

FCC TEST REPORT

For

MINISO Corporation

Wireless Charging Power Bank 8000mAh

Model No.: MC-006

Prepared For : MINISO Corporation
Address : Room 2501, No. 486 Heye Square, Kangwang Middle Road, Liwan
District, Guangzhou, Guangdong, China

Prepared By : Shenzhen Anbotech Compliance Laboratory Limited
Address : 1/F, Building D, Sogood Science and Technology Park, Sanwei
community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong,
China.518102
Tel: (86) 755-26066440 Fax: (86) 755-26014772

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Date of Receipt : Nov. 13, 2018
Date of Test : Nov. 13~Dec. 29, 2018
Date of Report : Jan. 03, 2019

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TEST REPORT

Applicant : MINISO Corporation

Manufacturer : MINISO Corporation

Product Name : Wireless Charging Power Bank 8000mAh

Model No. : MC-006

Trade Mark : N.A.

Rating(s) : Input: DC 5V, 2A
Wireless Output: 5W
USB output: DC 5V, 1A
(with DC 3.7V, 8000mAh Battery inside)

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.

Date of Test

Nov. 13~Dec. 29, 2018

Prepared By



Oliay Yang

(Engineer / Oliay Yang)

Reviewer

Snowy Meng

(Supervisor / Snowy Meng)

Approved & Authorized Signer

Sally Zhang

(Manager / Sally Zhang)

1. General Information

1.1. Client Information

Applicant	:	MINISO Corporation
Address	:	Room 2501, No. 486 Heye Square, Kangwang Middle Road, Liwan District, Guangzhou, Guangdong, China
Manufacturer	:	MINISO Corporation
Address	:	Room 2501, No. 486 Heye Square, Kangwang Middle Road, Liwan District, Guangzhou, Guangdong, China
Factory	:	MINISO Corporation
Address	:	Room 2501, No. 486 Heye Square, Kangwang Middle Road, Liwan District, Guangzhou, Guangdong, China

1.2. Description of Device (EUT)

Product Name	:	Wireless Charging Power Bank 8000mAh
Model No.	:	MC-006
Trade Mark	:	N.A.
Test Power Supply	:	AC 240V, 60Hz for adapter/ AC 120V, 60Hz for adapter/ DC 3.7V battery inside
Test Sample No.	:	S1(Normal Sample), S2(Engineering Sample)
Product Description	Operation Frequency:	111~205KHz
	Modulation Type:	MSK
	Antenna Type:	Inductive loop coil 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: Samsung M/N: ETA-U90CBC S/N: RT6FB17ZS/B-E Input: 100-240V~ 50-60Hz, 0.35A Output: DC 5V, 2A
Mobile Phone	:	iPhone 8

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	Charge+TX Mode
Mode 2	TX Mode

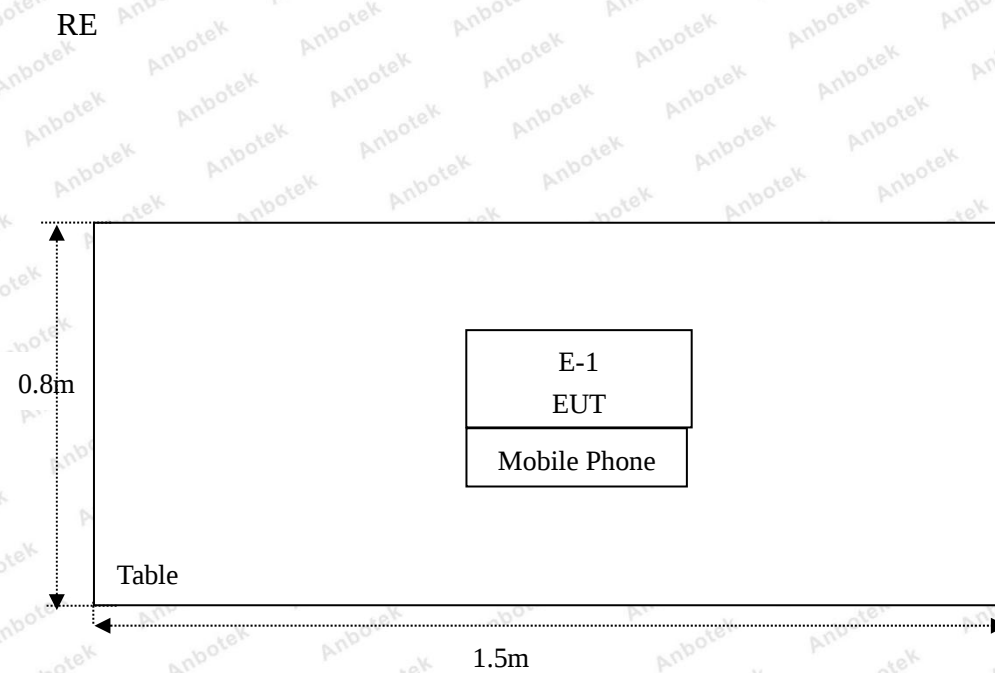
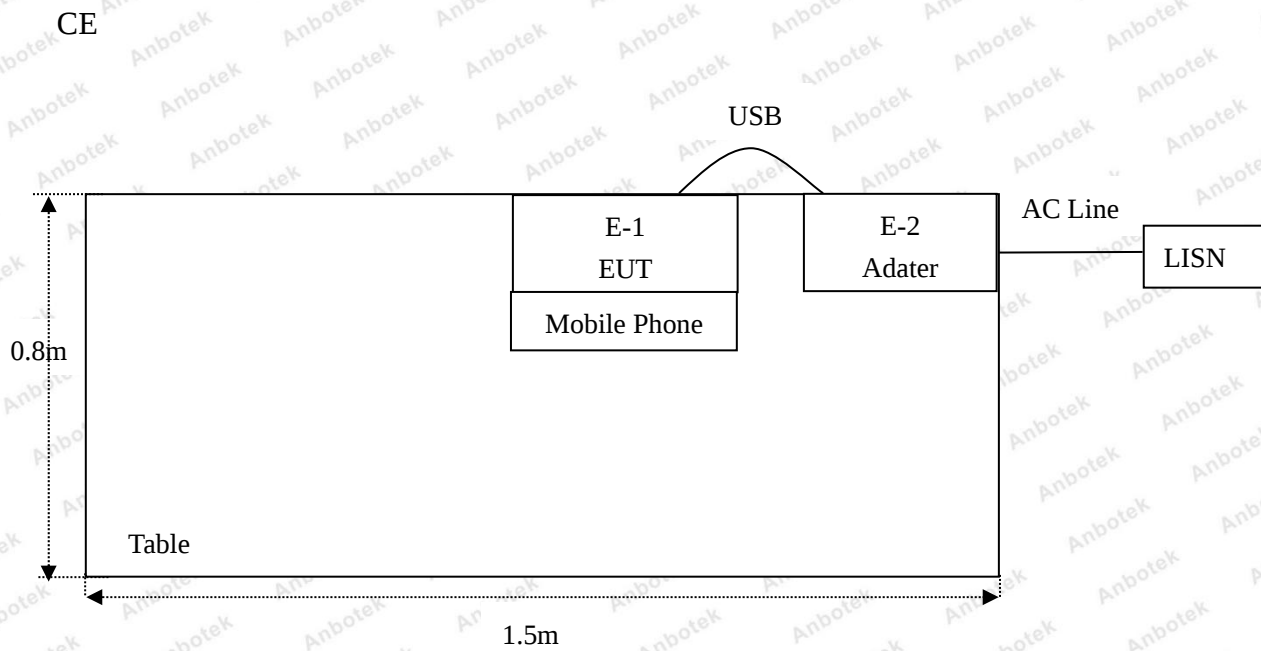
For Conducted Emission	
Final Test Mode	Description
Mode 1	Charge+TX Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	Charge+TX Mode
Mode 2	TX Mode

Note: (1)Test channel is 0.1140MHz.

