



**FCC CFR47 PART 15 SUBPART C  
CERTIFICATION  
TEST REPORT**

**FOR**

**FULL-SIZE KEYBOARD**

**MODEL NUMBER: GP65FK; GC15FK\***

**FCC ID: JJ4-AS00890**

**REPORT NUMBER: 05U3573-1B**

**ISSUE DATE: SEPTEMBER 12, 2005**

*Prepared for*  
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*Prepared by*  
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*\*Details of specific model(s) tested and model differences shall be identified in body of report*

**NVLAP<sup>®</sup>**  
**LAB CODE:200065-0**

Revision History

Rev.	Issue Date	Revisions	Revised By
A	8/31/05	Initial Issue	Thu Chan
B	9/12/05	Updated Harmonics and Spurious Emissions data sheet under Section 7.2.2	Thu Chan

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** GYRATION  
12950 SARATOGA AVE  
SARATOGA, CA 95070, USA

**EUT DESCRIPTION:** FULL-SIZE KEYBOARD

**MODEL TESTED:** GP65FK

**SERIAL NUMBER:** AAFA0000080

**DATE TESTED:** AUGUST 08-16, 2005

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	NO NON-COMPLIANCE NOTED

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

Tested By:



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THU CHAN  
EMC SUPERVISOR  
COMPLIANCE CERTIFICATION SERVICES

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WILLIAM ZHUANG  
EMC ENGINEER  
COMPLIANCE CERTIFICATION SERVICES

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://www.ccsemc.com>.

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

## 5. EQUIPMENT UNDER TEST

### 5.1. DESCRIPTION OF EUT

The EUT is a Wireless Keyboard, which uses DS SS and operates at 2.4 GHz band. It communicates with a USB Transceiver connected to a computer. The keyboard sends data to the computer via the radio. The transceiver receives data and sends out acknowledgements for the data received and awaits further data from the keyboard.

The radio module is manufactured by CYPRESS.

### 5.2. MANUFACTURER'S DESCRIPTION OF MODEL DIFFERENCE

GC15FK (Consumer version) is identical to the EUT model GP65FK (Professional version), except that GC15FK has a lower receive sensitivity of -90 dBm, than that of GP65FK which is -95 dBm. GP65FK represents the worst-case scenario.

### 5.3. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

2400 to 2483.5 MHz Authorized Band

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2403 - 2479	DSSS	-2.24	0.60

### 5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an integral antenna with a maximum gain of 0 dBi.

### 5.5. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was FSK\_Agency\_Test.hex version 1.3

The test utility software used during testing was FSK\_Agency\_test rev. 1.3.

### 5.6. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at 2479 MHz.

## **5.7. DESCRIPTION OF TEST SETUP**

### **SUPPORT EQUIPMENT**

N/A

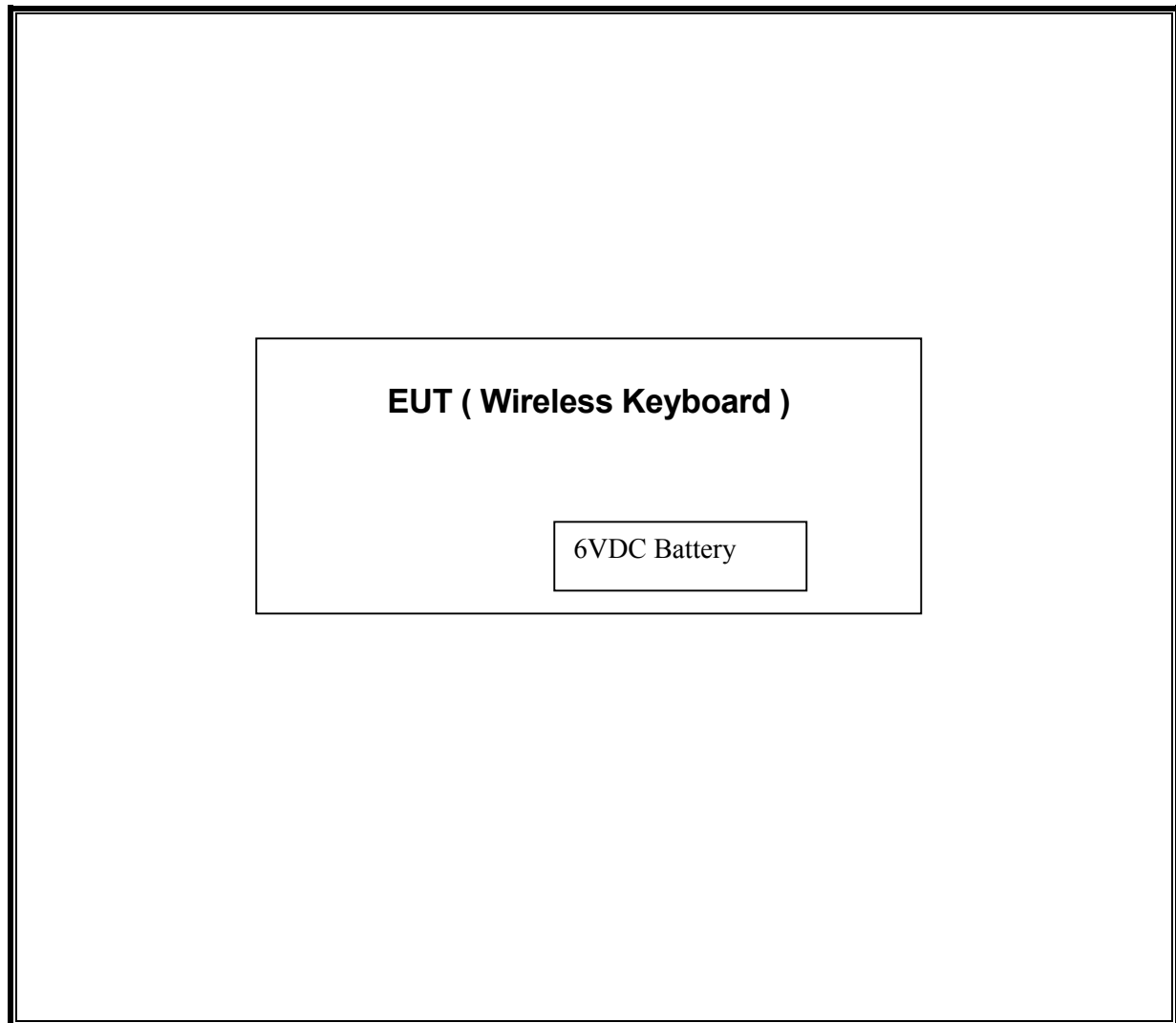
### **I/O CABLES**

N/A

### **TEST SETUP**

The EUT is a standalone unit with 6.0 VDC battery operated. Test software exercised the radio card.

**SETUP DIAGRAM FOR TESTS**





## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	Cal Due
EMI Test Receiver	R & S	ESHS 20	827129/006	10/22/2005
Site A Line Stabilizer / Conditioner	Tripplite	LC-1800a	A0051681	CNR
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	8/30/2005
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	8379443	10/21/2005
Spectrum Analyzer	HP	E4446A	US42510266	8/25/2005
Antenna, Horn 1 ~ 18 GHz	EMCO	3117	29310	9/12/2005
Preamplifier, 1 ~ 26 GHz	Miteq	NSP2600-44	646456	8/17/2005
Peak Power Meter	Agilent	E4416A	GB41291160	2/9/2006
Peak / Average Power Sensor	Agilent	E9327A	US40440755	2/10/2006
RF Filter Section	HP	85420E	3705A00256	3/6/2006
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	3/6/2006
30MHz---- 2Ghz	Sunol Sciences	JB1 Antenna	A121003	9/22/2005
4.0GHz HPF	Micro Tronics	HPM13351	3	CNR

## 7. LIMITS AND RESULTS

### 7.1. CHANNEL TESTS FOR THE 2400 TO 2483.5 MHz BAND

#### 7.1.1. 6 dB BANDWIDTH

##### LIMIT

§15.247 (a) (2) For direct sequence systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

##### TEST PROCEDURE

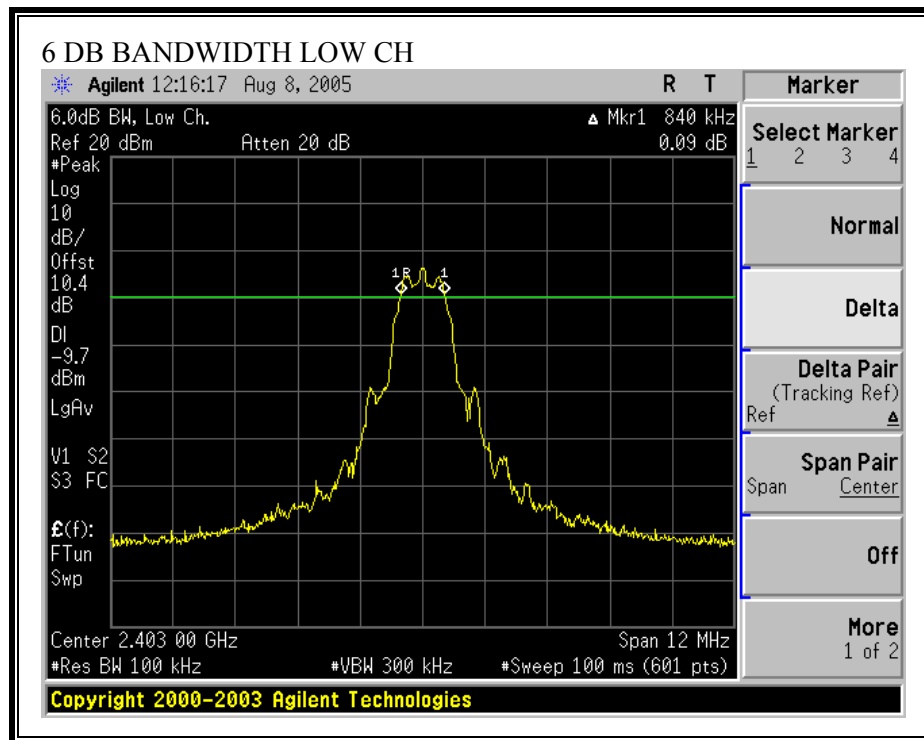
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

