

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: PS3 wireless controllers

Model No.: FM5801

FCC ID: VZB- FM5801

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

Date of Receipt: 26 Nov., 2010

Date of Test: 26-29 Nov., 2010

Date of Issue: 30 Nov., 2010

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 faint, circular, light-gray watermark.

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
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:	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:	PS3 wireless controllers
Model No.:	FM5801
Operation Frequency:	2410MHz to 2470MHz
Channel numbers:	61
Channel separation:	1MHz
Modulation type:	GFSK
Antenna Type:	Integral
Antenna gain:	2dBi
Power supply:	3*1.5V("AAA" size)=4.5V

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

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	2410MHz
The middle channel	2440MHz
The Highest channel	2470MHz

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=2410MHz)			
Axis	X	Y	Z
Field Strength(dBuV/m)	83.36	87.47	82.68
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

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● FCC —Registration No.: 600491 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. ● 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
14	Spectrum analyzer	Adavantest	U3741	GTS238	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 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

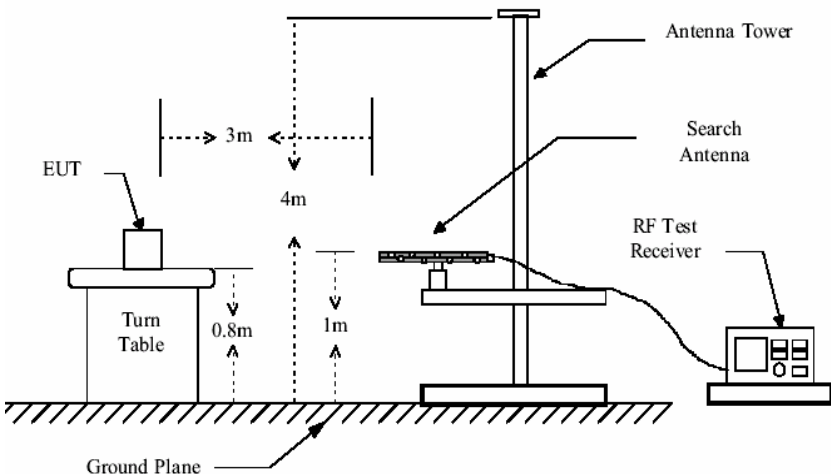
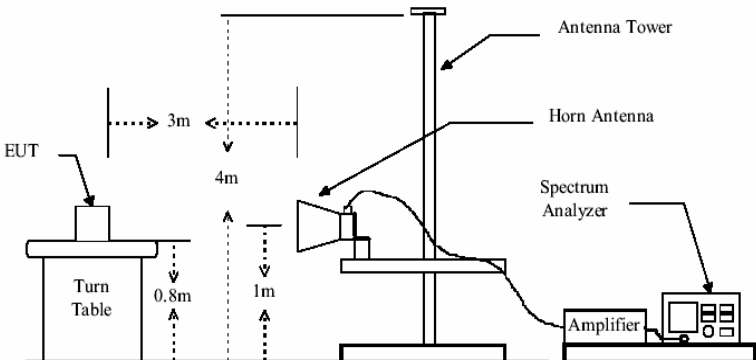
5 Test results and Measurement Data

5.1 Antenna requirement:

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 integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2dBi. <div data-bbox="245 869 632 1178" data-label="Image">  </div>	

5.2 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 (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>					Frequency	Limit (dBuV/m @3m)	Remark	2400MHz-2483.5MHz	94.0	Average Value	114.0	Peak Value												
Frequency	Limit (dBuV/m @3m)	Remark																							
2400MHz-2483.5MHz	94.0	Average Value																							
	114.0	Peak Value																							
Limit: (Spurious Emissions)	<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>					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
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:	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>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</p>																								