(2)All the situation(full load, half load and empty load) has been tested,only the worst situation (full load) was recorded in the report.

1.5. Description Of Test Setup



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. 05, 2018	1 Year
2.	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
5.	MAX Spectrum Analysis	Agilent	N9020A	MY51170037	Nov. 05, 2018	1 Year
6.	Preamplifier	SKET Electronic	BK1G18G30D	KD17503	Nov. 05, 2018	1 Year
7.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Nov. 19, 2018	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Nov. 19, 2018	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	Nov. 19, 2018	1 Year
10.	Horn Antenna	A-INFO	LB-180400-K F	J211060628	Nov. 20, 2018	1 Year
11.	Pre-amplifier	SONOMA	310N	186860	Nov. 05, 2018	1 Year
12.	EMI Test Software EZ-EMC	SHURPLE	N/A	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 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. Summary of Test Results

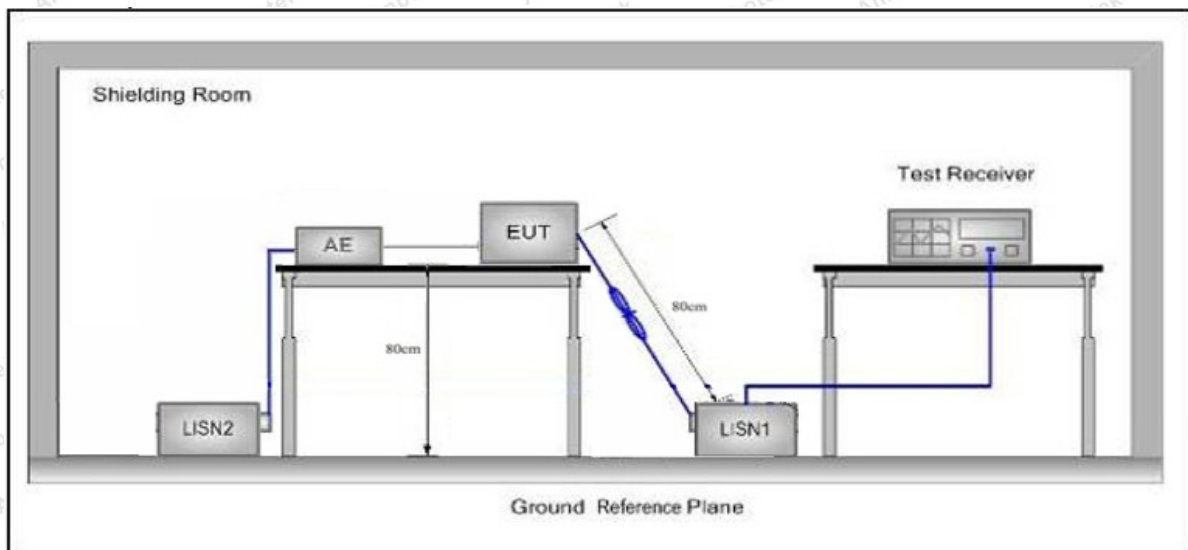
Standard Section	Test Item	Result
FCC Part 15, Paragraph 15.207	Conducted Emission Test	PASS
FCC Part 15, Paragraph 15.209(a)(f)	Spurious Emission	PASS
Part 15.203	Antenna Requirement	PASS

3. Conducted Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207		
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 according to FCC ANSI C63.10-2013 on Conducted Emission Measurement.

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

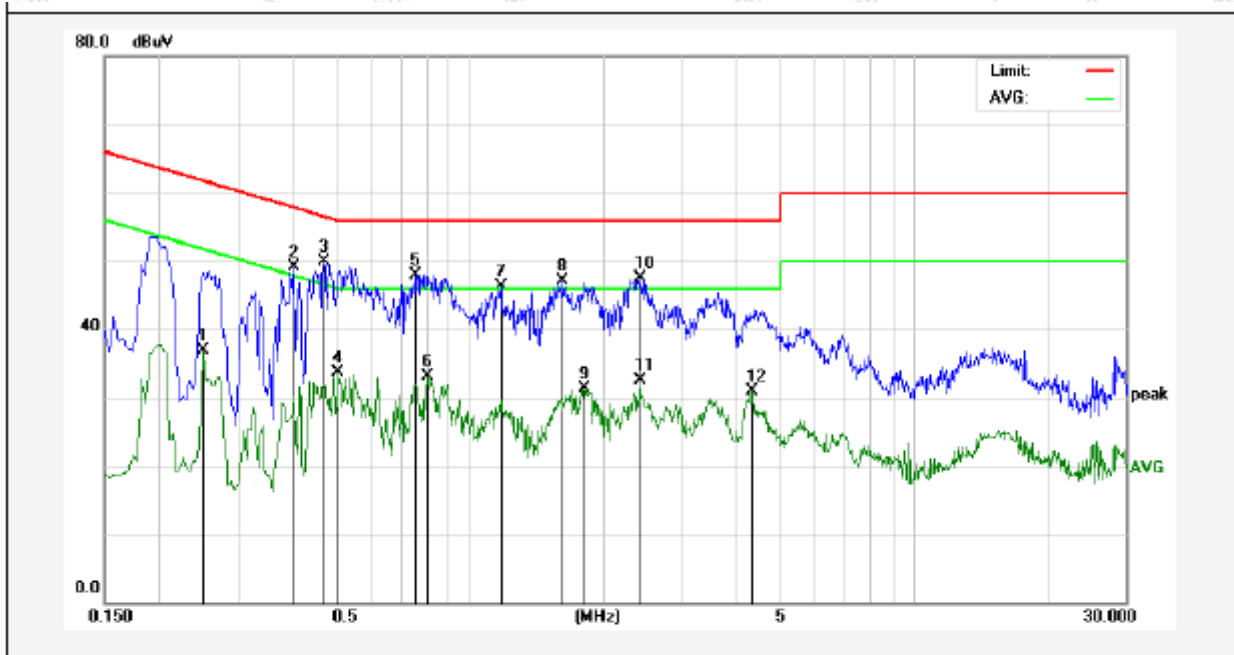
The frequency range from 150kHz to 30MHz is checked.

