

FCC PART 15 CLASS B
EMI MEASUREMENT AND TEST REPORT
For

Dongguan Wo De Electronics Technology Co., Ltd.
No.45, Jingmei 168 Industrial Zone, Dongkeng Town, Dongguan City, Guangdong, China

FCC ID: PSD-WD08HD

September 11, 2012

This Report Concerns: Original Report	Equipment Type: Handwriting Tablet PC
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Test Engineer of performing the tests:	Adam Yang <i>Adam Yang</i>
Report No.:	BST20120730Y-1E-3-2
Receive EUT Date/Test Date:	August 31, 2012/ September 3-10, 2012
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1. GENERAL INFORMATION

1.1. Report information

1.1.1.This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BST approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BST in any way guarantees the later performance of the product/equipment.

1.1.2.The sample/s mentioned in this report is/are supplied by Applicant, BST therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BST, unless the applicant has authorized BST in writing to do so.

Test Facility -

The test site used to collect the radiated data is located on the address of Shenzhen Certification Technology Service Co., Ltd (FCC Registered Test Site Number: 197647) on 2F, Building B, East Area of Nanchang Second Industrial Zone, Gushu 2nd Road, Bao'an District, shenzhen 518126, China

The Test Site is constructed and calibrated to meet the FCC requirements.

1.2. Measurement Uncertainty

Available upon request.

2. PRODUCT DESCRIPTION

2.1. EUT Description

Applicant : Dongguan Wo De Electronics Technology Co., Ltd.
Address : No.45, Jingmei 168 Industrial Zone, Dongkeng Town, Dongguan City, Guangdong, China

Manufacturer : Dongguan Wo De Electronics Technology Co., Ltd.
Address : No.45, Jingmei 168 Industrial Zone, Dongkeng Town, Dongguan City, Guangdong, China

EUT Description : Handwriting Tablet PC

Trade Name : WODE

Model Number : WD08HD, WD08H

Power Supply : DC 5V (Powered by Adapter) or DC 3.7V (Li-ion battery)

2.2. Block Diagram of EUT Configuration

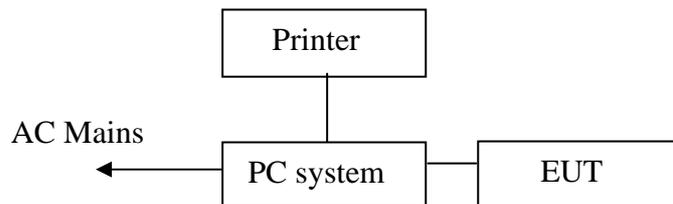


Figure 1 EUT Setup of Connect to PC mode

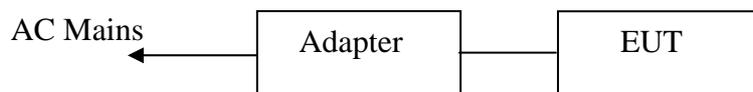


Figure 2 EUT Setup of Connect to Adapter mode

2.3. Support Equipment List

Name	Model No	S/N	Manufacturer	Used “ ”
Adapter Input: AC 100-240V, 50/60Hz, 350mA Max. Output: DC 5V, 2.0A	EP13F-050200 WUCA	--	EVEREST	
PC system	AM1830	N/A	Acer	
Printer	HP1020	N/A	HP	

2.4. Test Conditions

Temperature: 23~27

Relative Humidity: 50~63 %

3. FCC ID LABEL

FCC ID: PSD-WD08HD

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference, and**
- 2. This device must accept any interference received, including interference that may cause undesired operation.**

Label Location on EUT

EUT View/ FCC ID Label Location



4. TEST RESULTS SUMMARY

Table 1 Test Results Summary

Test Items	Test Results
Conducted disturbance	Pass
Radiated disturbance	Pass

Remark: "N/A" means "Not applicable."

Modifications

No modification was made.

