



FCC TEST REPORT

FCC ID: 2AK35-MOYEONE

Product Name:	Wireless Charging
Trademark:	N/A
Model Number:	moye one moye two,M1,M2,M3,M4,M5,M6,M7,M8,M9,M10,M11,M12,M13,M14,M15
Prepared For:	Shenzhen MOYE Technology Co., Ltd.
Address:	2F, Building 1st, Block West, Huali Courtyard, Zhenhua Road, Futian District, Shenzhen, China
Prepared By:	Shenzhen BCTC Technology Co., Ltd.
Address:	NO.101, Yousong Road, Longhua New District, Shenzhen, Guangdong, P.R.China
Report No.:	BCTC-FY160902409-1E



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**Shenzhen BCTC Technology Co., Ltd.**

Applicant : Shenzhen MOYE Technology Co., Ltd.

Address : 2F, Building 1st, Block West, Huali Courtyard, Zhenhua Road, Futian District, Shenzhen, China

Manufacturer : Shenzhen E SYB Tchnology Co., Ltd.

Address : 9F, Building 2nd, Guole Technology Park, Lirong Road, Dalang Street, Longhua New District, Shenzhen, China

EUT : Wireless Charging

Trademark: : N/A

Model Number : moye one,
moye two, M1, M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M14, M15

Test Date : Sep.06 - Dec. 12, 2016


Date of Report : Dec. 12, 2016


Test Result: : The equipment under test was found to be compliance with the requirements of the standards applied.


Test Procedure Used:


FCC Part 18

ANSI C63.4:2014

Testing Engineer : 
Eric Yang

Reviewer (Supervisor) : 
Jack Yang

Approved & Authorized Signer(Manager) : 
Carson Zhang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen BCTC Technology Co., Ltd.



1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT : Wireless Charging

Trademark : N/A

moye one,

Model Number : Moyetwo,M1,M2,M3,M4,M5,M6,M7,M8,M9,M10,M11,M12,M13,M14,M15

Model Difference : All the same, Only model name is different and outlook color.

Power Supply : Input: AC 120V/60Hz Output: DC 15V/1500mA

Work Frequency : 6.78MHz

Antenna Type : Internal Antenna/0dBi

Note: moye one was selected as the test model and the data have been recorded in this report.

1.2. Tested Summary

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
FCC Part18 ANSI C63.4: 2014	Conducted Emission	Class B	PASS	§18.307
	Radiated Emission	Class B	PASS	§18.305

1.3. Tested System Details

Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
Apple Phone	Apple	Iphone 6	/	/
			/	/

1.4. Test Uncertainty

Conducted Emission : $\pm 2.66\text{dB}$
Uncertainty

Radiated Emission Uncertainty : $\pm 4.26\text{dB}$



1.5. Test Facility

Site Description

Name of Firm : Shenzhen BCTC Technology Co., Ltd.

Site Location : NO.101, Yousong Road, Longhua New District,
Shenzhen, Guangdong, P.R.China

Lab Qualifications : Certificated by Industry Canada
Registration No.: 12655A
Date of registration: January 19, 2015

Certificated by FCC, USA
Registration No.: 187086
Date of registration: November 28, 2014

Certificated by CNAS China
Registration No.: CNAS L6046
Date of registration: February 3, 2013



2. TEST INSTRUMENT USED

3. Radiation Test equipment

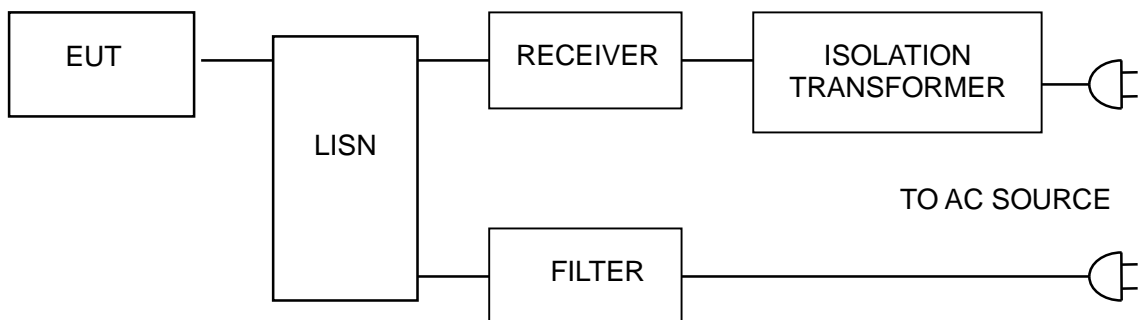
Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4407B	MY45108040	2016.08.27	2017.08.26
2	Test Receiver (9kHz-7GHz)	R&S	ESPI	101318	2016.08.27	2017.08.26
3	Bilog Antenna (30MHz-1GHz)	R&S	VULB 9168	VULB91 68-438	2016.08.27	2017.08.26
4	Horn Antenna (1GHz-18GHz)	SCHWARZBE CK	BBHA9120D	1201	2016.09.03	2017.09.03
5	Horn Antenna (14GHz-40GHz)	SCHWARZBE CK	BBHA 9170	9170-181	2016.09.03	2017.09.03
6	Amplifier (9KHz-6GHz)	SCHWARZBE CK	BBV9744	9744-0037	2016.08.27	2017.08.26
7	Amplifier (1GHz-18GHz)	SCHWARZBE CK	BBV9718	9718-309	2016.08.27	2017.08.26
8	Amplifier (18GHz-40GHz)	SCHWARZBE CK	BBV 9721	9721-205	2016.08.27	2017.08.26
9	Loop Antenna (9KHz-30MHz)	SCHWARZBE CK	FMZB1519B	00014	2016.09.03	2017.09.03
10	RF cables1 (9kHz-1GHz)	R&S	R203	R20X	2016.08.27	2017.08.26
11	RF cables2 (1GHz-40GHz)	R&S	R204	R21X	2016.08.27	2017.08.26
12	Antenna connector	Florida RF Labs	N/A	RF 01#	2016.08.27	2017.08.26
13	Power Metter	ANRITSU	ML2487A	6K00001568	2016.08.27	2017.08.26
14	Power Sensor (AV)	ANRITSU	ML2491A	030989	2016.08.27	2017.08.26
15	Signal Analyzer 9kHz-26.5GHz	Agilent	N9010A	MY48030494	2016.08.27	2017.08.26
16	Test Receiver 20kHz-40GHz	R&S	ESU 40	100376	2016.08.27	2017.08.26
17	D.C. Power Supply	LongWei	PS-305D	010964729	2016.08.27	2017.08.26

