



FCC REPORT

Applicant: Spectra Merchandising International Inc

Address of Applicant: 4230 North Normandy Avenue, Chicago, Illinois, United States 60634

Equipment Under Test (EUT)

Product Name: Wireless Mouse

Model No.: KT4093

Trade mark: Hello Kitty

FCC ID: IGFKT4093

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

Date of sample receipt: 09 Apr., 2011

Date of Test: 11-13 Apr., 2011

Date of report issued: 14 Apr., 2011

Test Result : PASS *

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

Authorized Signature:

A handwritten signature in black ink, appearing to read "Robinson Lo", is written over a horizontal line.

Robinson Lo
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	2011-04-14	Original

Prepared By:

Collin.He

Date:

2011-04-14

Project Engineer

Check By:

Hans.Hu

Date:

2011-04-14

Reviewer

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4 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.

5 General Information

5.1 Client Information

Applicant:	Spectra Merchandising International Inc
Address of Applicant:	4230 North Normandy Avenue, Chicago, Illinois, United States 60634
Manufacturer:	Dongguan Togran Electronic Technology Co, Ltd.
Address of Manufacturer:	262 Shidan Rd., 3 rd Industrial Area, Juzhou, Shijie, Dongguan, Guangdong

5.2 General Description of E.U.T.

Product Name:	Wireless Mouse
Model No.:	KT4093
Operation Frequency:	2405MHz to 2474MHz
Channel numbers:	32
Modulation type:	GFSK
Antenna Type:	Integral
Antenna gain:	2dBi
Power Supply:	DC 3.0V ("AAA" Size)

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2405.00	11	2423.00	21	2449.00	31	2471.00
2	2406.00	12	2425.00	22	2453.00	32	2474.00
3	2409.00	13	2429.00	23	2455.00		
4	2410.00	14	2430.00	24	2456.00		
5	2411.00	15	2432.00	25	2462.00		
6	2413.00	16	2434.00	26	2463.00		
7	2415.00	17	2443.00	27	2464.00		
8	2416.00	18	2444.00	28	2466.00		
9	2418.00	19	2446.00	29	2467.00		
10	2419.00	20	2448.00	30	2470.00		

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	2405.00MHz
The middle channel	2434.00MHz
The Highest channel	2474.00MHz

5.3 Test mode

Transmitting mode:	Keep the EUT in transmitting mode with modulation.		
Pre-Test Mode: (lowest channel)			
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:			
Axis	X	Y	Z
Field Strength(dBuV/m)	87.87	91.43	89.42
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)			

5.4 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 fully 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.
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5.5 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 0755-27798960
Fax:

5.6 Other Information Requested by the Customer

None.

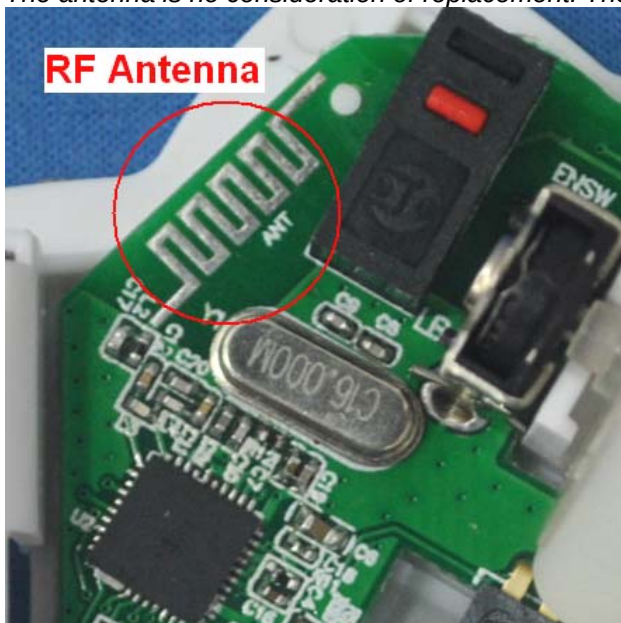
5.7 Test Instruments list

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 2011	Mar. 30 2012
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	Sept. 10 2010	Sept. 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 2011	Apr. 01 2012
8	Coaxial Cable	GTS	N/A	GTS401	Apr. 01 2011	Apr. 01 2012
9	Coaxial cable	GTS	N/A	GTS402	Apr. 01 2011	Apr. 01 2012
10	Coaxial Cable	GTS	N/A	GTS407	Apr. 01 2011	Apr. 01 2012
11	Coaxial Cable	GTS	N/A	GTS408	Apr. 01 2011	Apr. 01 2012
12	Amplifier(100KHz-3GHz)	HP	8347A	GTS210	Aug. 03 2010	Aug. 03 2011
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS224	Aug. 03 2010	Aug. 03 2011

