

# FCC REPORT

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

**Address of Applicant:** 3/F, No. 9 Bldg, Minxing Industrial Park, Minkang Rd,  
Minzhi St, Longhua, Baoan District, Shenzhen, China

**Equipment Under Test (EUT)**

Product Name: Wireless USB Adapter

Model No.: GWF-1C04

**FCC ID:** YWTWF53721C

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

**Date of sample receipt:** 20 Nov., 2012

**Date of Test:** 23 Nov., 2012 to 08 Jan., 2013

**Date of report issued:** 30 Jan., 2013

**Test Result :** Pass \*

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

Authorized Signature:



Bruce Zhang  
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 CCIS 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.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only."

## 2 Version

Version No.	Date	Description
00	30 Jan., 2013	Original

**Prepared By:**

*Lisa Chen*

**Report Clerk**

**Date:**

30 Jan., 2013

**Check By:**

*Joe. Zhou*

**Project Engineer**

**Date:**

30 Jan., 2013

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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 Ogemray Technology Co., Ltd.
Address of Applicant:	3/F, No. 9 Bldg, Minking Industrial Park, Minkang Rd, Minzhi St, Longhua, Baoan District, Shenzhen, China
Manufacturer/ Factory:	Shenzhen Ogemray Technology Co., Ltd.
Address of Manufacturer/ Factory:	3/F, No. 9 Bldg, Minking Industrial Park, Minkang Rd, Minzhi St, Longhua, Baoan District, Shenzhen, China

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

Product Name:	Wireless USB Adapter
Model No.:	GWF-1C04
Power supply:	DC 5V from USB Port

### 5.3 Operating Modes

Operating mode	Detail description
PC mode	Keep the EUT in Ping data packet with wireless router mode

## 5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
DELL	PC	OPTIPLEX745	N/A	DoC
DELL	MONITOR	E178FPC	N/A	DoC
DELL	KEYBOARD	SK-8115	N/A	DoC
DELL	MOUSE	MOC5UO	N/A	DoC
HP	Printer	CB495A	05257893	DoC
MERCURY	Wireless router	MW150R	12922104015	DoC

## 5.5 Deviation from Standards

None
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## 5.6 Abnormalities from Standard Conditions

None.
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## 5.7 Other Information Requested by the Customer

None.
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## 5.8 Test Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> <li>● <b>FCC —Registration No.:</b> 817957 China Certification &amp; Inspection Services 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 out files. Registration 817957, February 27, 2012</li> <li>● <b>Industry Canada (IC)</b> The 3m Semi-anechoic chamber of China Certification &amp; Inspection Services Co., Ltd. Has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.</li> </ul>
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## 5.9 Test Location

All tests were performed at:
<p>China Certification &amp; Inspection Services Co., Ltd. Address: 1st Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China Tel: 0755-23118282 Fax: 0755-23116366</p>

## 6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	June 09 2012	June 08 2013
2	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	Apr.01 2012	Mar. 31 2013
3	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	June 04 2012	June 03 2013
4	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 30 2012	May. 29 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2012	Mar. 31 2013
7	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2012	Mar. 31 2013
8	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2012	Mar. 31 2013
9	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2012	Mar. 31 2013
10	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2012	Mar. 31 2013
11	Amplifier(10KHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2012	Mar. 31 2013
12	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2012	June 08 2013
13	Spectrum analyzer	Rohde & Schwarz	FSP	CCIS0023	May 29 2012	May 28 2013
14	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A
15	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	June 09 2012	June 08 2013
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	May 25 2012	May. 24 2013
3	LISN	CHASE	MN2050D	CCIS0074	Apr. 01 2012	Mar. 31 2013
4	Coaxial Cable	CCIS	N/A	CCIS0086	Apr. 01 2012	Mar. 31 2013

