Lab Code: 200167-0

FCC PART 15 SUBPART C

TEST AND MEASUREMENT REPORT

For

Actiontec Electronics, Inc.

760 N. Mary Avenue,

Sunnyvale, CA 94085, USA

FCC ID: LNQMI424WRG
Model: MI424WR REV.G

Report Type:	**Product Type:**
Original Report	Wireless 11b/g/n 2x2 Broadband Home Router

Test Engineers:	Kevin Li
Report Number:	R1001125-247
Report Date:	2010-01-27
Reviewed By:	Boni Baniqued EMC/RF Supervisor
Prepared By: (84)	Bay Area Compliance Laboratories Corp. 1274 Anvilwood Avenue, Sunnyvale, CA 94089, USA Tel: (408) 732-9162 Fax: (408) 732-9164

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1001125-247	Original Report	2010-01-27

1 General Description

1.1 Product Description for Equipment Under Test (EUT)

The *Actiontec Electronics*, Inc., product model: *MI424-WR REV.G*, FCC ID: *LNQMI424WRG* or the "EUT" as referred to in this report is a Wireless 11b/g/n 2x2 Broadband Home Router.

1.2 Mechanical Description of EUT

The "EUT" measures approximately 25.5cm (L) x 14cm (W) x4.5cm (H), and weighs approximately 527g.

** The test data gathered are from typical production sample, serial number: CSJG9511500024, provided by the manufacturer.*

1.3 EUT Photo

Please refer to Exhibit C for more EUT photographs.

1.4 Objective

This original measurement and test report is prepared on behalf of *Actiontec Electronics Inc.*, in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC rules for Output Power, Antenna Requirements, 6 dB Bandwidth, and power spectral density, 100 kHz Bandwidth of Band Edges Measurement, Spurious Emissions, Conducted and Radiated Spurious Emissions.

1.5 Related Submittal(s)/Grant(s)

No Related Submittals

1.6 Test Methodology

All measurements contained in this report were conducted in accordance with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.7 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are: spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the values range from $\pm$2.0 for Conducted Emissions tests and $\pm$4.0 dB for Radiated Emissions tests are the most accurate estimates pertaining to uncertainty of EMC measurements at BACL.

Detailed instrumentation measurement uncertainties can be found in BACL report QAP-018.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

1.8 Test Facility

The test site used by BACL Corp. to collect radiated and conducted emissions measurement data is located at its facility in Sunnyvale, California, USA.

The test sites at BACL have been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997, and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission, Industry Canada, and Voluntary Control Council for Interference has the reports on file and is listed under FCC registration number: 90464, IC registration number: 3062A, and VCCI Registration Number: C-2463 and R-2698. The test site has been approved by the FCC, IC, and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200167-0). The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2001670.htm

2 System Test Configuration

2.1 Justification

The EUT and its host were configured for testing according to ANSI C63.4-2003.

The EUT was tested in a testing mode to represent worst-case results during the final qualification test with the host model: Q1000.

The worst-case data rates are determined to be as follows for each mode based upon investigation by measuring the average power, peak power and PPSD across all data rates bandwidths, and modulations.

2.2 EUT Exercise Software

The EUT had been tested with the following data rate settings (worst case):

Radio Mode	Band Width (MHz)	Frequency/Data rate		
		Low Channel (MHz/Mbps)	Middle Channel (MHz/Mbps)	High Channel (MHz)
802.11b	20	2412/1	2437/1	2462/1
802.11g	20	2412/6	2437/6	2462/6
802.11n	20	2412/6.5	2437/6.5	2462/6.5

2.3 Equipment Modifications

No modifications were made to the EUT.

2.4 Special Accessories

N/A

2.5 Local Support Equipment

Manufacturer	Description	Model No.	Serial No.
IBM	Laptop	T41	00416
Actiontec	Debug Card	055441A	-

2.6 Internal Configuration

Manufacturer	Description	Model No.	Serial No.
Actiontec	PCB Board	06321A	-

2.7 Power Supply and Line Filters

Manufacturer	Description	Model No.	Serial No.
Actiontec	AC/DC Power Adapter	STD-10016U	B3015979

2.8 Interface Ports and Cabling

Cable Description	Length (m)	From	To
Internet Cable	< 2 m	EUT	Laptop
Internet Cable	< 2 m	EUT	PSA
Converter Cable	< 2 m	EUT	Laptop

3 Summary of Test Results

Results reported relate only to the product tested.

FCC Rules	Description of Test	Results
§15.247 (i) §2.1091	RF Exposure	Compliant
§15.203	Antenna Requirement	Compliant
§ 15.207 (a)	Conducted Emissions	Compliant
§2.1051 §15.247 (d)	Spurious Emissions at Antenna Port	Compliant
§15.205	Restricted Bands	Compliant
§15.209 (a) §15.247 (d)	Radiated Spurious Emissions	Compliant
§15.247 (a)(2)	6 dB Bandwidth	Compliant
§15.247 (b)(3)	Maximum Peak Output Power	Compliant
§ 15.247 (d)	100 kHz Bandwidth of Frequency Band Edge	Compliant
§15.247 (e)	Power Spectral Density	Compliant

4 FCC §15.247 (i) & § 2.1091 - RF Exposure

4.1 Applicable Standard

According to §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

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

4.2 MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density
P = power input to antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

4.3 MPE Results

Mode	Frequency Band	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	Power Density (mw/cm^2)	Result
WLAN	2.4 GHz	20	23.70	5	0.248	Compliance

The predicted power density level at 20 cm is $0.248 mw/cm^2$ which is below the uncontrolled exposure limit of $1.0 mW/cm^2$. The EUT is used at least 20 cm away from user's body. It is determined as mobile equipment and complies with the MPE limit.

5 FCC §15.203 - Antenna Requirement

5.1 Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

And according to § 15.247 (b) (4), if transmitting antennas of directional gain greater than 6 dBi are used the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.2 Antenna Connector Construction

EUT has two Transmitter/Receiver antennae which are both external antennae and features a permanent attachment to the EUT chassis as well as non-standard connector. The Transmitter antenna has a max gain of 2 dBi which fulfills the requirements of FCC rule 15.203.

Frequency Band	Antenna 0 Gain (dBi)	Antenna 1 Gain (dBi)	Maximum Effective Gain (dBi)
2.4 GHz	2.0	2.0	5.01

5.3 Antenna Photo

6 FCC §15.207 - Conducted Emissions

6.1 Applicable Standard

Section 15.207 Conducted limits:

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

** Decreases with the logarithm of the frequency.*

6.2 Test Setup

The measurement was performed at shield room, using the setup per ANSI C63.4-2003 measurement procedure. The specification used was FCC Part15.207 limits.

External I/O cables were draped along the edge of the test table and bundle when necessary.

The AC/DC power adapter of the unit was connected with LISN-1 which provided 120 V/60 Hz AC power.

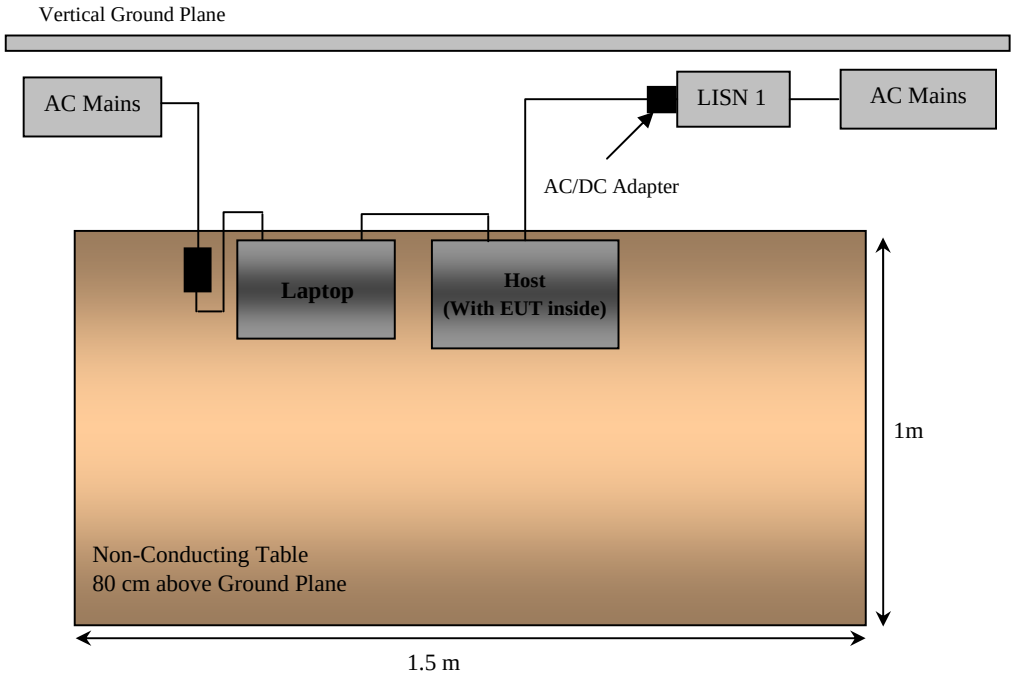
6.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date
Solar Electronics	LISN	9252-R-24-BNC	511205	2009-07-31
Rohde & Schwarz	EMI Test Receiver	ESCI 1166.5950K03	100337	2009-04-21

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

6.4 Test Setup Block Diagram

Conducted Emissions



6.5 Test Procedure

During the conducted emissions test, the power cord of the EUT host system was connected to the mains outlet of the LISN-2.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the peak detection mode, quasi-peak and average. Quasi-Peak readings are distinguished with a "QP". Average readings are distinguished with an "Ave".

6.6 Test Environmental Conditions

Temperature:	18-22 °C
Relative Humidity:	40-44 %
ATM Pressure:	101-103kPa

**The testing was performed by Kevin Li from 2010-01-15 in 5 meter chamber 3.*

6.7 Summary of Test Results

According to the recorded data in following table, the EUT complied with the FCC standard's conducted emissions limits, with the *worst* margin reading of:

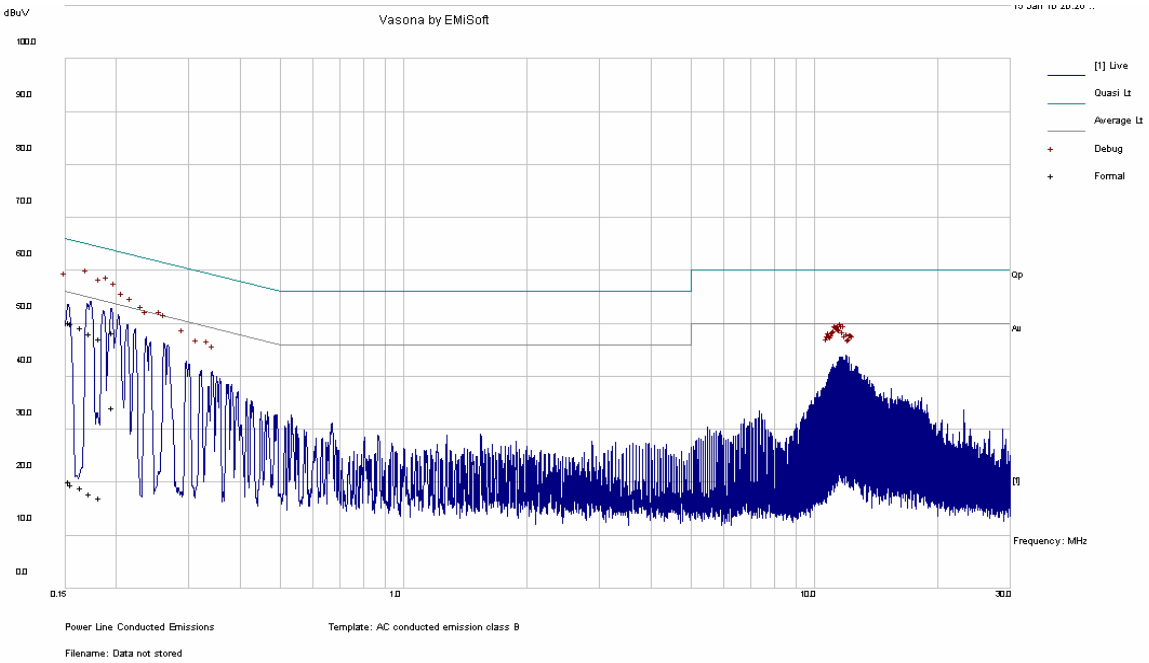
Worst Case: 802.11b 20MHz BW Low Channel (2412 MHz)

Connection: AC/DC adapter connected to 120 V/60 Hz AC			
Margin (dB)	**Frequency (MHz)**	**Conductor Mode (Line/Neutral)**	**Range (MHz)**
-15.41	0.156777	Line	0.15 to 30
-15.20	0.157599	Neutral	0.15 to 30

6.8 Conducted Emissions Test Plots and Data

Please refer to the following plots and tables.

120 V, 60 Hz – Line



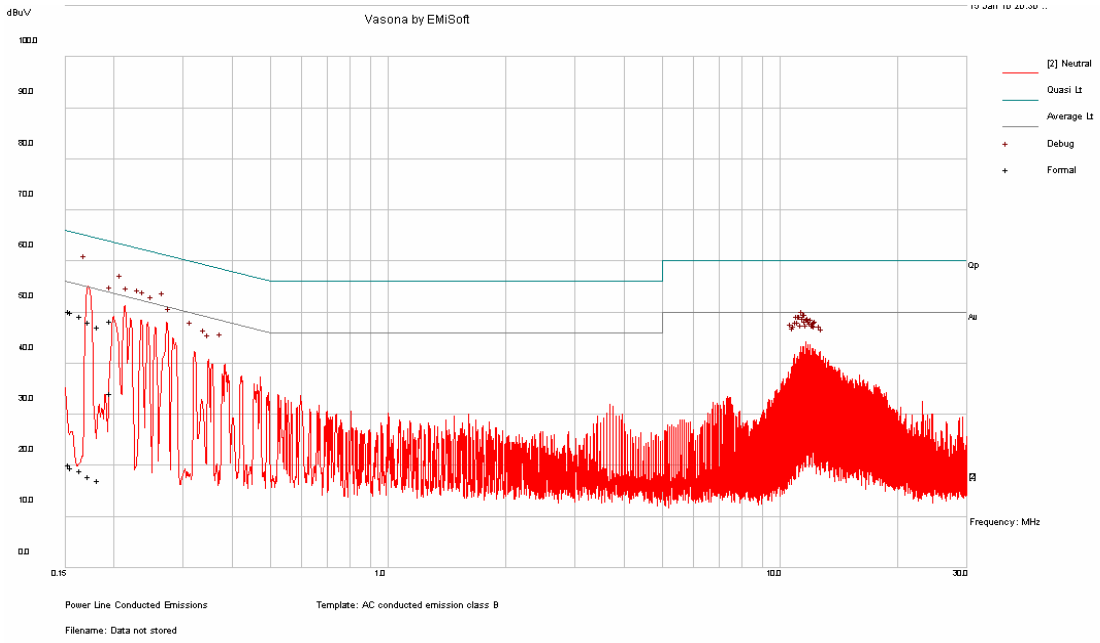
Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/ Neutral)	Limit (dBµV)	Margin (dB)
0.156777	50.22	Line	65.63	-15.41
0.199518	48.20	Line	63.63	-15.43
0.15918	50.07	Line	65.51	-15.44
0.167778	49.28	Line	65.07	-15.79
0.176373	48.14	Line	64.65	-16.52
0.18558	47.06	Line	64.23	-17.17

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/ Neutral)	Limit (dBµV)	Margin (dB)
0.199518	34.16	Line	53.63	-19.47
0.156777	20.15	Line	55.63	-35.48
0.15918	19.67	Line	55.51	-35.83
0.167778	18.93	Line	55.07	-36.14
0.176373	17.95	Line	54.65	-36.70
0.18558	17.19	Line	54.23	-37.04

120 V, 60 Hz – Neutral



Quasi-Peak Measurements

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/ Neutral)	Limit (dBµV)	Margin (dB)
0.157599	50.39	Neutral	65.59	-15.20
0.201081	48.04	Neutral	63.57	-15.53
0.204045	46.59	Neutral	63.44	-16.85
0.217137	44.42	Neutral	62.93	-18.51
0.226956	43.31	Neutral	62.56	-19.25
0.267597	41.58	Neutral	61.19	-19.61

Average Measurements

Frequency (MHz)	Corrected Amplitude (dBµV)	Conductor (Line/ Neutral)	Limit (dBµV)	Margin (dB)
0.201081	36.85	Neutral	53.57	-16.72
0.267597	32.74	Neutral	51.19	-18.45
0.204045	33.68	Neutral	53.44	-19.76
0.157599	20.32	Neutral	55.59	-35.27
0.217137	14.25	Neutral	52.93	-38.67
0.226956	13.59	Neutral	52.56	-38.97

7 FCC §2.1051 & §15.247(d) - Spurious Emissions at Antenna Terminals

7.1 Applicable Standard

For §15.247(d) in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

Requirements: CFR 47, §2.1051.

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified in §2.1057.

7.2 Measurement Procedure

The RF output of the EUT was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

7.3 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date
Agilent	Spectrum Analyzer	E4440A	MY44303352	2009-04-27

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

7.4 Test Environmental Conditions

Temperature:	18-22 °C
Relative Humidity:	40-44 %
ATM Pressure:	101-103kPa

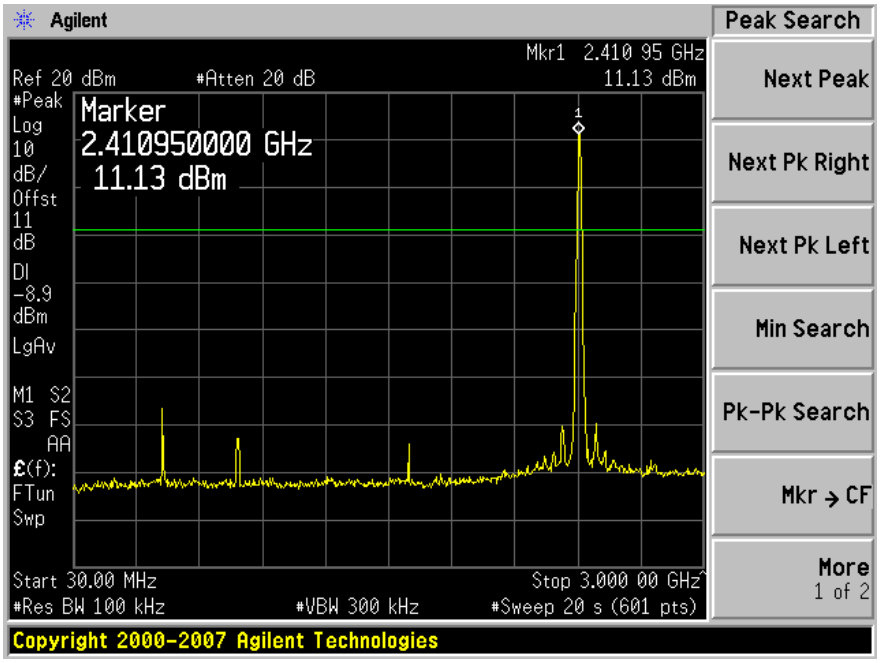
**The testing was performed by Kevin Li from 2010-01-18 to 2010-01-19.*

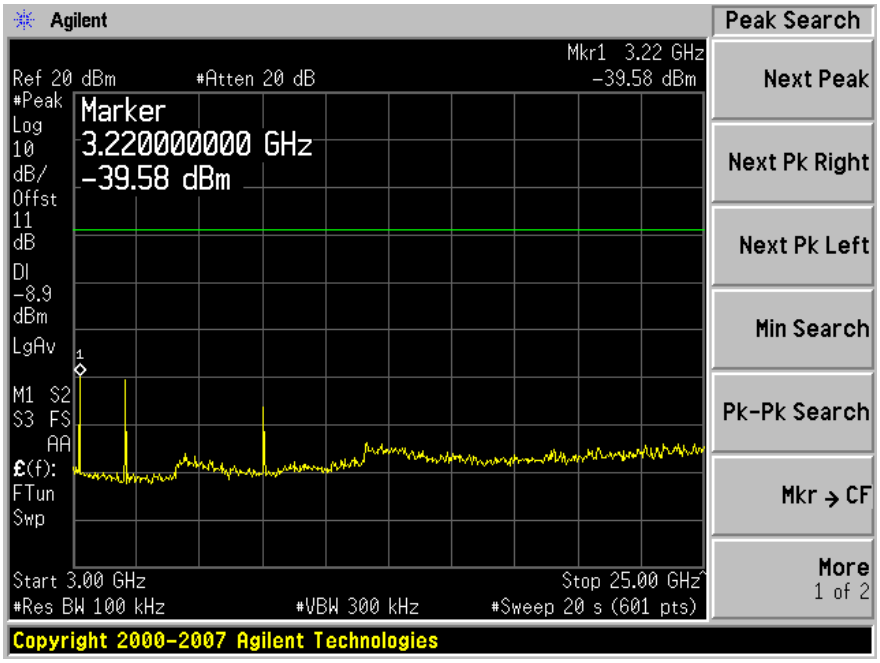
7.5 Measurement Result:

Please refer to following plots of spurious emissions.

802.11 b (Antenna #0)

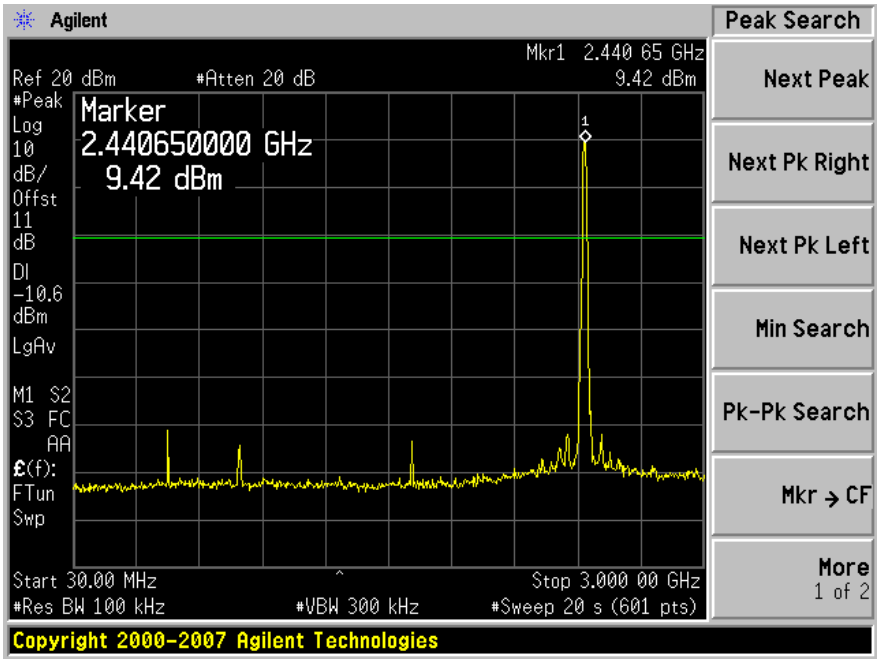
Low Channel 2412 MHz

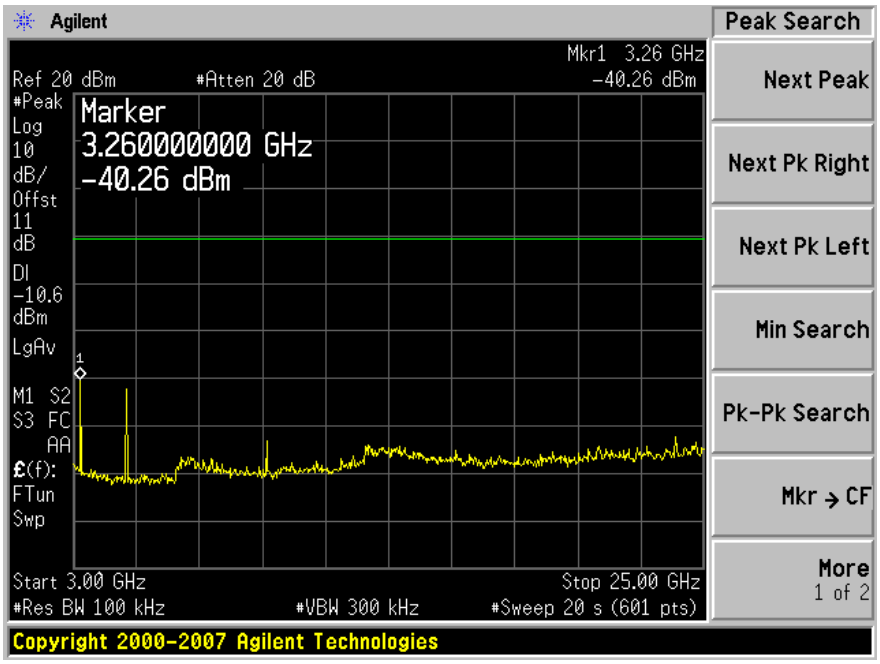




802.11 b (Antenna #0)

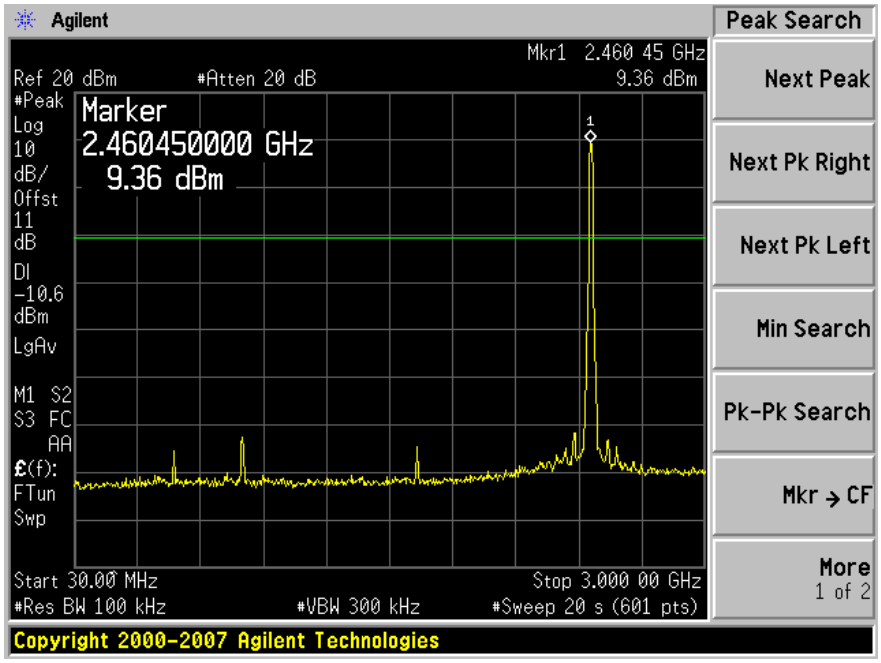
Middle Channel 2437 MHz

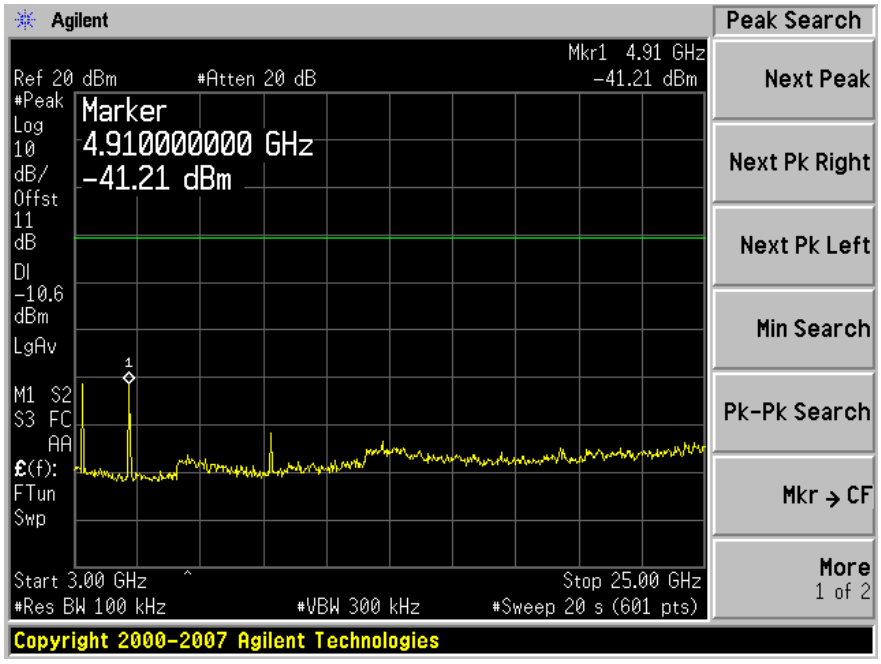




802.11 b (Antenna #0)

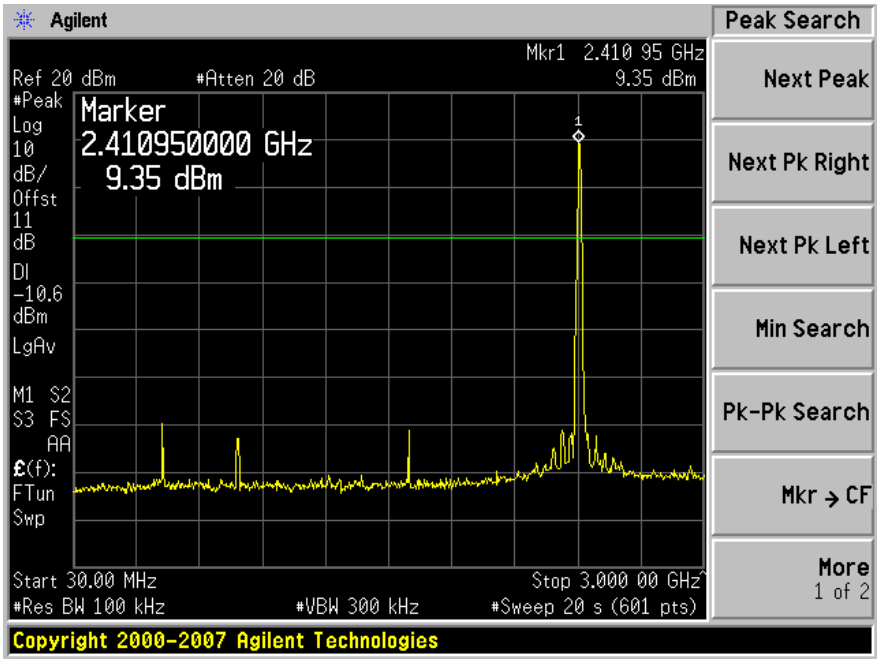
High Channel 2462 MHz

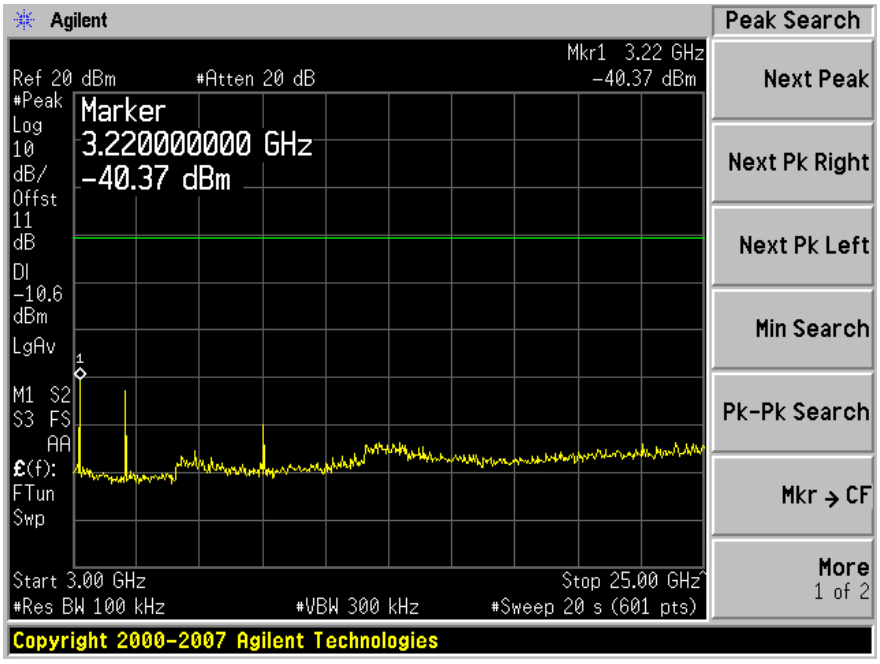




802.11 b (Antenna #1)

