FCC TEST REPORT

FCC ID	: AZQKC079-28
Applicant	: Shenzhen KOHO Technology Co., Ltd
Address	: Building3,Jin Yuda Industrial Park , ShangLiao ,Shajin ,Baoan ,Shenzhen
Manufacturer	: Shenzhen Kanghai Electronics CO.,LTD
Address	: Shenzhen Baoan District Shajing Street 107 State Road jinyudaindustrial park(I,II,3)3 2 nd Floor,3rd Floor,A

Equipment Under Test (EUT) :

Product Name	: MID
Model No.	: KC079-28B, KC079-28A
Rules	: FCC CFR47 Part15 B Section 15.109:2010

Date of Test	: April 7~25, 2013
Date of Issue	: May 02, 2013
Test Result	: PASS*

Remark:

* The sample detailed above has been tested to the requirements of FCC rules mentioned above.

The test results have been reviewed against the directives above and found to meet their essential requirements.

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

PERPARED BY:
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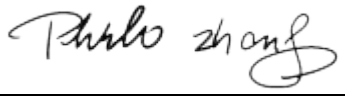
Compiled by:

Zero Zhou / Project Engineer

Approved by:



Philo Zhong / Manager

2 Test Summary

Test Items	Test Requirement	Result
Conducted Emissions	15.107	PASS
Radiated Emissions	15.109	PASS

3 Contents

4 General Information

4.1 General Description of E.U.T.

Product Name	: MID
Model No.	: KC079-28B, KC079-28A
Model Description	: The circuit principle,PCB wiring and internal structure are the same except appearance.

4.2 Details of E.U.T.

Technical Data	: (1)DC 3.7V, 2800mAh powered from lithium battery
	(2)DC 5V, 2A powered from adapter
Adapter	: SOY Techonolgy
	Model:SUN-0500200
	INPUT:100-240V~50/60Hz 0.3A

4.3 Test Facility

The test facility has a test site registered with the following organizations:

- **IC – Registration No.: 7760A**

  Waltek Services (Shenzhen) Co., Ltd. has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration 7760A, July 12, 2012.

- **FCC – Registration No.: 880581**

  Waltek Services (Shenzhen) Co., Ltd. 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 880581, May 26, 2011.

4.4 Test Location

All the tests were performed at:
Waltek Services (Shenzhen) Co., Ltd. at 1/F, Fukangtai Building, West Baima Rd., Songgang Street, Baoan District, Shenzhen, China

5 Equipment Used during Test

5.1 Equipments List

Conducted Emissions						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	100947	Aug. 13,2012	Aug. 13,2013
2.	LISN	R&S	ENV216	101215	Aug. 13,2012	Aug. 13,2013
3.	Cable	Top	TYPE16(3.5M)	-	Aug.14,2012	Aug. 14,2013
3m Semi-anechoic Chamber for Radiation(TDK) (Test Frequency: Below 1000MHz)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	Aug.09,2012	Aug.09,2013
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	Aug. 13,2012	Aug. 13,2013
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	Aug.11,2012	Aug.11,2013
4	Amplifier	Compliance pirection systems inc	PAP-0203	22024	Apr.07,2013	Apr.07,2014
5	Cable	HUBER+SUHNER	CBL2	525178	Sep.15,2012	Sep.15,2013
3m Semi-anechoic Chamber for Radiation Emissions (Test Frequency:Above 1GHz)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMC Analyzer	Agilent	E7405A	MY45114943	Aug. 13,2012	Aug. 13,2013
2.	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	Aug. 13,2012	Aug. 13,2013
3.	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	399	Aug. 13,2012	Aug. 13,2013
4.	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	Apr.07,2013	Apr.07,2014
5.	Broadband Preamplifier	SCHWARZBECK	BBV 9718	9718-148	Aug. 13,2012	Aug. 13,2013
6.	10m Coaxial Cable with N- plug	SCHWARZBECK	AK 9515 H	-	Aug. 13,2012	Aug. 13,2013
Associated Equipment						
1.	Notebook	FLORA	PC4NB8	-	-	-
2.	Notebook	IBM	2672-39C	99-8D3W4	-	-

5.2 Measurement Uncertainty

Parameter	Uncertainty
Radiated Spurious Emissions test	± 5.03 dB (Bilog antenna 30M~1000MHz)
	± 4.74 dB (Horn antenna 1000M~25000MHz)
Conducted Spurious Emissions test	± 3.64 dB (AC mains 150KHz~30MHz)

5.3 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

6 Conducted Emissions

Test Requirement:	FCC CFR 47 Part 15 Section 15.107
Test Method:	ANSI C63.4:2003
Test Result:	PASS
Frequency Range:	150kHz to 30MHz
Class:	Class B
Limit:	66-56 dBμV between 0.15MHz & 0.5MHz 56 dBμV between 0.5MHz & 5MHz 60 dBμV between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth) Quasi-Peak & Average if maximised peak within 6dB of Average Limit

6.1 E.U.T. Test Condition

Operating Environment:

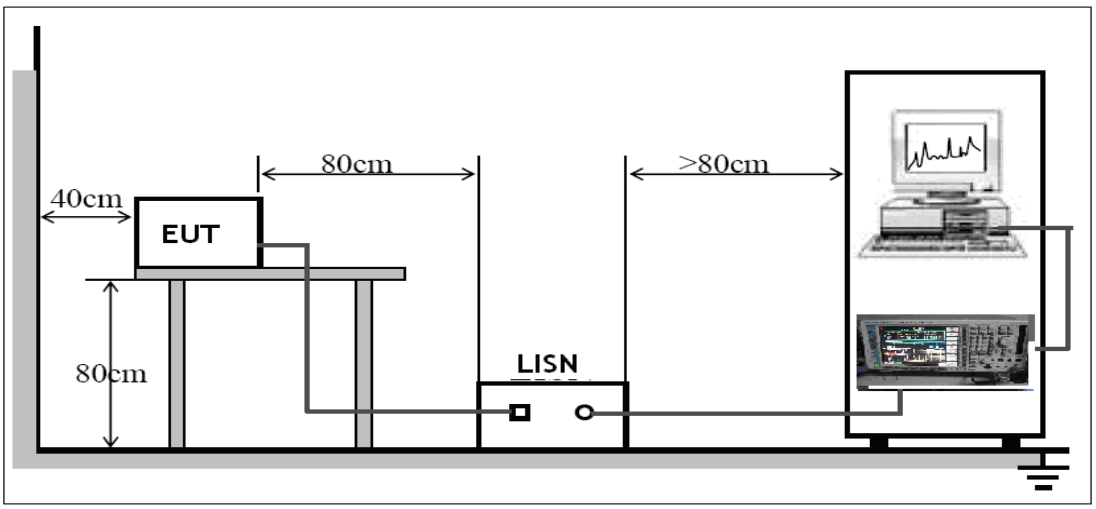
Temperature:	25.5 °C
Humidity:	51 % RH
Atmospheric Pressure:	1012 mbar

Operation Mode and Spectrum Setup:

The EUT was tested in charging and data transmitting mode,charging and normal working, The test data were shown as follow.

