

# FCC REPORT

**Applicant:** Shenzhen YIDONG Technology Co., Ltd

**Address of Applicant:** Floor 1-5,Building B, Area B, Yuanfen Industrial Zone, Dalang, Bao'an District, Shenzhen, China

**Equipment Under Test (EUT)**

Product Name: Flat Computer

Model No.: AT-6141,Ultra970,EMR3691

**FCC ID:** LU7-AT6141

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart B: 2011

**Date of sample receipt:** 11 Nov., 2012

**Date of Test:** 12 to 24 Nov., 2012

**Date of report issued:** 26 Nov., 2012

**Test Result :** Pass \*

\* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Robinson Lo  
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the GTS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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## 2 Version

Version No.	Date	Description
00	26 Nov., 2012	Original

**Prepared By:**

*Joe. Zhou*

**Project Engineer**

**Date:**

26 Nov., 2012

**Check By:**

*Bruce Zhang*

**Reviewer**

**Date:**

26 Nov., 2012

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## 4 Test Summary

Test Item	Section in CFR 47	Result
Conducted Emission	Part15.107	Pass
Radiated Emissions	Part15.109	Pass

*Pass: The EUT complies with the essential requirements in the standard.*

## 5 General Information

### 5.1 Client Information

Applicant:	Shenzhen YIDONG Technology Co., Ltd
Address of Applicant:	Floor 1-5,Building B, Area B, Yuanfen Industrial Zone, Dalang, Bao'an District, Shenzhen, China
Manufacturer/ Factory:	Shenzhen YIDONG Technology Co., Ltd
Address of Manufacturer/ Factory:	Floor 1-5,Building B, Area B, Yuanfen Industrial Zone, Dalang, Bao'an District, Shenzhen, China

### 5.2 General Description of E.U.T.

Product Name:	Flat Computer
Model No.:	AT-6141,Ultra970,EMR3691
AC adapter:	Model: HNC050300U Input: AC 100-240V~50/60Hz 0.45A MAX Output: DC 5.0V 3.0A
Power supply:	DC 3.7V Li-ion battery
Remark	The AT-6141, Ultra970 and EMR3691 were identical inside, since the electrical circuit design, layout, components used and internal wiring were identical for the above items, with only differences being the model number and appearance color. Base on the differences, we selected the AT-6141 for full test. The highest operation frequency is 1.2GHz.

### 5.3 Operating Modes

Operating mode	Detail description
Memory Play mode :	Keep the EUT in memory video Play mode
Downloading mode :	Keep the EUT in exchange data with PC by Mini SD and Memory
SD Play mode :	Keep the EUT in Mini SD video Play mode
HDMI mode :	Keep the EUT in HDMI outputmode.
Camera Mode :	Keep the EUT in Camera mode.
FM Mode	Keep the EUT in FM reciever mode.
GPS Mode	Keep the EUT in GPS reciever mode.
Pre-scan all modes above menthioned, the downloading mode was the worst case mode which has been shown in this report.	

## 5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
HP	Printer	P1007	VNFP409729	DoC
HP	PC	Pro 2000MT	N/A	DoC
HP	MONITOR	CompaqLE1851WL	515682-070	DoC
HP	KEYBOARD	SK-2880	434820-AA2	DoC
HP	MOUSE	MOC5UO	N/A	DoC
Kingston	Mini SD card	N/A	N/A	N/A

## 5.5 Deviation from Standards

None

## 5.6 Abnormalities from Standard Conditions

None.

## 5.7 Other Information Requested by the Customer

None.

## 5.8 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC —Registration No.: 600491**

Global United Technology Service Co., Ltd., Shenzhen 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 600491, July 20, 2010.

● **Industry Canada (IC)**

The 3m Semi-anechoic chamber of Global United Technology Service Co., Ltd. Has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-1.

## 5.9 Test Location

All tests were performed at:

Global United Technology Service Co., Ltd.

Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China

Tel: 0755-27798480

Fax: 0755-27798960

## 6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 30 2012	Mar. 29 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 04 2012	Jul. 03 2013
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Feb. 26 2012	Feb. 25 2013
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 30 2012	June 29 2013
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Coaxial Cable	GTS	N/A	GTS213	Apr. 01 2012	Mar. 31 2013
8	Coaxial Cable	GTS	N/A	GTS211	Apr. 01 2012	Mar. 31 2013
9	Coaxial cable	GTS	N/A	GTS210	Apr. 01 2012	Mar. 31 2013
10	Coaxial Cable	GTS	N/A	GTS212	Apr. 01 2012	Mar. 31 2013
11	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 04 2012	Jul. 03 2013
12	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 04 2012	Jul. 03 2013

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS252	Jul. 04 2012	Jul. 03 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	Jul. 04 2012	Jul. 03 2013
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS224	Jul. 04 2012	Jul. 03 2013
4	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	Jul. 04 2012	Jul. 03 2013
5	Coaxial Cable	GTS	N/A	GTS227	Apr. 01 2012	Mar. 31 2013
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

## 7 Test results and Measurement Data

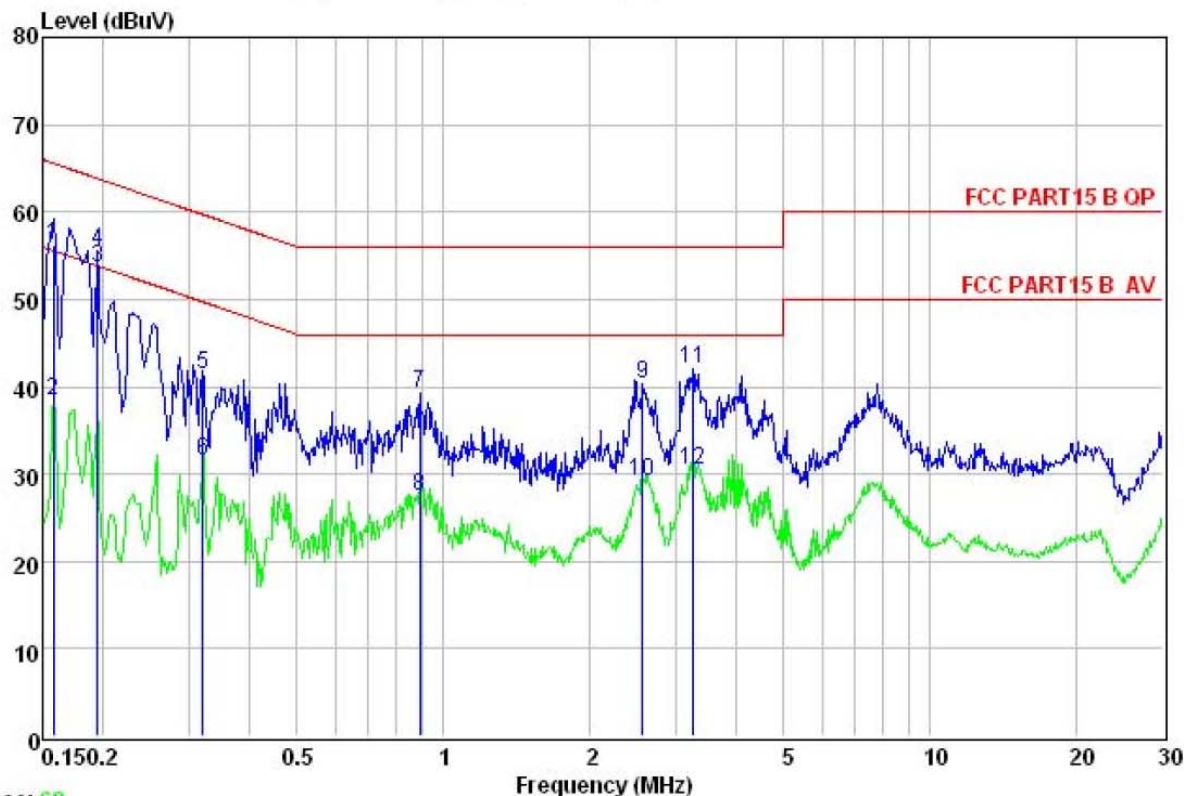
### 7.1 Conducted Emissions

Test Requirement:	FCC Part15 B Section 15.107																
Test Method:	ANSI C63.4:2003																
Test Frequency Range:	150kHz to 30MHz																
Class / Severity:	Class B																
Receiver setup:	RBW=9kHz, VBW=30kHz																
Limit:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBμV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>0.5-30</td><td>60</td><td>50</td></tr></table>			Frequency range (MHz)	Limit (dBμV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	0.5-30	60	50
Frequency range (MHz)	Limit (dBμV)																
	Quasi-peak	Average															
0.15-0.5	66 to 56*	56 to 46*															
0.5-5	56	46															
0.5-30	60	50															
Test setup:	<div><p style="text-align: center;"><b>Reference Plane</b></p><p style="text-align: center;">Test table/Insulation plane</p><p><i>Remark</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p></div>																
Test procedure	<div><div>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment.</div><div>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs).</div><div>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.</div></div>																
Test environment:	Temp.:	23 °C	Humid.: 56% Press.: 1 01Kpa														
Measurement Record:	Uncertainty: 3.28dB																
Test Instruments:	Refer to section 6 for details																
Test mode:	Pre-scan all test mode in the section 5.3, and found the below mode which it is the worst case mode.																
Test results:	Pass																