	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
5.2.1 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
2410.00	86.59	27.57	3.37	30.06	87.47	114.00	-26.53	Horizontal
2410.00	82.15	27.57	3.37	30.06	83.03	114.00	-30.97	Vertical
2440.00	85.41	27.48	3.43	29.99	86.33	114.00	-27.67	Horizontal
2440.00	79.67	27.48	3.43	29.99	80.59	114.00	-33.41	Vertical
2470.00	85.95	27.52	3.49	29.93	87.03	114.00	-26.97	Horizontal
2470.00	80.19	27.52	3.49	29.93	81.27	114.00	-32.73	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
2410.00	73.67	27.57	3.37	30.06	74.55	94.00	-19.45	Horizontal
2410.00	69.58	27.57	3.37	30.06	70.46	94.00	-23.54	Vertical
2440.00	72.13	27.48	3.43	29.99	73.05	94.00	-20.95	Horizontal
2440.00	68.51	27.48	3.43	29.99	69.43	94.00	-24.57	Vertical
2470.00	73.43	27.52	3.49	29.93	74.51	94.00	-19.49	Horizontal
2470.00	69.85	27.52	3.49	29.93	70.93	94.00	-23.07	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
51.12	30.31	10.42	0.68	25.72	15.69	40.00	-24.31	Vertical
98.83	31.27	13.30	1.14	25.67	20.04	43.50	-23.46	Vertical
181.92	32.23	11.64	1.69	25.62	19.94	46.00	-26.06	Vertical
468.88	33.17	16.57	2.36	25.55	26.55	46.00	-19.45	Vertical
851.04	31.14	24.09	3.24	25.51	32.96	46.00	-13.04	Vertical
54.64	30.30	9.98	0.69	25.71	15.26	40.00	-24.74	Horizontal
104.54	31.26	12.68	1.19	25.66	19.47	43.50	-24.03	Horizontal
222.17	32.22	14.51	1.87	25.61	22.99	46.00	-23.01	Horizontal
510.04	33.17	21.72	2.44	25.55	31.78	46.00	-14.22	Horizontal
922.52	30.14	28.42	3.36	25.51	36.41	46.00	-9.59	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)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4820.00	51.69	34.25	9.36	41.53	53.77	74.00	-20.23	Vertical
7230.00	45.05	37.24	13.30	40.88	54.71	74.00	-19.29	Vertical
9640.00	40.93	37.99	13.39	37.56	54.75	74.00	-19.25	Vertical
12050.00	38.51	39.10	16.45	39.09	54.97	74.00	-19.03	Vertical
4820.00	53.05	34.25	9.36	41.53	55.13	74.00	-18.87	Horizontal
7230.00	46.62	37.24	13.30	40.88	56.28	74.00	-17.72	Horizontal
9640.00	44.71	37.99	13.39	37.56	58.53	74.00	-15.47	Horizontal
12050.00	40.50	39.10	16.45	39.09	56.96	74.00	-17.04	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)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4820.00	30.81	34.25	9.36	41.53	32.89	54.00	-21.11	Vertical
7230.00	26.99	37.24	13.30	40.88	36.65	54.00	-17.35	Vertical
9640.00	25.05	37.99	13.39	37.56	38.87	54.00	-15.13	Vertical
12050.00	24.04	39.10	16.45	39.09	40.50	54.00	-13.50	Vertical
4820.00	32.33	34.25	9.36	41.53	34.41	54.00	-19.59	Horizontal
7230.00	28.60	37.24	13.30	40.88	38.26	54.00	-15.74	Horizontal
9640.00	26.75	37.99	13.39	37.56	40.57	54.00	-13.43	Horizontal
12050.00	25.83	39.10	16.45	39.09	42.29	54.00	-11.71	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
4880.00	48.42	34.34	10.36	39.89	53.23	74.00	-20.77	Vertical
7320.00	45.04	37.31	12.91	40.40	54.86	74.00	-19.14	Vertical
9760.00	42.51	38.03	13.89	37.94	56.49	74.00	-17.51	Vertical
12200.00	38.90	39.21	18.03	39.27	56.87	74.00	-17.13	Vertical
4880.00	49.26	34.34	10.36	39.89	54.07	74.00	-19.93	Horizontal
7320.00	46.01	37.31	12.91	40.40	55.83	74.00	-18.17	Horizontal
9760.00	43.61	38.03	13.89	37.94	57.59	74.00	-16.41	Horizontal
12200.00	40.13	39.21	18.03	39.27	58.10	74.00	-15.90	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
4880.00	27.61	34.34	10.36	39.89	32.42	54.00	-21.58	Vertical
7320.00	25.08	37.31	12.91	40.40	34.90	54.00	-19.10	Vertical
9760.00	24.58	38.03	13.89	37.94	38.56	54.00	-15.44	Vertical
12200.00	23.30	39.21	18.03	39.27	41.27	54.00	-12.73	Vertical
4880.00	28.45	34.34	10.36	39.89	33.26	54.00	-20.74	Horizontal
7320.00	26.05	37.31	12.91	40.40	35.87	54.00	-18.13	Horizontal
9760.00	25.68	38.03	13.89	37.94	39.66	54.00	-14.34	Horizontal
12200.00	24.53	39.21	18.03	39.27	42.50	54.00	-11.50	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)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4940.00	47.22	34.45	10.43	41.03	51.07	74.00	-22.93	Vertical
7410.00	44.76	37.37	12.72	40.01	54.84	74.00	-19.16	Vertical
9880.00	41.44	38.07	14.21	37.85	55.87	74.00	-18.13	Vertical
12350.00	40.88	39.34	17.55	39.48	58.29	74.00	-15.71	Vertical
4940.00	48.82	34.45	10.43	41.03	52.67	74.00	-21.33	Horizontal
7410.00	46.49	37.37	12.72	40.01	56.57	74.00	-17.43	Horizontal
9880.00	43.30	38.07	14.21	37.85	57.73	74.00	-16.27	Horizontal
12350.00	42.87	39.34	17.55	39.48	60.28	74.00	-13.72	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
4940.00	32.72	34.45	10.43	41.03	36.57	54.00	-17.43	Vertical
7410.00	28.37	37.37	12.72	40.01	38.45	54.00	-15.55	Vertical
9880.00	25.70	38.07	14.21	37.85	40.13	54.00	-13.87	Vertical
12350.00	39.46	39.34	17.55	39.48	43.27	54.00	-10.73	Vertical
4940.00	30.10	34.45	10.43	41.03	38.17	54.00	-15.83	Horizontal
7410.00	27.56	37.37	12.72	40.01	40.18	54.00	-13.82	Horizontal
9880.00	27.85	38.07	14.21	37.85	41.99	54.00	-12.01	Horizontal
12350.00	39.46	39.34	17.55	39.48	45.26	54.00	-8.74	Horizontal

