ADDENDUM TO VULCAN PORTALS, INC. TEST REPORT FC07-014

FOR THE

FLIPSTART E-1000 SERIES

**FCC PART 15 SUBPART C SECTIONS 15.247& 15.207,
SUBPART B SECTIONS 15.107 & 15.109 CLASS B AND RSS-210**

COMPLIANCE

DATE OF ISSUE: MARCH 26, 2007

PREPARED FOR:

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Date of test: August 29, 2006 – March 7, 2007

Report No.: FC07-014A

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ADMINISTRATIVE INFORMATION

DATE OF TEST:	August 29, 2006 – March 7, 2007
DATE OF RECEIPT:	August 29, 2006
MANUFACTURER:	Universal Scientific Industrial Co., Ltd. 141, Lane 351, Taiping Road, Sec. 1 Tsao Tuen, Nan-Tou, Taiwan
REPRESENTATIVE:	Daniel Oar
TEST LOCATION:	CKC Laboratories, Inc. 22116 23rd Drive S.E., Suite A Bothell, WA 98021-4413
TEST METHOD:	ANSI C63.4 (2003), RSS-GEN and RSS-210
PURPOSE OF TEST:	**Original Report:** To demonstrate the compliance of the FlipStart E-1000 series with the requirements for FCC Part 15 Subpart C Sections 15.247 & 15.207, Subpart B Sections 15.107 & 15.109 Class B and RSS-210 devices. **Addendum A:** To remove the FCC ID number on page 8 with no new testing.

FCC TO CANADA STANDARD CORRELATION MATRIX

Canadian Standard	Canadian Section	FCC Standard	FCC Section	Test Description
RSS GEN	7.1.4	47CFR	15.203	Antenna Connector Requirements
RSS GEN	7.2.1	47CFR	15.35(c)	Pulsed Operation
RSS GEN	7.2.2	47CFR	15.207	AC Mains Conducted Emissions Requirement
RSS 210	2.1	47CFR	15.215(c)	Frequency Stability Recommendation
RSS 210	2.2	47CFR	15.205	Restricted Bands of Operation
RSS 210	2.6	47CFR	15.209	General Radiated Emissions Requirement
RSS 210	A8.1	47CFR	15.247(a)(1)	Definition of FHSS
RSS 210	A8.1	47CFR	15.247(h)	Incorporation of Intelligence
RSS 210	A8.1(1)	47CFR	15.247(a)(1)	Minimum Channel Bandwidth
RSS 210	A8.1(1)	47CFR	15.247(g)	Hopping Sequence
RSS 210	A8.1(2)	47CFR	15.247(a)(1)	Carrier Separation
RSS 210	A8.1(2)	47CFR	15.247(a)(1)	Carrier Separation 2400 Alternative
RSS 210	A8.1(3)	47CFR	15.247(a)(1)(i)	Carrier Separation
RSS 210	A8.1(3)	47CFR	15.247(a)(1)(i)	Average Time of Occupancy
RSS 210	A8.1(3)	47CFR	15.247(a)(1)(i)	Number of Hopping Channels
RSS 210	A8.1(4)	47CFR	15.247(a)(1)(iii)	Average Time of Occupancy
RSS 210	A8.1(4)	47CFR	15.247(a)(1)(iii)	Number of Hopping Channels
RSS 210	A8.1(5)	47CFR	15.247(a)(1)(ii)	Max 20dB Bandwidth
RSS 210	A8.1(5)	47CFR	15.247(a)(1)(ii)	Average Time of Occupancy
RSS 210	A8.1(5)	47CFR	15.247(a)(1)(ii)	Number of Hopping Channels
RSS 210	A8.2(1)	47CFR	15.247(a)(2)	Minimum 6dB Bandwidth
RSS 210	A8.2(2)	47CFR	15.247(e)	Peak Power Spectral Density
RSS 210	A8.4(1)	47CFR	15.247(b)(2)	RF Power Output
RSS 210	A8.4(2)	47CFR	15.247(b)(1)	RF Power Output
RSS 210	A8.4(3)	47CFR	15.247(b)(1)	RF Power Output
RSS 210	A8.4(4)	47CFR	15.247(b)(3)	RF Power Output
RSS 210	A8.4(5)	47CFR	15.247(c)(1)	Directional Gain Requirements
RSS 210	A8.4(6)	47CFR	15.247(c)(2)	Beam Steering Antennas
RSS 210	A8.5	47CFR	15.247(d)	Spurious Emissions
	IC 4653		318736	Site File No.

Notes: Rule Sections for RSS 210 are taken from RSS 210 Issue 6

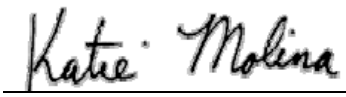
CONDITIONS FOR COMPLIANCE
No modifications to the EUT were necessary to comply.

APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:

Joyce Walker, Quality Assurance Administrative Manager



Katie Molina, Senior EMC Engineer/Lab Manager

TEST PERSONNEL:

Eddie Wong, EMC Engineer

Ryan Rutledge, Test Technologist

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit.

FCC 15.31(e) Voltage Variations
With battery removed, the AC power was varied + - 15%. No variation of measured power was observed.

FCC 15.31(m) Number Of Channels
This device was tested on three channels each for 802.11b, 802.11g and bluetooth.

FCC 15.33(a) Frequency Ranges Tested
15.107 Conducted Emissions: 150 kHz – 30 MHz
15.109 Radiated Emissions: 30 MHz – 6 GHz
15.207 Conducted Emissions: 150 kHz – 30 MHz
15.247 Radiated Emissions: 9 kHz – 25 GHz

FCC 15.203 Antenna Requirements
The antenna is an integral part of the EUT and is non-removable; therefore the EUT complies with Section 15.203 of the FCC rules.

EUT Operating Frequency
The EUT was operating at 2402-2480 MHz.

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The customer declares the EUT tested by CKC Laboratories was representative of a production unit. FlipStart is a super compact PC with the form factor that's proven to work for mobile professionals, including everything you expect from your laptop – effortless application usage, communications, entertainment and Internet connectivity. Its familiar clamshell design is packed with innovative features that deliver unprecedented flexibility and productivity to mobile users. Built on the Intel platform, FlipStart has a QWERTY thumb keypad, 1024 X 600 high-resolution 5.6" display in a protective clamshell design. Built-in WiFi and Bluetooth®, and multiple carrier 3G WAN support allow users to stay connected.

The following model names were provided to CKC Laboratories during testing and appear on the emissions data sheets: **Ultra Portable Computer, Flipstart 1000 Series and Ultra Computer Laptop, Flipstart WAN (The actual model tested was E-1001s per the customer).**

Since the time of testing the manufacturer has chosen to use the following model name in its place. Any differences between the names does not affect their EMC characteristics and therefore complies to the level of testing equivalent to the tested model name shown on the data sheets: **FlipStart E-1000 series**

EQUIPMENT UNDER TEST

FlipStart

Manuf:	Vulcan Portals, Inc.
Model:	E-1000 series
Serial:	FCC #3, 003401-A068G01T and VULCANE1001 6BD01Y
FCC ID:	Pending

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

FlipStart Extended-Life Battery 5000 Capacity in mAH
Manuf: Vulcan Portals, Inc.
Model: E-5000
Serial: NA

AC Adapter
Manuf: Celltronics
Model: ZVC36FS12S54
Serial: NA

USB 2.0 Device
Manuf: Apple
Model: iPod Nano
Serial: NA

PC Monitor
Manuf: IBM
Model: ThinkVision
Serial: 23PC350

USB Mouse
Manuf: Microsoft
Model: Intellimouse Explorer
Serial: 51381-577-1717291-0000

Earbud/Microphone
Manuf: Vulcan Portals, Inc.
Model: FlipStart E-1000EM
Serial: NA

Unpowered Speakers
Manuf: Radio Shack
Model: NA
Serial: NA

Ethernet Cable
Manuf: NA
Model: NA
Serial: NA

Port Replicator
Manuf: Vulcan Portals, Inc.
Model: FlipStart E-1000PR
Serial: NA

REPORT OF MEASUREMENTS

The following tables report the six highest worst case levels recorded during the tests performed on the EUT. All readings taken are peak readings unless otherwise noted. The data sheets from which these tables were compiled are contained in Appendix C.

Table 1: FCC 15.107 Six Highest Conducted Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS HPF dB	Att dB	Lisn dB	Cable dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
0.262353	40.4	0.2	10.0	0.0	0.0	50.6	61.4	-10.8	L
0.351670	36.9	0.2	10.0	0.0	0.1	47.2	48.9	-1.7	NA
0.351880	35.2	0.2	10.0	0.0	0.1	45.5	48.9	-3.4	LA
0.423793	30.4	0.1	10.0	0.0	0.1	40.6	47.4	-6.8	N
0.585596	32.7	0.2	10.0	0.0	0.1	43.0	46.0	-3.0	N
0.819757	27.7	0.2	10.0	0.0	0.2	38.1	46.0	-7.9	N

Test Method: ANSI C63.4 (2003)
Spec Limit: FCC Part 15 Subpart B Section 15.107 Class B

NOTES: A = Average Reading
L = Line Lead
N = Neutral Lead

COMMENTS: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 150 kHz - 30 MHz.

Table 2: FCC 15.109 Six Highest Radiated Emission Levels: 30-1000 MHz									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	Ant dB	Amp dB	Cable dB	Dist dB	READING dBµV/m	LIMIT dBµV/m	MARGIN dB	NOTES
32.470	42.8	20.7	-27.5	0.8		36.8	40.0	-3.2	VQ
279.996	53.8	13.3	-27.0	2.4		42.5	46.0	-3.5	VQ
359.990	50.8	15.9	-27.4	2.8		42.1	46.0	-3.9	HQ
500.014	48.2	18.6	-28.2	3.3		41.9	46.0	-4.1	VQ
520.011	48.1	18.8	-28.3	3.4		42.0	46.0	-4.0	VQ
560.015	48.0	19.3	-28.5	3.5		42.3	46.0	-3.7	VQ

Test Method: ANSI C63.4 (2003)
Spec Limit: FCC Part 15 Subpart B Section 15.109 Class B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization
V = Vertical Polarization
Q = Quasi Peak Reading

COMMENTS: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 30 MHz - 1000 MHz.

Table 3: FCC 15.109 Six Highest Radiated Emission Levels: 1-6 GHz									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	Ant dB	Amp dB	Cable dB	Dist dB	READING dBµV/m	LIMIT dBµV/m	MARGIN dB	NOTES
1096.420	49.8	24.1	-36.7	3.3		40.5	54.0	-13.5	H
1240.642	47.0	24.9	-36.1	3.6		39.4	54.0	-14.6	H
1301.517	48.3	25.3	-35.9	3.9		41.6	54.0	-12.4	H
1369.623	53.2	25.6	-35.6	4.0		47.2	54.0	-6.8	H
1594.455	44.6	26.2	-35.0	4.2		40.0	54.0	-14.0	H
2427.300	45.2	28.8	-34.0	5.3		45.3	54.0	-8.7	H

Test Method: ANSI C63.4 (2003)
Spec Limit: FCC Part 15 Subpart B Section 15.109 Class B
Test Distance: 3 Meters

NOTES: H = Horizontal Polarization

COMMENTS: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 1 GHz - 6 GHz.

Table 4: FCC 15.207 Six Highest Conducted Emission Levels

FREQUENCY MHz	METER READING dBµV	CORRECTION FACTORS HPF dB	Att dB	Lisn dB	Cable dB	CORRECTED READING dBµV	SPEC LIMIT dBµV	MARGIN dB	NOTES
0.262353	40.4	0.2	10.0	0.0	0.0	50.6	51.4	-0.8	L
0.351670	36.9	0.2	10.0	0.0	0.1	47.2	48.9	-1.7	NA
0.351880	35.2	0.2	10.0	0.0	0.1	45.5	48.9	-3.4	LA
0.423793	30.4	0.1	10.0	0.0	0.1	40.6	47.4	-6.8	N
0.585596	32.7	0.2	10.0	0.0	0.1	43.0	46.0	-3.0	N
0.585960	29.4	0.2	10.0	0.0	0.1	39.7	46.0	-6.3	L

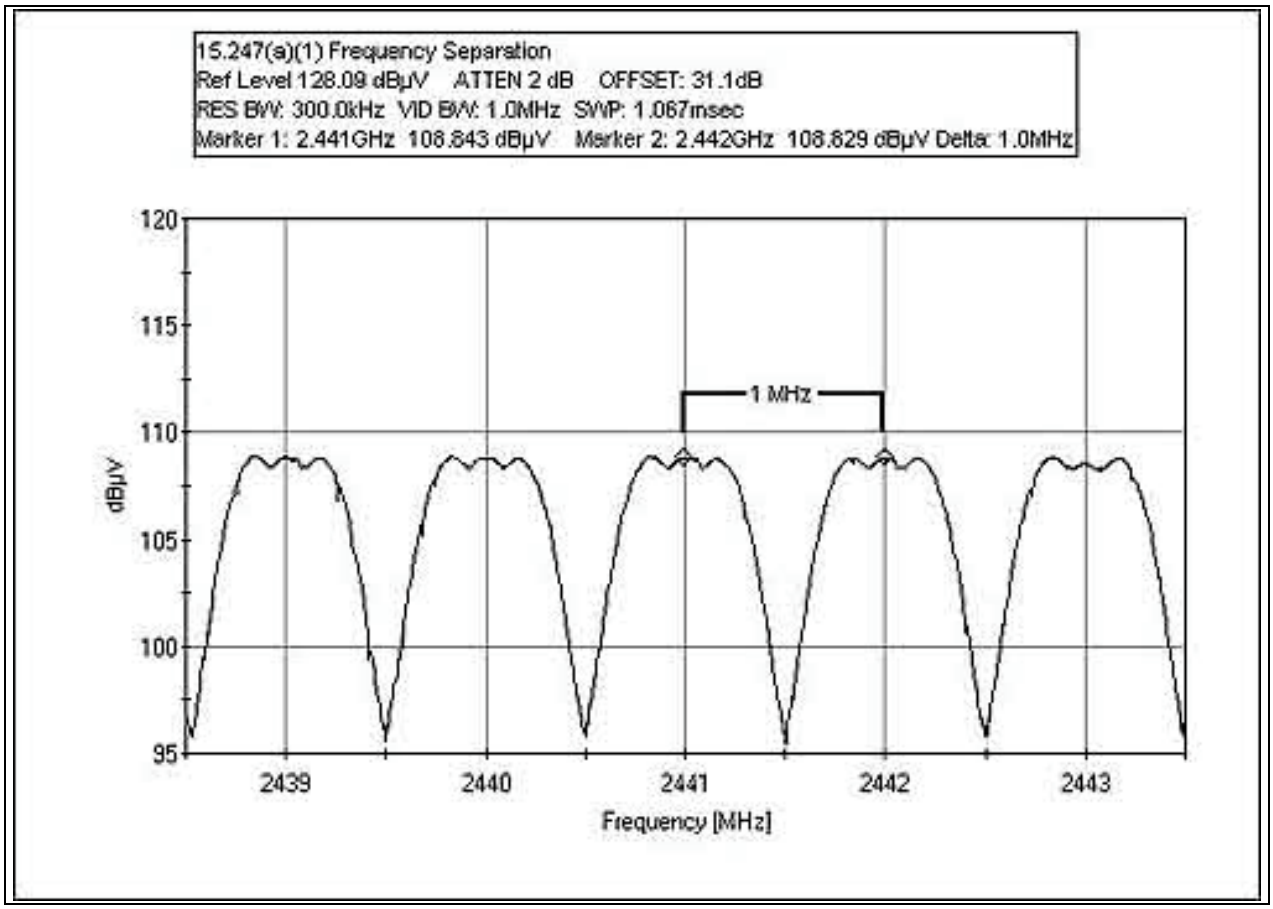
Test Method: ANSI C63.4 (2003)
Spec Limit: FCC Part 15 Subpart C Section 15.207

NOTES: A = Average Reading
L = Line Lead
N = Neutral Lead

COMMENTS: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. WiFi and Bluetooth transmitters operating at full power. Frequency range tested in this file: 150 kHz - 30 MHz.

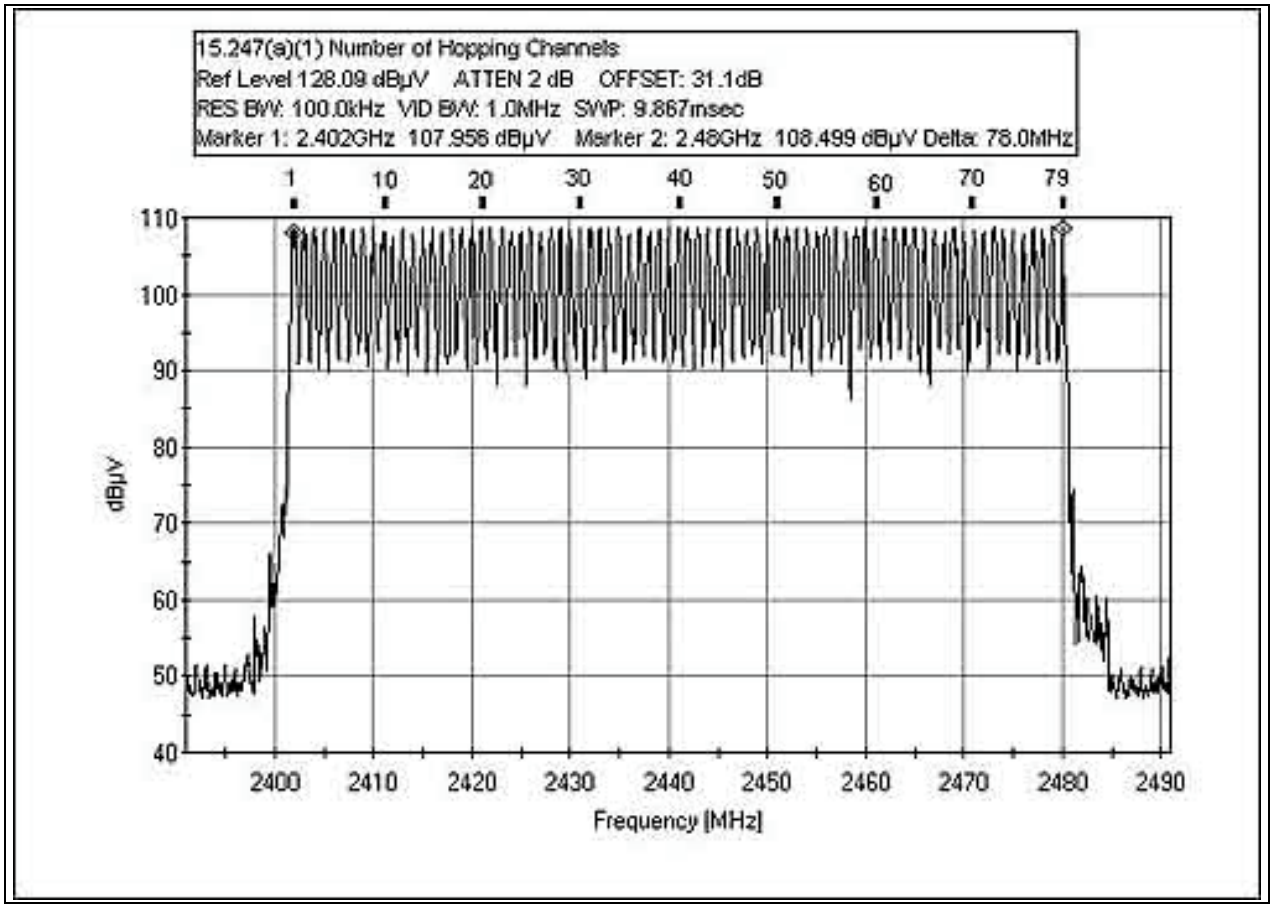
FCC 15.247(a)(1) FREQUENCY SEPARATION

Test Conditions: The EUT is placed on the wooden table. Battery is removed, and the EUT is powered with AC power adaptor. The RF signal is evaluated at the antenna port.



FCC 15.247(a)(1) NUMBER OF HOPPING CHANNELS

Test Conditions: The EUT is placed on the wooden table. Battery is removed, and the EUT is powered with AC power adaptor. The RF signal is evaluated at the antenna port.

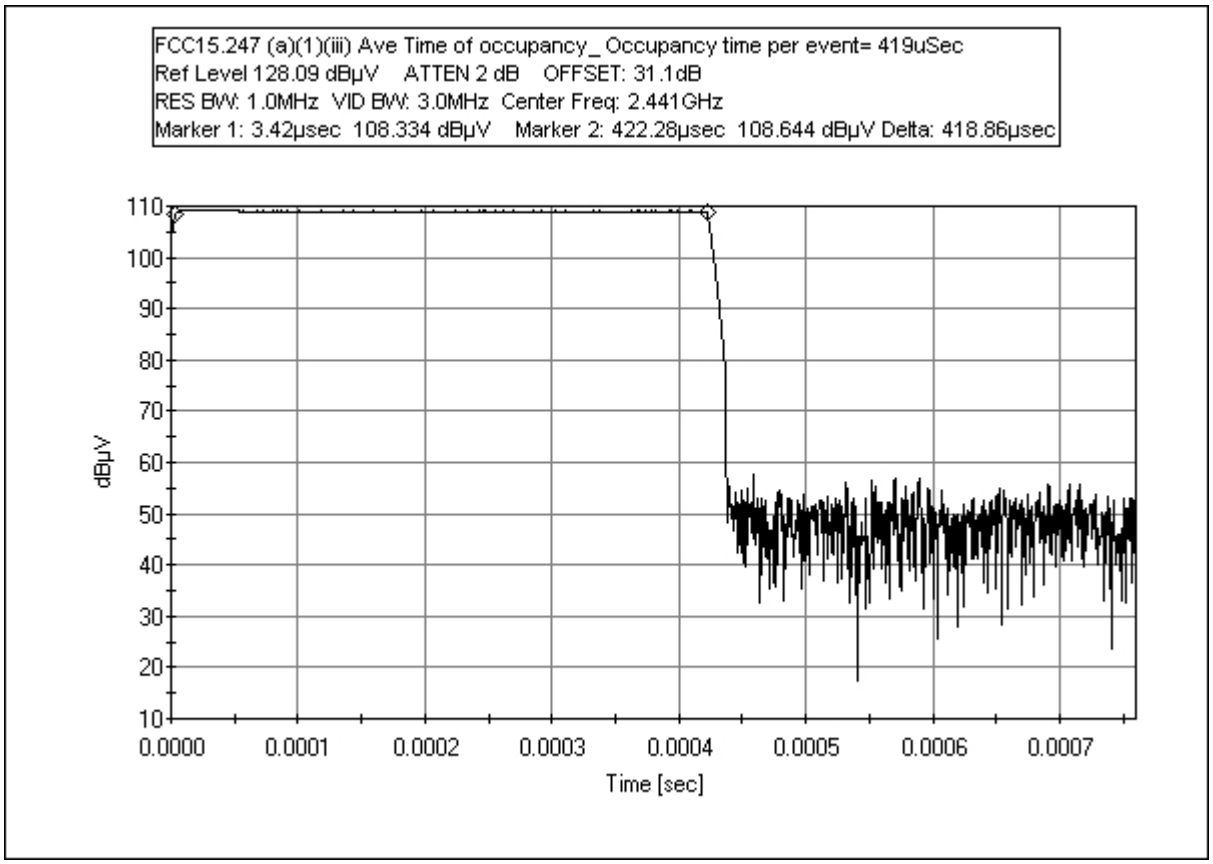


FCC 15.247 (A)(1)(III) AVERAGE TIME OF OCCUPANCY

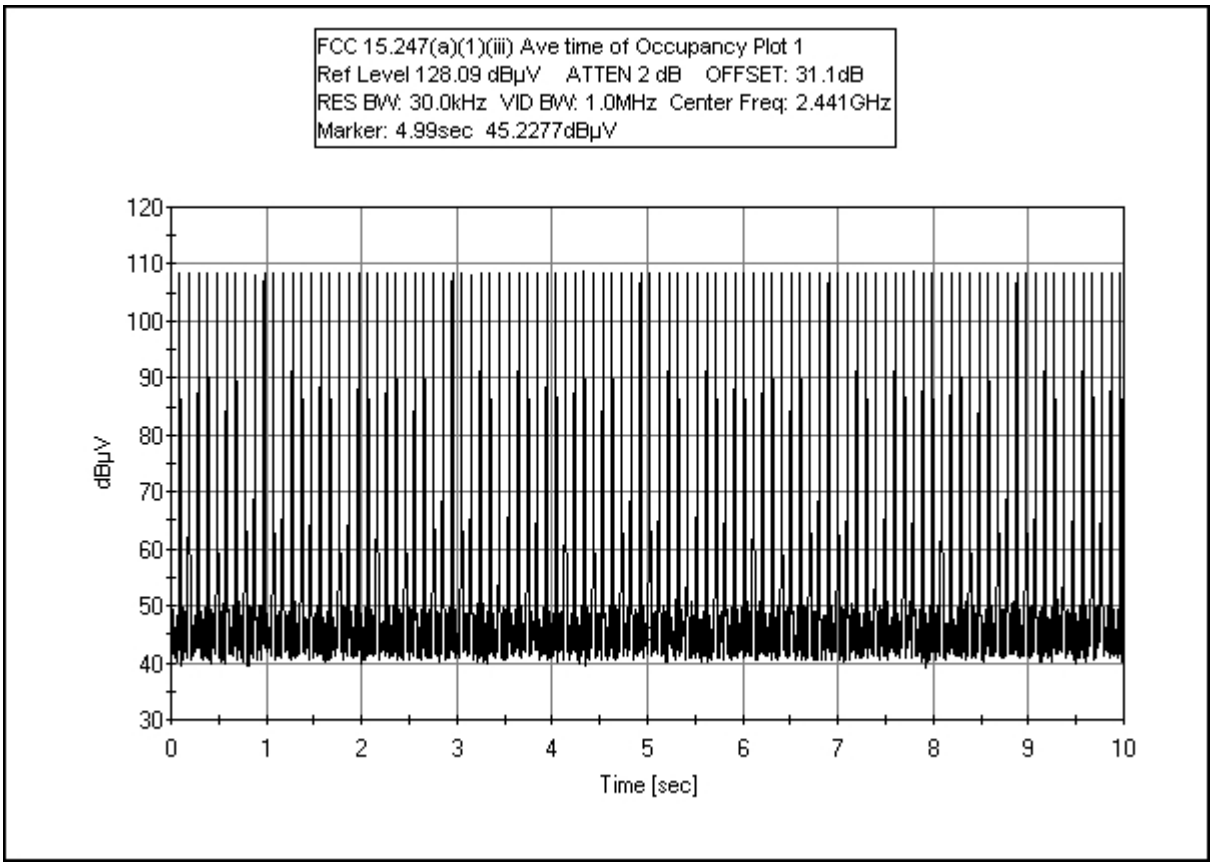
The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Test Conditions: The EUT is placed on the wooden table. Battery is removed, and the EUT is powered with AC power adaptor. The RF signal is evaluated at the antenna port.

Total hopping channel = 79 channels
79 x 0.4 sec = 31.6 sec.



1 burst: FCC15.247(a)(1)(iii) Occu time 1JPG = 419uSec



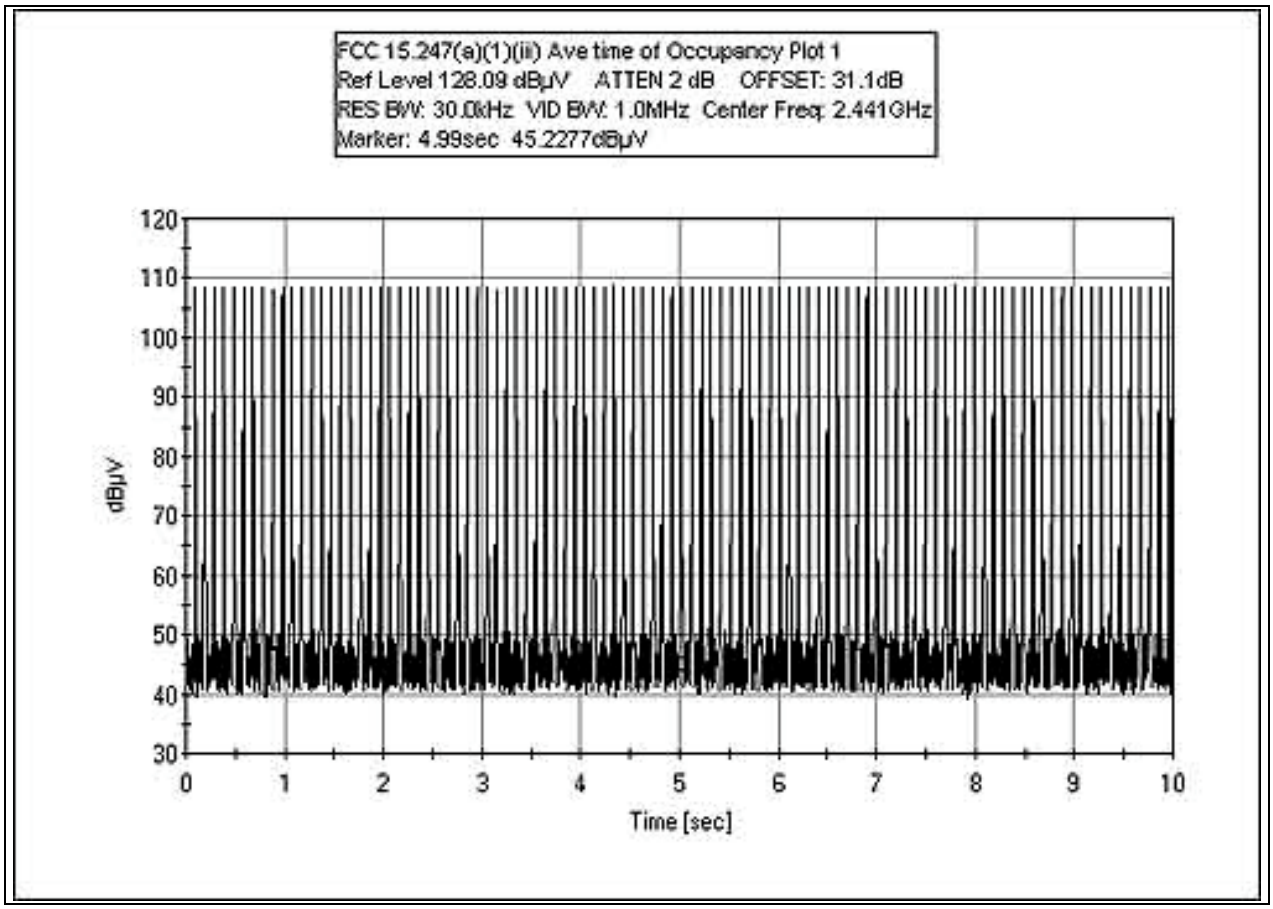
(A sample plot of 10 sec sweep)

5 sweeps were measure and the average was calculated to be 101/ 10 sec
therefore 10.1 event/sec.
10.1 x 419 us(on time) = 4.23 mSec of on time per sec.

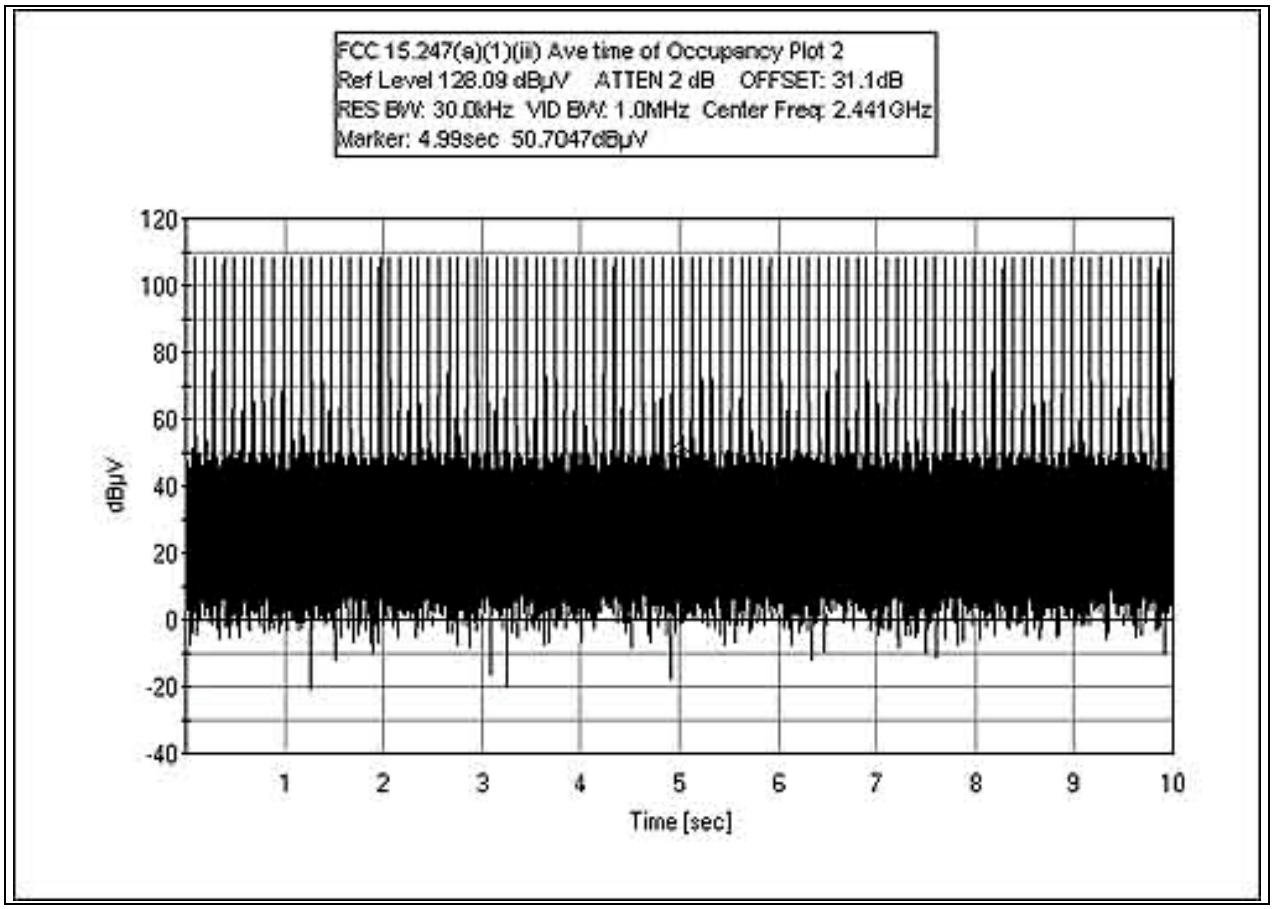
per spec 0.4 sec x 79 channel = 31.6 sec,
Therefore in **31.6 sec** there are 31.6 x 4.23 mSec of on time
=133.6 mSec = 0.133 Sec = **0.1 Sec of on time**

Hence fulfilled the **LESS** than 0.4 sec within a period of 0.4 sec multiply by the number of hopping channels employed.

