

FCC REPORT

Applicant: J.Y.M. DIGITAL TECHNOLOGY LIMITED

Address of Applicant: NO.98 ZHEN TOU ROAD, XIN QIAO, SHA JING TOWN, BAO'AN DISTRICT, SHENZHEN CITY GUANG DONG PROVINCE. CHINA 518104

Equipment Under Test (EUT)

Product Name: Bluetooth Speaker

Model No.: A102

FCC ID: Q62A102-21-22-23

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

Date of sample receipt: 11 Oct., 2012

Date of Test: 12 to 16 Oct., 2012

Date of report issued: 17 Oct., 2012

Test Result : Pass *

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

Authorized Signature:

A circular blue ink stamp from China Certification & Inspection Services (CCIS) is visible. The stamp contains the text "CHINA CERTIFICATION & INSPECTION SERVICES" around the perimeter. Overlaid on the stamp is a handwritten signature in blue ink, which appears to read "Bruce Zhang".

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	17 Oct., 2012	Original

Prepared By:

Joe. Zhou

Project Engineer

Date:

17 Oct., 2012

Check By:

Bruce Zhang

Reviewer

Date:

17 Oct., 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:	J.Y.M. DIGITAL TECHNOLOGY LIMITED
Address of Applicant:	NO.98 ZHEN TOU ROAD, XIN QIAO, SHA JING TOWN, BAO'AN DISTRICT SHENZHEN CITY GUANG DONG PROVINCE. CHINA 518104
Manufacturer/ Factory:	J.Y.M. DIGITAL TECHNOLOGY LIMITED
Address of Manufacturer/ Factory:	NO.98 ZHEN TOU ROAD, XIN QIAO, SHA JING TOWN, BAO'AN DISTRICT SHENZHEN CITY GUANG DONG PROVINCE. CHINA 518104

5.2 General Description of E.U.T.

Product Name:	Bluetooth Speaker
Model No.:	A102
Power supply:	Rechargeable Li-ion battery DC 3.6V-4.2V
Remark	The EUT has two types of USB connector, one is mini USB, and another is micro USB. Base on the pre-scan results, the micro USB mode was the worst case, so all the test items were performed in this mode.

5.3 Operating Modes

Operating mode	Detail description
PC mode :	Keep the EUT in downloading with SD and palying music from the USB port
Aux in mode :	Keep the EUT in Aux in mode
SD Play mode :	Keep the EUT in Mini SD play mode
Pre-scan all modes above menthioned, the PC 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	micro SD	TF(micro-SD)	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

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

5.9 Test Location

All tests were performed at:
<p>China Certification & 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 09 2013
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS202	N/A	N/A
3	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	June 04 2012	June 04 2013
4	Double –ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	May 30 2012	May 30 2013
5	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
6	Coaxial Cable	CCIS	N/A	CCIS0016	Apr. 01 2012	Apr. 01 2013
7	Coaxial Cable	CCIS	N/A	CCIS0017	Apr. 01 2012	Apr. 01 2013
8	Coaxial cable	CCIS	N/A	CCIS0018	Apr. 01 2012	Apr. 01 2013
9	Coaxial Cable	CCIS	N/A	CCIS0019	Apr. 01 2012	Apr. 01 2013
10	Coaxial Cable	CCIS	N/A	CCIS0087	Apr. 01 2012	Apr. 01 2013
11	Amplifier(10KHz-1.3GHz)	HP	8447D	CCIS0003	Apr. 01 2012	Apr. 01 2013
12	Amplifier(1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	June 09 2012	June 09 2013
13	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	Apr. 01 2012	Mar. 31 2013
14	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2012	Mar. 29 2013
15	Coaxial Cable	CCIS	N/A	CCIS0095	Apr. 01 2012	Apr. 01 2013

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 09 2013
2	EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	Apr 01 2012	Apr 01 2013
3	LISN	CHASE	MN2050D	CCIS0074	Apr 01 2012	Apr 01 2013
4	Coaxial Cable	CCIS	N/A	CCIS0086	Apr. 01 2012	Apr. 01 2013
5	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	June 09 2012	June 09 2013
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

