

FCC Part 15C

Measurement and Test Report

For

ENCORE ELECTRONICS INC.

16483 Old Valley Blvd., La Puente, CA 91744, USA

FCC ID: YZ500000007

Report Concerns: Original Report	Equipment Type: Wireless N300 Router
Model:	<u>ENHWI-2AN42</u>
Report No.:	<u>STR11058057I-1</u>
Test Date:	<u>2011-05-12 to 2011-06-13</u>
Issue Date:	<u>2011-06-20</u>
Tested By:	<u>Susan Su / Engineer</u> <i>Susan Su</i>
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Approved & Authorized By:	<u>Jandy so / PSQ Manager</u> <i>Jandyso</i>
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd.

TABLE OF CONTENTS

1. GENERAL INFORMATION.....3

 1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....3

 1.2 TEST STANDARDS.....3

 1.3 TEST METHODOLOGY4

 1.4 TEST FACILITY4

 1.5 EUT EXERCISE SOFTWARE4

 1.6 ACCESSORIES EQUIPMENT LIST AND DETAILS4

 1.7 EUT CABLE LIST AND DETAILS4

2. SUMMARY OF TEST RESULTS5

3. CONDUCTED EMISSIONS6

 3.1 MEASUREMENT UNCERTAINTY6

 3.2 TEST EQUIPMENT LIST AND DETAILS6

 3.3 TEST PROCEDURE.....6

 3.4 BASIC TEST SETUP BLOCK DIAGRAM.....6

 3.5 ENVIRONMENTAL CONDITIONS7

 3.6 SUMMARY OF TEST RESULTS/PLOTS7

 3.7 CONDUCTED EMISSIONS TEST DATA.....7

4. §15.203 - ANTENNA REQUIREMENT.....10

 4.1 STANDARD APPLICABLE.....10

 4.2 TEST RESULT.....10

5. POWER SPECTRAL DENSITY11

 5.1 STANDARD APPLICABLE.....11

 5.2 TEST EQUIPMENT LIST AND DETAILS11

 5.3 TEST PROCEDURE.....11

 5.4 ENVIRONMENTAL CONDITIONS11

 5.5 SUMMARY OF TEST RESULTS/PLOTS12

6. 6-DB BANDWIDTH.....25

 6.1 STANDARD APPLICABLE.....25

 6.2 TEST EQUIPMENT LIST AND DETAILS25

 6.3 TEST PROCEDURE.....25

 6.4 ENVIRONMENTAL CONDITIONS25

 6.5 SUMMARY OF TEST RESULTS/PLOTS25

7. POWER OUTPUT.....39

 7.1 STANDARD APPLICABLE.....39

 7.2 TEST EQUIPMENT LIST AND DETAILS39

 7.3 TEST PROCEDURE.....39

 7.4 ENVIRONMENTAL CONDITIONS39

 7.5 SUMMARY OF TEST RESULTS/PLOTS40

8. FIELD STRENGTH OF SPURIOUS EMISSIONS65

 8.1 MEASUREMENT UNCERTAINTY65

 8.2 STANDARD APPLICABLE.....65

 8.3 TEST EQUIPMENT LIST AND DETAILS65

 8.4 TEST PROCEDURE.....65

 8.5 CORRECTED AMPLITUDE & MARGIN CALCULATION.....66

 8.6 ENVIRONMENTAL CONDITIONS66

 8.7 SUMMARY OF TEST RESULTS/PLOTS66

9. OUT OF BAND EMISSIONS.....91

 9.1 STANDARD APPLICABLE.....91

 9.2 TEST EQUIPMENT LIST AND DETAILS91

 9.3 TEST PROCEDURE.....91

 9.4 ENVIRONMENTAL CONDITIONS91

 9.5 SUMMARY OF TEST RESULTS/PLOTS92

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: ENCORE ELECTRONICS INC.
 Address of applicant: 16483 Old Valley Blvd., La Puente, CA 91744, USA

Manufacturer: Sun Rise Electronic Factory
 Address of manufacturer: LanYuan Road, ZengTian Industrial District, XinAn Community, ChangAn Town, DongGuan City, GuangDong Province, China

General Description of E.U.T

Items	Description
EUT Description:	Wireless N300 Router
Trade Name:	ENCORE
Model No.:	ENHWI-2AN42
Add Models:	ENHWI-2AN45, WR8196C22, WR8196C55
Rated Voltage:	DC 12V adapter
RF Output Power	Max. 8.84dBm (Conducted)
Antenna Gain:	Max. 5dBi/2dBi
Frequency range:	2412-2462MHz for 11b/g/n(HT20) 2422-2452MHz for 11n(HT40)
Number of channels:	11 for 11b/g/n(HT20), 7 for 11n(HT40)
Channel Separation:	5MHz
Type of Antenna:	External and detachable antenna with reversed SMA connector

Note: The test data is gathered from a production sample, provided by the manufacture. Test is carried out with ENHWI-2AN42 since the others listed in the report have the different appearances only without electronic construction changed, declared by the manufacturer.

1.2 Test Standards

The following report is prepared on behalf of the ENCORE ELECTRONICS INC. in accordance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted 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.

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted with Low Channel, Middle Channel and High Channel, accordingly in reference to the Operating Instructions.

1.4 Test Facility

- **FCC – Registration No.: 994117**
 SEM.Test Compliance Services Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 994117.
- **Industry Canada (IC) Registration No.: 7673A**
 The 3m Semi-anechoic chamber of SEM.Test Compliance Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 7673A.
- **CNAS Registration No.: L4062**
 Shenzhen SEM.Test Electronics Service Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 3/F, Jinbao Commerce Building, Xin’an Fanshen Road, Bao’an District, Shenzhen, P.R.C (518101)

1.5 EUT Exercise Software

The EUT exercise program used during the testing was designed to exercise the system components.

1.6 Accessories Equipment List and Details

Description	Manufacturer	Model	Serial Number
ASUS	Notebook	X50R	N/A

1.7 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Power Cable	1.0	Unshielded	Without Core

2. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§ 15.203; § 15.247(c)(1)(i)	Antenna Requirement	Compliant
§ 15.207	Conducted Emission	Compliant
§ 15.247(e)	Power Spectral Density	Compliant
§ 15.247(a)(2)	6 dB Bandwidth	Compliant
§ 15.247(b)(3)	Power Output	Compliant
§ 15.209(a)(d)	Radiated Emission	Compliant
§ 15.247(d)	Band edge	Compliant

3. CONDUCTED EMISSIONS

3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

3.2 Test Equipment List and Details

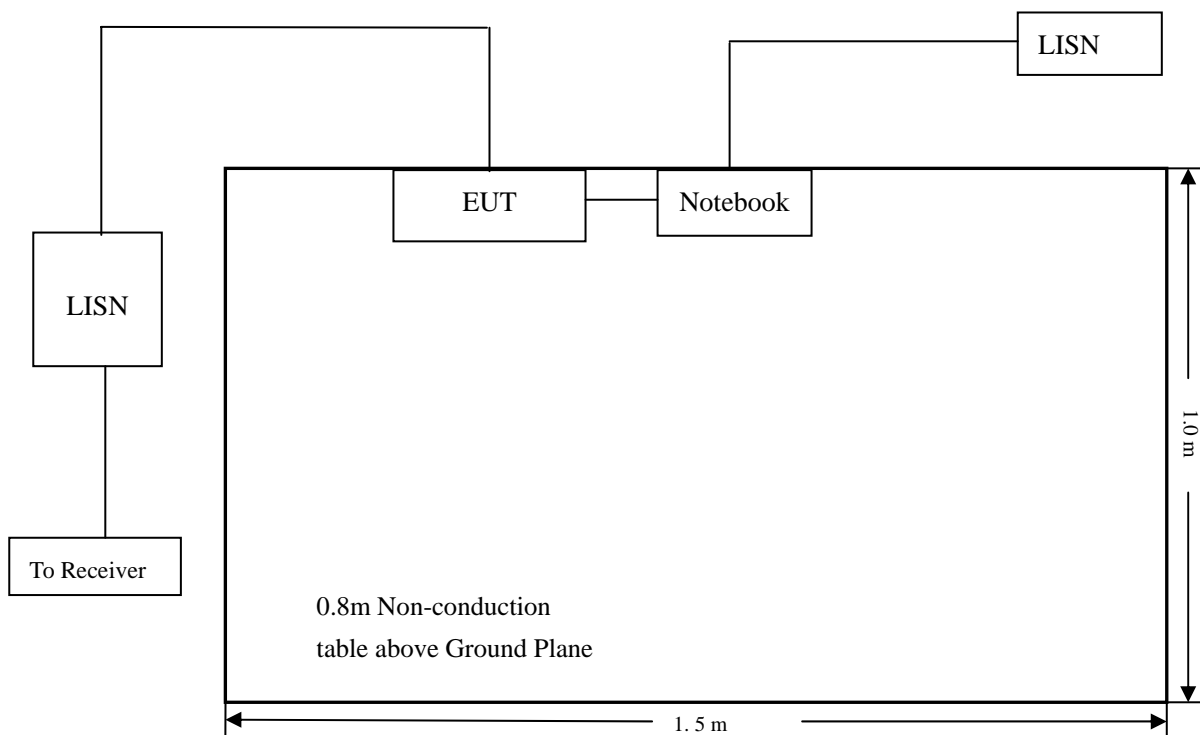
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-12-20	2011-12-19
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2010-12-20	2011-12-19
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2010-12-20	2011-12-19

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

3.3 Test Procedure

Test is conducting under the description of 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.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	20° C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC Part 15.207 Conducted margin for a Class B device, with the *worst* margin reading of:

-6.20 dB μ V at 0.458 MHz in the Line, Average detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

Conducted Disturbance

EUT: Wireless N300 Router

M/N: ENHWI-2AN42

Operating Condition: Wireless Transmitting

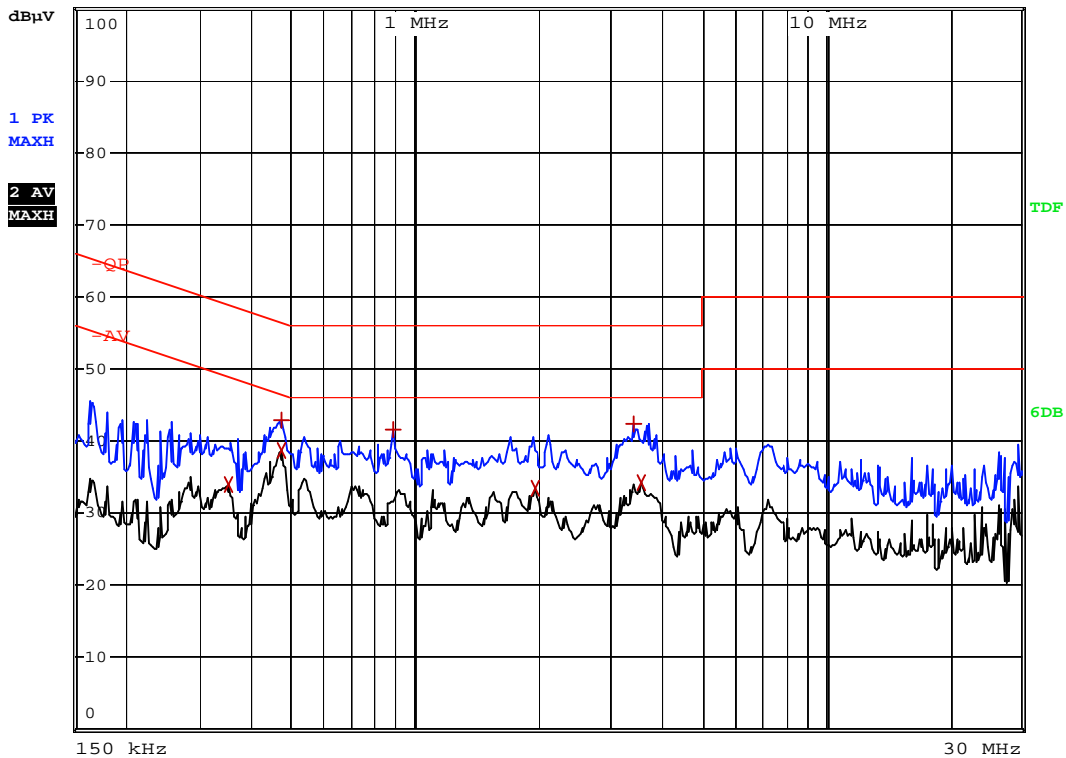
Test Specification: N

Comment: AC 120V/60Hz



RBW 9 kHz
MT 5 ms

Att 10 dB AUTO



EDIT PEAK LIST (Prescan Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2 Average	350 kHz	34.05	-14.90
1 Max Peak	470 kHz	42.98	-13.52
2 Average	474 kHz	38.66	-7.77
1 Max Peak	886 kHz	41.61	-14.38
2 Average	1.958 MHz	33.42	-12.57
1 Max Peak	3.402 MHz	42.38	-13.61
2 Average	3.578 MHz	34.17	-11.82

Plot of Conducted Emissions Test Data

Conducted Disturbance

EUT: Wireless N300 Router

M/N: ENHWI-2AN42

Operating Condition: Wireless Transmitting

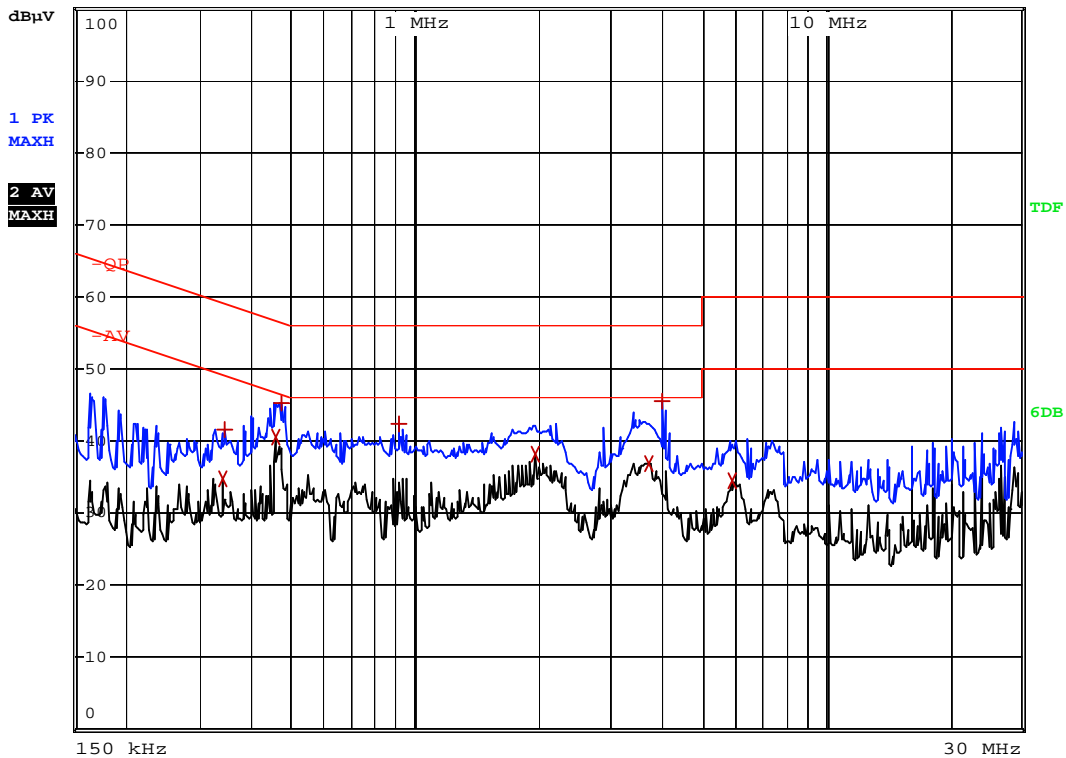
Test Specification: L

Comment: AC 120V/60Hz



RBW 9 kHz
MT 5 ms

Att 10 dB AUTO



EDIT PEAK LIST (Prescan Results)			
Trace1:	-QP		
Trace2:	-AV		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2 Average	338 kHz	34.71	-14.54
1 Max Peak	342 kHz	41.50	-17.65
2 Average	458 kHz	40.52	-6.20
1 Max Peak	470 kHz	45.25	-11.25
1 Max Peak	914 kHz	42.39	-13.60
2 Average	1.958 MHz	38.29	-7.70
2 Average	3.726 MHz	36.99	-9.00
1 Max Peak	4.002 MHz	45.63	-10.36
2 Average	5.954 MHz	34.46	-15.53

4. §15.203 - ANTENNA REQUIREMENT

4.1 Standard Applicable

According to FCC 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.

4.2 Test Result

This product has a detachable and unique antenna, fulfill the requirement of this section.

5. POWER SPECTRAL DENSITY

5.1 Standard Applicable

According to 15.247(a)(1)(iii), 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.

5.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-12-20	2011-12-19
Attenuator	ATTEN	ATS100-4-20	/	2010-12-20	2011-12-19

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

5.3 Test Procedure

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set center frequency of spectrum analyzer = operating frequency.
3. Set the spectrum analyzer as RBW, VBW=3 kHz, Span = 1.2/1.8MHz.
4. Repeat above procedures until all frequency measured was complete.

5.4 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	44%
ATM Pressure:	1011 mbar

5.5 Summary of Test Results/Plots

For 802.11b/g

Test mode	Test channel	Chain 0 Reading dBm/3kHz	Chain 1 Reading dBm/3kHz	Corrected dBm/3kHz	Limit dBm/3kHz
802.11b	Low channel (2412MHz)	-20.88	-19.48	/	8
	Middle channel (2437MHz)	-21.42	-19.90	/	8
	High channel (2462MHz)	-22.84	-19.58	/	8
802.11g	Low channel (2412MHz)	-23.85	-21.40	/	8
	Middle channel (2437MHz)	-24.61	-21.67	/	8
	High channel (2462MHz)	-25.98	-21.30	/	8

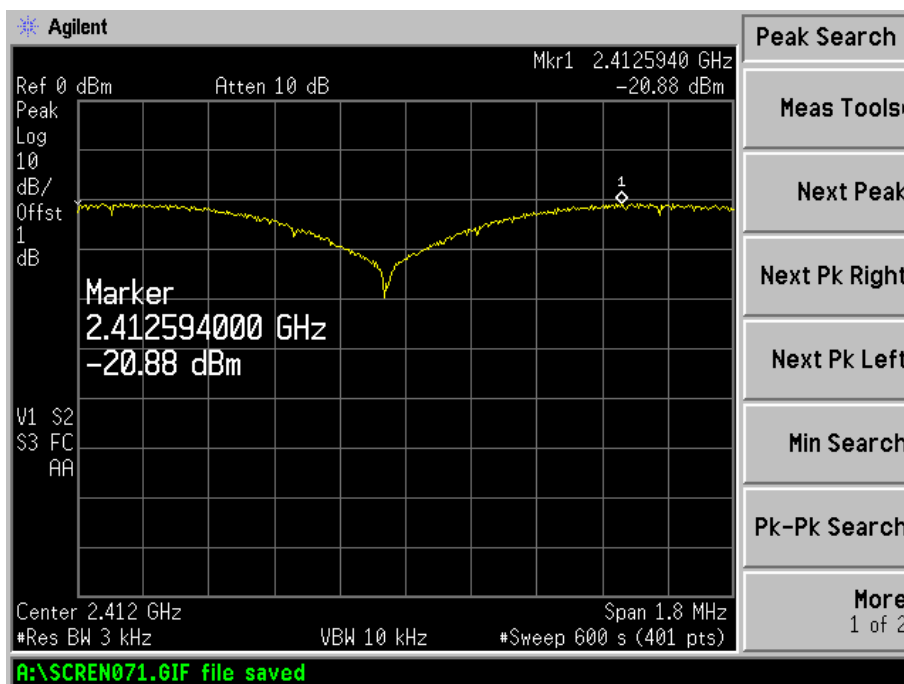
For 802.11n HT20/HT40

Test mode	Test channel	Chain 0 Reading dBm/3kHz	Chain 1 Reading dBm/3kHz	Corrected dBm/3kHz	Limit dBm/3kHz
802.11n HT20 (MCS15)	Low channel (2412MHz)	-23.36	-22.52	-19.91	8
	Middle channel (2437MHz)	-23.99	-23.18	-20.56	8
	High channel (2462MHz)	-24.91	-22.86	-20.75	8
802.11n HT40 (MCS15)	Low channel (2422MHz)	-26.50	-25.89	-23.17	8
	Middle channel (2437MHz)	-26.96	-26.13	-23.51	8
	High channel (2452MHz)	-26.75	-25.96	-23.33	8

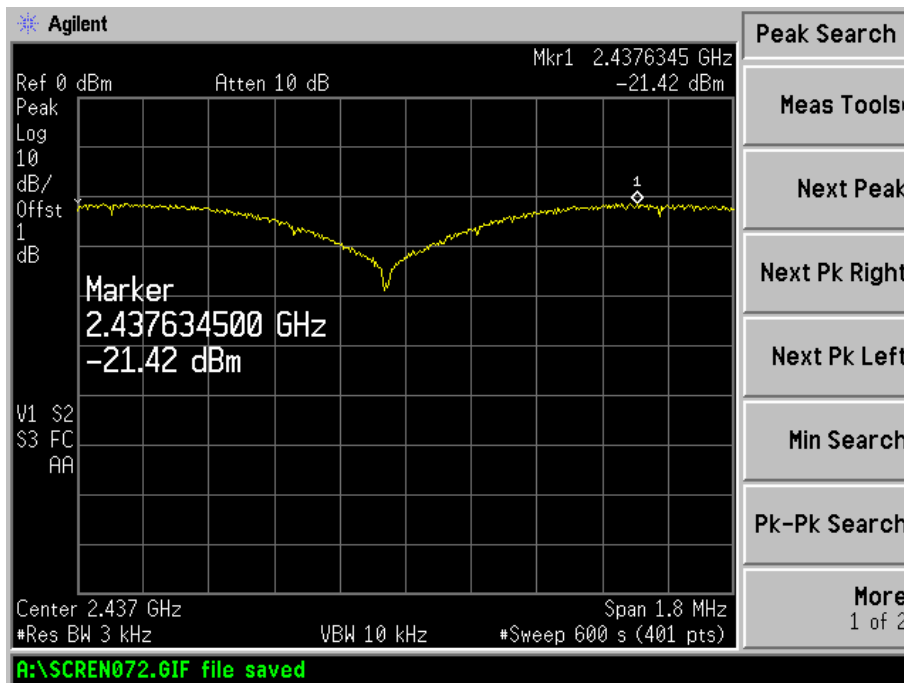
Note: The EUT shall be simultaneous transmission at the chain 0 and chain 1 for the MCS15 mode of 802.11n HT20 or HT40, all other mode shall be transmission only single chain (chain 0 or chain 1).

For 802.11b-chain 0

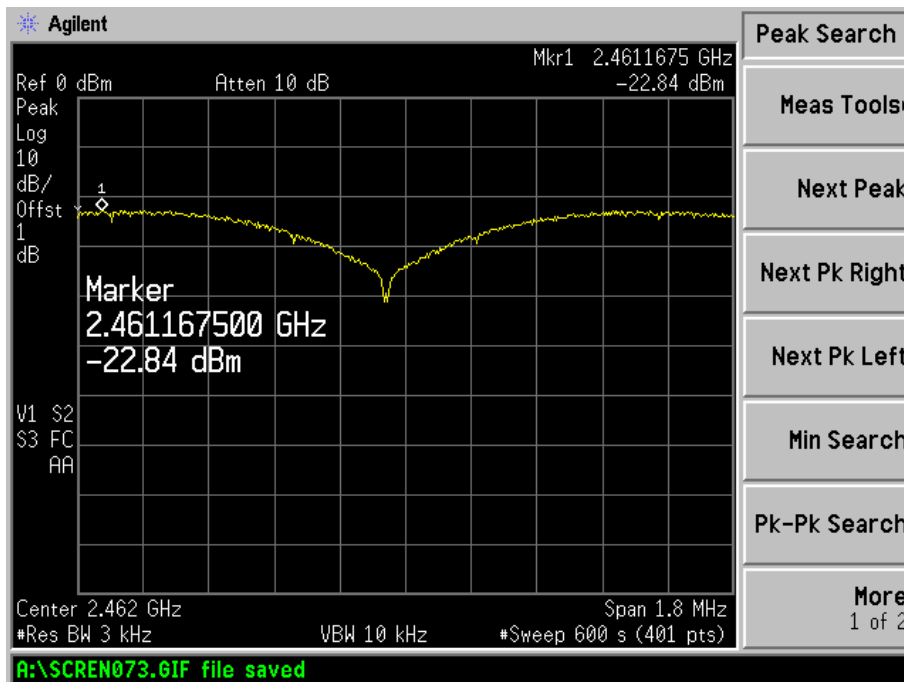
Low Channel:



Middle Channel:

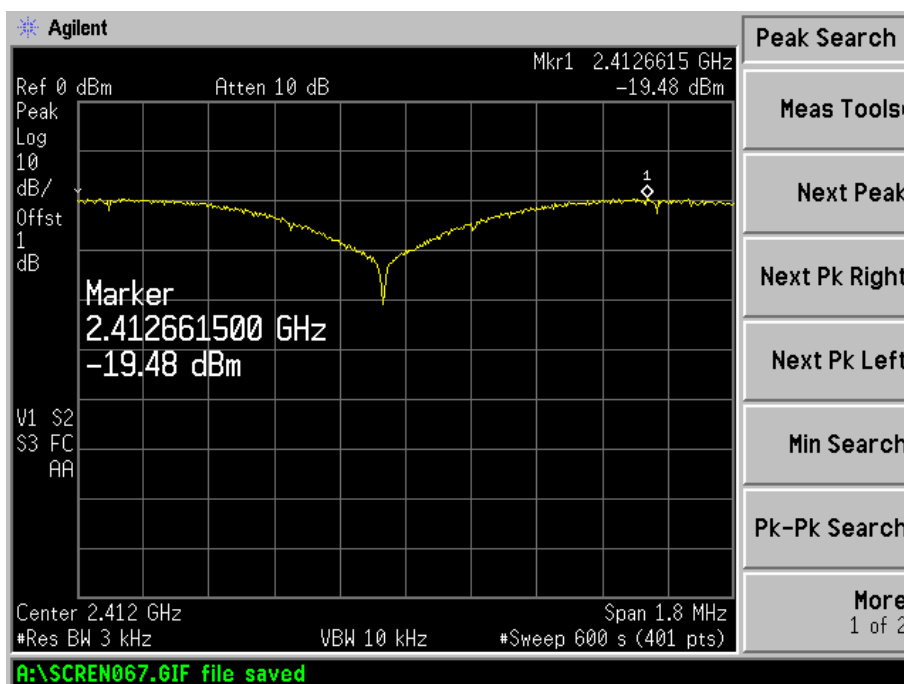


High Channel:

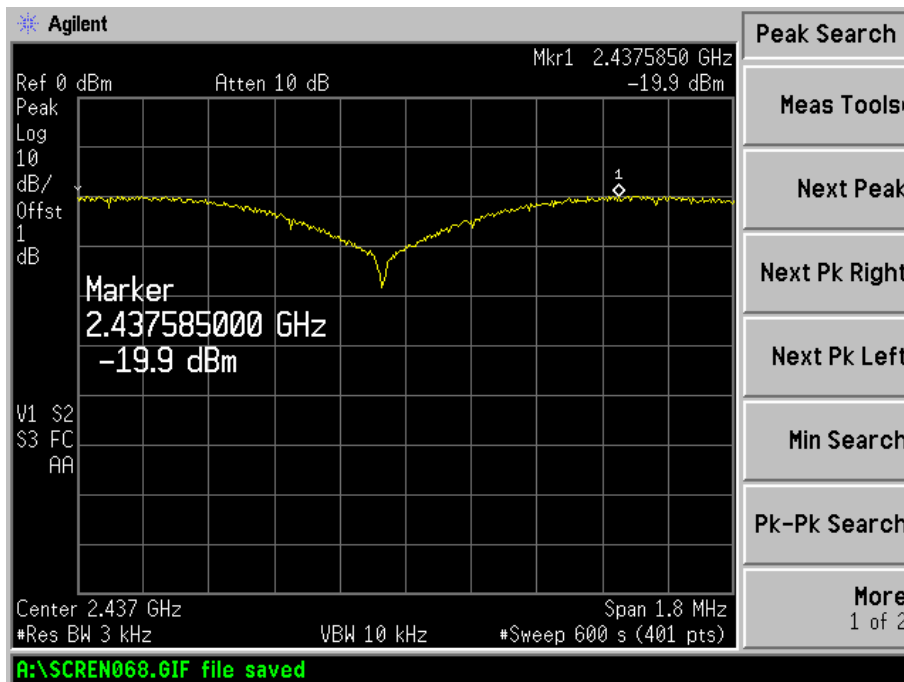


For 802.11b-chain 1

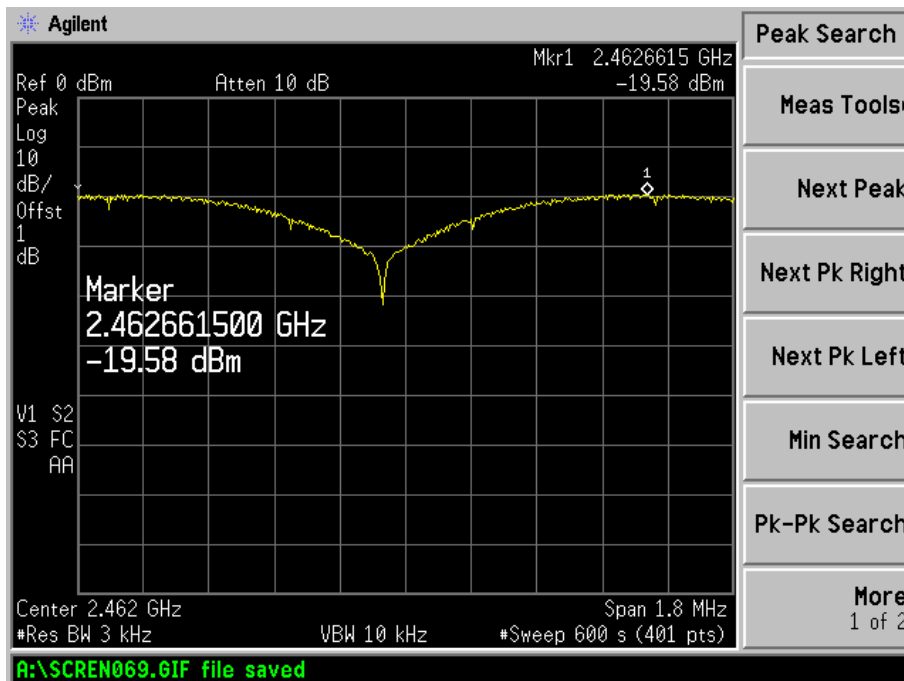
Low Channel



Middle Channel:

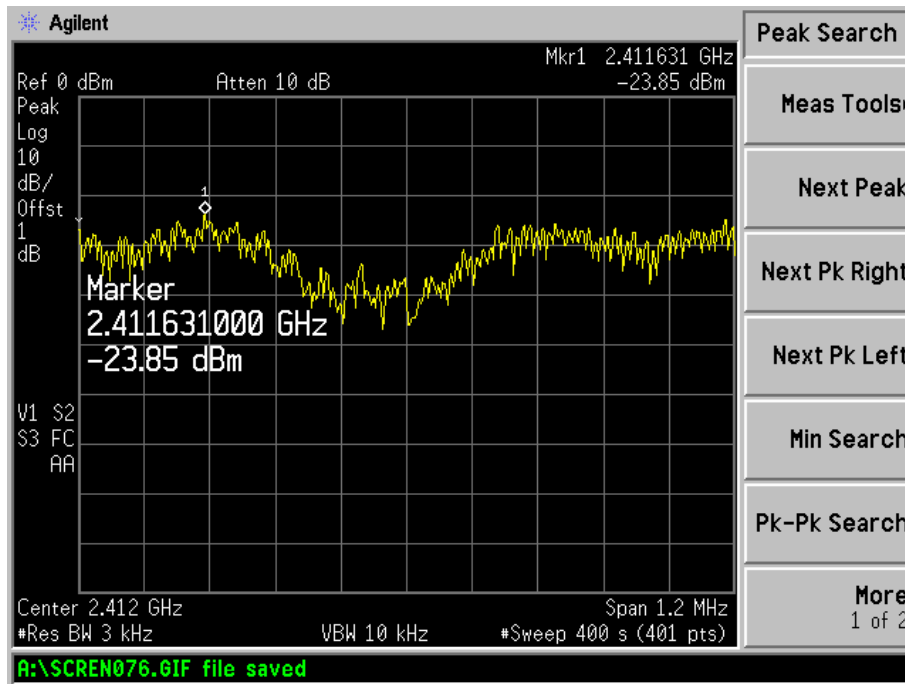


High Channel:

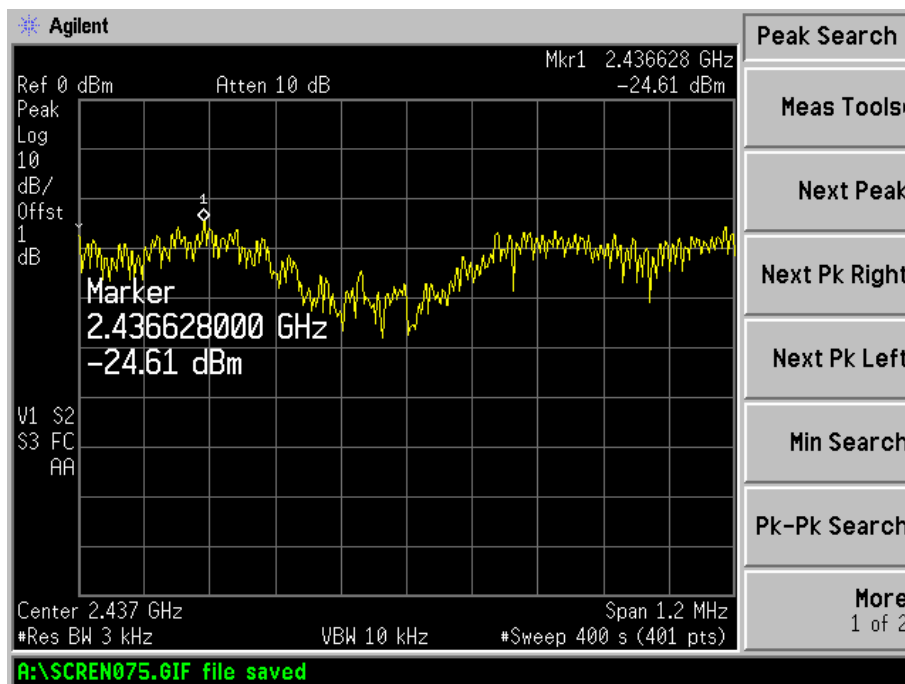


For 802.11g-chain 0

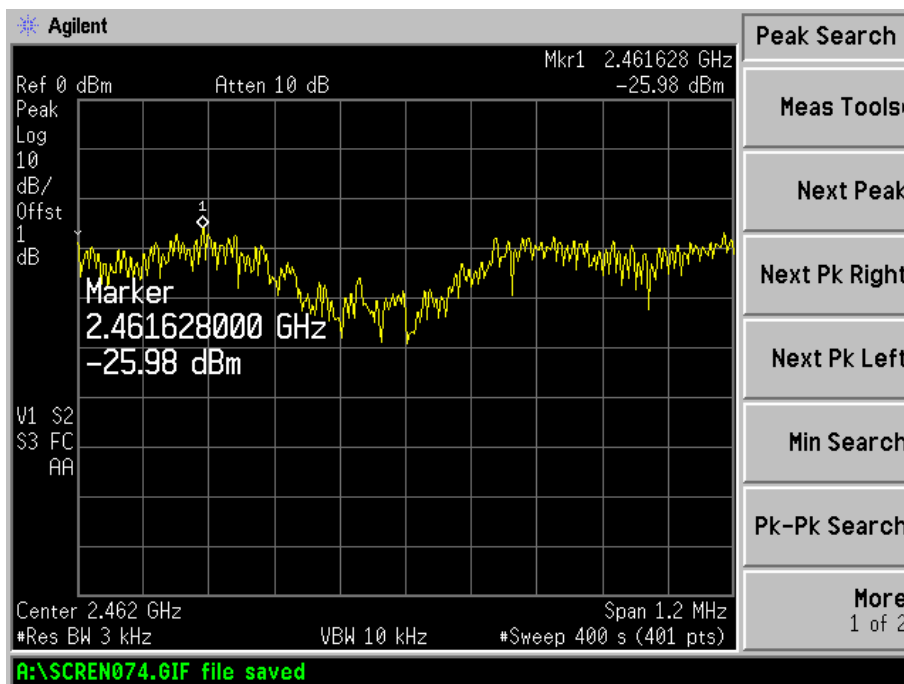
Low Channel:



Middle Channel:

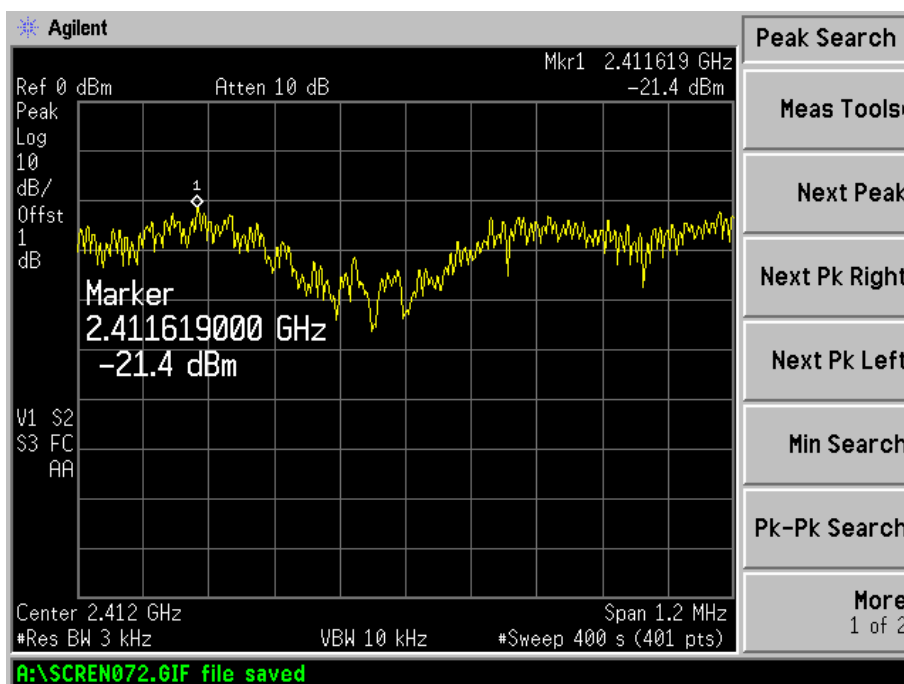


High Channel:

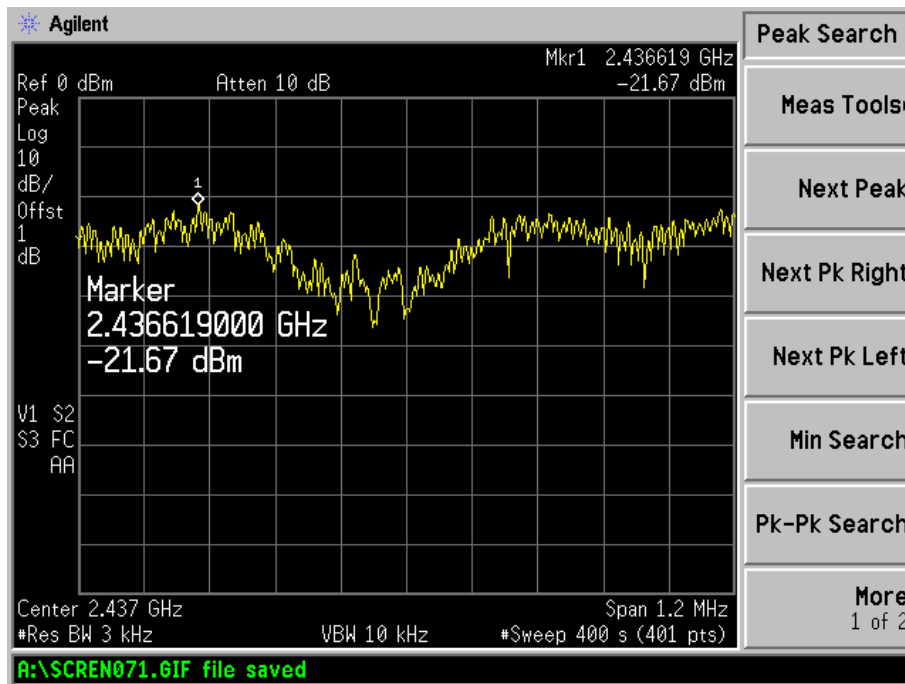


For 802.11g-chain 1

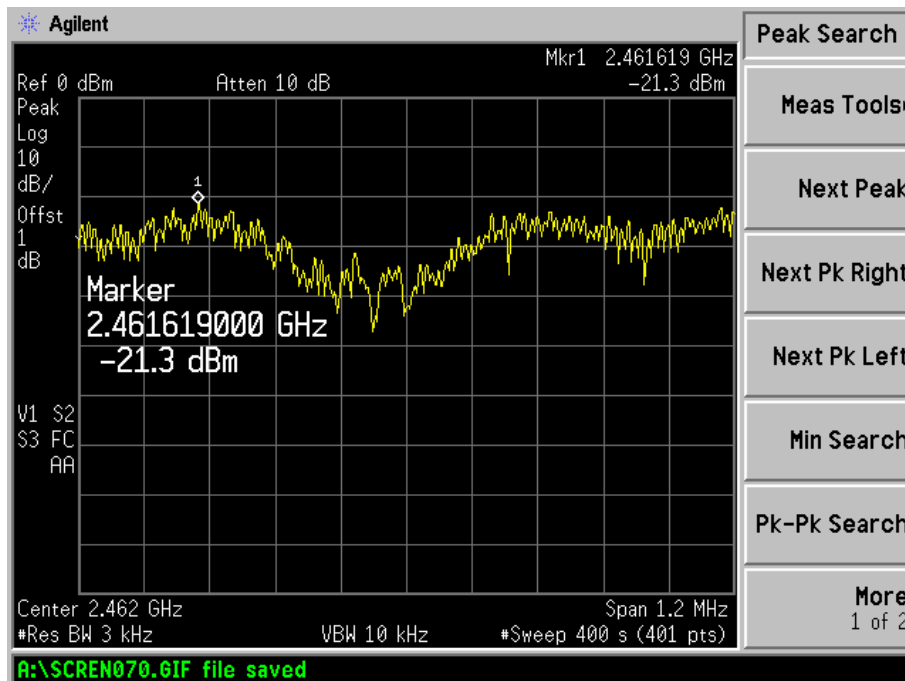
Low Channel:



Middle Channel:

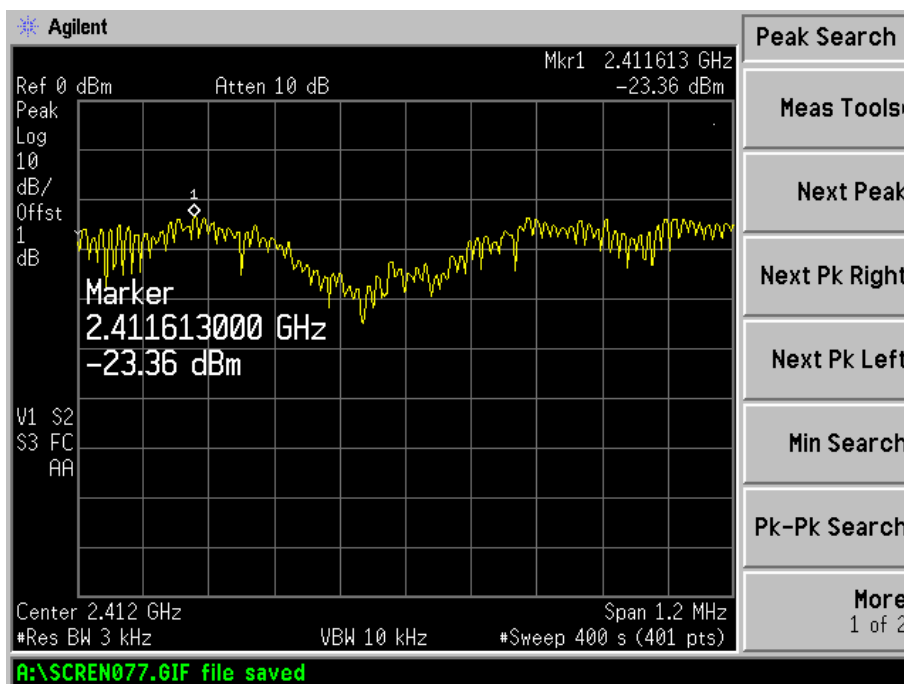


High Channel:

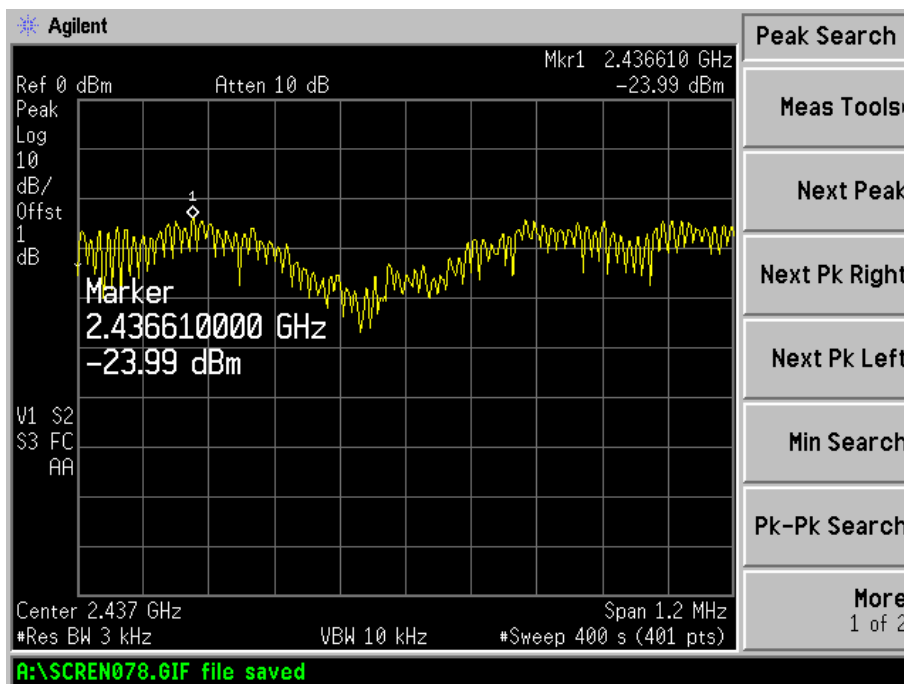


For 802.11n/HT20-chain 0

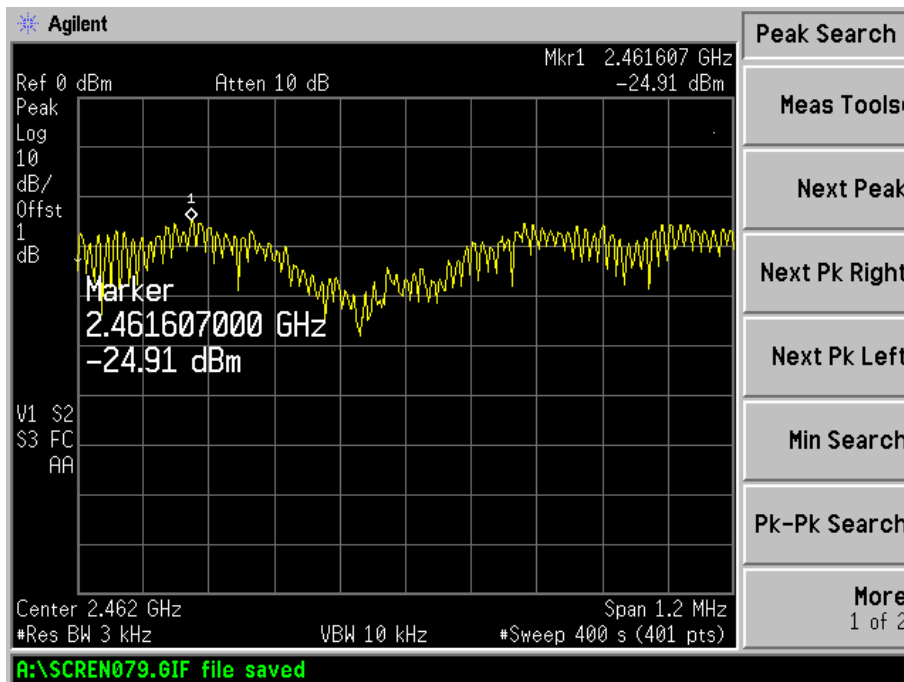
Low Channel:



Middle Channel:

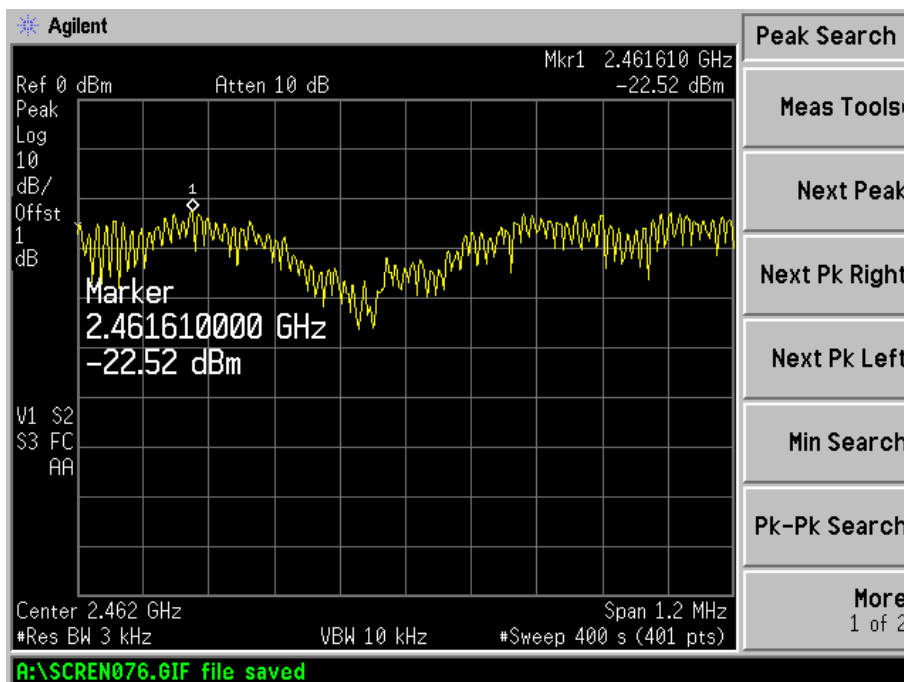


High Channel:

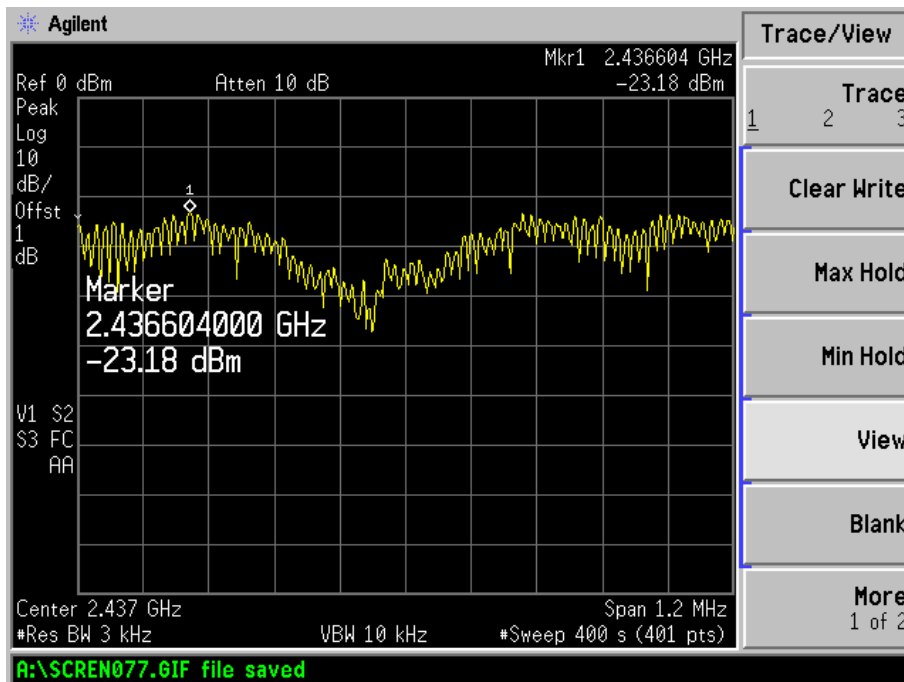


For 802.11n/HT20-chain 1

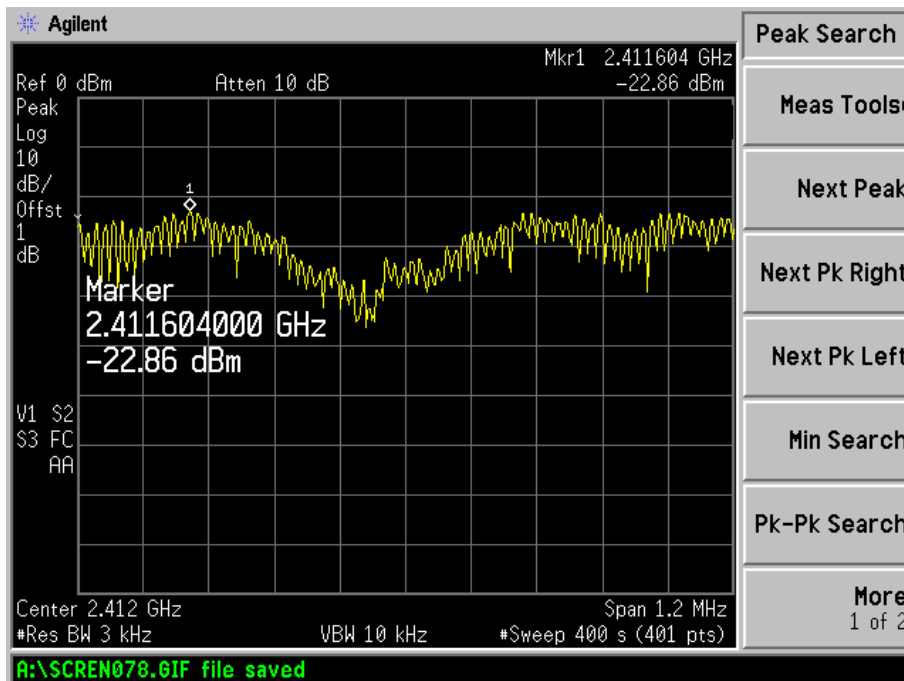
Low Channel:



Middle Channel:

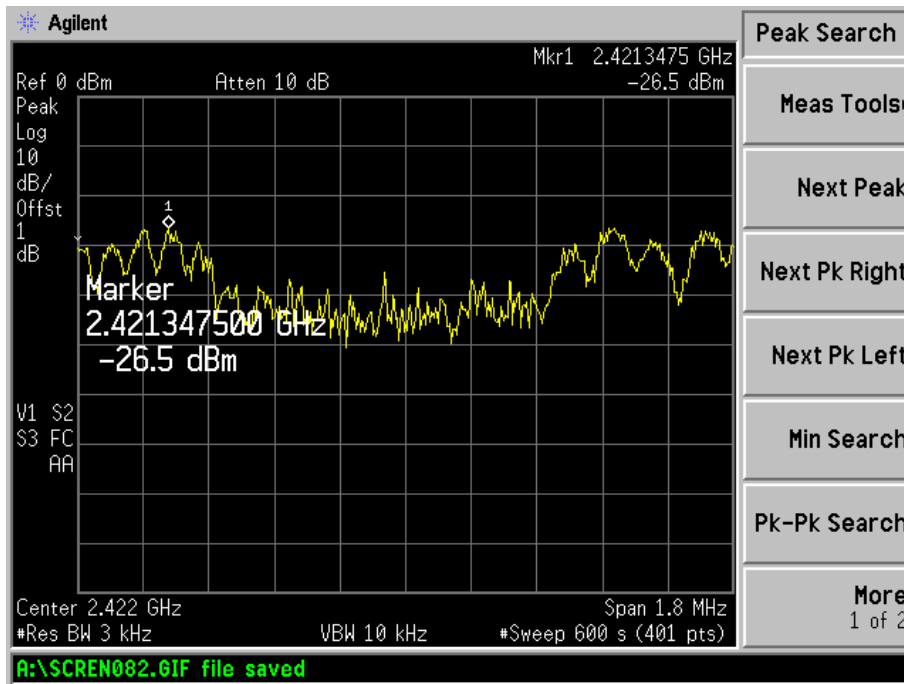


High Channel:

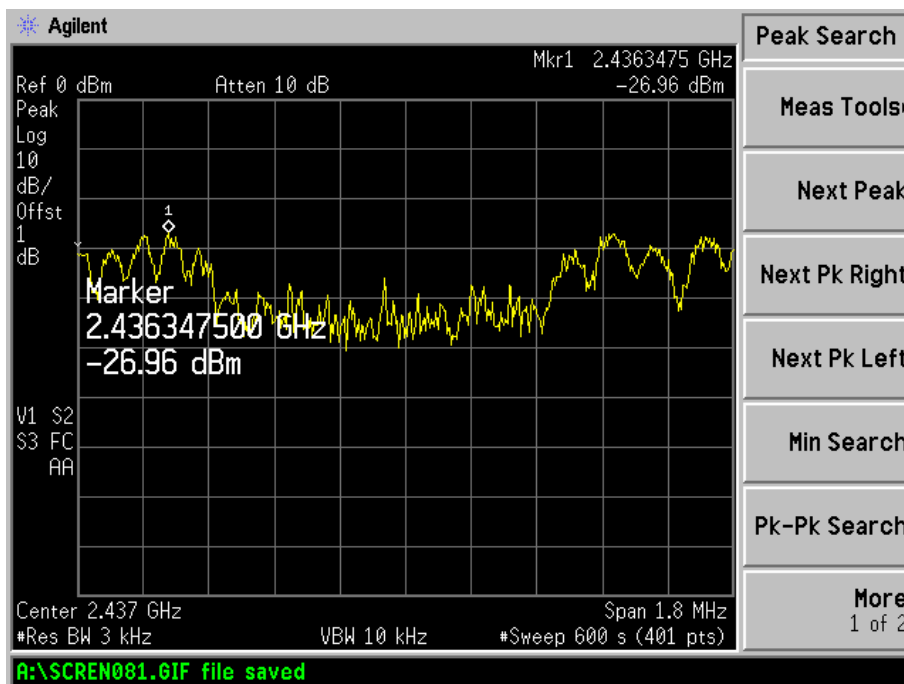


For 802.11n/HT40-chain 0

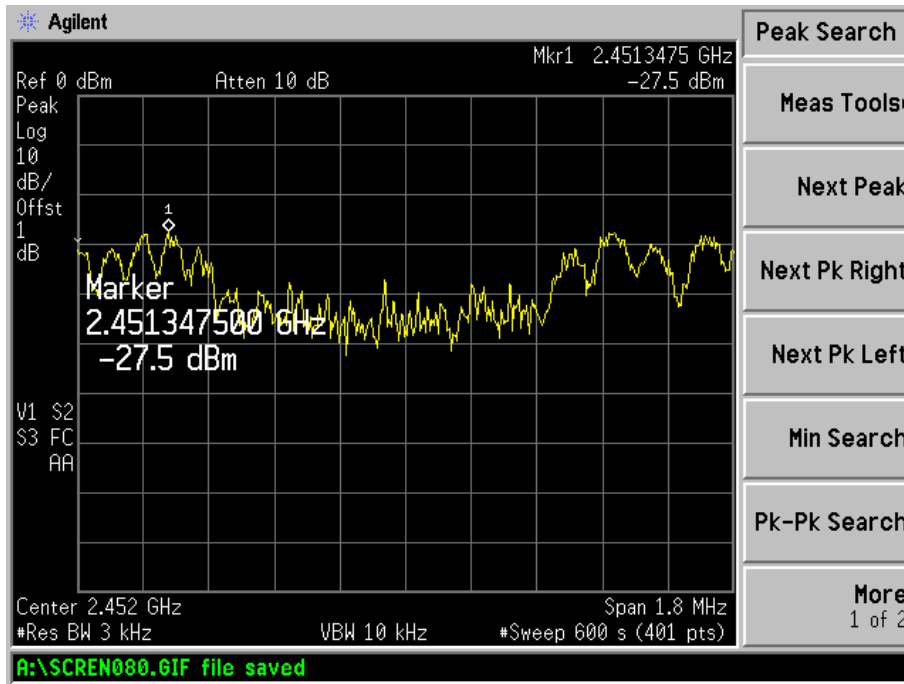
Low Channel:



Middle Channel:

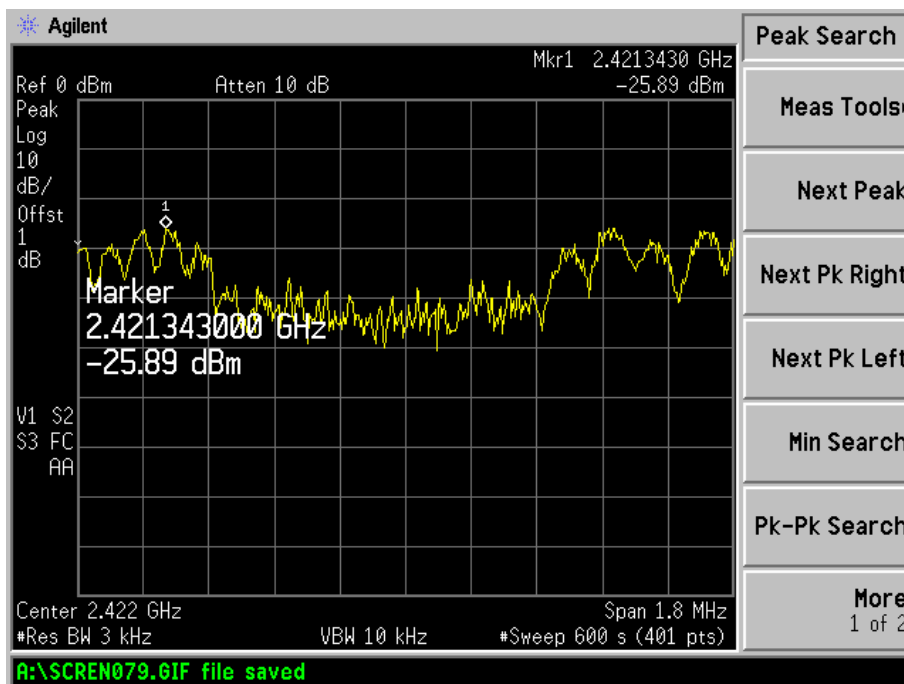


High Channel:

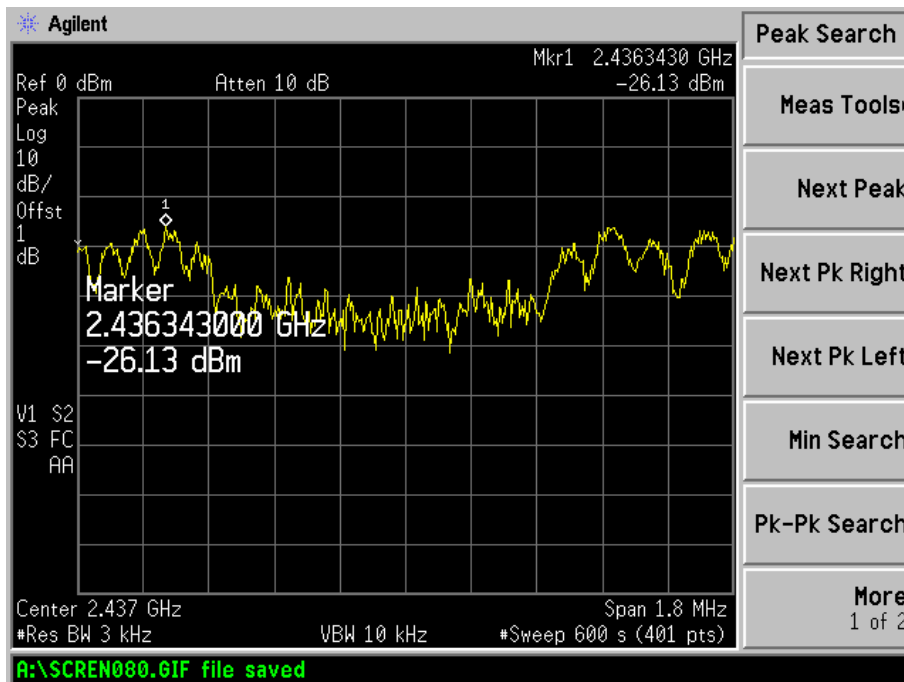


For 802.11n/HT40-chain 1

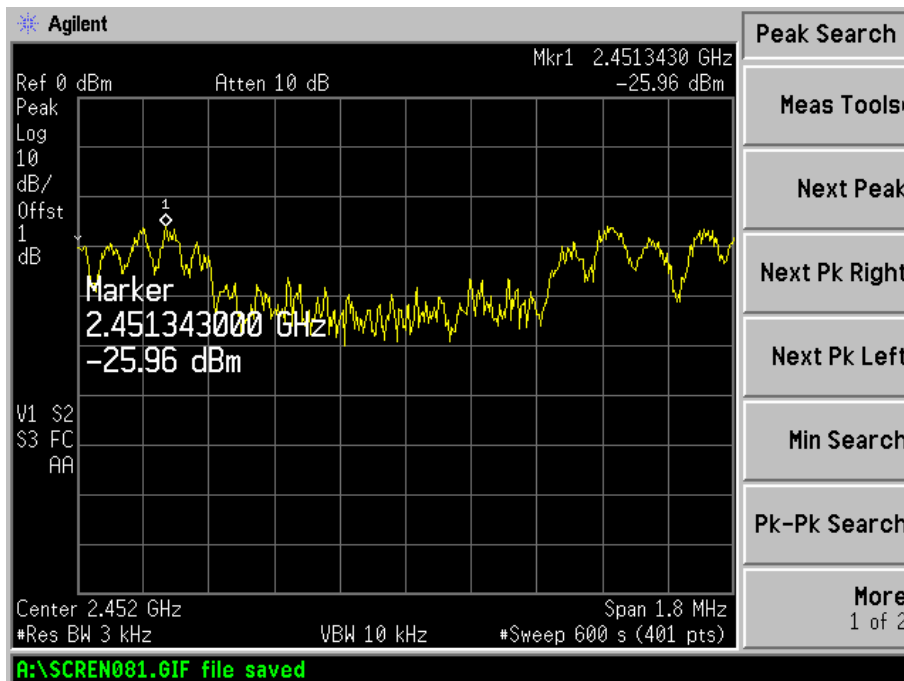
Low Channel:



Middle Channel:



High Channel:



6. 6-dB BANDWIDTH

6.1 Standard Applicable

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.

6.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-12-20	2011-12-19
Attenuator	ATTEN	ATS100-4-20	/	2010-12-20	2011-12-19

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

6.3 Test Procedure

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set center frequency of spectrum analyzer = operating frequency.
3. The spectrum analyzer as RBW=100 kHz (1 % of Bandwidth.), Sweep=auto
4. Mark the peak frequency and –6dB (upper and lower) frequency.

6.4 Environmental Conditions

Temperature:	24 °C
Relative Humidity:	43%
ATM Pressure:	1013 mbar

6.5 Summary of Test Results/Plots

For 802.11b/g

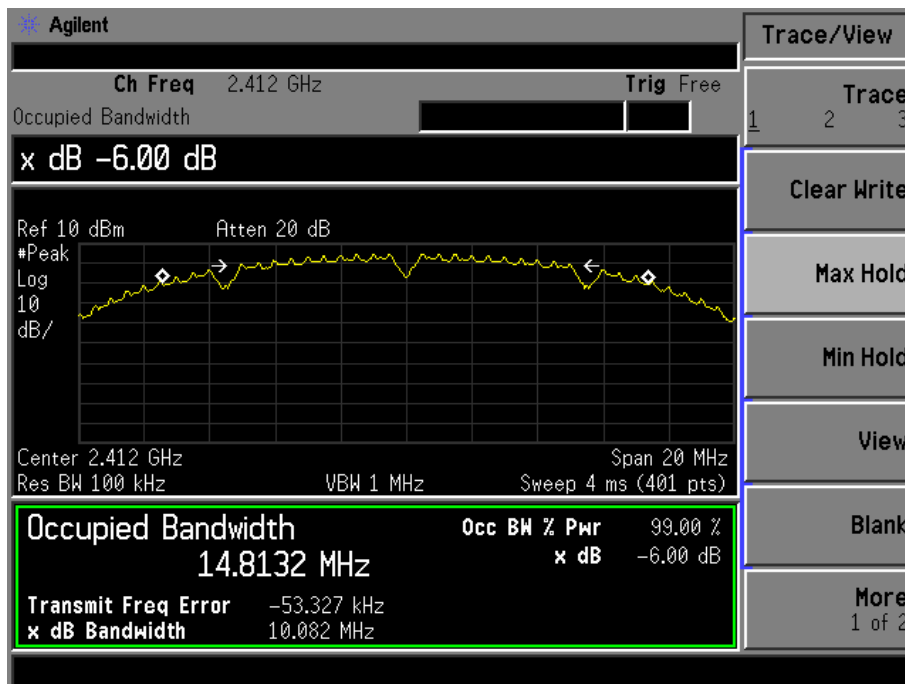
Test mode	Frequency MHz	6 dB Bandwidth Chain 0 (kHz)	6 dB Bandwidth Chain 1 (kHz)	Limit kHz
802.11b	2412	10082	10667	500
	2437	10043	10654	500
	2462	10079	10652	500
802.11g	2412	16505	16487	500
	2437	16463	16495	500
	2462	16484	16564	500

For 802.11n HT20/HT40

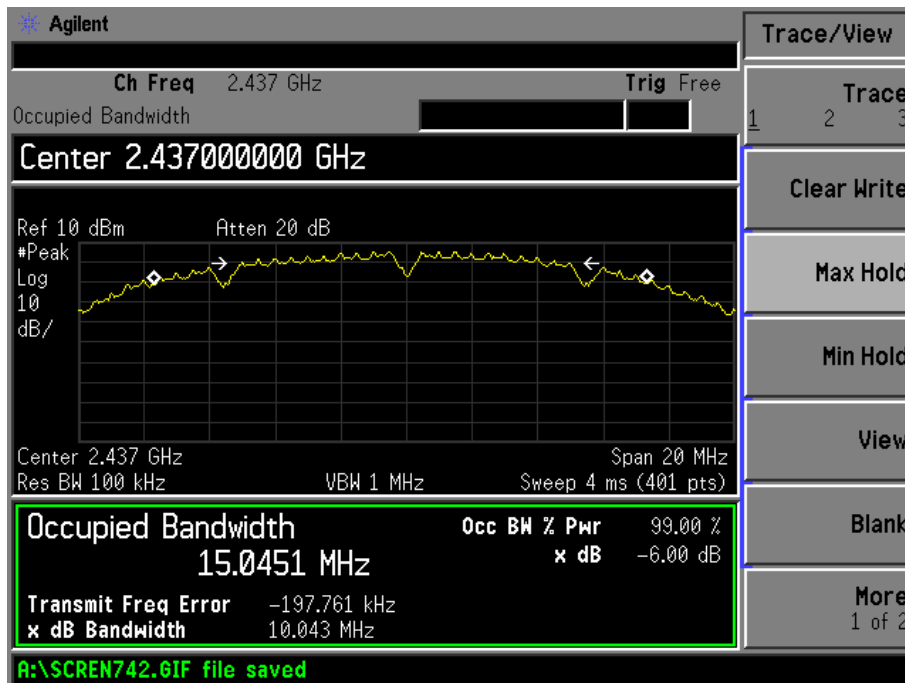
Test mode	Frequency MHz	6 dB Bandwidth Chain 0 (kHz)	6 dB Bandwidth Chain 1 (kHz)	Limit kHz
802.11n HT20	2412	17710	17615	500
	2437	17803	17594	500
	2462	17762	17617	500
802.11n HT40	2422	36380	35681	500
	2437	36334	35508	500
	2452	36289	35685	500

For 802.11b-chain 0

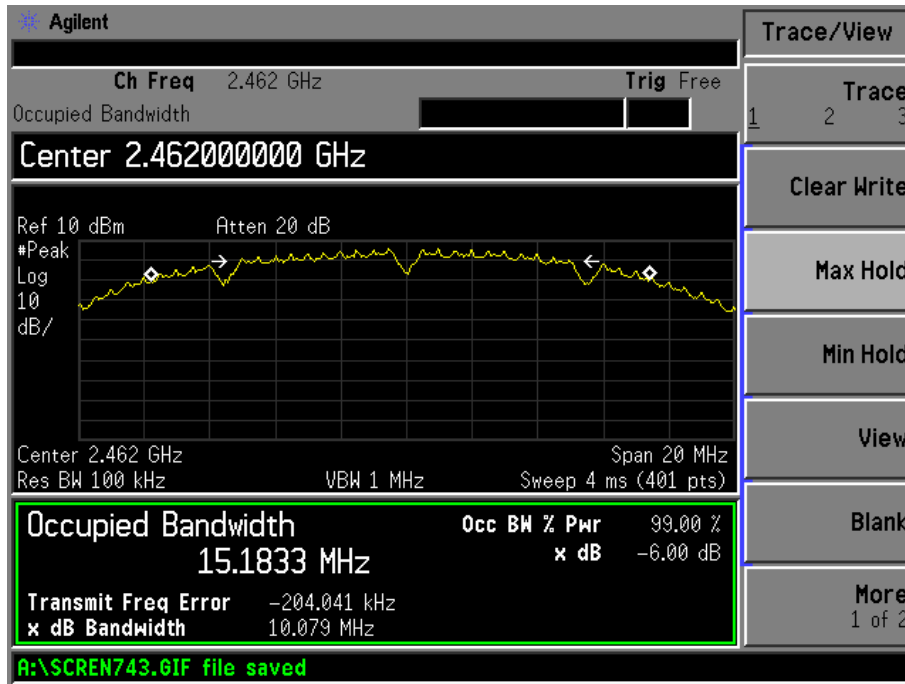
Low Channel:



Mid Channel:

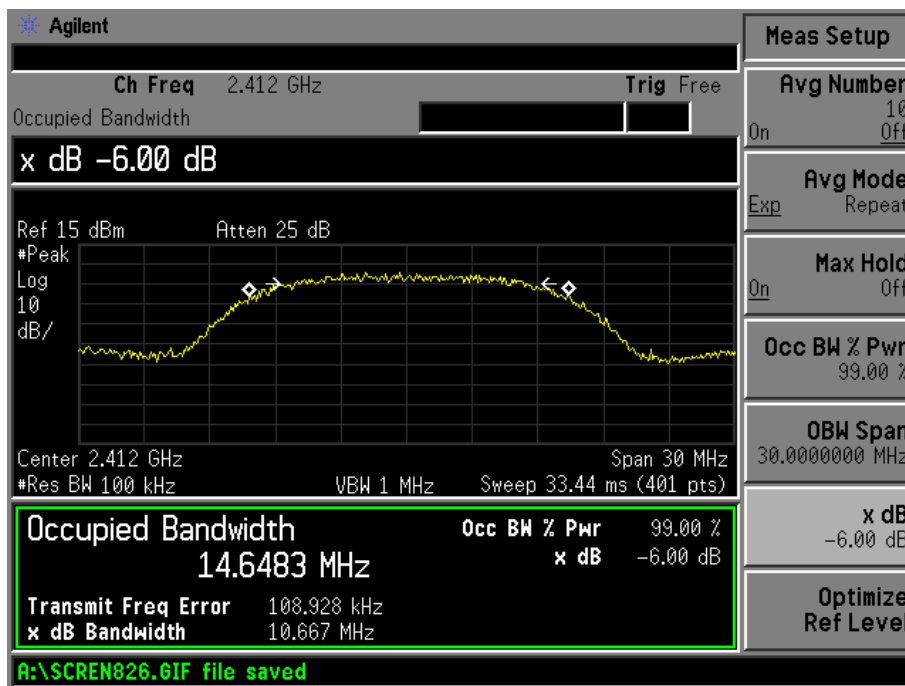


High Channel:

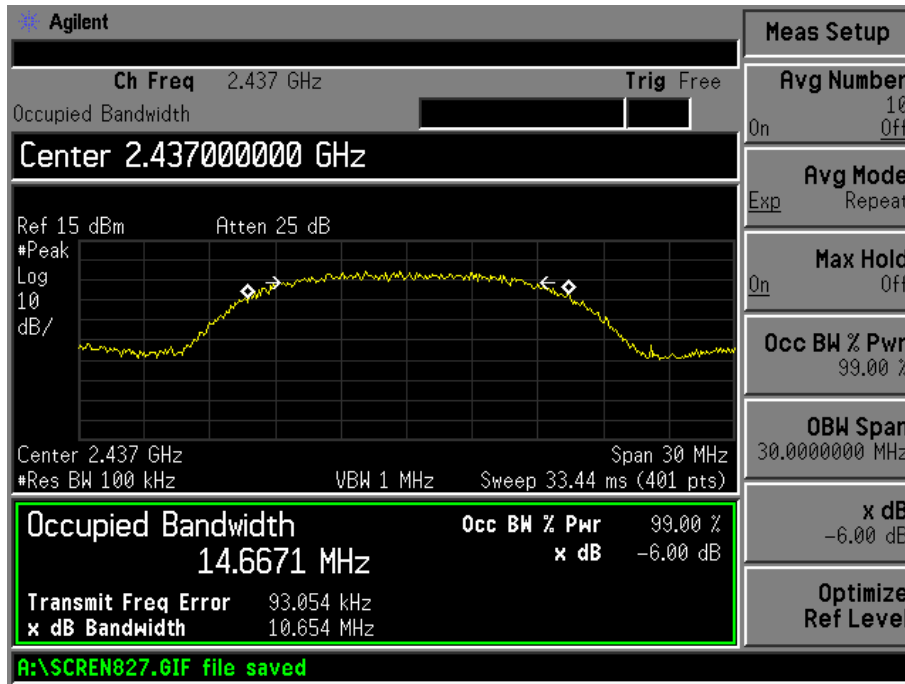


For 802.11b-chain 1

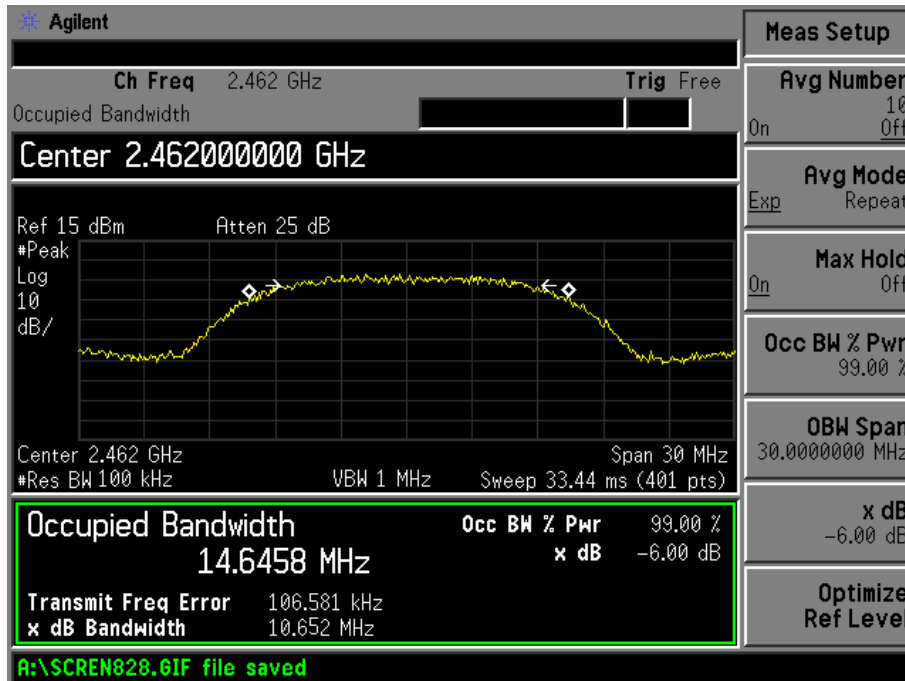
Low Channel:



Middle Channel:

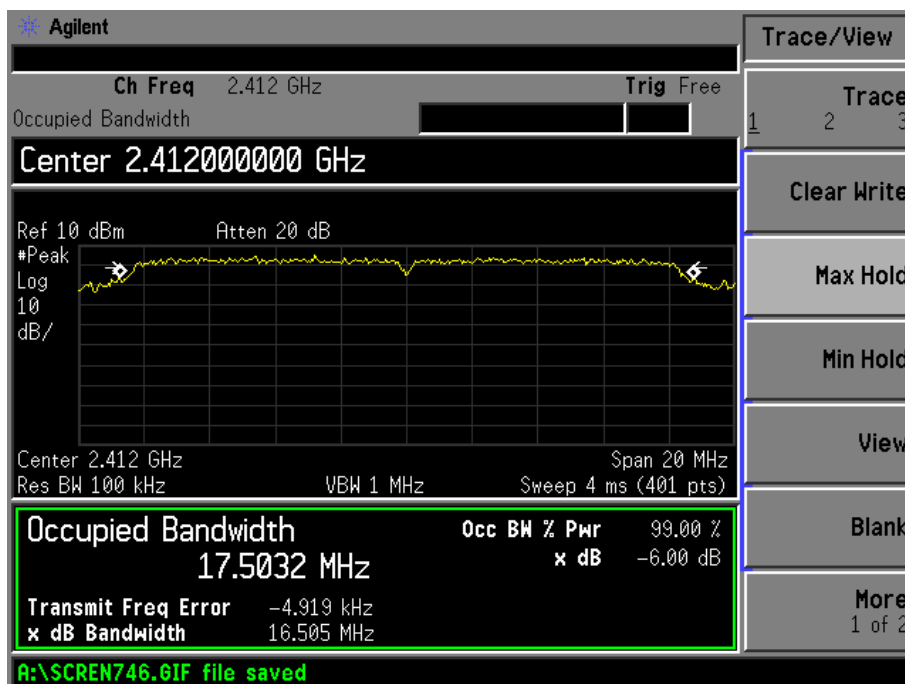


High Channel:

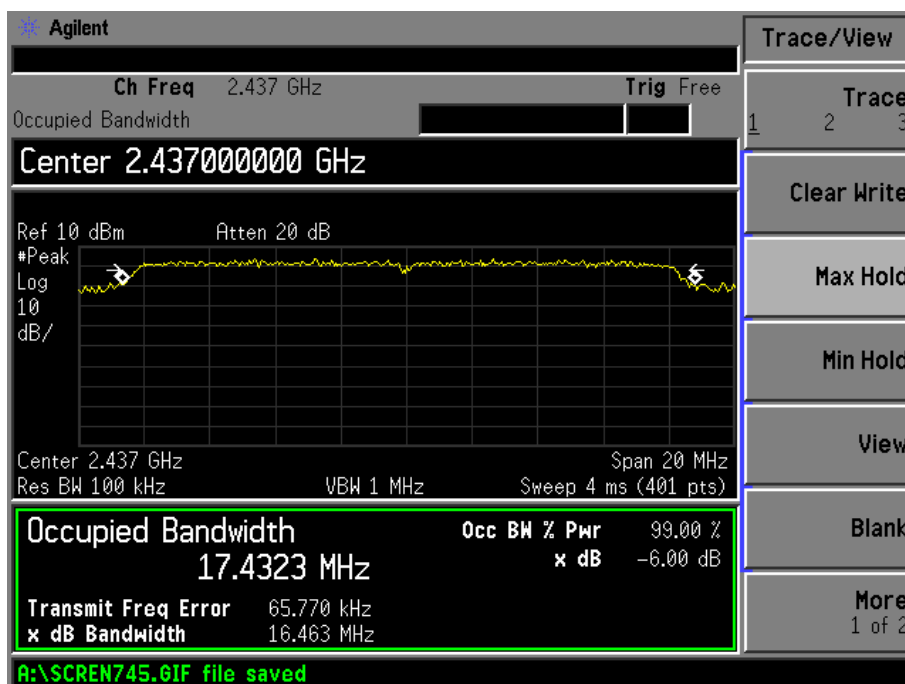


For 802.11g-chain 0

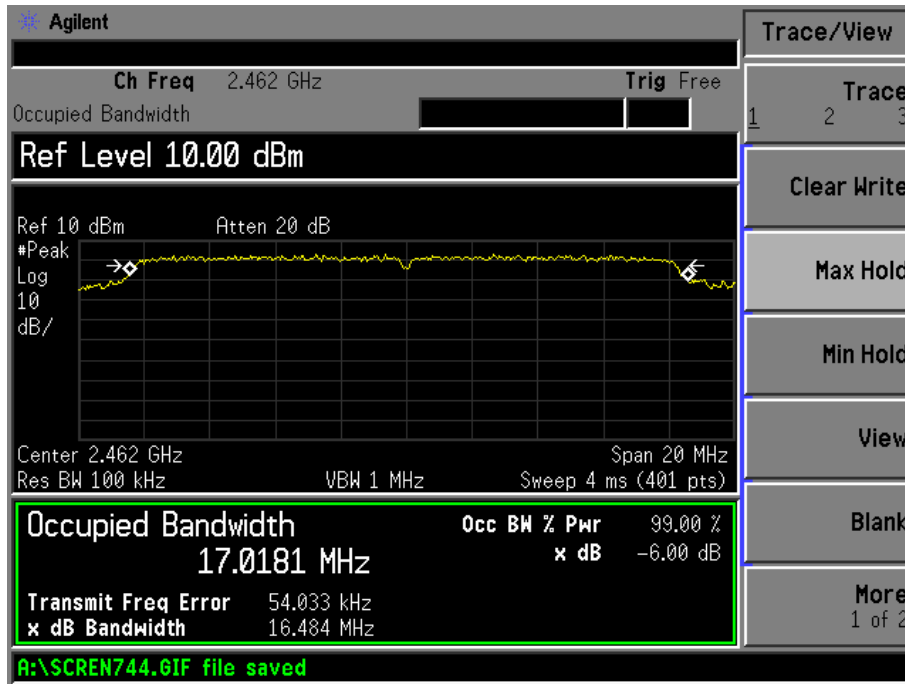
Low Channel:



Mid Channel:

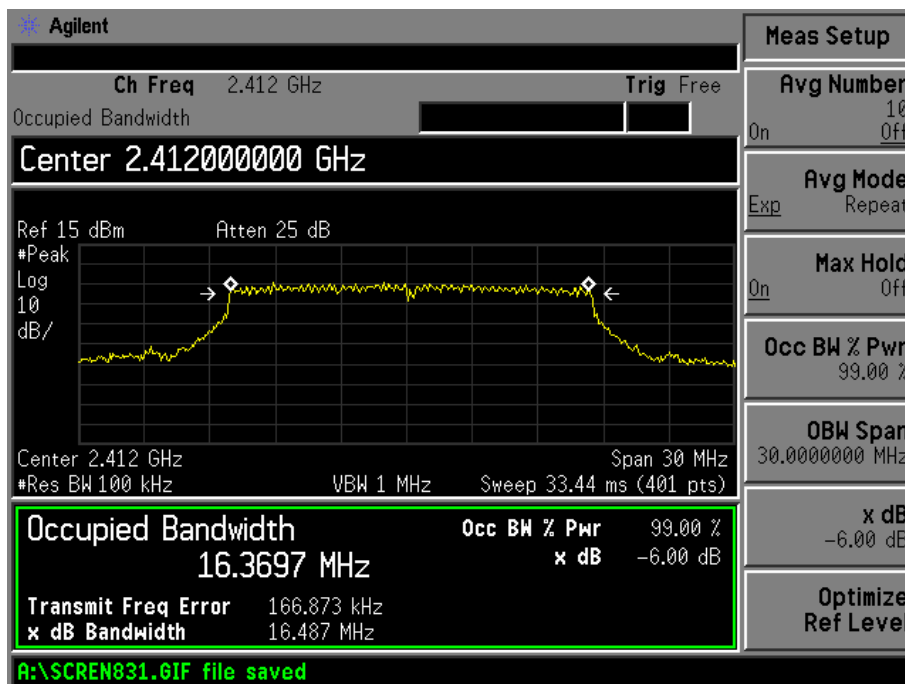


High Channel:

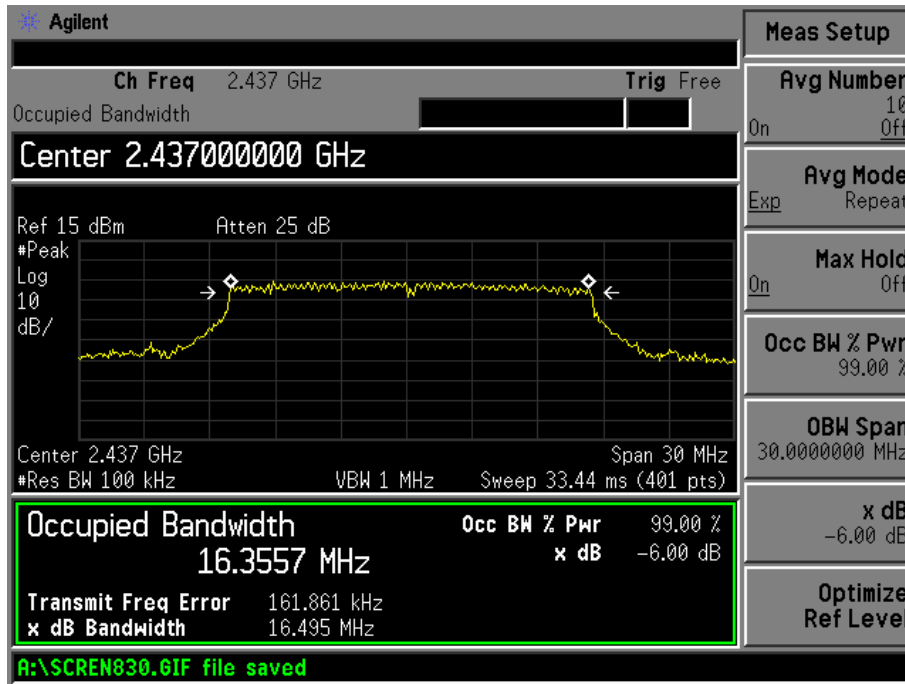


For 802.11g-chain 1

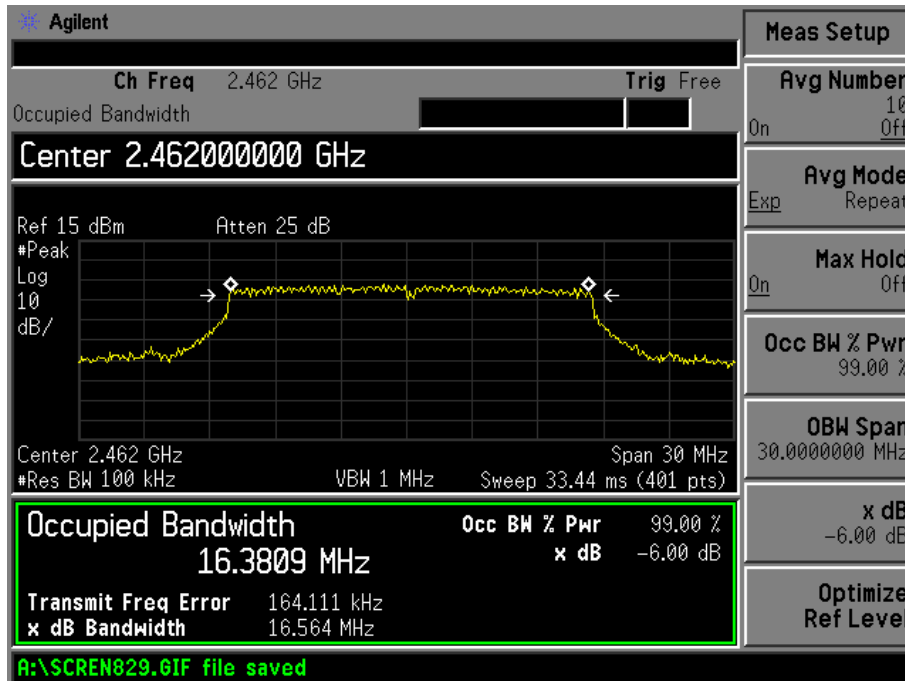
Low Channel:



Middle Channel:

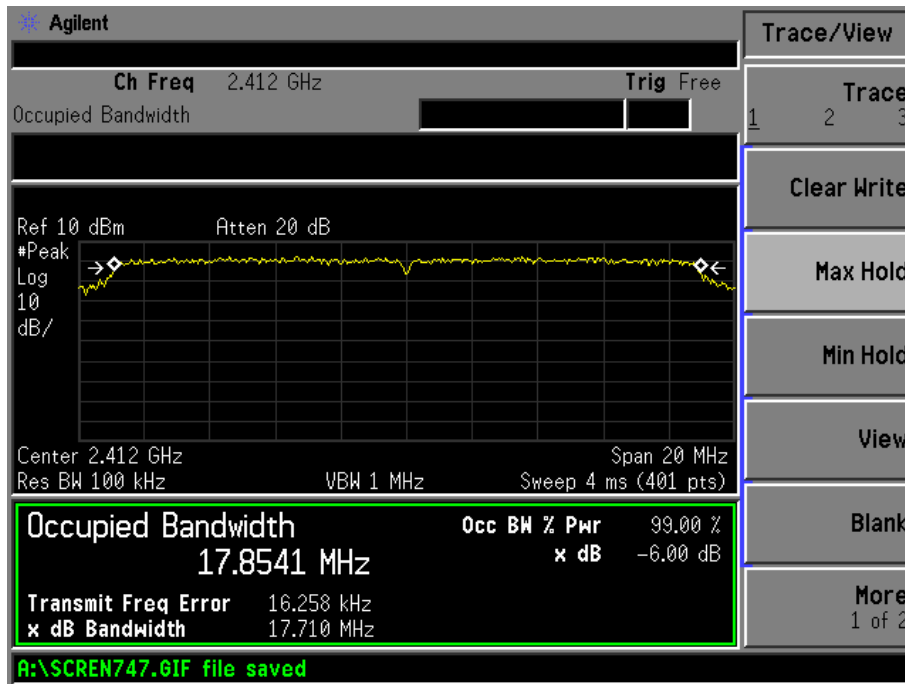


High Channel:

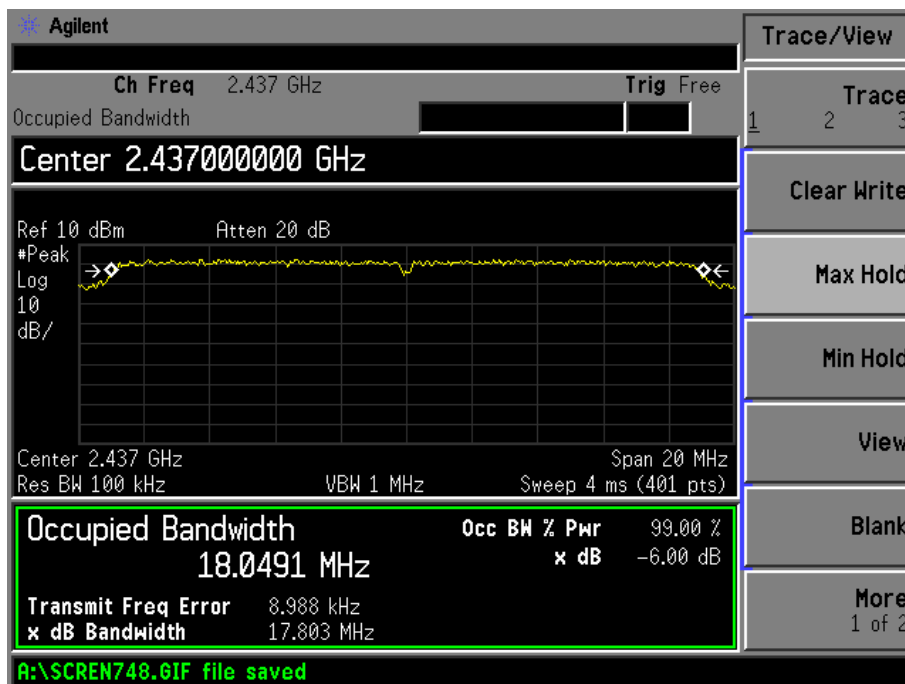


For 802.11n/HT20-chain 0

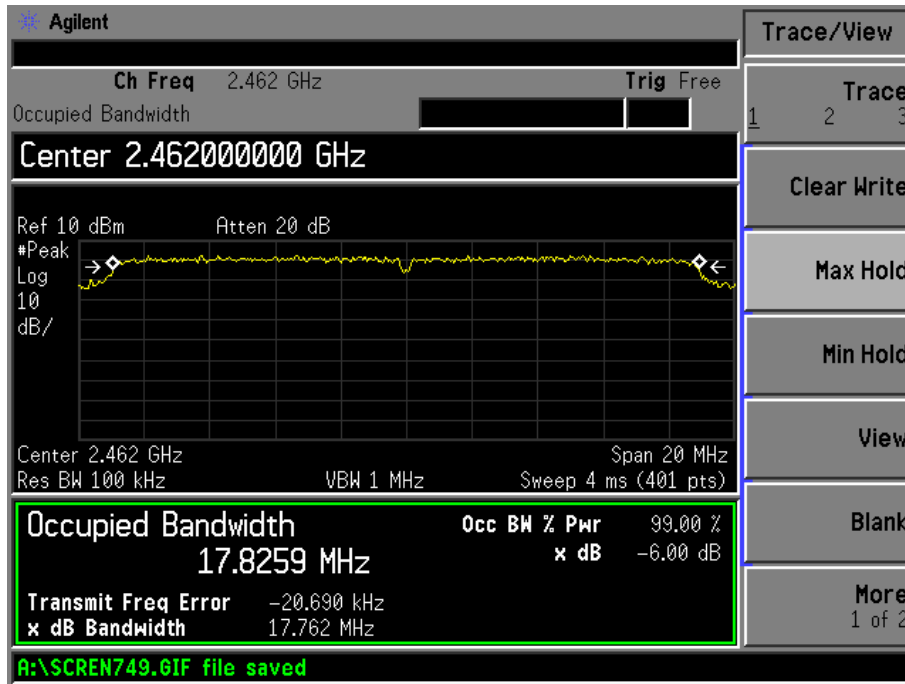
Low Channel:



Middle Channel:

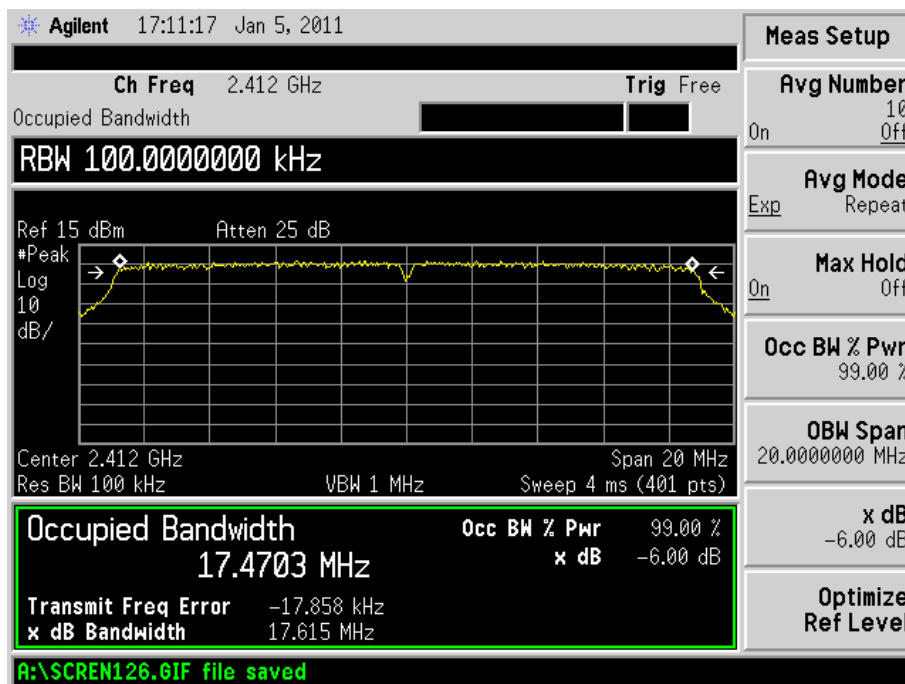


High Channel:

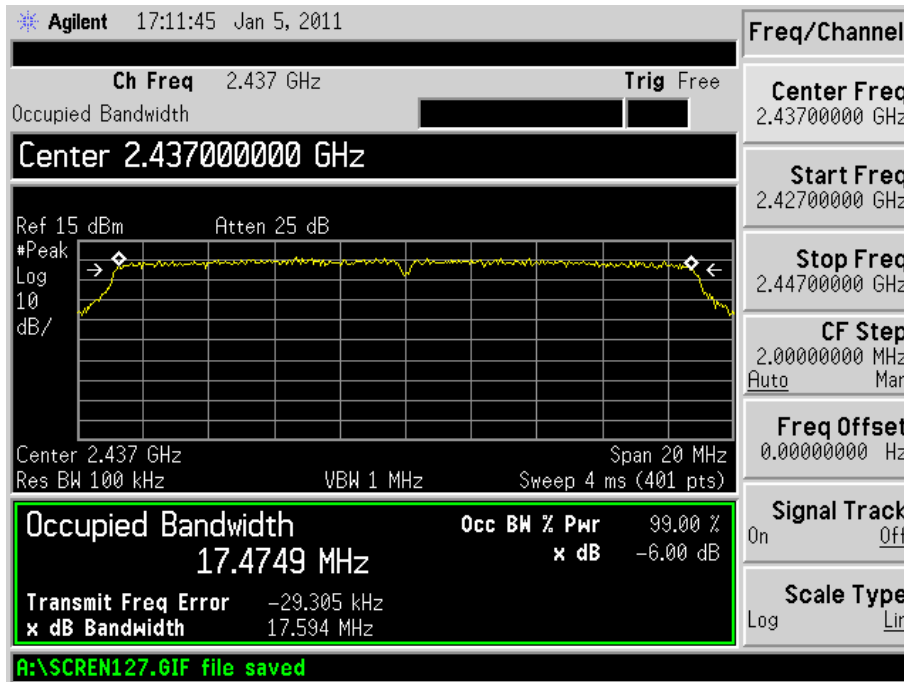


For 802.11n/HT20-chain 1

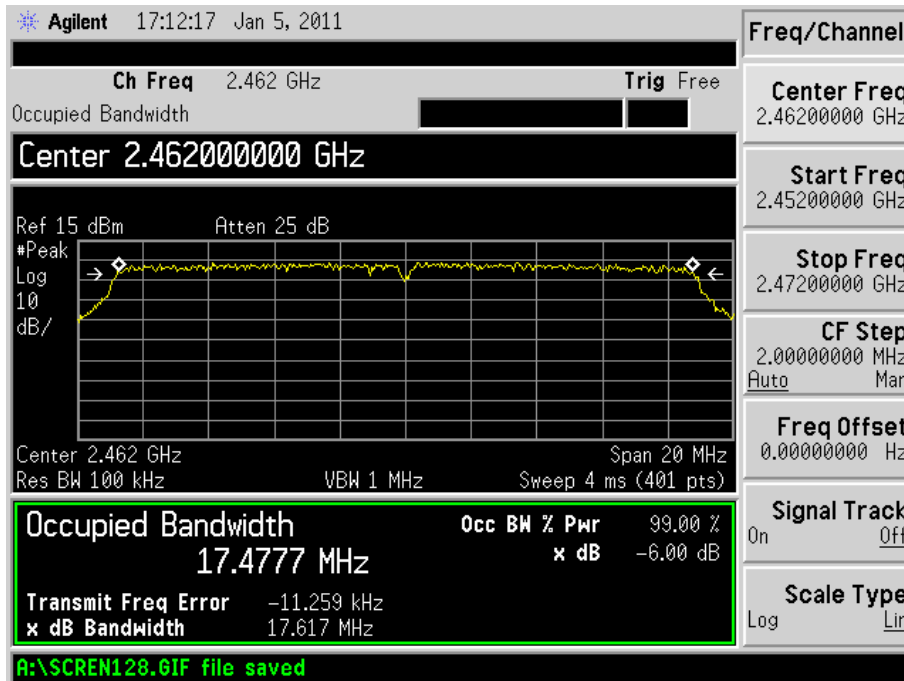
Low Channel:



Middle Channel:

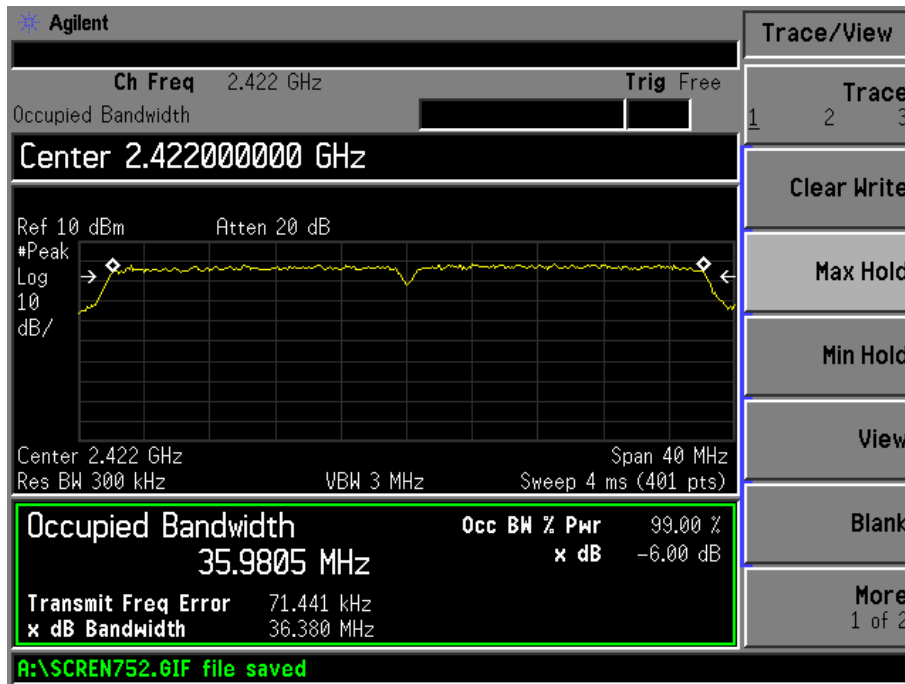


High Channel:

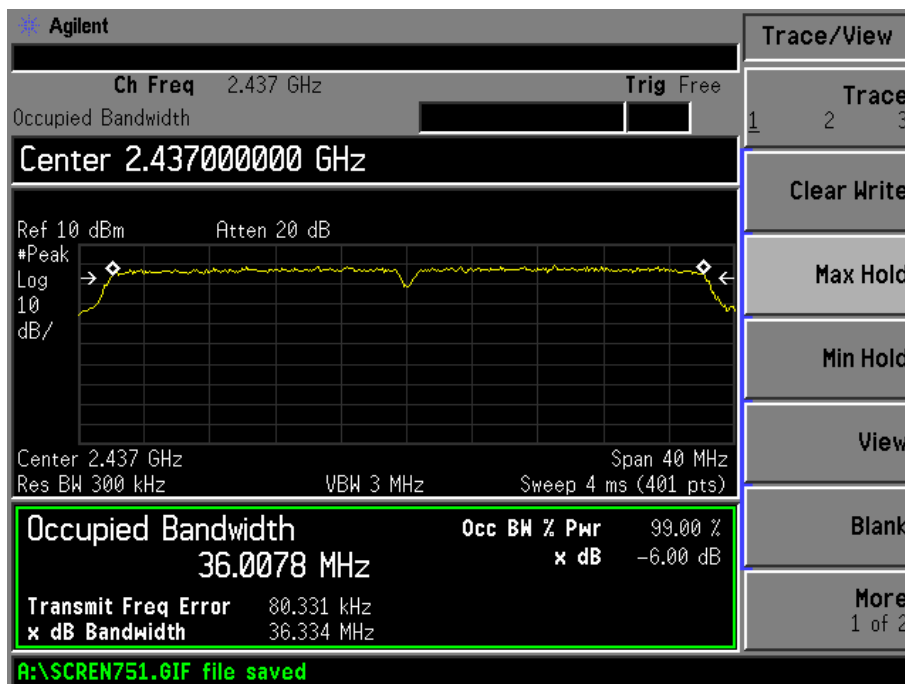


For 802.11n/HT40-chain 0

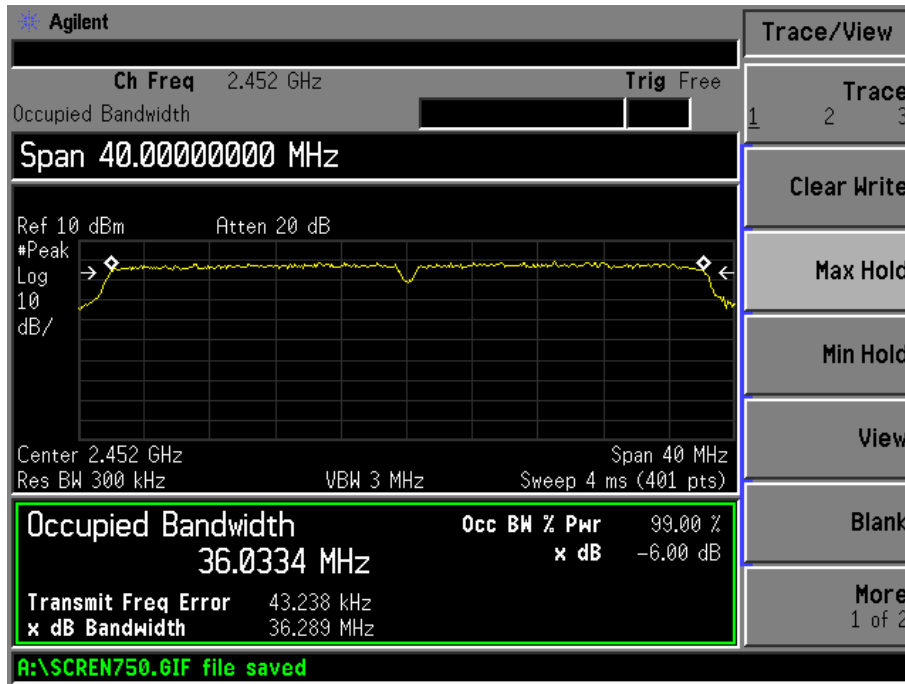
Low Channel:



Middle Channel:

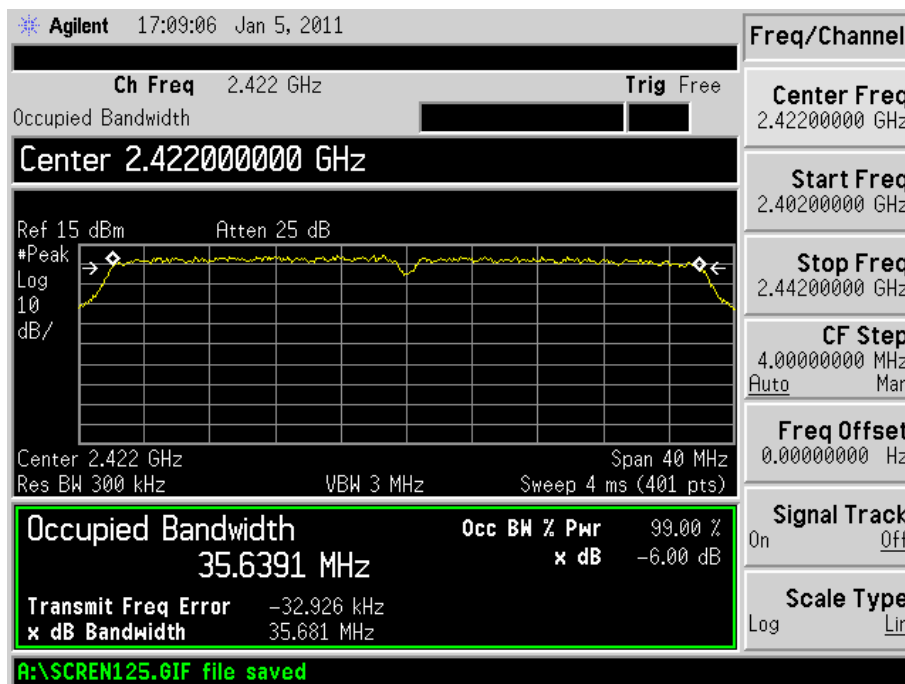


High Channel:

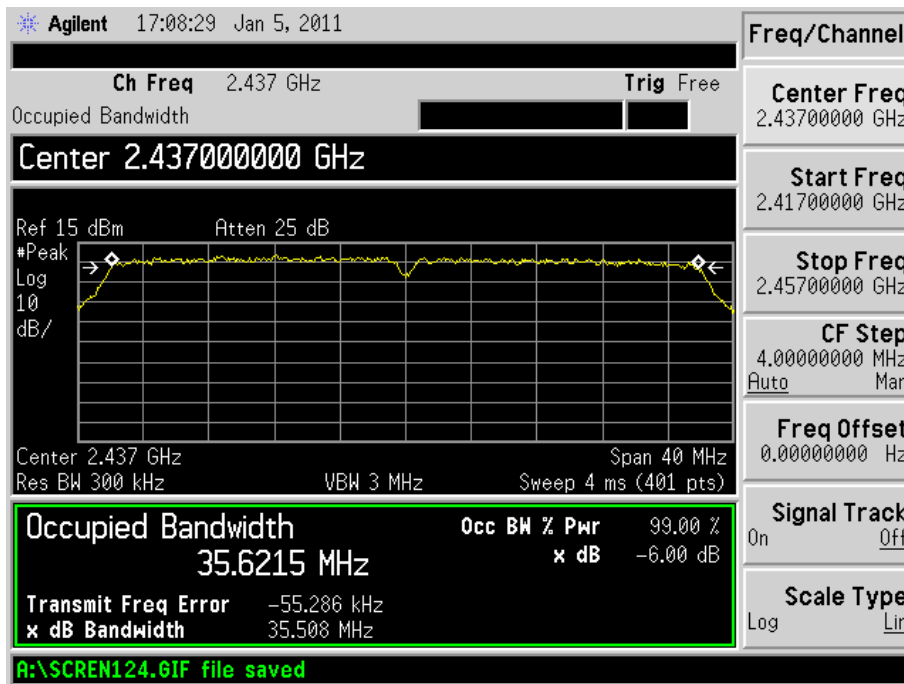


For 802.11n/HT40-chain 1

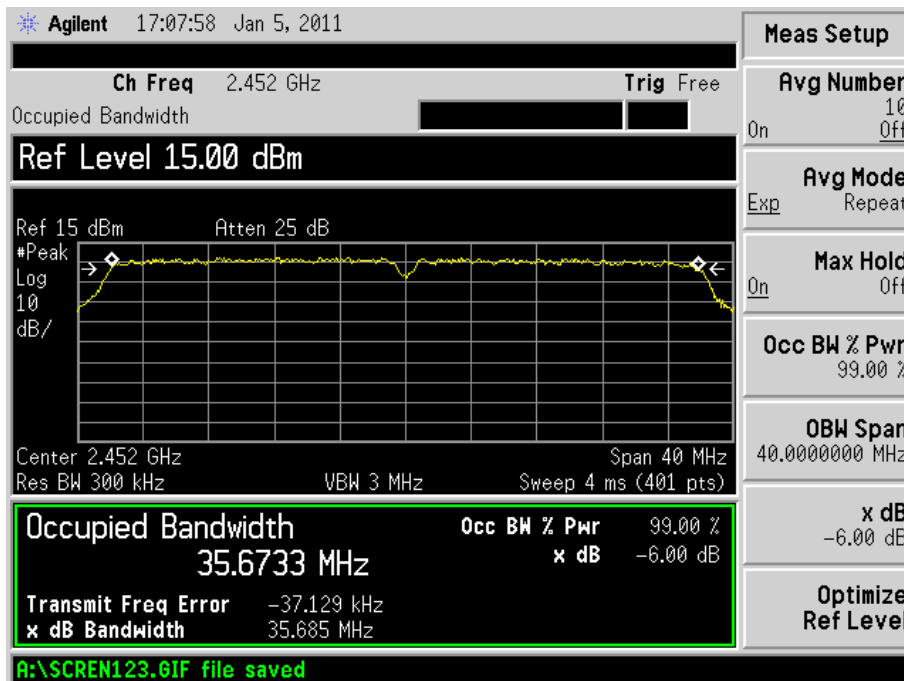
Low Channel:



Middle Channel:



High Channel:



7. POWER OUTPUT

7.1 Standard Applicable

According to 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.

7.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-12-20	2011-12-19
Attenuator	ATTEN	ATS100-4-20	/	2010-12-20	2011-12-19

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

7.3 Test Procedure

According to section 15.247(b)-power output of the KDB-558074 (2005), the method #1 of the power output option2 was used, the following is the measurement procedure.

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW \geq 3 MHz.
4. Use sample detector mode if bin width (i.e., span/number of points in spectrum display) $<$ 0.5 RBW. Otherwise use peak detector mode.
5. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run”.
6. Trace average 100 traces in power averaging mode.
7. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer’s band power measurement function with band limits set equal to the EBW band edges.

7.4 Environmental Conditions

Temperature:	21° C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

7.5 Summary of Test Results/Plots

For 802.11b/g

Test mode	Frequency MHz	Reading chain 0 (dBm)	Reading chain 1 (dBm)	Output power chain 0 (W)	Output power chain 1 (W)	Total Power (W)	Limit W
802.11b (1M)	2412	8.84	8.53	0.00766	0.00713	/	1
	2437	7.78	8.41	0.00600	0.00693	/	1
	2462	7.21	8.39	0.00526	0.00690	/	1
802.11b (11M)	2412	8.41	8.62	0.00693	0.00728	/	1
	2437	7.76	8.24	0.00597	0.00667	/	1
	2462	7.56	8.38	0.00570	0.00689	/	1
802.11g (6M)	2412	5.07	5.18	0.00321	0.00330	/	1
	2437	5.17	5.09	0.00329	0.00323	/	1
	2462	5.65	5.47	0.00367	0.00352	/	1
802.11g (54M)	2412	5.85	5.39	0.00384	0.00346	/	1
	2437	5.30	5.03	0.00339	0.00318	/	1
	2462	5.44	4.97	0.00350	0.00314	/	1

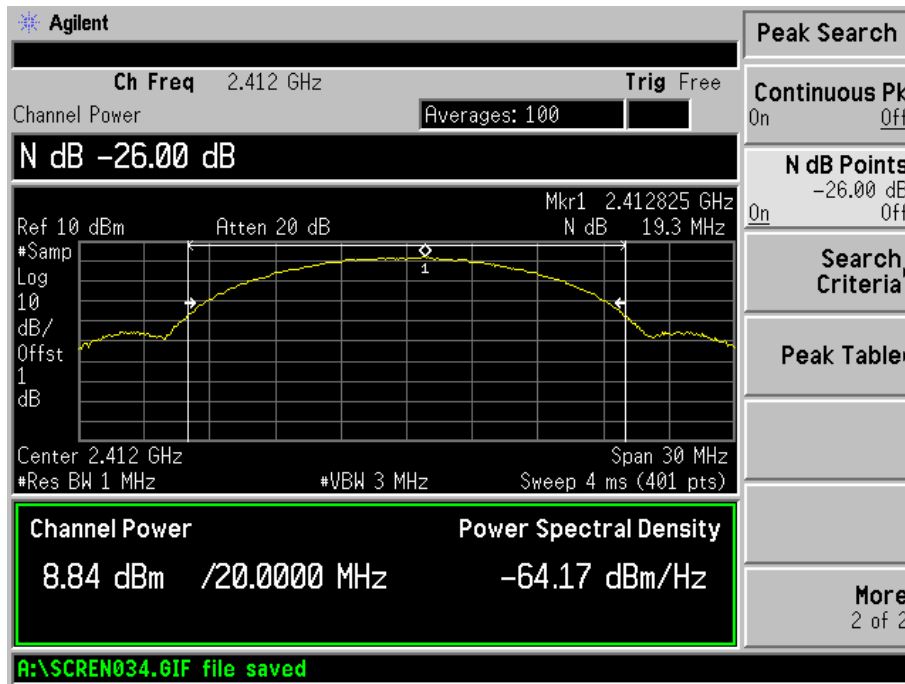
For 802.11n HT20/HT40

Test mode	Frequency MHz	Reading chain 0 (dBm)	Reading chain 1 (dBm)	Output power chain 0 (W)	Output power chain 1 (W)	Total Power (W)	Limit W
802.11n HT20 (MCS0)	2412	4.70	5.40	0.00295	0.00347	/	1
	2437	5.47	5.40	0.00352	0.00347	/	1
	2462	4.83	5.79	0.00304	0.00379	/	1
802.11n HT20 (MCS15)	2412	4.48	4.92	0.00281	0.00310	0.00591	1
	2437	5.47	5.28	0.00352	0.00337	0.00689	1
	2462	4.89	5.16	0.00308	0.00328	0.00636	1
802.11n HT40 (MCS0)	2422	5.58	5.04	0.00361	0.00319	/	1
	2437	5.43	5.79	0.00349	0.00379	/	1
	2452	5.78	4.54	0.00378	0.00284	/	1
802.11n HT40 (MCS15)	2422	5.53	4.64	0.00357	0.00291	0.00648	1
	2437	5.37	5.13	0.00344	0.00326	0.00670	1
	2452	5.41	4.58	0.00348	0.00287	0.00635	1

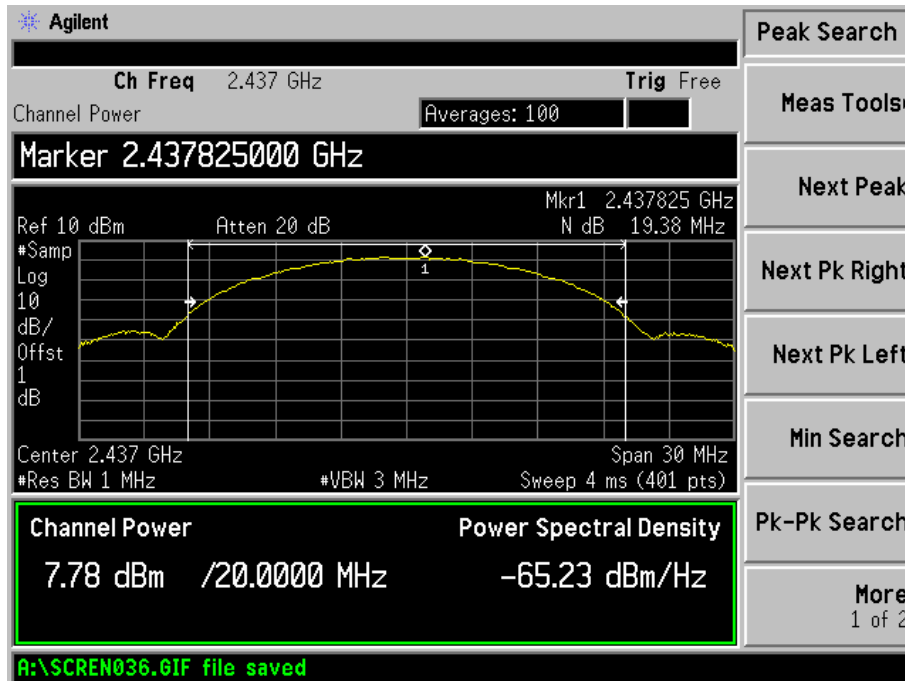
Note: The EUT shall be simultaneous transmission at the chain 0 and chain 1 for the MCS15 mode of 802.11n HT20 or HT40, all other mode shall be transmission only single chain (chain 0 or chain 1).

For 802.11b_chain 0_1M rate

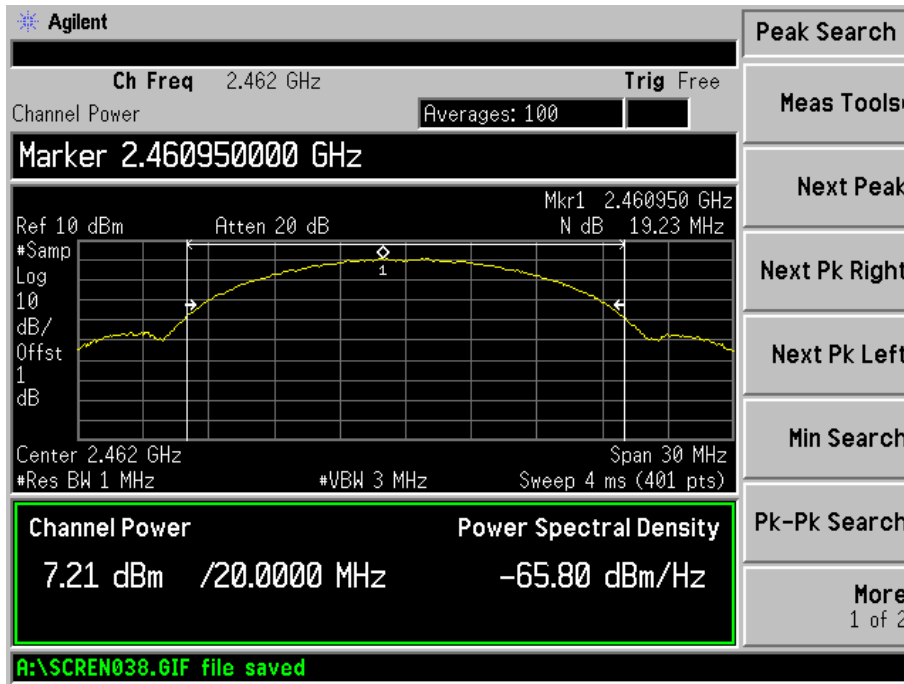
Low Channel:



Middle Channel:

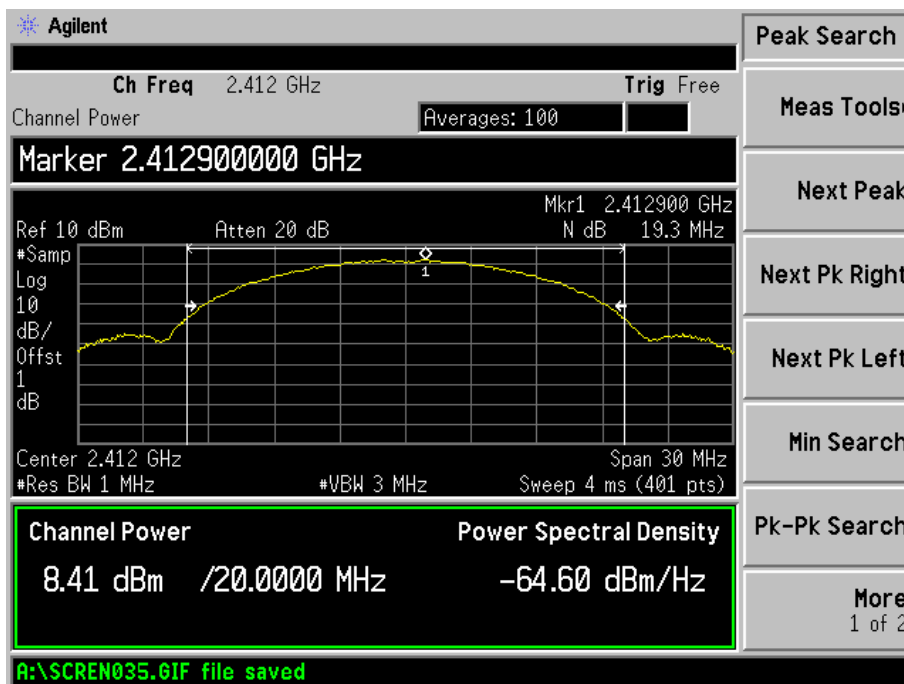


High Channel:

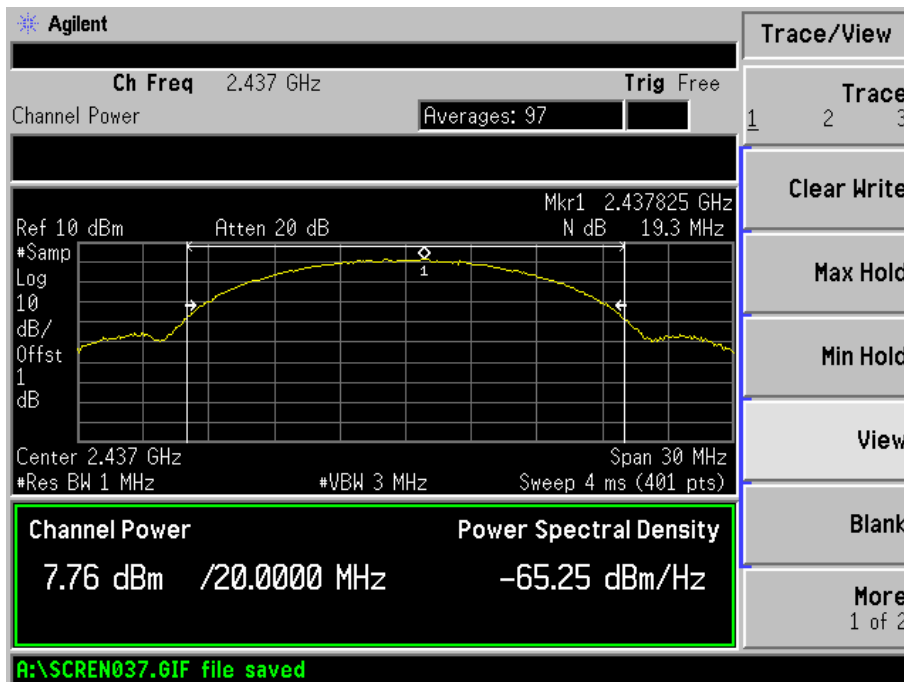


For 802.11b_chain 0_11M rate

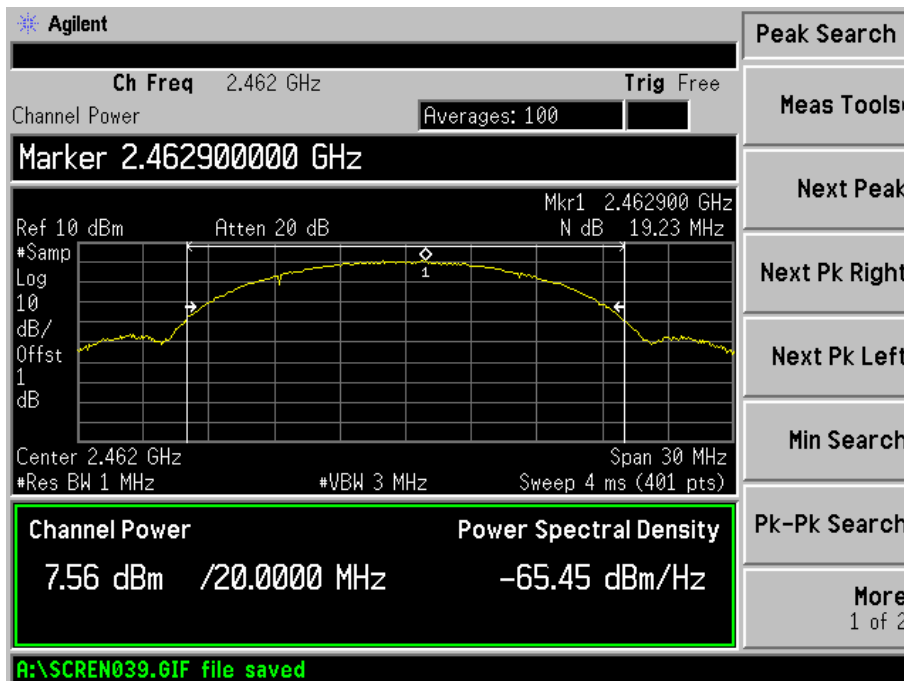
Low Channel:



Middle Channel:

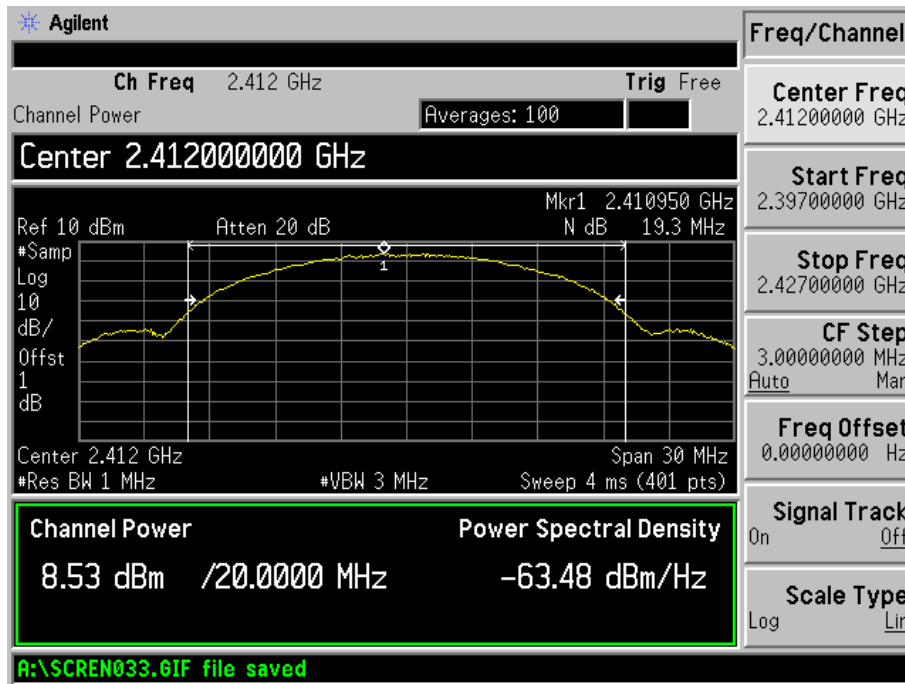


High Channel:

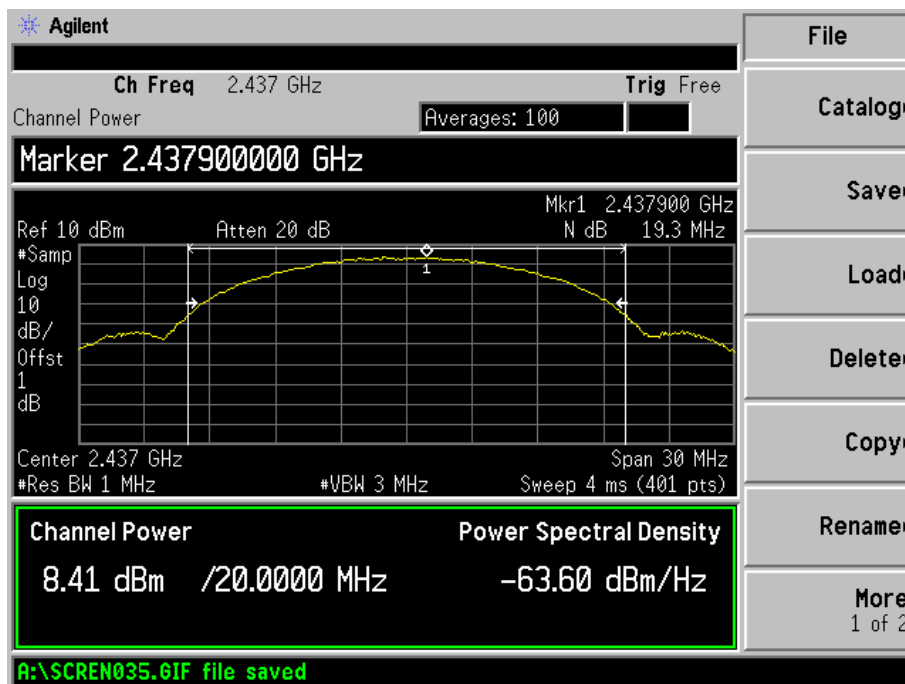


For 802.11b_chain 1_1M rate

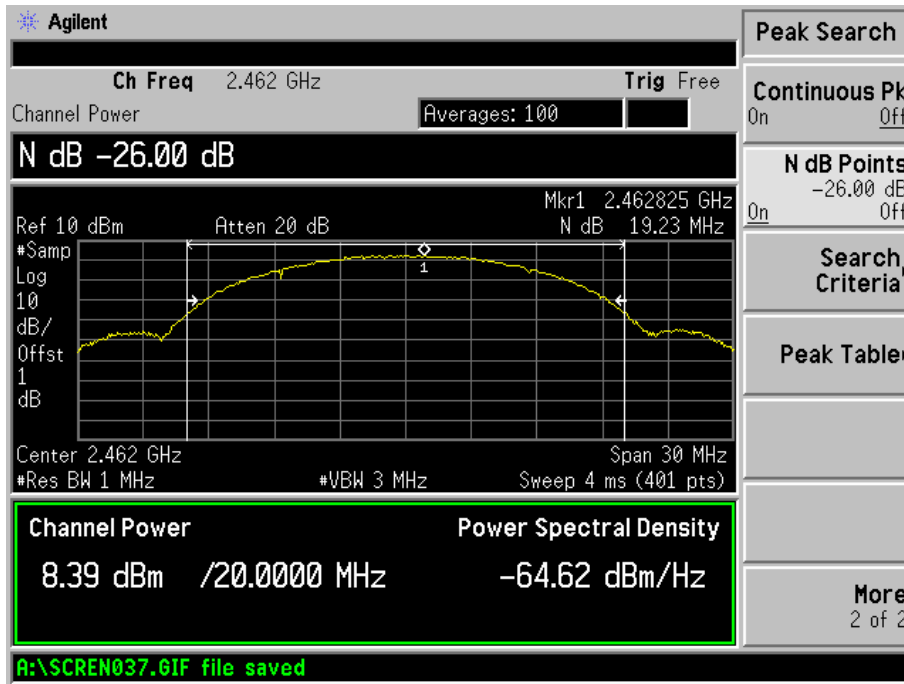
Low Channel:



Middle Channel:

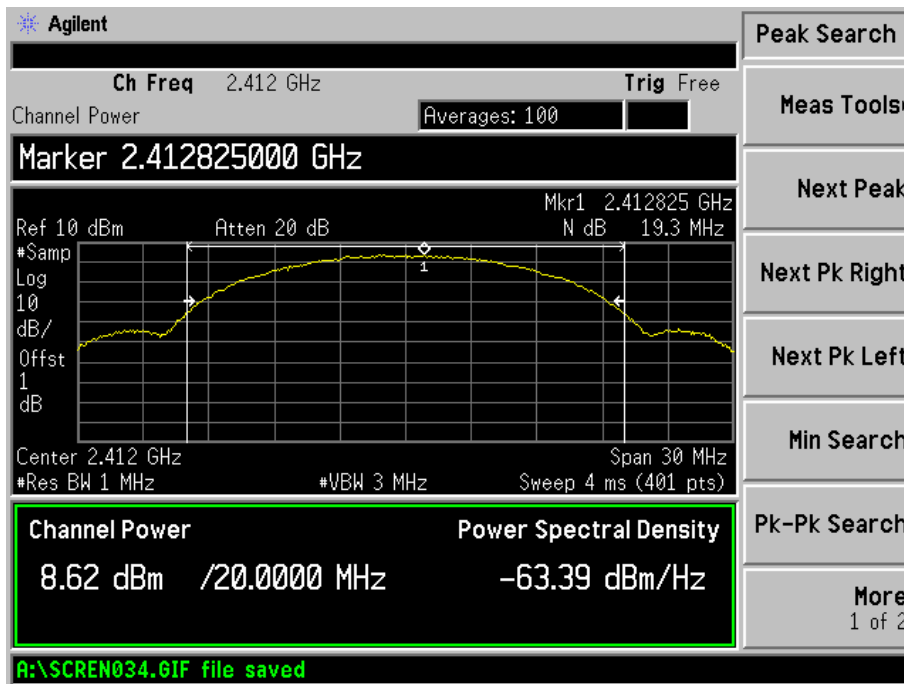


High Channel:

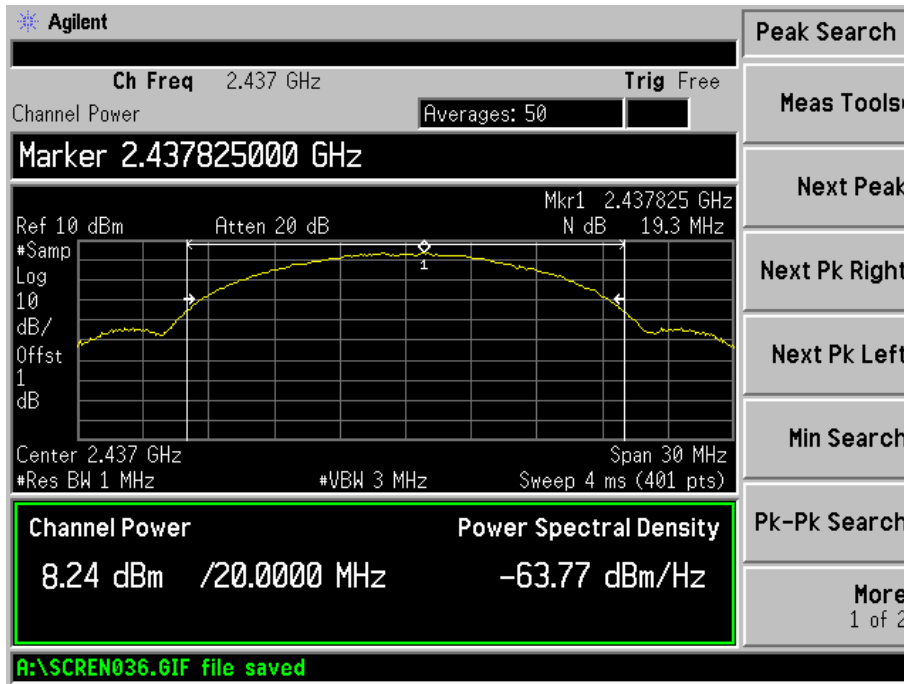


For 802.11b_chain 1_11M rate

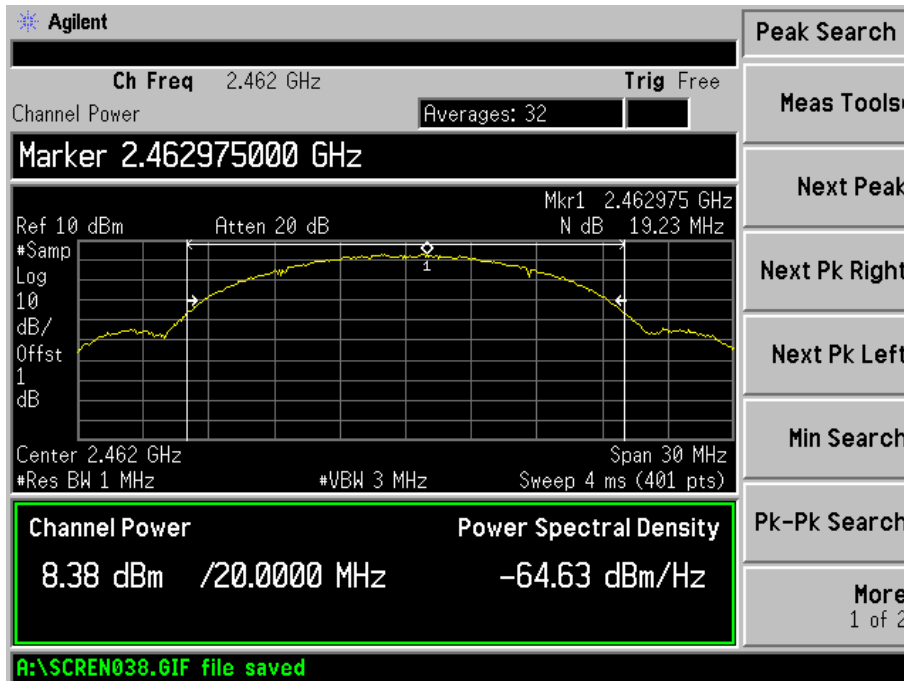
Low Channel:



Middle Channel:

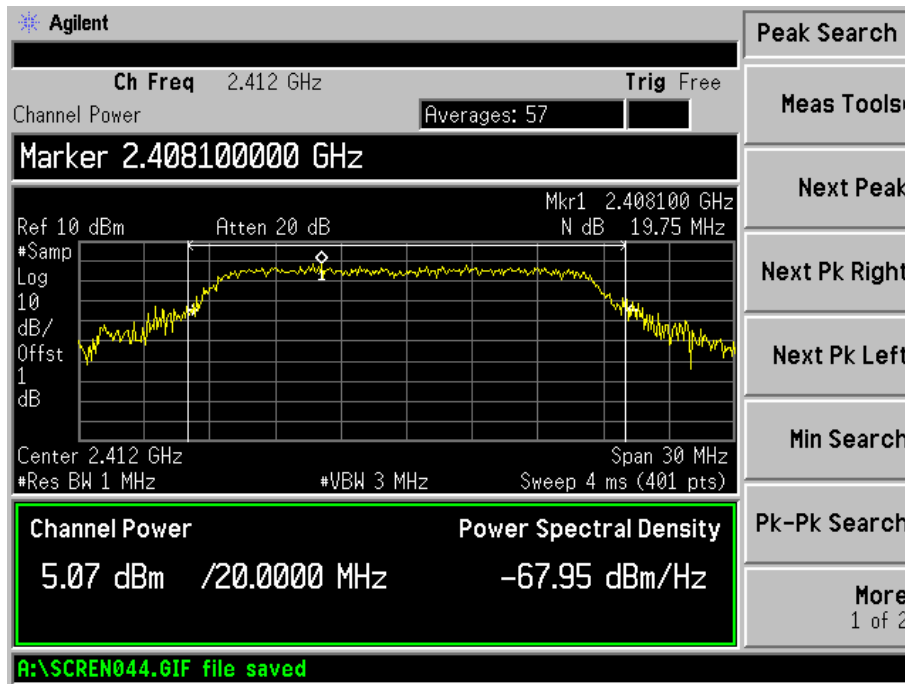


High Channel:

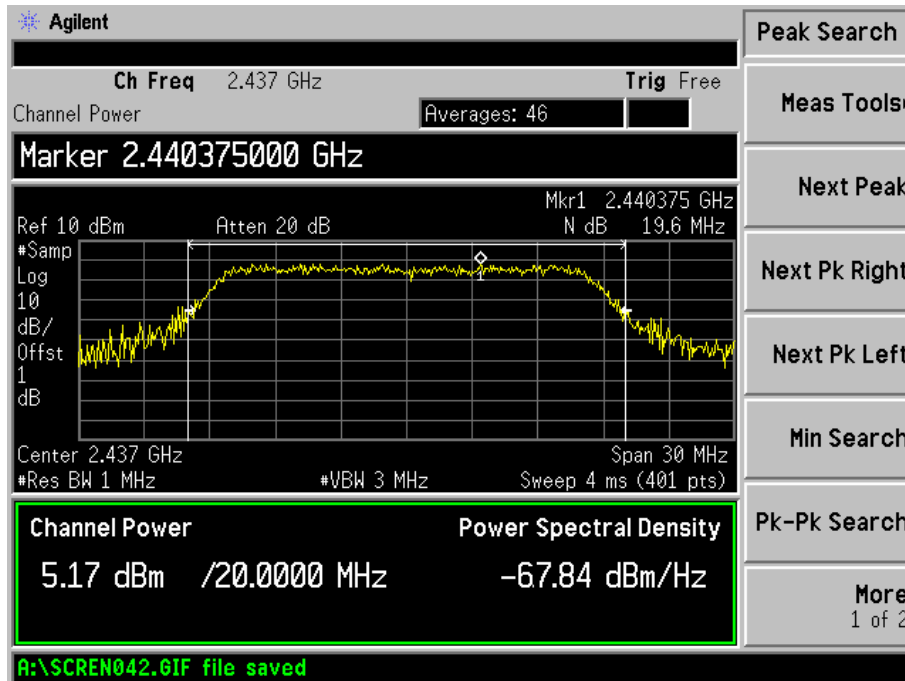


For 802.11g_chain 0_6M rate

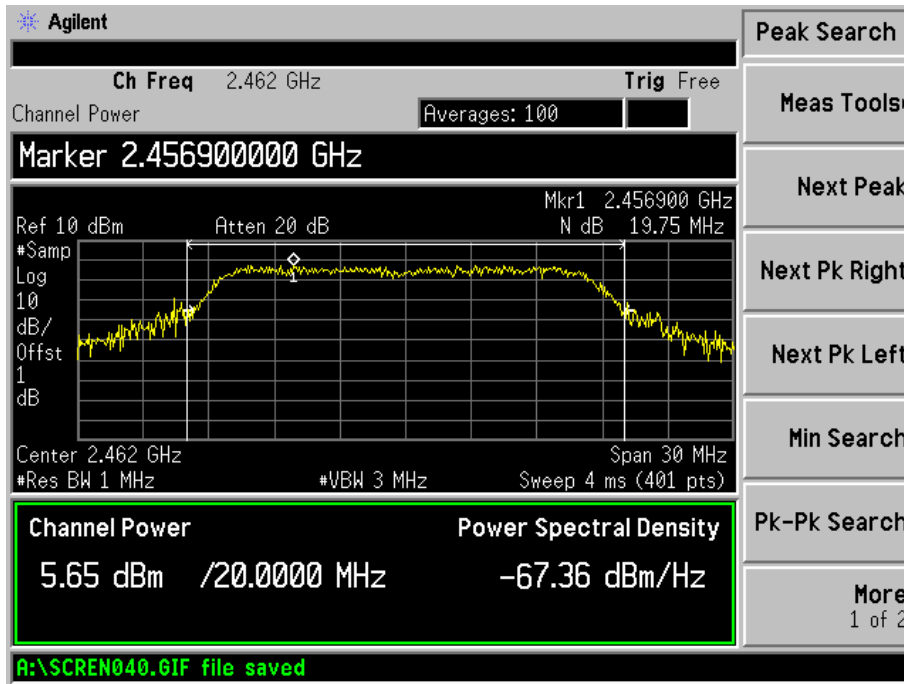
Low Channel:



Middle Channel:

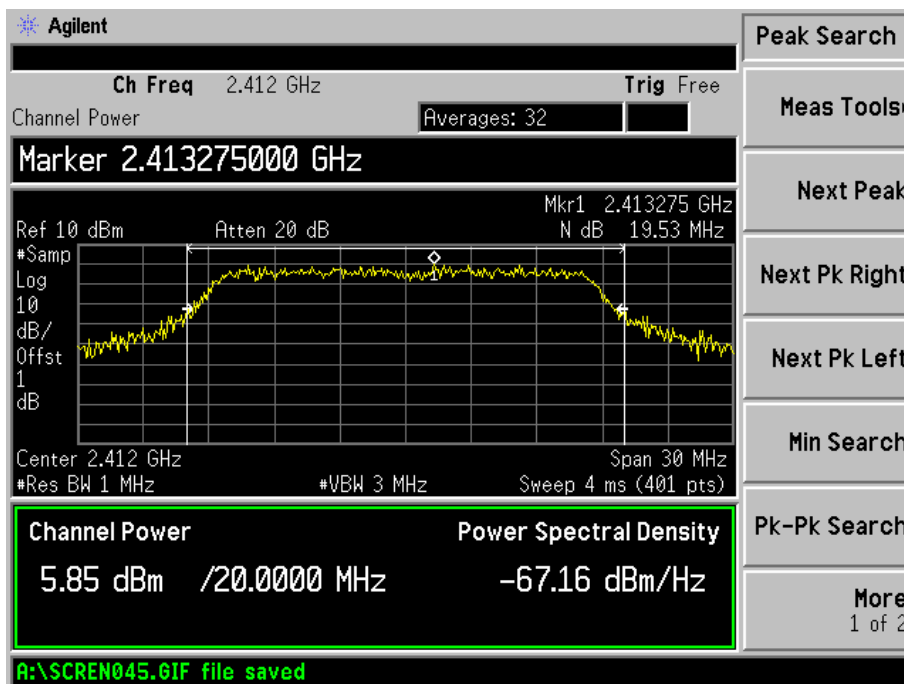


High Channel:

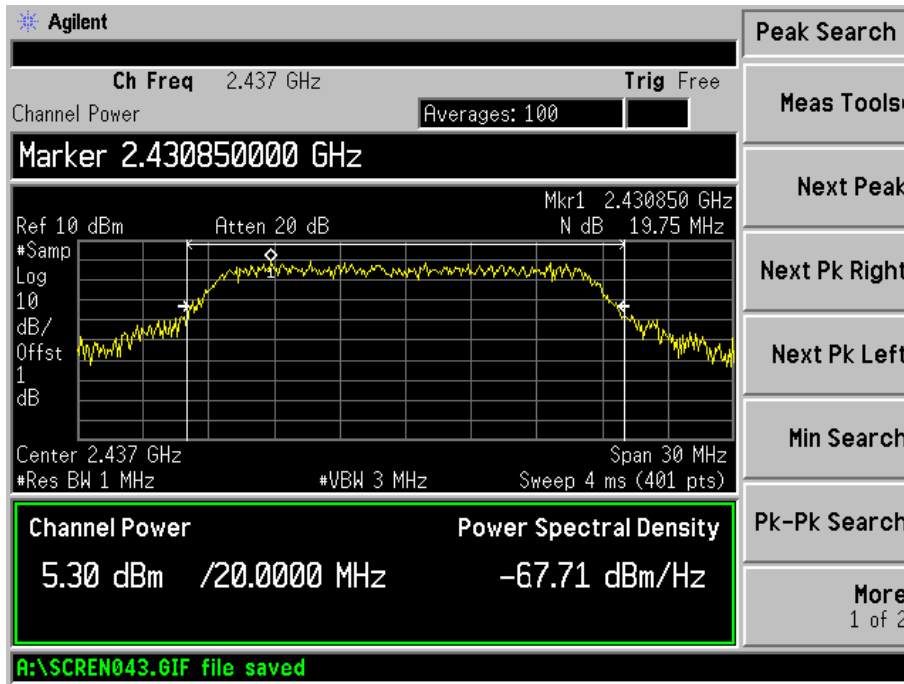


For 802.11g_chain 0_54M rate

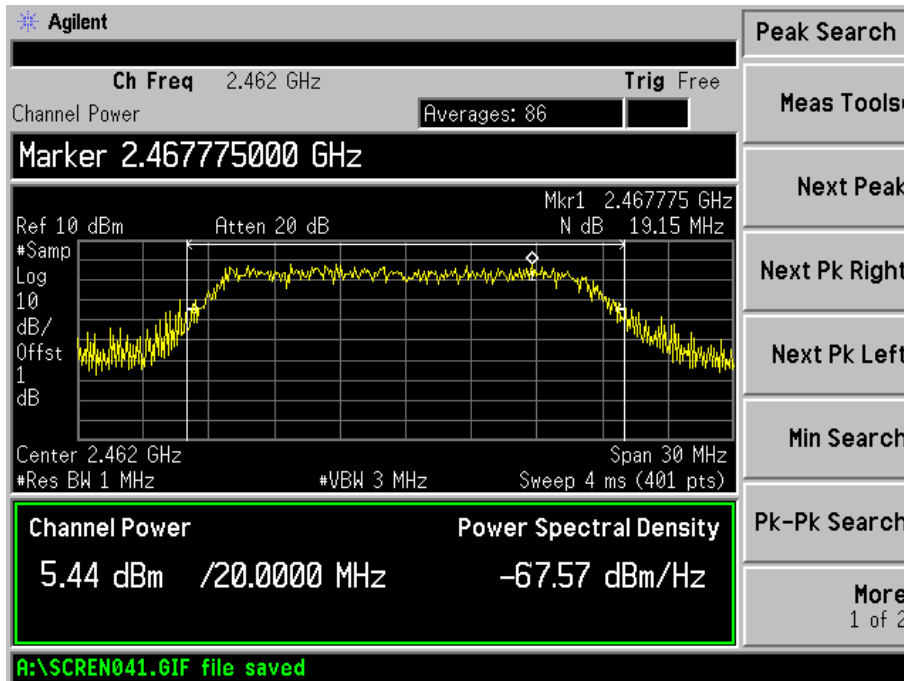
Low Channel:



Middle Channel:

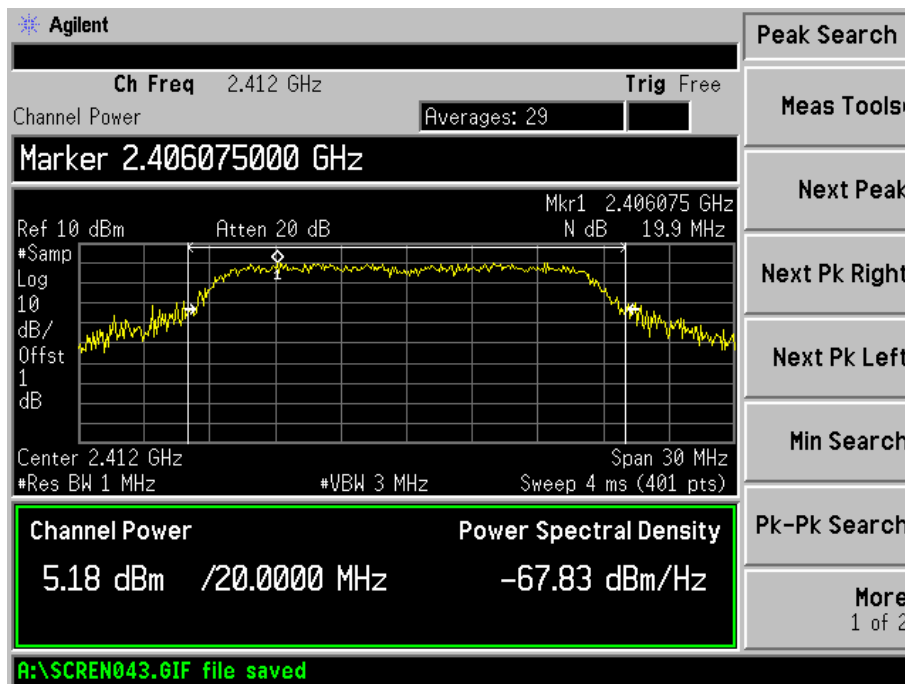


High Channel:

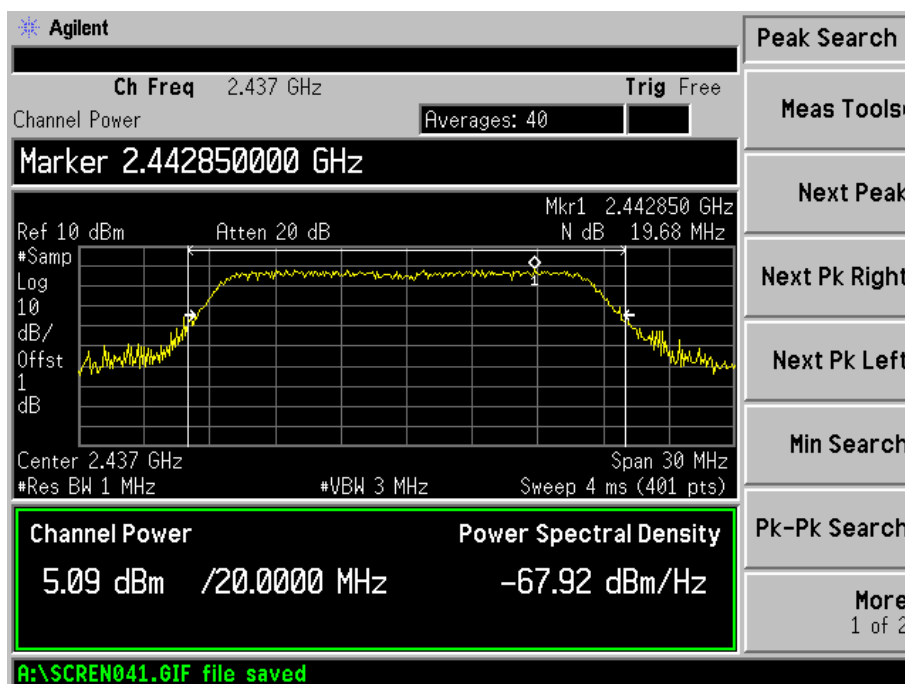


For 802.11g_chain 1_6M rate

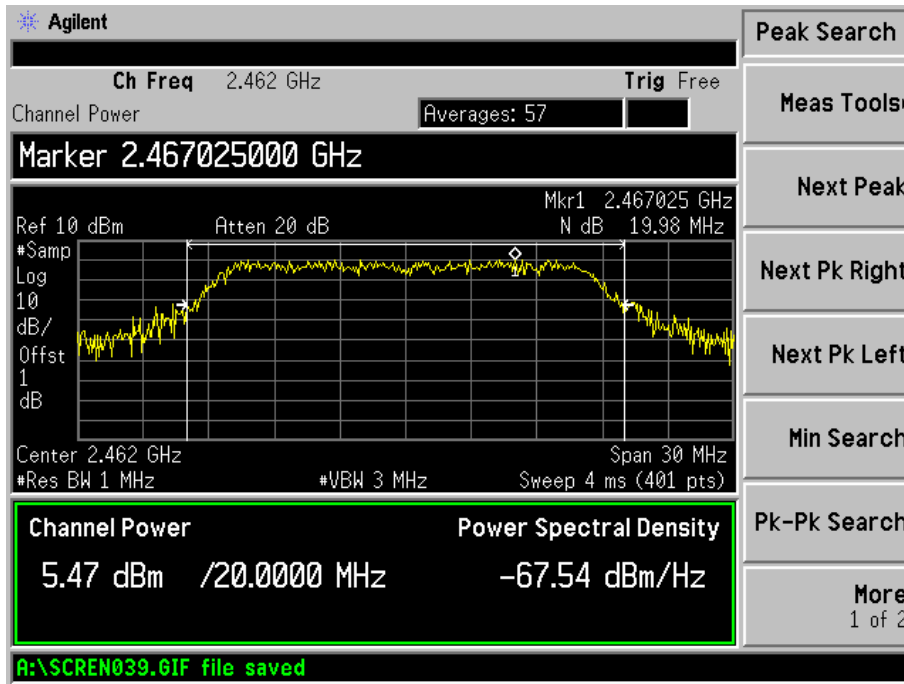
Low Channel:



Middle Channel:

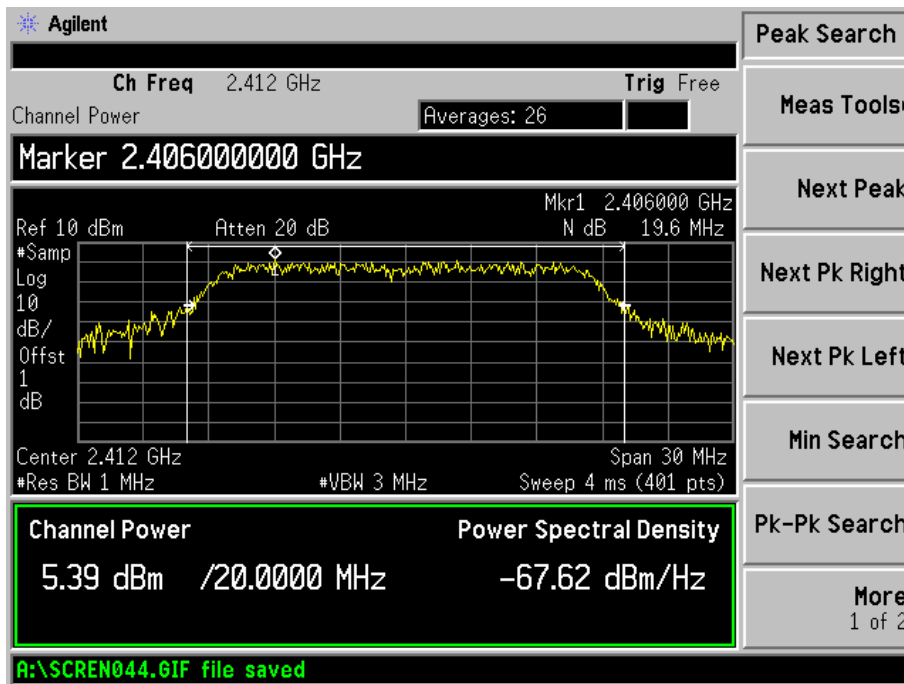


High Channel:

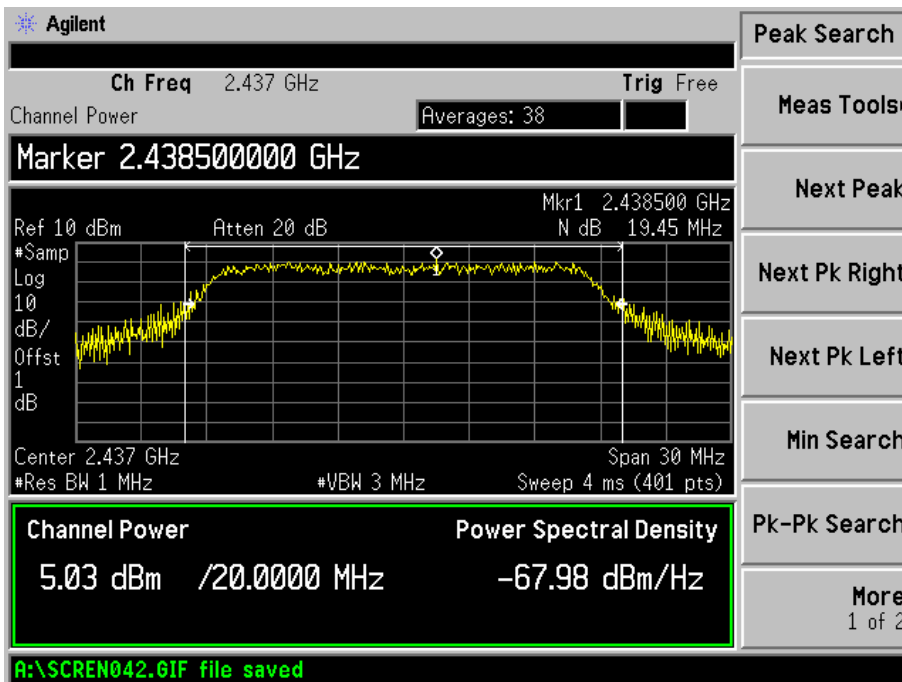


For 802.11g_chain 1_54M rate

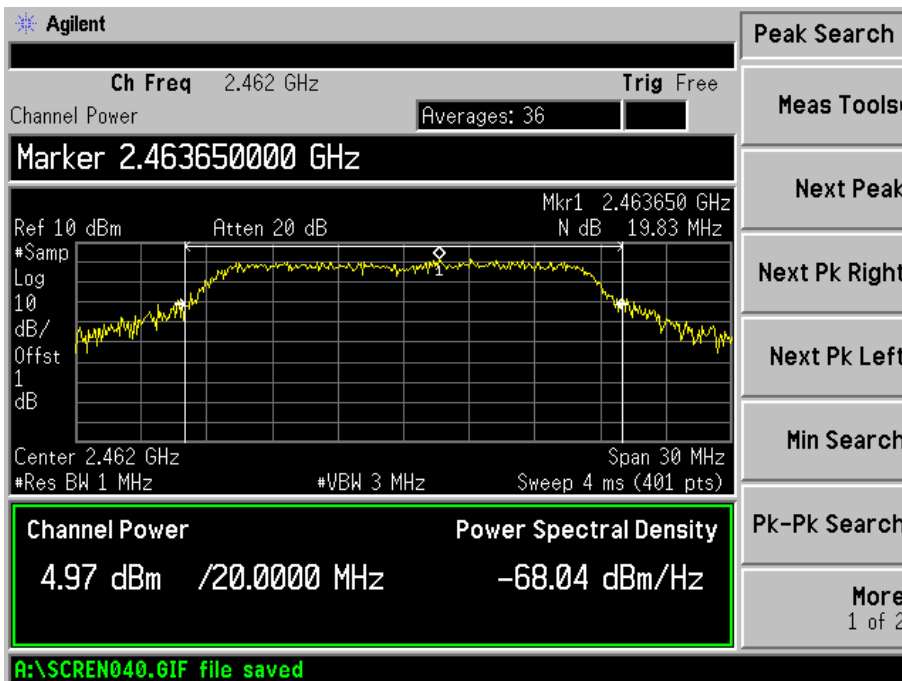
Low Channel:



Middle Channel:

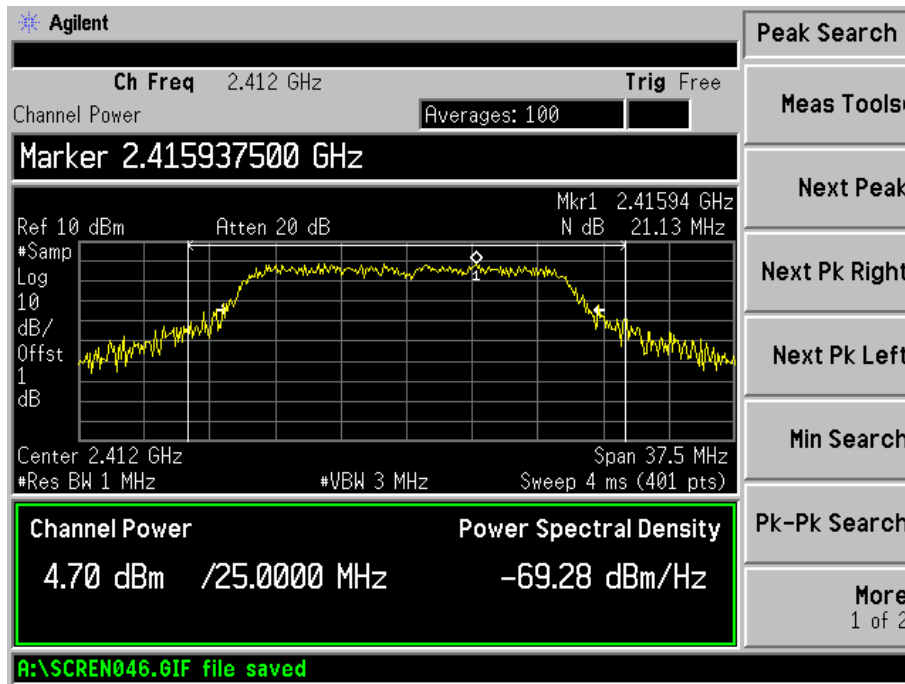


High Channel:

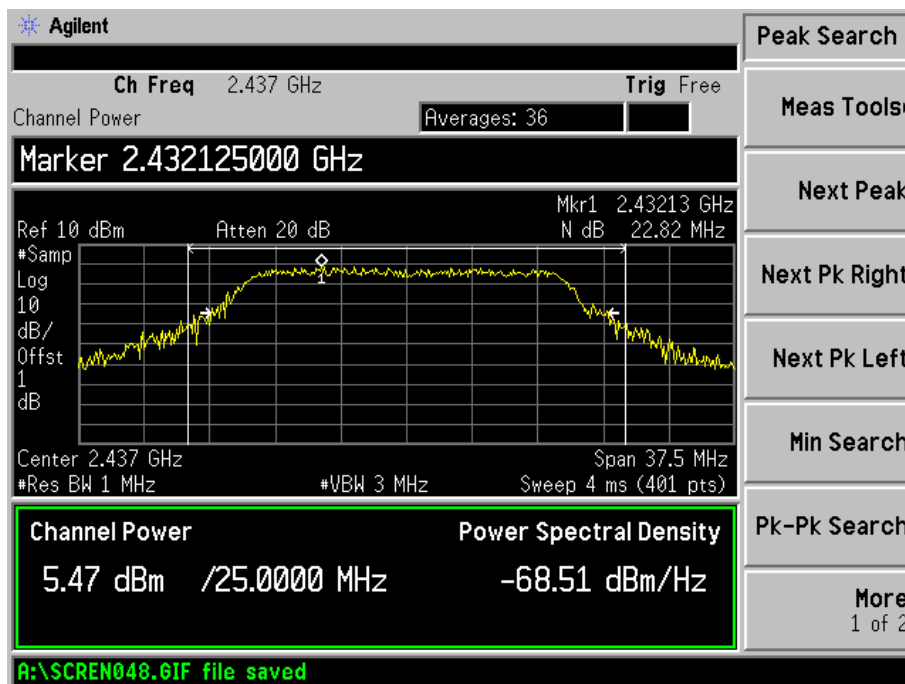


For 802.11n/HT20_chain 0_MCS0

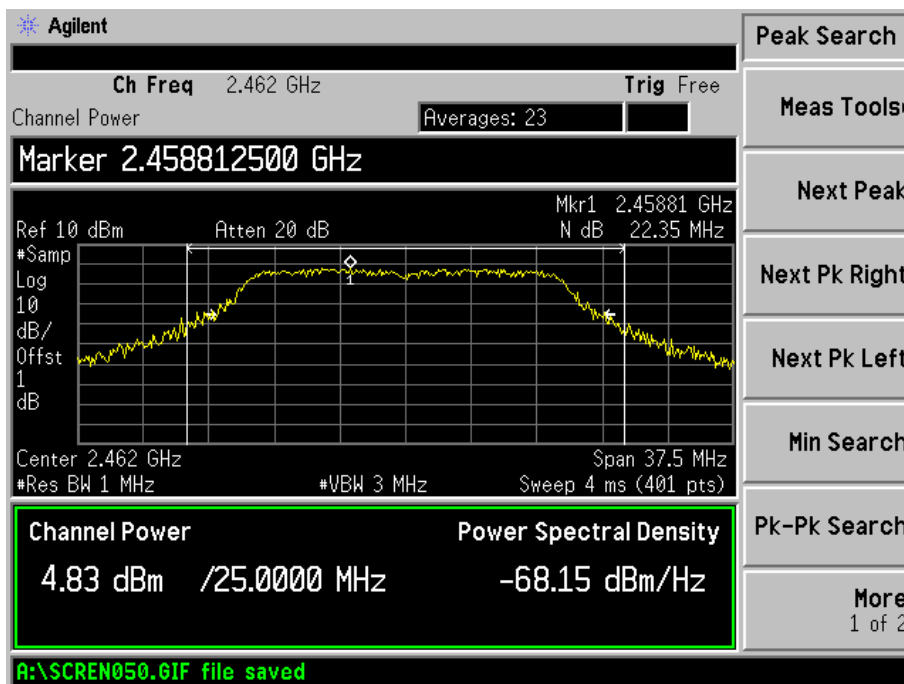
Low Channel:



Middle Channel:

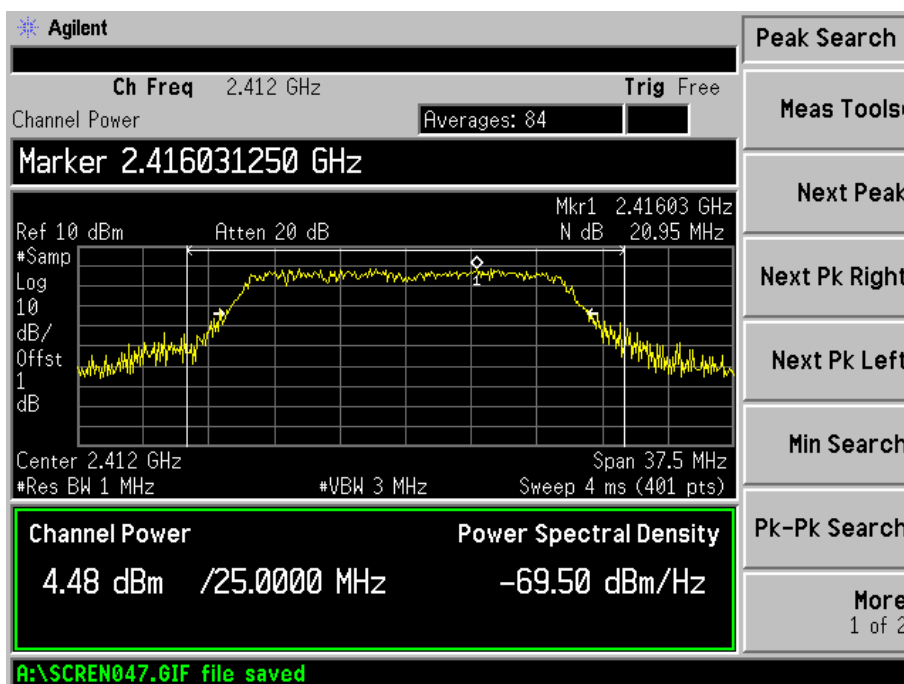


High Channel:

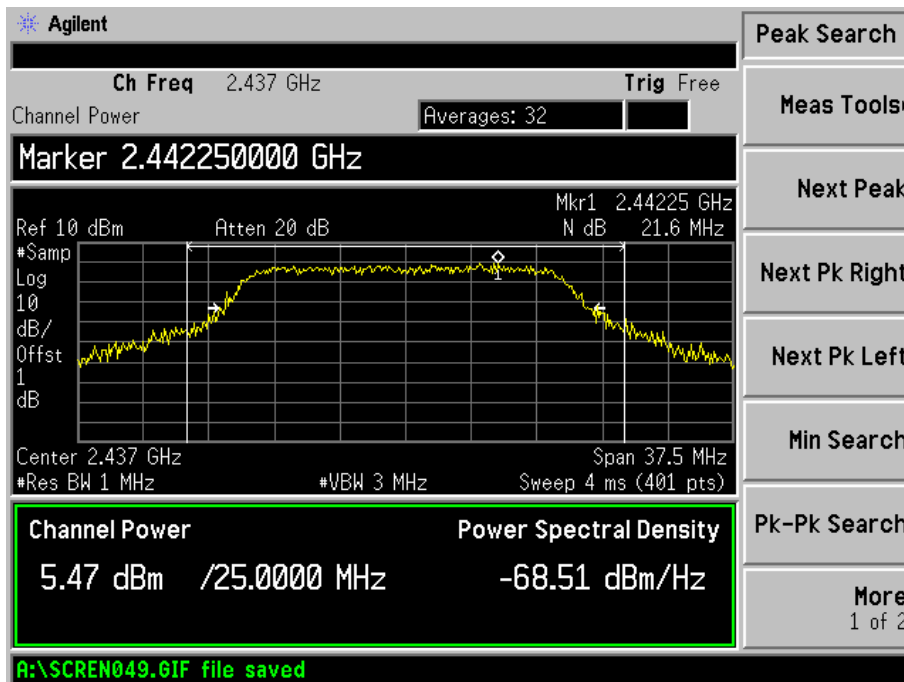


For 802.11n/HT20_chain 0_MCS15

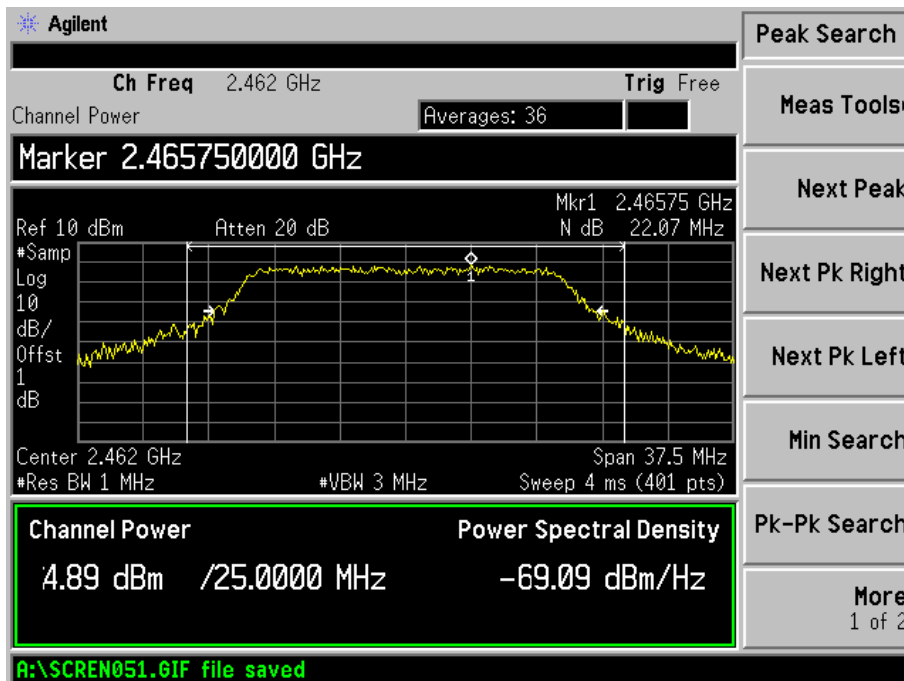
Low Channel:



Middle Channel:

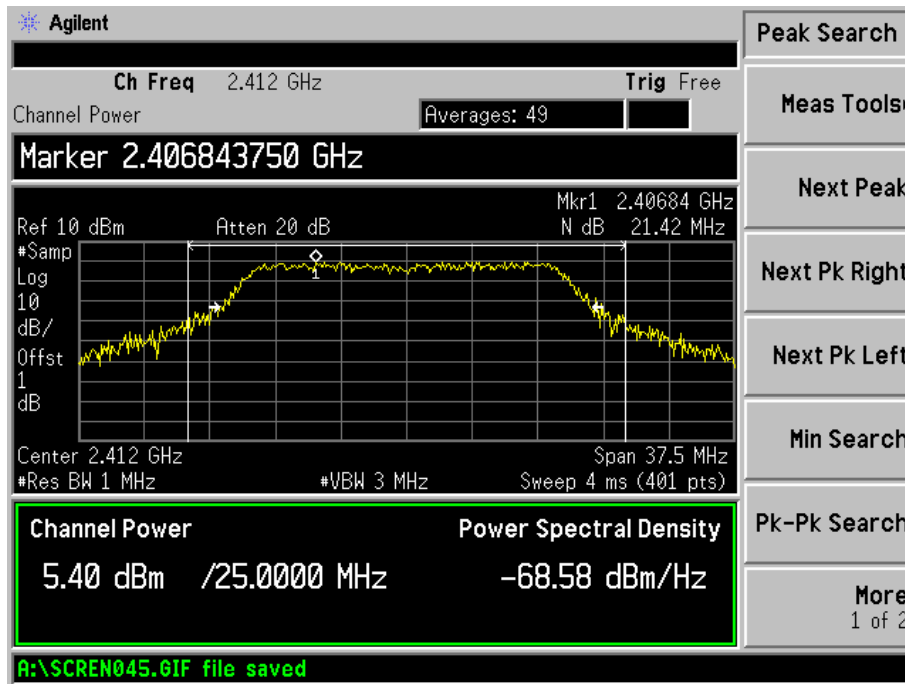


High Channel:

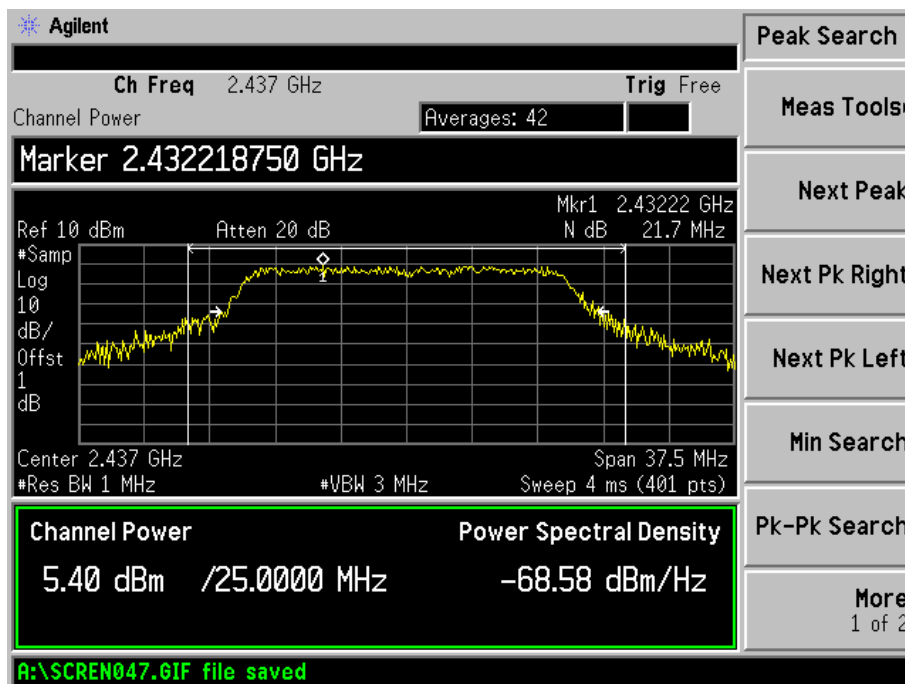


For 802.11n/HT20_chain 1_MCS0

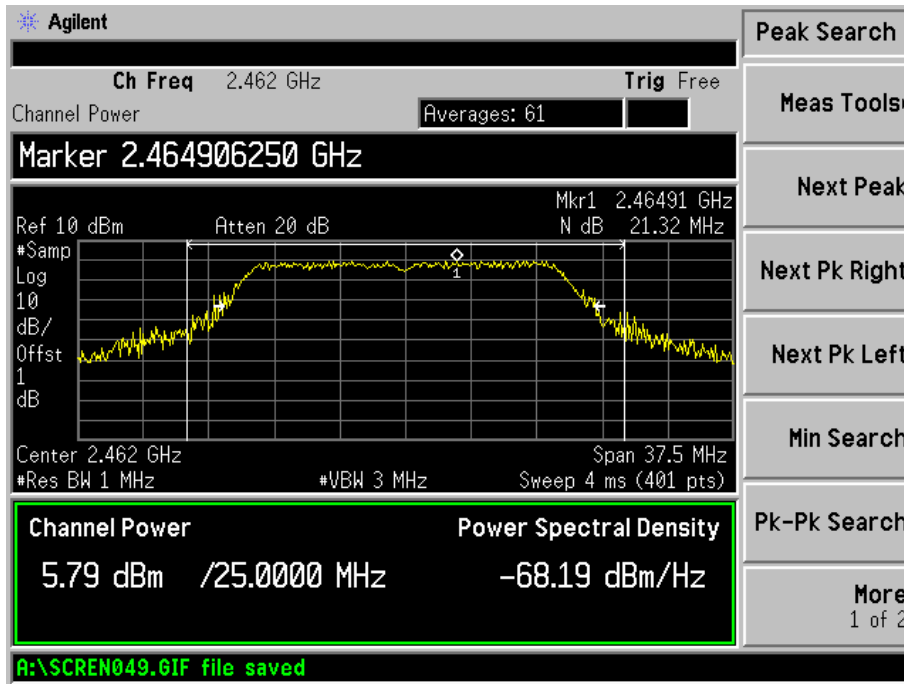
Low Channel:



Middle Channel:

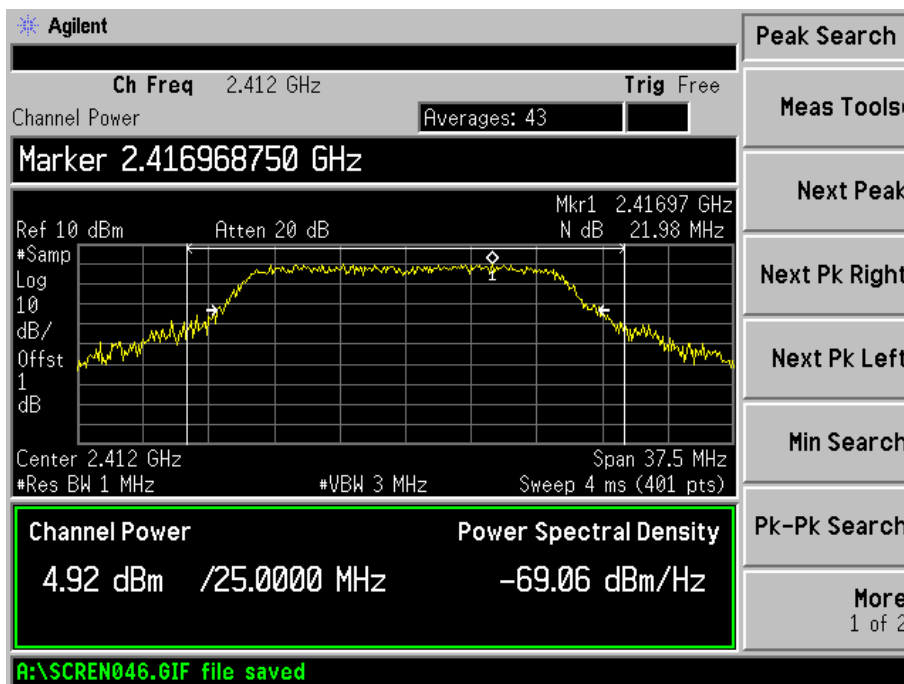


High Channel:

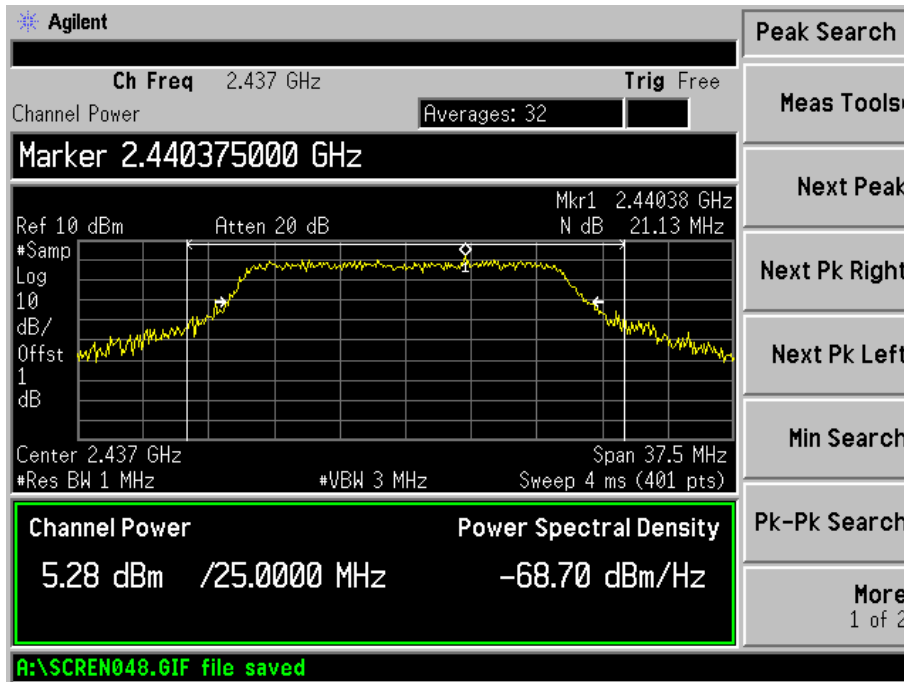


For 802.11n/HT20_chain 1_MCS15

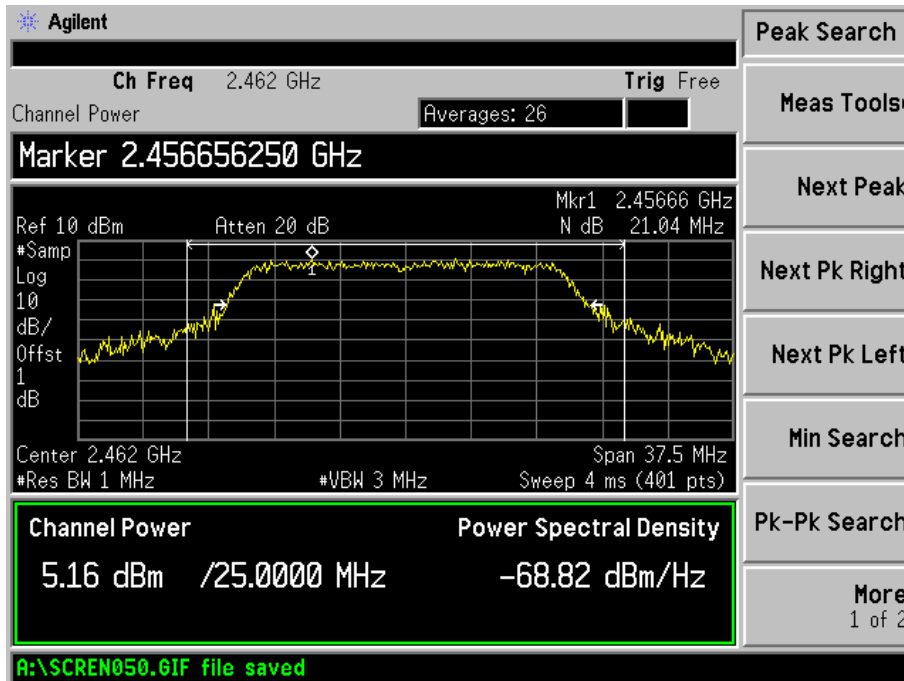
Low Channel:



Middle Channel:

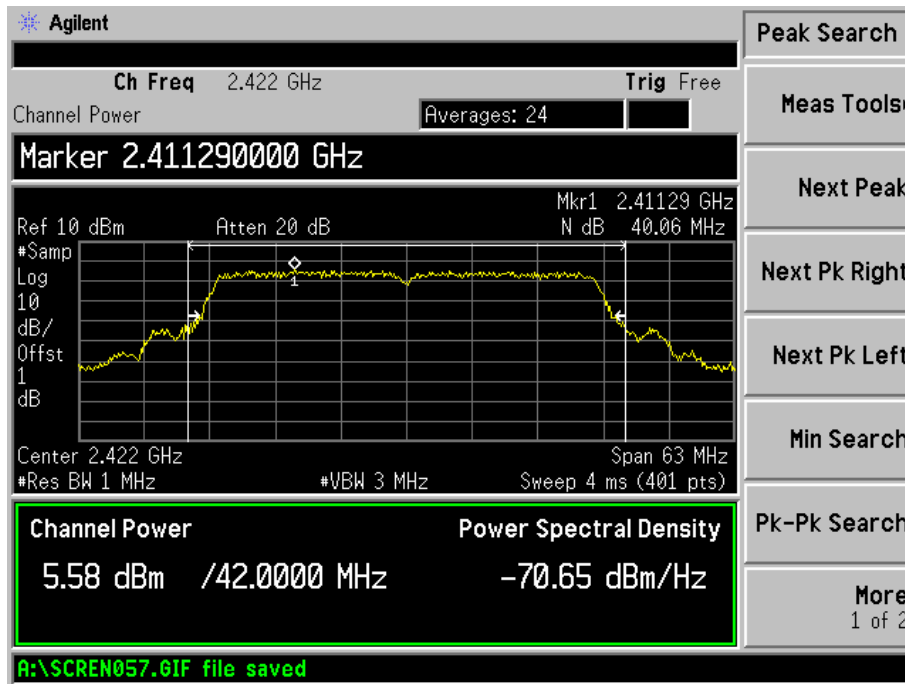


High Channel:

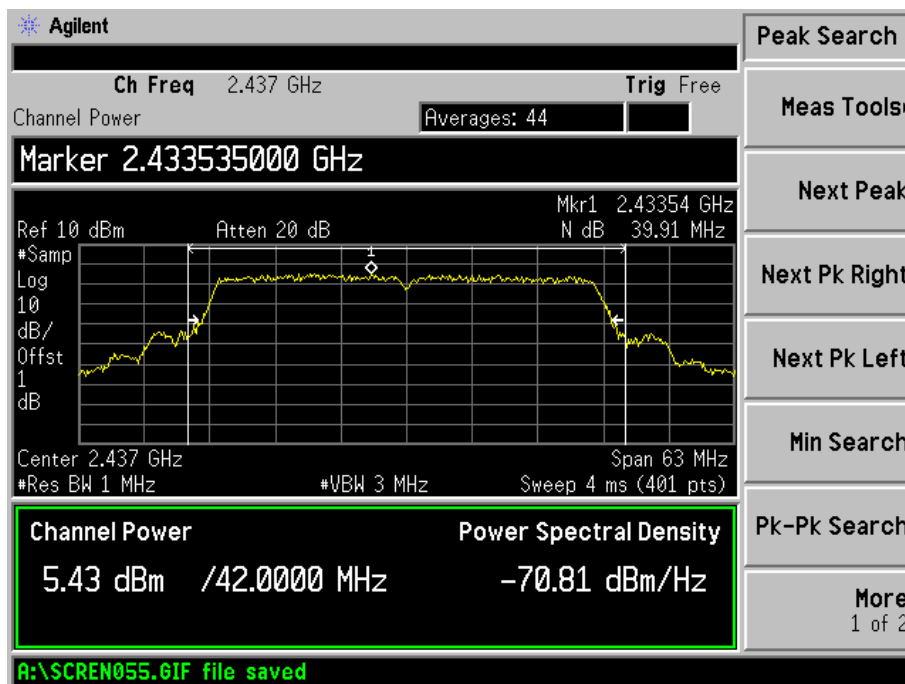


For 802.11n/HT40_chain 0_MCS0

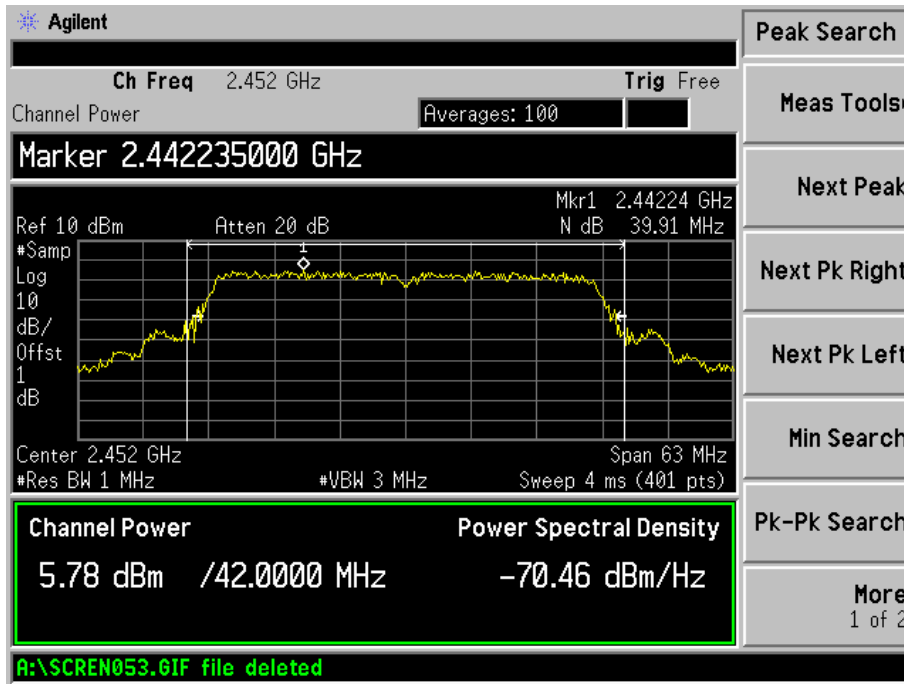
Low Channel:



Middle Channel:

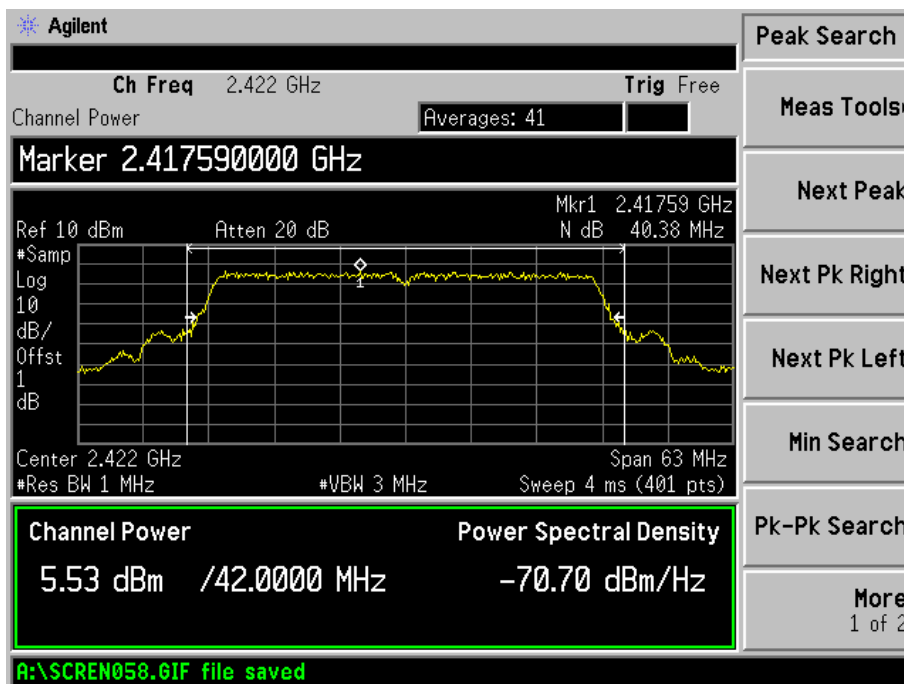


High Channel:

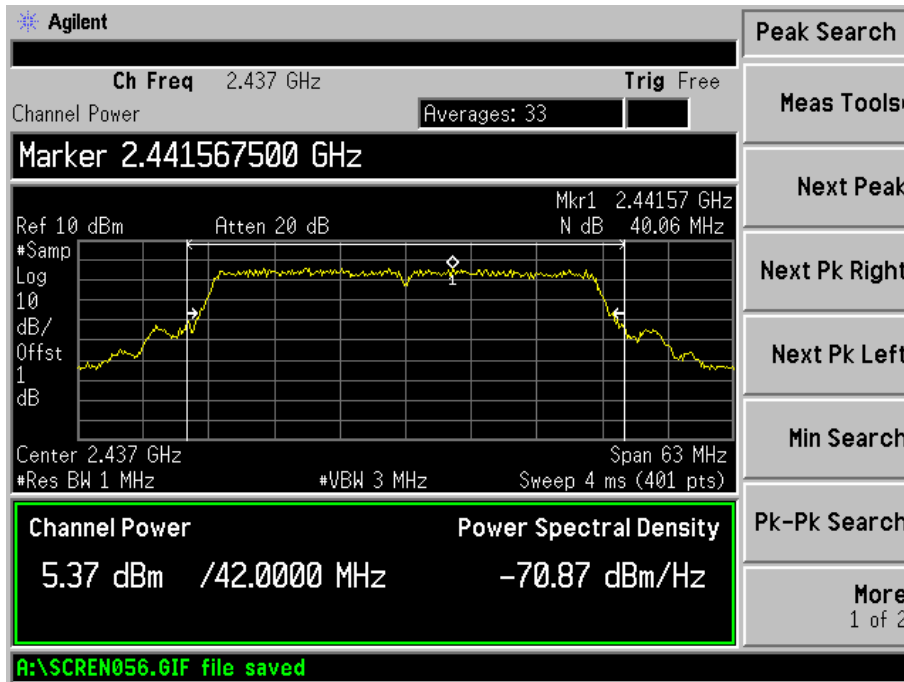


For 802.11n/HT40_chain 0_MCS15

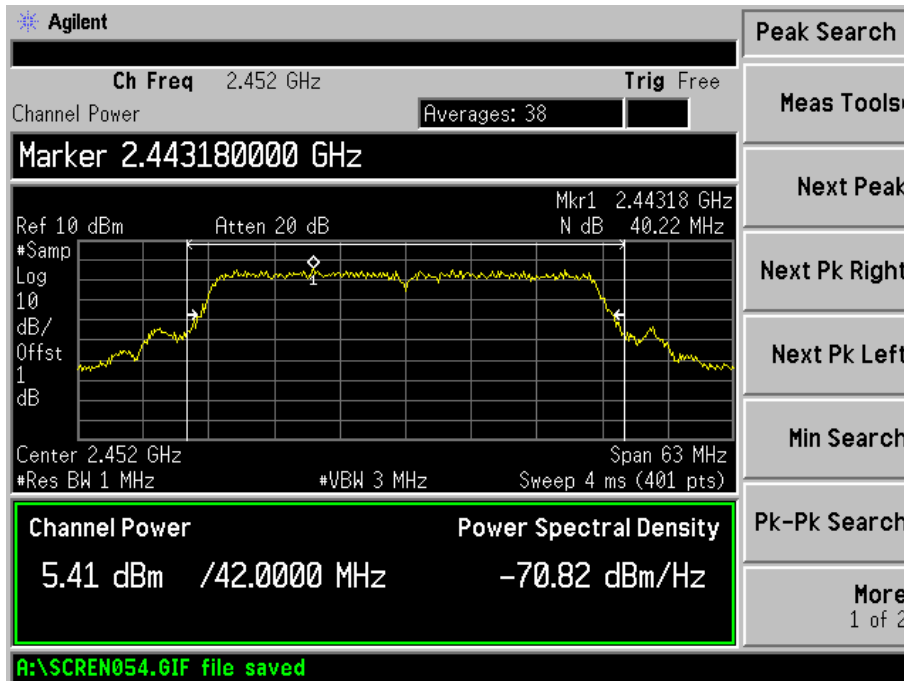
Low Channel:



Middle Channel:

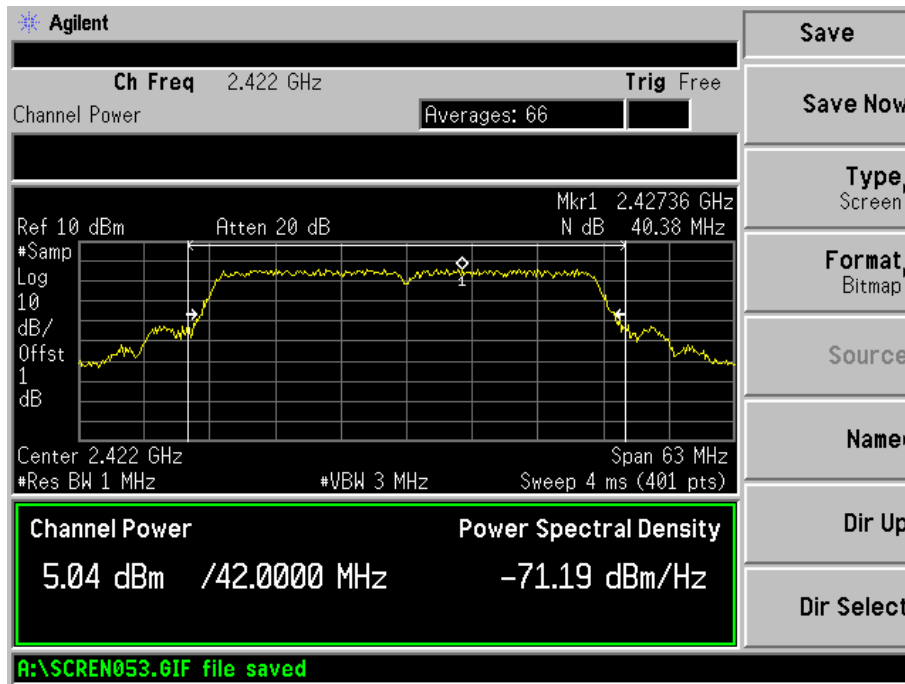


High Channel:

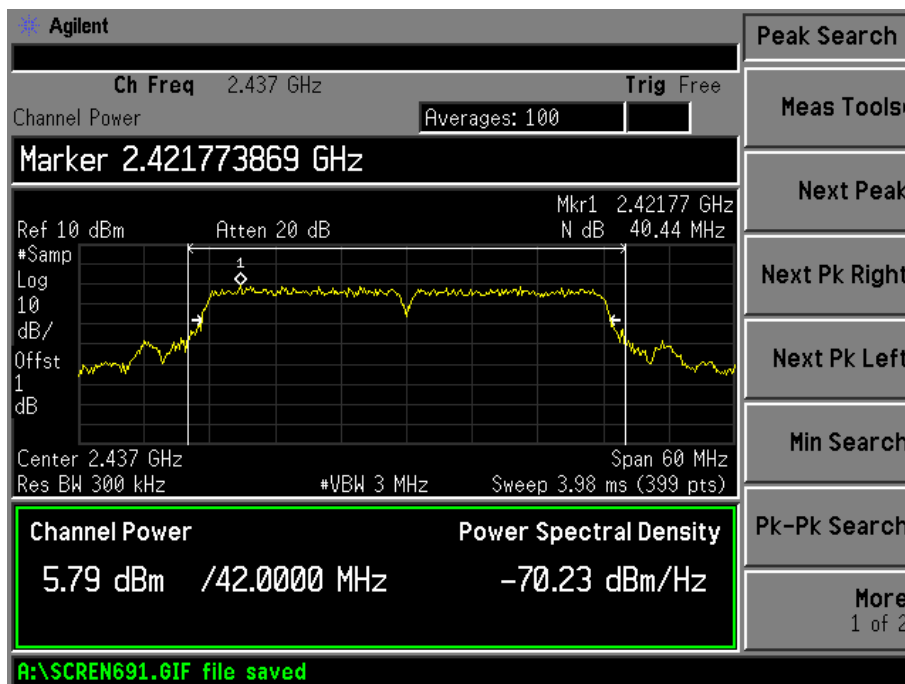


For 802.11n/HT40_chain 1_MCS0

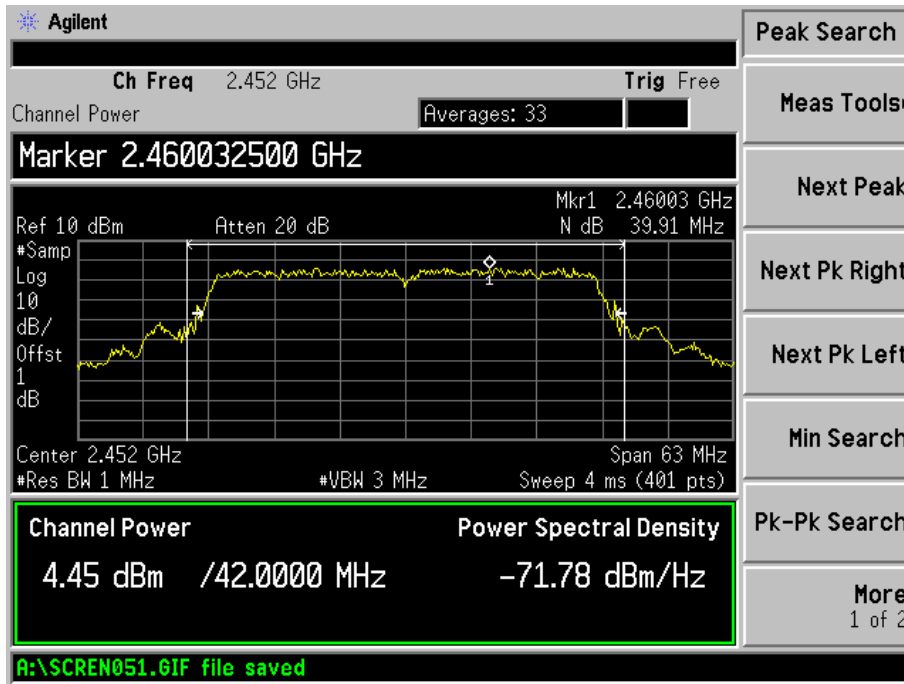
Low Channel:



Middle Channel:

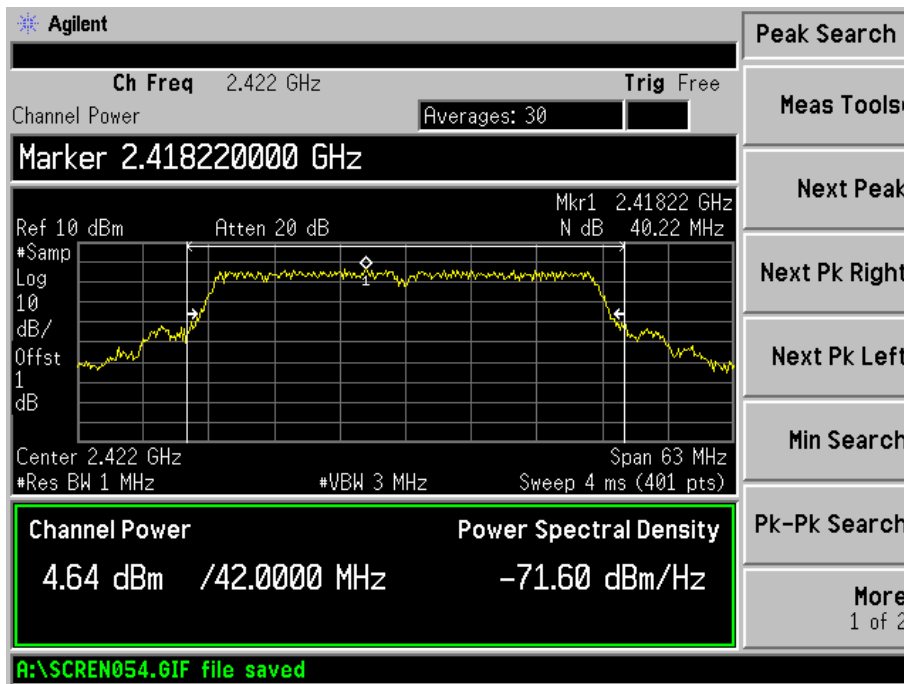


High Channel:

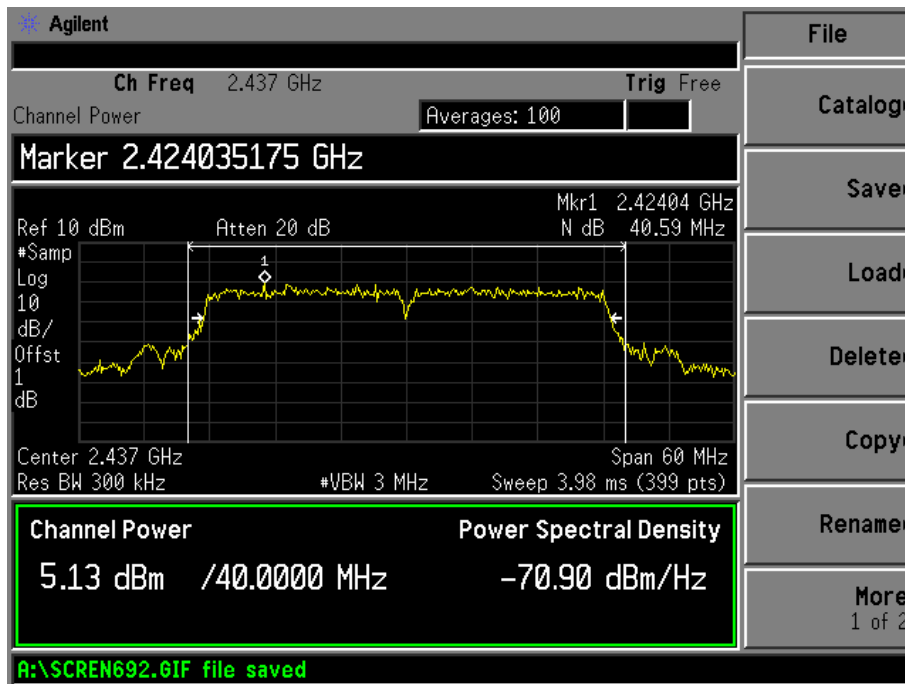


For 802.11n/HT40_chain 1_MCS15

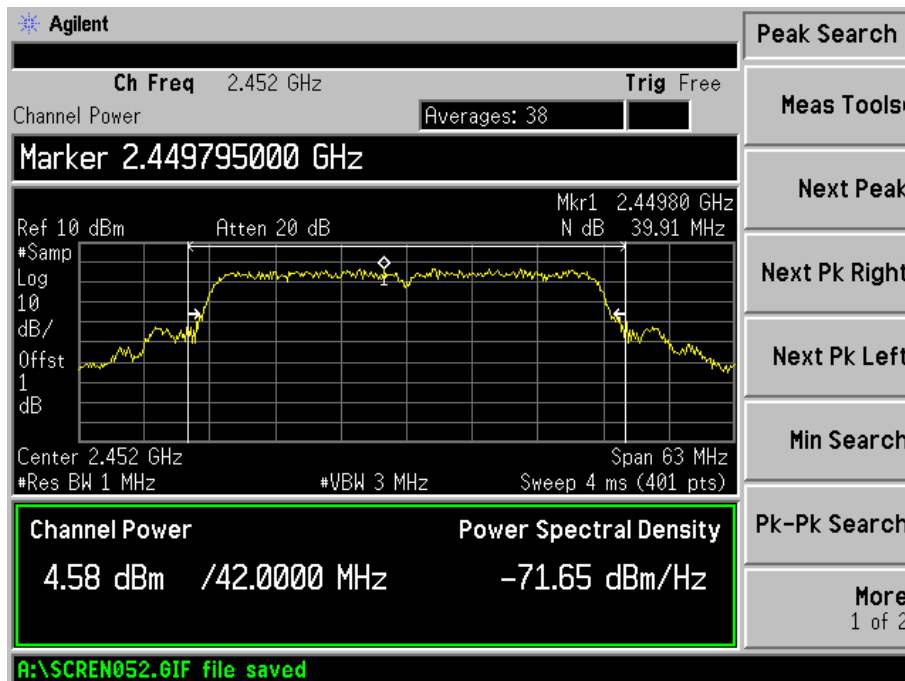
Low Channel:



Middle Channel:



High Channel:



8. FIELD STRENGTH OF SPURIOUS EMISSIONS

8.1 Measurement Uncertainty

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is ± 5.10 dB.

8.2 Standard Applicable

According to §15.247(c), 15.205 15.209(b) & 15.35 (b), the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Section 15.209:

30 - 88 MHz 40 dBuV/m @3M

88 -216 MHz 43.5 dBuV/m @3M

216 -960 MHz 46 dBuV/m @3M

Above 960 MHz 54dBuV/m @3M

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

Emissions that fall in the restricted bands (15.205) must be less than 54dBuV/m otherwise the spurious and harmonics must be attenuated by at least 20dB.

8.3 Test Equipment List and Details

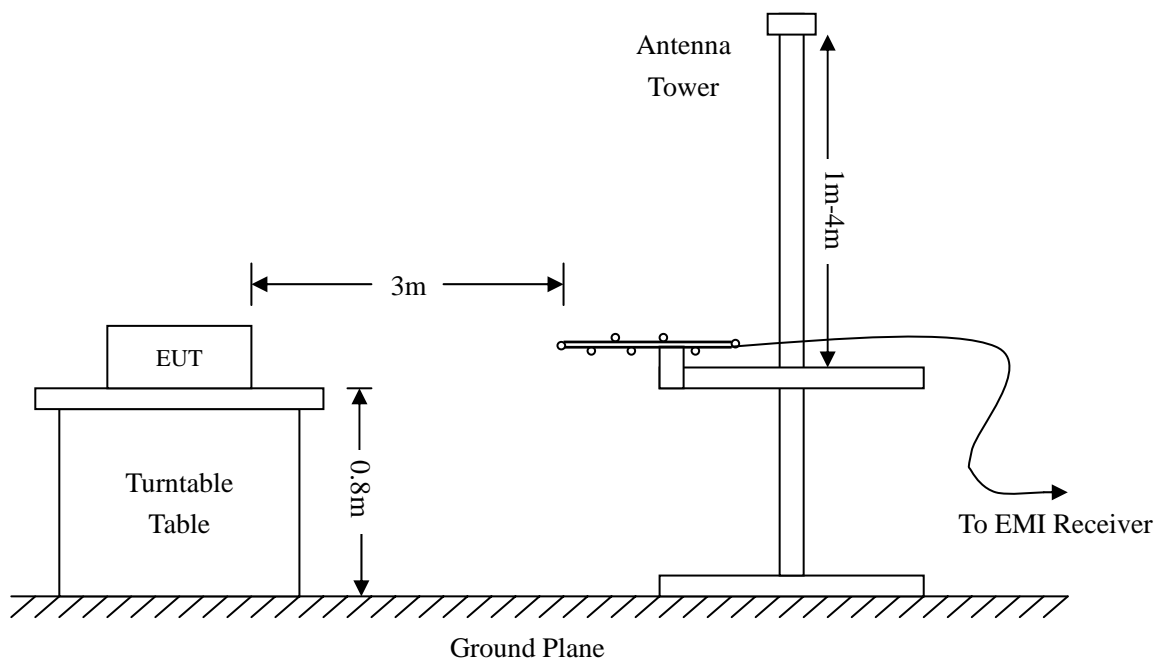
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2010-12-20	2011-12-19
EMI Test Receiver	R&S	ESVB	825471/005	2010-12-20	2011-12-19
Positioning Controller	C&C	CC-C-1F	N/A	2010-12-20	2011-12-19
RF Switch	EM	EMSW18	SW060023	2010-12-20	2011-12-19
Pre-amplifier	Agilent	8447F	3113A06717	2010-12-20	2011-12-19
Pre-amplifier	Compliance Direction	PAP-0118	24002	2010-12-20	2011-12-19
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2011-01-09	2012-01-08
Horn Antenna	ETS	3117	00086197	2011-01-09	2012-01-08

8.4 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



8.5 Corrected Amplitude & Margin Calculation

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

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Ant. Factor} + \text{Cable Loss} - \text{Ampl. Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15 Limit}$$

8.6 Environmental Conditions

Temperature:	22° C
Relative Humidity:	42%
ATM Pressure:	1012 mbar

8.7 Summary of Test Results/Plots

According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst margin of:

-0.9 dBμV at 4824.0MHz in the Vertical polarization, Transmitting 802.11b Low Channel test mode with, 30 MHz to 25 GHz, 3Meters

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

Test Result/Plots:

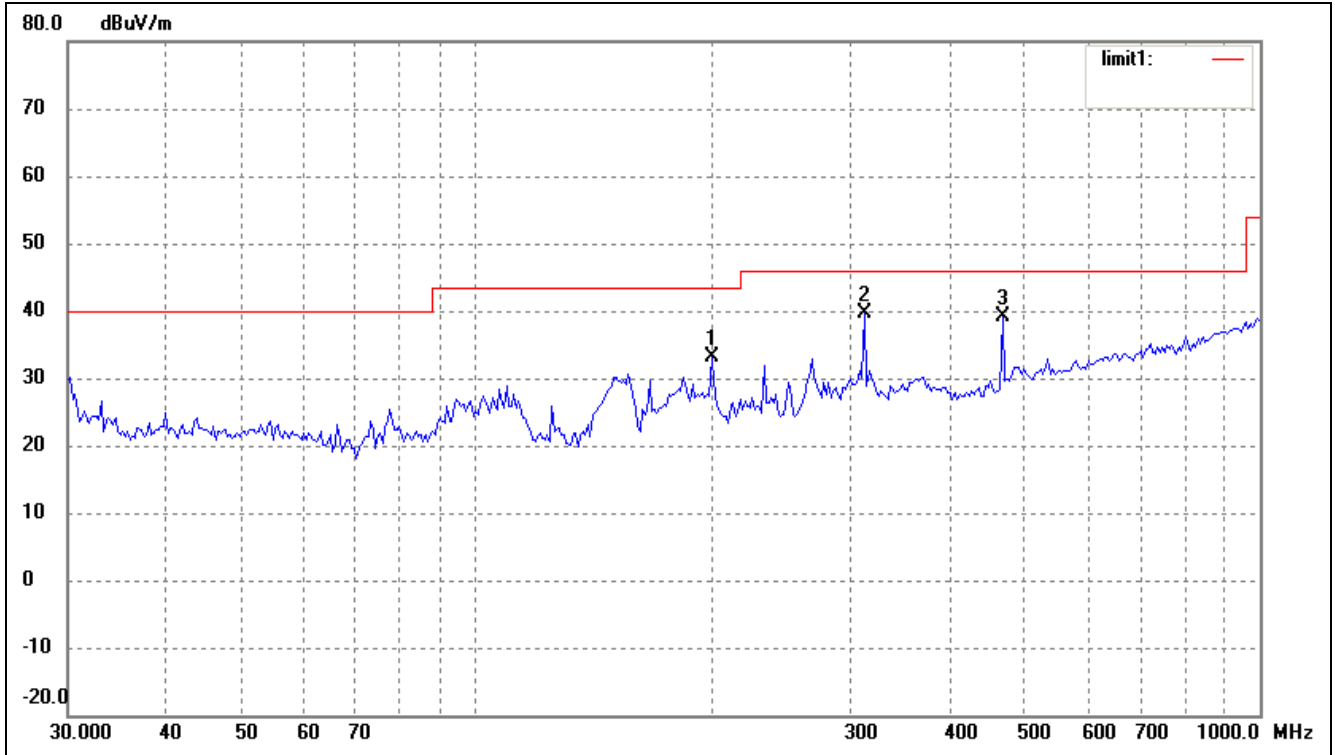
For 5dBi Antenna

Spurious Emission From 30 MHz to 1 GHz

Test mode: Transmitting (802.11b) Middle Channel

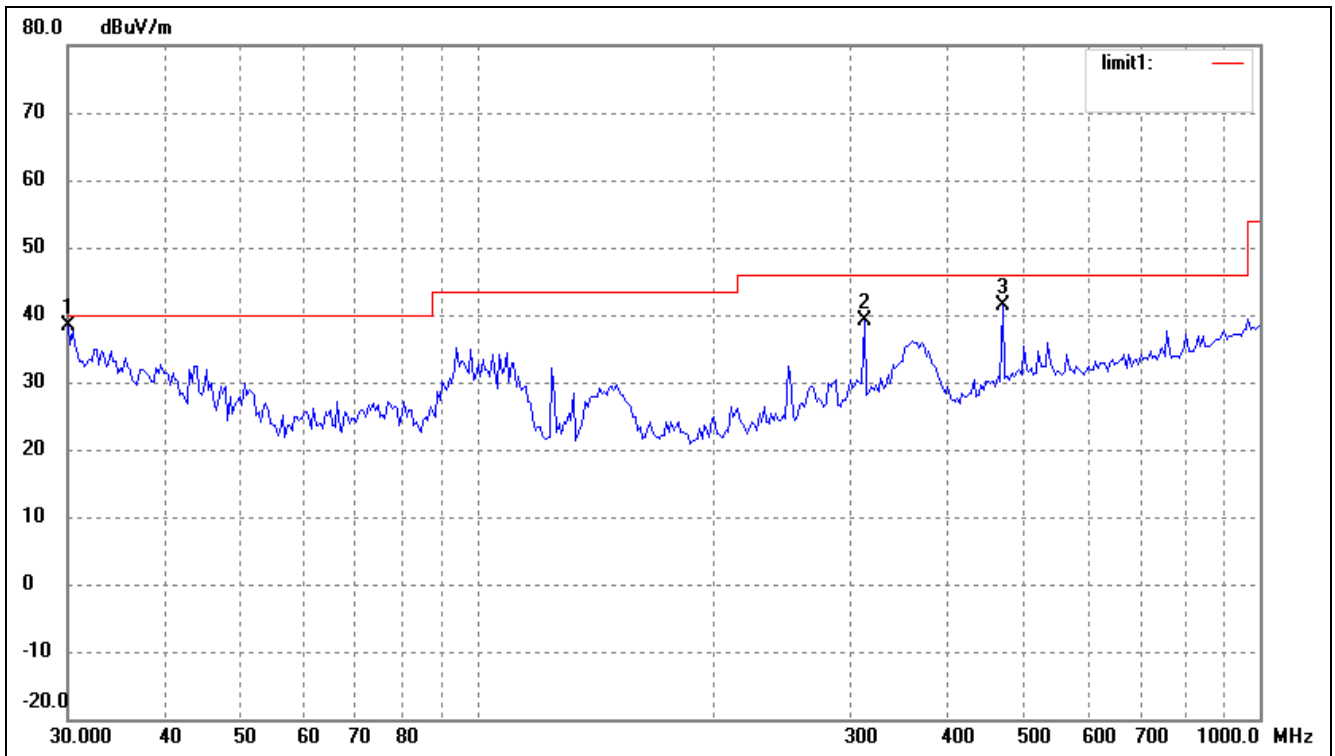
Comment:

Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	199.2855	26.49	6.58	33.07	43.50	-10.43	147	100	peak
2	312.1794	29.61	9.90	39.51	46.00	-6.49	55	100	peak
3	468.8762	26.95	12.06	39.01	46.00	-6.99	66	100	peak

Vertical



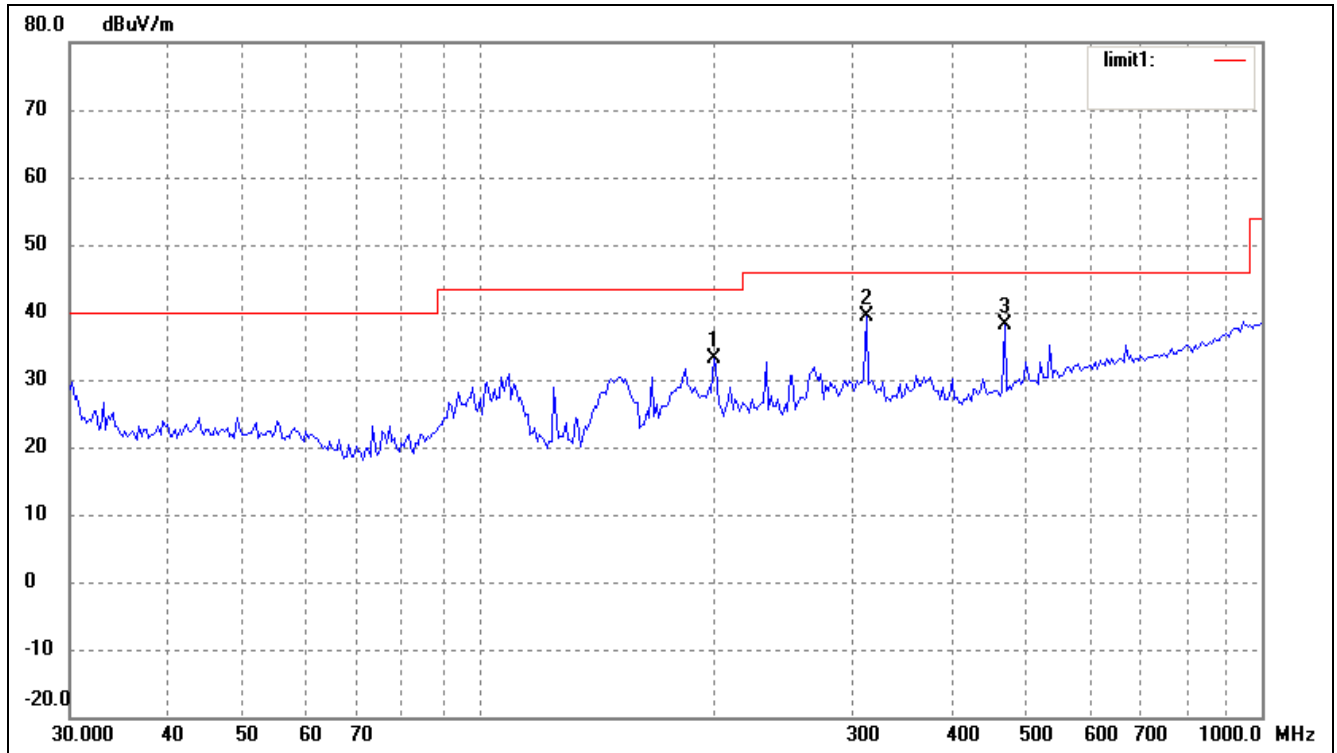
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.0000	31.67	6.77	38.44	40.00	-1.56	125	100	peak
2	312.1794	29.17	9.90	39.07	46.00	-6.93	47	100	peak
3	468.8762	29.40	12.06	41.46	46.00	-4.54	36	100	peak

Spurious Emission From 30 MHz to 1 GHz

Test mode: Transmitting (802.11g) Middle Channel

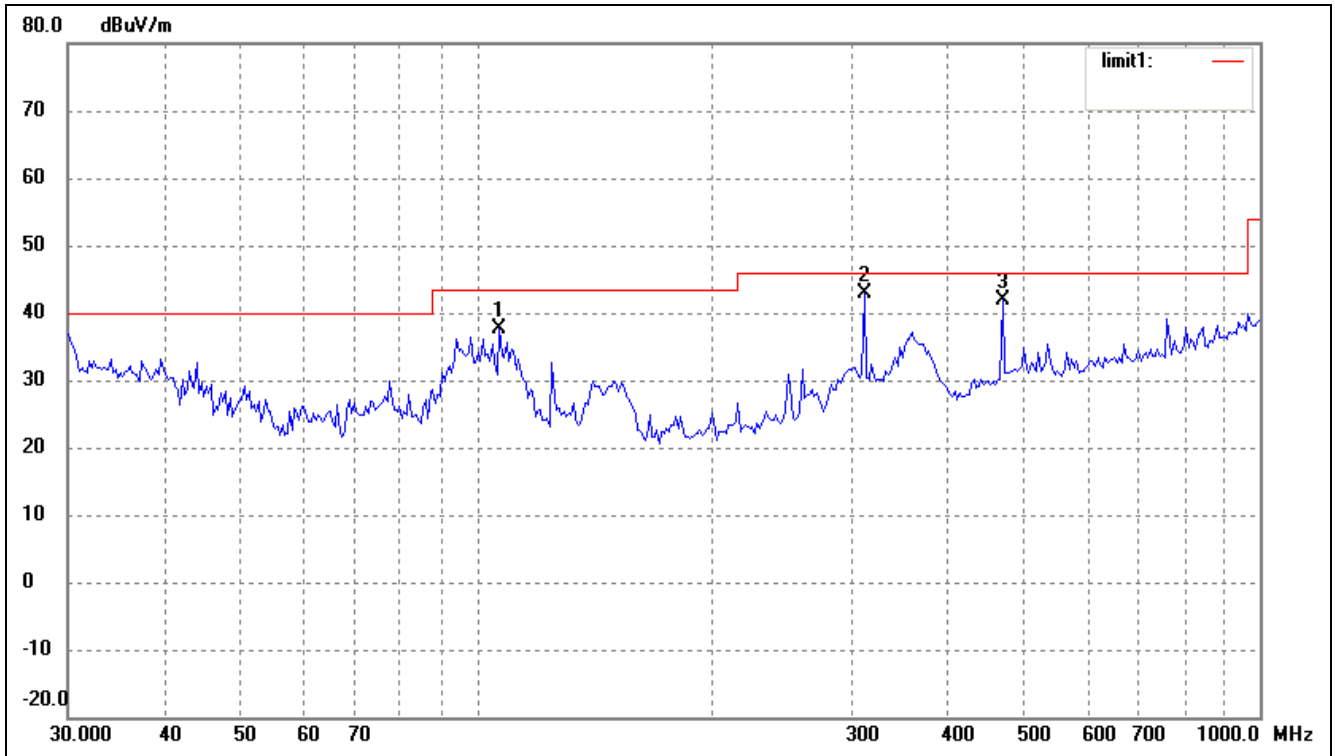
Comment:

Horizontal



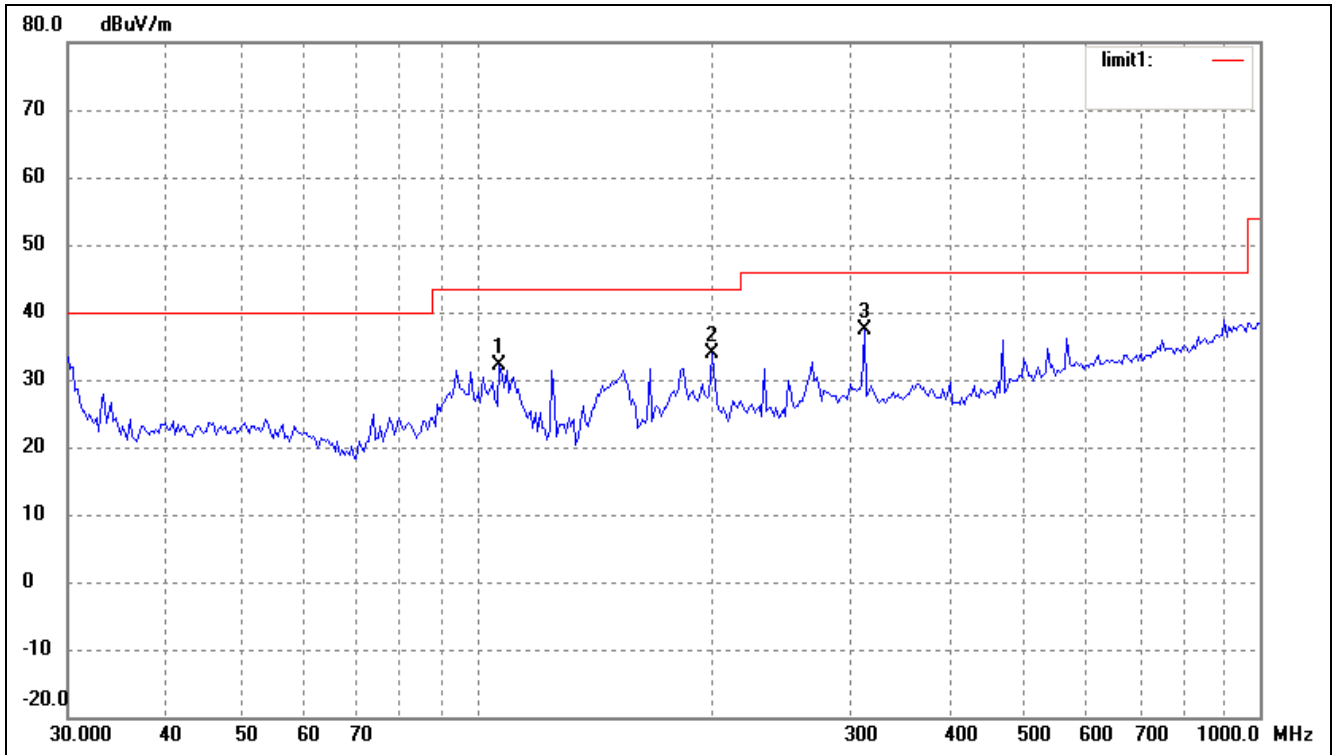
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	199.2855	26.67	6.58	33.25	43.50	-10.25	22	100	peak
2	312.1794	29.59	9.90	39.49	46.00	-6.51	21	100	peak
3	468.8762	25.96	12.06	38.02	46.00	-7.98	300	100	peak

Vertical



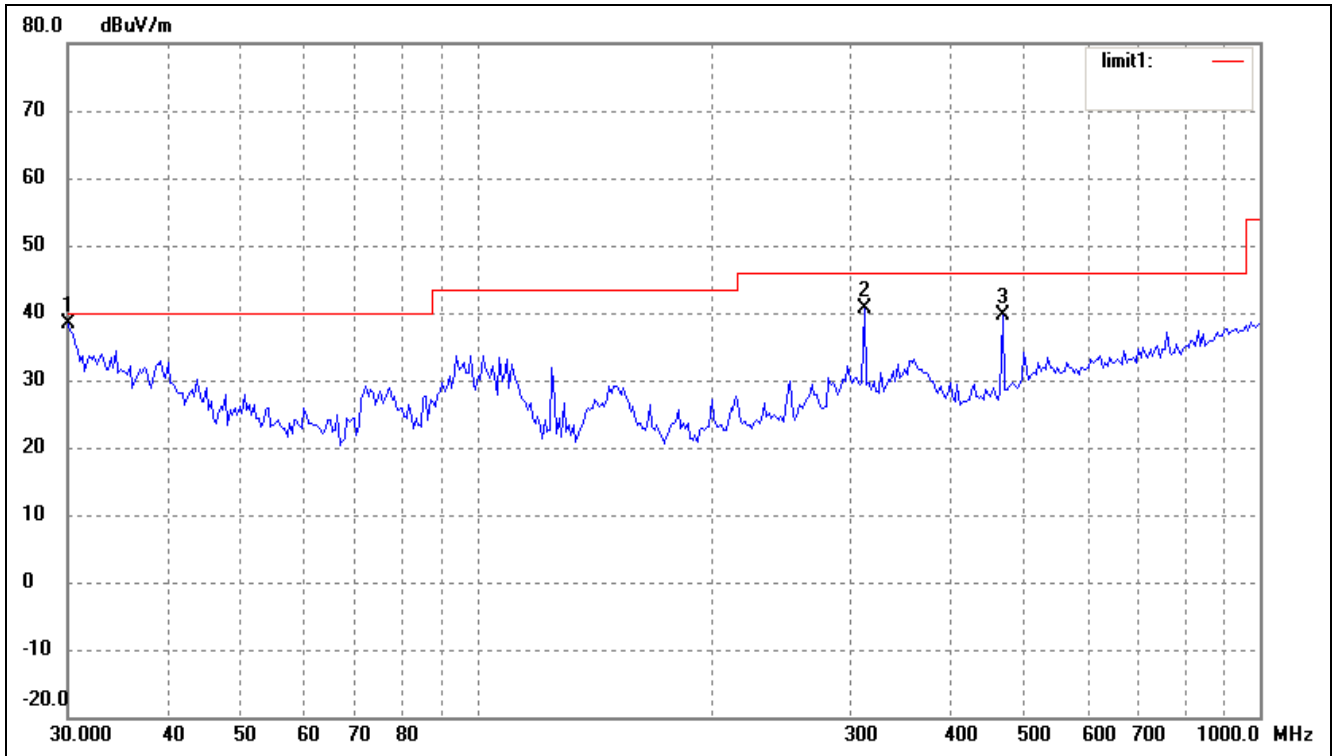
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	106.7587	29.80	7.86	37.66	43.50	-5.84	30	100	peak
2	312.1794	33.01	9.90	42.91	46.00	-3.09	146	100	peak
3	468.8762	29.73	12.06	41.79	46.00	-4.21	258	100	peak