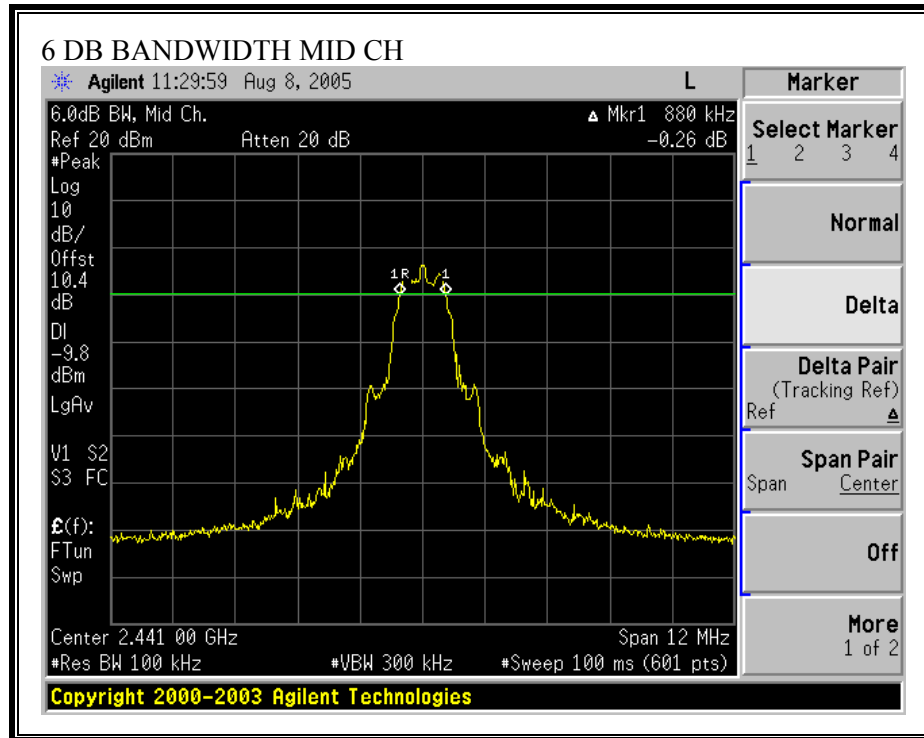
##### RESULTS

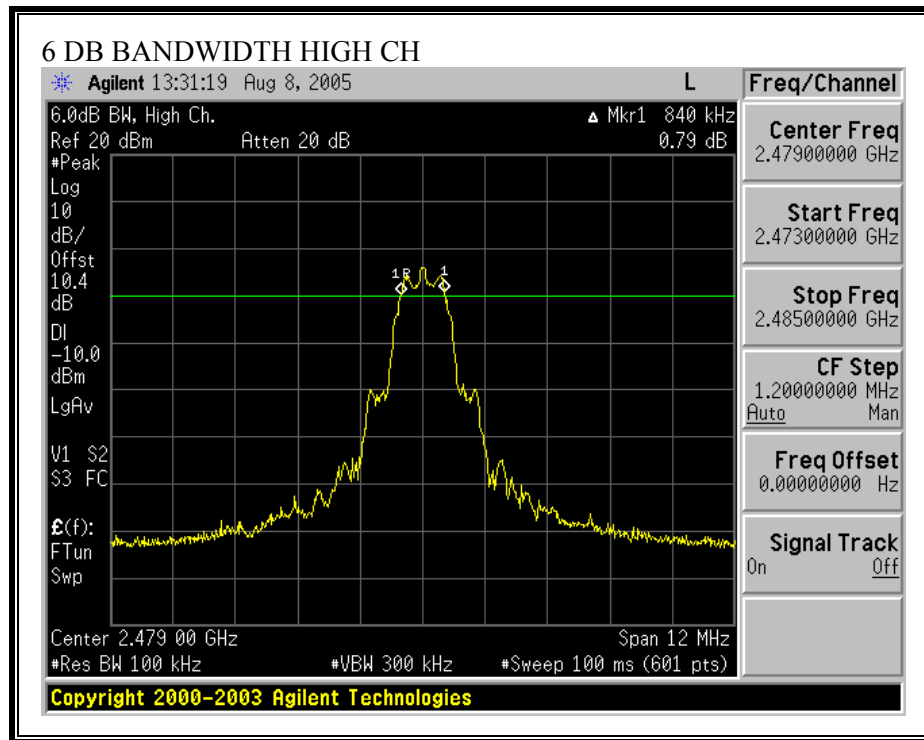
No non-compliance noted:

Channel	Frequency (MHz)	6 dB Bandwidth (kHz)	Minimum Limit (kHz)	Margin (kHz)
Low	2403	840	500	340
Middle	2441	880	500	380
High	2479	840	500	340

**6 DB BANDWIDTH**







### 7.1.2. 99% BANDWIDTH

#### LIMIT

None; for reporting purposes only.

#### TEST PROCEDURE

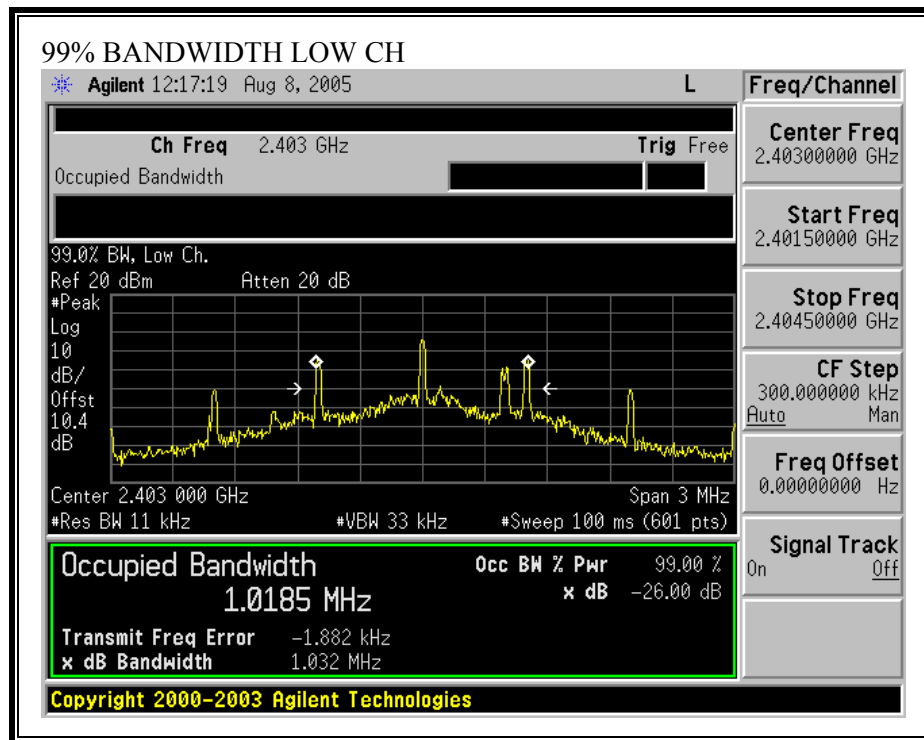
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

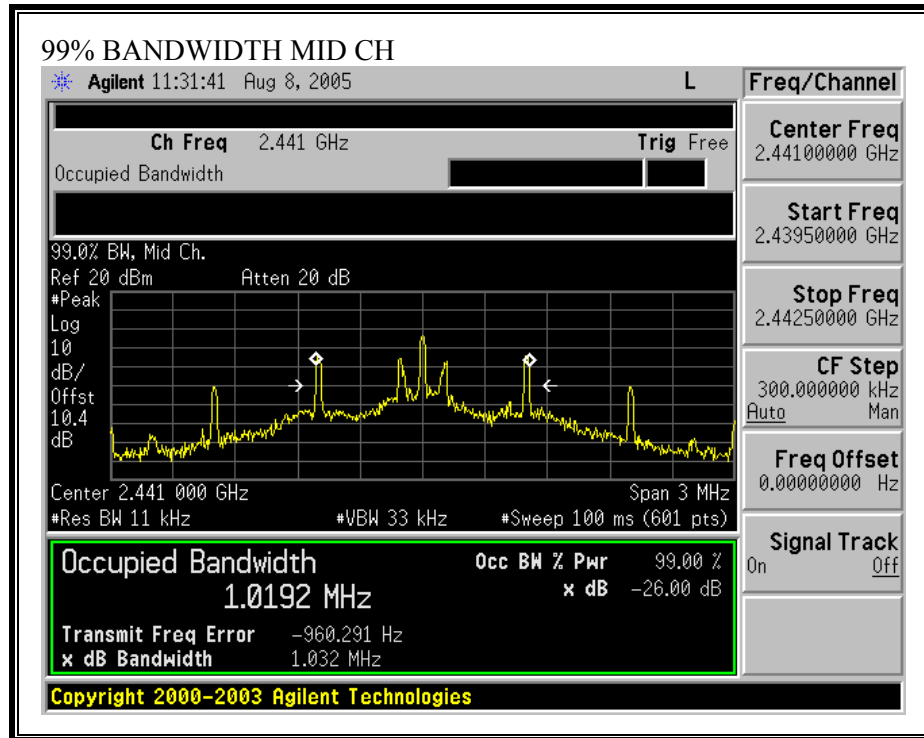
#### RESULTS

No non-compliance noted:

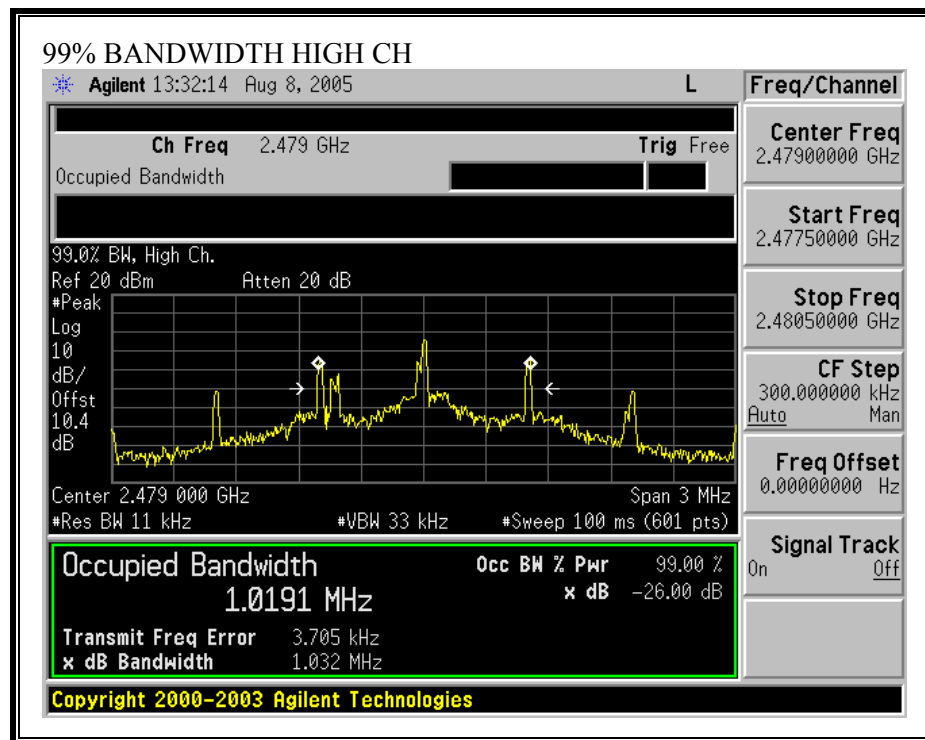
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2403	1.019
Middle	2441	1.019
High	2479	1.019

**99% BANDWIDTH**









### **7.1.3. PEAK OUTPUT POWER**

#### **PEAK POWER LIMIT**

§15.247 (b) The maximum peak output power of the intentional radiator shall not exceed the following:

§15.247 (b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz , and 5725-5850 MHz bands: 1 watt.

§15.247 (b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz , and 5725-5850 MHz bands: 1 watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

§15.247 (b) (4) (i) Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

#### **TEST PROCEDURE**

The transmitter output is connected to a spectrum analyzer and the analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth.

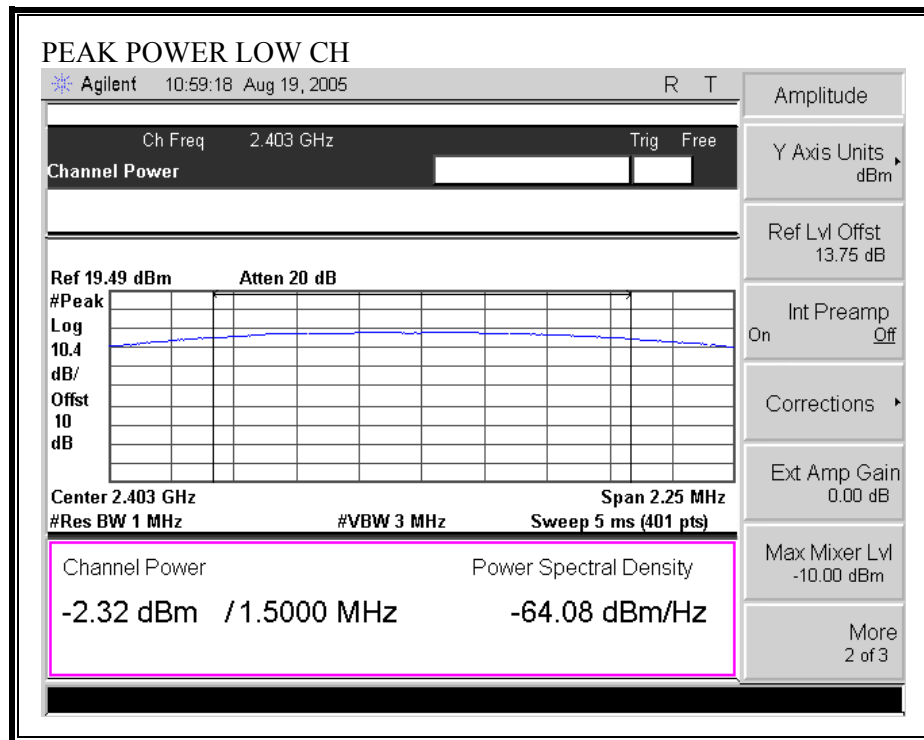
## **RESULTS**

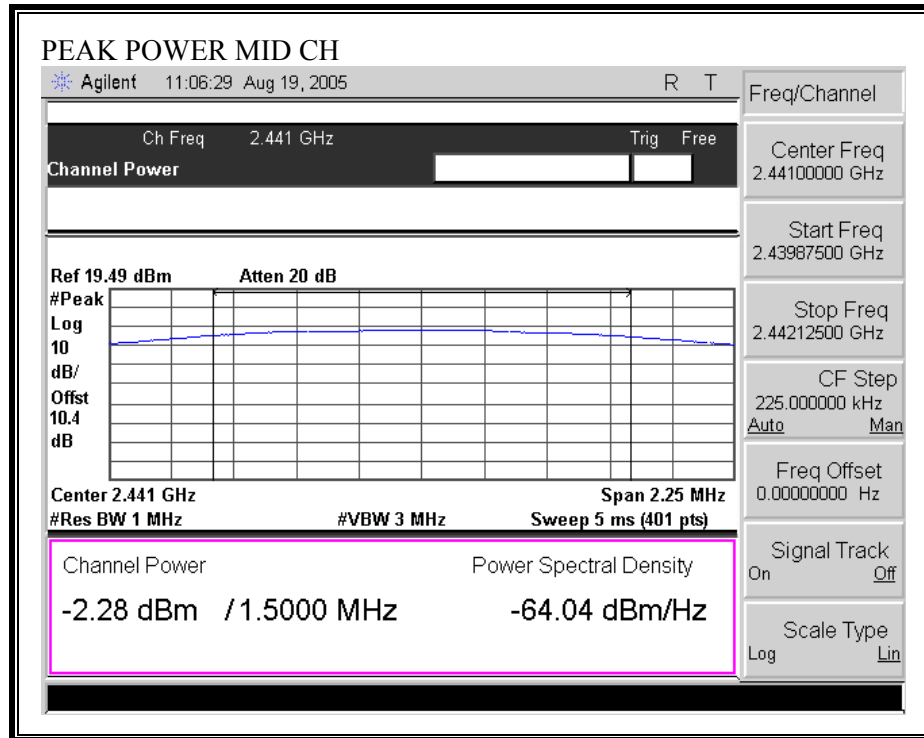
The maximum antenna gain is 0 dBi for other than fixed, point-to-point operations, therefore the limit is 30 dBm.

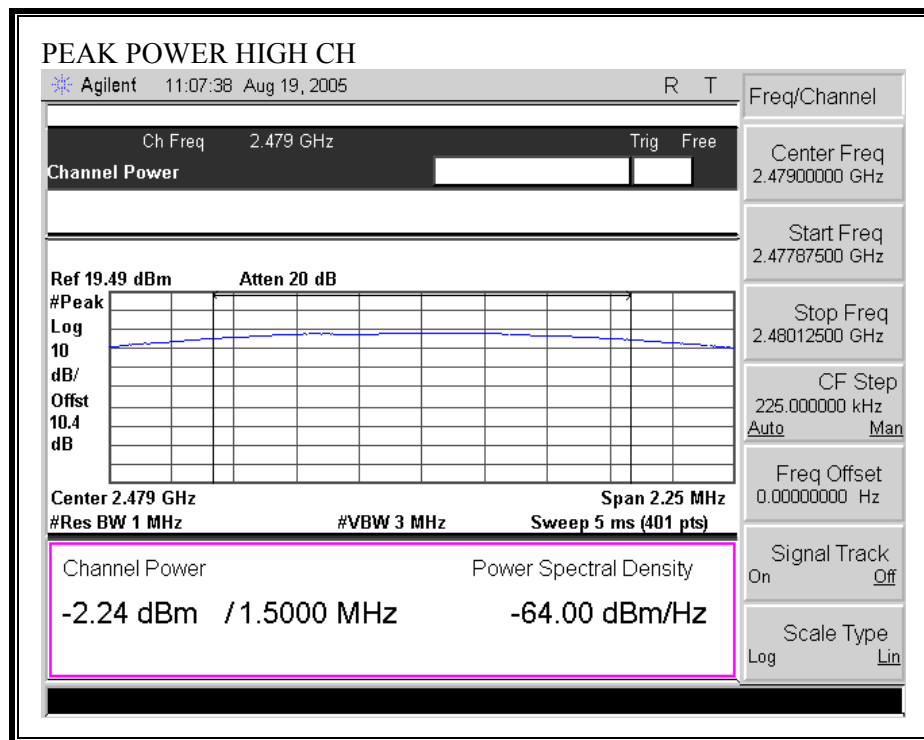
No non-compliance noted:

Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)
Low	2403	-2.32	30	-32.32
Middle	2441	-2.28	30	-32.28
High	2479	-2.24	30	-32.24

**OUTPUT POWER**







#### **7.1.4. AVERAGE POWER**

##### **AVERAGE POWER LIMIT**

None; for reporting purposes only.

##### **TEST PROCEDURE**

The transmitter output is connected to a power meter.

##### **RESULTS**

No non-compliance noted:

The cable assembly insertion loss of 10.4 dB (including 10 dB pad and 0.4 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

<b>Channel</b>	<b>Frequency (MHz)</b>	<b>Power (dBm)</b>
Low	2403	-2.91
Middle	2441	-3.19
High	2479	-3.71

### 7.1.5. PEAK POWER SPECTRAL DENSITY

#### LIMIT

§15.247 (d) For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

#### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer, the maximum level in a 3 kHz bandwidth is measured with the spectrum analyzer using RBW = 3 kHz and VBW > 3 kHz, sweep time = span / 3 kHz, and video averaging is turned off. The PPSD is the highest level found across the emission in any 3 kHz band.