6.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.4:2003, the specification used in this report was the FCC Part15.207 limits.



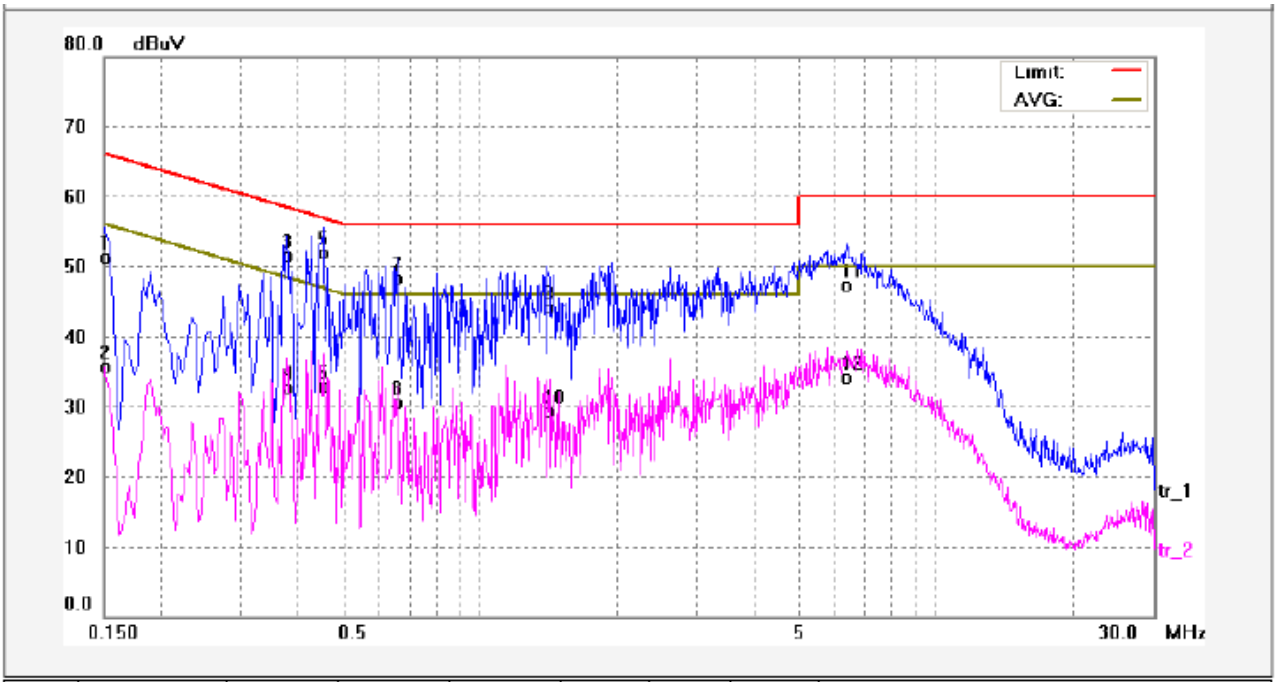
The EUT was placed on the test table in shielding room

6.3 Conducted Emission Test Result

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

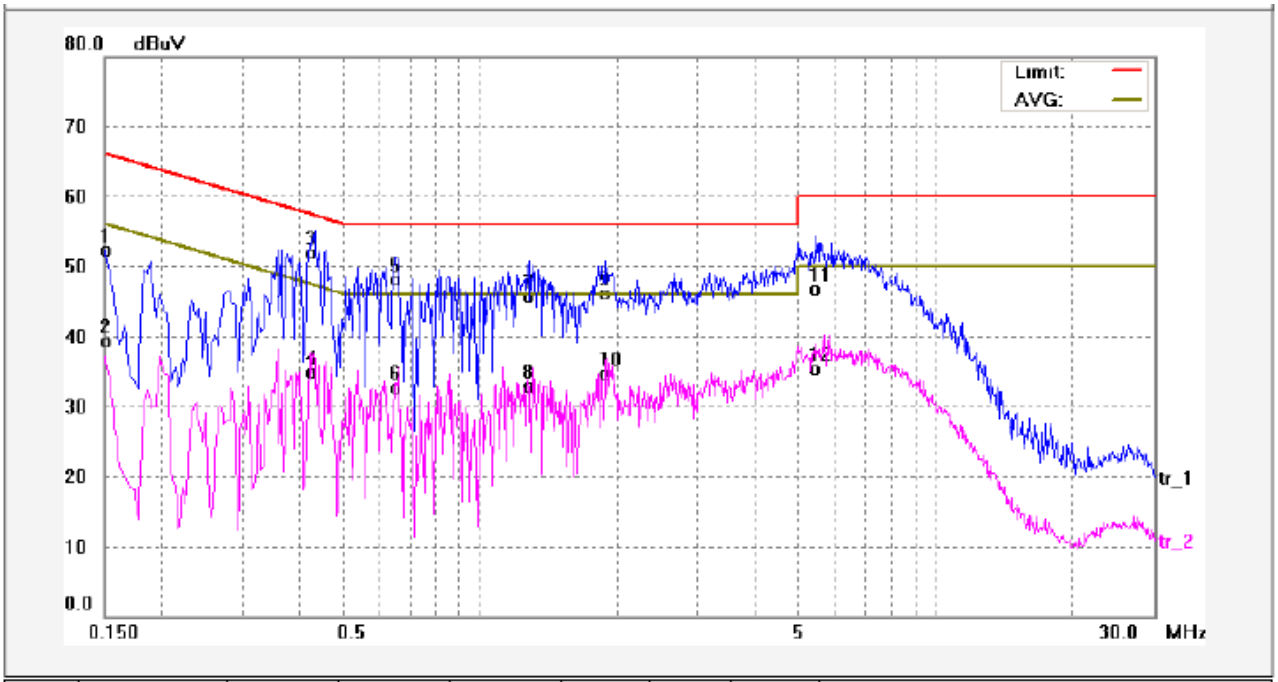
Test mode: charging and data transmitting(the worst mode)

Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1500	40.61	9.80	50.41	65.99	-15.58	QP	
2	0.1500	25.17	9.80	34.97	55.99	-21.02	AVG	
3	0.3780	40.73	9.89	50.62	58.32	-7.70	QP	
4	0.3780	21.98	9.89	31.87	48.32	-16.45	AVG	
5	0.4540	41.13	9.92	51.05	56.80	-5.75	QP	
6	0.4540	22.17	9.92	32.09	46.80	-14.71	AVG	
7	0.6580	37.51	9.95	47.46	56.00	-8.54	QP	
8	0.6580	19.72	9.95	29.67	46.00	-16.33	AVG	
9	1.4100	33.21	10.00	43.21	56.00	-12.79	QP	
10	1.4100	18.41	10.00	28.41	46.00	-17.59	AVG	
11	6.3659	36.35	10.24	46.59	60.00	-13.41	QP	
12	6.3659	22.98	10.24	33.22	50.00	-16.78	AVG	

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1500	41.74	9.80	51.54	65.99	-14.45	QP	
2	0.1500	28.64	9.80	38.44	55.99	-17.55	AVG	
3	0.4340	41.25	9.91	51.16	57.18	-6.02	QP	
4	0.4340	24.28	9.91	34.19	47.18	-12.99	AVG	
5	0.6540	37.40	9.95	47.35	56.00	-8.65	QP	
6	0.6540	21.90	9.95	31.85	46.00	-14.15	AVG	
7	1.2780	34.84	10.00	44.84	56.00	-11.16	QP	
8	1.2780	22.08	10.00	32.08	46.00	-13.92	AVG	
9	1.8820	35.39	10.00	45.39	56.00	-10.61	QP	
10	1.8820	23.89	10.00	33.89	46.00	-12.11	AVG	
11	5.4420	35.80	10.14	45.94	60.00	-14.06	QP	
12	5.4420	24.46	10.14	34.60	50.00	-15.40	AVG	

7 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.109
Test Method: ANSI C63.4:2003
Test Result: PASS
Except as otherwise indicated in paragraphs (b)(2) or (b)(3), for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to 5th harmonic of the highest frequency .
Measurement Distance: 3m
15.109 Limit:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 -0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

7.1 EUT Operation:

Operating Environment:

Temperature: 25.5 °C
Humidity: 51 % RH
Atmospheric Pressure: 1012 mbar

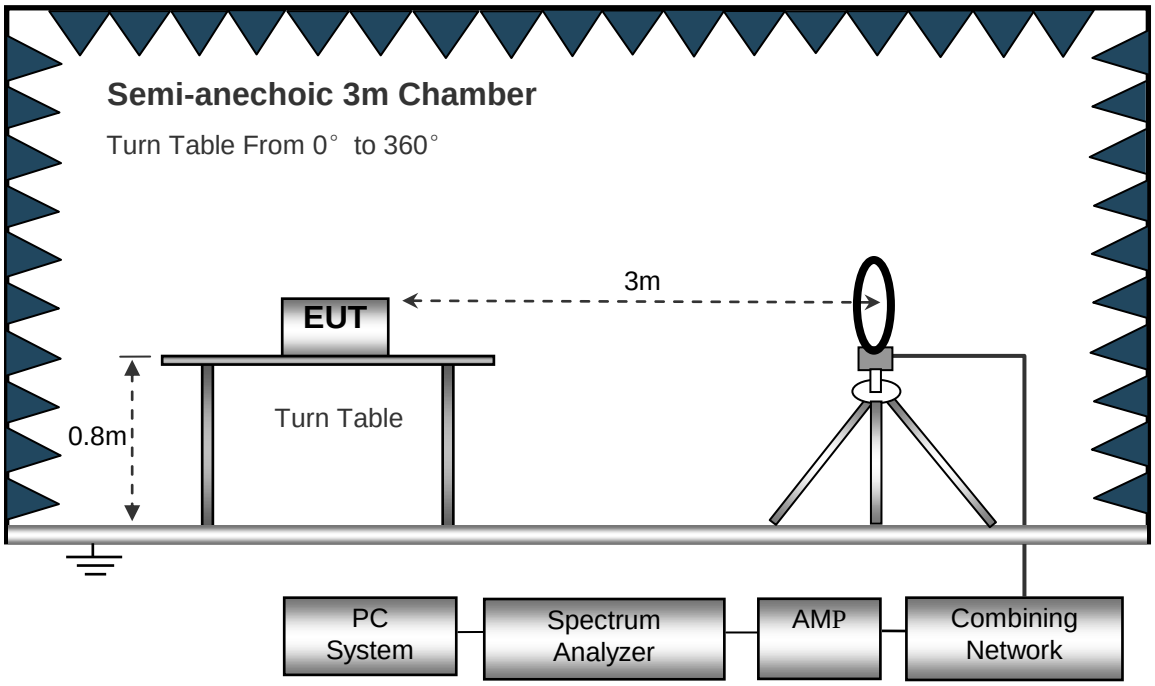
Operation Mode:

The EUT was tested in charging+ data transmitting mode. The worst data were shown as follow.

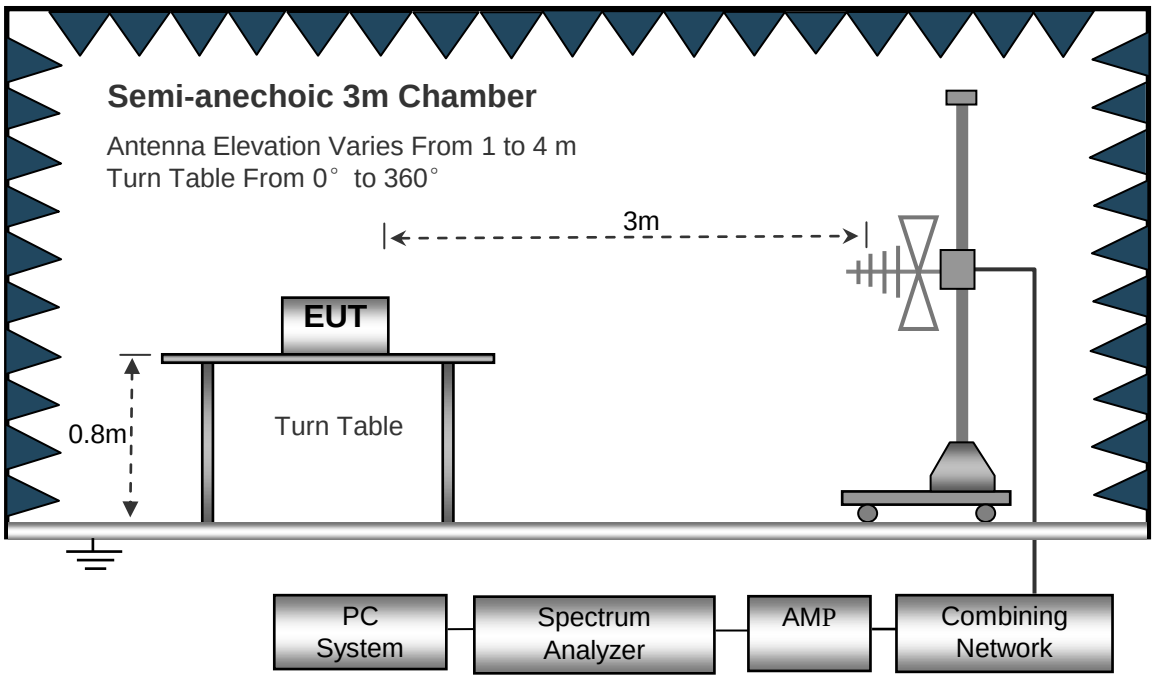
7.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.4: 2003.