## 7 Test results and Measurement Data

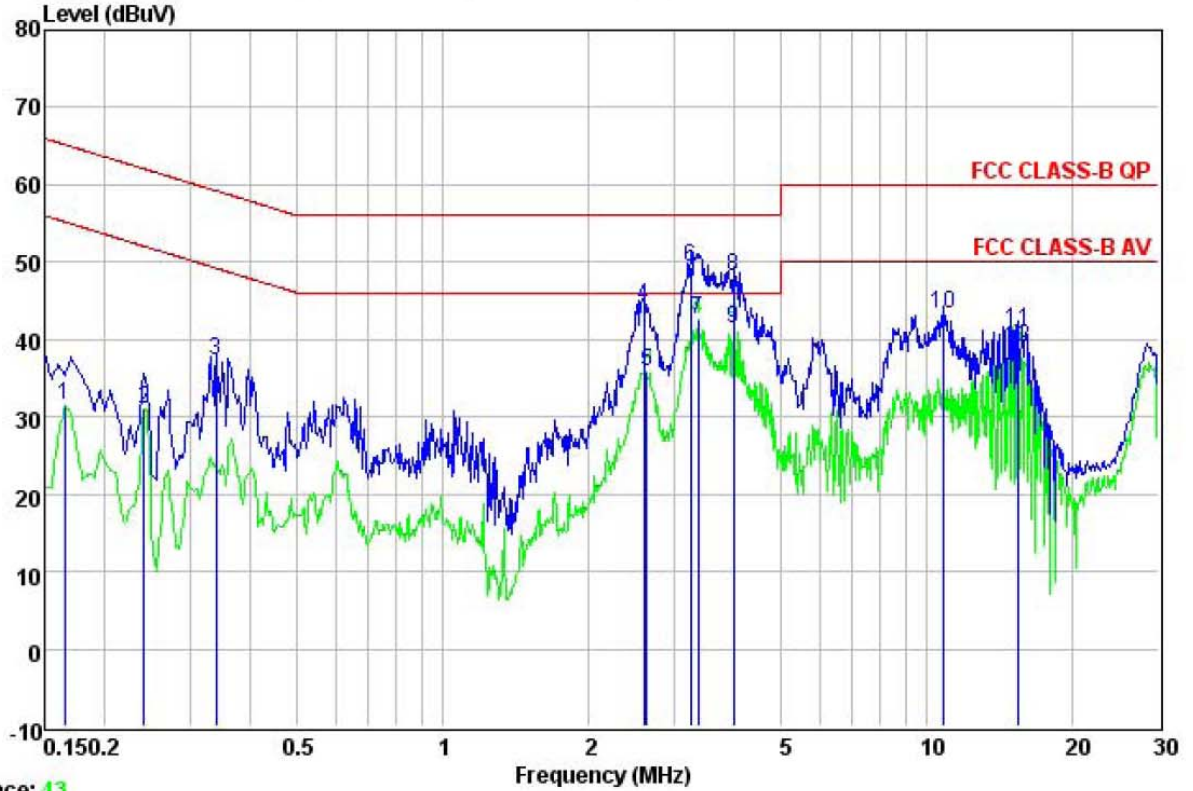
### 7.1 Conducted Emissions

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 border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dB<math>\mu</math>V)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <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> </tbody> </table>	Frequency range (MHz)	Limit (dB $\mu$ V)		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 (dB $\mu$ V)														
	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:	<p>Remark:  <i>E.U.T: Equipment Under Test</i>  <i>LISN: Line Impedance Stabilization Network</i>  <i>Test table height=0.8m</i></p>														
Test procedure	<ol style="list-style-type: none"> <li>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.</li> <li>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).</li> <li>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.</li> </ol>														
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 blew mode which it is worse case mode.														
Test results:	Pass														



Measurement data:

Line:

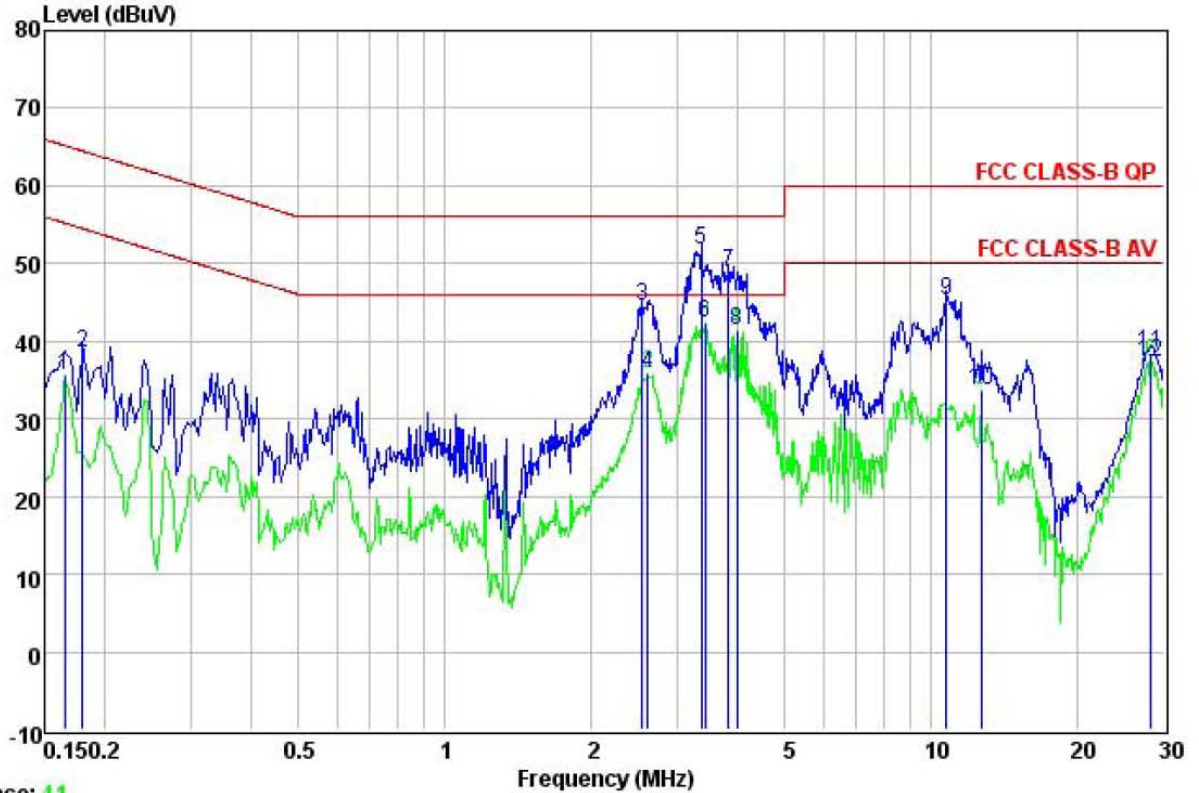


Trace: 43

Site : CCIS Conducted Test Site  
 Condition : FCC CLASS-B QP LISN LINE  
 Job NO. : 289RF  
 Test Mode : ping mode  
 Power Rating: AC 120V/60Hz on PC mains port  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test engineer: Joe

	Read Freq	LISN Level	Cable Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.165	20.40	10.24	0.78	31.42	55.21	-23.79	Average
2	0.240	20.08	10.23	0.75	31.06	52.08	-21.02	Average
3	0.339	26.36	10.27	0.73	37.36	59.22	-21.86	QP
4	2.594	33.17	10.28	0.94	44.39	56.00	-11.61	QP
5	2.636	24.68	10.28	0.94	35.90	46.00	-10.10	Average
6	3.241	38.06	10.29	0.90	49.25	56.00	-6.75	QP
7	3.364	31.33	10.29	0.90	42.52	46.00	-3.48	Average
8	3.985	37.07	10.29	0.89	48.25	56.00	-7.75	QP
9	3.985	30.27	10.29	0.89	41.45	46.00	-4.55	Average
10	10.790	32.16	10.25	0.94	43.35	60.00	-16.65	QP
11	15.388	30.12	10.24	0.90	41.26	60.00	-18.74	QP
12	15.388	27.94	10.24	0.90	39.08	50.00	-10.92	Average

