



# FCC REPORT

**Applicant:** ShenZhen Xinzhenheng electronics CO LTD

**Address of Applicant:** Building49, Baotian Industrial Zone, Xixiang Town, Shenzhen, China

**Equipment Under Test (EUT)**

Product Name: sidekick gaming controller

Model No.: FM39013

**FCC ID:** VZB-FM39013

**Standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.249: 2009

**Date of Receipt:** 23 Sep., 2010

**Date of Test:** 23-24 Sep., 2010

**Date of Issue:** 25 Sep., 2010

**Test Result :** PASS \*

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

Authorized Signature:

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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### 3 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Passed
AC Power Line Conducted Emission	15.207	Passed
Field strength of the fundamental signal	15.249 (a)	Passed
Spurious emissions	15.247 (a) (d)/15.209	Passed
Band edge (Radiated Emission)	15.247 (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:	ShenZhen Xinzhenheng electronics CO LTD
Address of Applicant:	Building49, Baotian Industrial Zone, Xixiang Town, Shenzhen, China
Manufacturer/ Factory:	ShenZhen Xinzhenheng electronics CO LTD
Address of Manufacturer/ Factory:	Building49, Baotian Industrial Zone, Xixiang Town, Shenzhen, China

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

Product Name:	sidekick gaming controller
Model No.:	FM39013
Operation Frequency:	2405MHz to 2477.98MHz
Channel numbers:	91
Channel separation:	810.9KHz
Modulation type:	MSK
Antenna Type:	Integral
Antenna gain:	2dBi
Power supply:	DC 3.6V charge Battery

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2405.00MHz	24	2423.65MHz	47	2442.30MHz	70	2460.95MHz
2	2405.81MHz	25	2424.46MHz	48	2443.11MHz	71	2461.76MHz
3	2406.62MHz	26	2425.27MHz	49	2443.92MHz	72	2462.57MHz
4	2407.43MHz	27	2426.08MHz	50	2444.73MHz	73	2463.39MHz
5	2408.24MHz	28	2426.89MHz	51	2445.55MHz	74	2464.20MHz
6	2409.05MHz	29	2427.71MHz	52	2446.36MHz	75	2465.01MHz
7	2409.87MHz	30	2428.52MHz	53	2447.17MHz	76	2465.82MHz
8	2410.68MHz	31	2429.33MHz	54	2447.98MHz	77	2466.63MHz
9	2411.49MHz	32	2430.14MHz	55	2448.79MHz	78	2467.44MHz
10	2412.30MHz	33	2430.95MHz	56	2449.60MHz	79	2468.25MHz
11	2413.11MHz	34	2431.76MHz	57	2450.41MHz	80	2469.06MHz
12	2413.92MHz	35	2432.57MHz	58	2451.22MHz	81	2469.87MHz

13	2414.73MHz	36	2433.38MHz	59	2452.03MHz	82	2470.68MHz
14	2415.54MHz	37	2434.19MHz	60	2452.84MHz	83	2471.49MHz
15	2416.35MHz	38	2435.00MHz	61	2453.65MHz	84	2472.31MHz
16	2417.16MHz	39	2435.81MHz	62	2454.47MHz	85	2473.12MHz
17	2417.97MHz	40	2436.63MHz	63	2455.28MHz	86	2473.93MHz
18	2418.79MHz	41	2437.44MHz	64	2456.09MHz	87	2474.74MHz
19	2419.60MHz	42	2438.25MHz	65	2456.90MHz	88	2475.55MHz
20	2420.41MHz	43	2439.06MHz	66	2457.71MHz	89	2476.36MHz
21	2421.22MHz	44	2439.87MHz	67	2458.52MHz	90	2477.17MHz
22	2422.03MHz	45	2440.68MHz	68	2459.33MHz	91	2477.98MHz
23	2422.84MHz	46	2441.49MHz	69	2460.14MHz		

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	2441.49MHz
The Highest channel	2477.98MHz