**Measurement data:**

Line:

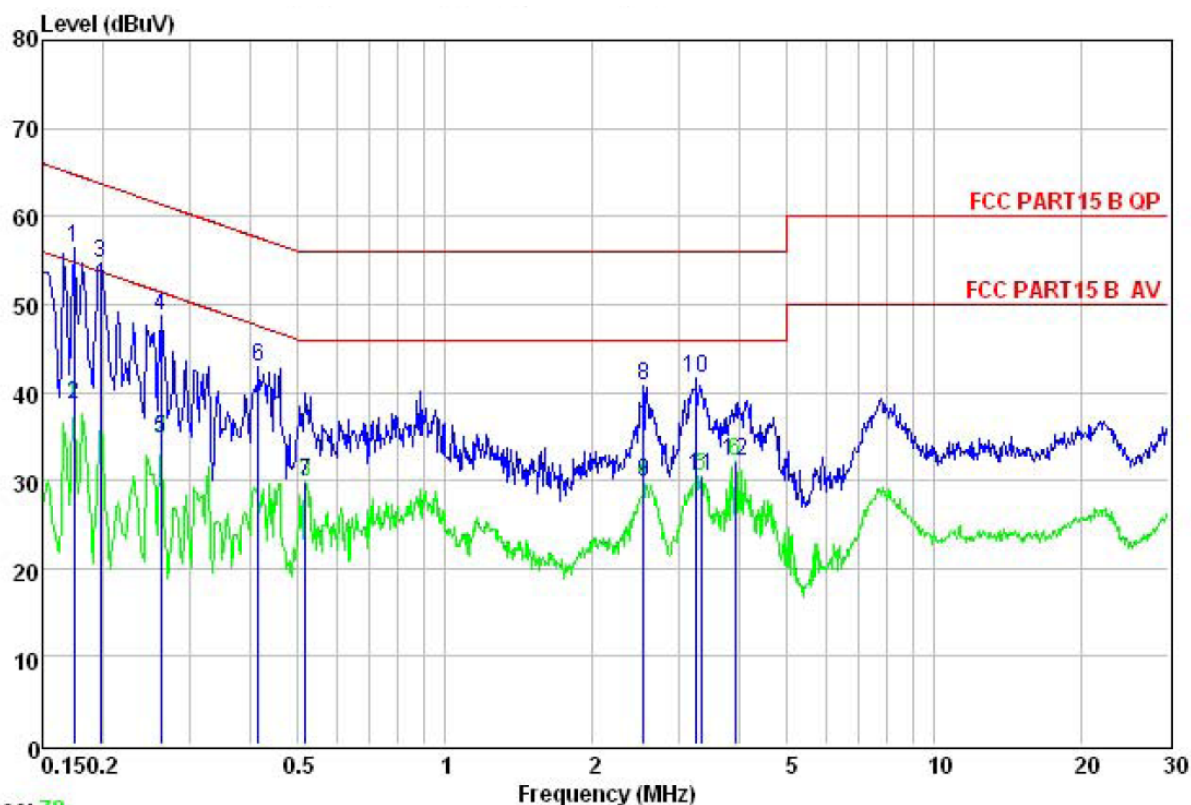


Trace: 68

Site : CCIS Conducted Test Site  
 Condition : FCC PART15 B QP LISN LINE  
 Job No : 235RF  
 Test Mode : Downloading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: feng