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS206	Apr. 10 2011	Apr. 10 2012
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS208	Sept. 14 2010	Sept. 14 2011
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS209	Sept. 14 2010	Sept. 14 2011
4	LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	GTS207	Apr. 14 2010	Apr. 14 2011
5	Coaxial Cable	GTS	N/A	GTS406	Apr. 01 2011	Apr. 01 2012
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

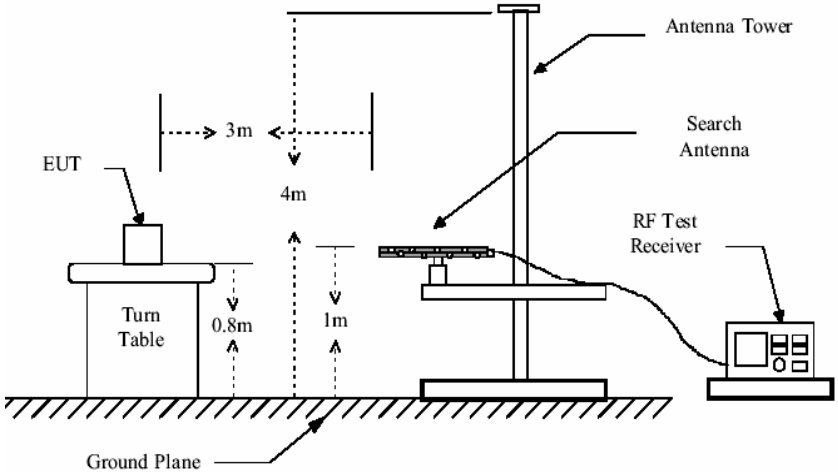
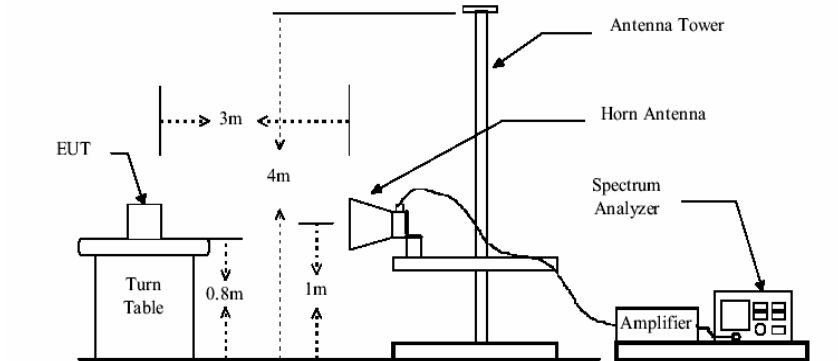
6 Test results and Measurement Data

6.1 Antenna requirement:

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: <i>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.</i>	
E.U.T Antenna:	
The antenna is no consideration of replacement. The best case gain of the antenna is 2dBi. 	

6.2 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.249 and 15.209																								
Test Method:	ANSI C63.4:2003																								
Test Frequency Range:	30MHz to 25000MHz																								
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)																								
Receiver setup:	<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>					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	
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)	<table><tr><td>Frequency</td><td>Limit (dBμV/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>					Frequency	Limit (dBμV/m @3m)	Remark	2400MHz-2483.5MHz	94.0	Average Value	114.0	Peak Value												
Frequency	Limit (dBμV/m @3m)	Remark																							
2400MHz-2483.5MHz	94.0	Average Value																							
	114.0	Peak Value																							
Limit: (Spurious Emissions)	<table><tr><td>Frequency</td><td>Limit (dBμV/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>					Frequency	Limit (dBμV/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
Frequency	Limit (dBμV/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																							
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 Procedure:	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 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 5.7
Test mode:	Refer to section 5.3
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:

$$\text{Final Test Level} = \text{Receiver Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Preamplifier Factor}$$