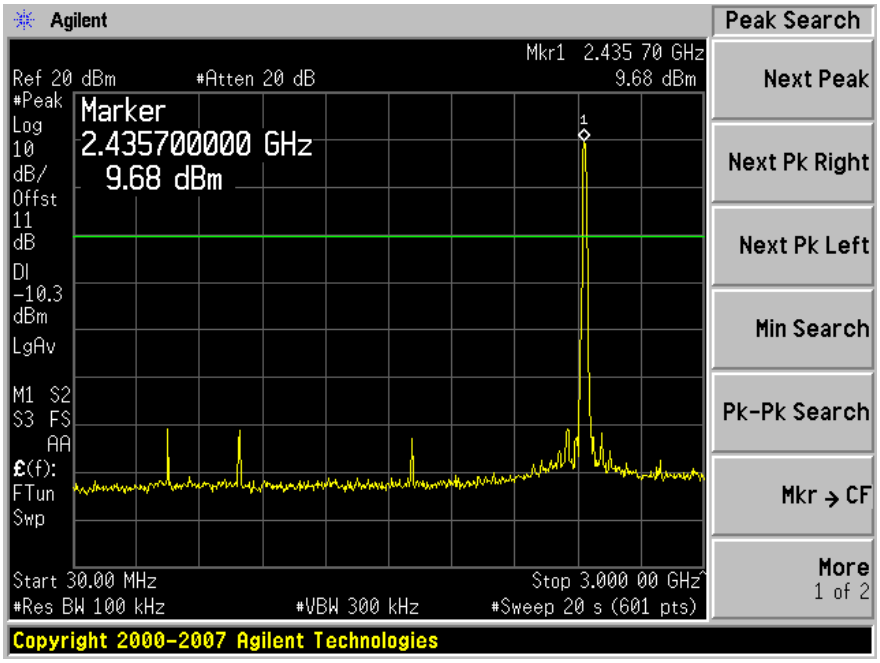
Low Channel 2412 MHz

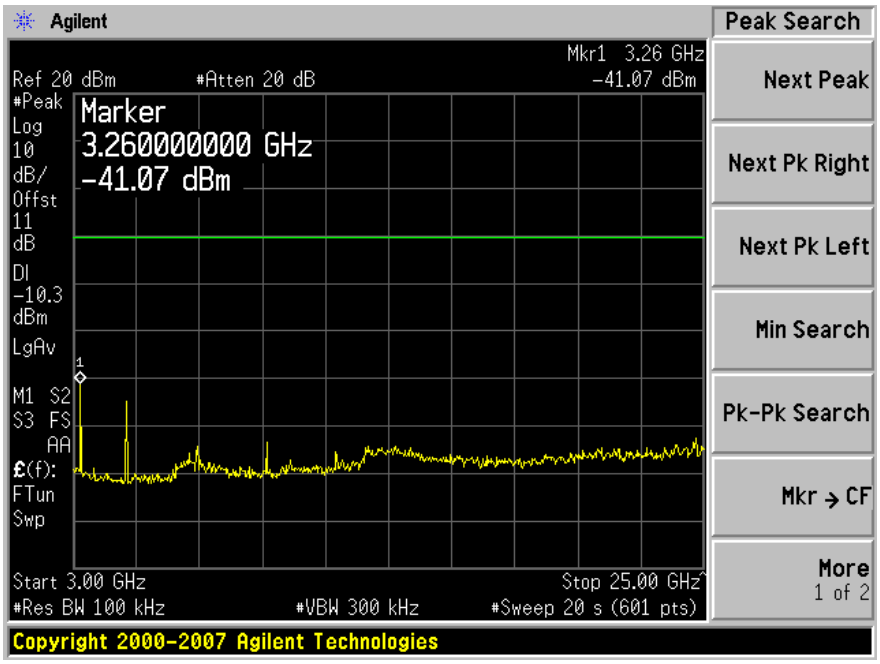




802.11 b (Antenna #1)

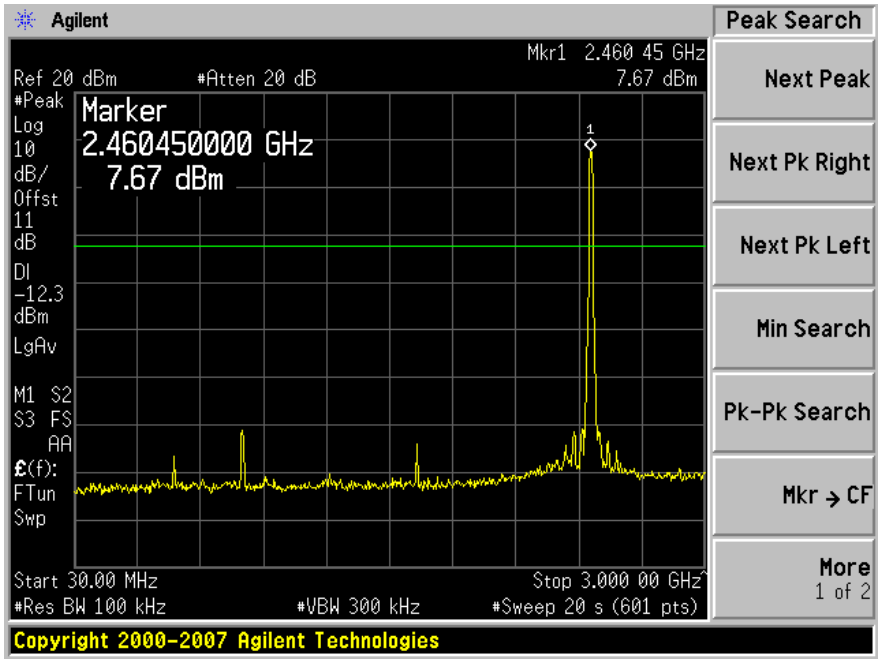
Middle Channel 2437 MHz

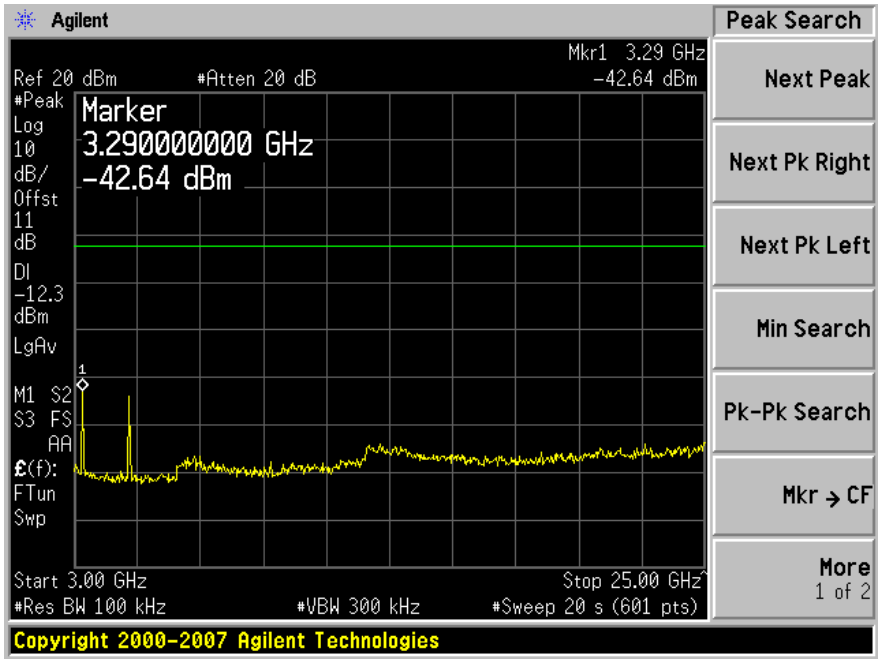




802.11 b (Antenna #1)

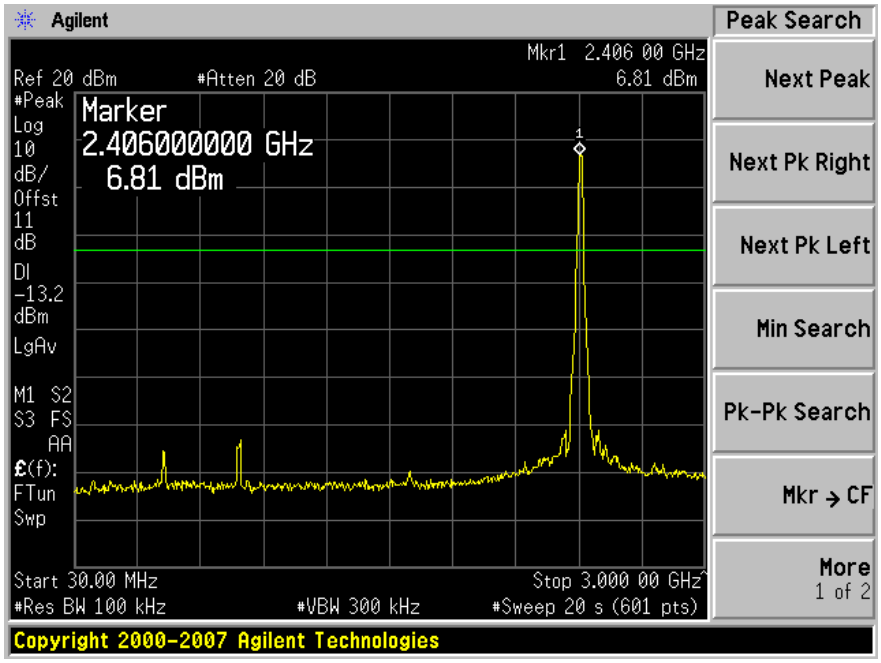
High Channel 2462 MHz

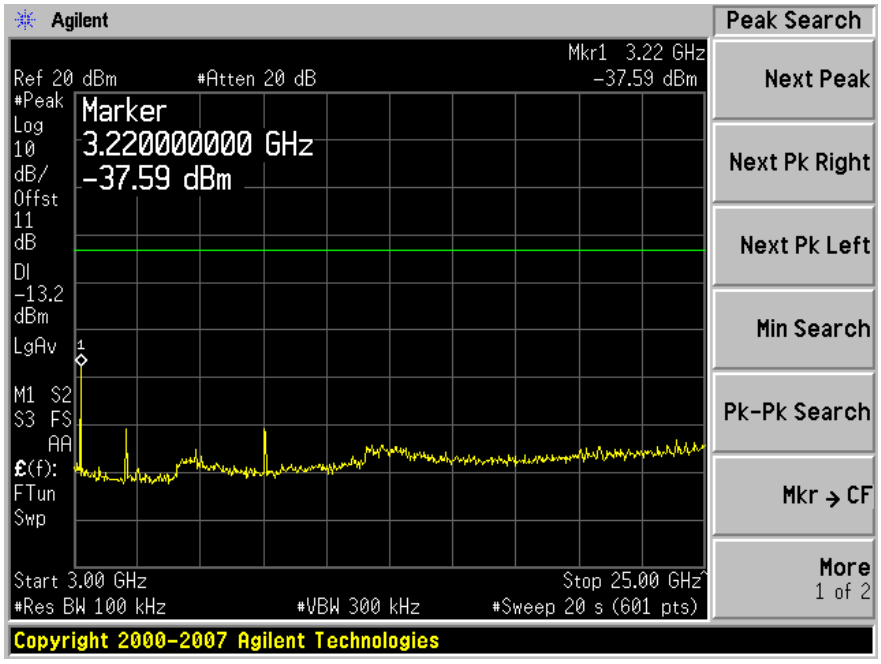




802.11 g (Antenna #0)

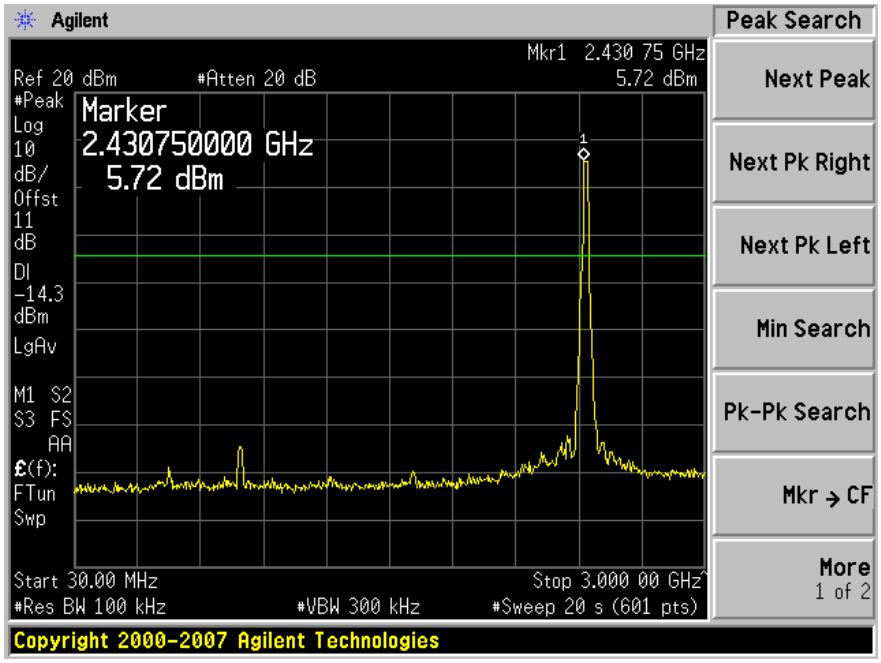
Low Channel 2412 MHz

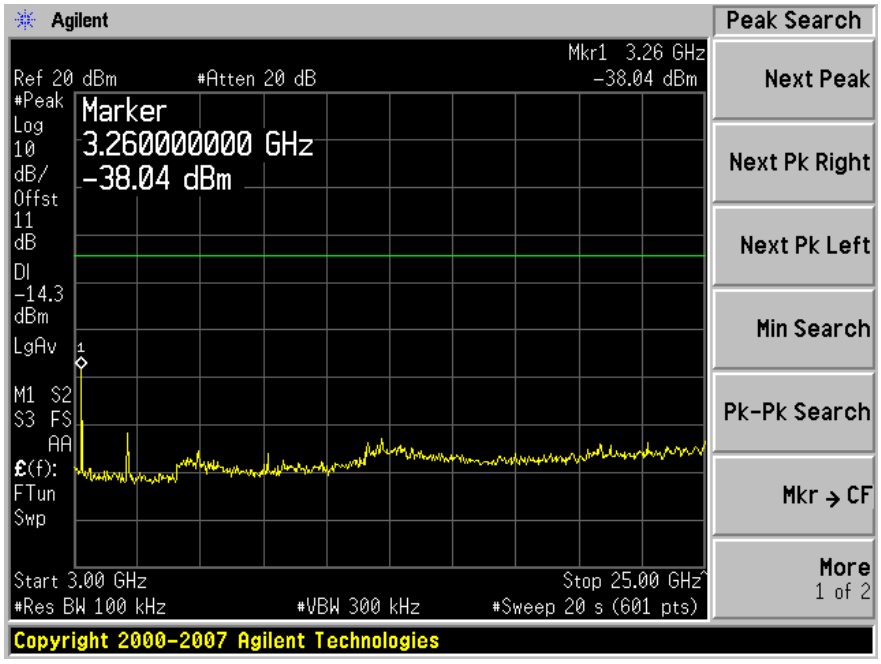




802.11 g (Antenna #0)

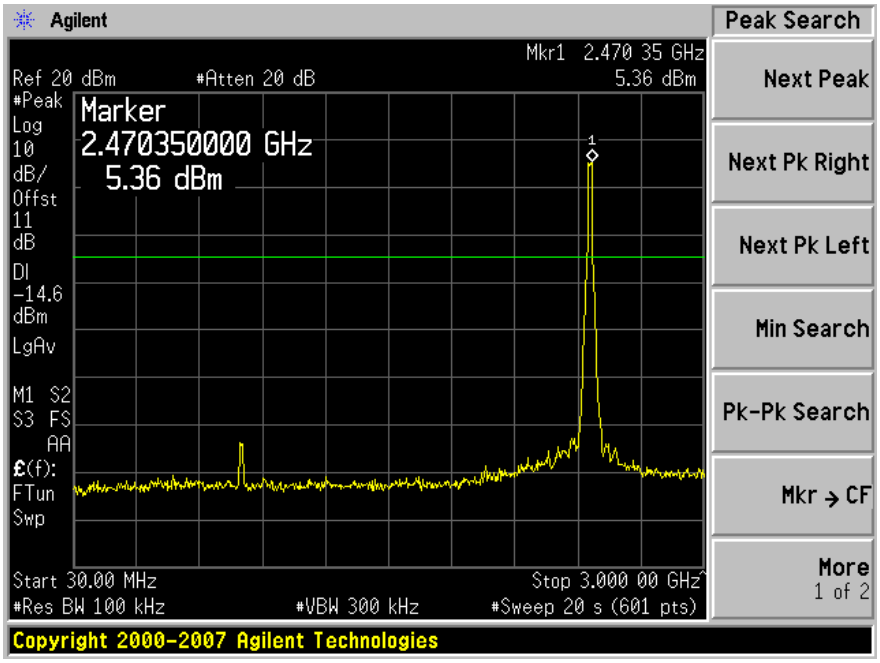
Middle Channel 2437 MHz

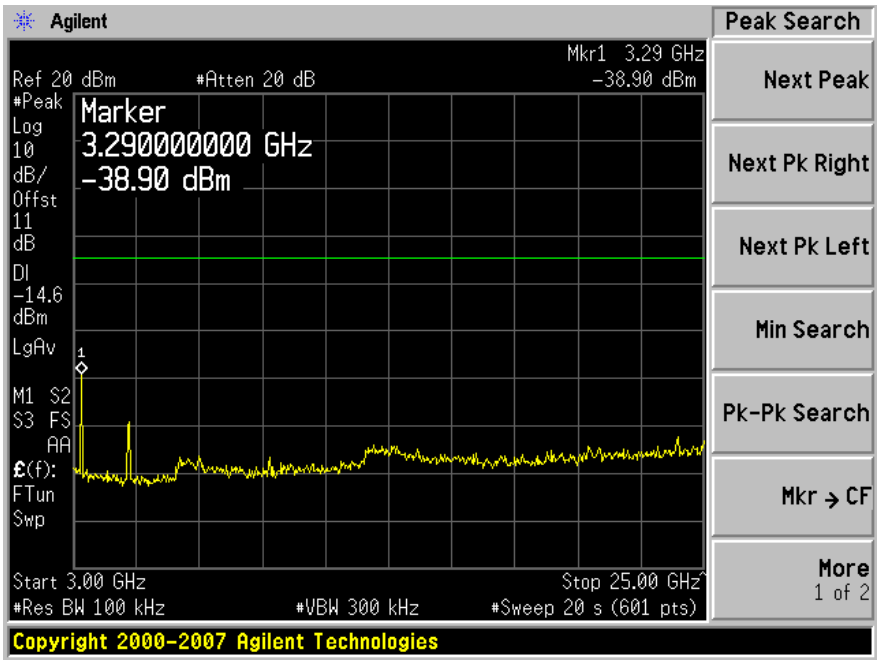




802.11 g (Antenna #0)

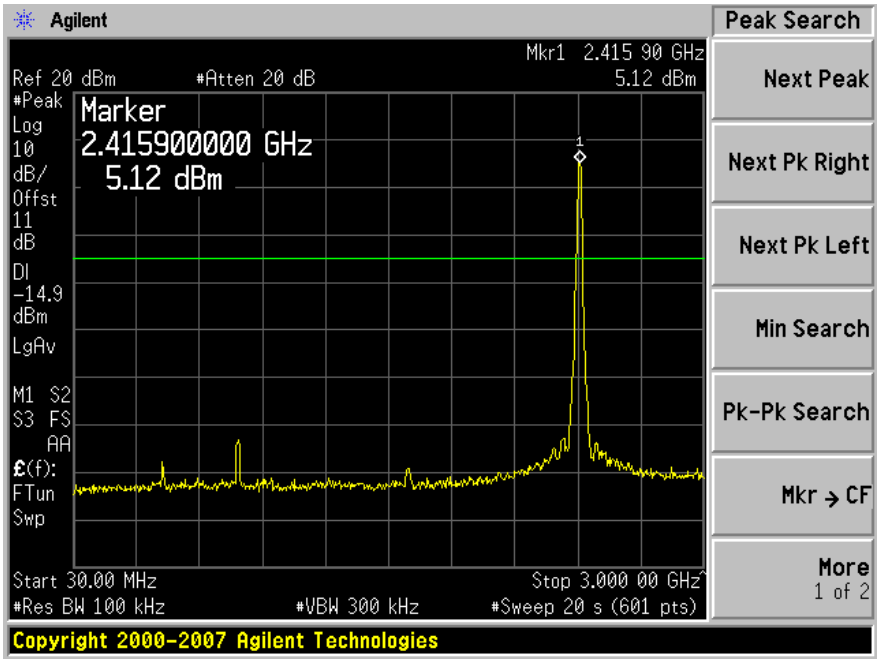
High Channel 2462 MHz

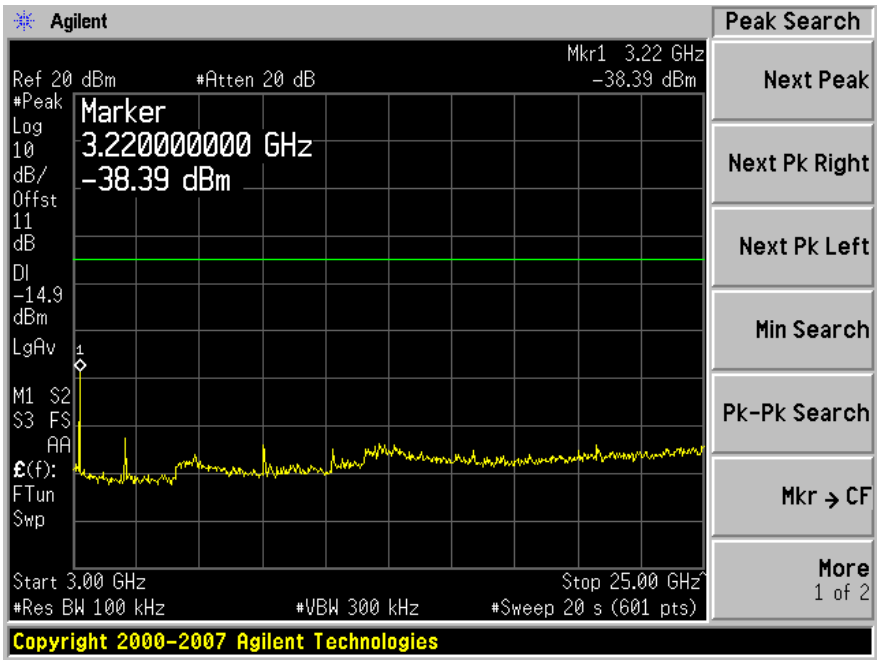




802.11 g (Antenna #1)

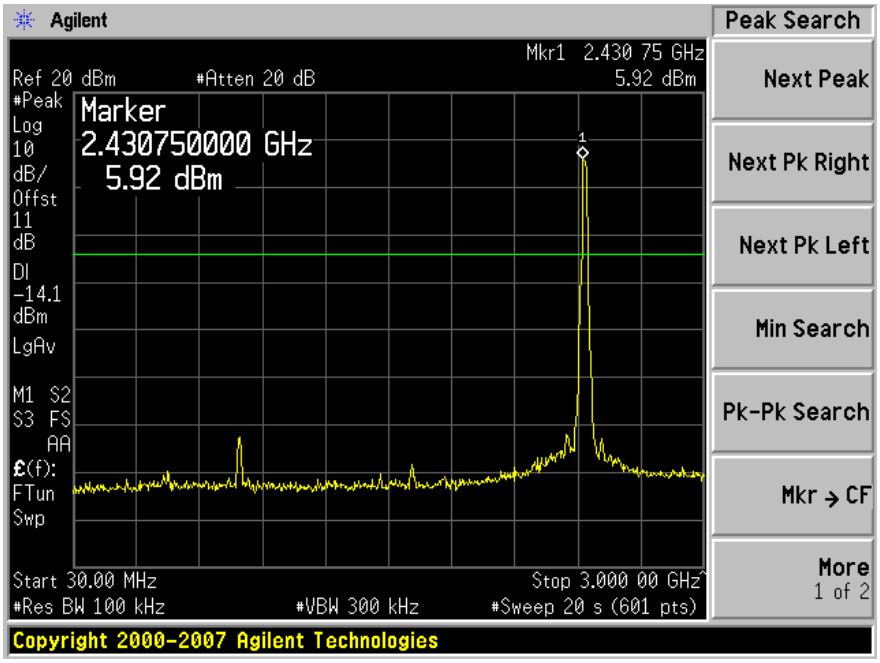
Low Channel 2412 MHz

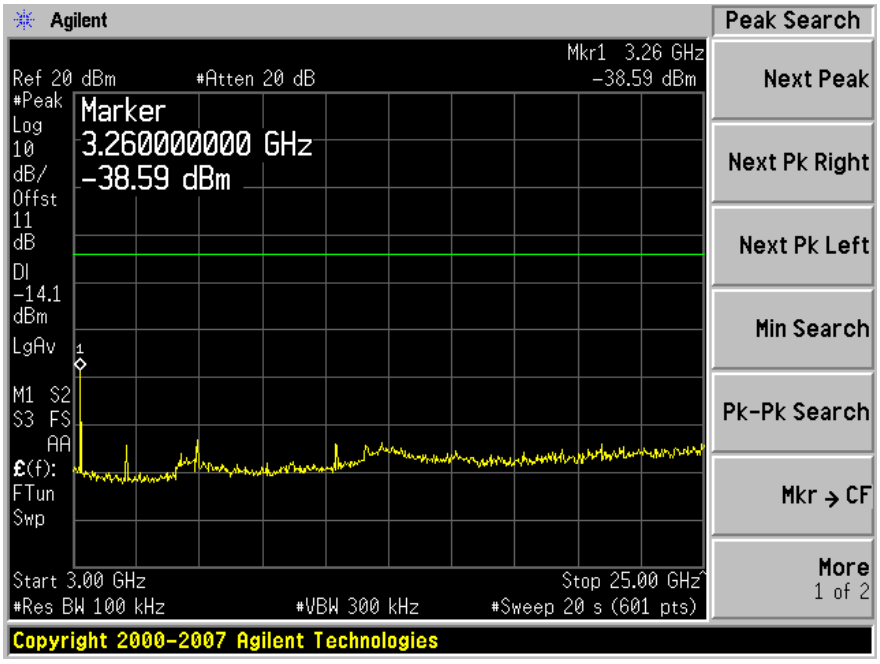




802.11 g (Antenna #1)

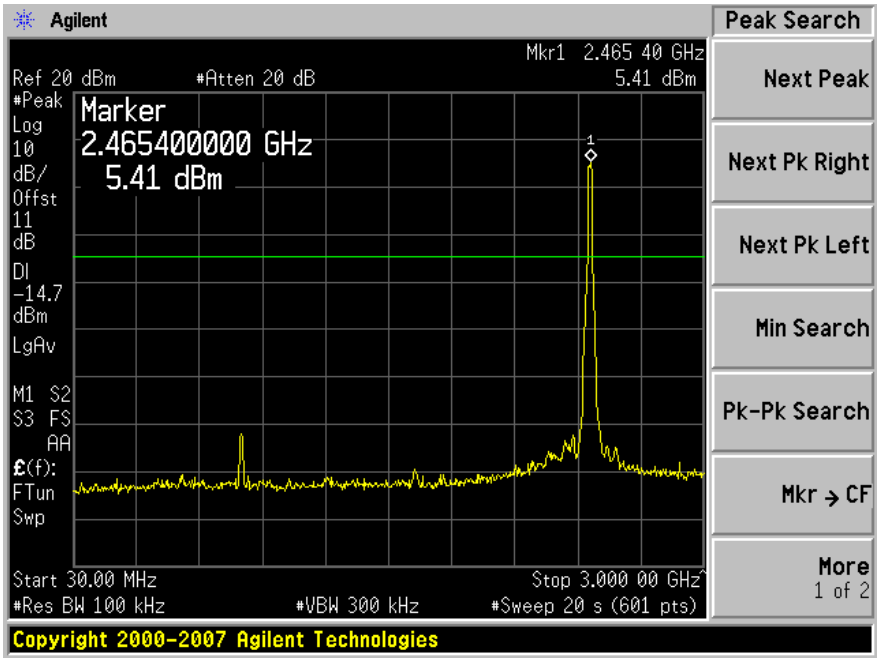
Middle Channel 2437 MHz

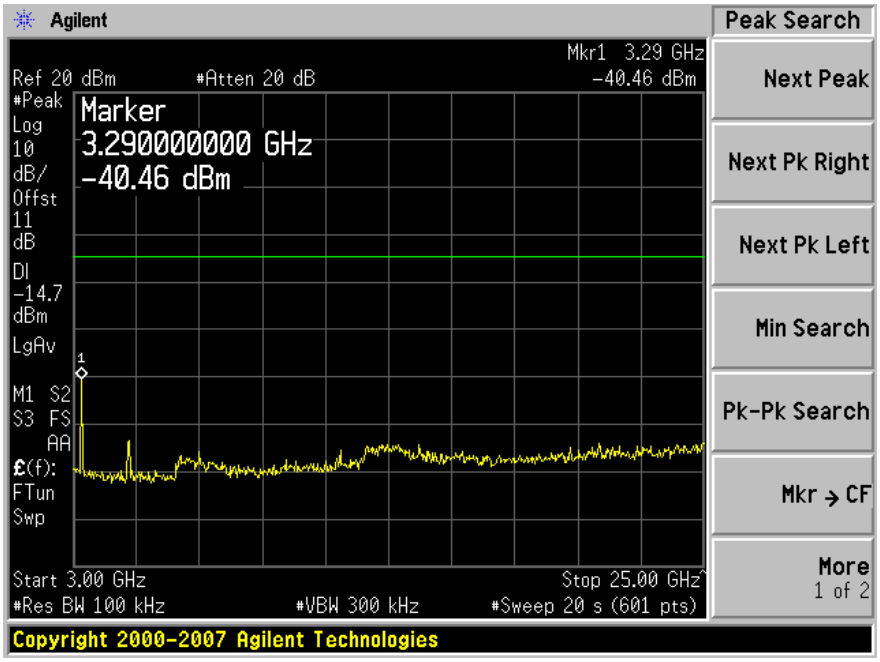




802.11 g (Antenna #1)

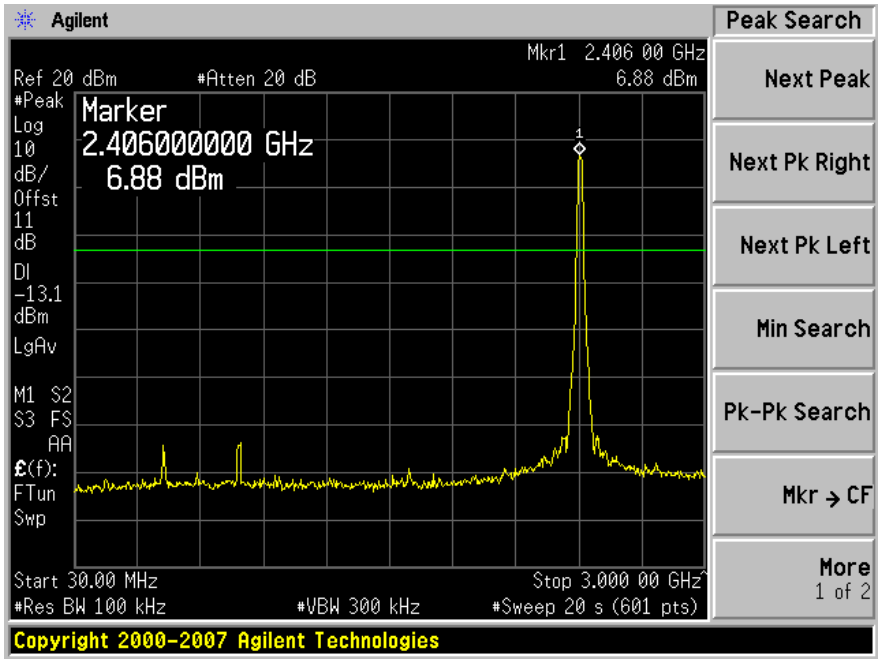
High Channel 2462 MHz

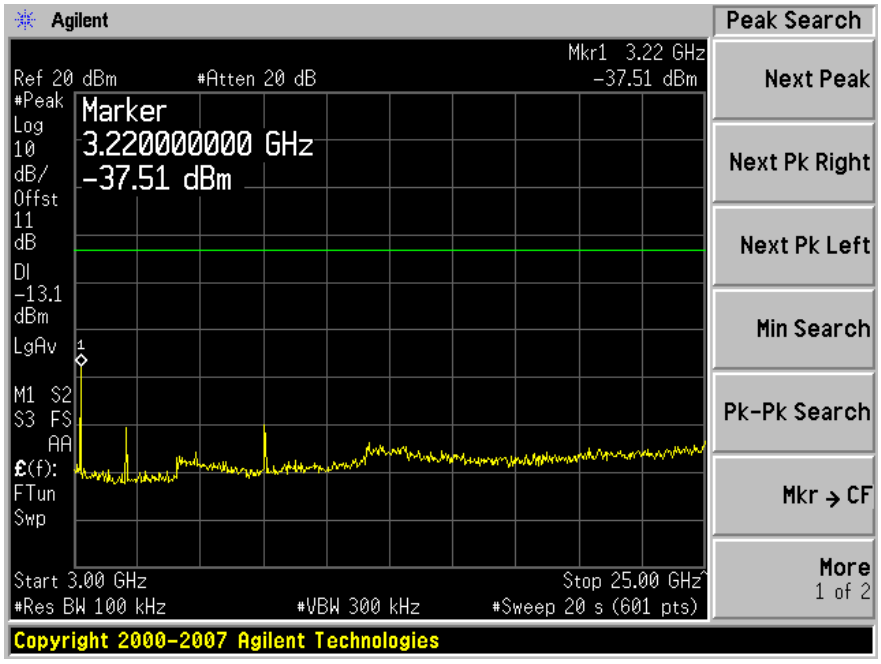




802.11 n 20 MHz (Antenna #0)