Neutral:



Trace: 41

Site : CCIS Conducted Test Site  
 Condition : FCC CLASS-B QP LISN NEUTRAL  
 Job NO. : 269RF  
 Test Mode : ping mode  
 Power Rating: AC 120V/60Hz on PC mains port  
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa  
 Test engineer: Joe

	Read	LISN	Cable	Limit	Over		
Freq	Level	Factor	Loss	Line	Limit	Remark	
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.165	24.49	10.26	0.78	35.53	55.21	-19.68 Average
2	0.180	27.61	10.24	0.77	38.62	64.50	-25.88 QP
3	2.540	33.32	10.27	0.94	44.53	56.00	-11.47 QP
4	2.608	24.60	10.27	0.94	35.81	46.00	-10.19 Average
5	3.364	40.50	10.28	0.90	51.68	56.00	-4.32 QP
6	3.417	31.16	10.28	0.90	42.34	46.00	-3.66 Average
7	3.820	37.67	10.28	0.89	48.84	56.00	-7.16 QP
8	3.985	30.30	10.28	0.89	41.47	46.00	-4.53 Average
9	10.733	34.21	10.22	0.94	45.37	60.00	-14.63 QP
10	12.649	22.42	10.23	0.91	33.56	50.00	-16.44 Average
11	28.152	26.86	10.75	0.87	38.48	60.00	-21.52 QP
12	28.302	25.76	10.77	0.87	37.40	50.00	-12.60 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
Limit:	Frequency	Limit (dBuV/m @3m)	Remark	
	30MHz-88MHz	40.0	Quasi-peak Value	
	88MHz-216MHz	43.5	Quasi-peak Value	
	216MHz-960MHz	46.0	Quasi-peak Value	
	960MHz-1GHz	54.0	Quasi-peak Value	
Above 1GHz		54.0	Average Value	
		74.0	Peak Value	
Test setup:	Below 1GHz			
Test setup:	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 °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 worse case mode.
Test results:	Passed

