

FCC PART 15 CLASS B
EMI MEASUREMENT AND TEST REPORT
For

Joyplus International Enterprise Limited
805 Technology Building, Duoli Industrial Park, Shangmeilin, Meihua Road, Futian Dist.,
Shenzhen, China

FCC ID: Z4UNVT21204

May 30, 2012

This Report Concerns: Original Report	Equipment Type: Tablet PC
Test Engineer:	Eric Li <i>Eric Li</i>
Report No.:	BST12050221Y-1E-3-3
Receive EUT Date/Test Date:	May 10, 2012/ May 11-29, 2012
Reviewed By President:	Christina Deng <i>Christina Deng</i>
Prepared By:	<div style="text-align: center;"></div> Shenzhen BST Technology Co.,Ltd. 3F, Weames Technology Building, No. 10 Kefa Road, Science Park, Nanshan District, Shenzhen, Guangdong, China Tel: 0755-26747751 ~ 3 Fax: 0755-26747751 ~ 3 ext.826

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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	:	Joyplus International Enterprise Limited
Address	:	805 Technology Building, Duoli Industrial Park, Shangmeilin, Meihua Road, Futian Dist., Shenzhen, China
Manufacturer	:	Joyplus International Enterprise Limited
Address	:	805 Technology Building, Duoli Industrial Park, Shangmeilin, Meihua Road, Futian Dist., Shenzhen, China
EUT Description	:	Tablet PC
Trade Name	:	JOYPLUS
Model Number	:	M97B
Power Supply	:	DC 12V (Powered by Adapter) or DC 7.4V (Li-ion battery)

2.2. Block Diagram of EUT Configuration

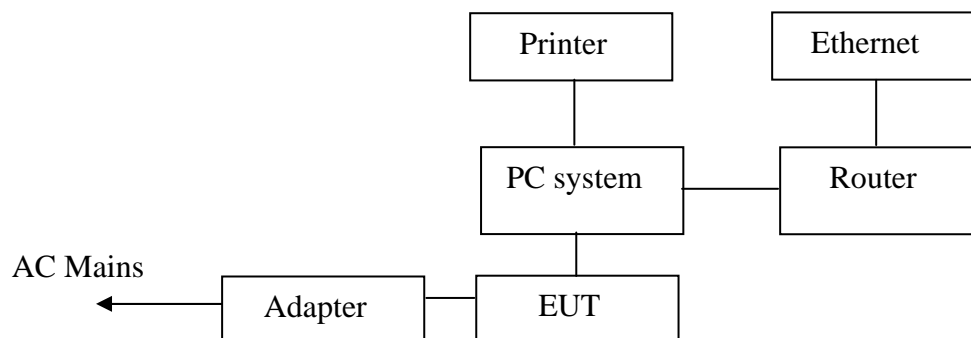


Figure 1 EUT Setup of Connect to PC mode

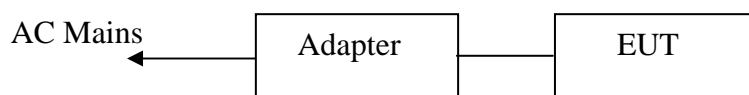


Figure 2 EUT Setup of Connect to Adapter mode

2.3. Support Equipment List

Name	Model No	S/N	Manufacturer	Used “ ”
Adapter Input: AC 100-240V, 50/60Hz, 1.5A Output: DC 12V, 2A	DJ-U48S1202	N/A	Dajing	
PC system	AM1830	N/A	Acer	
Printer	HP1020	N/A	HP	
Router	TL-R402M	07115200391	TP-LINK	