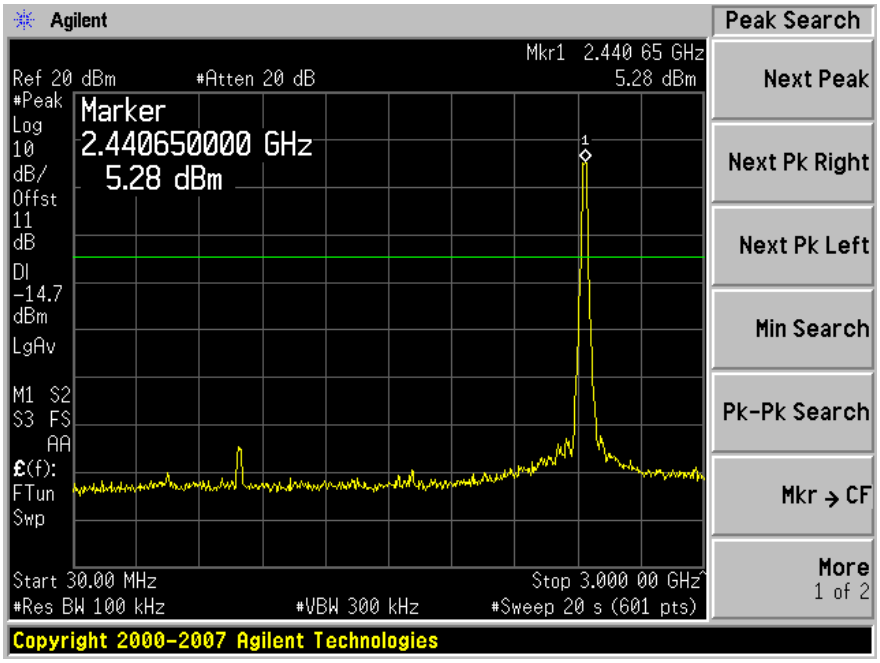
Low Channel 2412 MHz

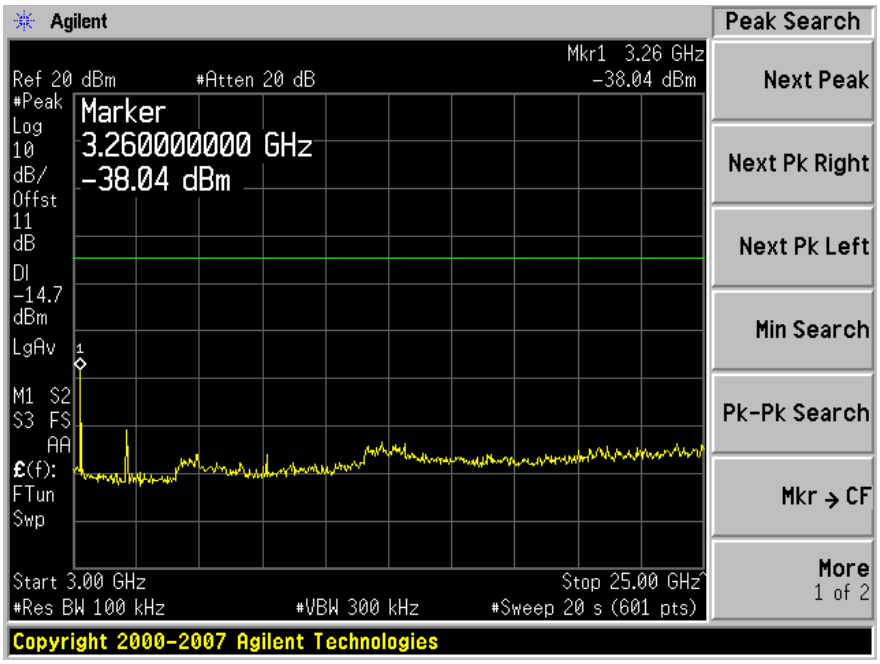




802.11 n 20 MHz (Antenna #0)

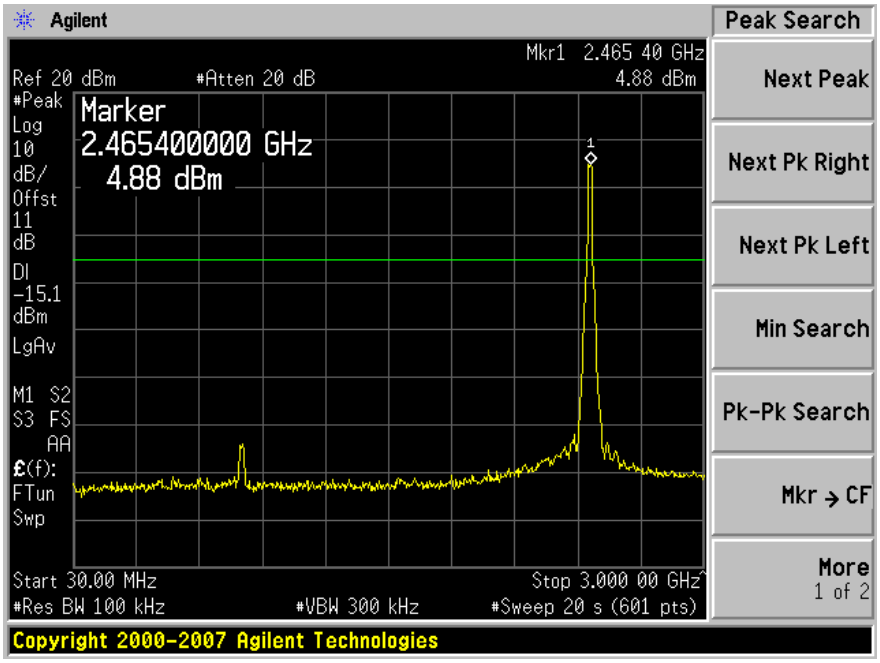
Middle Channel 2437 MHz

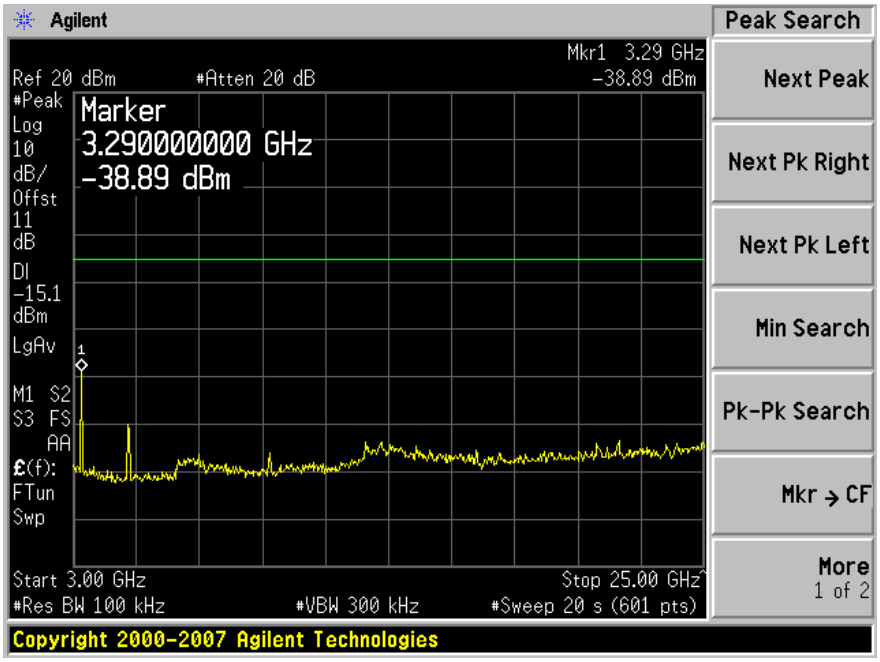




802.11 n 20 MHz (Antenna #0)

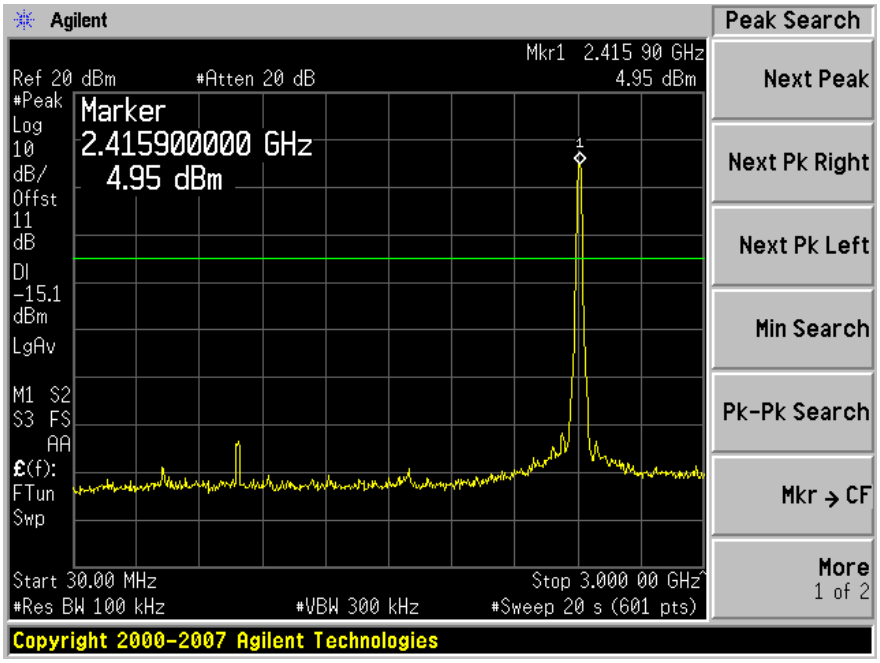
High Channel 2462 MHz

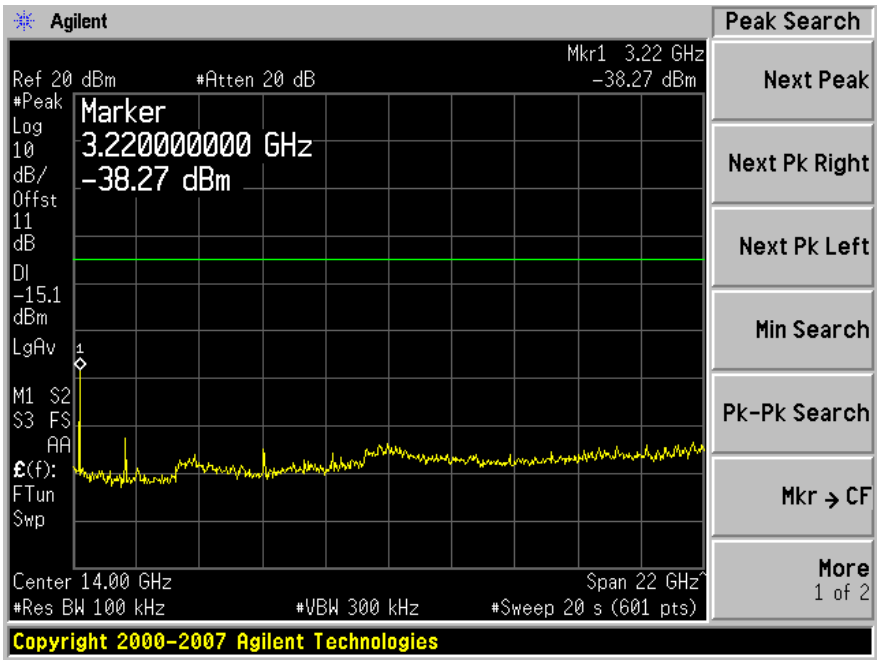




802.11 n 20 MHz (Antenna #1)

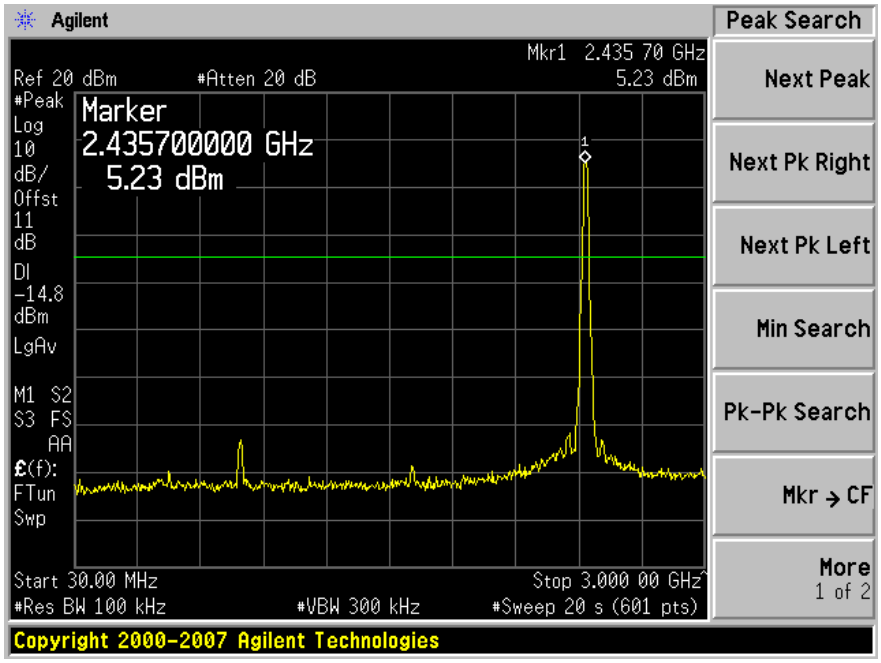
Low Channel 2412 MHz

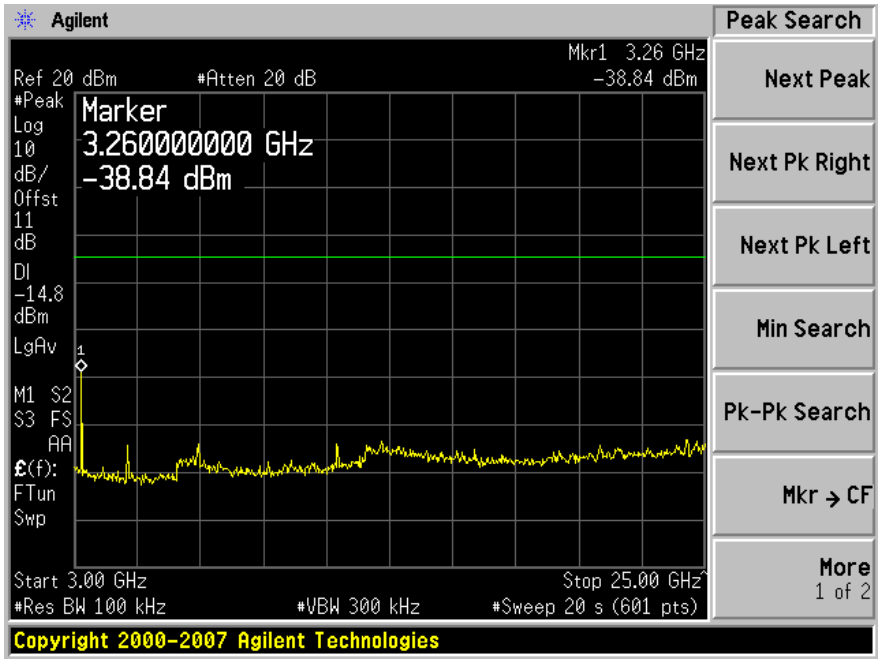




802.11 n 20 MHz (Antenna #1)

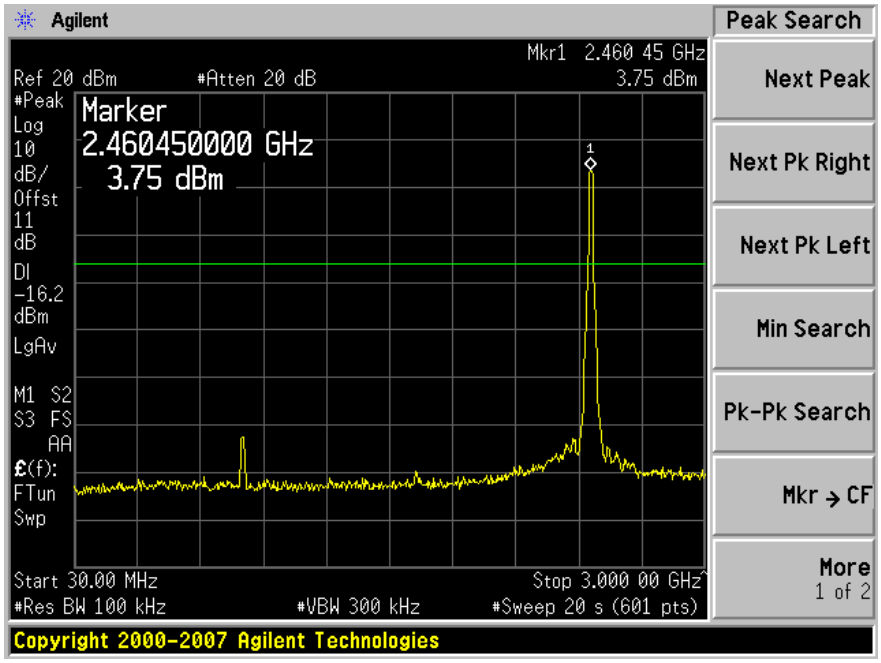
Middle Channel 2437 MHz

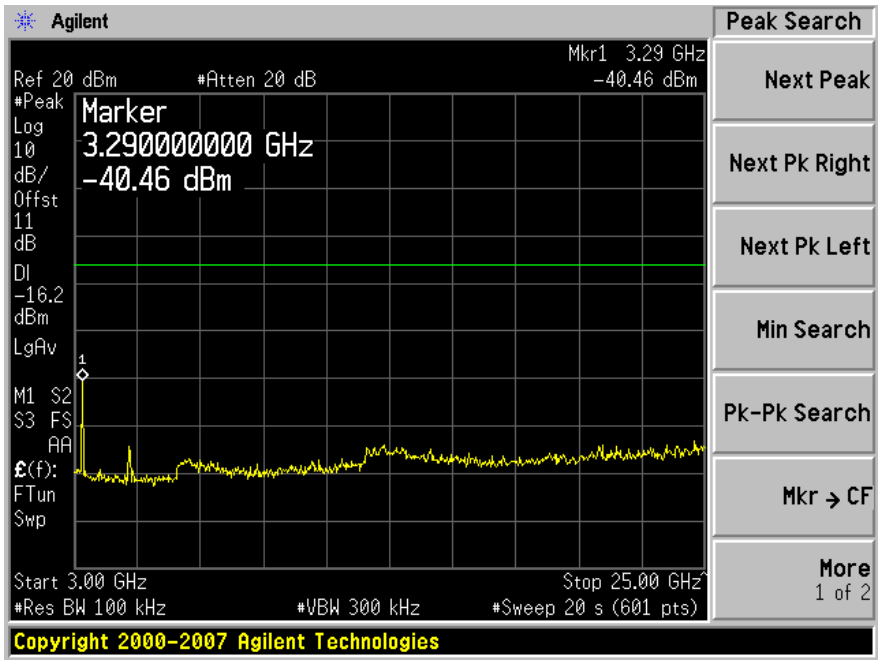




802.11 n 20 MHz (Antenna #1)

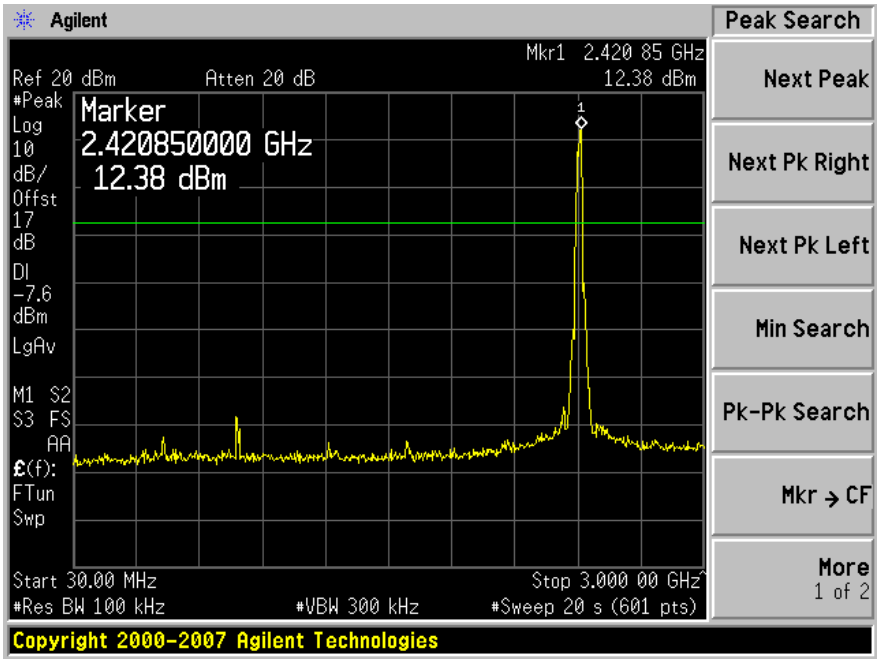
High Channel 2462 MHz

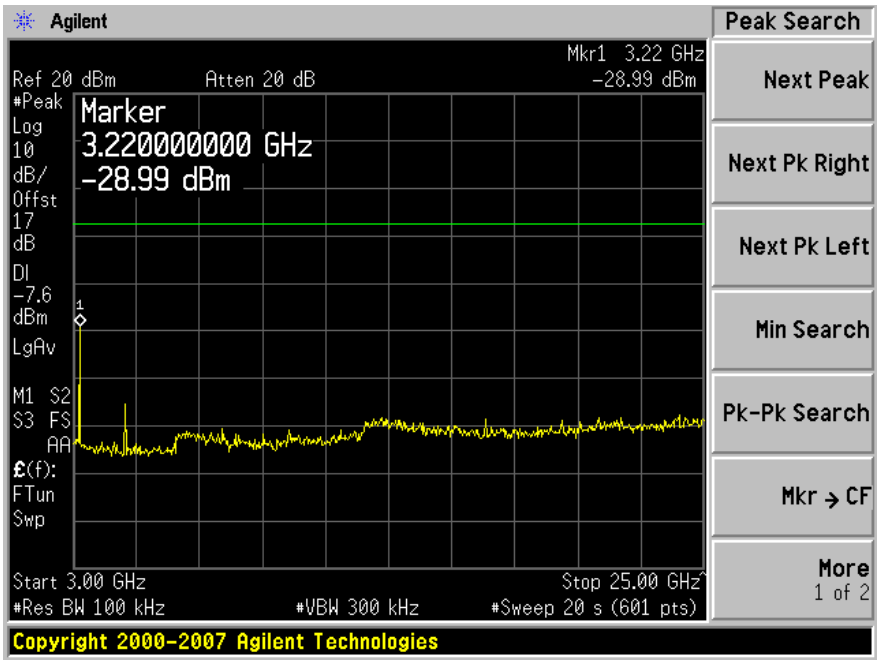




802.11 n 20 MHz (Antenna #0 + Antenna #1)

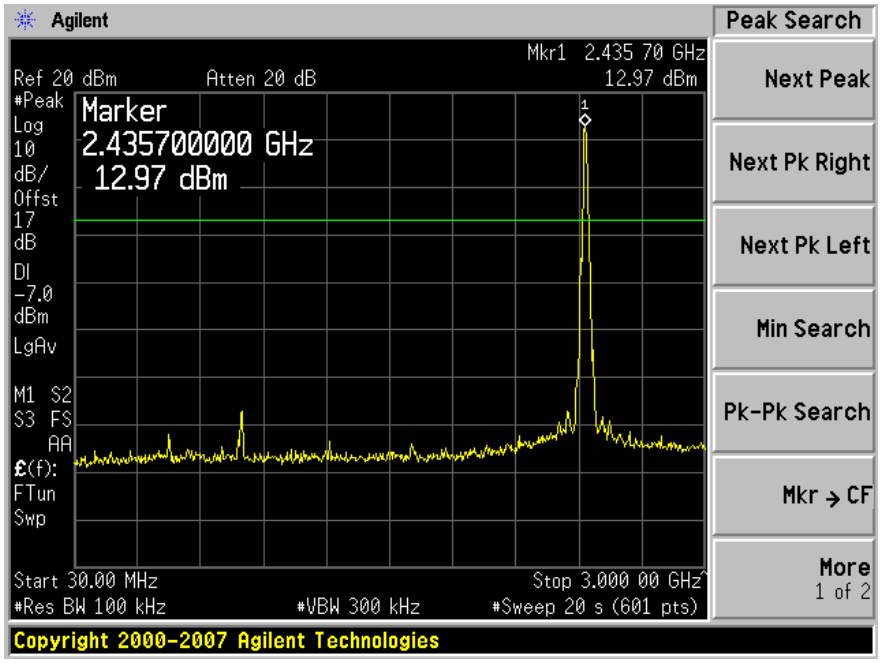
Low Channel 2412 MHz

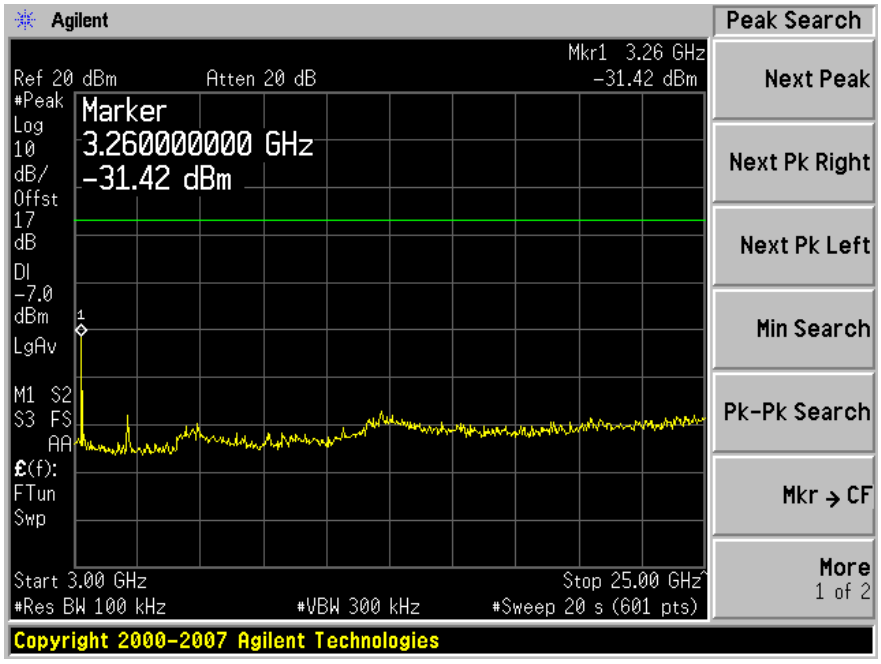




802.11 n 20 MHz (Antenna #0 + Antenna #1)

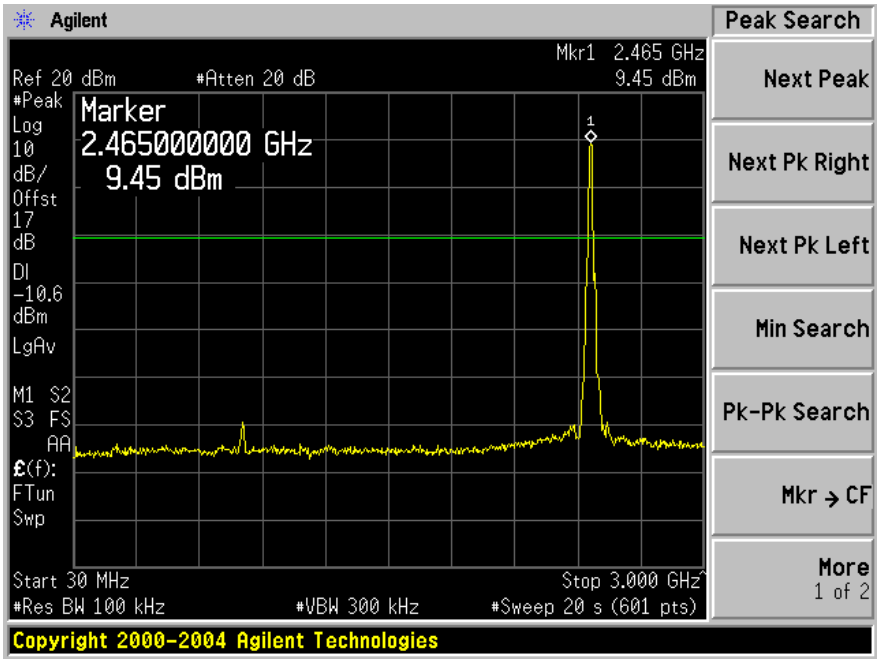
Middle Channel 2437 MHz

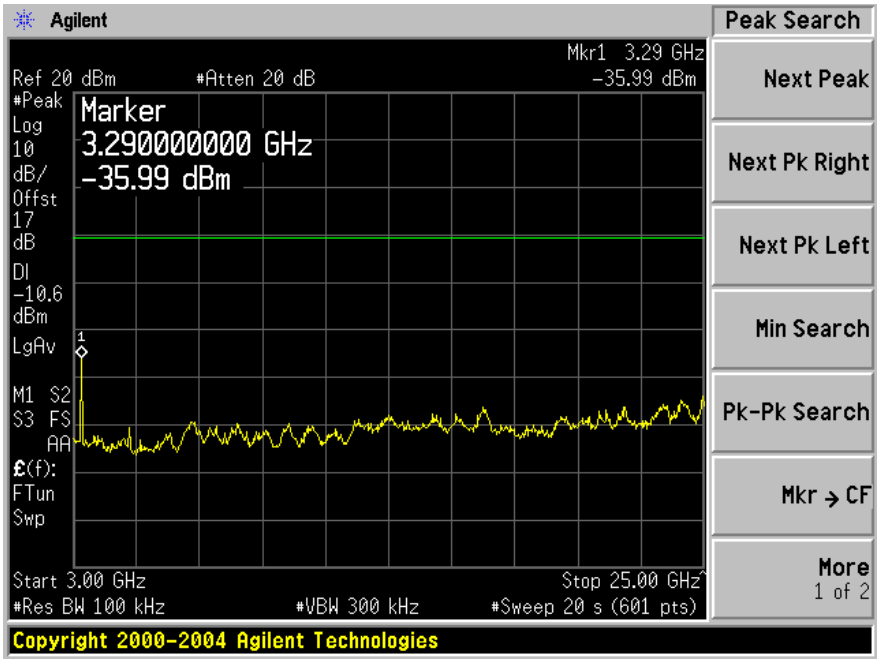




802.11 n 20 MHz (Antenna #0 + Antenna #1)

High Channel 2462 MHz





8 FCC §15.205, §15.209 & §15.247(d) - Spurious Radiated Emissions

8.1 Applicable Standard

As per 15.35(d): Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz.

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

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

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

As Per 15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

f (MHz)	f (MHz)	f (MHz)	f (GHz)
0.090 – 0.110	16.42 – 16.423	960 – 1240	4. 5 – 5. 15
0.495 – 0.505	16.69475 – 16.69525	1300 – 1427	5. 35 – 5. 46
2.1735 – 2.1905	25.5 – 25.67	1435 – 1626.5	7.25 – 7.75
4.125 – 4.128	37.5 – 38.25	1645.5 – 1646.5	8.025 – 8.5
4.17725 – 4.17775	73 – 74.6	1660 – 1710	9.0 – 9.2
4.20725 – 4.20775	74.8 – 75.2	1718.8 – 1722.2	9.3 – 9.5
6.215 – 6.218	108 – 121.94	2200 – 2300	10.6 – 12.7
6.26775 – 6.26825	123 – 138	2310 – 2390	13.25 – 13.4
6.31175 – 6.31225	149.9 – 150.05	2483.5 – 2500	14.47 – 14.5
8.291 – 8.294	156.52475 – 156.52525	2690 – 2900	15.35 – 16.2
8.362 – 8.366	156.7 – 156.9	3260 – 3267	17.7 – 21.4
8.37625 – 8.38675	162.0125 –167.17	3.332 – 3.339	22.01 – 23.12
8.41425 – 8.41475	167.72 – 173.2	3 3458 – 3 358	23.6 – 24.0
12.29 – 12.293	240 – 285	3.600 – 4.400	31.2 – 31.8
12.51975 – 12.52025	322 – 335.4		36.43 – 36.5
12.57675 – 12.57725	399.9 – 410		Above 38.6
13.36 – 13.41	608 – 614		

As Per 15.247(d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

8.2 Test Setup

The radiated emissions tests were performed in the 5-meter Chamber, using the setup in accordance with ANSI C63.4-2003. The specification used was the FCC 15 Subpart C limits.

8.3 EUT Setup

The radiated emissions tests were performed using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15C limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

8.4 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date
Documun	Pre amplifier	ALN-09173030-01	988251-0312	2009-03-04
HP	Pre amplifier	8447D	2944A06639	2009-06-05
Sunol Science Corp.	Combination Antenna	JB1 Antenna	A103105-3	2009-03-25
Agilent	Spectrum Analyzer	E4440A	MY44303352	2009-04-27
A.R.A.	Antenna, Horn	DRG-118/A	1132	2009-07-28

* **Statement of Traceability: BACL** attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.