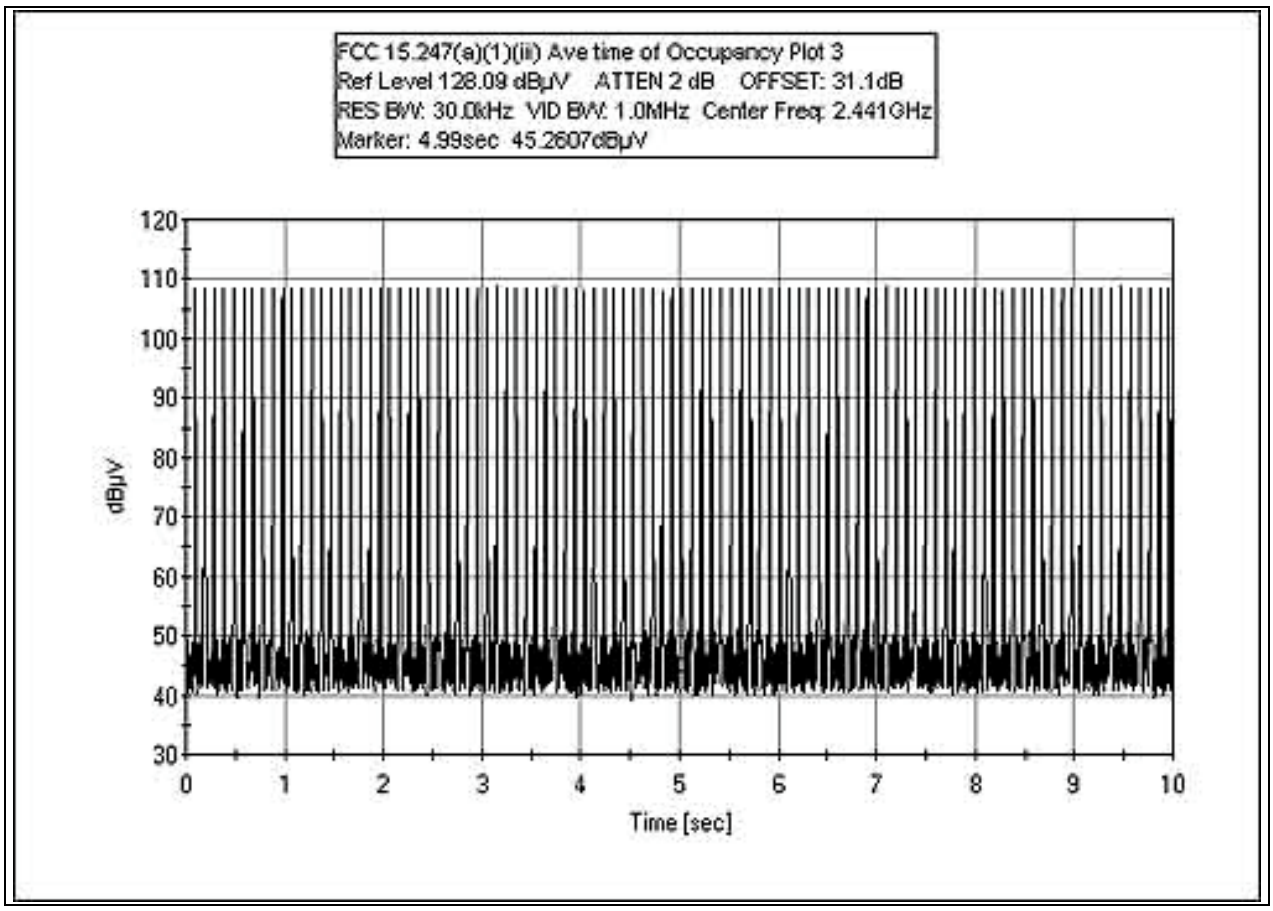
FCC 15.247(a)(1)(iii) AVERAGE TIME OF OCCUPANCY PLOT 1



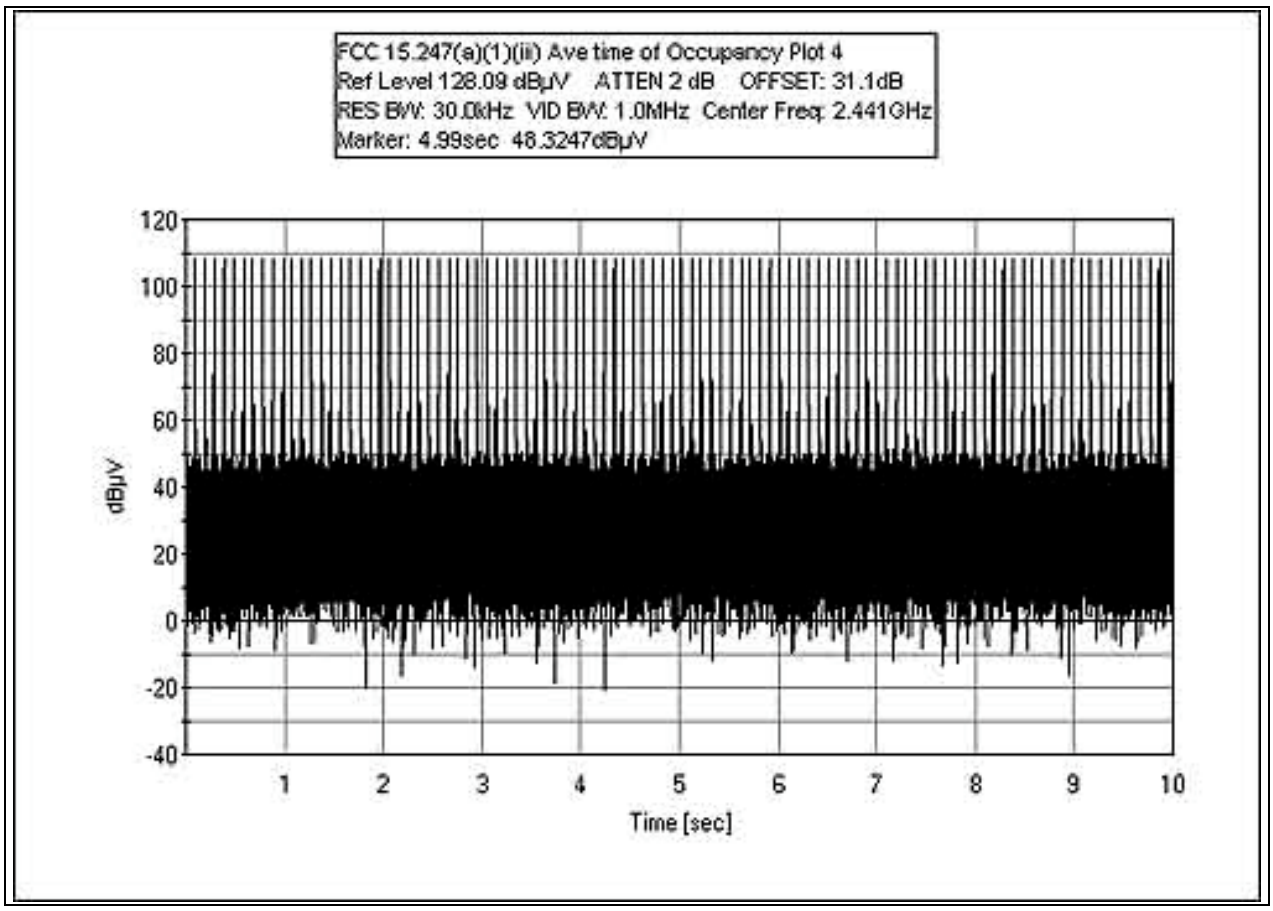
FCC 15.247(a)(1)(iii) AVERAGE TIME OF OCCUPANCY PLOT 2



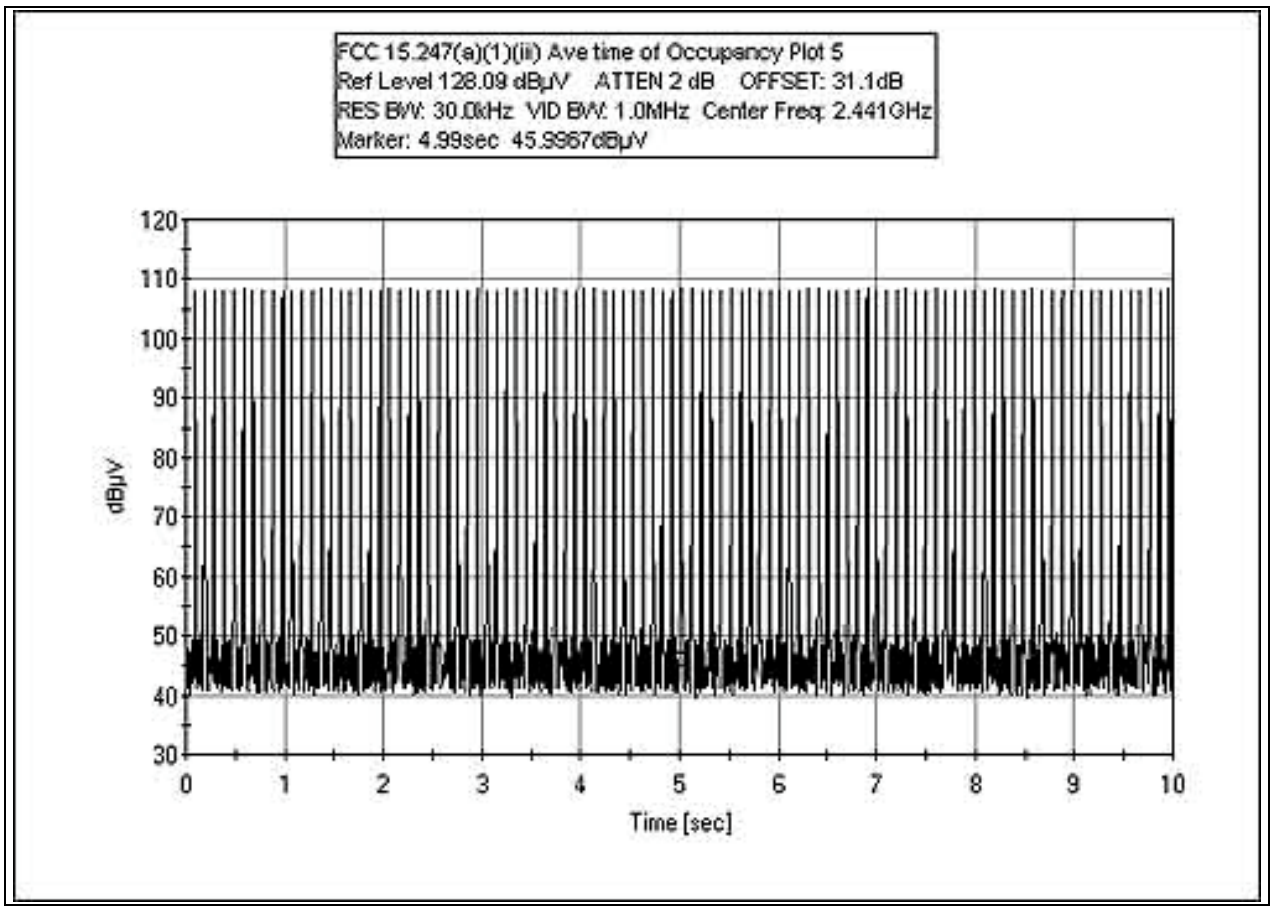
FCC 15.247(a)(1)(iii) AVERAGE TIME OF OCCUPANCY PLOT 3



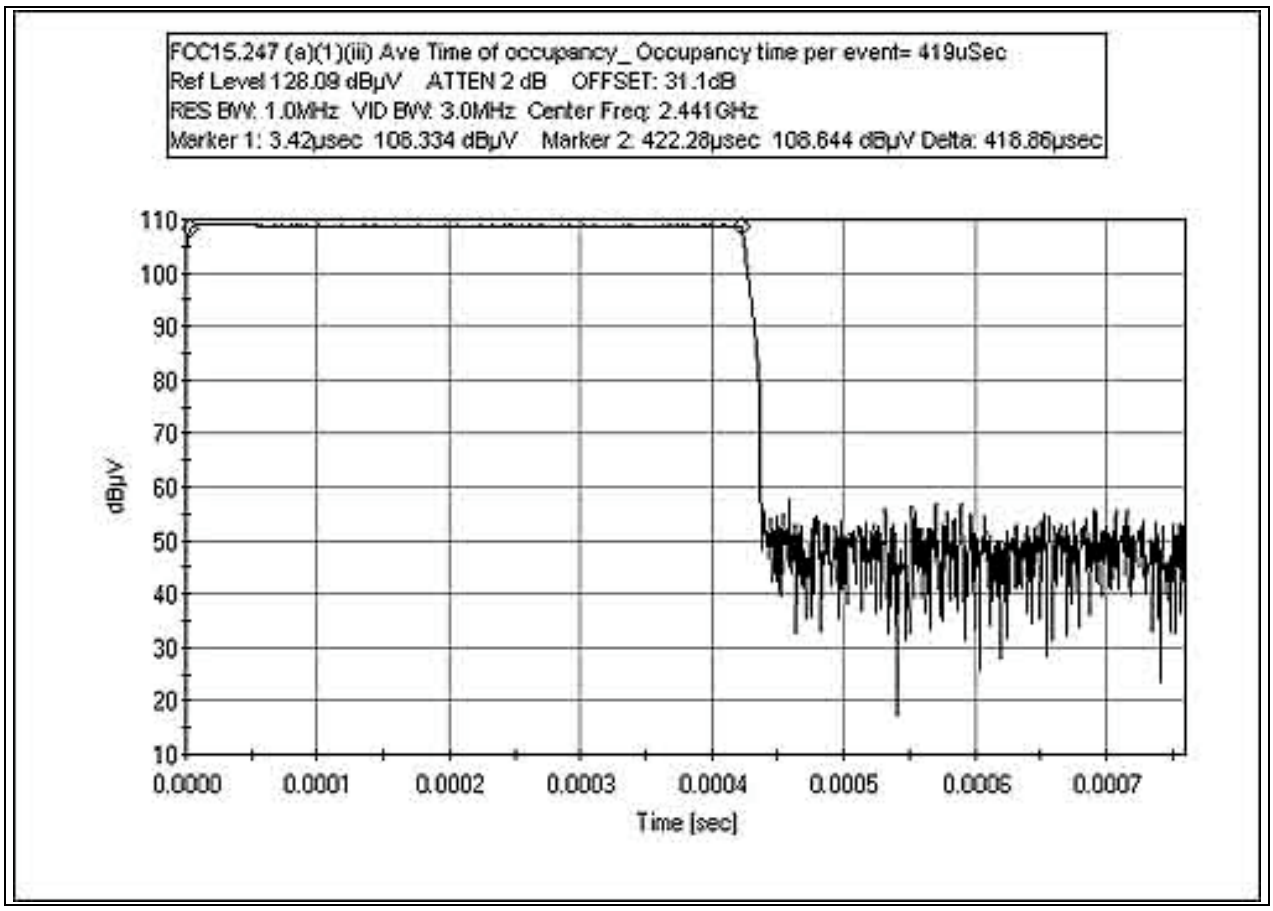
FCC 15.247(a)(1)(iii) AVERAGE TIME OF OCCUPANCY PLOT 4



FCC 15.247(a)(1)(iii) AVERAGE TIME OF OCCUPANCY PLOT 5

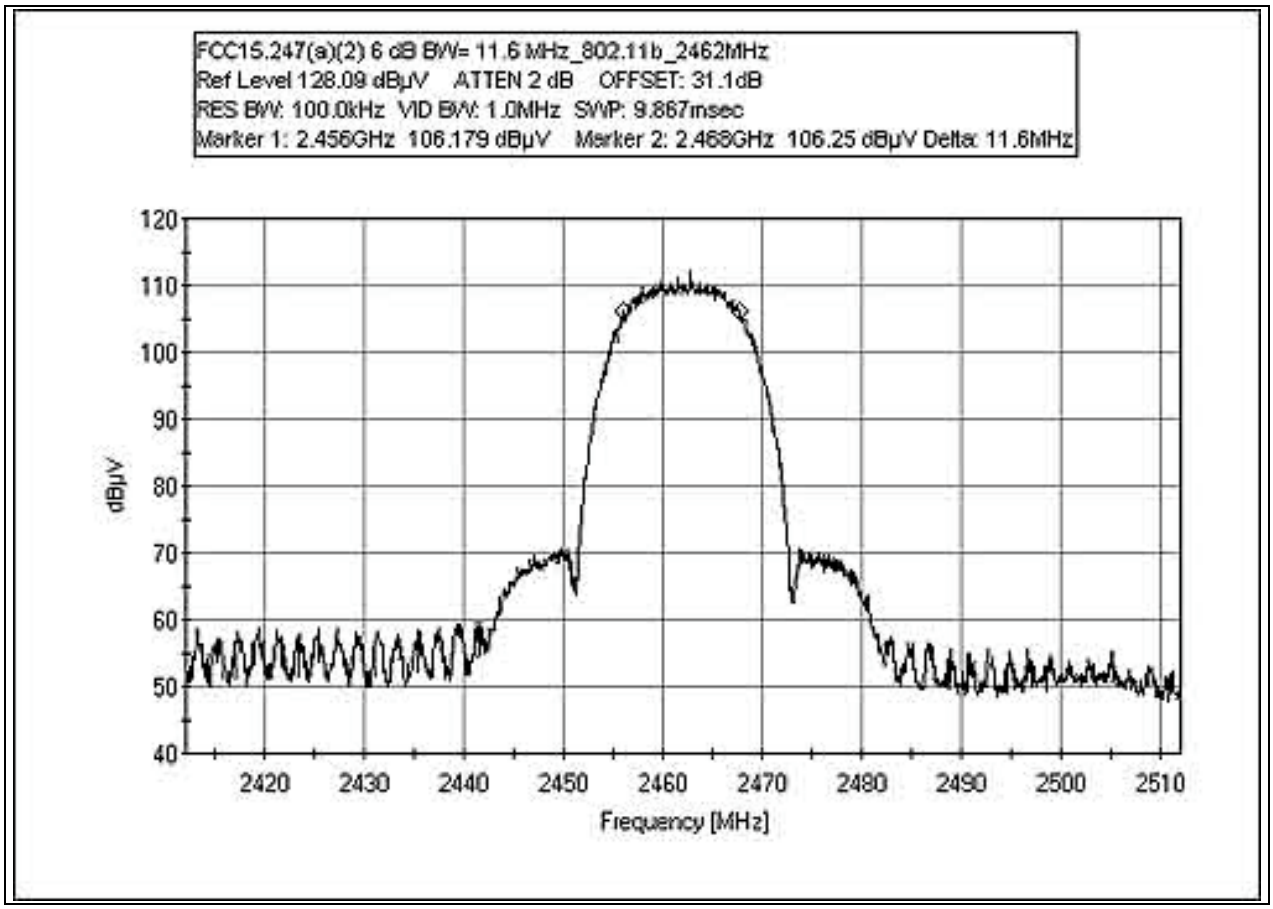


FCC 15.247(a)(1)(iii) AVERAGE TIME OF OCCUPANCY – OCCUPANCY TIME PER EVENT

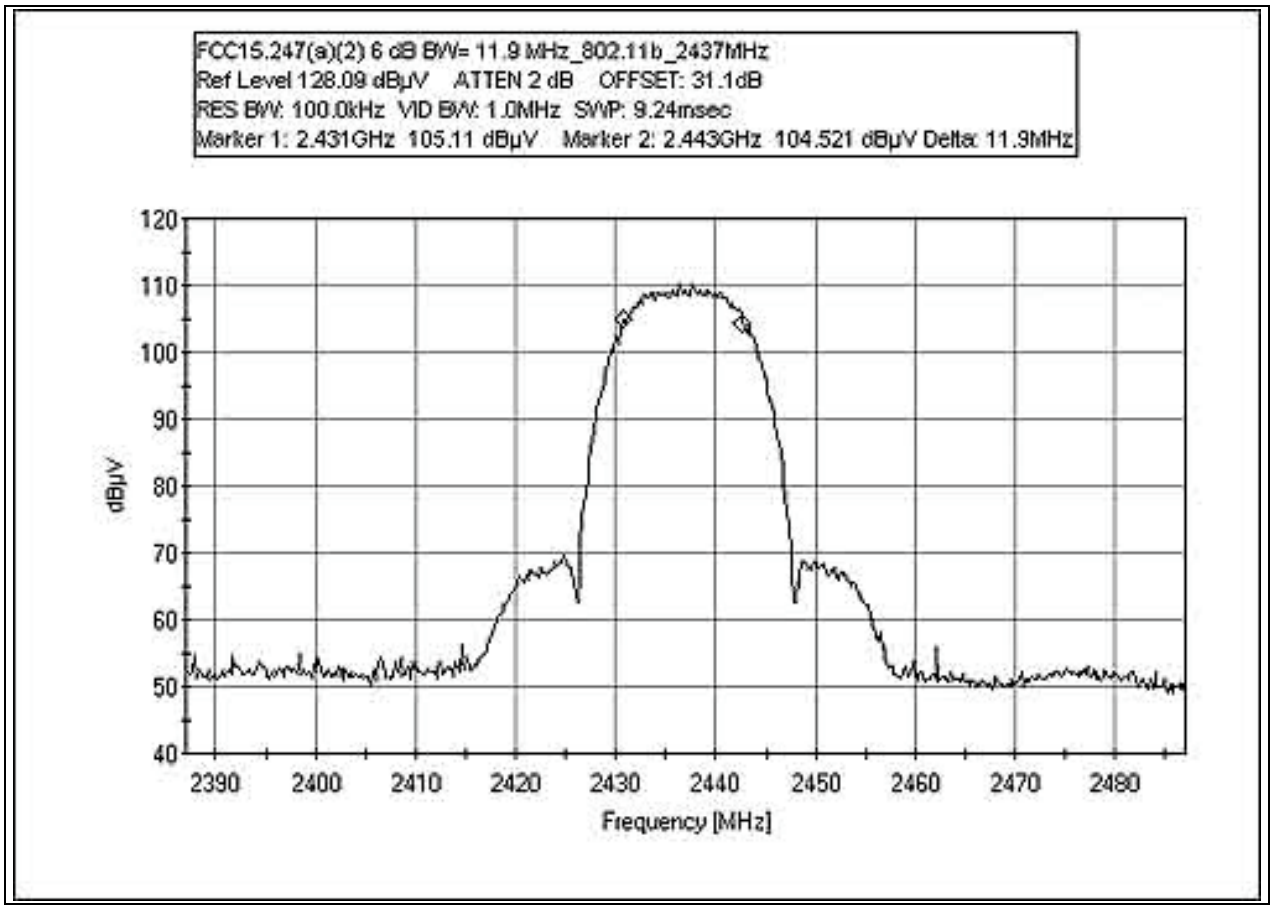


FCC 15.247(a)(2) 6 dB BANDWIDTH - 11.6 MHz 802.11b 2462 MHz

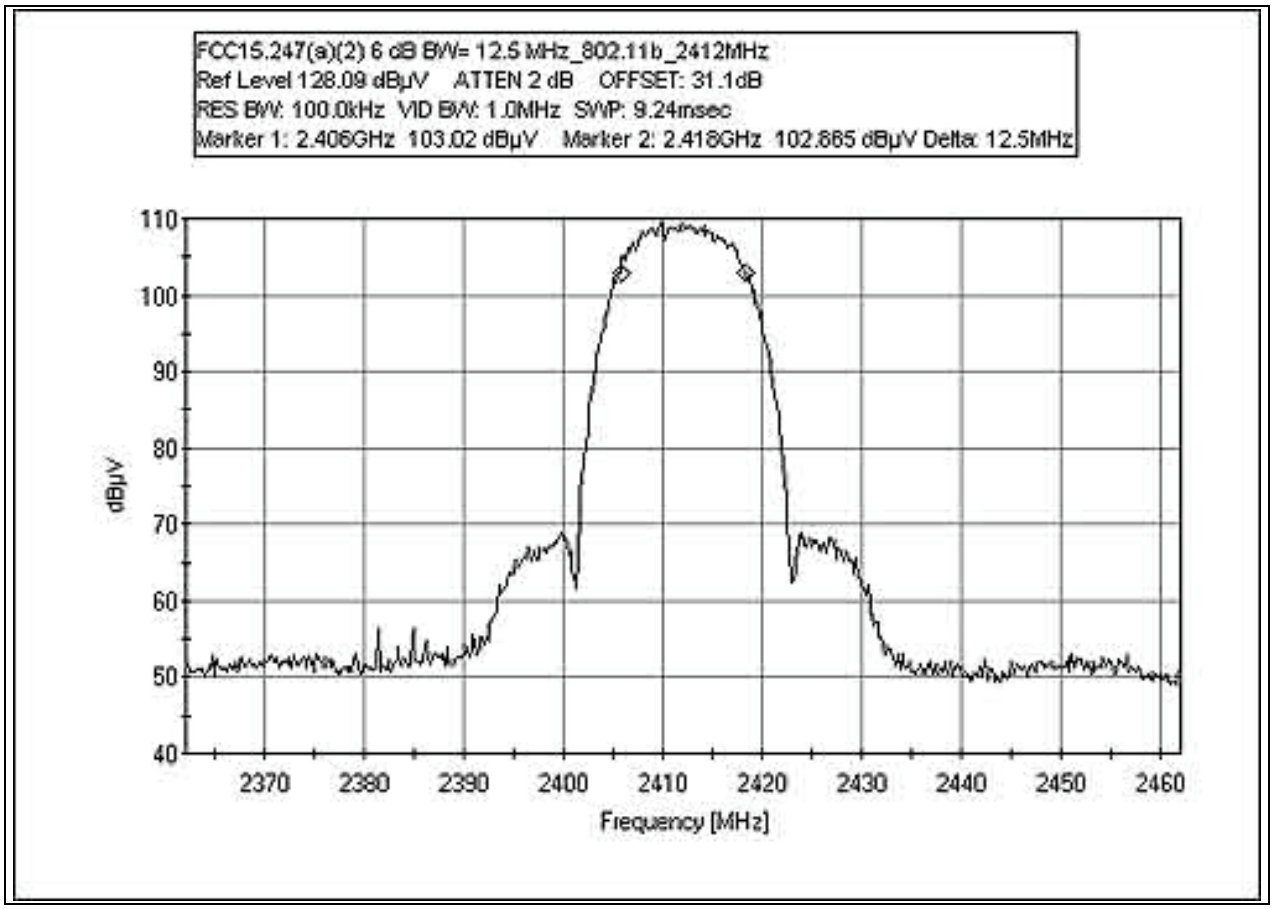
Test Conditions: The EUT is placed on the wooden table. Battery is removed, and the EUT is powered with AC power adaptor. The RF signal is evaluated at the antenna port.



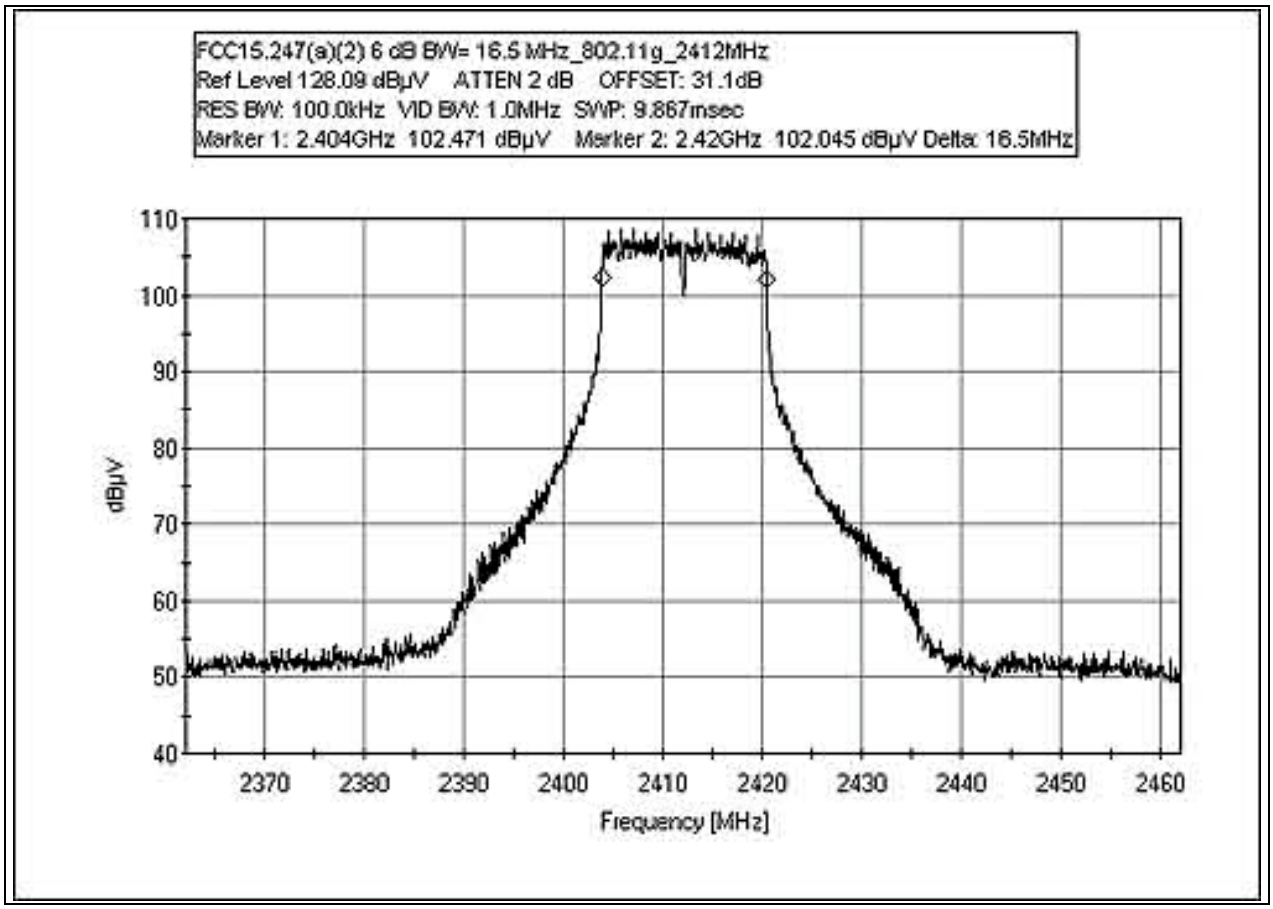
FCC 15.247(a)(2) 6 dB BANDWIDTH - 11.9 MHz 802.11b 2437 MHz



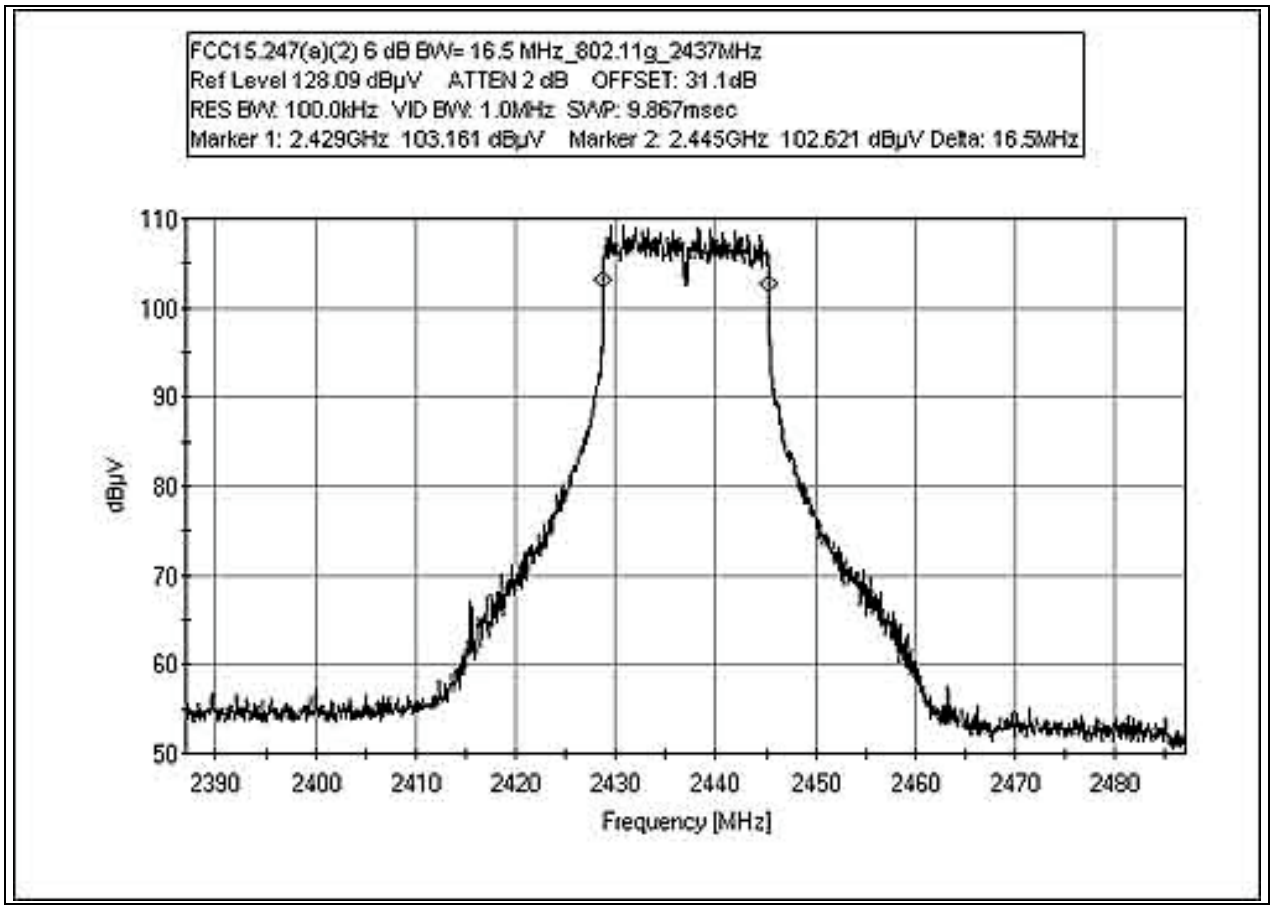
FCC 15.247(a)(2) 6 dB BANDWIDTH - 12.5 MHz 802.11b 2412 MHz



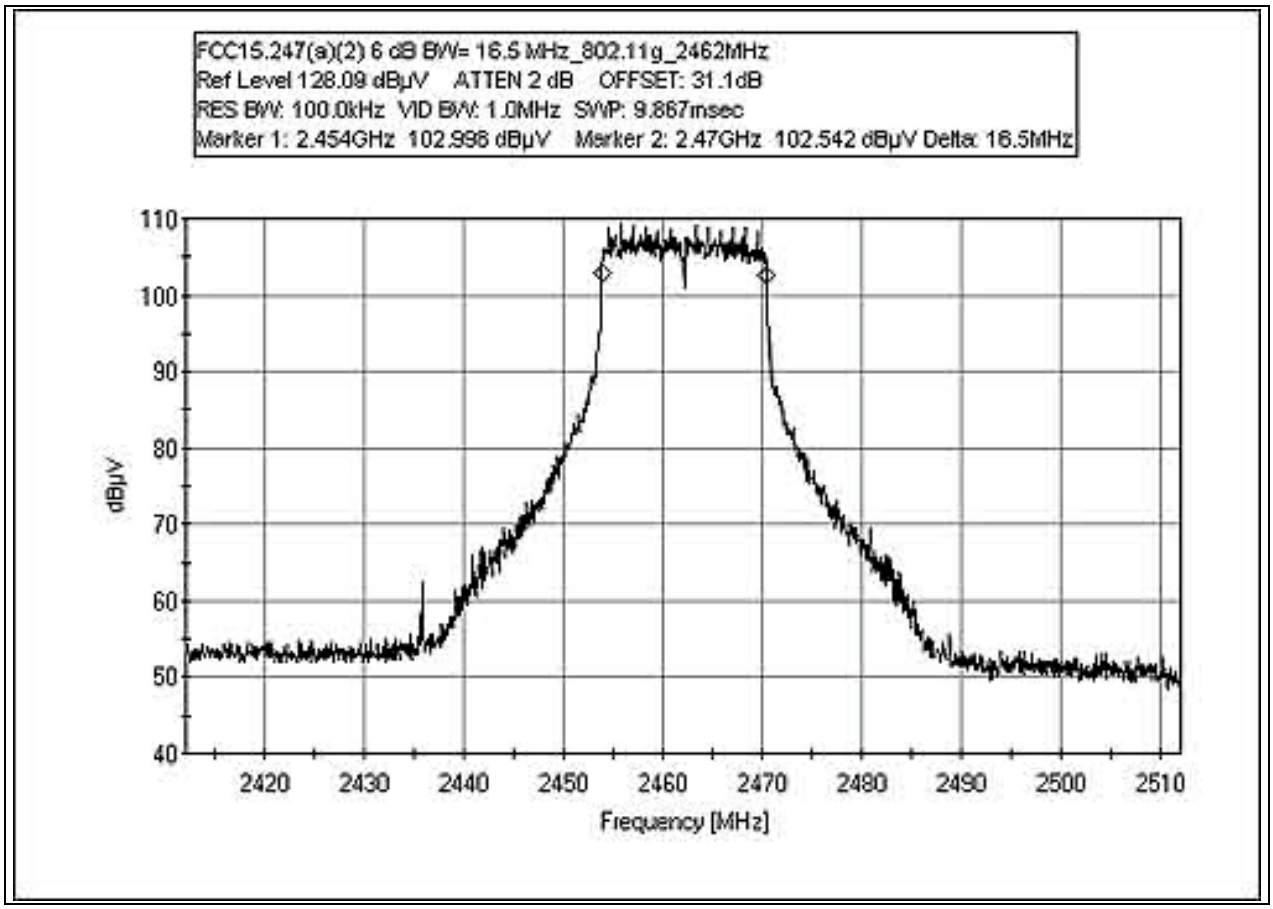
FCC 15.247(a)(2) 6 dB BANDWIDTH - 16.5 MHz 802.11g 2412 MHz



FCC 15.247(a)(2) 6 dB BANDWIDTH - 16.5 MHz 802.11g 2437 MHz



FCC 15.247(a)(2) 6 dB BANDWIDTH - 16.5 MHz 802.11g 2462 MHz



FCC 15.247(b) CONDUCTED RF OUTPUT POWER

Test Setup: The RF output power is measured at the RF antenna port of the EUT with a spectrum analyzer set in Channel power measurement mode.

Operation within the band 2400-2483.5 MHz.

15.247(b)(1)
For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

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

Bluetooth mode

Frequency MHz	Conducted Power (dBm)	Conducted Power (watt)
2402	1.79	0.0015
2441	2.26	0.0017
2480	2.12	0.0016

Result: Pass, measured power levels are under the 1 watt limit.

The Product also satisfied 15.31 (e), Voltage variation. With battery removed, the AC power was varied + - 15%. No variation of measured power was observed.

802.11(b)

Frequency MHz	Bit Rate	Conducted Power (dBm)	Conducted Power (watt)
2412	1	13.5	0.0224
	5.5	13.3	0.0214
	11	13.6	0.0229
2437	1	12.9	0.0195
	5.5	13.3	0.0214
	11	13.6	0.0229
2462	1	13.8	0.0240
	5.5	13.4	0.0219
	11	13.7	0.0234

Result: 1 Pass, measured power levels are under the 15.247 (b)(3) 1 watt limit.

The Product also satisfied 15.31 (e), Voltage variation. With battery removed, the AC power was varied + - 15%. No variation of measured power was observed.

15.247 (e) For digitally modulated systems, the 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. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The
same method of determining the conducted output power shall be used to determine the power spectral density.

802.11g

Frequency MHz	Bit Rate	Conducted Power (dBm)	Conducted Power (watt)
2412	1	12.5	0.0178
	24	13.0	0.0200
	54	13.3	0.0214
2437	1	12.2	0.0166
	24	13.5	0.0224
	54	13.5	0.0224
2462	1	12.2	0.0166
	24	13.1	0.0204
	54	13.1	0.0204

Result: 1 Pass, measured power levels are under the 15.247 (b)(3) 1 watt limit.

The Product also satisfied 15.31 (e), Voltage variation. With battery removed, the AC power was varied + - 15%. No variation of measured power was observed.

Table 5: FCC 15.247(d) Six Highest Antenna Conducted Emission Levels									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	HPF dB	dB	Cable dB	dB	READING dBµV	LIMIT dBµV	MARGIN dB	NOTES
4804.03000	56.0	0.3		3.3		59.6	88.0	-28.4	R-1
4882.00000	54.7	0.3		3.4		58.4	88.0	-29.6	R-3
4959.93000	54.8	0.3		3.4		58.5	88.0	-29.5	R-2
7323.15000	37.5	0.1		4.2		41.8	88.0	-46.2	R-3
7440.05000	39.7	0.1		4.2		44.0	88.0	-44.0	R-2
9919.95000	41.3	0.2		5.0		46.5	88.0	-41.5	R-2

Test Method: ANSI C63.4 (2003)
Spec Limit: FCC Part 15 Subpart C Section 15.247(d)

NOTES: R = RF Output Port
1 = 2402 MHz
2 = 2462 MHz
3 = 2441 MHz

COMMENTS: See individual data sheets for test conditions.

Table 6: FCC 15.247(d) Six Highest Radiated Emission Levels									
	METER	CORRECTION FACTORS				CORRECTED	SPEC		
FREQUENCY MHz	READING dBµV	Ant dB	Amp dB	Cable dB	HPF dB	READING dBµV/m	LIMIT dBµV/m	MARGIN dB	NOTES
4804.000	37.7	33.5	-33.0	12.1		50.3	54.0	-3.7	VA-4
4822.720	35.2	33.6	-33.0	12.1		47.9	54.0	-6.1	VA-1
4823.760	39.9	33.6	-33.0	12.1		52.6	54.0	-1.4	VA-2
4873.940	33.3	33.7	-33.0	12.3		46.3	54.0	-7.7	VA-3
4881.992	36.3	33.7	-33.0	12.3		49.3	54.0	-4.7	VA-5
4959.978	32.1	33.9	-32.9	12.5		45.6	54.0	-8.4	VA-6

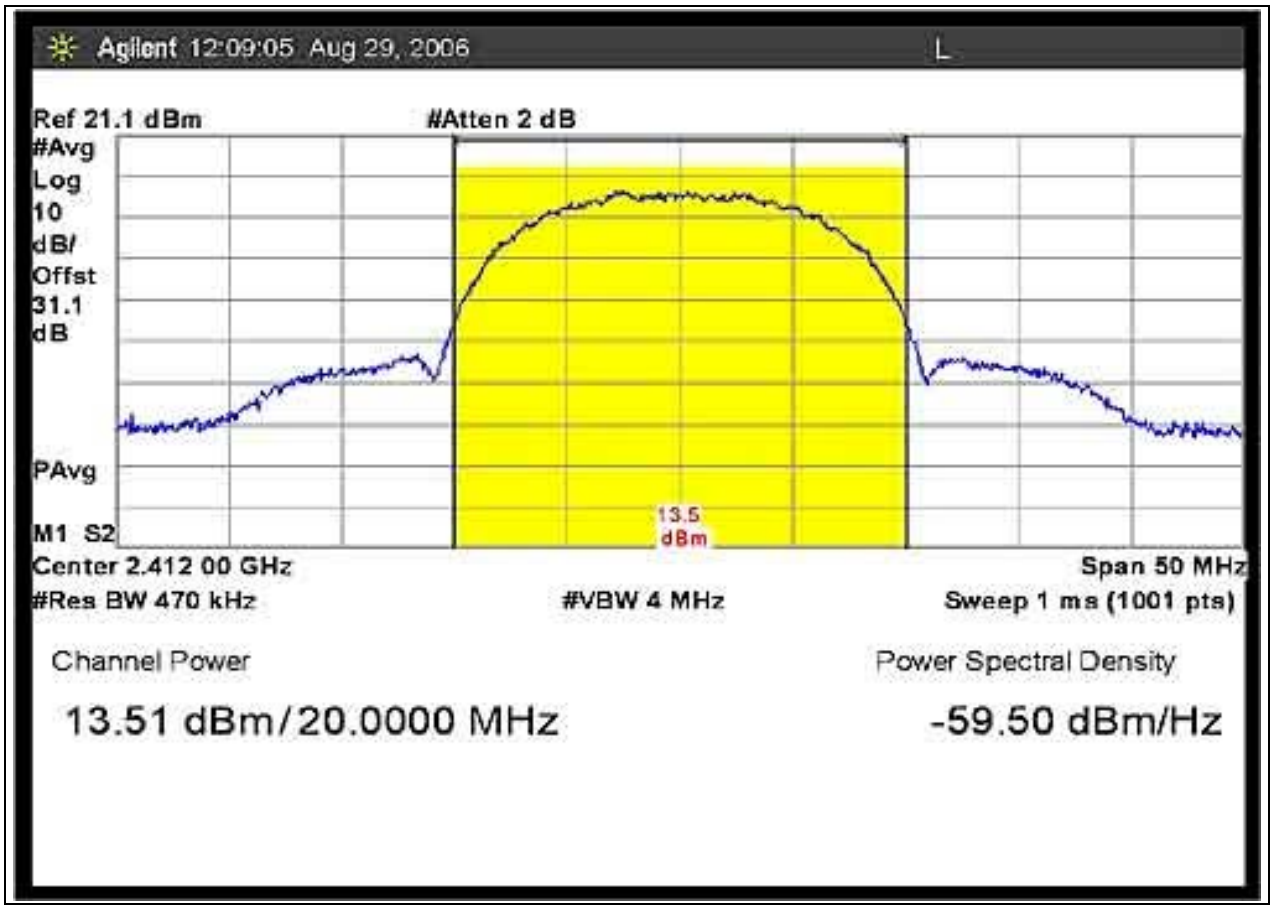
Test Method: ANSI C63.4 (2003)
Spec Limit: FCC Part 15 Subpart C Section 15.247(d)
Test Distance: 3 Meters

NOTES:
H = Horizontal Polarization
V = Vertical Polarization
A = Average Reading
1 = 2412 MHz 802.11g
2 = 2412 MHz 802.11b
3 = 2437 MHz 802.11b
4 = 2402 MHz Bluetooth
5 = 2441 MHz Bluetooth
6 = 2480 MHz Bluetooth

COMMENTS: See individual data sheets for test conditions.