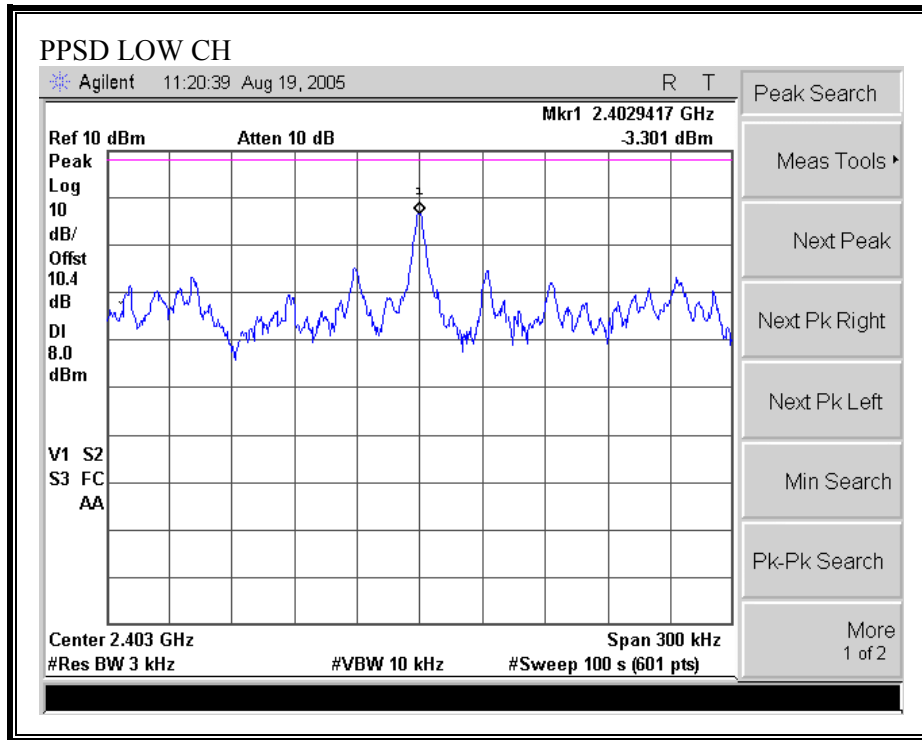
#### RESULTS

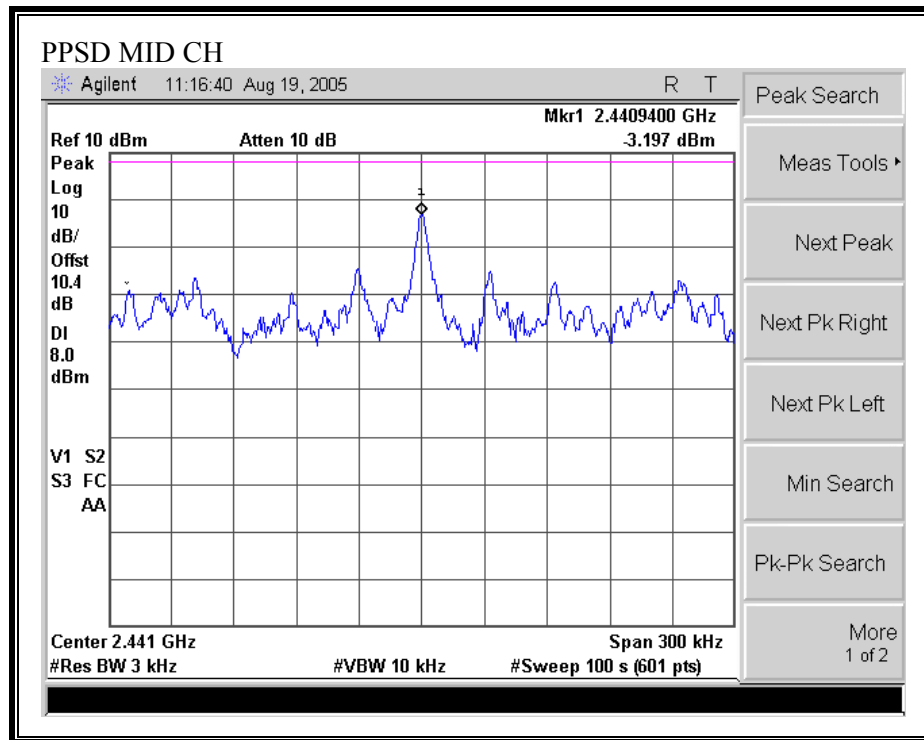
No non-compliance noted:

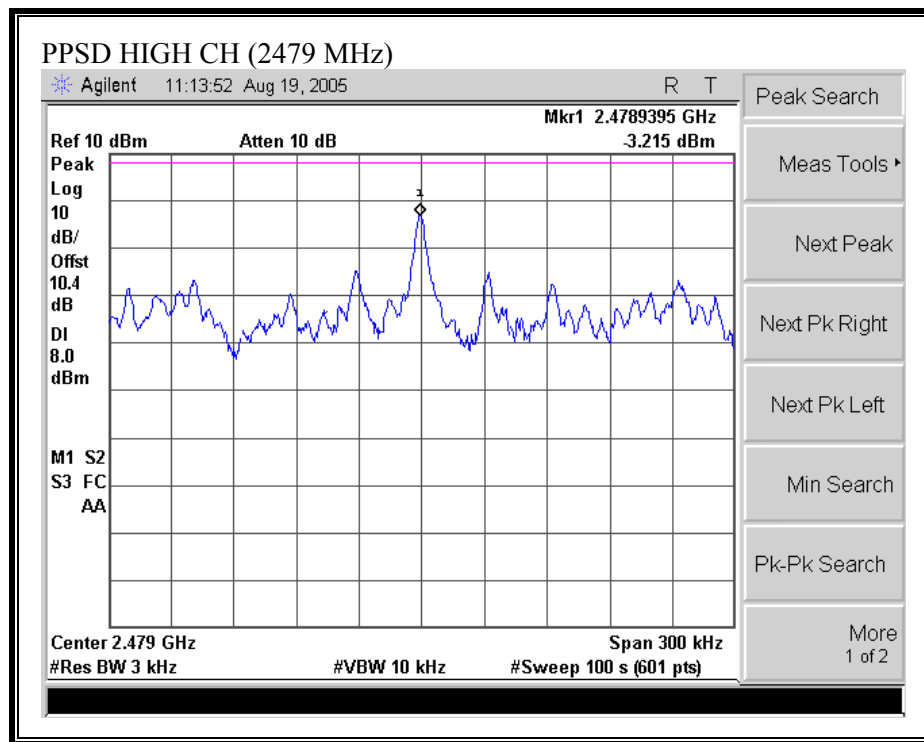
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2403	-3.30	8	-11.30
Middle	2441	-3.20	8	-11.20
High	2479	-3.22	8	-11.22



**PEAK POWER SPECTRAL DENSITY**







## **7.1.6. CONDUCTED SPURIOUS EMISSIONS**

### **LIMITS**

§15.247 (c) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Conducted power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

### **TEST PROCEDURE**

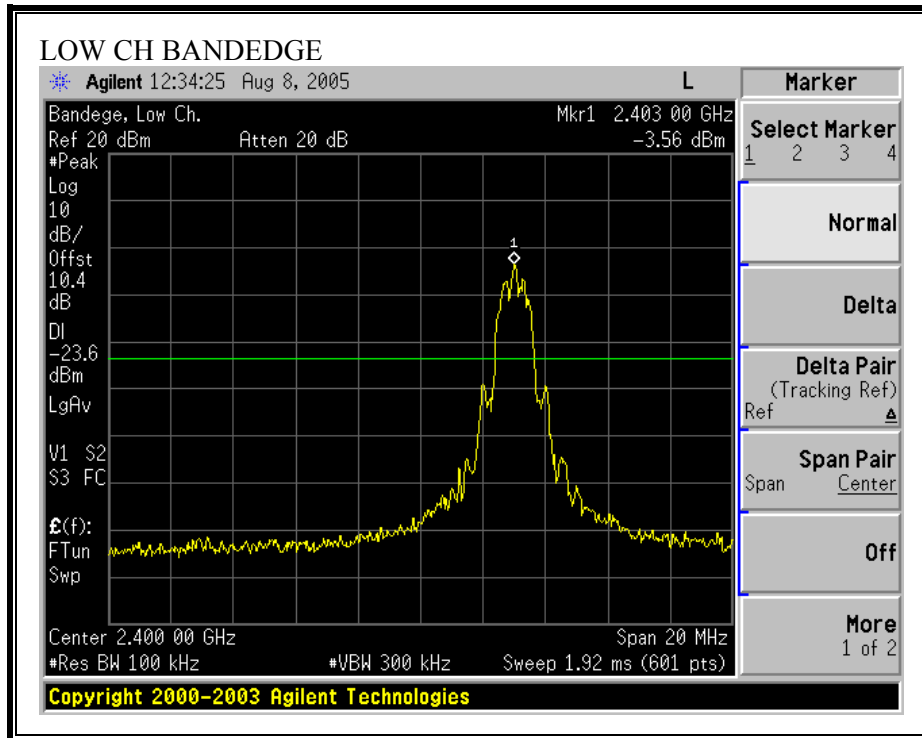
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

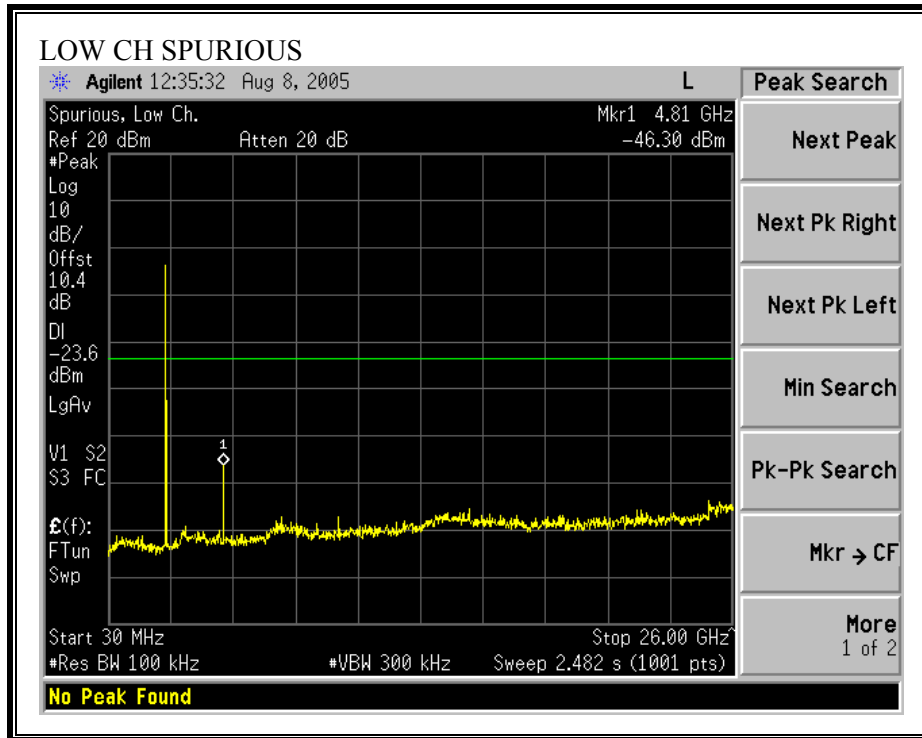
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

