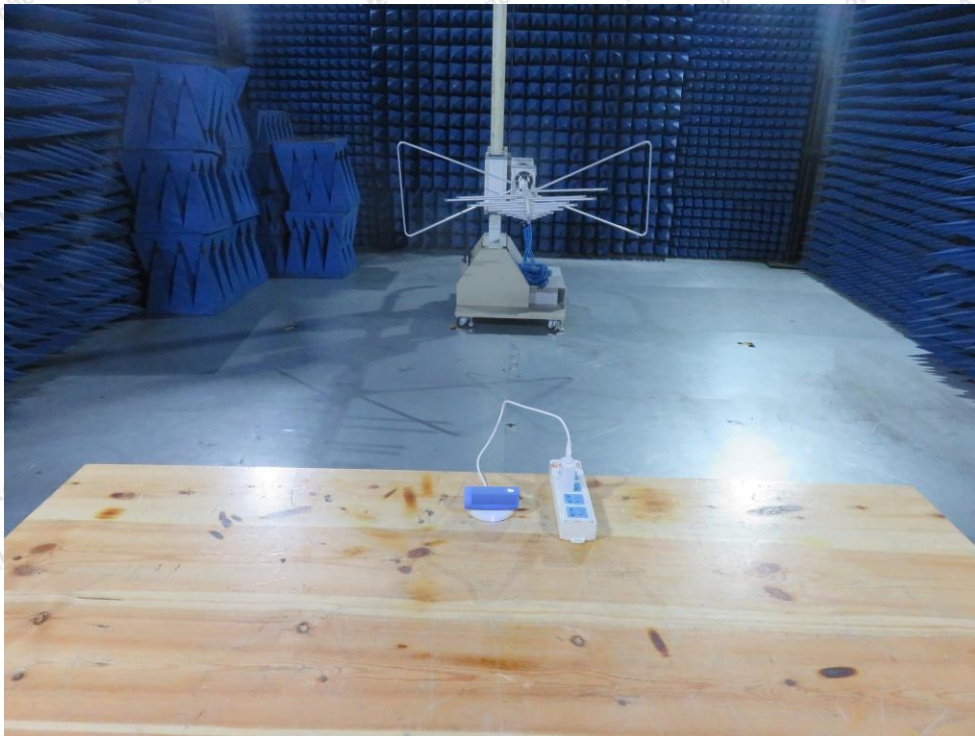
Note: Result=Reading+Factor Over Limit=Result-Limit