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.158	45.09	10.24	0.79	56.12	65.56	-9.44	QP
2	0.158	27.26	10.24	0.79	38.29	55.56	-17.27	Average
3	0.194	42.58	10.21	0.76	53.55	63.84	-10.29	QP
4	0.194	44.60	10.21	0.76	55.57	63.84	-8.27	QP
5	0.320	30.43	10.26	0.74	41.43	59.71	-18.28	QP
6	0.320	20.43	10.26	0.74	31.43	49.71	-18.28	Average
7	0.894	28.20	10.20	0.85	39.25	56.00	-16.75	QP
8	0.894	16.36	10.20	0.85	27.41	46.00	-18.59	Average
9	2.567	29.05	10.28	0.94	40.27	56.00	-15.73	QP
10	2.567	18.05	10.28	0.94	29.27	46.00	-16.73	Average
11	3.258	30.74	10.29	0.90	41.93	56.00	-14.07	QP
12	3.258	19.19	10.29	0.90	30.38	46.00	-15.62	Average

Neutral:



Trace: 70

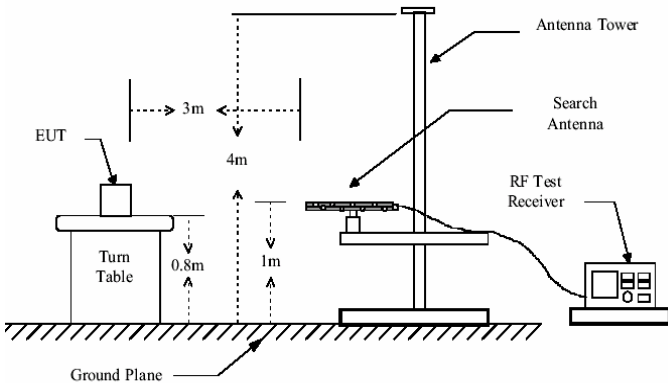
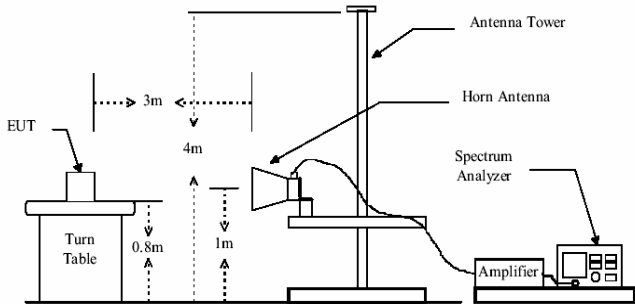
Site : CCIS Conducted Test Site  
 Condition : FCC PART15 B QP LISN NEUTRAL  
 Job No : 235RF  
 Test Mode : Downloading Mode  
 Power Rating : AC 120V/60Hz  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test Engineer: feng

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.174	45.31	10.25	0.77	56.33	64.77	-8.44	QP
2	0.174	27.59	10.25	0.77	38.61	54.77	-16.16	Average
3	0.198	43.71	10.23	0.76	54.70	63.71	-9.01	QP
4	0.262	37.74	10.24	0.75	48.73	61.38	-12.65	QP
5	0.262	23.70	10.24	0.75	34.69	51.38	-16.69	Average
6	0.415	31.97	10.26	0.72	42.95	57.55	-14.60	QP
7	0.518	18.74	10.27	0.76	29.77	46.00	-16.23	Average
8	2.540	29.46	10.27	0.94	40.67	56.00	-15.33	QP
9	2.540	18.50	10.27	0.94	29.71	46.00	-16.29	Average
10	3.258	30.39	10.28	0.90	41.57	56.00	-14.43	QP
11	3.328	19.27	10.28	0.90	30.45	46.00	-15.55	Average
12	3.901	21.00	10.28	0.89	32.17	46.00	-13.83	Average

