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FEDERAL COMMUNICATIONS COMMISSION
Registration number: 556682

FCC TEST REPORT

Application No.: SZEMO060701667RF

Applicant: Outrageous International H.K. Ltd.

Fundamental Frequency : 2.416GHz; 2.432GHz; 2.448GHz and 2.464GHz.

FCC ID: UCQBODYPADTX

Equipment under Test (EUT):

Name: Body Actuated Controller for Playstation Model: KC1604
Name: Body Actuated Controller for Xbox Model: KC7604

* This report is only for the transmitter of the 2.4G wireless system

Standards: FCC PART 15, SUBPART C : 2006
(Subpart 15.249)

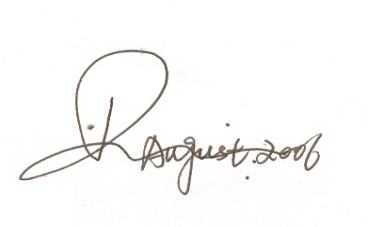
Date of Receipt: 25 July 2006

Date of Test: 26 July to 04 August 2006

Date of Issue: 05 August 2006

Test Result :	**PASS ***

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



Robinson Lo
Laboratory Manager

2 Test Summary

Test	Test Requirement	Stanadard Paragraph	Result
Radiated Emission	FCC PART 15 2006	15.249 (a) (d)	PASS
Band Edge	FCC PART 15 2006	15.249 (d)	PASS
Bandwidth	FCC PART 15 2006	15.249	PASS

Remark: This report is only for the transmitter of the 2.4G wireless system

Name: Body Actuated Controller for Playstation Model: KC1604
Name: Body Actuated Controller for Xbox Model: KC7604

KC1604 is the model of PS2 Game transmitter and receiver.
KC7604 is the model of XBox Game transmitter and receiver.

For the PS2 Game Controller (transmitter part)and XBox Game Controller (transmitter part).
The two transmitters are electrically identical.
They are only different in the color of the outer, control button name and software.

So model KC1604: PS2 Game controller was mainly tested.

3 Contents

4 General Information

4.1 Client Information

Applicant: Outrageous International H.K. Ltd.
Address of Applicant: 31/F. THE CENTRE,99 QUEEN'S ROAD,CENTRAL, Hong Kong.

4.2 Details of E.U.T.

Name: Body Actuated Controller for Playstation Model: KC1604

Name: Body Actuated Controller for Xbox Model: KC7604

Power Supply: DC 4.5 V (3 x “AAA” size batteries) for Controller Pad,
Receiver supplied by the host (PS2 or XBox).

Function: Radio control Gamepad with Rx, used 2.4 GHz as carrier.

The EUT operating in the band: 2.4 to 2.4835GHz. The total transmitting channels are 4 channels.

The EUT is enabled to transmit and receive data at 4 differernt channels by user selected switch. For communicating, the transmitter and receiver should be in same channel.

Verify the Frequency and Channel

Channel	Frequency (GHz)
1	2.416
2	2.432
3	2.448
4	2.464

4.3 Description of Support Units

Test EUT connected with a Playstation 2 and a TV.

4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town Economic& Technology Development District Guangzhou, China 510663

Tel: +86 20 8215 5555 Fax: +86 20 8207 5059

No tests were sub-contracted.

4.5 Other Information Requested by the Customer

None.

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP – Lab Code: 200611-0**
  SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0. Effective through December 31, 2004.
- **ACA**
  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.
- **VCCI**
  The 3m Semi-anechoic chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197 and C-2383 respectively.
  Date of Registration: September 29, 2005. Valid until September 28, 2008.
- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**
  Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.
- **CNAL – LAB Code: L0141**
  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.
- **FCC – Registration No.: 556682**
  SGS-CSTC Standards Technical 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 our files. Registration 556682, Aug. 04, 2005
- **Industry Canada (IC)**
  The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6002.