### 4.3 Test environment and mode

<b>Operating Environment:</b>	
Temperature:	25.0 °C
Humidity:	53 % RH
Atmospheric Pressure:	1010 mbar
<b>Test mode:</b>	
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:

<b>Pre-Test Mode:</b> (lowest channel=2405MHz)			
Axis	X	Y	Z
Field Strength(dBuV/m)	84.21	86.55	81.39
<b>Final Test Mode:</b>			
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

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> <li>● <b>FCC —Registration No.: 600491</b> Global United Technology Service 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.</li> <li>● <b>Industry Canada (IC)</b> 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.</li> </ul>
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### 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.
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#### 4.7 Test Instruments list:

<b>Radiated Emission:</b>						
<b>Item</b>	<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Inventory No.</b>	<b>Cal.Date (dd-mm-yy)</b>	<b>Cal.Due date (dd-mm-yy)</b>
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

<b>Conducted Emission:</b>						
<b>Item</b>	<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Inventory No.</b>	<b>Cal.Date (dd-mm-yy)</b>	<b>Cal.Due date (dd-mm-yy)</b>
1	Shielding Room	ZhongYu Electron	7.0(L)x3.0(W)x3.0(H)	GTS206	Apr. 10 2010	Apr. 10 2011
2	EMI Test Receiver	Rohde & Schwarz	ESCS30	GTS208	Sep. 14 2010	Sep. 14 2011
3	10dB Pulse Limita	Rohde & Schwarz	N/A	GTS209	Sep. 14 2010	Sep. 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 2010	Apr. 01 2011
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

## 5 Test results and Measurement Data

### 5.1 Antenna requirement:

<b>Standard requirement:</b>	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>	
<b>E.U.T Antenna:</b>	
The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2dBi. <div data-bbox="245 869 735 1102" data-label="Image">  </div>	



## 5.2 Conducted Emissions

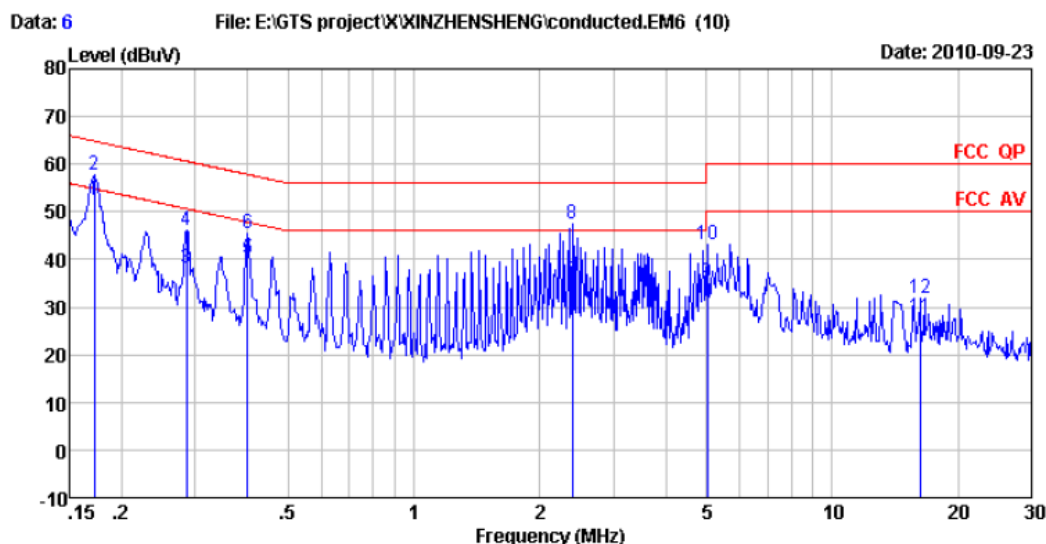
Test Requirement:	FCC Part15 C Section 15.207			
Test Method:	ANSI C63.4: 2003			
Test Frequency Range:	150KHz to 30MHz			
Class / Severity:	Class B			
Receiver setup:	RBW=9KHz, VBW=30KHz			
Limit:	Frequency range (MHz)	Limit (dBuV)		
		Quasi-peak	Average	
		0.15-0.5	66 to 56*	56 to 46*
		0.5-5	56	46
		5-30	60	50
* Decreases with the logarithm of the frequency.				
Test procedure	<p>The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). 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.</p>			
Test setup:	<div><p style="text-align: center;"><b>Reference Plane</b></p><p><i>Remark:</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p></div>			
Test Instruments:	Refer to section 4.7 for details			
Test mode:	Refer to section 4.3 for details			
Test results:	Passed			

### Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

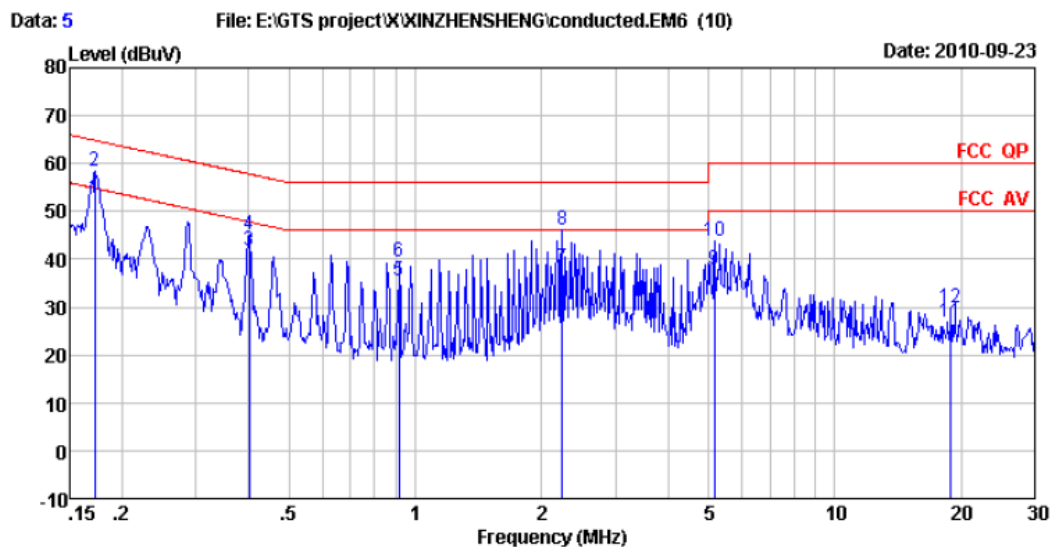
Live Line:



Condition : FCC QP LISN LINE  
 Job No : 217RF  
 EUT : Sidekick gaming controller  
 Test Mode : Operation mode  
 Test Engineer: Franks

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.172	48.70	3.67	0.01	52.38	54.86	-2.48	Average
2	0.172	54.10	3.67	0.01	57.78	64.86	-7.08	QP
3	0.286	34.60	3.62	0.01	38.23	50.63	-12.40	Average
4	0.286	42.56	3.62	0.01	46.19	60.63	-14.44	QP
5	0.400	36.50	3.58	0.01	40.09	47.86	-7.77	Average
6	0.400	41.74	3.58	0.01	45.33	57.86	-12.53	QP
7	2.396	32.10	3.38	0.15	35.63	46.00	-10.37	Average
8	2.396	43.82	3.38	0.15	47.35	56.00	-8.65	QP
9	5.031	31.40	3.30	0.31	35.01	50.00	-14.99	Average
10	5.031	39.60	3.30	0.31	43.21	60.00	-16.79	QP
11	16.226	24.30	3.17	0.43	27.90	50.00	-22.10	Average
12	16.226	28.30	3.17	0.43	31.90	60.00	-28.10	QP

### Neutral Line:



Condition : FCC QP LISN NEUTRAL  
 Job No : 217RF  
 EUT : Sidekick gaming controller  
 Test Mode : Operation mode  
 Test Engineer: Franks