### **RESULTS**

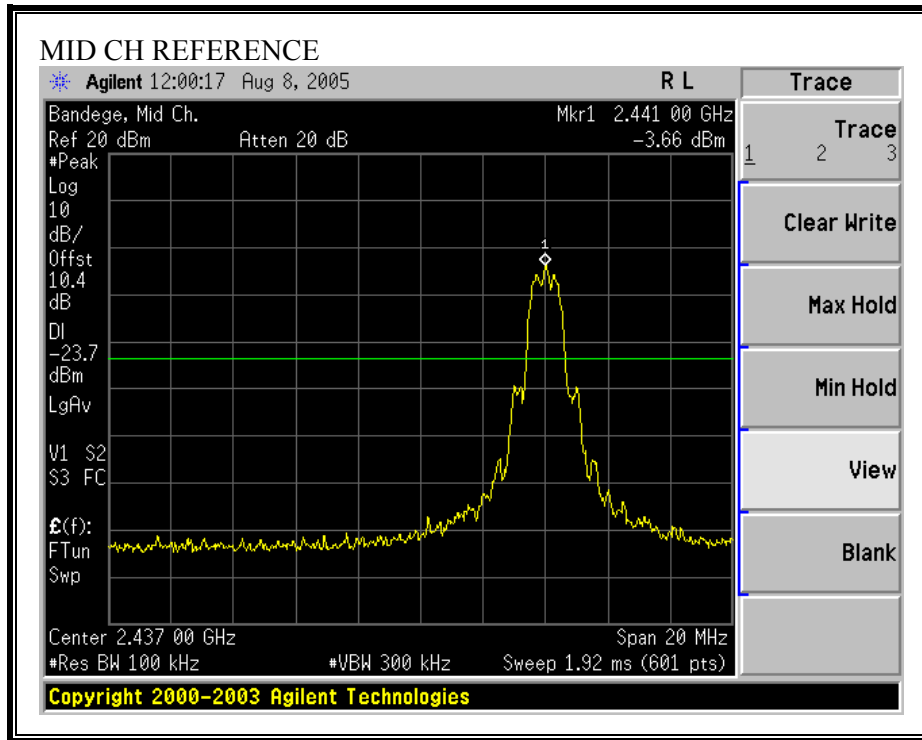
No non-compliance noted:

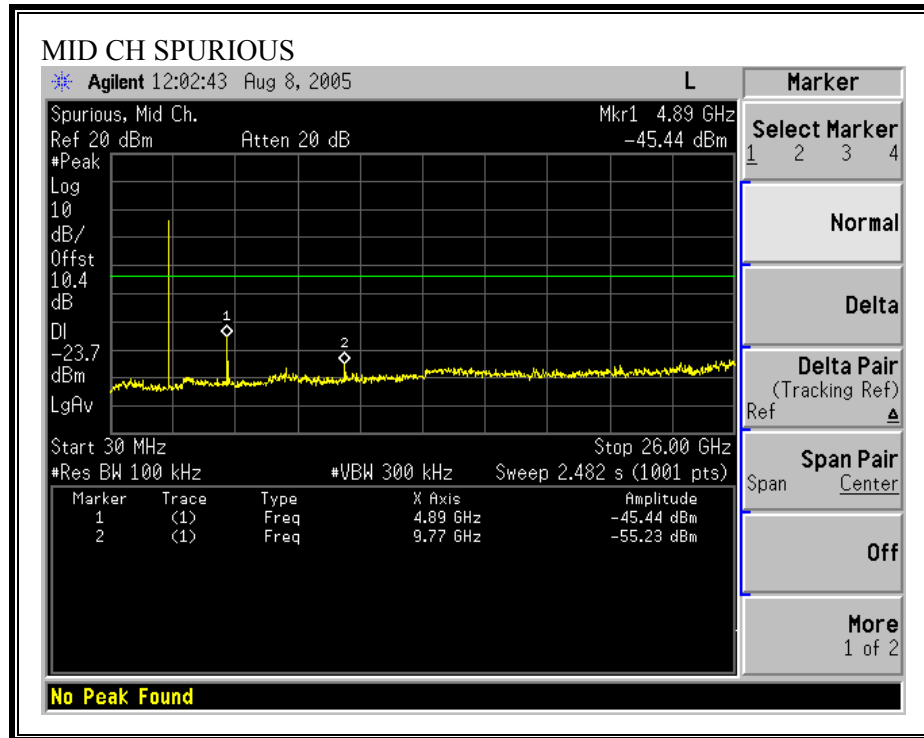
**SPURIOUS EMISSIONS, LOW CHANNEL**





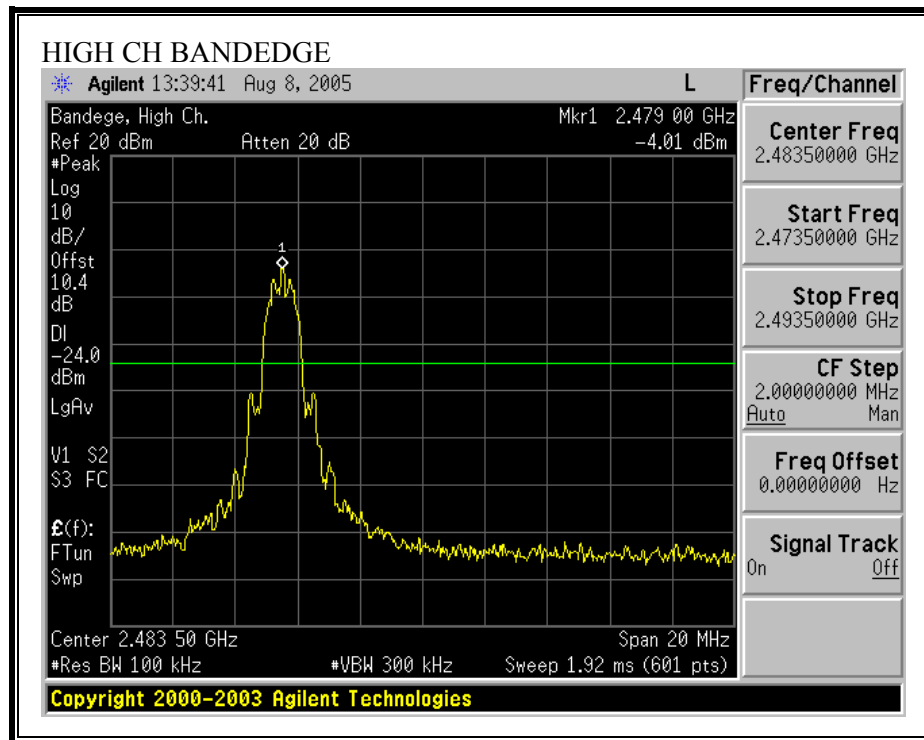
**SPURIOUS EMISSIONS, MID CHANNEL**

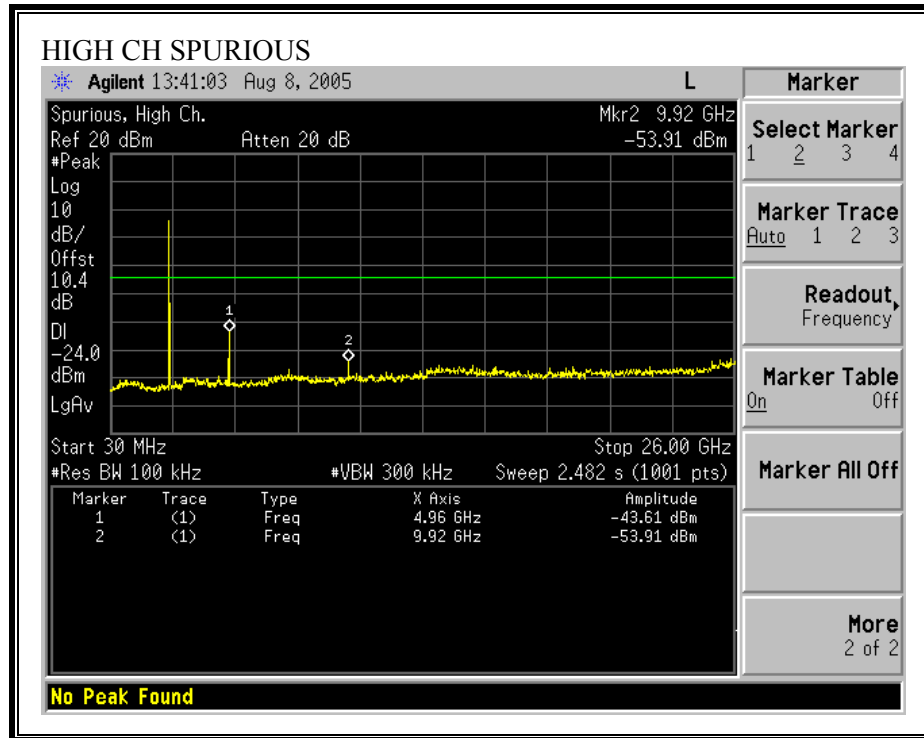






**SPURIOUS EMISSIONS, HIGH CHANNEL**





## 7.2. RADIATED EMISSIONS

### 7.2.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

#### LIMITS

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41			

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

<sup>2</sup> Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

## **TEST PROCEDURE**

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

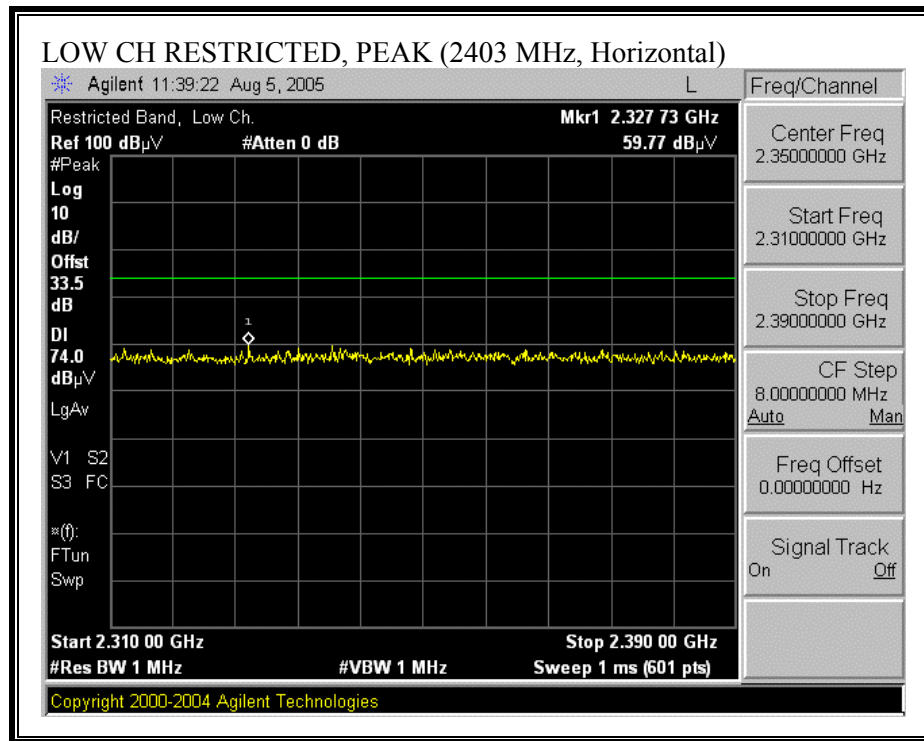
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

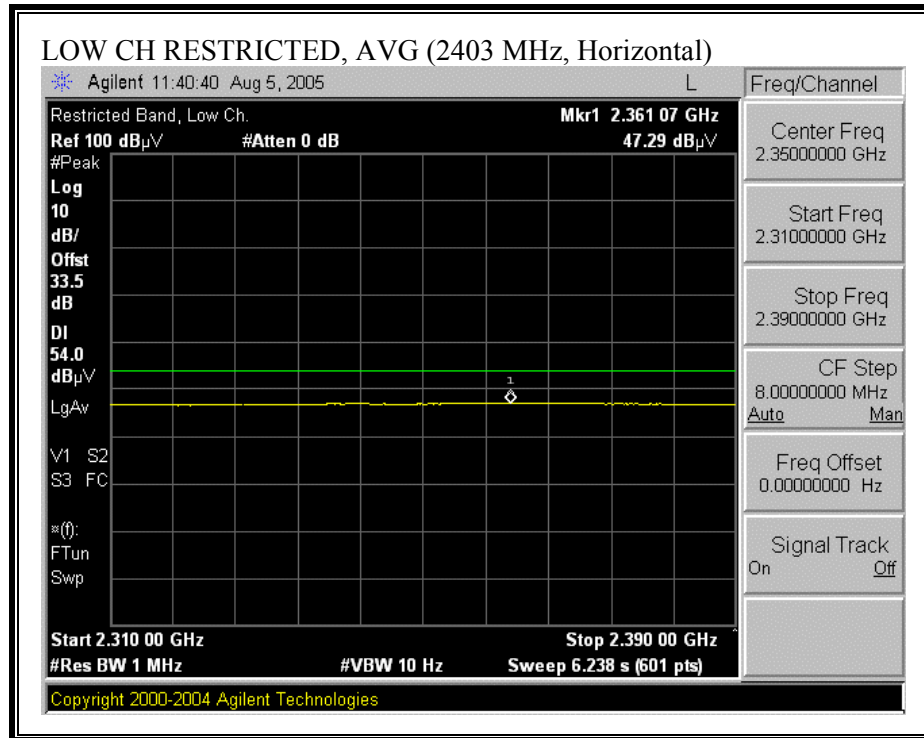
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each 5 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

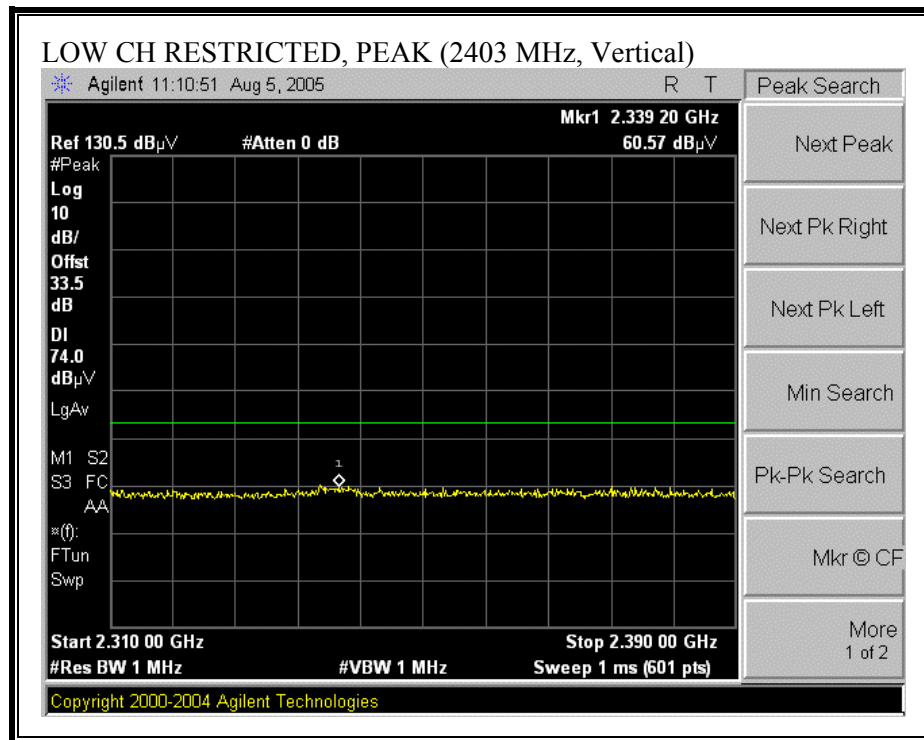
## 7.2.2. TRANSMITTER ABOVE 1 GHz FOR 2400 TO 2483.5 MHz BAND