5. TEST EQUIPMENT USED

Equipment/Facilities	Manufacturer	Model	Serial no.	Date of Cal.	Cal. Interval
3m Semi-Anechoic Chamber	Changzhou Chengyu	EC3048	N/A	May 5, 2012	1 Year
Broadband antenna	SCHWARZBECK	VULB 9168	VULB9168-438	Aug. 14, 2012	1 Year
Horn antenna	R&S	HF906	10027	Aug. 14, 2012	1 Year
ETS Horn Antenna	ETS	3160	SEL0076	May 8, 2012	1 Year
Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	Apr. 6, 2012	1 Year
Spectrum analyzer	Agilent	E4443A	MY46185649	Apr. 6, 2012	1 Year
Spectrum analyzer	Agilent	E4440A	MY46187335	Apr. 6, 2012	1 Year
Test receiver	R&S	ESCI	100492	Apr. 6, 2012	1 Year
Test receiver	R&S	ESCI	101202	Apr. 6, 2012	1 Year
L.I.S.N.	SCHWARZBECK	NSLK8126	8126466	Apr. 6, 2012	1 Year
L.I.S.N.	SCHWARZBECK	NSLK8126	8126487	Apr. 6, 2012	1 Year
Cable	Resenberger	N/A	NO.1	Apr. 6, 2012	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Apr. 6, 2012	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Apr. 6, 2012	1 Year
Pre-amplifier	SCHWARZBECK	BBV9743	9743-019	Apr. 6, 2012	1 Year
Pre-amplifier	R&S	AFS33-1800 2650-30-8P-44	SEL0080	Apr. 6, 2012	1 Year

6. CONDUCTED EMISSION TEST

6.1. Block Diagram of Test Setup

6.1.1. Block Diagram of connection between the EUT and the simulators

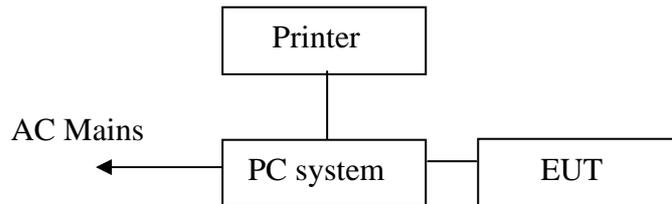


Figure 1 EUT Setup of Connect to PC mode

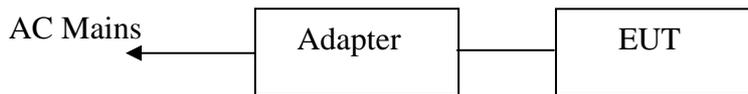
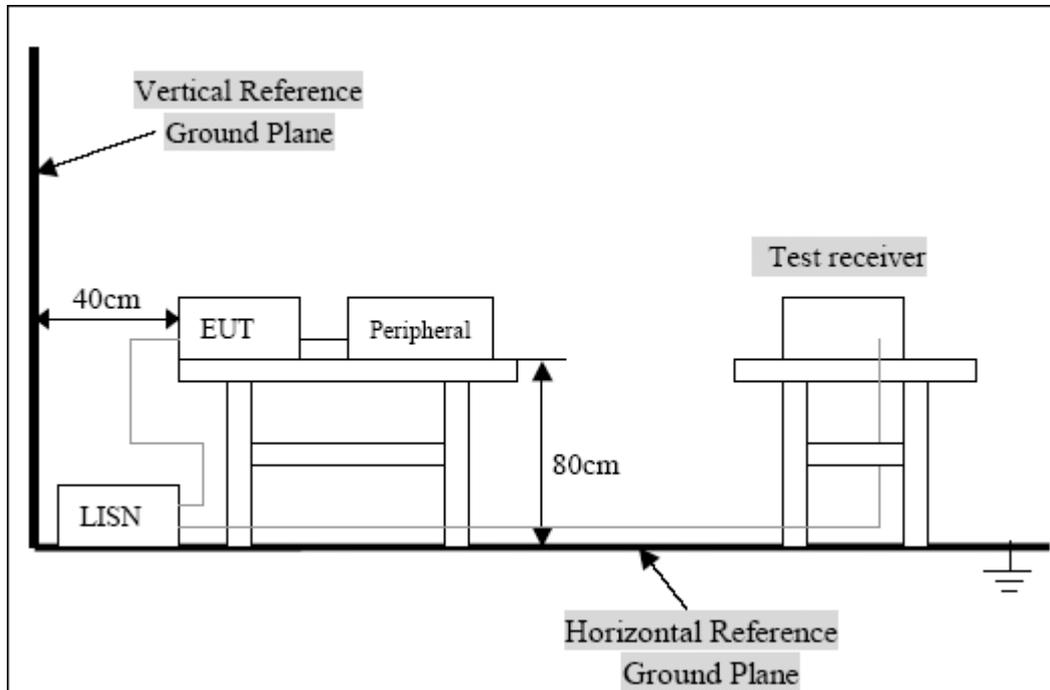


Figure 2 EUT Setup of Connect to Adapter mode

6.1.2. Test Setup Diagram



6.2. Test Standard

FCC Part 15 CLASS B

ANSI C63.4 2003

6.3. Conducted Emission Limit(Class B)

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.