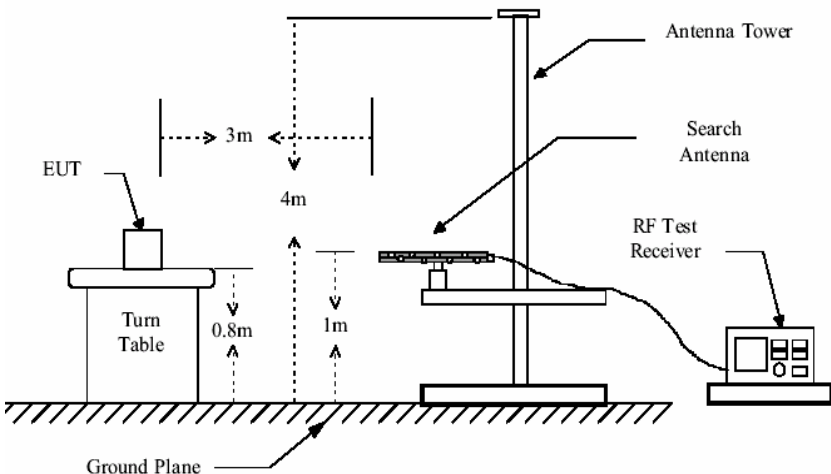
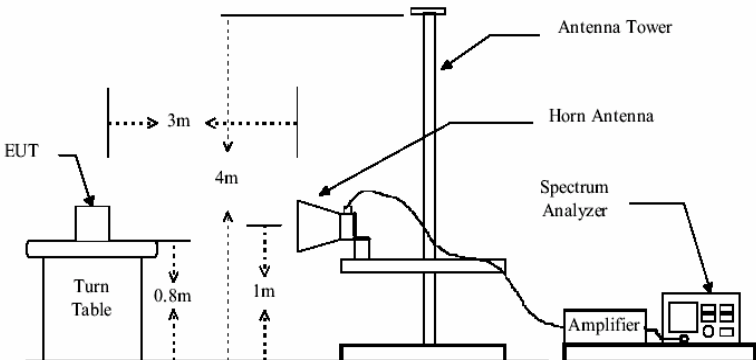
	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.172	49.00	3.67	0.01	52.68	54.86	-2.18	Average
2	0.172	54.76	3.67	0.01	58.44	64.86	-6.42	QP
3	0.402	38.10	3.58	0.01	41.69	47.81	-6.12	Average
4	0.402	41.62	3.58	0.01	45.21	57.81	-12.60	QP
5	0.914	32.10	3.49	0.01	35.60	46.00	-10.40	Average
6	0.914	36.04	3.49	0.01	39.54	56.00	-16.46	QP
7	2.237	34.60	3.39	0.13	38.12	46.00	-7.88	Average
8	2.237	42.44	3.39	0.13	45.96	56.00	-10.04	QP
9	5.166	34.09	3.30	0.32	37.71	50.00	-12.29	Average
10	5.166	40.05	3.30	0.32	43.67	60.00	-16.33	QP
11	18.920	23.40	3.15	0.44	26.99	50.00	-23.01	Average
12	18.920	26.18	3.15	0.44	29.77	60.00	-30.23	QP

### Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.

### 5.3 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:					
	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		94.0		Average Value
			114.0		Peak Value
Limit: (Spurious Emissions)					
	Frequency		Limit (dBuV/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:	<div>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.</div> <div>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.</div> <div>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.</div> <div>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.</div> <div>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</div> <div>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</div>				

	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:	<p>Below 1GHz</p>  <p>Above 1GHz</p> 
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:

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

**Measurement Data**
**5.3.1 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
2405.00	85.67	27.57	3.37	30.06	86.55	114.00	-27.45	Horizontal
2405.00	82.85	27.57	3.37	30.06	83.73	114.00	-30.27	Vertical
2441.00	86.48	27.48	3.43	29.99	87.40	114.00	-26.60	Horizontal
2441.00	83.96	27.48	3.43	29.99	84.88	114.00	-29.12	Vertical
2478.00	85.75	27.52	3.49	29.93	86.83	114.00	-27.17	Horizontal
2478.00	82.39	27.52	3.49	29.93	83.47	114.00	-30.53	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
2405.00	58.91	27.57	3.37	30.06	59.79	94.00	-34.21	Horizontal
2405.00	56.73	27.57	3.37	30.06	57.61	94.00	-36.39	Vertical
2441.00	58.67	27.48	3.43	29.99	59.59	94.00	-34.41	Horizontal
2441.00	56.17	27.48	3.43	29.99	57.09	94.00	-36.91	Vertical
2478.00	56.89	27.52	3.49	29.93	57.97	94.00	-36.03	Horizontal
2478.00	53.96	27.52	3.49	29.93	55.04	94.00	-38.96	Vertical

### 5.3.2 Spurious Emissions

#### 30MHz~1GHz

Test mode: Transmitting

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamplifier Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
39.70	0.60	11.30	28.09	40.20	24.01	40.00	-15.99	Vertical
118.27	1.25	8.02	27.70	46.99	28.56	43.50	-14.94	Vertical
129.91	1.28	7.70	27.61	49.29	30.66	43.50	-12.84	Vertical
144.46	1.31	8.53	27.49	46.35	28.70	43.50	-14.80	Vertical
432.55	2.34	16.56	27.52	42.40	33.78	46.00	-12.22	Vertical
78.50	1.05	7.59	28.00	39.12	19.76	40.00	-20.24	Horizontal
118.27	1.25	8.02	27.70	43.50	25.07	43.50	-18.43	Horizontal
129.91	1.28	7.70	27.61	51.67	33.04	43.50	-10.46	Horizontal
144.46	1.31	8.53	27.49	41.60	23.95	43.50	-19.55	Horizontal
710.94	2.94	21.60	27.24	37.50	34.80	46.00	-11.20	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	35.58	31.78	5.34	24.09	48.61	74.00	-25.39	Vertical
7215.00	33.85	36.15	6.87	26.41	50.46	74.00	-23.54	Vertical
9620.00	30.94	38.01	8.95	25.38	52.52	74.00	-21.48	Vertical
12025.00	29.51	39.08	10.34	25.17	53.76	74.00	-20.24	Vertical
14430.00	26.74	42.46	11.66	24.29	56.57	74.00	-17.43	Vertical
16835.00	26.48	42.13	14.47	25.46	57.62	74.00	-16.38	Vertical
4810.00	37.56	31.78	5.34	24.09	50.59	74.00	-23.41	Horizontal
7215.00	34.27	36.15	6.87	26.41	50.88	74.00	-23.12	Horizontal
9620.00	31.76	38.01	8.95	25.38	53.34	74.00	-20.66	Horizontal
12025.00	30.18	39.08	10.34	25.17	54.43	74.00	-19.57	Horizontal
14430.00	28.57	42.46	11.66	24.29	58.40	74.00	-15.60	Horizontal
16835.00	27.33	42.13	14.47	25.46	58.47	74.00	-15.53	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	24.21	31.78	5.34	24.09	37.24	54.00	-16.76	Vertical
7215.00	20.19	36.15	6.87	26.41	36.80	54.00	-17.20	Vertical
9620.00	18.14	38.01	8.95	25.38	39.72	54.00	-14.28	Vertical
12025.00	16.08	39.08	10.34	25.17	40.33	54.00	-13.67	Vertical
14430.00	12.94	42.46	11.66	24.29	42.77	54.00	-11.23	Vertical
16835.00	11.85	42.13	14.47	25.46	42.99	54.00	-11.01	Vertical
4810.00	24.39	31.78	5.34	24.09	37.42	54.00	-16.58	Horizontal
7215.00	20.97	36.15	6.87	26.41	37.58	54.00	-16.42	Horizontal
9620.00	17.96	38.01	8.95	25.38	39.54	54.00	-14.46	Horizontal
12025.00	16.79	39.08	10.34	25.17	41.04	54.00	-12.96	Horizontal
14430.00	13.37	42.46	11.66	24.29	43.20	54.00	-10.80	Horizontal
16835.00	12.31	42.13	14.47	25.46	43.45	54.00	-10.55	Horizontal



