FCC REPORT

Applicant:	DONGGUAN LINKWIN ELECTRONICS CO., LTD
Address of Applicant:	CHANG SONG ROAD, SONG BAI TANG INDUSTRY, CHANG PING TOWN, DONG GUAN CITY, GUANG DONG, CHINA

Equipment Under Test (EUT)

Product Name:	2.4G WIRELESS MOUSE
Model No.:	LW330, LW300, LW310, LW320, LW340, LW350, LW360, LW370, LW380, LW390, LW500, LW510, LW520, LW530, LW540, LW550, LW560, LW570, LW580, LW590, LW600, LW610, LW620, LW630, LW640, LW650, LW660, LW670, LW680, LW690
FCC ID:	YYFLW330
Standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249: 2009
Date of Receipt:	01 Nov., 2010
Date of Test:	01-06 Nov., 2010
Date of Issue:	10 Nov., 2010
Test Result :	PASS *

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

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Contents

Page

3 Test Summary

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

Remark:

- *Passed: The EUT complies with the essential requirements in the standard.*
- *Failed: The EUT does not comply with the essential requirements in the standard.*
- *Tx: In this whole report Tx (or tx) means Transmitter.*
- *Rx: In this whole report Rx (or rx) means Receiver.*

4 General Information

4.1 Client Information

Applicant:	DONGGUAN LINKWIN ELECTRONICS CO., LTD
Address of Applicant:	CHANG SONG ROAD, SONG BAI TANG INDUSTRY, CHANG PING TOWN, DONG GUAN CITY, GUANG DONG, CHINA
Manufacturer:	DONGGUAN LINKWIN ELECTRONICS CO., LTD
Address of Manufacturer:	CHANG SONG ROAD, SONG BAI TANG INDUSTRY, CHANG PING TOWN, DONG GUAN CITY, GUANG DONG, CHINA

4.2 General Description of E.U.T.

Product Name:	2.4G WIRELESS MOUSE
Model No.:	LW330, LW300, LW310, LW320, LW340, LW350, LW360, LW370, LW380, LW390, LW500, LW510, LW520, LW530, LW540, LW550, LW560, LW570, LW580, LW590, LW600, LW610, LW620, LW630, LW640, LW650, LW660, LW670, LW680, LW690
Operation Frequency:	2403MHz to 2477MHz
Channel numbers:	16
Modulation type:	GFSK
Antenna Type:	Integral
Antenna gain:	2dBi
Power supply:	2*1.5V("AA" size)=3.0V
Remark:	Only the model No. LW330 was tested. LW330, LW300, LW310, LW320, LW340, LW350, LW360, LW370, LW380, LW390, LW500, LW510, LW520, LW530, LW540, LW550, LW560, LW570, LW580, LW590, LW600, LW610, LW620, LW630, LW640, LW650, LW660, LW670, LW680 and LW690 are identical interior structure, electrical circuits, components and appearance with different model names for the marketing requirement.

Note:
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	2403MHz
The middle channel	2442MHz
The Highest channel	2477MHz

4.3 Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	53 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode:	Keep the EUT in transmitting mode with modulation.

GTS has verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:

Operating Environment:

Pre-Test Mode: (lowest channel=2403MHz)

Axis	X	Y	Z
Field Strength(dBuV/m)	83.02	86.55	81.26

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup”

Y axis (see the test setup photo)

4.4 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 fuly described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in out 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.

4.5 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

4.6 Other Information Requested by the Customer

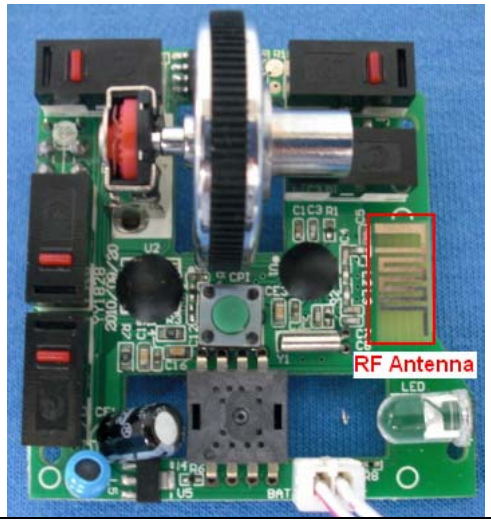
None.