5 Test Results

5.1 Test Instruments

Item	Test Equipment	Manufacturer	Serial No.	Cal.Date (dd-mm-yy)	Cal.Due date (dd-mm-yy)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	SEL0017	28-04-2005	27-04-2007
2	EMI Test Receiver	Rohde & Schwarz	100249	22-09-2005	21-09-2006
3	EMI Test software	AUDIX	E3	N/A	N/A
4	Coaxial cable	SGS	SEL0028	20-05-2006	19-05-2007
5	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	00042673	03-03-2006	02-03-2007
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	2944A10861	26-08-2005	25-08-2006
7	Double-ridged horn (1-18GHz)	ETS-LINDGREN	00035926	30-12-2004	29-12-2006
8	Pre-amplifier (1-18GHz)	Rohde & Schwarz	1091457	29-07-2005	28-07-2007
9	Cable (0-18GHz)	MCE Mobile Communications	249439	20-05-2006	19-05-2007
9	Shielding Room	ZhongYu Electron	SEL0042	N/A	N/A
10	LISN	ETS-LINDGREN	00033512	19-09-2005	18-09-2006
11	EMI Test Receiver	Rohde & Schwarz	100119	03-03-2006	02-03-2007
12	Coaxial Cable	SGS	SEL0024	20-05-2006	19-05-2007

5.2 E.U.T. Operation

Input voltage: DC 4.5 V (3 x “AAA” size batteries)

Operating Environment:
Temperature: 24.0 °C
Humidity: 52 % RH
Atmospheric Pressure: 1012 mbar

EUT Operation: Pretest all 4 channels, and compliance test was performed in **Channel 4: 2.464GHz** since all 4 channels are almost same and no worst case be found.
Keep the EUT in transmitting status.

5.3 Test Procedure & Measurement Data

5.3.1 Radiated Emissions

Test Requirement:	FCC Part15 C Section 15.249 (a) (d)
Test Method:	Based on ANSI Standard C63.4
Test Date:	28 July 2006
Measurement Distance:	3m (Semi-Anechoic Chamber)
Frequency range	30 MHz – 25GHz for transmitting mode. Test instrumentation resolution bandwidth 120 kHz (30 MHz - 1000 MHz), 1 MHz (1000 M – 25GHz)
Operation:	Receive antenna scan height 1 - 4 m, polarization Vertical/ Horizontal

Requirements:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBuV/m @ 3m)	Field Strength of Harmonics and Spurious Emissions (dBuV/m @ 3m)
902 to 928	94.0	54.0
2400 to 2483.5	94.0	54.0
5725 to 5875	94.0	54.0
24000 to 24250	108.0	68.0

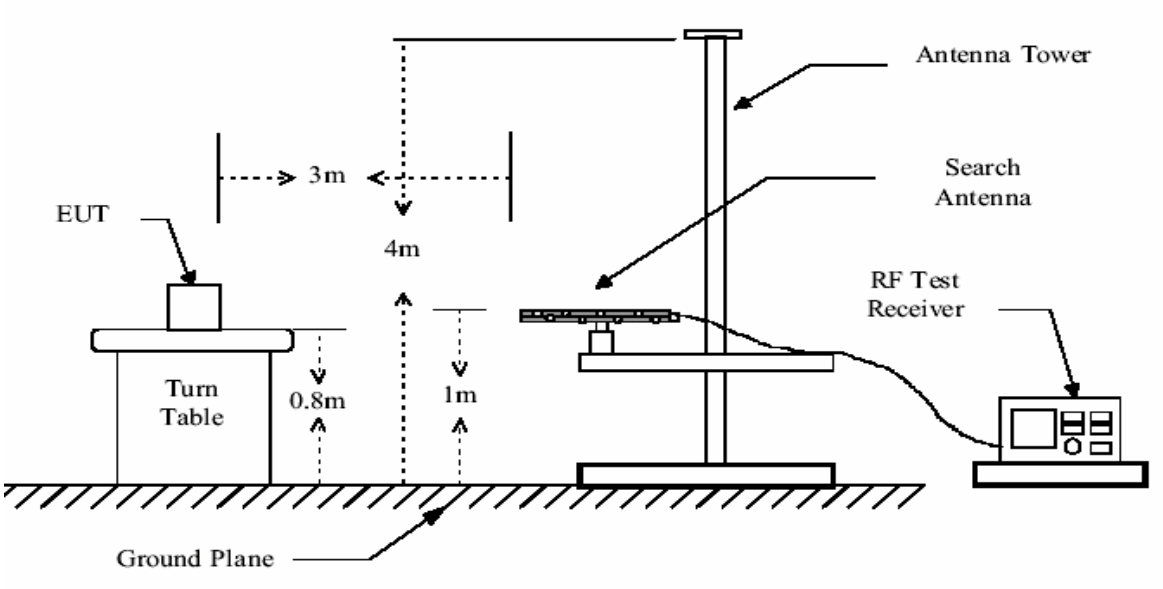
The fundamental frequency of the EUT is 2464 MHz