Spurious Emission From 30 MHz to 1 GHz
 Test mode: Transmitting (802.11n/HT20) Middle Channel
 Comment:
 Horizontal



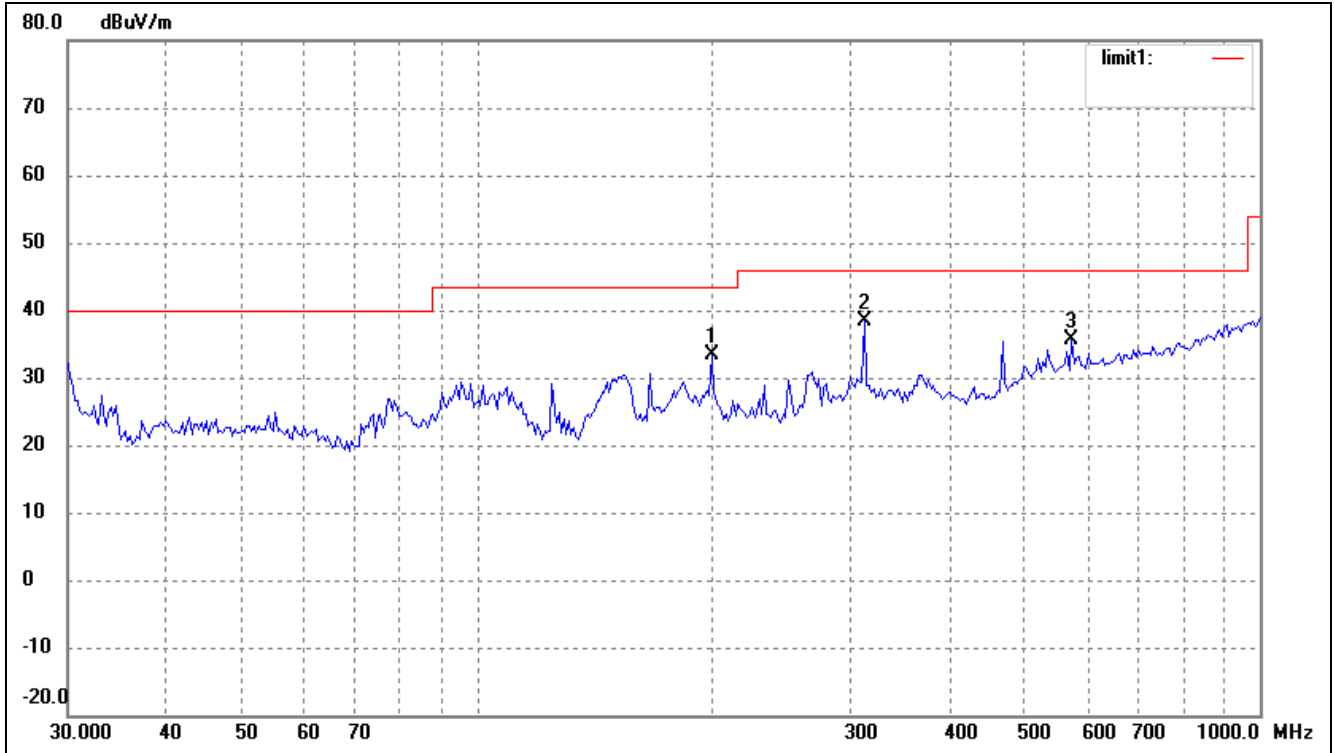
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	106.7587	24.20	7.86	32.06	43.50	-11.44	306	100	peak
2	199.2855	27.21	6.58	33.79	43.50	-9.71	44	100	peak
3	312.1794	27.37	9.90	37.27	46.00	-8.73	67	100	peak

Vertical



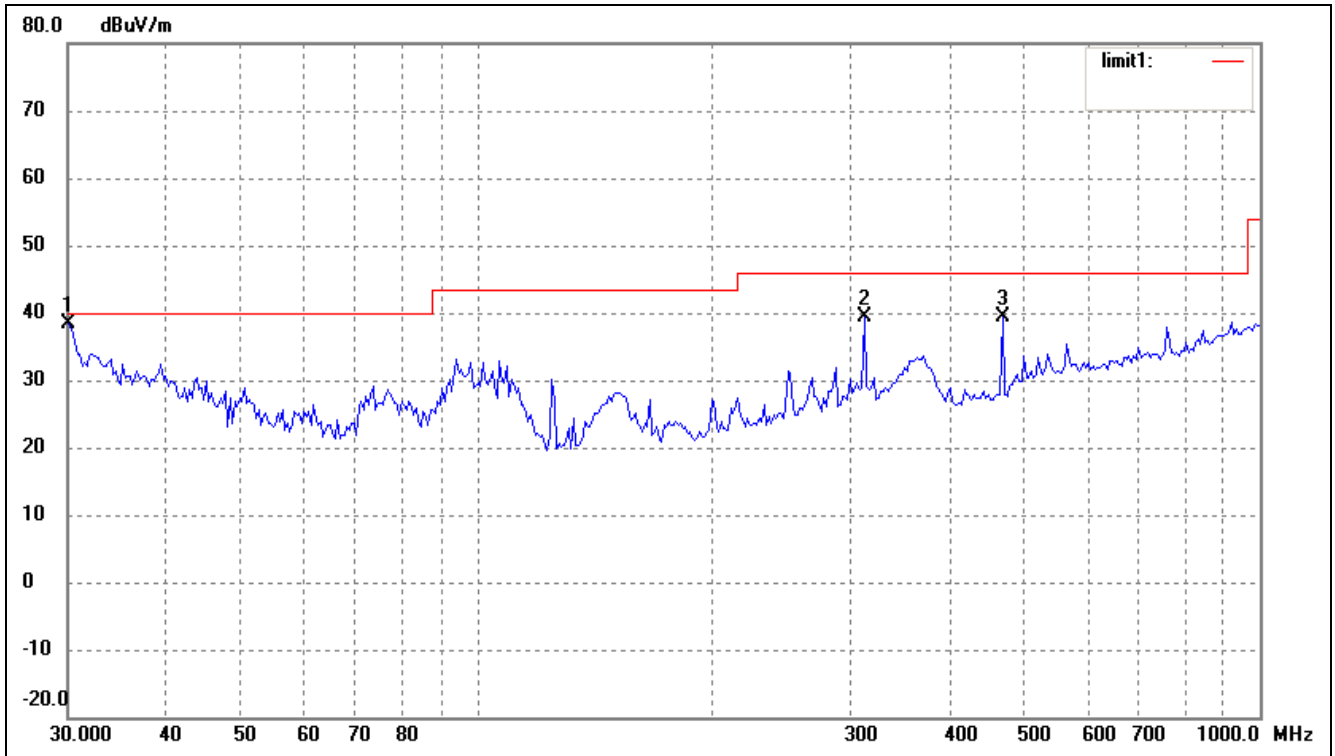
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.0000	31.62	6.77	38.39	40.00	-1.61	205	100	peak
2	312.1794	30.80	9.90	40.70	46.00	-5.30	67	100	peak
3	468.8762	27.59	12.06	39.65	46.00	-6.35	47	100	peak

Spurious Emission From 30 MHz to 1 GHz
 Test mode: Transmitting (802.11n/HT40) Middle Channel
 Comment:
 Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	199.2855	26.72	6.58	33.30	43.50	-10.20	360	100	peak
2	312.1794	28.60	9.90	38.50	46.00	-7.50	47	100	peak
3	574.6258	19.46	16.10	35.56	46.00	-10.44	61	100	peak

Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.0000	31.58	6.77	38.35	40.00	-1.65	227	100	peak
2	312.1794	29.53	9.90	39.43	46.00	-6.57	71	100	peak
3	468.8762	27.25	12.06	39.31	46.00	-6.69	24	100	peak

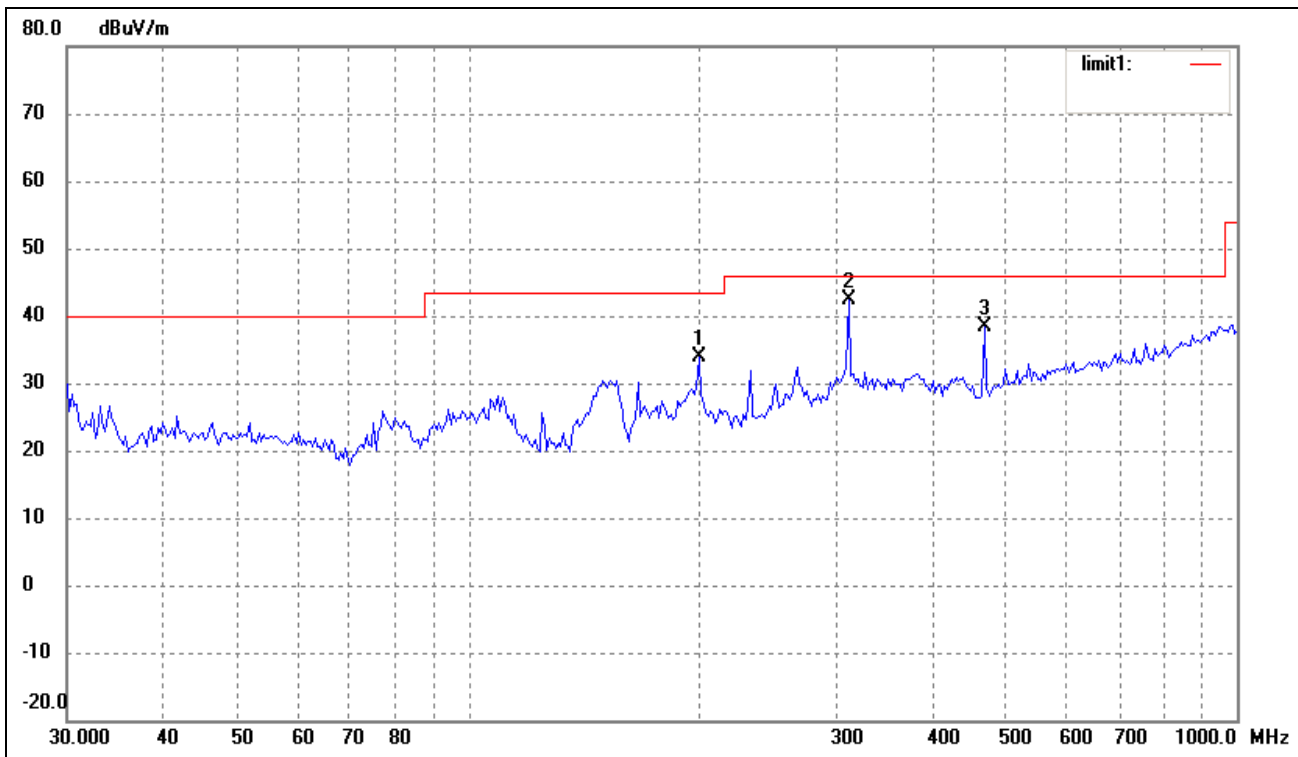
For 2dBi Antenna

Spurious Emission From 30 MHz to 1 GHz

Test mode: Transmitting (802.11b) Middle Channel

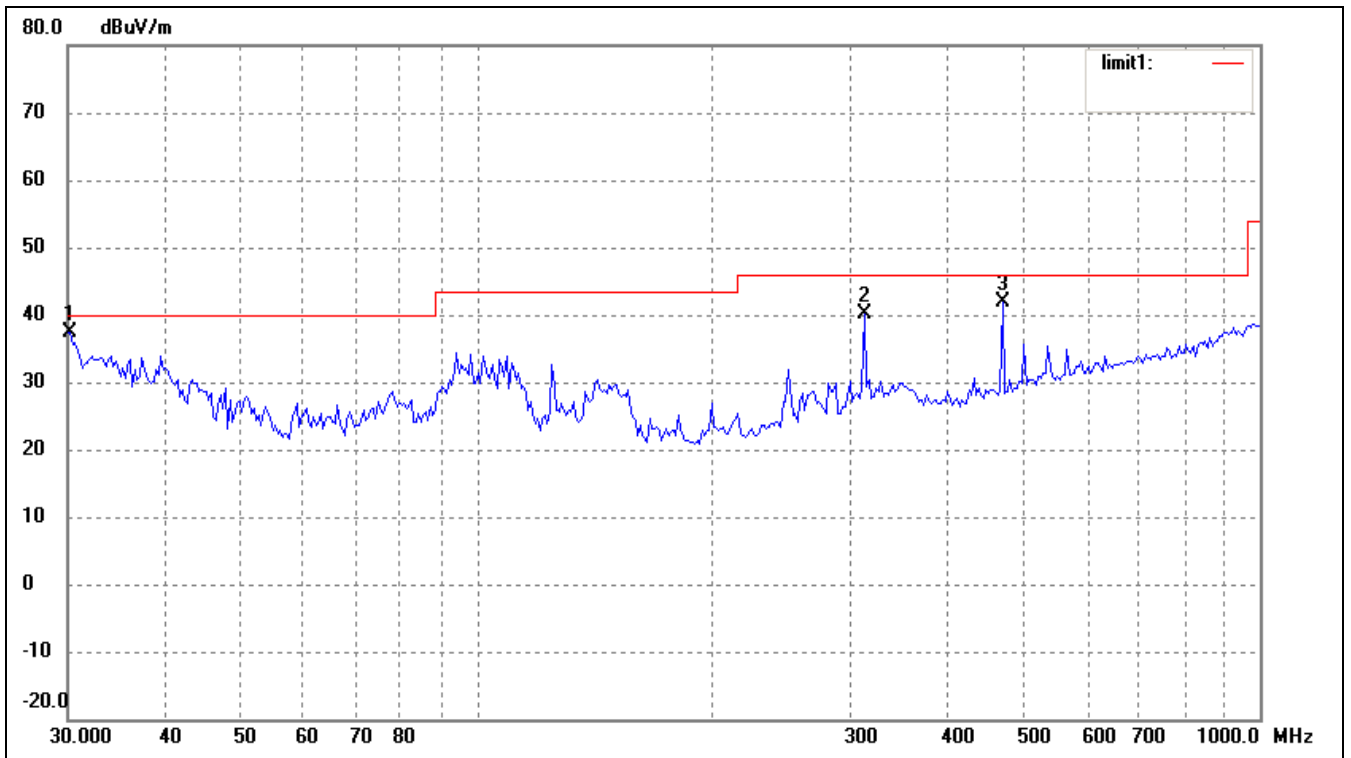
Comment:

Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	199.2855	27.29	6.58	33.87	43.50	-9.63	22	100	peak
2	312.1794	32.58	9.90	42.48	46.00	-3.52	42	100	peak
3	468.8762	26.20	12.06	38.26	46.00	-7.74	57	100	peak

Vertical



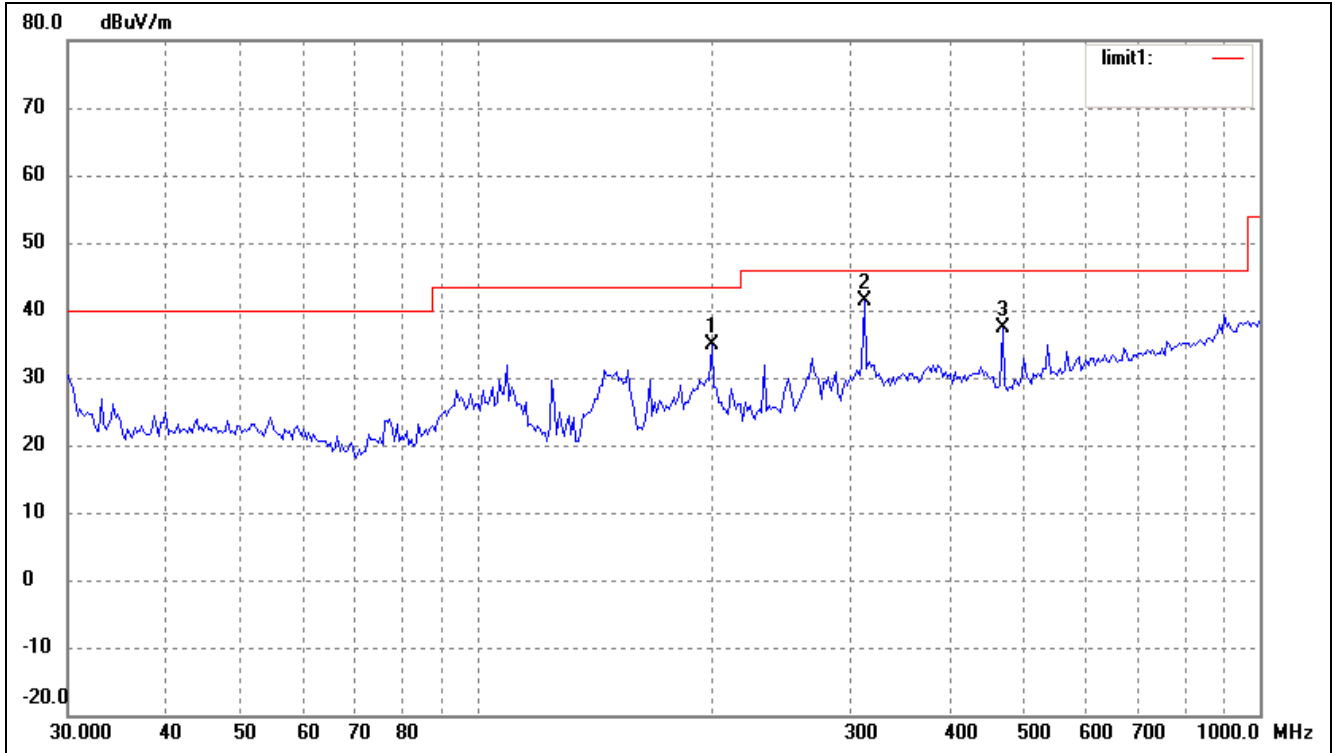
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.2111	30.58	6.77	37.35	40.00	-2.65	37	100	peak
2	312.1794	30.34	9.90	40.24	46.00	-5.76	54	100	peak
3	468.8762	29.71	12.06	41.77	46.00	-4.23	47	100	peak

Spurious Emission From 30 MHz to 1 GHz

Test mode: Transmitting (802.11g) Middle Channel

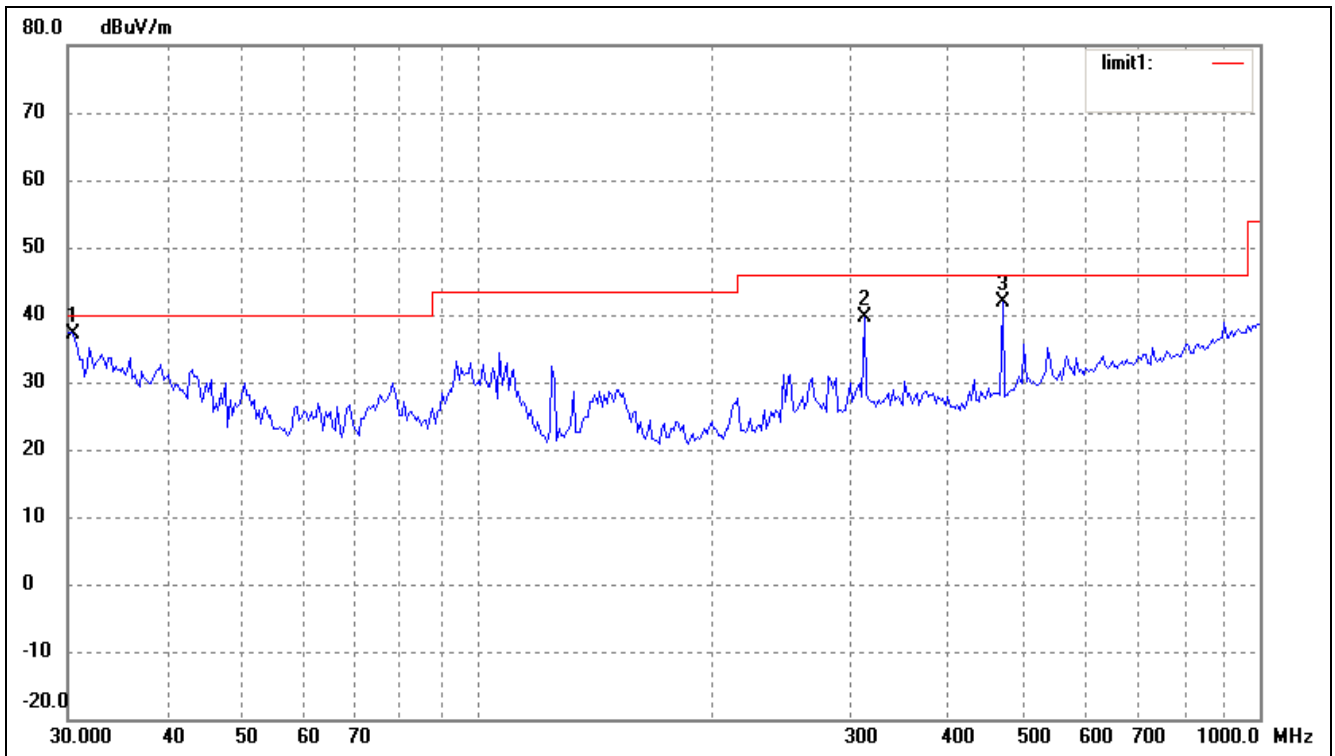
Comment:

Horizontal



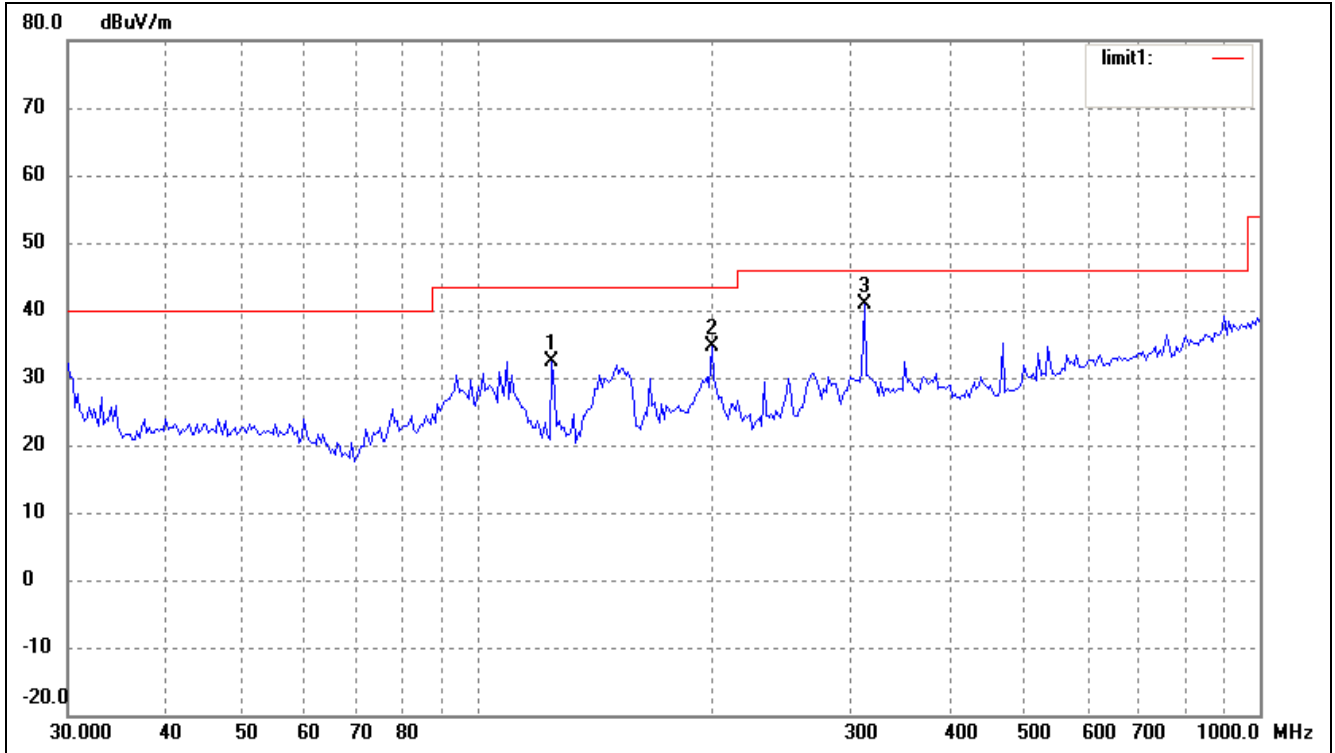
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	199.2855	28.40	6.58	34.98	43.50	-8.52	305	100	peak
2	312.1794	31.57	9.90	41.47	46.00	-4.53	77	100	peak
3	468.8762	25.29	12.06	37.35	46.00	-8.65	65	100	peak

Vertical



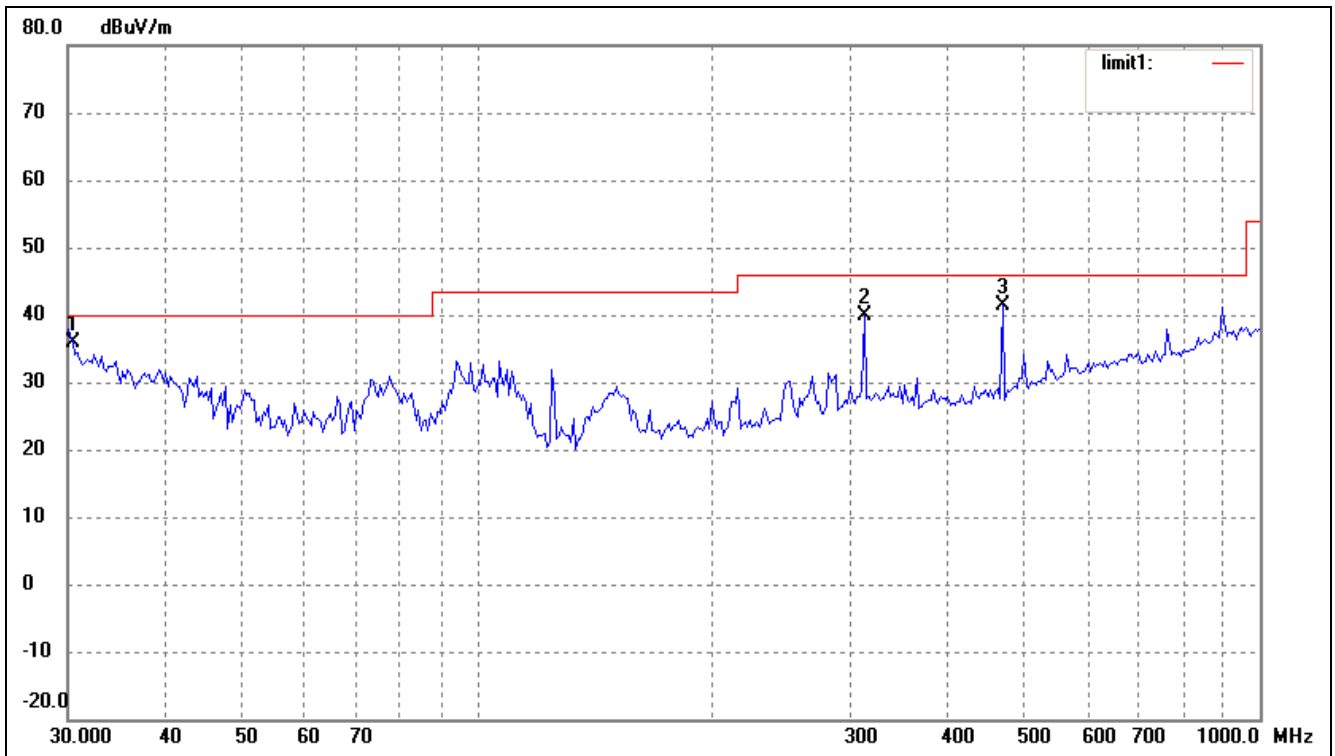
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.4238	30.25	6.77	37.02	40.00	-2.98	20	100	peak
2	312.1794	29.64	9.90	39.54	46.00	-6.46	337	100	peak
3	468.8762	29.75	12.06	41.81	46.00	-4.19	21	100	peak

Spurious Emission From 30 MHz to 1 GHz
 Test mode: Transmitting (802.11n/HT20) Middle Channel
 Comment:
 Horizontal



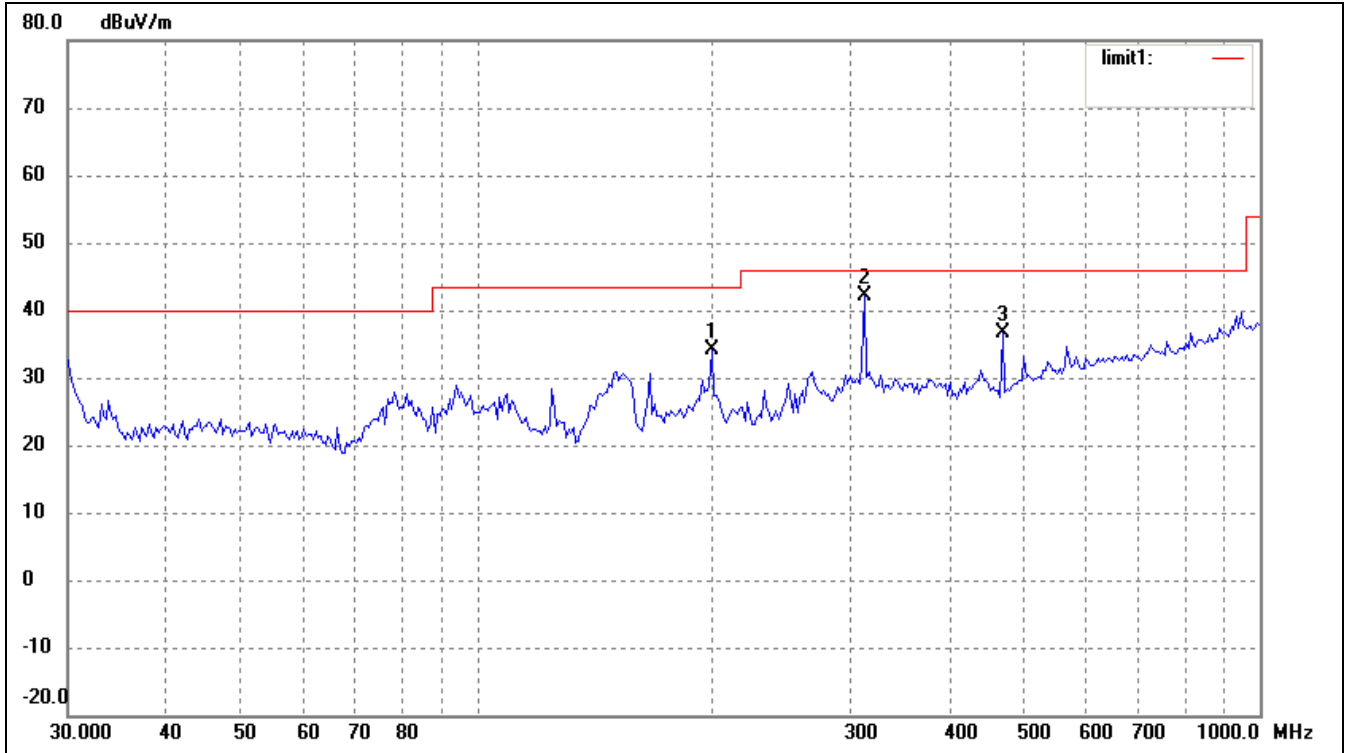
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	124.5690	27.11	5.32	32.43	43.50	-11.07	333	100	peak
2	199.2855	28.15	6.58	34.73	43.50	-8.77	45	100	peak
3	312.1794	30.98	9.90	40.88	46.00	-5.12	67	100	peak

Vertical



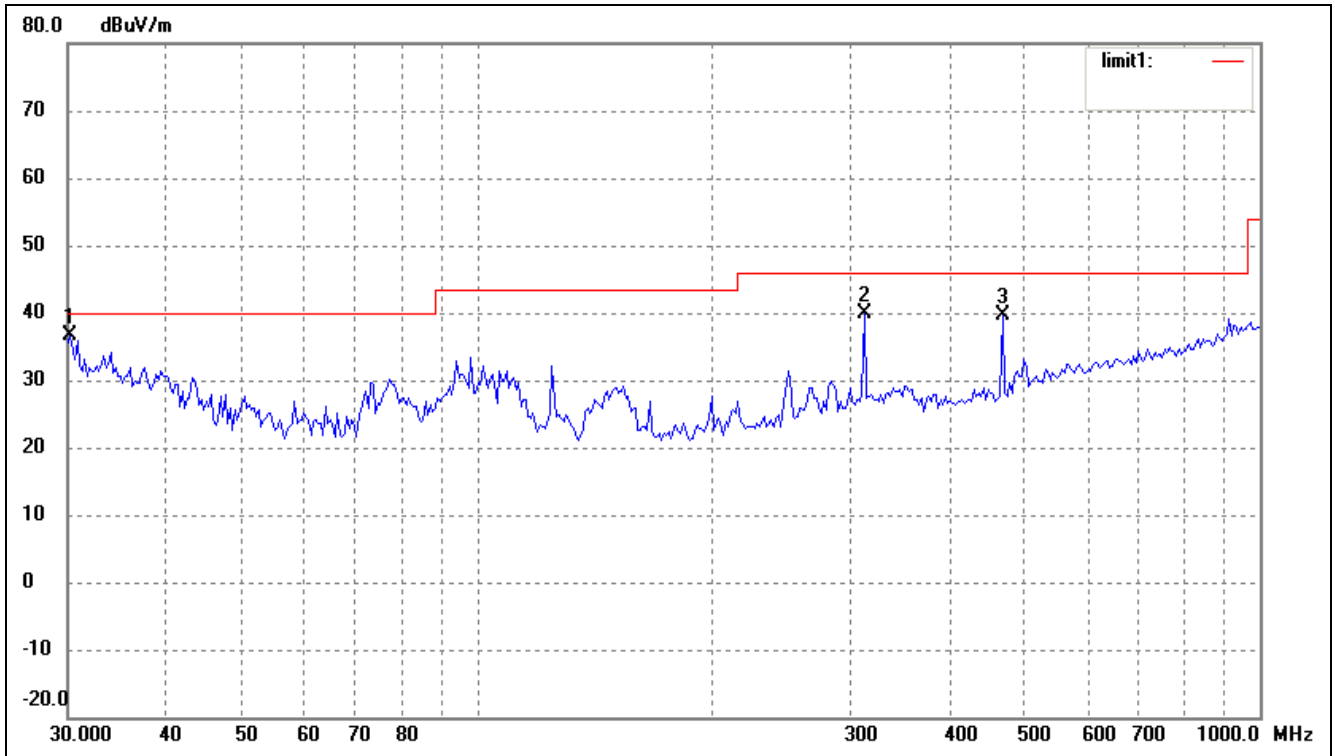
No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.4238	29.09	6.77	35.86	40.00	-4.14	147	100	peak
2	312.1794	30.00	9.90	39.90	46.00	-6.10	3	100	peak
3	468.8762	29.44	12.06	41.50	46.00	-4.50	57	100	peak

Spurious Emission From 30 MHz to 1 GHz
 Test mode: Transmitting (802.11n/HT40) Middle Channel
 Comment:
 Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	199.2855	27.50	6.58	34.08	43.50	-9.42	22	100	peak
2	312.1794	32.27	9.90	42.17	46.00	-3.83	54	100	peak
3	468.8762	24.47	12.06	36.53	46.00	-9.47	45	100	peak

Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	30.2111	29.92	6.77	36.69	40.00	-3.31	33	100	peak
2	312.1794	29.95	9.90	39.85	46.00	-6.15	47	100	peak
3	468.8762	27.68	12.06	39.74	46.00	-6.26	22	100	peak

For 5dBi Antenna

Spurious Emission above 1GHz

Test Mode: Transmitting (802.11b)

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4824.0	PK	48.7	90	V	34.1	5.2	33.0	54.95	74	-19.1
4824.0	PK	37.2	270	H	34.1	5.2	33.0	43.54	74	-30.5
7236.0	PK	42.3	180	V	37.4	6.1	33.5	52.26	74	-21.7
7236.0	PK	31.5	45	H	37.4	6.1	33.5	41.52	74	-32.5
4824.0	AV	46.8	90	V	34.1	5.2	33.0	53.11	54	-0.9
4824.0	AV	35.2	270	H	34.1	5.2	33.0	41.46	54	-12.5
7236.0	AV	40.8	180	V	37.4	6.1	33.5	50.78	54	-3.2
7236.0	AV	29.9	45	H	37.4	6.1	33.5	39.88	54	-14.1
Middle Channel (1G to 25GHz)										
4874.0	PK	47.8	45	V	34.1	5.2	33.0	54.08	74	-19.9
4874.0	PK	36.2	270	H	34.1	5.2	33.0	42.48	74	-31.5
7311.0	PK	41.6	45	V	37.4	6.1	33.5	51.58	74	-22.4
7311.0	PK	31.9	180	H	37.4	6.1	33.5	41.86	74	-32.1
4874.0	AV	46.4	45	V	34.1	5.2	33.0	52.69	54	-1.3
4874.0	AV	34.9	270	H	34.1	5.2	33.0	41.15	54	-12.9
7311.0	AV	40.5	45	V	37.4	6.1	33.5	50.52	54	-3.5
7311.0	AV	30.6	180	H	37.4	6.1	33.5	40.62	54	-13.4
High Channel (1G to 25GHz)										
4924.0	PK	47.2	270	V	34.1	5.2	33.0	53.53	74	-20.5
4924.0	PK	38.4	45	H	34.1	5.2	33.0	44.72	74	-29.3
7386.0	PK	42.0	180	V	37.4	6.1	33.5	51.98	74	-22.0
7386.0	PK	32.8	45	H	37.4	6.1	33.5	42.77	74	-31.2
4924.0	AV	46.2	270	V	34.1	5.2	33.0	52.50	54	-1.5
4924.0	AV	35.8	45	H	34.1	5.2	33.0	42.13	54	-11.9
7386.0	AV	40.0	180	V	37.4	6.1	33.5	50.00	54	-4.0
7386.0	AV	30.4	45	H	37.4	6.1	33.5	40.38	54	-13.6

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics, which above 5th Harmonics is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

Spurious Emission Above 1GHz

Test Mode: Transmitting (802.11g)

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4824.0	PK	47.6	270	V	34.1	5.2	33.0	53.93	74	-20.1
4824.0	PK	37.0	90	H	34.1	5.2	33.0	43.26	74	-30.7
7236.0	PK	41.4	45	V	37.4	6.1	33.5	51.38	74	-22.6
7236.0	PK	32.3	60	H	37.4	6.1	33.5	42.31	74	-31.7
4824.0	AV	45.9	270	V	34.1	5.2	33.0	52.20	54	-1.8
4824.0	AV	35.7	90	H	34.1	5.2	33.0	41.98	54	-12.0
7236.0	AV	39.6	45	V	37.4	6.1	33.5	49.62	54	-4.4
7236.0	AV	30.2	60	H	37.4	6.1	33.5	40.18	54	-13.8
Middle Channel (1G to 25GHz)										
4874.0	PK	48.4	270	V	34.1	5.2	33.0	54.65	74	-19.4
4874.0	PK	35.6	90	H	34.1	5.2	33.0	41.86	74	-32.1
7311.0	PK	40.8	60	V	37.4	6.1	33.5	50.76	74	-23.2
7311.0	PK	31.7	45	H	37.4	6.1	33.5	41.71	74	-32.3
4874.0	AV	45.8	270	V	34.1	5.2	33.0	52.11	54	-1.9
4874.0	AV	34.6	90	H	34.1	5.2	33.0	40.92	54	-13.1
7311.0	AV	38.5	60	V	37.4	6.1	33.5	48.53	54	-5.5
7311.0	AV	29.9	45	H	37.4	6.1	33.5	39.92	54	-14.1
High Channel (1G to 25GHz)										
4924.0	PK	47.2	90	V	34.1	5.2	33.0	53.52	74	-20.5
4924.0	PK	37.3	270	H	34.1	5.2	33.0	43.58	74	-30.4
7386.0	PK	40.7	60	V	37.4	6.1	33.5	50.65	74	-23.4
7386.0	PK	31.4	60	H	37.4	6.1	33.5	41.42	74	-32.6
4924.0	AV	44.8	90	V	34.1	5.2	33.0	51.12	54	-2.9
4924.0	AV	36.3	270	H	34.1	5.2	33.0	42.58	54	-11.4
7386.0	AV	38.3	60	V	37.4	6.1	33.5	48.27	54	-5.7
7386.0	AV	29.3	60	H	37.4	6.1	33.5	39.28	54	-14.7

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics, which above 5th Harmonics is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

Spurious Emission Above 1GHz

Test Mode: Transmitting (802.11n/HT20)

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4824.0	PK	46.4	122	V	34.1	5.2	33.0	52.72	74	-21.3
4824.0	PK	35.2	32	H	34.1	5.2	33.0	41.48	74	-32.5
7236.0	PK	40.5	36	V	37.4	6.1	33.5	50.48	74	-23.5
7236.0	PK	31.1	45	H	37.4	6.1	33.5	41.11	74	-32.9
4824.0	AV	45.3	122	V	34.1	5.2	33.0	51.63	54	-2.4
4824.0	AV	33.7	32	H	34.1	5.2	33.0	39.96	54	-14.0
7236.0	AV	38.3	36	V	37.4	6.1	33.5	48.34	54	-5.7
7236.0	AV	29.6	45	H	37.4	6.1	33.5	39.55	54	-14.5
Middle Channel (1G to 25GHz)										
4874.0	PK	46.8	60	V	34.1	5.2	33.0	53.10	74	-20.9
4874.0	PK	36.1	222	H	34.1	5.2	33.0	42.43	74	-31.6
7311.0	PK	39.7	180	V	37.4	6.1	33.5	49.67	74	-24.3
7311.0	PK	30.4	182	H	37.4	6.1	33.5	40.35	74	-33.7
4874.0	AV	45.0	60	V	34.1	5.2	33.0	51.25	54	-2.8
4874.0	AV	33.9	222	H	34.1	5.2	33.0	40.21	54	-13.8
7311.0	AV	37.8	180	V	37.4	6.1	33.5	47.84	54	-6.2
7311.0	AV	28.1	182	H	37.4	6.1	33.5	38.11	54	-15.9
High Channel (1G to 25GHz)										
4924.0	PK	45.6	272	V	34.1	5.2	33.0	51.89	74	-22.1
4924.0	PK	34.9	43	H	34.1	5.2	33.0	41.20	74	-32.8
7386.0	PK	38.3	90	V	37.4	6.1	33.5	48.33	74	-25.7
7386.0	PK	30.0	221	H	37.4	6.1	33.5	40.01	74	-34.0
4924.0	AV	44.7	272	V	34.1	5.2	33.0	50.98	54	-3.0
4924.0	AV	33.6	43	H	34.1	5.2	33.0	39.89	54	-14.1
7386.0	AV	37.2	90	V	37.4	6.1	33.5	47.22	54	-6.8
7386.0	AV	28.9	221	H	37.4	6.1	33.5	38.88	54	-15.1

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics, which above 5th Harmonics is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

Spurious Emission Above 1GHz

Test Mode: Transmitting (802.11n/HT40)

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4844.0	PK	46.4	91	V	34.1	5.2	33.0	52.68	74	-21.3
4844.0	PK	37.2	276	H	34.1	5.2	33.0	43.46	74	-30.5
7266.0	PK	39.3	33	V	37.4	6.1	33.5	49.29	74	-24.7
7266.0	PK	30.2	63	H	37.4	6.1	33.5	40.20	74	-33.8
4844.0	AV	44.9	91	V	34.1	5.2	33.0	51.20	54	-2.8
4844.0	AV	35.8	276	H	34.1	5.2	33.0	42.11	54	-11.9
7266.0	AV	37.1	33	V	37.4	6.1	33.5	47.05	54	-7.0
7266.0	AV	28.9	63	H	37.4	6.1	33.5	38.87	54	-15.1
Middle Channel (1G to 25GHz)										
4874.0	PK	45.3	46	V	34.1	5.2	33.0	51.64	74	-22.4
4874.0	PK	36.0	125	H	34.1	5.2	33.0	42.32	74	-31.7
7311.0	PK	38.1	72	V	37.4	6.1	33.5	48.05	74	-26.0
7311.0	PK	28.6	35	H	37.4	6.1	33.5	38.55	74	-35.5
4874.0	AV	43.9	46	V	34.1	5.2	33.0	50.23	54	-3.8
4874.0	AV	34.7	125	H	34.1	5.2	33.0	41.01	54	-13.0
7311.0	AV	36.7	72	V	37.4	6.1	33.5	46.66	54	-7.3
7311.0	AV	27.4	35	H	37.4	6.1	33.5	37.37	54	-16.6
High Channel (1G to 25GHz)										
4904.0	PK	45.7	11	V	34.1	5.2	33.0	51.96	74	-22.0
4904.0	PK	36.3	56	H	34.1	5.2	33.0	42.57	74	-31.4
7356.0	PK	37.2	26	V	37.4	6.1	33.5	47.19	74	-26.8
7356.0	PK	28.2	115	H	37.4	6.1	33.5	38.20	74	-35.8
4904.0	AV	44.5	11	V	34.1	5.2	33.0	50.77	54	-3.2
4904.0	AV	35.0	56	H	34.1	5.2	33.0	41.33	54	-12.7
7356.0	AV	35.5	26	V	37.4	6.1	33.5	45.54	54	-8.5
7356.0	AV	26.5	115	H	37.4	6.1	33.5	36.46	54	-17.5

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics, which above 5th Harmonics is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

For 2dBi Antenna

Spurious Emission above 1GHz

Test Mode: Transmitting (802.11b)

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4824.0	PK	44.2	223	V	34.1	5.2	33.0	50.48	74	-23.5
4824.0	PK	35.1	45	H	34.1	5.2	33.0	41.41	74	-32.6
7236.0	PK	37.3	11	V	37.4	6.1	33.5	47.25	74	-26.8
7236.0	PK	28.1	32	H	37.4	6.1	33.5	38.06	74	-35.9
4824.0	AV	42.9	223	V	34.1	5.2	33.0	49.23	54	-4.8
4824.0	AV	34.0	45	H	34.1	5.2	33.0	40.25	54	-13.8
7236.0	AV	35.8	11	V	37.4	6.1	33.5	45.76	54	-8.2
7236.0	AV	27.1	32	H	37.4	6.1	33.5	37.06	54	-16.9
Middle Channel (1G to 25GHz)										
4874.0	PK	43.6	45	V	34.1	5.2	33.0	49.87	74	-24.1
4874.0	PK	34.8	22	H	34.1	5.2	33.0	41.08	74	-32.9
7311.0	PK	36.7	72	V	37.4	6.1	33.5	46.66	74	-27.3
7311.0	PK	28.0	90	H	37.4	6.1	33.5	38.03	74	-36.0
4874.0	AV	42.3	45	V	34.1	5.2	33.0	48.59	54	-5.4
4874.0	AV	33.7	22	H	34.1	5.2	33.0	40.03	54	-14.0
7311.0	AV	35.9	72	V	37.4	6.1	33.5	45.86	54	-8.1
7311.0	AV	26.8	90	H	37.4	6.1	33.5	36.84	54	-17.2
High Channel (1G to 25GHz)										
4924.0	PK	43.4	273	V	34.1	5.2	33.0	49.74	74	-24.3
4924.0	PK	33.9	153	H	34.1	5.2	33.0	40.18	74	-33.8
7386.0	PK	37.5	22	V	37.4	6.1	33.5	47.46	74	-26.5
7386.0	PK	29.0	245	H	37.4	6.1	33.5	39.03	74	-35.0
4924.0	AV	42.0	273	V	34.1	5.2	33.0	48.32	54	-5.7
4924.0	AV	32.9	153	H	34.1	5.2	33.0	39.15	54	-14.9
7386.0	AV	36.0	22	V	37.4	6.1	33.5	46.00	54	-8.0
7386.0	AV	26.9	245	H	37.4	6.1	33.5	36.88	54	-17.1