### RESTRICTED BANDEDGE (DSSS MODE, LOW CHANNEL, HORIZONTAL)

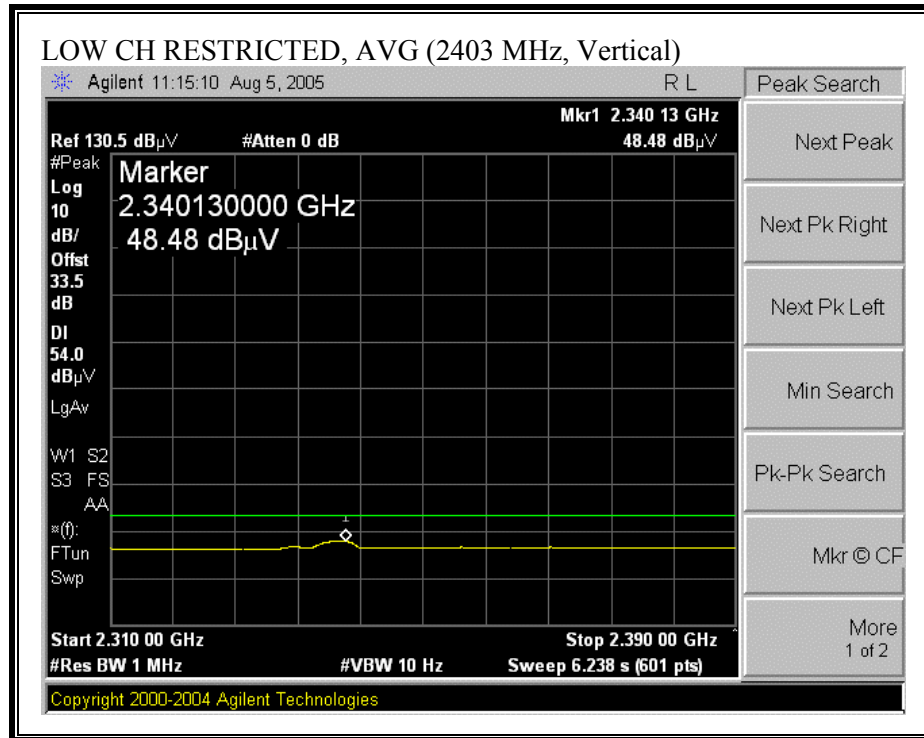




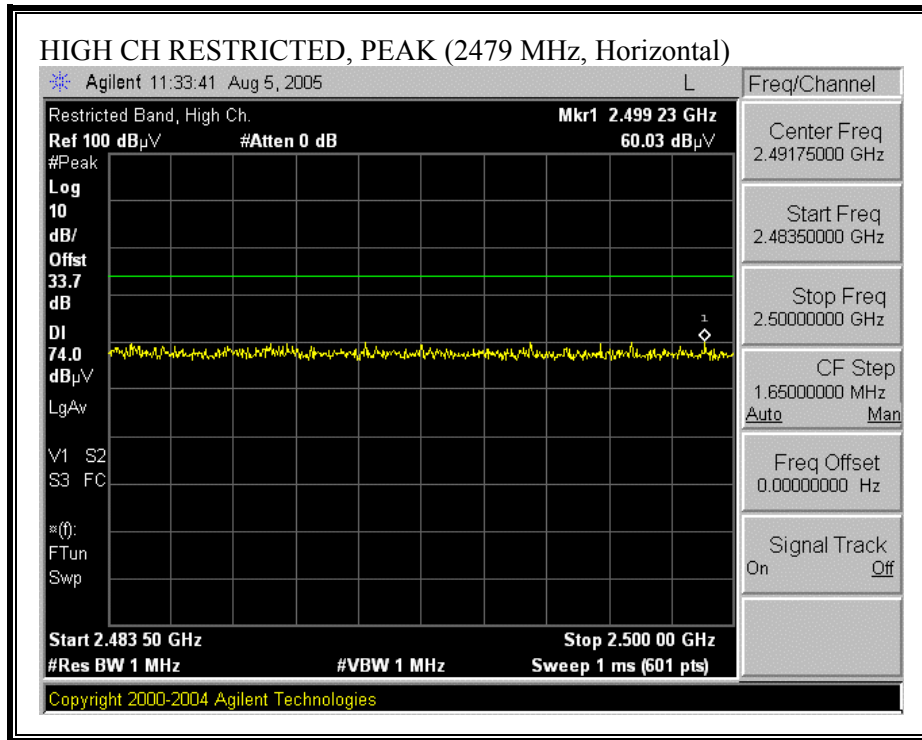
**RESTRICTED BANDEDGE (DSSS MODE, LOW CHANNEL, VERTICAL)**

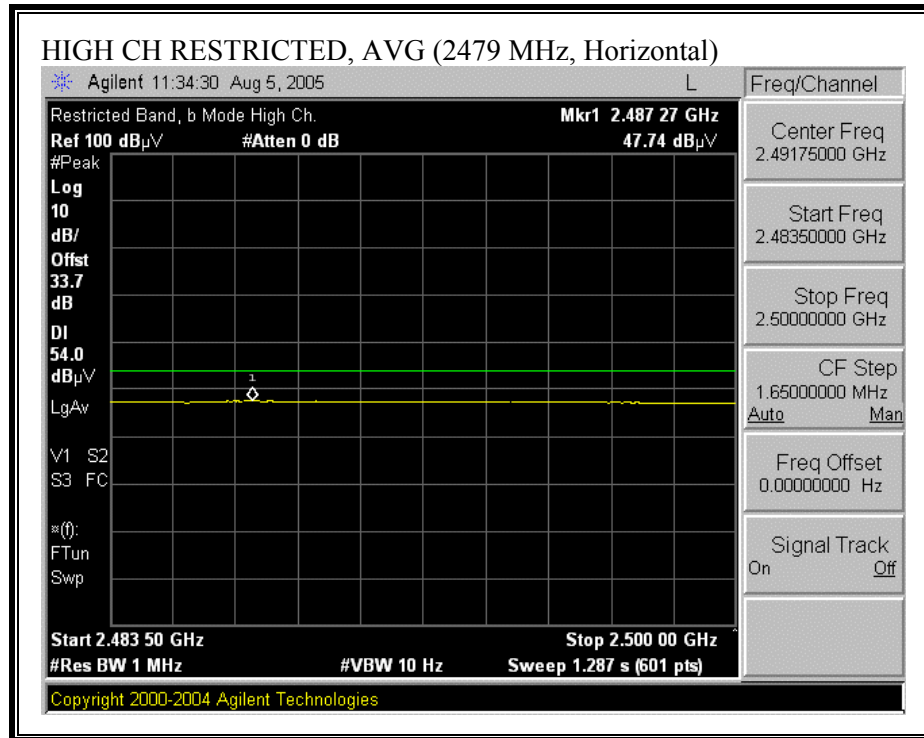




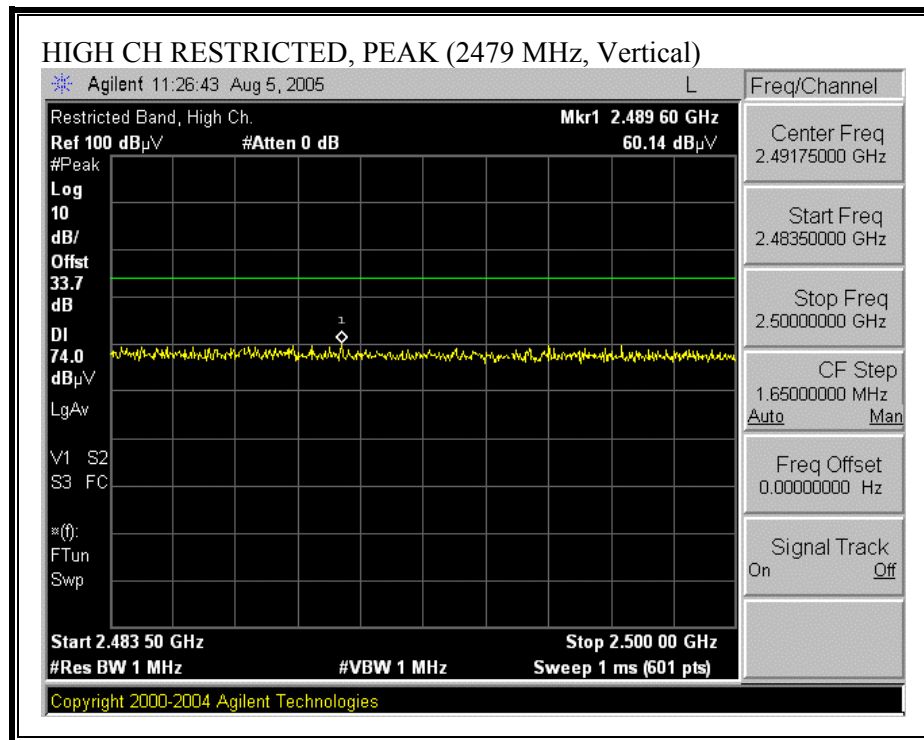


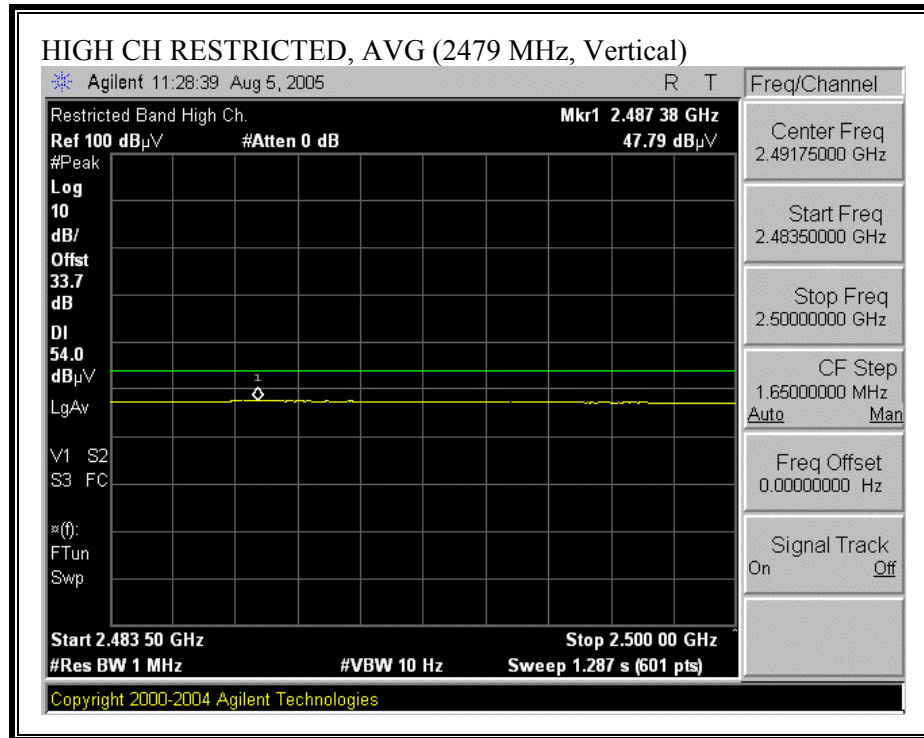
**RESTRICTED BANDEDGE (DSSS MODE, HIGH CHANNEL, HORIZONTAL)**





**RESTRICTED BANDEDGE (DSSS MODE, HIGH CHANNEL, VERTICAL)**





## HARMONICS AND SPURIOUS EMISSIONS

08/05/05 High Frequency Measurement  
Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Can Ming Chung/ Joseph Chung  
Project #: 05U3573-1  
Company: Gyratation  
EUT Descrip.: Wireless Keyboard, 2.4 GHz, Battery powered  
EUT M/N: AS00890-007,FSK  
Test Target: FCC PART 15.247  
Mode Oper: TX

