

# FCC REPORT

**Applicant:** Skyrocket Toys, LLC

**Address of Applicant:** 606 Venice Blvd, Suite D, Venice, CA 90291, U.S.A

**Equipment Under Test (EUT)**

Product Name: Sky Viper Quadcopter

Model No.: 01206

**FCC ID:** O5301206TX24G

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.249:2012

**Date of sample receipt:** May 08, 2013

**Date of Test:** May 08-13, 2013

**Date of report issued:** May 13, 2013

**Test Result :** PASS \*

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

Authorized Signature:

A circular blue stamp with the text "GLOBAL UNITED TECHNOLOGY SERVICES CO., LTD." around the perimeter and "GTS" in the center. A handwritten signature in black ink is written over the stamp.

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	May 13, 2013	Original

Prepared By:

*Sam. Gao*

Date:

May 13, 2013

Project Engineer

Check By:

*Hans. Hu*

Date:

May 13, 2013

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	15.249 (d)/15.205	Pass
20dB Occupied Bandwidth	15.215 (c)	Pass

*Pass: The EUT complies with the essential requirements in the standard.*

*N/A: not applicable.*

## 5 General Information

### 5.1 Client Information

Applicant:	Skyrocket Toys, LLC
Address of Applicant:	606 Venice Blvd, Suite D, Venice, CA 90291, U.S.A
Manufacturer:	Skyrocket Toys, LLC
Address of Manufacturer:	606 Venice Blvd, Suite D, Venice, CA 90291, U.S.A
Factory:	Guangzhou Spinmark Electronics Technology Co., Ltd
Address of factory :	1/F & 2/F, Block A, 64 Songshan Road, Shilou Town, Panyu District Guangzhou, China

### 5.2 General Description of EUT

Product Name:	Sky Viper Quadcopter
Model No.:	01206
Operation Frequency:	2408MHz~2472MHz
Channel separation:	1MHz
Channel numbers:	65
Modulation technology:	GFSK
Antenna Type:	Integral
Antenna gain:	2dBi
Power supply:	4 * 1.5V(AAA Size) =6.0V

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2408MHz	18	2425MHz	35	2442MHz	52	2459MHz
2	2409MHz	19	2426MHz	36	2443MHz	53	2460MHz
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
16	2423MHz	33	2440MHz	50	2457MHz	65	2472MHz
17	2424MHz	34	2441MHz	51	2458MHz		

Note:

According to FCC part15, 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	2408MHz
The middle channel	2440MHz
The Highest channel	2472MHz

### 5.3 Test mode

Transmitting mode	Keep in the transmitter in transmitting with modulation.
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#### Per-test mode.

We have 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)	91.53	94.37	90.52

#### 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:

- **CNAS —Registration No.: CNAS L5775**

CNAS has accredited Global United Technology Services Co., Ltd. To ISO/IEC 17025 General Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **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 Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

### 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

Fax: 0755-27798960

### 5.6 Other Information Requested by the Customer

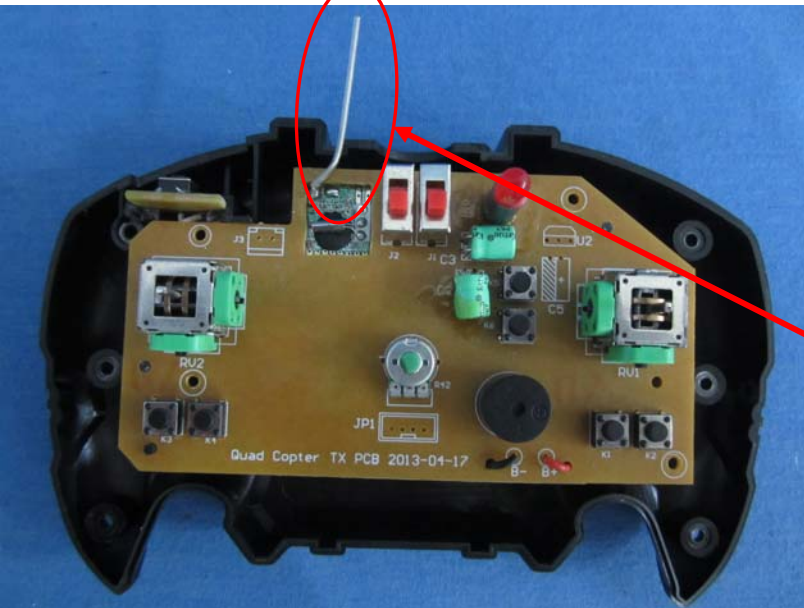
None.

