

# FCC REPORT

**Applicant:** Posturite LTD

**Address of Applicant:** The Mill, Berwick, East Sussex, BN26 6SZ,UK

**Equipment Under Test (EUT)**

Product Name: Wireless Mouse

Model No.: 9820102, 9820103

Trade Mark:



**FCC ID:** Y35-9820103D

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.249:2010

**Date of sample receipt:** Feb. 21, 2012

**Date of Test:** Feb. 21-23, 2012

**Date of report issued:** Feb. 23, 2012

**Test Result :** PASS \*

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

Authorized Signature:

The image shows a handwritten signature in blue ink over a circular blue stamp. The stamp contains the text "GLOBAL UNITED TECHNOLOGY SERVICES CO., LTD." and "GLOBAL TESTING".

Stephen Guo  
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.

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## 2 Version

Version No.	Date	Description
00	Feb. 23, 2012	Original

**Prepared By:**

*Collin He*

**Date:**

*Feb. 23, 2012*

**Project Engineer**

**Check By:**

*Hans. Hu*

**Date:**

*Feb. 23, 2012*

**Reviewer**

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## 4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
AC Power Line Conducted Emission	15.207	Pass
Field strength of the fundamental signal	15.249 (a)	Pass
Spurious emissions	15.249 (a) (d)/15.209	Pass
Band edge	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

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

## 5 General Information

### 5.1 Client Information

Applicant:	Posturite LTD
Address of Applicant:	The Mill, Berwick, East Sussex, BN26 6SZ,UK
Manufacturer:	SHENZHEN BONDIDEA TECHNOLOGY CO.,LIMITED
Address of Manufacturer:	No10th, honghualing industrial park, longxi , longgang, Shenzhen , china
Factory:	SHENZHEN BONDIDEA TECHNOLOGY CO.,LIMITED
Address of factory :	No10th, honghualing industrial park, longxi , longgang, Shenzhen , china

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

Product Name:	Wireless Mouse
Model No.:	9820102, 9820103
Operation Frequency:	2404MHz -2478MHz
Channel numbers:	75
Channel separation:	1MHz
Modulation technology:	GFSK
Antenna Type:	Integral
Antenna gain:	0dBi
Power supply:	DC 5V by USB Port
Remark:	Only the model No. 9820102 was tested. 9820102 and 9820103 are differences for size and appearance color.

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2404MHz	21	2424MHz	41	2444MHz	61	2464MHz
2	2405MHz	22	2425MHz	42	2445MHz	62	2465MHz
3	2406MHz	23	2426MHz	43	2446MHz	63	2466MHz
4	2407MHz	24	2427MHz	44	2447MHz	64	2467MHz
5	2408MHz	25	2428MHz	45	2448MHz	65	2468MHz
6	2409MHz	26	2429MHz	46	2449MHz	66	2469MHz
7	2410MHz	27	2430MHz	47	2450MHz	67	2470MHz
8	2411MHz	28	2431MHz	48	2451MHz	68	2471MHz
9	2412MHz	29	2432MHz	49	2452MHz	69	2472MHz
10	2413MHz	30	2433MHz	50	2453MHz	70	2473MHz
11	2414MHz	31	2434MHz	51	2454MHz	71	2474MHz
12	2415MHz	32	2435MHz	52	2455MHz	72	2475MHz
13	2416MHz	33	2436MHz	53	2456MHz	73	2476MHz
14	2417MHz	34	2437MHz	54	2457MHz	74	2477MHz
15	2418MHz	35	2438MHz	55	2458MHz	75	2478MHz
16	2419MHz	36	2439MHz	56	2459MHz		
17	2420MHz	37	2440MHz	57	2460MHz		
18	2421MHz	38	2441MHz	58	2461MHz		
19	2422MHz	39	2442MHz	59	2462MHz		
20	2423MHz	40	2443MHz	60	2463MHz		

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2404MHz
The middle channel	2441MHz
The Highest channel	2478MHz

### 5.3 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
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### 5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
IBM	Notebook	T42	GTS209	DoC
IBM	AC Adapter	92P1024	N/A	VOC

### 5.5 Test Facility

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

- **FCC —Registration No.: 600491**

Global United Technology 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 our files. Registration 600491, July 20, 2010.

