

FCC Part 15C

Measurement and Test Report

For

ENCORE ELECTRONICS INC.

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

FCC ID: YZ500000005

Report Concerns: Original Report	Equipment Type: Wireless N300 USB Adapter
Model:	<u>ENUWI-2XN42</u>
Report No.:	<u>STR11038156I-1</u>
Test Date:	<u>2011-03-18 to 2011-04-22</u>
Issue Date:	<u>2011-05-06</u>
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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 METHODOLOGY.....	4
1.4 TEST FACILITY.....	4
1.5 EUT EXERCISE SOFTWARE.....	4
1.6 ACCESSORIES EQUIPMENT LIST AND DETAILS.....	4
1.7 EUT CABLE LIST AND DETAILS.....	4
2. SUMMARY OF TEST RESULTS.....	5
3. CONDUCTED EMISSIONS.....	6
3.1 MEASUREMENT UNCERTAINTY.....	6
3.2 TEST EQUIPMENT LIST AND DETAILS.....	6
3.3 TEST PROCEDURE.....	6
3.4 BASIC TEST SETUP BLOCK DIAGRAM.....	6
3.5 ENVIRONMENTAL CONDITIONS.....	7
3.6 SUMMARY OF TEST RESULTS/PLOTS.....	7
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 DENSITY.....	11
5.1 STANDARD APPLICABLE.....	11
5.2 TEST EQUIPMENT LIST AND DETAILS.....	11
5.3 TEST PROCEDURE.....	11
5.4 ENVIRONMENTAL CONDITIONS.....	11
5.5 SUMMARY OF TEST RESULTS/PLOTS.....	12
6. 6-DB BANDWIDTH.....	25
6.1 STANDARD APPLICABLE.....	25
6.2 TEST EQUIPMENT LIST AND DETAILS.....	25
6.3 TEST PROCEDURE.....	25
6.4 ENVIRONMENTAL CONDITIONS.....	25
6.5 SUMMARY OF TEST RESULTS/PLOTS.....	25
7. POWER OUTPUT.....	39
7.1 STANDARD APPLICABLE.....	39
7.2 TEST EQUIPMENT LIST AND DETAILS.....	39
7.3 TEST PROCEDURE.....	39
7.4 ENVIRONMENTAL CONDITIONS.....	39
7.5 SUMMARY OF TEST RESULTS/PLOTS.....	40
8. FIELD STRENGTH OF SPURIOUS EMISSIONS.....	65
8.1 MEASUREMENT UNCERTAINTY.....	65
8.2 STANDARD APPLICABLE.....	65
8.3 TEST EQUIPMENT LIST AND DETAILS.....	65
8.4 TEST PROCEDURE.....	65
8.5 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	66
8.6 ENVIRONMENTAL CONDITIONS.....	66
8.7 SUMMARY OF TEST RESULTS/PLOTS.....	66
9. OUT OF BAND EMISSIONS.....	91
9.1 STANDARD APPLICABLE.....	91
9.2 TEST EQUIPMENT LIST AND DETAILS.....	91
9.3 TEST PROCEDURE.....	91
9.4 ENVIRONMENTAL CONDITIONS.....	91
9.5 SUMMARY OF TEST RESULTS/PLOTS.....	92

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 USB Adapter
Trade Name:	ENCORE
Model No.:	ENUWI-2XN42
Add Models:	ENUWI-2XN45, WU8192CU22, WU8192CU55
Rated Voltage:	DC 5V
RF Output Power	Max. 8.42dBm (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), 8 for 11n(HT40)
Channel Separation:	5MHz
Type of Antenna:	External and detachable antenna with reversed SMA connector
Size:	6.0x3.3x1.1 cm

Note: The test data is gathered from a production sample, provided by the manufacture. Test is carried out with ENUWI-2XN42 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
/	/	/	/

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

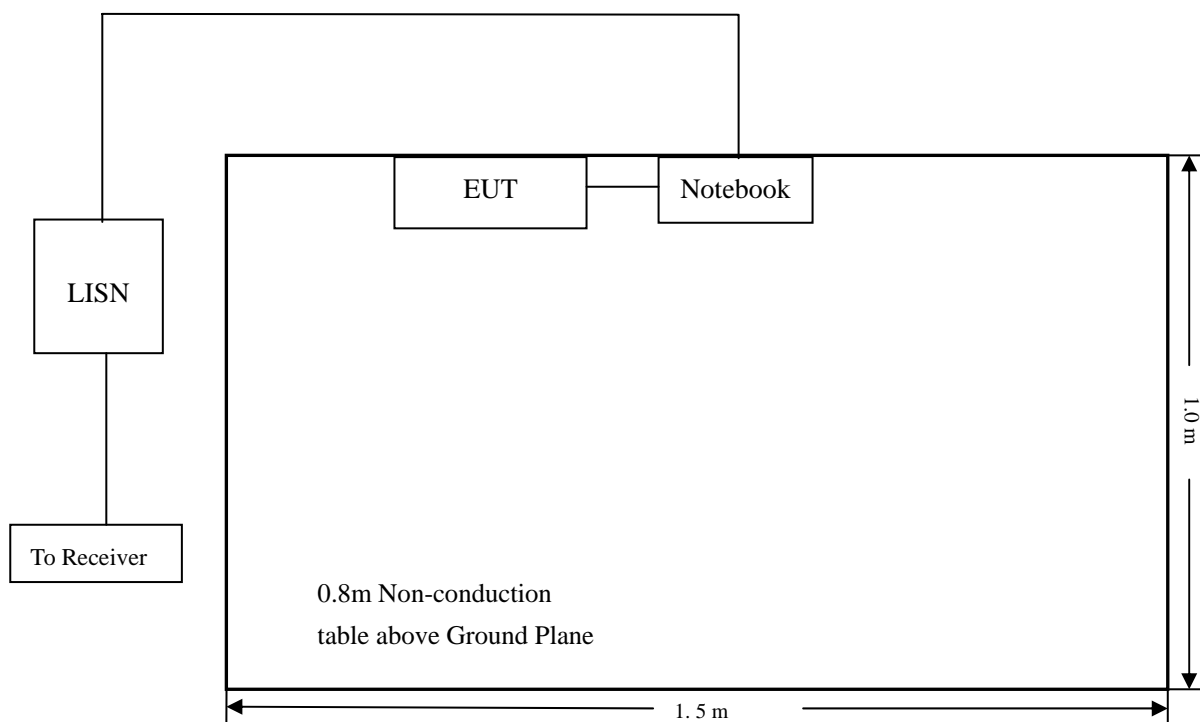
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2010-12-20	2011-12-19
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2010-12-20	2011-12-19
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2010-12-20	2011-12-19

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

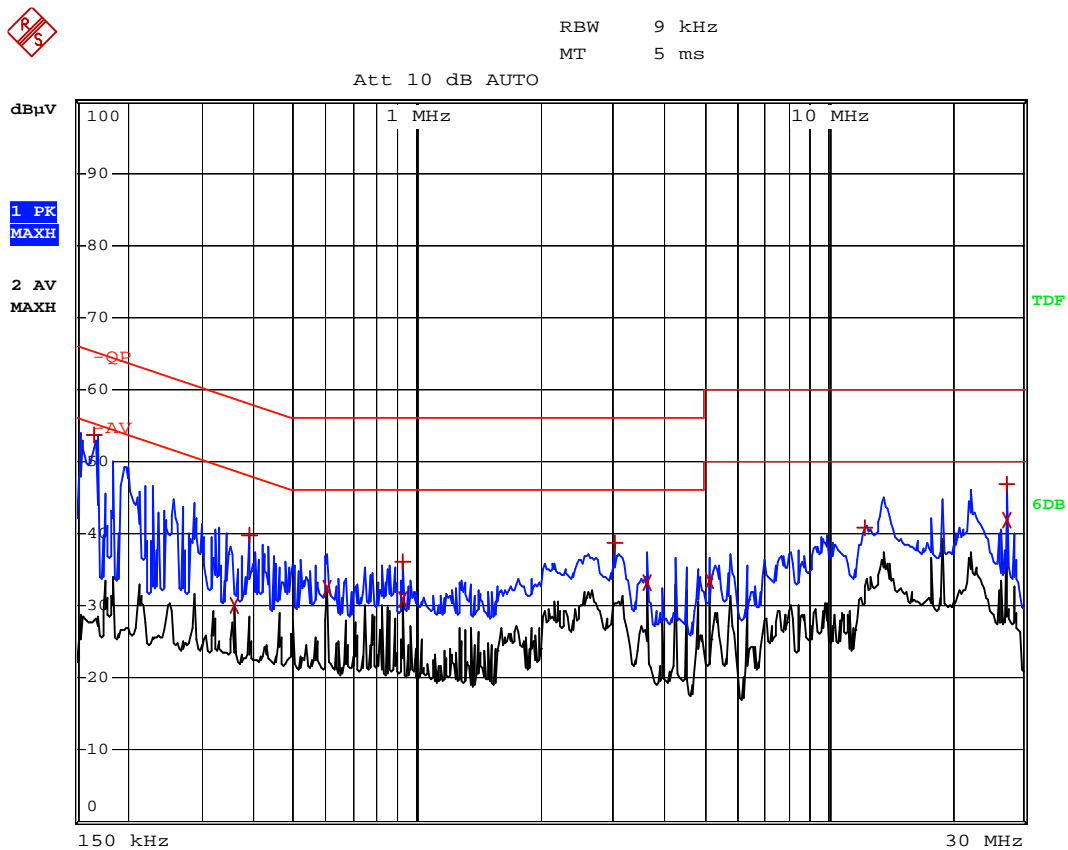
According to the data in section 3.7, the EUT complied with the FCC 15.207 Conducted margin for a Class B device, with the *worst* margin reading of:

-4.90 dB μ V at 14.002 MHz in the Line, Average detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

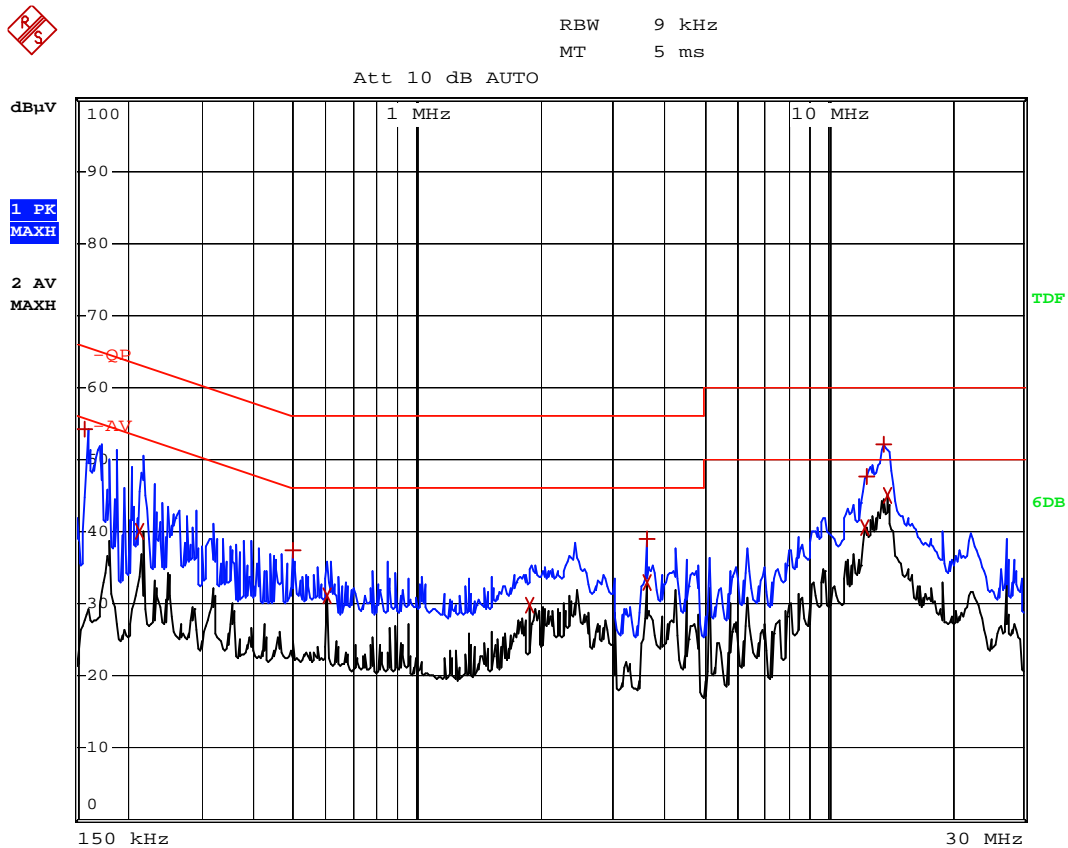
Conducted Disturbance
EUT: Wireless N300 USB Adapter
M/N: ENUWI-2XN42
Operating Condition: Transmitting
Test Specification: N
Comment: AC 120V/60Hz



EDIT PEAK LIST (Prescan Results)				
Trace1:	-QP			
Trace2:	-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB	
1 Max Peak	166 kHz	53.70	-11.45	
2 Average	358 kHz	30.07	-18.69	
1 Max Peak	390 kHz	39.77	-18.29	
2 Average	602 kHz	32.29	-13.70	
1 Max Peak	926 kHz	36.14	-19.85	
2 Average	926 kHz	30.92	-15.07	
1 Max Peak	3.042 MHz	38.59	-17.41	
2 Average	3.646 MHz	33.19	-12.80	
2 Average	5.166 MHz	33.53	-16.46	
1 Max Peak	12.37 MHz	40.92	-19.07	
1 Max Peak	27.29 MHz	46.80	-13.19	
2 Average	27.29 MHz	41.83	-8.16	

