FCC CFR47 PART 15 SUBPART C
CERTIFICATION
TEST REPORT

FOR

TRANSPORTER POINTER(MOUSE)

MODEL NUMBER: GPT65M

FCC ID: JJ4-TP1

REPORT NUMBER: 05U3790-1

ISSUE DATE: FEBRUARY 10, 2006

Prepared for
GYRATION
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Revision History

Rev.	Issue Date	Revisions	Revised By
A	2/10/06	Initial Issue	DG

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: Transporter Pointer(Mouse)

MODEL: GPT65M

SERIAL NUMBER: 01162

DATE TESTED: DECEMBER 20 – 22, 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:

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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 Mouse, which uses DSSS and operates at 2.4 GHz band. It communicates with a USB Transceiver connected to a computer. The mouse 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 mouse.

The EUT is powered by 1 AAA battery (1.5VDC)

The radio module is manufactured by CYPRESS.

5.2. 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)
2402 - 2479	DSSS	-8.07	0.16

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a printed PCB antenna with a maximum gain of 0 dBi.

5.4. SOFTWARE AND FIRMWARE

Operating system: Computer Operation System; Standard Windows XP.

No software drivers or utility software was required.

5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power, based on the radio test reports for this product. The highest measured output power was at 2402 MHz.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

N/A.

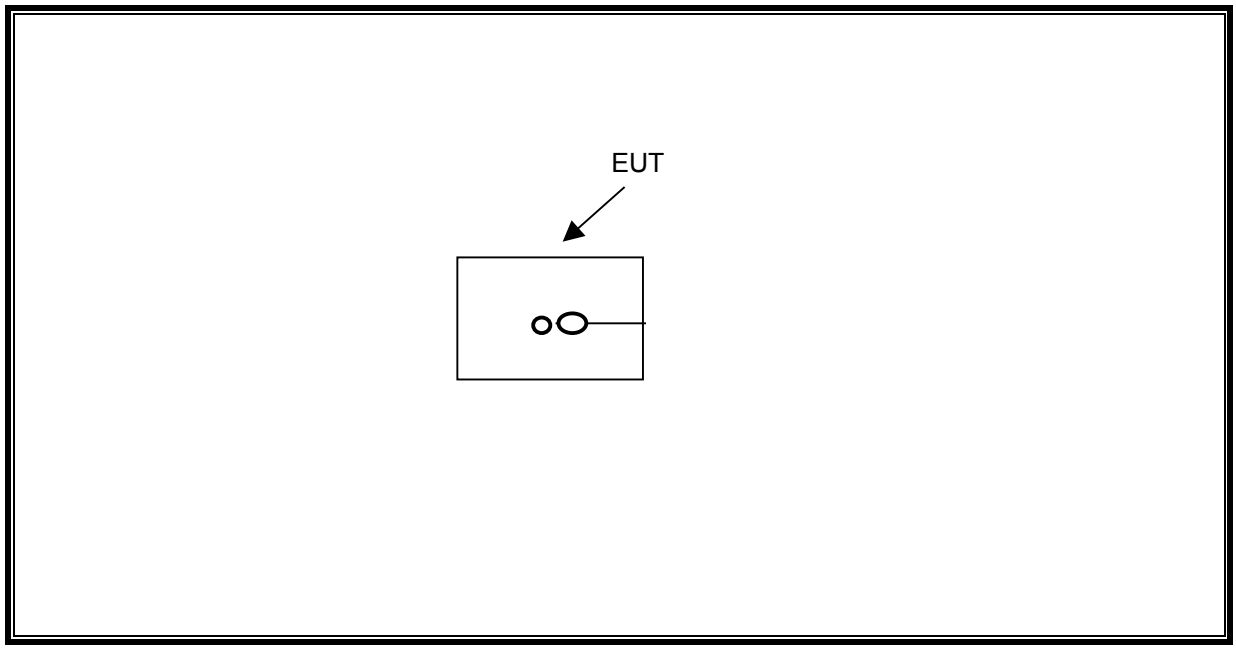
I/O CABLES

N/A.

TEST SETUP

The EUT is a standalone unit with 1.5VDC (1 AAA BATTERY) operate.

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	10/22/2006
Site A Line Stabilizer / Conditioner	Tripplite	LC-1800a	A0051681	CNR
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	8/30/2006
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	8379443	8/30/2006
Spectrum Analyzer	HP	E4446A	US42510266	3/28/2006
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	4/22/2006
Preamplifier, 1 ~ 26 GHz	Miteq	NSP2600-44	646456	8/17/2006
Temperature / Humidity Chamber	Thermotron	SE 600-10-10	29800	5/13/2006
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	3/29/2006
Spectrum Analyzer, 26.5 GHz	HP	8593EM	3710A00205	7/26/2006
Antenna, Bilog 30MHz---- 2GHz	Sunol Sciences	JB1	A121003	3/3/2006

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.

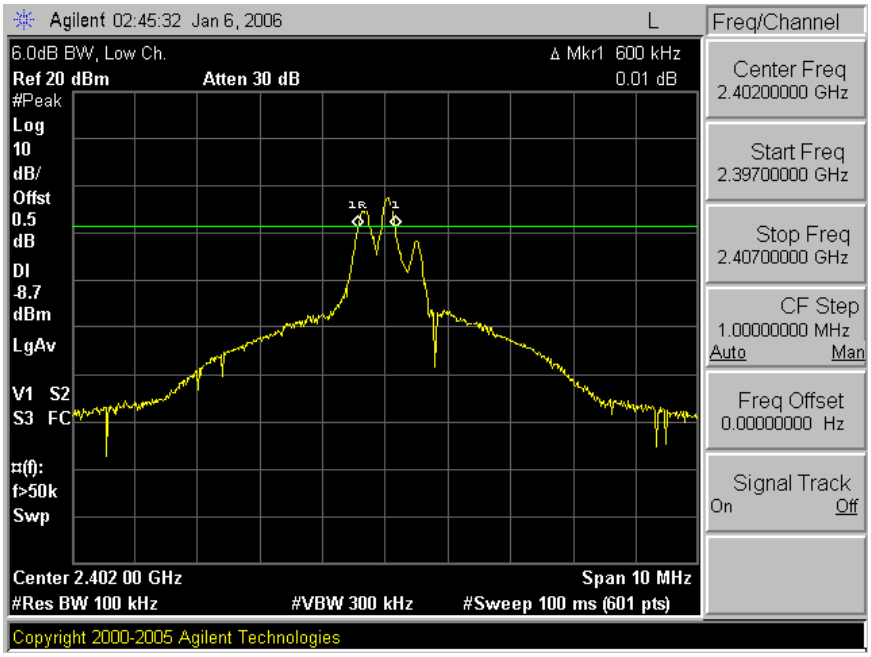
RESULTS

No non-compliance noted:

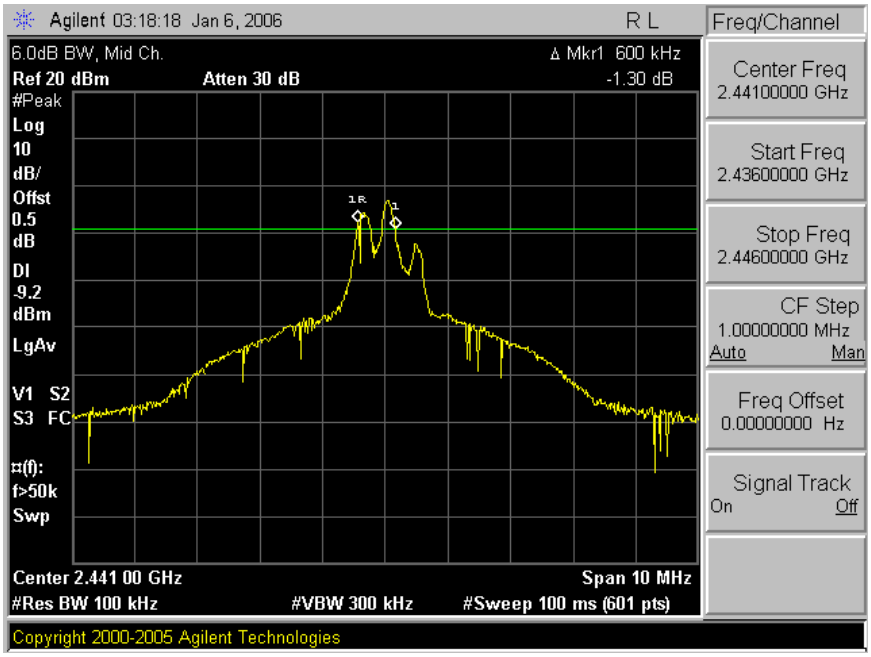
Channel	Frequency (MHz)	6 dB Bandwidth (kHz)	Minimum Limit (kHz)	Margin (kHz)
Low	2402	600	500	100
Middle	2441	600	500	100
High	2480	600	500	100