8.5 Test Procedure

For the radiated emissions test, the EUT host, and all support equipment power cords was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The EUT is set 3 meter away from the testing antenna, which is varied from 1-4 meter, and the EUT is placed on a turntable, which is 0.8 meter above ground plane, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

The spectrum analyzer or receiver is set as:

Below 1000 MHz:

RBW = 100 kHz / VBW = 300 kHz / Sweep = Auto

Above 1000 MHz:

(1) Peak: RBW = 1MHz / VBW = 1MHz / Sweep = Auto
(2) Average: RBW = 1MHz / VBW = 10Hz / Sweep = Auto

8.6 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corrected Amplitude = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7d B means the emission is 7 dB below the maximum limit.
The equation for margin calculation is as follows:

Margin = Corrected Amplitude - FCC Limit

8.7 Test Environmental Conditions

Temperature:	18-22 °C
Relative Humidity:	40-44 %
ATM Pressure:	101-103kPa

**The testing was performed by Kevin Li from 2010-01-14 to 2010-01-15.*

8.8 Summary of Test Results

According to the data hereinafter, the EUT complied with the limits presented in FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247, and had the worst margin of:

802.11 b mode:

Mode: Transmitting, 30-1000 MHz			
Margin (dB)	**Frequency (MHz)**	**Polarization (Horizontal/Vertical)**	**Channel, Range**
-0.61	333.335	Horizontal	Low, 30 MHz – 1GHz
Mode: Transmitting, above 1000 MHz			
-0.19	4824	Vertical	Low, 1 GHz – 25 GHz
-0.72	4874	Vertical	Mid, 1 GHz – 25 GHz
-5.08	4924	Vertical	High, 1 GHz – 25 GHz

802.11 g mode:

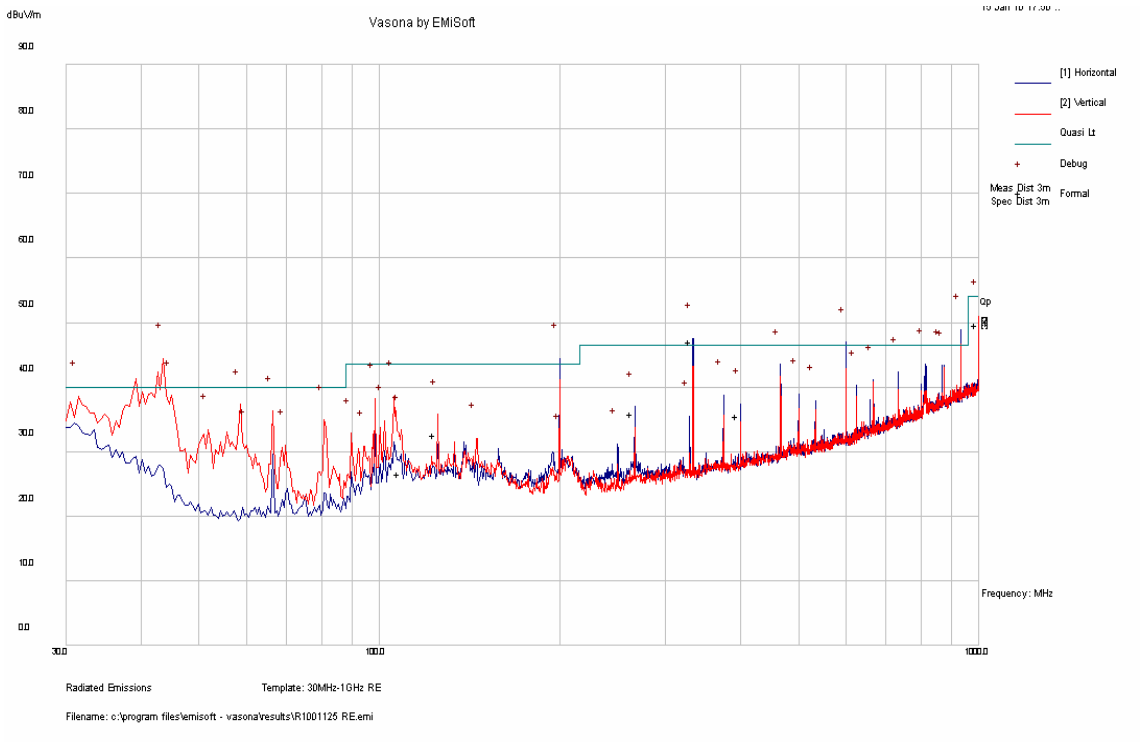
Mode: Transmitting, 30-1000 MHz			
Margin (dB)	**Frequency (MHz)**	**Polarization (Horizontal/Vertical)**	**Channel, Range**
-0.3	333.3328	Horizontal	Low, 30 MHz – 1GHz
Mode: Transmitting, above 1000 MHz			
-1.6	4824	Vertical	Low, 1 GHz – 25 GHz
-1.91	4874	Vertical	Mid, 1 GHz – 25 GHz
-7.28	4924	Vertical	High, 1 GHz – 25 GHz

802.11 n 20 MHz mode:

Mode: Transmitting, 30-1000 MHz			
Margin (dB)	**Frequency (MHz)**	**Polarization (Horizontal/Vertical)**	**Channel, Range**
-1.43	333.3702	Horizontal	Low, 30 MHz – 1GHz
Mode: Transmitting, above 1000 MHz			
-1.99	4824	Vertical	Low, 1 GHz – 25 GHz
-11.84	4874	Vertical	Mid, 1 GHz – 25 GHz
-10.53	4927	Horizontal	High, 1 GHz – 25 GHz

Radiated Emission at 3 meters, 30 MHz – 1 GHz

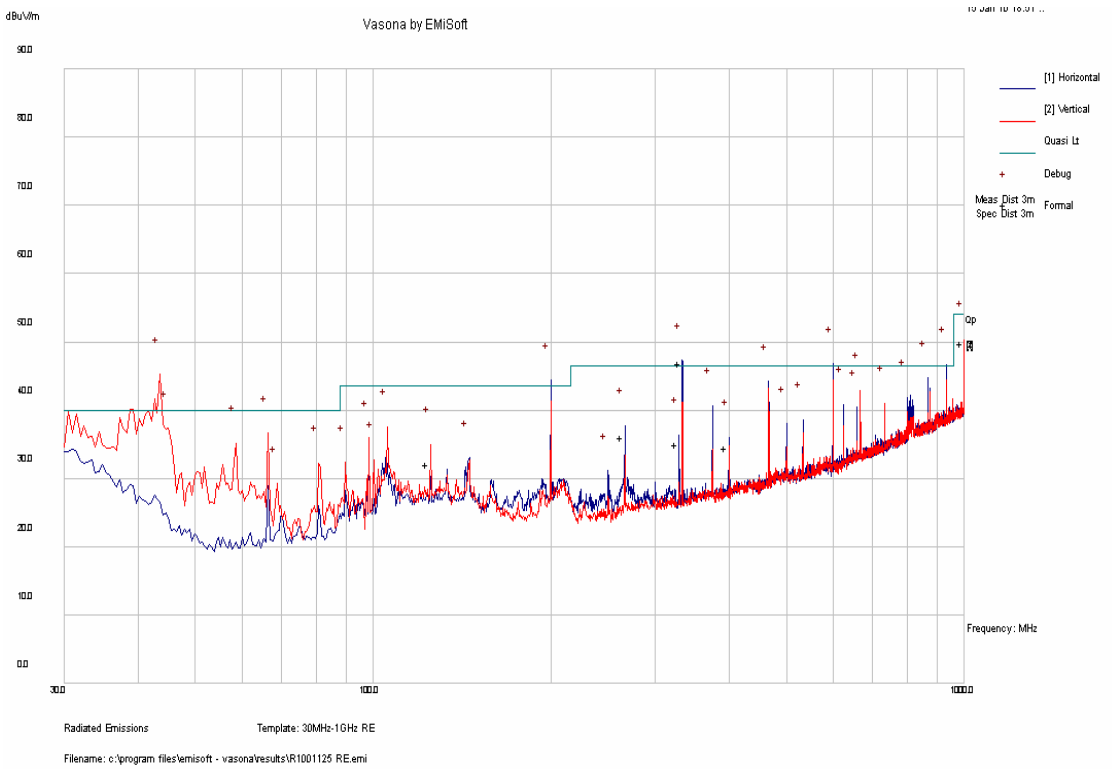
802.11 b Mode (Worst Case)



Quasi-Peak Measurement

Frequency (MHz)	Corrected Amplitude (dB)	Antenna Height (cm)	Antenna Polarity (H/V)	Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)
333.335	45.89	108	H	360	46.5	-0.61
999.99	49.61	103	V	244	54	-4.39
124.9981	32.67	108	V	340	43.5	-10.83
399.9919	35.53	102	H	324	46.5	-10.97
266.6663	35.81	121	H	360	46.5	-10.69
108.792	26.55	98	V	172	43.5	-16.95

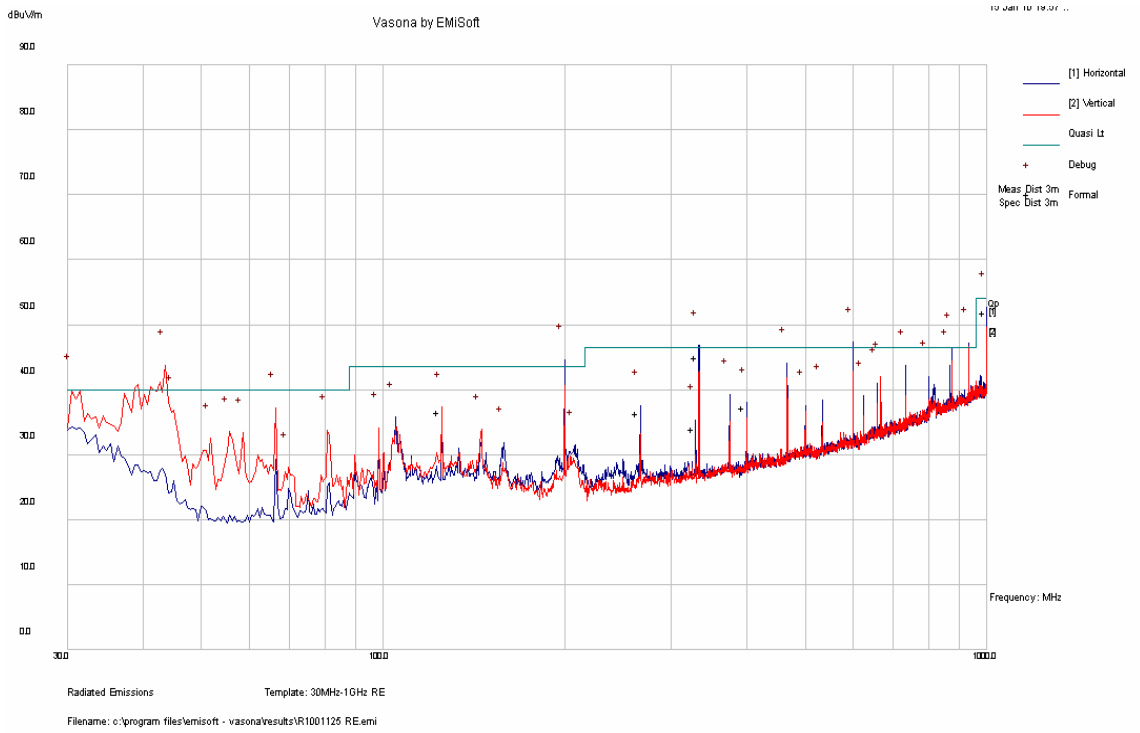
802.11g Mode (Worst Case)



Quasi-Peak Measurement

Frequency (MHz)	Corrected Amplitude (dB)	Antenna Height (cm)	Antenna Polarity (H/V)	Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)
333.3328	46.20	108	H	344	46.5	-0.30
1000.0000	49.79	107	V	270	54.0	-4.21
125.0002	32.01	98	V	24	43.5	-11.49
266.6750	36.08	130	H	147	46.5	-10.42
329.1725	35.08	98	H	2	46.5	-11.42
399.9885	34.47	98	H	304	46.5	-12.03

802.11n, 20 MHz Mode (Worst Case)



Quasi-Peak Measurement

Frequency (MHz)	Corrected Amplitude (dB)	Antenna Height (cm)	Antenna Polarity (H/V)	Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)
333.3702	45.07	101	H	0	46.5	-1.43
1000.0000	51.91	111	H	50	54.0	-2.09
125.0019	36.55	98	V	34	43.5	-6.95
399.9912	37.31	99	H	324	46.5	-9.19
266.6685	36.41	113	H	179	46.5	-10.09
329.1598	34.06	98	H	11	46.5	-12.44

Radiated Emission at 3 meters, 1 GHz – 25 GHz

802.11b mode:

Frequency (MHz)	S.A. Reading (dBµV)	Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	Part 15C		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 2412 MHz, measured at 3 meters											
4824	50.72	304	147	V	33	8	34.92	56.80	74	-17.20	Peak
4824	46.35	51	178	H	33	8	34.92	52.43	74	-21.57	Peak
4824	47.73	304	147	V	33	8	34.92	53.81	54	-0.19	Ave
4824	40.32	51	178	H	33	8	34.92	46.40	54	-7.60	Ave
Middle channel 2437 MHz measured at 3 meters											
4874	52.78	49	100	V	33.2	8.08	34.92	59.14	74	-14.86	Peak
4874	46.9	50	175	H	33.2	8.08	34.92	53.26	74	-20.74	Peak
4874	46.92	49	100	V	33.2	8.08	34.92	53.28	54	-0.72	Ave
4874	40.64	50	175	H	33.2	8.08	34.92	47	54	-7.00	Ave
High channel 2462 MHz measured at 3 meters											
4924	48.02	133	130	V	33.1	9.75	36.9	53.97	74	-20.03	Peak
4924	43.84	85	100	H	33.1	9.75	36.9	49.79	74	-24.21	Peak
4924	42.97	133	130	V	33.1	9.75	36.9	48.92	54	-5.08	Ave
4924	33.78	85	100	H	33.1	9.75	36.9	39.73	54	-14.27	Ave

802.11g mode:

Frequency (MHz)	S.A. Reading (dBµV)	Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	Part 15C		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 2412 MHz, measured at 3 meters											
4824	50.1	227	120	V	33	8	34.92	56.18	74	-17.82	Peak
4824	43.44	263	158	H	33	8	34.92	49.52	74	-24.48	Peak
4824	46.32	227	120	V	33	8	34.92	52.4	54	-1.6	Ave
4824	37.28	263	158	H	33	8	34.92	43.36	54	-10.64	Ave
Middle channel 2437 MHz measured at 3 meters											
4874	51.6	229	158	V	33.2	8.08	34.92	57.96	74	-16.04	Peak
4874	44.17	68	100	H	33.2	8.08	34.92	50.53	74	-23.47	Peak
4874	45.73	42	190	V	33.2	8.08	34.92	52.09	54	-1.91	Ave
4874	38.42	229	158	H	33.2	8.08	34.92	44.78	54	-9.22	Ave
High channel 2462 MHz measured at 3 meters											
4924	46.94	158	202	V	33.4	8.12	34.92	53.54	74	-20.46	Peak
4924	41.35	162	168	H	33.4	8.12	34.92	47.95	74	-26.05	Peak
4924	40.12	158	202	V	33.4	8.12	34.92	46.72	54	-7.28	Ave
4924	35.93	162	168	H	33.4	8.12	34.92	42.53	54	-11.47	Ave

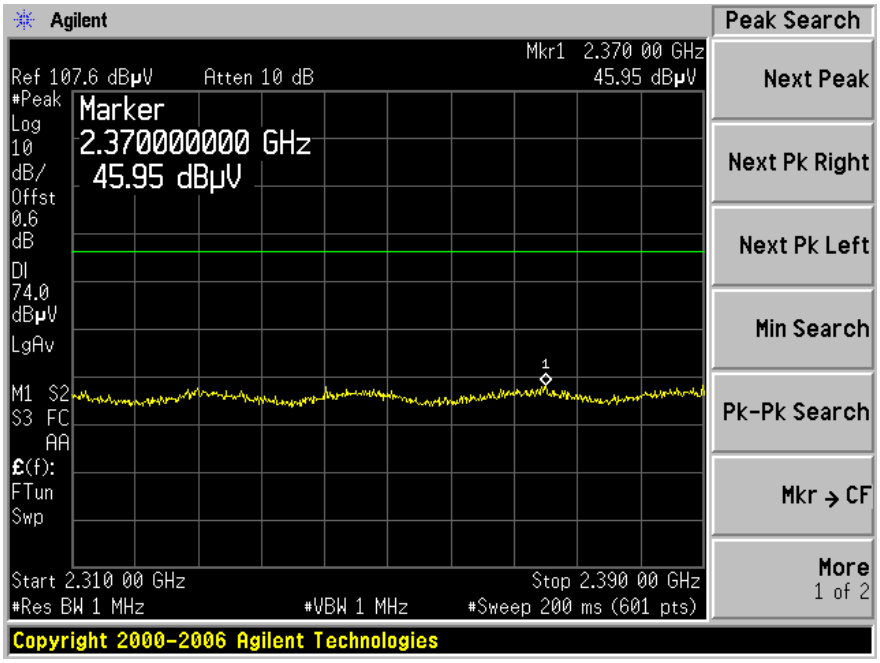
802.11n, 20 MHz mode:

Frequency (MHz)	S.A. Reading (dBµV)	Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	Part 15C		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 2412 MHz, measured at 3 meters											
4824	50.99	231	121	V	33	8	34.92	57.07	74	-16.93	Peak
4824	43.79	162	158	H	33	8	34.92	49.87	74	-24.13	Peak
4824	45.93	231	121	V	33	8	34.92	52.01	54	-1.99	Ave
4824	40.18	162	168	H	33	8	34.92	46.26	54	-7.74	Ave
Middle channel 2437 MHz measured at 3 meters											
4874	51.57	236	100	V	33.2	8.08	34.92	57.93	74	-16.07	Peak
4874	44.41	43	100	H	33.2	8.08	34.92	50.77	74	-23.23	Peak
4874	35.8	236	100	V	33.2	8.08	34.92	42.16	54	-11.84	Ave
4874	33.42	43	100	H	33.2	8.08	34.92	39.78	54	-14.22	Ave
High channel 2462 MHz measured at 3 meters											
4924	47.86	117	121	V	33.4	8.12	34.92	54.46	74	-19.54	Peak
4924	42.92	109	132	H	33.4	8.12	34.92	49.52	74	-24.48	Peak
4924	31.92	231	121	V	33.4	8.12	34.92	38.52	54	-15.48	Ave
4924	36.87	109	132	H	33.4	8.12	34.92	43.47	54	-10.53	Ave

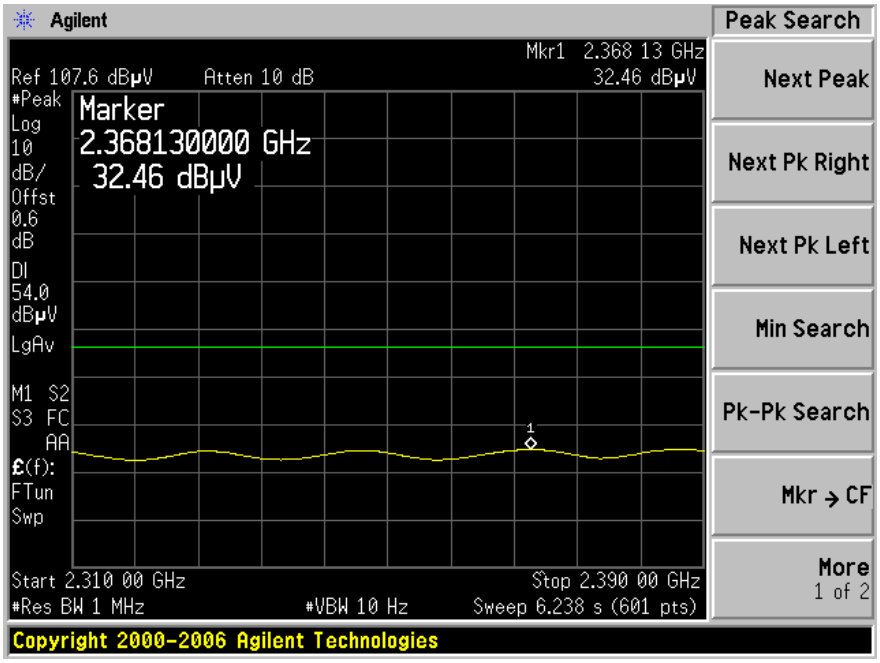
Band Edge Emissions

802.11 b mode:

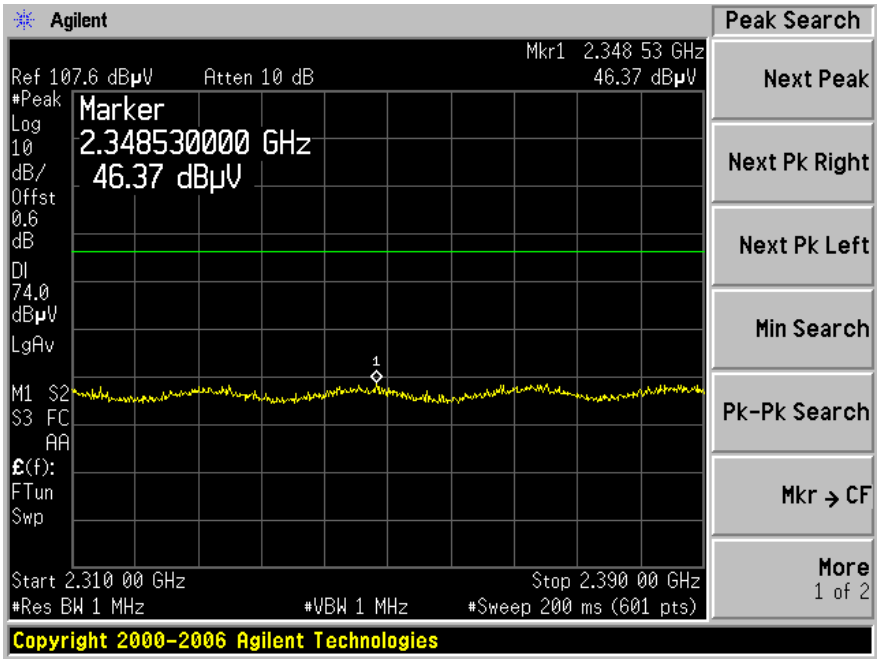
Lowest Channel at Horizontal, Peak



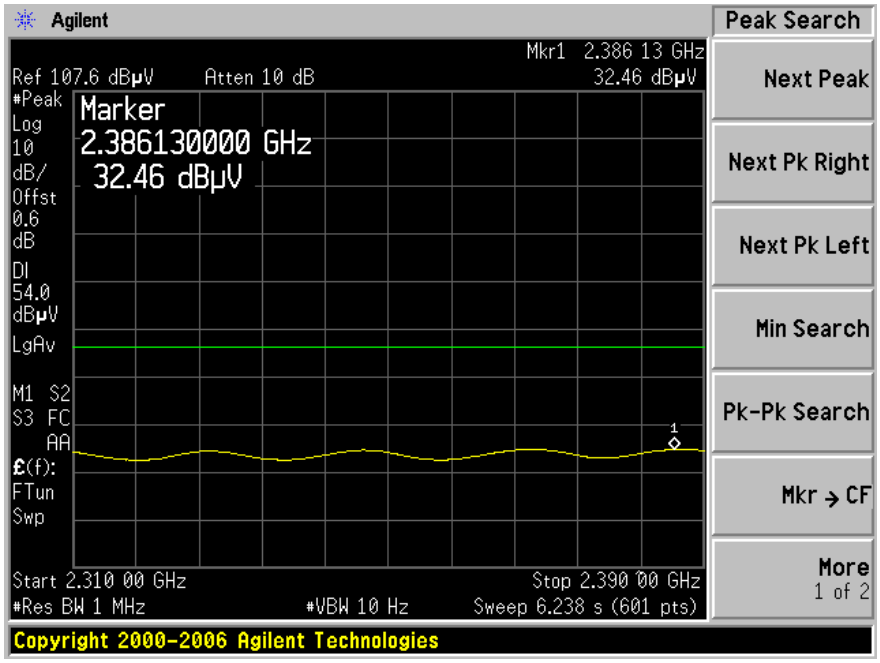
Lowest Channel at Horizontal, Average



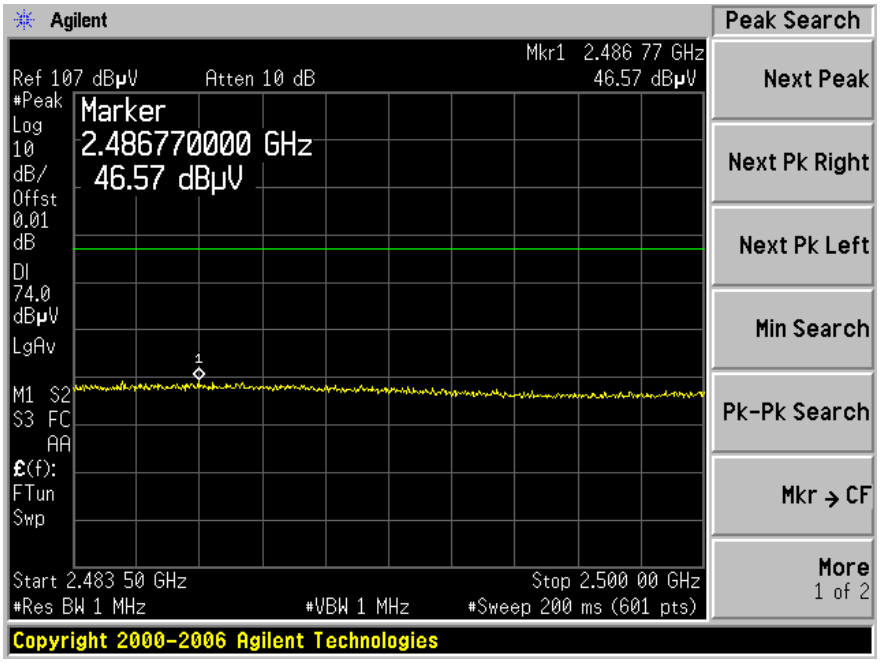
Lowest Channel at Vertical, Peak



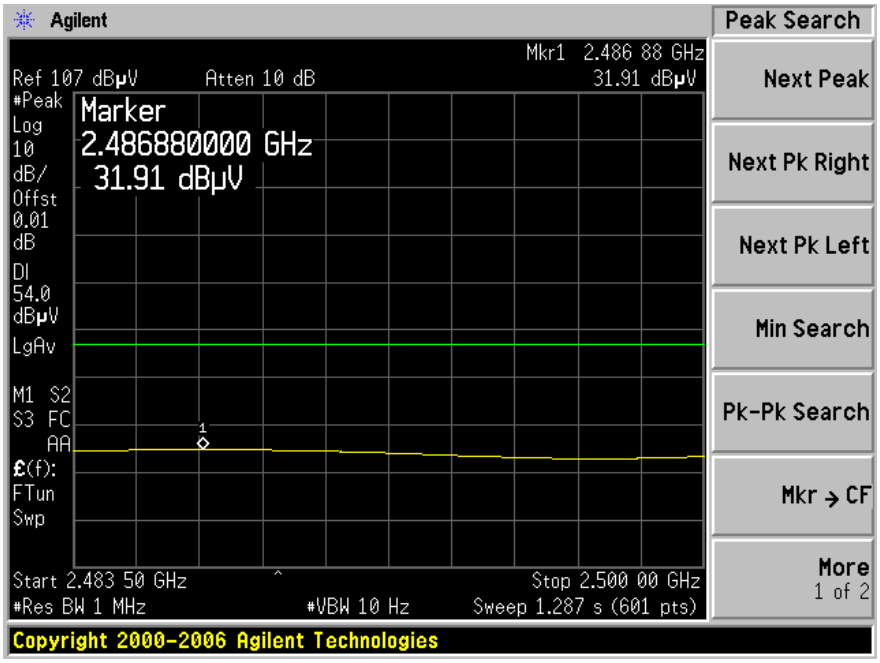
Lowest Channel at Vertical, Average



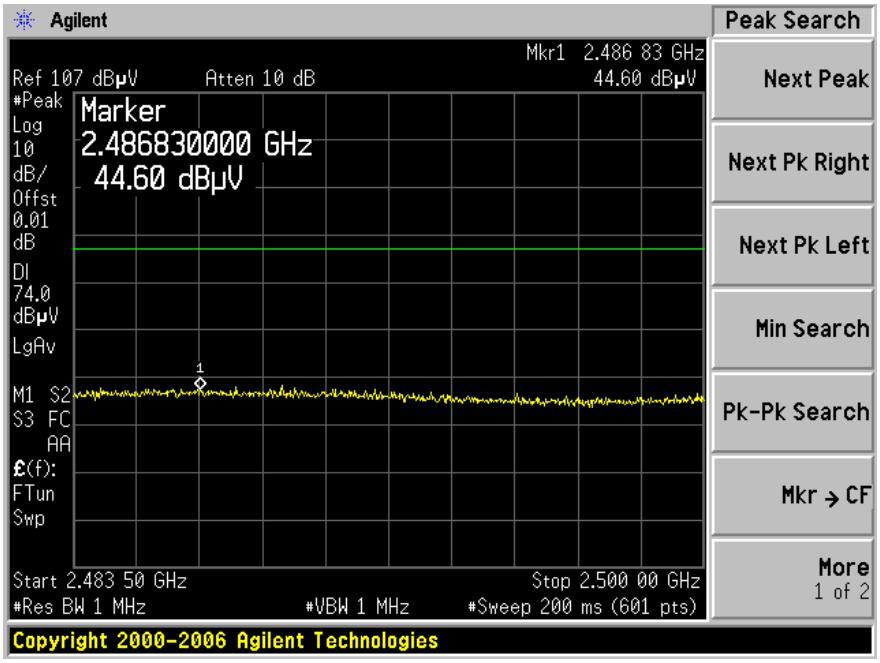
Highest Channel at Horizontal, Peak



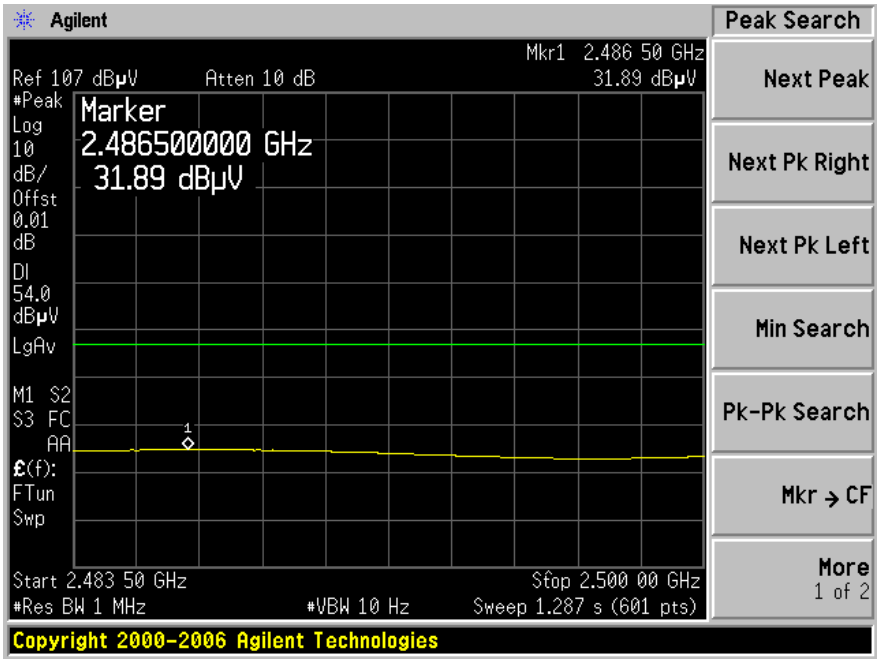
Highest Cannel at Horizontal, Average



Highest Channel at Vertical, Peak

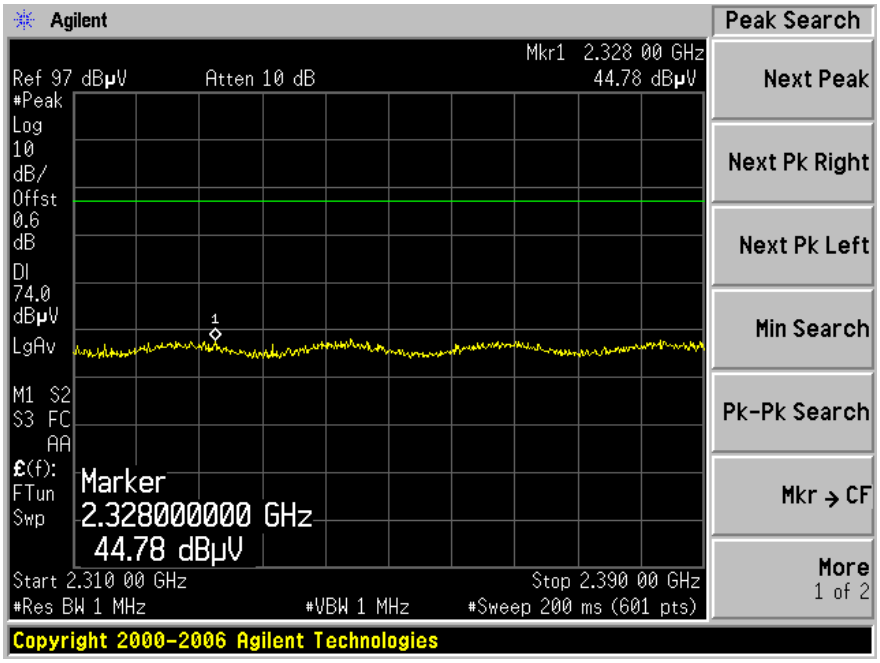


Highest Channel at Vertical, Average

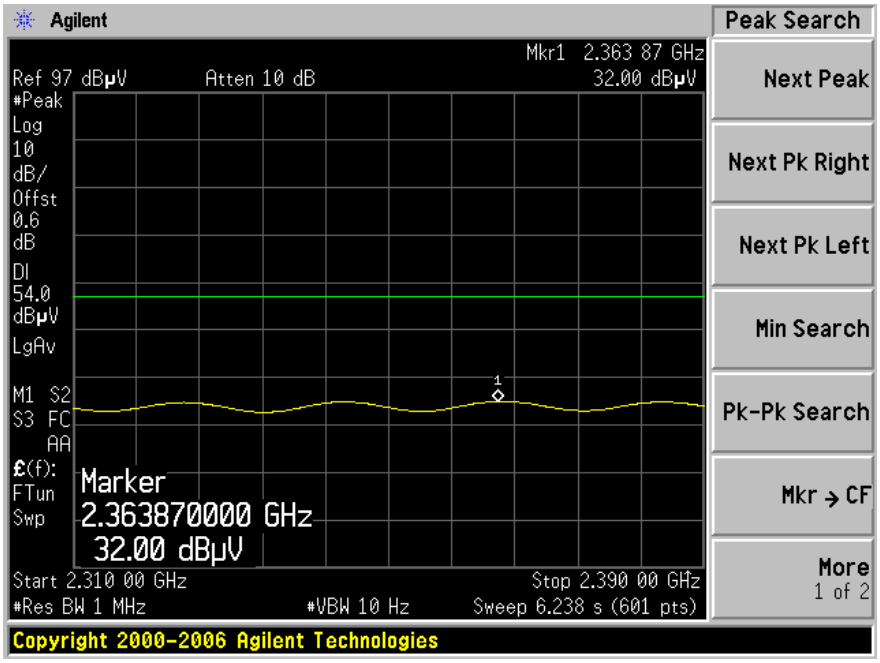


802.11 g mode:

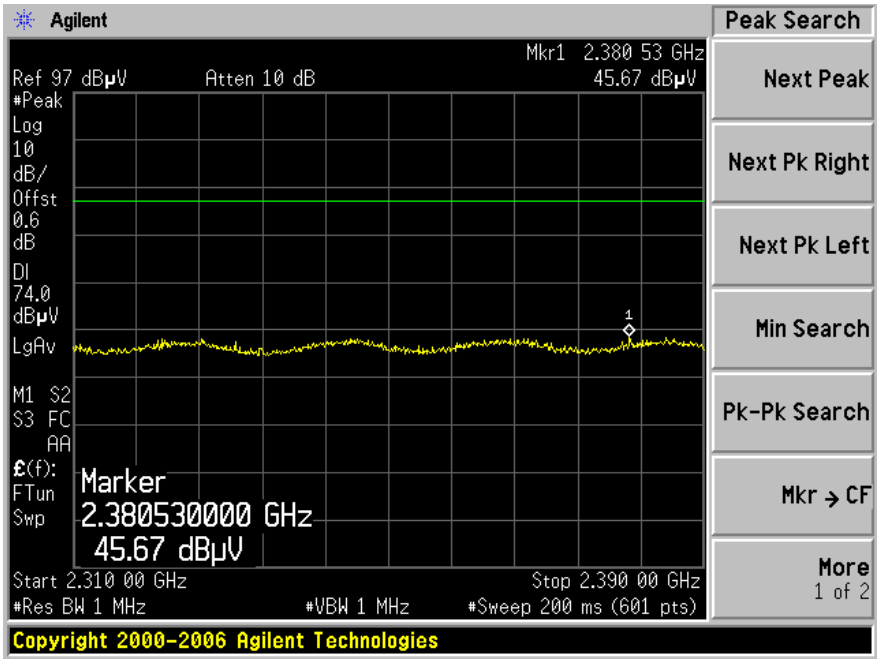
Lowest Channel at Horizontal, Peak



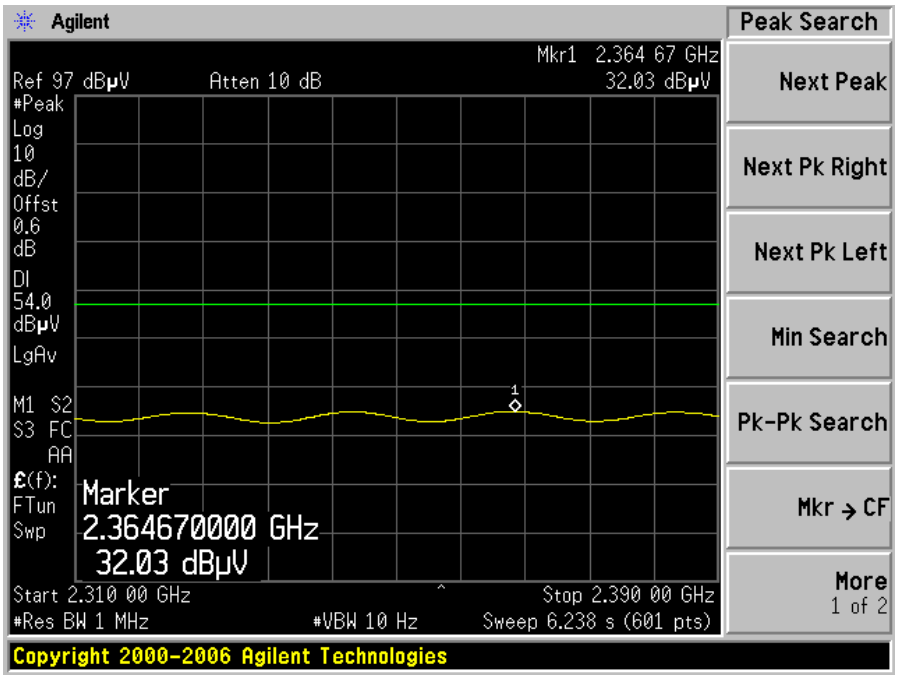
Lowest Channel at Horizontal, Average



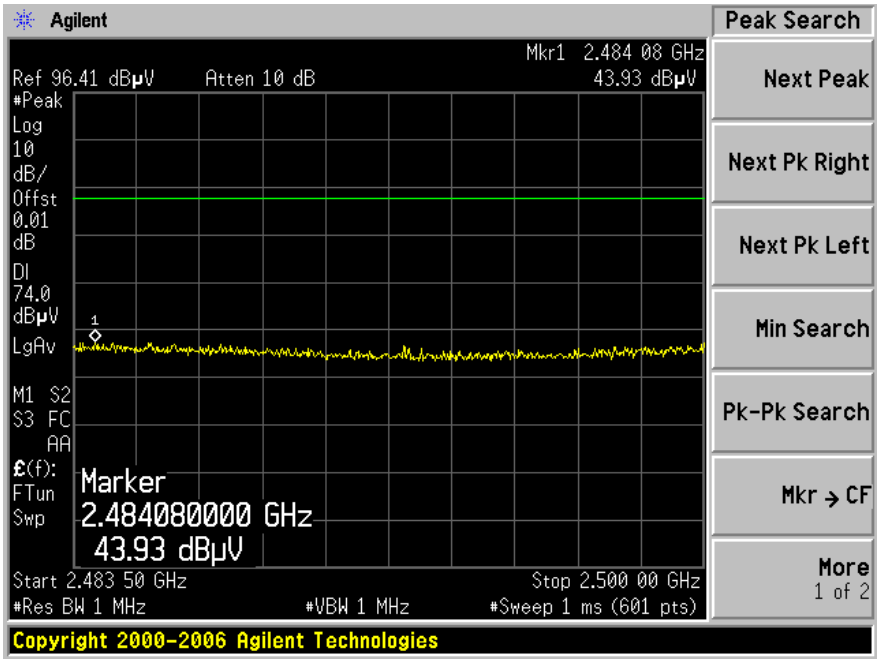
Lowest Channel at Vertical, Peak



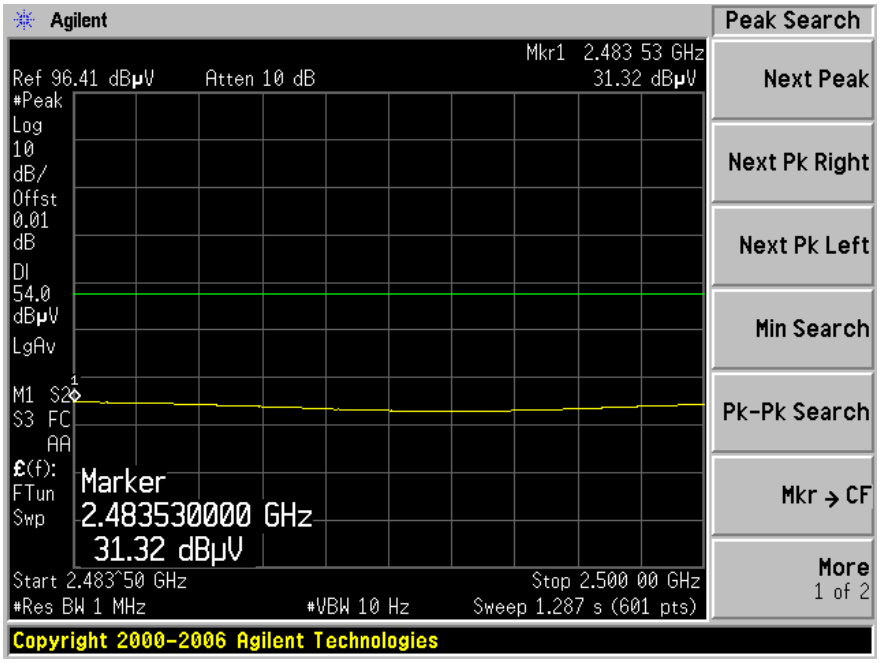
Lowest Channel at Vertical, Average



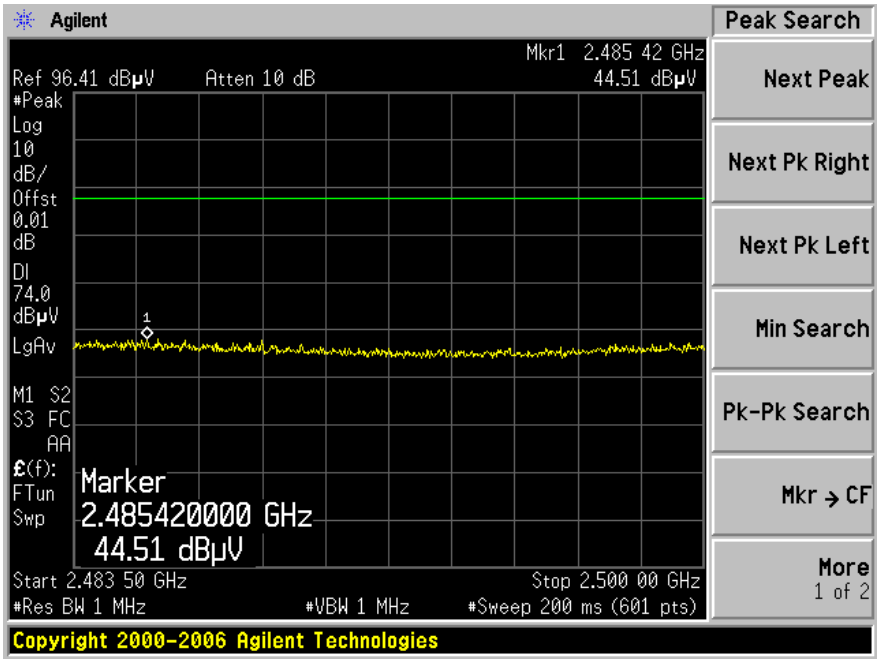
Highest Channel at Horizontal, Peak



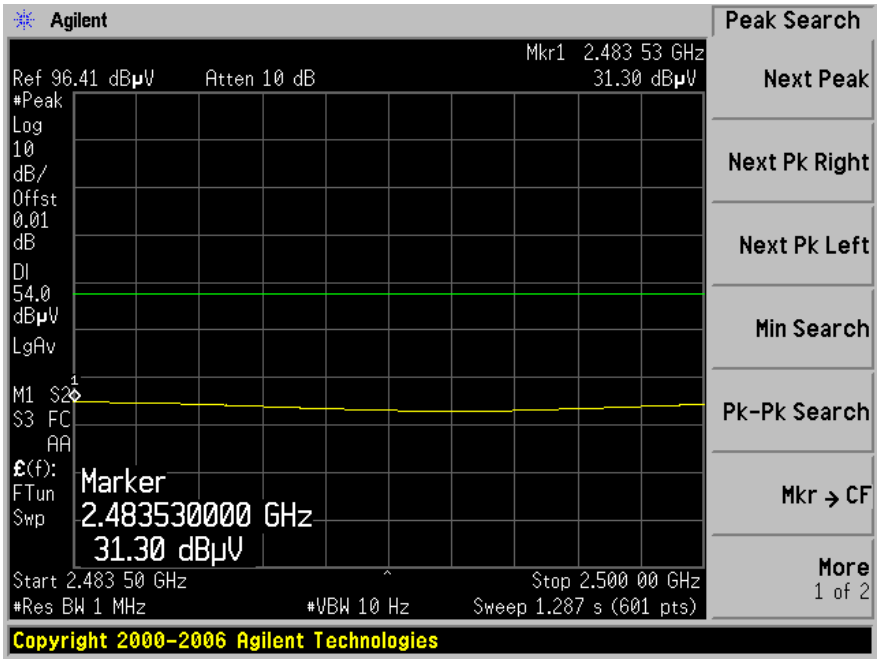
Highest Channel at Horizontal, Average



Highest Channel at Vertical, Peak

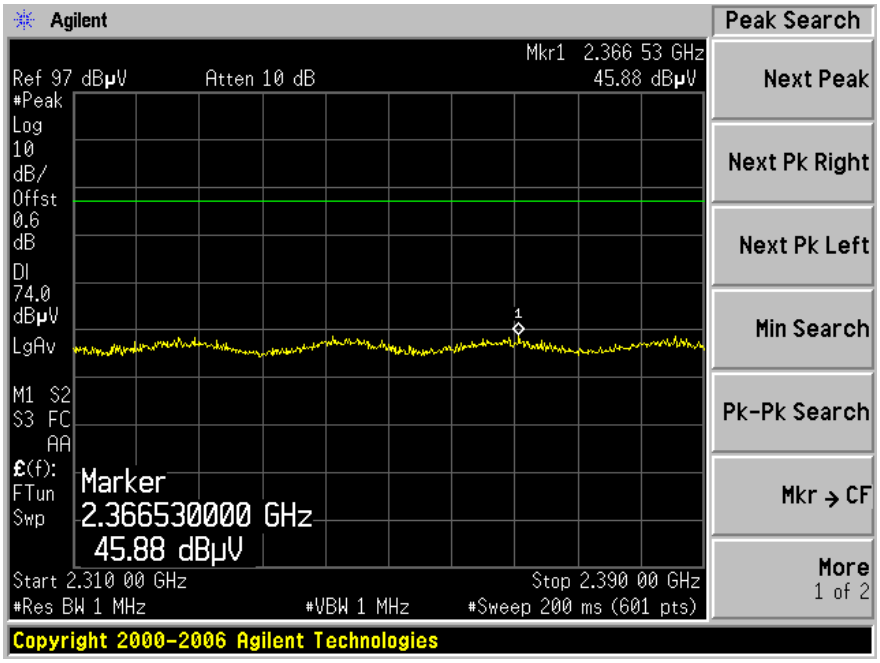


Highest Channel at Vertical, Average

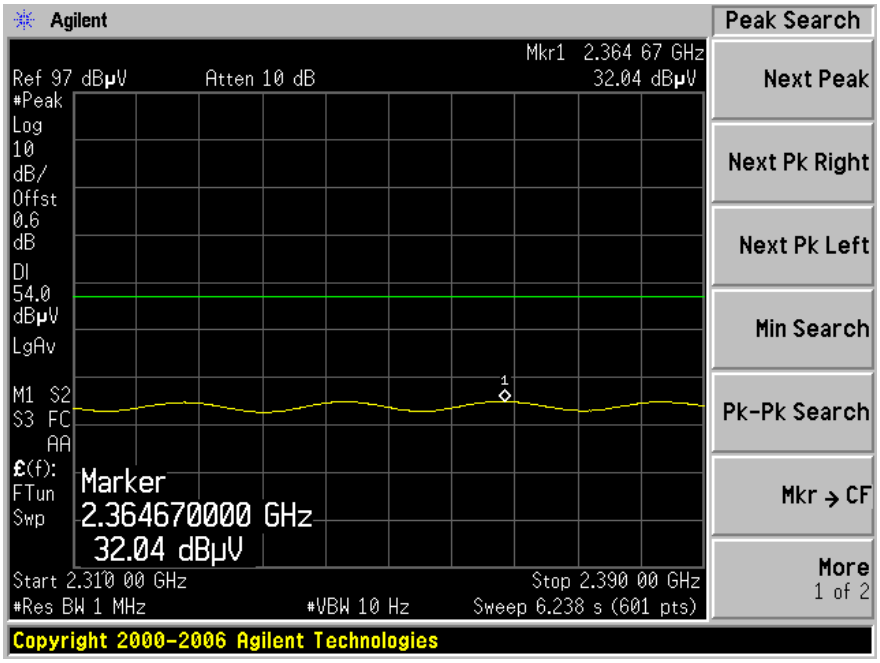


802.11 n 20 MHz mode:

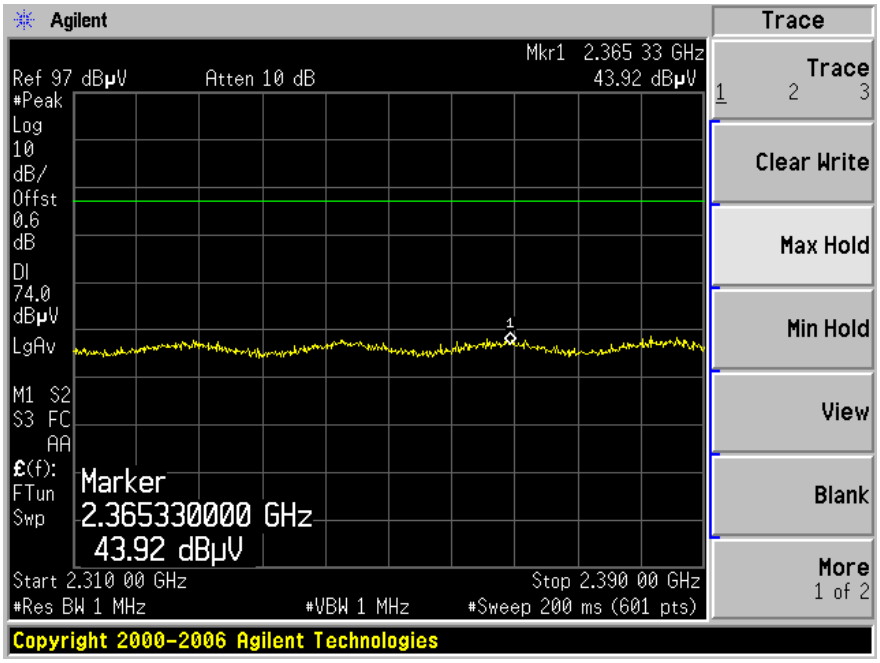
Lowest Channel at Horizontal, Peak



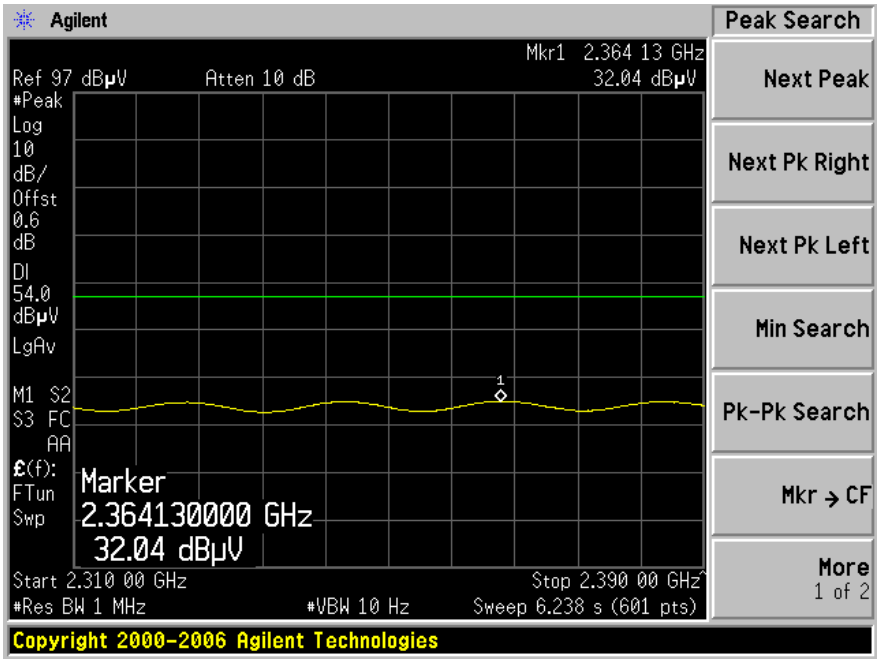
Lowest Channel at Horizontal, Average



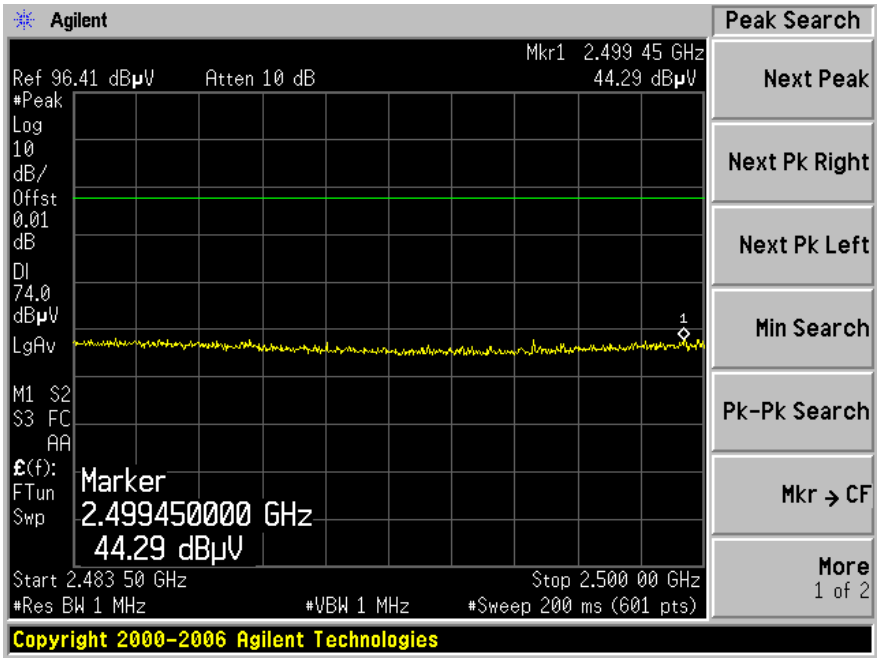
Lowest Channel at Vertical, Peak



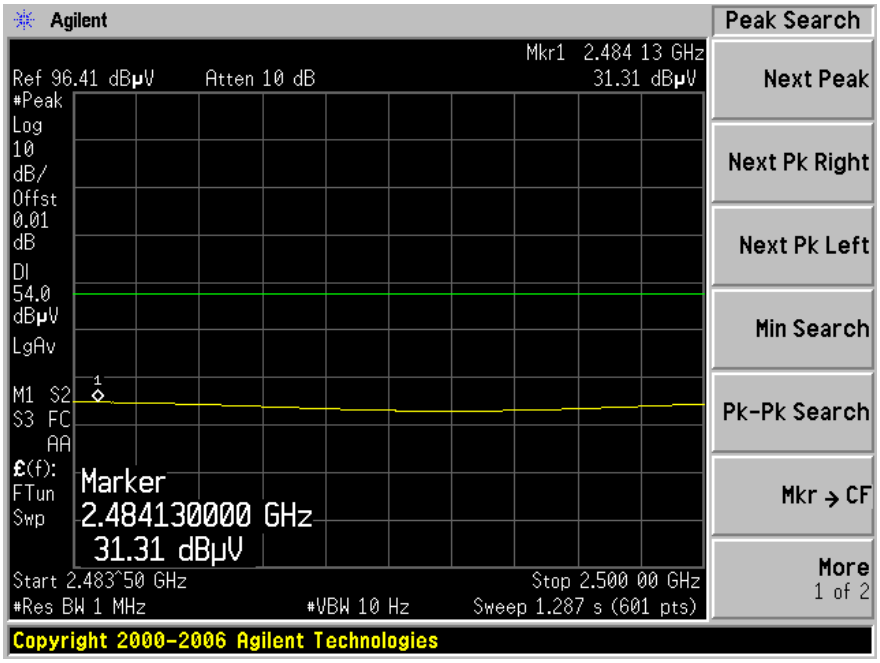
Lowest Channel at Vertical, Average



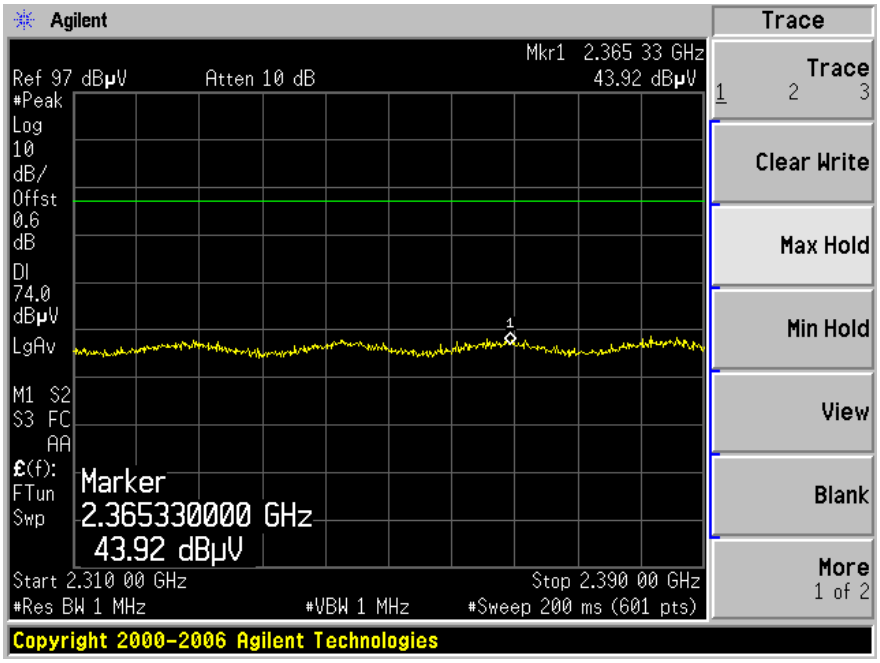
Highest Channel at Horizontal, Peak



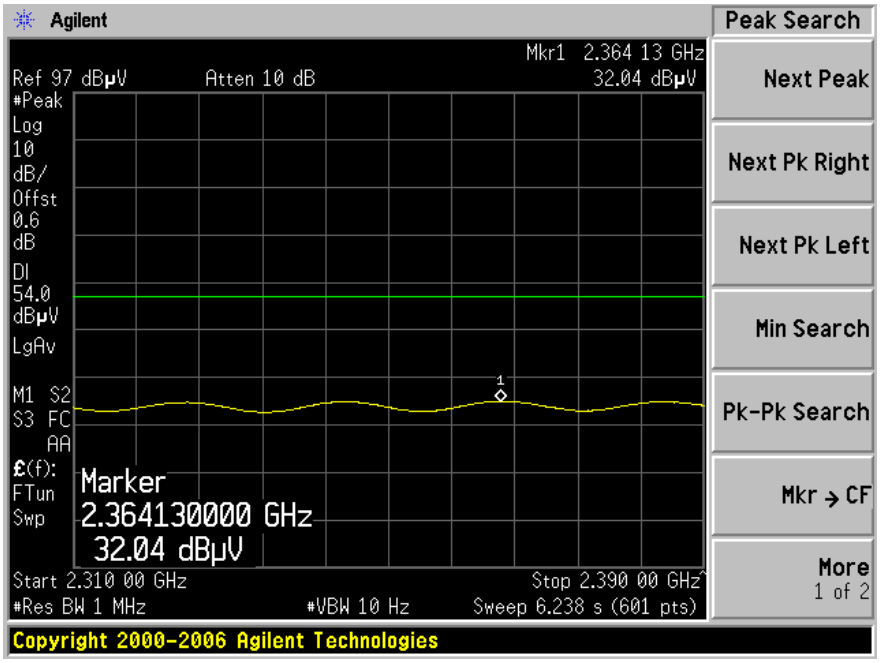
Highest Channel at Horizontal, Average



Highest Channel at Vertical, Peak



Highest Channel at Vertical, Average



9 FCC §15.247(a) (2) – 6 dB & 99% Bandwidth

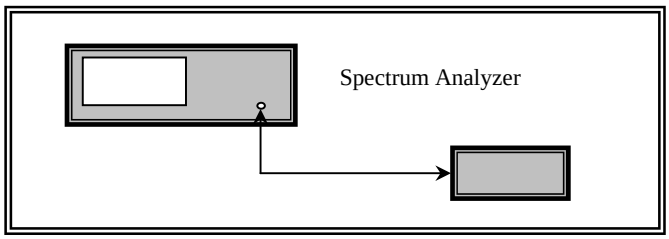
9.1 Applicable Standard

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz

9.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emissions bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

9.3 Test Setup Diagram



9.4 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date
Agilent	Spectrum Analyzer	E4440A	MY44303352	2009-04-27

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

9.5 Test Environmental Conditions

Temperature:	18-22 °C
Relative Humidity:	40-44 %
ATM Pressure:	101-103kPa

**The testing was performed by Kevin Li from 2010-01-18.*

9.6 Summary of Test Results

802.11 b Mode:

Antenna	Channel	Frequency (MHz)	6 dB Channel Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (kHz)	Results
#0	Low	2412	10.313	14.396	>500	Compliant
	Middle	2437	10.305	14.387	>500	Compliant
	High	2462	10.319	14.3216	>500	Compliant
#1	Low	2412	10.200	13.981	>500	Compliant
	Middle	2437	10.201	14.0558	>500	Compliant
	High	2462	10.202	13.9446	>500	Compliant

802.11 g Mode:

Antenna	Channel	Frequency (MHz)	6 dB Channel Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (kHz)	Results
#0	Low	2412	16.582	20.4842	>500	Compliant
	Middle	2437	16.580	20.6858	>500	Compliant
	High	2462	16.641	19.5994	>500	Compliant
#1	Low	2412	15.882	18.2550	>500	Compliant
	Middle	2437	15.837	18.5491	>500	Compliant
	High	2462	16.166	18.1811	>500	Compliant

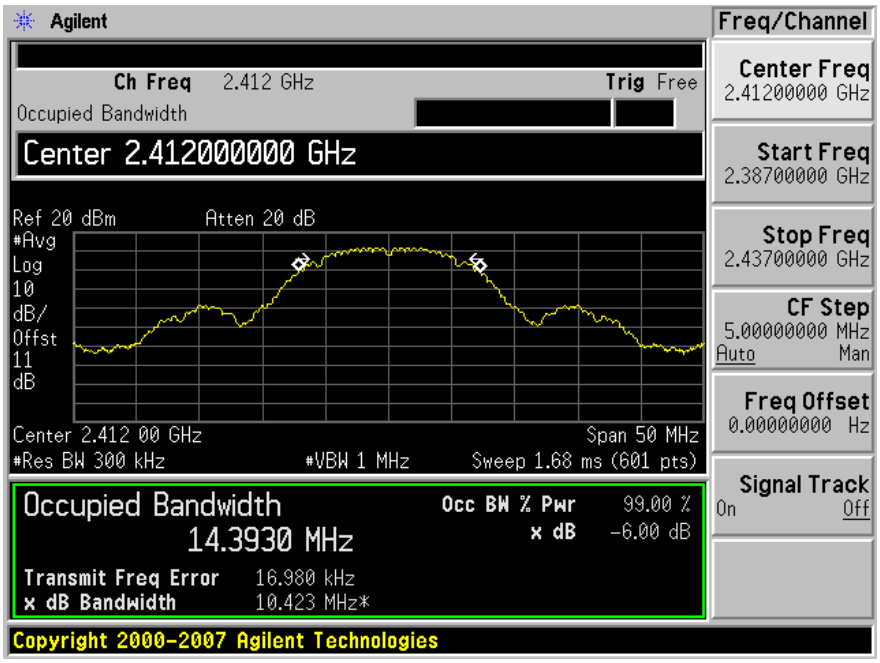
802.11 n 20 MHz Mode:

Antenna	Channel	Frequency (MHz)	6 dB Channel Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (kHz)	Results
#0	Low	2412	17.820	21.2772	>500	Compliant
	Middle	2437	17.782	21.5588	>500	Compliant
	High	2462	17.846	20.2438	>500	Compliant
#1	Low	2412	176.687	18.8229	>500	Compliant
	Middle	2437	17.053	19.0640	>500	Compliant
	High	2462	16.509	18.9970	>500	Compliant

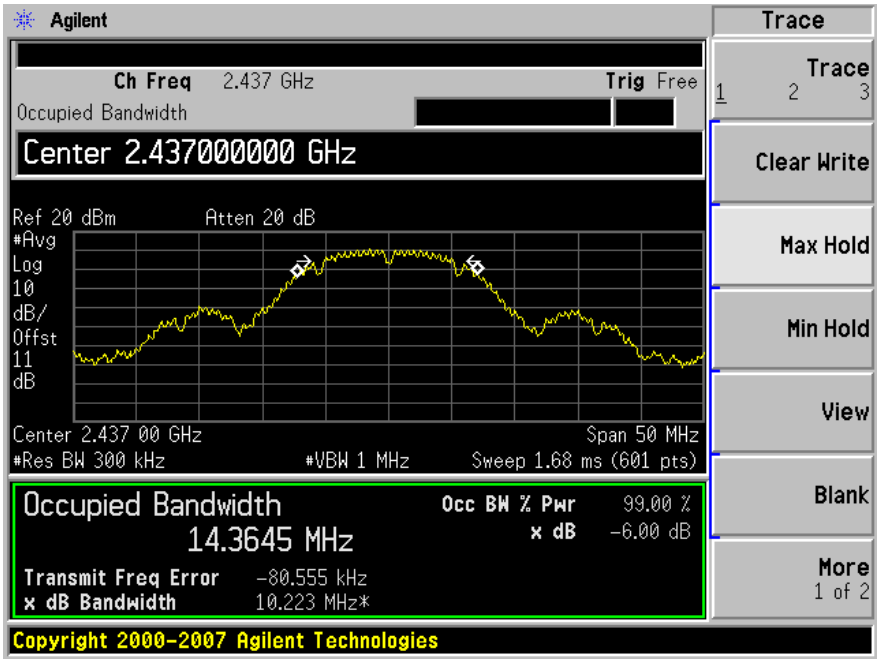
Please refer to the following plots for detailed test results

802.11 b (Antenna #0)