Measurement Data
6.2.1 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
2405.00	90.58	27.58	3.37	30.10	91.43	114.00	-22.57	Horizontal
2405.00	85.64	27.58	3.37	30.10	86.49	114.00	-27.51	Vertical
2434.00	91.56	27.42	3.48	30.37	92.09	114.00	-21.91	Horizontal
2434.00	86.23	27.42	3.48	30.37	86.76	114.00	-27.24	Vertical
2474.00	90.21	27.55	3.52	30.70	90.58	114.00	-23.42	Horizontal
2474.00	85.34	27.55	3.52	30.70	85.71	114.00	-28.29	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
2405.00	76.95	27.58	3.37	30.10	77.80	94.00	-16.20	Horizontal
2405.00	72.41	27.58	3.37	30.10	73.26	94.00	-20.74	Vertical
2434.00	77.59	27.42	3.48	30.37	78.12	94.00	-15.88	Horizontal
2434.00	72.61	27.42	3.48	30.37	73.14	94.00	-20.86	Vertical
2474.00	76.94	27.55	3.52	30.70	77.31	94.00	-16.69	Horizontal
2474.00	72.35	27.55	3.52	30.70	72.72	94.00	-21.28	Vertical

6.2.2 Spurious Emissions
30MHz~1GHz

Test mode: Transmitting

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
30.32	38.98	14.45	0.60	32.27	21.76	40.00	-18.24	Vertical
46.18	37.41	16.16	0.66	32.08	22.15	40.00	-17.85	Vertical
124.57	43.48	10.22	1.35	31.83	23.22	43.50	-20.28	Vertical
303.54	38.38	12.57	2.08	32.30	20.73	46.00	-25.27	Vertical
487.32	39.04	17.02	2.38	31.71	26.73	46.00	-19.27	Vertical
39.02	36.69	16.17	0.64	32.16	21.34	40.00	-18.66	Horizontal
50.76	37.22	14.80	0.68	32.01	20.69	40.00	-19.31	Horizontal
124.57	39.77	10.52	1.35	31.83	19.81	43.50	-23.69	Horizontal
282.99	38.17	12.80	2.03	32.29	20.71	46.00	-25.29	Horizontal
499.43	39.49	19.19	2.40	31.62	29.46	46.00	-16.54	Horizontal

Above 1GHz

Test mode:	Transmitting	Test channel:	Lowest	Remark:	Peak
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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
4810.00	41.30	31.79	5.34	24.07	54.36	74.00	-19.64	Vertical
7215.00	33.08	36.19	6.88	26.44	49.71	74.00	-24.29	Vertical
9620.00	31.69	38.07	8.96	25.36	53.36	74.00	-20.64	Vertical
12025.00	30.45	39.05	10.35	25.15	54.70	74.00	-19.30	Vertical
4810.00	44.91	31.79	5.34	24.07	57.97	74.00	-16.03	Horizontal
7215.00	34.06	36.19	6.88	26.44	50.69	74.00	-23.31	Horizontal
9620.00	32.58	38.07	8.96	25.36	54.25	74.00	-19.75	Horizontal
12025.00	31.25	39.05	10.35	25.15	55.50	74.00	-18.50	Horizontal

Test mode:	Transmitting	Test channel:	Lowest	Remark:	average
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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
4810.00	20.06	31.79	5.34	24.07	33.12	54.00	-20.88	Vertical
7215.00	17.08	36.19	6.88	26.44	33.71	54.00	-20.29	Vertical
9620.00	15.17	38.07	8.96	25.36	36.84	54.00	-17.16	Vertical
12025.00	17.10	39.05	10.35	25.15	41.35	54.00	-12.65	Vertical
4810.00	26.13	31.79	5.34	24.07	39.19	54.00	-14.81	Horizontal
7215.00	18.06	36.19	6.88	26.44	34.69	54.00	-19.31	Horizontal
9620.00	16.06	38.07	8.96	25.36	37.73	54.00	-16.27	Horizontal
12025.00	17.90	39.05	10.35	25.15	42.15	54.00	-11.85	Horizontal

Remark:

1. *Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor*
2. *The emission levels of above 6th harmonic frequency are very lower than the limit and not show in test report.*

Test mode:	Transmitting	Test channel:	Middle	Remark:	Peak
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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
4868.00	42.24	31.85	5.40	24.01	55.48	74.00	-18.52	Vertical
7302.00	30.96	36.37	6.90	26.58	47.65	74.00	-26.35	Vertical
9736.00	27.25	38.13	8.98	25.34	49.02	74.00	-24.98	Vertical
12170.00	28.24	38.92	10.38	25.04	52.50	74.00	-21.50	Vertical
4868.00	46.70	31.85	5.40	24.01	59.94	74.00	-14.06	Horizontal
7302.00	31.29	36.37	6.90	26.58	47.98	74.00	-26.02	Horizontal
9736.00	27.69	38.13	8.98	25.34	49.46	74.00	-24.54	Horizontal
12170.00	28.79	38.92	10.38	25.04	53.05	74.00	-20.95	Horizontal