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics, which above 5th Harmonics is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

Spurious Emission Above 1GHz

Test Mode: Transmitting (802.11g)

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4824.0	PK	43.2	277	V	34.1	5.2	33.0	49.49	74	-24.5
4824.0	PK	31.9	94	H	34.1	5.2	33.0	38.16	74	-35.8
7236.0	PK	35.8	245	V	37.4	6.1	33.5	45.77	74	-28.2
7236.0	PK	27.2	60	H	37.4	6.1	33.5	37.15	74	-36.9
4824.0	AV	41.0	277	V	34.1	5.2	33.0	47.31	54	-6.7
4824.0	AV	29.7	94	H	34.1	5.2	33.0	36.01	54	-18.0
7236.0	AV	34.4	245	V	37.4	6.1	33.5	44.44	54	-9.6
7236.0	AV	25.4	60	H	37.4	6.1	33.5	35.36	54	-18.6
Middle Channel (1G to 25GHz)										
4874.0	PK	41.7	220	V	34.1	5.2	33.0	47.98	74	-26.0
4874.0	PK	30.0	25	H	34.1	5.2	33.0	36.26	74	-37.7
7311.0	PK	35.3	11	V	37.4	6.1	33.5	45.32	74	-28.7
7311.0	PK	28.1	46	H	37.4	6.1	33.5	38.09	74	-35.9
4874.0	AV	39.8	220	V	34.1	5.2	33.0	46.11	54	-7.9
4874.0	AV	28.9	25	H	34.1	5.2	33.0	35.22	54	-18.8
7311.0	AV	33.3	11	V	37.4	6.1	33.5	43.31	54	-10.7
7311.0	AV	26.5	46	H	37.4	6.1	33.5	36.53	54	-17.5
High Channel (1G to 25GHz)										
4924.0	PK	42.7	34	V	34.1	5.2	33.0	48.99	74	-25.0
4924.0	PK	33.0	214	H	34.1	5.2	33.0	39.26	74	-34.7
7386.0	PK	33.8	66	V	37.4	6.1	33.5	43.76	74	-30.2
7386.0	PK	28.7	60	H	37.4	6.1	33.5	38.68	74	-35.3
4924.0	AV	41.4	34	V	34.1	5.2	33.0	47.68	54	-6.3
4924.0	AV	32.3	214	H	34.1	5.2	33.0	38.61	54	-15.4
7386.0	AV	32.2	66	V	37.4	6.1	33.5	42.15	54	-11.9
7386.0	AV	24.7	60	H	37.4	6.1	33.5	34.71	54	-19.3

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics, which above 5th Harmonics is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

Spurious Emission Above 1GHz

Test Mode: Transmitting (802.11n/HT20)

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4824.0	PK	41.6	123	V	34.1	5.2	33.0	47.86	74	-26.1
4824.0	PK	32.9	30	H	34.1	5.2	33.0	39.22	74	-34.8
7236.0	PK	36.2	256	V	37.4	6.1	33.5	46.21	74	-27.8
7236.0	PK	26.2	89	H	37.4	6.1	33.5	36.16	74	-37.8
4824.0	AV	40.2	123	V	34.1	5.2	33.0	46.53	54	-7.5
4824.0	AV	30.7	30	H	34.1	5.2	33.0	37.02	54	-17.0
7236.0	AV	33.5	256	V	37.4	6.1	33.5	43.45	54	-10.6
7236.0	AV	25.5	89	H	37.4	6.1	33.5	35.46	54	-18.5
Middle Channel (1G to 25GHz)										
4874.0	PK	41.6	33	V	34.1	5.2	33.0	47.86	74	-26.1
4874.0	PK	31.8	222	H	34.1	5.2	33.0	38.10	74	-35.9
7311.0	PK	34.7	156	V	37.4	6.1	33.5	44.68	74	-29.3
7311.0	PK	25.3	182	H	37.4	6.1	33.5	35.27	74	-38.7
4874.0	AV	40.3	33	V	34.1	5.2	33.0	46.58	54	-7.4
4874.0	AV	30.9	222	H	34.1	5.2	33.0	37.22	54	-16.8
7311.0	AV	32.4	156	V	37.4	6.1	33.5	42.36	54	-11.6
7311.0	AV	24.3	182	H	37.4	6.1	33.5	34.31	54	-19.7
High Channel (1G to 25GHz)										
4924.0	PK	40.2	270	V	34.1	5.2	33.0	46.45	74	-27.6
4924.0	PK	31.0	40	H	34.1	5.2	33.0	37.28	74	-36.7
7386.0	PK	33.6	168	V	37.4	6.1	33.5	43.55	74	-30.5
7386.0	PK	24.1	221	H	37.4	6.1	33.5	34.06	74	-39.9
4924.0	AV	39.6	270	V	34.1	5.2	33.0	45.93	54	-8.1
4924.0	AV	28.9	40	H	34.1	5.2	33.0	35.24	54	-18.8
7386.0	AV	31.5	168	V	37.4	6.1	33.5	41.53	54	-12.5
7386.0	AV	22.4	221	H	37.4	6.1	33.5	32.43	54	-21.6

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics, which above 5th Harmonics is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

Spurious Emission Above 1GHz

Test Mode: Transmitting (802.11n/HT40)

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4844.0	PK	40.3	91	V	34.1	5.2	33.0	46.64	74	-27.4
4844.0	PK	31.7	276	H	34.1	5.2	33.0	38.03	74	-36.0
7266.0	PK	35.0	33	V	37.4	6.1	33.5	44.96	74	-29.0
7266.0	PK	23.9	63	H	37.4	6.1	33.5	33.89	74	-40.1
4844.0	AV	38.9	91	V	34.1	5.2	33.0	45.15	54	-8.9
4844.0	AV	30.7	276	H	34.1	5.2	33.0	36.95	54	-17.1
7266.0	AV	32.7	33	V	37.4	6.1	33.5	42.67	54	-11.3
7266.0	AV	23.0	63	H	37.4	6.1	33.5	33.03	54	-21.0
Middle Channel (1G to 25GHz)										
4874.0	PK	40.9	46	V	34.1	5.2	33.0	47.15	74	-26.9
4874.0	PK	33.8	125	H	34.1	5.2	33.0	40.12	74	-33.9
7311.0	PK	32.6	72	V	37.4	6.1	33.5	42.62	74	-31.4
7311.0	PK	23.2	35	H	37.4	6.1	33.5	33.24	74	-40.8
4874.0	AV	39.8	46	V	34.1	5.2	33.0	46.12	54	-7.9
4874.0	AV	32.6	125	H	34.1	5.2	33.0	38.89	54	-15.1
7311.0	AV	30.5	72	V	37.4	6.1	33.5	40.47	54	-13.5
7311.0	AV	21.0	35	H	37.4	6.1	33.5	31.00	54	-23.0
High Channel (1G to 25GHz)										
4904.0	PK	39.7	11	V	34.1	5.2	33.0	46.03	74	-28.0
4904.0	PK	32.0	56	H	34.1	5.2	33.0	38.32	74	-35.7
7356.0	PK	32.7	26	V	37.4	6.1	33.5	42.68	74	-31.3
7356.0	PK	23.4	115	H	37.4	6.1	33.5	33.42	74	-40.6
4904.0	AV	38.1	11	V	34.1	5.2	33.0	44.39	54	-9.6
4904.0	AV	29.6	56	H	34.1	5.2	33.0	35.85	54	-18.2
7356.0	AV	30.7	26	V	37.4	6.1	33.5	40.66	54	-13.3
7356.0	AV	21.2	115	H	37.4	6.1	33.5	31.21	54	-22.8

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics, which above 5th Harmonics is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.

9. OUT OF BAND EMISSIONS

9.1 Standard Applicable

According to §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.

9.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2010-12-20	2011-12-19
EMI Test Receiver	R&S	ESVB	825471/005	2010-12-20	2011-12-19
Positioning Controller	C&C	CC-C-1F	N/A	2010-12-20	2011-12-19
RF Switch	EM	EMSW18	SW060023	2010-12-20	2011-12-19
Pre-amplifier	Agilent	8447F	3113A06717	2010-12-20	2011-12-19
Pre-amplifier	Compliance Direction	PAP-0118	24002	2010-12-20	2011-12-19
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2011-01-09	2012-01-08
Horn Antenna	ETS	3117	00086197	2011-01-09	2012-01-08

9.3 Test Procedure

1. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as RBW, VBW=100KHz, Span=50MHz, Sweep = auto
3. Set the Lowest and Highest Transmitting Channel, observed the outside band of 2400MHz to 2438.5MHz, then mark the higher-level emission for comparing with the FCC rules.

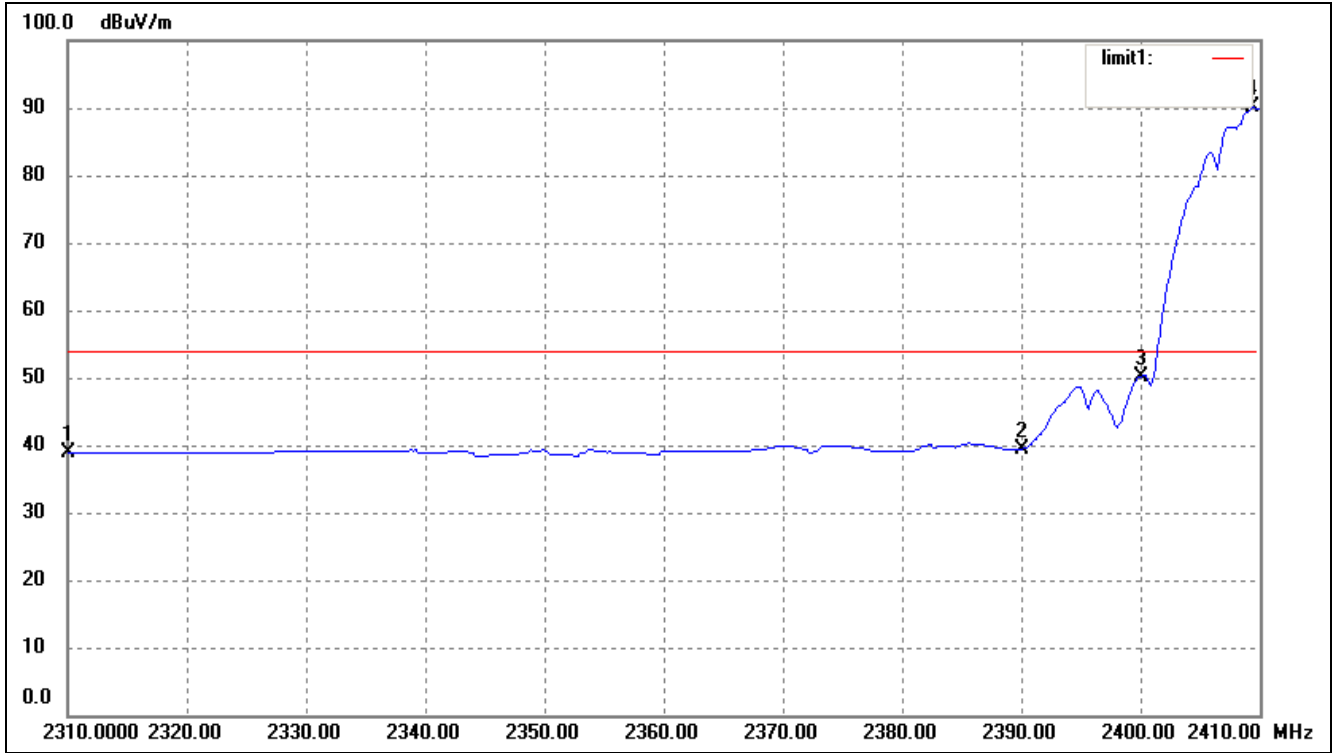
9.4 Environmental Conditions

Temperature:	21° C
Relative Humidity:	44%
ATM Pressure:	1011 mbar

9.5 Summary of Test Results/Plots

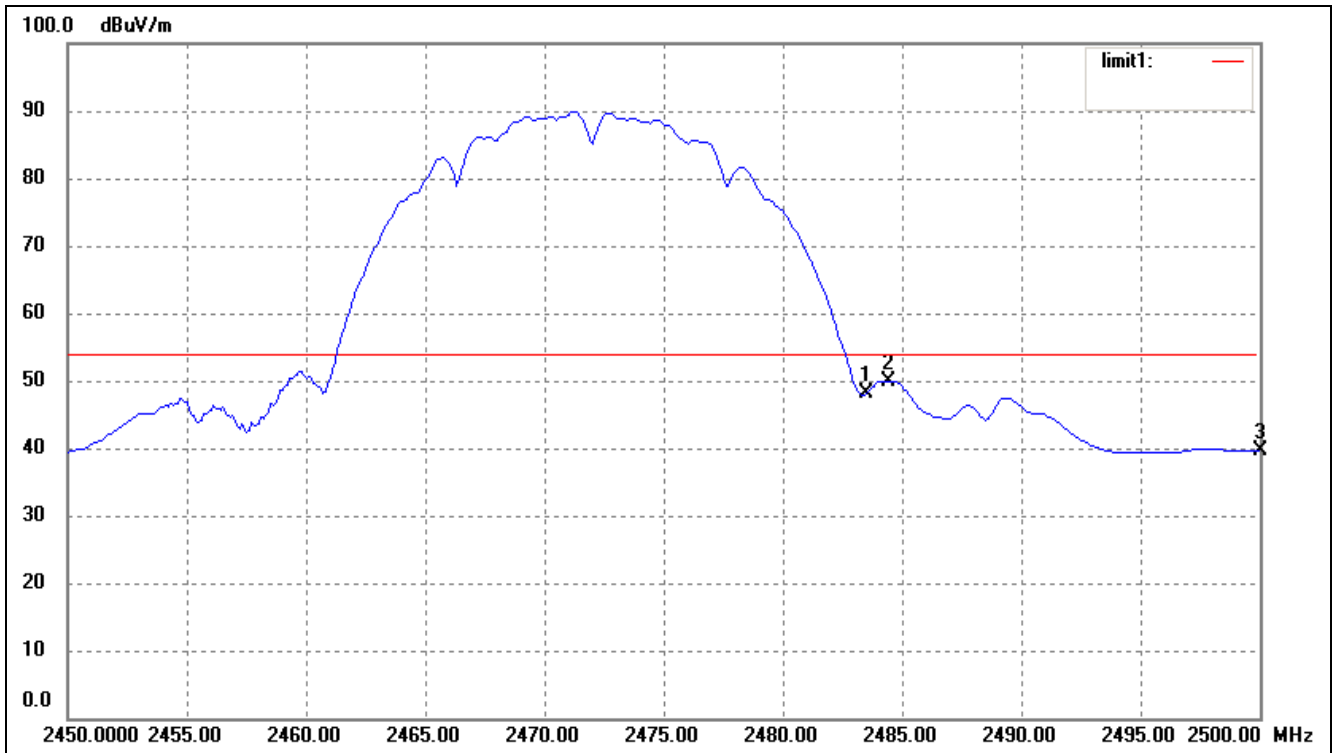
Test mode	Frequency MHz	Limit dBuV /dB	Result
802.11b	2390.00	<54dBuV	Pass
	2400.00	>20dB	Pass
	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass
802.11g	2390.00	<54dBuV	Pass
	2400.00	>20dB	Pass
	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass
802.11n HT20	2390.00	<54dBuV	Pass
	2400.00	>20dB	Pass
	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass
802.11n HT40	2390.00	<54dBuV	Pass
	2400.00	>20dB	Pass
	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass

For 5dBi Antenna
For 802.11b (Chain 0)
 Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.30	2.49	38.79	54.00	-15.21	Average Detector
	2310.000	49.14	2.49	51.63	74.00	-22.37	Peak Detector
2	2390.000	36.79	2.66	39.45	54.00	-14.55	Average Detector
	2390.000	50.00	2.66	52.66	74.00	-21.34	Peak Detector
3	2400.000	47.51	2.69	50.20	/	/	Average Detector
4	2409.400	87.34	2.72	90.06	/	/	Average Detector

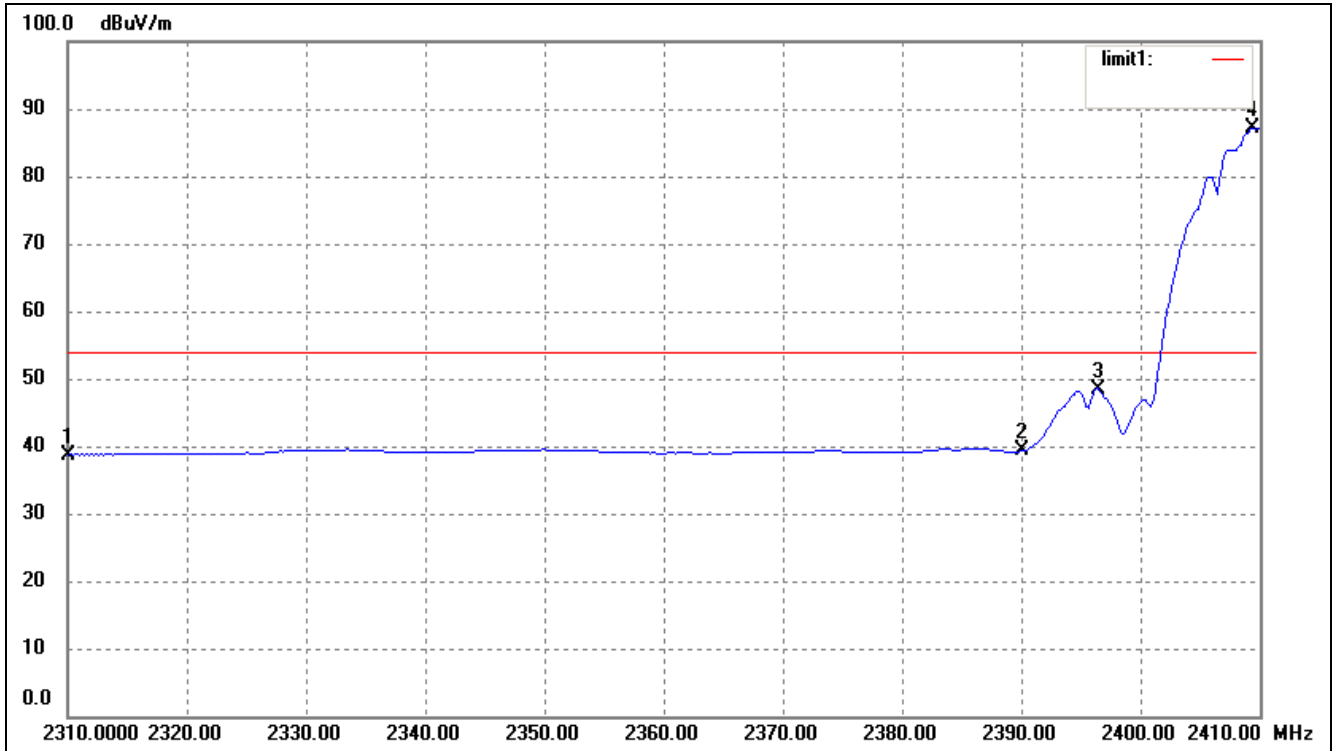
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	45.37	2.87	48.24	54.00	-5.76	Average Detector
	2483.500	59.39	2.87	62.26	74.00	-11.74	Peak Detector
2	2484.400	47.07	2.88	49.95	54.00	-4.05	Average Detector
	2484.400	60.56	2.88	63.44	74.00	-10.56	Peak Detector
3	2500.000	36.79	2.92	39.71	54.00	-14.29	Average Detector
	2500.000	50.15	2.92	53.07	74.00	-20.93	Peak Detector

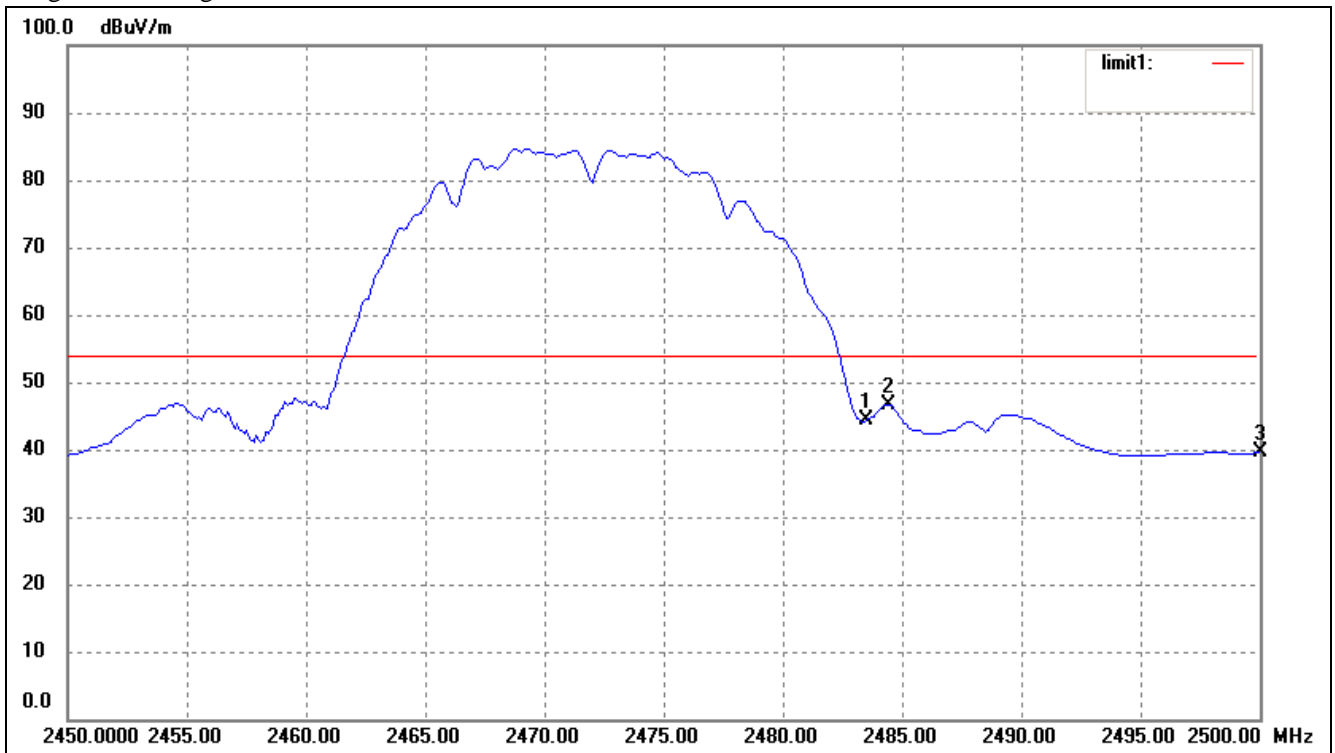
For 802.11b (Chain 1)

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.25	2.49	38.74	54.00	-15.26	Average Detector
	2310.000	50.99	2.49	53.48	74.00	-20.52	Peak Detector
2	2390.000	36.61	2.66	39.27	54.00	-14.73	Average Detector
	2390.000	52.32	2.66	54.98	74.00	-19.02	Peak Detector
3	2396.400	45.82	2.68	48.50	/	/	Average Detector
4	2409.400	84.44	2.72	87.16	/	/	Average Detector

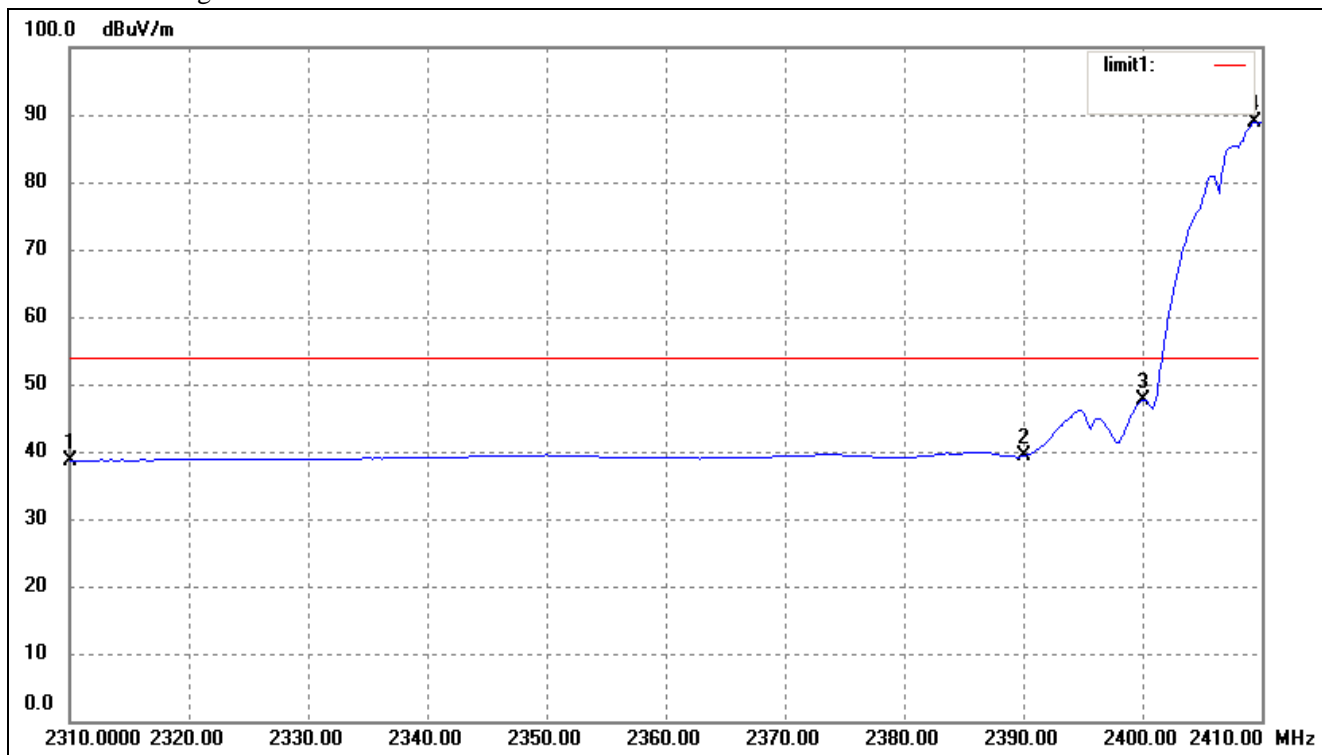
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	41.48	2.87	44.35	54.00	-9.65	Average Detector
		54.71	2.87	57.58	74.00	-16.42	Peak Detector
2	2484.400	43.76	2.88	46.64	54.00	-7.36	Average Detector
		56.97	2.88	59.85	74.00	-27.36	Peak Detector
3	2500.000	36.64	2.92	39.56	54.00	-14.44	Average Detector
		49.85	2.92	52.77	74.00	-21.23	Peak Detector

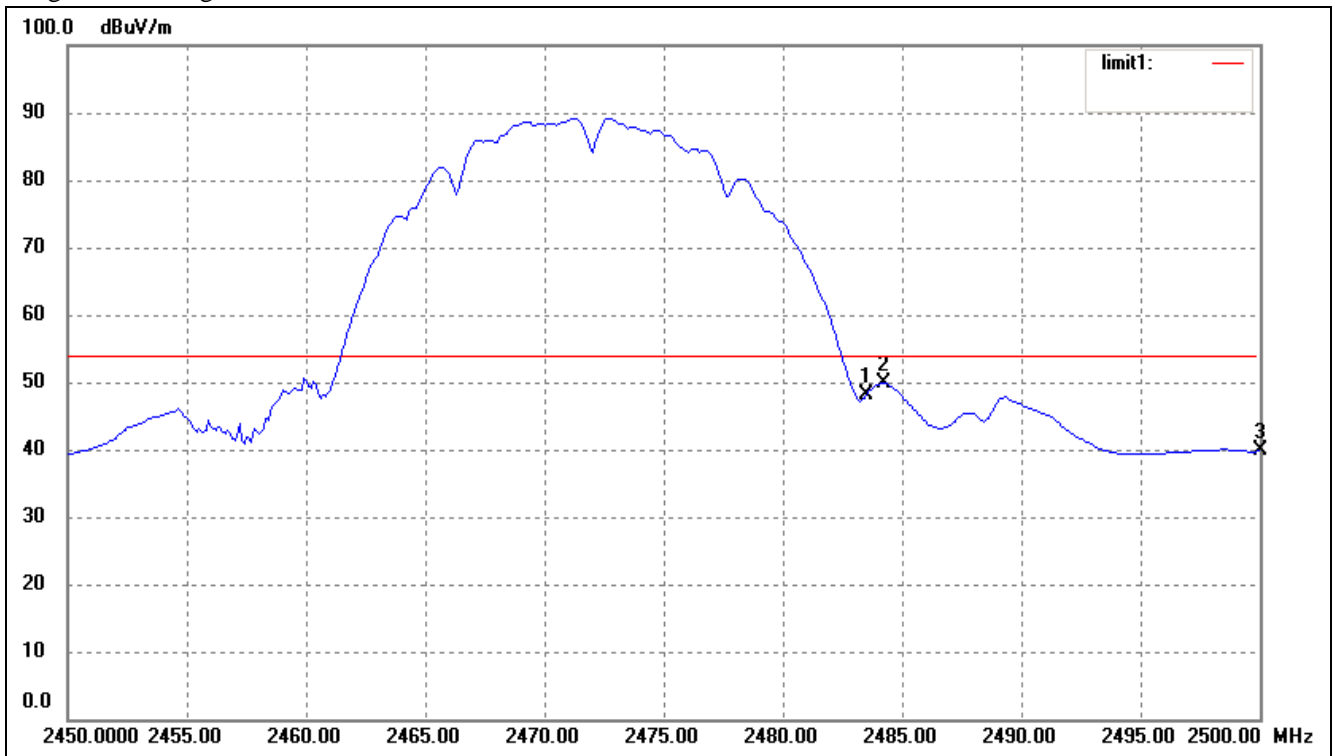
**For 2dBi Antenna
For 802.11b (Chain 0)**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.23	2.49	38.72	54.00	-15.28	Average Detector
	2310.000	49.65	2.49	52.14	74.00	-21.86	Peak Detector
2	2390.000	36.71	2.66	39.37	54.00	-14.63	Average Detector
	2390.000	50.02	2.66	52.68	74.00	-21.32	Peak Detector
3	2400.000	44.85	2.69	47.54	/	/	Average Detector
4	2409.400	86.14	2.72	88.86	/	/	Average Detector

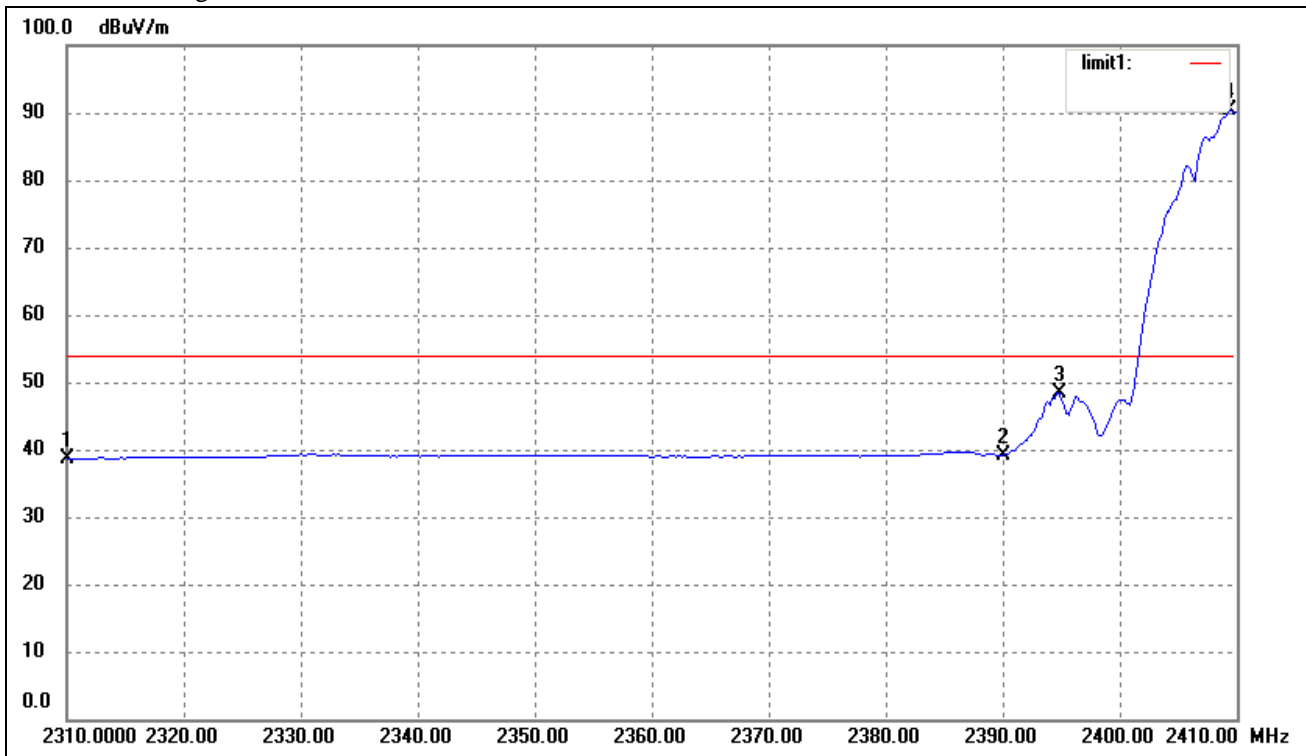
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	45.36	2.87	48.23	54.00	-5.77	Average Detector
	2483.500	58.76	2.87	61.63	74.00	-12.37	Peak Detector
2	2484.200	47.09	2.87	49.96	54.00	-4.04	Average Detector
	2484.200	60.29	2.87	63.16	74.00	-10.84	Peak Detector
3	2500.000	36.86	2.92	39.78	54.00	-14.22	Average Detector
	2500.000	50.12	2.92	53.04	74.00	-20.96	Peak Detector

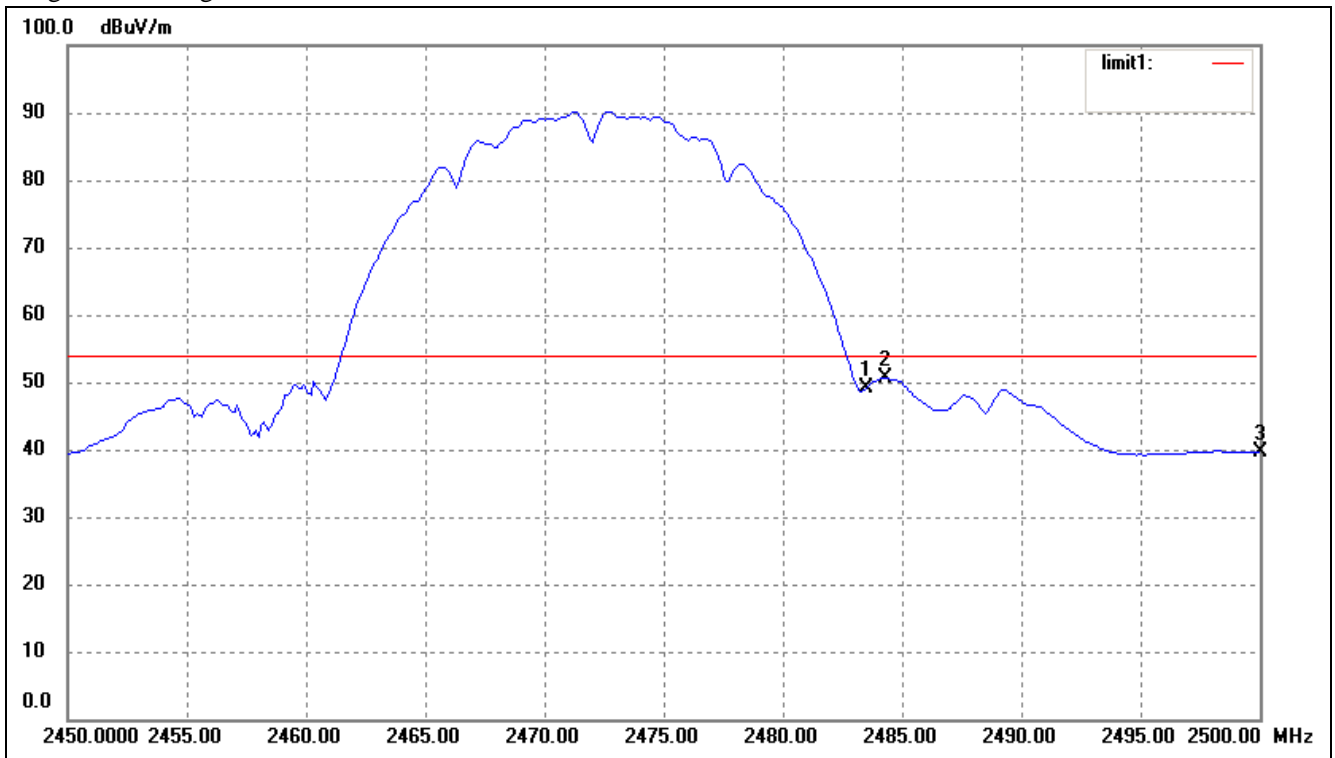
**For 2dBi Antenna
For 802.11b (Chain 1)**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.21	2.49	38.70	54.00	-15.30	Average Detector
	2310.000	49.49	2.49	51.98	74.00	-22.02	Peak Detector
2	2390.000	36.58	2.66	39.24	54.00	-14.76	Average Detector
	2390.000	49.91	2.66	52.57	74.00	-21.43	Peak Detector
3	2394.800	45.71	2.67	48.38	/	/	Average Detector
4	2409.400	87.65	2.72	90.37	/	/	Average Detector

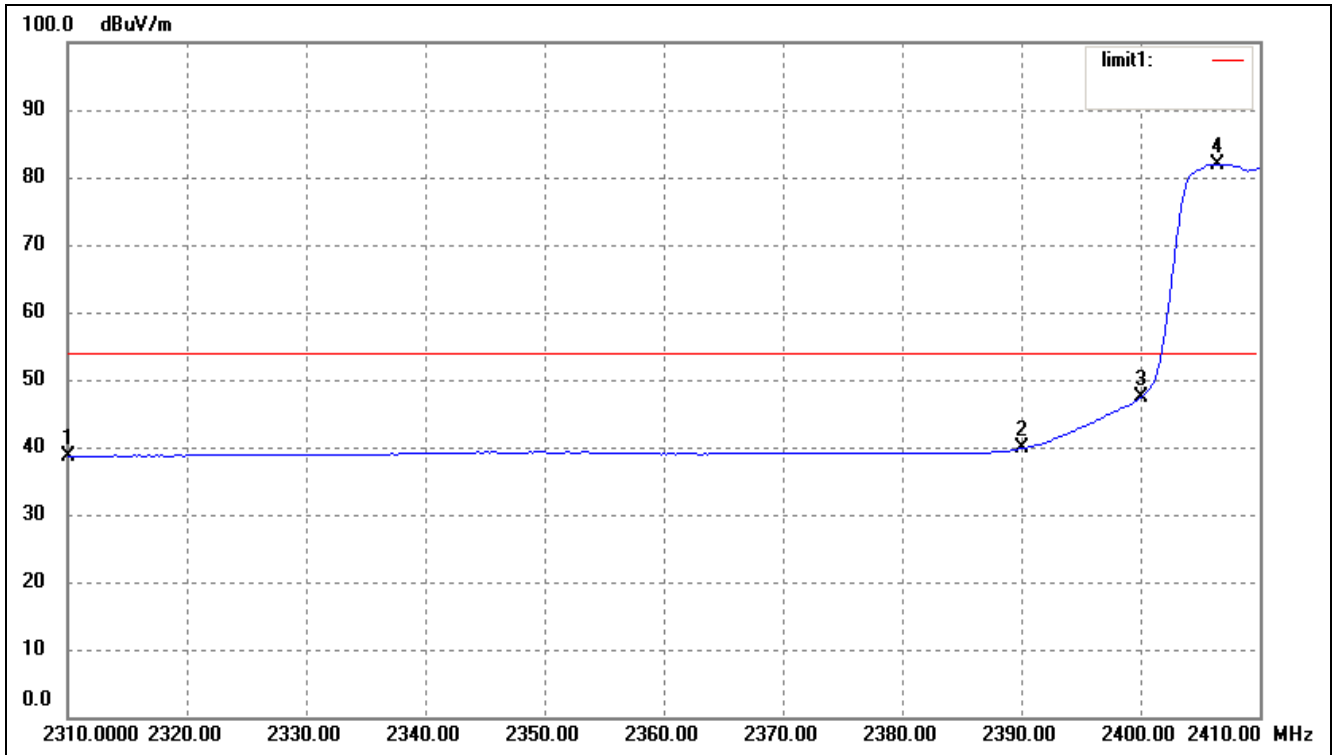
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	46.30	2.87	49.17	54.00	-4.83	Average Detector
	2483.500	59.61	2.87	62.48	74.00	-11.51	Peak Detector
2	2484.300	47.82	2.87	50.69	54.00	-3.31	Average Detector
	2484.300	61.01	2.87	63.88	74.00	-10.12	Peak Detector
3	2500.000	36.75	2.92	39.67	54.00	-14.33	Average Detector
	2500.000	49.96	2.92	52.88	74.00	-21.12	Peak Detector

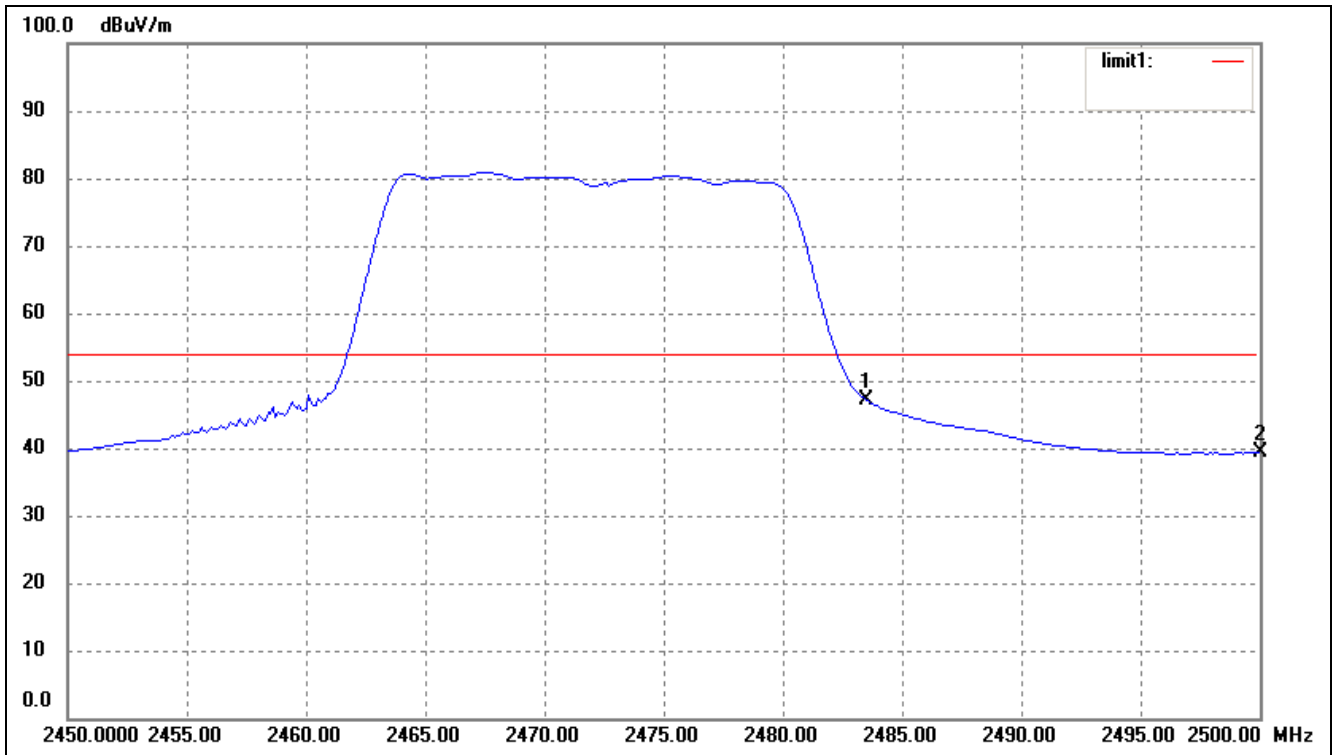
**For 5dBi Antenna
For 802.11g (Chain 0)**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.22	2.49	38.71	54.00	-15.29	Average Detector
	2310.000	49.47	2.49	51.96	74.00	-22.04	Peak Detector
2	2390.000	37.16	2.66	39.82	54.00	-14.18	Average Detector
	2390.000	50.21	2.66	52.87	74.00	-21.13	Peak Detector
3	2400.000	44.76	2.69	47.45	/	/	Average Detector
4	2406.400	79.22	2.71	81.93	/	/	Average Detector

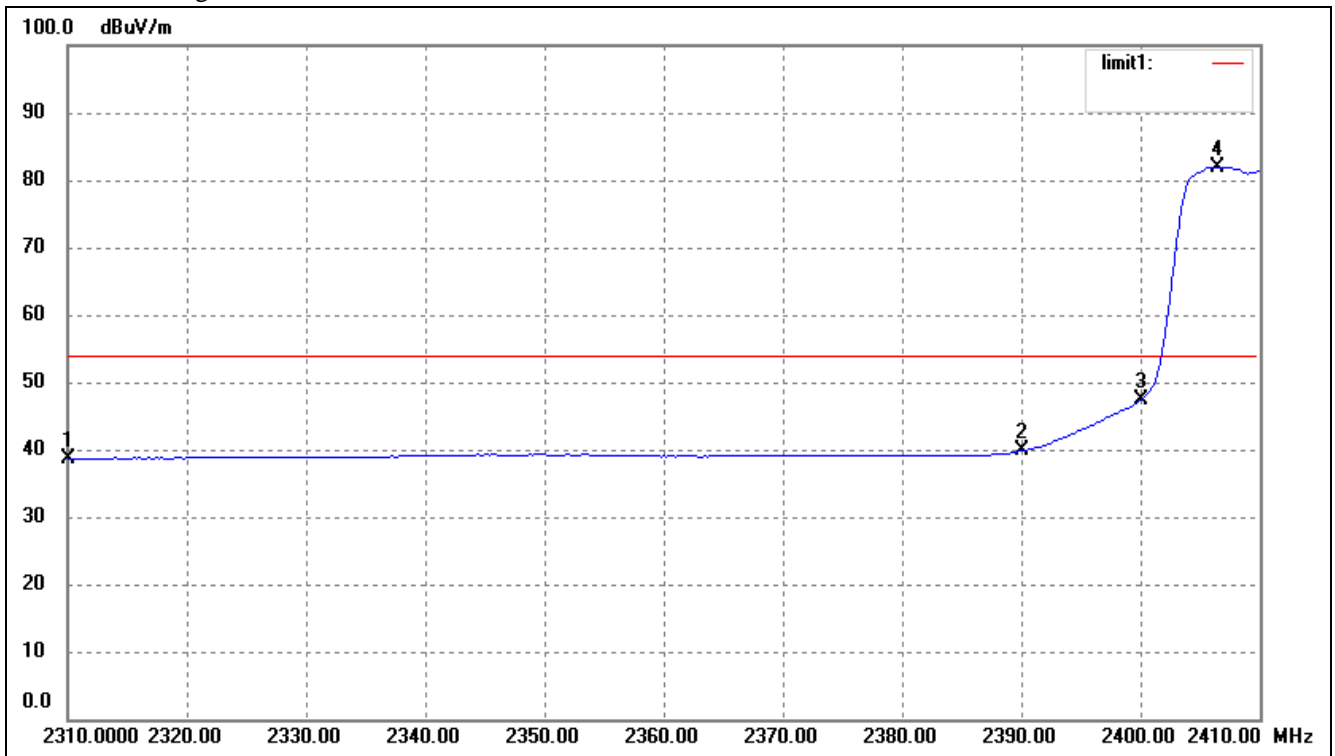
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	44.22	2.87	47.09	54.00	-6.91	Average Detector
	2483.500	57.44	2.87	60.31	74.00	-13.69	Peak Detector
2	2500.000	36.36	2.92	39.28	54.00	-14.72	Average Detector
	2500.000	49.63	2.92	52.55	74.00	-21.45	Peak Detector

