Report No: GTSE11010005501

FCC REPORT

Applicant:	Shenzhen Xingxingyu Electronics Co., Ltd
Address of Applicant:	Jiurong Shuzhi Building, Bao'an 33 District, Shenzhen, Guangdong, China

Equipment Under Test (EUT)

Product Name:	Wireless mouse
Model No.:	VR-405, VR-402, VR-403, VR-406, VR-408, VR-413, VR-417, VR-419
Trade mark:	Xingyu
FCC ID:	ZCVVR-405
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.249:2009
Date of sample receipt:	25 Feb., 2011
Date of Test:	07 Mar., 2011
Date of report issued:	09 Mar., 2011
Test Result :	PASS *

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

Authorized Signature:

Robinson Lo
Laboratory Manager

2 Contents

3 Test Summary

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

Remark:

- *Pass: The EUT complies with the essential requirements in the standard.*
- *Fail: 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:	Shenzhen Xingxingyu Electronics Co., Ltd
Address of Applicant:	Jiurong Shuzhi Building, Bao'an 33 District, Shenzhen, Guangdong, China
Manufacturer/ Factory:	Shenzhen Xingxingyu Electronics Co., Ltd
Address of Manufacturer/ Factory:	Jiurong Shuzhi Building, Bao'an 33 District, Shenzhen, Guangdong, China

4.2 General Description of E.U.T.

Product Name:	Wireless mouse
Model No.:	VR-405, VR-402, VR-403, VR-406, VR-408, VR-413, VR-417,VR-419
Operation Frequency:	2402MHz to 2480MHz
Channel numbers:	79
Channel separation:	1MHz
Modulation type:	GFSK
Antenna Type:	Integral
Antenna gain:	2dBi
Power supply:	DC 1.5V ("AA" Size Battery)
Remark:	Only the model No. VR-405 was tested. VR-402, VR-403, VR-406, VR-408, VR-413, VR-417, VR-419 and VR-405 are identical in interior structure, electrical circuits, and components, with different color for the appearance.

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz
3	2404MHz	23	2424MHz	43	2444MHz	63	2464MHz
4	2405MHz	24	2425MHz	44	2445MHz	64	2465MHz
5	2406MHz	25	2426MHz	45	2446MHz	65	2466MHz
6	2407MHz	26	2427MHz	46	2447MHz	66	2467MHz
7	2408MHz	27	2428MHz	47	2448MHz	67	2468MHz
8	2409MHz	28	2429MHz	48	2449MHz	68	2469MHz
9	2410MHz	29	2430MHz	49	2450MHz	69	2470MHz
10	2411MHz	30	2431MHz	50	2451MHz	70	2471MHz
11	2412MHz	31	2432MHz	51	2452MHz	71	2472MHz
12	2413MHz	32	2433MHz	52	2453MHz	72	2473MHz
13	2414MHz	33	2434MHz	53	2454MHz	73	2474MHz
14	2415MHz	34	2435MHz	54	2455MHz	74	2475MHz
15	2416MHz	35	2436MHz	55	2456MHz	75	2476MHz
16	2417MHz	36	2437MHz	56	2457MHz	76	2477MHz
17	2418MHz	37	2438MHz	57	2458MHz	77	2478MHz
18	2419MHz	38	2439MHz	58	2459MHz	78	2479MHz
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz
20	2421MHz	40	2441MHz	60	2461MHz		

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	2402MHz
The middle channel	2441MHz
The Highest channel	2480MHz

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=2402MHz)

Axis	X	Y	Z
Field Strength(dBuV/m)	98.48	101.23	94.77

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 Services 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 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.

4.5 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

4.6 Other Information Requested by the Customer

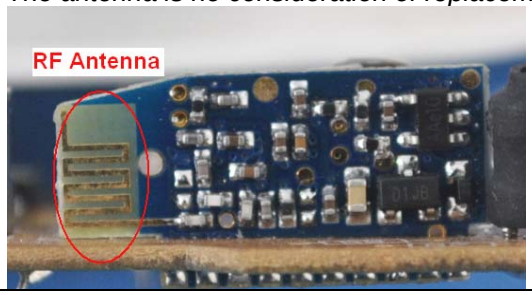
None.