4.7 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	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS201	Mar. 30 2010	Mar. 30 2011
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS202	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Sep. 10 2010	Sep. 10 2011
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS204	Sep. 10 2010	Sep. 10 2011
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS205	June 30 2010	June 30 2011
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Coaxial Cable	GTS	N/A	GTS400	Apr. 01 2010	Apr. 01 2011
8	Coaxial Cable	GTS	N/A	GTS401	Apr. 01 2010	Apr. 01 2011
9	Coaxial cable	GTS	N/A	GTS402	Apr. 01 2010	Apr. 01 2011
10	Coaxial Cable	GTS	N/A	GTS407	Apr. 01 2010	Apr. 01 2011
11	Coaxial Cable	GTS	N/A	GTS408	Apr. 01 2010	Apr. 01 2011
12	Amplifier(10KHz-5GHz)	Sonnoma Instrument	305-1052	GTS210	Aug. 03 2010	Aug. 03 2011
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS231	Aug. 03 2010	Aug. 03 2011

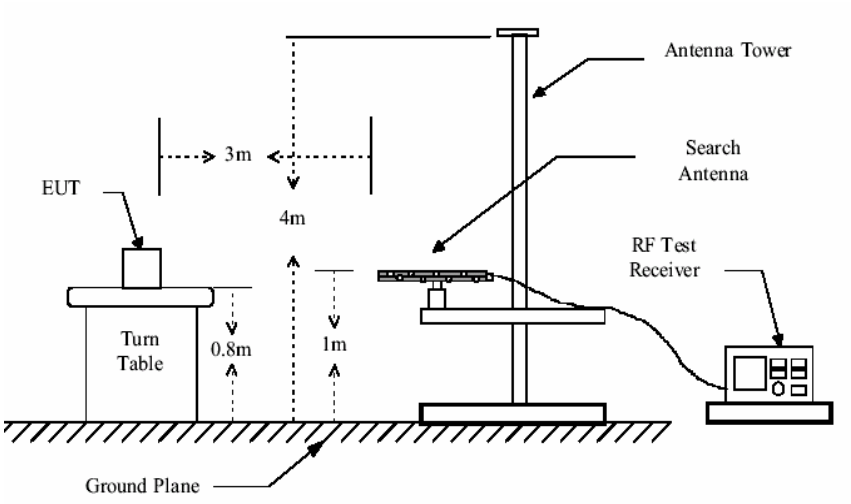
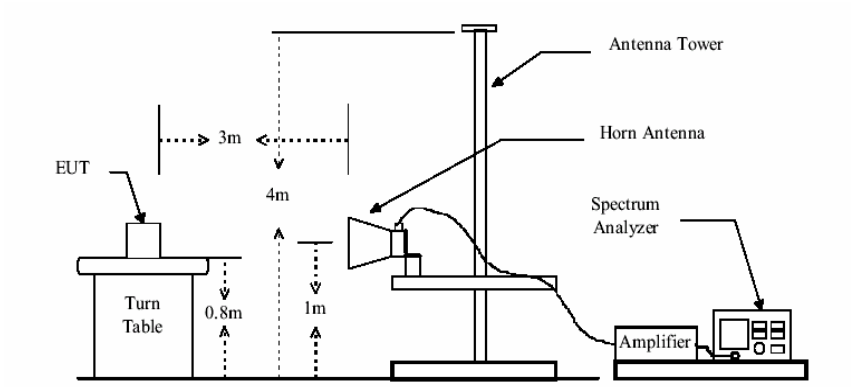
5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: *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.*	
E.U.T Antenna:	
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2dBi. 	