6.4. EUT Configuration on Test

The following equipments are installed on conducted emission test to meet FCC Part 15 requirement and operating in a manner, which tends to maximize its emission characteristics in a normal application.

6.5. Operating Condition of EUT

6.5.1. Setup the EUT and simulators as shown in Section 6.1.

6.5.2. Turn on the power of all equipments.

6.5.3. Let the EUT work in test modes (Connect to PC, Connect to Adapter) and test it.

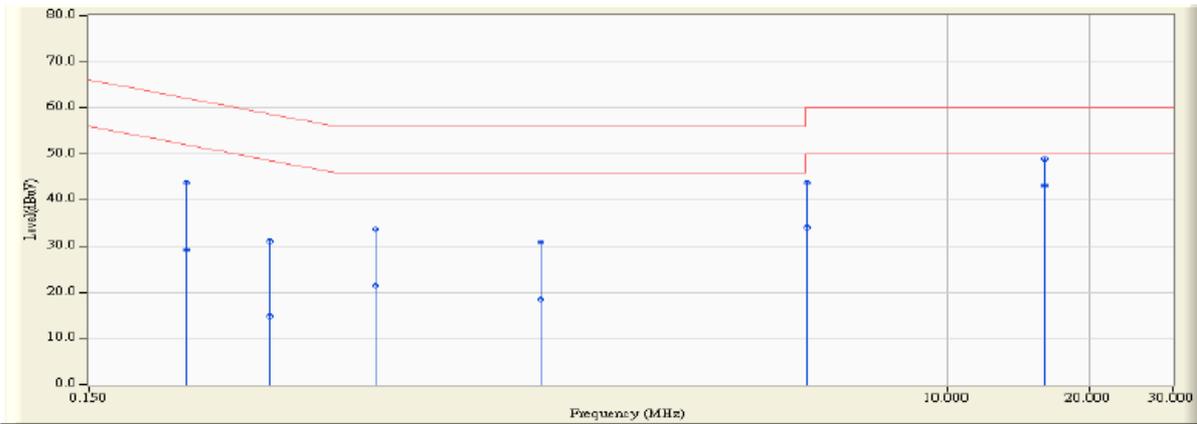
6.6. Test Procedure

The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI test receiver is used to test the emissions from both sides of AC line. The bandwidth of EMI test receiver is set at 9kHz.