## 6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	Mar. 30 2013	Mar. 29 2015
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	Jul. 03 2012	Jul. 02 2013
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	Feb. 25 2013	Feb. 24 2014
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	9120D-829	GTS208	Feb. 25 2013	Feb. 24 2014
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	Feb. 25 2013	Feb. 24 2014
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	Mar. 31 2013	Mar. 30 2014
9	Coaxial Cable	GTS	N/A	GTS211	Mar. 31 2013	Mar. 30 2014
10	Coaxial cable	GTS	N/A	GTS210	Mar. 31 2013	Mar. 30 2014
11	Coaxial Cable	GTS	N/A	GTS212	Mar. 31 2013	Mar. 30 2014
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	Jul. 03 2012	Jul. 02 2013
13	Amplifier(2GHz-20GHz)	HP	8349B	GTS206	Jul. 03 2012	Jul. 02 2013
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June 29 2012	June 28 2013
15	Band filter	Amindeon	82346	GTS219	Mar. 31 2013	Mar. 30 2014

## 7 Test results and Measurement Data

### 7.1 Antenna requirement:

<b>Standard requirement:</b>	FCC Part15 C Section 15.203
<b>15.203 requirement:</b>	
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.	
<b>E.U.T Antenna:</b>	
The antenna is Integral antenna, the best case gain of the antenna is 2dBi	
	



## 7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.4:2003				
Test Frequency Range:	30MHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
		AV	1MHz	10Hz	Average Value
Limit: (Field strength of the fundamental signal)	Frequency	Limit (dBuV/m @3m)		Remark	
	2400MHz-2483.5MHz	94.00		Average Value	
		114.00		Peak Value	
Limit: (Spurious Emissions)	Frequency	Limit (dBuV/m @3m)		Remark	
	30MHz-88MHz	40.00		Quasi-peak Value	
	88MHz-216MHz	43.50		Quasi-peak Value	
	216MHz-960MHz	46.00		Quasi-peak Value	
	960MHz-1GHz	54.00		Quasi-peak Value	
	Above 1GHz	54.00		Average Value	
		74.00		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 setup:	Below 1GHz				
	<p>The diagram illustrates the test setup for frequencies below 1GHz. It shows an Equipment Under Test (EUT) placed on a Turn Table at a height of 0.8m. A Search Antenna is mounted on an Antenna Tower at a height of 4m. The distance between the EUT and the Search Antenna is 3m. An RF Test Receiver is connected to the Search Antenna. The ground plane is indicated at the base of the setup.</p>				
	Above 1GHz				

	<p>The diagram illustrates the test setup. An EUT (Equipment Under Test) is placed on a turn table that is 0.8 meters above the ground. The turn table is rotated 360 degrees. The EUT is positioned 3 meters away from the antenna tower. The antenna tower is a variable-height structure with a horn antenna at the top. The antenna height is varied from 1 meter to 4 meters above the ground. The antenna is connected to a spectrum analyzer via an amplifier. The spectrum analyzer is used to measure the field strength of the EUT.</p>
<p>Test Procedure:</p>	<ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>3. 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.</li> <li>4. 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 rota table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>6. 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.</li> </ol>
<p>Test Instruments:</p>	<p>Refer to section 6.0 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.3 for details</p>
<p>Test results:</p>	<p>Pass</p>