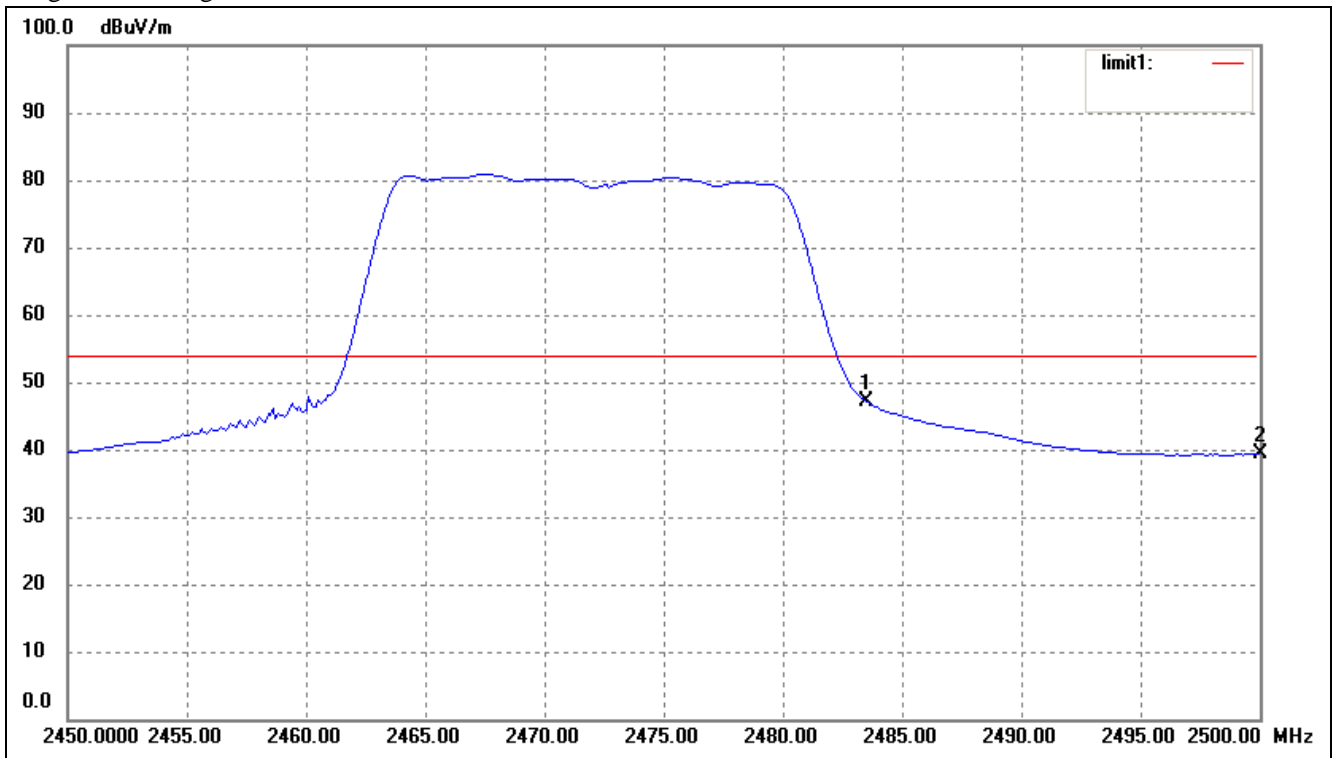
**For 5dBi Antenna
For 802.11g (Chain 1)**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.22	2.49	38.71	54.00	-15.29	Average Detector
	2310.000	49.52	2.49	52.01	74.00	-21.99	Peak Detector
2	2390.000	37.16	2.66	39.82	54.00	-14.18	Average Detector
	2390.000	50.49	2.66	53.15	74.00	-20.85	Peak Detector
3	2400.000	44.76	2.69	47.45	/	/	Average Detector
4	2406.400	79.22	2.71	81.93	/	/	Average Detector

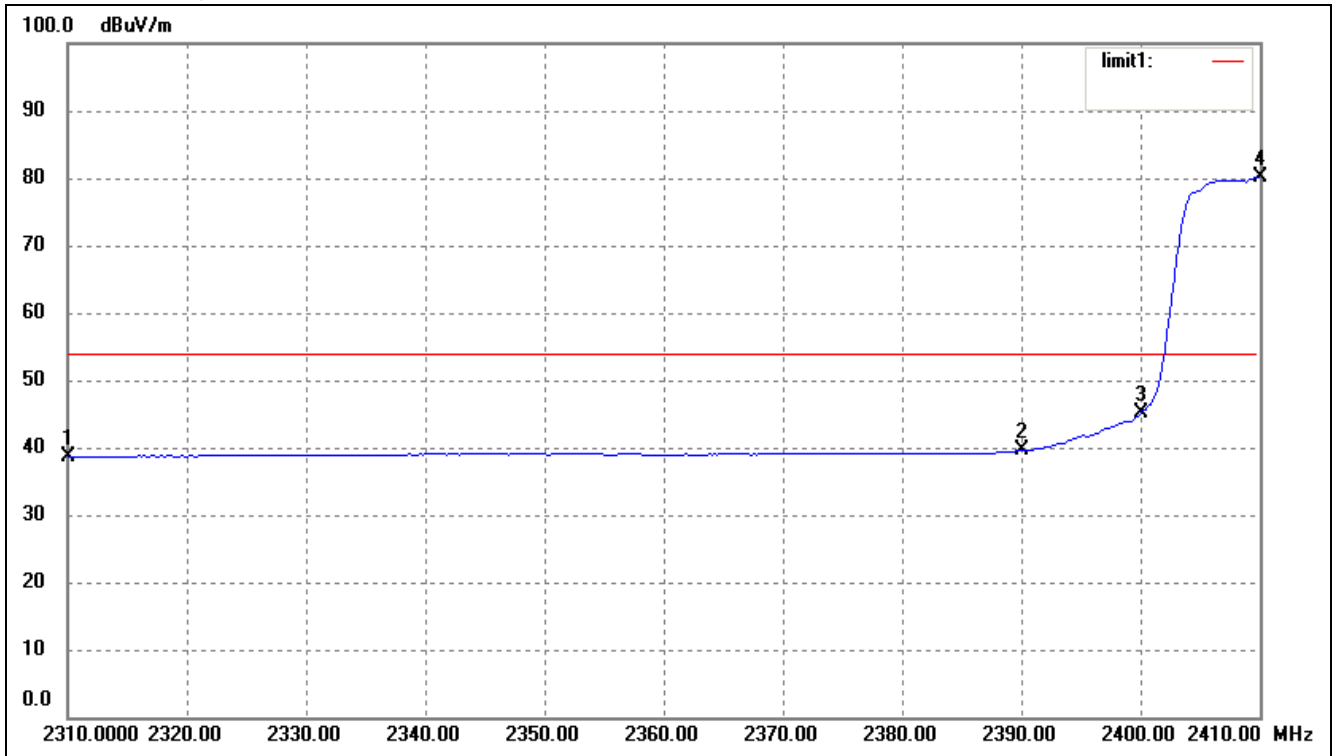
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	44.22	2.87	47.09	54.00	-6.91	Average Detector
	2483.500	57.33	2.87	60.20	74.00	-13.8	Peak Detector
2	2500.000	36.36	2.92	39.28	54.00	-14.72	Average Detector
	2500.000	49.62	2.92	52.54	74.00	-21.46	Peak Detector

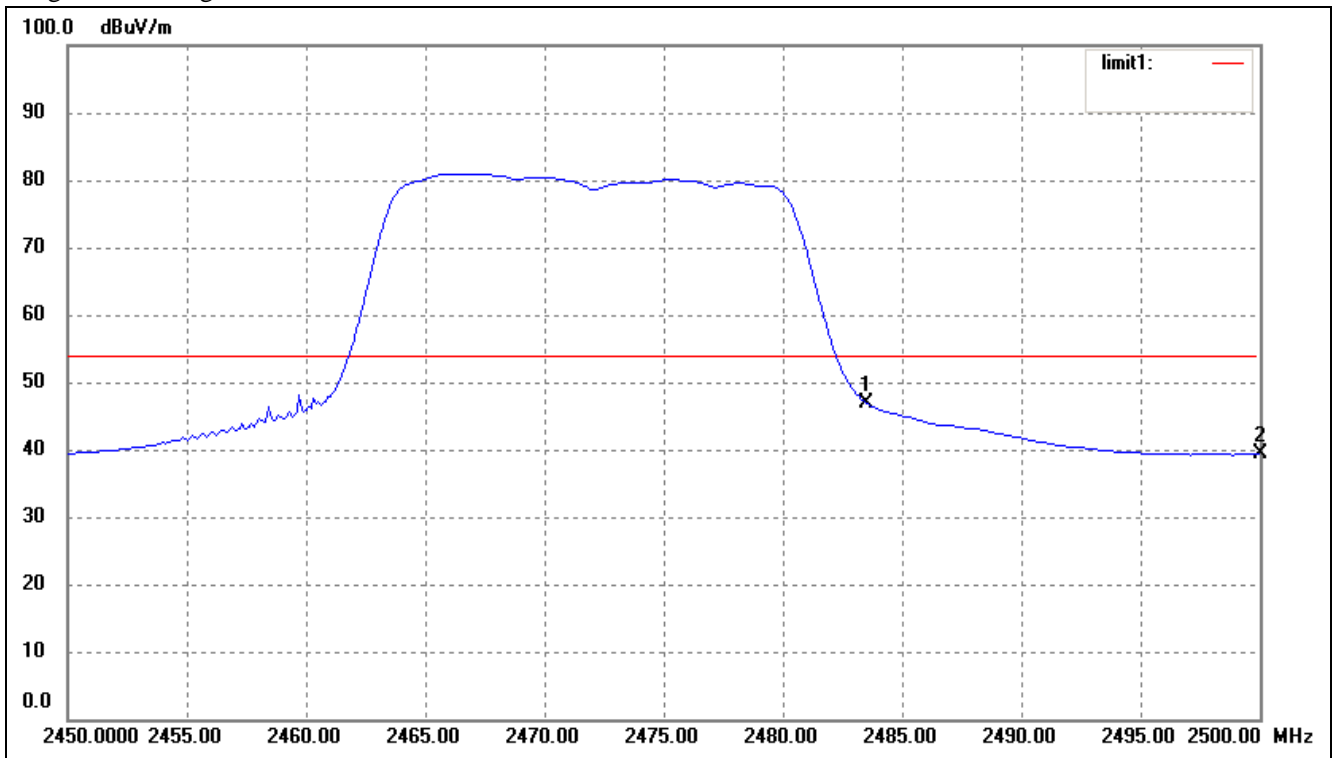
**For 2dBi Antenna
For 802.11g (Chain 0)**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.23	2.49	38.72	54.00	-15.28	Average Detector
	2310.000	50.53	2.49	53.02	74.00	-20.98	Peak Detector
2	2390.000	36.95	2.66	39.61	54.00	-14.39	Average Detector
	2390.000	50.22	2.66	52.88	74.00	-21.12	Peak Detector
3	2400.000	42.35	2.69	45.04	/	/	Average Detector
4	2410.000	77.50	2.72	80.22	/	/	Average Detector

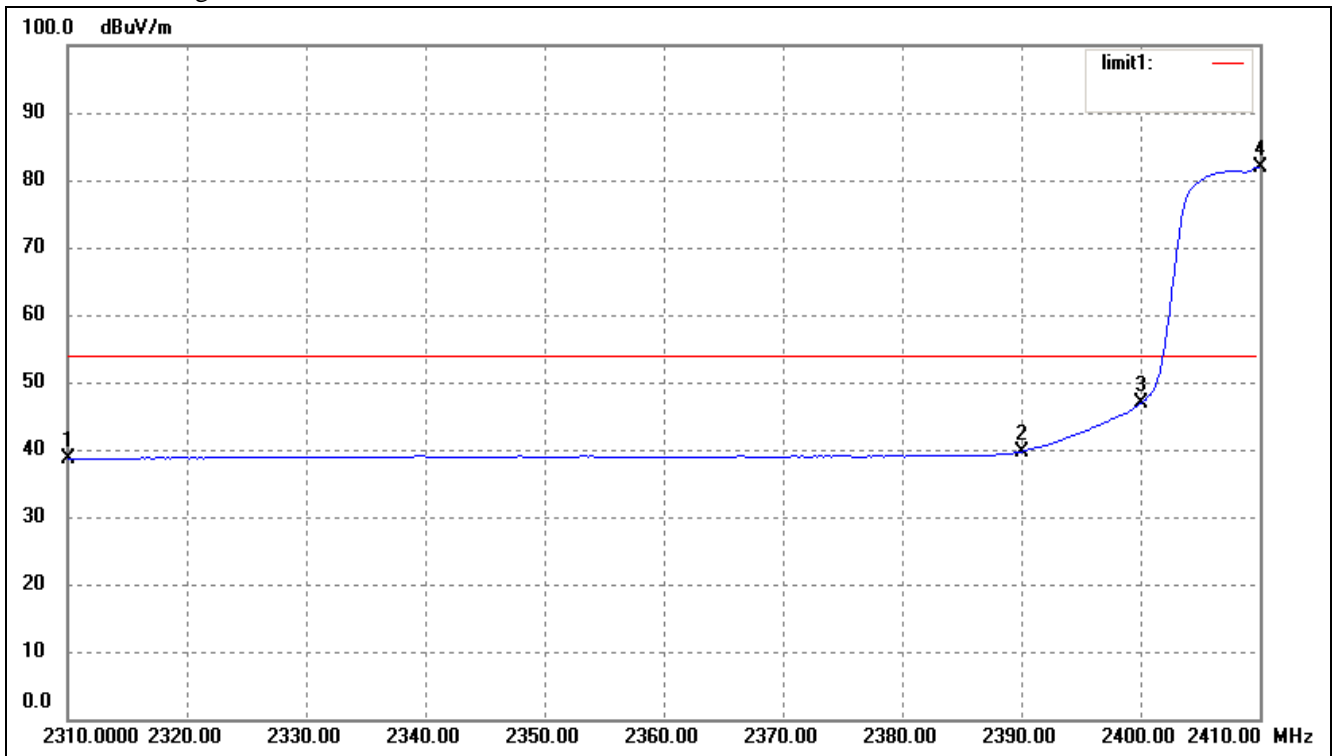
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	44.03	2.87	46.90	54.00	-7.10	Average Detector
	2483.500	57.03	2.87	59.90	74.00	-14.1	Peak Detector
2	2500.000	36.43	2.92	39.35	54.00	-14.65	Average Detector
	2500.000	49.74	2.92	52.66	74.00	-21.34	Peak Detector

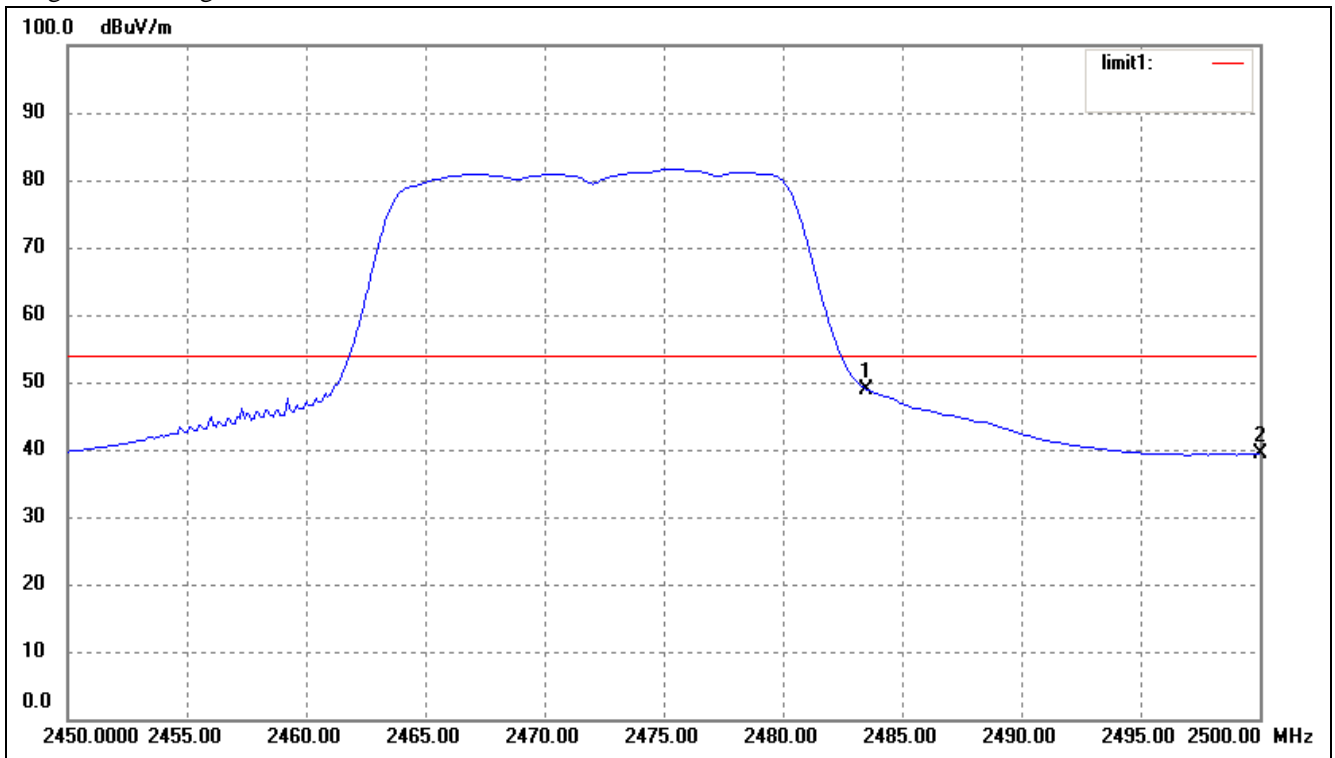
**For 2dBi Antenna
For 802.11g (Chain 1)**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.21	2.49	38.70	54.00	-15.30	Average Detector
	2310.000	49.39	2.49	51.88	74.00	-22.12	Peak Detector
2	2390.000	37.09	2.66	39.75	54.00	-14.25	Average Detector
	2390.000	50.28	2.66	52.94	74.00	-21.06	Peak Detector
3	2400.000	44.16	2.69	46.85	/	/	Average Detector
4	2410.000	79.25	2.72	81.97	/	/	Average Detector

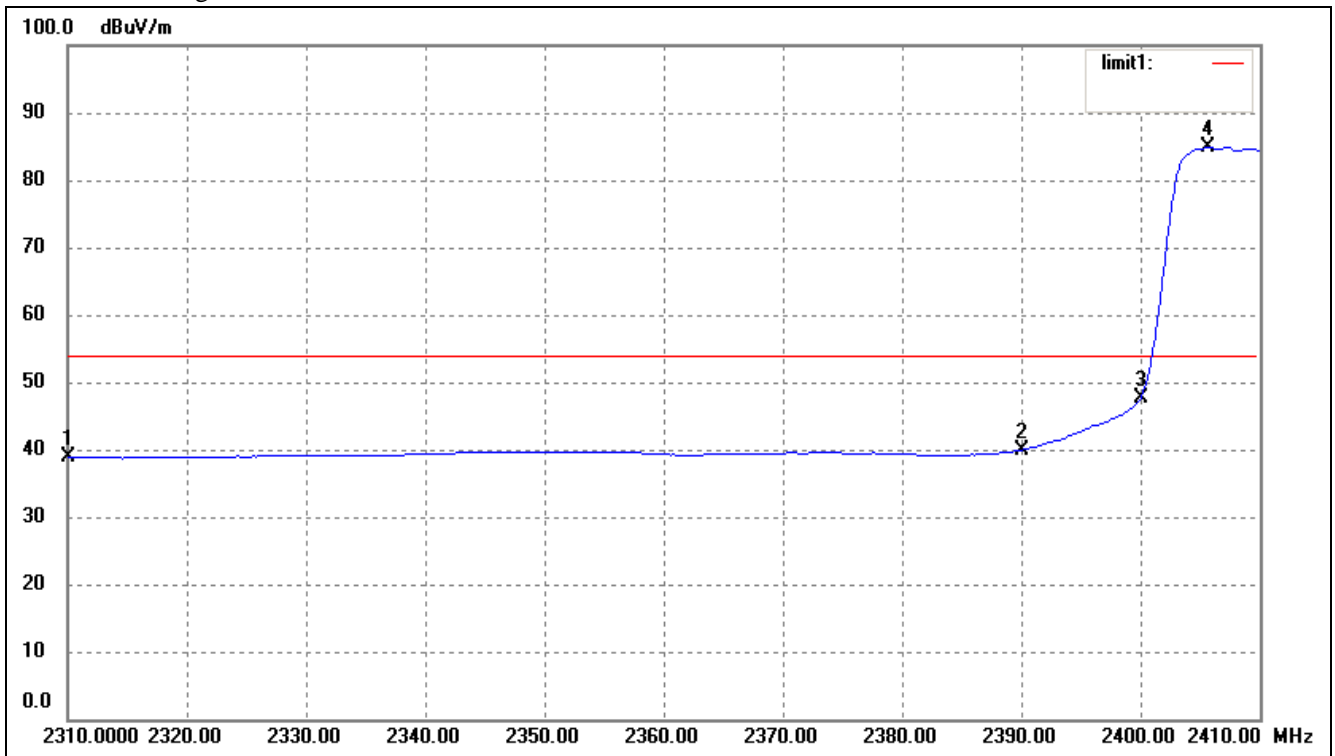
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	46.09	2.87	48.96	54.00	-5.04	Average Detector
	2483.500	59.26	2.87	62.13	74.00	-11.87	Peak Detector
2	2500.000	36.42	2.92	39.34	54.00	-14.66	Average Detector
	2500.000	49.63	2.92	52.55	74.00	-21.45	Peak Detector

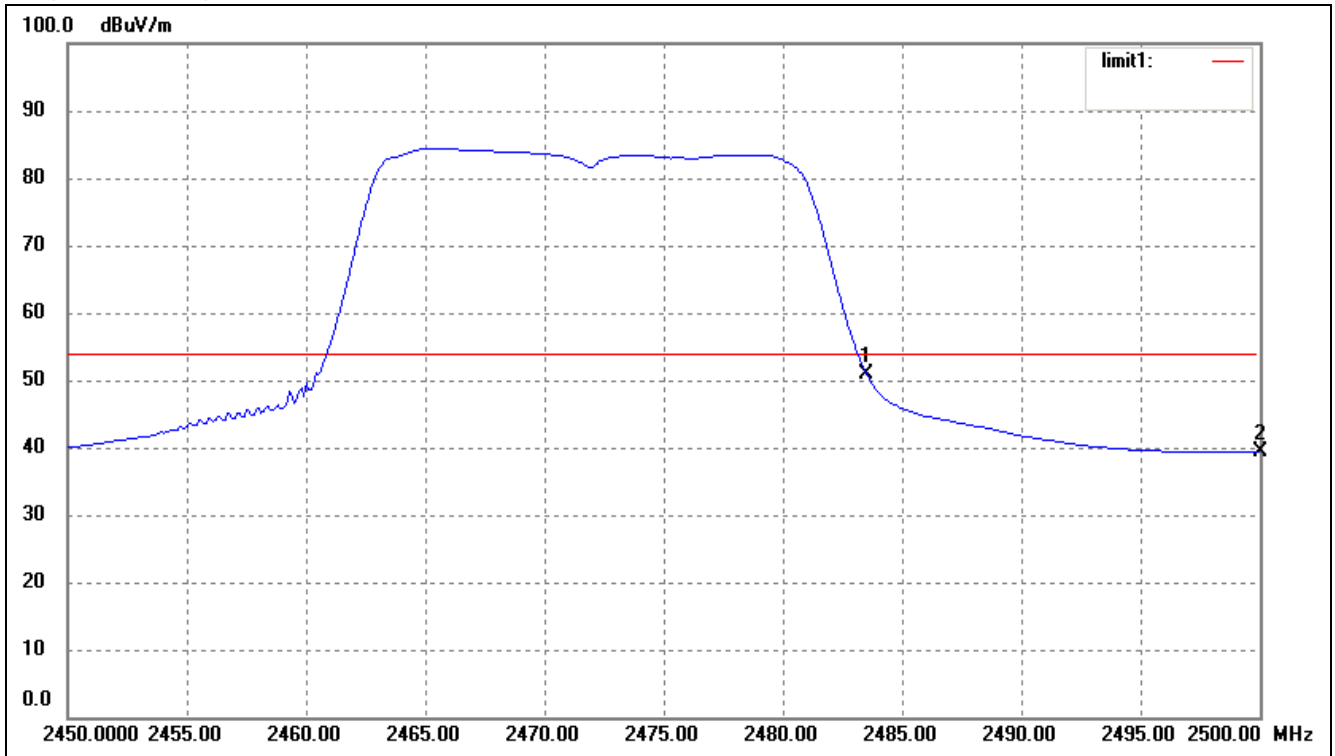
**For 5dBi Antenna
For 802.11n/HT20**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.30	2.49	38.79	54.00	-15.21	Average Detector
	2310.000	49.40	2.49	51.89	74.00	-22.11	Peak Detector
2	2390.000	37.34	2.66	40.00	54.00	-14.00	Average Detector
	2390.000	50.47	2.66	53.13	74.00	-20.87	Peak Detector
3	2400.000	45.01	2.69	47.70	/	/	Average Detector
4	2405.600	82.11	2.70	84.81	/	/	Average Detector

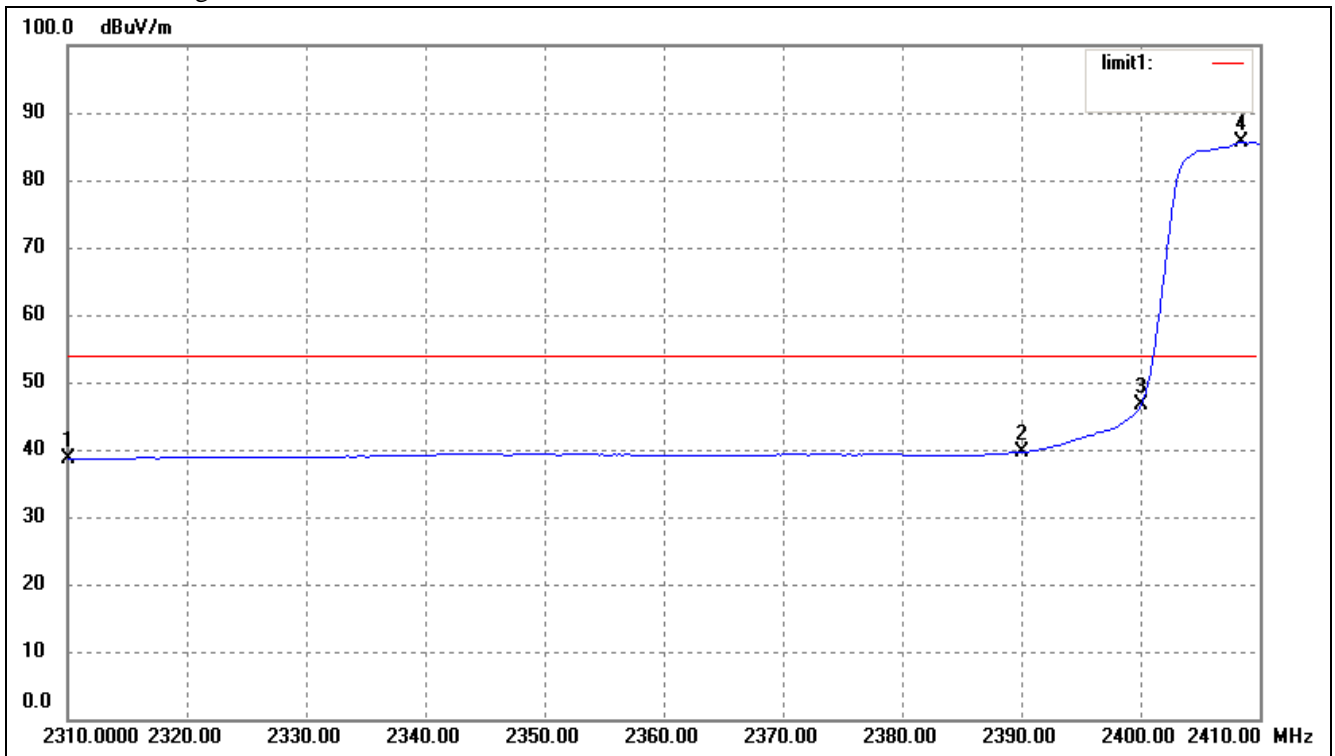
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	48.07	2.87	50.94	54.00	-3.06	Average Detector
		61.24	2.87	64.11	74.00	-9.89	Peak Detector
2	2500.000	36.48	2.92	39.40	54.00	-14.60	Average Detector
		49.69	2.92	52.61	74.00	-21.39	Peak Detector

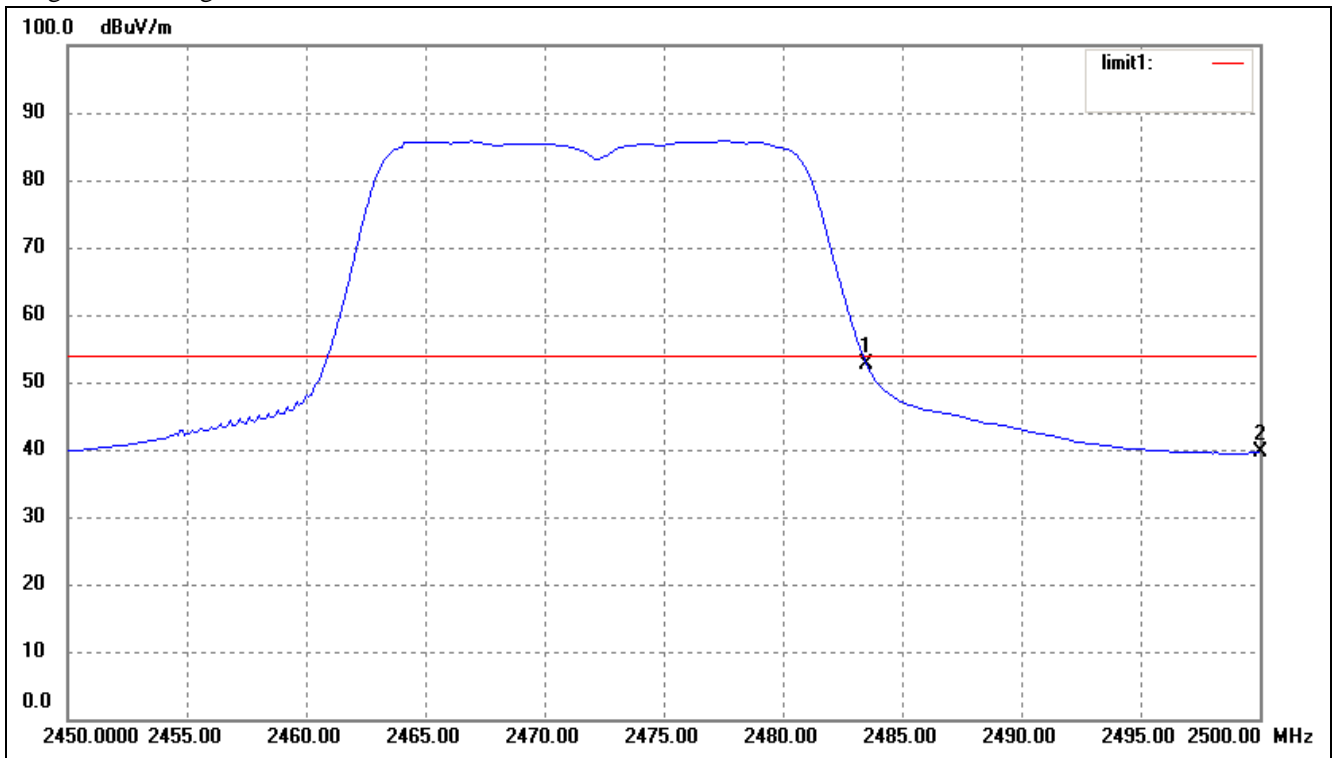
**For 2dBi Antenna
For 802.11n/HT20**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.19	2.49	38.68	54.00	-15.32	Average Detector
	2310.000	49.38	2.49	51.87	74.00	-22.13	Peak Detector
2	2390.000	37.00	2.66	39.66	54.00	-14.34	Average Detector
	2390.000	50.09	2.66	52.75	74.00	-21.25	Peak Detector
3	2400.000	43.88	2.69	46.57	/	/	Average Detector
4	2408.400	82.88	2.71	85.59	/	/	Average Detector

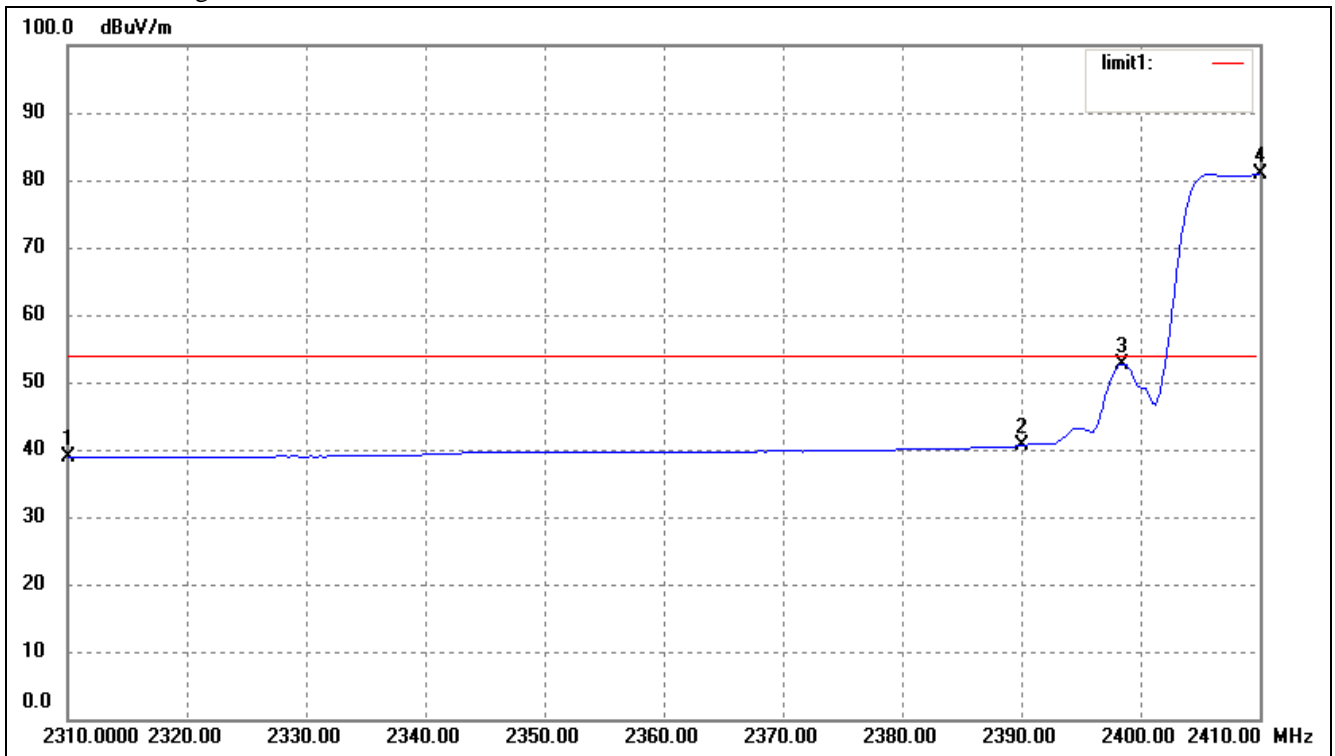
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	49.85	2.87	52.72	54.00	-1.28	Average Detector
	2483.500	63.00	2.87	65.87	74.00	-8.13	Peak Detector
2	2500.000	36.62	2.92	39.54	54.00	-14.46	Average Detector
	2500.000	49.82	2.92	52.74	74.00	-21.26	Peak Detector

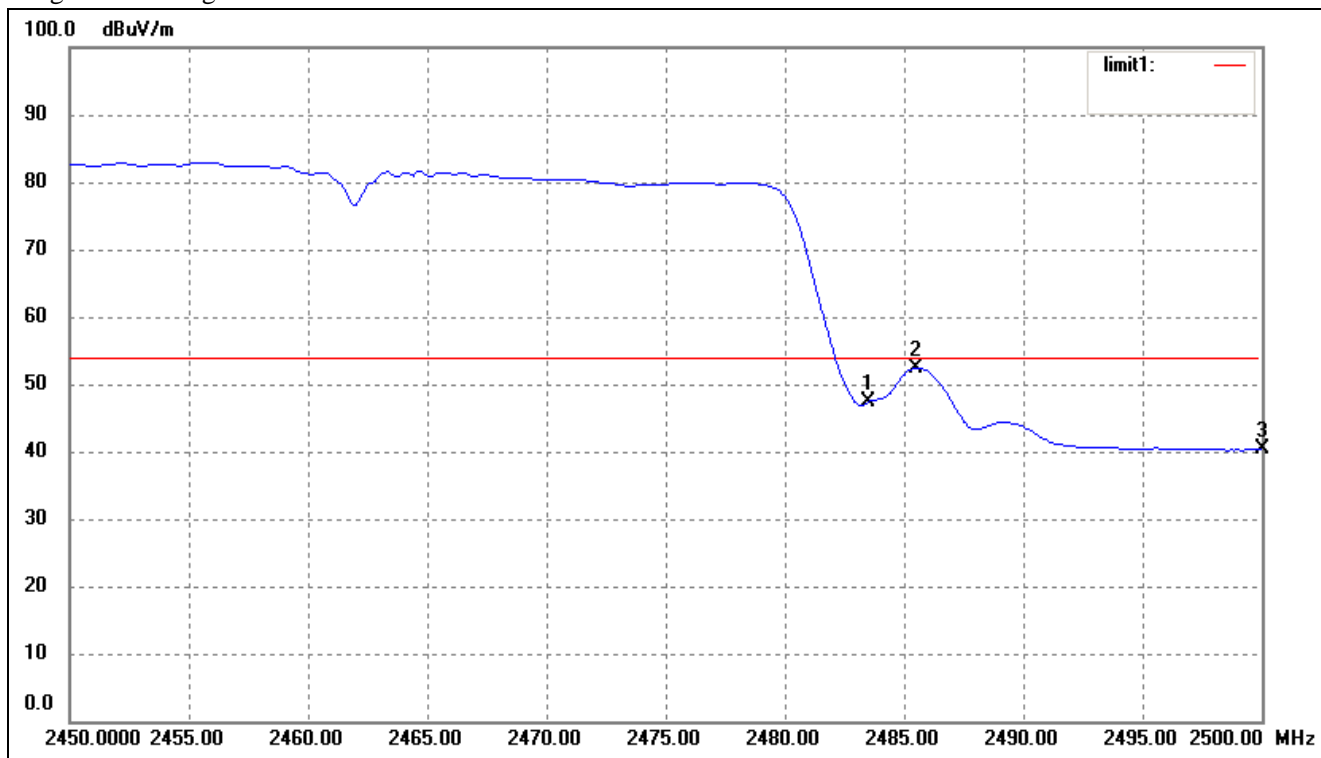
**For 5dBi Antenna
For 802.11n/HT40**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.30	2.49	38.79	54.00	-15.21	Average Detector
	2310.000	49.45	2.49	51.94	74.00	-22.06	Peak Detector
2	2390.000	37.92	2.66	40.58	54.00	-13.42	Average Detector
	2390.000	51.01	2.66	53.67	74.00	-20.33	Peak Detector
3	2398.400	49.98	2.69	52.67	/	/	Average Detector
4	2410.000	78.11	2.72	80.83	/	/	Average Detector

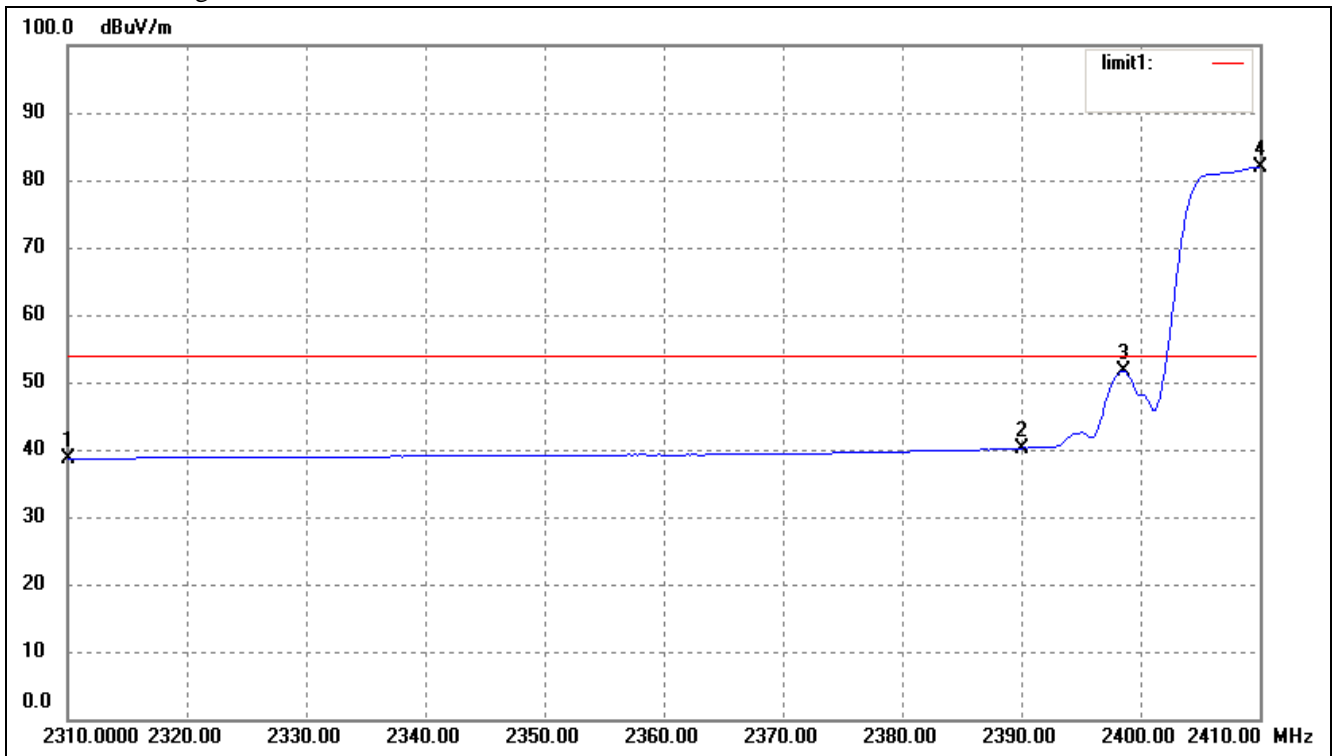
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	44.50	2.87	47.37	54.00	-6.63	Average Detector
	2483.500	57.82	2.87	60.69	74.00	-13.31	Peak Detector
2	2485.500	49.47	2.88	52.35	54.00	-1.65	Average Detector
	2485.500	62.69	2.88	65.57	74.00	-8.43	Peak Detector
3	2500.000	37.37	2.92	40.29	54.00	-13.71	Average Detector
	2500.000	50.76	2.92	53.68	74.00	-20.32	Peak Detector

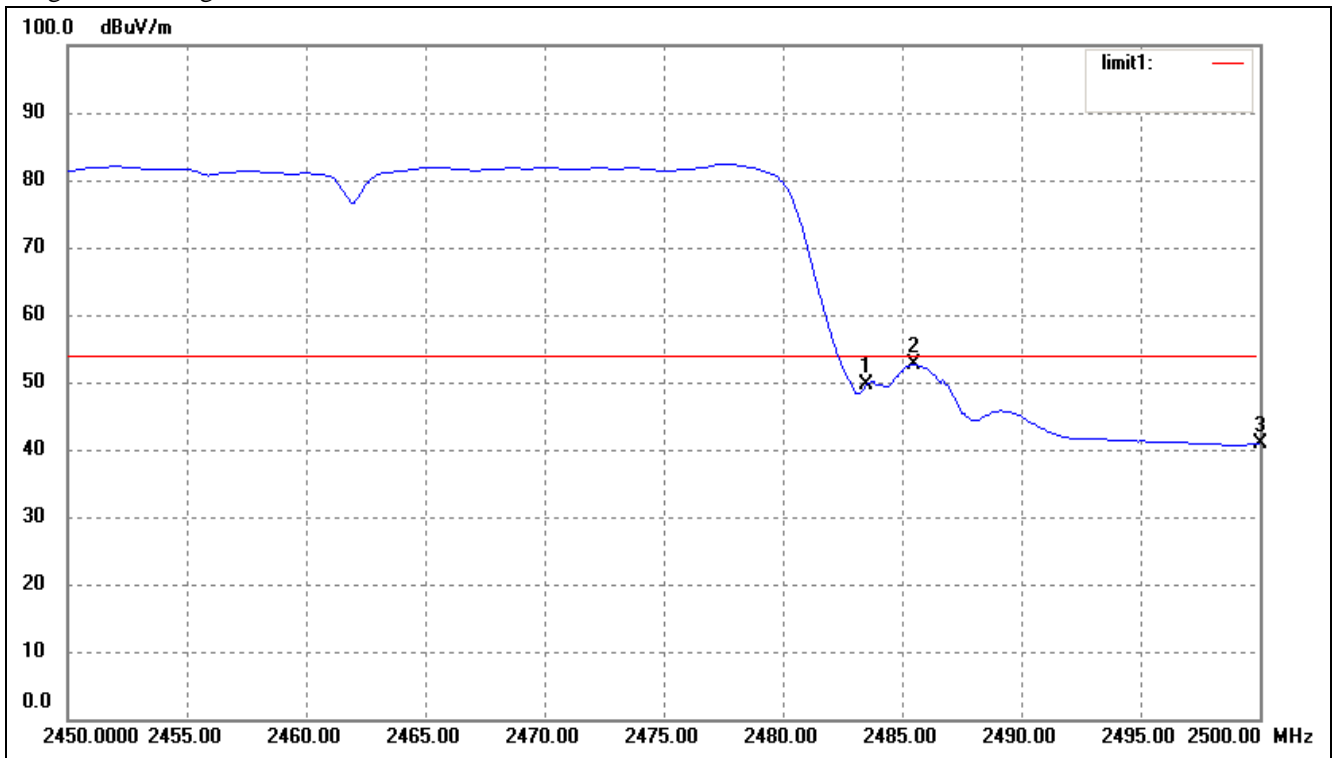
**For 2dBi Antenna
For 802.11n/HT40**

Lowest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	36.22	2.49	38.71	54.00	-15.29	Average Detector
	2310.000	49.39	2.49	51.88	74.00	-22.12	Peak Detector
2	2390.000	37.58	2.66	40.24	54.00	-13.76	Average Detector
	2390.000	40.83	2.66	53.49	74.00	-20.51	Peak Detector
3	2398.600	48.89	2.69	51.58	/	/	Average Detector
4	2410.000	79.18	2.72	81.90	/	/	Average Detector

Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	46.76	2.87	49.63	54.00	-4.37	Average Detector
	2483.500	58.99	2.87	61.86	74.00	-12.14	Peak Detector
2	2485.500	49.66	2.88	52.54	54.00	-1.46	Average Detector
	2485.500	62.90	2.88	65.78	74.00	-8.22	Peak Detector
3	2500.000	37.89	2.92	40.81	54.00	-13.19	Average Detector
	2500.000	51.19	2.92	54.11	74.00	-19.89	Peak Detector

***** END OF REPORT *****