- **Industry Canada (IC)**

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. Has been

Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-1.

### 5.6 Test Location

All tests were performed at:
Global United Technology Services Co., Ltd. Address: 2nd Floor, Block No.2, Laodong Industrial Zone, Xixiang Road Baoan District, Shenzhen, China Tel: 0755-27798480 Fax: 0755-27798960

### 5.7 Other Information Requested by the Customer

None.
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## 5.8 Test Instruments list

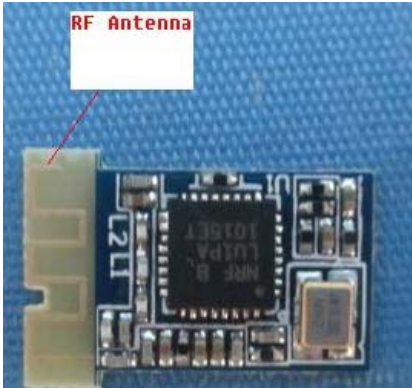
Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 30 2011	Mar. 29 2012
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 04 2011	Jul. 03 2012
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Feb. 26 2011	Feb. 25 2012
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	June 30 2011	June 29 2012
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	Mar. 30 2011	Mar. 29 2012
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	Apr. 01 2011	Mar. 31 2012
9	Coaxial Cable	GTS	N/A	GTS211	Apr. 01 2011	Mar. 31 2012
10	Coaxial cable	GTS	N/A	GTS210	Apr. 01 2011	Mar. 31 2012
11	Coaxial Cable	GTS	N/A	GTS212	Apr. 01 2011	Mar. 31 2012
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 04 2011	Jul. 03 2012
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 04 2011	Jul. 03 2012
14	Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 30 2011	June 29 2012
15	Band filter	Amindeon	82346	GTS219	June 30 2011	June 29 2012

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 2011	Jul. 03 2012
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS223	Jul. 04 2011	Jul. 03 2012
3	10dB Pulse Limit	Rohde & Schwarz	N/A	GTS224	Jul. 04 2011	Jul. 03 2012
4	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS226	Jul. 04 2011	Jul. 03 2012
5	LISN	ETS-LINDGREN	3816/2	GTS232	Jul. 04 2011	Jul. 03 2012
6	Coaxial Cable	GTS	N/A	GTS227	Apr. 01 2011	Mar. 31 2012
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