Conduction Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Test Receiver	R&S	ESCI	1166.5950K03- 101165-ha	2016.08.27	2017.08.26
2	LISN	SCHWARZBE CK	NSLK8127	8127739	2016.08.27	2017.08.26
3	LISN	R&S	NSLK8126	8126487	2016.08.27	2017.08.26
4	RF cables	R&S	R204	R20X	2016.08.27	2017.08.26
5	Attenuator	R&S	ESH3-Z2	143206	2016.08.27	2017.08.26

4. CONDUCTED EMISSION AT THE MAINS TERMINALS TEST

3.1. Block Diagram Of Test Setup



3.2. Test Standard

FCC PART 18

3.3. Power Line Conducted Emission Limit

Frequency MHz	Limits 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

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC PART 18 requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

3.5.1 Setup the EUT and simulators as shown in Section 3.1.

3.5.2 Turn on the power of all equipments.

3.5.3 Let the EUT work in test modes and test it.



3.6. Test Procedure

The EUT is put on the ground and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the **FCC PART 18** regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 10KHz.

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

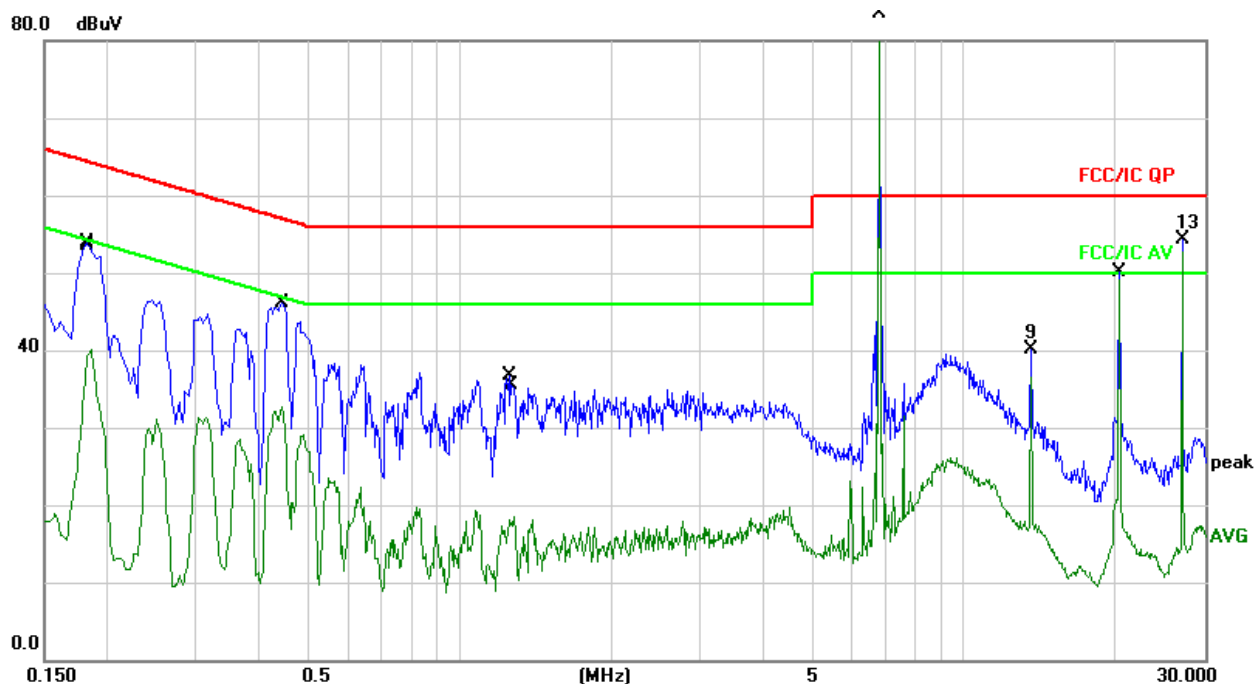
3.7. Test Result

PASS

Please refer to the following page.



Temperature:	25 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	AC120V/60Hz	Test Mode:	Charging