3.4. Test Data

Please to see the following pages

Conducted Emission Test Data

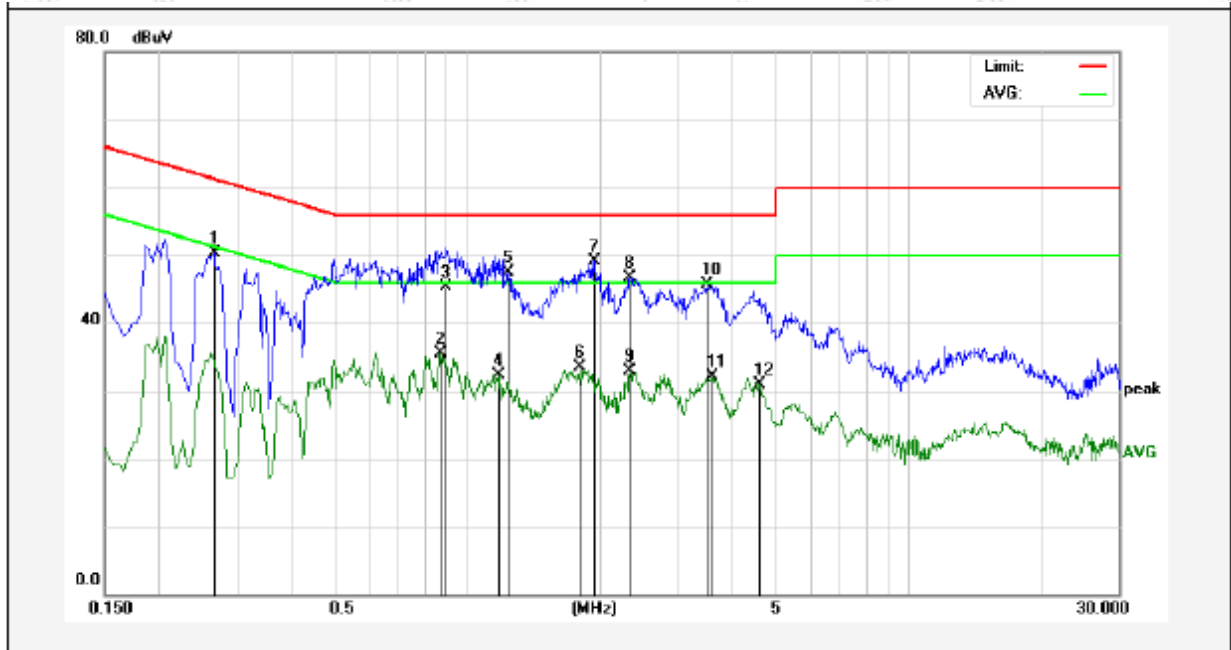
Test Site: 1# Shielded Room
Operating Condition: Mode 1
Test Specification: AC 240V, 60Hz for adapter
Comment: Live Line
Tem.: 24.2℃ Hum.: 47%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.2500	16.98	19.89	36.87	51.75	-14.88	AVG	
2	0.4020	29.25	19.94	49.19	57.81	-8.62	QP	
3	0.4700	29.93	19.97	49.90	56.51	-6.61	QP	
4	0.5060	13.71	19.98	33.69	46.00	-12.31	AVG	
5	0.7580	27.90	20.06	47.96	56.00	-8.04	QP	
6	0.8020	13.02	20.07	33.09	46.00	-12.91	AVG	
7	1.1740	26.22	20.12	46.34	56.00	-9.66	QP	
8	1.6220	27.04	20.13	47.17	56.00	-8.83	QP	
9	1.8100	11.22	20.14	31.36	46.00	-14.64	AVG	
10	2.4140	27.35	20.15	47.50	56.00	-8.50	QP	
11	2.4140	12.32	20.15	32.47	46.00	-13.53	AVG	
12	4.3260	10.67	20.19	30.86	46.00	-15.14	AVG	

Conducted Emission Test Data

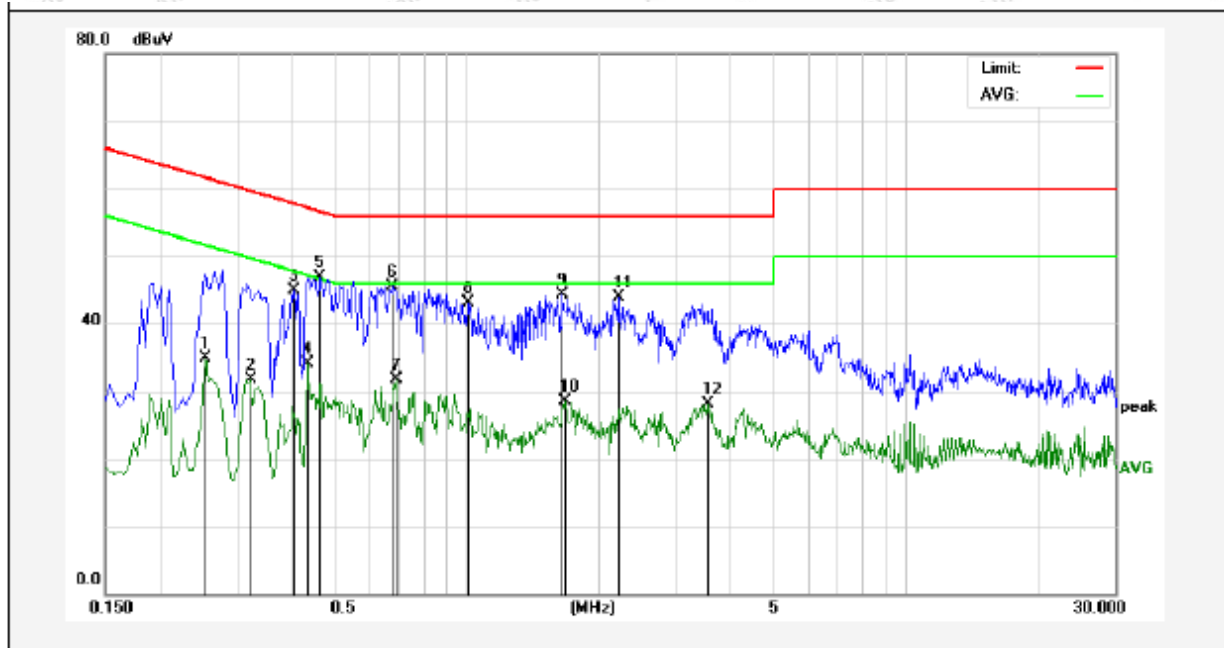
Test Site: 1# Shielded Room
Operating Condition: Mode 1
Test Specification: AC 240V, 60Hz for adapter
Comment: Neutral Line
Tem.: 24.2℃ Hum.: 47%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.2660	30.49	19.89	50.38	61.24	-10.86	QP	
2	0.8660	15.48	20.08	35.56	46.00	-10.44	AVG	
3	0.8980	25.12	20.09	45.21	56.00	-10.79	QP	
4	1.1780	12.24	20.12	32.36	46.00	-13.64	AVG	
5	1.2420	27.43	20.12	47.55	56.00	-8.45	QP	
6	1.7940	13.45	20.14	33.59	46.00	-12.41	AVG	
7	1.9460	29.00	20.14	49.14	56.00	-6.86	QP	
8	2.3420	26.62	20.15	46.77	56.00	-9.23	QP	
9	2.3420	12.72	20.15	32.87	46.00	-13.13	AVG	
10	3.4940	25.60	20.17	45.77	56.00	-10.23	QP	
11	3.5860	11.92	20.17	32.09	46.00	-13.91	AVG	
12	4.6059	10.74	20.20	30.94	46.00	-15.06	AVG	