6.7. Test Result

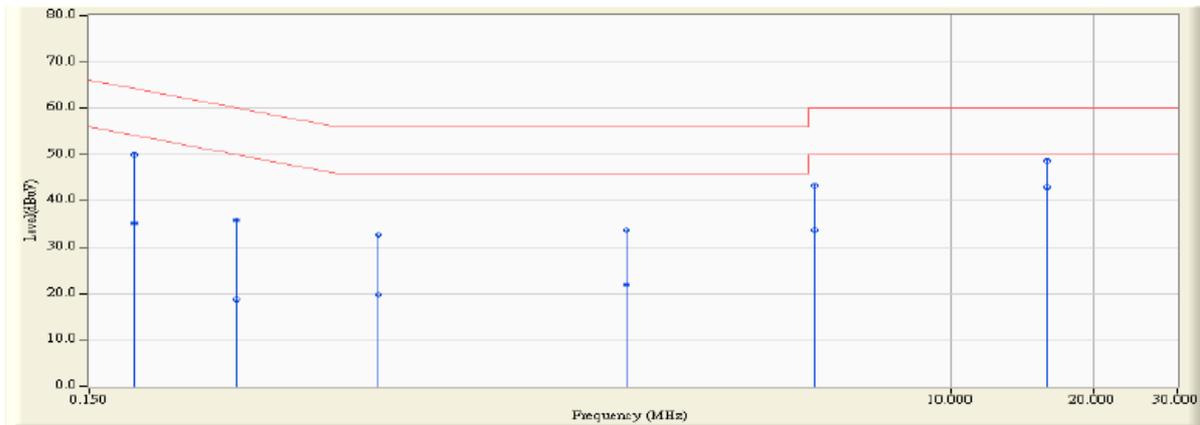
Pass

Test mode: Connect to PC L Line



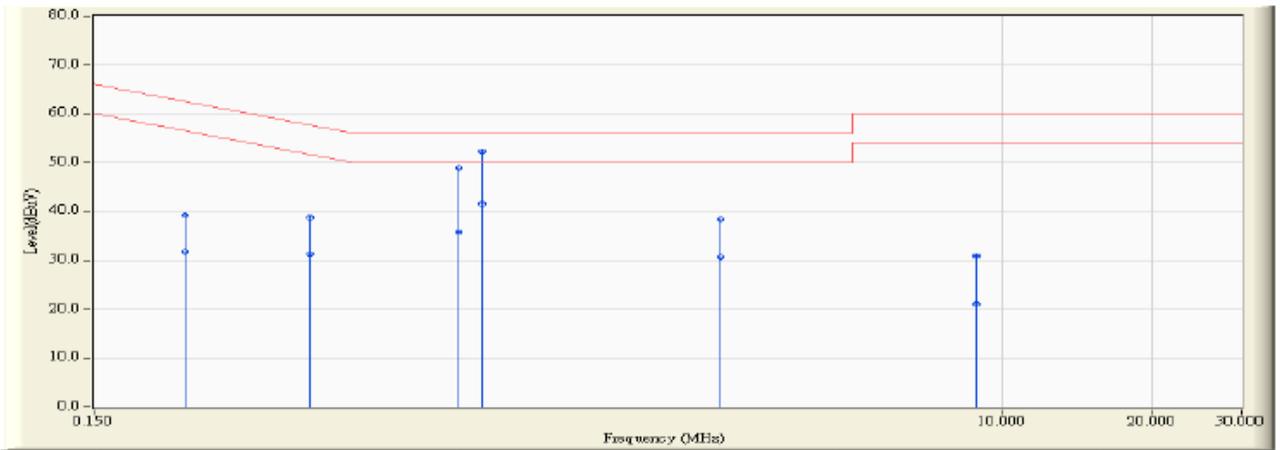
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.242	9.600	34.192	43.792	-18.235	62.027	QUASIPeAK
2		0.242	9.600	19.664	29.264	-22.763	52.027	AVERAGE
3		0.362	9.606	21.423	31.030	-27.653	58.682	QUASIPeAK
4		0.362	9.606	5.220	14.826	-33.857	48.682	AVERAGE
5		0.606	9.610	23.970	33.580	-22.420	56.000	QUASIPeAK
6		0.606	9.610	11.765	21.375	-24.625	46.000	AVERAGE
7		1.362	9.746	21.060	30.806	-25.194	56.000	QUASIPeAK
8		1.362	9.746	8.639	18.385	-27.615	46.000	AVERAGE
9		5.038	9.875	33.975	43.849	-16.151	60.000	QUASIPeAK
10		5.038	9.875	24.202	34.077	-15.923	50.000	AVERAGE
11		16.106	10.252	38.573	48.825	-11.175	60.000	QUASIPeAK
12	*	16.106	10.252	32.766	43.019	-6.981	50.000	AVERAGE