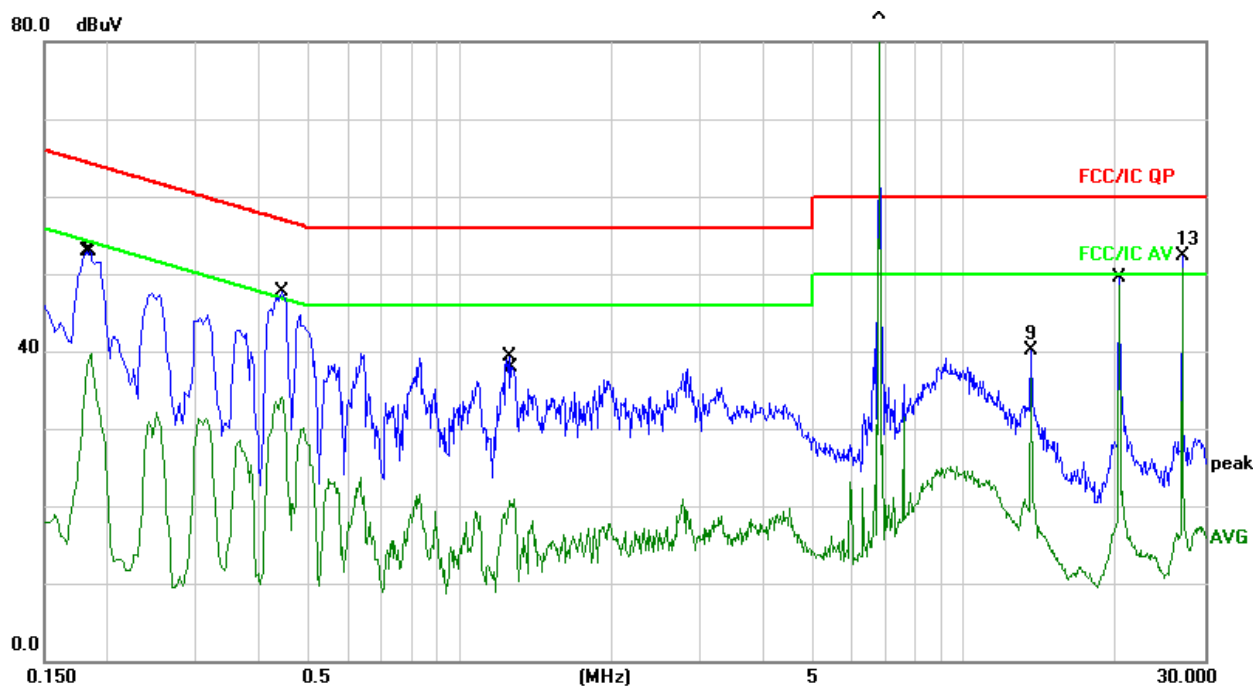
Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1819	44.26	9.66	53.92	64.39	-10.47	QP
2	0.1860	30.46	9.66	40.12	54.21	-14.09	AVG
3	0.4460	36.48	9.67	46.15	56.95	-10.80	QP
4	0.4460	22.98	9.67	32.65	46.95	-14.30	AVG
5	1.2500	27.08	9.69	36.77	56.00	-19.23	QP
6	1.2780	8.78	9.70	18.48	46.00	-27.52	AVG
7	6.7800	73.99	9.79	83.78	N/A	N/A	peak
8	6.7800	73.38	9.79	83.17	N/A	N/A	AVG
9	13.5600	30.28	9.84	40.12	N/A	N/A	peak
10	13.5600	26.64	9.84	36.48	N/A	N/A	AVG
11	20.3380	40.23	9.85	50.08	60.00	-9.92	QP
12	20.3380	38.61	9.85	48.46	50.00	-1.54	AVG
13	27.1200	44.43	9.87	54.30	N/A	N/A	peak
14	27.1200	42.79	9.87	52.66	N/A	N/A	AVG



Temperature:	25 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
Test Voltage :	AC120V/60Hz	Test Mode:	Charging



Remark:

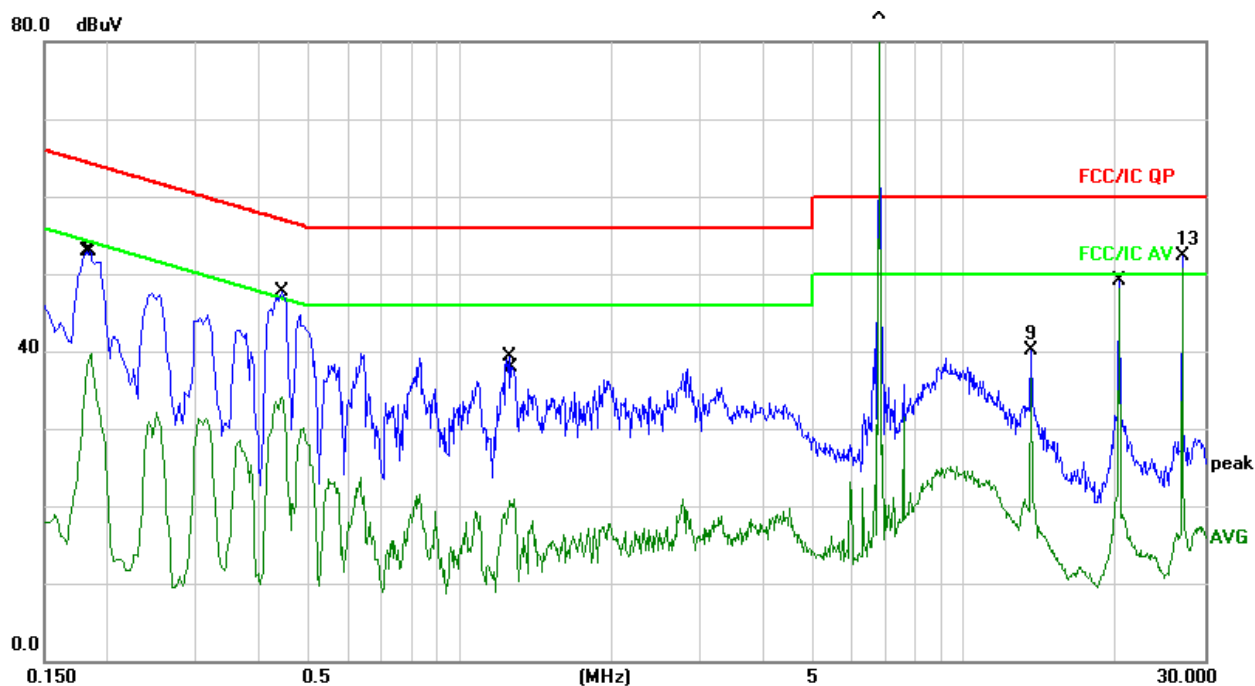
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1819	43.26	9.66	52.92	64.39	-11.47	QP
2	0.1859	29.96	9.66	39.62	54.21	-14.59	AVG
3	0.4460	37.98	9.67	47.65	56.95	-9.30	QP
4	0.4460	24.48	9.67	34.15	46.95	-12.80	AVG
5	1.2500	29.58	9.69	39.27	56.00	-16.73	QP
6	1.2780	11.28	9.70	20.98	46.00	-25.02	AVG
7	6.7800	73.99	9.79	83.78	N/A	N/A	peak
8	6.7800	73.38	9.79	83.17	N/A	N/A	AVG
9	13.5600	30.28	9.84	40.12	N/A	N/A	peak
10	13.5600	26.64	9.84	36.48	N/A	N/A	AVG
11	20.3380	39.73	9.85	49.58	60.00	-10.42	QP
12	20.3380	38.71	9.85	48.56	50.00	-1.44	AVG
13	27.1200	42.43	9.87	52.30	N/A	N/A	peak
14	27.1200	40.79	9.87	50.66	N/A	N/A	AVG