**Measurement data:**

## 7.2.1 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
2408.00	93.76	27.57	5.40	33.99	92.74	114.00	-21.26	Horizontal
2408.00	89.16	27.57	5.40	33.99	88.14	114.00	-25.86	Vertical
2440.00	94.68	27.48	5.43	33.96	93.63	114.00	-20.37	Horizontal
2440.00	90.11	27.48	5.43	33.96	89.06	114.00	-24.94	Vertical
2472.00	95.33	27.50	5.46	33.92	94.37	114.00	-19.63	Horizontal
2472.00	91.28	27.50	5.46	33.92	90.32	114.00	-23.68	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
2408.00	81.76	27.57	5.40	33.99	80.74	94.00	-13.26	Horizontal
2408.00	79.73	27.57	5.40	33.99	78.71	94.00	-15.29	Vertical
2440.00	80.71	27.48	5.43	33.96	79.66	94.00	-14.34	Horizontal
2440.00	75.87	27.48	5.43	33.96	74.82	94.00	-19.18	Vertical
2472.00	82.33	27.50	5.46	33.92	81.37	94.00	-12.63	Horizontal
2472.00	80.63	27.50	5.46	33.92	79.67	94.00	-14.33	Vertical

According to the follow transmitter output power ( $P_t$ ) formula:

$$P_t = (E \times d)^2 / (30 \times g_t)$$

$P_t$  =transmitter output power in watts

$g_t$  =numeric gain of the transmitting antenna (unitless)

E=electric field strength in V/m

d= measurement distance in meters (m).

According to the above test data,  $E_{max} = 94.37 \text{ dBuV/m} = 0.0523 \text{ V/m}$ ,  $d = 3\text{m}$ ,  $g_t = 1.58$

$$P_t = (E \times d)^2 / (30 \times g_t) = (0.0523 \times 3)^2 / (30 \times 1.58) = 0.000519 \text{ W} = 0.519 \text{ mW}$$

## 7.2.2 Spurious emissions

### ■ Below 1GHz

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
47.99	41.68	16.47	0.75	31.98	26.92	40.00	-13.08	Horizontal
195.82	41.92	13.57	1.82	32.13	25.18	43.50	-18.32	Horizontal
274.19	42.72	15.55	2.24	32.17	28.34	46.00	-17.66	Horizontal
404.67	42.23	17.22	2.88	31.87	30.46	46.00	-15.54	Horizontal
580.70	41.40	20.14	3.65	31.14	34.05	46.00	-11.95	Horizontal
779.61	42.45	22.82	4.38	31.30	38.35	46.00	-7.65	Horizontal
46.83	43.68	16.55	0.74	31.99	28.98	40.00	-11.02	Vertical
61.35	43.22	15.52	0.87	31.93	27.68	40.00	-12.32	Vertical
205.68	43.06	13.78	1.88	32.14	26.58	43.50	-16.92	Vertical
245.95	43.83	15.08	2.10	32.16	28.85	46.00	-17.15	Vertical
489.03	42.35	18.33	3.26	31.59	32.35	46.00	-13.65	Vertical
709.18	41.55	21.91	4.12	31.20	36.38	46.00	-9.62	Vertical

## ■ Above 1GHz

Test channel:	2408MHz
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**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
1252.00	39.80	25.53	4.51	33.18	36.66	74.00	-37.34	Horizontal
3119.00	38.90	28.78	6.19	33.18	40.69	74.00	-33.31	Horizontal
4816.00	52.38	31.79	8.61	32.09	60.69	74.00	-13.31	Horizontal
7224.00	38.47	36.19	11.66	31.99	54.33	74.00	-19.67	Horizontal
9632.00	33.74	38.01	14.16	31.58	54.33	74.00	-19.67	Horizontal
12040.00	*					74.00		Horizontal
1252.00	37.35	25.53	4.51	33.18	34.21	74.00	-39.79	Vertical
3119.00	36.77	28.78	6.19	33.18	38.56	74.00	-35.44	Vertical
4816.00	50.00	31.79	8.61	32.09	58.31	74.00	-15.69	Vertical
7224.00	36.36	36.19	11.66	31.99	52.22	74.00	-21.78	Vertical
9632.00	31.33	38.01	14.16	31.58	51.92	74.00	-22.08	Vertical
12040.00	*					74.00		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
1252.00	27.01	25.53	4.51	33.18	23.87	54.00	-30.13	Horizontal
3119.00	26.16	28.78	6.19	33.18	27.95	54.00	-26.05	Horizontal
4816.00	34.41	31.79	8.61	32.09	42.72	54.00	-11.28	Horizontal
7224.00	19.42	36.19	11.66	31.99	35.28	54.00	-18.72	Horizontal
9632.00	13.74	38.01	14.16	31.58	34.33	54.00	-19.67	Horizontal
12040.00	*					54.00		Horizontal
1252.00	24.27	25.53	4.51	33.18	21.13	54.00	-32.87	Vertical
3119.00	23.61	28.78	6.19	33.18	25.40	54.00	-28.60	Vertical
4816.00	31.50	31.79	8.61	32.09	39.81	54.00	-14.19	Vertical
7224.00	17.71	36.19	11.66	31.99	33.57	54.00	-20.43	Vertical
9632.00	11.36	38.01	14.16	31.58	31.95	54.00	-22.05	Vertical
12040.00	*					54.00		Vertical