Test mode: Connect to PC N Line



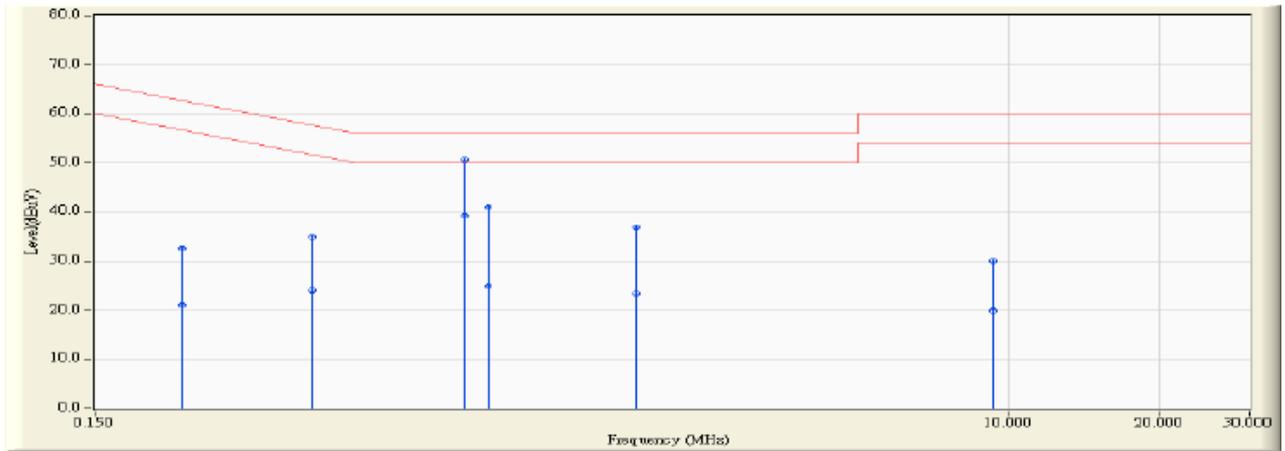
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBUV)	Measure Level (dBUV)	Margin (dB)	Limit (dBUV)	Detector Type
1		0.186	9.600	40.378	49.978	-14.236	64.213	QUASIPeAK
2		0.186	9.600	25.553	35.153	-19.060	54.213	AVERAGE
3		0.306	9.600	26.269	35.869	-24.209	60.078	QUASIPeAK
4		0.306	9.600	8.975	18.575	-31.503	50.078	AVERAGE
5		0.614	9.600	23.099	32.700	-23.300	56.000	QUASIPeAK
6		0.614	9.600	10.181	19.781	-26.219	46.000	AVERAGE
7		2.050	9.782	23.929	33.711	-22.289	56.000	QUASIPeAK
8		2.050	9.782	12.079	21.860	-24.140	46.000	AVERAGE
9		5.130	9.896	33.525	43.420	-16.580	60.000	QUASIPeAK
10		5.130	9.896	23.848	33.744	-16.256	50.000	AVERAGE
11		16.002	10.381	38.337	48.718	-11.282	60.000	QUASIPeAK
12	*	16.002	10.381	32.478	42.859	-7.141	50.000	AVERAGE

Test mode: Connect to Adapter L Line



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.228	9.661	29.640	39.301	-23.217	62.518	QUASIPeAK
2	0.228	9.661	22.010	31.671	-20.847	52.518	AVERAGE
3	0.408	9.687	29.210	38.897	-18.796	57.693	QUASIPeAK
4	0.408	9.687	21.590	31.277	-16.416	47.693	AVERAGE
5	0.810	9.750	39.200	48.950	-7.050	56.000	QUASIPeAK
6	0.810	9.750	25.990	35.740	-10.260	46.000	AVERAGE
7	* 0.900	9.764	42.500	52.264	-3.736	56.000	QUASIPeAK
8	0.900	9.764	31.740	41.504	-4.496	46.000	AVERAGE
9	2.705	9.959	28.420	38.379	-17.621	56.000	QUASIPeAK
10	2.705	9.959	20.720	30.679	-15.321	46.000	AVERAGE
11	8.834	10.113	20.820	30.933	-29.067	60.000	QUASIPeAK
12	8.834	10.113	10.820	20.933	-29.067	50.000	AVERAGE

Test mode: Connect to Adapter N Line



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.224	9.670	22.890	32.560	-30.101	62.661	QUASIPeAK
2	0.224	9.670	11.350	21.020	-31.641	52.661	AVERAGE
3	0.408	9.697	25.370	35.067	-22.626	57.693	QUASIPeAK
4	0.408	9.697	14.250	23.947	-23.746	47.693	AVERAGE
5	* 0.822	9.755	40.840	50.595	-5.405	56.000	QUASIPeAK
6	0.822	9.755	29.520	39.275	-6.725	46.000	AVERAGE
7	0.913	9.768	31.140	40.908	-15.092	56.000	QUASIPeAK
8	0.913	9.768	15.200	24.968	-21.032	46.000	AVERAGE
9	1.802	9.900	26.920	36.820	-19.180	56.000	QUASIPeAK
10	1.802	9.900	13.510	23.410	-22.590	46.000	AVERAGE
11	9.279	10.175	19.870	30.045	-29.955	60.000	QUASIPeAK
12	9.279	10.175	9.690	19.865	-30.135	50.000	AVERAGE