Conducted Emission Test Data

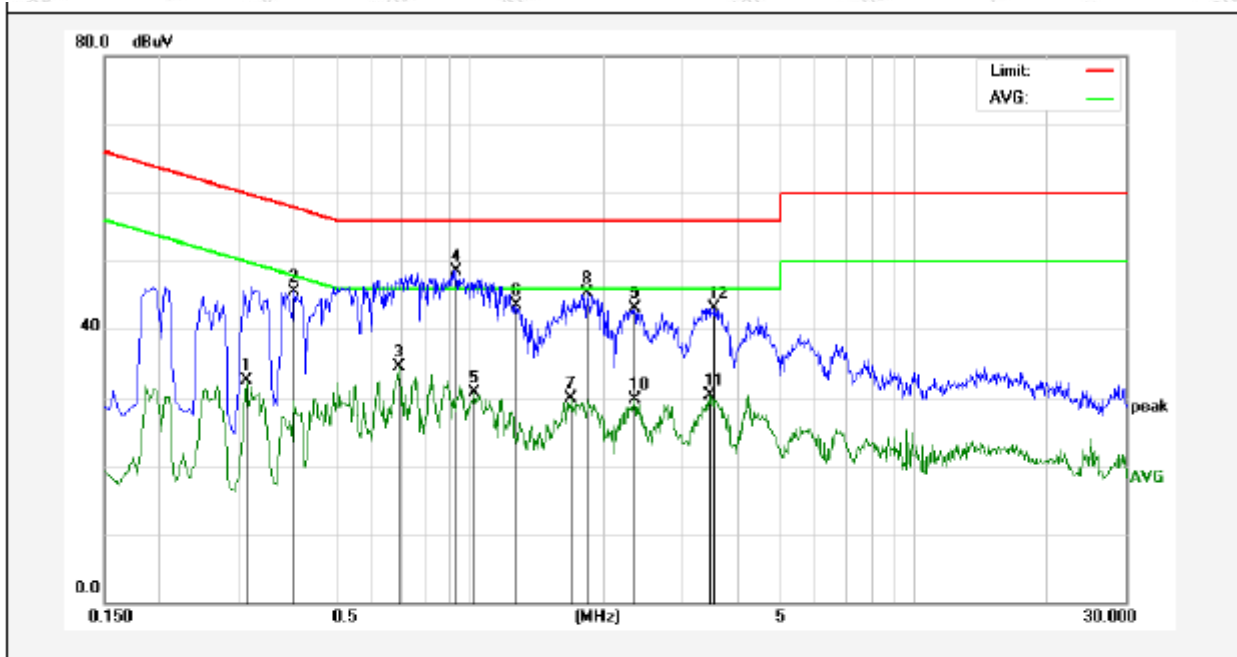
Test Site: 1# Shielded Room
Operating Condition: Mode 1
Test Specification: AC 120V, 60Hz for adapter
Comment: Live Line
Tem.: 24.2°C Hum.: 47%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.2540	15.02	19.89	34.91	51.62	-16.71	AVG	
2	0.3220	11.74	19.90	31.64	49.65	-18.01	AVG	
3	0.4060	25.04	19.94	44.98	57.73	-12.75	QP	
4	0.4340	14.22	19.95	34.17	47.18	-13.01	AVG	
5	0.4660	26.97	19.96	46.93	56.58	-9.65	QP	
6	0.6820	25.47	20.03	45.50	56.00	-10.50	QP	
7	0.6900	11.58	20.04	31.62	46.00	-14.38	AVG	
8	1.0060	23.02	20.12	43.14	56.00	-12.86	QP	
9	1.6620	24.27	20.13	44.40	56.00	-11.60	QP	
10	1.6740	8.45	20.13	28.58	46.00	-17.42	AVG	
11	2.2180	23.71	20.14	43.85	56.00	-12.15	QP	
12	3.5340	7.84	20.17	28.01	46.00	-17.99	AVG	

Conducted Emission Test Data

Test Site: 1# Shielded Room
Operating Condition: Mode 1
Test Specification: AC 120V, 60Hz for adapter
Comment: Neutral Line
Tem.: 24.2℃ Hum.: 47%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.3140	12.55	19.90	32.45	49.86	-17.41	AVG	
2	0.4020	25.66	19.94	45.60	57.81	-12.21	QP	
3	0.6900	14.43	20.04	34.47	46.00	-11.53	AVG	
4	0.9380	28.41	20.10	48.51	56.00	-7.49	QP	
5	1.0220	10.60	20.12	30.72	46.00	-15.28	AVG	
6	1.2700	23.38	20.13	43.51	56.00	-12.49	QP	
7	1.6980	9.84	20.13	29.97	46.00	-16.03	AVG	
8	1.8380	25.26	20.14	45.40	56.00	-10.60	QP	
9	2.3580	22.98	20.15	43.13	56.00	-12.87	QP	
10	2.3580	9.46	20.15	29.61	46.00	-16.39	AVG	
11	3.4700	10.16	20.17	30.33	46.00	-15.67	AVG	
12	3.5580	23.00	20.17	43.17	56.00	-12.83	QP	

4. Radiation Spurious Emission and Band Edge

4.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.209 and 15.205				
Test Limit	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz~88MHz	100	40.0	Quasi-peak	3
	88MHz~216MHz	150	43.5	Quasi-peak	3
	216MHz~960MHz	200	46.0	Quasi-peak	3
	960MHz~1000MHz	500	54.0	Quasi-peak	3
	Above 1000MHz	500	54.0	Average	3
		-	74.0	Peak	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