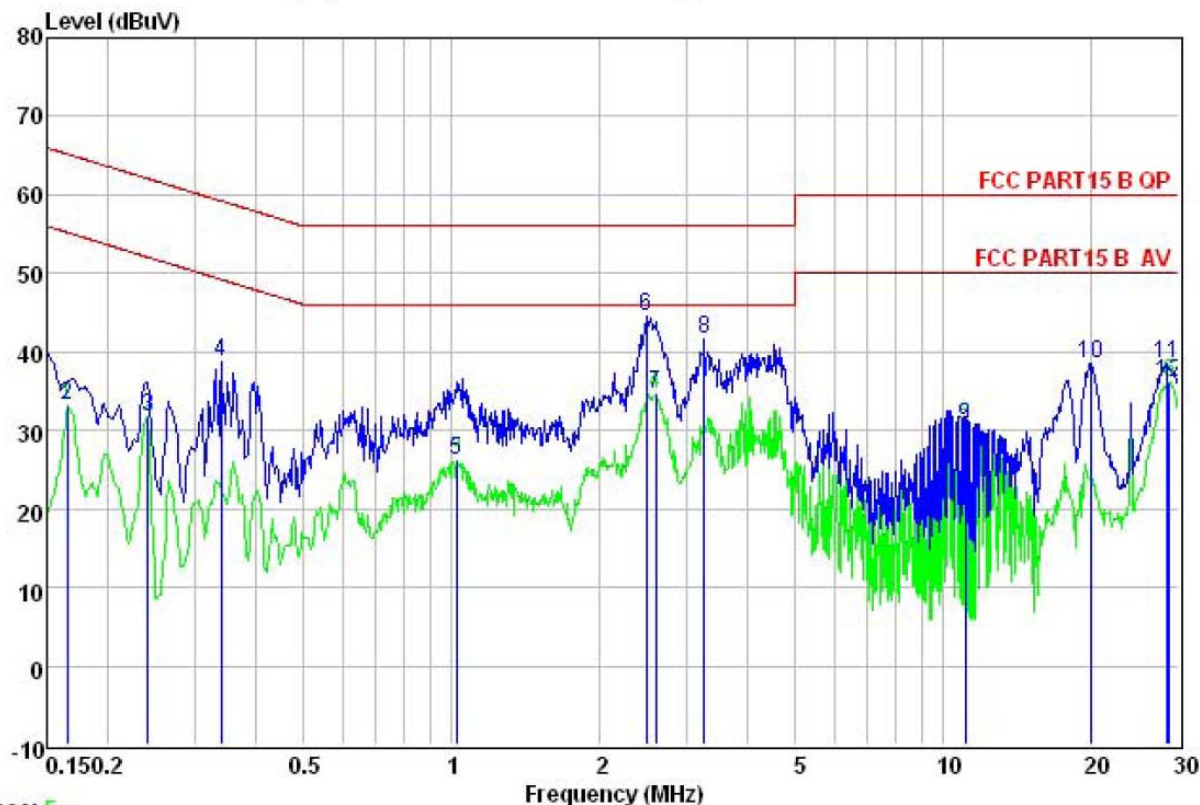
7 Test results and Measurement Data

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;">Reference Plane</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.:	25 °C	Humid.: 52% Press.: 1 012mbar														
Measurement Record:	Uncertainty: 3.28dB																
Test Instruments:	Refer to section 6 for details																
Test mode:	Refer to section 5.3 for details																
Test results:	Pass																

Measurement data:

Line:

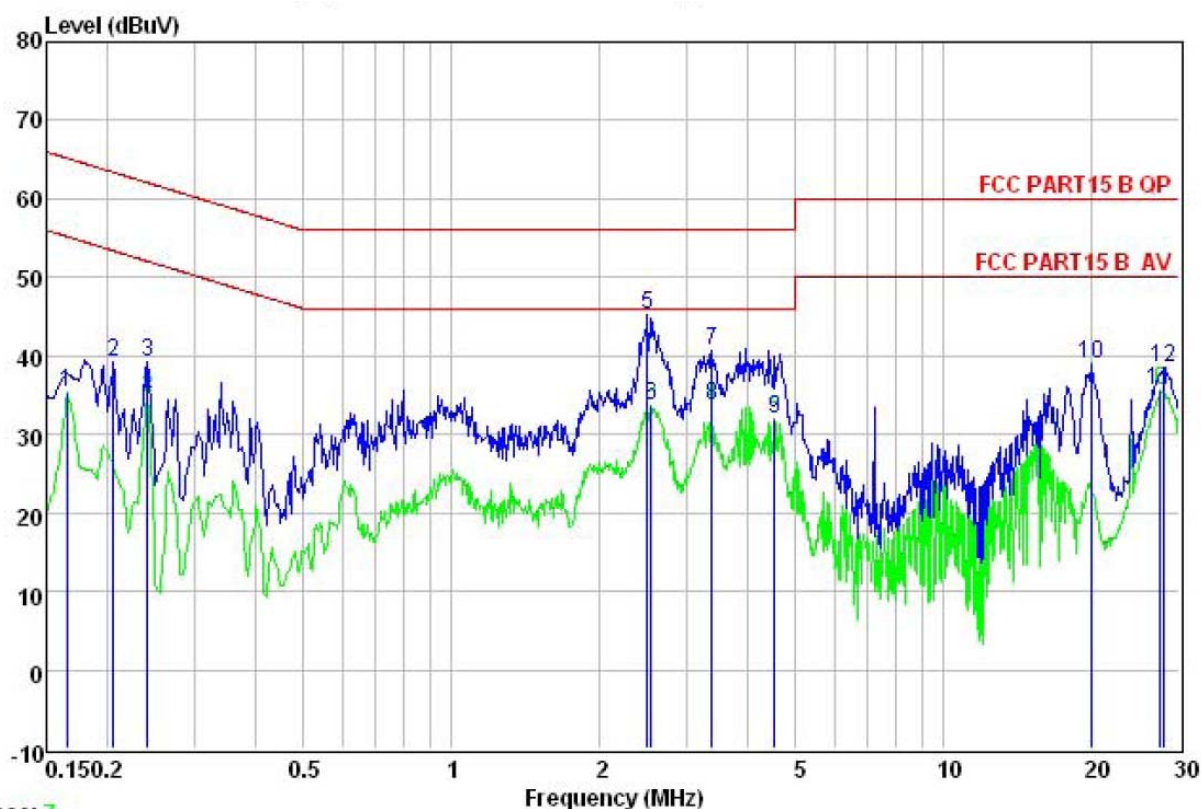


Trace: 5

Site : CCIS Conducted Test Site
Condition : FCC PART15 B QP LISN LINE
Job NO. : 192RF
Test Mode : pc mode
Test engineer: Joe

	Read Freq	Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.150	28.87	10.25	0.79	39.91	66.00	-26.09	QP
2	0.165	22.27	10.24	0.78	33.29	55.21	-21.92	Average
3	0.240	20.86	10.23	0.75	31.84	52.08	-20.24	Average
4	0.339	27.68	10.27	0.73	38.68	59.22	-20.54	QP
5	1.021	15.08	10.21	0.86	26.15	46.00	-19.85	Average
6	2.487	33.31	10.28	0.95	44.54	56.00	-11.46	QP
7	2.594	23.42	10.28	0.94	34.64	46.00	-11.36	Average
8	3.258	30.39	10.29	0.90	41.58	56.00	-14.42	QP
9	11.080	19.27	10.25	0.93	30.45	50.00	-19.55	Average
10	19.845	27.32	10.33	0.93	38.58	60.00	-21.42	QP
11	28.452	26.83	10.78	0.87	38.48	60.00	-21.52	QP
12	28.755	24.46	10.81	0.87	36.14	50.00	-13.86	Average

Neutral:



Trace: 7

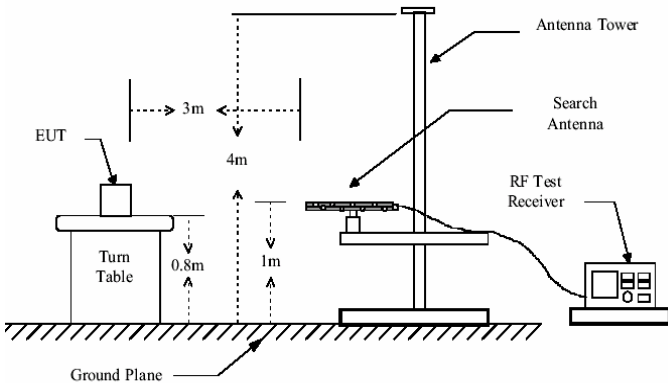
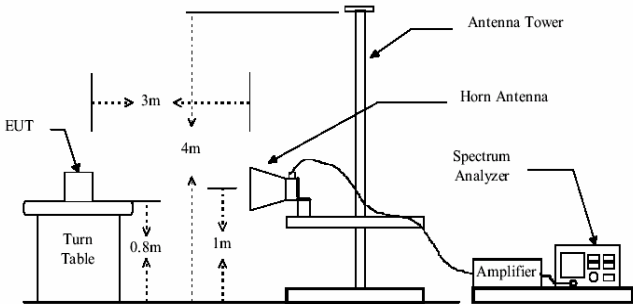
Site : CCIS Conducted Test Site
Condition : FCC PART15 B QP LISN NEUTRAL
Job NO. : 192RF
Test Mode : pc mode
Test engineer: Joe

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.165	24.32	10.26	0.78	35.36	55.21	-19.85	Average
2	0.205	28.34	10.23	0.76	39.33	63.40	-24.07	QP
3	0.240	28.27	10.23	0.75	39.25	62.08	-22.83	QP
4	0.240	23.77	10.23	0.75	34.75	52.08	-17.33	Average
5	2.500	34.02	10.27	0.94	45.23	56.00	-10.77	QP
6	2.540	22.40	10.27	0.94	33.61	46.00	-12.39	Average
7	3.381	29.57	10.28	0.90	40.75	56.00	-15.25	QP
8	3.381	22.50	10.28	0.90	33.68	46.00	-12.32	Average
9	4.525	20.74	10.28	0.88	31.90	46.00	-14.10	Average
10	19.845	27.69	10.34	0.93	38.96	60.00	-21.04	QP
11	27.562	24.00	10.72	0.87	35.59	50.00	-14.41	Average
12	28.003	26.85	10.75	0.87	38.47	60.00	-21.53	QP