2.4. Test Conditions

Temperature: 23~25

Relative Humidity: 50~63 %

3. FCC ID LABEL

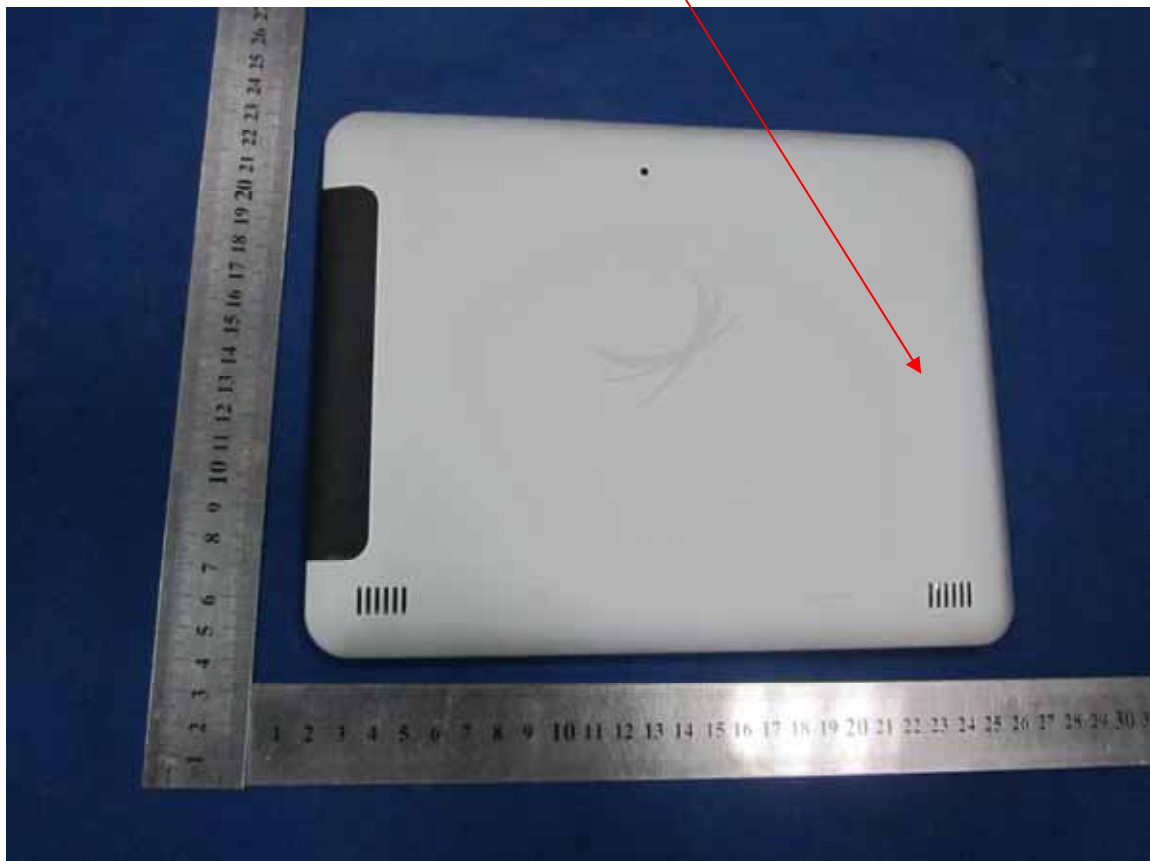
FCC ID: Z4UNVT21204

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
Cable	Resenberger	N/A	NO.1	Mar 10 , 2012	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 10 , 2012	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 10 , 2012	1 Year
LISN	Rohde & Schwarz	ESH3-Z5	100305	Mar 10 , 2012	1 Year
50 Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 10 , 2012	1 Year
EMI Test Receiver	Rohde & Schwarz	ESP13	100180	Oct.11,2011	1 Year
Spectrum Analyzer	Rohde & Schwarz	FSP40	100273	Sep.10,2011	1 Year
3m Semi-Anechoic Chamber	Albatross Projects	9m×6m×6m	N/A	Feb.20,2012	1 Year
Signal Generator	FLUKE	PM5418 + Y/C	LO747012	Feb.20,2012	1 Year
Signal Generator	FLUKE	PM5418TX	LO738007	Feb.20,2012	1 Year
Loop Antenna	SCHWARZBECK	FMZB1516	113	Jan.30,2012	1 Year
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4079	Sep.22,2011	1 Year
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-564	Sep.22,2011	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	208 279	May 12, 2012	1 Year
Ultra Broadband Antenna	Rohde & Schwarz	HL-562	100110	June.15,2011	1 Year
AMN	Rohde & Schwarz	ESH3-Z5	100196	Oct.11,2011	1 Year
AMN	Rohde & Schwarz	ESH3-Z5	100197	Oct.11,2011	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	N/A	N/A	N/A
Power Meter	Rohde & Schwarz	NRVD	100041	Feb.20,2012	1 Year
EMI Test Receiver	Rohde & Schwarz	ESCS30	100003	Feb.20,2012	1 Year
Coaxial Cable with N-connectors	SCHWARZBECK	AK9515H	95549	Sep.22,2011	1 Year
Radio Communication Test Set	Rohde & Schwarz	CMS 54	846621/024	Feb.20,2012	1 Year
Modulation Analyzer	Hewlett-Packard	8901B	2303A00362	Feb.20,2012	1 Year
Absorbing clamp	Rohde & Schwarz	MDS-21	N/A	Oct.11,2011	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