APPENDIX I -- TEST SETUP PHOTOGRAPH

Photo of Power Line Conducted Emission Test

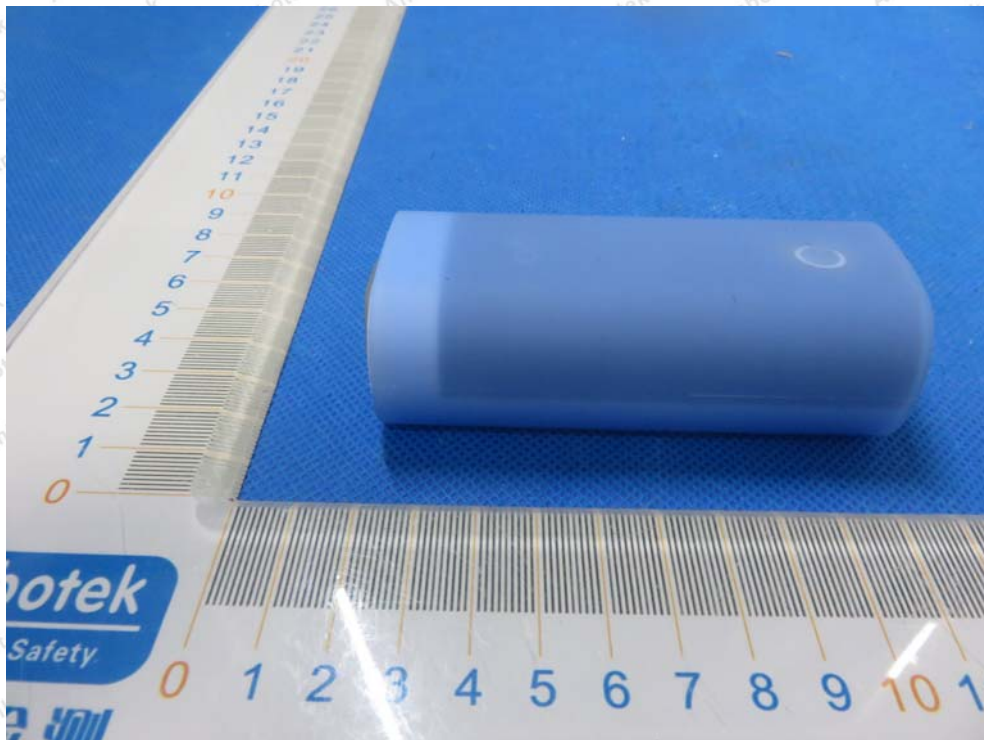


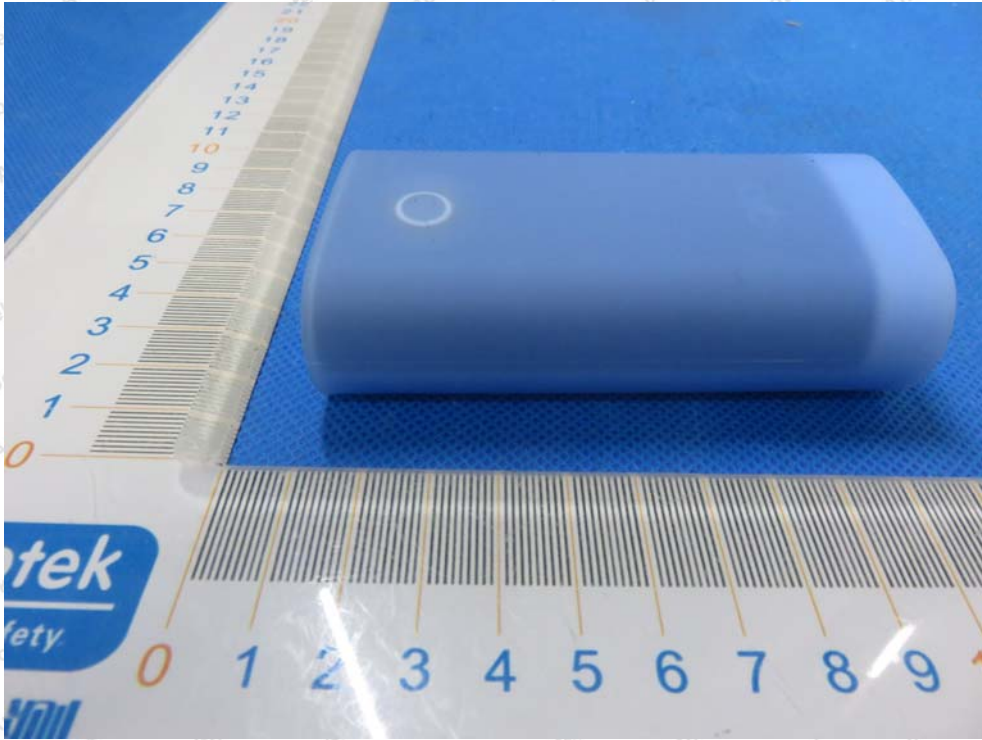