7. RADIATED EMISSION MEASUREMENT

7.1. Block Diagram of EUT Configuration

7.1.1. Block Diagram of connection between the EUT and the simulators

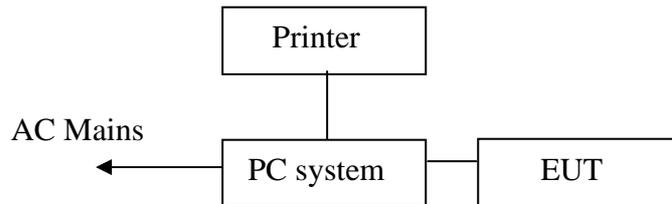


Figure 1 EUT Setup of Connect to PC mode

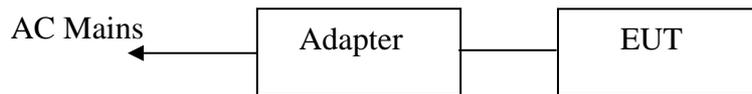
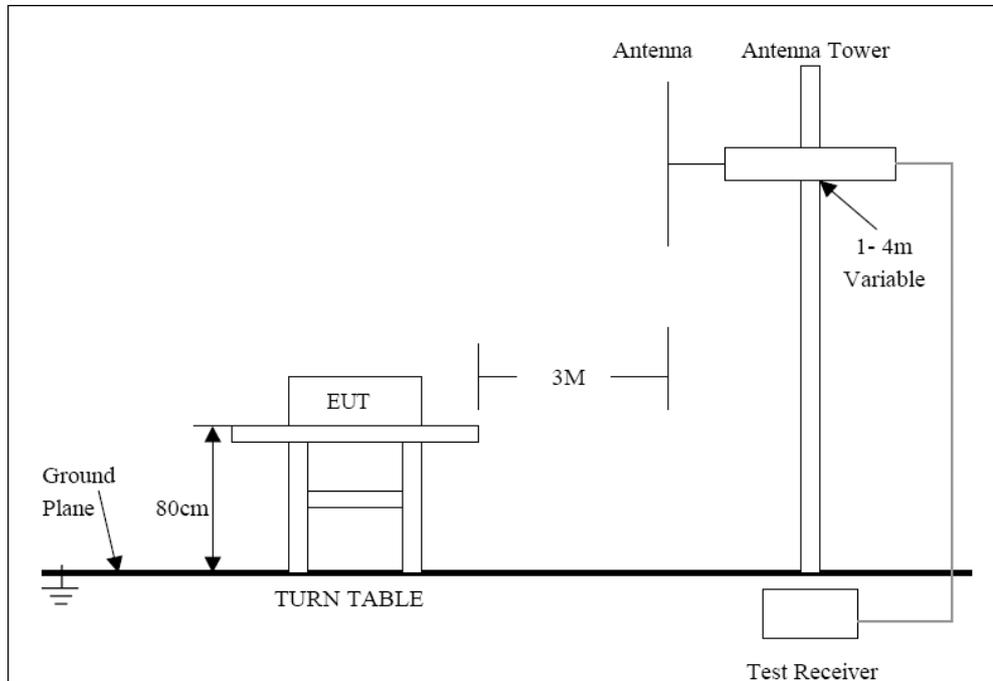


Figure 2 EUT Setup of Connect to Adapter mode

7.1.2. Semi-anechoic Chamber Test Setup Diagram



7.2. Test Standard

FCC Part 15 CLASS B
ANSI C63.4 2003

7.3. Radiated Emission Limit(Class B)

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dB μ V/m)
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
Above 1000	3	54.0

Note:(1) The smaller limit shall apply at the edge between two frequency bands.

(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT or system.

7.4. EUT Configuration on Test

The following equipment 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.

7.5. Operating Condition of EUT

7.5.1.Setup the EUT as shown on Section 7.1

7.5.2.Turn on the power of all equipments.

7.5.3.Let the EUT work in test modes (Connect to PC, Connect to Adapter) and measure it.

7.6. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable 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 an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Calibrated Loop antenna is used as receiving antenna for frequencies below 30MHz, Calibrated Bilog antenna is used as receiving antenna for frequencies between 30 MHz and 1 GHz, Calibrated Horn antenna is used as receiving antenna for frequencies above 1000MHz. 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: 2003 on radiated emission measurement.