5.2.3 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	52.01	29.98	6.28	39.03	49.24	74.00	-24.76	Horizontal
2400.00	55.19	30.03	6.34	38.87	52.69	74.00	-21.31	Horizontal
2390.00	51.07	29.98	6.28	39.03	48.30	74.00	-25.70	Vertical
2400.00	54.04	30.03	6.34	38.87	51.54	74.00	-22.46	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	37.56	29.98	6.28	39.03	34.79	54.00	-19.21	Horizontal
2400.00	38.43	30.03	6.34	38.87	35.93	54.00	-18.07	Horizontal
2390.00	36.22	29.98	6.28	39.03	33.45	54.00	-20.55	Vertical
2400.00	37.00	30.03	6.34	38.87	34.50	54.00	-19.50	Vertical

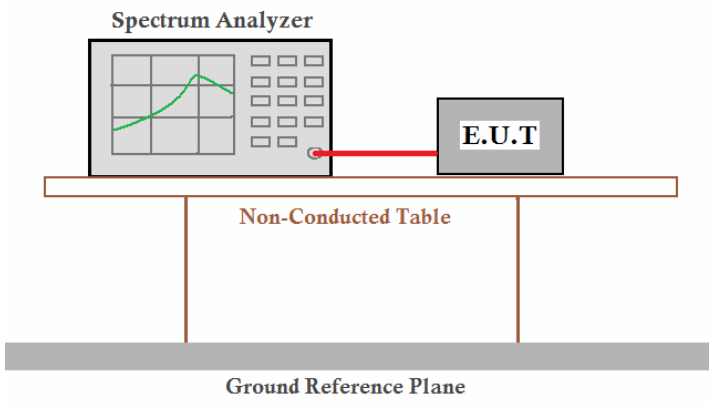
Test mode:	Transmitting	Test channel:	Highest	Remark:	Peak
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Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	54.80	30.32	6.22	39.53	51.81	74.00	-22.19	Horizontal
2500.00	50.19	30.37	5.76	39.15	47.17	74.00	-26.83	Horizontal
2483.50	53.46	30.32	6.22	39.53	50.47	74.00	-23.53	Vertical
2500.00	48.72	30.37	5.76	39.15	45.70	74.00	-28.30	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
2483.50	38.27	30.32	6.22	39.53	36.47	54.00	-17.53	Horizontal
2500.00	34.32	30.37	5.76	39.15	35.25	54.00	-18.75	Horizontal
2483.50	38.12	30.32	6.22	39.53	35.13	54.00	-18.87	Vertical
2500.00	36.80	30.37	5.76	39.15	33.78	54.00	-20.22	Vertical

5.3 20dB Bandwidth

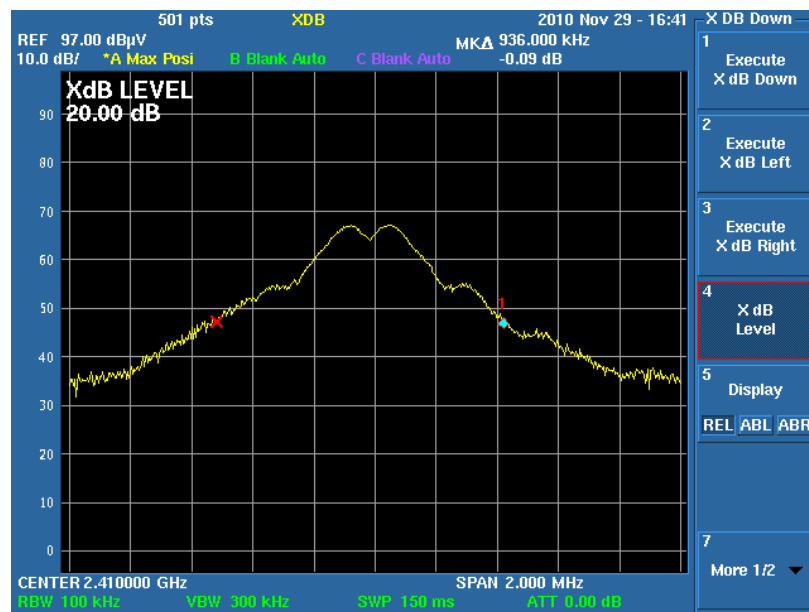
Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2003
Receiver setup:	RBW=10KHz, VBW=30KHz, detector: Peak
Limit:	Operation Frequency range 2400MHz-2483.5MHz
Test Procedure:	<ol style="list-style-type: none"> 1. According to the follow Test-setup, keep the relative position 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:	 <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	0.936	Pass
Middle	0.944	Pass
Highest	0.984	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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