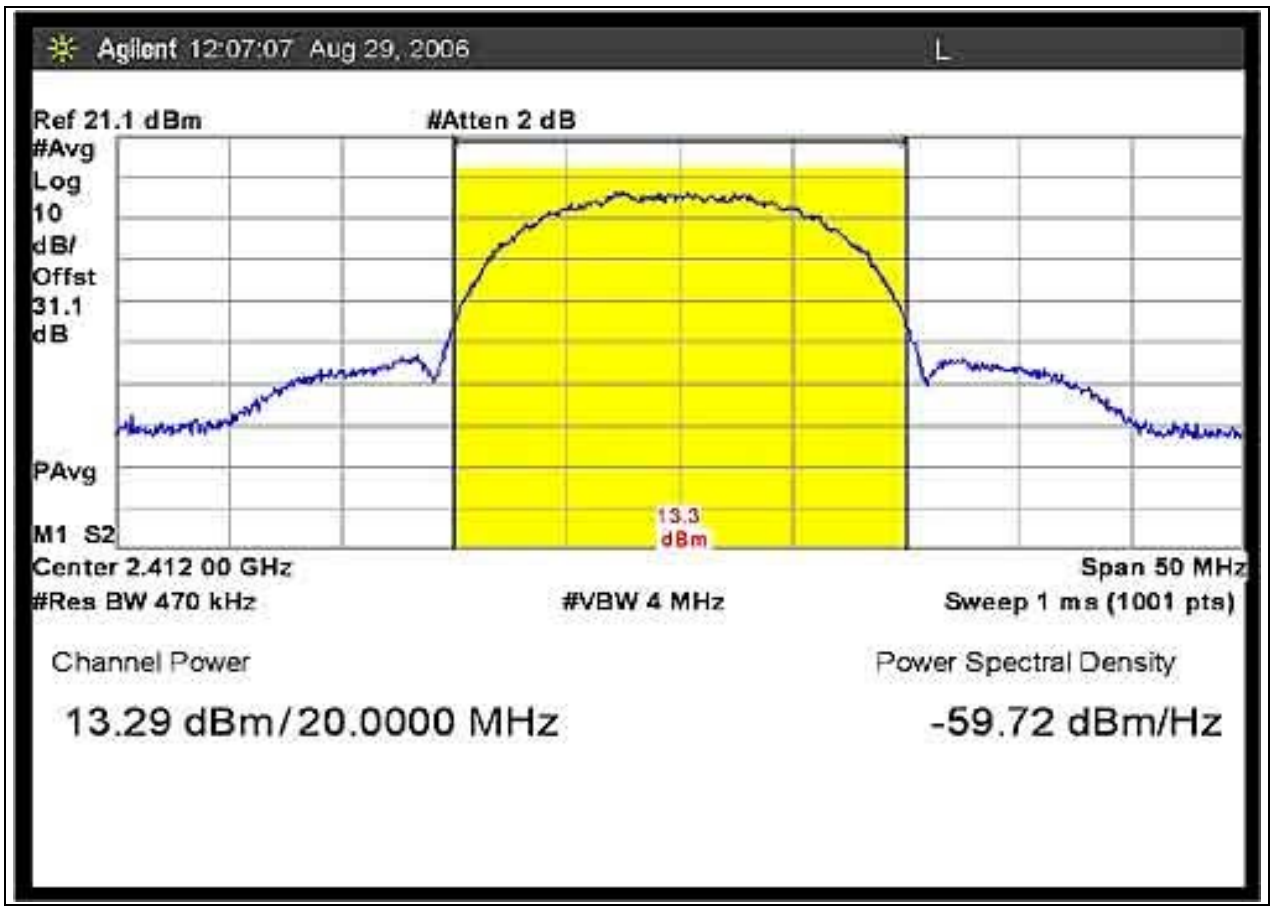
FCC 15.247(b) OUTPUT POWER –
802.11b 2412 MHz POWER 1 Mbps

Test Conditions: The EUT is placed on the wooden table. Battery is removed, and the EUT is powered with AC power adaptor. The RF signal is evaluated at the antenna port.



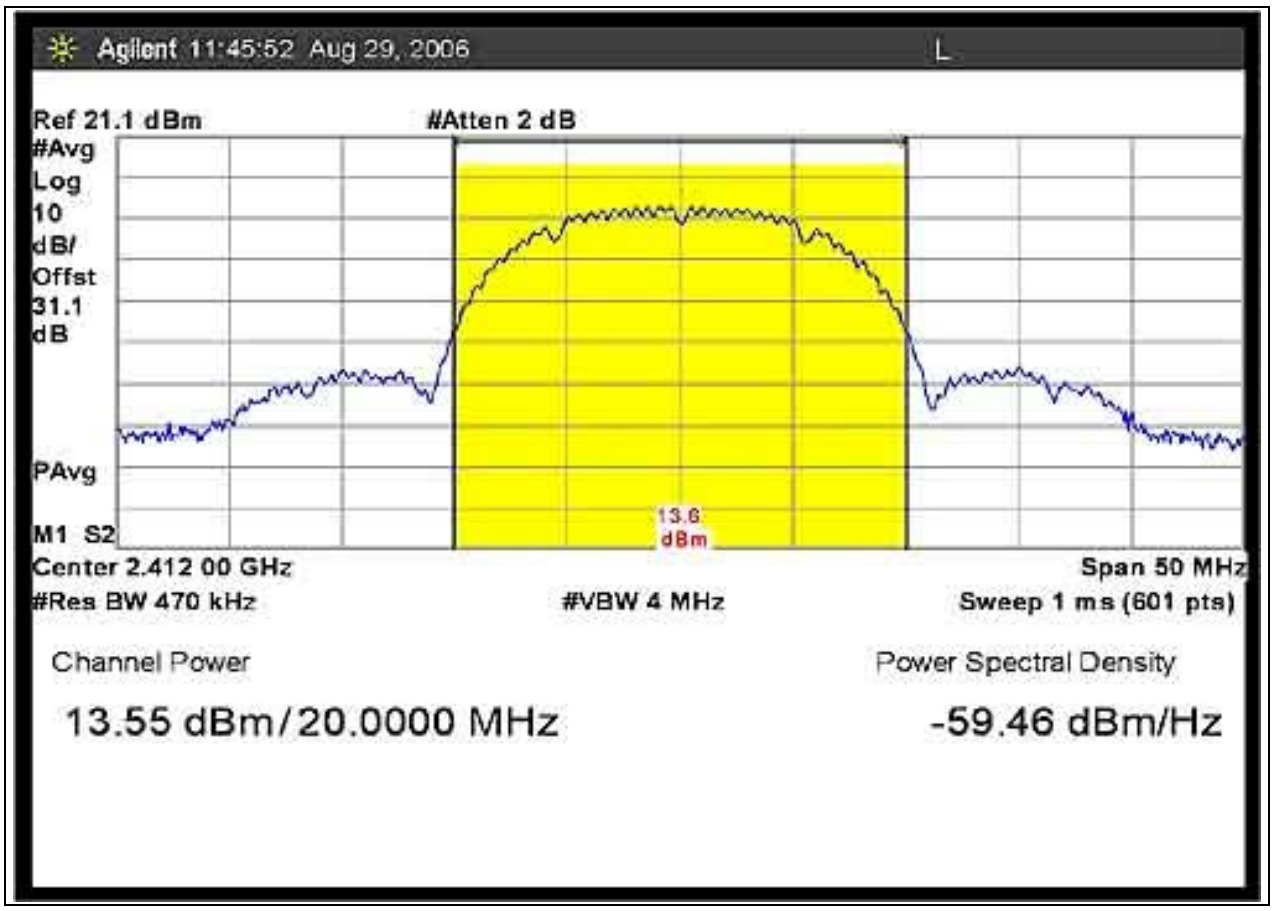
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11b 2412 MHz POWER 5.5 Mbps



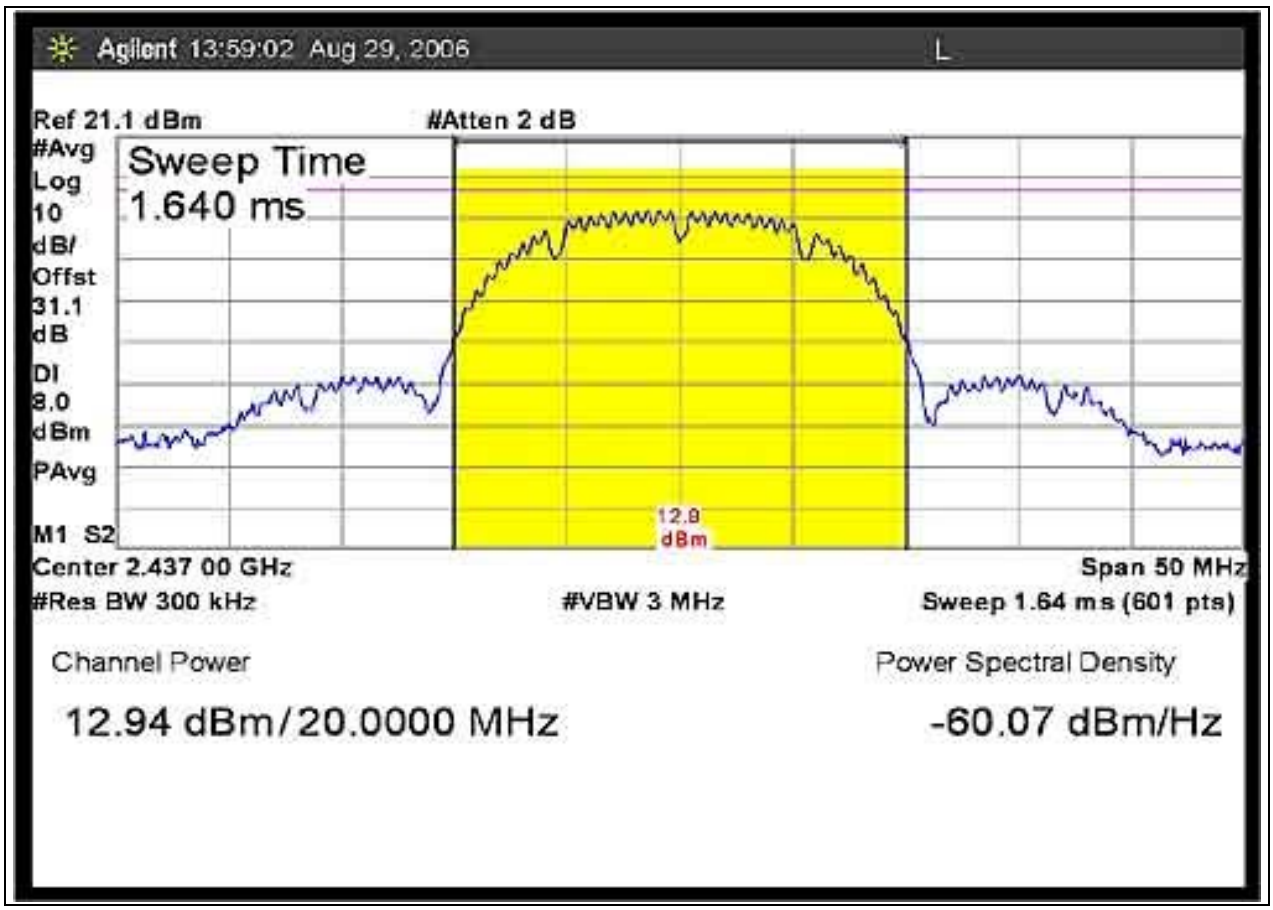
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11b 2412 MHz POWER 11 Mbps



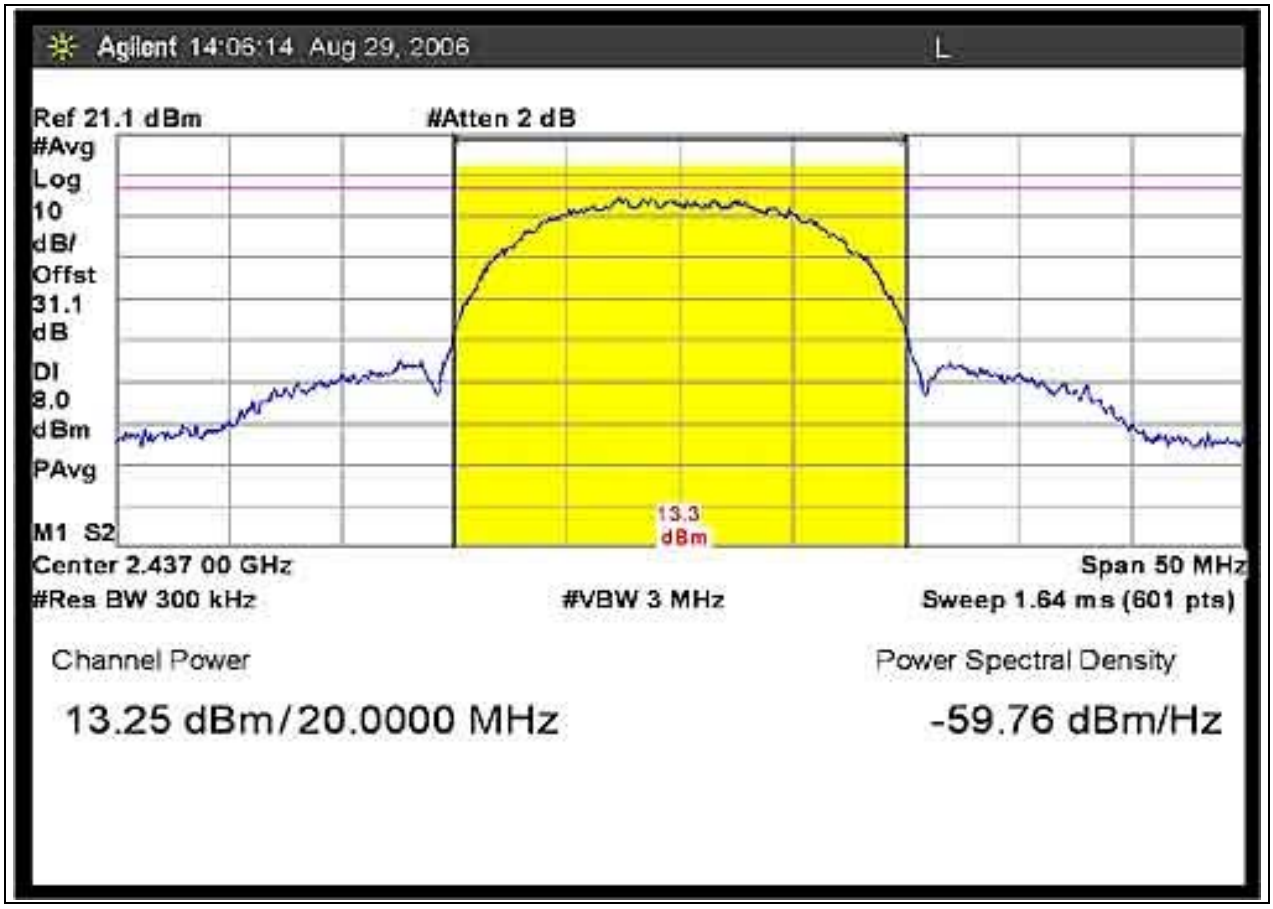
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11b 2437 MHz POWER 1 Mbps



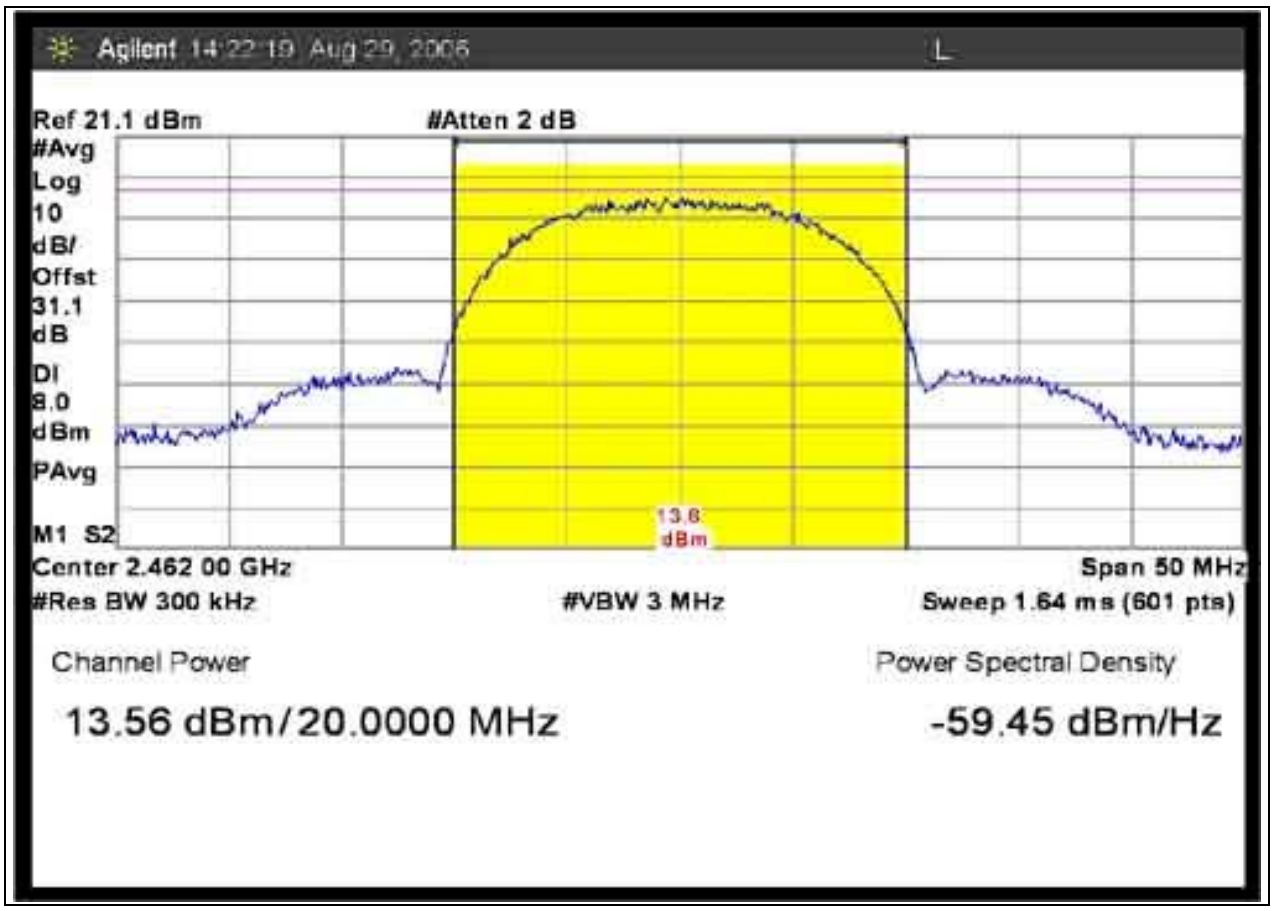
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11b 2437 MHz POWER 5.5 Mbps



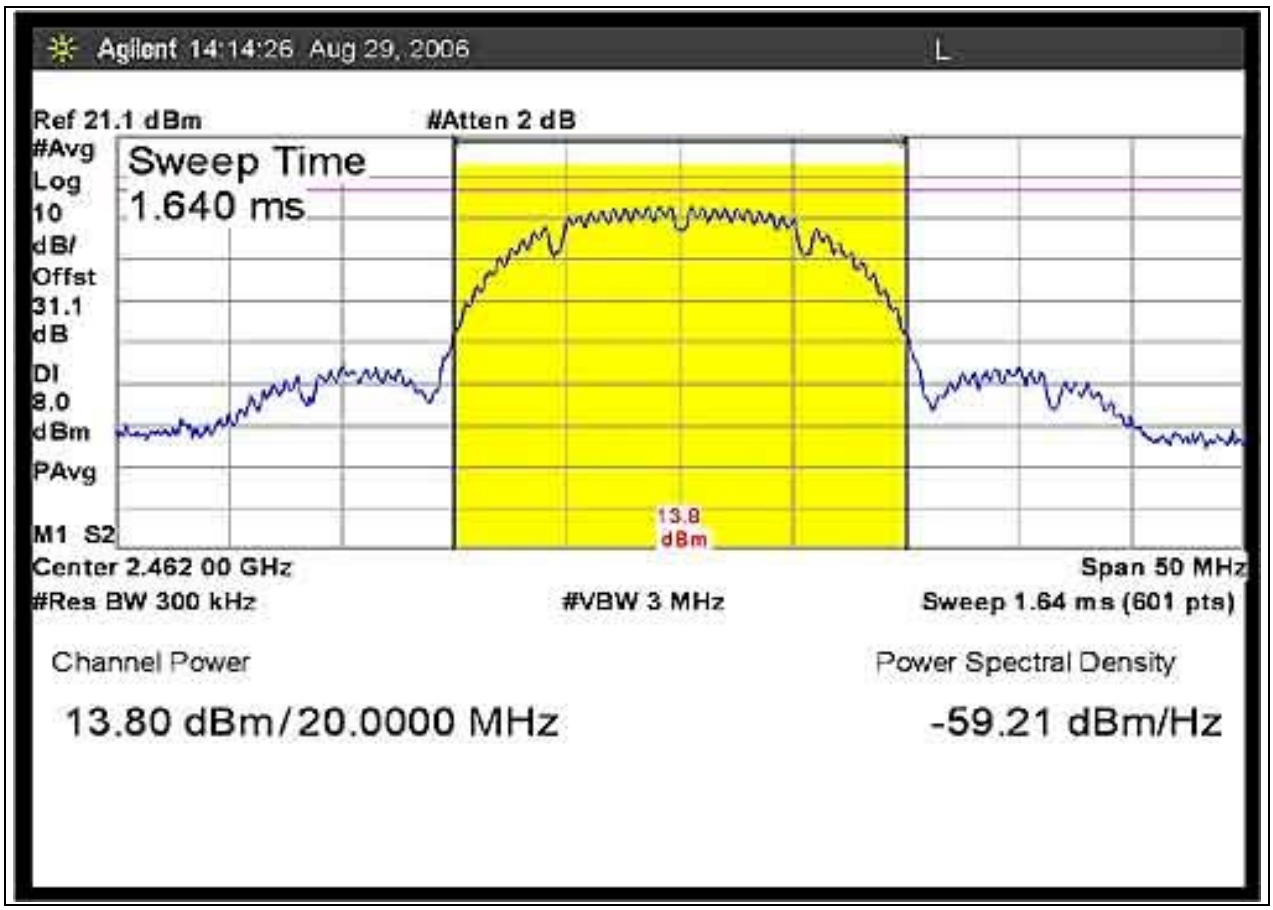
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11b 2437 MHz POWER 11 Mbps



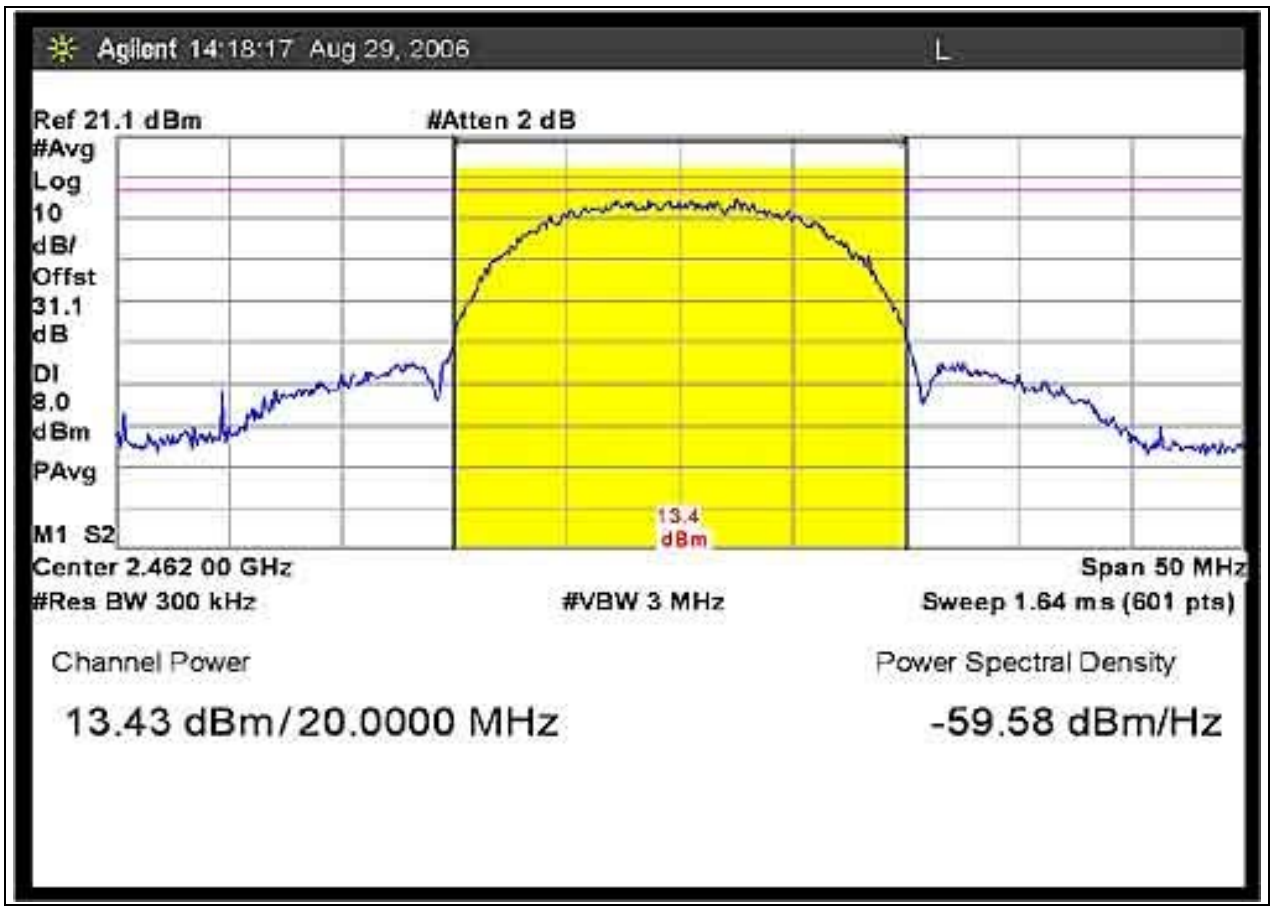
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11b 2462 MHz POWER 1 Mbps



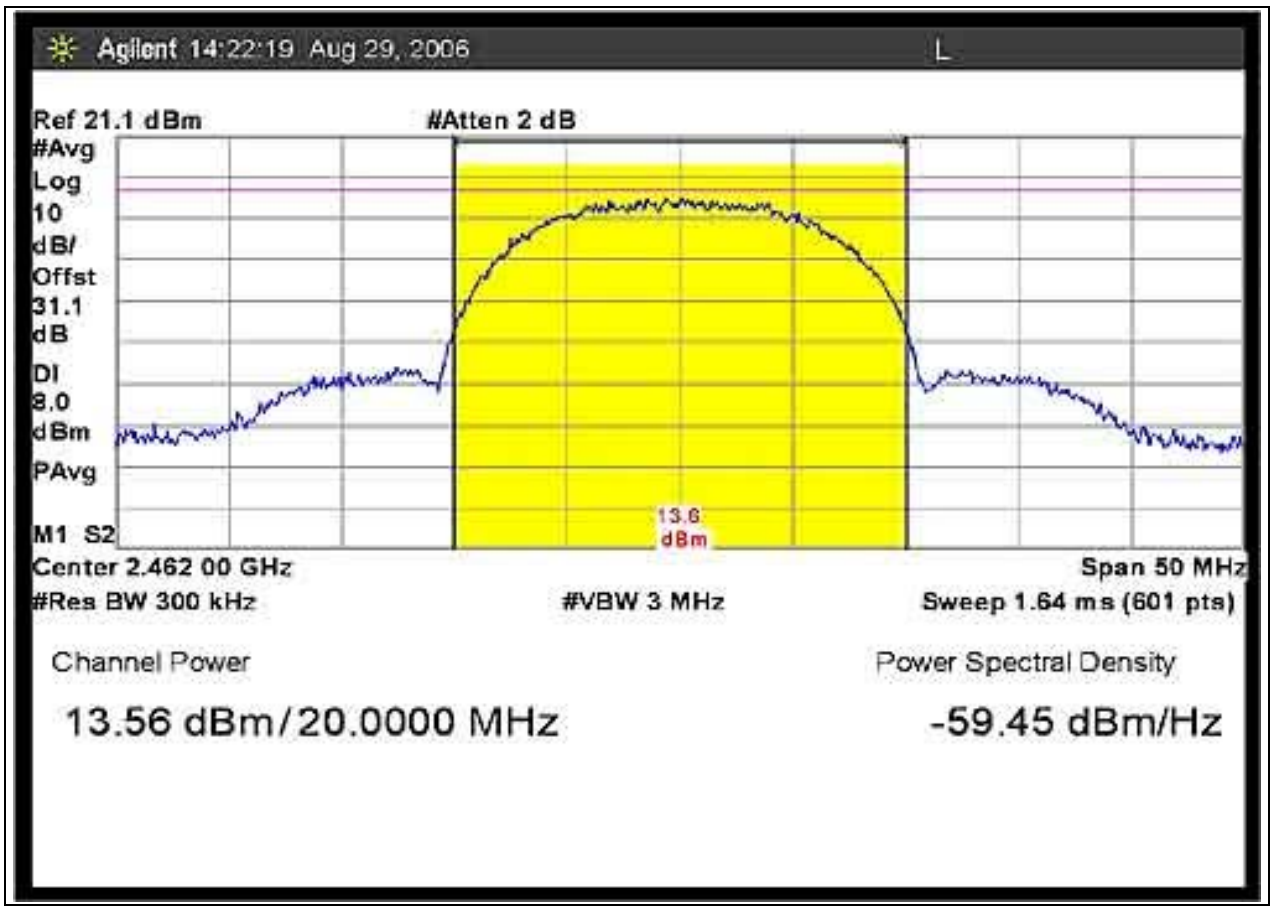
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11b 2462 MHz POWER 5.5 Mbps



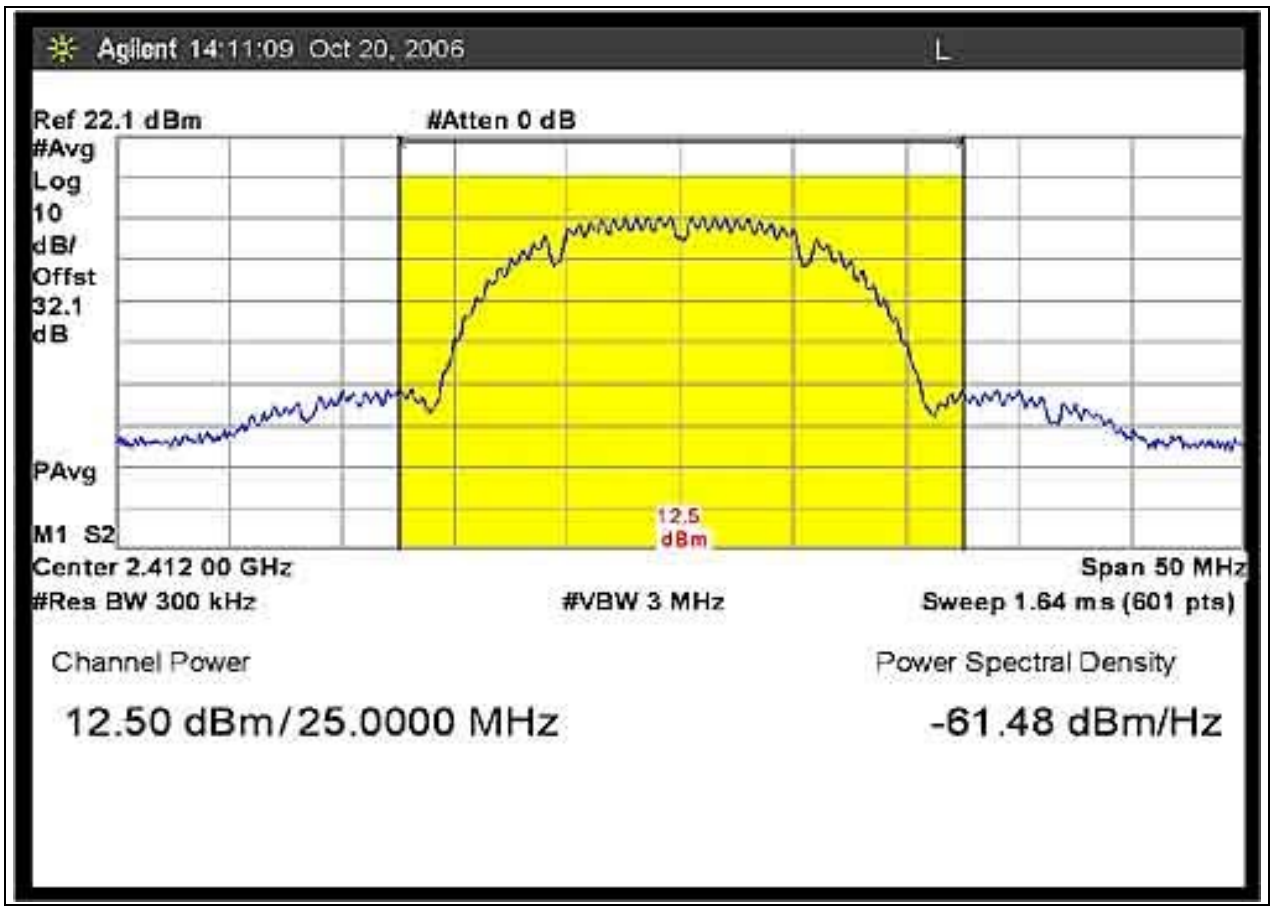
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11b 2462 MHz POWER 11 Mbps



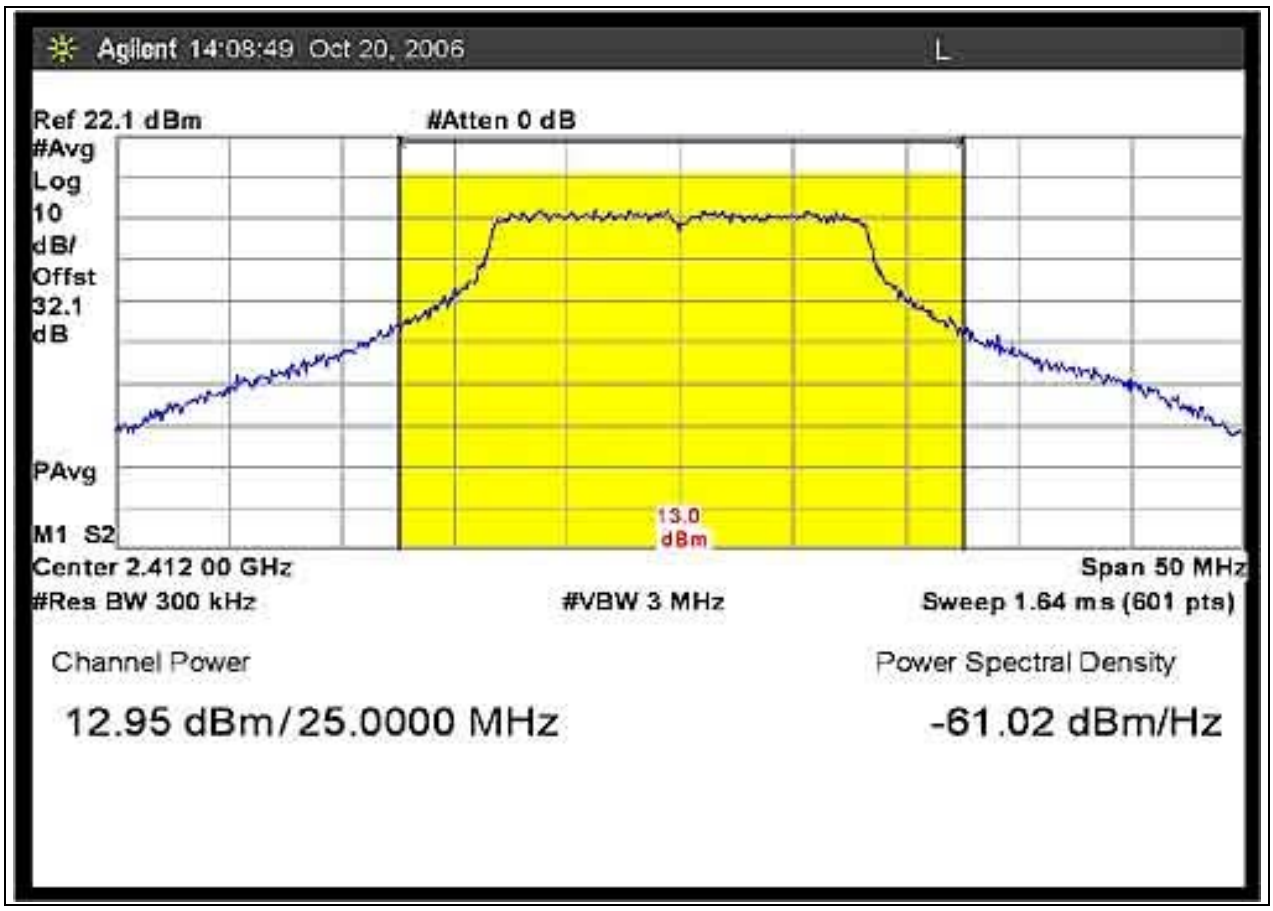
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2412 MHz POWER 1 Mbps