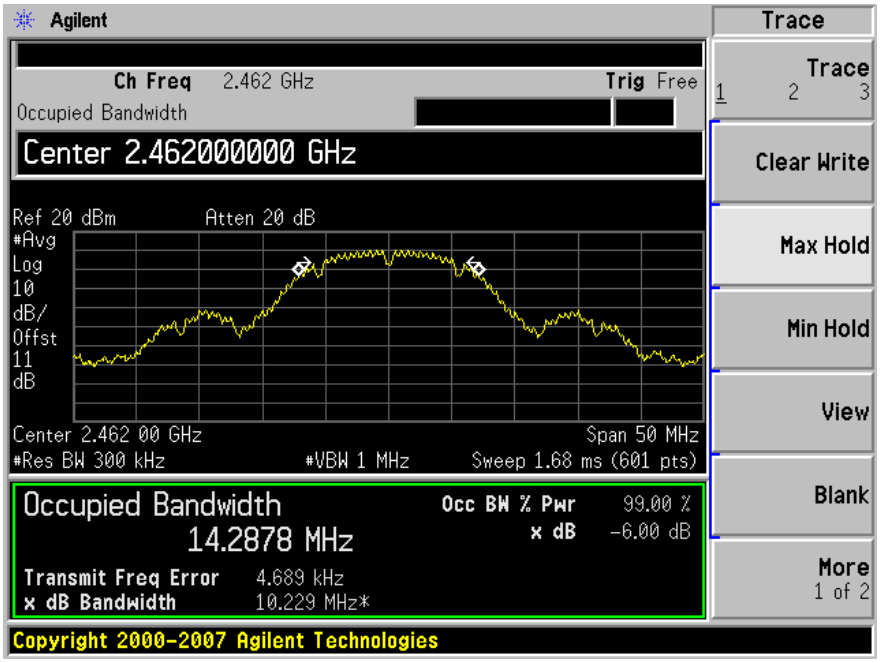
Low Channel 2412 MHz



Middle Channel 2437 MHz

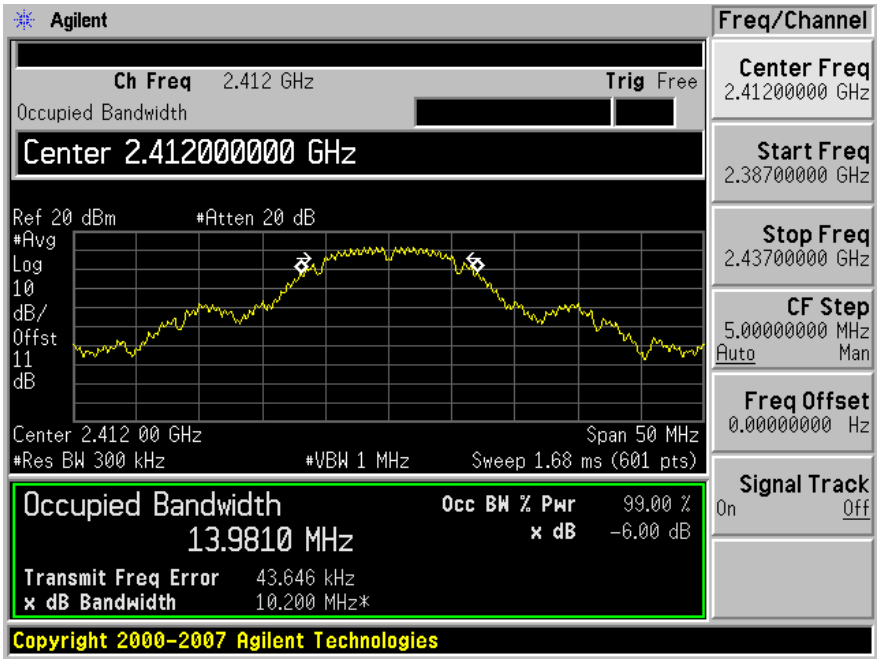


High Channel 2462 MHz

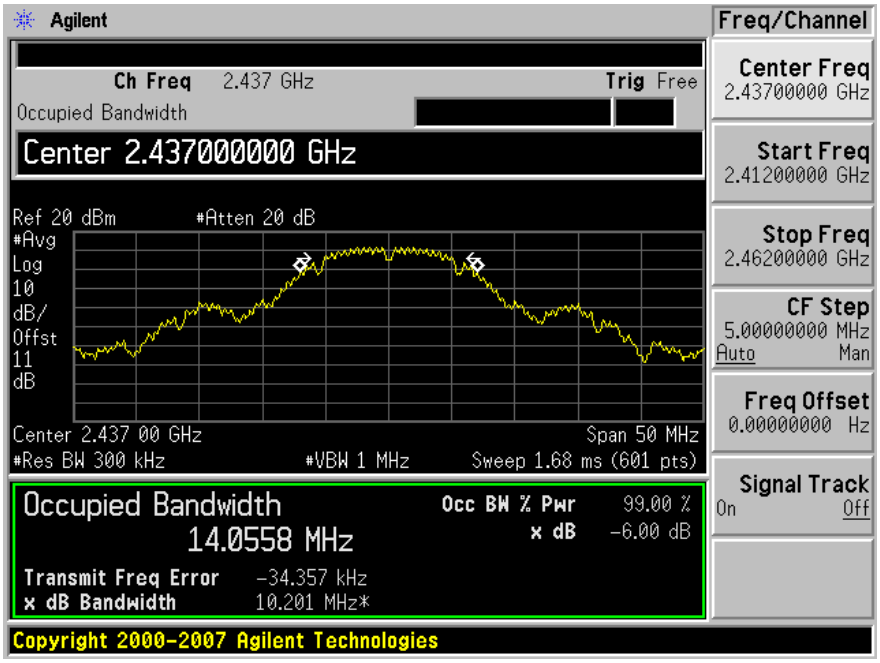


802.11 b (Antenna #1)

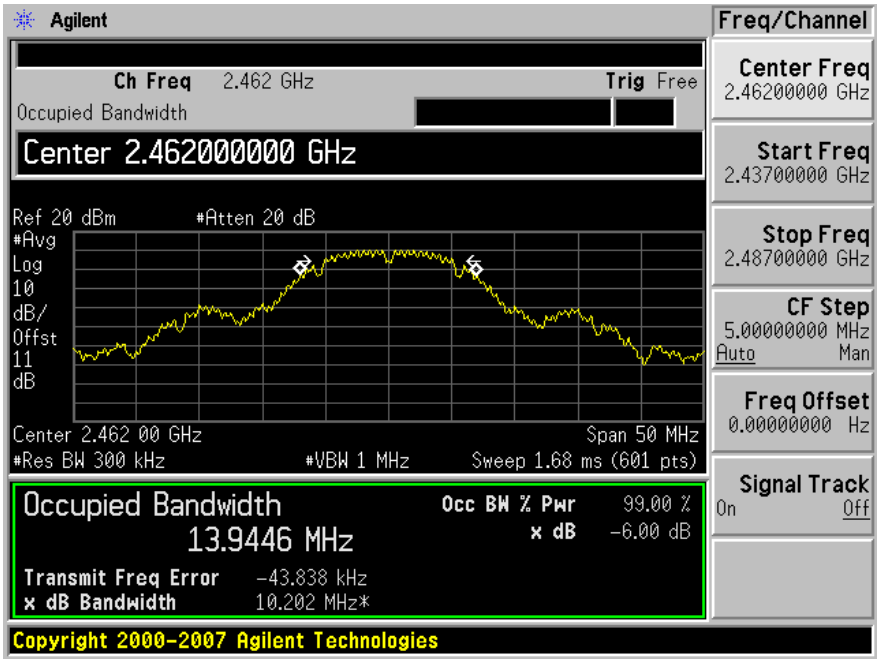
Low Channel 2412 MHz



Middle Channel 2437 MHz

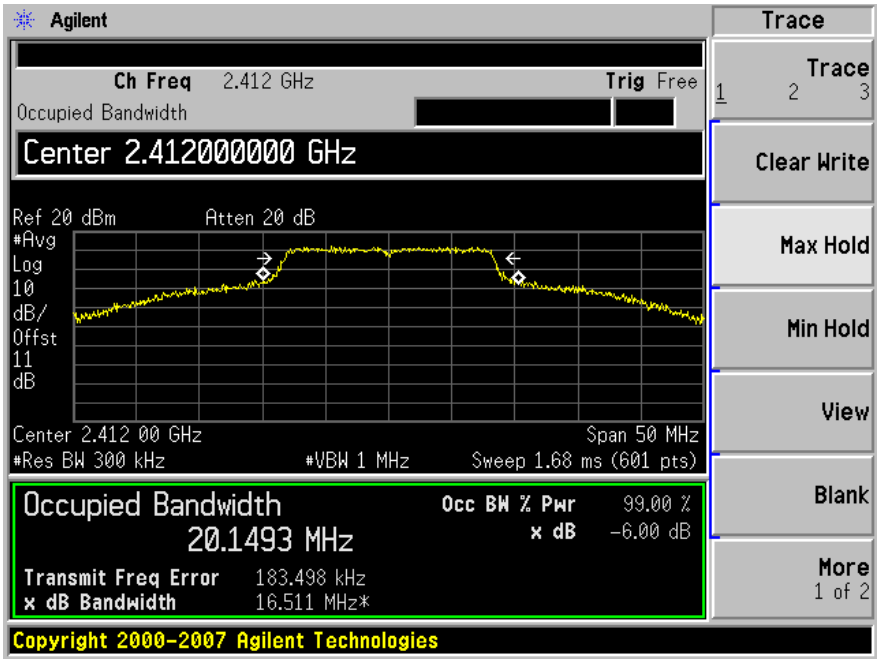


High Channel 2462 MHz

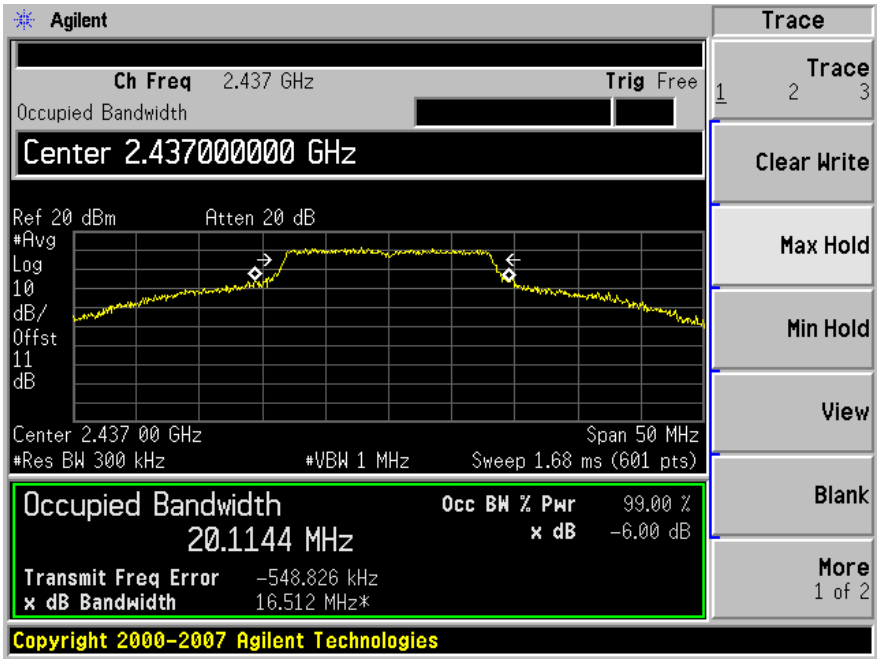


802.11 g (Antenna #0)

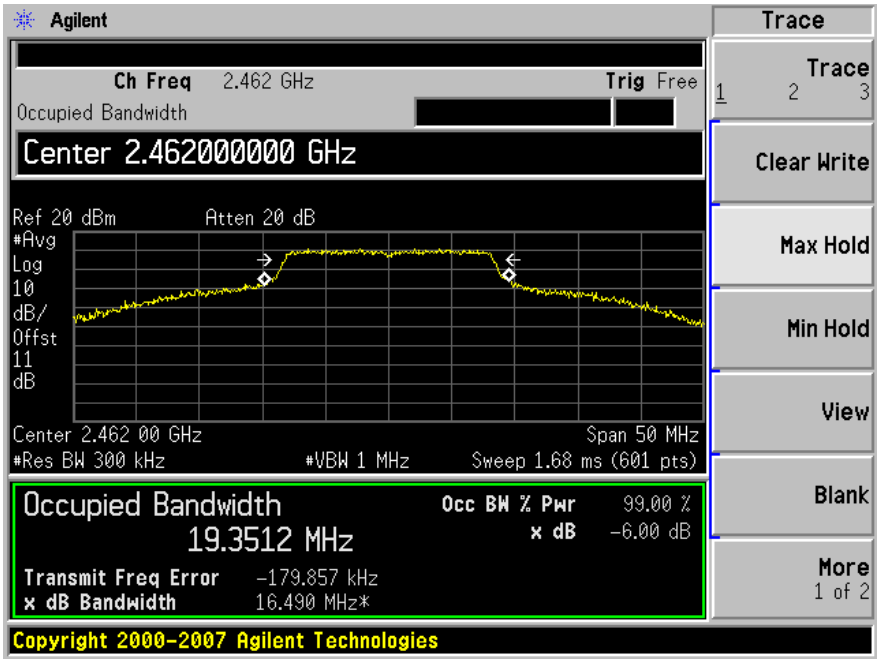
Low Channel 2412 MHz



Middle Channel 2437 MHz

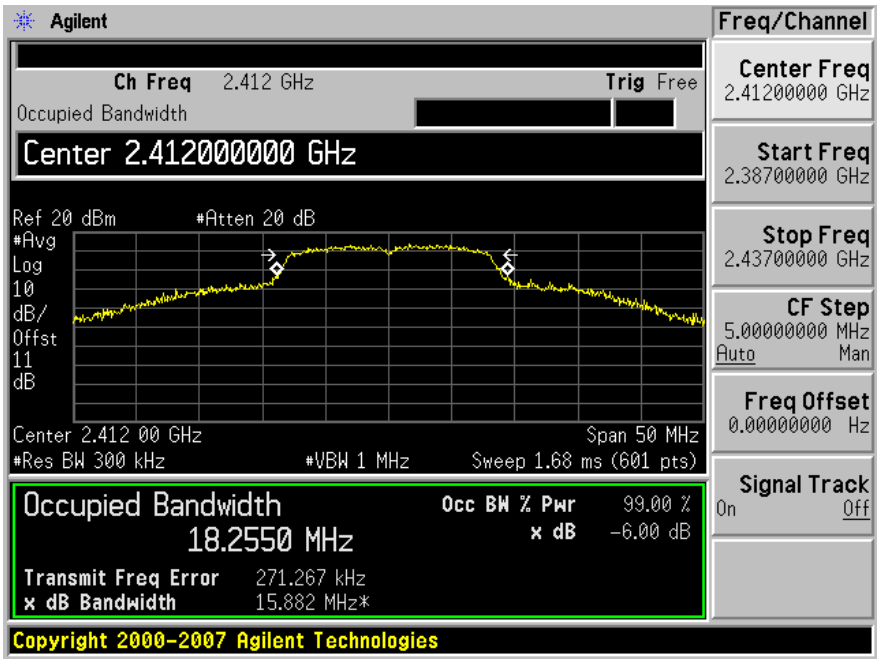


High Channel 2462 MHz

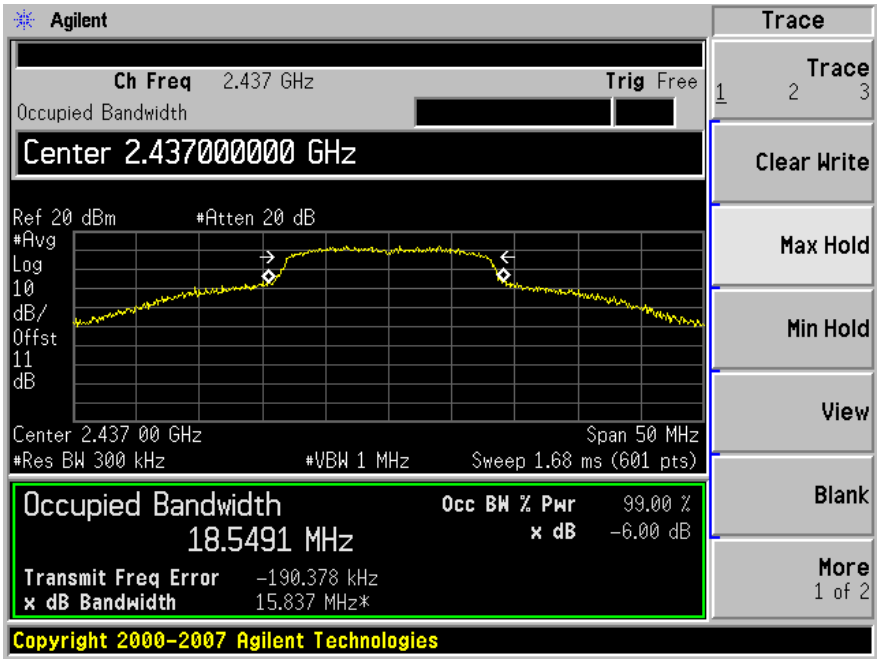


802.11 g (Antenna #1)

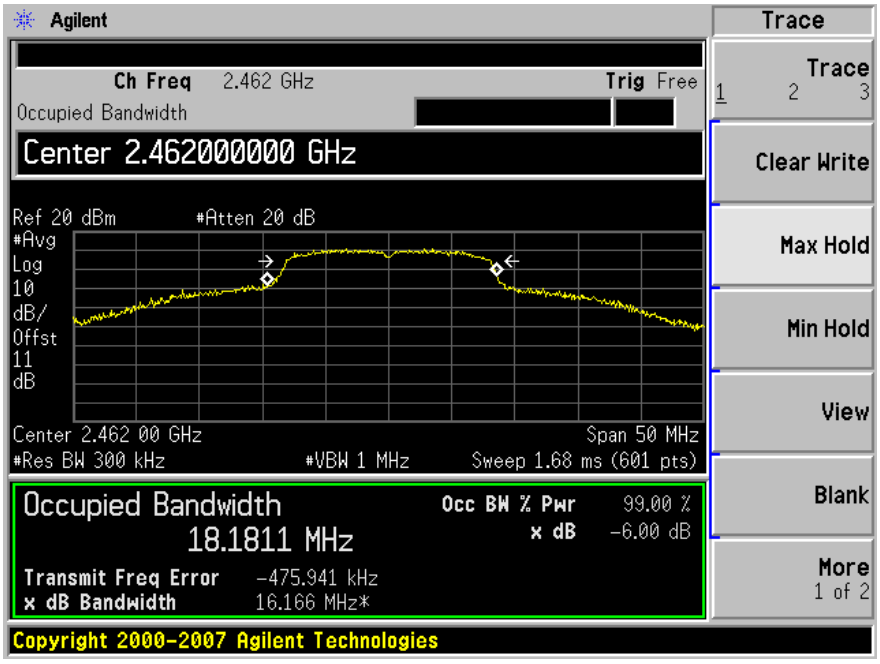
Low Channel 2412 MHz



Middle Channel 2437 MHz

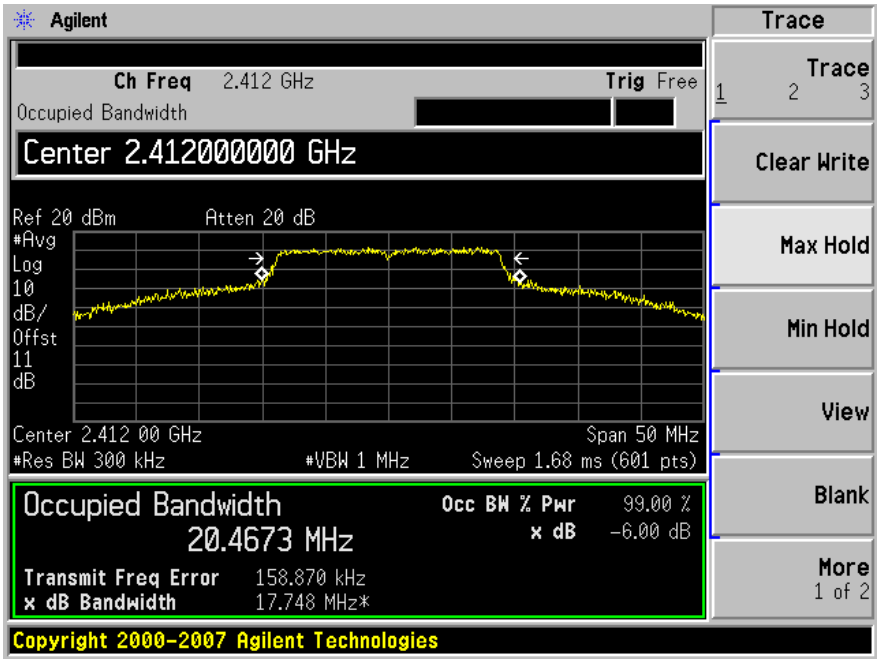


High Channel 2462 MHz

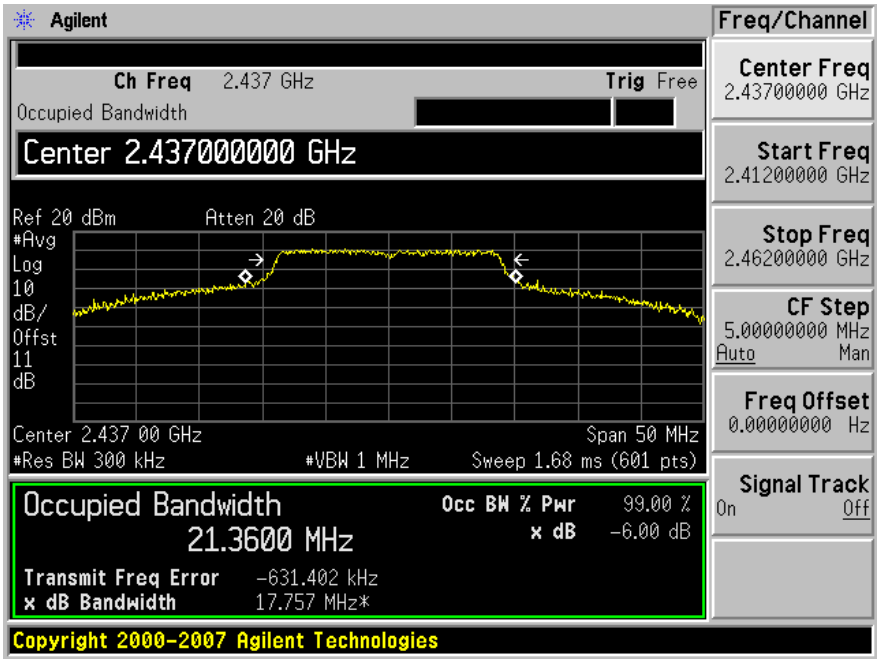


802.11 n 20 MHz (Antenna #0)

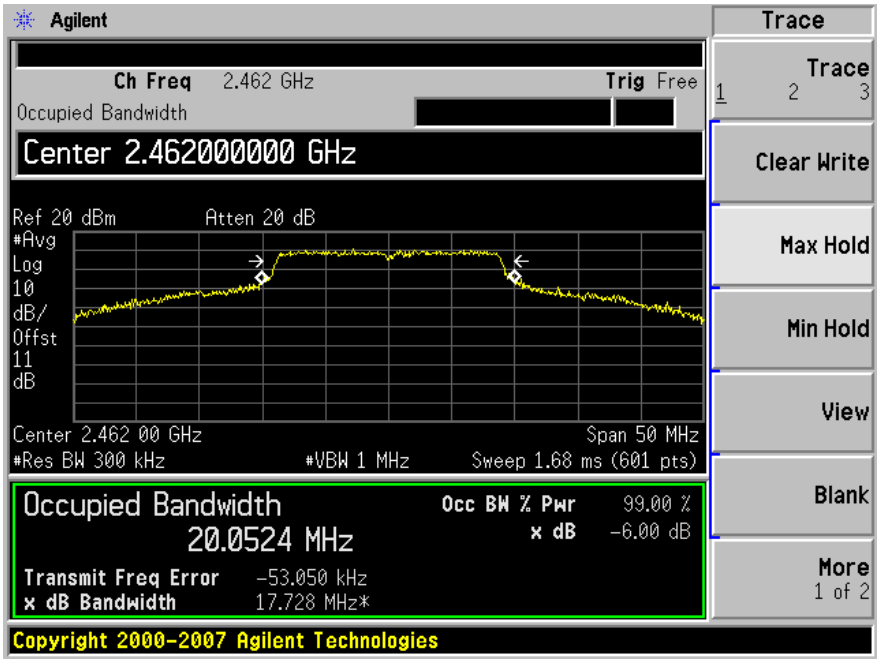
Low Channel 2412 MHz



Middle Channel 2437 MHz

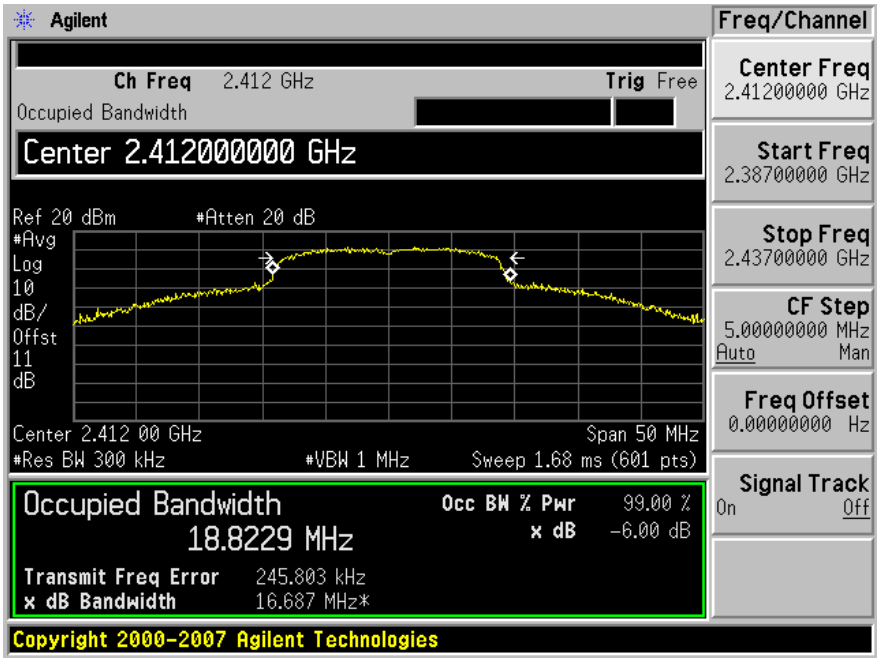


High Channel 2462 MHz

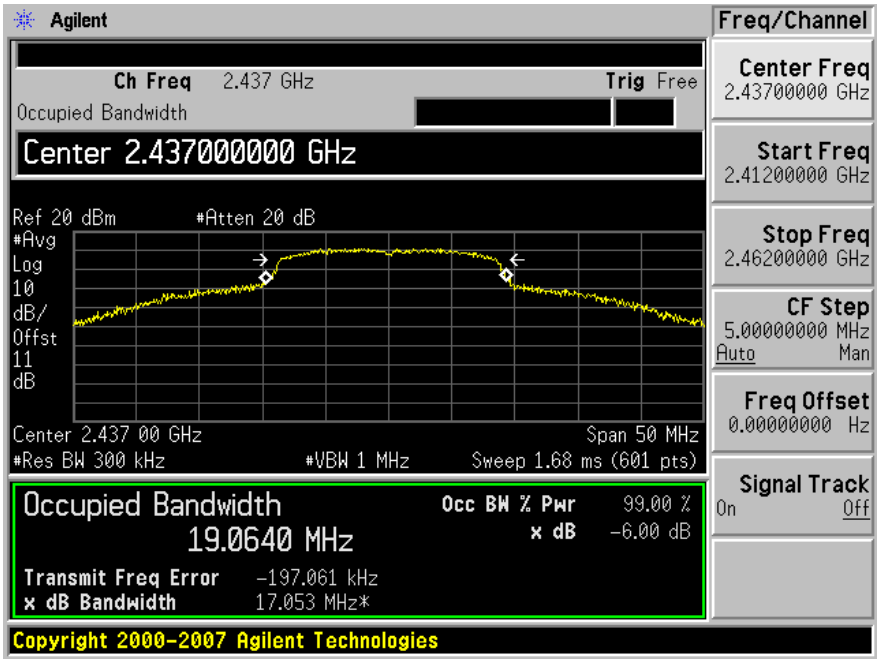


802.11 n 20 MHz (Antenna #1)

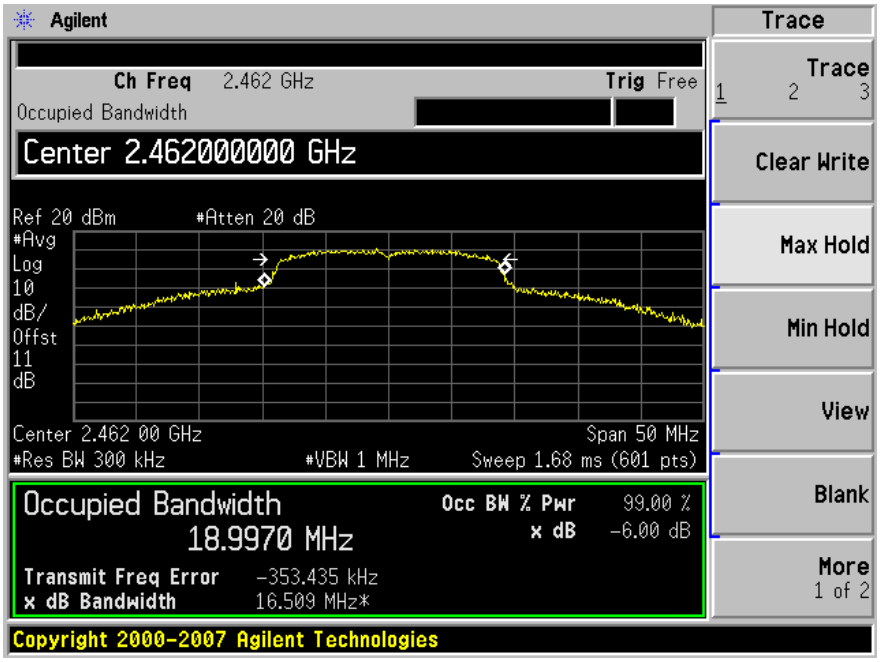
Low Channel 2412 MHz



Middle Channel 2437 MHz



High Channel 2462 MHz



10 FCC §15.247(b) - Peak Output Power Measurement

10.1 Applicable Standard

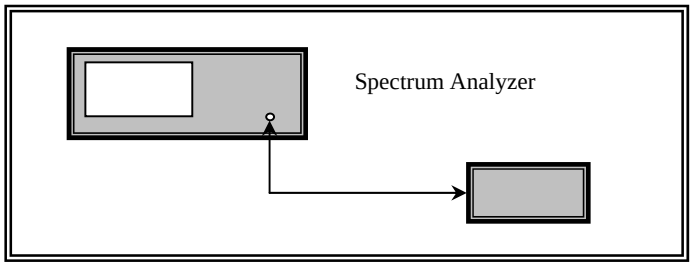
FCC §15.247(b) the maximum peak output power of the intentional radiator shall not exceed the following:

FCC §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.

10.2 Measurement Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to a spectrum analyzer.
3. Add a correction factor to the display.

10.3 Test Setup Diagram



10.4 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date
Agilent	Spectrum Analyzer	E4440A	MY44303352	2009-04-27

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

10.5 Test Environmental Conditions

Temperature:	18-22 °C
Relative Humidity:	40-44 %
ATM Pressure:	101-103kPa

**The testing was performed by Kevin Li on 2010-01-18.*

10.6 Summary of Test Results

802.11 b mode:

Channel	Frequency (MHz)	Output Power Chain 0 (dBm)	Output Power Chain 1 (dBm)	Highest Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	20.75	22.30	22.30	30	9.13
Mid	2437	19.40	22.34	22.34	30	9.27
High	2462	19.72	21.38	21.38	30	9.22

802.11 g mode:

Channel	Frequency (MHz)	Output Power Chain 0 (dBm)	Output Power Chain 1 (dBm)	Highest Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	21.22	21.95	21.95	30	9.38
Mid	2437	20.09	21.73	21.73	30	9.59
High	2462	19.62	20.81	20.81	30	9.48

802.11 n 20 MHz mode:

Channel	Frequency (MHz)	Output Power Chain 0 (dBm)	Output Power Chain 1 (dBm)	Total Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	21.27	20.03	23.70	30	7.02
Mid	2437	20.08	20.07	23.09	30	6.55
High	2462	19.50	19.96	22.75	30	6.51

Note: The maximum antenna gain is 2 dBi, antenna number is 2. The effective gain of antenna is 2 + 10log 2 = 5 dBi, which is below 1 dBi of 6 dBi; therefore the limit is 30 dBm.

11 FCC §15.247(d) - 100 kHz Bandwidth of Band Edges

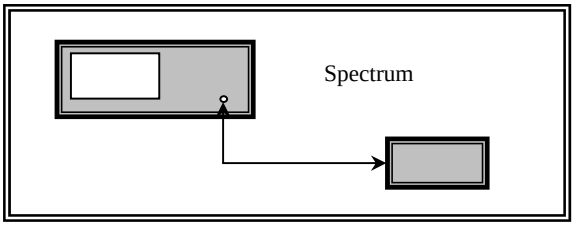
11.1 Applicable Standard

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emissions limits specified in §15.209(a) see §15.205(c)).