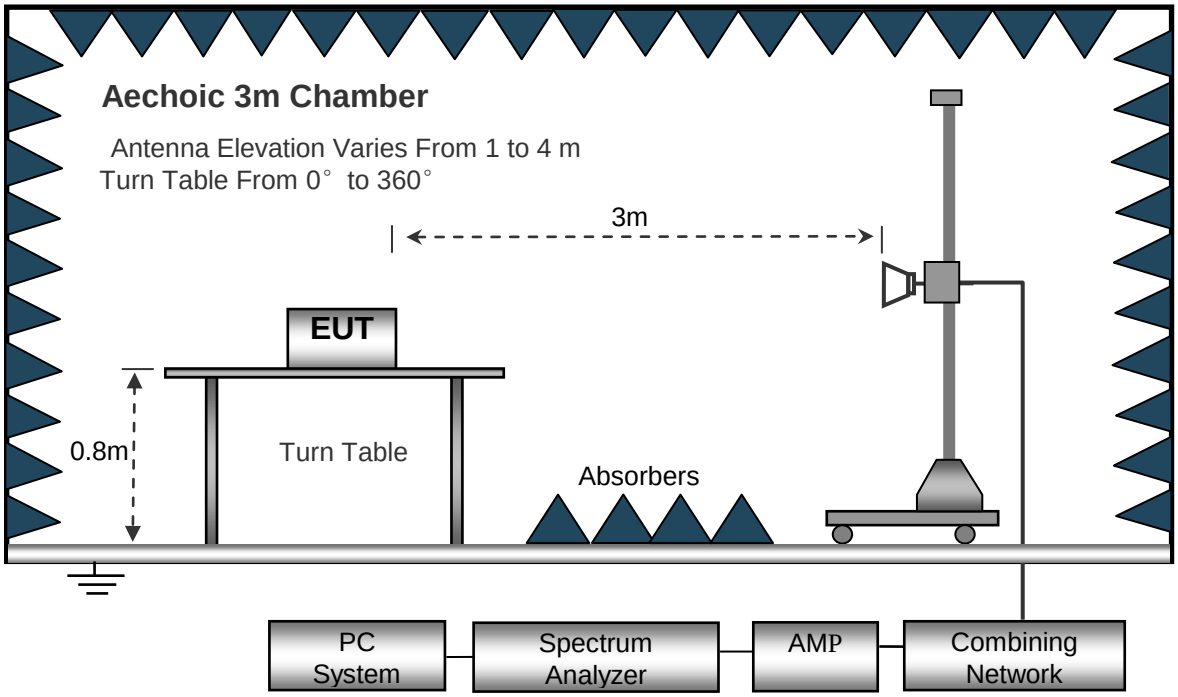
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



7.3 Spectrum Analyzer Setup

According to FCC Part15 Rules, the system was tested from 32.768KHz to 13 GHz.

Below 30MHz

Sweep Speed .....Auto
IF Bandwidth.....10KHz
Video Bandwidth.....10KHz

Resolution Bandwidth.....10KHz

30 MHz to 1 GHz.

Sweep Speed .....Auto
IF Bandwidth.....120 KHz
Video Bandwidth.....100KHz
Quasi-Peak Adapter Bandwidth .....120 KHz
Quasi-Peak Adapter Mode .....Normal
Resolution Bandwidth.....100KHz

Above 1GHz

Sweep Speed .....Auto
IF Bandwidth.....120 KHz
Video Bandwidth.....3MHz
Quasi-Peak Adapter Bandwidth .....120 KHz
Quasi-Peak Adapter Mode .....Normal
Resolution Bandwidth.....1MHz

7.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are tested under X-axis.The worst data were shown as follow.

7.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:
Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain the "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Limit

7.6 Summary of Test Results

Test Frequency : Below 30MHz

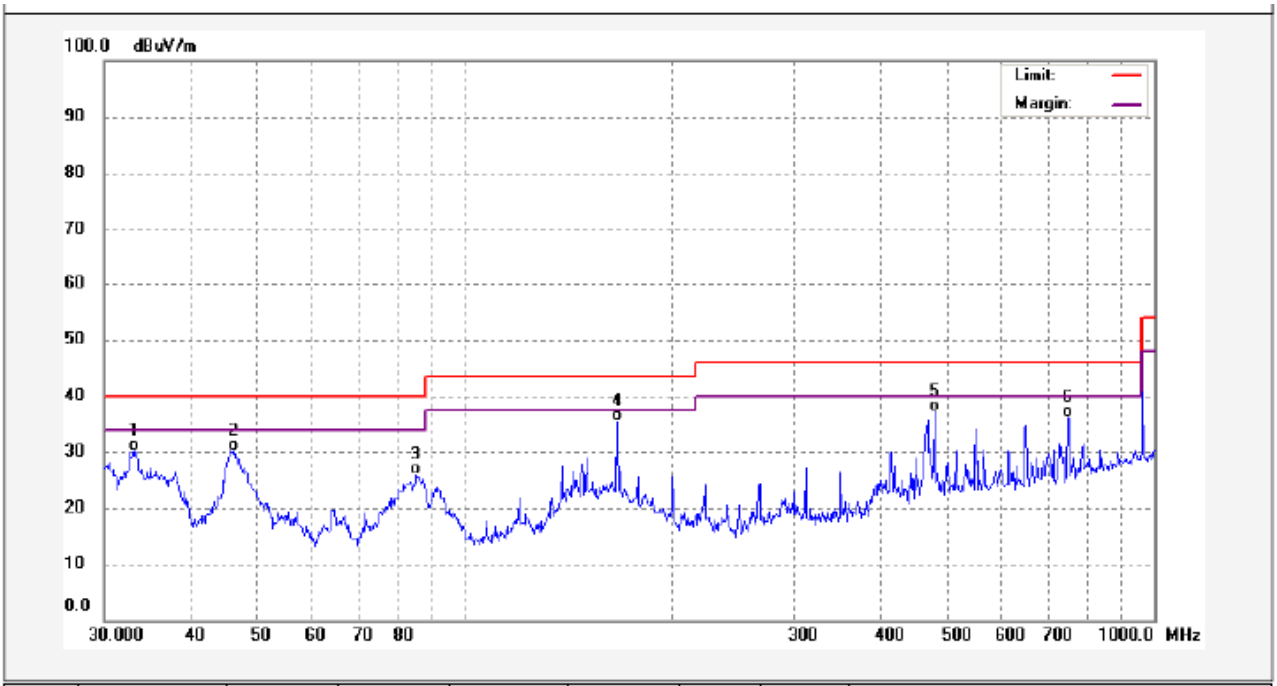
Test mode: charging and data transmitting(the worst mode)