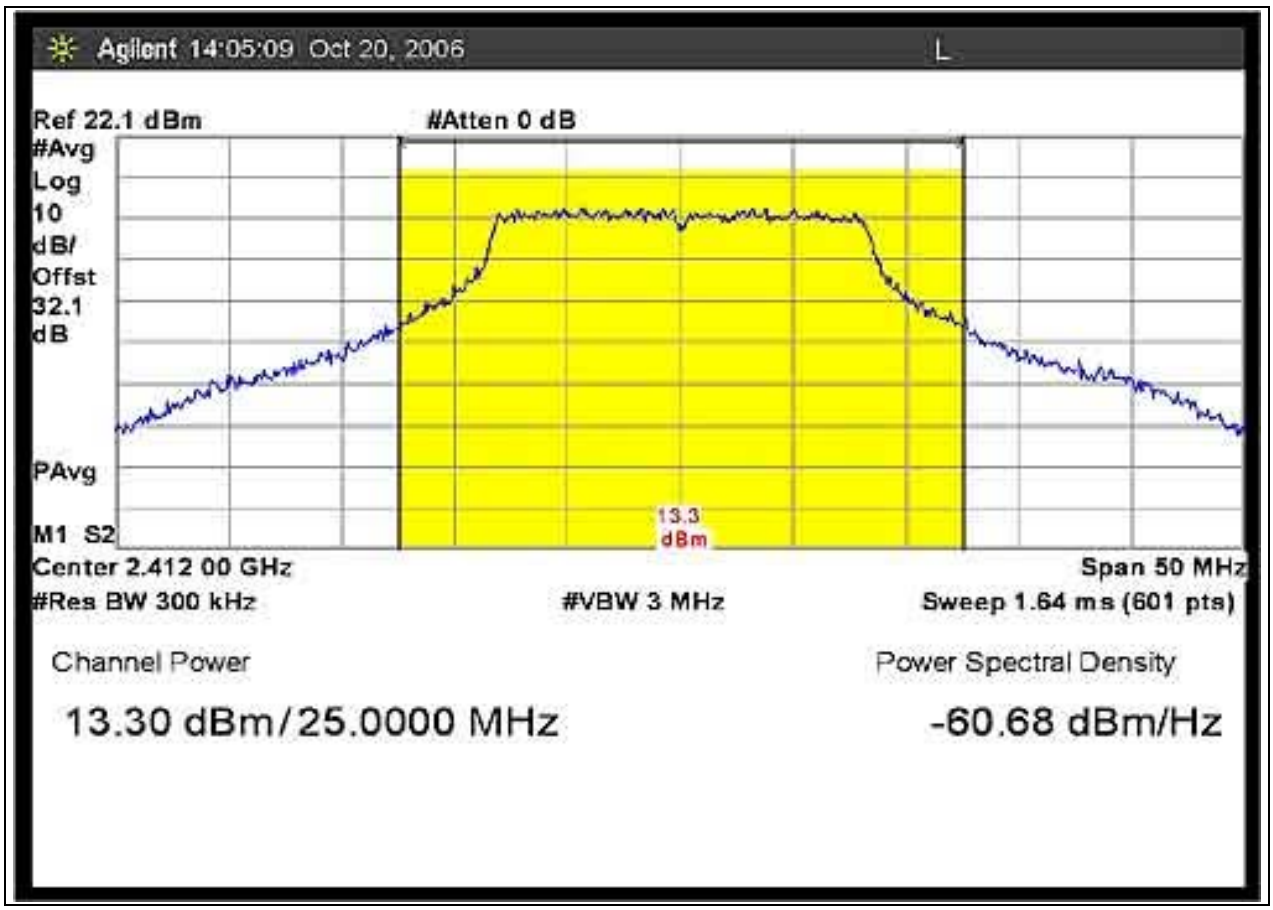
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2412 MHz POWER 24 Mbps



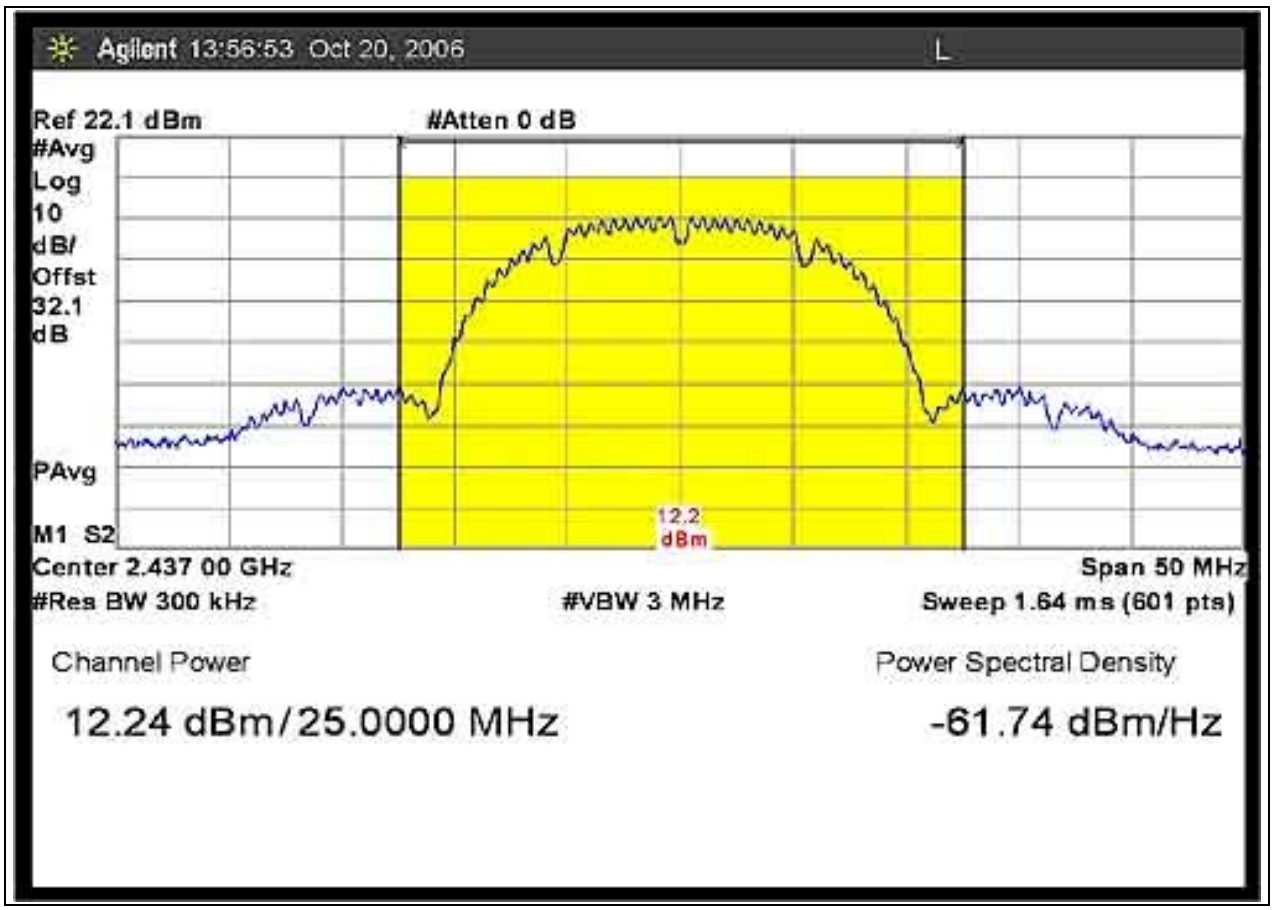
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2412 MHz POWER 54 Mbps



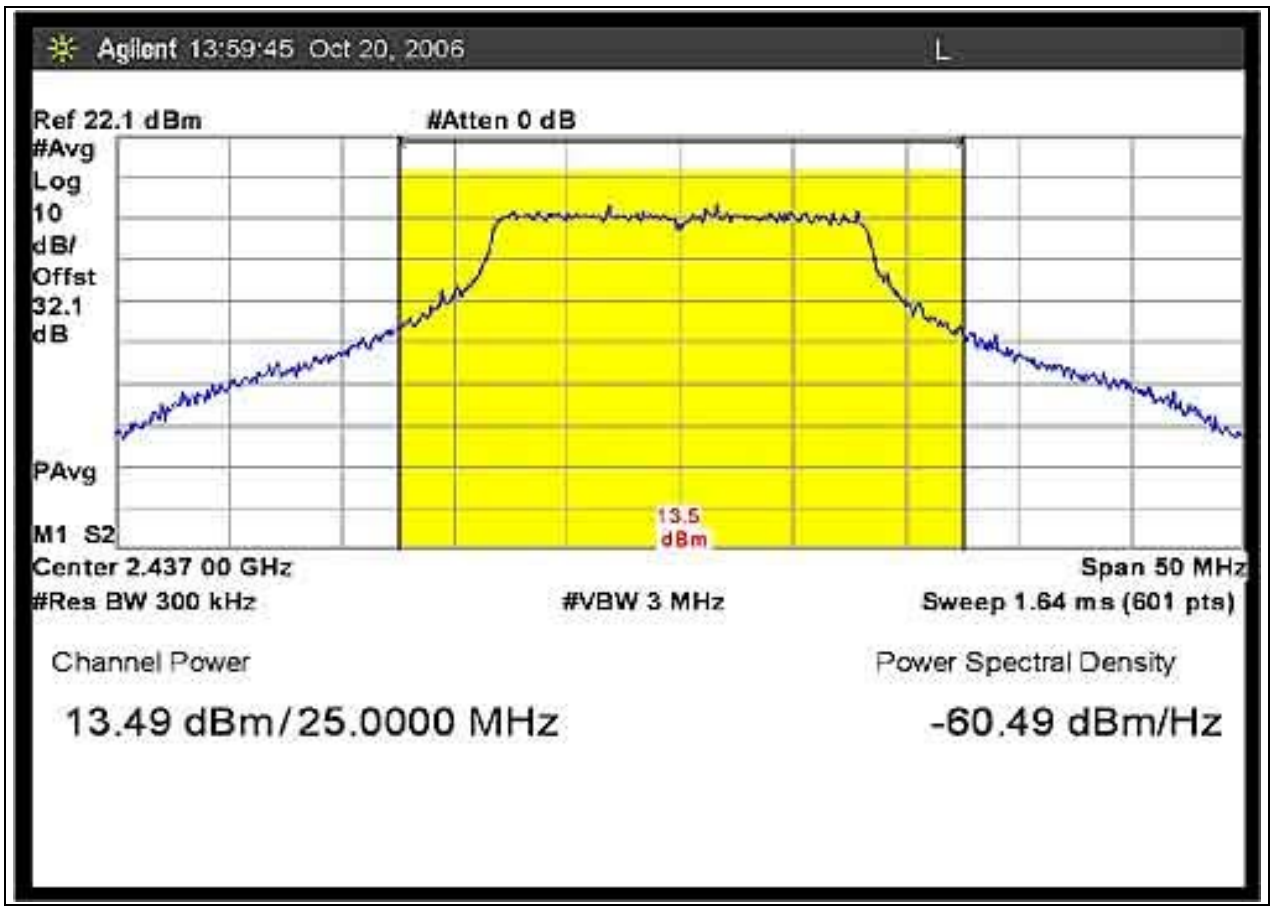
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2437 MHz POWER 1 Mbps



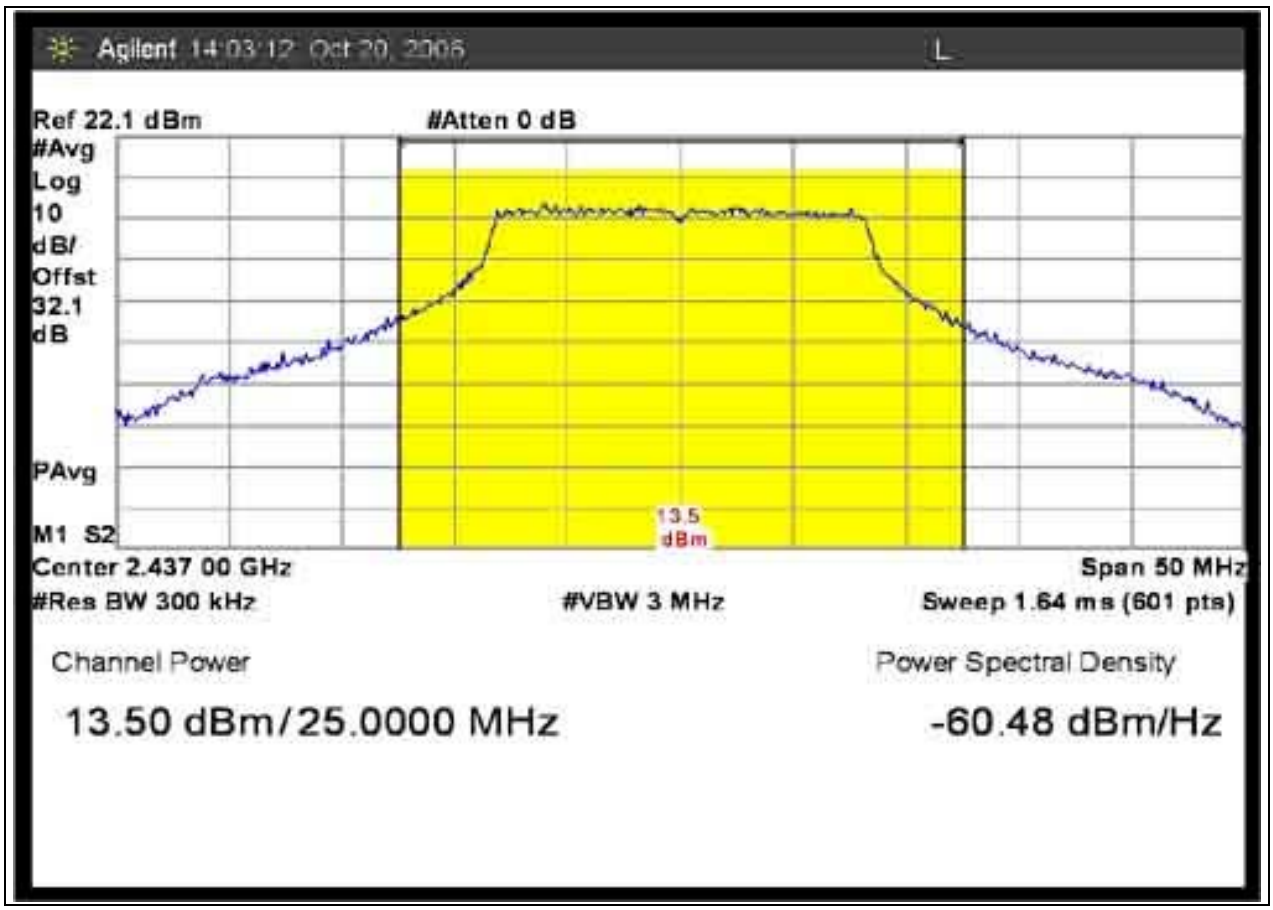
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2437 MHz POWER 24 Mbps



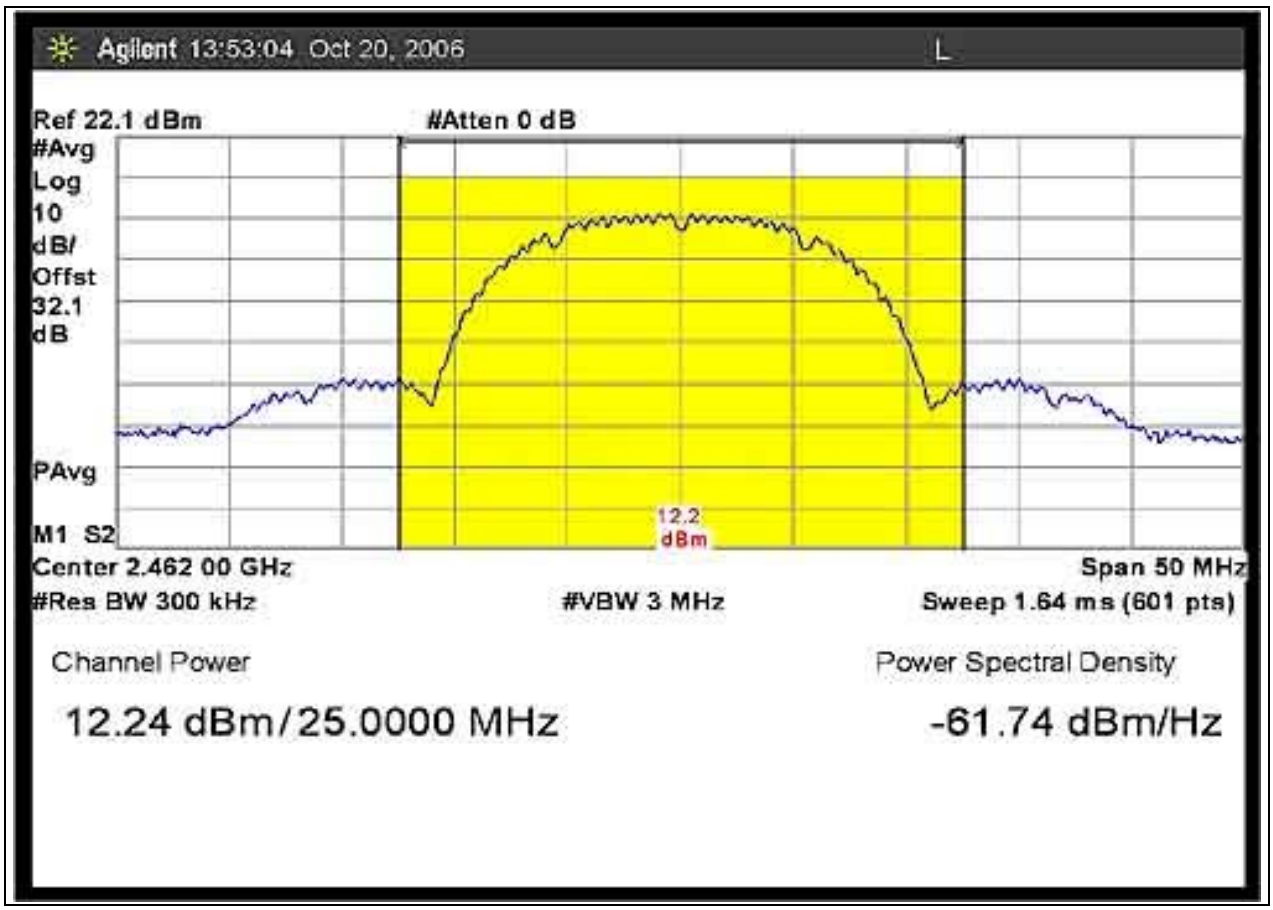
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2437 MHz POWER 54 Mbps



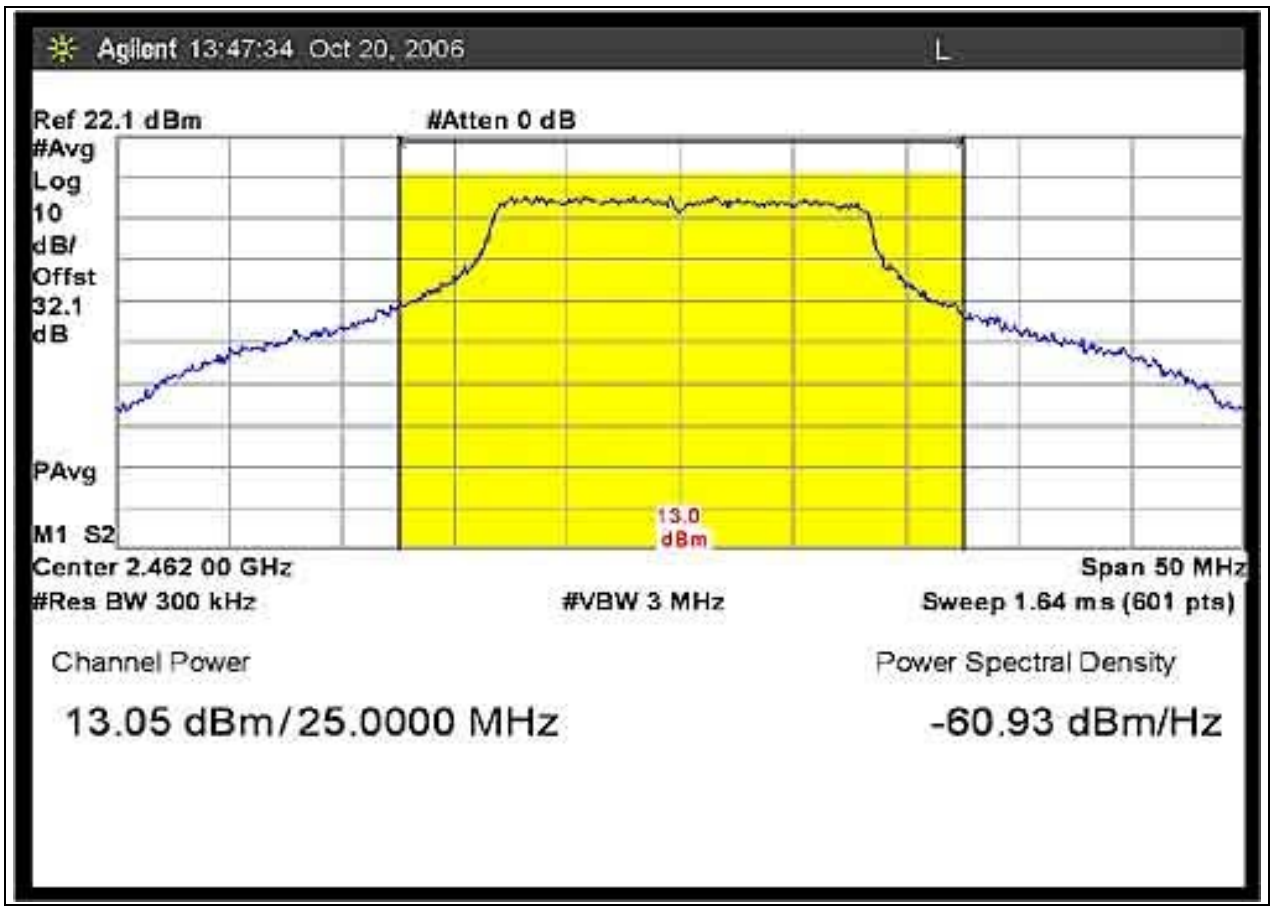
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2462 MHz POWER 1 Mbps



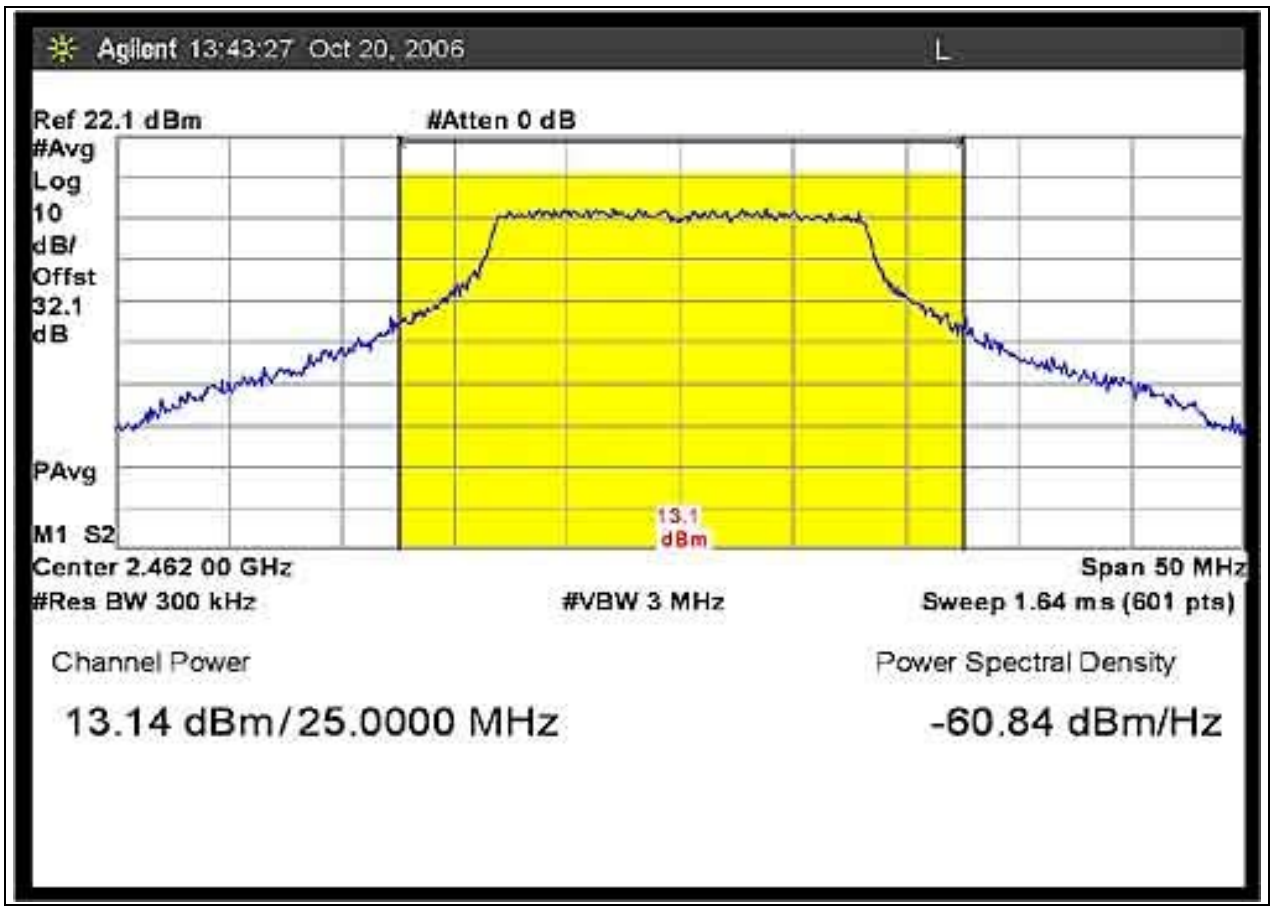
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2462 MHz POWER 24 Mbps



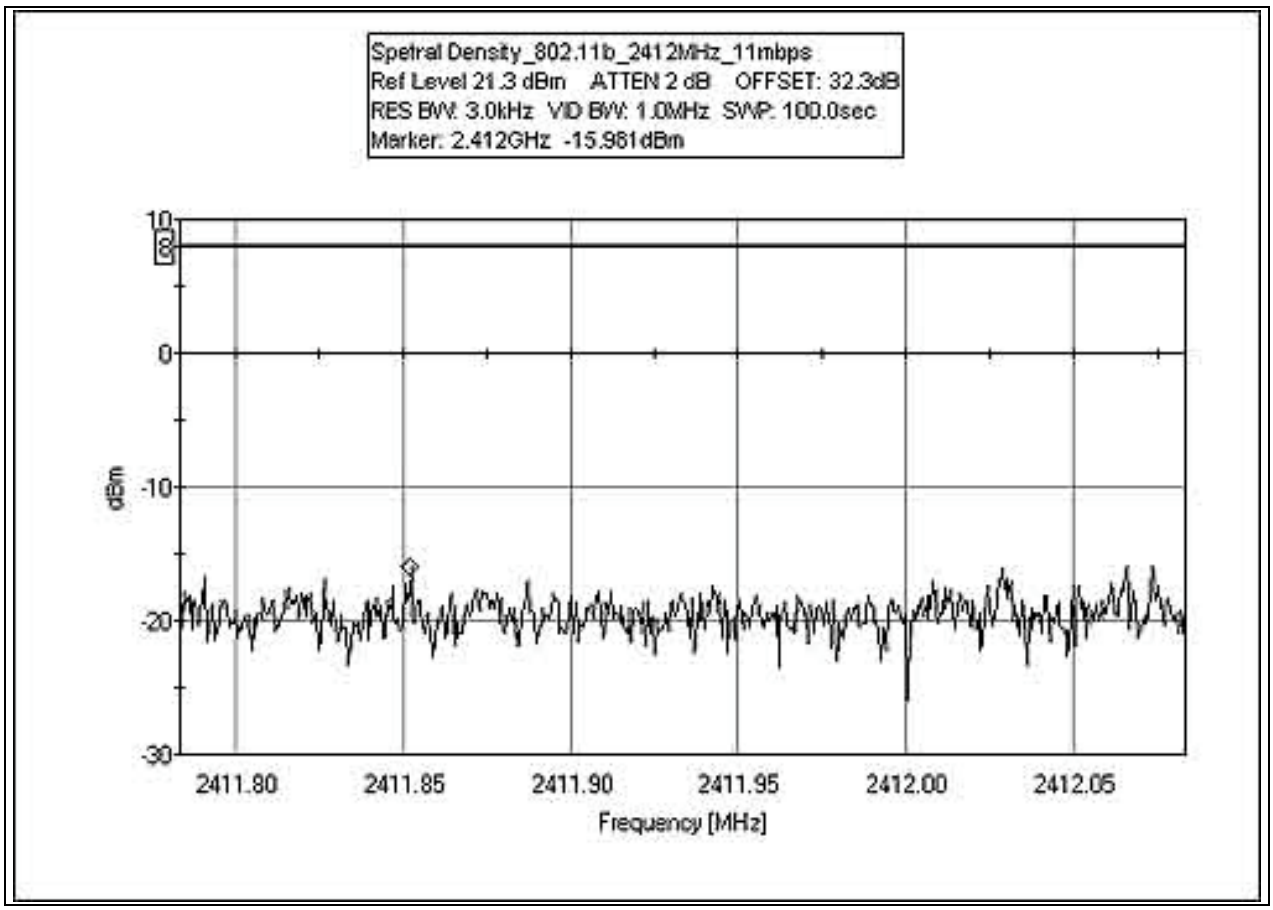
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
802.11g 2462 MHz POWER 54 Mbps

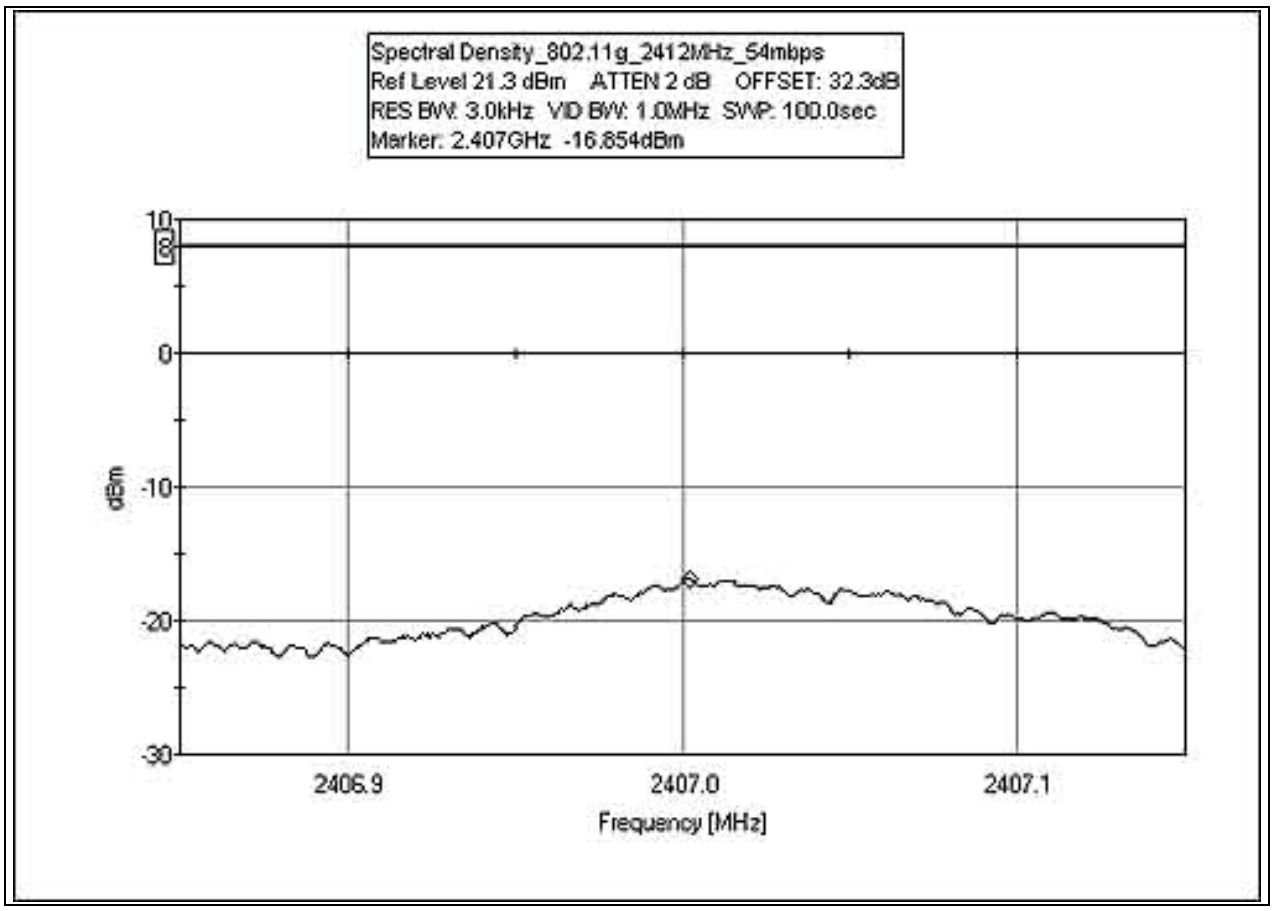


Note: Ignore reference to Peak Power Spectral Density for this plot.