6 DB BANDWIDTH

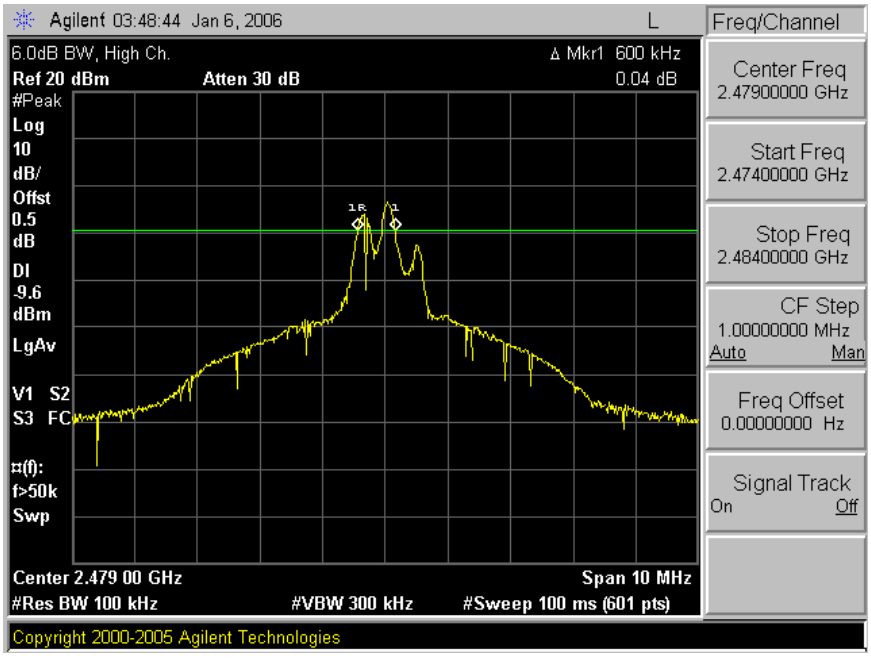
6 DB BANDWIDTH LOW CH



6 DB BANDWIDTH MID CH



6 DB BANDWIDTH HIGH CH



7.1.2. 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

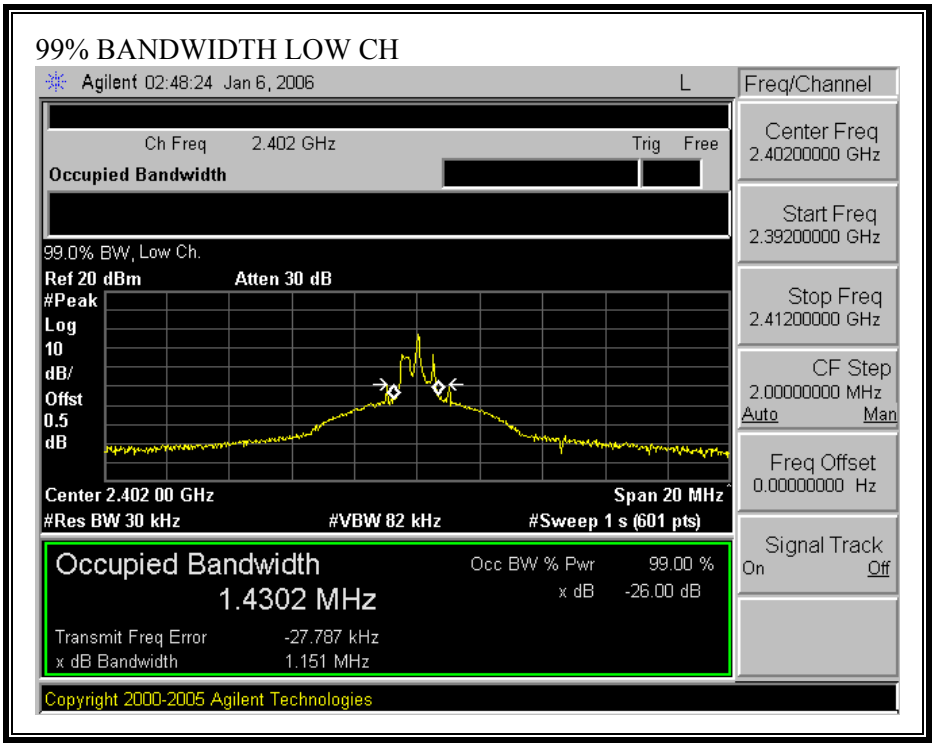
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

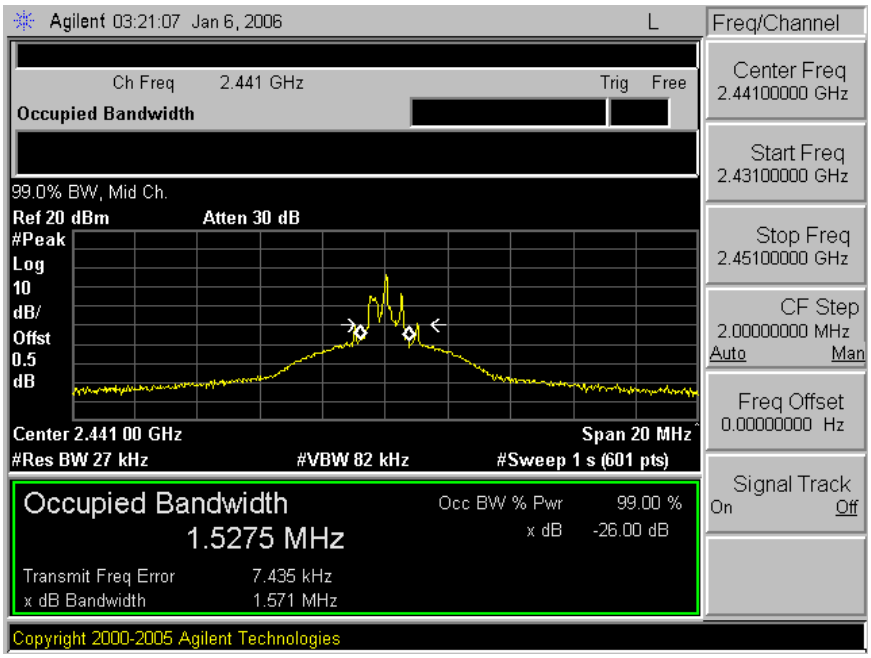
No non-compliance noted:

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.4302
Middle	2441	1.5275
High	2479	1.3127

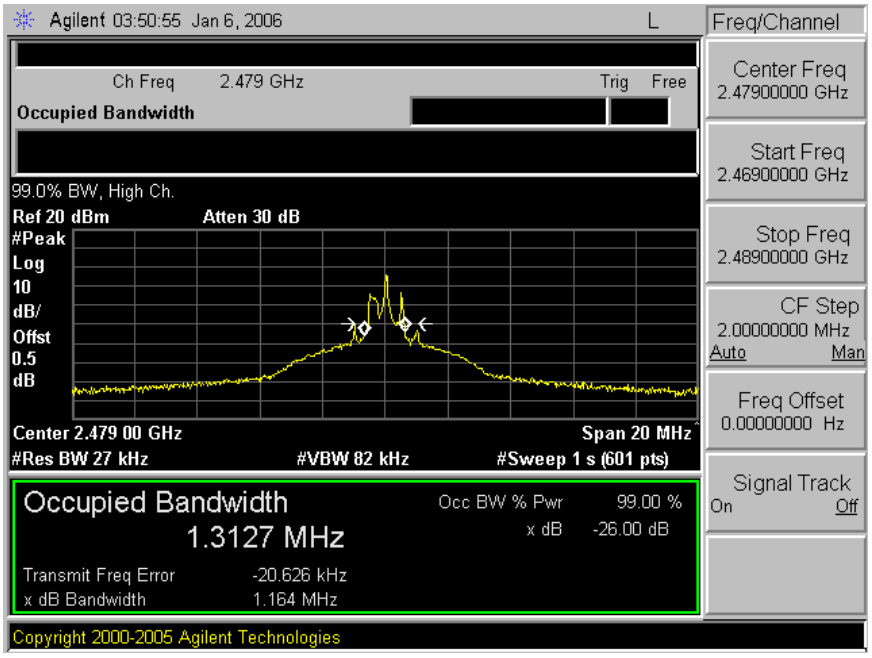
99% BANDWIDTH



99% BANDWIDTH MID CH



99% BANDWIDTH HIGH CH



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) (4) Except as shown in paragraphs (b)(4) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