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	Feb. 26 2011	Feb. 26 2012
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

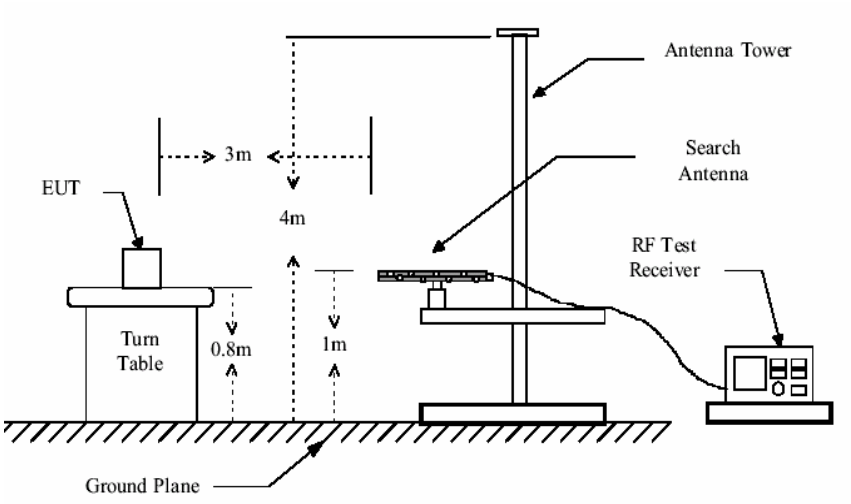
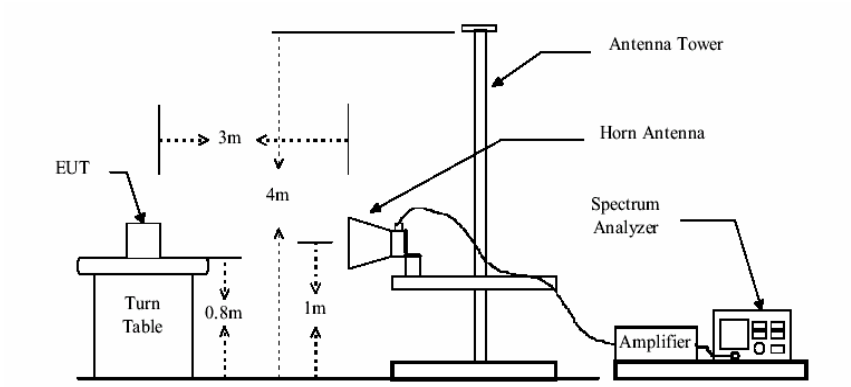
5 Test results and Measurement Data

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 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
2402.00	100.38	27.58	3.37	30.10	101.23	114.00	-12.77	Horizontal
2402.00	96.53	27.58	3.37	30.10	97.38	114.00	-16.62	Vertical
2441.00	97.89	27.48	3.43	29.99	98.81	114.00	-15.19	Horizontal
2441.00	94.65	27.48	3.43	29.99	95.57	114.00	-18.43	Vertical
2480.00	100.64	27.52	3.49	29.93	95.18	114.00	-18.82	Horizontal
2480.00	96.73	27.52	3.49	29.93	91.27	114.00	-22.73	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
2402.00	84.05	27.58	3.37	30.10	84.90	94.00	-9.10	Horizontal
2402.00	80.94	27.58	3.37	30.10	81.79	94.00	-12.21	Vertical
2441.00	81.67	27.48	3.43	29.99	82.59	94.00	-11.41	Horizontal
2441.00	76.71	27.48	3.43	29.99	77.63	94.00	-16.37	Vertical
2480.00	83.68	27.52	3.49	29.93	84.76	94.00	-9.24	Horizontal
2480.00	80.51	27.52	3.49	29.93	78.91	94.00	-15.09	Vertical

5.2.2 Spurious Emissions

30MHz~1GHz		
Test mode:	Transmitting	

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
60.07	0.80	7.19	28.05	34.30	14.24	40.00	-25.76	Vertical
98.87	1.19	9.06	27.89	33.63	15.99	43.50	-27.51	Vertical
125.06	1.27	7.80	27.64	40.08	21.51	43.50	-21.99	Vertical
316.15	1.96	14.50	26.85	29.94	19.55	46.00	-26.45	Vertical
796.30	3.19	22.08	26.95	36.82	35.14	46.00	-10.86	Vertical
90.14	1.10	8.71	27.95	30.36	12.22	43.50	-31.28	Horizontal
106.63	1.22	8.77	27.81	30.93	13.11	43.50	-30.39	Horizontal
136.70	1.29	7.98	27.55	31.64	13.36	43.50	-30.14	Horizontal
295.78	1.88	13.72	26.73	29.78	18.65	46.00	-27.35	Horizontal
536.34	2.64	18.68	27.67	32.53	26.18	46.00	-19.82	Horizontal