11.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

11.3 Test Setup Diagram



11.4 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date
Agilent	Spectrum Analyzer	E4440A	MY44303352	2009-04-27

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

11.5 Test Environmental Conditions

Temperature:	18-22 °C
Relative Humidity:	40-44 %
ATM Pressure:	101-103kPa

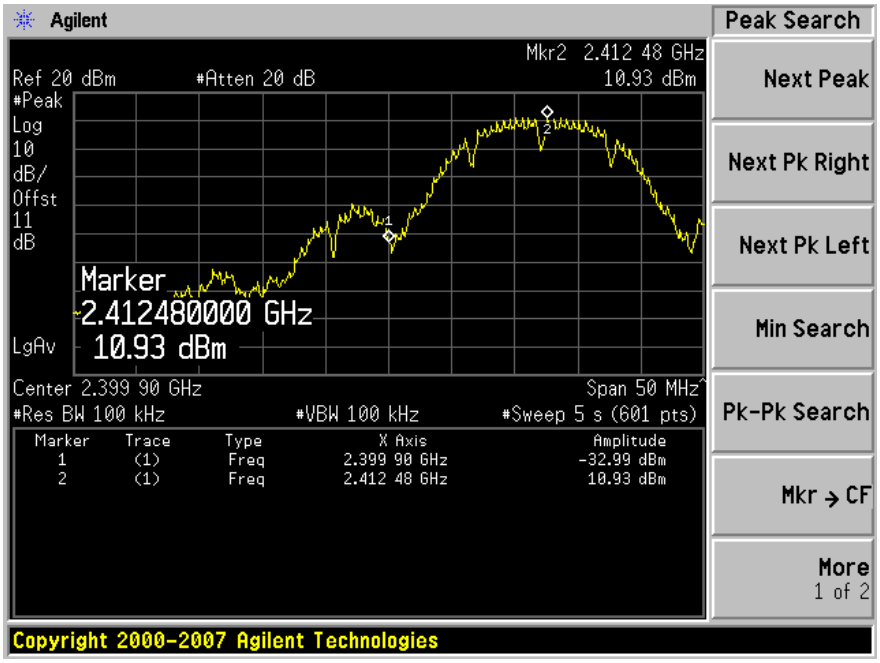
**The testing was performed by Kevin Li from 2010-01-18.*

11.6 Measurement Results

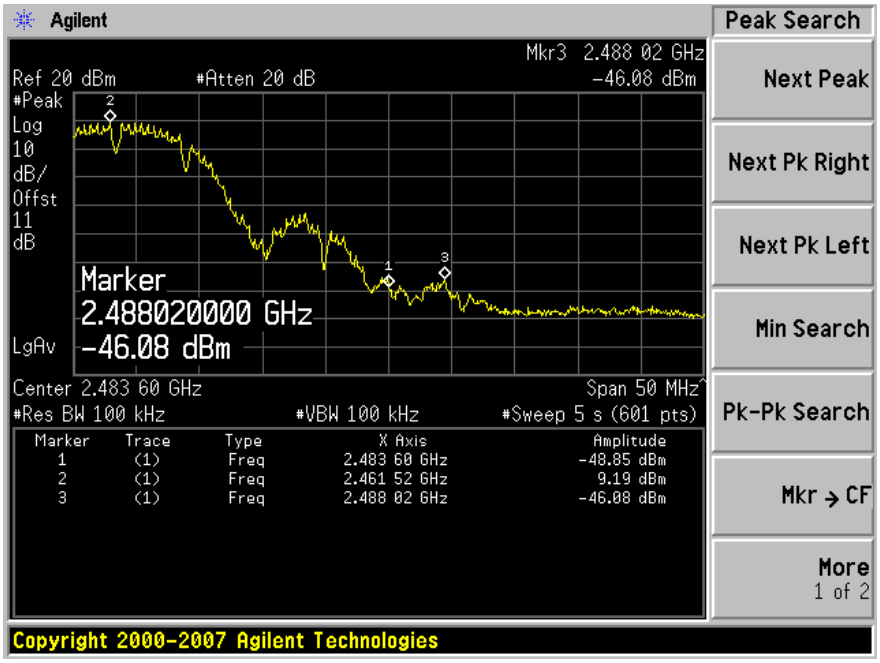
Please refer to following pages for plots of band edge.

802.11 b – Antenna #0

Low Band Edge

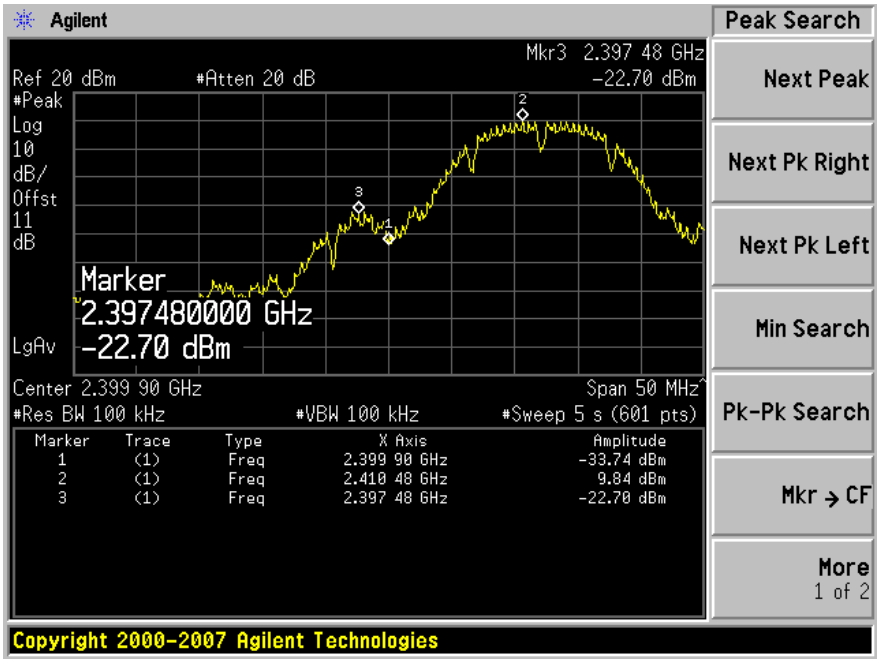


High Band Edge

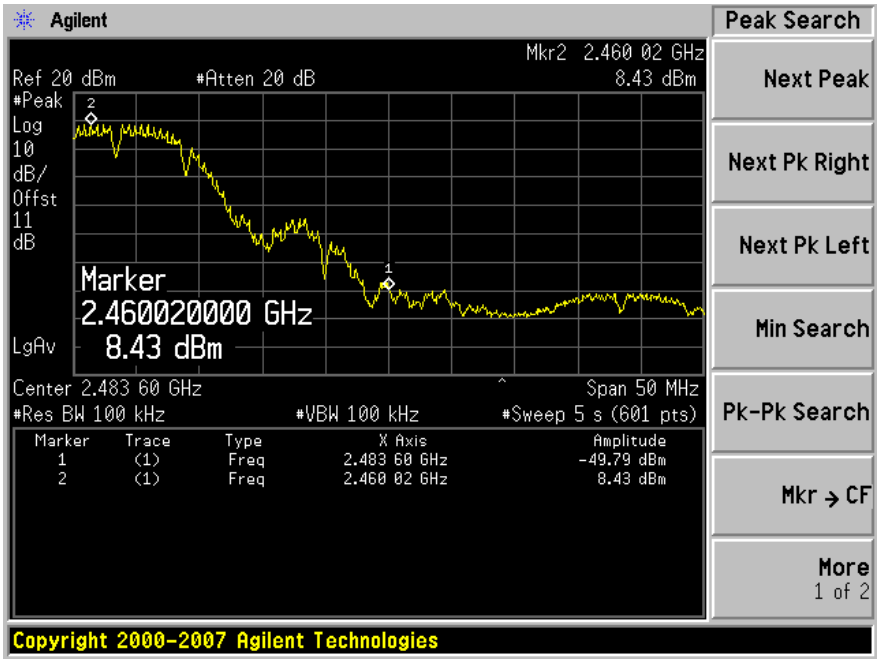


802.11 b – Antenna #1

Low Band Edge

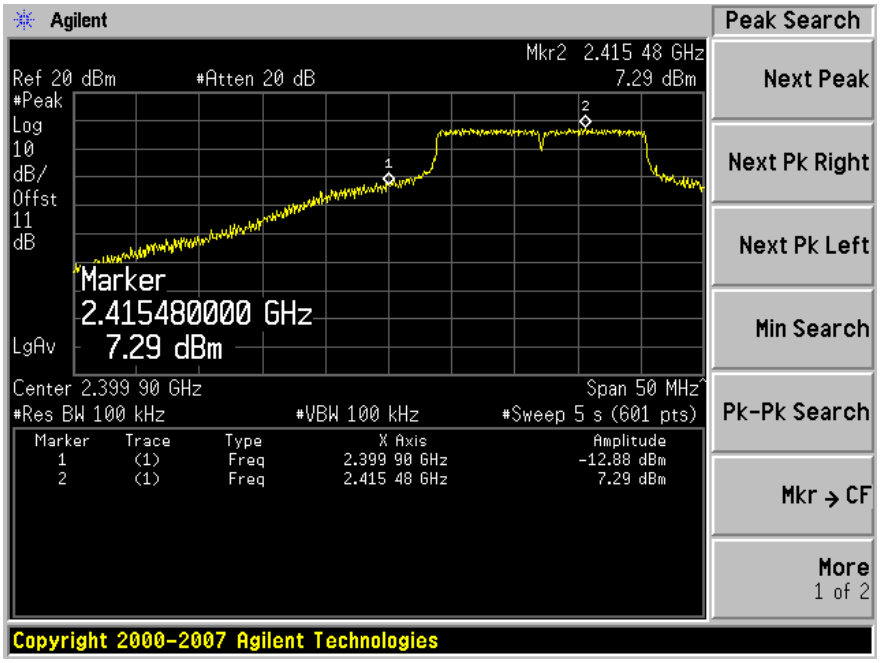


High Band Edge

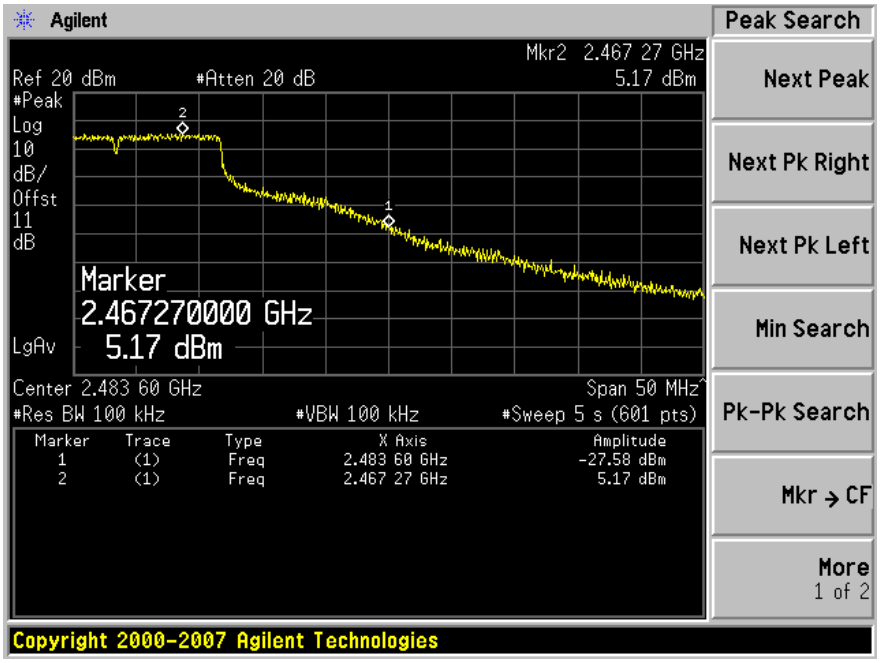


802.11 g – Antenna #0

Low Band Edge

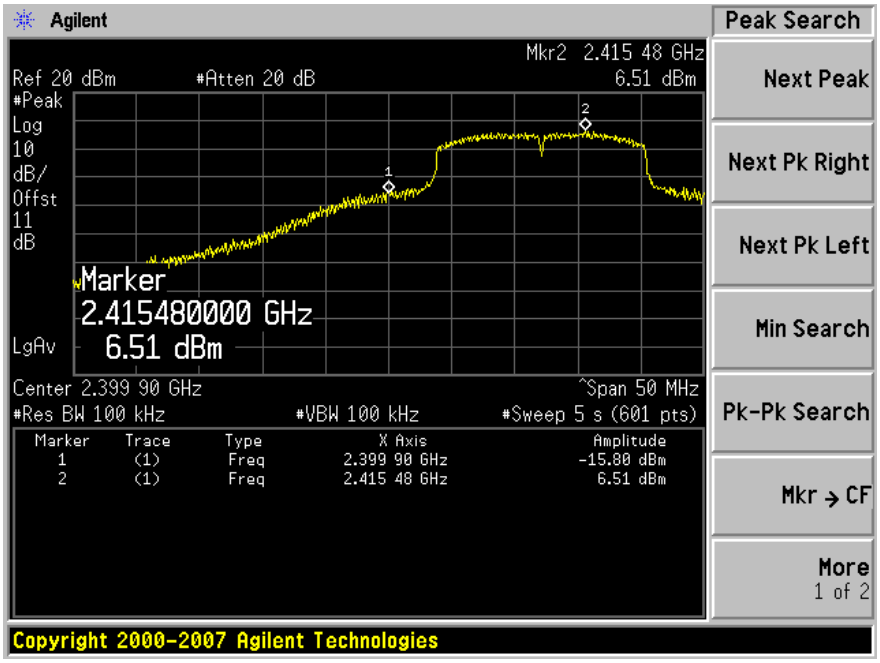


High Band Edge

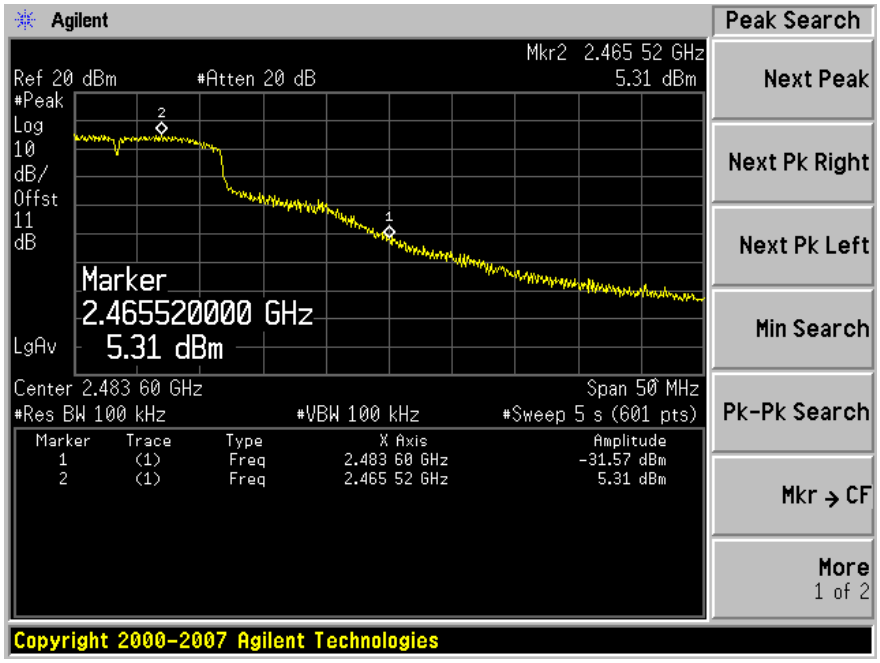


802.11 g – Antenna #1

Low Band Edge

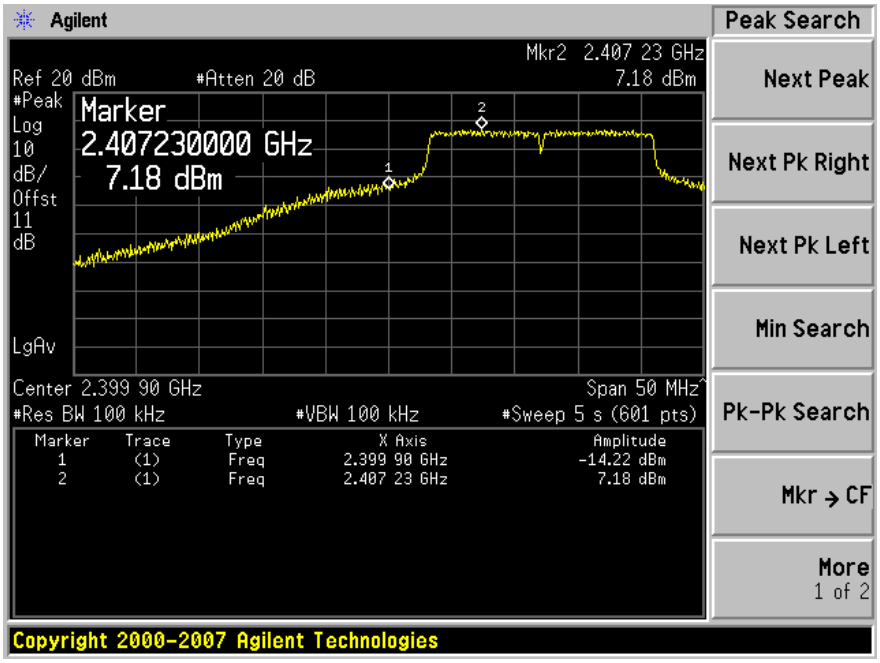


High Band Edge

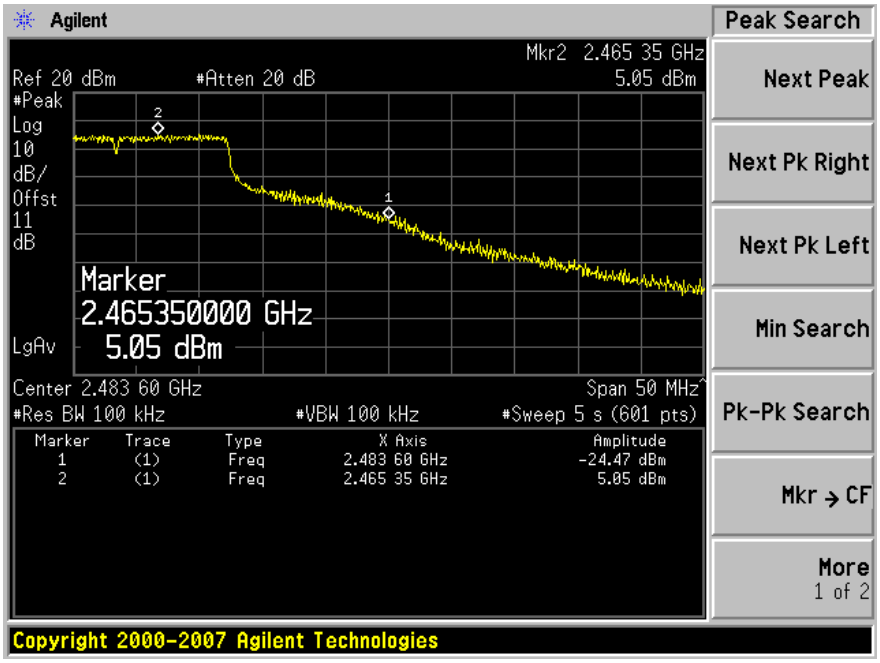


802.11 n 20 MHz – Antenna #0

Low Band Edge

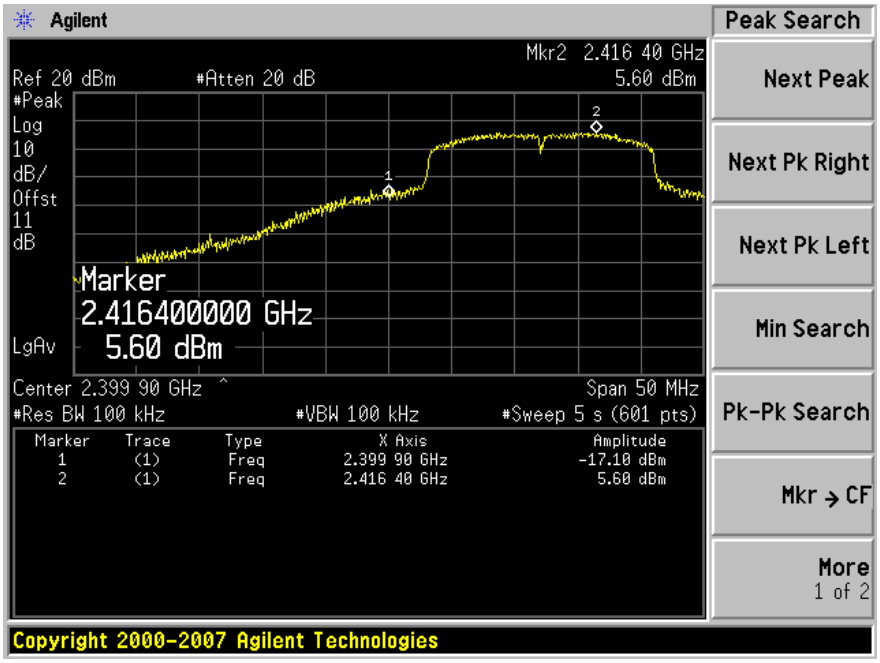


High Band Edge

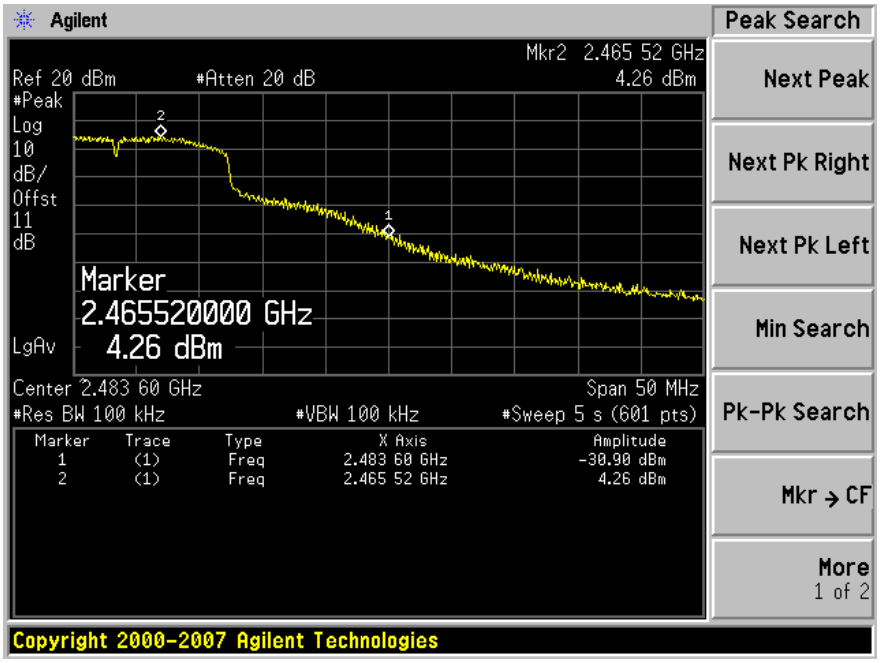


802.11 n 20 MHz – Antenna #1

Low Band Edge

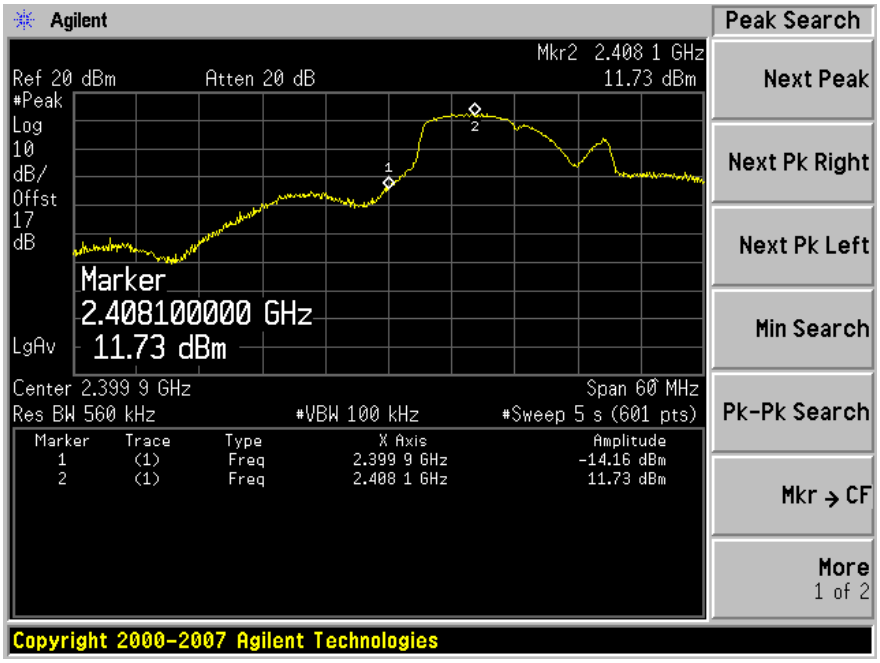


High Band Edge

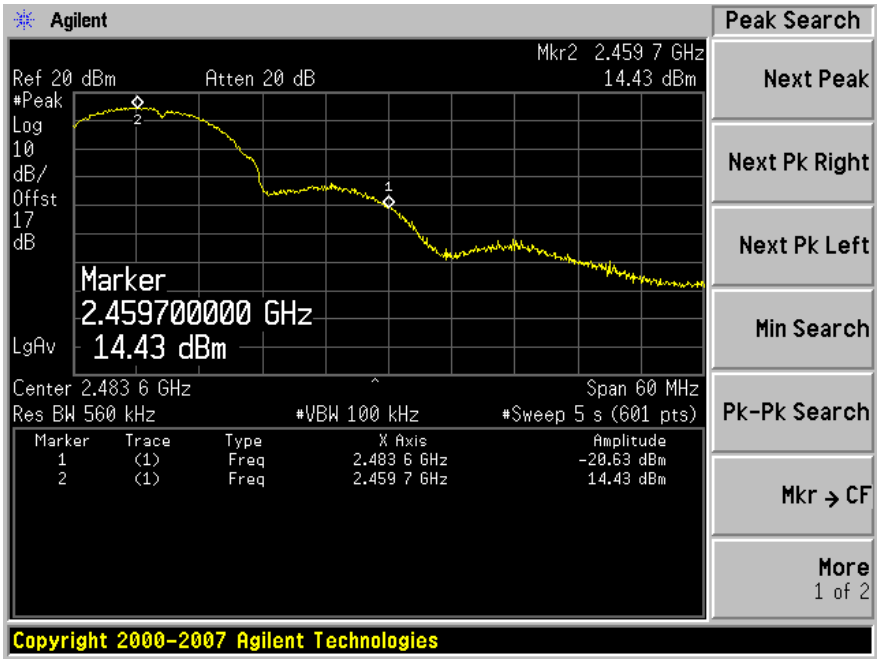


802.11 n 20 MHz (Antenna #0 + Antenna #1)

Low Band Edge



High Band Edge



12 FCC §15.247(e) - Power Spectral Density

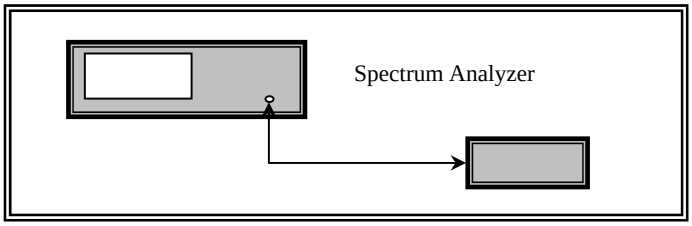
12.1 Applicable Standard

According to §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.

12.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Adjust the center frequency of SA on any frequency be measured and set SA to 1.5MHz span mode. And then, set RBW and VBW of spectrum analyzer to proper value.
4. Repeat above procedures until all frequencies measured were complete.

12.3 Test Setup Diagram



12.4 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date
Agilent	Spectrum Analyzer	E4440A	MY44303352	2009-04-27

*** Statement of Traceability: BACL Corp.** attests that all calibrations have been performed per the NVLAP requirements, traceable to the NIST.

12.5 Test Environmental Conditions

Temperature:	18-22 °C
Relative Humidity:	40-44 %
ATM Pressure:	101-103kPa

**The testing was performed by Kevin Li from 2010-01-18 to 2010-01-19.*

12.6 Summary of Test Results

802.11 b mode:

Antenna	Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm/3kHz)	Results
#0	Low	2412	-11.38	8	Compliant
	Mid	2437	-14.97	8	Compliant
	High	2462	-12.45	8	Compliant
#1	Low	2412	-10.16	8	Compliant
	Mid	2437	-11.65	8	Compliant
	High	2462	-7.18	8	Compliant

802.11 g mode:

Antenna	Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm/3kHz)	Results
#0	Low	2412	-7.43	8	Compliant
	Mid	2437	-6.09	8	Compliant
	High	2462	-7.61	8	Compliant
#1	Low	2412	-5.50	8	Compliant
	Mid	2437	-2.48	8	Compliant
	High	2462	-8.99	8	Compliant

802.11 n 20 MHz mode:

Antenna	Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm/3kHz)	Results
#0	Low	2412	-7.55	8	Compliant
	Mid	2437	-6.02	8	Compliant
	High	2462	-5.30	8	Compliant
#1	Low	2412	-5.39	8	Compliant
	Mid	2437	-5.21	8	Compliant
	High	2462	-9.35	8	Compliant

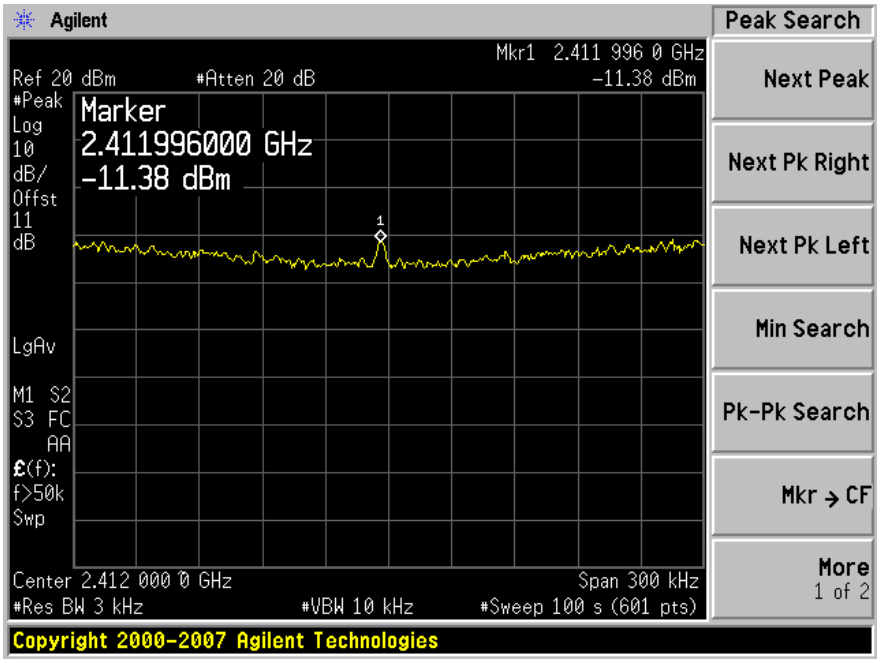
Antenna #0 + Antenna #1

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm/3kHz)	Results
Low	2412	-3.52	8	Compliant
Mid	2437	-8.84	8	Compliant
High	2462	-4.64	8	Compliant

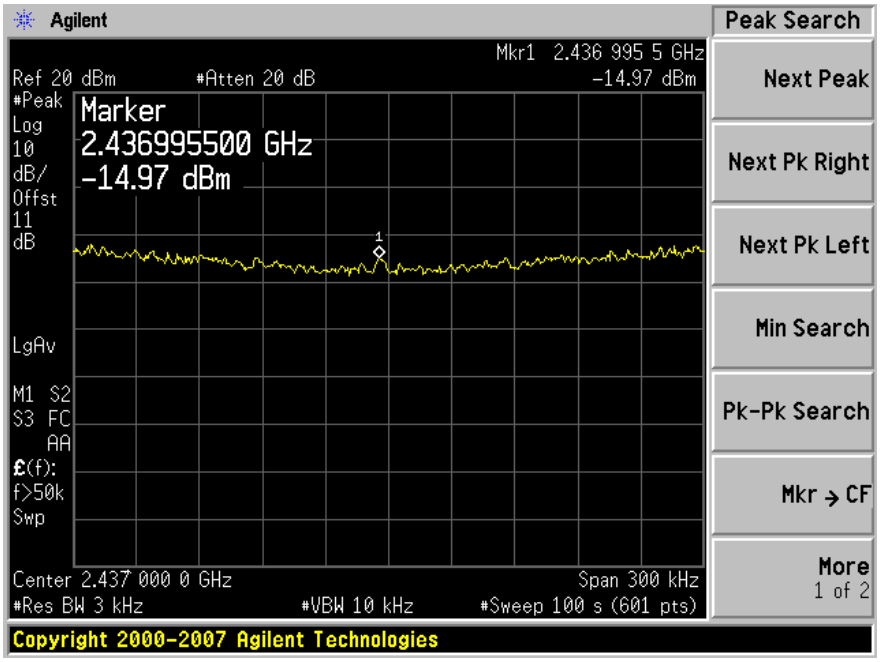
Please refer to the following plots for detailed test results:

802.11 b (Antenna #0)