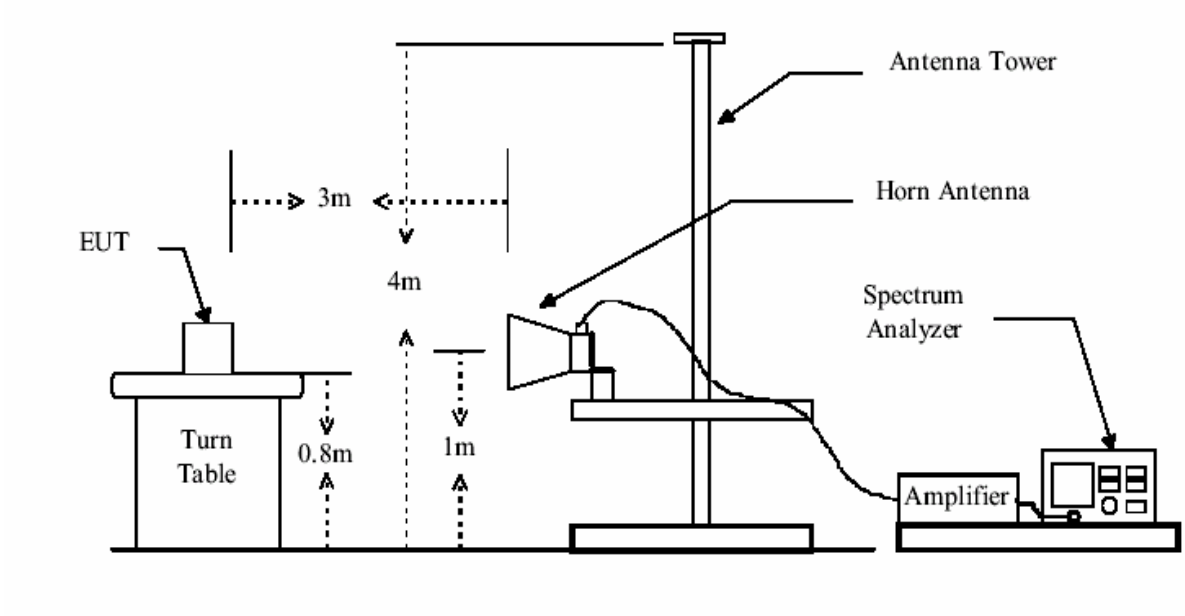
The limit for average field strength dBuv/m for the fundamental frequency= 94.0 dBμV/m.

No fundamental is allowed in the restricted bands.

The limit for average field strength dBμV/m for the harmonics and spurious frequencies = 54.0 dBμV/m. Spurious in the restricted bands must be less than 54.0 dBuv/m or 15.209.

Test Configuration:





Test Procedure: The procedure uesd was ANSI Standard C63.4-2003. The receive was scanned from 30MHz to 25GHz.When an emission was found,the table was roated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. The worst case emissions were reported.

The field strength is calculated by adding the Antenna Factor, Cable Factor & Peramplifier . The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Peramlifer Factor

The following test results were performed on the EUT:

1. Fundamental emission

Peak Measurement

Test Frequency (GHz)	Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
2.464	92.2	95.4	114.0	21.8	18.6
Average Measurement					
2.464	82.8	84.5	94.0	11.2	9.5

2. Harmonics & Spurious Emissions

Peak Measurement

Test Frequency (GHz)		Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
		Vertical	Horizontal		Vertical	Horizontal
2)	4.928	58.6	62.5	74.0	15.4	11.5
3)	7.392	60.9	62.2	74.0	13.1	11.8
4)	9.856	49.8	52.5	74.0	24.2	21.5
5)	12.320	48.6	50.2	74.0	25.4	23.8
6)	14.784	N/A	N/A	74.0	N/A	N/A
7)	17.248	N/A	N/A	74.0	N/A	N/A
8)	19.712	N/A	N/A	74.0	N/A	N/A
9)	22.176	N/A	N/A	74.0	N/A	N/A
10)	24.640	N/A	N/A	74.0	N/A	N/A
Average Measurement						
2)	4.928	48.8	54.0	54.0	5.2	4.0
3)	7.392	47.3	47.0	54.0	6.7	7.0
4)	9.856	36.2	33.5	54.0	17.8	20.5
5)	12.320	35.1	32.8	54.0	18.9	21.2
6)	14.784	N/A	N/A	54.0	N/A	N/A
7)	17.248	N/A	N/A	54.0	N/A	N/A
8)	19.712	N/A	N/A	54.0	N/A	N/A
9)	22.176	N/A	N/A	54.0	N/A	N/A
10)	24.640	N/A	N/A	54.0	N/A	N/A

N/A: refer to remark 1).