§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

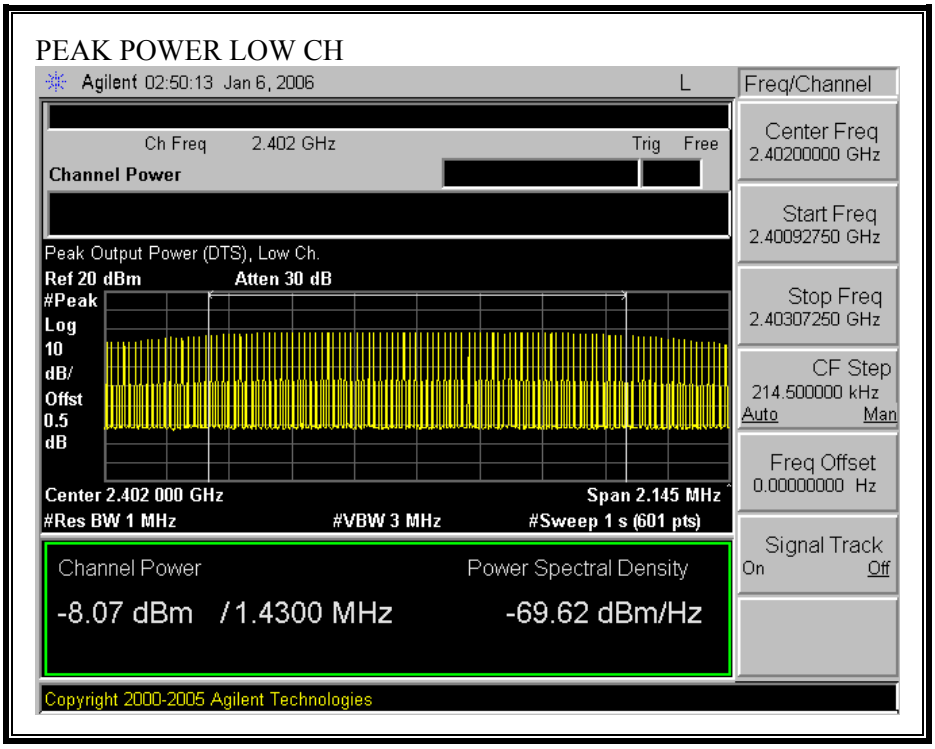
The maximum antenna gain is 0 dBi for other than fixed, point-to-point operations, therefore the limit is 30 dBm.

No non-compliance noted:

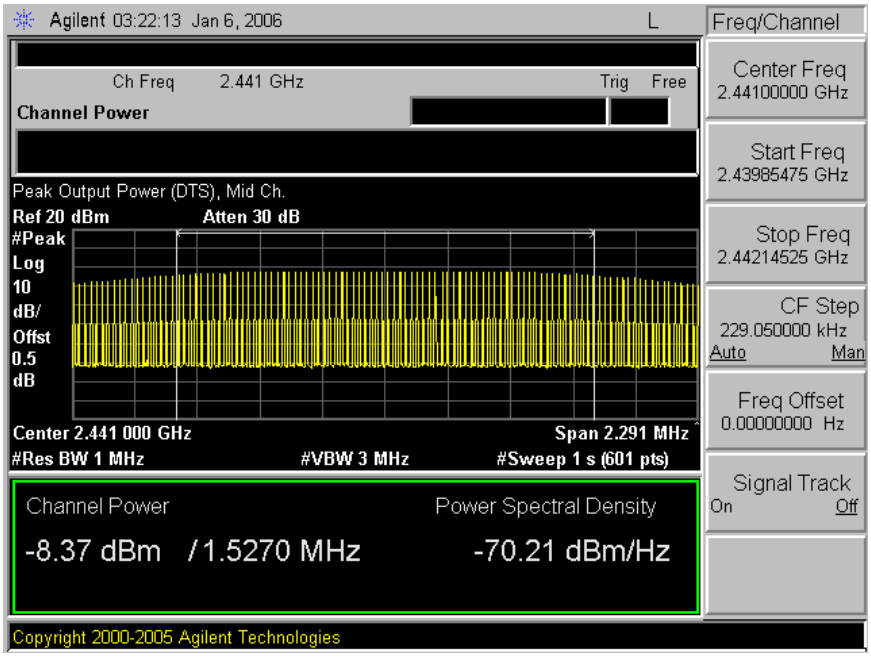
Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-8.07	30	-38.07
Middle	2441	-8.37	30	-38.37
High	2479	-9.28	30	-39.28

OUTPUT POWER

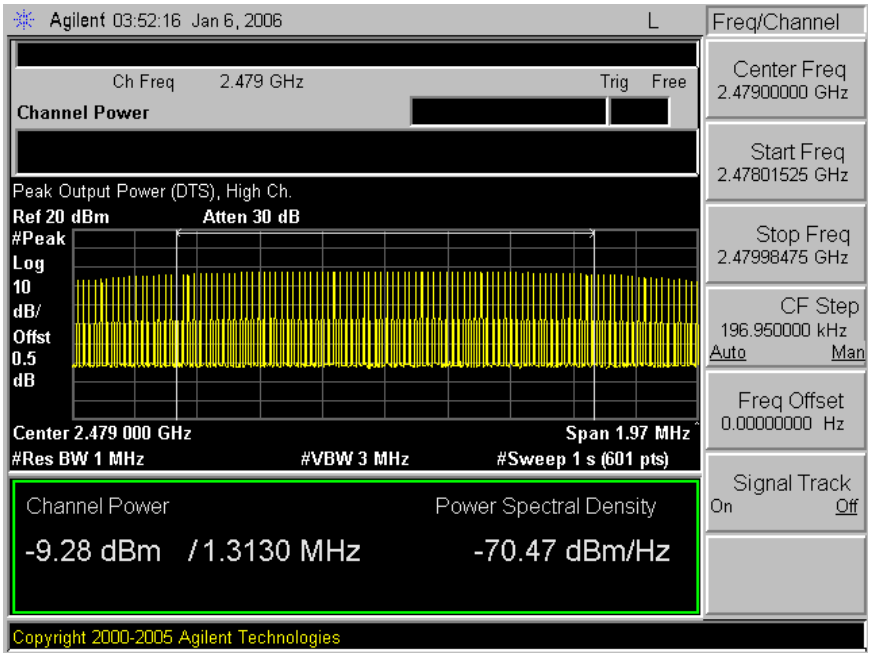
PEAK POWER LOW CH



PEAK POWER MID CH



PEAK POWER HIGH CH



7.1.4. MAXIMUM PERMISSIBLE EXPOSURE

LIMITS

§1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f^2)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

CALCULATIONS

Given

$E = \sqrt{(30 * P * G)} / d$

and

$S = E ^ 2 / 3770$

where

E = Field Strength in Volts/meter
P = Power in Watts
G = Numeric antenna gain
d = Distance in meters
S = Power Density in milliwatts/square centimeter

Combining equations and rearranging the terms to express the distance as a function of the remaining variables yields:

$d = \sqrt{((30 * P * G) / (3770 * S))}$

Changing to units of Power to mW and Distance to cm, using:

P (mW) = P (W) / 1000 and
d (cm) =100 * d (m)

yields

$d = 100 * \sqrt{((30 * (P / 1000) * G) / (3770 * S))}$
$d = 0.282 * \sqrt{(P * G / S)}$

where

d = distance in cm
P = Power in mW
G = Numeric antenna gain
S = Power Density in mW/cm^2

Substituting the logarithmic form of power and gain using:

P (mW) = 10 ^ (P (dBm) / 10) and
G (numeric) = 10 ^ (G (dBi) / 10)

yields

$d = 0.282 * 10 ^ ((P + G) / 20) / \sqrt{S}$

where

d = MPE distance in cm
P = Power in dBm
G = Antenna Gain in dBi
S = Power Density Limit in mW/cm^2

Rearranging terms to calculate the power density at a specific distance yields

$S = 0.0795 * 10 ^ ((P + G) / 10) / (d^2)$

LIMITS

From §1.1310 Table 1 (B), the maximum value of S = 1.0 mW/cm^2

RESULTS

No non-compliance noted: (MPE distance equals 20 cm)

MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	Power Density (mW/cm^2)
20.0	-8.07	0.00	0.00

NOTE: For mobile or fixed location transmitters, the minimum separation distance is 20 cm, even if calculations indicate that the MPE distance would be less.

7.1.5. 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 10.7 dB (including 10 dB pad and 0.7 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Power (dBm)
Low	2402	-18.06
Middle	2441	-18.34
High	2479	-18.74

7.1.6. 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.

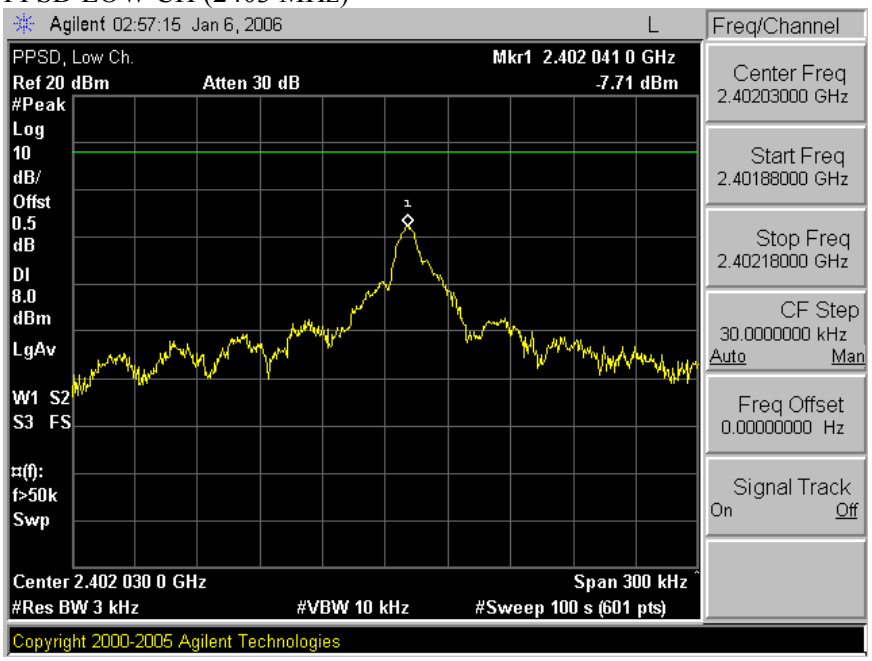
RESULTS

No non-compliance noted:

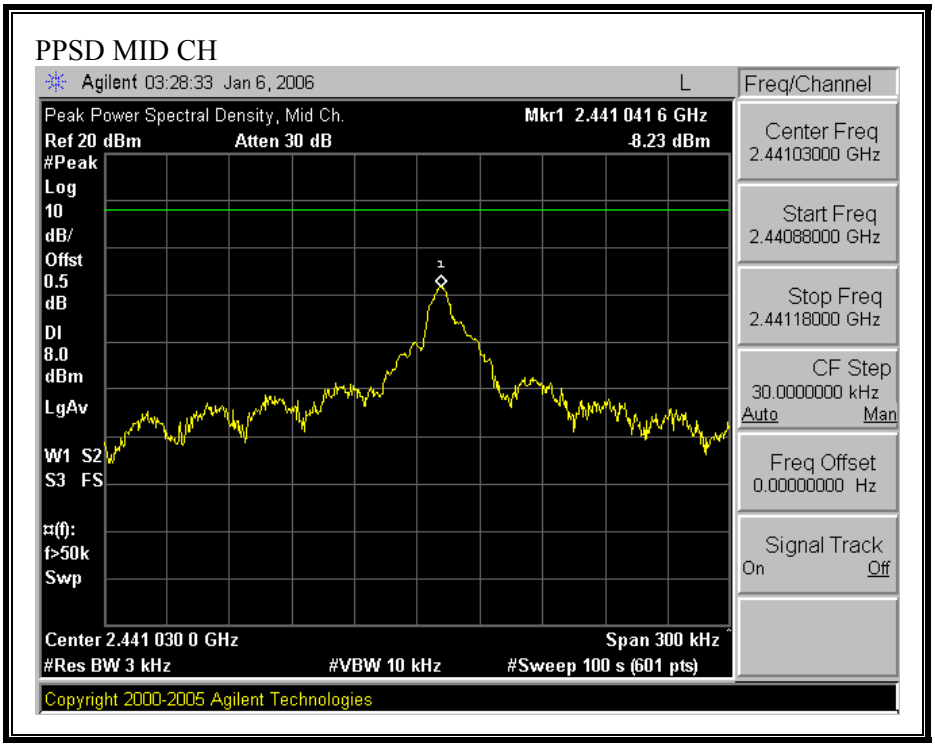
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-7.71	8	-15.71
Middle	2441	-8.23	8	-16.23
High	2479	-8.75	8	-16.75

PEAK POWER SPECTRAL DENSITY

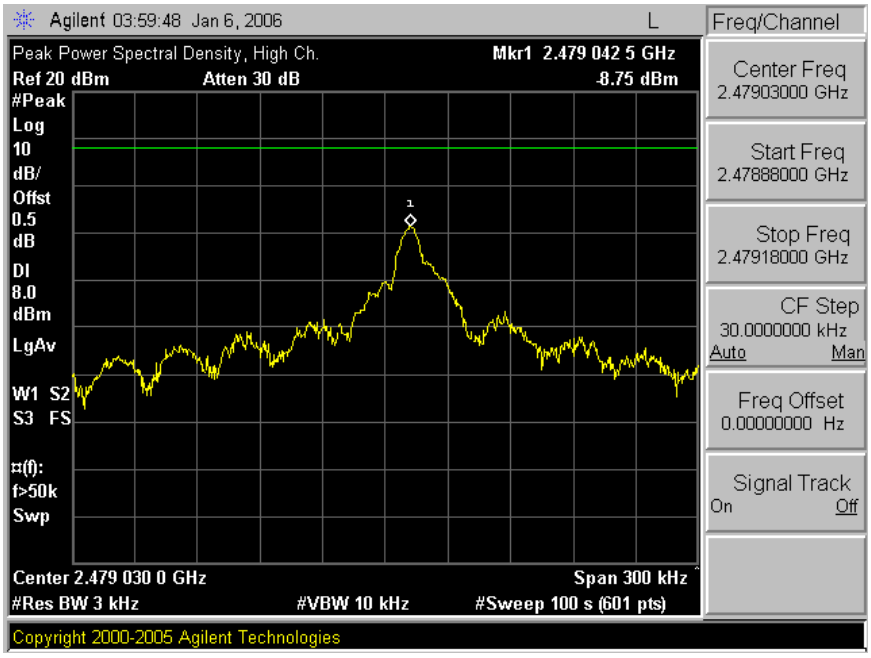
PPSD LOW CH (2403 MHz)



PPSD MID CH



PPSD HIGH CH



7.1.7. 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)).

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.

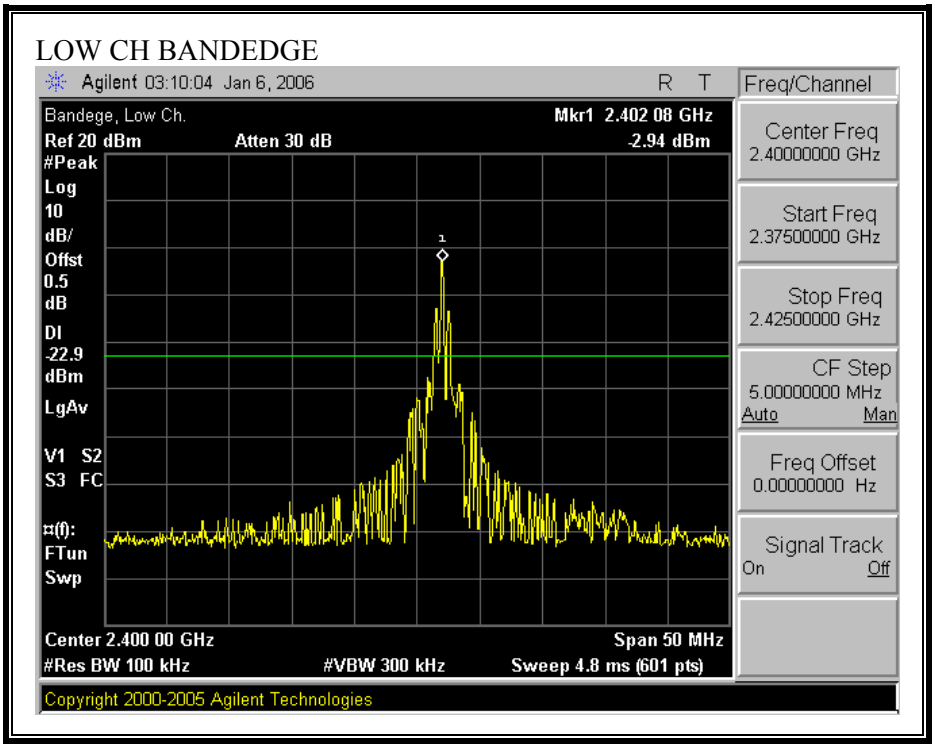
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

RESULTS

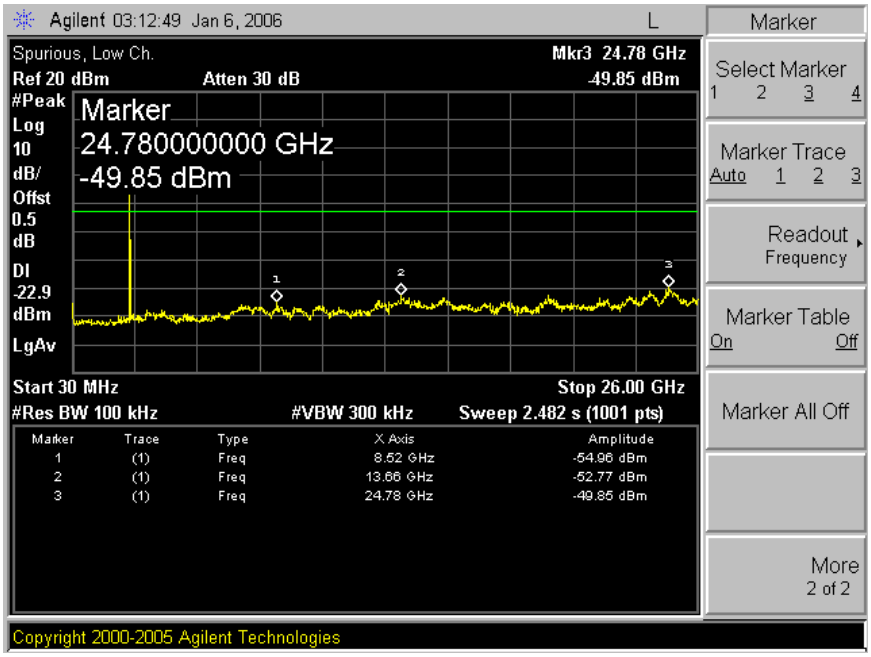
No non-compliance noted:

SPURIOUS EMISSIONS, LOW CHANNEL

LOW CH BANDEDGE

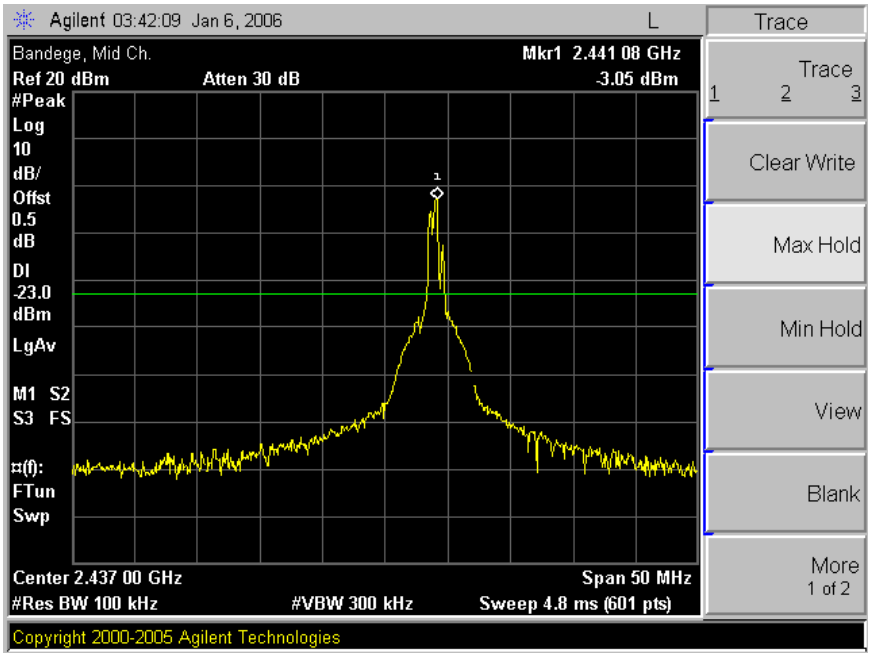


LOW CH SPURIOUS

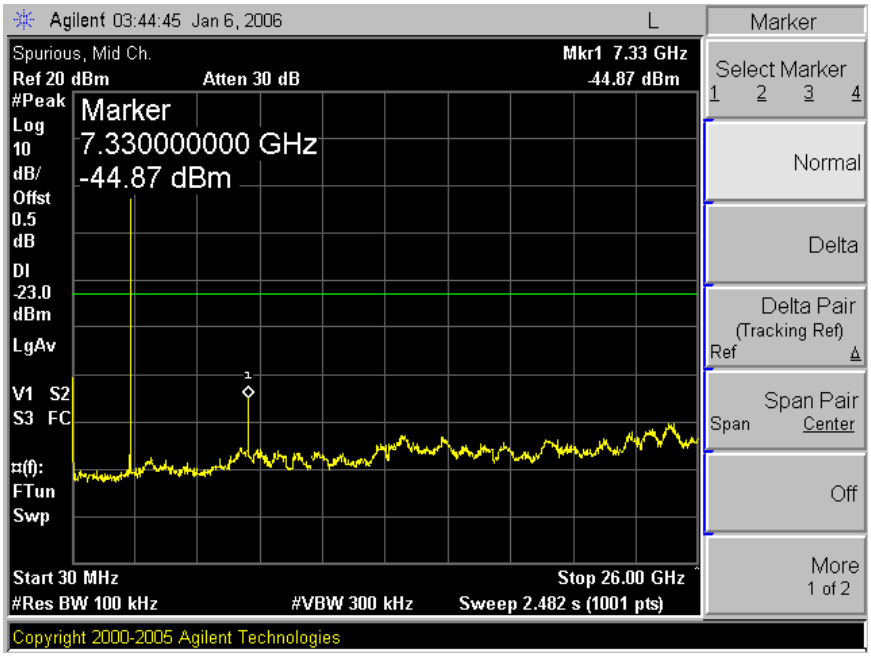


SPURIOUS EMISSIONS, MID CHANNEL

MID CH REFERENCE

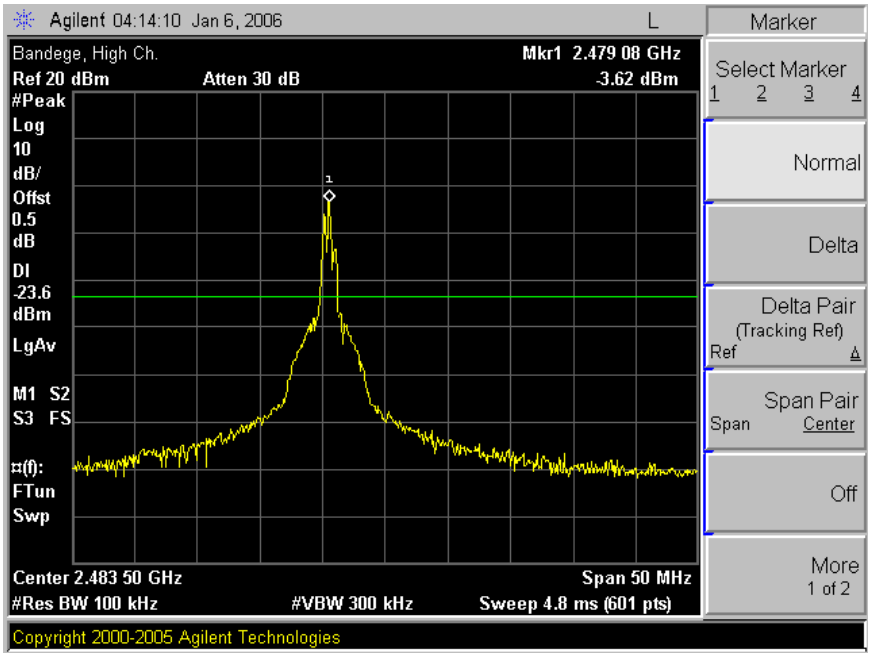


MID CH SPURIOUS

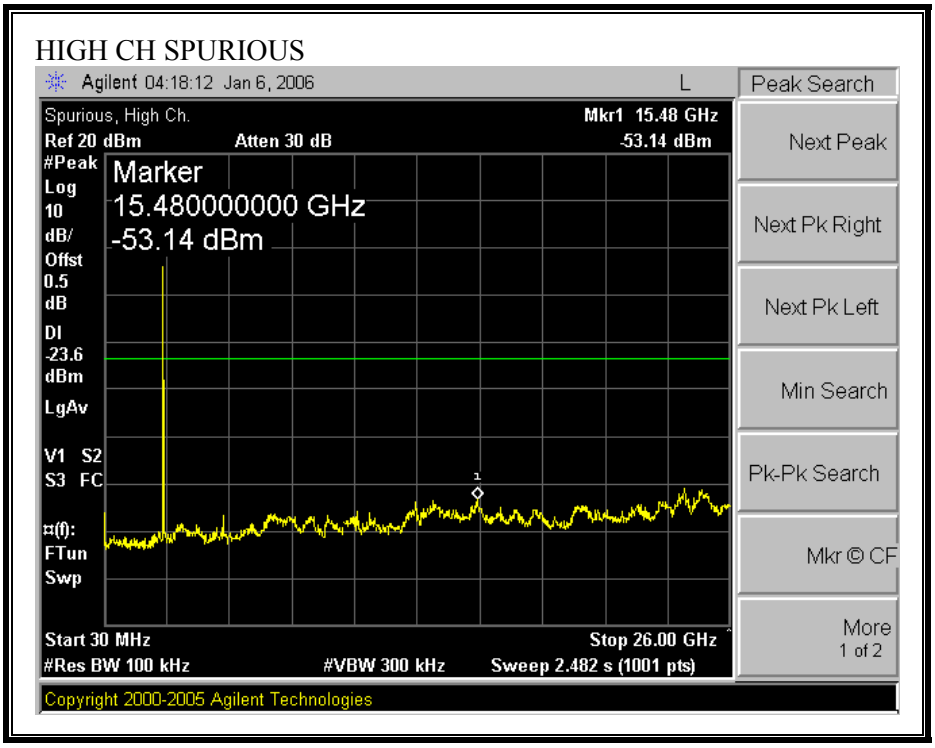


SPURIOUS EMISSIONS, HIGH CHANNEL

HIGH CH BANDEDGE



HIGH CH SPURIOUS



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
[1]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	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.
[2] 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.