Test mode:	Transmitting	Test channel:	Middle	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
4882.00	36.29	31.85	5.40	24.01	49.53	74.00	-24.47	Vertical
7323.00	34.06	36.37	6.91	26.62	50.72	74.00	-23.28	Vertical
9764.00	31.37	38.35	9.01	25.29	53.44	74.00	-20.56	Vertical
12205.00	30.18	38.92	10.39	25.02	54.47	74.00	-19.53	Vertical
14646.00	27.02	42.21	11.94	24.47	56.70	74.00	-17.30	Vertical
17087.00	25.37	44.30	14.54	25.57	58.64	74.00	-15.36	Vertical
4882.00	37.17	31.85	5.40	24.01	50.41	74.00	-23.59	Horizontal
7323.00	33.96	36.37	6.91	26.62	50.62	74.00	-23.38	Horizontal
9764.00	31.54	38.35	9.01	25.29	53.61	74.00	-20.39	Horizontal
12205.00	30.85	38.92	10.39	25.02	55.14	74.00	-18.86	Horizontal
14646.00	28.16	42.21	11.94	24.47	57.84	74.00	-16.16	Horizontal
17087.00	26.37	44.30	14.54	25.57	59.64	74.00	-14.36	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)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4882.00	25.05	31.85	5.40	24.01	38.29	54.00	-15.71	Vertical
7323.00	21.33	36.37	6.91	26.62	37.99	54.00	-16.01	Vertical
9764.00	17.93	38.35	9.01	25.29	40.00	54.00	-14.00	Vertical
12205.00	16.06	38.92	10.39	25.02	40.35	54.00	-13.65	Vertical
14646.00	13.38	42.21	11.94	24.47	43.06	54.00	-10.94	Vertical
17087.00	10.29	44.30	14.54	25.57	43.56	54.00	-10.44	Vertical
4882.00	23.28	31.85	5.40	24.01	36.52	54.00	-17.48	Horizontal
7323.00	20.12	36.37	6.91	26.62	36.78	54.00	-17.22	Horizontal
9764.00	17.21	38.35	9.01	25.29	39.28	54.00	-14.72	Horizontal
12205.00	15.39	38.92	10.39	25.02	39.68	54.00	-14.32	Horizontal
14646.00	13.87	42.21	11.94	24.47	43.55	54.00	-10.45	Horizontal
17087.00	9.98	44.30	14.54	25.57	43.25	54.00	-10.75	Horizontal

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
4956.00	35.94	31.93	5.47	23.93	49.41	74.00	-24.59	Vertical
7434.00	33.94	36.59	6.95	26.89	50.59	74.00	-23.41	Vertical
9912.00	31.73	38.81	9.07	25.23	54.38	74.00	-19.62	Vertical
12390.00	31.57	38.76	10.44	24.77	56.00	74.00	-18.00	Vertical
14868.00	26.48	41.52	12.40	24.56	55.84	74.00	-18.16	Vertical
17346.00	24.24	46.19	14.63	25.95	59.11	74.00	-14.89	Vertical
4956.00	38.01	31.93	5.47	23.93	51.48	74.00	-22.52	Horizontal
7434.00	34.07	36.59	6.95	26.89	50.72	74.00	-23.28	Horizontal
9912.00	32.16	38.81	9.07	25.23	54.81	74.00	-19.19	Horizontal
12390.00	31.58	38.76	10.44	24.77	56.01	74.00	-17.99	Horizontal
14868.00	27.98	41.52	12.40	24.56	57.34	74.00	-16.66	Horizontal
17346.00	26.10	46.19	14.63	25.95	60.97	74.00	-13.03	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)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4956.00	23.74	31.93	5.47	23.93	37.21	54.00	-16.79	Vertical
7434.00	21.48	36.59	6.95	26.89	38.13	54.00	-15.87	Vertical
9912.00	16.39	38.81	9.07	25.23	39.04	54.00	-14.96	Vertical
12390.00	13.95	38.76	10.44	24.77	38.38	54.00	-15.62	Vertical
14868.00	10.83	41.52	12.40	24.56	40.19	54.00	-13.81	Vertical
17346.00	10.11	46.19	14.63	25.95	44.98	54.00	-9.02	Vertical
4956.00	22.96	31.93	5.47	23.93	36.43	54.00	-17.57	Horizontal
7434.00	19.92	36.59	6.95	26.89	36.57	54.00	-17.43	Horizontal
9912.00	16.73	38.81	9.07	25.23	39.38	54.00	-14.62	Horizontal
12390.00	15.22	38.76	10.44	24.77	39.65	54.00	-14.35	Horizontal
14868.00	13.07	41.52	12.40	24.56	42.43	54.00	-11.57	Horizontal
17346.00	9.25	46.19	14.63	25.95	44.12	54.00	-9.88	Horizontal