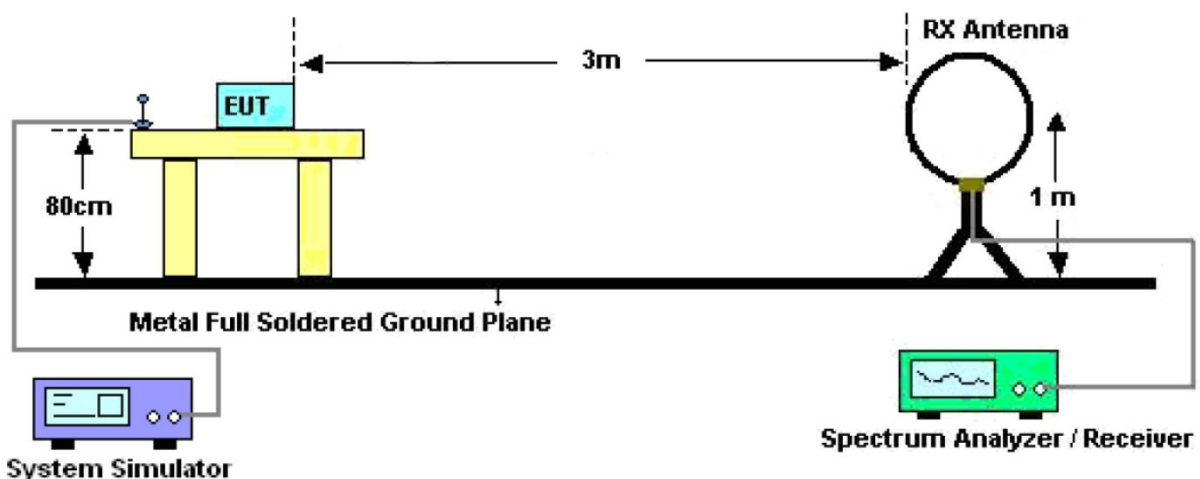


Figure 1. Below 30MHz

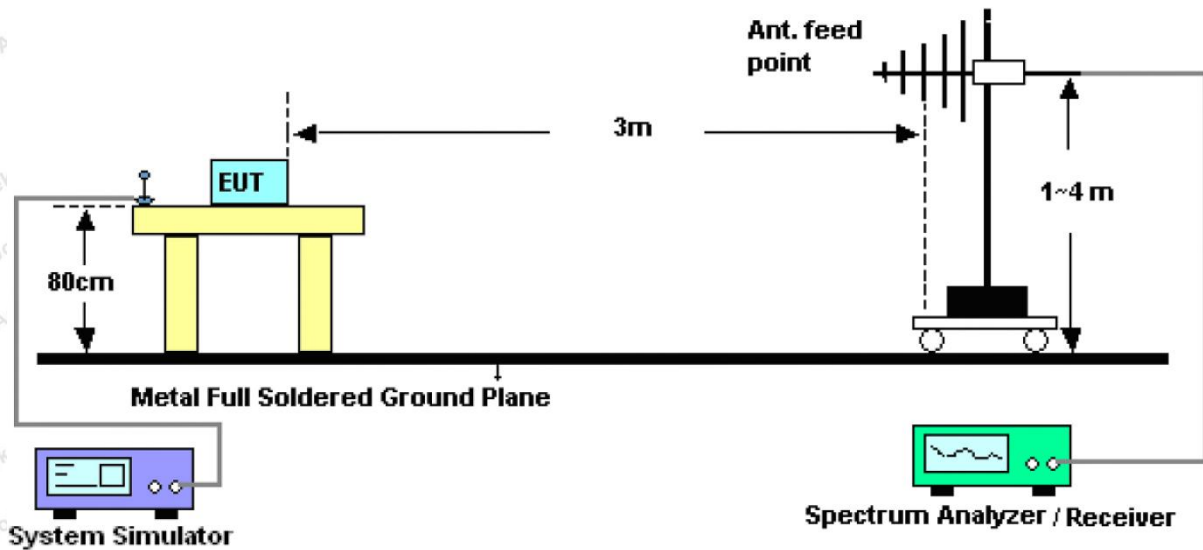


Figure 2. 30MHz to 1GHz

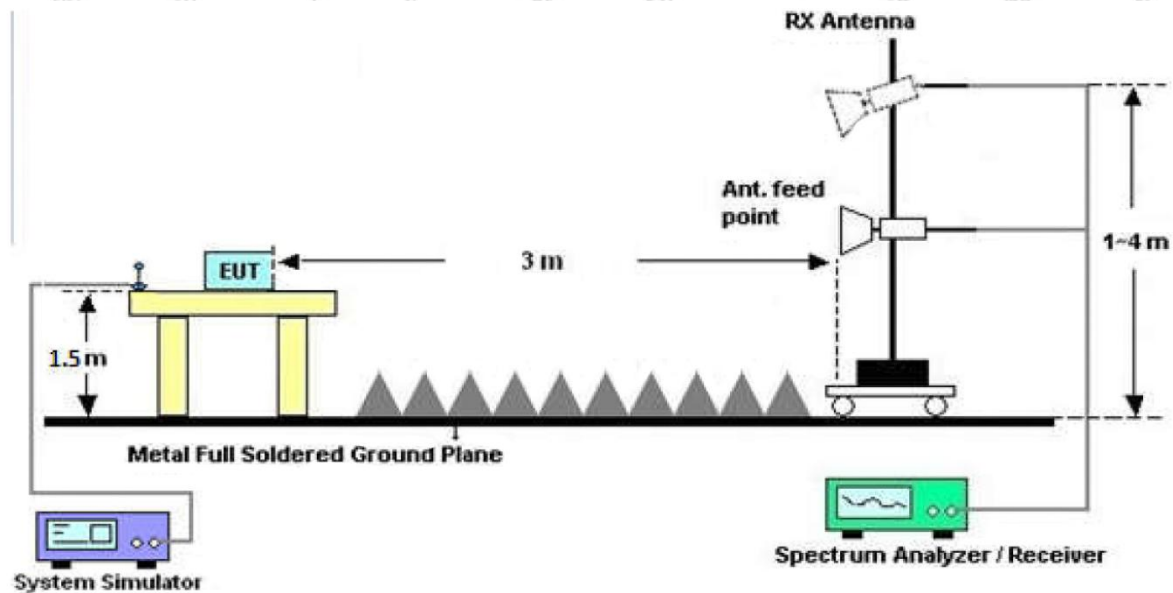


Figure 3. Above 1 GHz

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

Note: The data is in TX mode, and this is the worst mode.

Test Results

(Between 9KHz – 30MHz)