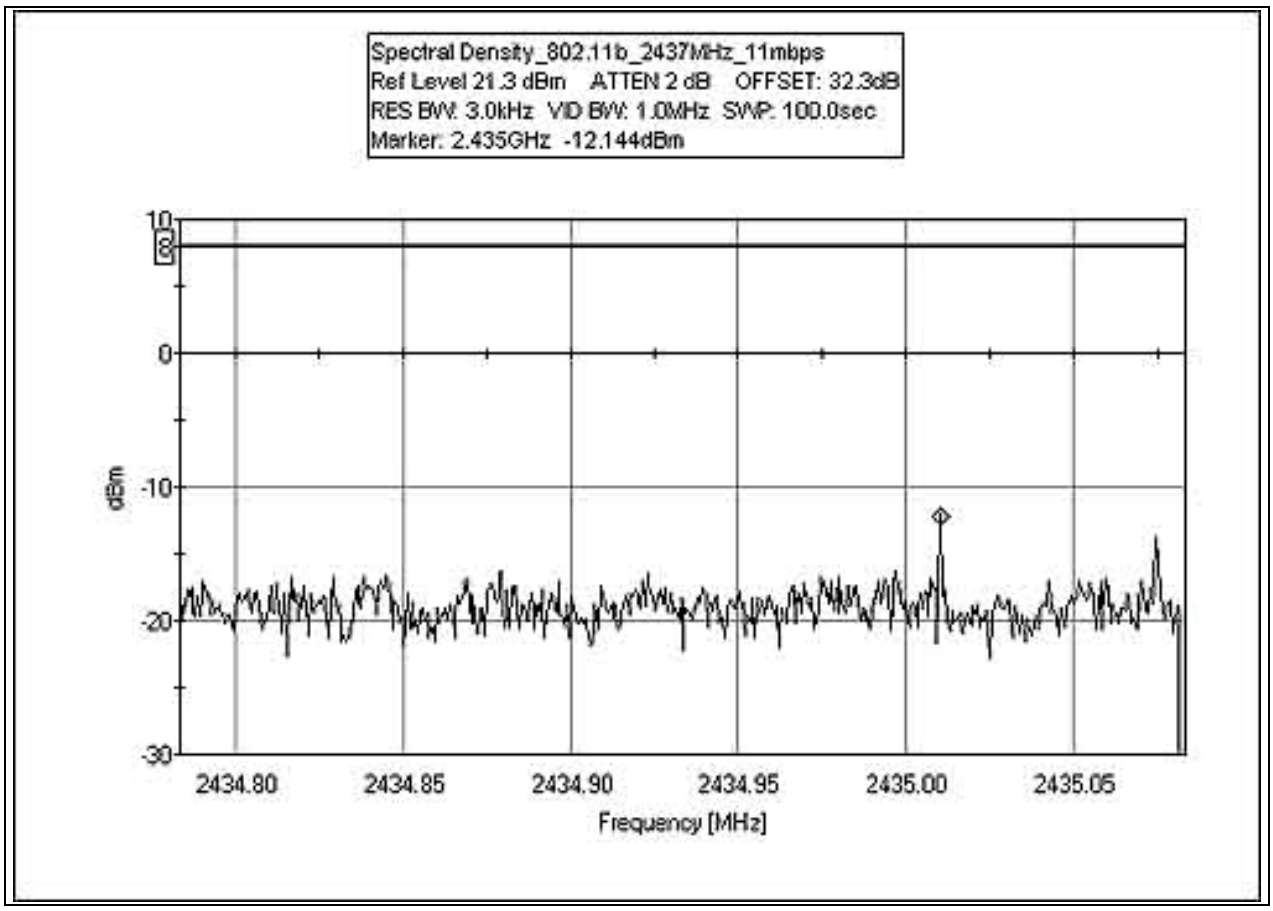
FCC 15.247(e) PEAK POWER SPECTRAL DENSITY –
802.11b 2412 MHz 11 Mbps



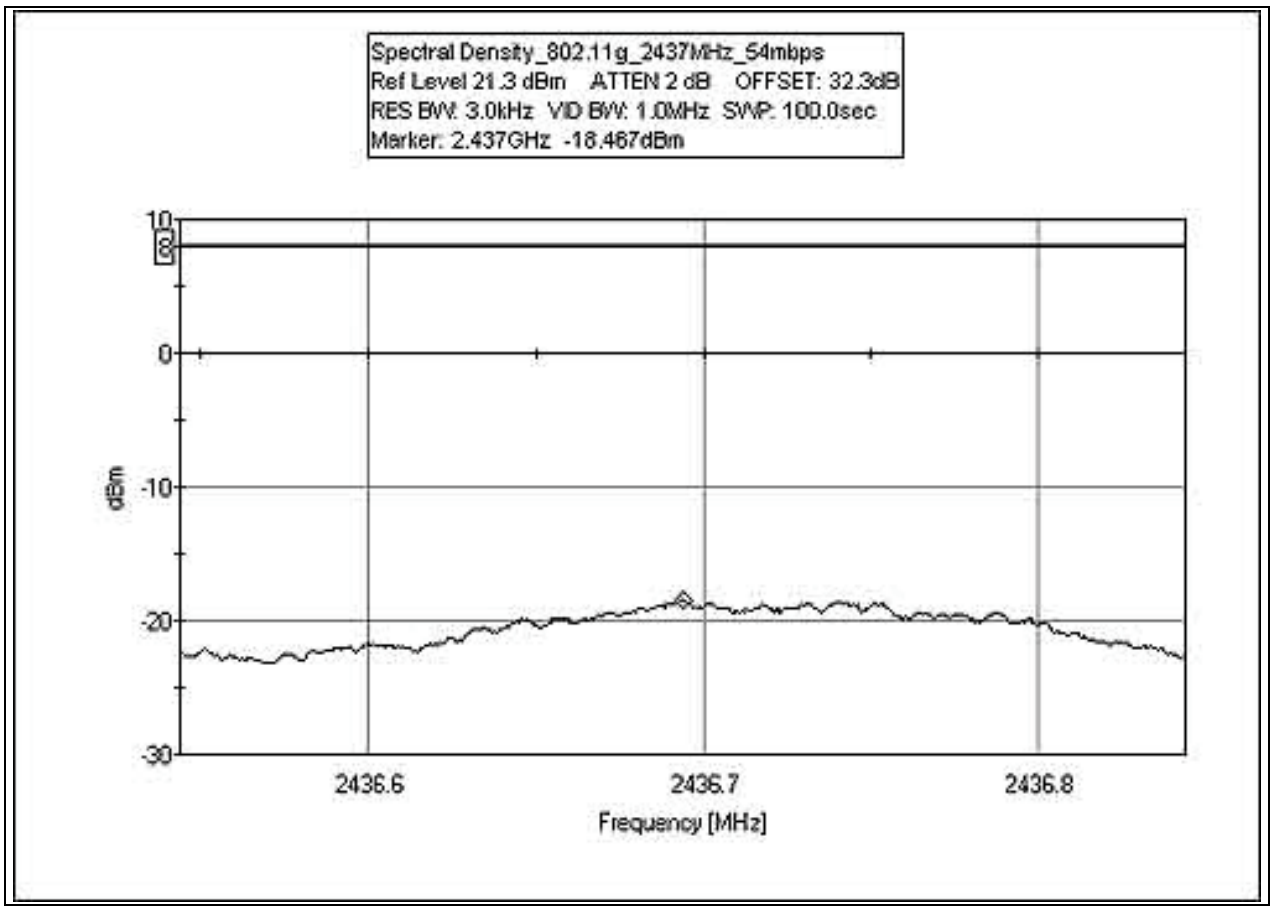
FCC 15.247(e) PEAK POWER SPECTRAL DENSITY –
802.11b 2412 MHz 54 Mbps



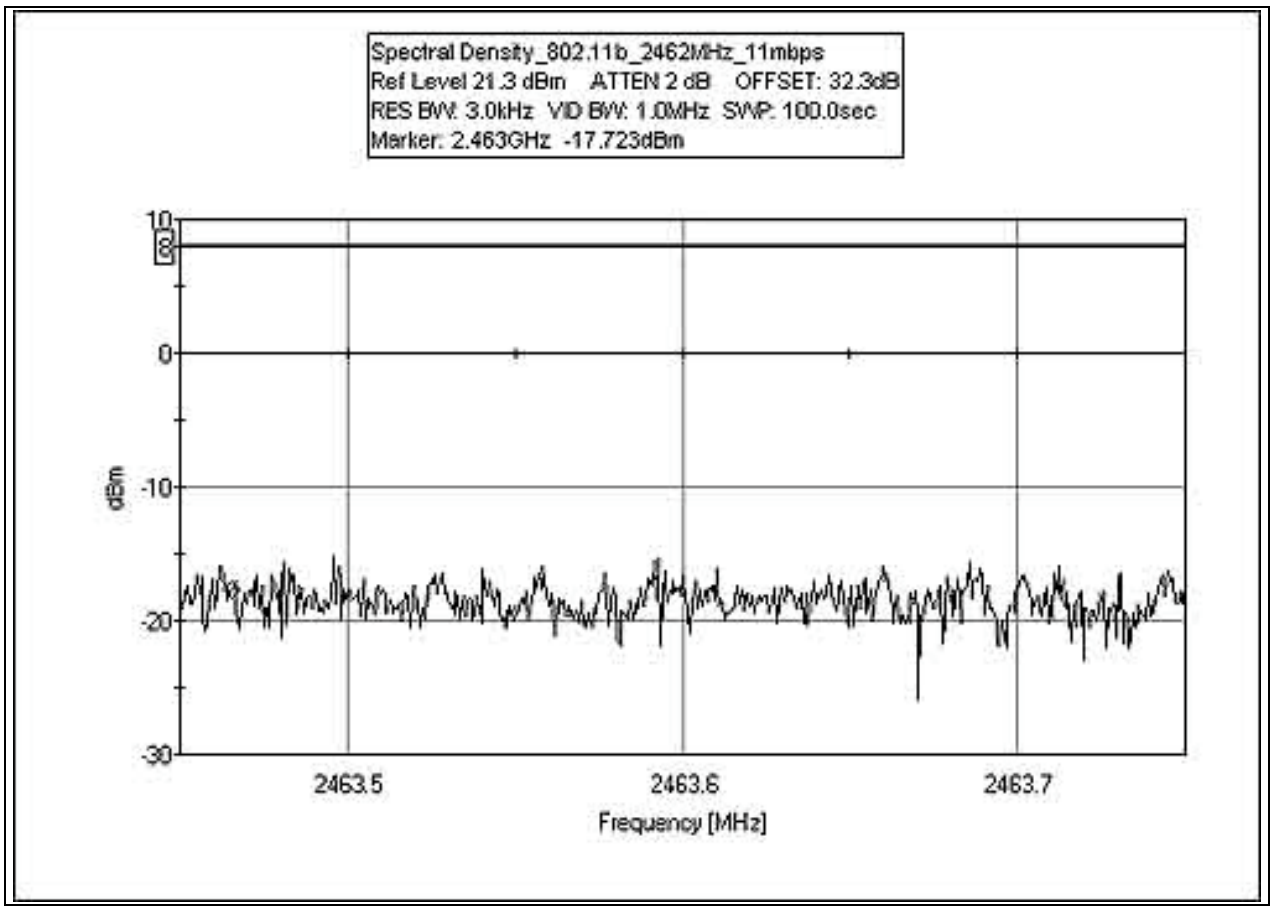
FCC 15.247(e) PEAK POWER SPECTRAL DENSITY –
802.11b 2437 MHz 11 Mbps



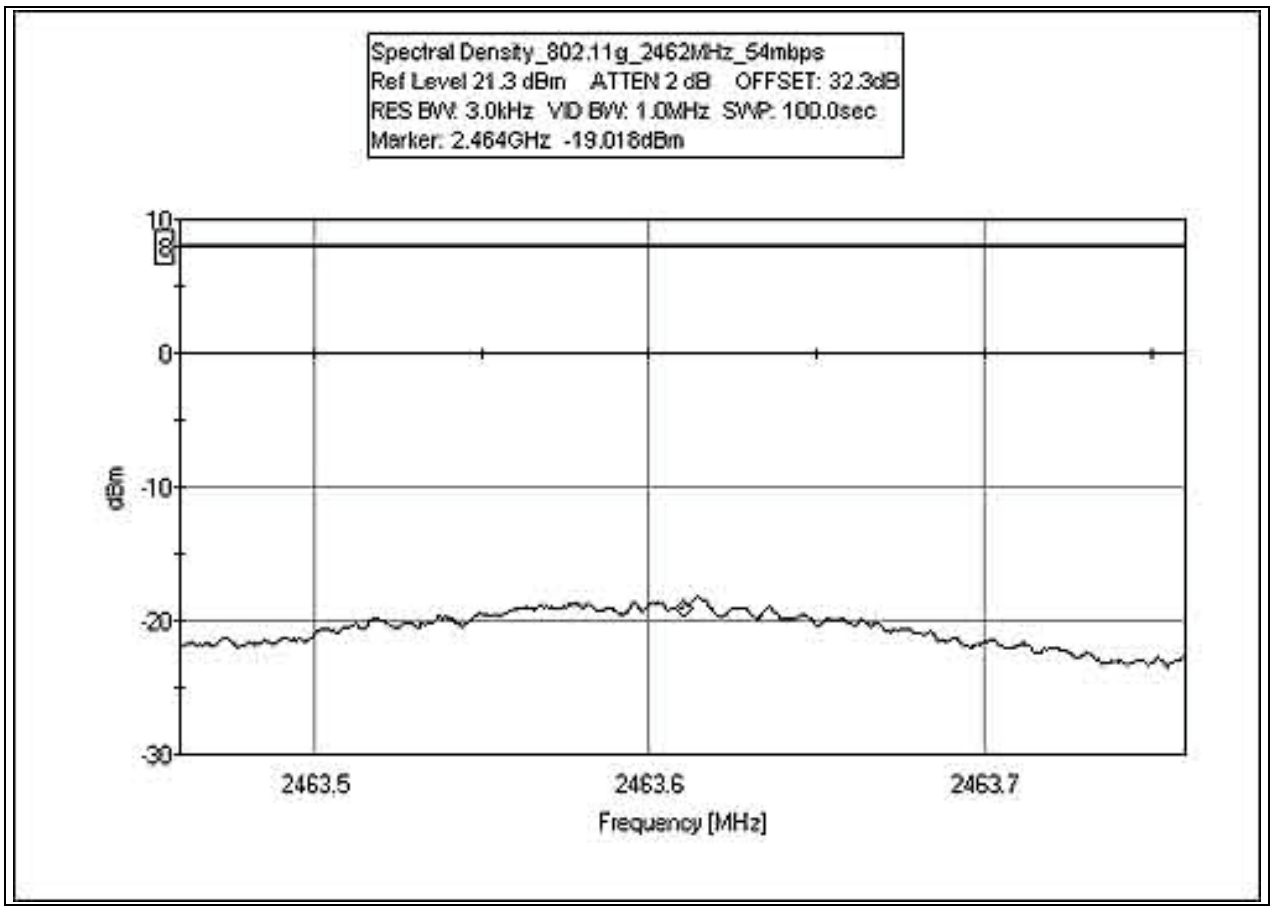
FCC 15.247(e) PEAK POWER SPECTRAL DENSITY –
802.11g 2437 MHz 54 Mbps



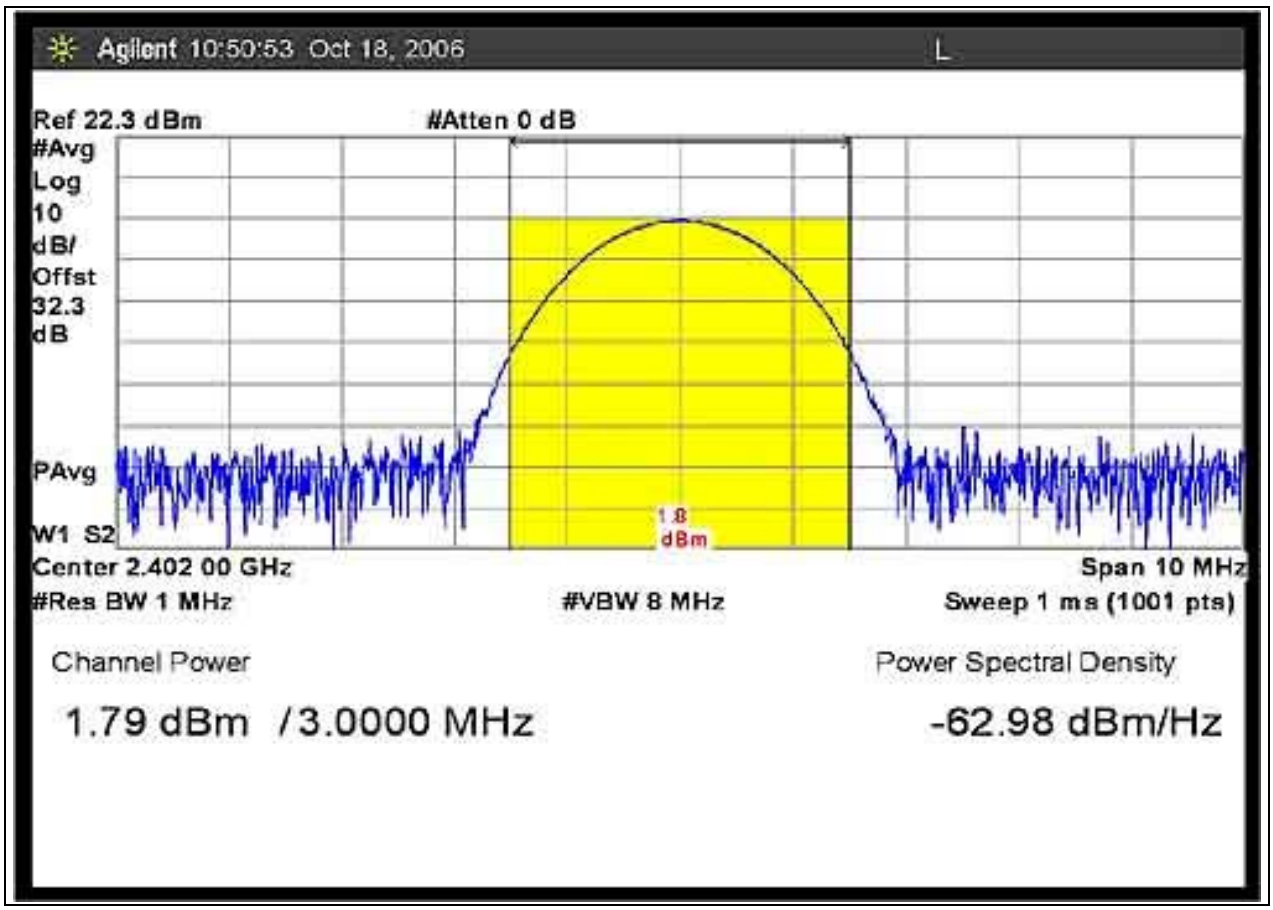
FCC 15.247(e) PEAK POWER SPECTRAL DENSITY –
802.11b 2462 MHz 11 Mbps



FCC 15.247(e) PEAK POWER SPECTRAL DENSITY – 802.11g 2462 MHz 54 Mbps

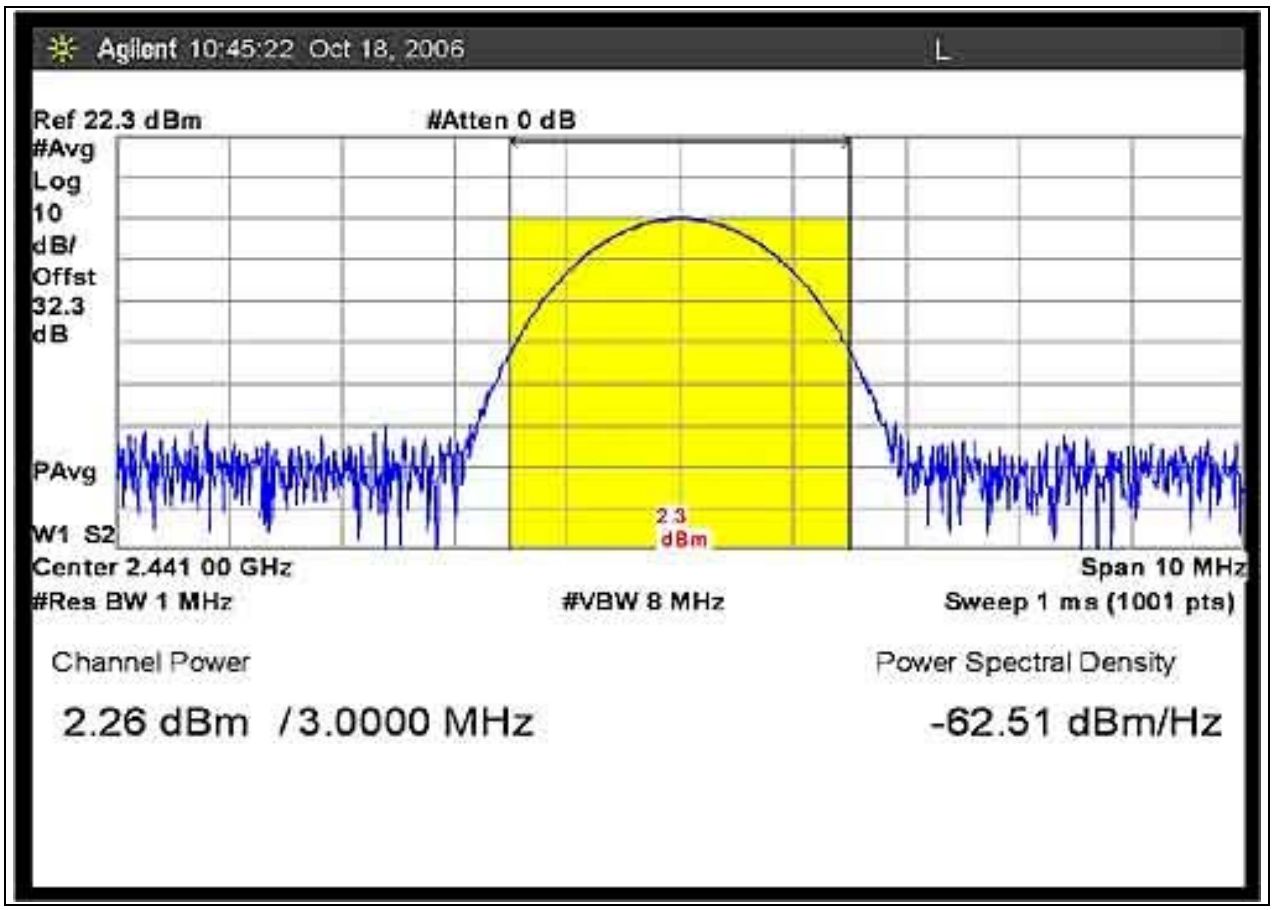


FCC 15.247(b) OUTPUT POWER –
BLUETOOTH POWER 3 2402 MHz



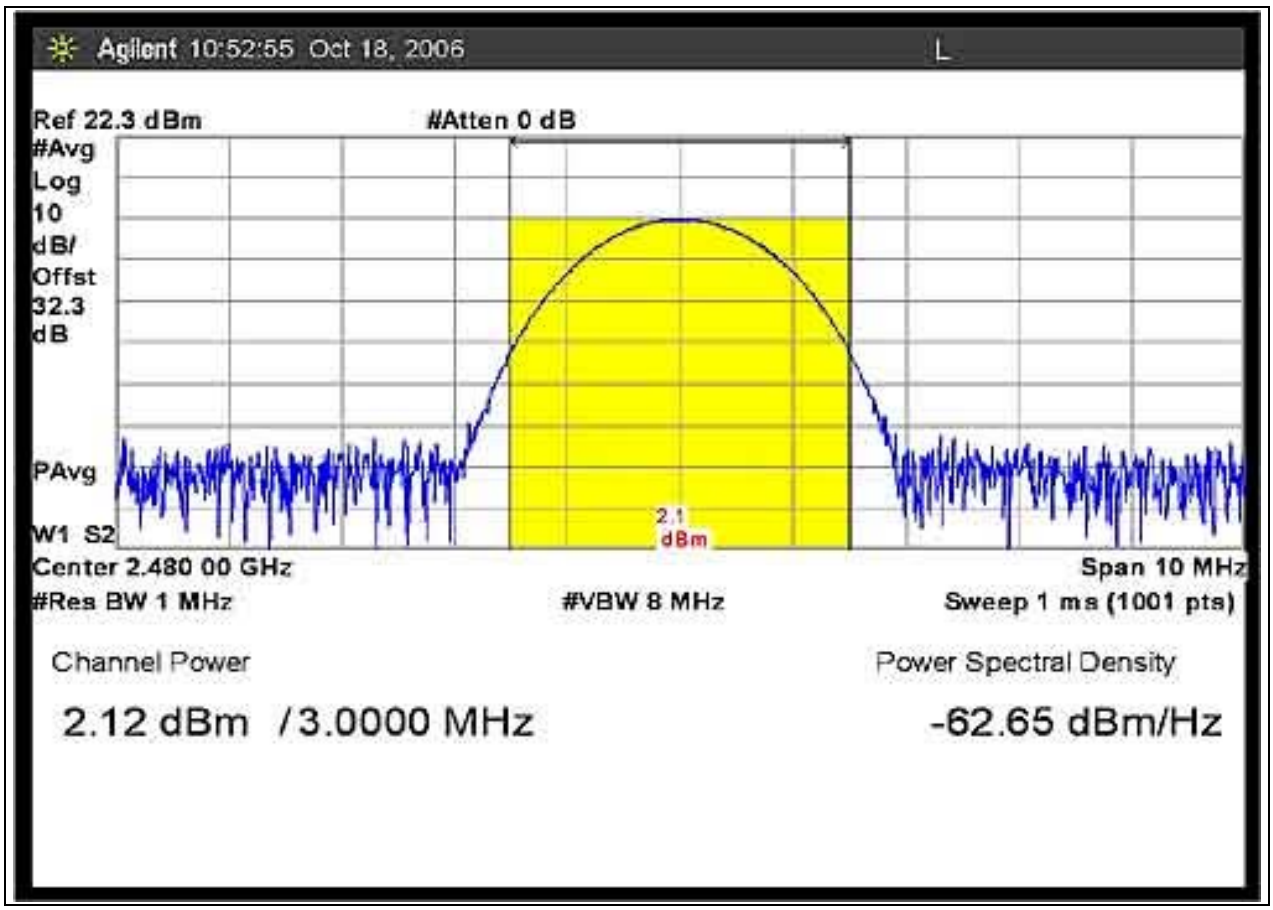
Note: Ignore reference to Peak Power Spectral Density for this plot.

FCC 15.247(b) OUTPUT POWER –
BLUETOOTH POWER 3 2441 MHz



Note: Ignore reference to Peak Power Spectral Density for this plot.

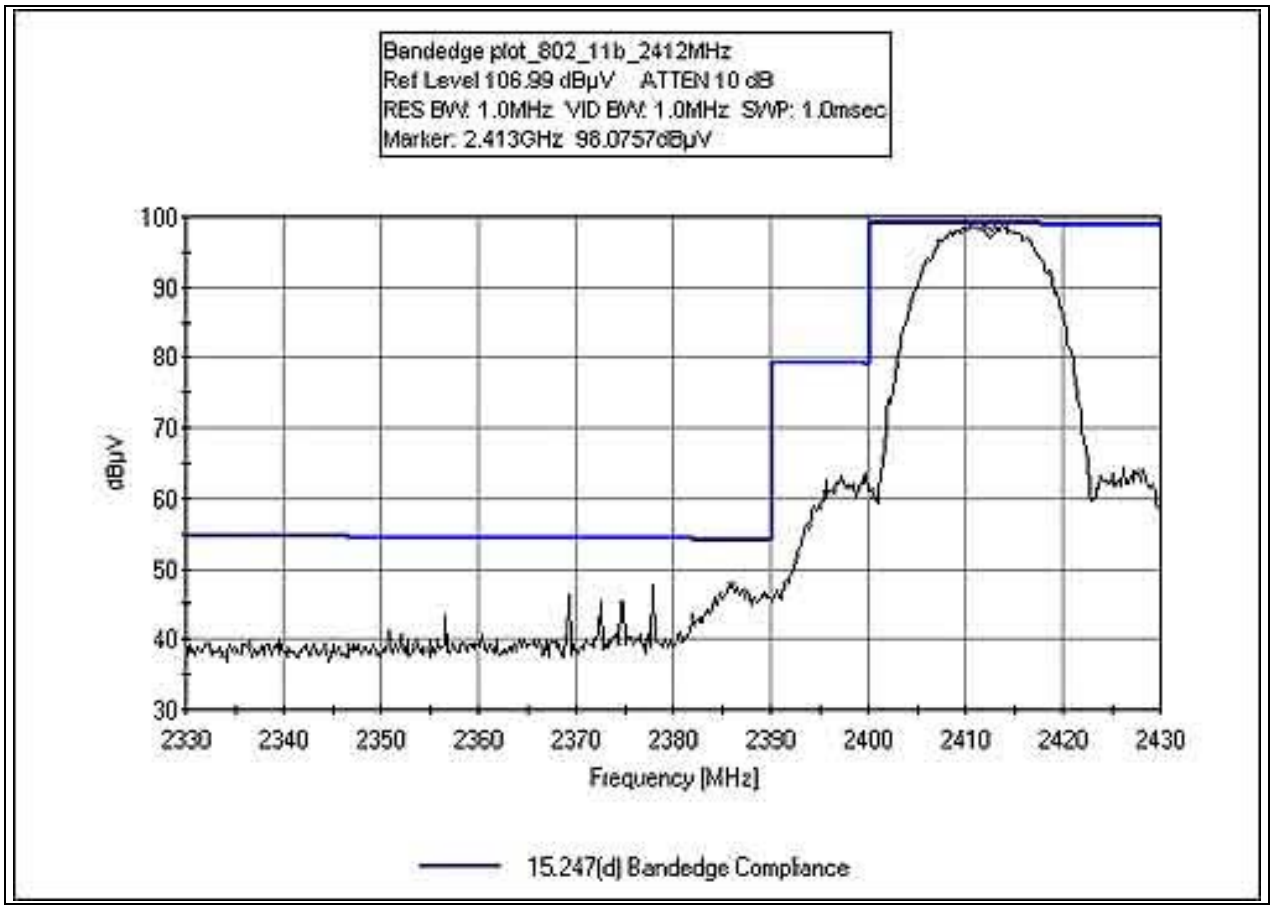
FCC 15.247(b) OUTPUT POWER –
BLUETOOTH POWER 3 2480 MHz



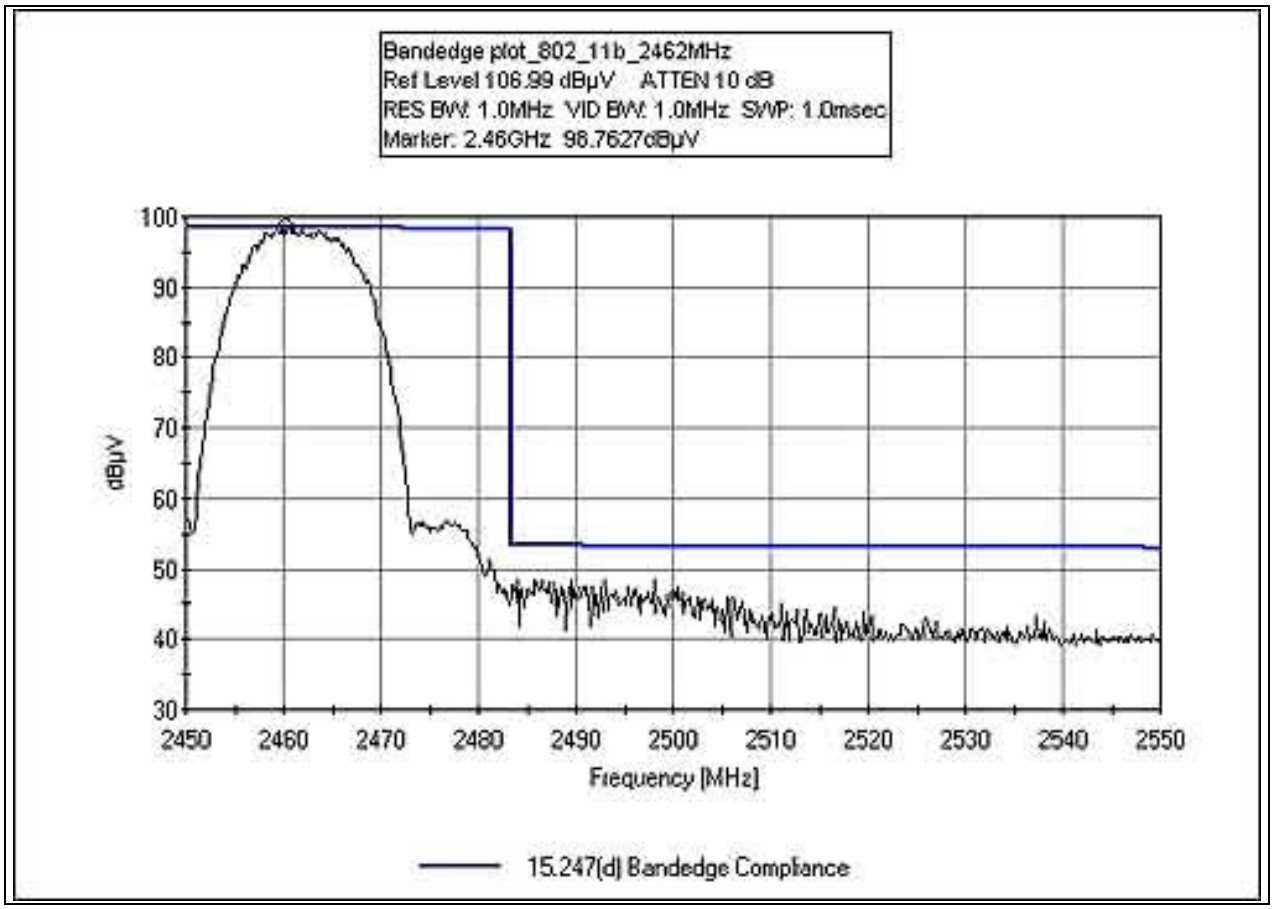
Note: Ignore reference to Peak Power Spectral Density for this plot.

BANDEDGE - 802.11b 2412 MHz

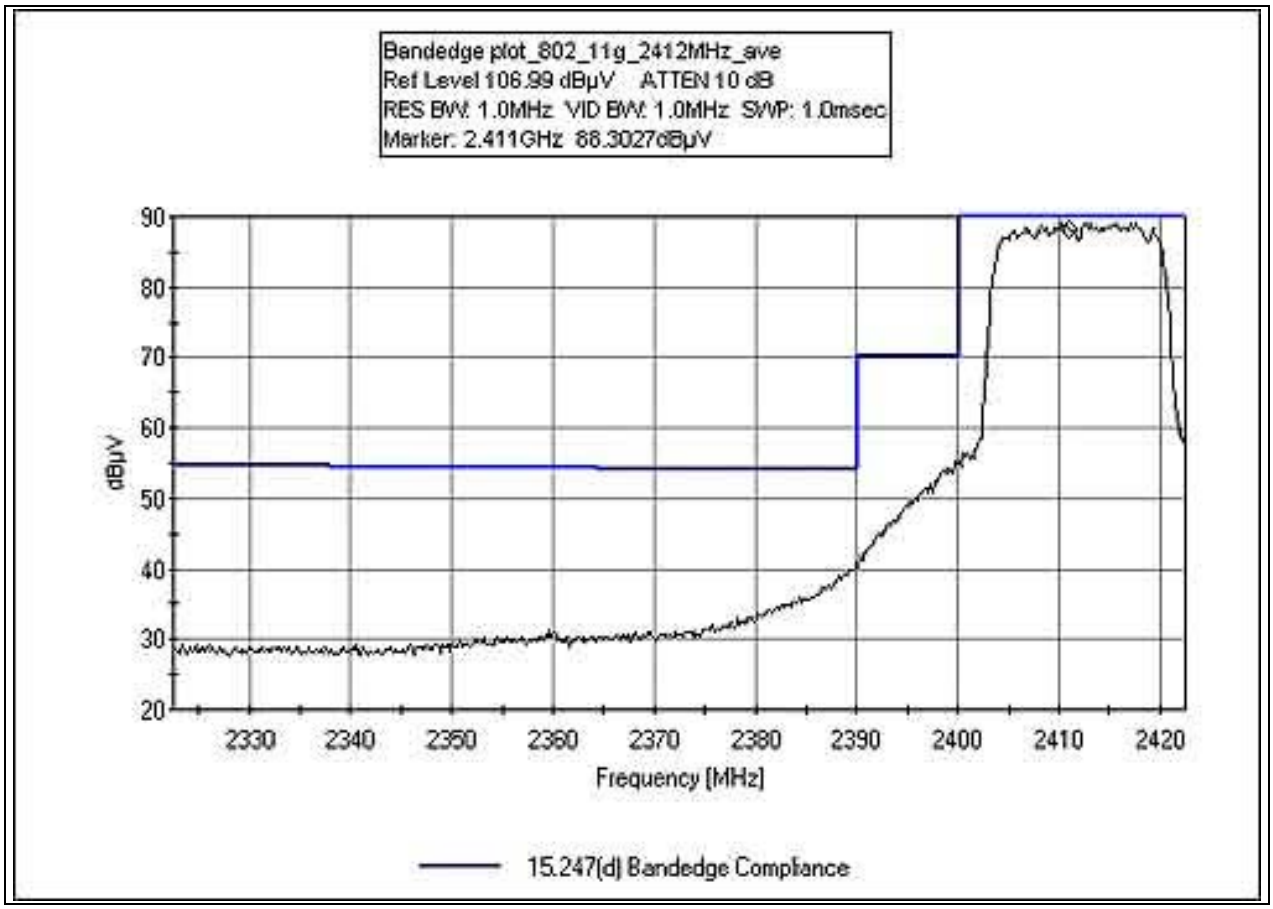
Test Setup: The EUT is placed on the wooden table. Evaluation of spurious emission is conducted without peripherals attached to the EUT. Measurement is identical to radiated spurious emission. Modulations: Bluetooth, 802.11 b, 802.11g



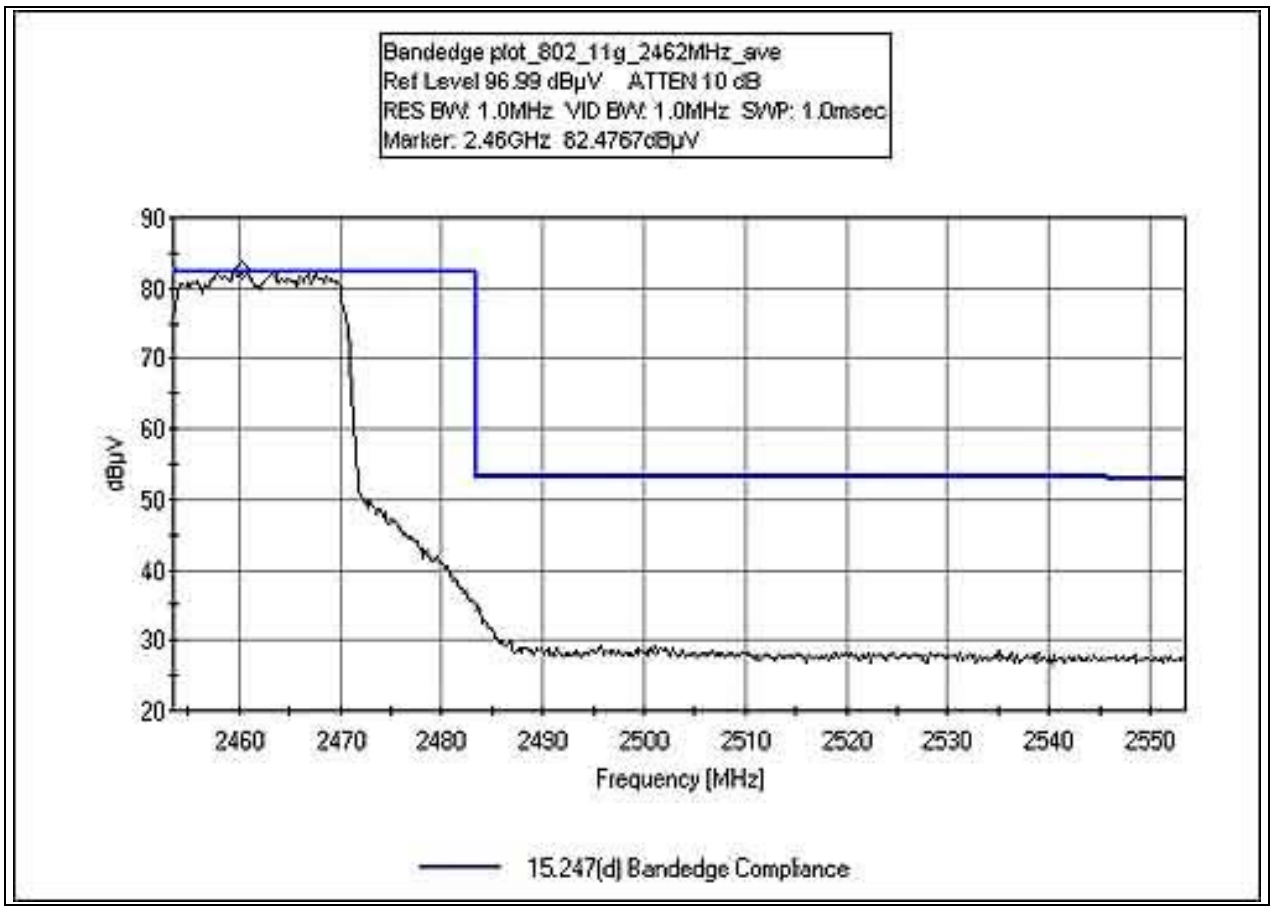
BANDEDGE - 802.11b 2462 MHz



BANDEDGE - 802.11g 2412 MHz

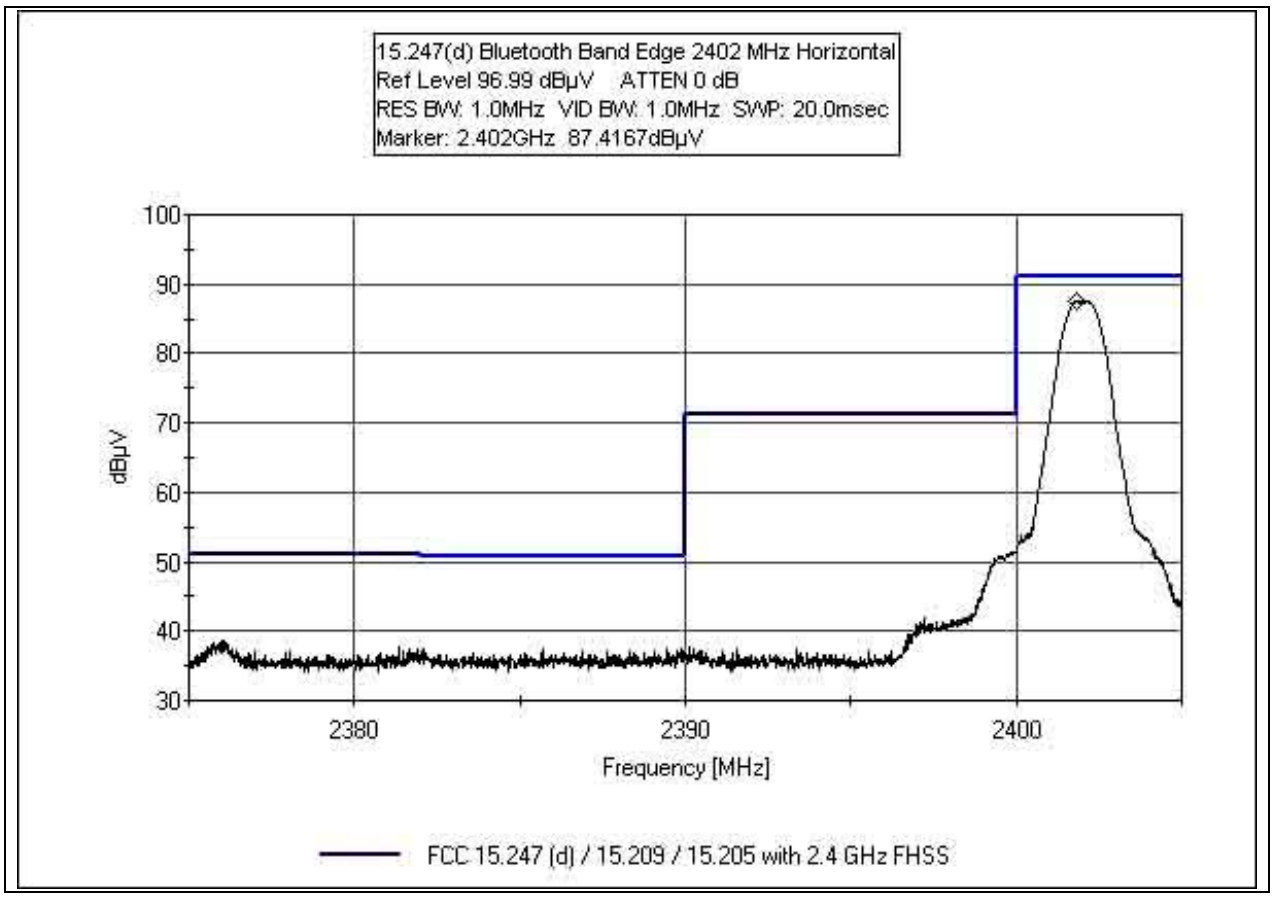


BANDEDGE - 802.11g 2462 MHz

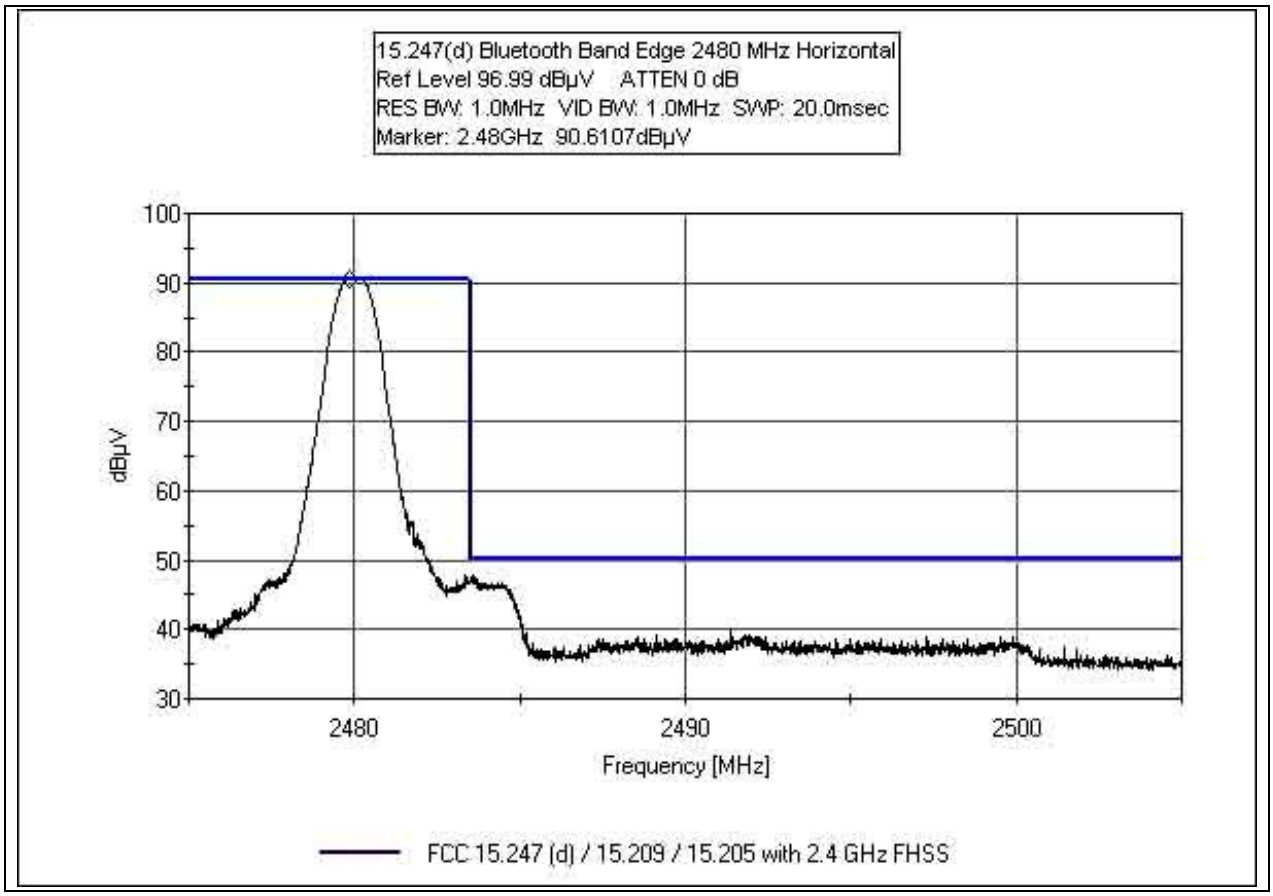


BANDEDGE - BLUETOOTH 2402 MHz

Test Setup: The EUT is placed on the wooden table with 10 cm spacer from wood. Evaluation of band edge compliance is conducted without peripherals attached to the EUT. Bluetooth channels 0 & 78 Frequencies: 2402 & 2480 MHz. Modulation: Bluetooth. RBW=1 MHz, VBW=1 MHz 120Vac, 60 Hz, 23°C, 31 % relative humidity.