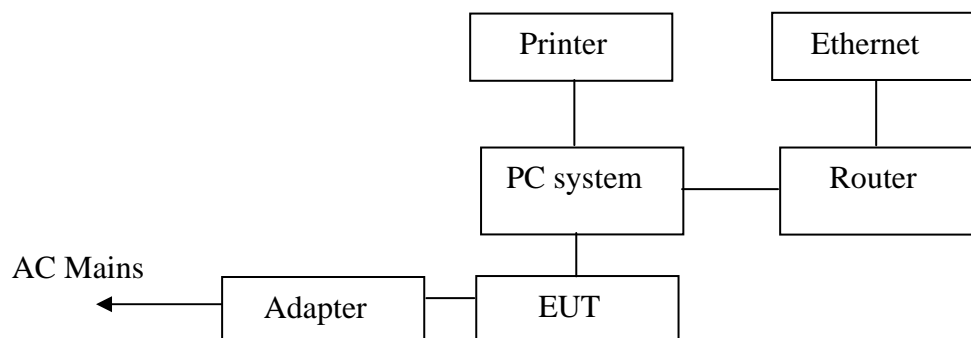


Figure 1 EUT Setup of Connect to PC mode

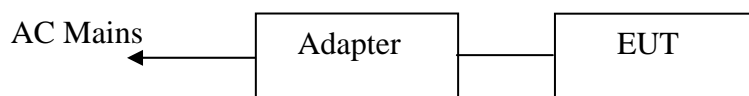
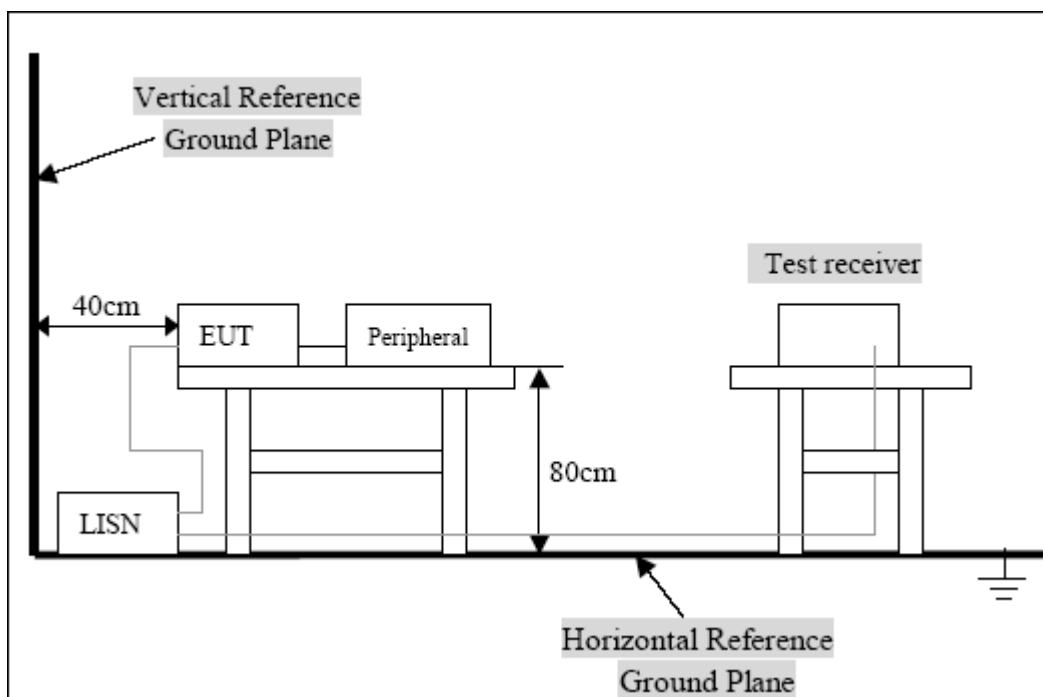


Figure 2 EUT Setup of Connect to Adapter mode

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(μV)	
	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.