Remark:After pretested, the emission below 30MHz is no more than background level, the data do not show in the report.

Test Frequency : 30MHz ~ 1000MHz

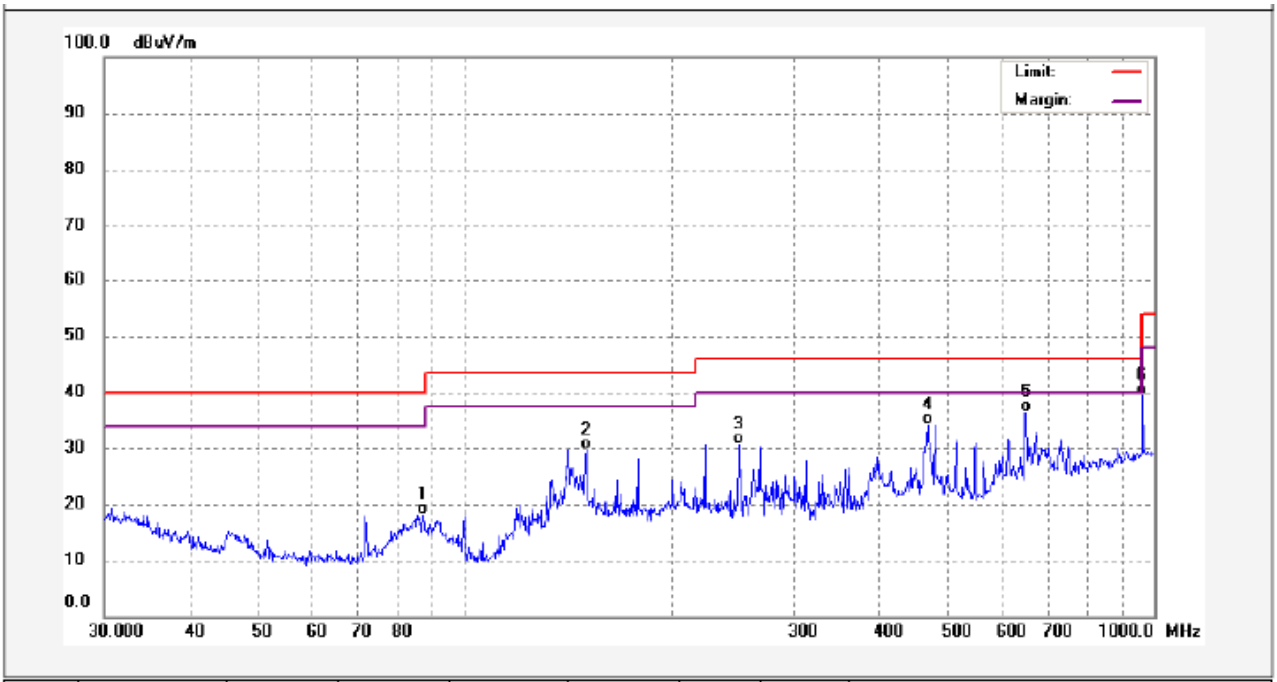
Test mode: charging and data transmitting(the worst mode)

Antenna polarization: Vertical



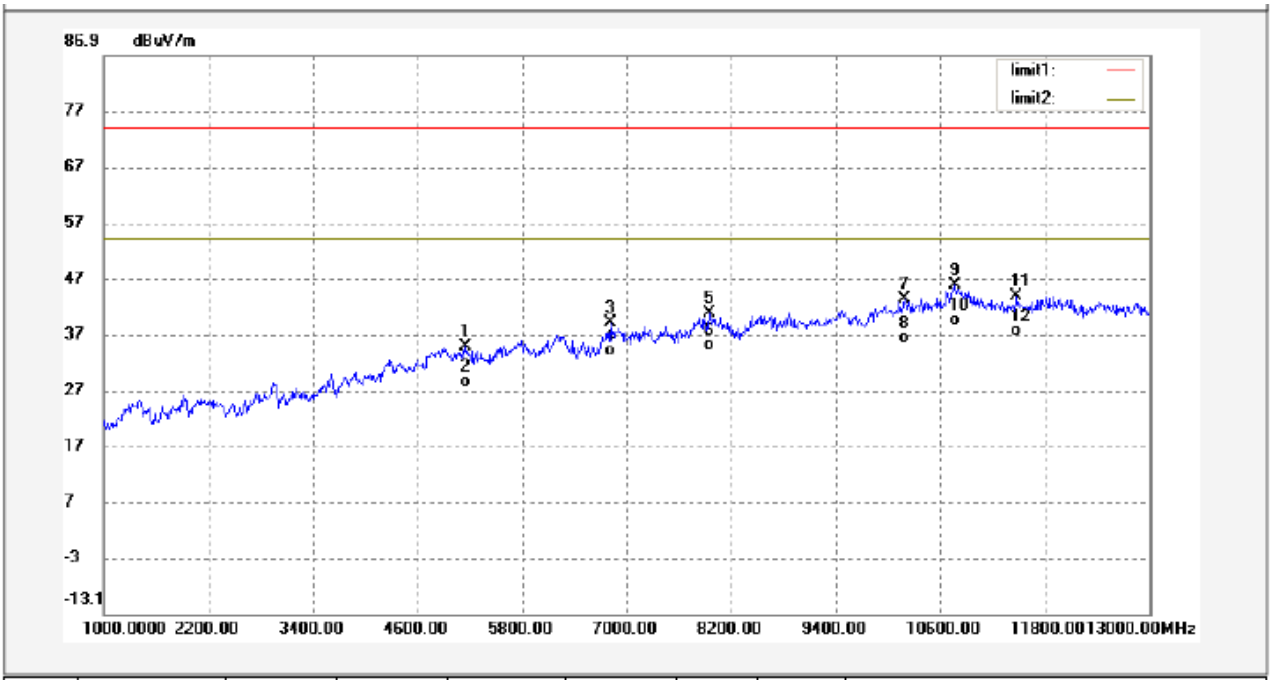
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	33.0950	50.21	-19.96	30.25	40.00	-9.75	QP	
2	46.1779	52.33	-22.29	30.04	40.00	-9.96	QP	
3	84.9995	49.71	-23.95	25.76	40.00	-14.24	QP	
4	166.0680	57.21	-21.72	35.49	43.50	-8.01	QP	
5	480.5276	51.98	-14.80	37.18	46.00	-8.82	QP	
6	750.1083	44.56	-8.49	36.07	46.00	-9.93	QP	