Job No.: SZAWW181113001-01

Standard: FCC PART15 C _3m

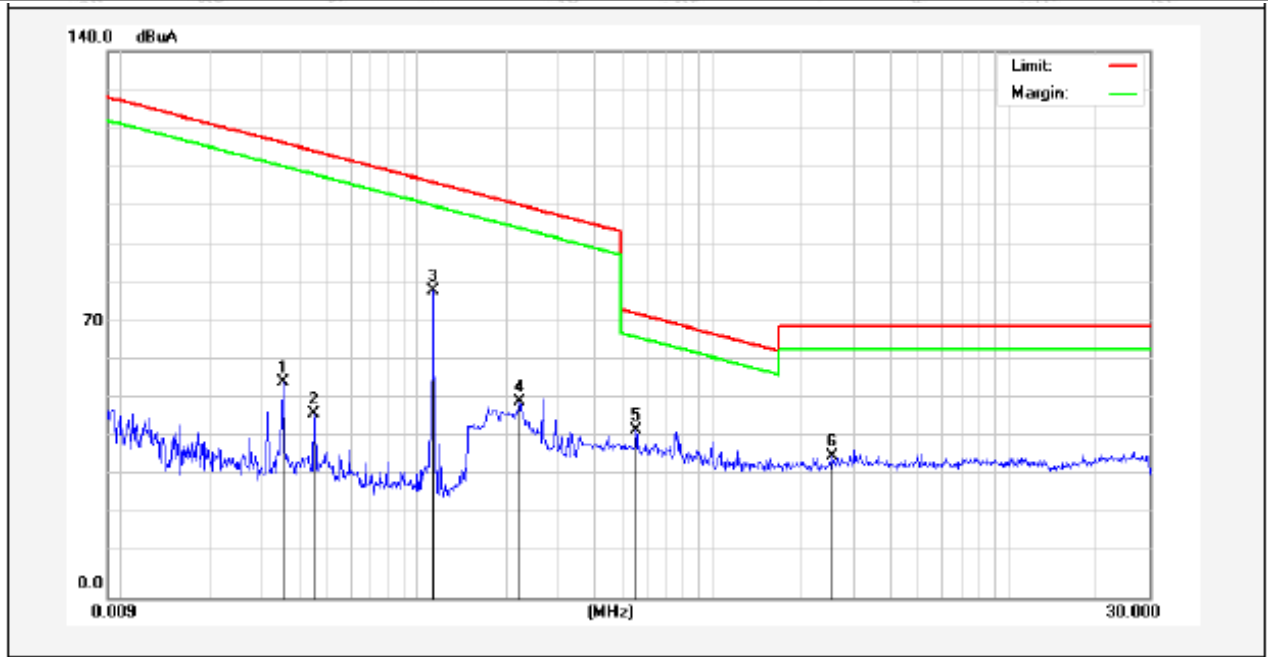
Power Source: DC 3.7V battery inside

Test item: Radiation Test

Temp.(C)/Hum.(%RH): 24.7°C/51%RH

Test Mode: Mode 2

Distance: 3m

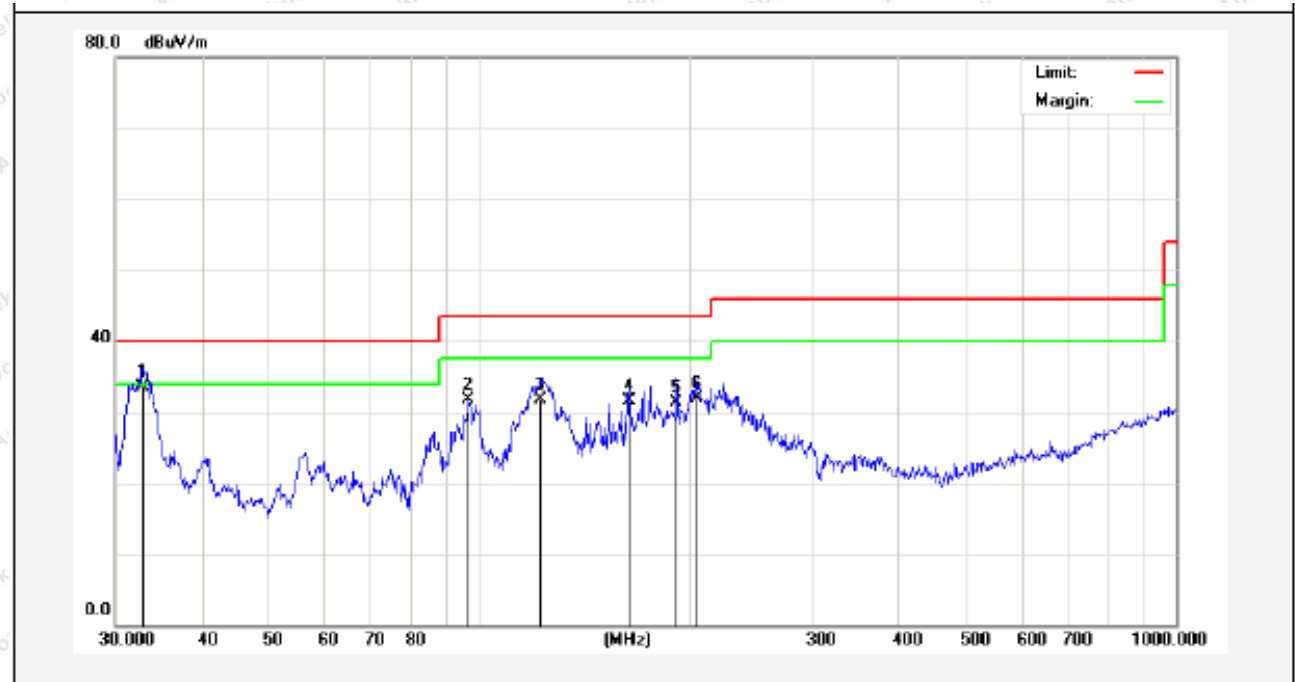


Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	degree (dgc)
0.0352	42.57	19.28	2.53	0	64.38	136.55	-72.17	Peak	236
0.0352	33.25	19.28	2.53	0	55.06	116.55	-61.49	AV	236
0.0451	34.73	19.28	2.53	0	56.54	134.40	-77.86	Peak	149
0.0451	25.27	19.28	2.53	0	47.08	114.40	-67.32	AV	149
0.1140	65.57	19.53	2.59	0	87.69	126.39	-38.70	Peak	25
0.1140	56.49	19.53	2.59	0	78.61	106.39	-27.78	AV	25
0.2220	37.21	19.53	2.59	0	59.33	120.64	-61.31	Peak	195
0.2220	28.04	19.53	2.59	0	50.16	100.64	-50.48	AV	195
0.5540	19.80	20.34	2.59	0	42.73	72.73	-30.00	QP	321
2.5379	13.02	20.66	2.63	0	36.31	69.54	-33.23	QP	267

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.

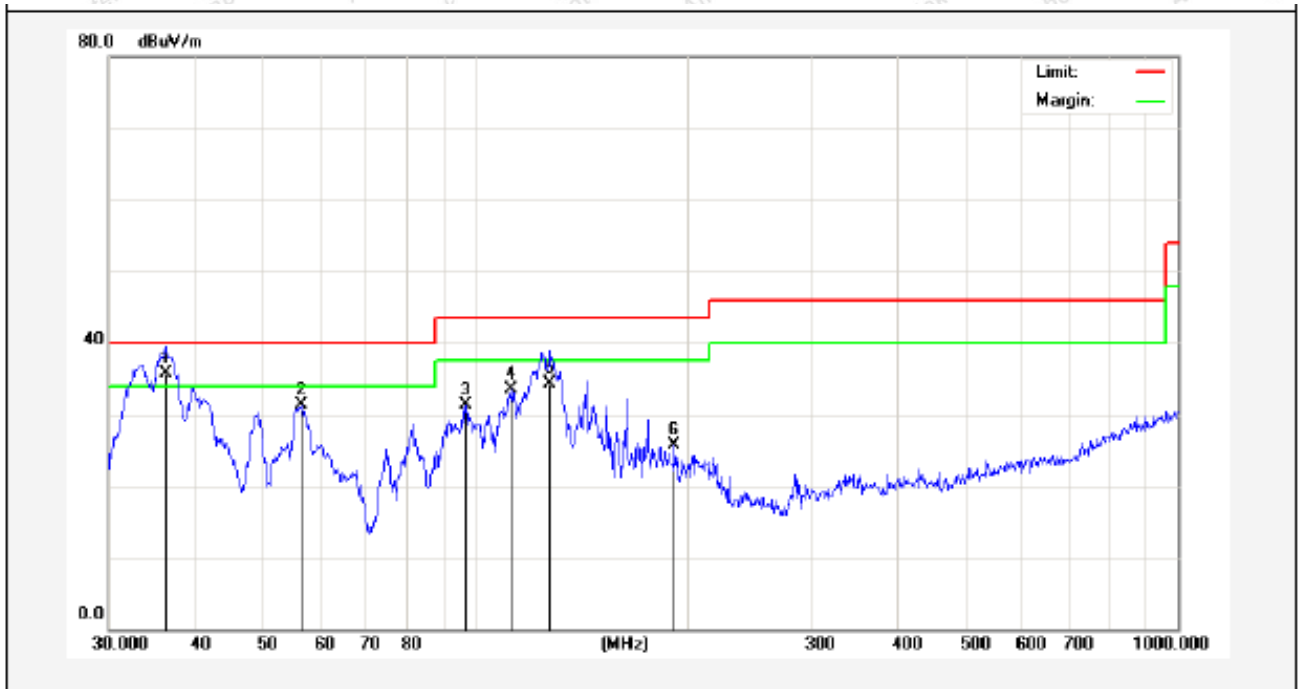
(Between 30MHz ~1000 MHz)

Job No.:	SZAWW181113001-01	Polarization:	Horizontal
Standard:	FCC PART15 C _3m	Power Source:	DC 3.7V battery inside
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3°C/55%RH
Test Mode:	Mode 2	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	32.8637	51.26	-17.72	33.54	40.00	-6.46	QP	300	123	
2	96.4362	53.86	-22.09	31.77	43.50	-11.73	QP	300	227	
3	122.4040	54.04	-22.42	31.62	43.50	-11.88	QP	300	360	
4	163.7550	52.84	-21.37	31.47	43.50	-12.03	QP	300	330	
5	191.7450	51.97	-20.74	31.23	43.50	-12.27	QP	300	163	
6	204.9551	51.89	-19.98	31.91	43.50	-11.59	QP	300	56	