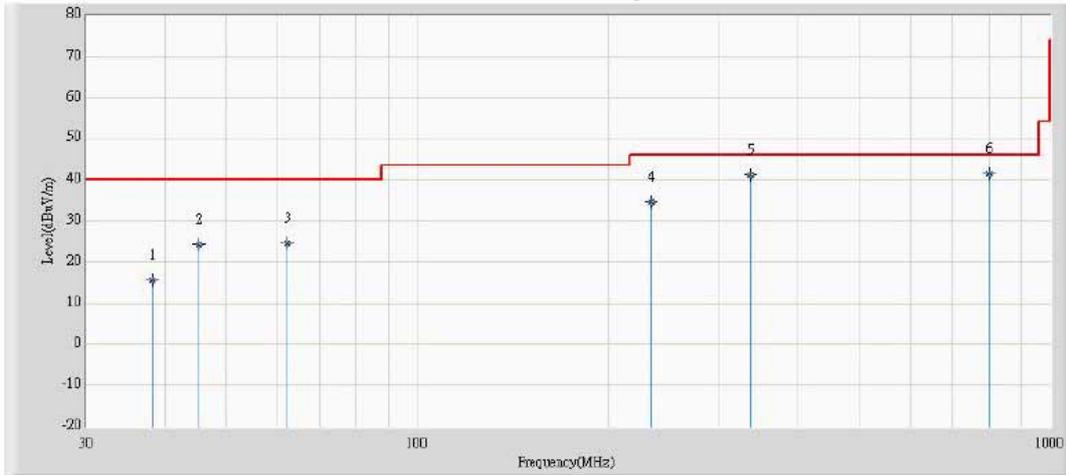
The bandwidth of test receiver is set at 9kHz in below 30MHz. and set at 120kHz in 30-1000MHz.

The final measurement in band 9-90kHz, 110-490kHz and above 1000MHz is performed with Peak detector and Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector. The frequency range from 9kHz to 1000MHz is checked. All the test results are listed in Section 7.7. The measurements greater than 20dB below the limit are not report.