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

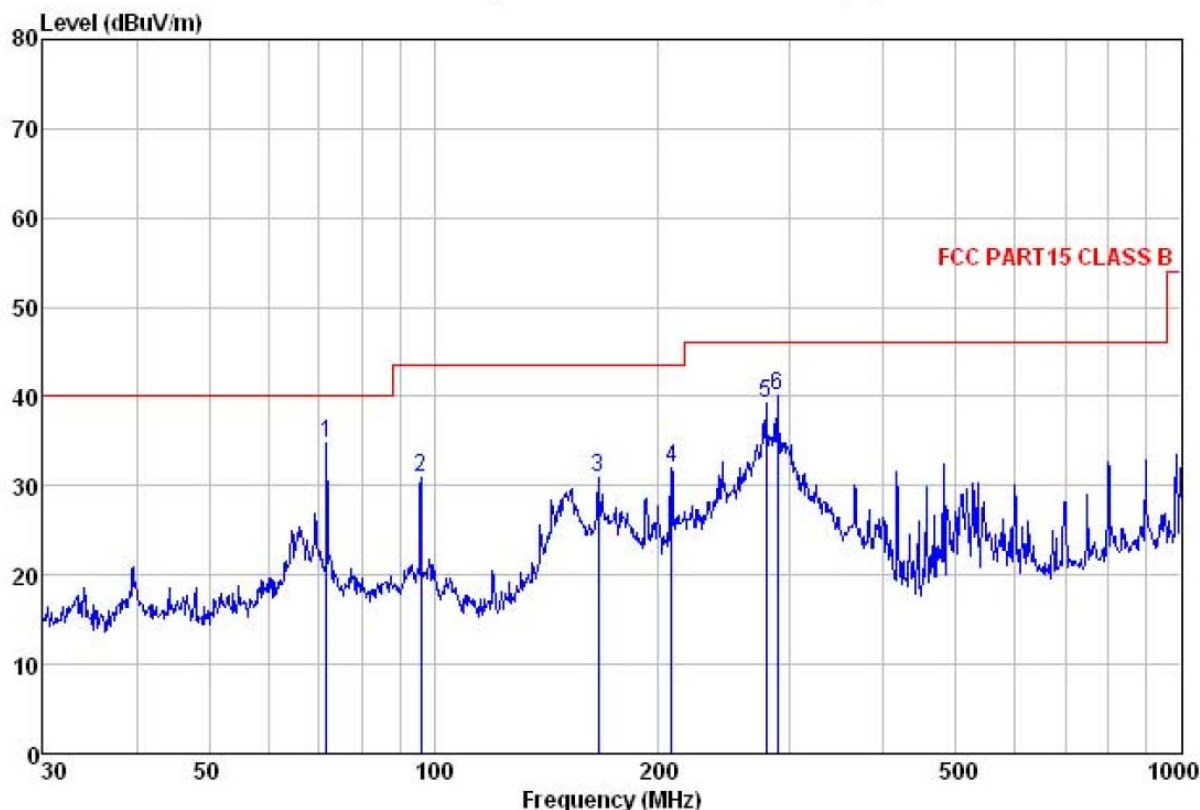
Test Requirement:	FCC Part15 B Section 15.109			
Test Method:	ANSI C63.4:2003			
Test Frequency Range:	30MHz to 6000MHz			
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)			
Receiver setup:	Frequency	Detector	RBW	VBW
	30MHz-1GHz	Quasi-peak	100KHz	300KHz
	Above 1GHz	Peak	1MHz	3MHz
		Peak	1MHz	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
Test setup:	Below 1GHz			Peak Value
	 <p>Below 1GHz</p> <p>Diagram showing the test setup for frequencies below 1GHz. The EUT (Equipment Under Test) is placed on a Turn Table at a height of 0.8m. The measurement distance is 3m. The Search Antenna is mounted on an Antenna Tower at a height of 4m. The RF Test Receiver is connected to the Search Antenna. The Ground Plane is indicated.</p>			
Test setup:	Above 1GHz			Peak Value
	 <p>Above 1GHz</p> <p>Diagram showing the test setup for frequencies above 1GHz. The EUT (Equipment Under Test) is placed on a Turn Table at a height of 0.8m. The measurement distance is 3m. The Horn Antenna is mounted on an Antenna Tower at a height of 4m. The Spectrum Analyzer is connected to the Horn Antenna via an Amplifier.</p>			

Test Procedure:	<div>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.</div> <div>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.</div> <div>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.</div> <div>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.</div> <div>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>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.</div>
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1 012mbar
Measurement Record:	Uncertainty: 4.88dB
Test Instruments:	Refer to section 6 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