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. “\*”, means this data is the too weak instrument of signal is unable to test.

Test channel:	2440MHz
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**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
1351.00	38.82	25.71	4.58	33.36	35.75	74.00	-38.25	Horizontal
3273.00	40.56	28.44	6.51	33.00	42.51	74.00	-31.49	Horizontal
4880.00	45.94	31.85	8.66	32.12	54.33	74.00	-19.67	Horizontal
7320.00	38.13	36.37	11.72	31.89	54.33	74.00	-19.67	Horizontal
9760.00	33.32	38.35	14.25	31.59	54.33	74.00	-19.67	Horizontal
12200.00	*					74.00		Horizontal
1351.00	36.37	25.71	4.58	33.36	33.30	74.00	-40.70	Vertical
3273.00	38.43	28.44	6.51	33.00	40.38	74.00	-33.62	Vertical
4880.00	43.56	31.85	8.66	32.12	51.95	74.00	-22.05	Vertical
7320.00	36.02	36.37	11.72	31.89	52.22	74.00	-21.78	Vertical
9760.00	30.91	38.35	14.25	31.59	51.92	74.00	-22.08	Vertical
12200.00	*					74.00		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
1351.00	23.03	25.71	4.58	33.36	19.96	54.00	-34.04	Horizontal
3273.00	27.82	28.44	6.51	33.00	29.77	54.00	-24.23	Horizontal
4880.00	30.97	31.85	8.66	32.12	39.36	54.00	-14.64	Horizontal
7320.00	19.08	36.37	11.72	31.89	35.28	54.00	-18.72	Horizontal
9760.00	13.32	38.35	14.25	31.59	34.33	54.00	-19.67	Horizontal
12200.00	*					54.00		Horizontal
1351.00	20.29	25.71	4.58	33.36	17.22	54.00	-36.78	Vertical
3273.00	25.27	28.44	6.51	33.00	27.22	54.00	-26.78	Vertical
4880.00	28.06	31.85	8.66	32.12	36.45	54.00	-17.55	Vertical
7320.00	17.37	36.37	11.72	31.89	33.57	54.00	-20.43	Vertical
9760.00	10.94	38.35	14.25	31.59	31.95	54.00	-22.05	Vertical
12200.00	*					54.00		Vertical

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. “\*”, means this data is the too weak instrument of signal is unable to test.