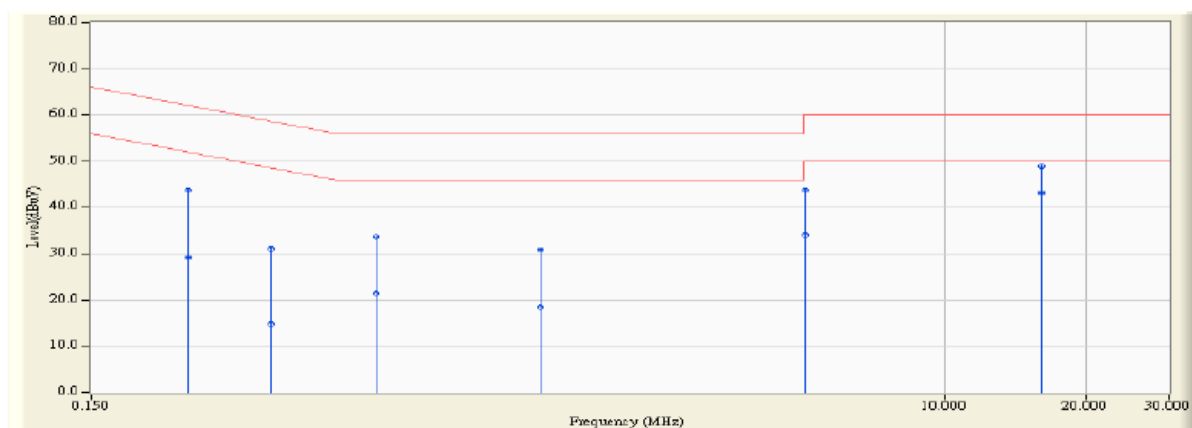
6.6. Test Procedure

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

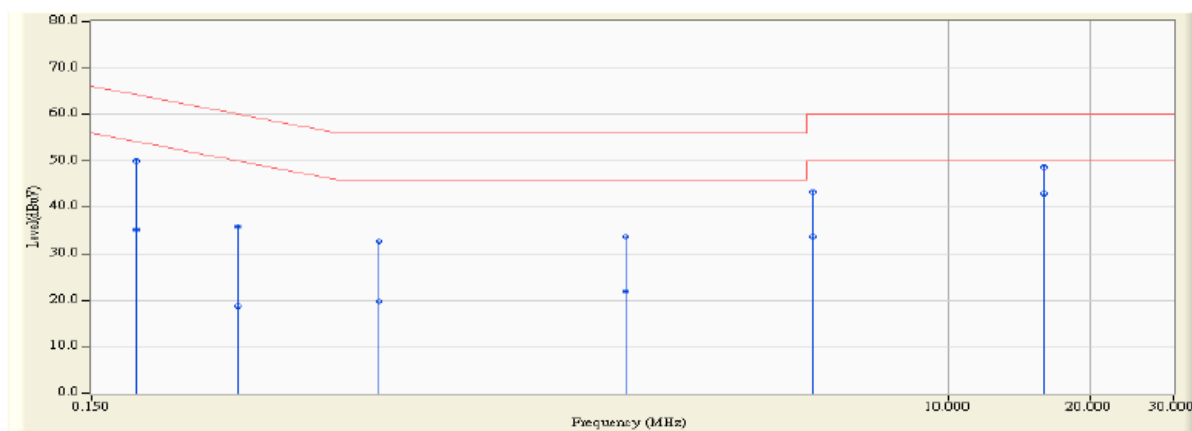
Pass

Test mode: Connect to PC N Line



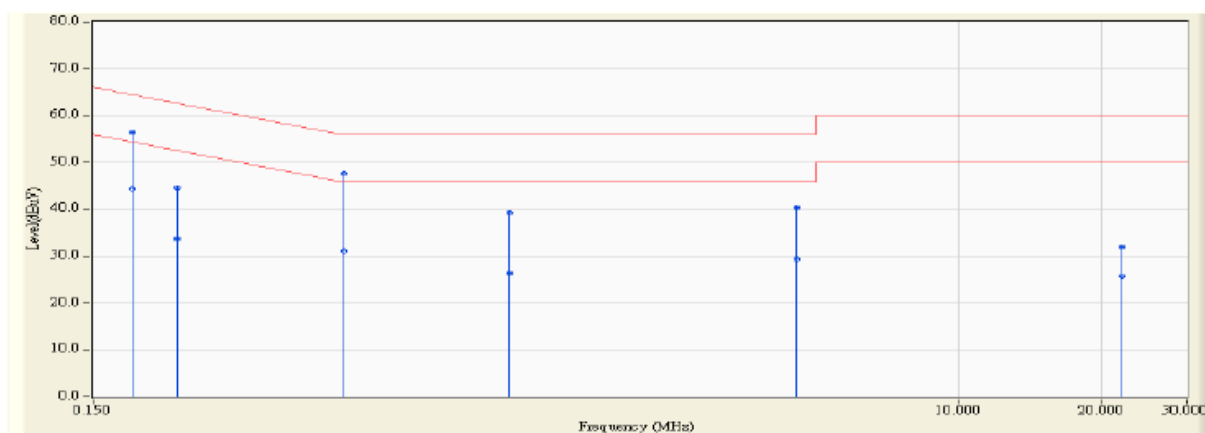
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.242	9.600	34.192	43.792	-18.235	62.027	QUASIPeAK
2		0.242	9.600	19.664	29.264	-22.763	52.027	AVERAGE
3		0.362	9.606	21.423	31.030	-27.653	58.682	QUASIPeAK
4		0.362	9.606	5.220	14.826	-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 L Line