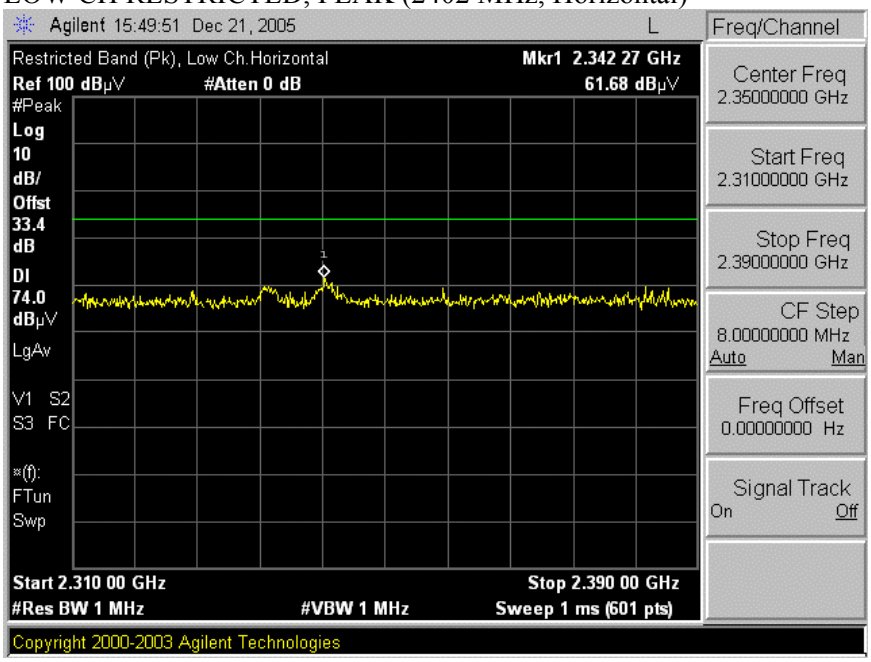
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each 5 GHz band.

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.

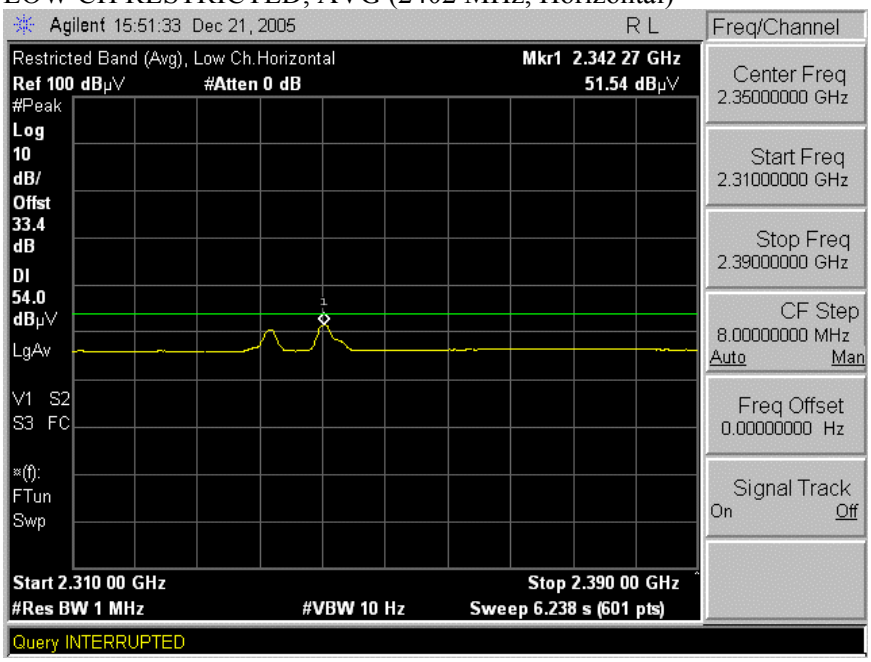
7.2.2. TRANSMITTER ABOVE 1 GHz FOR 2400 TO 2483.5 MHz BAND

RESTRICTED BANDEDGE (2402 MHz, LOW CHANNEL, HORIZONTAL)

LOW CH RESTRICTED, PEAK (2402 MHz, Horizontal)

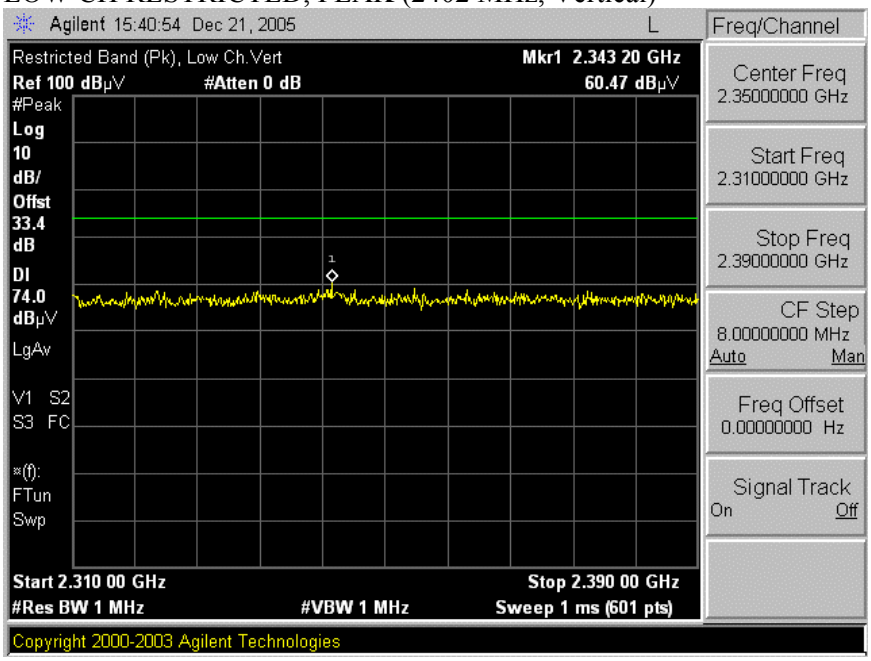


LOW CH RESTRICTED, AVG (2402 MHz, Horizontal)

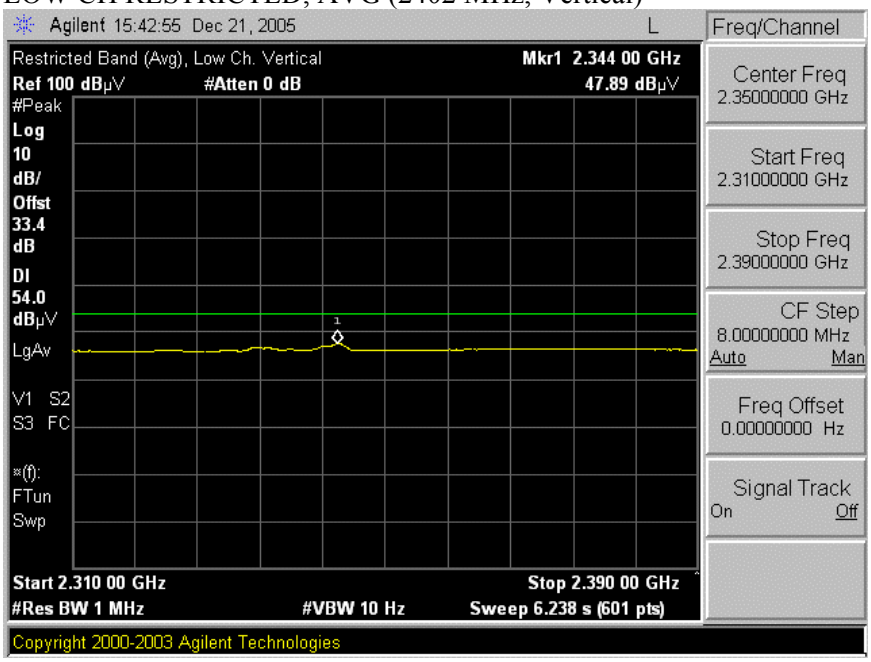


RESTRICTED BANDEDGE (2402 MHz, LOW CHANNEL, VERTICAL)

LOW CH RESTRICTED, PEAK (2402 MHz, Vertical)

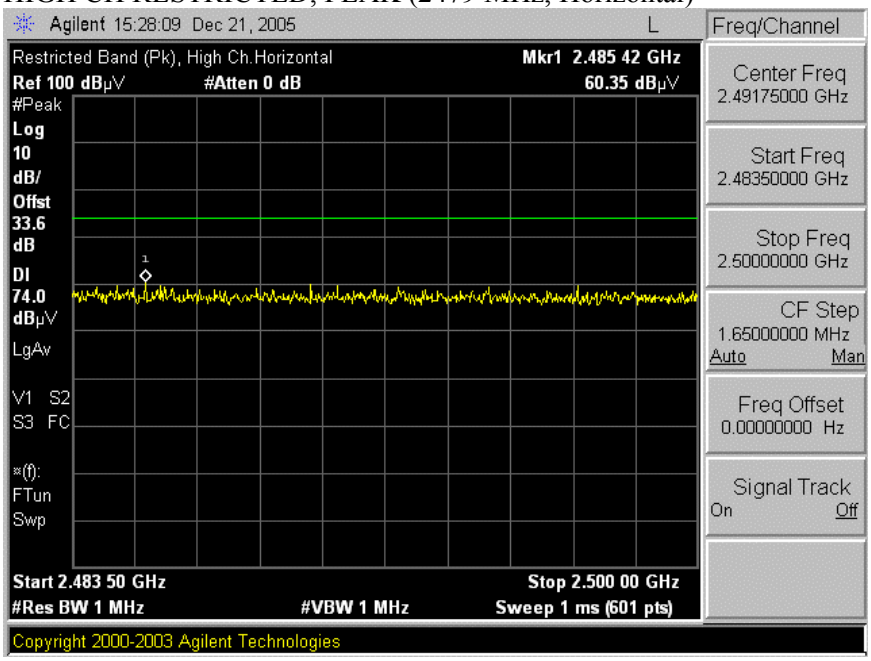


LOW CH RESTRICTED, AVG (2402 MHz, Vertical)