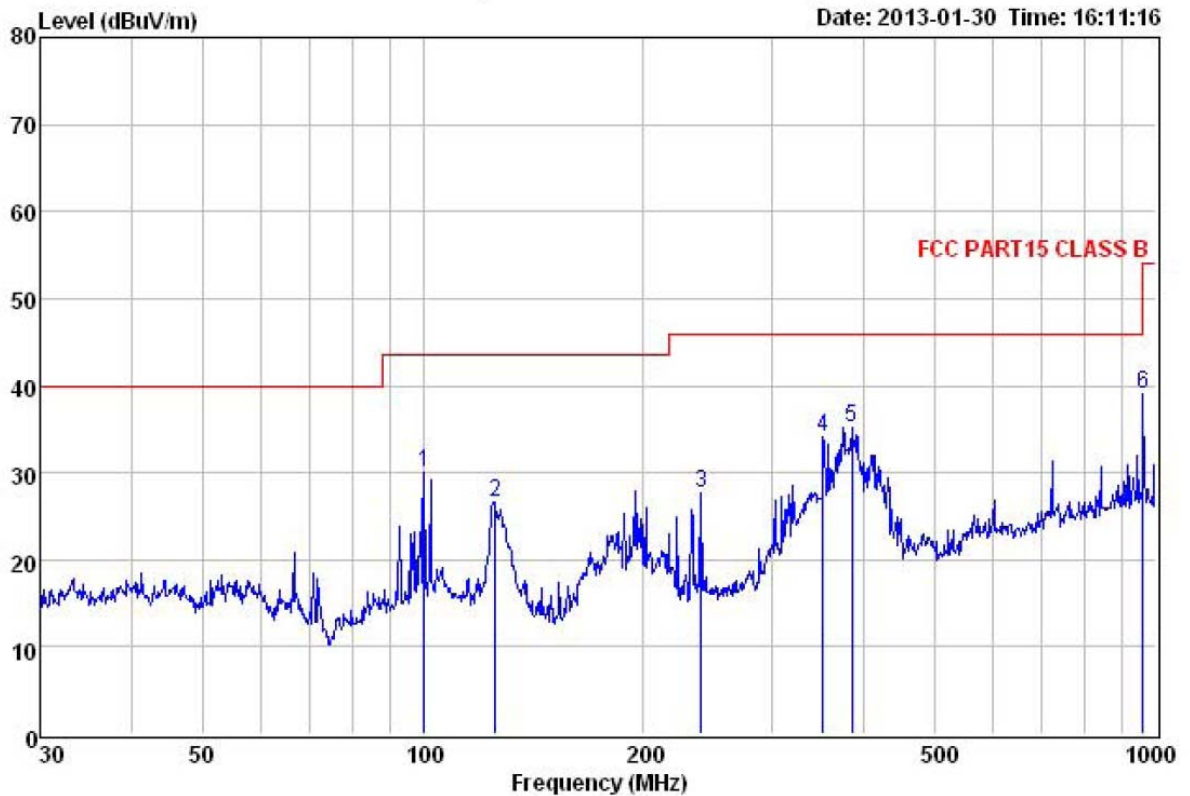
*Remark:*

1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.

**Measurement Data**

Below 1GHz

Horizontal:

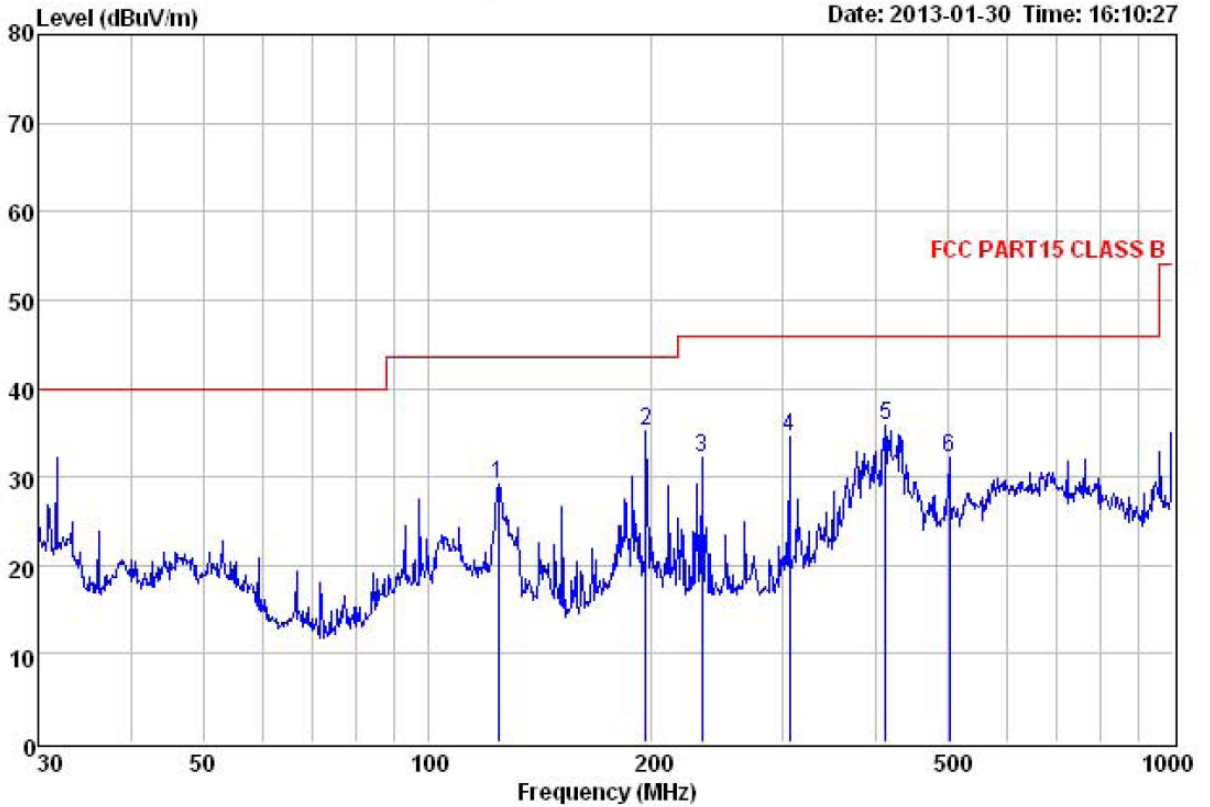


Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(2012.4.1) HORIZONTAL  
 Job No. : 269RF  
 Test mode : ping mode  
 Power Rating : AC 120V/60Hz on PC mains  
 Environment : Temp:24°C Humi:65% Atmos:101Kpa  
 Test Engineer: Joe

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	100.229	45.01	13.11	1.94	30.08	29.98	43.50 -13.52 QP
2	125.446	44.40	9.61	2.24	29.61	26.64	43.50 -16.86 QP
3	239.987	42.48	12.09	2.82	29.64	27.75	46.00 -18.25 QP
4	351.708	46.36	14.30	3.10	29.69	34.07	46.00 -11.93 QP
5	385.281	47.29	14.73	3.09	29.84	35.27	46.00 -10.73 QP
6	962.162	43.28	21.49	4.27	29.90	39.14	54.00 -14.86 QP



Vertical:

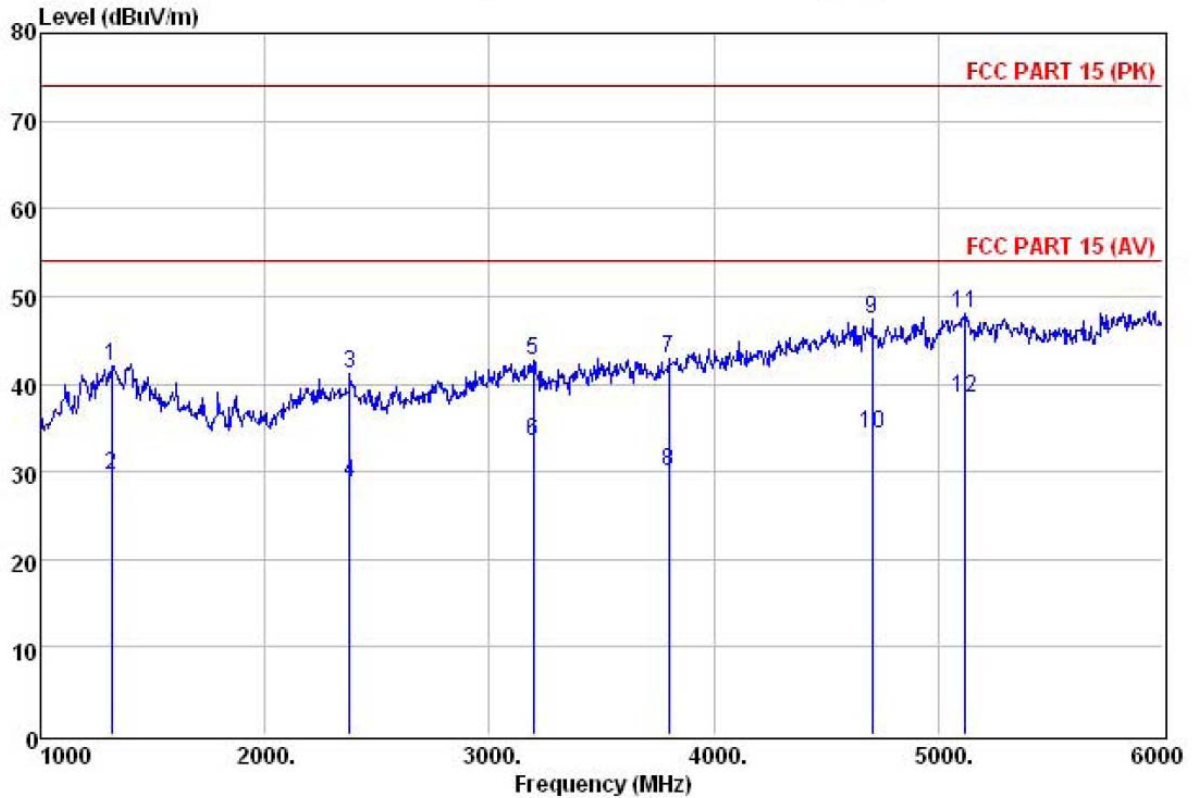


Site : 3m chamber  
 Condition : FCC PART15 CLASS B 3m VULB9163(2012.4.1) VERTICAL  
 Job No. : 269RF  
 Test mode : ping mode  
 Power Rating : AC 120V/60Hz on PC mains  
 Environment : Temp:24°C Humi:65% Atmos:101Kpa  
 Test Engineer: Joe

	Read	Antenna	Cable	Preamp	Limit	Over	
Freq	Level	Factor	Loss	Factor	Line	Limit	Remark
-----MHz	-----dBuV	-----dB/m	-----dB	-----dB	-----dBuV/m	-----dBuV/m	-----dB
1	124.569	46.74	9.80	2.22	29.62	29.14	43.50 -14.36 QP
2	196.510	51.67	10.57	2.84	29.82	35.26	43.50 -8.24 QP
3	233.349	47.13	11.78	2.83	29.67	32.07	46.00 -13.93 QP
4	305.680	47.83	13.13	2.96	29.46	34.46	46.00 -11.54 QP
5	411.824	47.38	15.31	3.11	30.04	35.76	46.00 -10.24 QP
6	501.179	42.48	16.63	3.63	30.52	32.22	46.00 -13.78 QP

Above 1GHz

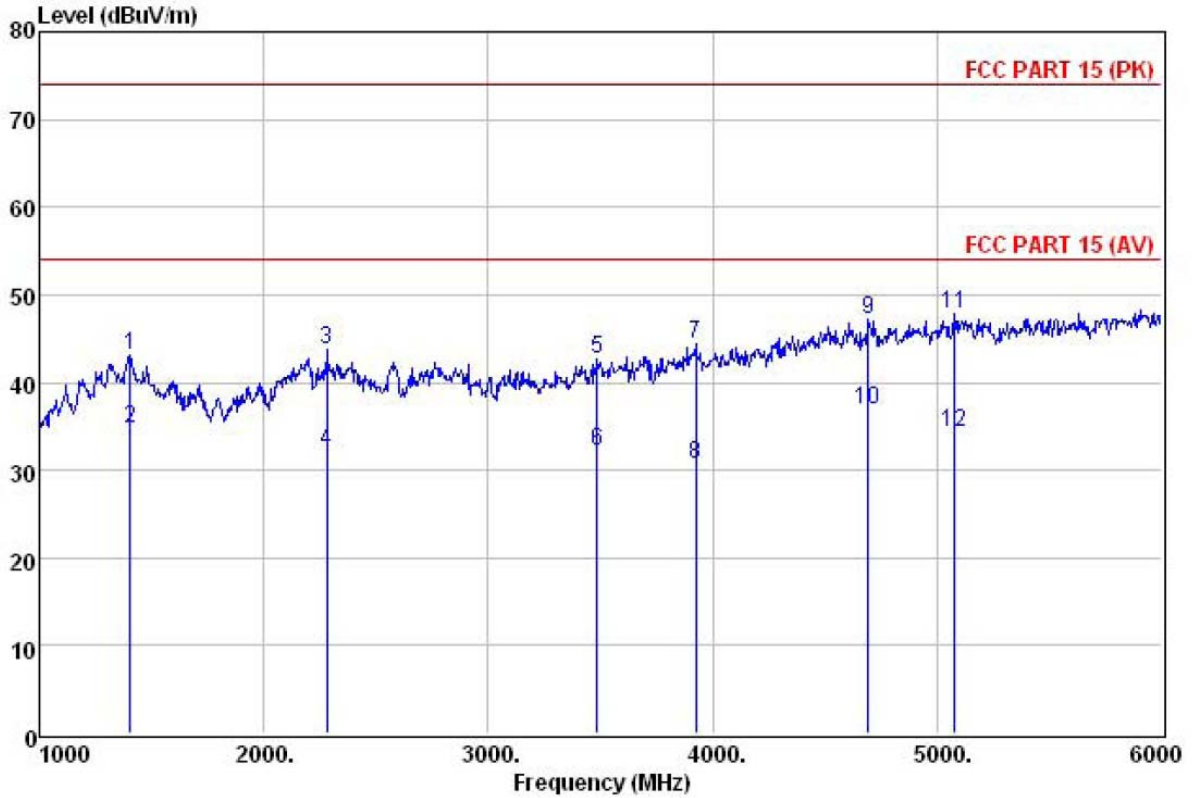
Horizontal:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(>1GHZ) HORIZONTAL  
 Job NO. : 269RF  
 Test mode : ping mode  
 Power Rating : AC 120V /60Hz on PC mains  
 Environment : Temp:24°C Humi:65% Atmos:101Kpa  
 Test Engineer: Joe