Job No.:	SZAWW181113001-01	Polarization:	Vertical
Standard:	FCC PART15 C _3m	Power Source:	DC 3.7V battery inside
Test item:	Radiation Test	Temp.(C)/Hum.(%RH):	24.3°C/55%RH
Test Mode:	Mode 2	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	36.2541	51.05	-15.41	35.64	40.00	-4.36	QP	300	112	
2	56.5929	48.07	-16.81	31.26	40.00	-8.74	QP	300	241	
3	96.7749	47.39	-16.06	31.33	43.50	-12.17	QP	300	340	
4	112.5244	49.31	-15.80	33.51	43.50	-9.99	QP	300	46	
5	127.6645	51.73	-17.47	34.26	43.50	-9.24	QP	300	360	
6	191.7450	41.60	-15.92	25.68	43.50	-17.82	QP	300	196	

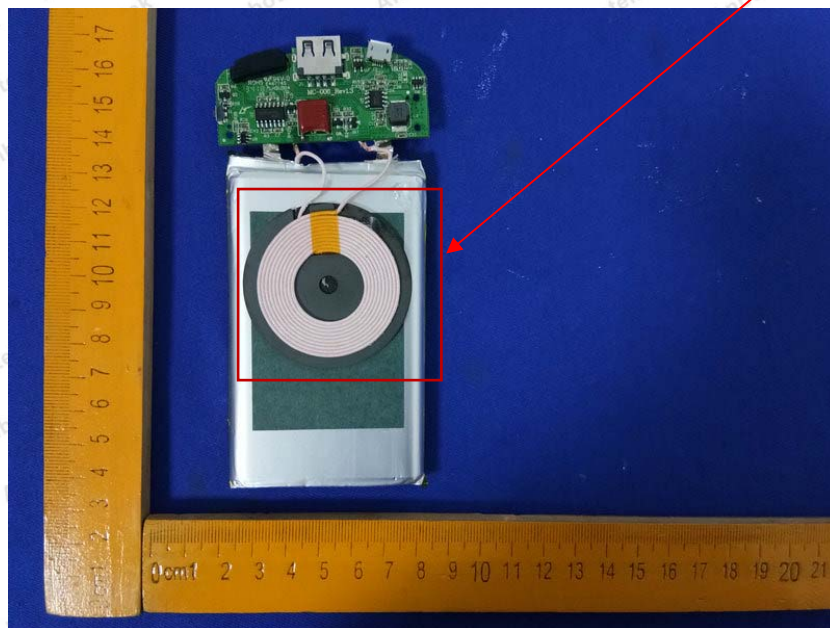
5. Antenna Requirement

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.