5.2 Radiated Emission

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.249 and 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.4: 2003</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 25000MHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m (Semi-Anechoic Chamber)</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100KHz</td><td>300KHz</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Field strength of the fundamental signal)</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td rowspan="2">2400MHz-2483.5MHz</td><td>94.0</td><td>Average Value</td></tr>
<tr><td>114.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Spurious Emissions)</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.0</td><td>Average Value</td></tr>
<tr><td>74.0</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(band edge)</td><td>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.</td></tr>
<tr><td>Test Procedure:</td><td>a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. 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.
d. 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.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. 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</td></tr>
</table>

	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.
Test setup:	Below 1GHz  Above 1GHz 
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Passed

Note:
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

Measurement Data

5.2.1 Field Strength Of The Fundamental Signal

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
2403.00	82.85	27.57	3.37	30.06	83.73	114.00	-30.27	Horizontal
2403.00	85.67	27.57	3.37	30.06	86.55	114.00	-27.45	Vertical
2442.00	83.96	27.48	3.43	29.99	84.88	114.00	-29.12	Horizontal
2442.00	86.48	27.48	3.43	29.99	87.40	114.00	-26.60	Vertical
2477.00	82.39	27.52	3.49	29.93	83.47	114.00	-30.53	Horizontal
2477.00	85.75	27.52	3.49	29.93	86.83	114.00	-27.17	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
2403.00	63.45	27.57	3.37	30.06	64.33	94.00	-29.67	Horizontal
2403.00	67.85	27.57	3.37	30.06	68.73	94.00	-25.27	Vertical
2442.00	62.74	27.48	3.43	29.99	63.66	94.00	-30.34	Horizontal
2442.00	64.28	27.48	3.43	29.99	65.20	94.00	-28.80	Vertical
2477.00	62.19	27.52	3.49	29.93	63.27	94.00	-30.73	Horizontal
2477.00	65.95	27.52	3.49	29.93	67.03	94.00	-26.97	Vertical

5.2.2 Spurious Emissions

30MHz~1GHz		
Test mode:	Transmitting	

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
31.843	25.75	13.64	30.05	0.61	18.55	40.00	-21.45	Vertical
36.127	25.74	14.29	28.46	0.63	17.64	40.00	-22.36	Vertical
96.436	25.67	14.18	27.45	1.12	17.08	43.50	-26.42	Vertical
176.888	25.63	14.07	26.92	1.67	17.03	43.50	-26.47	Vertical
317.701	25.58	16.76	26.66	2.11	19.95	46.00	-26.05	Vertical
747.483	25.52	23.52	26.58	3.03	27.61	46.00	-18.39	Horizontal
39.576	25.73	15.54	25.45	0.64	15.90	40.00	-24.10	Horizontal
104.536	25.66	12.18	26.40	1.19	14.11	43.50	-29.39	Horizontal
199.286	25.62	11.44	26.54	1.77	14.13	43.50	-29.37	Horizontal
270.375	25.59	13.57	25.39	2.00	15.37	46.00	-30.63	Horizontal

Above 1GHz					
Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4806.00	35.58	31.78	5.34	24.09	48.61	74.00	-25.39	Vertical
7209.00	33.85	36.15	6.87	26.41	50.46	74.00	-23.54	Vertical
9612.00	30.94	38.01	8.95	25.38	52.52	74.00	-21.48	Vertical
12015.00	29.51	39.08	10.34	25.17	53.76	74.00	-20.24	Vertical
14418.00	26.74	42.46	11.66	24.29	56.57	74.00	-17.43	Vertical
16821.00	26.48	42.13	14.47	25.46	57.62	74.00	-16.38	Vertical
4806.00	37.56	31.78	5.34	24.09	50.59	74.00	-23.41	Horizontal
7209.00	34.27	36.15	6.87	26.41	50.88	74.00	-23.12	Horizontal
9612.00	31.76	38.01	8.95	25.38	53.34	74.00	-20.66	Horizontal
12015.00	30.18	39.08	10.34	25.17	54.43	74.00	-19.57	Horizontal
14418.00	28.57	42.46	11.66	24.29	58.40	74.00	-15.60	Horizontal
16821.00	27.33	42.13	14.47	25.46	58.47	74.00	-15.53	Horizontal