Antenna polarization: Horizontal



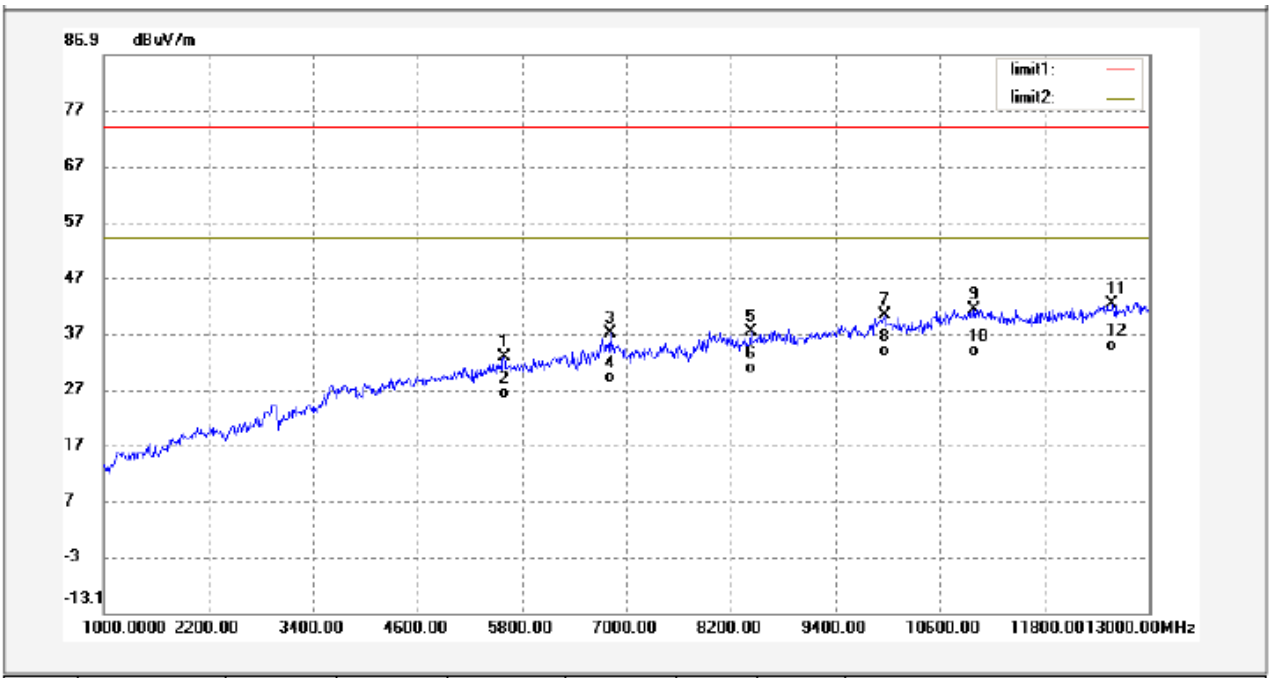
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	86.8068	43.79	-25.70	18.09	40.00	-21.91	QP	
2	150.0108	50.35	-20.73	29.62	43.50	-13.88	QP	
3	250.3012	52.10	-21.53	30.57	46.00	-15.43	QP	
4	468.8762	49.11	-14.89	34.22	46.00	-11.78	QP	
5	651.9417	47.03	-10.57	36.46	46.00	-9.54	QP	
6	962.1623	43.60	-4.24	39.36	54.00	-14.64	QP	

Test Frequency : from 1GHz to 13GHz
Test mode: charging and data transmitting(the worst mode)
Antenna polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	5152.000	37.15	-2.35	34.80	74.00	-39.20	peak	
2	5152.000	30.00	-2.35	27.65	54.00	-26.35	AVG	
3	6808.000	37.07	1.99	39.06	74.00	-34.94	peak	
4	6808.000	31.01	1.99	33.00	54.00	-21.00	AVG	
5	7948.000	34.91	5.75	40.66	74.00	-33.34	peak	
6	7948.000	28.25	5.75	34.00	54.00	-20.00	AVG	
7	10192.000	34.02	9.25	43.27	74.00	-30.73	peak	
8	10192.000	26.12	9.25	35.37	54.00	-18.63	AVG	
9	10768.000	35.01	10.85	45.86	74.00	-28.14	peak	
10	10768.000	27.56	10.85	38.41	54.00	-15.59	AVG	
11	11476.000	32.41	11.35	43.76	74.00	-30.24	peak	
12	11476.000	25.21	11.35	36.56	54.00	-17.44	AVG	