Test channel:	2472MHz
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**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
1306.00	39.20	25.64	4.55	33.27	36.12	74.00	-37.88	Horizontal
3364.00	41.11	28.51	6.70	32.91	43.41	74.00	-30.59	Horizontal
4944.00	45.87	31.91	8.71	32.16	54.33	74.00	-19.67	Horizontal
7416.00	37.81	36.56	11.77	31.81	54.33	74.00	-19.67	Horizontal
9888.00	33.08	38.72	14.35	31.82	54.33	74.00	-19.67	Horizontal
12360.00	*					74.00		Horizontal
1306.00	36.75	25.64	4.55	33.27	33.67	74.00	-40.33	Vertical
3364.00	38.98	28.51	6.70	32.91	41.28	74.00	-32.72	Vertical
4944.00	43.49	31.91	8.71	32.16	51.95	74.00	-22.05	Vertical
7416.00	35.70	36.56	11.77	31.81	52.22	74.00	-21.78	Vertical
9888.00	30.67	38.72	14.35	31.82	51.92	74.00	-22.08	Vertical
12360.00	*					74.00		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
1306.00	23.41	25.64	4.55	33.27	20.33	54.00	-33.67	Horizontal
3364.00	28.37	28.51	6.70	32.91	30.67	54.00	-23.33	Horizontal
4944.00	30.90	31.91	8.71	32.16	39.36	54.00	-14.64	Horizontal
7416.00	18.76	36.56	11.77	31.81	35.28	54.00	-18.72	Horizontal
9888.00	13.08	38.72	14.35	31.82	34.33	54.00	-19.67	Horizontal
12360.00	*					54.00		Horizontal
1306.00	20.96	25.64	4.55	33.27	17.88	54.00	-36.12	Vertical
3364.00	26.24	28.51	6.70	32.91	28.54	54.00	-25.46	Vertical
4944.00	28.52	31.91	8.71	32.16	36.98	54.00	-17.02	Vertical
7416.00	16.65	36.56	11.77	31.81	33.17	54.00	-20.83	Vertical
9888.00	10.67	38.72	14.35	31.82	31.92	54.00	-22.08	Vertical
12360.00	*					54.00		Vertical

**Remark:**

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. “\*”, means this data is the too weak instrument of signal is unable to test.

## 7.2.3 Bandedge emissions

Test channel:	2408MHz
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### 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
2310.00	39.36	27.91	5.30	34.11	38.46	74.00	-35.54	Horizontal
2390.00	54.83	27.59	5.38	34.01	53.79	74.00	-20.21	Horizontal
2310.00	37.37	27.91	5.30	34.11	36.47	74.00	-37.53	Vertical
2390.00	52.22	27.59	5.38	34.01	51.18	74.00	-22.82	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
2310.00	30.64	27.91	5.30	34.11	29.74	54.00	-24.26	Horizontal
2390.00	41.08	27.59	5.38	34.01	40.04	54.00	-13.96	Horizontal
2310.00	28.62	27.91	5.30	34.11	27.72	54.00	-26.28	Vertical
2390.00	38.85	27.59	5.38	34.01	37.81	54.00	-16.19	Vertical

Test channel:	2472MHz
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### 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
2483.50	59.48	27.53	5.47	33.92	58.56	74.00	-15.44	Horizontal
2500.00	50.00	27.55	5.49	33.90	49.14	74.00	-24.86	Horizontal
2483.50	56.43	27.53	5.47	33.92	55.51	74.00	-18.49	Vertical
2500.00	47.04	27.55	5.49	33.90	46.18	74.00	-27.82	Vertical

### Average value:

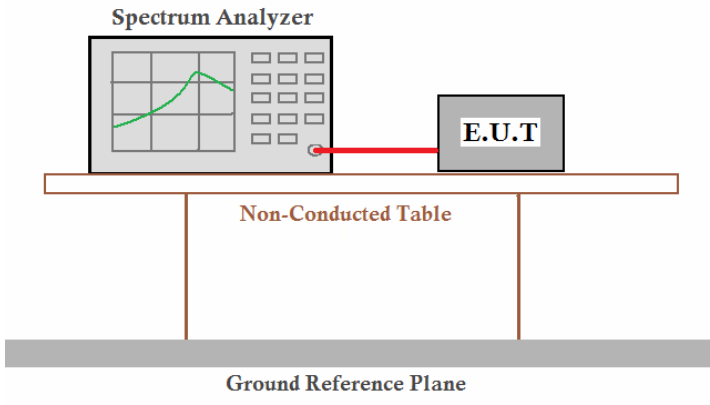
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	40.18	27.53	5.47	33.92	39.26	54.00	-14.74	Horizontal
2500.00	37.69	27.55	5.49	33.90	36.83	54.00	-17.17	Horizontal
2483.50	38.85	27.53	5.47	33.92	37.93	54.00	-16.07	Vertical
2500.00	35.64	27.55	5.49	33.90	34.78	54.00	-19.22	Vertical