3. Other Spurious Emissions.

Test Requirement:	FCC Part15 Section 15.249 (d)
Test Method:	Based on ANSI Standard C63.4
Measurement Distance:	3m
Limit:	40.0 dBμV/m between 30MHz & 88MHz
	43.5 dBμV/m between 88MHz & 216MHz
	46.0 dBμV/m between 216MHz & 960MHz
	54.0 dBμV/m above 960MHz
Detector:	Peak for pre-scan , 120kHz resolution bandwidth within 1GHz, 1MHz resolution bandwidth above 1GHz
	Quasi-Peak if maximised peak within 6dB of limit

Test Result:

All the Emissions radiated outside of the specified frequency bands, except for harmonics, were very belower than the limit.

Remark:

1). For this intentional radiator operates below 10 GHz, the spectrum shall be investigated to the tenth harmonic of the highest fundamental frequency. And above the fifth harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 5th harmonic.

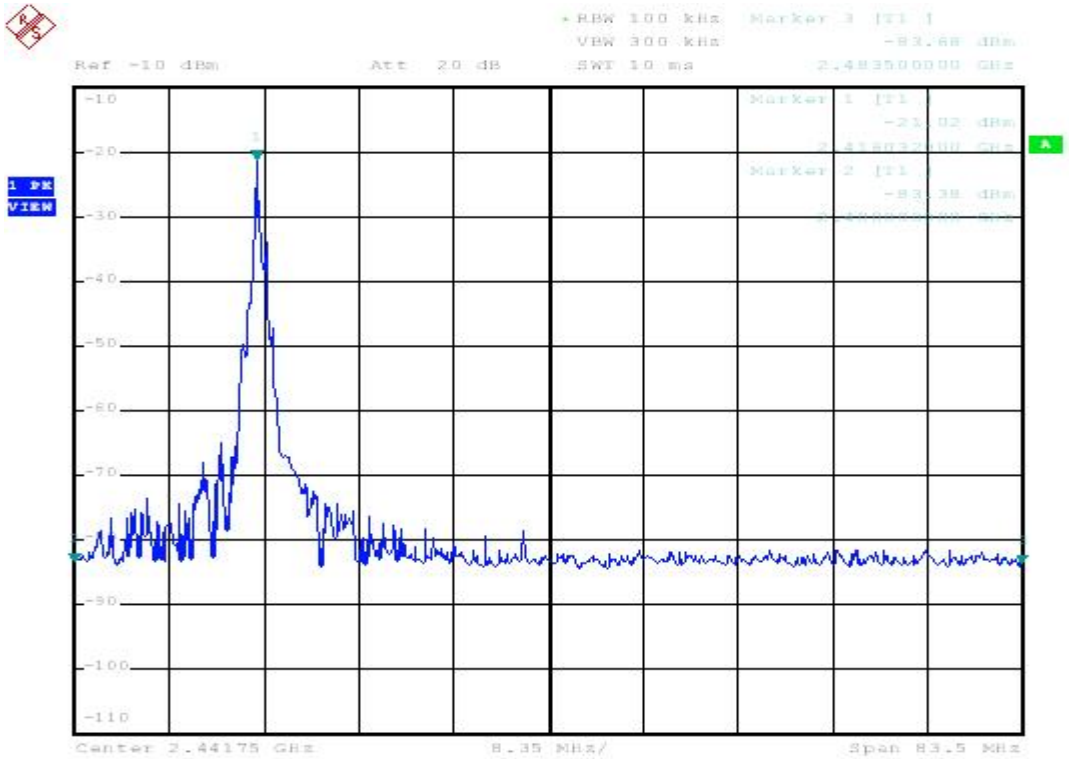
2). According to 15.249 (e) As shown in Section 15.35(b), for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

TEST RESULTS: The unit does meet the FCC requirements.