**5.3.3 Band edge (Radiated Emission)**

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

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

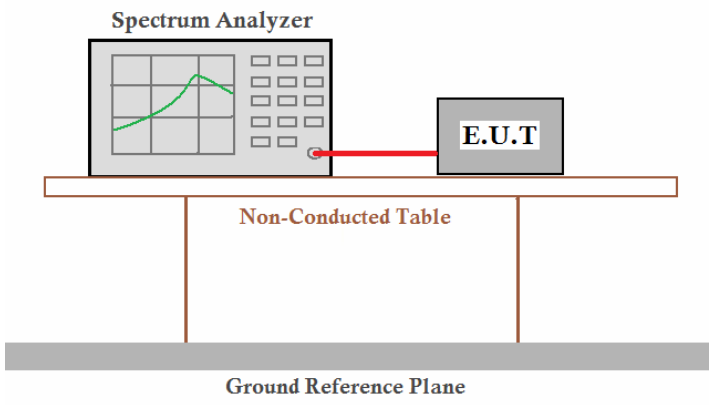
Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak
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Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.5	41.00	27.53	3.49	29.93	42.09	74.00	-31.91	Horizontal
2500.0	39.58	27.58	3.52	29.98	40.70	74.00	-33.30	Horizontal
2483.5	39.36	27.53	3.49	29.93	40.45	74.00	-33.55	Vertical
2500.0	37.79	27.58	3.52	29.98	38.91	74.00	-35.09	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)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.5	30.85	27.53	3.49	29.93	31.94	54.00	-22.06	Horizontal
2500.0	28.75	27.58	3.52	29.98	29.87	54.00	-24.13	Horizontal
2483.5	28.92	27.53	3.49	29.93	30.01	54.00	-23.99	Vertical
2500.0	26.39	27.58	3.52	29.98	27.51	54.00	-26.49	Vertical

## 5.4 20dB Bandwidth

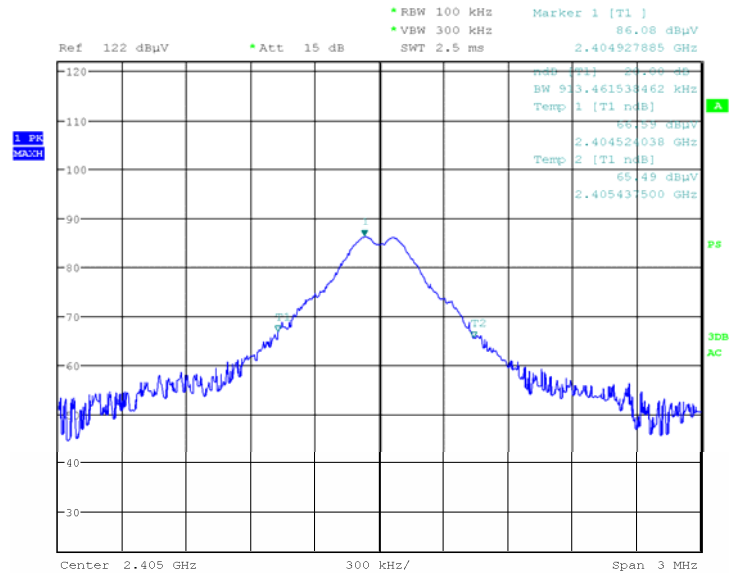
Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2003
Receiver setup:	RBW=10KHz, VBW=30KHz, detector: Peak
Limit:	Operation Frequency range 2400MHz-2483.5MHz
Test Procedure:	<ol style="list-style-type: none"> <li>1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT.</li> <li>2. Set the EUT to proper test channel.</li> <li>3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points.</li> <li>4. Read 20dB bandwidth.</li> </ol>
Test setup:	 <p>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.</p>
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	0.915	Pass
Middle	0.904	Pass
Highest	0.880	Pass