Note: Based on &18.307(e), conduction limits in the table above apply only outside the frequency bands specified in &18.301. Therefore, emissions at 6.78MHz, 13.56MHz, and 27.12MHz are not subject to the conduction limits of &18.307.



Temperature:	25 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	AC240V/50Hz	Test Mode:	Charging



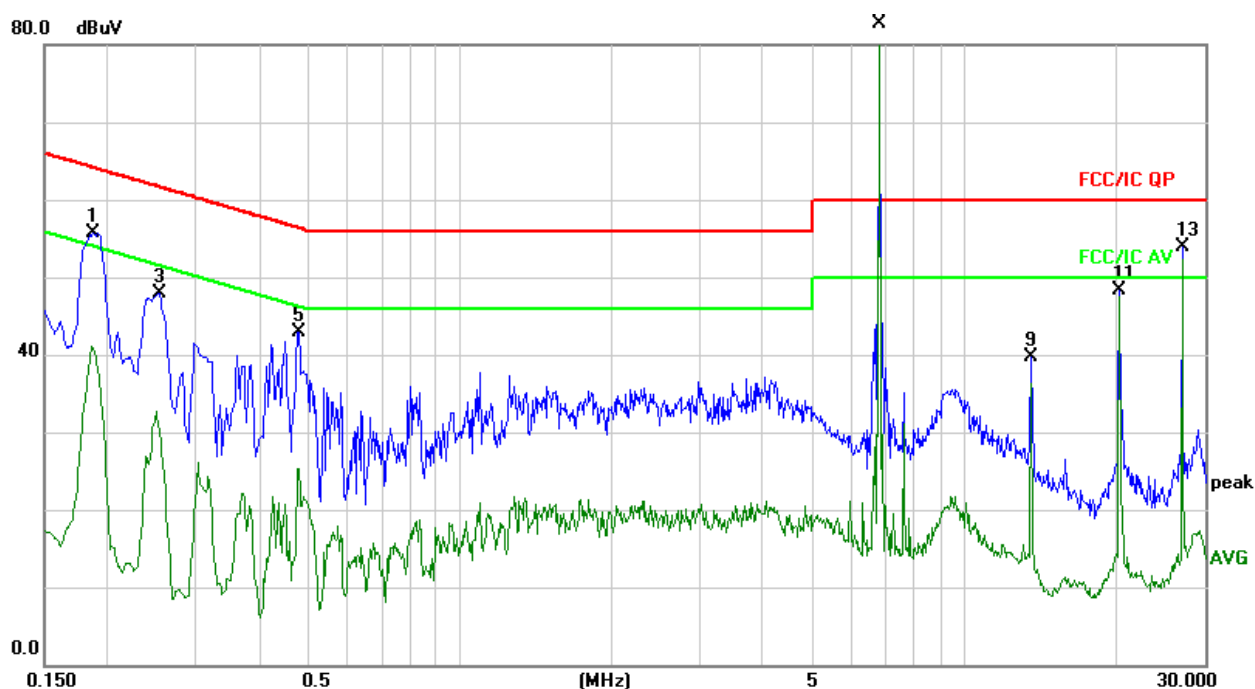
Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1819	43.26	9.66	52.92	64.39	-11.47	QP
2	0.1859	29.96	9.66	39.62	54.21	-14.59	AVG
3	0.4460	37.98	9.67	47.65	56.95	-9.30	QP
4	0.4460	24.48	9.67	34.15	46.95	-12.80	AVG
5	1.2500	29.58	9.69	39.27	56.00	-16.73	QP
6	1.2780	11.28	9.70	20.98	46.00	-25.02	AVG
7	6.7800	73.99	9.79	83.78	N/A	N/A	peak
8	6.7800	73.38	9.79	83.17	N/A	N/A	AVG
9	13.5600	30.28	9.84	40.12	N/A	N/A	peak
10	13.5600	26.64	9.84	36.48	N/A	N/A	AVG
11	20.3380	39.23	9.85	49.08	60.00	-10.92	QP
12	20.3380	38.21	9.85	48.06	50.00	-1.94	AVG
13	27.1200	42.43	9.87	52.30	N/A	N/A	peak
14	27.1200	40.79	9.87	50.66	N/A	N/A	AVG



Temperature:	25 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	N
Test Voltage :	AC240V/50Hz	Test Mode:	Charging



Remark:

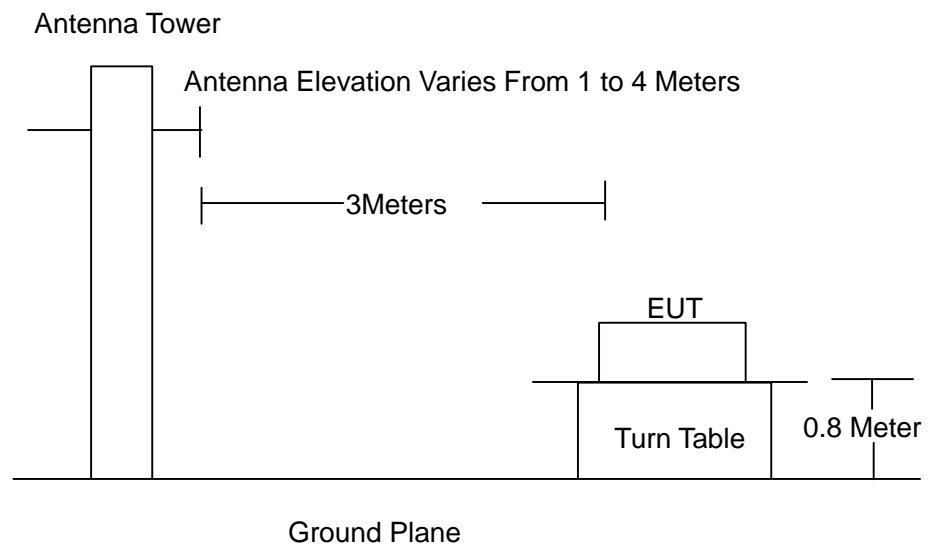
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1874	46.04	9.65	55.69	64.15	-8.46	QP
2	0.1874	29.39	9.65	39.04	54.15	-15.11	AVG
3	0.2540	38.19	9.66	47.85	61.62	-13.77	QP
4	0.2540	23.01	9.66	32.67	51.62	-18.95	AVG
5	0.4786	33.23	9.68	42.91	56.36	-13.45	QP
6	0.4786	15.67	9.68	25.35	46.36	-21.01	AVG
7	6.7800	73.10	9.79	82.89	N/A	N/A	peak
8	6.7800	72.71	9.79	82.50	N/A	N/A	AVG
9	13.5600	29.84	9.84	39.68	N/A	N/A	peak
10	13.5600	26.53	9.84	36.37	N/A	N/A	AVG
11	20.3380	38.41	9.85	48.26	60.00	-11.74	QP
12	20.3380	37.63	9.85	47.48	50.00	-2.52	AVG
13	27.1200	44.08	9.87	53.95	N/A	N/A	peak
14	27.1200	42.51	9.87	52.38	N/A	N/A	AVG

Note: Based on &18.307(e), conduction limits in the table above apply only outside the frequency bands specified in &18.301. Therefore, emissions at 6.78Mhz, 13.56MHz, and 27.12MHz are not subject to the conduction limits of &18.307.

5. RADIATION EMISSION TEST

4.1. Block Diagram of Test Setup



4.2. Test Standard

FCC PART 18

4.3. Radiation Limit

(a) ISM equipment operating on a frequency specified in §18.301 is permitted unlimited radiated energy in the band specified for that frequency.

(b) The field strength levels of emissions which lie outside the bands specified in §18.301, unless otherwise indicated, shall not exceed the following:

Equipment	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (uV/m)	Distance (meters)
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	Below 500 500 or more	25 $25 \times \text{SQRT}(\text{power}/500)$	300 ¹ 300
	Any non-ISM frequency	Below 500 500 or more	15 $15 \times \text{SQRT}(\text{power}/500)$	300 ¹ 300

¹Field strength may not exceed 10 $\mu\text{V/m}$ at 1600 meters.

4.4. EUT Configuration on Test

The FCC PART 18 regulations test method must be used to find the maximum emission during radiated emission test.

The configuration of EUT is the same as used in conducted emission test. Please refer to Section 2.2.



4.5. Operating Condition of EUT

Same as conducted emission test, which is listed in Section 2.2 except the test set up replaced as Section 4.1.

4.6. Test Procedure

The EUT and its simulators are placed on a turned table that is 0.8 meter above the ground. The turned 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 that is mounted on the antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on test. In order to find the maximum emission levels, the interface cable must be manipulated according to FCC PART 18 on radiated emission test.

The bandwidth setting on the field strength meter (R&S Test Receiver ESCI) is set at 120KHz below 1GHz, set at 1MHz above 1GHz

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

4.7. Test Result

PASS

Please refer to the following page.



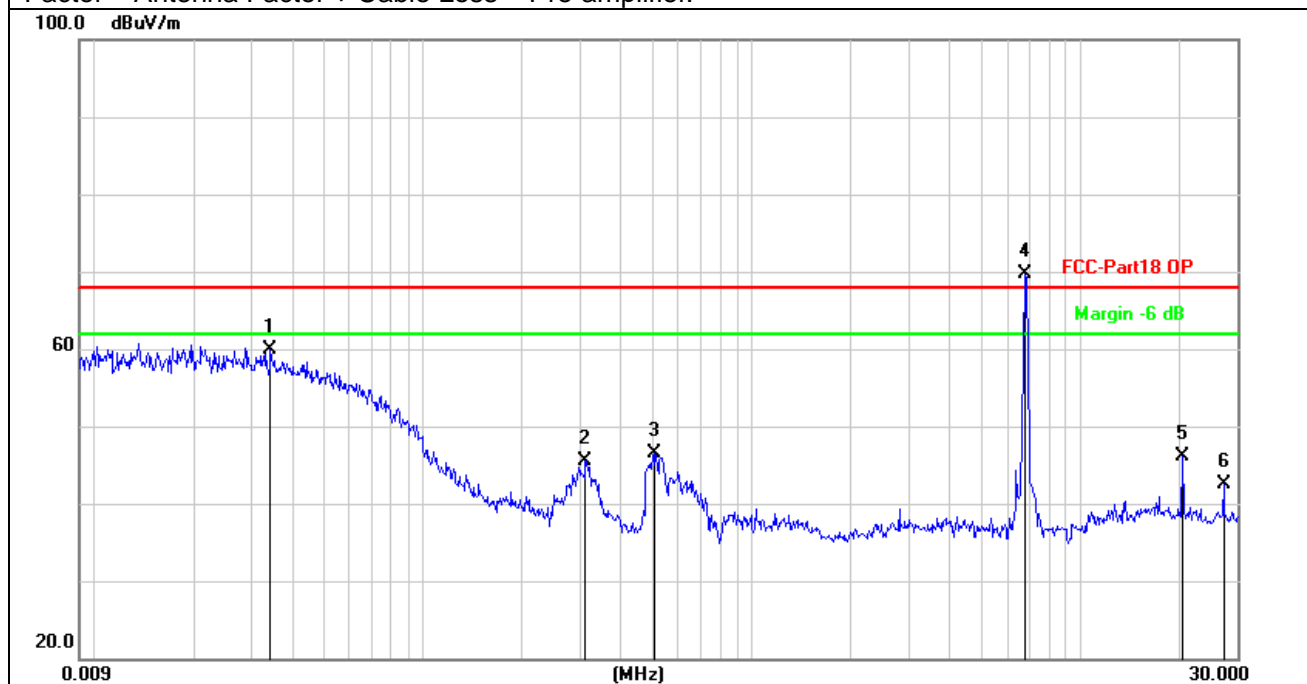
Radiation Emission Test Data(9KHz-30MHz)