5.3.2 Band Edge

Test Requirement:	FCC Part15 Section 15.249 (d)
Test Method:	Based on ANSI Standard C63.4-2003 Operation within the band 2400 – 2483.5 MHz
Test Date:	04 August 2006
Requirements:	15.249 (d) 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.
Method of measurement:	A small sample of the transmitter output was fed into the Spectrum Analyzer and the attached plot was taken. The vertical is set to 10dB per division.

Test in channel 1: 2.416GHz, keep EUT transmitting.



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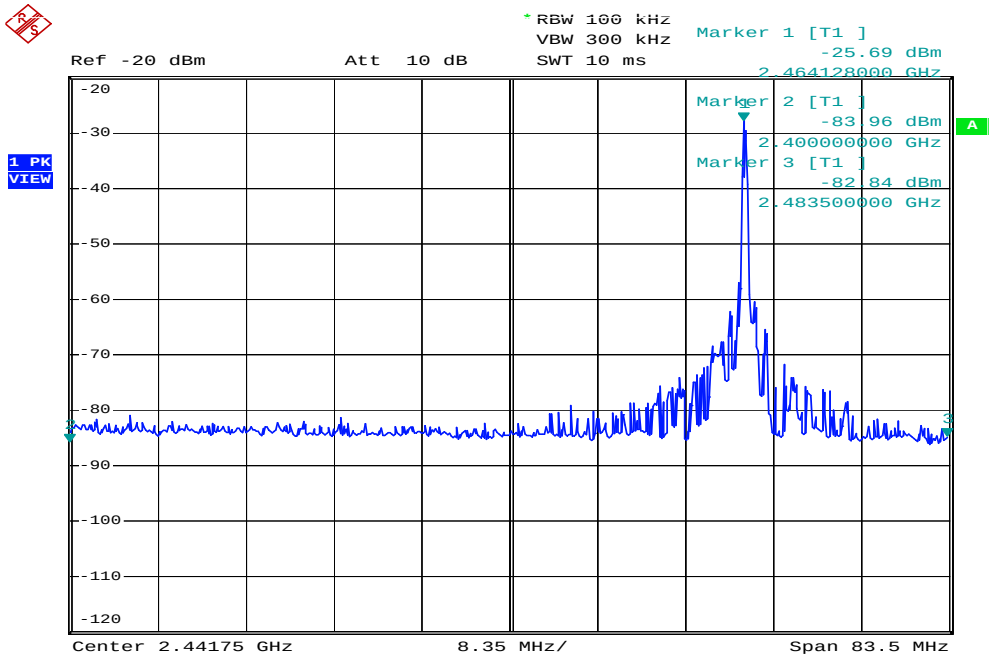
The test result for the Emissions radiated outside of the specified frequency bands , the emission of frequency 2400MHz and 2483.5MHz are attenuated 50dB below the level of the fundamental frequency. Please refer above graph.

For the field strength of Lower Edges:2400MHz is 34.2dBuV/m;

For the field strength of Upper Edges:2483.5MHz is 34.5dBuV/m, also complied with 15.209 requirement.

The results: The unit does meet the FCC requirements.

Test in channel 4: 2.464GHz, keep EUT transmitting.



Date: 4.AUG.2006 21:22:34

The test result for the Emissions radiated outside of the specified frequency bands , the emission of frequency 2400MHz and 2483.5MHz are attenuated 50dB below the level of the fundamental frequency. Please refer above graph.

For the field strength of Lower Edges:2400MHz is 34.0dBuV/m;

For the field strength of Upper Edges:2483.5MHz is 34.6dBuV/m, also complied with 15.209 requirement.

The results: The unit does meet the FCC requirements.