Above 1GHz					
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
4804.00	36.02	31.78	5.32	24.09	49.03	74.00	-24.97	Vertical
7206.00	32.78	36.15	6.87	26.38	49.42	74.00	-24.58	Vertical
9608.00	31.00	37.95	8.94	25.40	52.49	74.00	-21.51	Vertical
12010.00	28.31	39.08	10.34	25.19	52.54	74.00	-21.46	Vertical
14412.00	25.13	42.41	11.64	24.28	54.90	74.00	-19.10	Vertical
4804.00	36.31	31.78	5.32	24.09	49.32	74.00	-24.68	Horizontal
7206.00	33.14	36.15	6.87	26.38	49.78	74.00	-24.22	Horizontal
9608.00	31.43	37.95	8.94	25.40	52.92	74.00	-21.08	Horizontal
12010.00	28.81	39.08	10.34	25.19	53.04	74.00	-20.96	Horizontal
14412.00	25.70	42.41	11.64	24.28	55.47	74.00	-18.53	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
4804.00	23.17	31.78	5.32	24.09	36.18	54.00	-17.82	Vertical
7206.00	19.46	36.15	6.87	26.38	36.10	54.00	-17.90	Vertical
9608.00	15.20	37.95	8.94	25.40	36.69	54.00	-17.31	Vertical
12010.00	14.64	39.08	10.34	25.19	38.87	54.00	-15.13	Vertical
14412.00	9.99	42.41	11.64	24.28	39.76	54.00	-14.24	Vertical
4804.00	23.46	31.78	5.32	24.09	36.47	54.00	-17.53	Horizontal
7206.00	19.82	36.15	6.87	26.38	36.46	54.00	-17.54	Horizontal
9608.00	15.63	37.95	8.94	25.40	37.12	54.00	-16.88	Horizontal
12010.00	15.14	39.08	10.34	25.19	39.37	54.00	-14.63	Horizontal
14412.00	10.56	42.41	11.64	24.28	40.33	54.00	-13.67	Horizontal

Remark: Above 6th harmonic for radiated emissions is unavailable, because in the case the disturbance is very low. So the test result only displays that below 7th harmonic frequency.

Test mode:	Transmitting	Test channel:	Middle	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
4882.00	37.37	31.85	5.40	24.01	50.61	74.00	-23.39	Vertical
7323.00	32.21	36.37	6.91	26.62	48.87	74.00	-25.13	Vertical
9764.00	30.09	38.35	9.01	25.29	52.16	74.00	-21.84	Vertical
12205.00	28.00	38.92	10.39	25.02	52.29	74.00	-21.71	Vertical
14480.00	25.96	42.51	11.71	24.33	55.85	74.00	-18.15	Vertical
4882.00	37.13	31.85	5.40	24.01	50.37	74.00	-23.63	Horizontal
7323.00	32.01	36.37	6.91	26.62	48.67	74.00	-25.33	Horizontal
9764.00	29.93	38.35	9.01	25.29	52.00	74.00	-22.00	Horizontal
12205.00	27.88	38.92	10.39	25.02	52.17	74.00	-21.83	Horizontal
14480.00	25.88	42.51	11.71	24.33	55.77	74.00	-18.23	Horizontal

Test mode:	Transmitting	Test channel:	Middle	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
4882.00	22.41	31.85	5.40	24.01	35.65	54.00	-18.35	Vertical
7323.00	19.37	36.37	6.91	26.62	36.03	54.00	-17.97	Vertical
9764.00	15.77	38.35	9.01	25.29	37.84	54.00	-16.16	Vertical
12205.00	13.84	38.92	10.39	25.02	38.13	54.00	-15.87	Vertical
14480.00	11.67	42.51	11.71	24.33	41.56	54.00	-12.44	Vertical
4882.00	22.17	31.85	5.40	24.01	35.41	54.00	-18.59	Horizontal
7323.00	19.17	36.37	6.91	26.62	35.83	54.00	-18.17	Horizontal
9764.00	15.61	38.35	9.01	25.29	37.68	54.00	-16.32	Horizontal
12205.00	13.72	38.92	10.39	25.02	38.01	54.00	-15.99	Horizontal
14480.00	11.59	42.51	11.71	24.33	41.48	54.00	-12.52	Horizontal

Remark: Above 6th harmonic for radiated emissions is unavailable, because in the case the disturbance is very low. So the test result only displays that below 7th harmonic frequency.