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

## 7.2 Radiated Emission

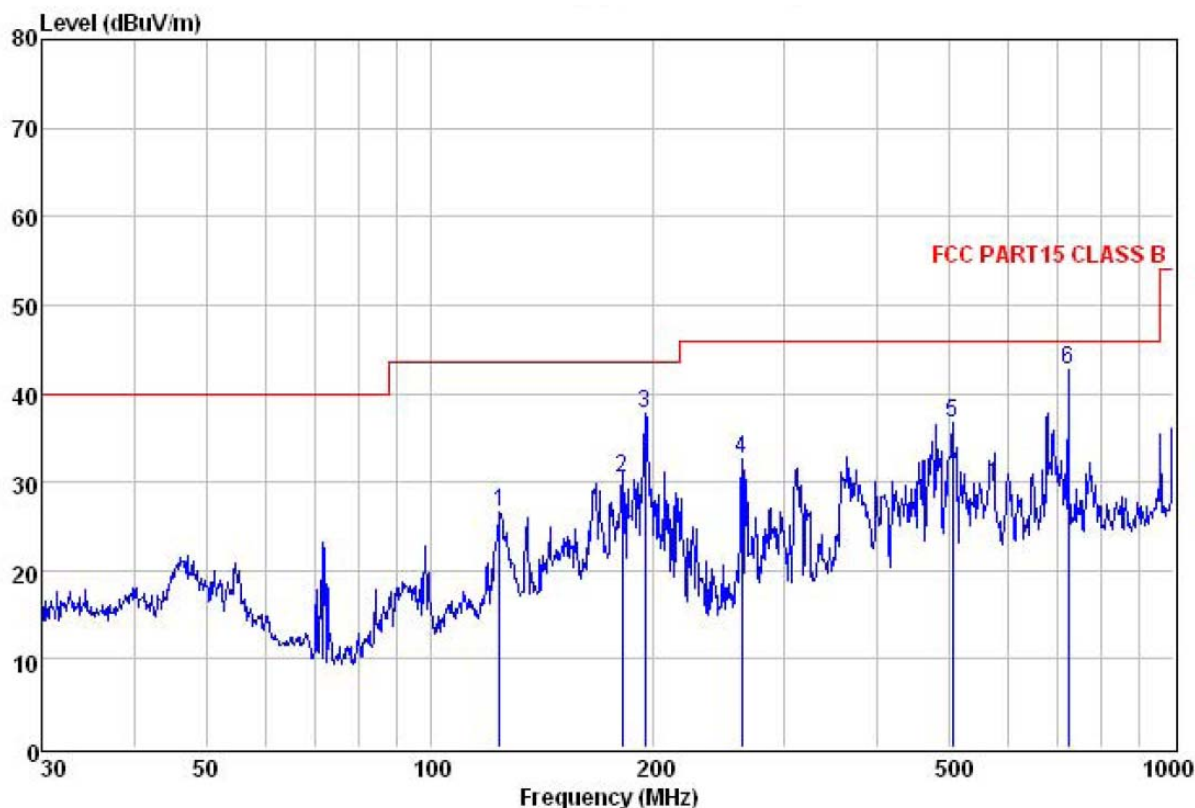
Test Requirement:	FCC Part15 B Section 15.109			
Test Method:	ANSI C63.4:2003			
Test Frequency Range:	30MHz to 6000MHz			
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)			
Receiver setup:	Frequency	Detector	RBW	VBW
	30MHz-1GHz	Quasi-peak	100KHz	300KHz
	Above 1GHz	Peak	1MHz	3MHz
		Peak	1MHz	10Hz
Limit:	Frequency			Remark
	30MHz-88MHz			Quasi-peak Value
	88MHz-216MHz			Quasi-peak Value
	216MHz-960MHz			Quasi-peak Value
	960MHz-1GHz			Quasi-peak Value
	Above 1GHz			Average Value
				Peak Value
Test setup:	Below 1GHz			
				
	Above 1GHz			
				

Test Procedure:	<ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li> </ol>
Test environment:	Temp.: 25.5 °C Humid.: 55% Press.: 1 01Kpa
Measurement Record:	Uncertainty: 4.88dB
Test Instruments:	Refer to section 6 for details
Test mode:	Pre-scan all test mode in the section 5.3, and found the bleed mode which it is the worst case mode.
Test results:	Passed

## Measurement Data

■ Below 1G

Horizontal:

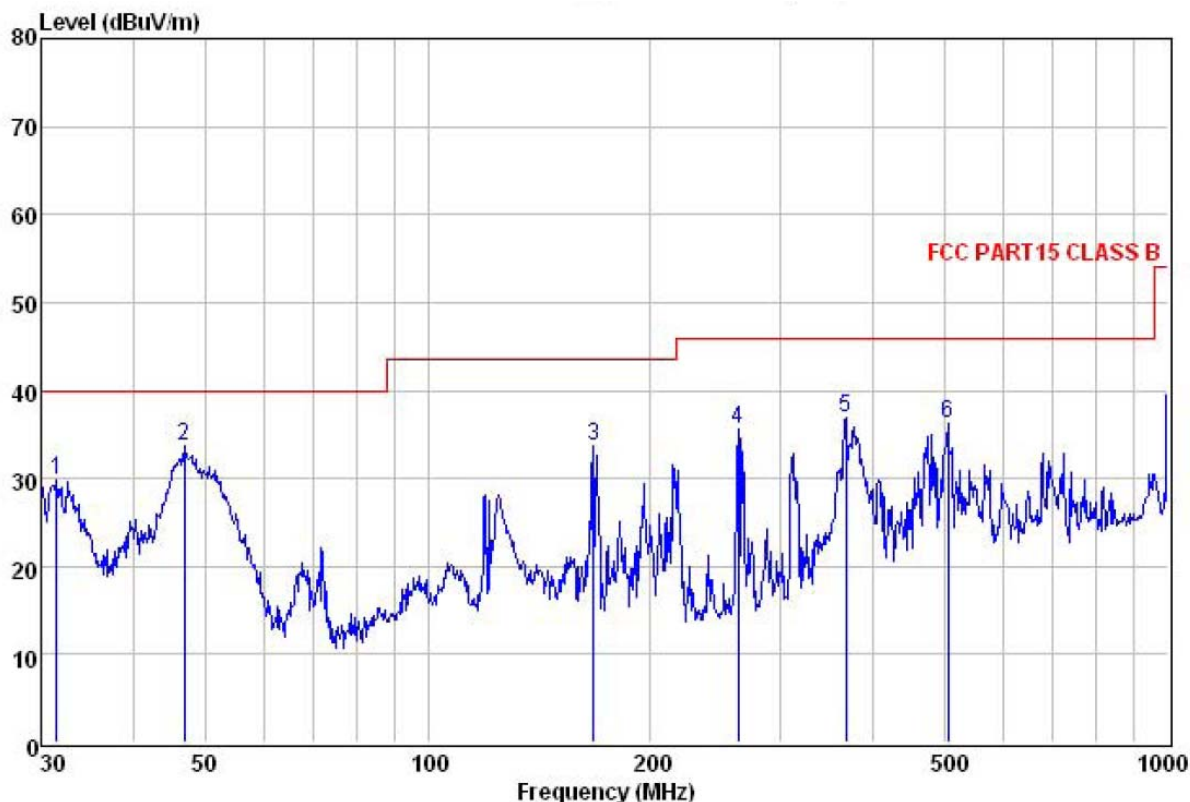


Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(2012.4.1) HORIZONTAL  
 Job NO : 235RF  
 Test mode : downloading mode  
 Test Engineer: Gavin  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%

	ReadAntenna	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	124.133	44.12	9.80	2.21	29.63	26.50	43.50
2	181.283	44.82	9.76	2.74	26.77	30.55	43.50
3	194.453	54.09	10.56	2.83	29.82	37.66	43.50
4	262.896	47.12	12.17	2.84	29.56	32.57	46.00
5	504.706	46.83	16.68	3.65	30.52	36.64	46.00
6	721.726	49.79	19.10	4.26	30.55	42.60	46.00



Vertical:

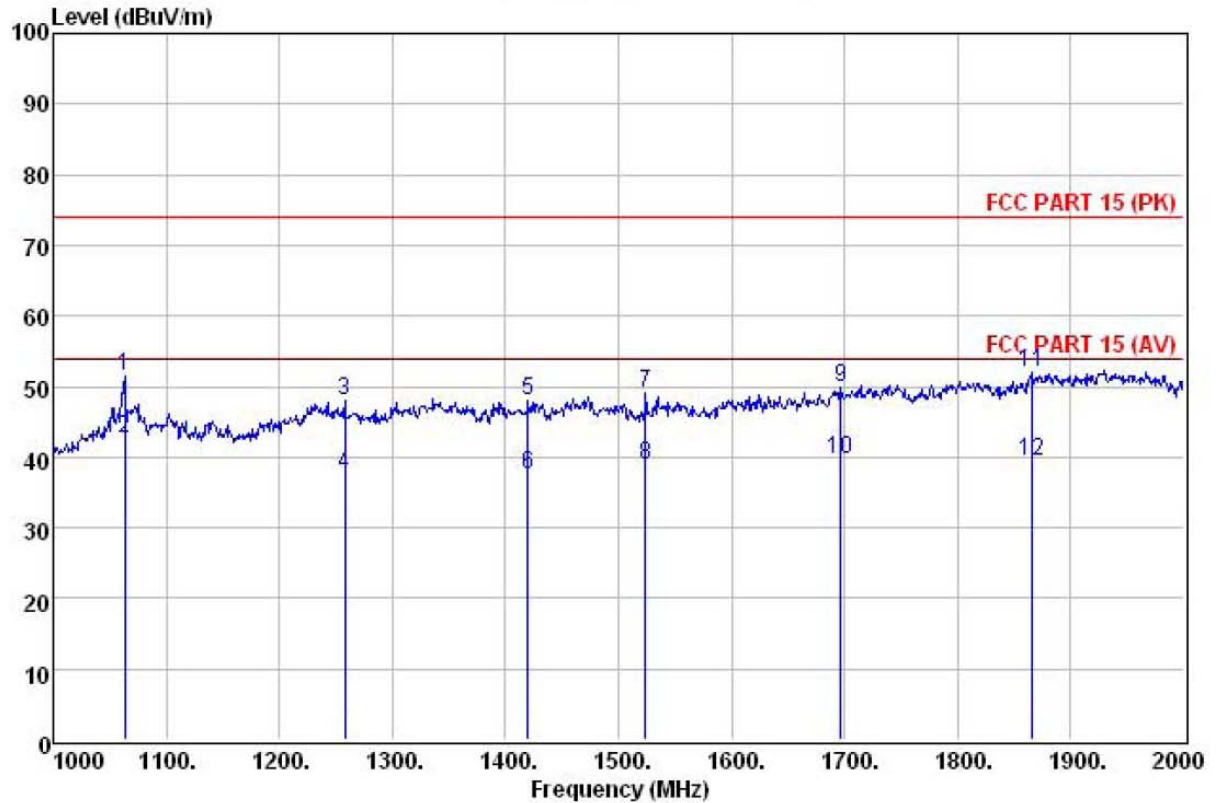


Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(2012.4.1) VERTICAL  
 Job NO : 235RF  
 Test mode : downloading mode  
 Test Engineer: Gavin  
 Power Rating : AC 120V/60Hz  
 Environment : Temp:25.5°C Humi:55%

		ReadAntenna	Cable	Preamp		Limit	Over	
Freq	Level	Factor	Loss	Factor	Level	Line	Limit	Remark
-----	-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	31.510	43.13	12.32	0.85	26.43	29.87	40.00	-10.13 QP
2	46.830	46.87	13.44	1.28	27.97	33.62	40.00	-6.38 QP
3	167.237	51.36	8.87	2.64	29.09	33.78	43.50	-9.72 QP
4	262.896	50.21	12.17	2.84	29.56	35.66	46.00	-10.34 QP
5	366.823	49.01	14.48	3.09	29.76	36.82	46.00	-9.18 QP
6	504.706	46.41	16.68	3.65	30.52	36.22	46.00	-9.78 QP

■ Above 1G

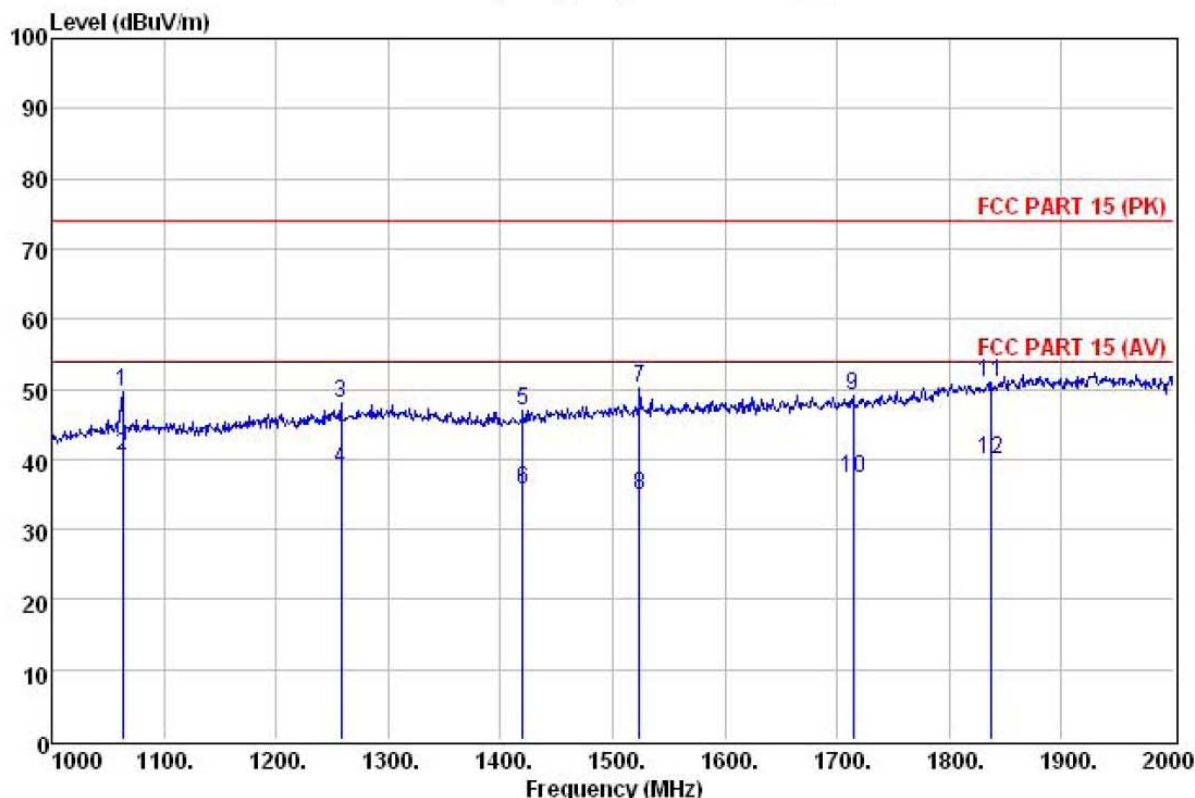
Vertical:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m VULB9163(2012.4.1) VERTICAL  
 Job No. : 235RF  
 Test mode : downloading mode  
 Test Engineer: Joe  
 Environment : Temp:25.5°C Humi:55%  
 Power Rating : AC 120V/60Hz