5.3.3 Occupied Bandwidth

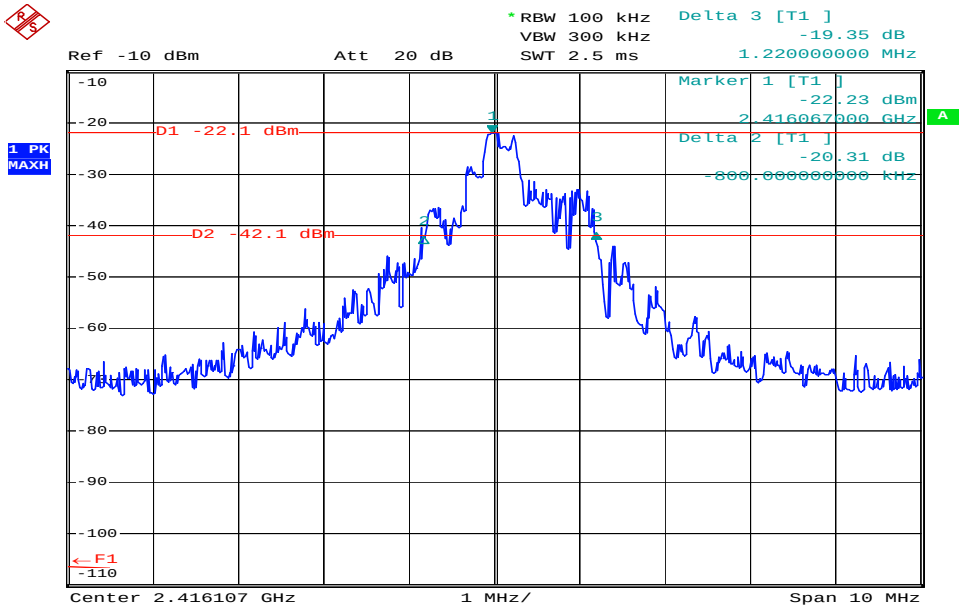
Test Requirement:	FCC Part 15 C Section 15.215 (C)
Test Method:	ANSI C63.4 section 13 & FCC Part 2.1049
	Operation within the band 2400– 2483.5 MHz
Test Date:	04 August 2006

Requirements: Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Method of measurement: The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector. The vertical Scale is set to 10dB per division.

The graph as below, represents the emissions take for this device.

Channel 1: 2.416GHz



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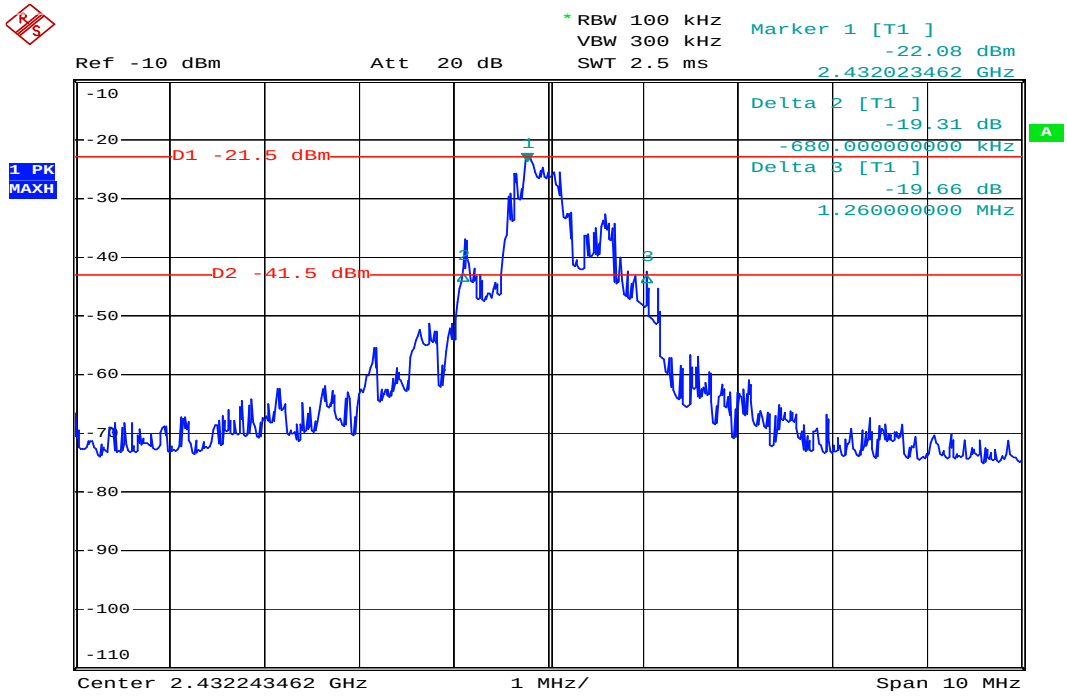
Channel 2:



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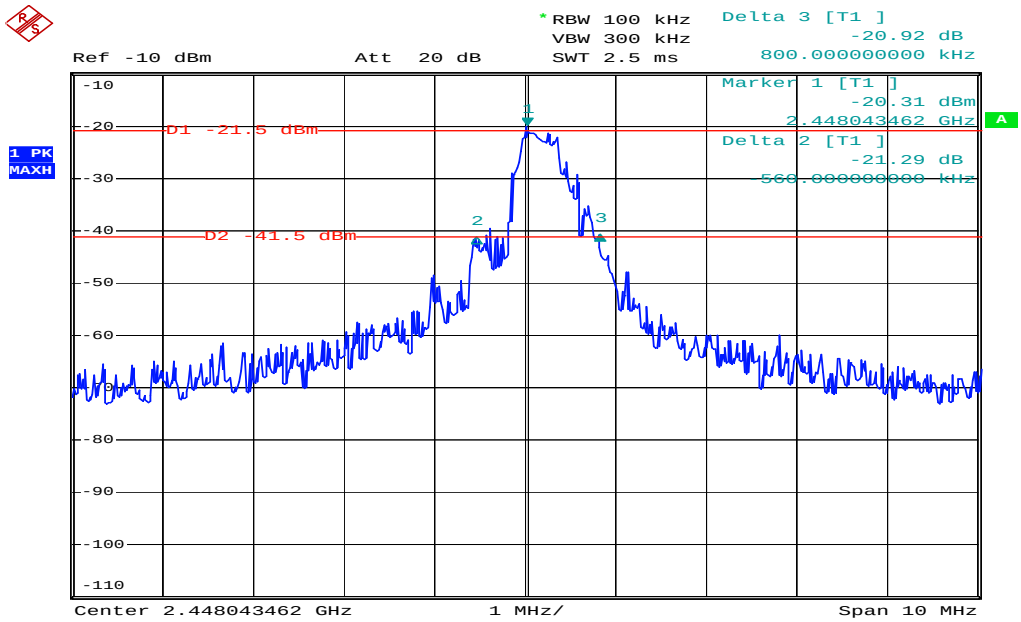
Channel 3:



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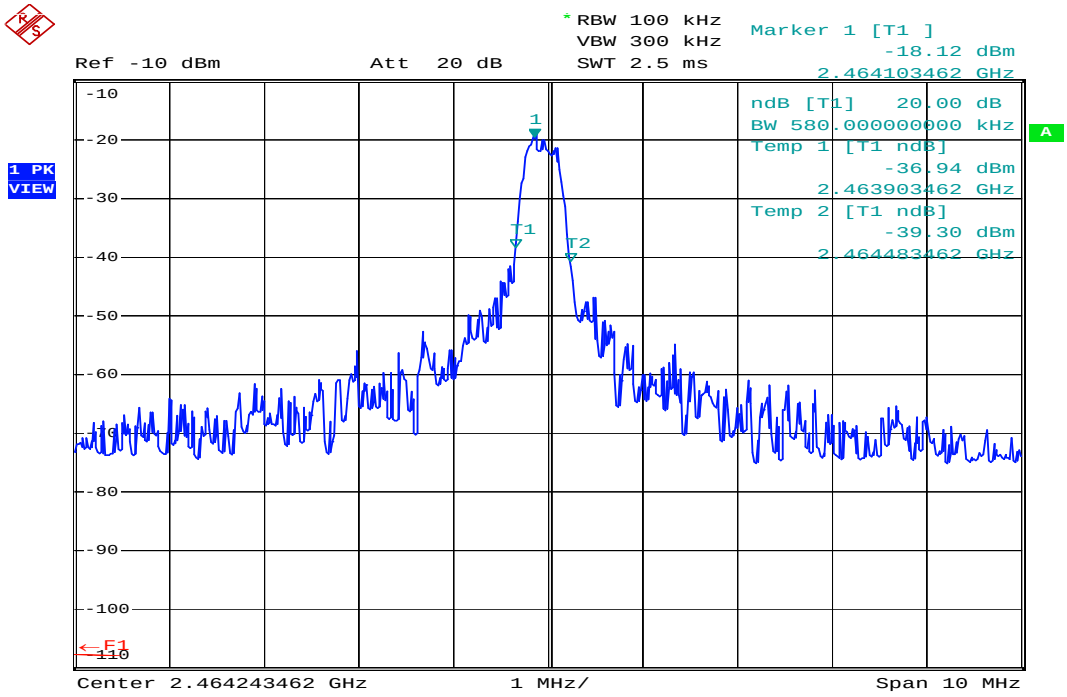
Channel 4:



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The results: The unit does meet the FCC requirements.