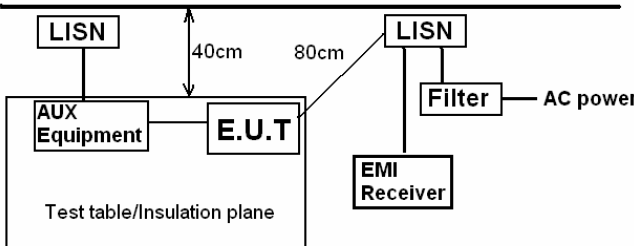


## 6 Test results and Measurement Data

### 6.1 Antenna requirement:

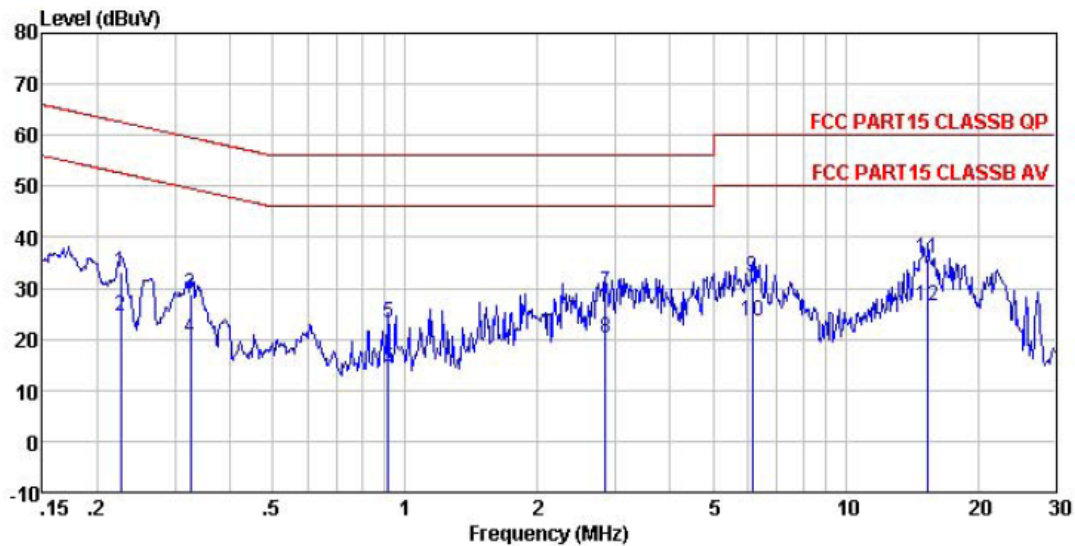
<b>Standard requirement:</b>	FCC Part15 C Section 15.203
<b>15.203 requirement:</b> <p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p>	
<b>E.U.T Antenna:</b> <p>The antenna is Integral antenna which fixed on the main board, the best case gain of the antenna is 0dBi</p>	
	

## 6.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207																
Test Method:	ANSI C63.4:2003																
Test Frequency Range:	150KHz to 30MHz																
Class / Severity:	Class B																
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto																
Limit:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</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>5-30</td><td>60</td><td>50</td></tr></table> <p>* Decreases with the logarithm of the frequency.</p>			Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)																
	Quasi-peak	Average															
0.15-0.5	66 to 56*	56 to 46*															
0.5-5	56	46															
5-30	60	50															
Test setup:	<div><p style="text-align: center;"><b>Reference Plane</b></p><p>Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p></div>																
Test procedure:	<div><div></div><div><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.). This provides 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 refer 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></div></div>																
Test Instruments:	Refer to section 5.7 for details																
Test mode:	Refer to section 5.3 for details																
Test results:	Pass																

### Measurement data:

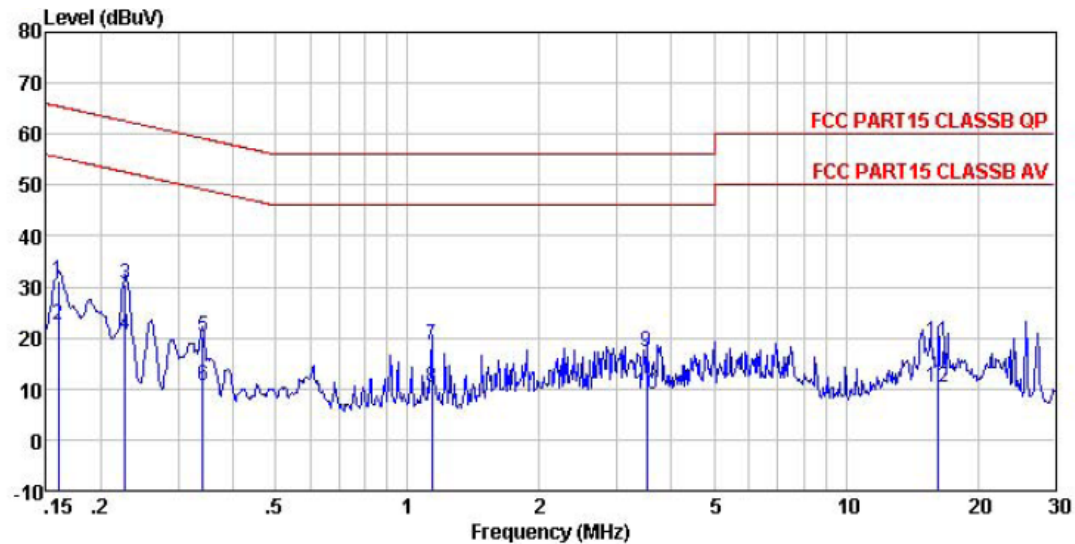
Line:



Condition : FCC PART15 CLASSB QP LISN(2011) LINE  
 Job No. : 085RF  
 Test Mode : Transmitting mode  
 Test engineer: Aarons

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.226	32.51	0.64	0.10	33.25	62.61	-29.36	QP
2	0.226	23.84	0.64	0.10	24.58	52.61	-28.03	Average
3	0.325	28.03	0.60	0.10	28.73	59.57	-30.84	QP
4	0.325	19.43	0.60	0.10	20.13	49.57	-29.44	Average
5	0.914	22.60	0.49	0.10	23.19	56.00	-32.81	QP
6	0.914	13.99	0.49	0.10	14.58	46.00	-31.42	Average
7	2.854	28.59	0.36	0.10	29.05	56.00	-26.95	QP
8	2.854	19.75	0.36	0.10	20.21	46.00	-25.79	Average
9	6.153	31.68	0.28	0.12	32.08	60.00	-27.92	QP
10	6.153	23.14	0.28	0.12	23.54	50.00	-26.46	Average
11	15.388	35.46	0.17	0.20	35.83	60.00	-24.17	QP
12	15.388	26.21	0.17	0.20	26.58	50.00	-23.42	Average

**Neutral:**



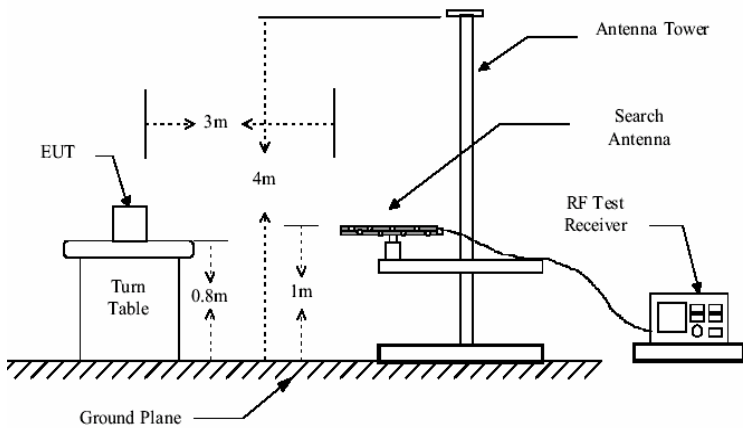
Condition : FCC PART15 CLASSB QP LISN(2011) NEUTRAL  
 Job No. : 085RF  
 Test Mode : Transmitting mode  
 Test engineer: Aarons

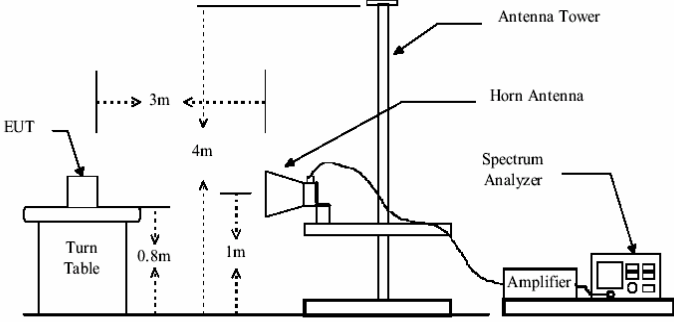
	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.160	30.30	0.68	0.10	31.08	65.47	-34.39	QP
2	0.160	21.79	0.68	0.10	22.57	55.47	-32.90	Average
3	0.227	29.88	0.64	0.10	30.62	62.57	-31.95	QP
4	0.227	19.85	0.64	0.10	20.59	52.57	-31.98	Average
5	0.341	19.64	0.60	0.10	20.34	59.18	-38.84	QP
6	0.341	9.89	0.60	0.10	10.59	49.18	-38.59	Average
7	1.135	17.97	0.46	0.10	18.53	56.00	-37.47	QP
8	1.135	9.67	0.46	0.10	10.23	46.00	-35.77	Average
9	3.509	16.63	0.34	0.10	17.07	56.00	-38.93	QP
10	3.509	8.51	0.34	0.10	8.95	46.00	-37.05	Average
11	16.226	18.90	0.17	0.20	19.27	60.00	-40.73	QP
12	16.226	9.87	0.17	0.20	10.24	50.00	-39.76	Average