Photo of Radiated Emission Test



APPENDIX II -- EXTERNAL PHOTOGRAPH

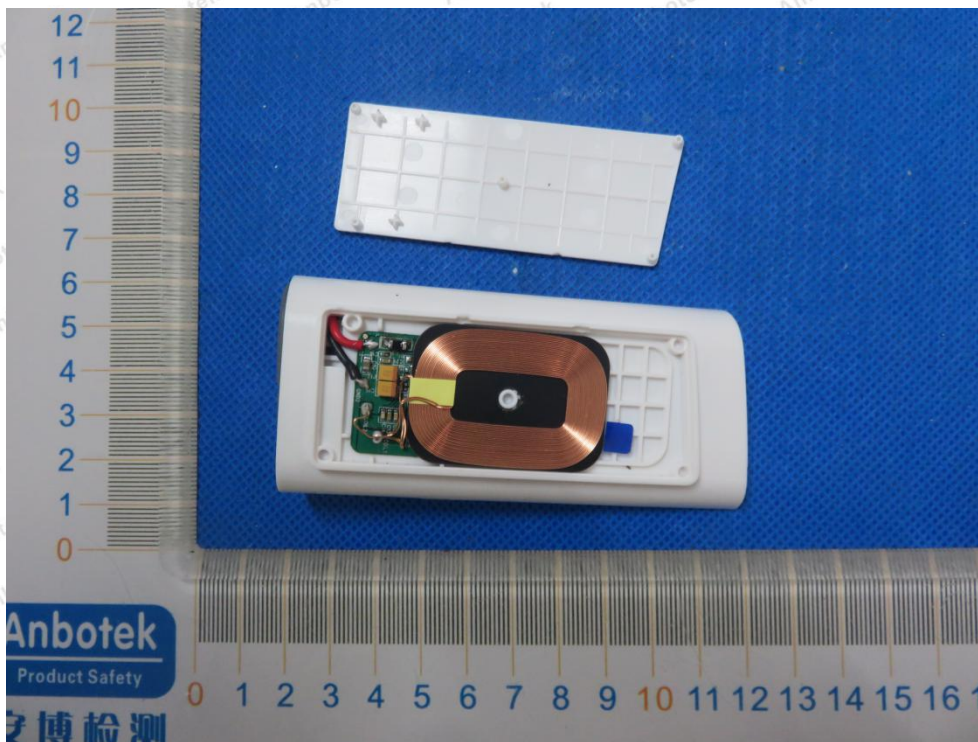


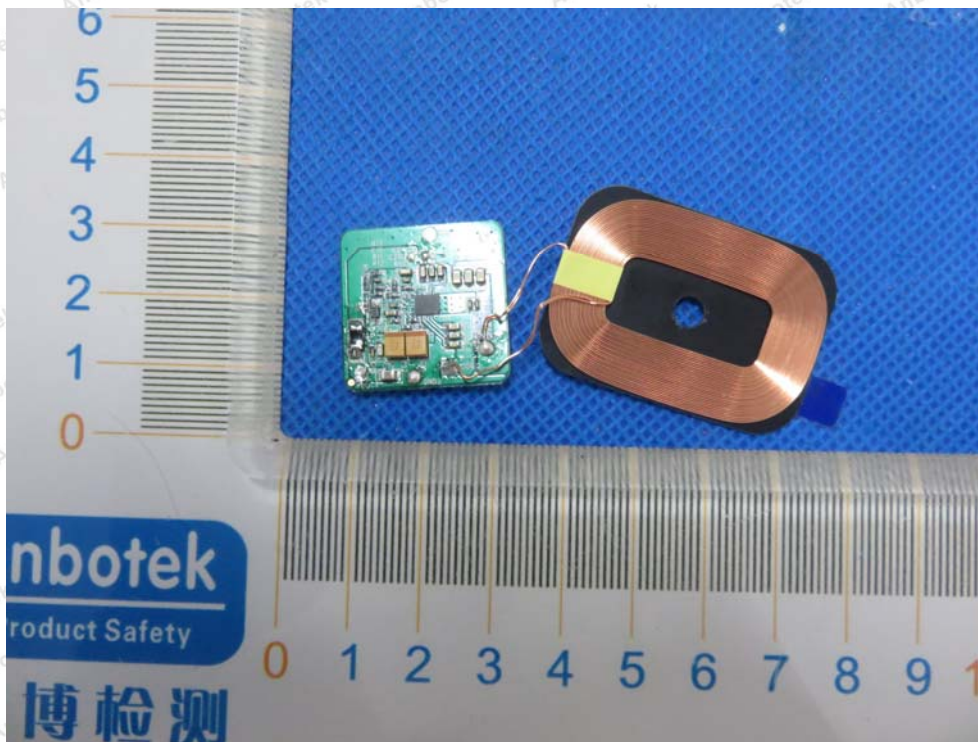