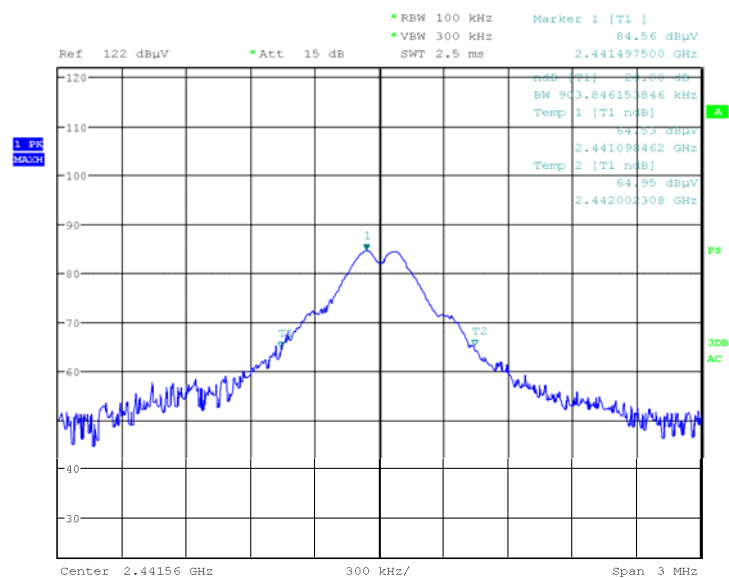
**Test plot as follows:**

Test channel:	Lowest	
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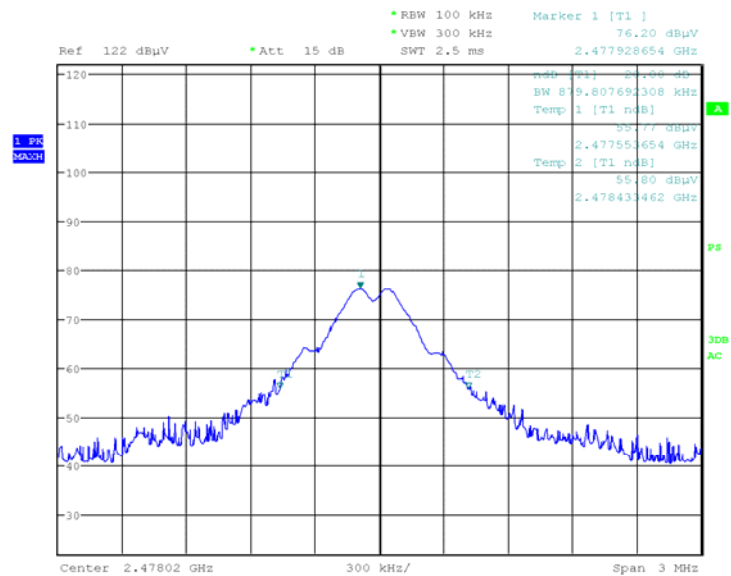
Date: 23.SEP.2010 16:00:09

Test channel:	Middle	
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Date: 23.SEP.2010 16:02:50

Test channel:	Highest	
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Date: 23.SEP.2010 16:06:54