**Notes:**

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss

## 6.3 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.4:2003				
Test Frequency Range:	30MHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		Peak	1MHz	10Hz	Average Value
Limit: (Field strength of the fundamental signal)	Frequency		Limit (dBuV/m @3m)		Remark
	2400MHz-2483.5MHz		94.00		Average Value
			114.00		Peak Value
Limit: (Spurious Emissions)	Frequency		Limit (dBuV/m @3m)		Remark
	30MHz-88MHz		40.00		Quasi-peak Value
	88MHz-216MHz		43.50		Quasi-peak Value
	216MHz-960MHz		46.00		Quasi-peak Value
	960MHz-1GHz		54.00		Quasi-peak Value
	Above 1GHz		54.00		Average Value
			74.00		Peak Value
Limit: (band edge)	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.				
Test setup:	Below 1GHz				
	<div></div>				
	Above 1GHz				

	 <p>The diagram illustrates the test setup. An EUT (Equipment Under Test) is placed on a turn table at a height of 0.8m. The turn table is rotated 360 degrees. The EUT is positioned 3m away from the antenna tower. The antenna tower has a horn antenna at a height of 4m. The antenna height is varied from 1m to 4m. The test receiver system consists of a spectrum analyzer and an amplifier.</p>
<p>Test Procedure:</p>	<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 camber. 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 rota 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>
<p>Test Instruments:</p>	<p>Refer to section 5.7 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Pass</p>

Measurement data:

## 6.3.1 Field Strength of The Fundamental Signal

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2404.00	80.99	27.54	3.83	34.83	77.53	114.00	-36.47	Horizontal
2404.00	82.29	27.54	3.83	34.83	78.83	114.00	-35.17	Vertical
2441.00	80.60	27.46	3.85	34.85	77.06	114.00	-36.94	Horizontal
2441.00	82.37	27.46	3.85	34.85	78.83	114.00	-35.17	Vertical
2478.00	80.43	27.52	3.87	34.86	76.96	114.00	-37.04	Horizontal
2478.00	85.03	27.52	3.87	34.86	81.56	114.00	-32.44	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
2404.00	70.47	27.54	3.83	34.83	67.01	94.00	-26.99	Horizontal
2404.00	73.58	27.54	3.83	34.83	70.12	94.00	-23.88	Vertical
2441.00	70.53	27.46	3.85	34.85	66.99	94.00	-27.01	Horizontal
2441.00	73.58	27.46	3.85	34.85	70.04	94.00	-23.96	Vertical
2478.00	70.60	27.52	3.87	34.86	67.13	94.00	-26.87	Horizontal
2478.00	76.90	27.52	3.87	34.86	73.43	94.00	-20.57	Vertical