Test mode:	Transmitting	Test channel:	Lowest	Remark:	average

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4806.00	24.21	31.78	5.34	24.09	37.24	54.00	-16.76	Vertical
7209.00	20.19	36.15	6.87	26.41	36.80	54.00	-17.20	Vertical
9612.00	18.14	38.01	8.95	25.38	39.72	54.00	-14.28	Vertical
12015.00	16.08	39.08	10.34	25.17	40.33	54.00	-13.67	Vertical
14418.00	12.94	42.46	11.66	24.29	42.77	54.00	-11.23	Vertical
16821.00	11.85	42.13	14.47	25.46	42.99	54.00	-11.01	Vertical
4806.00	24.39	31.78	5.34	24.09	37.42	54.00	-16.58	Horizontal
7209.00	20.97	36.15	6.87	26.41	37.58	54.00	-16.42	Horizontal
9612.00	17.96	38.01	8.95	25.38	39.54	54.00	-14.46	Horizontal
12015.00	16.79	39.08	10.34	25.17	41.04	54.00	-12.96	Horizontal
14418.00	13.37	42.46	11.66	24.29	43.20	54.00	-10.80	Horizontal
16821.00	12.31	42.13	14.47	25.46	43.45	54.00	-10.55	Horizontal

Test mode:	Transmitting	Test channel:	Middle	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4884.00	36.29	31.85	5.40	24.01	49.53	74.00	-24.47	Vertical
7326.00	34.06	36.37	6.91	26.62	50.72	74.00	-23.28	Vertical
9768.00	31.37	38.35	9.01	25.29	53.44	74.00	-20.56	Vertical
12210.00	30.18	38.92	10.39	25.02	54.47	74.00	-19.53	Vertical
14652.00	27.02	42.21	11.94	24.47	56.70	74.00	-17.30	Vertical
17094.00	25.37	44.30	14.54	25.57	58.64	74.00	-15.36	Vertical
4884.00	37.17	31.85	5.40	24.01	50.41	74.00	-23.59	Horizontal
7326.00	33.96	36.37	6.91	26.62	50.62	74.00	-23.38	Horizontal
9768.00	31.54	38.35	9.01	25.29	53.61	74.00	-20.39	Horizontal
12210.00	30.85	38.92	10.39	25.02	55.14	74.00	-18.86	Horizontal
14652.00	28.16	42.21	11.94	24.47	57.84	74.00	-16.16	Horizontal
17094.00	26.37	44.30	14.54	25.57	59.64	74.00	-14.36	Horizontal

Test mode:	Transmitting	Test channel:	Middle	Remark:	average

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4884.00	25.05	31.85	5.40	24.01	38.29	54.00	-15.71	Vertical
7326.00	21.33	36.37	6.91	26.62	37.99	54.00	-16.01	Vertical
9768.00	17.93	38.35	9.01	25.29	40.00	54.00	-14.00	Vertical
12210.00	16.06	38.92	10.39	25.02	40.35	54.00	-13.65	Vertical
14652.00	13.38	42.21	11.94	24.47	43.06	54.00	-10.94	Vertical
17094.00	10.29	44.30	14.54	25.57	43.56	54.00	-10.44	Vertical
4884.00	23.28	31.85	5.40	24.01	36.52	54.00	-17.48	Horizontal
7326.00	20.12	36.37	6.91	26.62	36.78	54.00	-17.22	Horizontal
9768.00	17.21	38.35	9.01	25.29	39.28	54.00	-14.72	Horizontal
12210.00	15.39	38.92	10.39	25.02	39.68	54.00	-14.32	Horizontal
14652.00	13.87	42.21	11.94	24.47	43.55	54.00	-10.45	Horizontal
17094.00	9.98	44.30	14.54	25.57	43.25	54.00	-10.75	Horizontal

Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4954.00	35.94	31.93	5.47	23.93	49.41	74.00	-24.59	Vertical
7431.00	33.94	36.59	6.95	26.89	50.59	74.00	-23.41	Vertical
9908.00	31.73	38.81	9.07	25.23	54.38	74.00	-19.62	Vertical
12385.00	31.57	38.76	10.44	24.77	56.00	74.00	-18.00	Vertical
14862.00	26.48	41.52	12.40	24.56	55.84	74.00	-18.16	Vertical
17339.00	24.24	46.19	14.63	25.95	59.11	74.00	-14.89	Vertical
4954.00	38.01	31.93	5.47	23.93	51.48	74.00	-22.52	Horizontal
7431.00	34.07	36.59	6.95	26.89	50.72	74.00	-23.28	Horizontal
9908.00	32.16	38.81	9.07	25.23	54.81	74.00	-19.19	Horizontal
12385.00	31.58	38.76	10.44	24.77	56.01	74.00	-17.99	Horizontal
14862.00	27.98	41.52	12.40	24.56	57.34	74.00	-16.66	Horizontal
17339.00	26.10	46.19	14.63	25.95	60.97	74.00	-13.03	Horizontal

Test mode:	Transmitting	Test channel:	Highest	Remark:	average

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4954.00	23.74	31.93	5.47	23.93	37.21	54.00	-16.79	Vertical
7431.00	21.48	36.59	6.95	26.89	38.13	54.00	-15.87	Vertical
9908.00	16.39	38.81	9.07	25.23	39.04	54.00	-14.96	Vertical
12385.00	13.95	38.76	10.44	24.77	38.38	54.00	-15.62	Vertical
14862.00	10.83	41.52	12.40	24.56	40.19	54.00	-13.81	Vertical
17339.00	10.11	46.19	14.63	25.95	44.98	54.00	-9.02	Vertical
4954.00	22.96	31.93	5.47	23.93	36.43	54.00	-17.57	Horizontal
7431.00	19.92	36.59	6.95	26.89	36.57	54.00	-17.43	Horizontal
9908.00	16.73	38.81	9.07	25.23	39.38	54.00	-14.62	Horizontal
12385.00	15.22	38.76	10.44	24.77	39.65	54.00	-14.35	Horizontal
14862.00	13.07	41.52	12.40	24.56	42.43	54.00	-11.57	Horizontal
17339.00	9.25	46.19	14.63	25.95	44.12	54.00	-9.88	Horizontal

5.2.3 Band edge (Radiated Emission)

Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak

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	40.17	27.22	3.14	30.76	39.77	74.00	-34.23	Vertical
2400.00	42.58	27.58	3.37	30.10	43.43	74.00	-30.57	Vertical
2390.00	38.17	27.22	3.14	30.76	37.77	74.00	-36.23	Horizontal
2400.00	41.07	27.58	3.37	30.10	41.92	74.00	-32.08	Horizontal

Test mode:	Transmitting	Test channel:	Lowest	Remark:	Average

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	25.15	27.22	3.14	30.76	24.75	54.00	-29.25	Vertical
2400.00	28.95	27.58	3.37	30.10	29.80	54.00	-24.20	Vertical
2390.00	23.76	27.22	3.14	30.76	23.36	54.00	-30.64	Horizontal
2400.00	26.49	27.58	3.37	30.10	27.34	54.00	-26.66	Horizontal

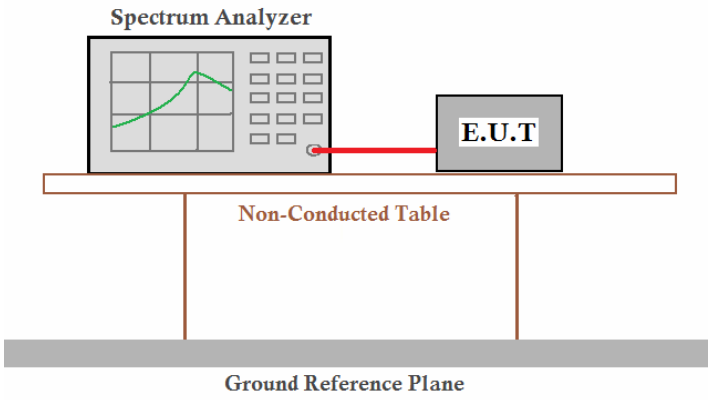
Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak

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	41.00	27.53	3.49	29.93	42.09	74.00	-31.91	Vertical
2500.00	39.58	27.58	3.52	29.98	40.70	74.00	-33.30	Vertical
2483.50	39.36	27.53	3.49	29.93	40.45	74.00	-33.55	Horizontal
2500.00	37.79	27.58	3.52	29.98	38.91	74.00	-35.09	Horizontal

Test mode:	Transmitting	Test channel:	Highest	Remark:	Average

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	30.85	27.53	3.49	29.93	31.94	54.00	-22.06	Vertical
2500.00	28.75	27.58	3.52	29.98	29.87	54.00	-24.13	Vertical
2483.50	28.92	27.53	3.49	29.93	30.01	54.00	-23.99	Horizontal
2500.00	26.39	27.58	3.52	29.98	27.51	54.00	-26.49	Horizontal

5.3 20dB Bandwidth

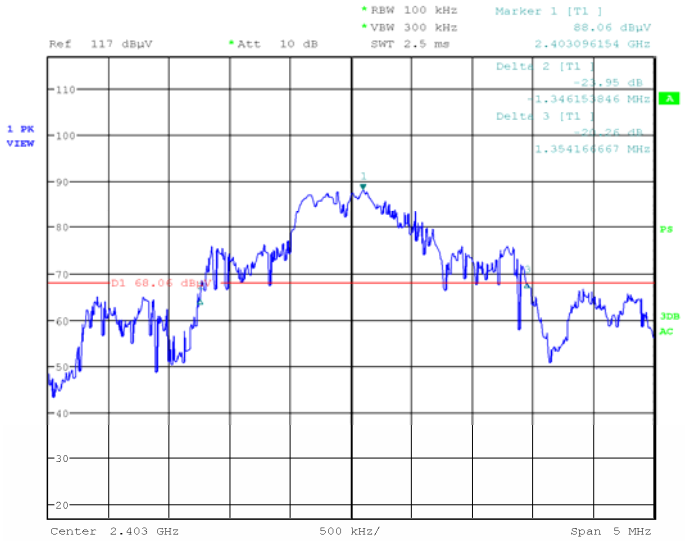
Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2003
Receiver setup:	RBW=10KHz, VBW=30KHz, detector: Peak
Limit:	Operation Frequency range 2400MHz-2483.5MHz
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set the EUT to proper test channel. 3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. 4. Read 20dB bandwidth.
Test setup:	
Test Instruments:	Refer to section 4.7 for details
Test mode:	Refer to section 4.3 for details
Test results:	Passed

Measurement Data

Test channel	20dB bandwidth (MHz)	Results
Lowest	2.700	Pass
Middle	2.733	Pass
Highest	2.669	Pass

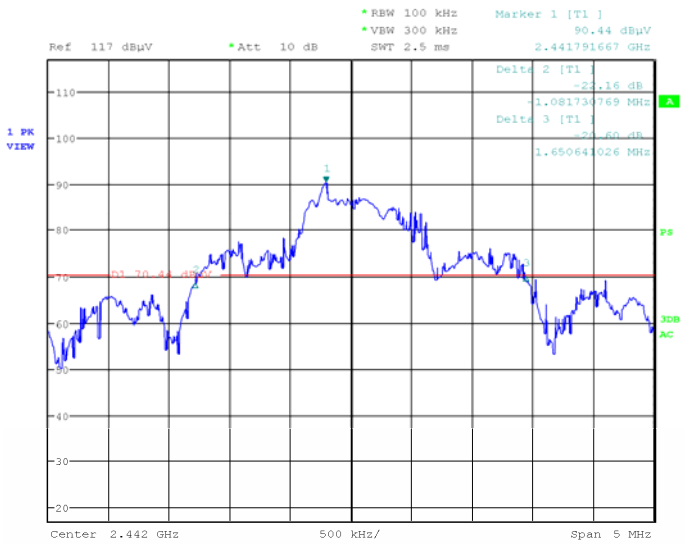
Test plot as follows:

Test channel:	Lowest	



Date: 6.NOV.2010 16:22:01

Test channel:	Middle	



Date: 6.NOV.2010 16:19:00

Test channel:	Highest