### Remark:

- Final Level = Receiver Read level + Antenna Factor + Cable Loss – Pre-amplifier Factor



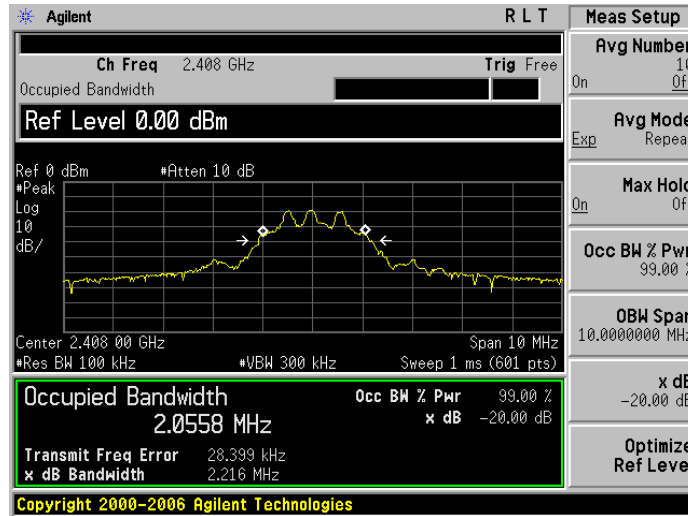
### 7.3 20dB Occupy Bandwidth

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.4:2003
Limit:	Operation Frequency range 2400MHz~2483.5MHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

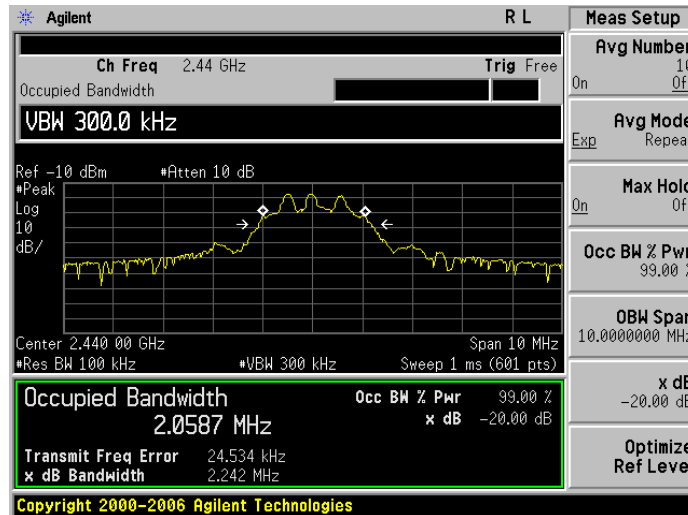
### Measurement Data

Test channel	20dB bandwidth(MHz)	Result
2408MHz	2.216	Pass
2440MHz	2.242	Pass
2472MHz	2.275	Pass

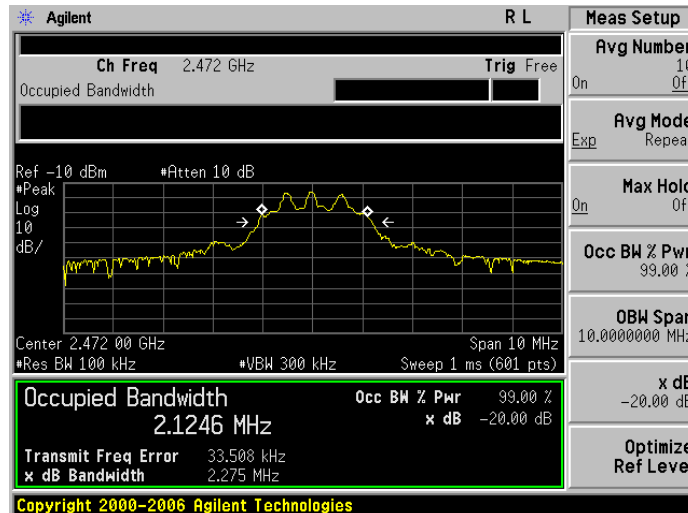
Test plot as follows:



2408MHz



2440MHz



2472MHz