## 6.3.2 Spurious emissions

■ Below 1GHz

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
66.50	43.82	13.02	0.38	31.91	25.31	40.00	-14.69	Vertical
166.07	48.54	8.86	0.64	32.07	25.97	43.50	-17.53	Vertical
233.35	43.77	11.78	0.85	32.28	24.12	46.00	-21.88	Vertical
364.26	47.62	14.45	1.19	32.31	30.95	46.00	-15.05	Vertical
566.62	42.53	17.85	1.61	31.39	30.60	46.00	-15.40	Vertical
729.36	43.17	19.19	1.96	31.64	32.68	46.00	-13.32	Vertical
99.88	43.40	13.09	0.48	31.69	25.28	43.50	-18.22	Horizontal
165.49	53.68	8.83	0.64	32.07	31.08	43.50	-12.42	Horizontal
196.51	51.62	10.53	0.70	32.24	30.61	43.50	-12.89	Horizontal
232.53	49.00	11.72	0.85	32.28	29.29	46.00	-16.71	Horizontal
364.26	51.27	14.45	1.19	32.31	34.60	46.00	-11.40	Horizontal
729.36	41.88	19.19	1.96	31.64	31.39	46.00	-14.61	Horizontal



■ Above 1GHz

Test channel:	Lowest channel
---------------	----------------

**Peak value:**

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4808.00	34.09	31.53	5.87	35.46	36.03	74.00	-37.97	Vertical
7212.00	33.66	36.47	7.10	35.31	41.92	74.00	-32.08	Vertical
9616.00	34.32	38.10	9.01	35.72	45.71	74.00	-28.29	Vertical
12020.00	*					74.00		Vertical
14424.00	*					74.00		Vertical
16828.00	*					74.00		Vertical
4808.00	33.74	31.53	5.87	35.46	35.68	74.00	-38.32	Horizontal
7212.00	34.88	36.47	7.10	35.31	43.14	74.00	-30.86	Horizontal
9616.00	33.31	38.10	9.01	35.72	44.70	74.00	-29.30	Horizontal
12020.00	*					74.00		Horizontal
14424.00	*					74.00		Horizontal
16828.00	*					74.00		Horizontal

**Average value:**

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4808.00	25.64	31.53	5.87	35.46	27.58	54.00	-26.42	Vertical
7212.00	25.47	36.47	7.10	35.31	33.73	54.00	-20.27	Vertical
9616.00	25.75	38.10	9.01	35.72	37.14	54.00	-16.86	Vertical
12020.00	*					54.00		Vertical
14424.00	*					54.00		Vertical
16828.00	*					54.00		Vertical
4808.00	24.58	31.53	5.87	35.46	26.52	54.00	-27.48	Horizontal
7212.00	25.67	36.47	7.10	35.31	33.93	54.00	-20.07	Horizontal
9616.00	24.86	38.10	9.01	35.72	36.25	54.00	-17.75	Horizontal
12020.00	*					54.00		Horizontal
14424.00	*					54.00		Horizontal
16828.00	*					54.00		Horizontal

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “\*”, means this data is the too weak instrument of signal is unable to test.



Test channel:	Middle channel
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**Peak value:**

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	34.71	31.58	5.91	35.48	36.72	74.00	-37.28	Vertical
7323.00	35.30	36.47	7.14	35.27	43.64	74.00	-30.36	Vertical
9764.00	34.27	38.45	9.06	35.75	46.03	74.00	-27.97	Vertical
12205.00	*					74.00		Vertical
14646.00	*					74.00		Vertical
17087.00	*					74.00		Vertical
4882.00	34.78	31.58	5.91	35.48	36.79	74.00	-37.21	Horizontal
7323.00	35.43	36.47	7.14	35.27	43.77	74.00	-30.23	Horizontal
9764.00	34.78	38.45	9.06	35.75	46.54	74.00	-27.46	Horizontal
12205.00	*					74.00		Horizontal
14646.00	*					74.00		Horizontal
17087.00	*					74.00		Horizontal