7.7. Test Result

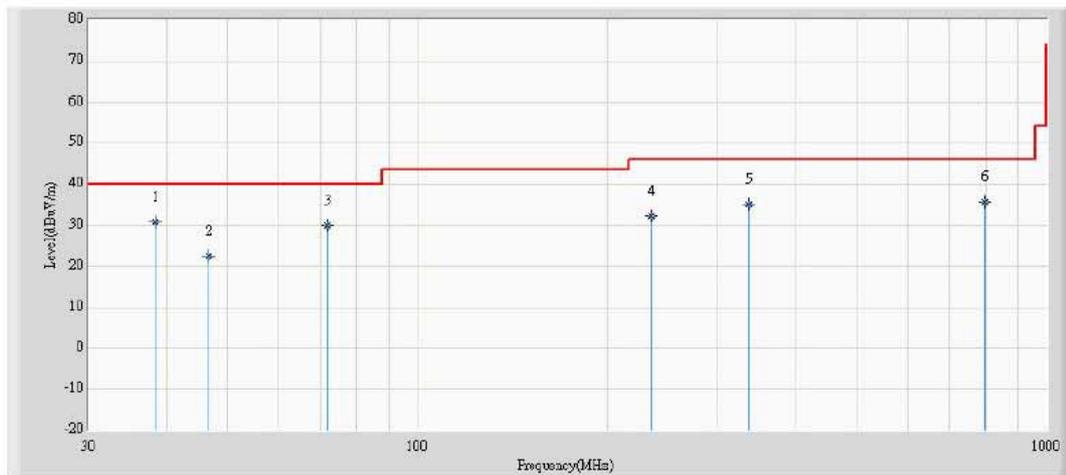
PASS

Test mode: Connect to PC Horizontal polarization



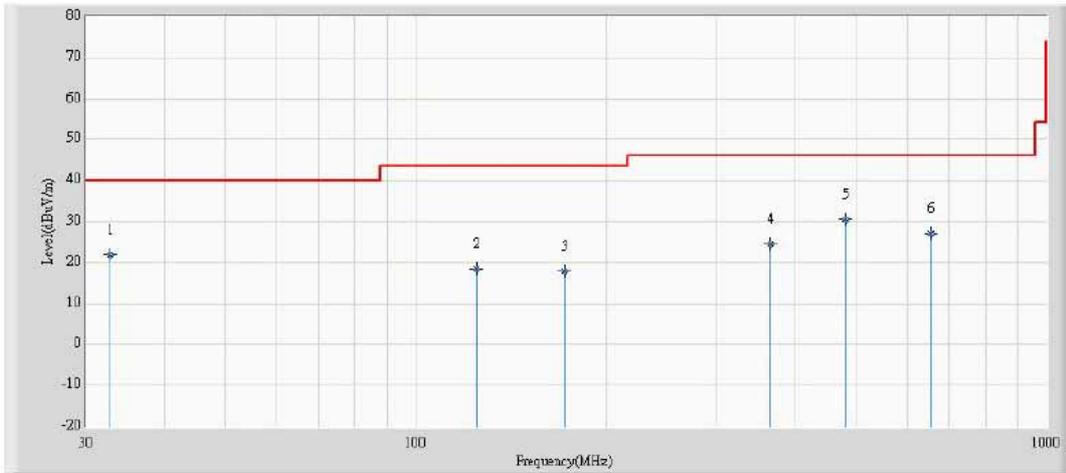
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			38.168	15.584	1.883	-24.416	40.000	13.701	QP
2			45.102	24.320	14.165	-15.680	40.000	10.155	QP
3			62.379	24.405	18.443	-15.595	40.000	5.962	QP
4			233.977	34.617	23.084	-11.383	46.000	11.533	QP
5			336.045	41.235	25.594	-4.765	46.000	15.640	QP
6		*	800.716	41.601	19.044	-4.399	46.000	22.557	QP

Test mode: Connect to PC Vertical polarization



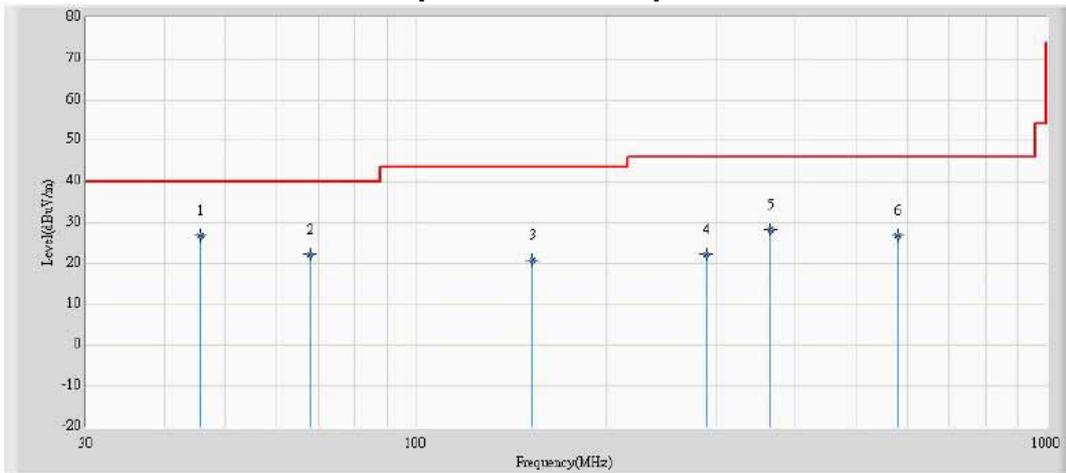
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	38.279	30.728	17.087	-9.272	40.000	13.641	QP
2			46.478	22.669	13.094	-17.331	40.000	9.575	QP
3			71.825	30.042	23.907	-9.958	40.000	6.135	QP
4			234.529	32.352	20.734	-13.648	46.000	11.618	QP
5			335.995	35.092	19.453	-10.908	46.000	15.639	QP
6			798.237	35.606	13.086	-10.394	46.000	22.520	QP

Test mode: Connect to Adapter Horizontal polarization



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			32.789	22.041	5.415	-17.959	40.000	16.626	QP
2			125.060	18.387	5.637	-25.113	43.500	12.750	QP
3			172.711	17.890	7.770	-25.610	43.500	10.120	QP
4			364.771	24.435	7.954	-21.565	46.000	16.481	QP
5		*	480.080	30.480	11.250	-15.520	46.000	19.230	QP
6			654.680	27.095	5.675	-18.905	46.000	21.420	QP

Test mode: Connect to Adapter Vertical polarization



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	45.520	26.873	16.903	-13.127	40.000	9.970	QP
2			67.830	22.130	16.300	-17.870	40.000	5.830	QP
3			153.554	20.889	10.132	-22.611	43.500	10.757	QP
4			287.899	22.227	8.088	-23.773	46.000	14.139	QP
5			364.771	28.373	11.892	-17.627	46.000	16.481	QP
6			579.869	26.822	6.053	-19.178	46.000	20.769	QP