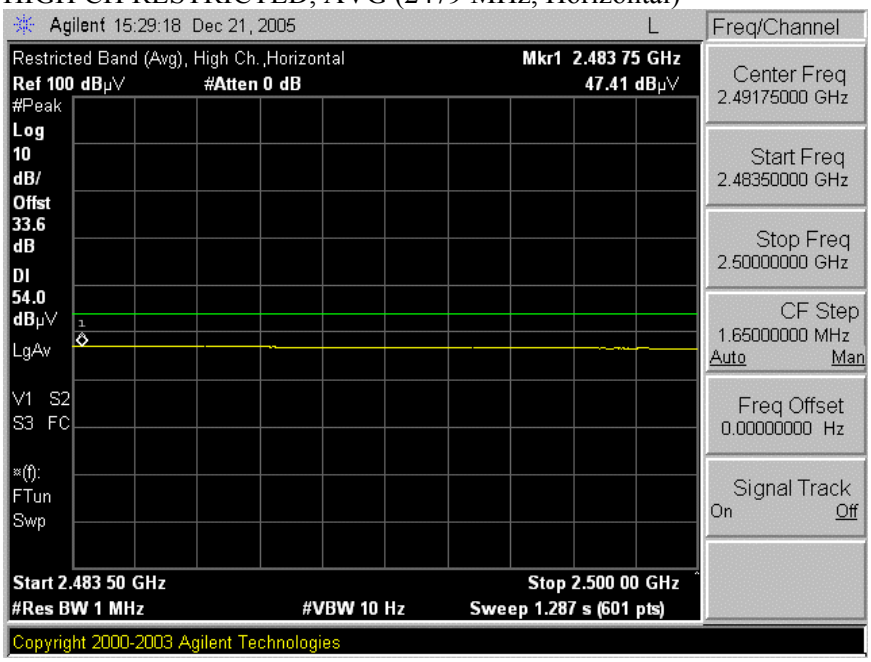


RESTRICTED BANDEDGE (2480 MHz, HIGH CHANNEL, HORIZONTAL)

HIGH CH RESTRICTED, PEAK (2479 MHz, Horizontal)

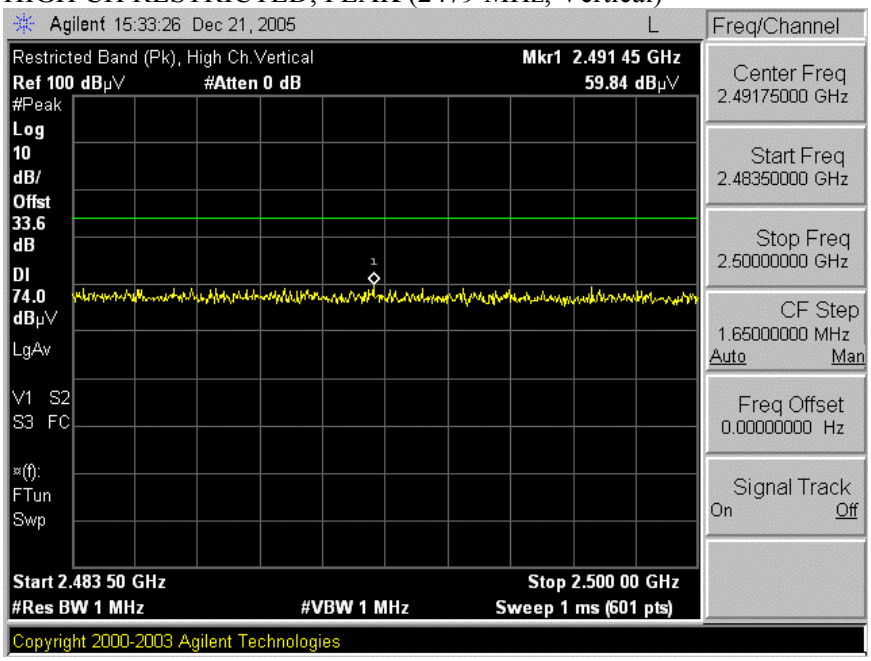


HIGH CH RESTRICTED, AVG (2479 MHz, Horizontal)

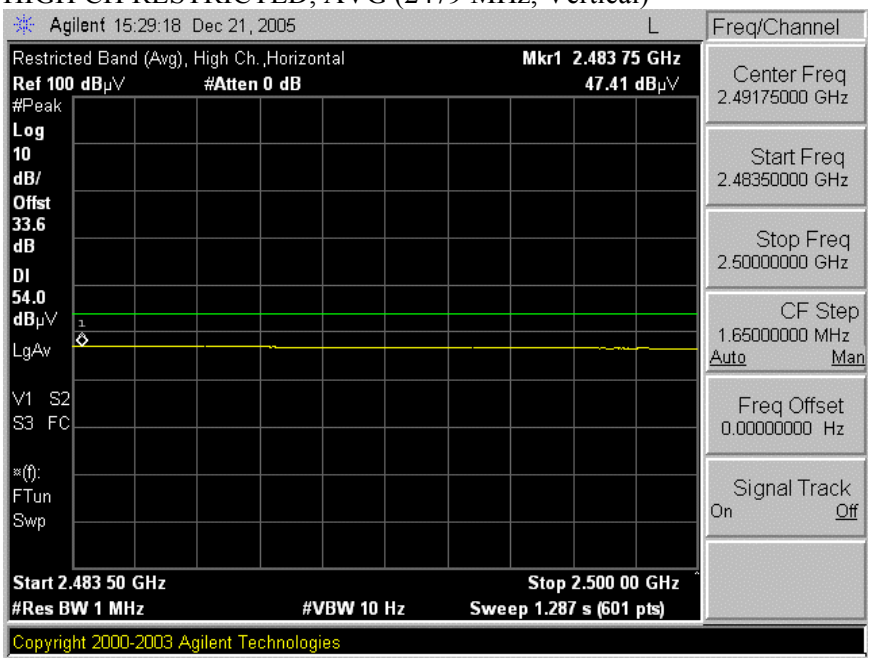


RESTRICTED BANDEDGE (2480 MHz, HIGH CHANNEL, VERTICAL)

HIGH CH RESTRICTED, PEAK (2479 MHz, Vertical)



HIGH CH RESTRICTED, AVG (2479 MHz, Vertical)



HARMONICS AND SPURIOUS EMISSIONS

12/21/05 **High Frequency Measurement**
Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Thanh Nguyen
Project #:05U3790
Company:GYRATION Corporation
EUT Descrip.: Gyro Transporter Pointer (Mouse)
EUT M/N:GPT65M
Test Target:FCC Part 15.247
Mode Oper: Transmit
Average Power Meter: Low = xx dBm, Mid = xx dBm, High = xx dBm

Test Equipment:

Horn 1-18GHz	Pre-amplifer 1-26GHz	Pre-amplifer 26-40GHz	Horn > 18GHz	Limit
T119; S/N: 29301 @3m	T34 HP 8449B			FCC 15.209

Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
Thanh 177079008		Thanh 208946003	HPF_4.0GHz	

Peak Measurements RBW=VBW=1MHz
Average Measurements RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Tx low Channel															
4.804	3.0	50.7	32.0	34.0	2.8	-34.8	0.0	0.6	53.3	34.6	74	54	-20.7	-19.4	V
7.206	3.0	42.3	29.1	35.6	3.3	-34.2	0.0	0.6	47.7	34.5	74	54	-26.3	-19.5	V
9.608	3.0	42.7	29.9	37.1	3.7	-33.7	0.0	0.8	50.6	37.8	74	54	-23.4	-16.2	V
4.804	3.0	60.2	34.7	34.0	2.8	-34.8	0.0	0.6	62.8	37.2	74	54	-11.2	-16.8	H
7.206	3.0	43.2	29.8	35.6	3.3	-34.2	0.0	0.6	48.6	35.2	74	54	-25.4	-18.8	H
9.608	3.0	43.4	30.3	37.1	3.7	-33.7	0.0	0.8	51.3	38.2	74	54	-22.7	-15.8	H
Tx Mid Channel															
4.482	3.0	46.6	30.8	33.8	2.7	-34.9	0.0	0.5	48.7	32.8	74	54	-25.3	-21.2	V
7.323	3.0	40.7	28.7	35.6	3.3	-34.1	0.0	0.6	46.2	34.2	74	54	-27.8	-19.8	V
9.764	3.0	42.1	29.6	37.3	3.7	-33.3	0.0	0.8	50.7	38.2	74	54	-23.3	-15.8	V
4.482	3.0	57.4	33.3	33.8	2.7	-34.9	0.0	0.5	59.5	35.4	74	54	-14.5	-18.6	H
7.323	3.0	42.7	29.0	35.6	3.3	-34.1	0.0	0.6	48.2	34.5	74	54	-25.8	-19.5	H
9.764	3.0	41.0	29.7	37.3	3.7	-33.3	0.0	0.8	49.6	38.3	74	54	-24.4	-15.7	H
Tx High Channel															
4.958	3.0	44.5	30.0	34.1	2.8	-34.8	0.0	0.6	47.3	32.8	74	54	-26.7	-21.2	V
7.437	3.0	42.5	29.0	35.7	3.3	-34.1	0.0	0.6	48.1	34.6	74	54	-25.9	-19.4	V
9.916	3.0	42.6	30.4	37.6	3.8	-32.9	0.0	0.8	51.9	39.7	74	54	-22.1	-14.3	V
4.958	3.0	55.9	33.6	34.1	2.8	-34.8	0.0	0.6	58.7	36.4	74	54	-15.3	-17.6	H
7.437	3.0	41.9	30.4	35.7	3.3	-34.1	0.0	0.6	47.5	36.0	74	54	-26.5	-18.0	H
9.916	3.0	43.0	30.6	37.6	3.8	-32.9	0.0	0.8	52.3	39.9	74	54	-21.7	-14.1	H
No other emissions above 3rd harmonic were detected.															