Antenna polarization: Horizontal



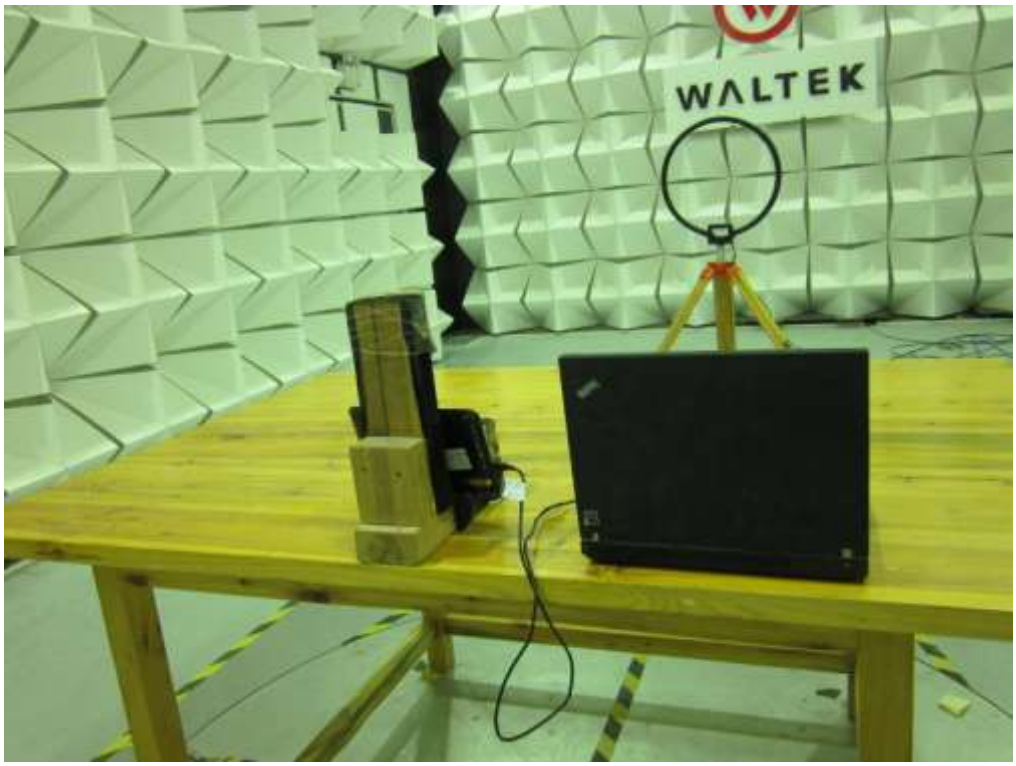
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	5596.000	34.88	-1.98	32.90	74.00	-41.10	peak	
2	5596.000	27.21	-1.98	25.23	54.00	-28.77	AVG	
3	6808.000	35.07	1.99	37.06	74.00	-36.94	peak	
4	6808.000	26.00	1.99	27.99	54.00	-26.01	AVG	
5	8428.000	31.92	5.40	37.32	74.00	-36.68	peak	
6	8428.000	24.32	5.40	29.72	54.00	-24.28	AVG	
7	9964.000	31.45	8.76	40.21	74.00	-33.79	peak	
8	9964.000	24.12	8.76	32.88	54.00	-21.12	AVG	
9	10984.000	29.89	11.48	41.37	74.00	-32.63	peak	
10	10984.000	21.36	11.48	32.84	54.00	-21.16	AVG	
11	12580.000	30.80	11.59	42.39	74.00	-31.61	peak	
12	12580.000	22.25	11.59	33.84	54.00	-20.16	AVG	