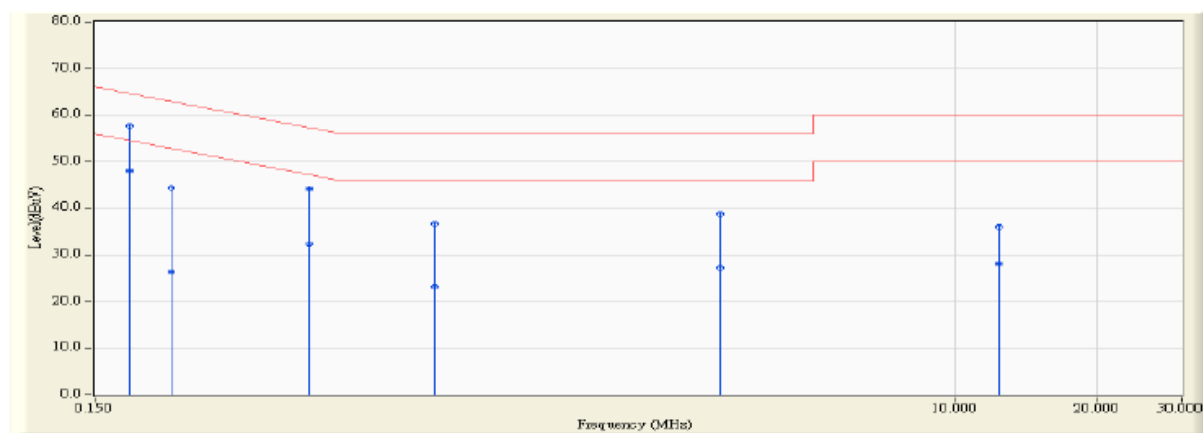
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.186	9.600	40.378	49.978	-14.236	64.213	QUASIPeAK
2		0.186	9.600	25.553	35.153	-19.060	54.213	AVERAGE
3		0.306	9.600	26.269	35.869	-24.209	60.078	QUASIPeAK
4		0.306	9.600	8.975	18.575	-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 N Line



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Measure Level (dBμV)	Margin (dB)	Limit (dBμV)	Detector Type
1	*	0.182	9.600	46.823	56.423	-7.971	64.394	QUASIPeAK
2		0.182	9.600	34.837	44.437	-9.957	54.394	AVERAGE
3		0.226	9.600	34.990	44.590	-18.006	62.595	QUASIPeAK
4		0.226	9.600	24.151	33.751	-18.844	52.595	AVERAGE
5		0.506	9.600	38.120	47.720	-8.280	56.000	QUASIPeAK
6		0.506	9.600	21.478	31.078	-14.922	46.000	AVERAGE
7		1.126	9.686	29.615	39.301	-16.699	56.000	QUASIPeAK
8		1.126	9.686	16.633	26.319	-19.681	46.000	AVERAGE
9		4.526	9.872	30.500	40.372	-15.628	56.000	QUASIPeAK
10		4.526	9.872	19.607	29.478	-16.522	46.000	AVERAGE
11		21.910	10.654	21.396	32.051	-27.949	60.000	QUASIPeAK
12		21.910	10.654	15.027	25.681	-24.319	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		0.178	9.600	48.143	57.743	-6.836	64.578	QUASIPeAK
2	*	0.178	9.600	38.376	47.976	-6.602	54.578	AVERAGE
3		0.218	9.600	34.899	44.499	-18.396	62.895	QUASIPeAK
4		0.218	9.600	16.716	26.316	-26.579	52.895	AVERAGE
5		0.426	9.610	34.578	44.188	-13.142	57.330	QUASIPeAK
6		0.426	9.610	22.882	32.492	-14.838	47.330	AVERAGE
7		0.786	9.629	27.055	36.684	-19.316	56.000	QUASIPeAK
8		0.786	9.629	13.508	23.137	-22.863	46.000	AVERAGE
9		3.158	9.819	28.970	38.789	-17.211	56.000	QUASIPeAK
10		3.158	9.819	17.526	27.345	-18.655	46.000	AVERAGE
11		12.302	10.141	25.931	36.073	-23.927	60.000	QUASIPeAK
12		12.302	10.141	17.991	28.132	-21.868	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