**Average value:**

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4882.00	25.43	31.58	5.91	35.48	27.44	54.00	-26.56	Vertical
7323.00	27.49	36.47	7.14	35.27	35.83	54.00	-18.17	Vertical
9764.00	25.48	38.45	9.06	35.75	37.24	54.00	-16.76	Vertical
12205.00	*					54.00		Vertical
14646.00	*					54.00		Vertical
17087.00	*					54.00		Vertical
4882.00	25.64	31.58	5.91	35.48	27.65	54.00	-26.35	Horizontal
7323.00	26.49	36.47	7.14	35.27	34.83	54.00	-19.17	Horizontal
9764.00	25.69	38.45	9.06	35.75	37.45	54.00	-16.55	Horizontal
12205.00	*					54.00		Horizontal
14646.00	*					54.00		Horizontal
17087.00	*					54.00		Horizontal

**Remark:**

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"\*" , means this data is the too weak instrument of signal is unable to test.*

Test channel:	Highest channel
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### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4956.00	34.96	31.69	5.95	35.49	37.11	74.00	-36.89	Vertical
7434.00	35.00	36.60	7.18	35.23	43.55	74.00	-30.45	Vertical
9912.00	34.41	38.66	9.11	35.78	46.40	74.00	-27.60	Vertical
12390.00	*					74.00		Vertical
14868.00	*					74.00		Vertical
17346.00	*					74.00		Vertical
4956.00	35.38	31.69	5.95	35.49	37.53	74.00	-36.47	Horizontal
7434.00	34.30	36.60	7.18	35.23	42.85	74.00	-31.15	Horizontal
9912.00	34.72	38.66	9.11	35.78	46.71	74.00	-27.29	Horizontal
12390.00	*					74.00		Horizontal
14868.00	*					74.00		Horizontal
17346.00	*					74.00		Horizontal

### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4956.00	25.48	31.69	5.95	35.49	27.63	54.00	-26.37	Vertical
7434.00	25.67	36.60	7.18	35.23	34.22	54.00	-19.78	Vertical
9912.00	25.66	38.66	9.11	35.78	37.65	54.00	-16.35	Vertical
12390.00	*					54.00		Vertical
14868.00	*					54.00		Vertical
17346.00	*					54.00		Vertical
4956.00	26.48	31.69	5.95	35.49	28.63	54.00	-25.37	Horizontal
7434.00	25.69	36.60	7.18	35.23	34.24	54.00	-19.76	Horizontal
9912.00	25.47	38.66	9.11	35.78	37.46	54.00	-16.54	Horizontal
12390.00	*					54.00		Horizontal
14868.00	*					54.00		Horizontal
17346.00	*					54.00		Horizontal

### Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. “\*”, means this data is the too weak instrument of signal is unable to test.

### 6.3.3 Bandedge emissions

Test channel:	Lowest channel
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	44.10	27.59	3.81	34.83	40.67	74.00	-33.33	Horizontal
2400.00	45.47	27.58	3.83	34.83	42.05	74.00	-31.95	Horizontal
2390.00	43.50	27.59	3.81	34.83	40.07	74.00	-33.93	Vertical
2400.00	45.67	27.58	3.83	34.83	42.25	74.00	-31.75	Vertical

#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	34.87	27.59	3.81	34.83	31.44	54.00	-22.56	Horizontal
2400.00	36.56	27.58	3.83	34.83	33.14	54.00	-20.86	Horizontal
2390.00	33.48	27.59	3.81	34.83	30.05	54.00	-23.95	Vertical
2400.00	36.47	27.58	3.83	34.83	33.05	54.00	-20.95	Vertical

Test channel:	Highest channel
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#### Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	45.80	27.52	3.89	34.86	42.35	74.00	-31.65	Horizontal
2500.00	42.90	27.55	3.90	34.87	39.48	74.00	-34.52	Horizontal
2483.50	48.15	27.52	3.89	34.86	44.70	74.00	-29.30	Vertical
2500.00	44.95	27.55	3.90	34.87	41.53	74.00	-32.47	Vertical