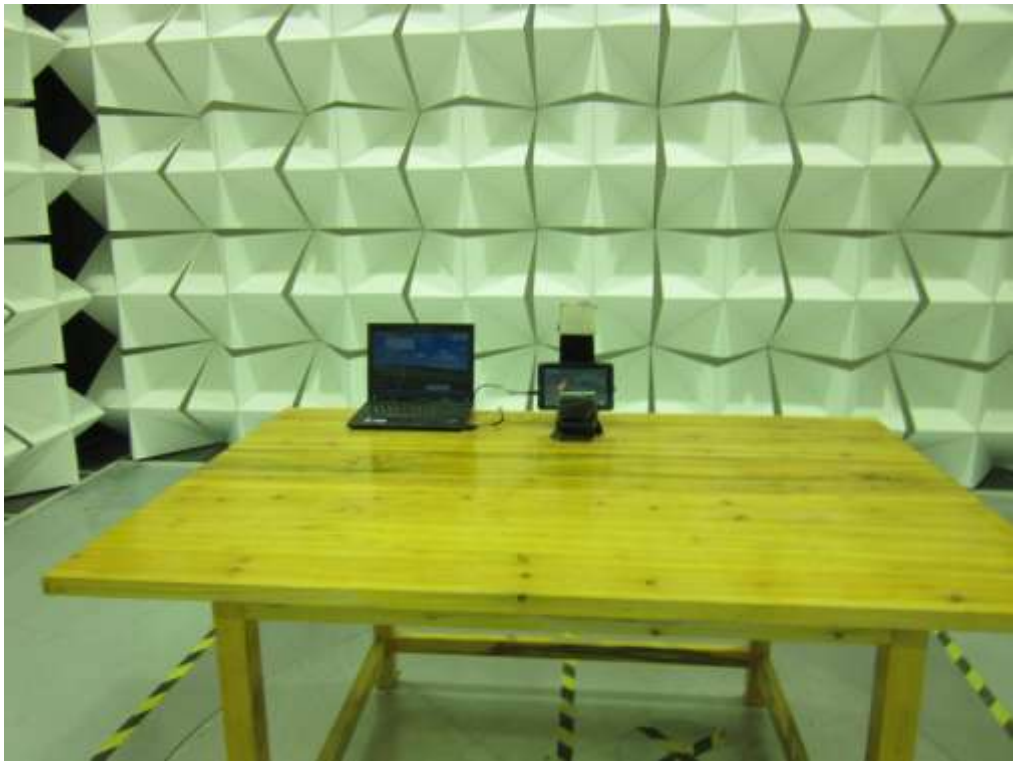
8 Photographs –Test Setup

8.1 Conducted Emissions

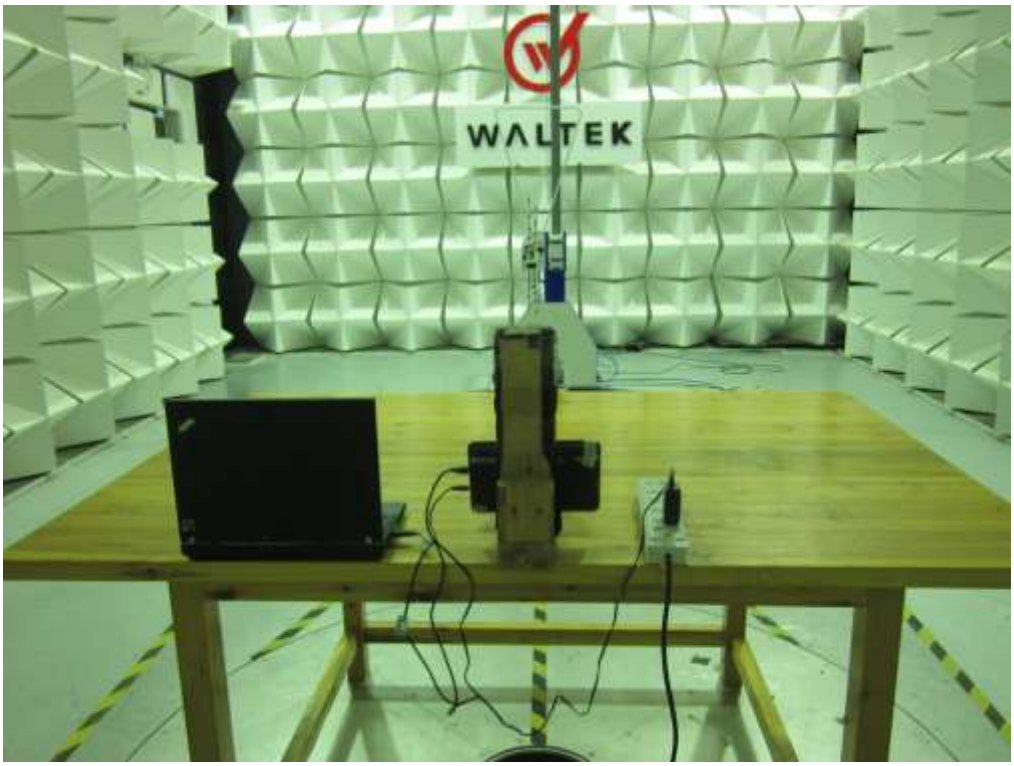
8.2 Radiated Emissions

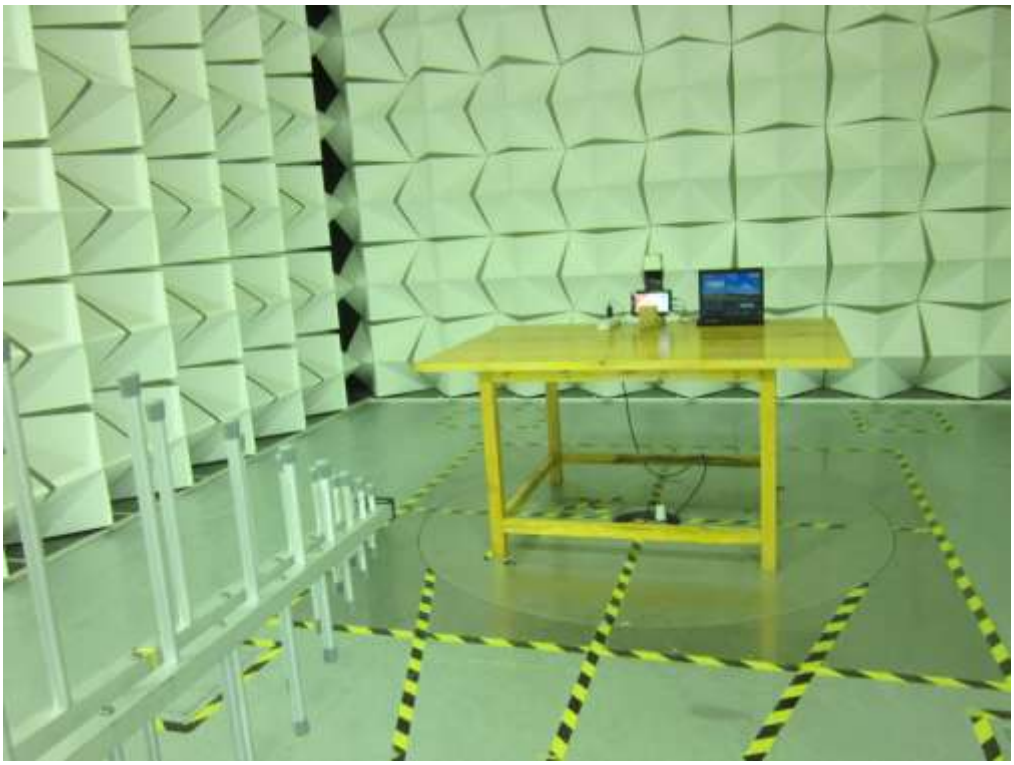
Below 30MHz



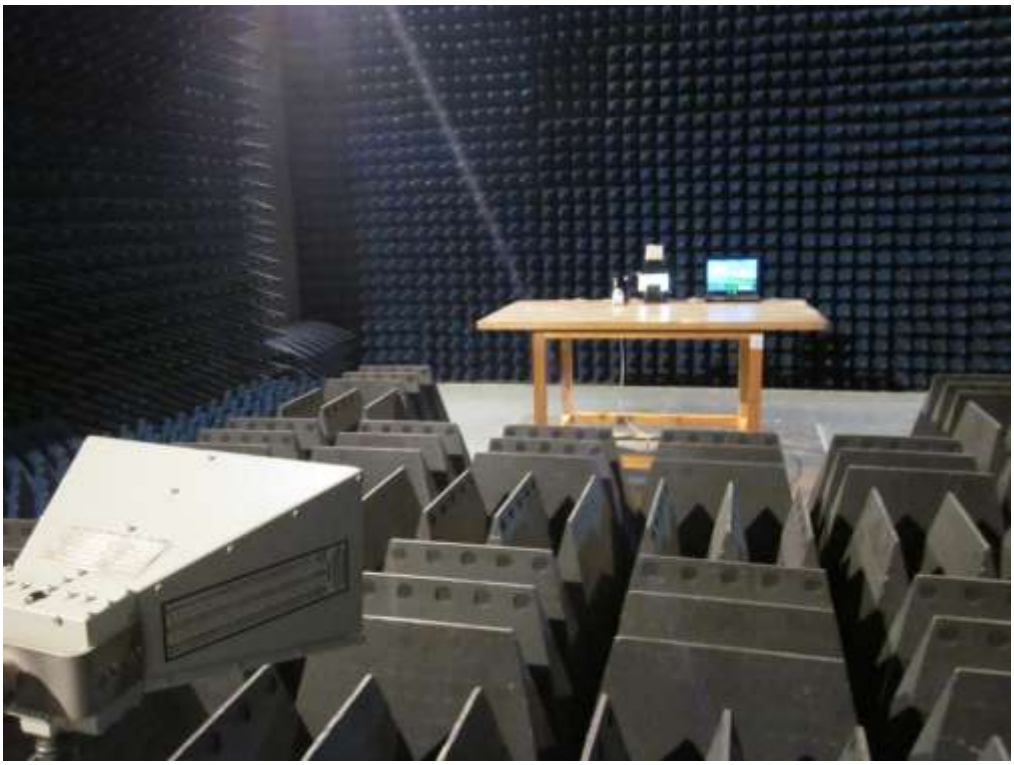


From 30-1000MHz





Above 1000MHz



9 Photographs - Constructional Details

9.1 EUT – External View

Refer to test report No.: WTS13S0402499E

9.2 EUT- Internal View

Refer to test report No.: WTS13S0402499E

==End of test report==