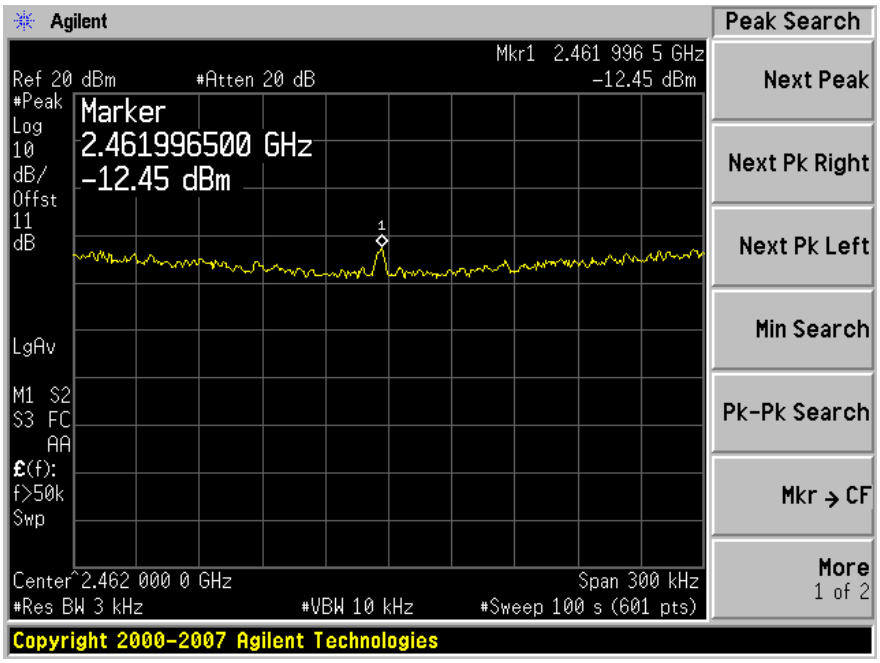
Low Channel 2412 MHz



Middle Channel 2437 MHz

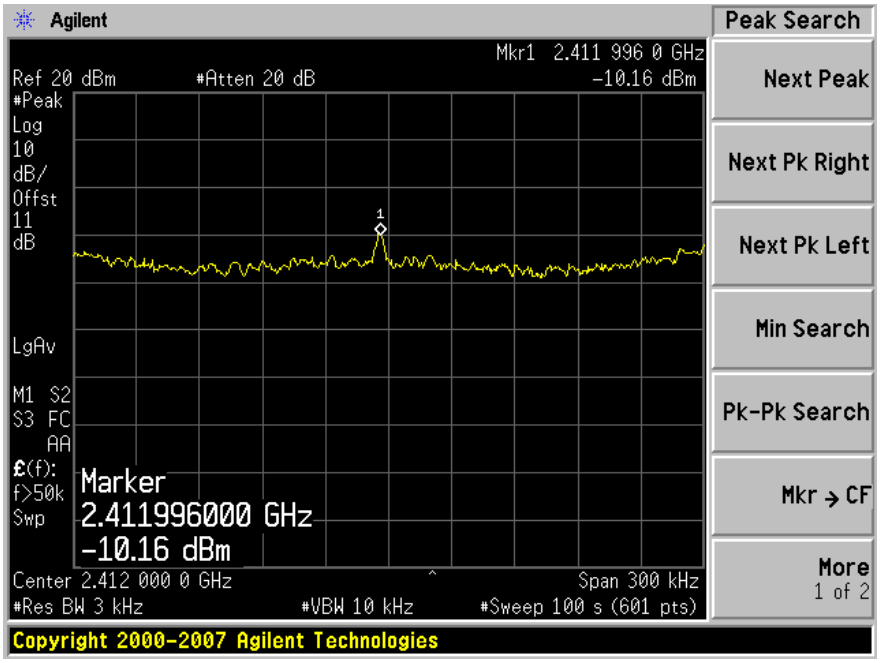


High Channel 2462 MHz

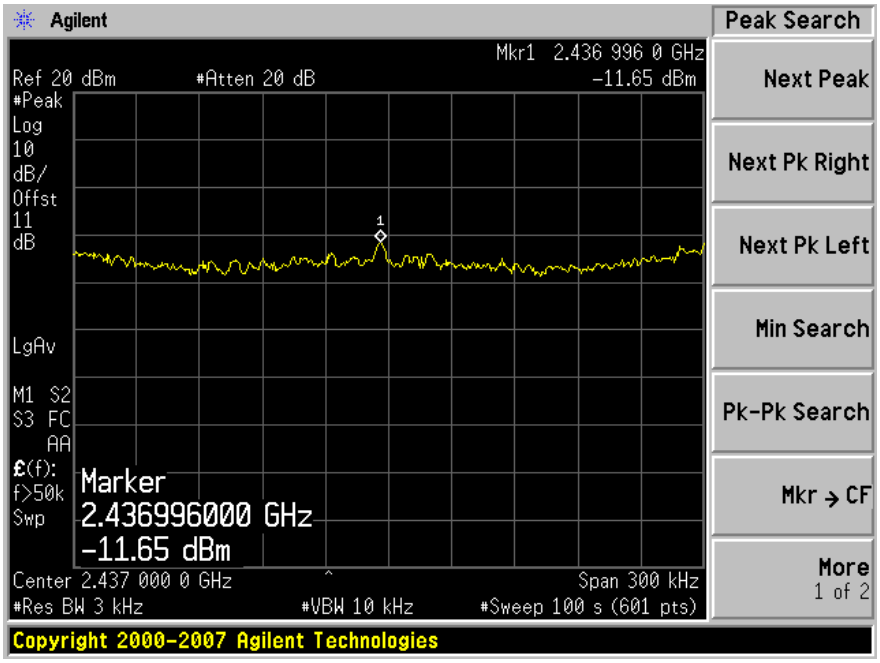


802.11 b (Antenna #1)

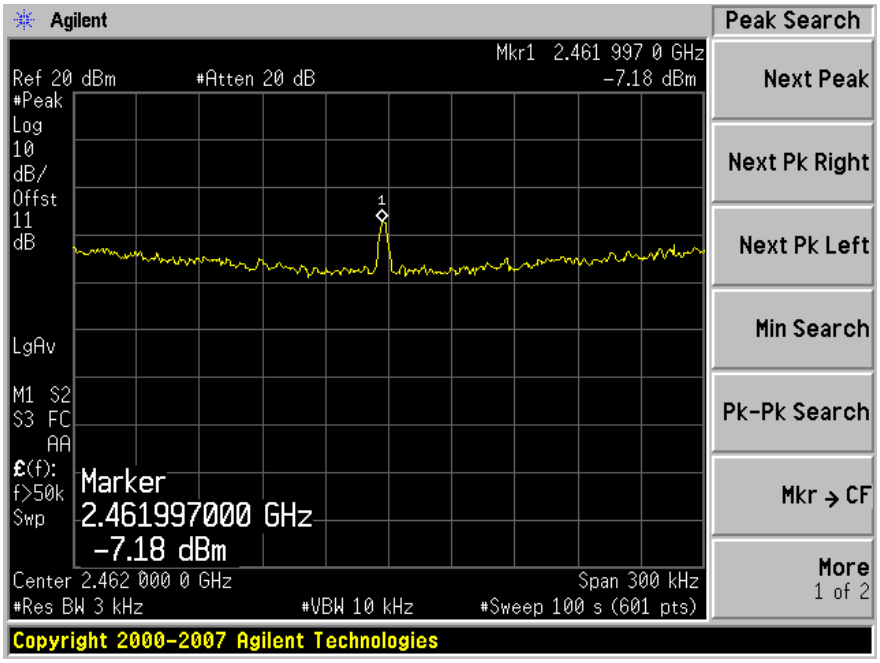
Low Channel 2412 MHz



Middle Channel 2437 MHz

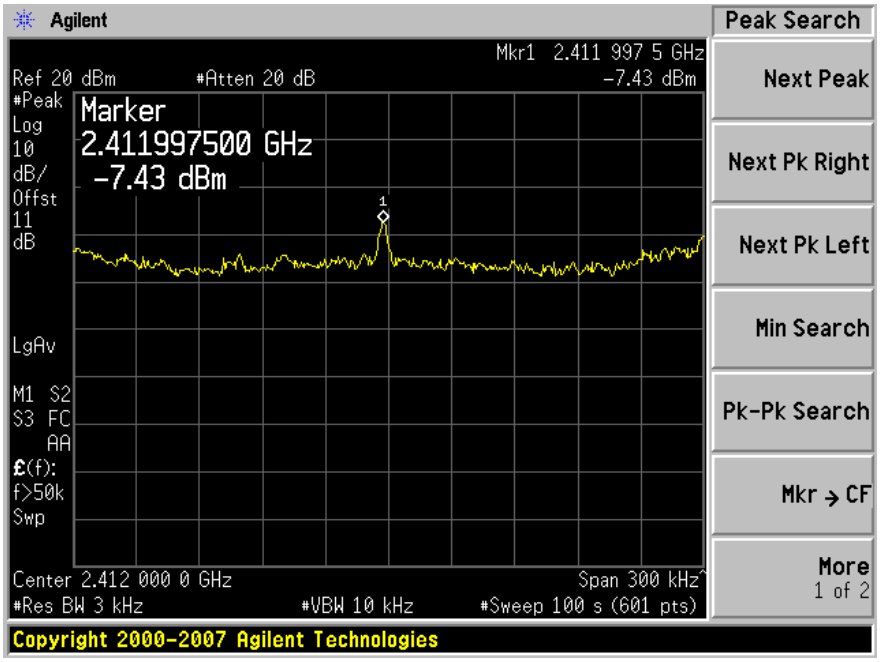


High Channel 2462 MHz

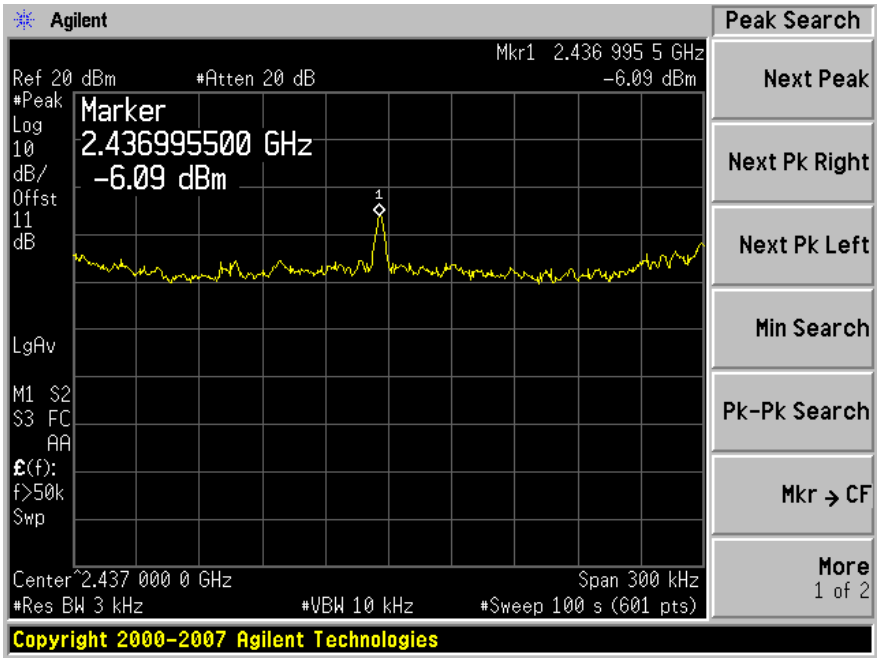


802.11 g (Antenna #0)

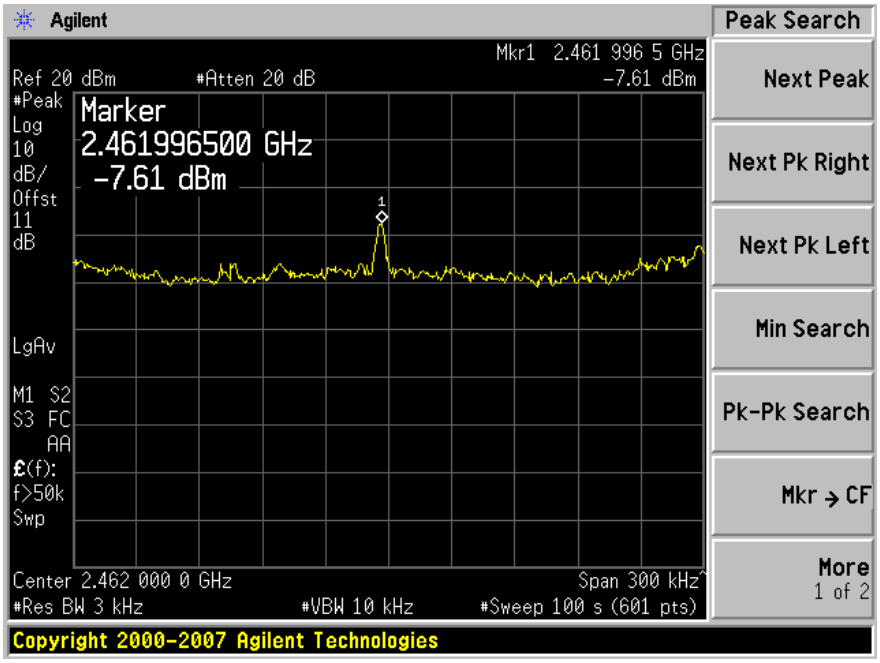
Low Channel 2412 MHz



Middle Channel 2437 MHz

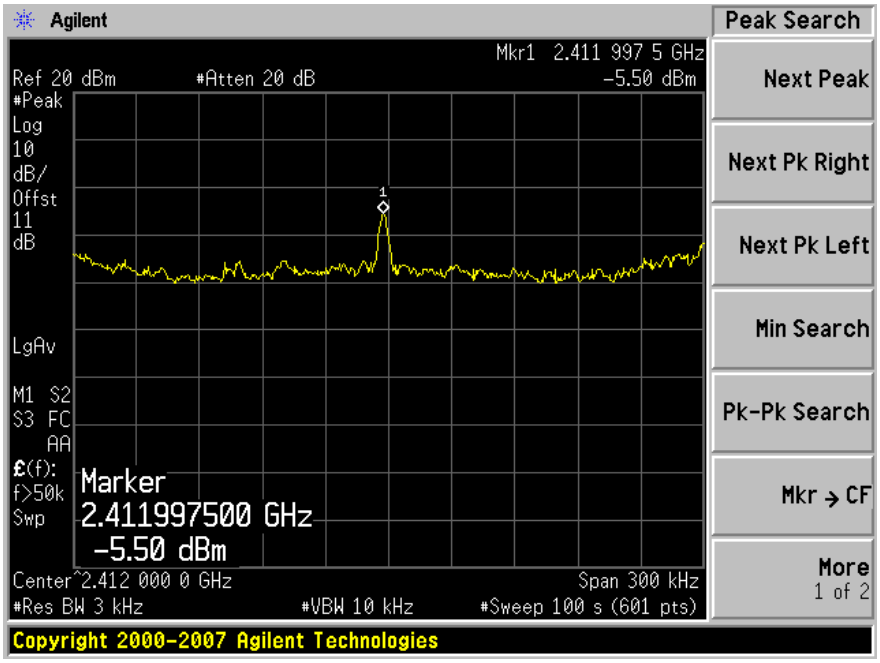


High Channel 2462 MHz

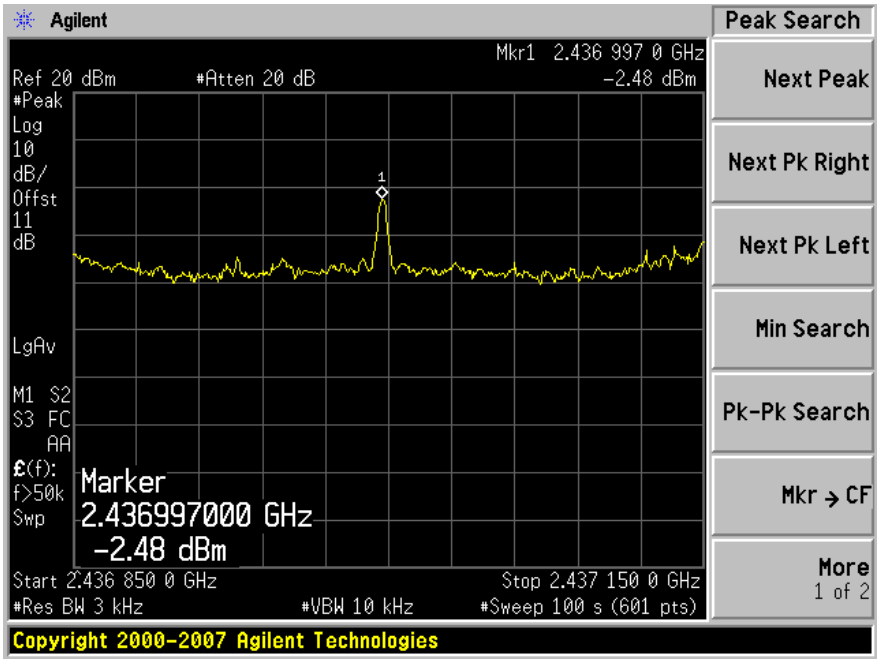


802.11 g (Antenna #1)

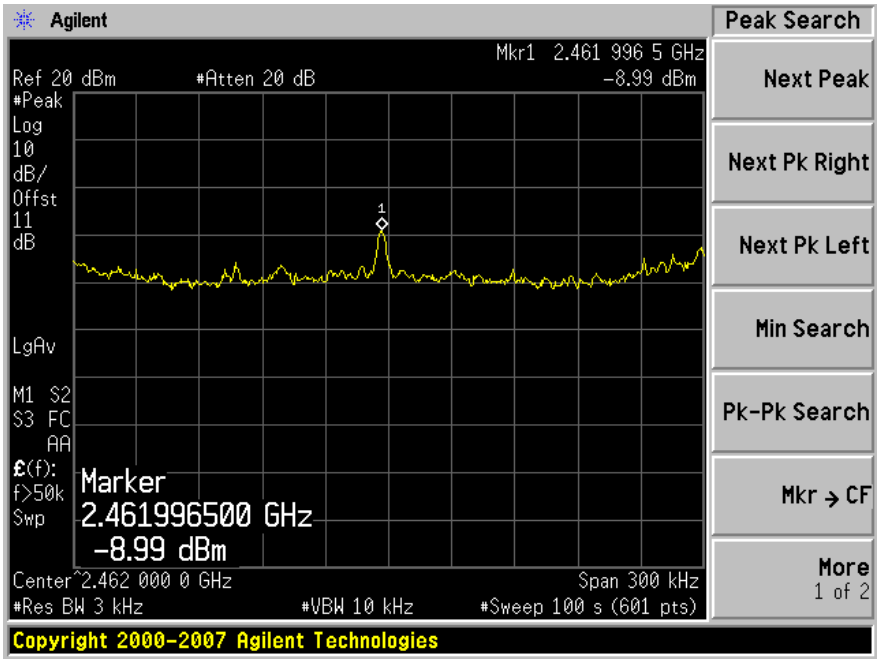
Low Channel 2412 MHz



Middle Channel 2437 MHz

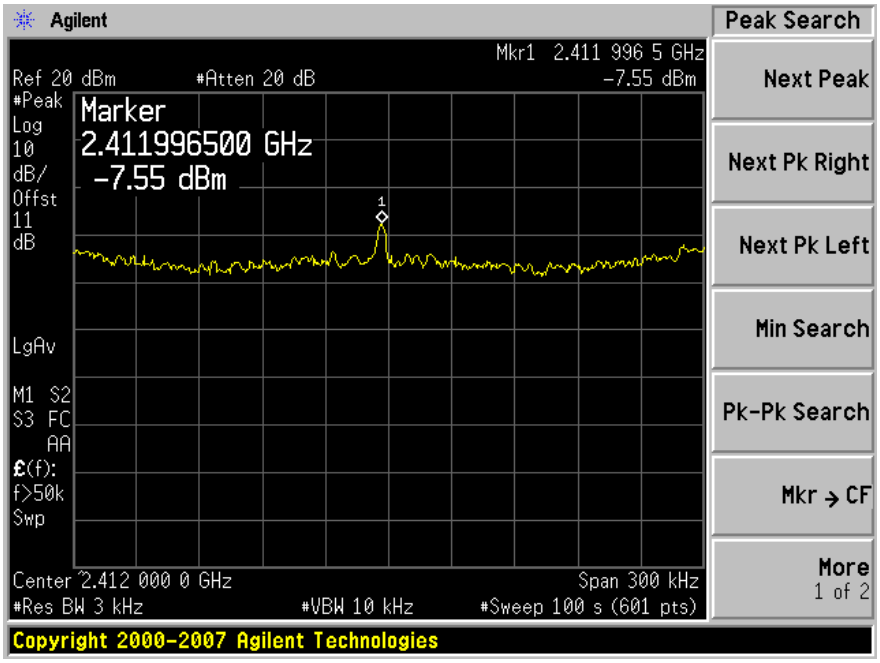


High Channel 2462 MHz

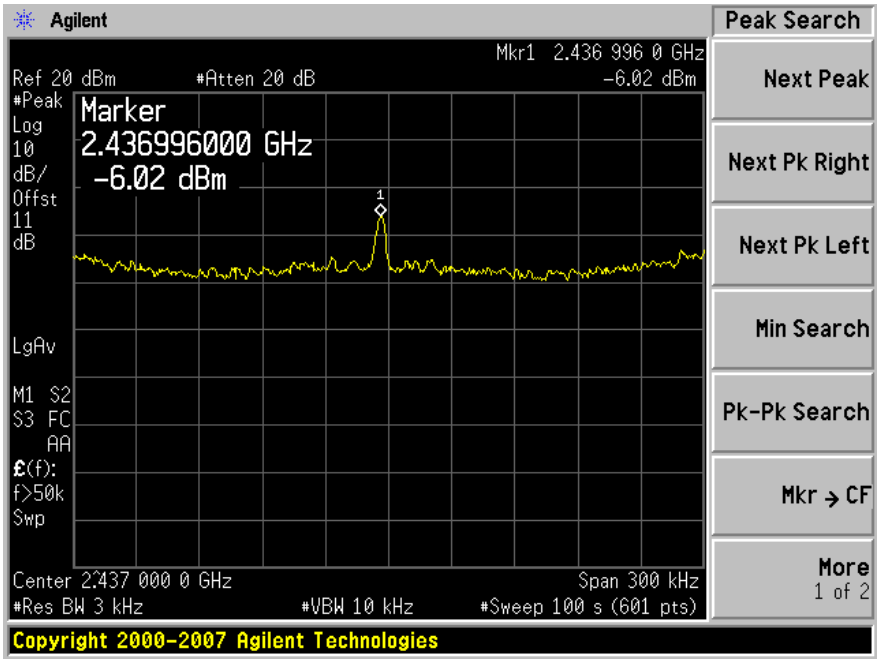


802.11 n 20 MHz (Antenna #0)

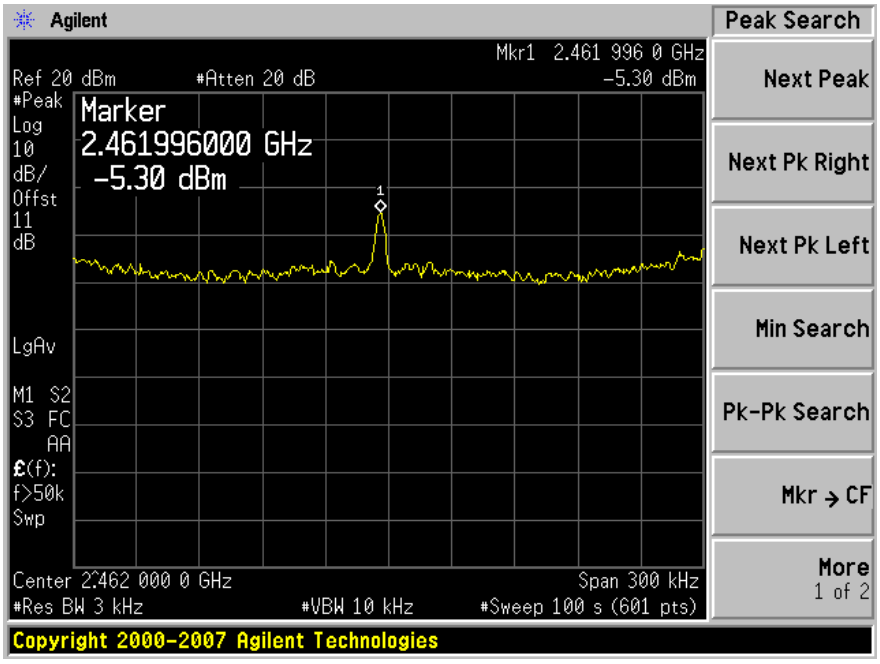
Low Channel 2412 MHz



Middle Channel 2437 MHz

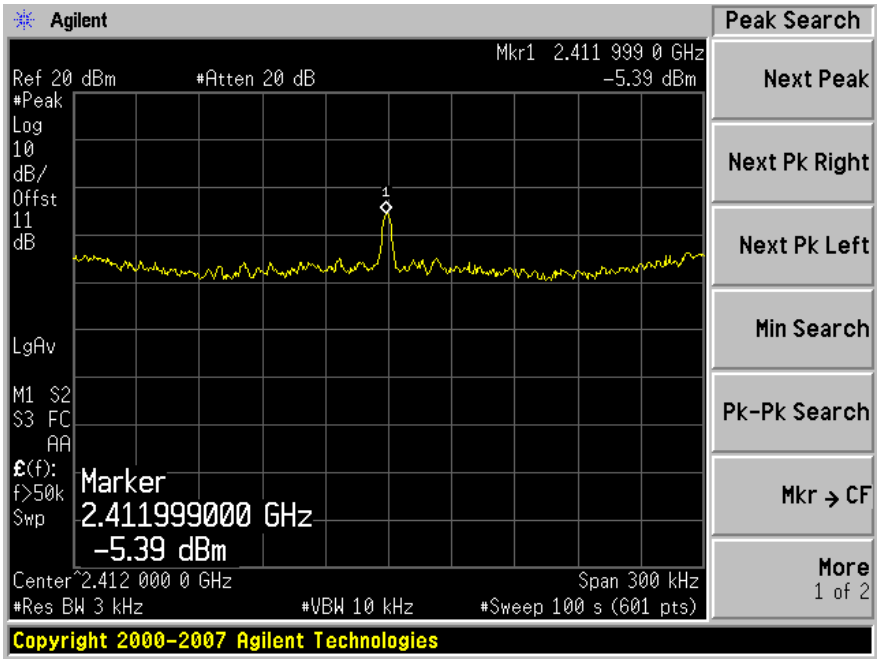


High Channel 2462 MHz

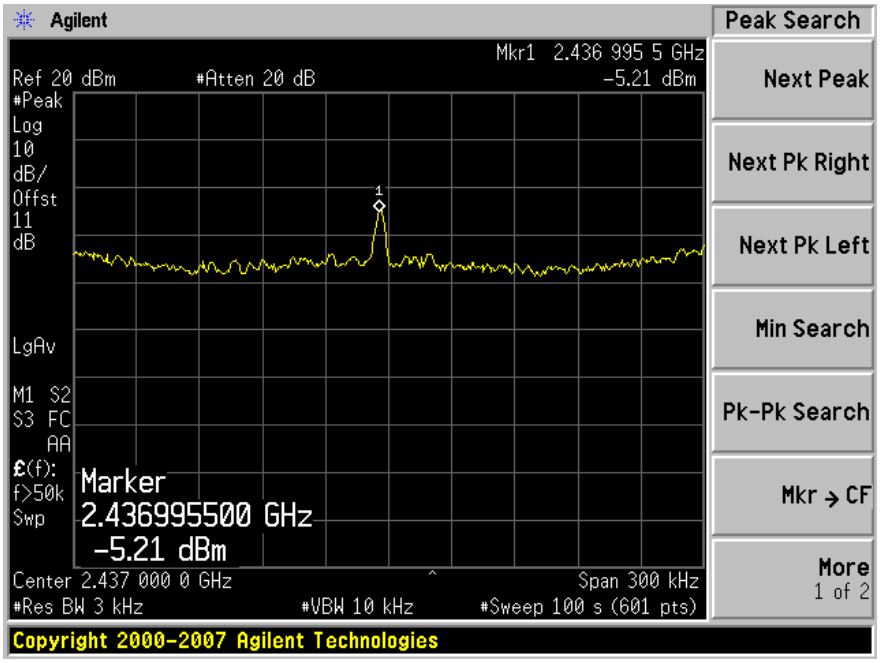


802.11 n 20 MHz (Antenna #1)

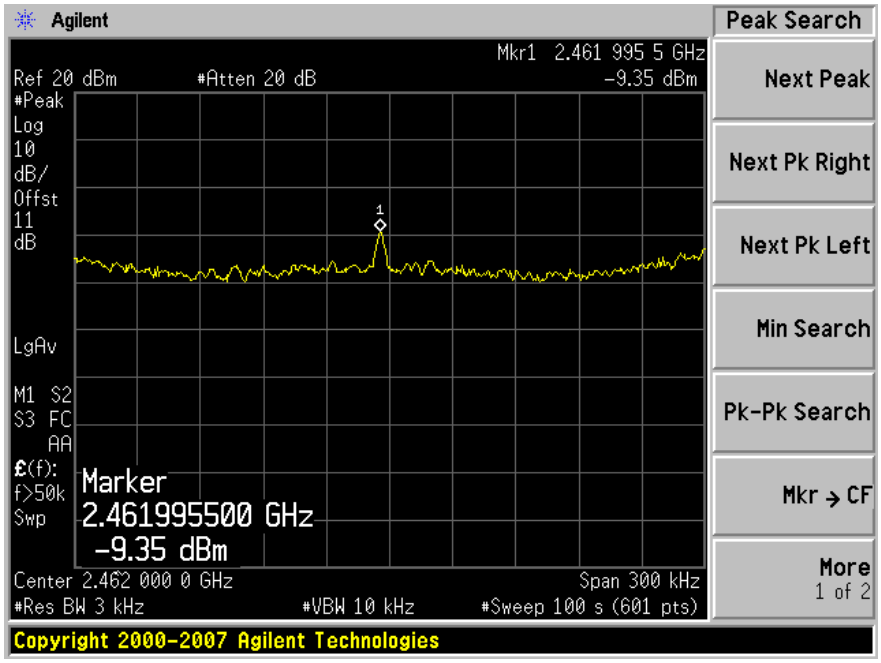
Low Channel 2412 MHz



Middle Channel 2437 MHz

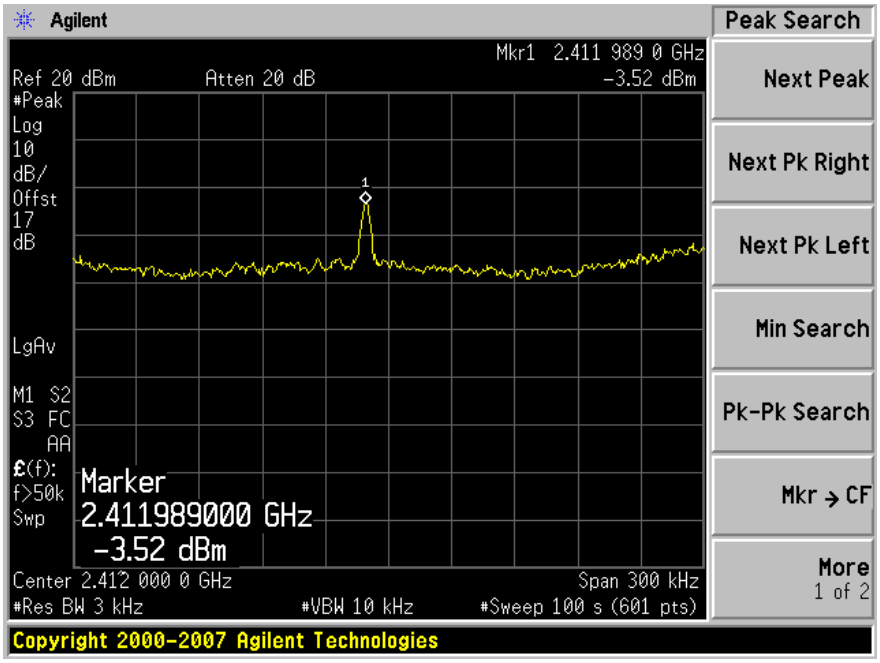


High Channel 2462 MHz

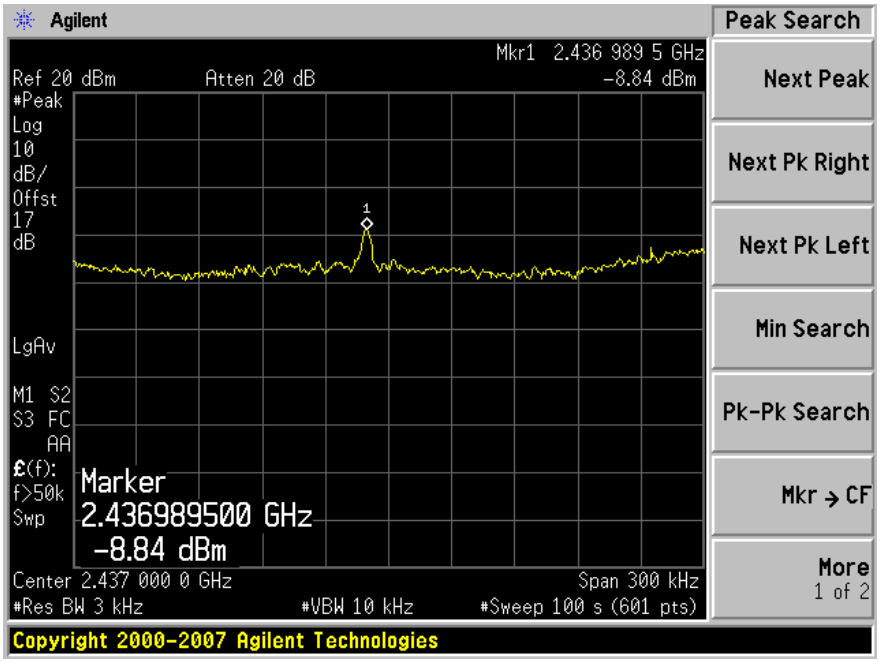


802.11 n 20 MHz (Antenna #0 + Antenna #1)

Low Channel 2412 MHz



Middle Channel 2437 MHz



High Channel 2462 MHz