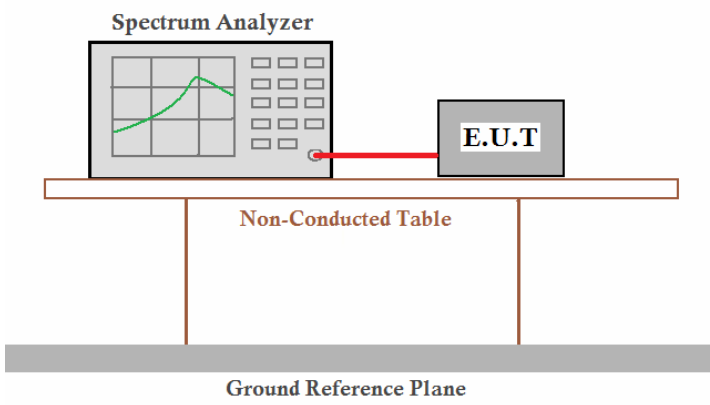
#### Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	36.54	27.52	3.89	34.86	33.09	54.00	-20.91	Horizontal
2500.00	34.58	27.55	3.90	34.87	31.16	54.00	-22.84	Horizontal
2483.50	39.58	27.52	3.89	34.86	36.13	54.00	-17.87	Vertical
2500.00	34.87	27.55	3.90	34.87	31.45	54.00	-22.55	Vertical

#### Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.

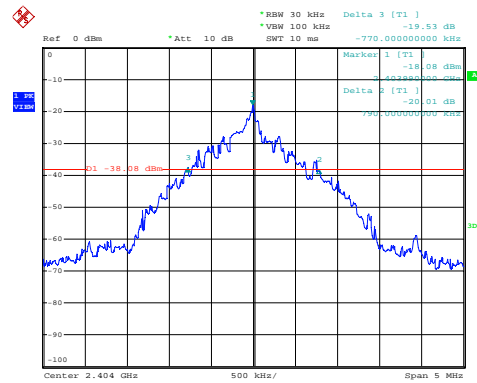
## 6.4 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2003
Limit:	Operation Frequency range 2400MHz~2483.5MHz
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer, showing a frequency spectrum on its screen, is connected to an E.U.T. (Equipment Under Test) by a red cable. Both the Spectrum Analyzer and the E.U.T. are placed on a table labeled 'Non-Conducted Table'. Below this table is a 'Ground Reference Plane'.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

## Measurement Data

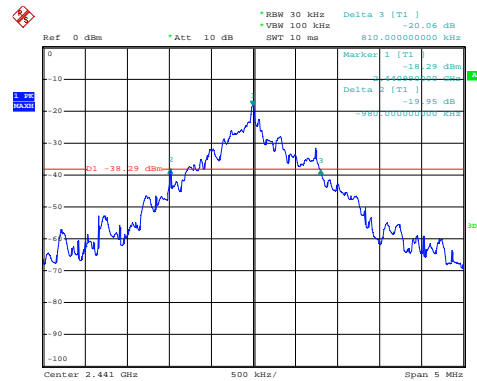
Test channel	20dB bandwidth(MHz)	Result
Lowest	1.560	Pass
Middle	1.790	Pass
Highest	1.830	Pass

Test plot as follows:



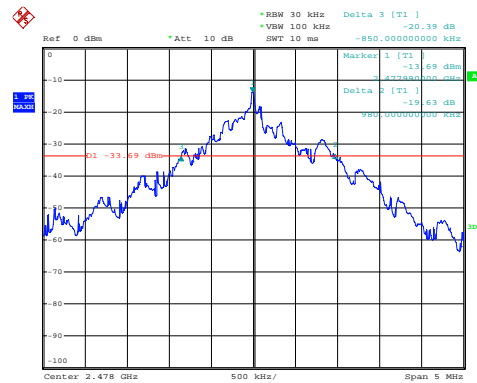
Date: 21.FEB.2012 08:07:42

## Lowest channel



Date: 21.FEB.2012 08:10:55

## Middle channel



Date: 21.FEB.2012 08:12:52

## Highest channel