Test mode:	Transmitting	Test channel:	Middle	Remark:	average
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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
4868.00	22.02	31.85	5.40	24.01	35.26	54.00	-18.74	Vertical
7302.00	17.86	36.37	6.90	26.58	34.55	54.00	-19.45	Vertical
9736.00	15.02	38.13	8.98	25.34	36.79	54.00	-17.21	Vertical
12170.00	16.12	38.92	10.38	25.04	40.38	54.00	-13.62	Vertical
4868.00	25.98	31.85	5.40	24.01	39.22	54.00	-14.78	Horizontal
7302.00	18.19	36.37	6.90	26.58	34.88	54.00	-19.12	Horizontal
9736.00	15.46	38.13	8.98	25.34	37.23	54.00	-16.77	Horizontal
12170.00	16.67	38.92	10.38	25.04	40.93	54.00	-13.07	Horizontal

Remark:

1. Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
2. The emission levels of above 6th harmonic frequency are very lower than the limit and not show in test report.

Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak
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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
4988.00	39.58	31.89	5.46	23.96	52.97	74.00	-21.03	Vertical
7502.00	30.58	36.49	6.93	26.79	47.21	74.00	-26.79	Vertical
10016.00	28.33	38.83	9.15	25.24	51.07	74.00	-22.93	Vertical
12530.00	24.59	41.82	10.51	24.95	51.97	74.00	-22.03	Vertical
4988.00	40.41	31.89	5.46	23.96	53.80	74.00	-20.20	Horizontal
7502.00	31.76	36.49	6.93	26.79	48.39	74.00	-25.61	Horizontal
10016.00	29.47	38.83	9.15	25.24	52.21	74.00	-21.79	Horizontal
12530.00	25.69	41.82	10.51	24.95	53.07	74.00	-20.93	Horizontal

Test mode:	Transmitting	Test channel:	Highest	Remark:	average
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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
4988.00	21.21	31.89	5.46	23.96	34.60	54.00	-19.40	Vertical
7502.00	18.46	36.49	6.93	26.79	35.09	54.00	-18.91	Vertical
10016.00	16.32	38.83	9.15	25.24	39.06	54.00	-14.94	Vertical
12530.00	13.83	41.82	10.51	24.95	41.21	54.00	-12.79	Vertical
4988.00	25.67	31.89	5.46	23.96	39.06	54.00	-14.94	Horizontal
7502.00	19.64	36.49	6.93	26.79	36.27	54.00	-17.73	Horizontal
10016.00	17.46	38.83	9.15	25.24	40.20	54.00	-13.80	Horizontal
12530.00	14.93	41.82	10.51	24.95	42.31	54.00	-11.69	Horizontal

Remark:

1. Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
2. The emission levels of above 6th harmonic frequency are very lower than the limit and not show in test report.

6.2.3 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	50.62	27.59	3.33	30.10	51.44	74.00	-22.56	Horizontal			
2400.00	54.59	27.58	3.37	30.10	55.44	74.00	-18.56	Horizontal			
2390.00	49.37	27.59	3.33	30.10	50.19	74.00	-23.81	Vertical			
2400.00	53.43	27.58	3.37	30.10	54.28	74.00	-19.72	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	34.26	27.59	3.33	30.10	35.08	54.00	-18.92	Horizontal			
2400.00	37.58	27.58	3.37	30.10	38.43	54.00	-15.57	Horizontal			
2390.00	33.01	27.59	3.33	30.10	33.83	54.00	-20.17	Vertical			
2400.00	36.42	27.58	3.37	30.10	37.27	54.00	-16.73	Vertical			

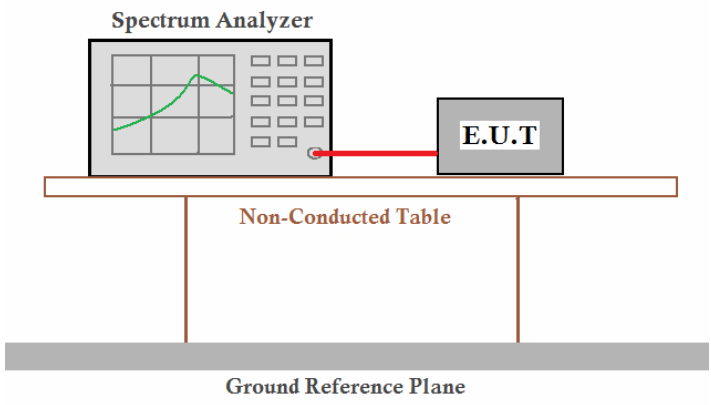
Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak
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Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	51.21	27.53	3.49	29.93	52.30	74.00	-21.70	Horizontal
2500.00	54.97	27.55	3.52	30.70	55.34	74.00	-18.66	Horizontal
2483.50	49.91	27.53	3.49	29.93	51.00	74.00	-23.00	Vertical
2500.00	53.71	27.55	3.52	30.70	54.08	74.00	-19.92	Vertical