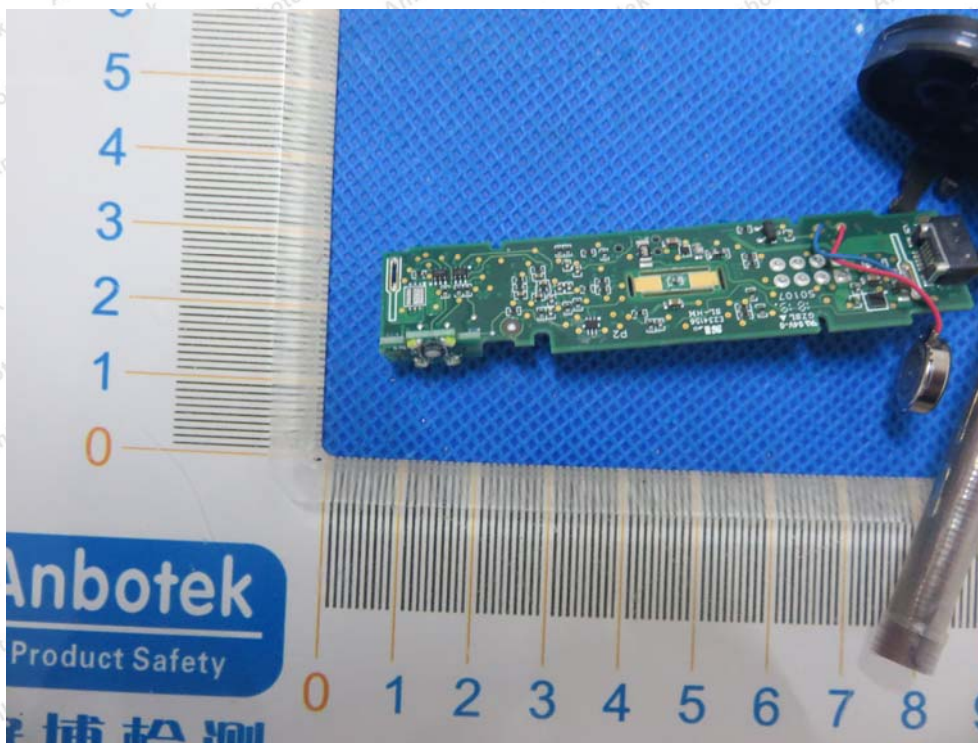


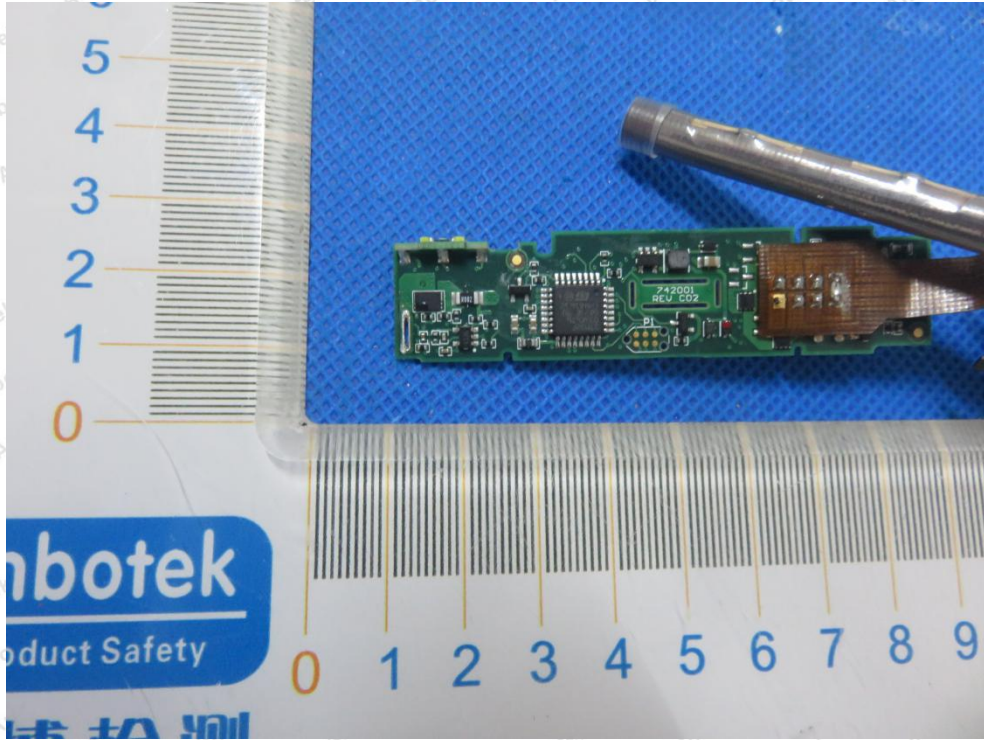


APPENDIX III -- INTERNAL PHOTOGRAPH









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