■ Below 1G

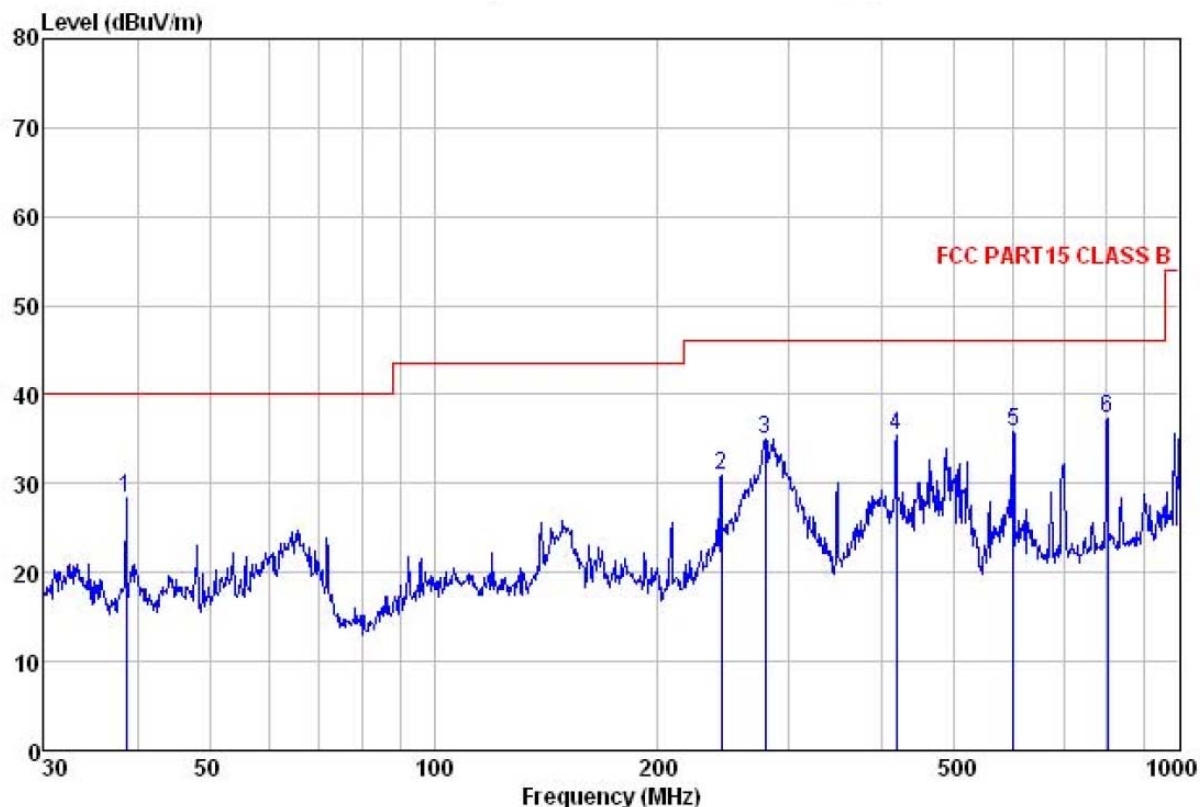
Horizontal:



Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(2012.4.1) HORIZONTAL
 Job No. : 192RF
 Test mode : PC mode
 Test Engineer: Joe

	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over	
	MHz	Level	Loss	Factor	dB	Line	Limit	Remark
		dBuV			dB	dBuV/m	dBuV/m	
			dB/m	dB				
1	71.832	55.75	8.32	0.86	30.14	34.79	40.00	-5.21 QP
2	96.099	47.04	12.90	1.08	30.08	30.94	43.50	-12.56 QP
3	166.068	49.90	8.85	1.48	29.25	30.98	43.50	-12.52 QP
4	207.850	49.40	10.80	1.59	29.78	32.01	43.50	-11.49 QP
5	278.067	54.55	12.63	1.47	29.50	39.15	46.00	-6.85 QP
6	287.990	55.36	12.84	1.46	29.47	40.19	46.00	-5.81 QP

Vertical:

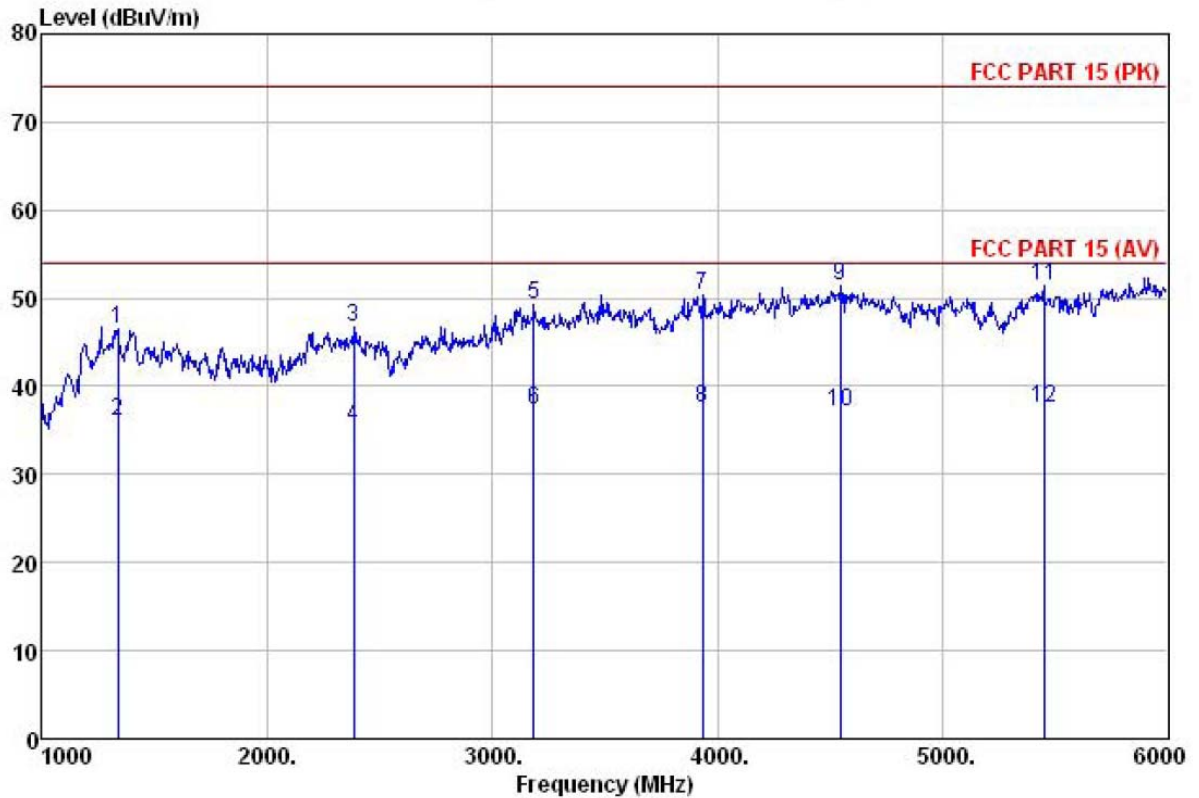


Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(2012.4.1) VERTICAL
 Job No. : 192RF
 Test mode : PC mode
 Test Engineer: Joe

	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over	Remark
	MHz	Level	Factor	Loss Factor	Level	Line	Limit	
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	38.616	41.52	13.25	0.70	27.13	28.34	40.00	-11.66 QP
2	243.377	46.93	12.08	1.52	29.63	30.90	46.00	-15.10 QP
3	278.067	50.43	12.63	1.47	29.50	35.03	46.00	-10.97 QP
4	417.641	48.44	15.43	1.58	30.13	35.32	46.00	-10.68 QP
5	599.321	45.59	18.45	2.32	30.55	35.81	46.00	-10.19 QP
6	801.786	44.42	20.06	3.15	30.40	37.23	46.00	-8.77 QP

■ Above 1G

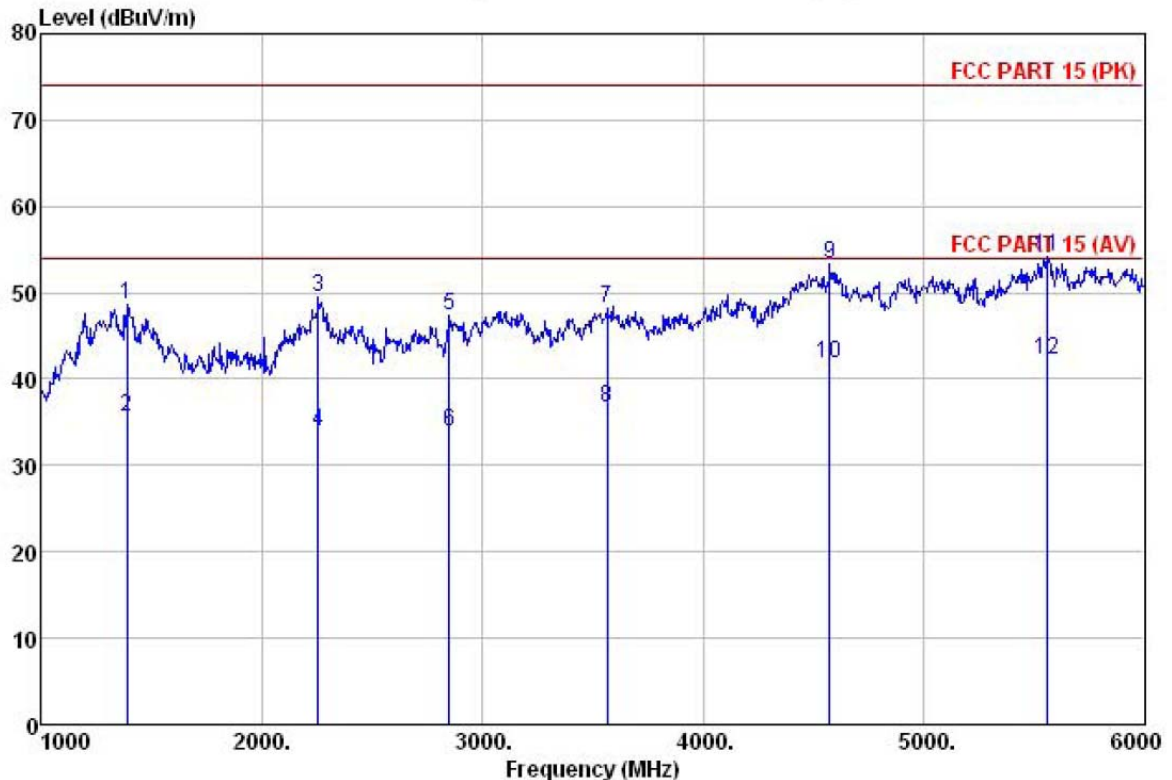
Vertical:



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(>1GHZ) VERTICAL
 Job No. : 192RF
 Test mode : pc mode
 Test Engineer: Joe

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	
		Level	Factor	Loss	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	1335.000	38.55	25.65	2.80	20.58	46.42	74.00	-27.58	Peak
2	1335.000	28.19	25.65	2.80	20.58	36.06	54.00	-17.94	Average
3	2385.000	45.41	27.58	3.81	30.15	46.65	74.00	-27.35	Peak
4	2385.000	34.16	27.58	3.81	30.15	35.40	54.00	-18.60	Average
5	3185.000	45.12	28.76	4.55	29.20	49.23	74.00	-24.77	Peak
6	3185.000	33.16	28.76	4.55	29.20	37.27	54.00	-16.73	Average
7	3935.000	42.23	29.78	5.23	26.80	50.44	74.00	-23.56	Peak
8	3935.000	29.36	29.78	5.23	26.80	37.57	54.00	-16.43	Average
9	4545.000	39.35	30.86	5.70	24.45	51.46	74.00	-22.54	Peak
10	4545.000	25.10	30.86	5.70	24.45	37.21	54.00	-16.79	Average
11	5450.000	36.94	31.99	6.25	23.81	51.37	74.00	-22.63	Peak
12	5450.000	23.14	31.99	6.25	23.81	37.57	54.00	-16.43	Average

Horizontal:



Site : 3m chamber
 Condition : FCC PART 15 (PK) 3m BBHA9120(>1GHZ) HORIZONTAL
 Job No. : 192RF
 Test mode : pc mode
 Test Engineer: Joe

	Freq	ReadAntenna	Cable	Preamp		Limit	Over	
		Level	Factor	Loss	Factor	Level	Line	Limit
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	1385.000	41.68	25.50	2.86	21.39	48.65	74.00	-25.35
2	1385.000	28.60	25.50	2.86	21.39	35.57	54.00	-18.43
3	2255.000	48.32	28.02	3.72	30.50	49.56	74.00	-24.44
4	2255.000	32.65	28.02	3.72	30.50	33.89	54.00	-20.11
5	2850.000	44.98	28.38	4.20	30.10	47.46	74.00	-26.54
6	2850.000	31.50	28.38	4.20	30.10	33.98	54.00	-20.02
7	3565.000	41.91	29.11	4.92	27.78	48.16	74.00	-25.84
8	3565.000	30.50	29.11	4.92	27.78	36.75	54.00	-17.25
9	4575.000	41.14	30.92	5.72	24.43	53.35	74.00	-20.65
10	4575.000	29.60	30.92	5.72	24.43	41.81	54.00	-12.19
11	5560.000	39.55	32.09	6.31	23.81	54.14	74.00	-19.86
12	5560.000	27.59	32.09	6.31	23.81	42.18	54.00	-11.82

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