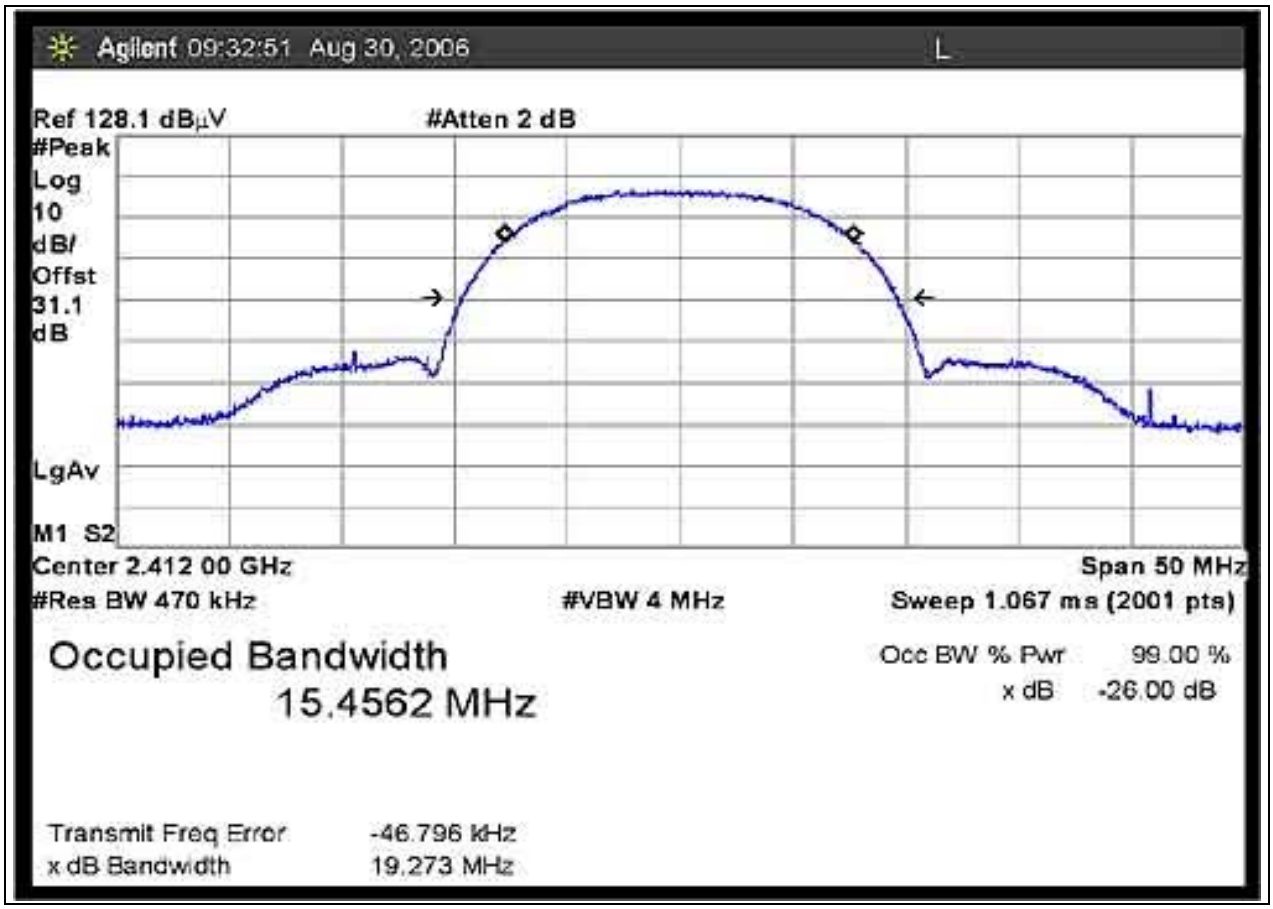


BANDEDGE - BLUETOOTH 2480 MHz

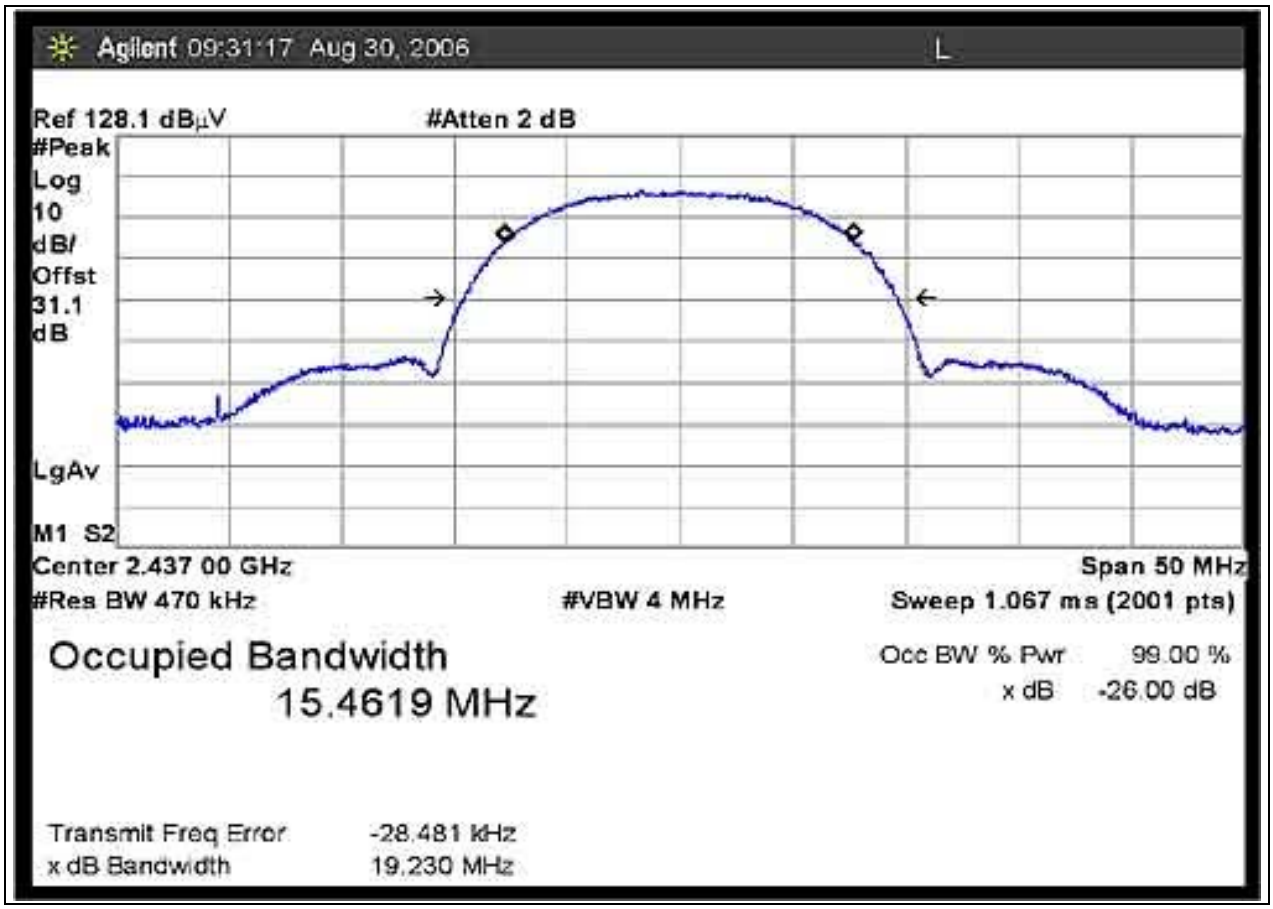


RSS-210 99% BANDWIDTH - 15.4 MHz 802.11b 2412 MHz

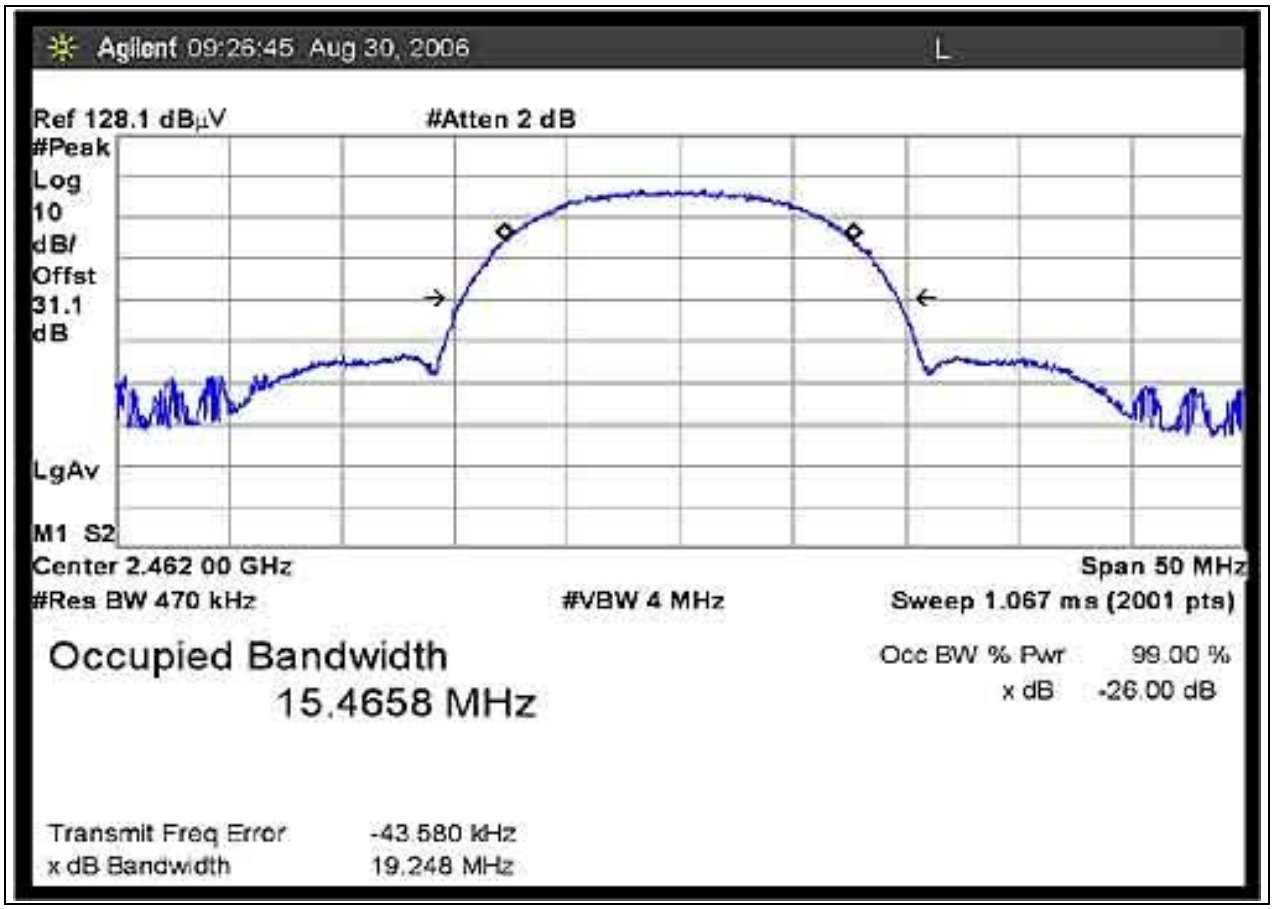
Test Conditions: The EUT is placed on the wooden table. Evaluation of 99% BW and occupied BW is conducted without peripherals attached to the EUT. evaluation performed at RF output port.



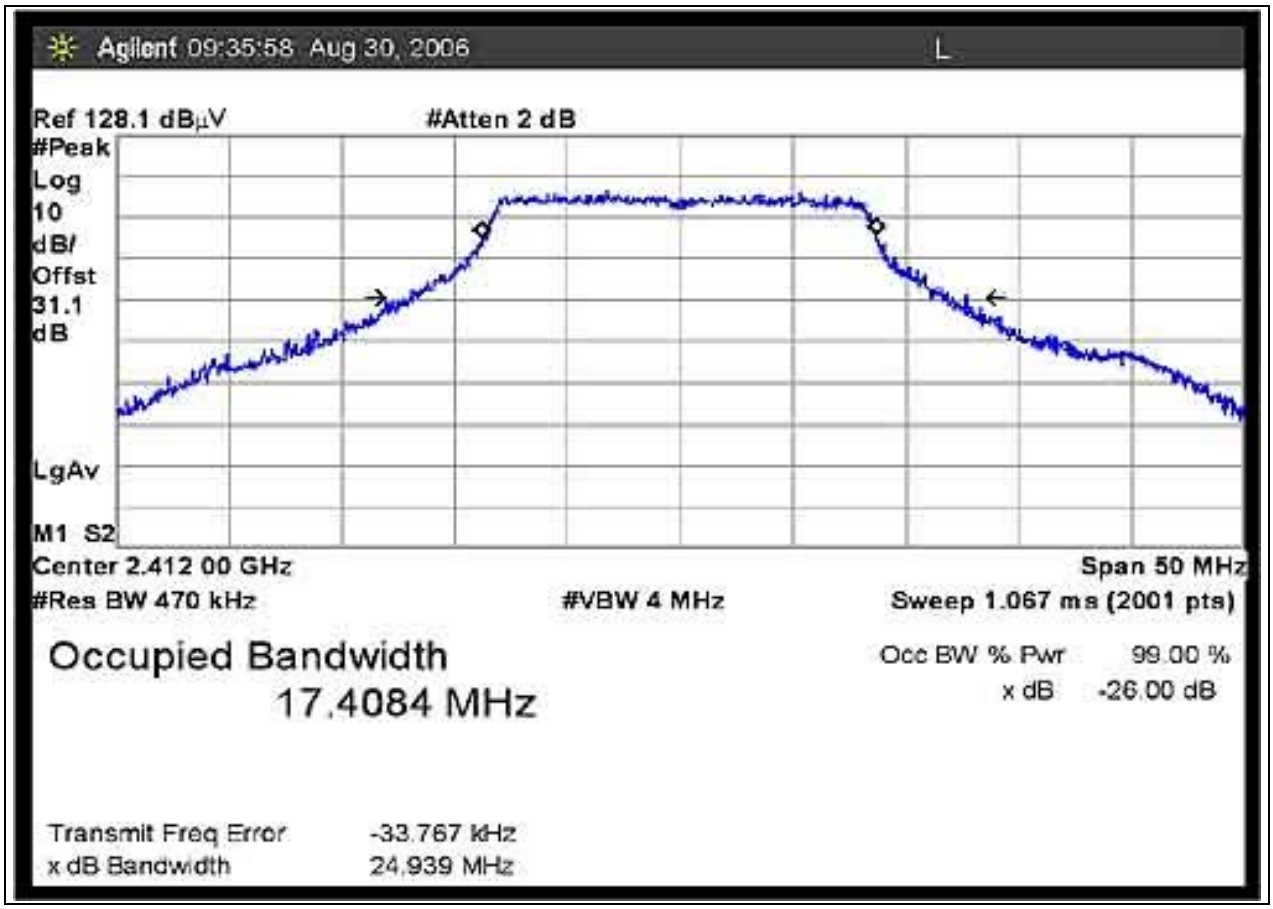
RSS-210 99% BANDWIDTH - 15.4 MHz 802.11b 2437 MHz



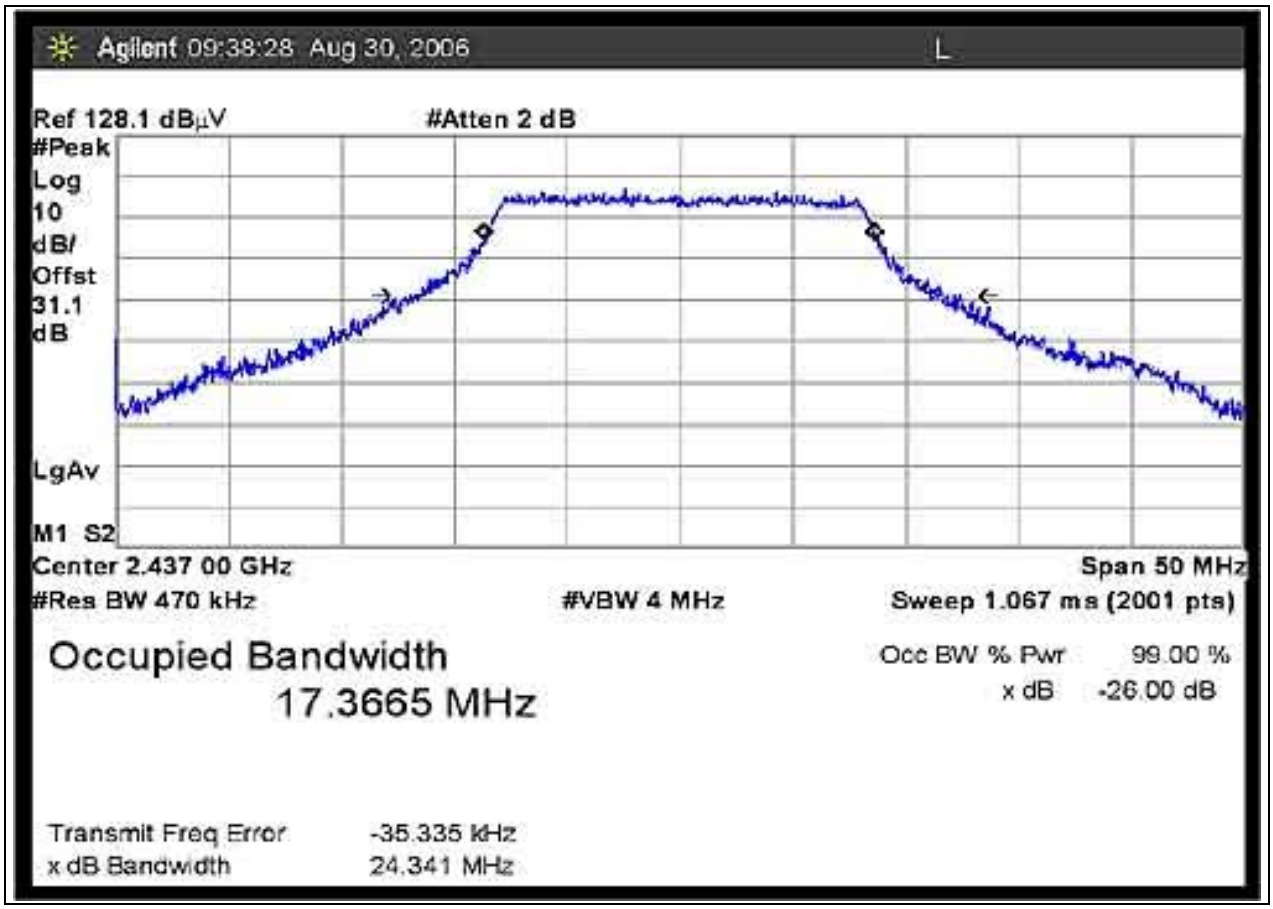
RSS-210 99% BANDWIDTH - 15.4 MHz 802.11b 2462 MHz



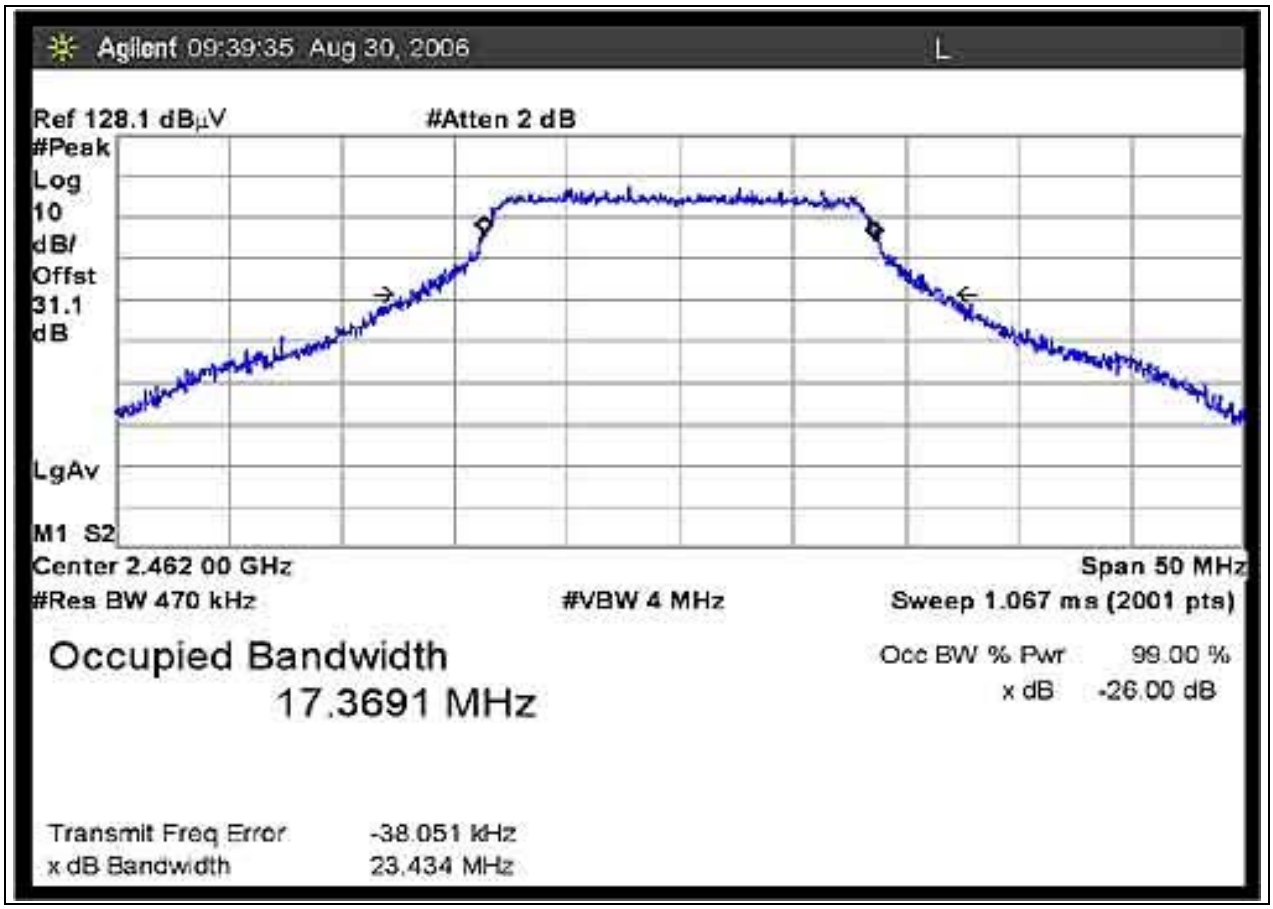
RSS-210 99% BANDWIDTH - 17.4 MHz 802.11g 2412 MHz



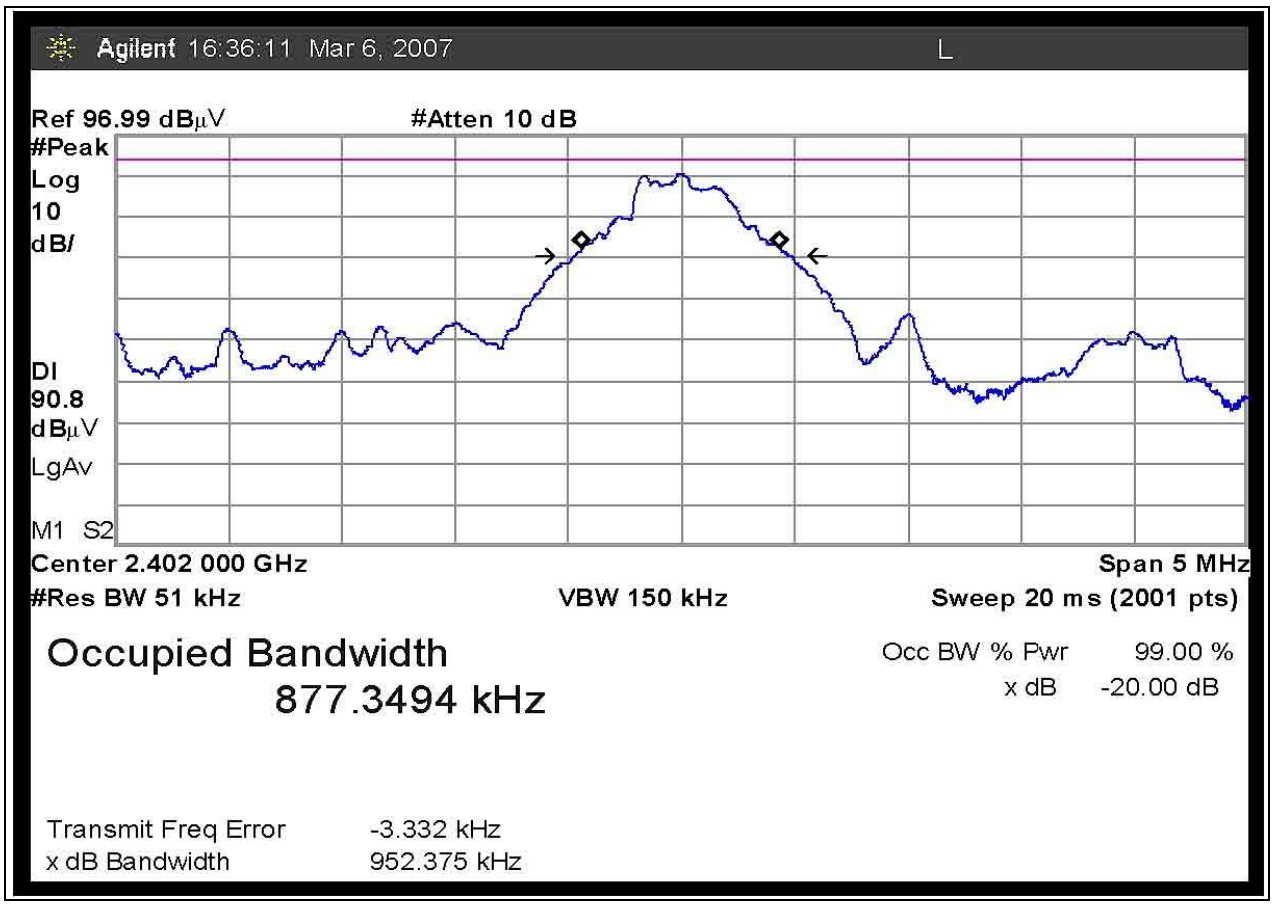
RSS-210 99% BANDWIDTH - 17.4 MHz 802.11g 2437 MHz



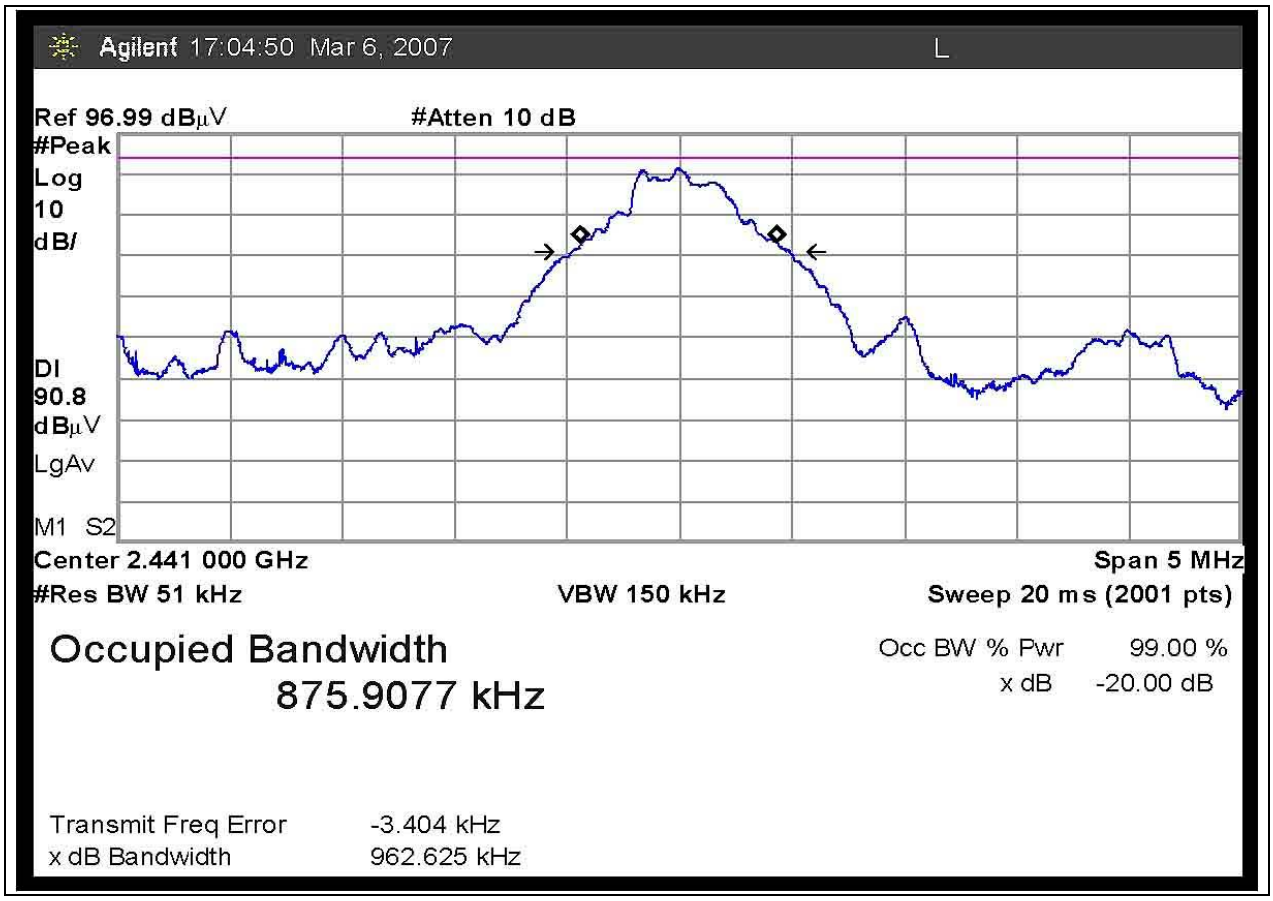
RSS-210 99% BANDWIDTH - 17.4 MHz 802.11g 2462 MHz



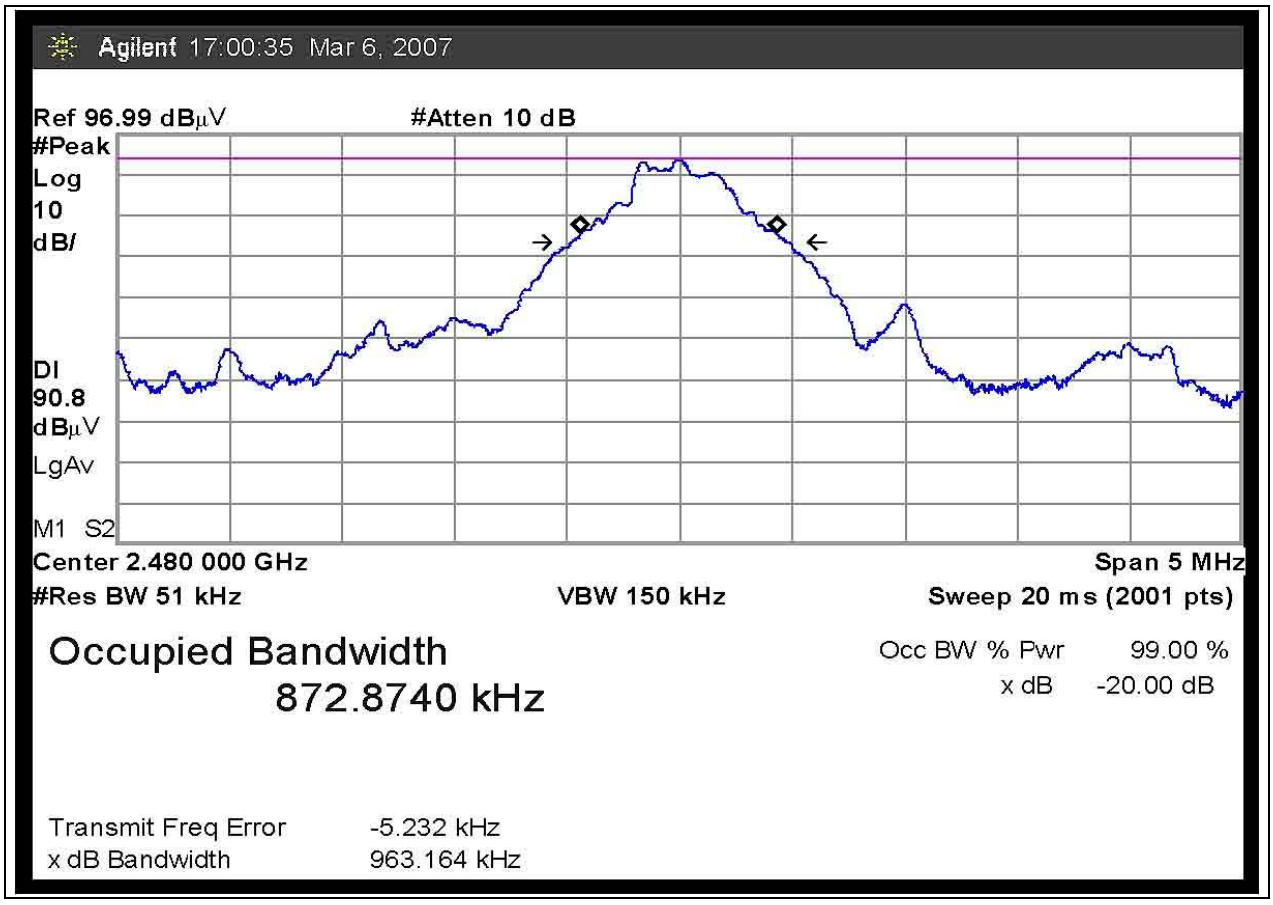
RSS-210 99% BANDWIDTH - 1 MHz BLUETOOTH 2402 MHz



RSS-210 99% BANDWIDTH - 1 MHz BLUETOOTH 2441 MHz



RSS-210 99% BANDWIDTH - 1 MHz BLUETOOTH 2480 MHz



TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

EUT SETUP

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the photographs in Appendix A. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables. The corrected data was then compared to the applicable emission limits to determine compliance.

The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available I/O ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. I/O cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The radiated and conducted emissions data of the EUT was taken with the HP Spectrum Analyzer. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in Table A.

Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula in Table A. This reading was then compared to the applicable specification limit to determine compliance.

TABLE A: SAMPLE CALCULATIONS

	Meter reading	(dBµV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed in Table A were used to collect both the radiated and conducted emissions data for the EUT. For radiated measurements from 9 kHz to 30 MHz, the magnetic loop antenna was used. For radiated measurements from 30 to 1000 MHz, the biconilog antenna was used. The horn antenna was used for frequencies above 1000 MHz. Conducted emissions tests required the use of the FCC type LISNs.

The HP spectrum analyzer was used for all measurements. Table B shows the analyzer bandwidth settings that were used in designated frequency bands. For conducted emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used. A 10 dB external attenuator was also used during conducted tests, with internal offset correction in the analyzer. During radiated testing, the measurements were made with 0 dB of attenuation, a reference level of 97 dBµV, and a vertical scale of 10 dB per division.

SPECTRUM ANALYZER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the Tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "Peak" mode. Whenever a "Quasi-Peak" or "Average" reading is listed as one of the six highest readings, this is indicated as a "Q" or an "A" in the appropriate table. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the Spectrum Analyzer or test engineer recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature of the analyzer called "peak hold," the analyzer had the ability to measure transients or low duty cycle transient emission peak levels. In this mode the analyzer made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

When the true peak values exceeded or were within 2 dB of the specification limit, quasi-peak measurements were taken using the HP Quasi-Peak Adapter for the HP Spectrum Analyzer. The detailed procedure for making quasi peak measurements contained in the HP Quasi-Peak Adapter manual were followed.

Average

For certain frequencies, average measurements may be made using the spectrum analyzer. To make these measurements, the test engineer reduces the video bandwidth on the analyzer until the modulation of the signal is filtered out. At this point the analyzer is set into the linear mode and the scan time is reduced.

EUT TESTING

Mains Conducted Emissions

During conducted emissions testing, the EUT was located on a wooden table measuring approximately 80 cm high, 1 meter deep, and 1.5 meters in length. One wall of the room where the EUT was located has a minimum 2 meter by 2 meter conductive plane. The EUT was mounted on the wooden table 40 cm away from the conductive plane, and 80 cm from any other conductive surface.

The vertical metal plane used for conducted emissions was grounded to the earth. Power to the EUT was provided through a LISN. The LISN was grounded to the ground plane. All other objects were kept a minimum of 80 cm away from the EUT during the conducted test.

The LISNs used were 50 µH-/+50 ohms. A 30 to 50 second sweep time was used for automated measurements in the frequency bands of 150 kHz to 500 kHz, and 500 kHz to 30 MHz. All readings within 20 dB of the limit were recorded, and those within 6 dB of the limit were examined with additional measurements using a slower sweep time.

Antenna Conducted Emissions

For measuring the signal strength on the RF output port of the EUT, the spectrum analyzer was connected directly to the EUT. The sweep time of the analyzer was adjusted so that the spectrum analyzer readings were always in a calibrated range. All readings within 20 dB of the limit were recorded.

Radiated Emissions

The EUT was mounted on a nonconductive, rotating table 80 cm above the conductive grid. The nonconductive table dimensions were 1 meter by 1.5 meters.

During the preliminary radiated scan, the EUT was powered up and operating in its defined FCC test mode. For radiated measurements from 9 kHz to 30 MHz, the magnetic loop antenna was used. The frequency range of 30 MHz to 1000 MHz was scanned with the biconilog antenna located about 1.5 meter above the ground plane in the vertical polarity. During this scan, the turntable was rotated and all peaks at or near the limit were recorded. A scan of the FM band from 88 to 110 MHz was then made using a reduced resolution bandwidth and frequency span. The biconilog antenna was changed to the horizontal polarity and the above steps were repeated. For frequencies exceeding 1000 MHz, the horn antenna was used. Care was taken to ensure that no frequencies were missed within the FM and TV bands.

A thorough scan of all frequencies was made manually using a small frequency span, rotating the turntable and raising and lowering the antenna from one to four meters as needed. The test engineer maximized the readings with respect to the table rotation, antenna height and configuration of EUT. Maximizing of the EUT was achieved by monitoring the spectrum analyzer on a closed circuit television monitor.

APPENDIX A

TEST SETUP PHOTOGRAPHS

PHOTOGRAPH SHOWING VOLTAGE VARIATION

PHOTOGRAPH SHOWING MAINS CONDUCTED EMISSIONS

Mains Conducted Emissions - Front View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Front View

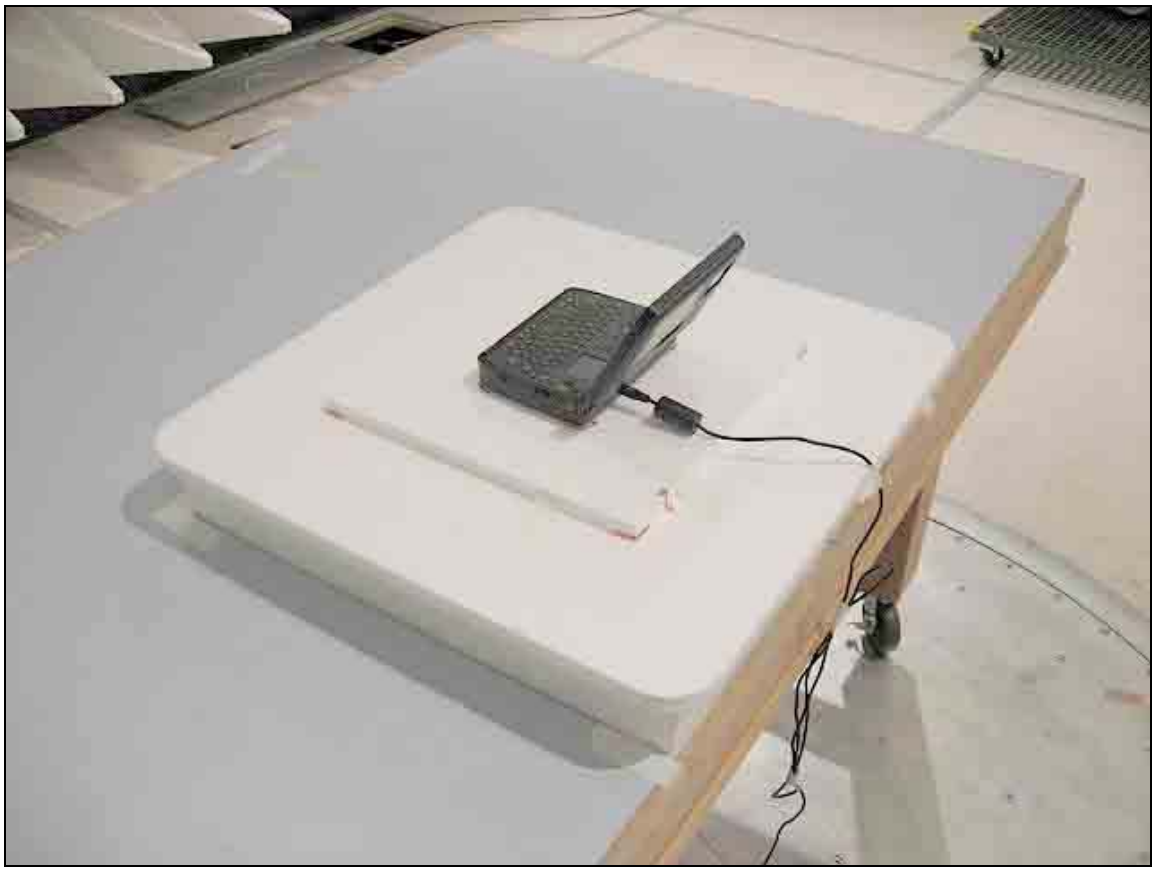
PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Back View

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions – Front View
Verification of Radiated Spurious Emissions testing off the Antenna

PHOTOGRAPH SHOWING RADIATED EMISSIONS



Radiated Emissions - Back View
Verification of Radiated Spurious Emissions testing off the Antenna

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

APPENDIX B

TEST EQUIPMENT LIST

FCC 15.107

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A	S/N: US44300437	05/27/2006	05/27/2008	AN02673
Bothell 5m Cable Set	S/N: P05444	11/28/2005	11/28/2007	ANP05444
10dB BNC Attenuator	S/N: 7	05/01/2006	05/01/2008	ANP05506
TTE High Pass Filter	S/N: G7752	07/17/2006	07/17/2008	AN02611
EMCO 3816/2NM LISN	S/N: 9606-1049	05/26/2005	05/26/2007	AN01492

FCC 15.109 30-1000 MHz

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A	S/N: US44300437	05/27/2006	05/27/2008	AN02673
Bothell 5m Cable Set	S/N: P05444	11/28/2005	11/28/2007	ANP05444
HP 8447D PreAmp	S/N: 2944A08601	07/10/2006	07/10/2008	AN01517
Chase BILOG	S/N: 2458	02/02/2005	02/02/2007	AN01993

FCC 15.109 >1 GHz

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A	S/N: US44300437	05/27/2006	05/27/2008	AN02673
60" Pasternack 40 GHz Coax	S/N: N/A	05/11/2006	05/11/2008	AN05422
20' Heliax Cable	S/N: 36	03/16/2006	03/16/2008	ANP05419
HP 83017A .5 - 26.5 GHz Pre-amp	S/N: 3123A00464	10/03/2005	10/03/2007	AN01271
36" Pasternack 40 GHz Coax	S/N: N/A	02/08/2005	02/08/2007	AN05206
EMCO 3115 Horn Ant	S/N: 9606-4854	12/13/2005	12/13/2007	AN01412

FCC 15.207

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A	S/N: US44300437	05/27/2006	05/27/2008	AN02673
Bothell 5m Cable Set	S/N: P05444	11/28/2005	11/28/2007	ANP05444
10dB BNC Attenuator	S/N: 7	05/01/2006	05/01/2008	ANP05506
TTE High Pass Filter	S/N: G7752	07/17/2006	07/17/2008	AN02611
EMCO 3816/2NM LISN	S/N: 9606-1049	05/26/2005	05/26/2007	AN01492

FCC 15.247(d) Radiated Spurious Emissions

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A	S/N: US44300437	05/27/2006	05/27/2008	AN02673
120" Pasternack 40 GHz Coax	S/N: N/A	05/10/2006	05/10/2008	AN05425
30' Andrews Heliax 18 GHz	S/N: N/A	06/19/2006	06/19/2008	AN05545
60" Pasternack 40 GHz Coax	S/N: N/A	05/11/2006	05/11/2008	AN05423
HP 83017A .5 - 26.5 GHz Pre-amp	S/N: 3123A00464	10/03/2005	10/03/2007	AN01271
EMCO 3115 Horn Ant	S/N: 9606-4854	12/13/2005	12/13/2007	AN01412
2.8 GHz HP Filter	S/N: 2	03/07/2006	03/07/2008	AN02745
12-18 GHz Horn	S/N: 1114019	04/13/2006	04/13/2008	AN02741
18-26 GHz Horn	S/N: 1114018	04/14/2006	04/14/2008	AN02742

Bandedge and RSS-210 995 Bandwidth testing for Bluetooth

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A	S/N: US44300437	05/27/2006	05/27/2008	AN02673
120" Pasternack 40 GHz Coax	S/N: N/A	05/10/2006	05/10/2008	AN05425
30' Andrews Heliax 18 GHz	S/N: N/A	06/19/2006	06/19/2008	AN05545
60" Pasternack 40 GHz Coax	S/N: N/A	05/11/2006	05/11/2008	AN05423
HP 83017A .5 - 26.5 GHz Pre-amp	S/N: 3123A00464	10/03/2005	10/03/2007	AN01271
EMCO 3115 Horn Ant	S/N: 9606-4854	12/13/2005	12/13/2007	AN01412

FCC 15.247(d) Conducted Spurious Emissions

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A	S/N: US44300437	05/27/2006	05/27/2008	AN02673
2.4 GHz HPF (Bothell's)	S/N: 2	03/08/2006	03/08/2008	AN 02745
1 GHz HPG (Bothell's)	S/N: 2	03/07/2006	03/07/2008	AN 02750

RSS-210, 99% Bandwidth, RF Output Power, Peak Power Spectral Density, Minimum 6 dB BW, Frequency separation, Number of hopping channels, Average time of Occupancy

Function	S/N	Calibration Date	Cal Due Date	Asset #
Agilent E4446A	S/N: US44300437	05/27/2006	05/27/2008	AN02673
Cable Pasterneck	S/N: NA	02/08/2005	02/08/2007	ANP05206
2.4 GHz HPF (Bothell's)	S/N: 2	03/08/2006	03/08/2008	AN02745
2.4 GHz LPF K&L	S/N: 7	03/07/2006	03/07/2008	AN 02747

APPENDIX C
MEASUREMENT DATA SHEETS

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.107(a) Class B - AVE**
Work Order #: **85695** Date: 9/20/2006
Test Type: **Conducted Emissions** Time: 12:16:04
Equipment: **Ultra Compact Laptop** Sequence#: 2
Manufacturer: Vulcan Tested By: Ryan Rutledge
Model: Flipstart WAN 120V 60Hz
S/N: FCC #3

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Compact Laptop*	Vulcan	Flipstart WAN	FCC #3

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adapter	Celltronics	ZVC36FS12S54	
USB 2.0 Device	Apple	iPod Nano	
PC Monitor	IBM	ThinkVision	23PC350
USB Mouse	Microsoft	Intellimouse Explorer	51381-577-1717291-0000
Unpowered Speakers	Radio Shack	NA	NA
Ethernet Cable			
Earbud/Microphone	Vulcan, Inc	FlipStart E-1000EM	NA
Port Replicator	Vulcan, Inc	FlipStart E-1000PR	NA
FlipStart Extended life Battery 5000 Capacity in mAH	Vulcan Portals, Inc.	E-5000	NA

Test Conditions / Notes:

Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 150 kHz - 30 MHz.

Transducer Legend:

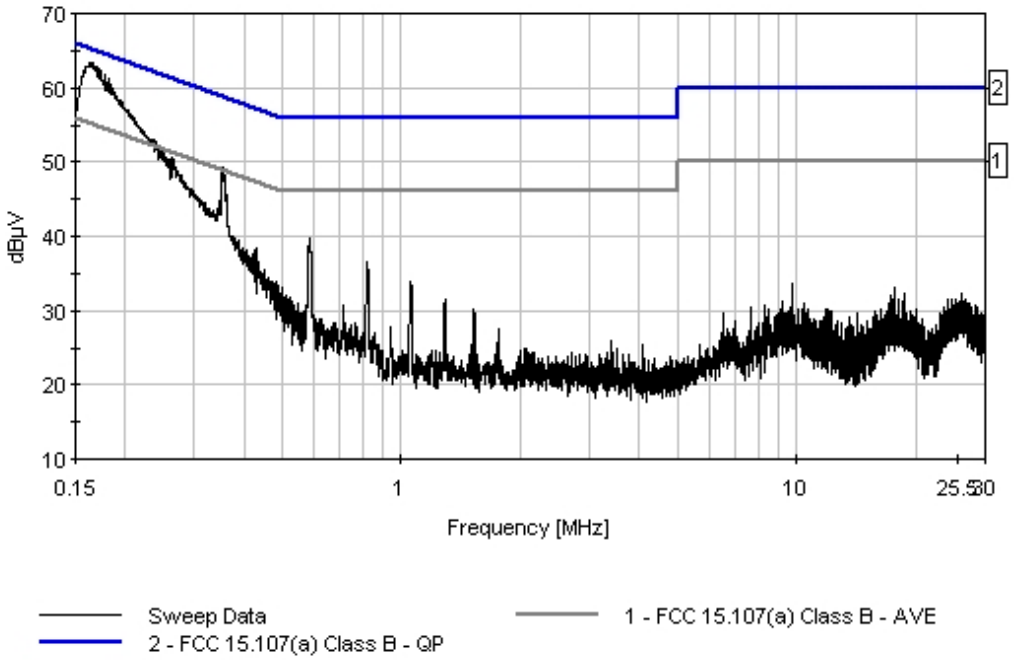
T1=FIL-AN02611-071706	T2=ATT-ANP05506-050106
T3=AN1492 Line EMCO 3816/2NM	T4=Bothell 5 meter cable set

Measurement Data: Reading listed by margin. Test Lead: Line

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1 Ave	351.880k	35.2	+0.2	+10.0	+0.0	+0.1	+0.0	45.5	48.9	-3.4	Line
^	353.254k	38.9	+0.2	+10.0	+0.0	+0.1	+0.0	49.2	58.9	-9.7	Line
3	262.353k	40.4	+0.2	+10.0	+0.0	+0.0	+0.0	50.6	61.4	-10.8	Line
4 Ave	165.100k	30.7	+0.5	+10.0	+0.1	+0.0	+0.0	41.3	55.0	-13.7	Line
^	164.181k	52.6	+0.6	+10.0	+0.1	+0.0	+0.0	63.3	65.2	-1.9	Line

6 Ave	180.270k	30.0	+0.5	+10.0	+0.1	+0.0	+0.0	40.6	54.9	-14.3	Line
^	181.270k	50.8	+0.4	+10.0	+0.0	+0.0	+0.0	61.2	64.4	-3.2	Line
8	585.960k	29.4	+0.2	+10.0	+0.0	+0.1	+0.0	39.7	56.0	-16.3	Line
9	430.702k	28.0	+0.2	+10.0	+0.0	+0.1	+0.0	38.3	57.2	-18.9	Line
10	821.938k	26.2	+0.2	+10.0	+0.0	+0.2	+0.0	36.6	56.0	-19.4	Line
11	1.058M	23.5	+0.2	+10.0	+0.0	+0.2	+0.0	33.9	56.0	-22.1	Line
12	524.148k	21.4	+0.3	+10.0	+0.1	+0.1	+0.0	31.9	56.0	-24.1	Line

CKC Laboratories Date: 9/20/2006 Time: 12:16:04 Vulcan, Inc. WO#: 85695
FCC 15.107(a) Class B - AVE Test Lead: Line 120V 60Hz Sequence#: 2 Polarity: Line
Notes: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit excercise



Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.107(a) Class B - AVE**
Work Order #: **85695** Date: 9/20/2006
Test Type: **Conducted Emissions** Time: 12:22:04
Equipment: **Ultra Compact Laptop** Sequence#: 3
Manufacturer: Vulcan Tested By: Ryan Rutledge
Model: Flipstart WAN 120V 60Hz
S/N: FCC #3

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Compact Laptop*	Vulcan	Flipstart WAN	FCC #3

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adapter	Celltronics	ZVC36FS12S54	
USB 2.0 Device	Apple	iPod Nano	
PC Monitor	IBM	ThinkVision	23PC350
USB Mouse	Microsoft	Intellimouse Explorer	51381-577-1717291-0000
Unpowered Speakers	Radio Shack	NA	NA
Ethernet Cable			
Earbud/Microphone	Vulcan, Inc	FlipStart E-1000EM	NA
Port Replicator	Vulcan, Inc	FlipStart E-1000PR	NA
FlipStart Extended life Battery 5000 Capacity in mAH	Vulcan Portals, Inc.	E-5000	NA

Test Conditions / Notes:

Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 150 kHz - 30 MHz.

Transducer Legend:

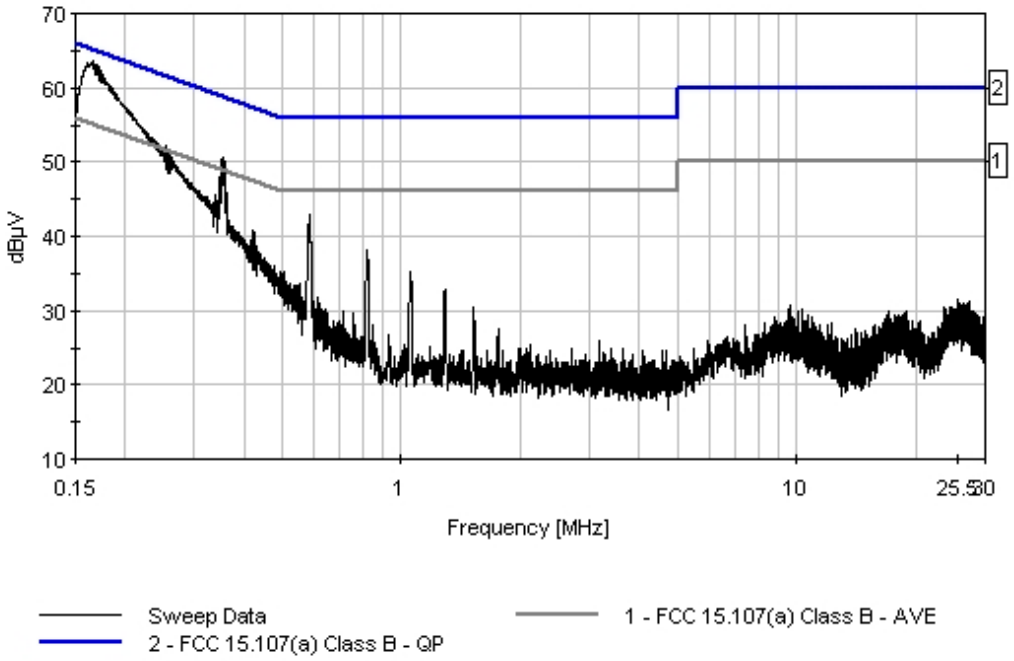
T1=FIL-AN02611-071706	T2=ATT-ANP05506-050106
T3=AN1492 Neutral EMCO 3816/2NM	T4=Bothell 5 meter cable set

Measurement Data: Reading listed by margin. Test Lead: Neutral

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1 Ave	351.670k	36.9	+0.2	+10.0	+0.0	+0.1	+0.0	47.2	48.9	-1.7	Neutr
^	356.163k	40.2	+0.2	+10.0	+0.0	+0.1	+0.0	50.5	48.8	+1.7	Neutr
3	585.596k	32.7	+0.2	+10.0	+0.0	+0.1	+0.0	43.0	46.0	-3.0	Neutr
4	423.793k	30.4	+0.1	+10.0	+0.0	+0.1	+0.0	40.6	47.4	-6.8	Neutr
5	819.757k	27.7	+0.2	+10.0	+0.0	+0.2	+0.0	38.1	46.0	-7.9	Neutr

6	1.056M	24.8	+0.2	+10.0	+0.0	+0.2	+0.0	35.2	46.0	-10.8	Neutr
7	1.290M	22.3	+0.2	+10.0	+0.0	+0.2	+0.0	32.7	46.0	-13.3	Neutr
8	169.120k Ave	29.9	+0.5	+10.0	+0.1	+0.0	+0.0	40.5	55.0	-14.5	Neutr
^	165.635k	52.8	+0.6	+10.0	+0.1	+0.0	+0.0	63.5	55.2	+8.3	Neutr
10	1.524M	20.1	+0.2	+10.0	+0.0	+0.2	+0.0	30.5	46.0	-15.5	Neutr
11	25.427M	20.2	+0.3	+10.0	+0.4	+0.7	+0.0	31.6	50.0	-18.4	Neutr
12	1.760M	17.0	+0.2	+10.0	+0.0	+0.2	+0.0	27.4	46.0	-18.6	Neutr

CKC Laboratories Date: 9/20/2006 Time: 12:22:04 Vulcan, Inc. WO#: 85695
FCC 15.107(a) Class B - AVE Test Lead: Neutral 120V 60Hz Sequence#: 3 Polarity: Neutral
Notes: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit excercise



Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **15.109 CLASS B**
Work Order #: **85695** Date: 9/18/2006
Test Type: **Radiated Scan** Time: 12:35:35
Equipment: **Ultra Compact Laptop** Sequence#: 2
Manufacturer: Vulcan Tested By: Ryan Rutledge
Model: Flipstart WAN
S/N: FCC #3

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Compact Laptop*	Vulcan	Flipstart WAN	FCC #3

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adapter	Celltronics	ZVC36FS12S54	
USB 2.0 Device	Apple	iPod Nano	
PC Monitor	IBM	ThinkVision	23PC350
USB Mouse	Microsoft	Intellimouse Explorer	51381-577-1717291-0000
Unpowered Speakers	Radio Shack	NA	NA
Ethernet Cable			
Earbud/Microphone	Vulcan, Inc	FlipStart E-1000EM	NA
Port Replicator	Vulcan, Inc	FlipStart E-1000PR	NA
FlipStart Extended life Battery 5000 Capacity in mAH	Vulcan Portals, Inc.	E-5000	NA

Test Conditions / Notes:

Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 30 MHz - 1000 MHz.

Transducer Legend:

T1=Chase AN 1993 SN 2458 2/2/05-2/2/07 T2=AMP-AN01517-071006
T3=Bothell 5 meter cable set

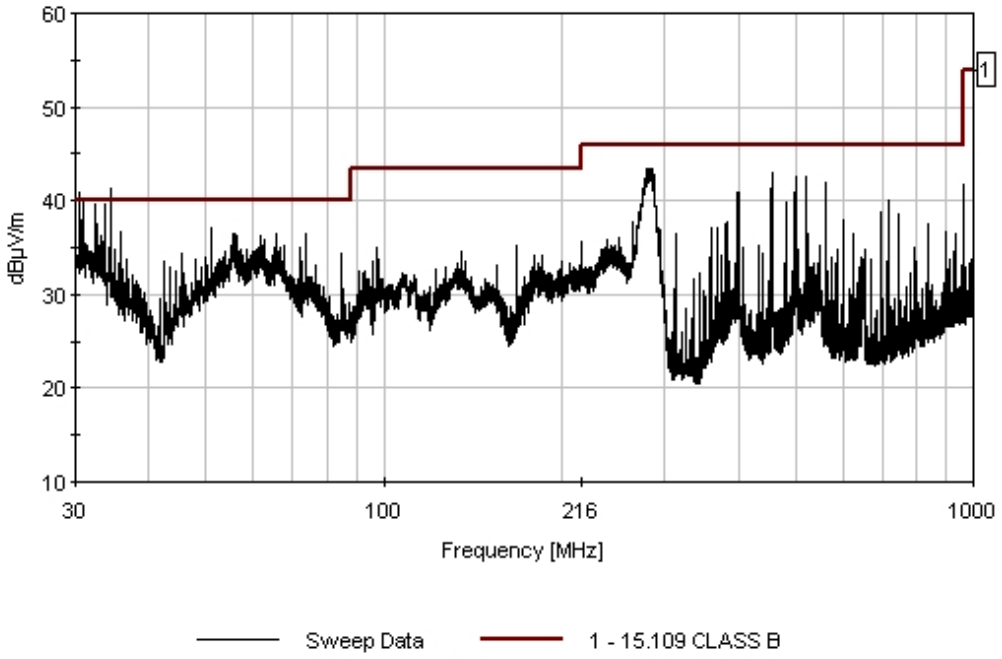
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	32.470M QP	42.8	+20.7	-27.5	+0.8		+0.0 156	36.8	40.0	-3.2	Vert 100
^	32.486M	49.8	+20.6	-27.5	+0.8		+0.0 156	43.7	40.0	+3.7	Vert 100
3	279.996M QP	53.8	+13.3	-27.0	+2.4		+0.0 320	42.5	46.0	-3.5	Vert 100
^	279.985M	57.0	+13.3	-27.0	+2.4		+0.0 320	45.7	46.0	-0.3	Vert 100
5	560.015M QP	48.0	+19.3	-28.5	+3.5		+0.0 164	42.3	46.0	-3.7	Vert 100
^	559.993M	49.5	+19.3	-28.5	+3.5		+0.0 164	43.8	46.0	-2.2	Vert 100

7	520.011M QP	48.1	+18.8	-28.3	+3.4	+0.0 180	42.0	46.0	-4.0	Vert 100
^	520.021M	52.2	+18.8	-28.3	+3.4	+0.0 180	46.1	46.0	+0.1	Vert 100
9	500.014M QP	48.2	+18.6	-28.2	+3.3	+0.0 196	41.9	46.0	-4.1	Vert 100
^	499.969M	53.4	+18.6	-28.2	+3.3	+0.0 196	47.1	46.0	+1.1	Vert 100
11	73.722M QP	51.9	+10.2	-27.7	+1.2	+0.0 106	35.6	40.0	-4.4	Vert 100
^	73.730M	54.6	+10.2	-27.7	+1.2	+0.0 106	38.3	40.0	-1.7	Vert 100
13	457.275M QP	48.0	+18.1	-28.0	+3.1	+0.0 170	41.2	46.0	-4.8	Vert 100
^	457.312M	53.6	+18.1	-28.0	+3.1	+0.0 170	46.8	46.0	+0.8	Vert 100
15	743.972M QP	42.6	+21.2	-28.5	+4.2	+0.0 154	39.5	46.0	-6.5	Vert 100
^	743.971M	44.0	+21.2	-28.5	+4.2	+0.0 154	40.9	46.0	-5.1	Vert 100
17	719.979M QP	42.6	+20.9	-28.4	+4.1	+0.0 155	39.2	46.0	-6.8	Vert 100
^	719.969M	44.2	+20.9	-28.4	+4.1	+0.0 155	40.8	46.0	-5.2	Vert 100
19	454.672M QP	46.0	+18.0	-28.0	+3.1	+0.0 165	39.1	46.0	-6.9	Vert 100
^	454.653M	52.2	+18.0	-28.0	+3.1	+0.0 165	45.3	46.0	-0.7	Vert 100
21	646.780M	43.4	+20.1	-28.6	+3.9	+0.0 180	38.8	46.0	-7.2	Vert 100
22	71.996M QP	48.8	+10.5	-27.7	+1.2	+0.0 49	32.8	40.0	-7.2	Vert 100
^	71.987M	52.4	+10.5	-27.7	+1.2	+0.0 49	36.4	40.0	-3.6	Vert 100
24	479.999M QP	45.2	+18.4	-28.0	+3.2	+0.0 180	38.8	46.0	-7.2	Vert 100
^	479.975M	49.2	+18.4	-28.0	+3.2	+0.0 180	42.8	46.0	-3.2	Vert 100
26	456.001M QP	45.6	+18.1	-28.0	+3.1	+0.0 165	38.8	46.0	-7.2	Vert 100
^	455.983M	51.2	+18.1	-28.0	+3.1	+0.0 165	44.4	46.0	-1.6	Vert 100
28	34.212M QP	39.7	+19.6	-27.5	+0.8	+0.0 98	32.6	40.0	-7.4	Vert 100
^	34.203M	51.7	+19.7	-27.5	+0.8	+0.0 98	44.7	40.0	+4.7	Vert 100

30	647.930M	42.4	+20.1	-28.6	+3.9	+0.0 180	37.8	46.0	-8.2	Vert 100
31	695.970M	41.3	+20.6	-28.4	+4.0	+0.0 147	37.5	46.0	-8.5	Vert 100
32	623.980M	42.3	+19.9	-28.5	+3.8	+0.0 180	37.5	46.0	-8.5	Vert 100
33	399.905M QP	44.9	+17.3	-27.7	+3.0	+0.0 160	37.5	46.0	-8.5	Vert 100
^	399.888M	52.0	+17.3	-27.7	+3.0	+0.0 160	44.6	46.0	-1.4	Vert 100
35	839.960M	38.5	+22.5	-28.1	+4.5	+0.0 194	37.4	46.0	-8.6	Vert 100
36	30.442M QP	35.8	+22.0	-27.5	+0.8	+0.0 177	31.1	40.0	-8.9	Vert 100
^	30.433M	45.5	+22.0	-27.5	+0.8	+0.0 177	40.8	40.0	+0.8	Vert 100
38	55.449M QP	47.1	+10.3	-27.6	+1.1	+0.0 323	30.9	40.0	-9.1	Vert 100
^	55.459M	53.8	+10.3	-27.6	+1.1	+0.0 323	37.6	40.0	-2.4	Vert 100
40	599.993M QP	41.8	+19.7	-28.4	+3.7	+0.0 166	36.8	46.0	-9.2	Vert 100
^	600.012M	51.7	+19.7	-28.4	+3.7	+0.0 166	46.7	46.0	+0.7	Vert 100
42	65.820M QP	46.5	+10.2	-27.5	+1.2	+0.0 270	30.4	40.0	-9.6	Vert 100
^	65.749M	53.5	+10.2	-27.4	+1.2	+0.0 270	37.5	40.0	-2.5	Vert 100
44	791.970M	38.3	+21.9	-28.5	+4.4	+0.0 192	36.1	46.0	-9.9	Vert 100
45	62.049M QP	46.9	+9.6	-27.5	+1.1	+0.0 170	30.1	40.0	-9.9	Vert 100
^	62.078M	53.3	+9.6	-27.5	+1.1	+0.0 170	36.5	40.0	-3.5	Vert 100
47	33.473M QP	36.7	+20.1	-27.5	+0.8	+0.0 116	30.1	40.0	-9.9	Vert 100
^	33.477M	43.5	+20.1	-27.5	+0.8	+0.0 116	36.9	40.0	-3.1	Vert 100
49	671.970M	39.5	+20.4	-28.5	+3.9	+0.0 179	35.3	46.0	-10.7	Vert 100
50	51.077M QP	44.2	+11.4	-27.7	+1.0	+0.0 215	28.9	40.0	-11.1	Vert 100
^	51.013M	53.8	+11.4	-27.7	+1.0	+0.0 215	38.5	40.0	-1.5	Vert 100
52	640.010M	39.2	+20.1	-28.6	+3.9	+0.0 180	34.6	46.0	-11.4	Vert 100
53	638.960M	39.2	+20.1	-28.6	+3.9	+0.0 180	34.6	46.0	-11.4	Vert 100
54	960.260M	39.8	+24.0	-27.6	+4.9	+0.0 188	41.1	54.0	-12.9	Vert 100

CKC Laboratories Date: 9/18/2006 Time: 12:35:35 Vulcan, Inc. WO#: 85695
15.109 CLASS B Test Distance: 3 Meters Sequence#: 2 Polarity: Vert
Notes: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit excercise



Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **15.109 CLASS B**
Work Order #: **85695** Date: 9/18/2006
Test Type: **Radiated Scan** Time: 15:08:49
Equipment: **Ultra Compact Laptop** Sequence#: 3
Manufacturer: Vulcan Tested By: Ryan Rutledge
Model: Flipstart WAN
S/N: FCC #3

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Compact Laptop*	Vulcan	Flipstart WAN	FCC #3

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adapter	Celltronics	ZVC36FS12S54	
USB 2.0 Device	Apple	iPod Nano	
PC Monitor	IBM	ThinkVision	23PC350
USB Mouse	Microsoft	Intellimouse Explorer	51381-577-1717291-0000
Unpowered Speakers	Radio Shack	NA	NA
Ethernet Cable			
Earbud/Microphone	Vulcan, Inc	FlipStart E-1000EM	NA
Port Replicator	Vulcan, Inc	FlipStart E-1000PR	NA
FlipStart Extended life Battery 5000 Capacity in mAH	Vulcan Portals, Inc.	E-5000	NA

Test Conditions / Notes:

Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 30 MHz - 1000 MHz.