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	AC120V/60Hz	Test Mode:	charging

Freq.	Reading	Correct Factor	Result	Limit	Margin	Detector	State
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m) at 3 m	(dB)		P/F
0.0342	40.09	19.74	59.83	67.96	-8.13	PK	PASS
0.3116	25.81	19.73	45.54	67.96	-22.42	PK	PASS
0.5070	26.46	20.02	46.48	67.96	-21.48	PK	PASS
6.7800	48.54	21.17	69.71	67.96	1.75	PK	N/A
20.4902	24.10	22.06	46.16	67.96	-21.80	PK	PASS
27.2174	19.99	22.58	42.57	67.96	-25.39	PK	PASS

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

**NOTE:**

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

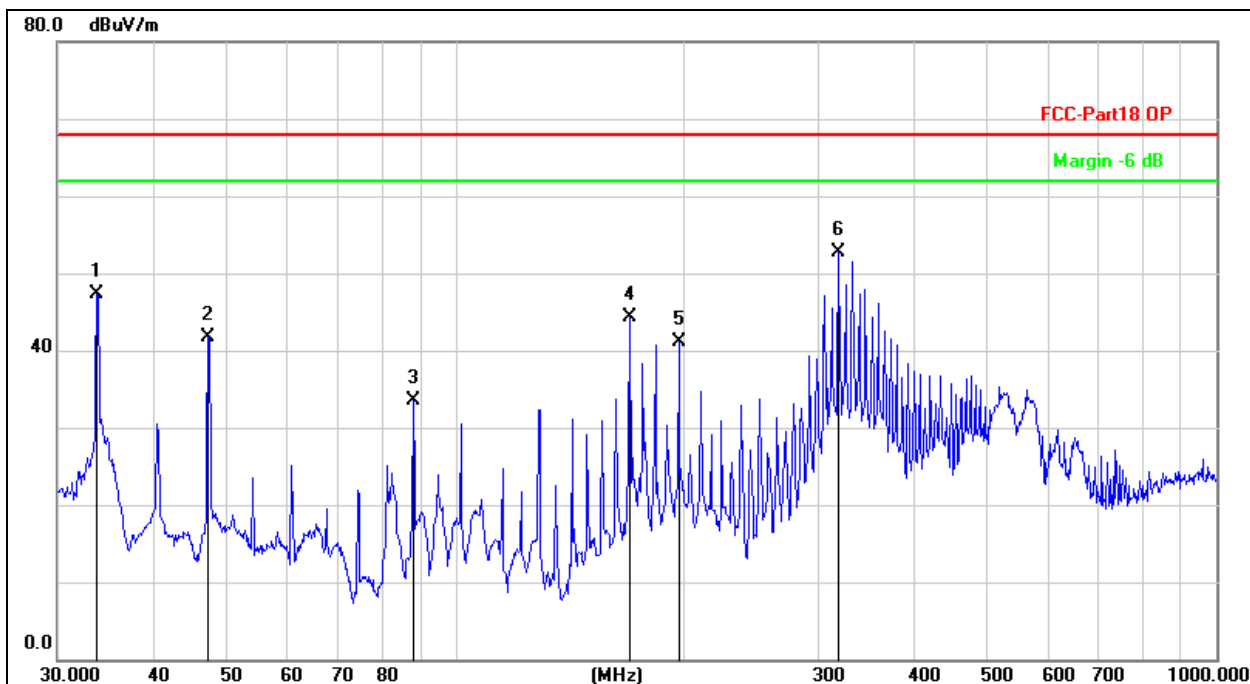
Distance extrapolation factor = $20 \log (\text{specific distance/test distance})(\text{dB})$;

Limit line = specific limits(dBuV) + distance extrapolation factor.



Radiation Emission Test Data(30MHz~1GHz)

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Horizontal
Test Voltage :	AC120V/60Hz	Test Mode:	charging



Remark:

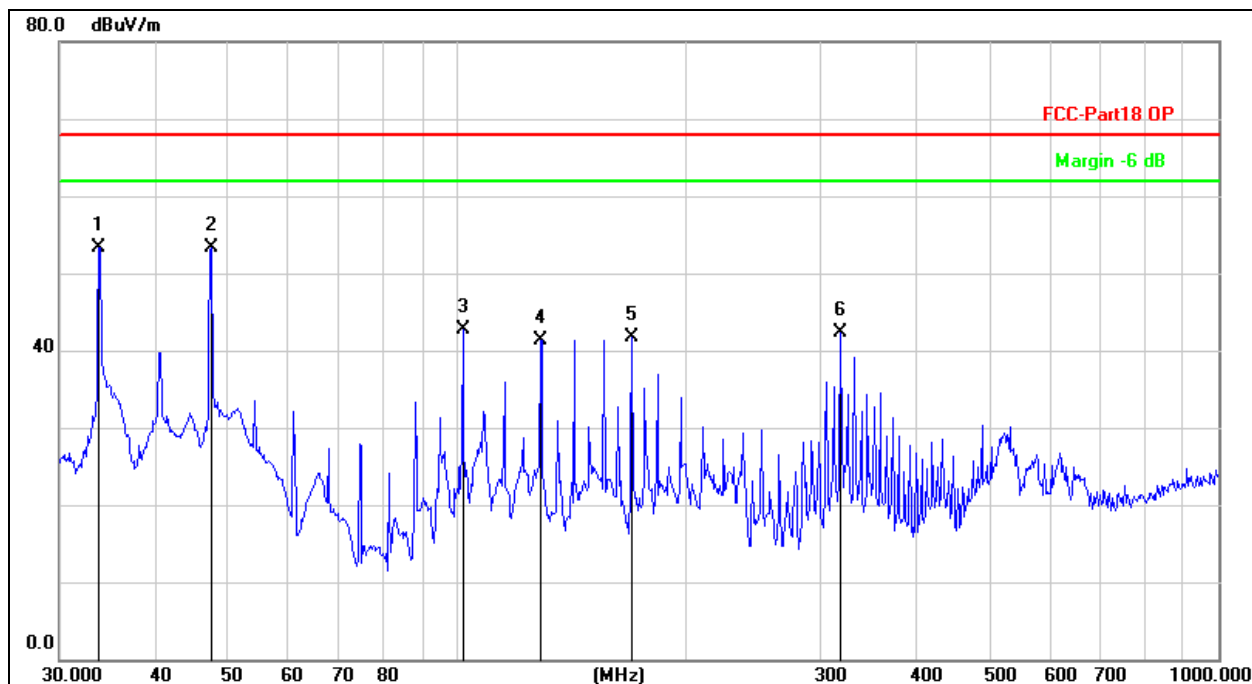
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		33.7986	65.11	-17.75	47.36	67.96	-20.60	QP
2		47.3255	56.50	-14.74	41.76	67.96	-26.20	QP
3		88.0329	52.30	-18.75	33.55	67.96	-34.41	QP
4		169.5990	62.71	-18.48	44.23	67.96	-23.73	QP
5		196.5098	56.99	-15.92	41.07	67.96	-26.89	QP
6	*	318.8170	64.46	-11.68	52.78	67.96	-15.18	QP



Radiation Emission Test Data(30MHz~1GHz)

Temperature:	24.5 °C	Relative Humidity:	54%
Pressure:	1009hPa	Phase :	Vertical
Test Voltage :	AC120V/60Hz	Test Mode:	charging



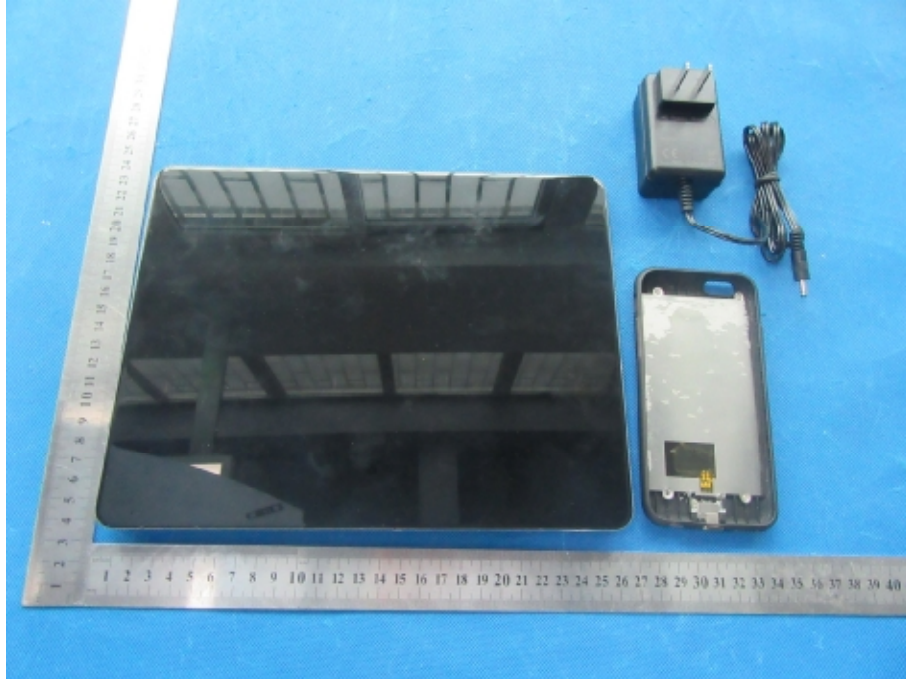
Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