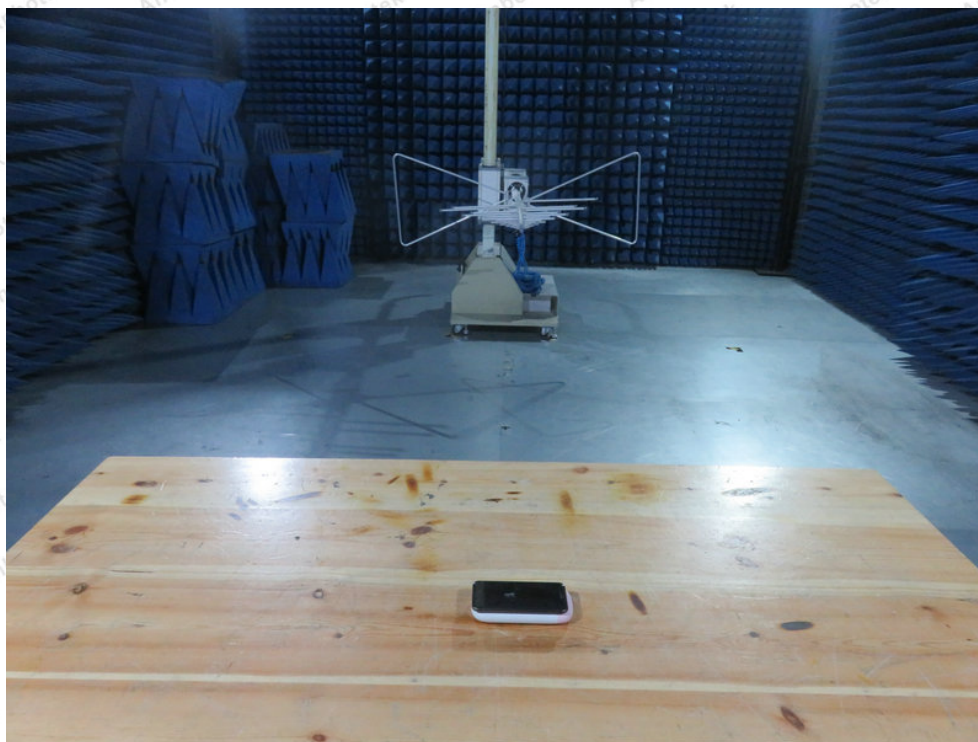


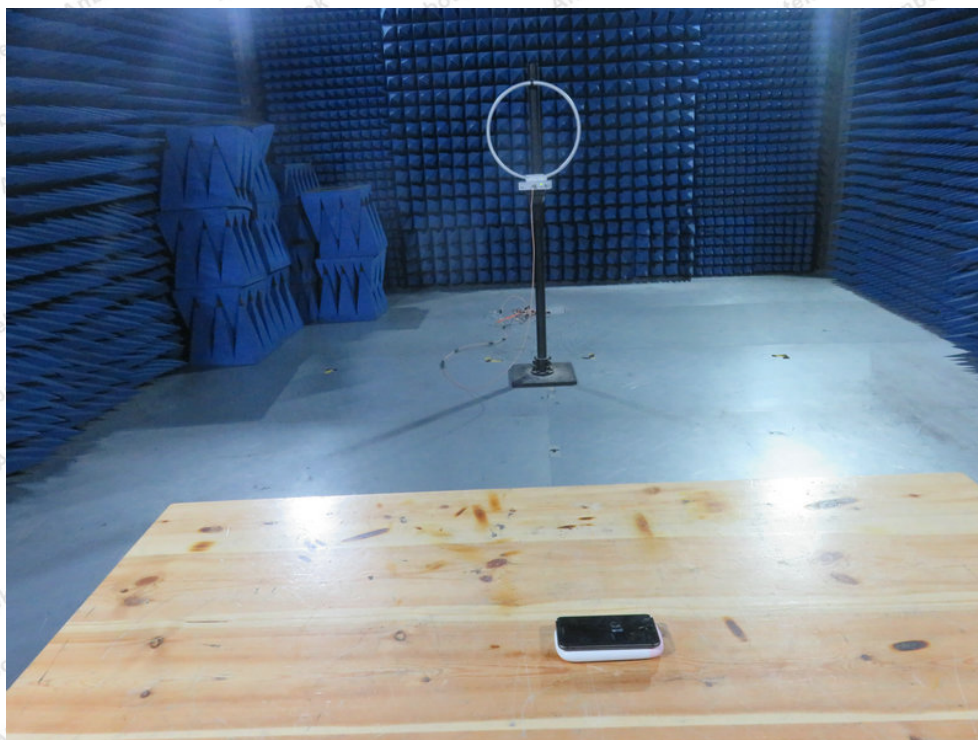
APPENDIX I -- TEST SETUP PHOTOGRAPH

Photo of Conducted Emission Measurement



Photo of Radiation Emission Test





APPENDIX II -- EXTERNAL PHOTOGRAPH



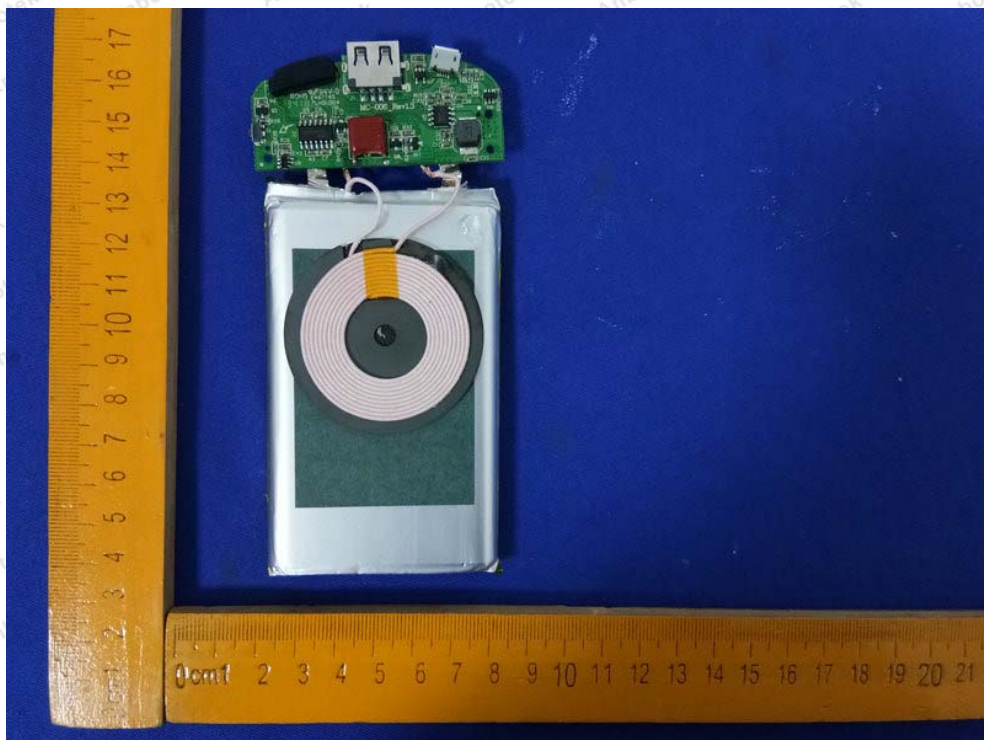


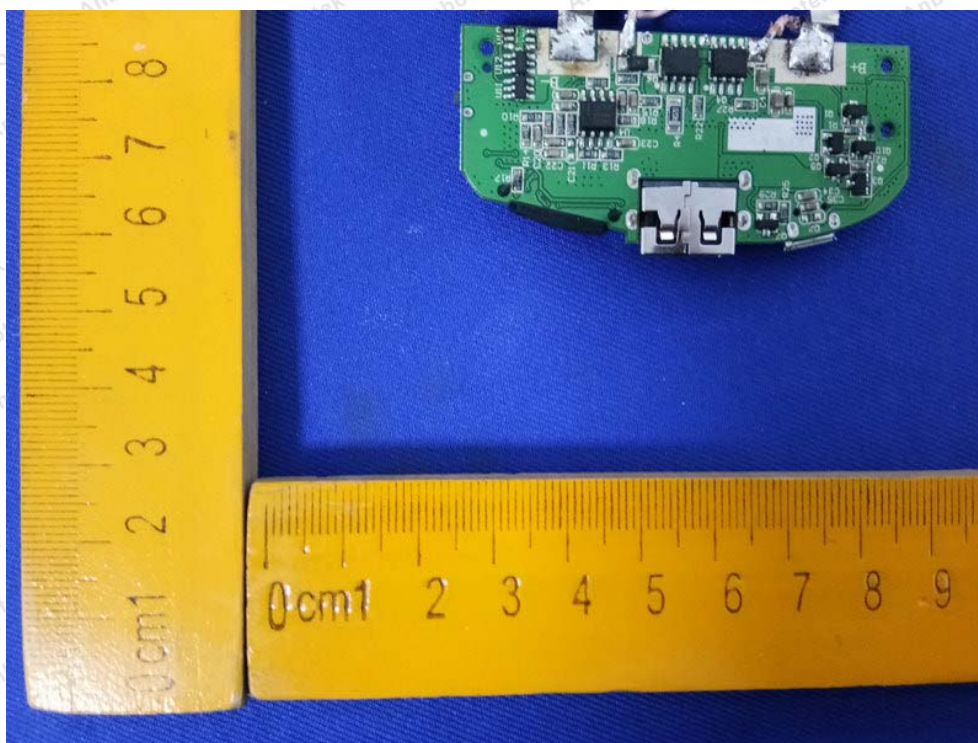


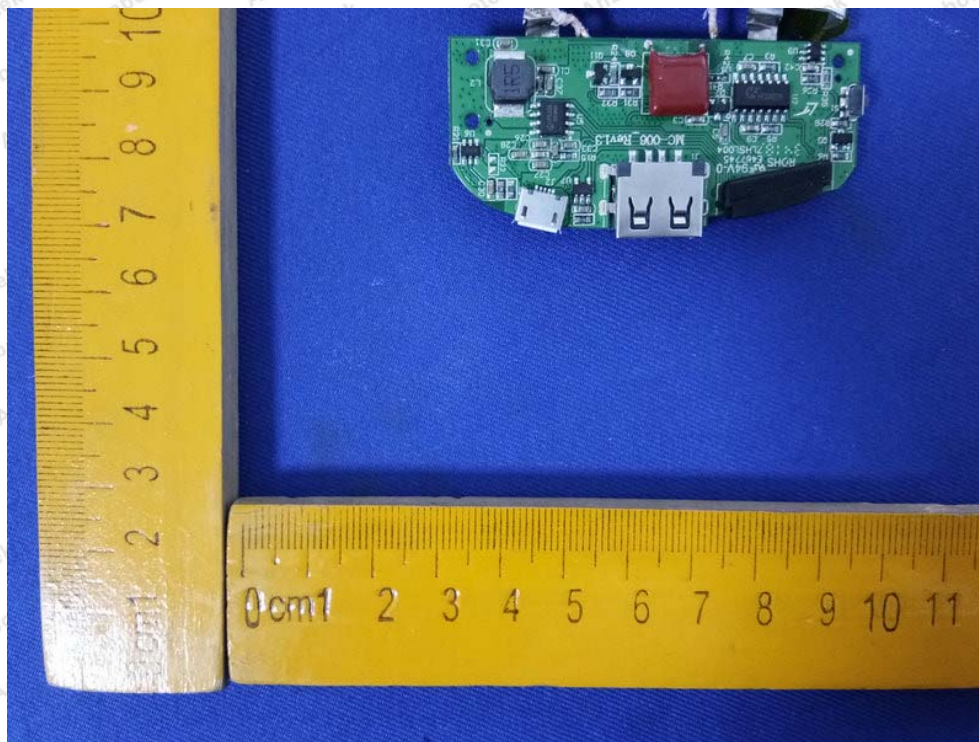


APPENDIX III -- INTERNAL PHOTOGRAPH









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