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
4960.00	36.98	31.93	5.47	23.93	50.45	74.00	-23.55	Vertical
7440.00	32.80	36.59	6.95	26.95	49.39	74.00	-24.61	Vertical
9920.00	28.95	38.81	9.07	25.22	51.61	74.00	-22.39	Vertical
12400.00	28.73	38.76	10.44	24.74	53.19	74.00	-20.81	Vertical
14646.00	24.69	42.21	11.94	24.47	54.37	74.00	-19.63	Vertical
4960.00	37.00	31.93	5.47	23.93	50.47	74.00	-23.53	Horizontal
7440.00	32.83	36.59	6.95	26.95	49.42	74.00	-24.58	Horizontal
9920.00	28.99	38.81	9.07	25.22	51.65	74.00	-22.35	Horizontal
12400.00	28.78	38.76	10.44	24.74	53.24	74.00	-20.76	Horizontal
14646.00	24.75	42.21	11.94	24.47	54.43	74.00	-19.57	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
4960.00	21.63	31.93	5.47	23.93	35.10	54.00	-18.90	Vertical
7440.00	18.15	36.59	6.95	26.95	34.74	54.00	-19.26	Vertical
9920.00	14.42	38.81	9.07	25.22	37.08	54.00	-16.92	Vertical
12400.00	12.47	38.76	10.44	24.74	36.93	54.00	-17.07	Vertical
14646.00	10.38	42.21	11.94	24.47	40.06	54.00	-13.94	Vertical
4960.00	21.65	31.93	5.47	23.93	35.12	54.00	-18.88	Horizontal
7440.00	18.18	36.59	6.95	26.95	34.77	54.00	-19.23	Horizontal
9920.00	14.46	38.81	9.07	25.22	37.12	54.00	-16.88	Horizontal
12400.00	12.52	38.76	10.44	24.74	36.98	54.00	-17.02	Horizontal
14646.00	10.44	42.21	11.94	24.47	40.12	54.00	-13.88	Horizontal

Remark: Above 6th harmonic for radiated emissions is unavailable, because in the case the disturbance is very low. So the test result only displays that below 7th harmonic frequency.

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	47.57	27.22	3.14	30.76	48.02	74.00	-25.98	Horizontal
2400.00	52.99	27.58	3.37	30.10	54.69	74.00	-19.31	Horizontal
2390.00	46.07	27.22	3.14	30.76	46.52	74.00	-27.48	Vertical
2400.00	49.43	27.58	3.37	30.10	51.13	74.00	-22.87	Vertical

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	32.59	27.22	3.14	30.76	32.19	54.00	-21.81	Horizontal
2400.00	37.84	27.58	3.37	30.10	38.69	54.00	-15.31	Horizontal
2390.00	30.42	27.22	3.14	30.76	30.02	54.00	-23.98	Vertical
2400.00	34.96	27.58	3.37	30.10	35.81	54.00	-18.19	Vertical

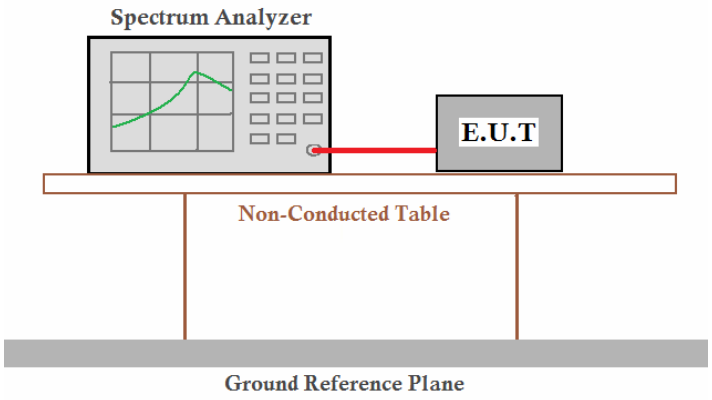
Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak

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	48.98	27.53	3.49	29.93	50.07	74.00	-23.93	Horizontal
2500.00	48.59	27.58	3.52	29.98	49.71	74.00	-24.29	Horizontal
2483.50	46.48	27.53	3.49	29.93	47.57	74.00	-26.43	Vertical
2500.00	46.24	27.58	3.52	29.98	47.36	74.00	-26.64	Vertical

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	35.26	27.53	3.49	29.93	36.35	54.00	-17.65	Horizontal
2500.00	30.42	27.58	3.52	29.98	31.54	54.00	-22.46	Horizontal
2483.50	32.15	27.53	3.49	29.93	33.24	54.00	-20.76	Vertical
2500.00	28.96	27.58	3.52	29.98	30.08	54.00	-23.92	Vertical

5.3 20dB Bandwidth

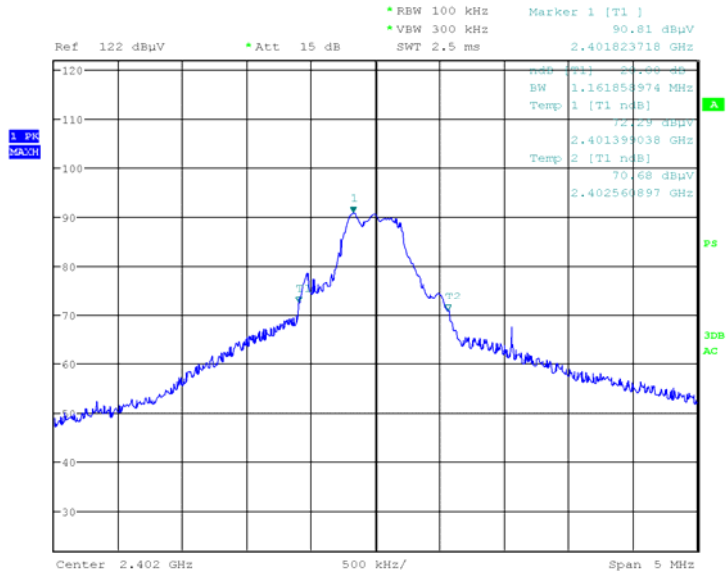
Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2003
Receiver setup:	RBW=10KHz, VBW=30KHz, detector: Peak
Limit:	Operation Frequency range 2400MHz-2483.5MHz
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and 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

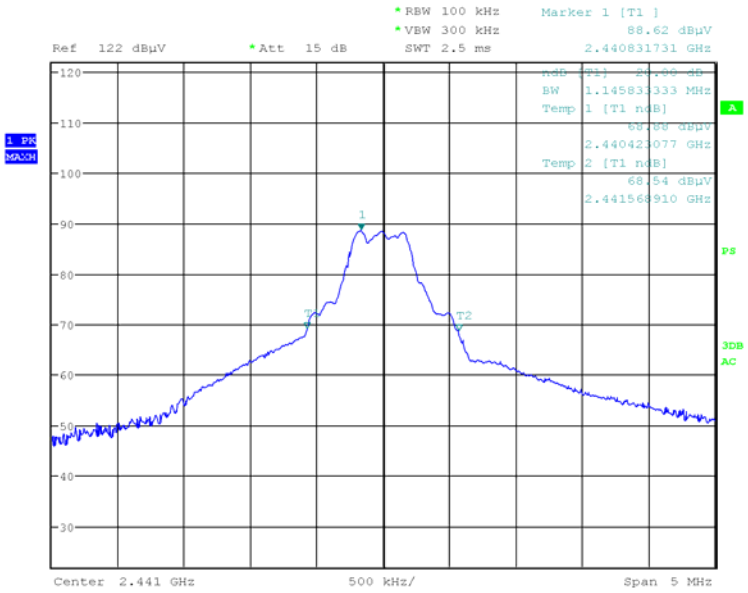
Test channel	20dB bandwidth (MHz)	Results
Lowest	1.162	Pass
Middle	1.146	Pass
Highest	1.146	Pass

Test plot as follows:

Test channel:	Lowest	



Test channel:	Middle	



Test channel:	Highest