Transducer Legend:

T1=Chase AN 1993 SN 2458 2/2/05-2/2/07 T2=AMP-AN01517-071006
T3=Bothell 5 meter cable set

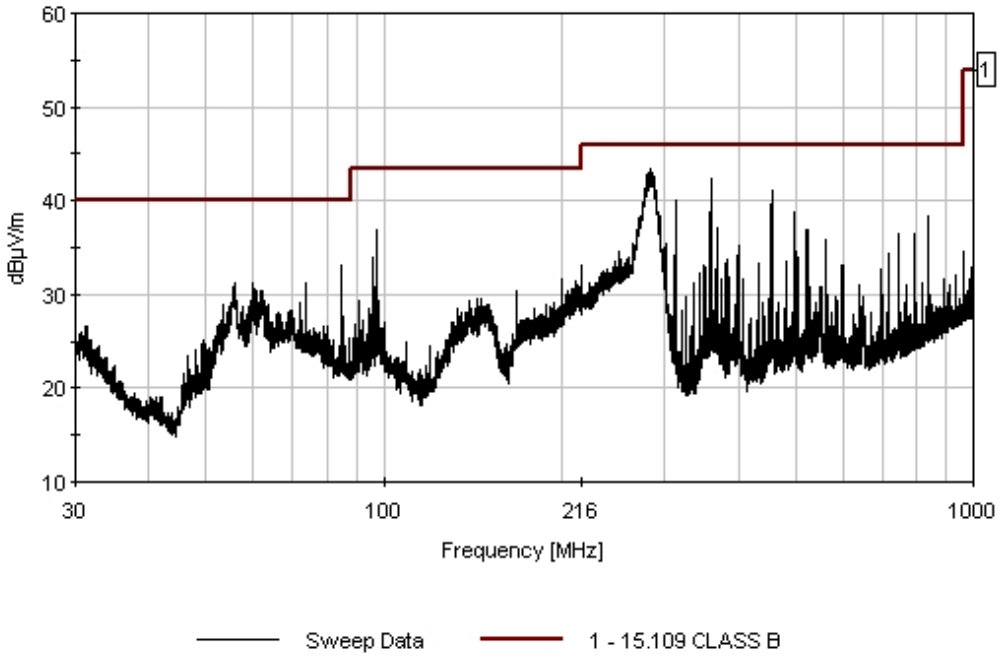
Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	359.990M QP	50.8	+15.9	-27.4	+2.8		+0.0 171	42.1	46.0	-3.9	Horiz 200
^	359.996M	52.8	+15.9	-27.4	+2.8		+0.0 171	44.1	46.0	-1.9	Horiz 200
3	282.629M QP	53.0	+13.3	-27.0	+2.4		+0.0 235	41.7	46.0	-4.3	Horiz 200
^	282.602M	56.3	+13.3	-27.0	+2.4		+0.0 235	45.0	46.0	-1.0	Horiz 200
5	280.075M QP	52.1	+13.3	-27.0	+2.4		+0.0 235	40.8	46.0	-5.2	Horiz 200
^	280.001M	55.1	+13.3	-27.0	+2.4		+0.0 235	43.8	46.0	-2.2	Horiz 200

7	311.992M QP	50.5	+14.1	-27.0	+2.5	+0.0 181	40.1	46.0	-5.9	Horiz 200
^	311.979M	51.8	+14.1	-27.0	+2.5	+0.0 181	41.4	46.0	-4.6	Horiz 200
9	97.088M QP	50.7	+11.0	-27.5	+1.4	+0.0 276	35.6	43.5	-7.9	Horiz 200
^	97.082M	52.0	+11.0	-27.5	+1.4	+0.0 276	36.9	43.5	-6.6	Horiz 200
11	294.899M QP	49.1	+13.5	-27.0	+2.5	+0.0 171	38.1	46.0	-7.9	Horiz 200
^	294.921M	51.7	+13.5	-27.0	+2.5	+0.0 171	40.7	46.0	-5.3	Horiz 200
13	839.970M QP	38.9	+22.5	-28.1	+4.5	+0.0 139	37.8	46.0	-8.2	Horiz 200
^	839.982M	40.6	+22.5	-28.1	+4.5	+0.0 139	39.5	46.0	-6.5	Horiz 200
15	356.338M QP	46.6	+15.8	-27.4	+2.8	+0.0 182	37.8	46.0	-8.2	Horiz 200
^	356.345M	48.3	+15.8	-27.4	+2.8	+0.0 182	39.5	46.0	-6.5	Horiz 200
17	454.654M QP	44.4	+18.0	-28.0	+3.1	+0.0 246	37.5	46.0	-8.5	Horiz 200
^	454.608M	49.3	+18.0	-28.0	+3.1	+0.0 246	42.4	46.0	-3.6	Horiz 200
19	457.314M QP	44.1	+18.1	-28.0	+3.1	+0.0 257	37.3	46.0	-8.7	Horiz 200
^	457.346M	49.9	+18.1	-28.0	+3.1	+0.0 257	43.1	46.0	-2.9	Horiz 200
21	73.721M QP	47.3	+10.2	-27.7	+1.2	+0.0 285	31.0	40.0	-9.0	Horiz 200
^	73.707M	48.9	+10.2	-27.7	+1.2	+0.0 285	32.6	40.0	-7.4	Horiz 200
23	791.970M QP	38.8	+21.9	-28.5	+4.4	+0.0 140	36.6	46.0	-9.4	Horiz 200
^	791.980M	40.3	+21.9	-28.5	+4.4	+0.0 140	38.1	46.0	-7.9	Horiz 200
25	368.629M QP	44.9	+16.2	-27.5	+2.9	+0.0 175	36.5	46.0	-9.5	Horiz 200
^	368.649M	46.9	+16.3	-27.5	+2.9	+0.0 175	38.6	46.0	-7.4	Horiz 200
27	743.972M QP	39.4	+21.2	-28.5	+4.2	+0.0 180	36.3	46.0	-9.7	Horiz 200
^	743.971M	41.2	+21.2	-28.5	+4.2	+0.0 180	38.1	46.0	-7.9	Horiz 200
29	95.989M QP	48.5	+10.9	-27.5	+1.4	+0.0 95	33.3	43.5	-10.2	Horiz 200
^	95.965M	50.9	+10.9	-27.5	+1.4	+0.0 95	35.7	43.5	-7.8	Horiz 200

31	559.968M	41.5	+19.3	-28.5	+3.5	+0.0	35.8	46.0	-10.2	Horiz
						360				200
32	84.953M	45.9	+9.9	-27.5	+1.3	+0.0	29.6	40.0	-10.4	Horiz
	QP					275				200
^	84.970M	49.5	+9.9	-27.5	+1.3	+0.0	33.2	40.0	-6.8	Horiz
						275				200
34	520.010M	40.5	+18.8	-28.3	+3.4	+0.0	34.4	46.0	-11.6	Horiz
	QP					154				200
^	520.001M	43.5	+18.8	-28.3	+3.4	+0.0	37.4	46.0	-8.6	Horiz
						154				200
36	522.637M	39.8	+18.9	-28.3	+3.4	+0.0	33.8	46.0	-12.2	Horiz
	QP					262				200
^	522.701M	45.5	+18.9	-28.3	+3.4	+0.0	39.5	46.0	-6.5	Horiz
						262				200
38	55.987M	42.0	+10.2	-27.6	+1.1	+0.0	25.7	40.0	-14.3	Horiz
	QP					137				200
^	55.994M	48.9	+10.2	-27.6	+1.1	+0.0	32.6	40.0	-7.4	Horiz
						137				200
40	59.988M	42.5	+9.3	-27.6	+1.1	+0.0	25.3	40.0	-14.7	Horiz
	QP					152				200
^	59.988M	51.0	+9.3	-27.6	+1.1	+0.0	33.8	40.0	-6.2	Horiz
						152				200
42	62.312M	41.0	+9.7	-27.5	+1.1	+0.0	24.3	40.0	-15.7	Horiz
	QP					175				200
^	62.213M	49.9	+9.7	-27.5	+1.1	+0.0	33.2	40.0	-6.8	Horiz
						175				200
44	496.024M	33.7	+18.6	-28.2	+3.3	+0.0	27.4	46.0	-18.6	Horiz
	QP					256				200
^	495.994M	48.4	+18.6	-28.2	+3.3	+0.0	42.1	46.0	-3.9	Horiz
						256				200

CKC Laboratories Date: 9/18/2006 Time: 15:08:49 Vulcan, Inc. WO#: 85695
15.109 CLASS B Test Distance: 3 Meters Sequence#: 3 Polarity: Horiz
Notes: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit excercise



Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **15.109 CLASS B**
Work Order #: **85695** Date: 9/18/2006
Test Type: **Radiated Scan** Time: 17:34:33
Equipment: **Ultra Compact Laptop** Sequence#: 4
Manufacturer: Vulcan Tested By: Ryan Rutledge
Model: Flipstart WAN
S/N: FCC #3

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Compact Laptop*	Vulcan	Flipstart WAN	FCC #3

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adapter	Celltronics	ZVC36FS12S54	
USB 2.0 Device	Apple	iPod Nano	
PC Monitor	IBM	ThinkVision	23PC350
USB Mouse	Microsoft	Intellimouse Explorer	51381-577-1717291-0000
Unpowered Speakers	Radio Shack	NA	NA
Ethernet Cable			
Earbud/Microphone	Vulcan, Inc	FlipStart E-1000EM	NA
Port Replicator	Vulcan, Inc	FlipStart E-1000PR	NA
FlipStart Extended life Battery 5000 Capacity in mAH	Vulcan Portals, Inc.	E-5000	NA

Test Conditions / Notes:

Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 1 GHz - 6 GHz.

Transducer Legend:

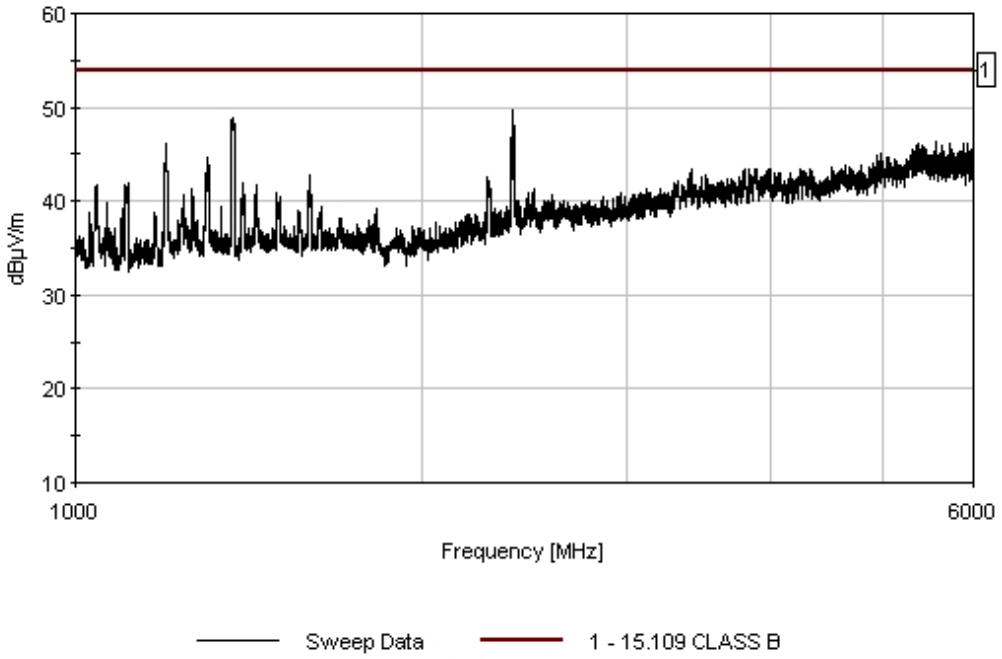
T1=CAB-P05419-031506	T2=Cable ANP05422 - 60"
T3=P05206 40GHz	T4=AMP-AN01271-100305 - .5-26.5 GHz
T5=ANT-AN01412-121305	

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1366.511M Ave	39.3	+1.5 +25.6	+1.7	+0.8	-35.7	+0.0 220	33.2	54.0	-20.8	Vert 134
^	1366.568M	61.2	+1.5 +25.6	+1.7	+0.8	-35.7	+0.0 220	55.1	54.0	+1.1	Vert 134
3	5563.830M Ave	22.2	+3.1 +34.4	+3.6	+1.7	-33.2	+0.0	31.8	54.0	-22.2	Vert 100
^	5563.861M	36.8	+3.1 +34.4	+3.6	+1.7	-33.2	+0.0	46.4	54.0	-7.6	Vert 100

5	2393.032M Ave	28.6	+1.9 +28.6	+2.3	+1.1	-34.0	+0.0 360	28.5	54.0	-25.5	Vert 100
^	2393.120M	50.0	+1.9 +28.6	+2.3	+1.1	-34.0	+0.0 360	49.9	54.0	-4.1	Vert 100
7	1196.994M Ave	35.5	+1.1 +24.7	+1.6	+0.7	-36.3	+0.0 180	27.3	54.0	-26.7	Vert 140
^	1196.935M	56.0	+1.1 +24.7	+1.6	+0.7	-36.3	+0.0 180	47.8	54.0	-6.2	Vert 140
9	1302.025M Ave	33.8	+1.4 +25.3	+1.7	+0.8	-35.9	+0.0 200	27.1	54.0	-26.9	Vert 100
^	1302.100M	55.0	+1.4 +25.3	+1.7	+0.8	-35.9	+0.0 200	48.3	54.0	-5.7	Vert 100
11	1104.000M Ave	36.0	+1.1 +24.2	+1.5	+0.7	-36.7	+0.0 192	26.8	54.0	-27.2	Vert 100
^	1104.072M	54.1	+1.1 +24.2	+1.5	+0.7	-36.7	+0.0 192	44.9	54.0	-9.1	Vert 100

CKC Laboratories Date: 9/18/2006 Time: 17:34:33 Vulcan, Inc. WO#: 85695
15.109 CLASS B Test Distance: 3 Meters Sequence#: 4 Polarity: Vert
Notes: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit excercise



Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **15.109 CLASS B**
Work Order #: **85695** Date: 9/19/2006
Test Type: **Radiated Scan** Time: 09:38:31
Equipment: **Ultra Compact Laptop** Sequence#: 5
Manufacturer: Vulcan Tested By: Ryan Rutledge
Model: Flipstart WAN
S/N: FCC #3

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Compact Laptop*	Vulcan	Flipstart WAN	FCC #3

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adapter	Celltronics	ZVC36FS12S54	
USB 2.0 Device	Apple	iPod Nano	
PC Monitor	IBM	ThinkVision	23PC350
USB Mouse	Microsoft	Intellimouse Explorer	51381-577-1717291-0000
Unpowered Speakers	Radio Shack	NA	NA
Ethernet Cable			
Earbud/Microphone	Vulcan, Inc	FlipStart E-1000EM	NA
Port Replicator	Vulcan, Inc	FlipStart E-1000PR	NA
FlipStart Extended life Battery 5000 Capacity in mAH	Vulcan Portals, Inc.	E-5000	NA

Test Conditions / Notes:

Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. Frequency range tested in this file: 1 GHz - 6 GHz.

Transducer Legend:

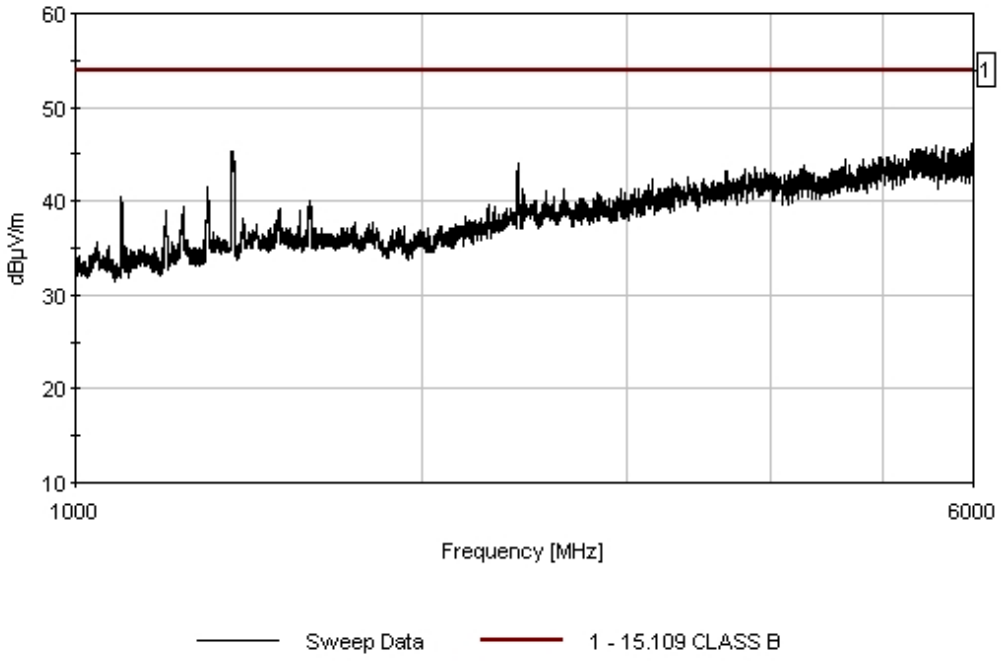
T1=CAB-P05419-031506 T2=Cable ANP05422 - 60"
T3=P05206 40GHz T4=AMP-AN01271-100305 - .5-26.5 GHz
T5=ANT-AN01412-121305

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	1369.623M	53.2	+1.5 +25.6	+1.7	+0.8	-35.6	+0.0 45	47.2	54.0	-6.8	Horiz 200
2	2427.300M	45.2	+1.9 +28.8	+2.3	+1.1	-34.0	+0.0 360	45.3	54.0	-8.7	Horiz 200
3	1301.517M	48.3	+1.4 +25.3	+1.7	+0.8	-35.9	+0.0	41.6	54.0	-12.4	Horiz
4	1096.420M	49.8	+1.1 +24.1	+1.5	+0.7	-36.7	+0.0	40.5	54.0	-13.5	Horiz

5	1594.455M	44.6	+1.5 +26.2	+1.9	+0.8	-35.0	+0.0	40.0	54.0	-14.0	Horiz
6	1240.642M	47.0	+1.2 +24.9	+1.6	+0.8	-36.1	+0.0	39.4	54.0	-14.6	Horiz
7	1502.938M	44.1	+1.5 +26.2	+1.8	+0.8	-35.2	+0.0	39.2	54.0	-14.8	Horiz
8	1196.926M	47.1	+1.1 +24.7	+1.6	+0.7	-36.3	+0.0	38.9	54.0	-15.1	Horiz

CKC Laboratories Date: 9/19/2006 Time: 09:38:31 Vulcan, Inc. WO#: 85695
15.109 CLASS B Test Distance: 3 Meters Sequence#: 5 Polarity: Horiz
Notes: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit excercise



Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.207 - AVE**
Work Order #: **85695** Date: 9/20/2006
Test Type: **Conducted Emissions** Time: 12:16:04
Equipment: **Ultra Compact Laptop** Sequence#: 2
Manufacturer: Vulcan Tested By: Ryan Rutledge
Model: Flipstart WAN 120V 60Hz
S/N: FCC #3

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Compact Laptop*	Vulcan	Flipstart WAN	FCC #3

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adapter	Celltronics	ZVC36FS12S54	
USB 2.0 Device	Apple	iPod Nano	
PC Monitor	IBM	ThinkVision	23PC350
USB Mouse	Microsoft	Intellimouse Explorer	51381-577-1717291-0000
Unpowered Speakers	Radio Shack	NA	NA
Ethernet Cable			
Earbud/Microphone	Vulcan, Inc	FlipStart E-1000EM	NA
Port Replicator	Vulcan, Inc	FlipStart E-1000PR	NA
FlipStart Extended life Battery 5000 Capacity in mAH	Vulcan Portals, Inc.	E-5000	NA

Test Conditions / Notes:

Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. WiFi and Bluetooth transmitters operating at full power. Frequency range tested in this file: 150 kHz - 30 MHz.

Transducer Legend:

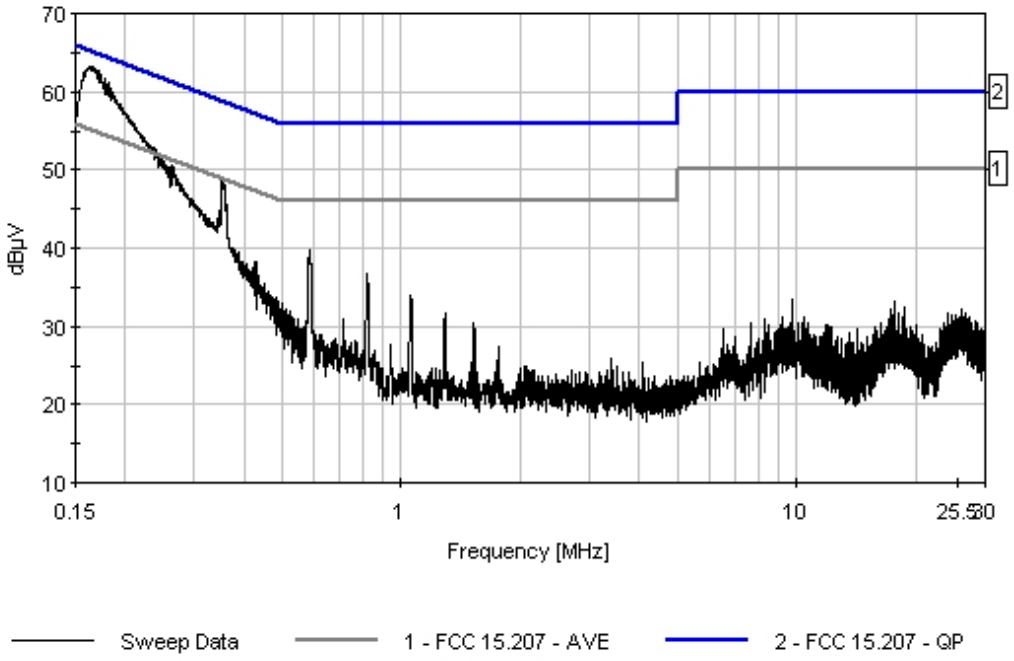
T1=FIL-AN02611-071706	T2=ATT-ANP05506-050106
T3=AN1492 Line EMCO 3816/2NM	T4=Bothell 5 meter cable set

Measurement Data: Reading listed by margin. Test Lead: Line

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	262.353k	40.4	+0.2	+10.0	+0.0	+0.0	+0.0	50.6	51.4	-0.8	Line
2	351.880k Ave	35.2	+0.2	+10.0	+0.0	+0.1	+0.0	45.5	48.9	-3.4	Line
^	353.254k	38.9	+0.2	+10.0	+0.0	+0.1	+0.0	49.2	48.9	+0.3	Line
4	585.960k	29.4	+0.2	+10.0	+0.0	+0.1	+0.0	39.7	46.0	-6.3	Line
5	430.702k	28.0	+0.2	+10.0	+0.0	+0.1	+0.0	38.3	47.2	-8.9	Line

6	821.938k	26.2	+0.2	+10.0	+0.0	+0.2	+0.0	36.6	46.0	-9.4	Line
7	1.058M	23.5	+0.2	+10.0	+0.0	+0.2	+0.0	33.9	46.0	-12.1	Line
8	180.270k	30.0	+0.5	+10.0	+0.1	+0.0	+0.0	40.6	54.5	-13.9	Line
	Ave										
^	181.270k	50.8	+0.4	+10.0	+0.0	+0.0	+0.0	61.2	54.4	+6.8	Line
10	165.100k	30.7	+0.5	+10.0	+0.1	+0.0	+0.0	41.3	55.2	-13.9	Line
	Ave										
^	164.181k	52.6	+0.6	+10.0	+0.1	+0.0	+0.0	63.3	55.2	+8.1	Line
12	524.148k	21.4	+0.3	+10.0	+0.1	+0.1	+0.0	31.9	46.0	-14.1	Line

CKC Laboratories Date: 9/20/2006 Time: 12:16:04 Vulcan, Inc. WO#: 85695
FCC 15.207 - AVE Test Lead: Line 120V 60Hz Sequence#: 2 Polarity: Line
Notes: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit excercise



Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.207 - AVE**
Work Order #: **85695** Date: 9/20/2006
Test Type: **Conducted Emissions** Time: 12:22:04
Equipment: **Ultra Compact Laptop** Sequence#: 3
Manufacturer: Vulcan Tested By: Ryan Rutledge
Model: Flipstart WAN 120V 60Hz
S/N: FCC #3

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Compact Laptop*	Vulcan	Flipstart WAN	FCC #3

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adapter	Celltronics	ZVC36FS12S54	
USB 2.0 Device	Apple	iPod Nano	
PC Monitor	IBM	ThinkVision	23PC350
USB Mouse	Microsoft	Intellimouse Explorer	51381-577-1717291-0000
Unpowered Speakers	Radio Shack	NA	NA
Ethernet Cable			
Earbud/Microphone	Vulcan, Inc	FlipStart E-1000EM	NA
Port Replicator	Vulcan, Inc	FlipStart E-1000PR	NA
FlipStart Extended life Battery 5000 Capacity in mAH	Vulcan Portals, Inc.	E-5000	NA

Test Conditions / Notes:

Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit exercised in worst case configuration. WiFi and Bluetooth transmitters operating at full power. Frequency range tested in this file: 150 kHz - 30 MHz.

Transducer Legend:

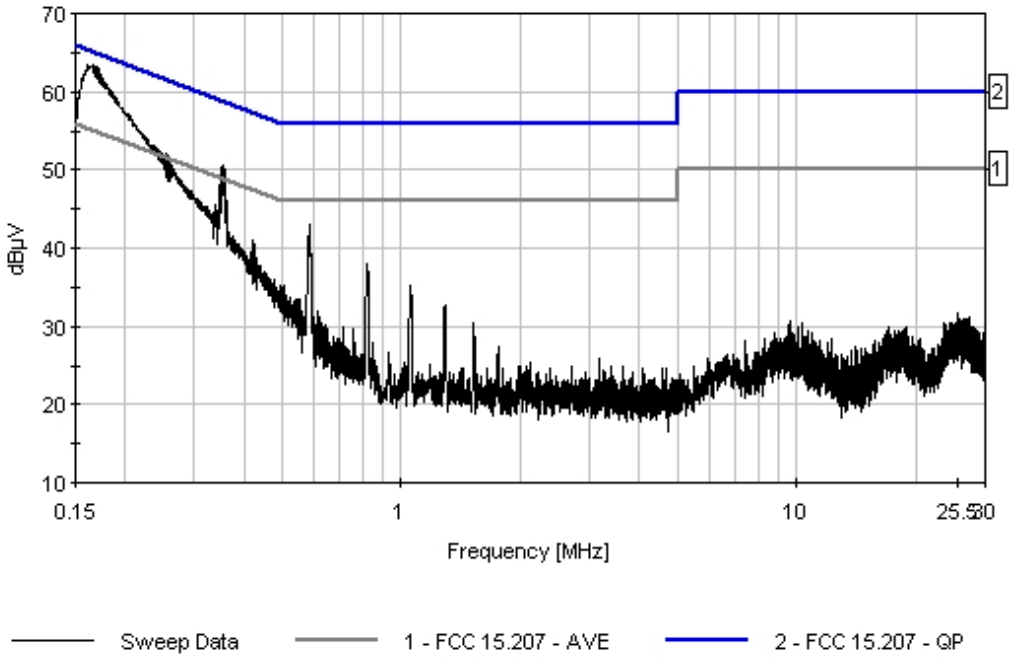
T1=FIL-AN02611-071706	T2=ATT-ANP05506-050106
T3=AN1492 Neutral EMCO 3816/2NM	T4=Bothell 5 meter cable set

Measurement Data: Reading listed by margin. Test Lead: Neutral

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1 Ave	351.670k	36.9	+0.2	+10.0	+0.0	+0.1	+0.0	47.2	48.9	-1.7	Neutr
^	356.163k	40.2	+0.2	+10.0	+0.0	+0.1	+0.0	50.5	48.8	+1.7	Neutr
3	585.596k	32.7	+0.2	+10.0	+0.0	+0.1	+0.0	43.0	46.0	-3.0	Neutr
4	423.793k	30.4	+0.1	+10.0	+0.0	+0.1	+0.0	40.6	47.4	-6.8	Neutr
5	819.757k	27.7	+0.2	+10.0	+0.0	+0.2	+0.0	38.1	46.0	-7.9	Neutr

6	1.056M	24.8	+0.2	+10.0	+0.0	+0.2	+0.0	35.2	46.0	-10.8	Neutr
7	1.290M	22.3	+0.2	+10.0	+0.0	+0.2	+0.0	32.7	46.0	-13.3	Neutr
8	169.120k Ave	29.9	+0.5	+10.0	+0.1	+0.0	+0.0	40.5	55.0	-14.5	Neutr
^	165.635k	52.8	+0.6	+10.0	+0.1	+0.0	+0.0	63.5	55.2	+8.3	Neutr
10	1.524M	20.1	+0.2	+10.0	+0.0	+0.2	+0.0	30.5	46.0	-15.5	Neutr
11	25.427M	20.2	+0.3	+10.0	+0.4	+0.7	+0.0	31.6	50.0	-18.4	Neutr
12	1.760M	17.0	+0.2	+10.0	+0.0	+0.2	+0.0	27.4	46.0	-18.6	Neutr

CKC Laboratories Date: 9/20/2006 Time: 12:22:04 Vulcan, Inc. WO#: 85695
FCC 15.207 - AVE Test Lead: Neutral 120V 60Hz Sequence#: 3 Polarity: Neutral
Notes: Flipstart Laptop placed on non-conductive table 80 cm above conductive floor. All ports loaded and unit excercise



Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **15.247(d) Conducted Spurious emission**
Work Order #: **85535** Date: 10/20/2006
Test Type: **Conducted Emissions** Time: 11:11:53
Equipment: **Ultra Portable Computer** Sequence#: 23
Manufacturer: Vulcan Portals, Inc. Tested By: Eddie Wong
Model: Flipstart 1000 Series 120V 60Hz
S/N: 003401-A068G01T

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Portable Computer*	Vulcan Portals, Inc.	Flipstart 1000 Series	003401-A068G01T

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table. Evaluation of spurious emission is conducted without peripherals attached to the EUT. evaluation performed at RF output port. Frequency: 2441 MHz. Modulation: Bluetooth Frequency range of measurement = 9 kHz - 25 GHz. Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz - 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 25000 MHz RBW=1 MHz, VBW=1 MHz. 110Vac, 60 Hz, 21°C, 43% relative humidity.

Transducer Legend:

T1=Cable ANP05422 - 60"	T2=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Lead: RF Output port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	4882.000M	54.7	+3.4	+0.3			+0.0	58.4	88.0	-29.6	RF Ou
2	7323.150M	37.5	+4.2	+0.1			+0.0	41.8	88.0	-46.2	RF Ou
3	3254.730M	33.3	+2.7	+0.5			+0.0	36.5	88.0	-51.5	RF Ou

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer:	**Vulcan Portals, Inc.**		
Specification:	**15.247(d) Conducted Spurious emission**		
Work Order #:	**85535**	Date:	10/20/2006
Test Type:	**Conducted Emissions**	Time:	11:09:12
Equipment:	**Ultra Portable Computer**	Sequence#:	22
Manufacturer:	Vulcan Portals, Inc.	Tested By:	Eddie Wong
Model:	Flipstart 1000 Series		120V 60Hz
S/N:	003401-A068G01T		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Portable Computer*	Vulcan Portals, Inc.	Flipstart 1000 Series	003401-A068G01T

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table. Evaluation of spurious emission is conducted without peripherals attached to the EUT. evaluation performed at RF output port. Frequency: 2402MHz. Modulation: Bluetooth Frequency range of measurement = 9 kHz - 25 GHz. Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz - 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 25000 MHz RBW=1 MHz, VBW=1 MHz. 110Vac, 60 Hz, 21°C, 43% relative humidity.

Transducer Legend:

T1=Cable ANP05422 - 60"	T2=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Lead: RF Output port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	4804.030M	56.0	+3.3	+0.3			+0.0	59.6	88.0	-28.4	RF Ou
2	7205.870M	35.3	+4.2	+0.1			+0.0	39.6	88.0	-48.4	RF Ou

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer:	**Vulcan Portals, Inc.**		
Specification:	**15.247(d) Conducted Spurious emission**		
Work Order #:	**85535**	Date:	10/20/2006
Test Type:	**Conducted Emissions**	Time:	11:23:03
Equipment:	**Ultra Portable Computer**	Sequence#:	24
Manufacturer:	Vulcan Portals, Inc.	Tested By:	Eddie Wong
Model:	Flipstart 1000 Series		120V 60Hz
S/N:	003401-A068G01T		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Ultra Portable Computer*	Vulcan Portals, Inc.	Flipstart 1000 Series	003401-A068G01T

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table. Evaluation of spurious emission is conducted without peripherals attached to the EUT. Evaluation performed at RF output port. Frequency: 2462MHz. Modulation: Bluetooth. Frequency range of measurement = 9 kHz - 25 GHz. Frequency 9 kHz - 150 kHz RBW=200 Hz, VBW=200 Hz; 150 kHz - 30 MHz RBW=9 kHz, VBW=9 kHz; 30 MHz - 1000 MHz RBW=120 kHz, VBW=120 kHz; 1000 MHz - 25000 MHz RBW=1 MHz, VBW=1 MHz. 110Vac, 60 Hz, 21°C, 43% relative humidity.

Transducer Legend:

T1=Cable ANP05422 - 60"	T2=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Lead: RF Output port

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	4959.930M	54.8	+3.4	+0.3			+0.0	58.5	88.0	-29.5	RF Ou
2	9919.950M	41.3	+5.0	+0.2			+0.0	46.5	88.0	-41.5	RF Ou
3	7440.050M	39.7	+4.2	+0.1			+0.0	44.0	88.0	-44.0	RF Ou
4	12399.880 M	33.9	+5.8	+0.1			+0.0	39.8	88.0	-48.2	RF Ou

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**
Work Order #: **86066** Date: 3/7/2007
Test Type: **Radiated Scan** Time: 10:03:01
Equipment: **FlipStart Computer** Sequence#: 17
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: E-1001
S/N: VULCANE1001 6BD01Y

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Frequency: 2412 MHz. Modulation: 802.11g @ 54 Mbps. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, Average detection 120Vac, 60 Hz, 22°C, 34 % relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4822.720M	35.2	+33.3	-33.0	+3.5	+5.5	+0.0	47.9	54.0	-6.1	Vert
	Ave		+3.1	+0.3			298				116
^	4822.680M	50.4	+33.3	-33.0	+3.5	+5.5	+0.0	63.1	54.0	+9.1	Vert
			+3.1	+0.3			298				116
3	4822.660M	26.6	+33.3	-33.0	+3.5	+5.5	+0.0	39.3	54.0	-14.7	Horiz
	Ave		+3.1	+0.3			349				116
^	4822.670M	42.4	+33.3	-33.0	+3.5	+5.5	+0.0	55.1	54.0	+1.1	Horiz
			+3.1	+0.3			349				116

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**
Work Order #: **86066** Date: 3/7/2007
Test Type: **Radiated Scan** Time: 10:15:37
Equipment: **FlipStart Computer** Sequence#: 18
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: E-1001
S/N: VULCANE1001 6BD01Y

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Frequency: 2437 MHz. Modulation: 802.11g @ 54 Mbps. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, Average detection 120Vac, 60 Hz, 22°C, 34 % relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4872.900M	29.1	+33.4	-33.0	+3.6	+5.5	+0.0	42.1	54.0	-11.9	Vert
	Ave		+3.2	+0.3			295				116
^	4872.840M	44.9	+33.4	-33.0	+3.6	+5.5	+0.0	57.9	54.0	+3.9	Vert
			+3.2	+0.3			295				116
3	4872.890M	23.6	+33.4	-33.0	+3.6	+5.5	+0.0	36.6	54.0	-17.4	Horiz
	Ave		+3.2	+0.3			360				120
^	4872.940M	38.9	+33.4	-33.0	+3.6	+5.5	+0.0	51.9	54.0	-2.1	Horiz
			+3.2	+0.3			360				120

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**
Work Order #: **86066** Date: 3/7/2007
Test Type: **Radiated Scan** Time: 10:47:24
Equipment: **FlipStart Computer** Sequence#: 19
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: E-1001
S/N: VULCANE1001 6BD01Y

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Frequency: 2462 MHz. Modulation: 802.11g @ 54 Mbps. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, Average detection 120Vac, 60 Hz, 22°C, 34 % relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4922.740M	21.2	+33.5	-32.9	+3.6	+5.5	+0.0	34.4	54.0	-19.6	Vert
	Ave		+3.2	+0.3			360				119
^	4922.700M	35.5	+33.5	-32.9	+3.6	+5.5	+0.0	48.7	54.0	-5.3	Vert
			+3.2	+0.3			360				119
3	4922.830M	21.2	+33.5	-32.9	+3.6	+5.5	+0.0	34.4	54.0	-19.6	Horiz
	Ave		+3.2	+0.3			360				116
^	4922.870M	35.1	+33.5	-32.9	+3.6	+5.5	+0.0	48.3	54.0	-5.7	Horiz
			+3.2	+0.3			360				116

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**
Work Order #: **86066** Date: 3/7/2007
Test Type: **Radiated Scan** Time: 09:50:27
Equipment: **FlipStart Computer** Sequence#: 15
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: E-1001
S/N: VULCANE1001 6BD01Y

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Frequency: 2437 MHz. Modulation: 802.11b @ 11 Mbps. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, Average detection 120Vac, 60 Hz, 22°C, 34 % relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4873.940M	33.3	+33.4	-33.0	+3.6	+5.5	+0.0	46.3	54.0	-7.7	Vert
	Ave		+3.2	+0.3			295				116
^	4873.970M	47.6	+33.4	-33.0	+3.6	+5.5	+0.0	60.6	54.0	+6.6	Vert
			+3.2	+0.3			295				116
3	4873.940M	29.1	+33.4	-33.0	+3.6	+5.5	+0.0	42.1	54.0	-11.9	Horiz
	Ave		+3.2	+0.3			348				126
^	4874.020M	43.4	+33.4	-33.0	+3.6	+5.5	+0.0	56.4	54.0	+2.4	Horiz
			+3.2	+0.3			348				126

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**
Work Order #: **86066** Date: 3/7/2007
Test Type: **Radiated Scan** Time: 09:33:59
Equipment: **FlipStart Computer** Sequence#: 14
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: E-1001
S/N: VULCANE1001 6BD01Y

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Frequency: 2412 MHz. Modulation: 802.11b @ 11 Mbps. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, Average detection 120Vac, 60 Hz, 21°C, 34 % relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4823.760M	39.9	+33.3	-33.0	+3.5	+5.5	+0.0	52.6	54.0	-1.4	Vert
	Ave		+3.1	+0.3			299				132
^	4823.800M	54.5	+33.3	-33.0	+3.5	+5.5	+0.0	67.2	54.0	+13.2	Vert
			+3.1	+0.3			299				132
3	4823.990M	31.7	+33.3	-33.0	+3.5	+5.5	+0.0	44.4	54.0	-9.6	Horiz
	Ave		+3.1	+0.3			347				129
^	4824.020M	46.8	+33.3	-33.0	+3.5	+5.5	+0.0	59.5	54.0	+5.5	Horiz
			+3.1	+0.3			347				129

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**
Work Order #: **86066** Date: 3/7/2007
Test Type: **Radiated Scan** Time: 09:30:13
Equipment: **FlipStart Computer** Sequence#: 16
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: E-1001
S/N: VULCANE1001 6BD01Y

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Frequency: 2462 MHz. Modulation: 802.11b @ 11 Mbps. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, Average detection 120Vac, 60 Hz, 22°C, 34 % relative humidity..

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4924.010M	26.4	+33.5	-32.9	+3.6	+5.5	+0.0	39.6	54.0	-14.4	Vert
	Ave		+3.2	+0.3			19				113
^	4923.930M	41.1	+33.5	-32.9	+3.6	+5.5	+0.0	54.3	54.0	+0.3	Vert
			+3.2	+0.3			19				113
3	4924.010M	23.6	+33.5	-32.9	+3.6	+5.5	+0.0	36.8	54.0	-17.2	Horiz
	Ave		+3.2	+0.3			6				116
^	4923.930M	38.0	+33.5	-32.9	+3.6	+5.5	+0.0	51.2	54.0	-2.8	Horiz
			+3.2	+0.3			6				116

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**
Work Order #: **86066** Date: 3/6/2007
Test Type: **Radiated Scan** Time: 14:37:01
Equipment: **FlipStart Computer** Sequence#: 11
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: E-1001
S/N: VULCANE1001 6BD01Y

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Bluetooth channel 39 Frequency: 2441 MHz. Modulation: Bluetooth. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, Average detection 120Vac, 60 Hz, 23°C, 31 % relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745
T7=ANT-AN02741-041306	T8=ANT-AN02742-041406

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4881.992M	36.3	+33.4	-33.0	+3.6	+5.5	+0.0	49.3	54.0	-4.7	Vert
	Ave		+3.2	+0.3			265				103
2	4881.988M	25.5	+33.4	-33.0	+3.6	+5.5	+0.0	38.5	54.0	-15.5	Horiz
	Ave		+3.2	+0.3			262				152

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer: **Vulcan Portals, Inc.**
Specification: **FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**
Work Order #: **86066** Date: 3/6/2007
Test Type: **Radiated Scan** Time: 14:24:47
Equipment: **FlipStart Computer** Sequence#: 10
Manufacturer: Vulcan Portals, Inc. Tested By: Ryan Rutledge
Model: E-1001
S/N: VULCANE1001 6BD01Y

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Frequency: 2402 MHz. Modulation: Bluetooth. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, VBW=1 MHz. 120Vac, 60 Hz, 23°C, 31 % relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745
T7=ANT-AN02741-041306	T8=ANT-AN02742-041406

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4804.000M	37.7	+33.2	-33.0	+3.5	+5.5	+0.0	50.3	54.0	-3.7	Vert
	Ave		+3.1	+0.3			266		U68 BT63 TXData		105
2	4804.000M	26.4	+33.2	-33.0	+3.5	+5.5	+0.0	39.0	54.0	-15.0	Horiz
	Ave		+3.1	+0.3			28		U68 BT63 TXData		150

Test Location: CKC Laboratories •22116 23rd Dr SE • Bothell, WA 98021-4413 • 425-402-1717

Customer:	**Vulcan Portals, Inc.**		
Specification:	**FCC 15.247 (d) / 15.209 / 15.205 with 2.4 GHz FHSS**		
Work Order #:	**86066**	Date:	3/6/2007
Test Type:	**Radiated Scan**	Time:	14:40:15
Equipment:	**FlipStart Computer**	Sequence#:	12
Manufacturer:	Vulcan Portals, Inc.	Tested By:	Ryan Rutledge
Model:	E-1001		
S/N:	VULCANE1001 6BD01Y		

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
FlipStart Computer*	Vulcan Portals, Inc.	E-1001	VULCANE1001 6BD01Y

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is placed on the wooden table with 10 cm foam spacer from wood. Evaluation of spurious emissions is conducted without peripherals attached to the EUT. Bluetooth channel 78 Frequency: 2480 MHz. Modulation: Bluetooth. Frequency range of measurement = 1 - 25 GHz. Frequency 1000 MHz - 25000 MHz RBW=1 MHz, Average detection 120Vac, 60 Hz, 23°C, 31 % relative humidity.

Transducer Legend:

T1=ANT-AN01412-121305	T2=AMP-AN01271-100305 - .5-26.5 GHz
T3=CAB-ANP05545-061906	T4=CAB-ANP05425-051006
T5=CAB-ANP05423-051006	T6=Filter 3GHz HP AN02745
T7=ANT-AN02741-041306	T8=ANT-AN02742-041406

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6	T7	T8					
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	4959.978M	32.1	+33.6	-32.9	+3.7	+5.6	+0.0	45.6	54.0	-8.4	Vert
	Ave		+3.2	+0.3			269				102