Test mode:	Transmitting	Test channel:	Highest	Remark:	Average
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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	38.07	27.53	3.49	29.93	39.16	54.00	-14.84	Horizontal
2500.00	33.36	27.55	3.52	30.70	33.73	54.00	-20.27	Horizontal
2483.50	36.77	27.53	3.49	29.93	37.86	54.00	-16.14	Vertical
2500.00	32.1	27.55	3.52	30.70	32.47	54.00	-21.53	Vertical

6.3 20dB Bandwidth

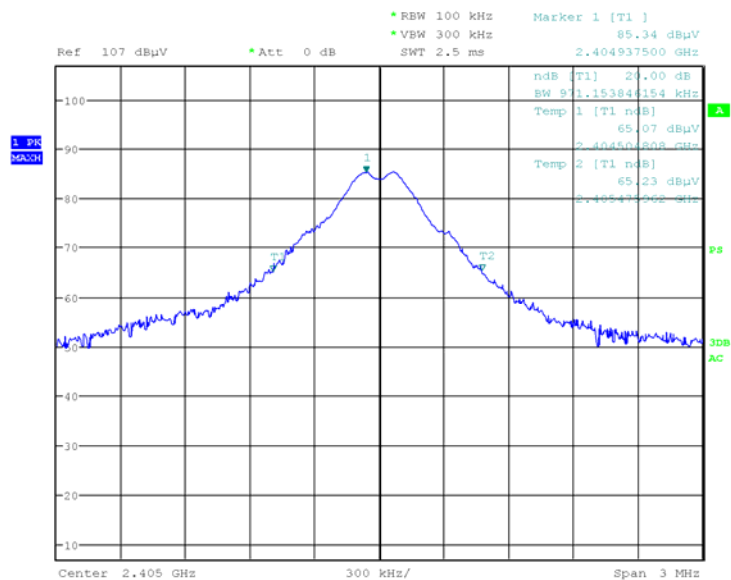
Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2003
Receiver setup:	RBW=10kHz, VBW=30kHz, detector: Peak
Limit:	Operation Frequency range 2400MHz-2483.5MHz
Test Procedure:	1. According to the follow Test-setup, keep the relative position between the artificial antenna and 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:	 The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

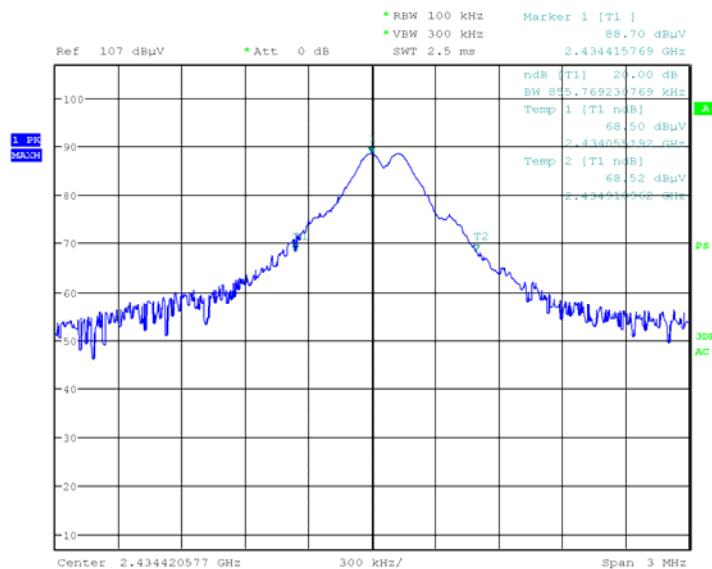
Test channel	20dB bandwidth (MHz)	Results
Lowest	0.971	Pass
Middle	0.856	Pass
Highest	0.947	Pass

Test plot as follows:

Test channel:	Lowest	
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Test channel:	Middle	
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Test channel:	Highest	
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