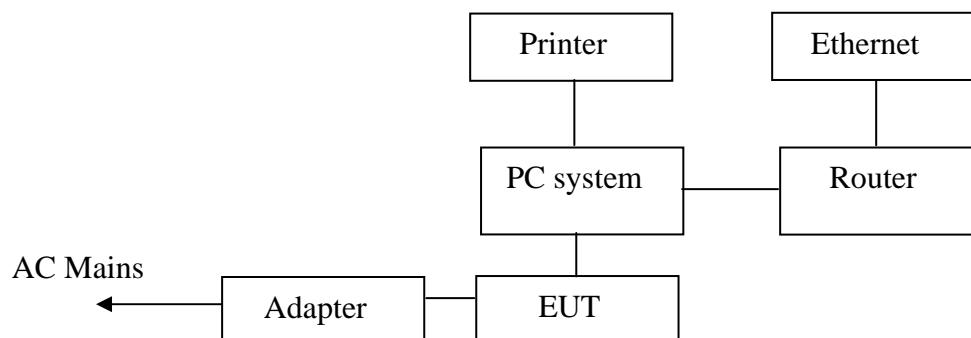


Figure 1 EUT Setup of Connect to PC mode

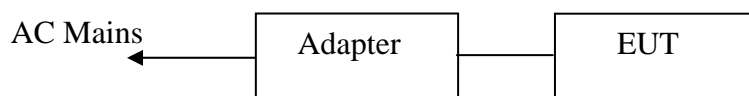
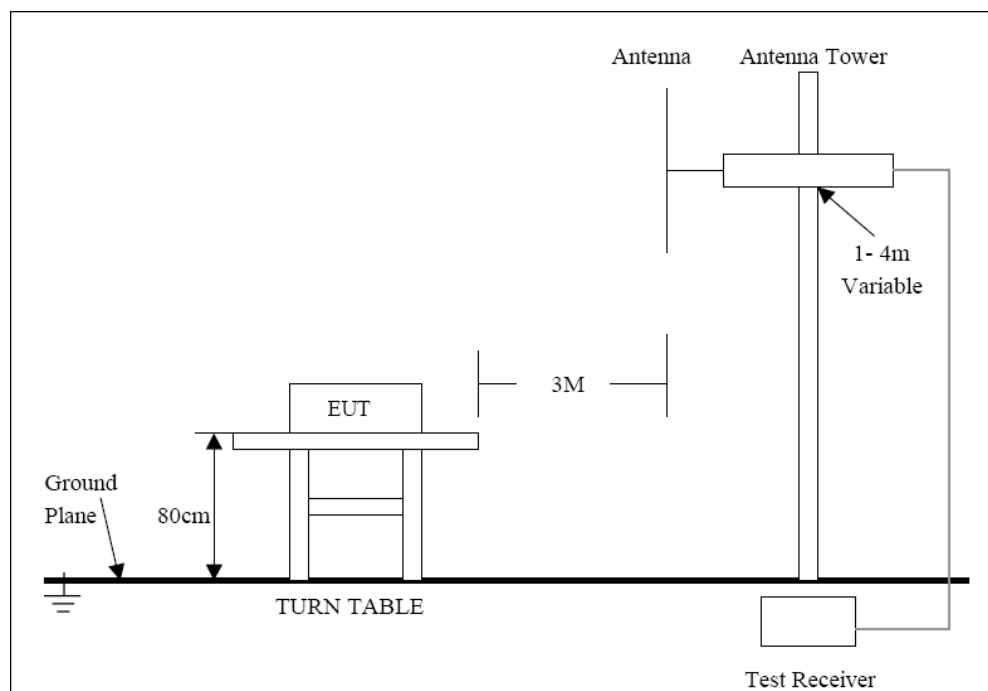


Figure 2 EUT Setup of Connect to Adapter mode

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.