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	Remark
	MHz	Level	Factor	Loss	Factor	dB	Line	Limit	
		dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1315.000	34.02	25.58	2.76	20.31	42.05	74.00	-31.95	Peak
2	1315.000	21.60	25.58	2.76	20.31	29.63	54.00	-24.37	Average
3	2380.000	39.90	27.65	3.81	30.15	41.21	74.00	-32.79	Peak
4	2380.000	27.52	27.65	3.81	30.15	28.83	54.00	-25.17	Average
5	3195.000	38.48	28.76	4.58	29.20	42.62	74.00	-31.38	Peak
6	3195.000	29.35	28.76	4.58	29.20	33.49	54.00	-20.51	Average
7	3800.000	35.42	29.52	5.12	27.12	42.94	74.00	-31.06	Peak
8	3800.000	22.60	29.52	5.12	27.12	30.12	54.00	-23.88	Average
9	4705.000	34.56	31.36	5.81	24.26	47.47	74.00	-26.53	Peak
10	4705.000	21.51	31.36	5.81	24.26	34.42	54.00	-19.58	Average
11	5115.000	33.86	32.10	6.06	23.88	48.14	74.00	-25.86	Peak
12	5115.000	24.15	32.10	6.06	23.88	38.43	54.00	-15.57	Average

Vertical:



Site : 3m chamber  
 Condition : FCC PART 15 (PK) 3m BBHA9120(>1GHZ) VERTICAL  
 Job NO. : 269RF  
 Test mode : ping mode  
 Power Rating : AC 120V /60Hz on PC mains  
 Environment : Temp:24°C Humi:65% Atmos:101Kpa  
 Test Engineer: Joe

	Read	Antenna	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	1405.000	36.39	25.40	2.88	21.66	43.01	74.00 -30.99 Peak
2	1405.000	28.23	25.40	2.88	21.66	34.85	54.00 -19.15 Average
3	2280.000	42.44	27.99	3.73	30.44	43.72	74.00 -30.28 Peak
4	2280.000	30.81	27.99	3.73	30.44	32.09	54.00 -21.91 Average
5	3485.000	36.97	28.86	4.86	27.95	42.74	74.00 -31.26 Peak
6	3485.000	26.35	28.86	4.86	27.95	32.12	54.00 -21.88 Average
7	3925.000	36.21	29.78	5.23	26.83	44.39	74.00 -29.61 Peak
8	3925.000	22.46	29.78	5.23	26.83	30.64	54.00 -23.36 Average
9	4695.000	34.40	31.32	5.79	24.28	47.23	74.00 -26.77 Peak
10	4695.000	24.14	31.32	5.79	24.28	36.97	54.00 -17.03 Average
11	5080.000	33.59	32.06	6.04	23.88	47.81	74.00 -26.19 Peak
12	5080.000	20.14	32.06	6.04	23.88	34.36	54.00 -19.64 Average