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		

Note: No other emissions were found up to 10th Harmonic frequency of the fundamental freq.

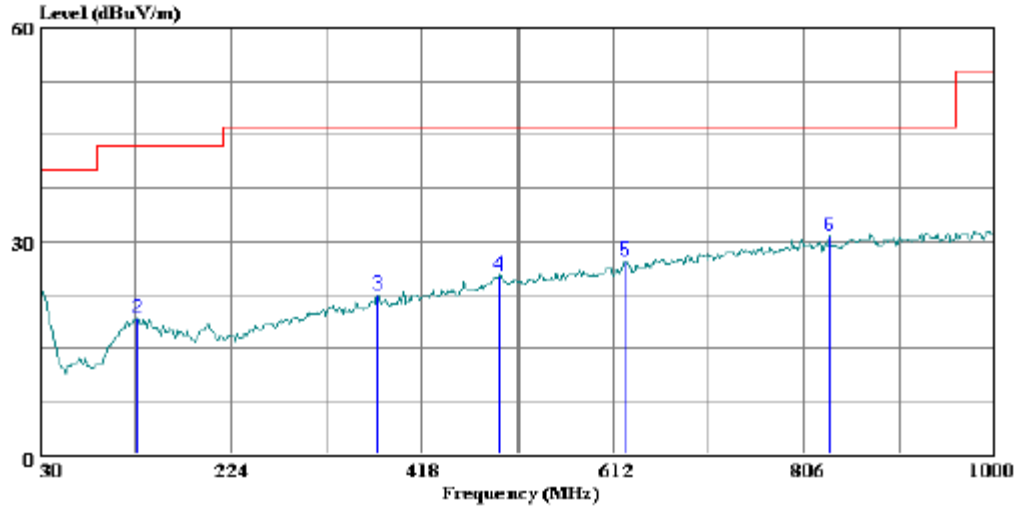
7.2.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

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#: 2 File#: EMIlow.EMI Date: 12-20-2005 Time: 15:30:28



(Audix ATC)
Trace: 1 Ref Trace:

Condition: FCC CLASS-B HORIZONTAL
Test Operator: : Thanh Nguyen
Project #: : 05U3790
Company: : GYRATION
EUT: : Transporter
Model No.: : TBD
Configuration: : EUT Stand Alone
Mode of operation: TX low channel.
Target of Test : FCC Class B

HORIZONTAL DATA

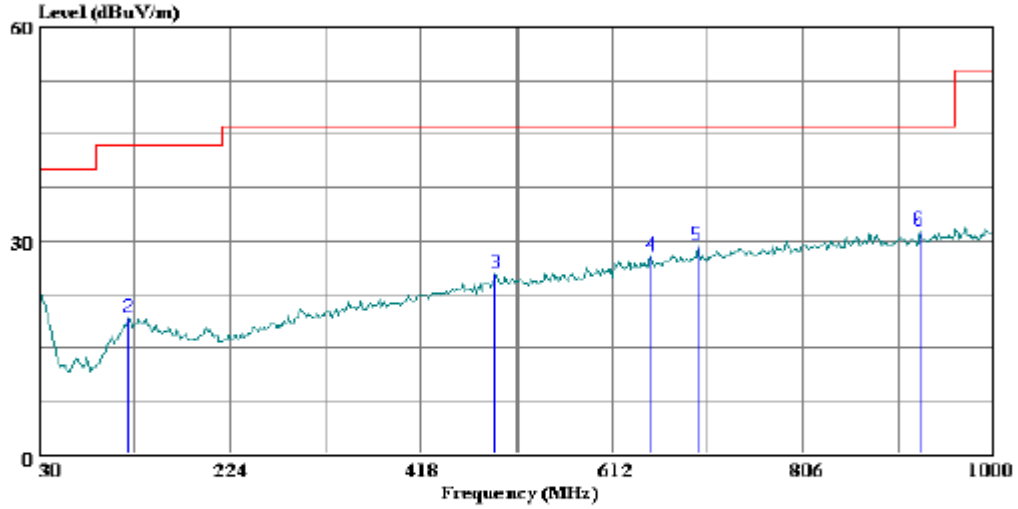
	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	30.970	30.84	-7.50	23.34	40.00	-16.66	Peak
2	128.940	31.81	-12.64	19.17	43.50	-24.33	Peak
3	373.380	32.43	-10.09	22.34	46.00	-23.66	Peak
4	496.570	32.40	-7.27	25.13	46.00	-20.87	Peak
5	623.640	32.09	-4.89	27.20	46.00	-18.80	Peak
6	832.190	32.32	-1.64	30.68	46.00	-15.32	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#: 4 File#: EMIlow.EMI Date: 12-20-2005 Time: 15:39:28



(Audix ATC)
Trace: 3 Ref Trace:

Condition: FCC CLASS-B VERTICAL
Test Operator: : Thanh Nguyen
Project #: : 05U3790
Company: : GYRATION
EUT: : Transporter
Model No.: : TBD
Configuration: : EUT Stand Alone
Mode of operation: TX low channel.
Target of Test : FCC Class B

VERTICAL DATA

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	30.000	31.12	-7.50	23.62	40.00	-16.38	Peak
2	121.180	31.76	-12.64	19.12	43.50	-24.38	Peak
3	494.630	32.61	-7.32	25.29	46.00	-20.71	Peak
4	649.830	32.25	-4.33	27.92	46.00	-18.08	Peak
5	698.330	32.59	-3.25	29.34	46.00	-16.66	Peak
6	924.340	31.99	-0.71	31.28	46.00	-14.72	Peak

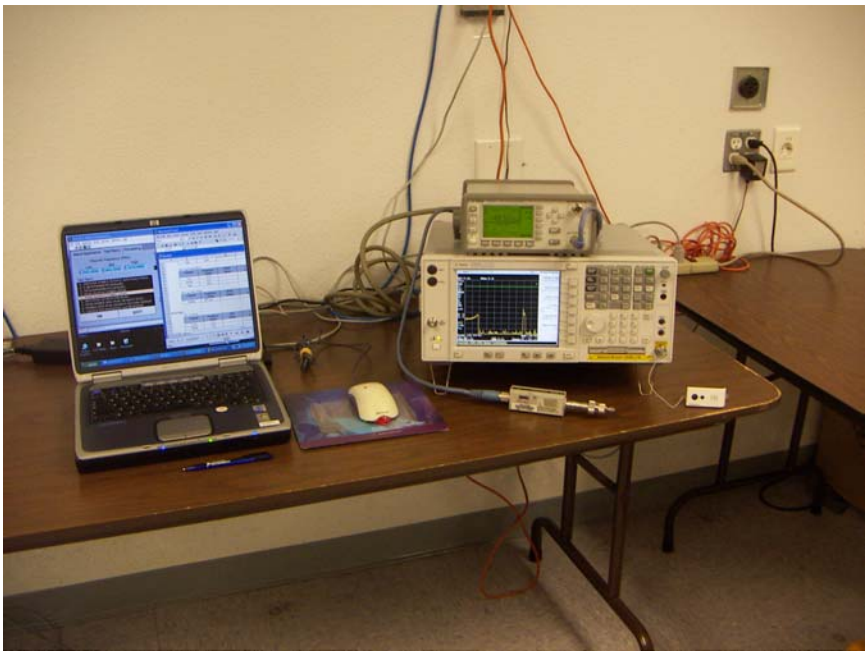
7.3. POWERLINE CONDUCTED EMISSIONS

The EUT is battery operated, no power line conducted emissions were performed.

8. SETUP PHOTO

ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP

ANTENNA PORT CONDUCTED PHOTO



RADIATED RF MEASUREMENT SETUP – EUT STAND ALONE

RADIATED FRONT PHOTO

RADIATED BACK PHOTO

END OF REPORT