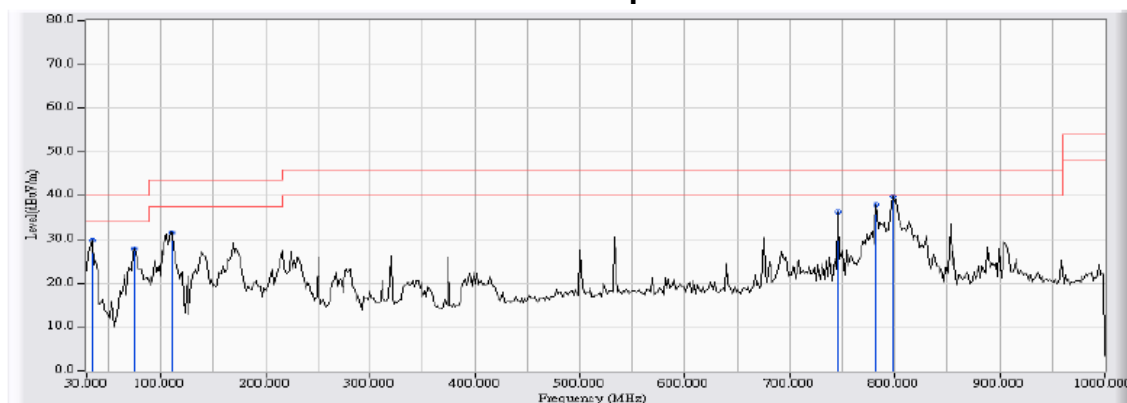
7.7. Test Result

PASS

The frequency range from 9kHz to 6GHz is checked. The measurements greater than 20dB below the limit are not report.

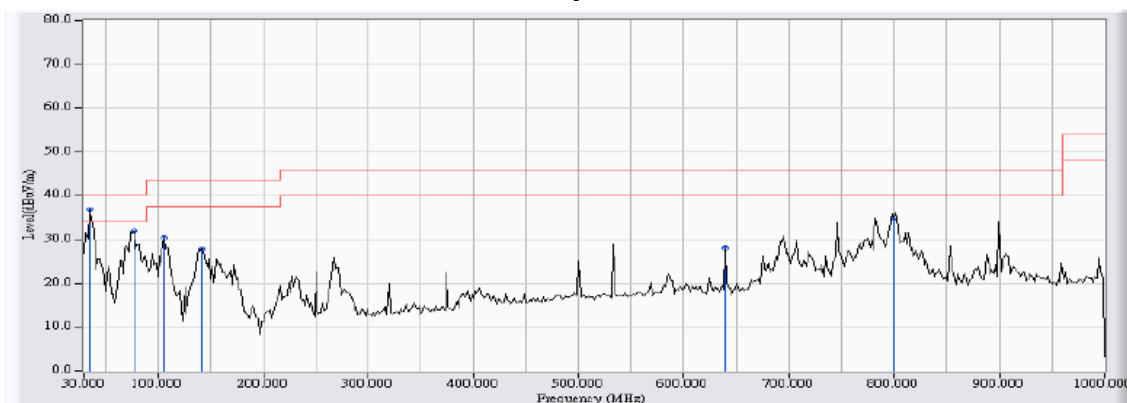
The final measurement in band 9-90kHz, 110-490kHz is performed with Peak detector and Average detector. Except those frequency bands mention above, the final measurement for frequencies below 1000MHz is performed with Quasi Peak detector.