	Freq	ReadAntenna Level	Cable Preamp Factor	Loss Factor	Level	Limit	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	1063.000	44.14	22.55	2.39	17.55	51.53	74.00	-22.47 Peak
2	1063.000	35.26	22.55	2.39	17.55	42.65	54.00	-11.35 Average
3	1258.000	40.64	24.04	2.69	19.42	47.95	74.00	-26.05 Peak
4	1258.000	30.24	24.04	2.69	19.42	37.55	54.00	-16.45 Average
5	1420.000	42.55	24.55	2.90	22.04	47.96	74.00	-26.04 Peak
6	1420.000	32.15	24.55	2.90	22.04	37.56	54.00	-16.44 Average
7	1524.000	44.86	25.59	3.02	24.43	49.04	74.00	-24.96 Peak
8	1524.000	34.68	25.59	3.02	24.43	38.86	54.00	-15.14 Average
9	1697.000	48.49	26.06	3.21	27.89	49.87	74.00	-24.13 Peak
10	1697.000	38.25	26.06	3.21	27.89	39.63	54.00	-14.37 Average
11	1865.000	50.64	27.87	3.38	29.89	52.00	74.00	-22.00 Peak
12	1865.000	38.16	27.87	3.38	29.89	39.52	54.00	-14.48 Average

Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m VULB9163(2012.4.1) HORIZONTAL  
 Job No. : 235RF  
 Test mode : downloading mode  
 Test Engineer: Joe  
 Environment : Temp:25.5°C Humi:55%  
 Power Rating : AC 120V/60Hz

	Freq	ReadAntenna	Cable Preamp		Limit	Over	
	Level	Factor	Loss Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dBuV/m	dBuV/m	dB
1	1063.000	42.14	22.55	2.39	17.55	49.53	74.00 -24.47 Peak
2	1063.000	33.21	22.55	2.39	17.55	40.60	54.00 -13.40 Average
3	1258.000	40.64	24.04	2.69	19.42	47.95	74.00 -26.05 Peak
4	1258.000	31.24	24.04	2.69	19.42	38.55	54.00 -15.45 Average
5	1420.000	41.55	24.55	2.90	22.04	46.96	74.00 -27.04 Peak
6	1420.000	30.12	24.55	2.90	22.04	35.53	54.00 -18.47 Average
7	1524.000	45.86	25.59	3.02	24.43	50.04	74.00 -23.96 Peak
8	1524.000	30.65	25.59	3.02	24.43	34.83	54.00 -19.17 Average
9	1714.000	47.63	26.30	3.23	28.11	49.05	74.00 -24.95 Peak
10	1714.000	35.82	26.30	3.23	28.11	37.24	54.00 -16.76 Average
11	1837.000	49.44	27.71	3.35	29.54	50.96	74.00 -23.04 Peak
12	1837.000	38.35	27.71	3.35	29.54	39.87	54.00 -14.13 Average

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

The Peak levels are less than the AV limit, so just recorded the peak Value.