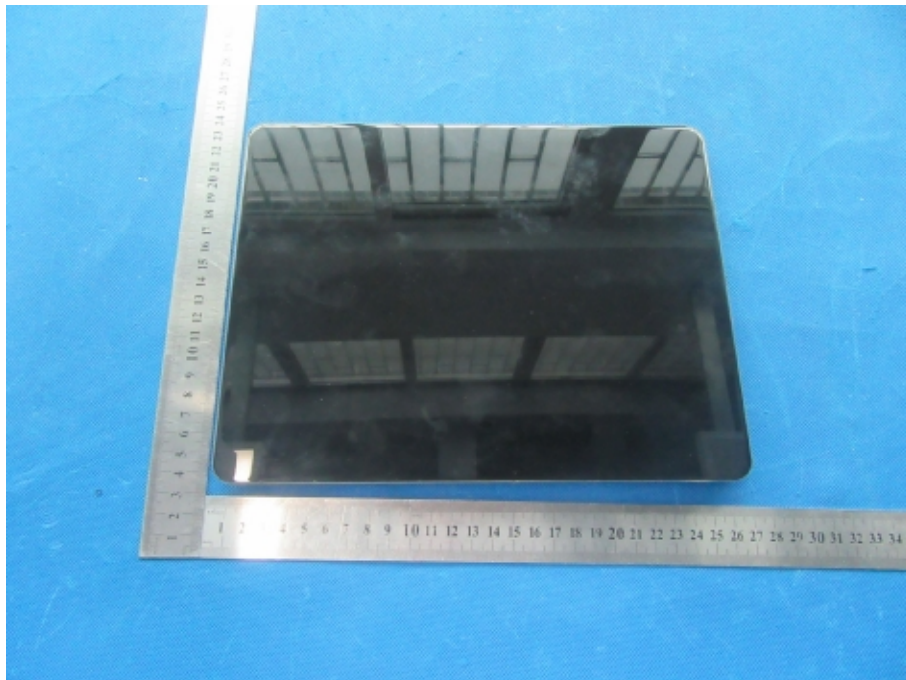
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1	*	33.7986	71.12	-17.75	53.37	67.96	-14.59	QP
2		47.4918	68.11	-14.74	53.37	67.96	-14.59	QP
3		101.6443	59.08	-16.38	42.70	67.96	-25.26	QP
4		128.5630	60.74	-19.42	41.32	67.96	-26.64	QP
5		169.5990	60.24	-18.48	41.76	67.96	-26.20	QP
6		318.8170	54.02	-11.68	42.34	67.96	-25.62	QP

6. EUT PHOTOGRAPHS

EUT Photo 1



EUT Photo 2



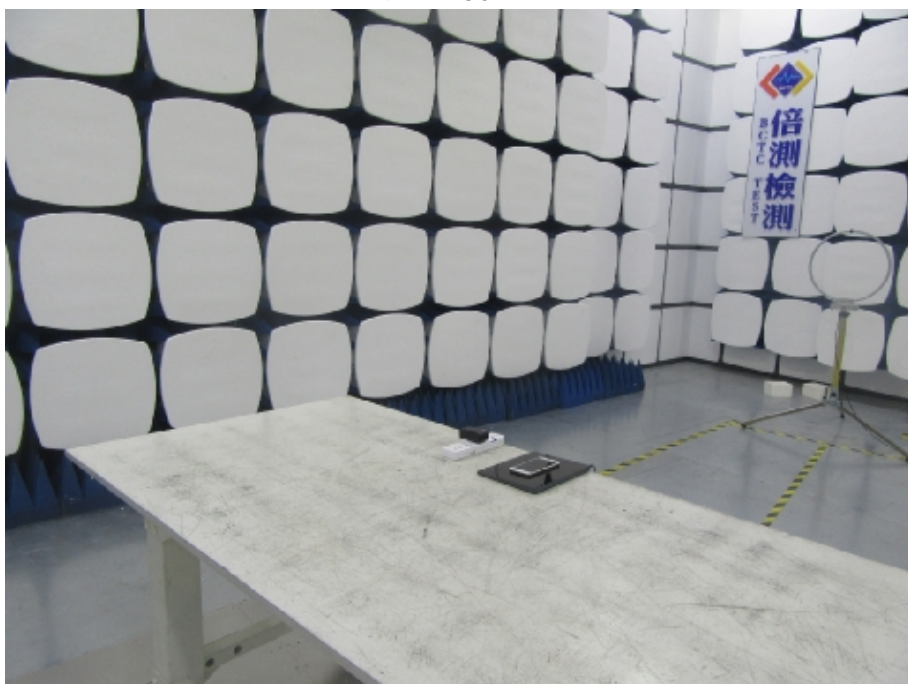
7. EUT TEST PHOTOGRAPHS

CE

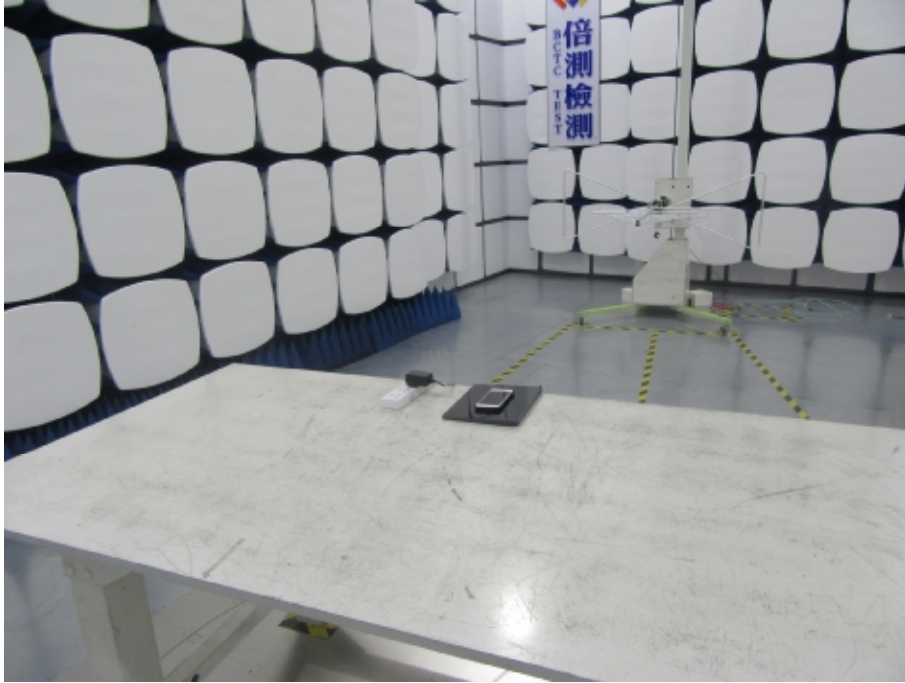


RE

9kHz-30MHz



30MHz-1000MHz



***** END OF REPORT *****