Test mode: Connect to PC Horizontal polarization

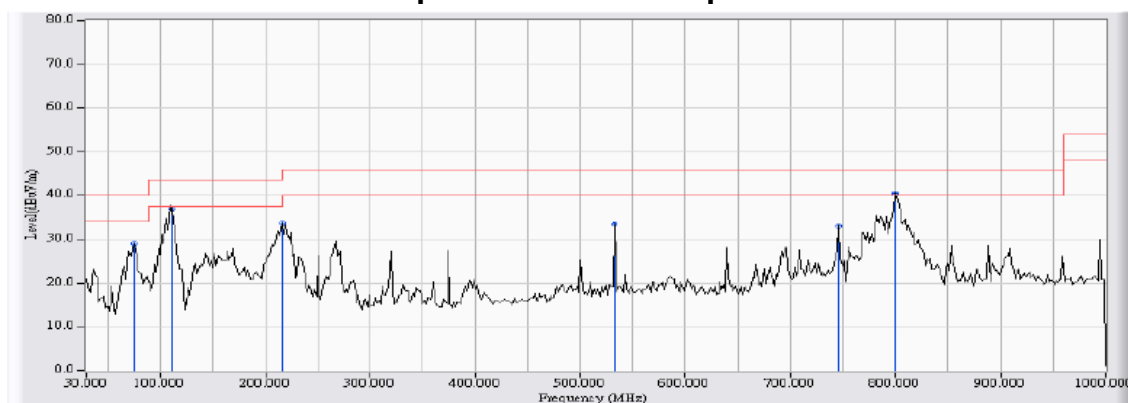


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		34.850	-10.798	40.654	29.856	-10.144	40.000	PEAK
2		75.267	-17.377	45.360	27.983	-12.017	40.000	PEAK
3		110.833	-12.584	44.177	31.593	-11.907	43.500	PEAK
4		746.183	-3.339	39.575	36.237	-9.763	46.000	PEAK
5		781.750	-2.884	40.900	38.017	-7.983	46.000	PEAK
6	*	797.917	-2.676	42.579	39.903	-6.097	46.000	PEAK

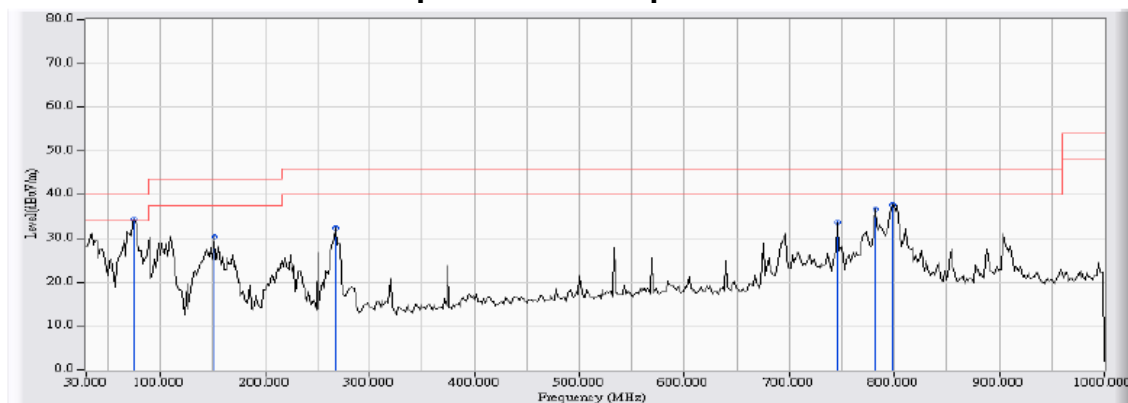
Test mode: Connect to PC Vertical polarization



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	34.850	-10.798	47.792	36.994	-3.006	40.000	PEAK
2		76.883	-17.261	49.139	31.878	-8.122	40.000	PEAK
3		105.983	-13.004	43.418	30.414	-13.086	43.500	PEAK
4		141.550	-13.023	40.917	27.893	-15.607	43.500	PEAK
5		639.483	-4.135	32.322	28.187	-17.813	46.000	PEAK
6		799.533	-2.655	37.673	35.018	-10.982	46.000	PEAK

Test mode: Connect to Adapter Horizontal polarization


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		75.267	-17.377	46.231	28.854	-11.146	40.000	PEAK
2		110.833	-12.584	49.495	36.911	-6.589	43.500	PEAK
3		215.917	-13.554	47.284	33.731	-9.769	43.500	PEAK
4		532.783	-4.952	38.356	33.404	-12.596	46.000	PEAK
5		746.183	-3.339	36.450	33.112	-12.888	46.000	PEAK
6	*	799.533	-2.655	43.091	40.436	-5.564	46.000	PEAK

Test mode: Connect to Adapter Vertical polarization


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	75.267	-17.377	51.608	34.231	-5.769	40.000	PEAK
2		151.250	-13.510	44.043	30.533	-12.967	43.500	PEAK
3		267.650	-10.785	43.238	32.452	-13.548	46.000	PEAK
4		746.183	-3.339	37.077	33.739	-12.261	46.000	PEAK
5		781.750	-2.884	39.577	36.694	-9.306	46.000	PEAK
6		797.917	-2.676	40.514	37.838	-8.162	46.000	PEAK