f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
<b>Low Channel, 2.403 GHz</b>															
4.806	3.0	58.0	54.9	34.0	3.8	-44.0	0.0	0.6	52.4	49.3	74.0	54.0	-21.6	-4.7	H
7.209	3.0	52.7	48.1	35.6	4.4	-44.7	0.0	0.6	48.6	44.0	74.0	54.0	-25.4	-10.0	H
9.612	3.0	42.5	34.6	37.1	4.9	-42.5	0.0	0.8	42.8	34.8	74.0	54.0	-31.2	-19.2	H
12.015	3.0	40.9	29.8	38.4	6.7	-43.0	0.0	0.9	44.0	32.8	74.0	54.0	-30.0	-21.2	H
4.806	3.0	54.3	51.2	34.0	3.8	-44.0	0.0	0.6	48.7	45.6	74.0	54.0	-25.3	-8.4	V
7.209	3.0	43.6	37.1	35.6	4.4	-44.7	0.0	0.6	39.5	32.9	74.0	54.0	-34.5	-21.1	V
9.612	3.0	38.9	27.2	37.1	4.9	-42.5	0.0	0.8	39.2	27.4	74.0	54.0	-34.8	-26.6	V
<b>Mid Channel, 2.441 GHz</b>															
4.882	3.0	55.0	50.3	34.1	3.8	-44.1	0.0	0.6	49.5	44.7	74.0	54.0	-24.5	-9.3	H
7.323	3.0	48.8	44.1	35.6	4.4	-44.7	0.0	0.6	44.7	40.0	74.0	54.0	-29.3	-14.0	H
9.764	3.0	40.3	32.0	37.3	5.0	-42.2	0.0	0.8	41.2	32.9	74.0	54.0	-32.8	-21.1	H
12.205	3.0	40.8	29.5	38.5	6.7	-43.1	0.0	0.9	43.8	32.5	74.0	54.0	-30.2	-21.5	H
4.882	3.0	53.6	48.8	34.1	3.8	-44.1	0.0	0.6	48.0	43.2	74.0	54.0	-26.0	-10.8	V
7.323	3.0	42.2	34.8	35.6	4.4	-44.7	0.0	0.6	38.1	30.8	74.0	54.0	-35.9	-23.2	V
9.764	3.0	38.1	27.2	37.3	5.0	-42.2	0.0	0.8	39.1	28.1	74.0	54.0	-34.9	-25.9	V
<b>High Channel, 2.479 GHz</b>															
4.958	3.0	55.7	51.6	34.1	3.9	-44.2	0.0	0.6	50.2	46.1	74.0	54.0	-23.8	-7.9	H
7.437	3.0	49.3	43.7	35.7	4.4	-44.6	0.0	0.6	45.3	39.7	74.0	54.0	-28.7	-14.3	H
9.916	3.0	42.4	35.2	37.6	5.1	-41.9	0.0	0.8	44.0	36.8	74.0	54.0	-30.0	-17.2	H
12.395	3.0	40.2	28.9	38.6	6.7	-43.2	0.0	0.9	43.1	31.8	74.0	54.0	-30.9	-22.2	H
4.958	3.0	50.3	44.9	34.1	3.9	-44.2	0.0	0.6	44.8	39.3	74.0	54.0	-29.2	-14.7	V
7.437	3.0	42.8	35.6	35.7	4.4	-44.6	0.0	0.6	38.9	31.7	74.0	54.0	-35.1	-22.3	V
9.916	3.0	38.4	28.2	37.6	5.1	-41.9	0.0	0.8	40.0	29.8	74.0	54.0	-34.0	-24.2	V
<b>Note: No other emission detected above noise floor</b>															

### 7.2.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

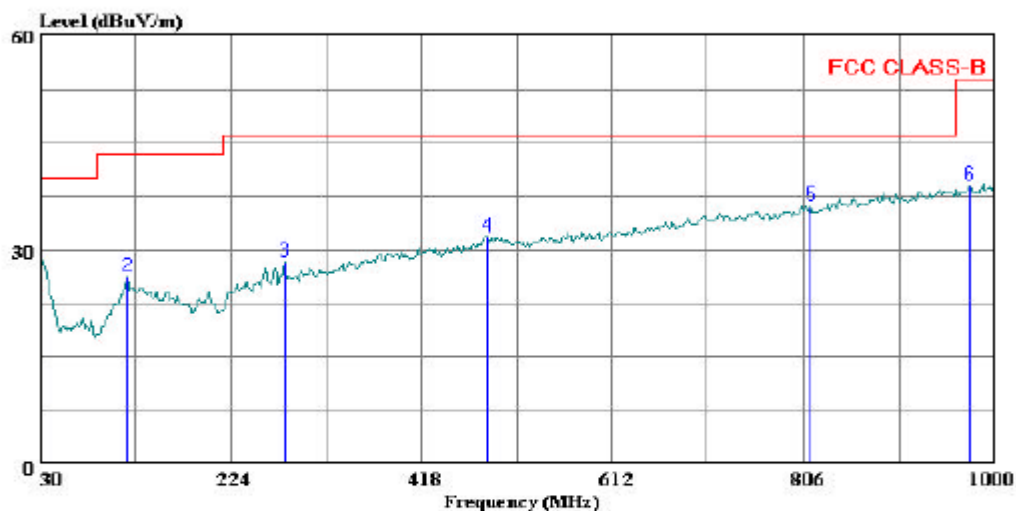
#### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

##### HORIZONTAL PLOT



561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0888  
Fax: (408) 463-0885

Data#: 8 File#: Gyration.EMI Date: 08-08-2005 Time: 13:39:49



(Auxiliary ATC)

Trace: 7

Ref Trace:

Condition: FCC CLASS-B HORIZONTAL  
Test Operator: : Joseph Chung  
Project #: : 05U3573-4  
Company: : Gyration  
EUT: : Wireless Keyboard, 2.4GHz, Battery power  
Model No.: AS00890-007, FSK  
Configuration : EUT Stand alone  
Target of Test : FCC CLASS B  
Mode of Operation: Transmit

# HORIZONTAL DATA

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	30.000	9.27	20.45	29.72	40.00	-10.28	Peak
2	119.240	11.19	15.05	26.24	43.50	-17.26	Peak
3	279.290	13.25	14.93	28.18	46.00	-17.82	Peak
4	484.930	11.85	19.92	31.77	46.00	-14.23	Peak
5	812.790	11.33	24.77	36.10	46.00	-9.90	Peak
6	974.780	12.32	26.67	38.99	54.00	-15.01	Peak



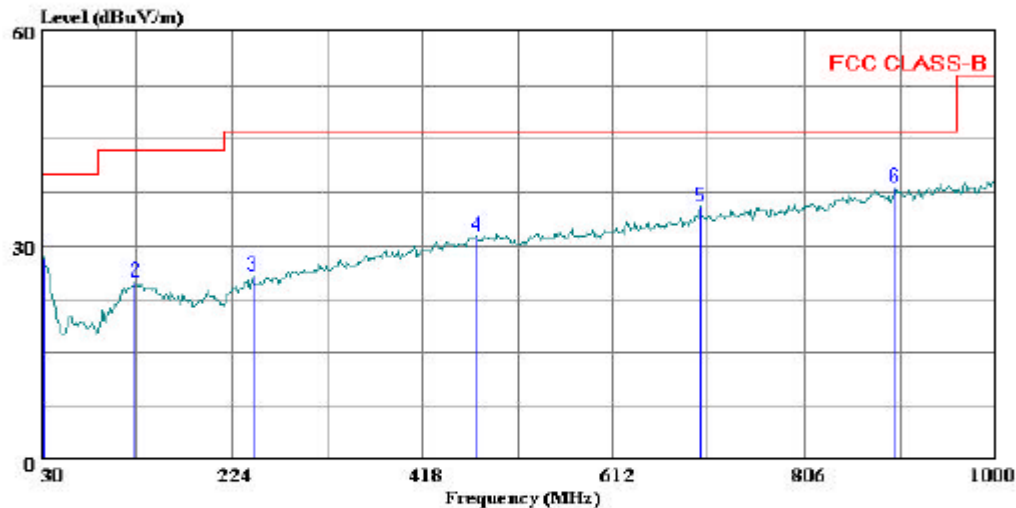
**SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)**

VERTICAL PLOT



561F Monterey Road  
Morgan Hill, CA 95037  
Tel: (408) 463-0888  
Fax: (408) 463-0885

Data#: 10 File#: Gyration.EMI Date: 08-08-2005 Time: 13:42:16



(Auxiliary ATC)

Trace: 9

Ref Trace:

Condition: FCC CLASS-B VERTICAL  
Test Operator: : Joseph Chung  
Project #: : 05U3573-4  
Company: : Gyration  
EUT: : Wireless Keyboard, 2.4GHz, Battery power  
Model No. : AS00890-007, FSK  
Configuration : EUT Stand alone  
Target of Test : CISPR CLASS B  
Mode of Operation: Transmit

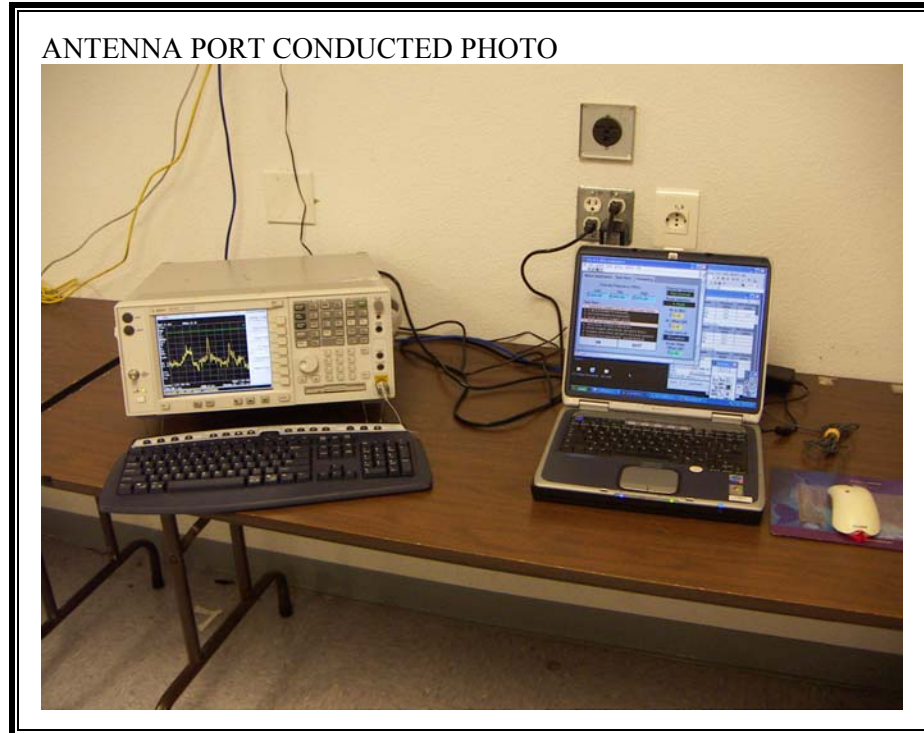
VERTICAL DATA

Page: 1

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	32.910	8.31	19.94	28.25	40.00	-11.75	Peak
2	126.030	9.68	15.25	24.93	43.50	-18.57	Peak
3	245.340	11.98	13.72	25.70	46.00	-20.30	Peak
4	473.290	11.68	19.71	31.39	46.00	-14.61	Peak
5	701.240	12.36	23.09	35.45	46.00	-10.55	Peak
6	897.180	12.40	25.85	38.25	46.00	-7.75	Peak

## 8. SETUP PHOTOS

### ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP



**RADIATED RF MEASUREMENT SETUP**

RADIATED FRONT PHOTO



RADIATED BACK PHOTO



**END OF REPORT**