Plot of Conducted Emissions Test Data

Conducted Disturbance
EUT: Wireless N300 USB Adapter
M/N: ENUWI-2XN42
Operating Condition: Transmitting
Test Specification: L
Comment: AC 120V/60Hz



EDIT PEAK LIST (Prescan Results)				
Trace1:	-QP			
Trace2:	-AV			
Trace3:	---			
TRACE		FREQUENCY	LEVEL dBμV	DELTA LIMIT dB
1	Max Peak	158 kHz	54.30	-11.26
2	Average	214 kHz	39.94	-13.10
1	Max Peak	498 kHz	37.27	-18.76
2	Average	602 kHz	31.12	-14.87
2	Average	1.878 MHz	29.74	-16.25
1	Max Peak	3.65 MHz	38.84	-17.15
2	Average	3.65 MHz	32.88	-13.11
2	Average	12.358 MHz	40.50	-9.49
1	Max Peak	12.386 MHz	47.53	-12.46
1	Max Peak	13.694 MHz	52.16	-7.83
2	Average	14.002 MHz	45.09	-4.90

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=3KHz, Span = 1.5MHz.
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)	-20.38	-25.31	/	8
	Middle channel (2437MHz)	-20.60	-25.72	/	8
	High channel (2462MHz)	-20.77	-26.09	/	8
802.11g	Low channel (2412MHz)	-20.51	-21.91	/	8
	Middle channel (2437MHz)	-20.41	-21.97	/	8
	High channel (2462MHz)	-20.26	-21.70	/	8

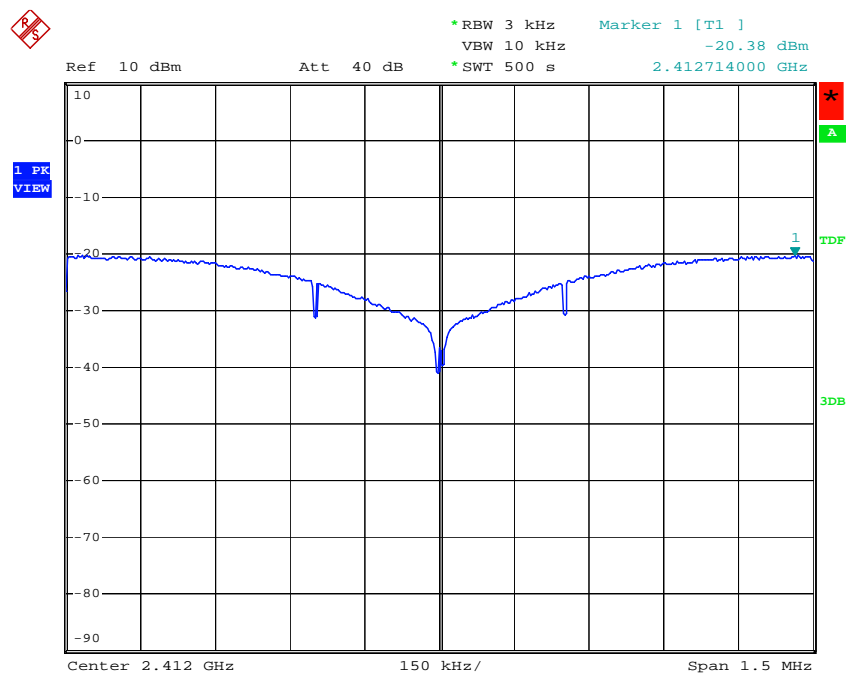
For 802.11n HT20/HT40

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)	-24.36	-21.98	-20.00	8
	Middle channel (2437MHz)	-24.52	-23.41	-20.92	8
	High channel (2462MHz)	-25.25	-23.28	-21.14	8
802.11n HT40 (MCS15)	Low channel (2422MHz)	-28.56	-27.22	-24.83	8
	Middle channel (2437MHz)	-28.54	-27.20	-24.81	8
	High channel (2452MHz)	-28.26	-27.20	-24.69	8

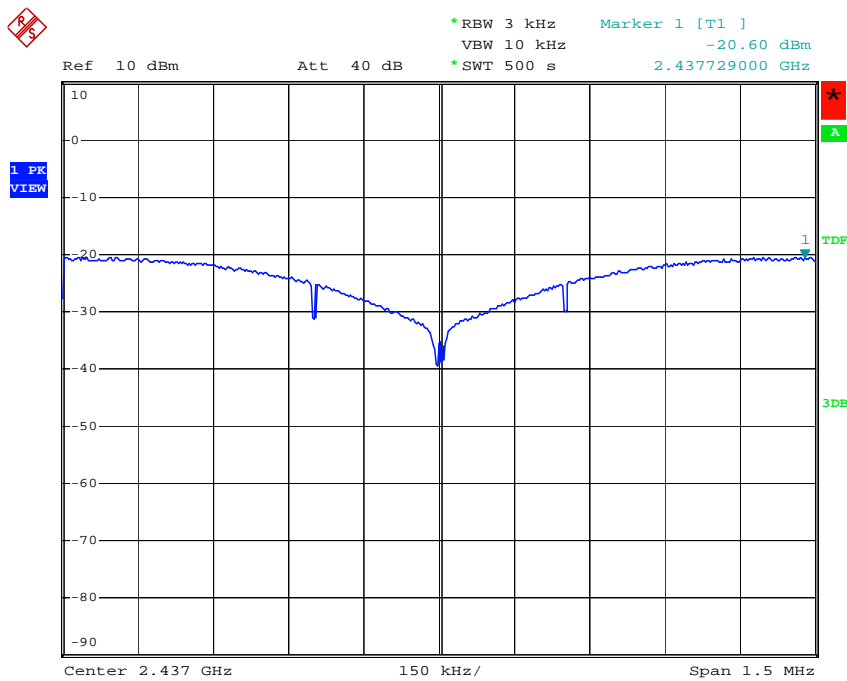
Note: The EUT shall be simultaneous transmission at the chain 0 and chain 1 for the MCS15 mode of 802.11n HT20 or HT40, all other mode shall be transmission only single chain (chain 0 or chain 1).

For 802.11b-chain 0

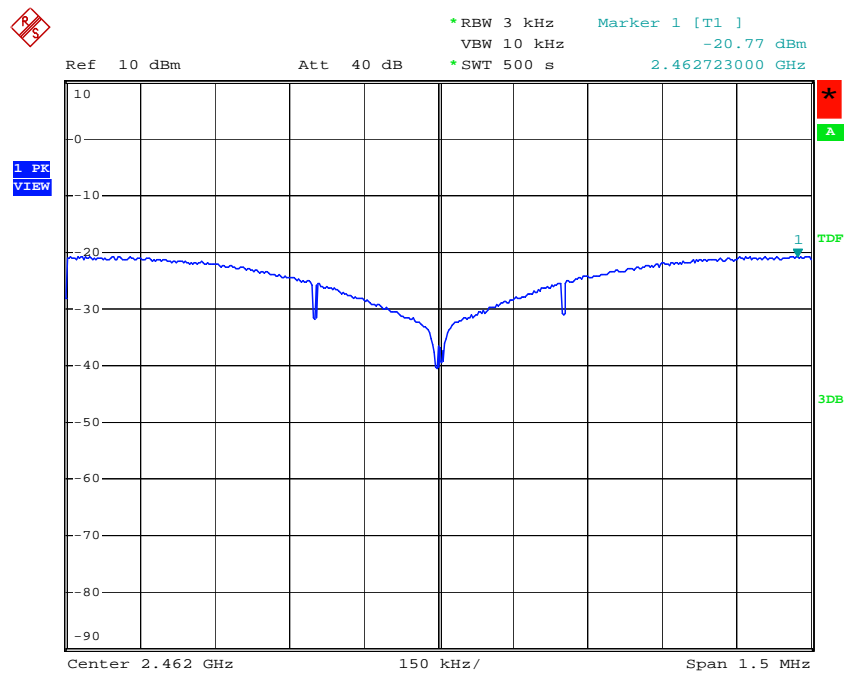
Low Channel:



Middle Channel:

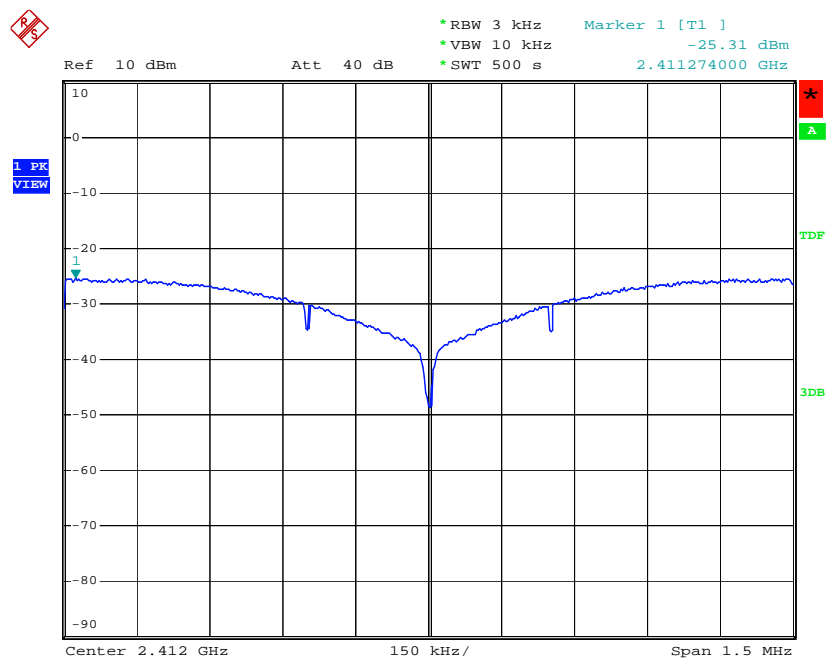


High Channel:

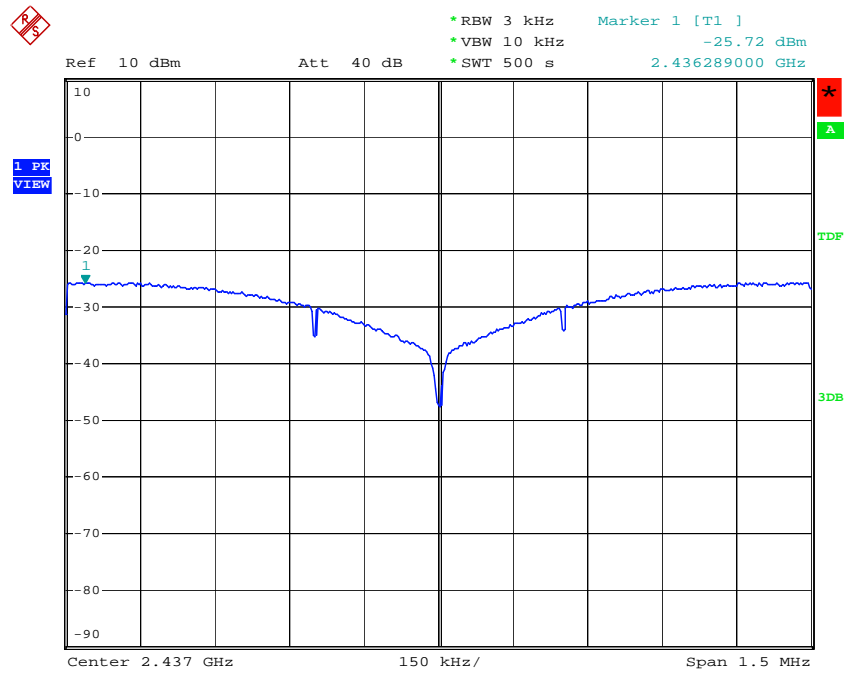


For 802.11b-chain 1

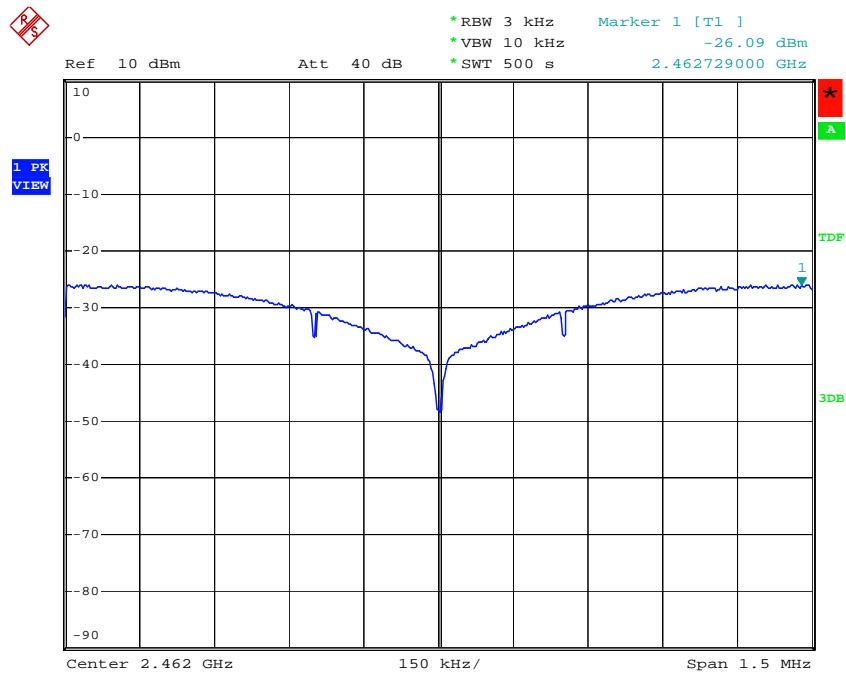
Low Channel



Middle Channel:

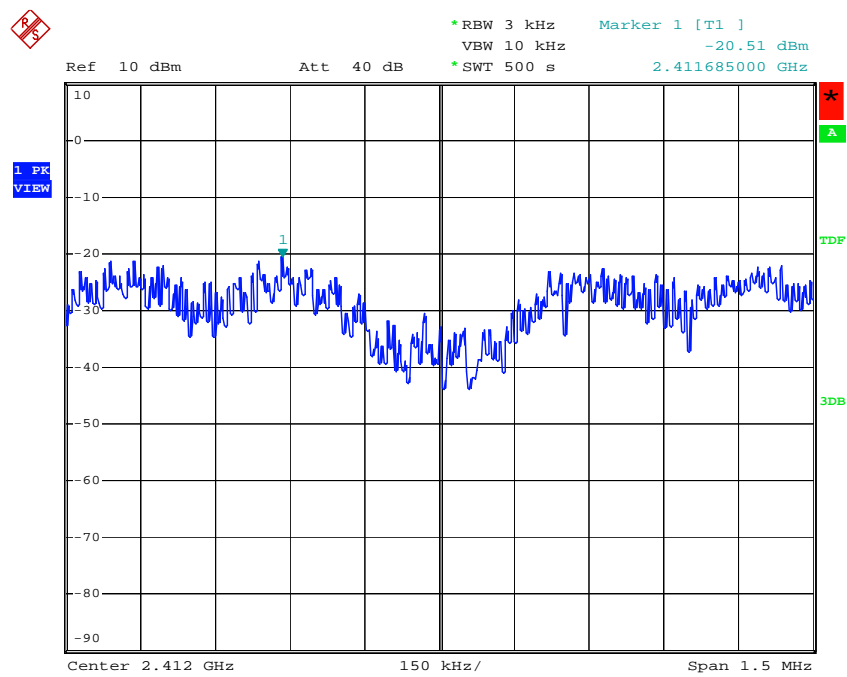


High Channel:

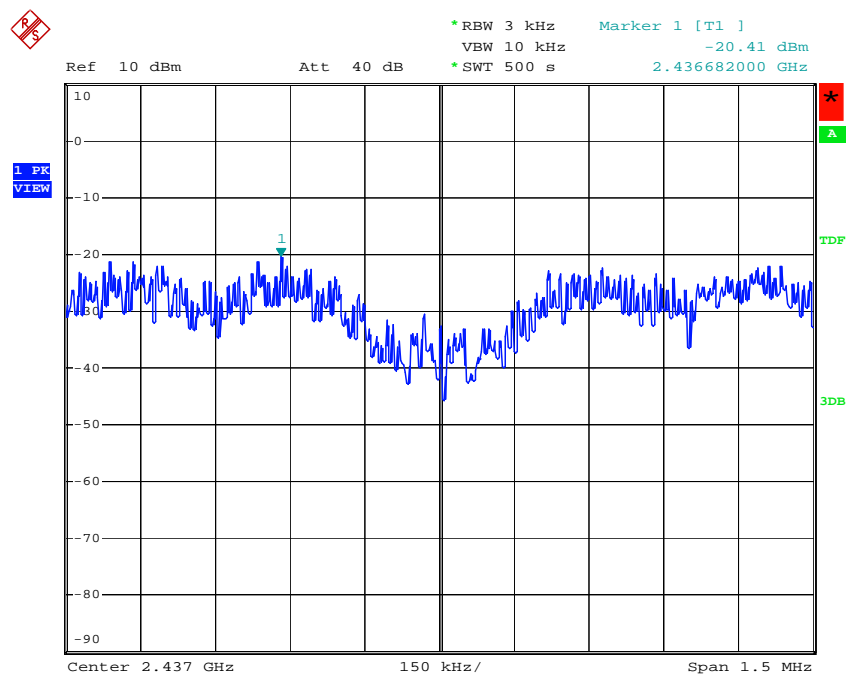


For 802.11g-chain 0

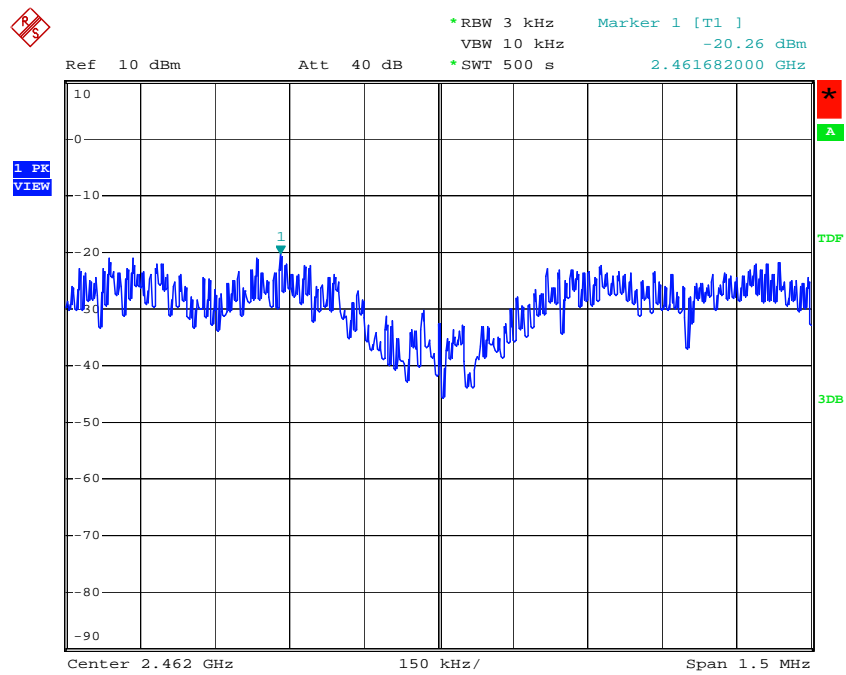
Low Channel:



Middle Channel:

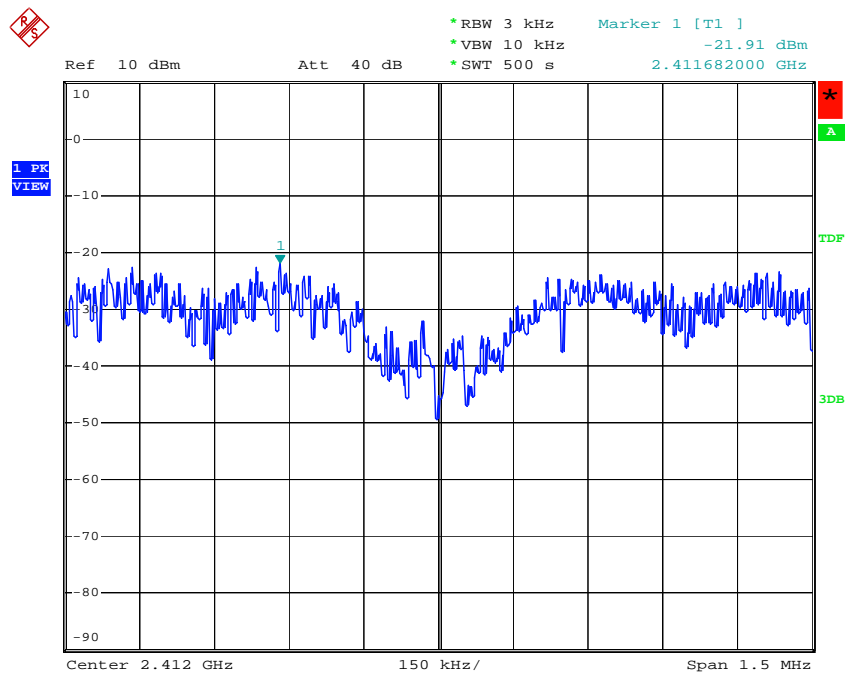


High Channel:

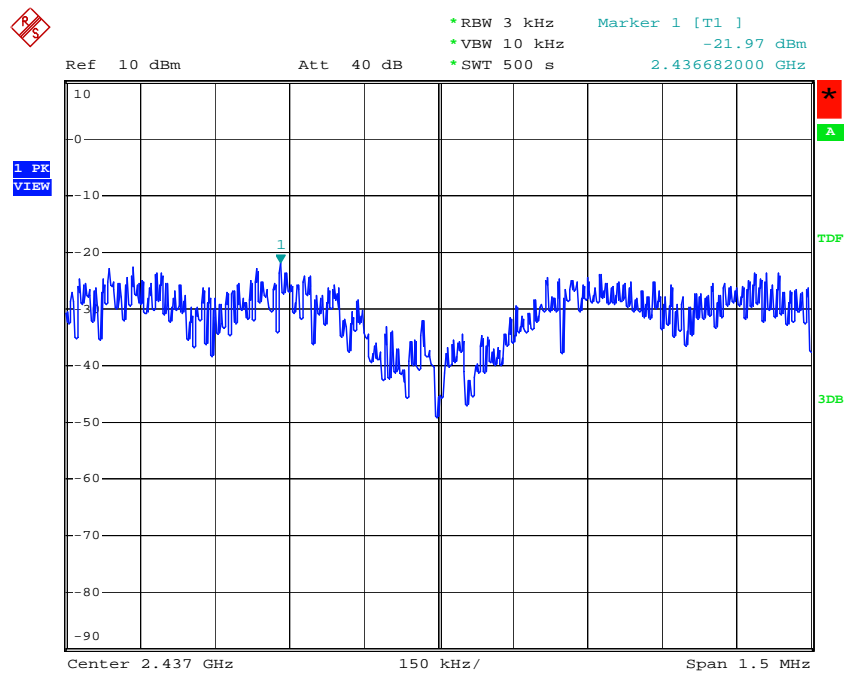


For 802.11g-chain 1

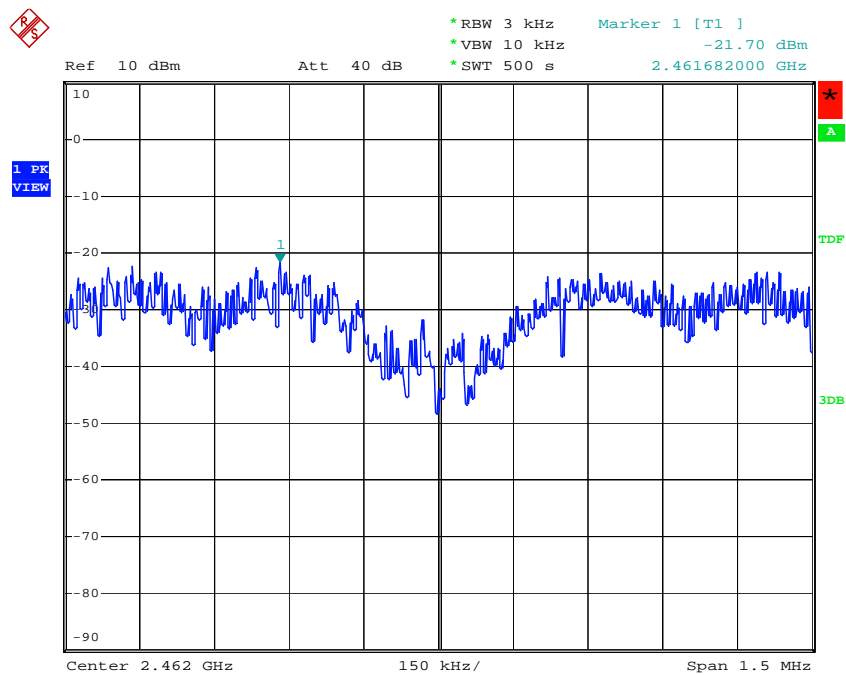
Low Channel:



Middle Channel:

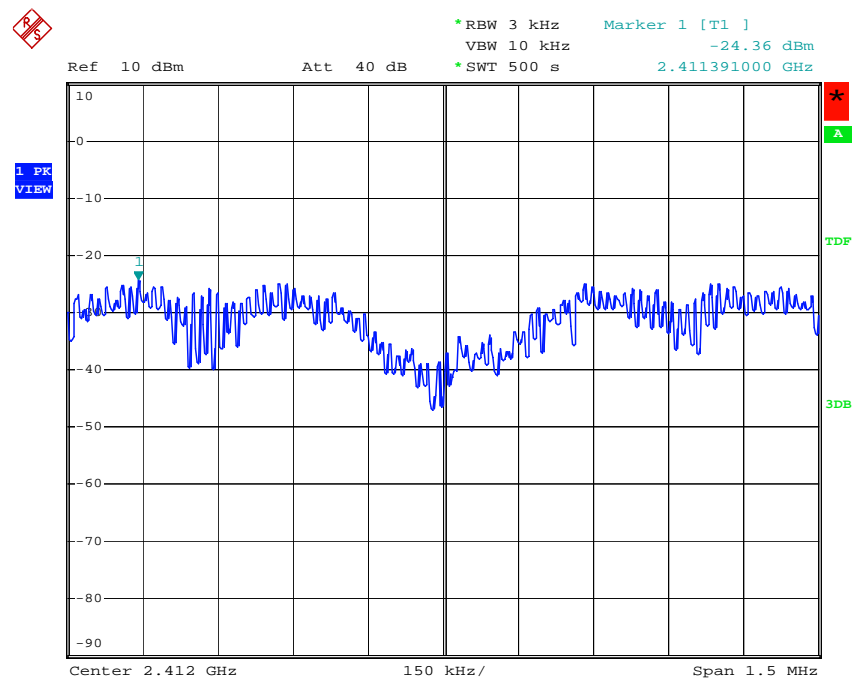


High Channel:

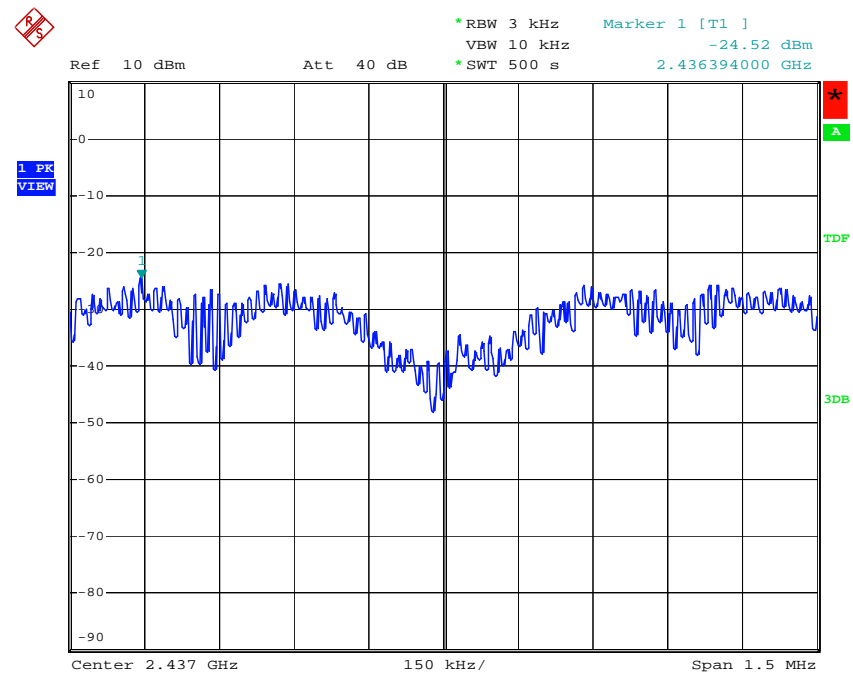


For 802.11n/HT20-chain 0

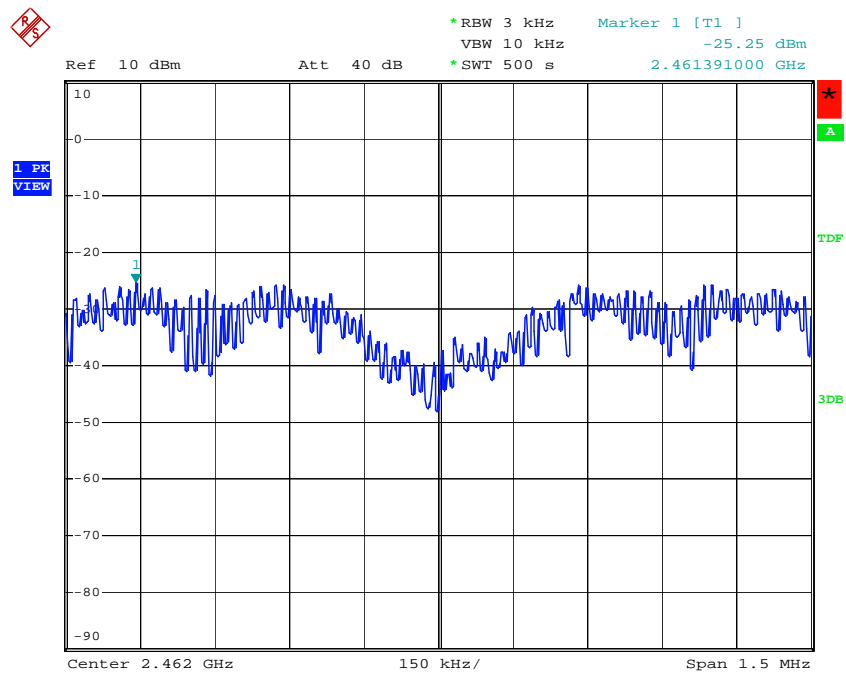
Low Channel:



Middle Channel:

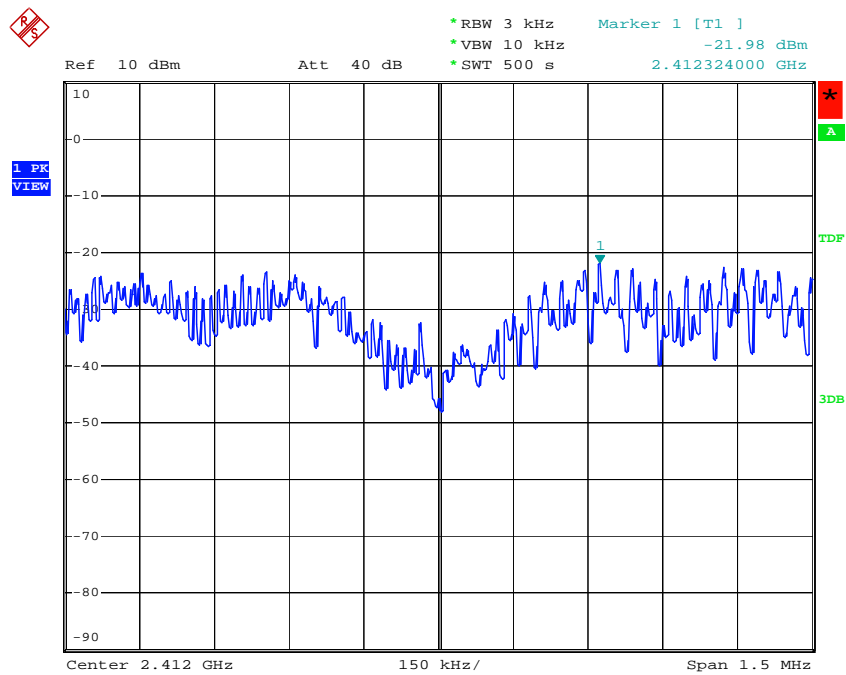


High Channel:

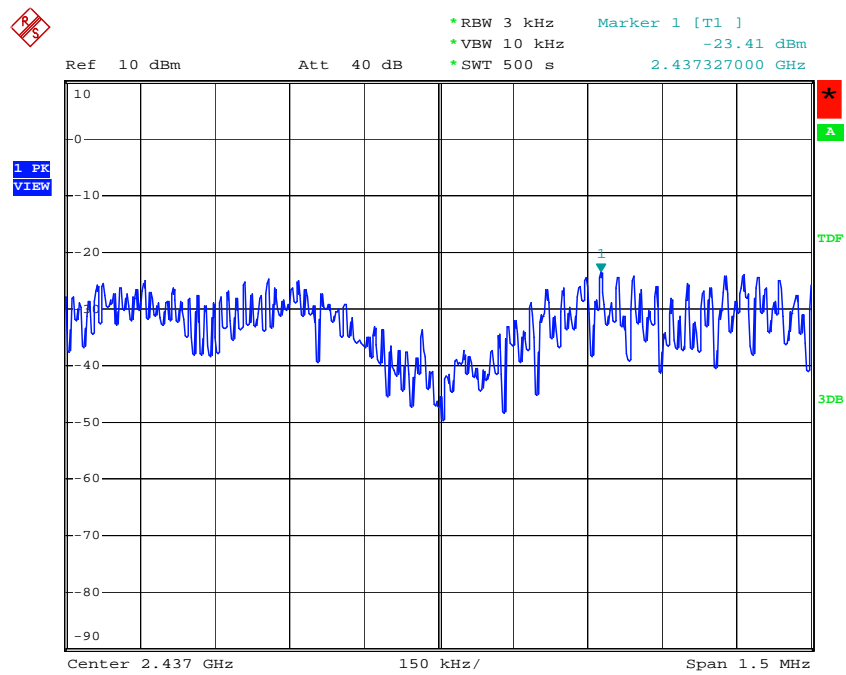


For 802.11n/HT20-chain 1

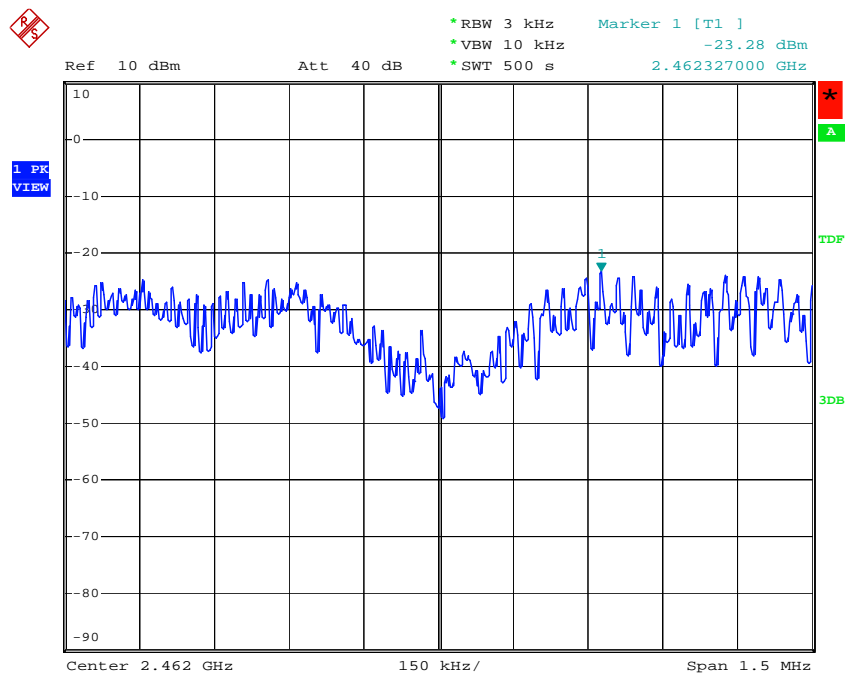
Low Channel:



Middle Channel:

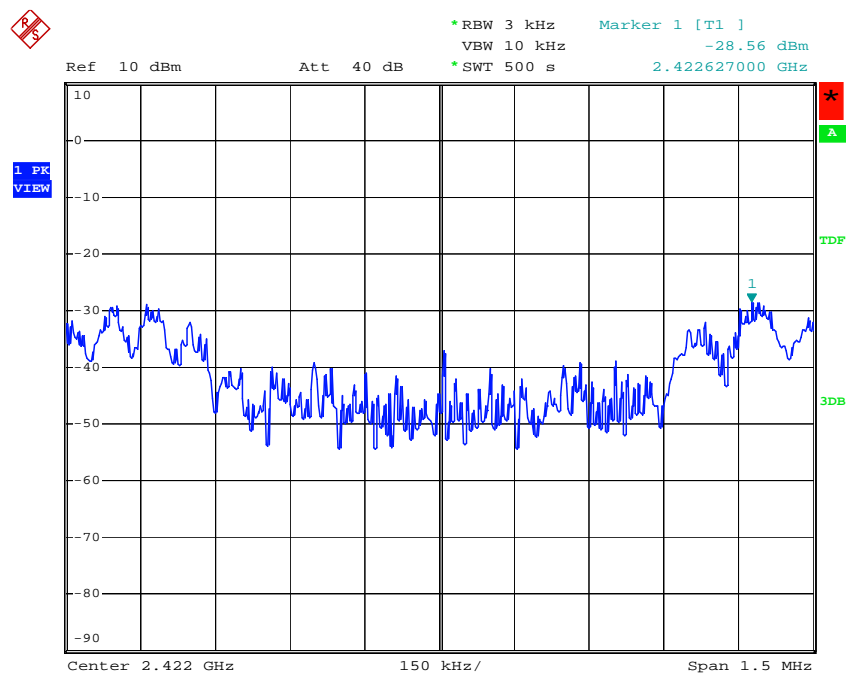


High Channel:

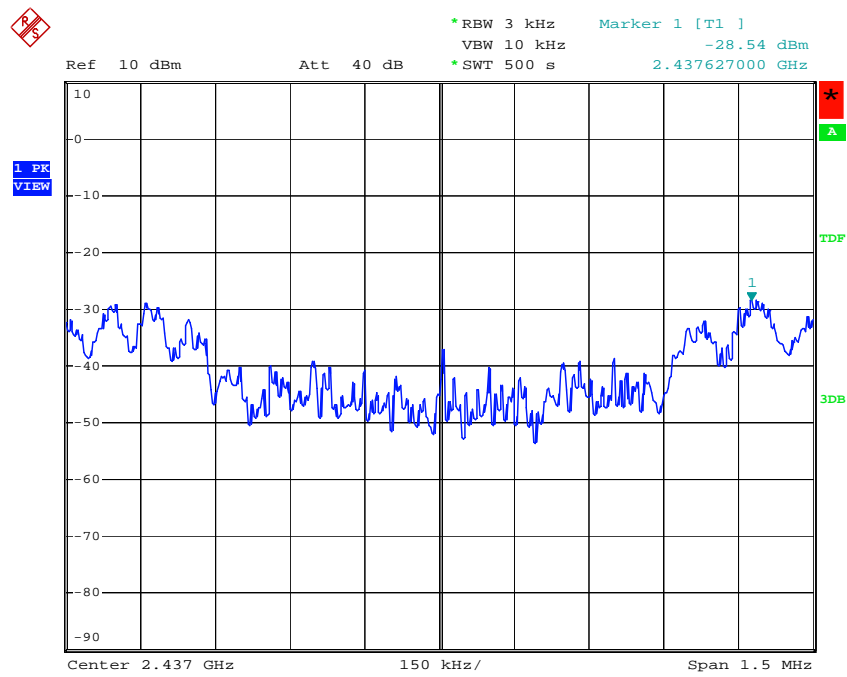


For 802.11n/HT40-chain 0

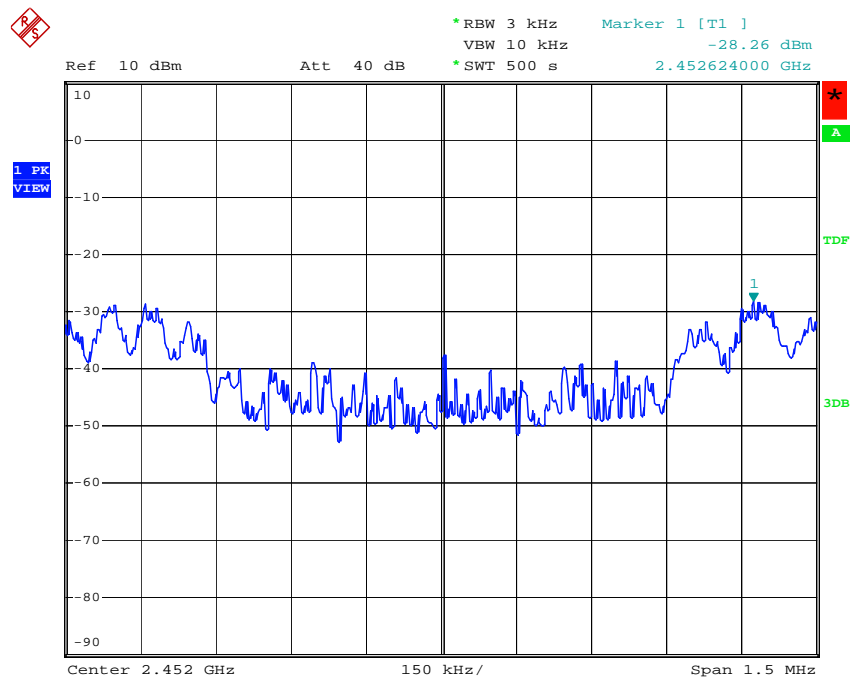
Low Channel:



Middle Channel:

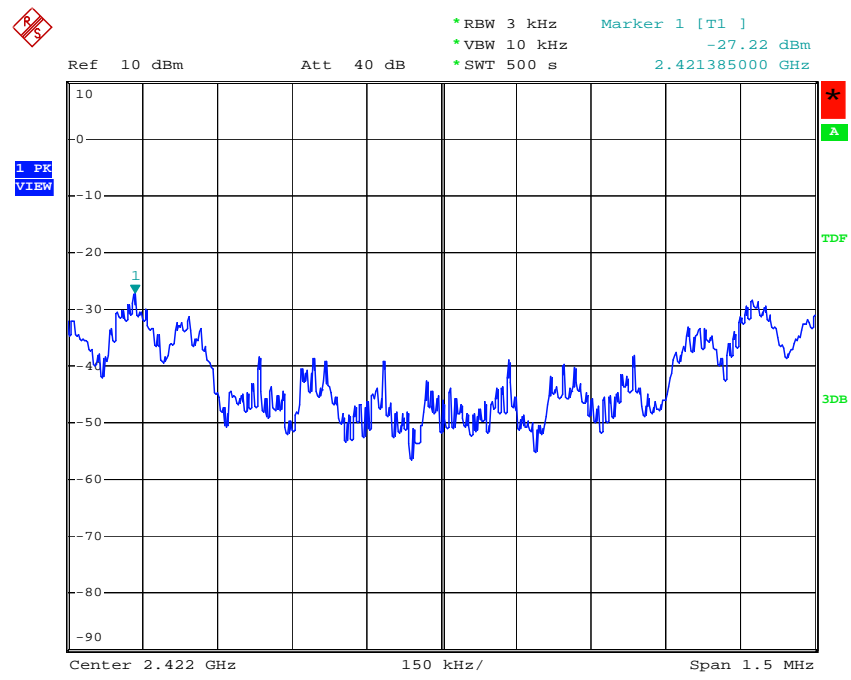


High Channel:

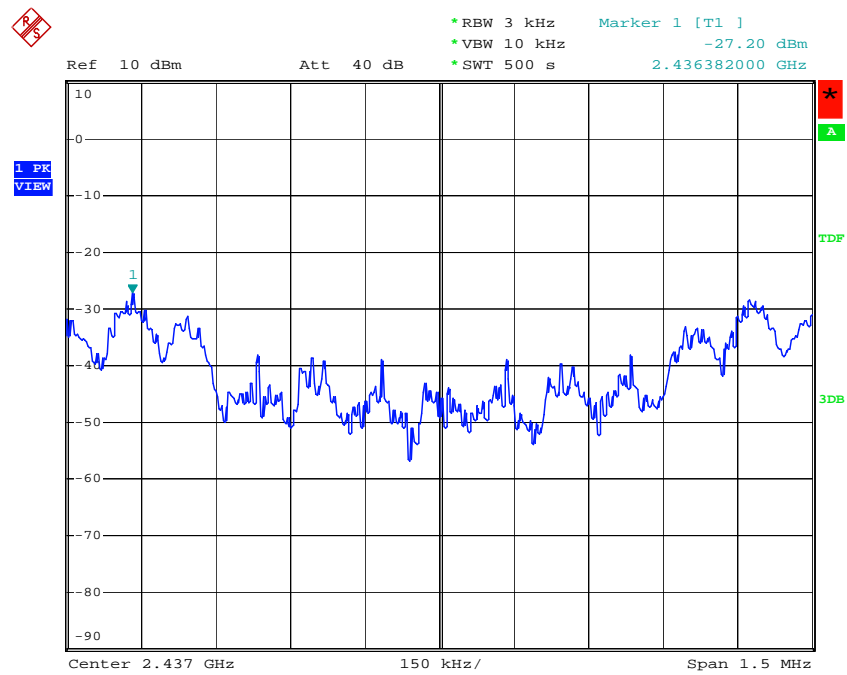


For 802.11n/HT40-chain 1

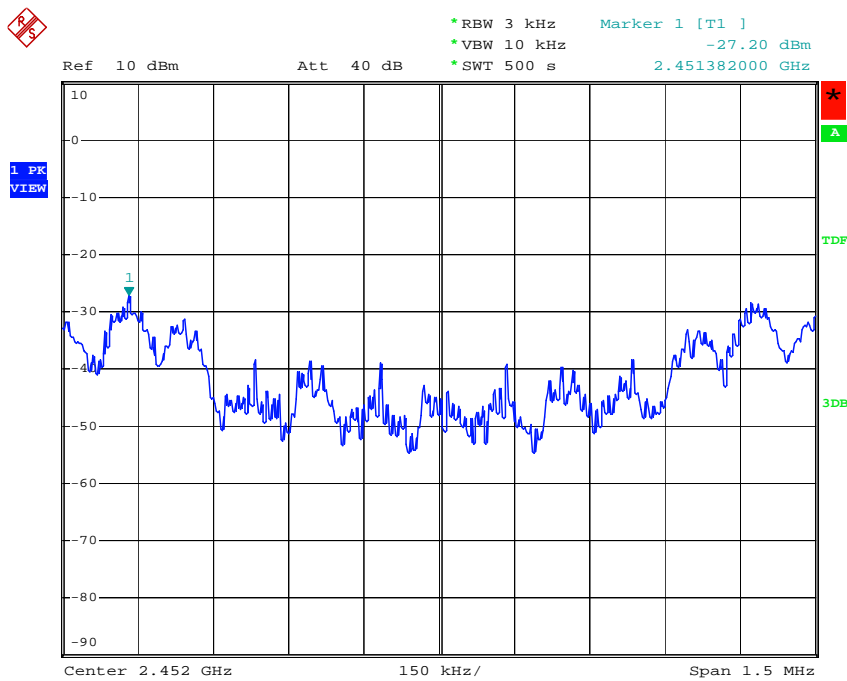
Low Channel:



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=100KHz (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

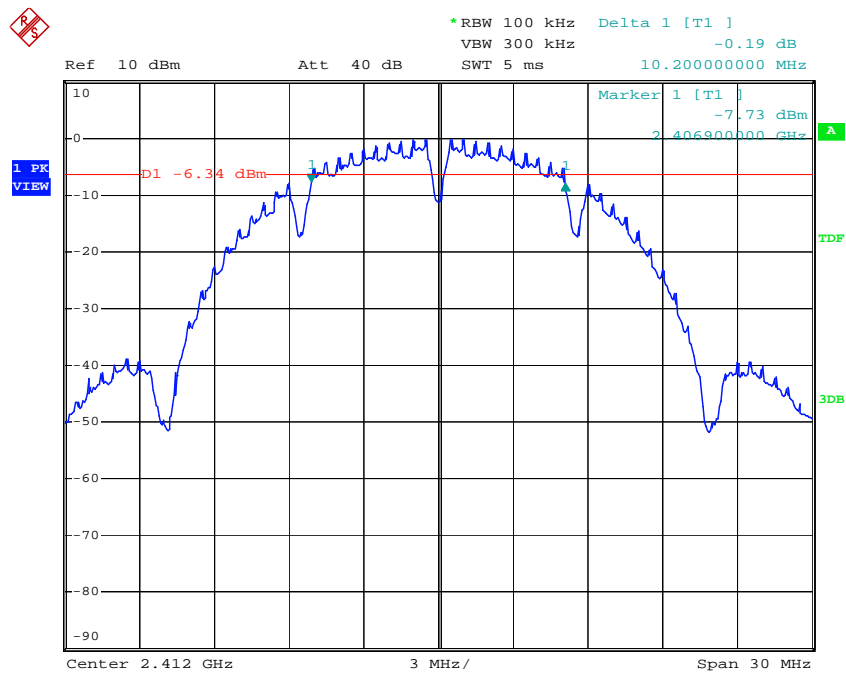
Test mode	Frequency MHz	6 dB Bandwidth Chain 0 (kHz)	6 dB Bandwidth Chain 1 (kHz)	Limit kHz
802.11b	2412	10200	10140	500
	2437	10200	10200	500
	2462	10200	10200	500
802.11g	2412	16620	16620	500
	2437	16560	16560	500
	2462	16680	16620	500

For 802.11n HT20/HT40

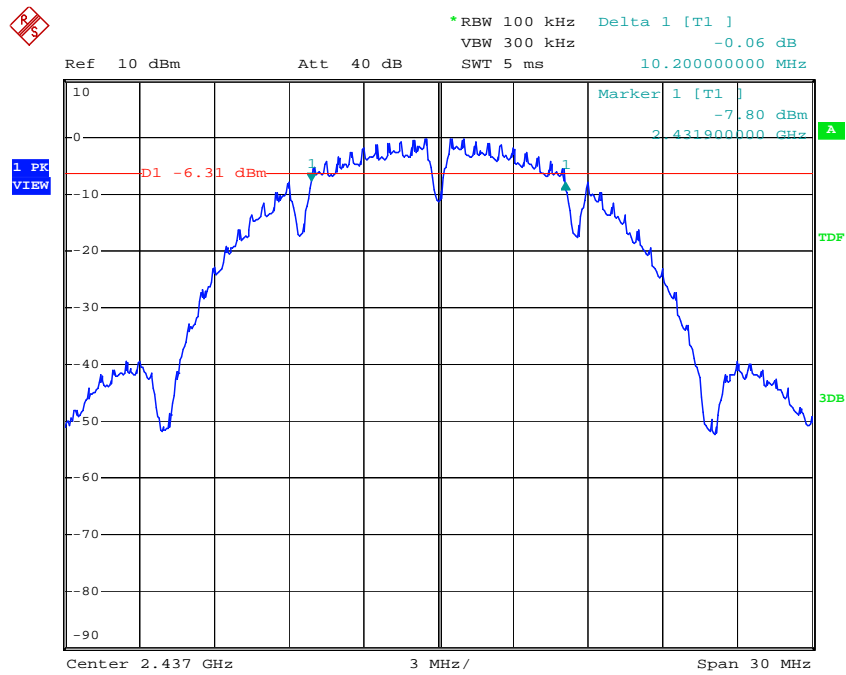
Test mode	Frequency MHz	6 dB Bandwidth Chain 0 (kHz)	6 dB Bandwidth Chain 1 (kHz)	Limit kHz
802.11n HT20	2412	17880	17880	500
	2437	17820	17880	500
	2462	17820	17880	500
802.11n HT40	2422	36600	36600	500
	2437	36600	36600	500
	2452	36600	36600	500

For 802.11b-chain 0

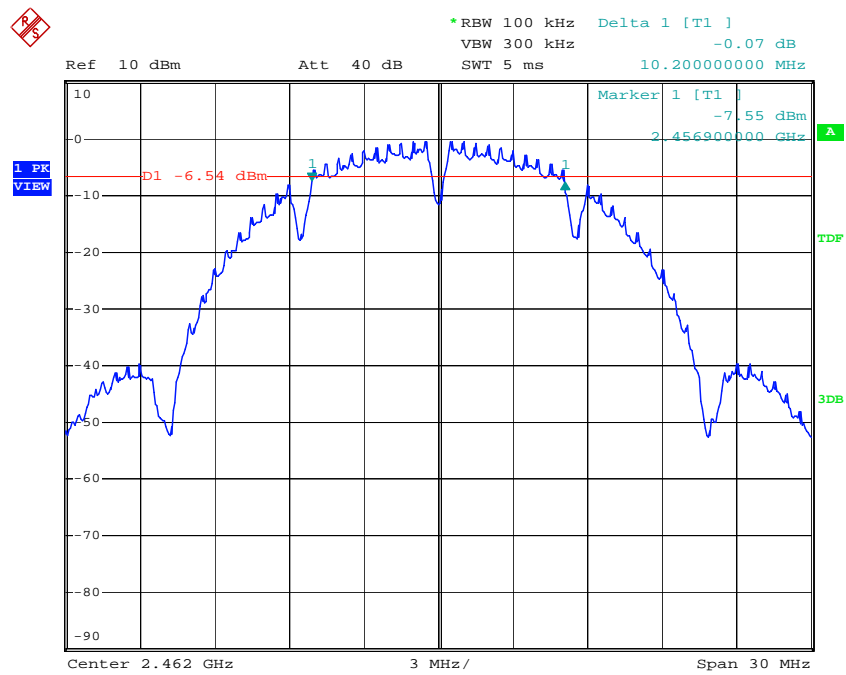
Low Channel:



Mid Channel:

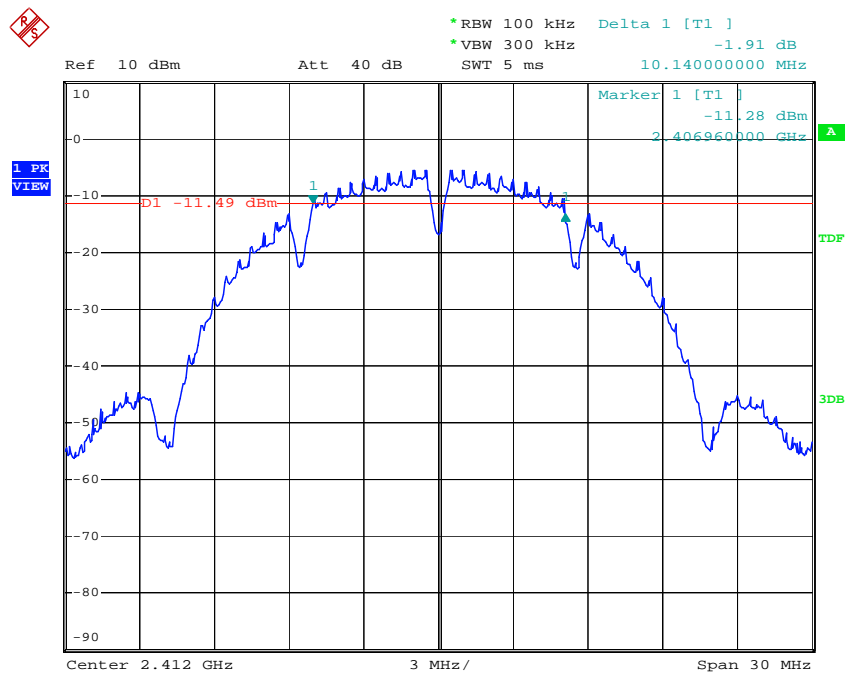


High Channel:

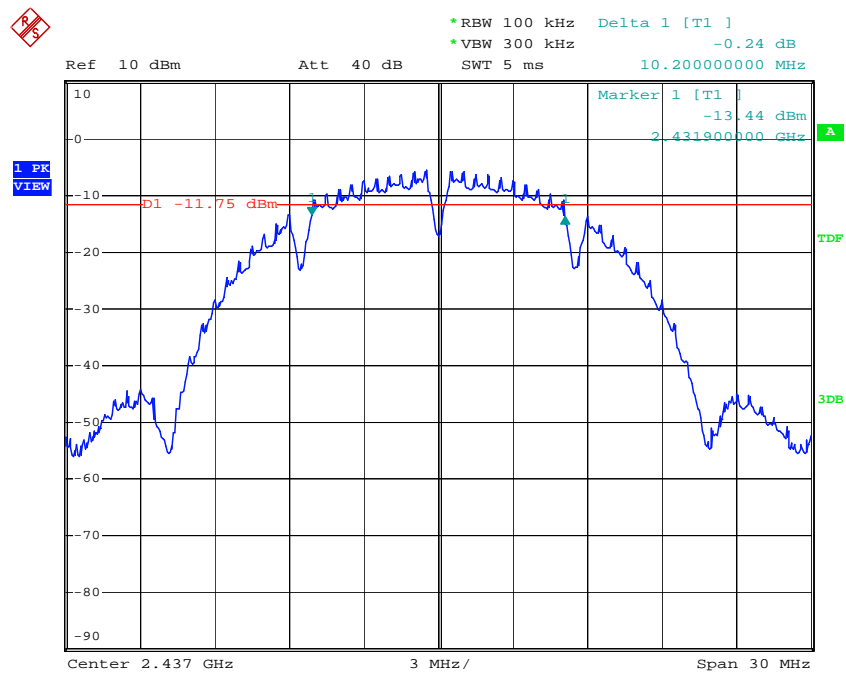


For 802.11b-chain 1

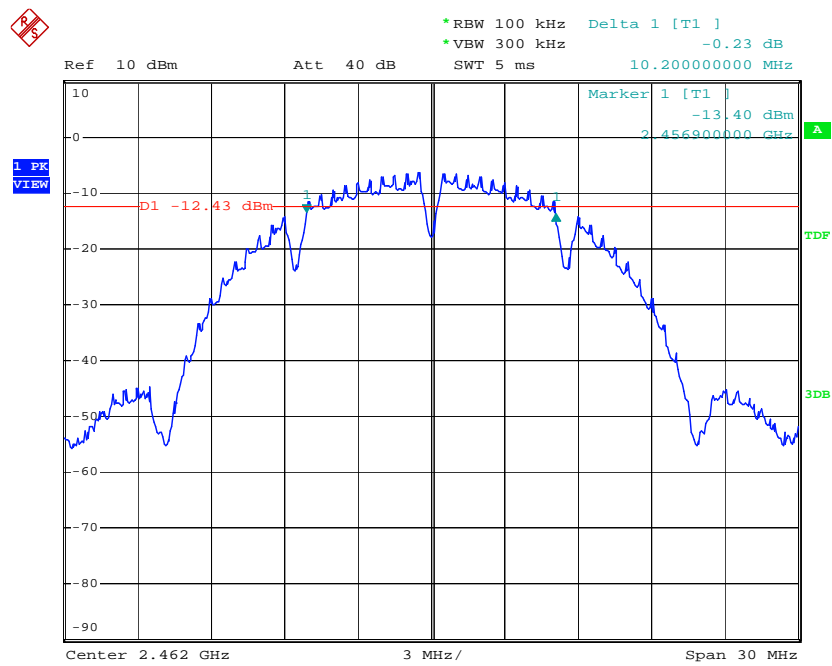
Low Channel:



Middle Channel:

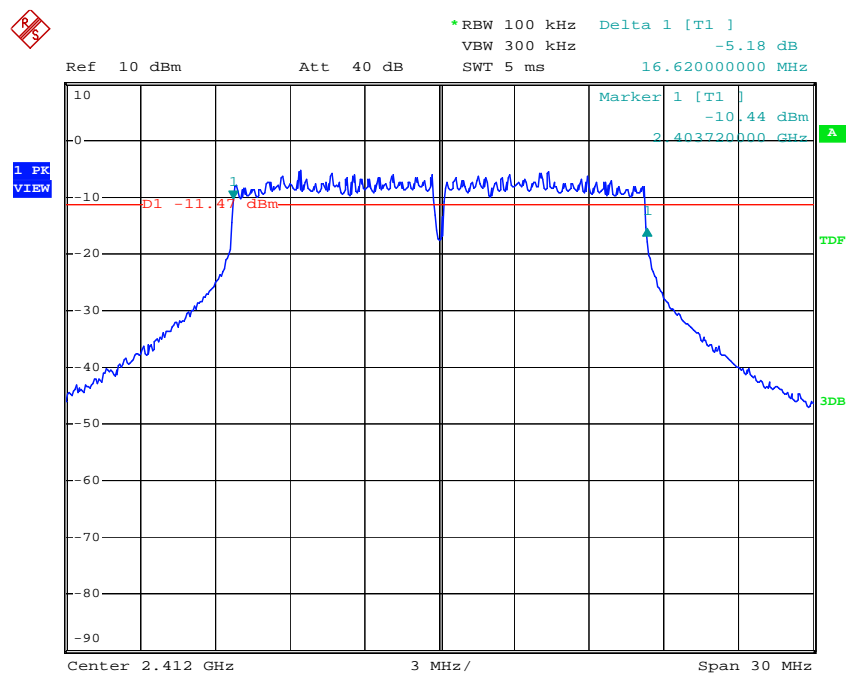


High Channel:

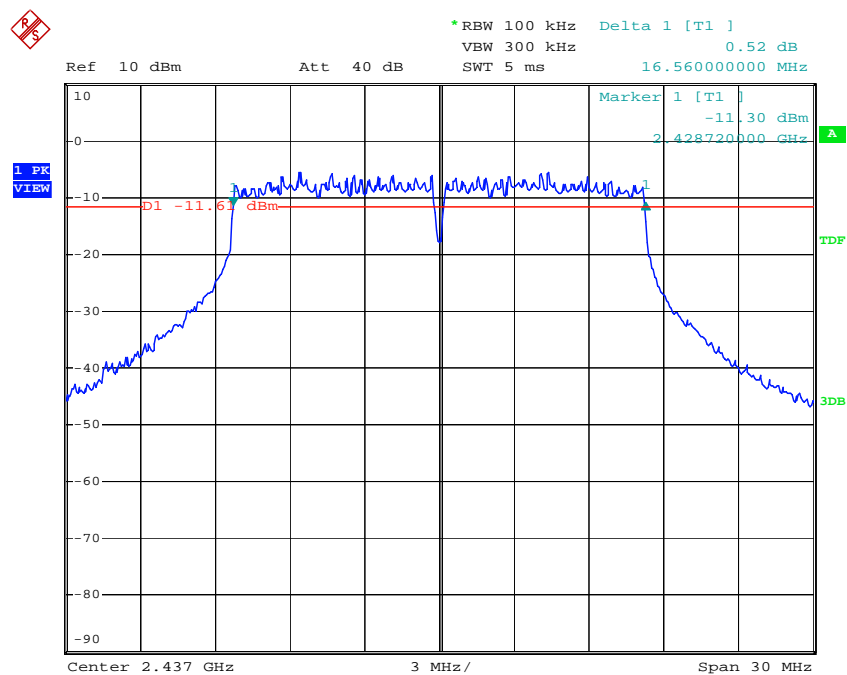


For 802.11g-chain 0

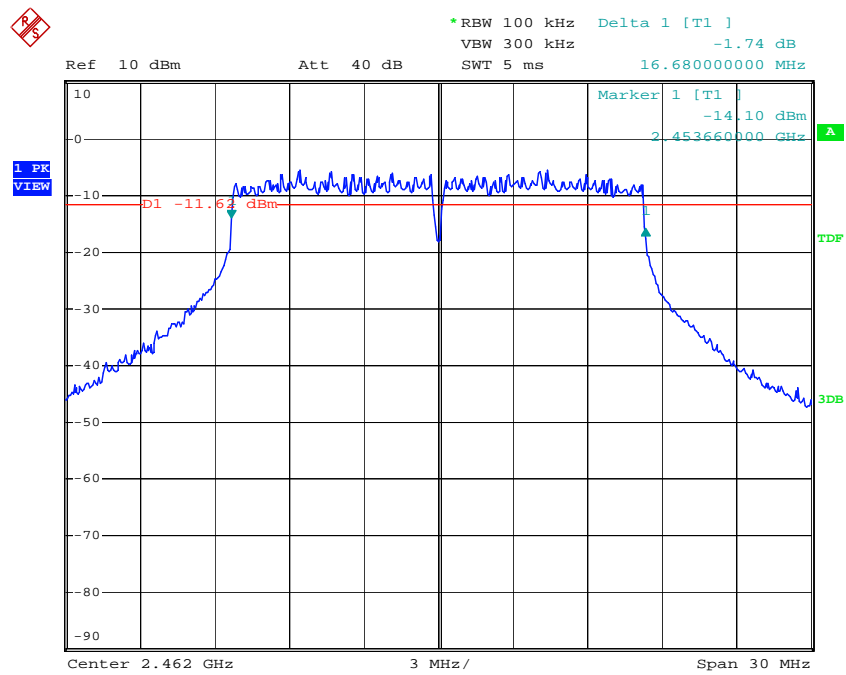
Low Channel:



Mid Channel:

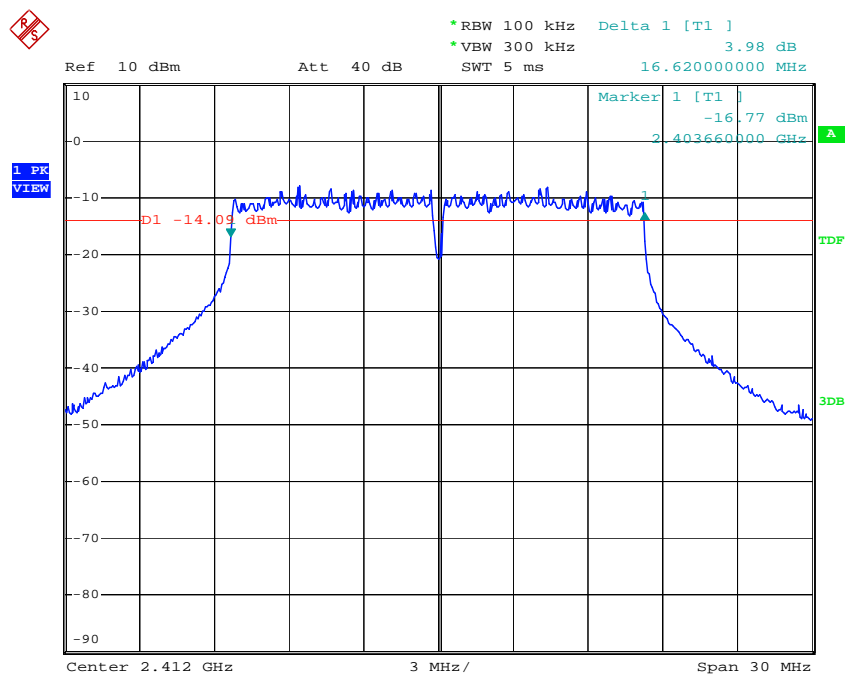


High Channel:

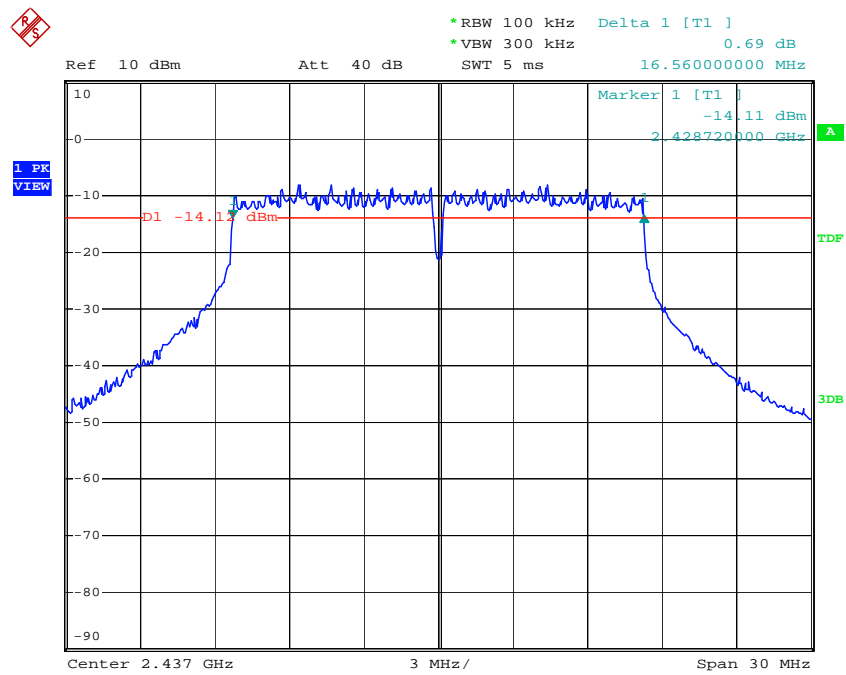


For 802.11g-chain 1

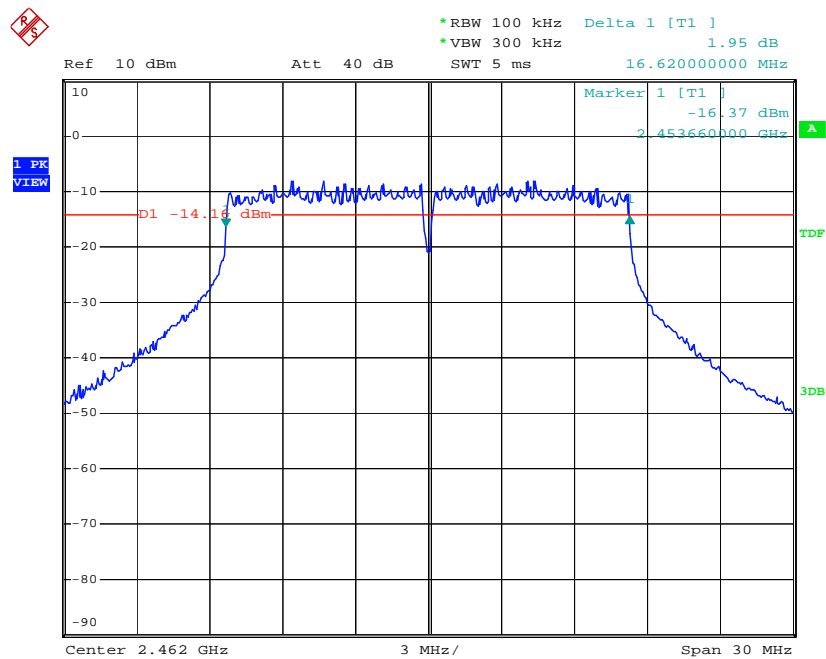
Low Channel:



Middle Channel:

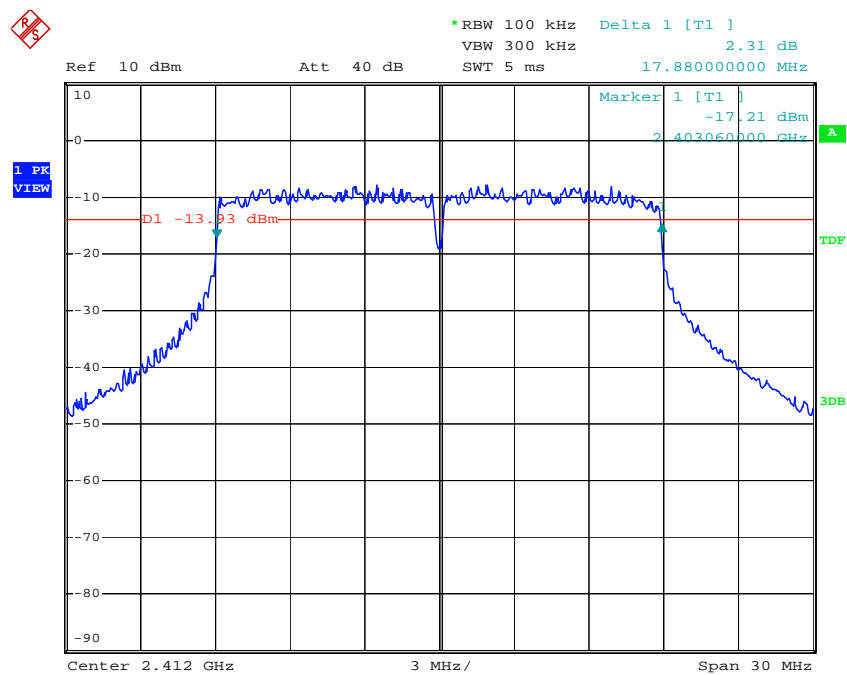


High Channel:

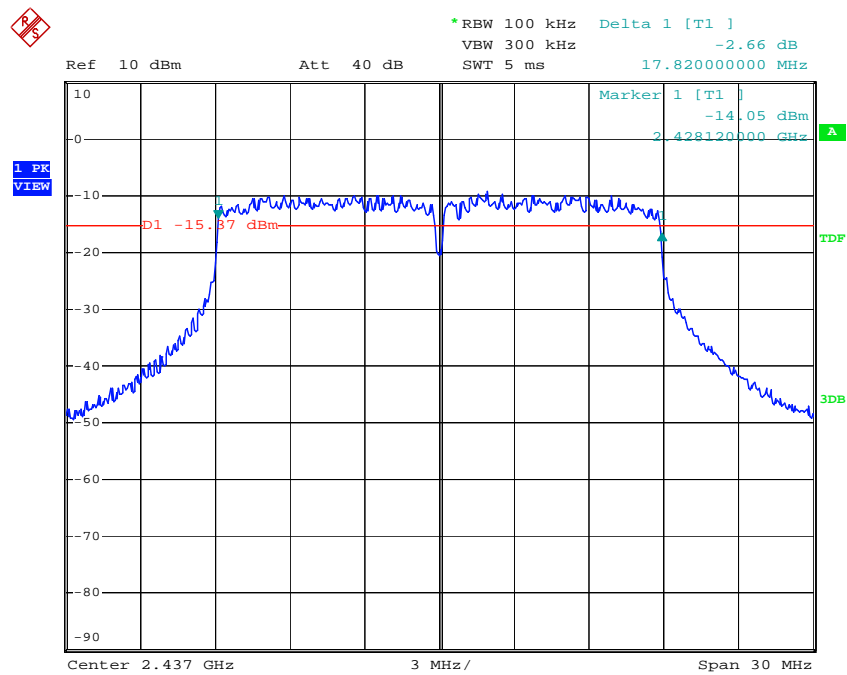


For 802.11n/HT20-chain 0

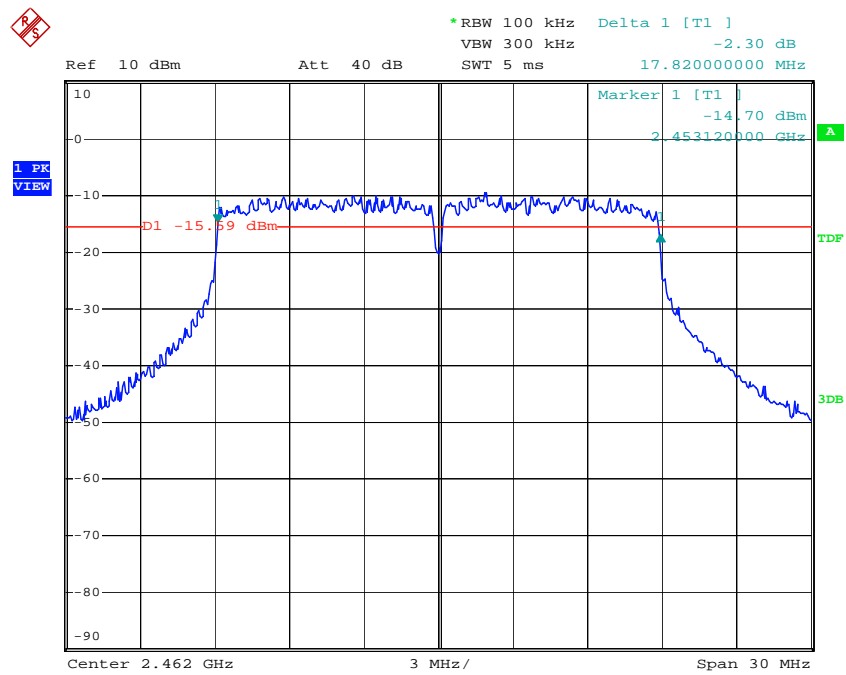
Low Channel:



Middle Channel:

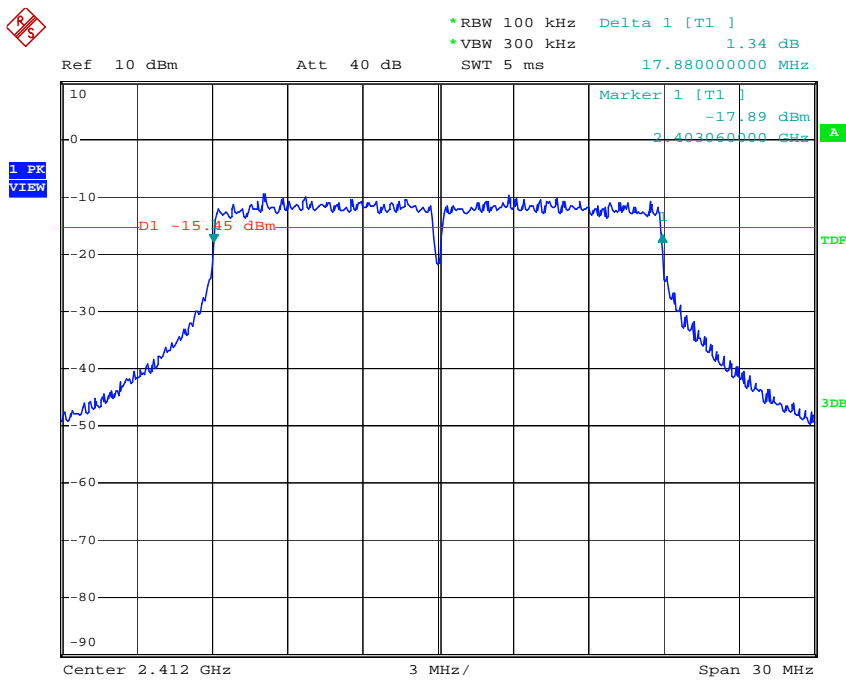


High Channel:

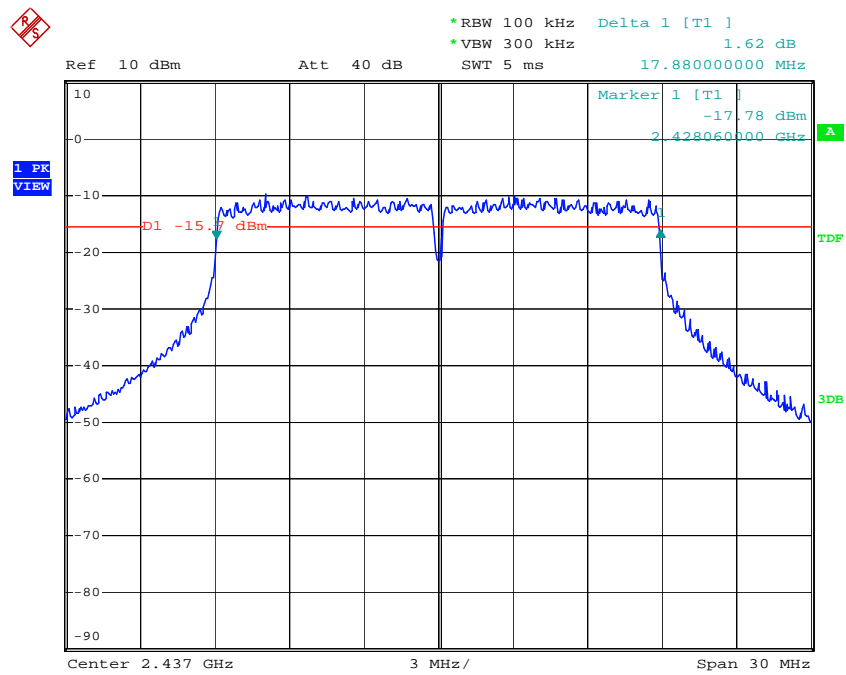


For 802.11n/HT20-chain 1

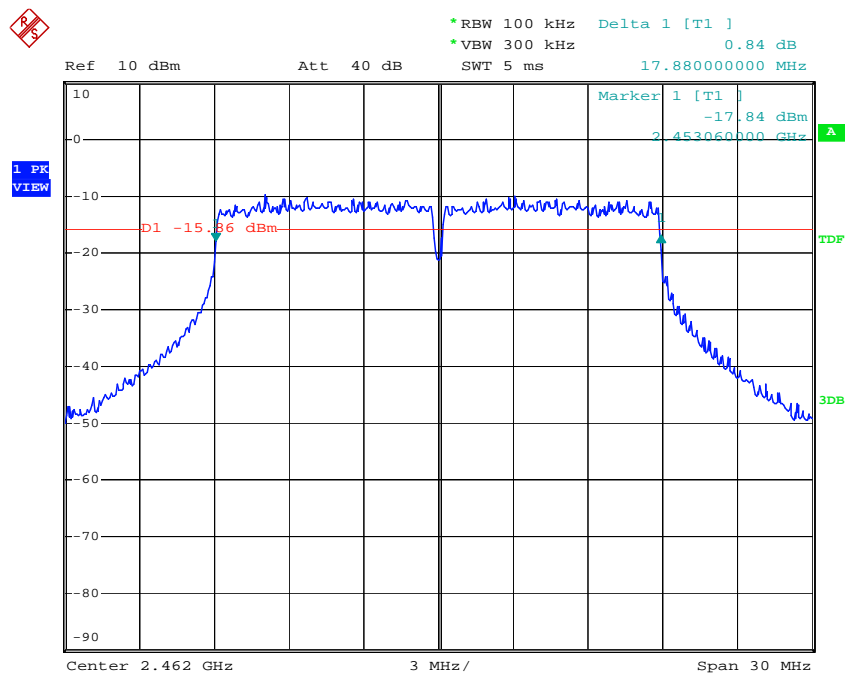
Low Channel:



Middle Channel:

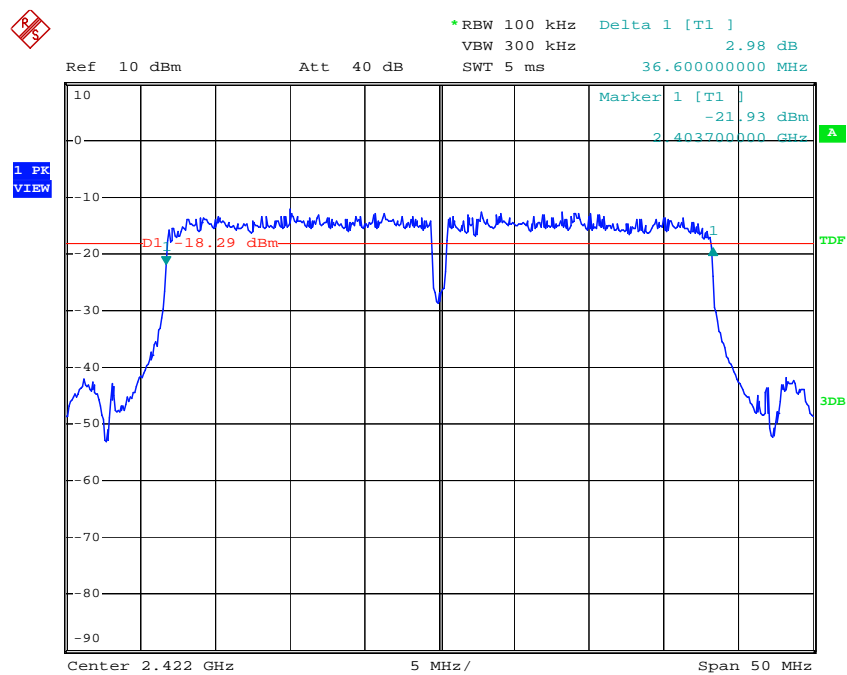


High Channel:

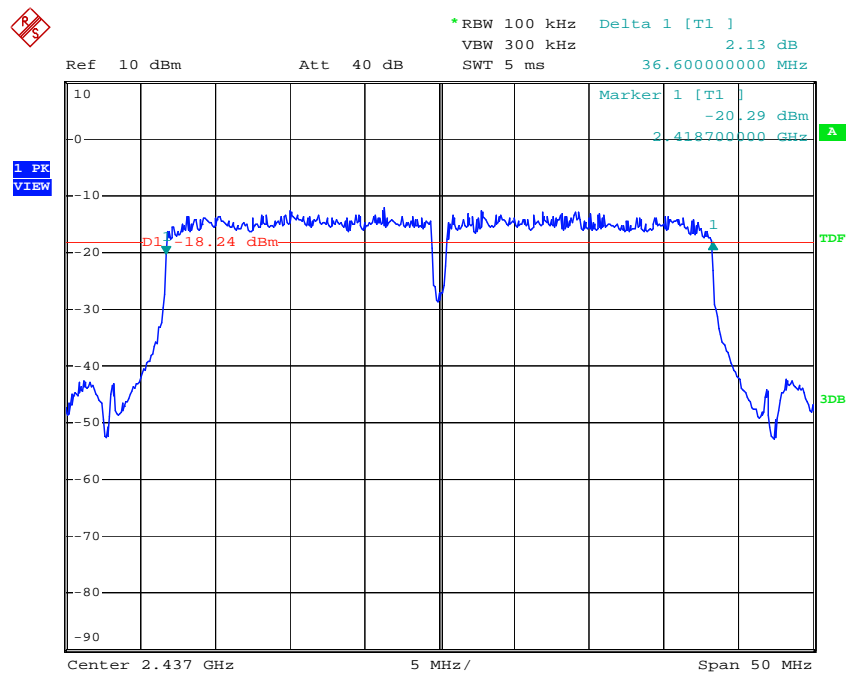


For 802.11n/HT40-chain 0

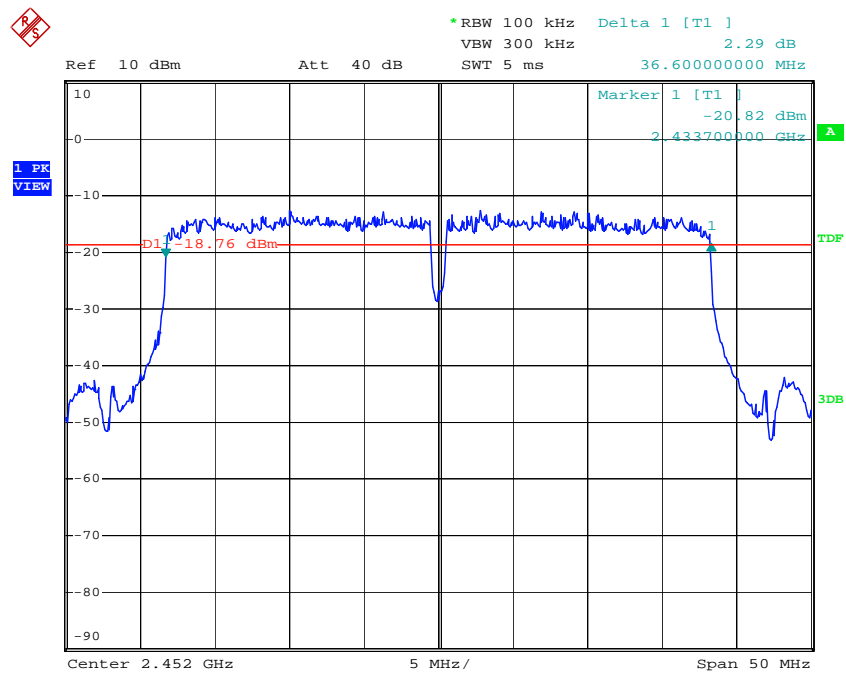
Low Channel:



Middle Channel:

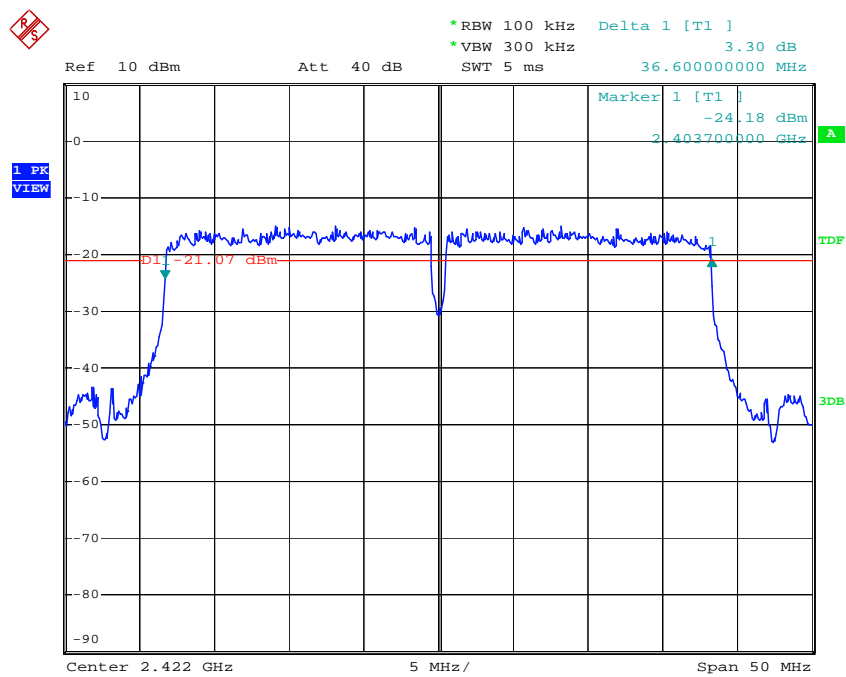


High Channel:

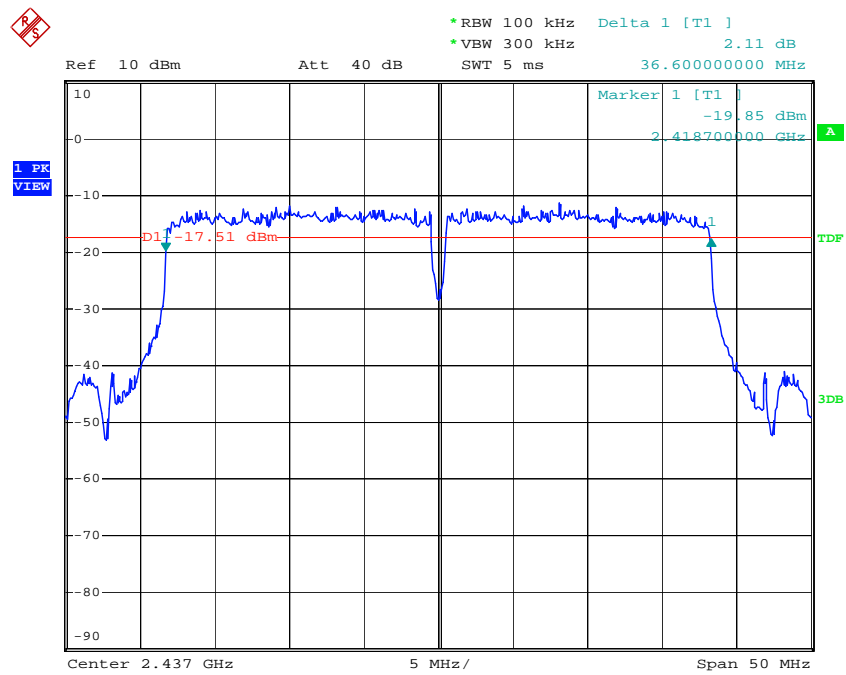


For 802.11n/HT40-chain 1

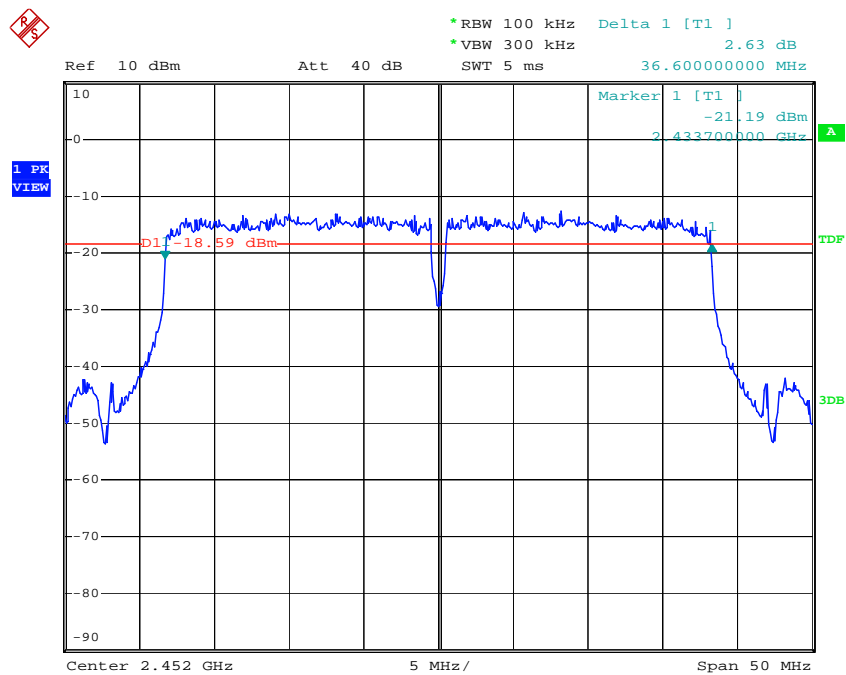
Low Channel:



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	8.42	8.30	0.00695	0.00676	/	1
	2437	7.45	7.75	0.00556	0.00596	/	1
	2462	6.75	7.33	0.00473	0.00541	/	1
802.11b (11M)	2412	8.18	8.18	0.00658	0.00658	/	1
	2437	7.52	7.85	0.00565	0.00610	/	1
	2462	6.78	7.37	0.00476	0.00546	/	1
802.11g (6M)	2412	7.14	6.02	0.00518	0.00400	/	1
	2437	6.72	5.31	0.00470	0.00340	/	1
	2462	6.77	5.58	0.00475	0.00361	/	1
802.11g (54M)	2412	7.10	5.38	0.00513	0.00345	/	1
	2437	7.14	5.65	0.00518	0.00367	/	1
	2462	7.02	5.80	0.00504	0.00380	/	1

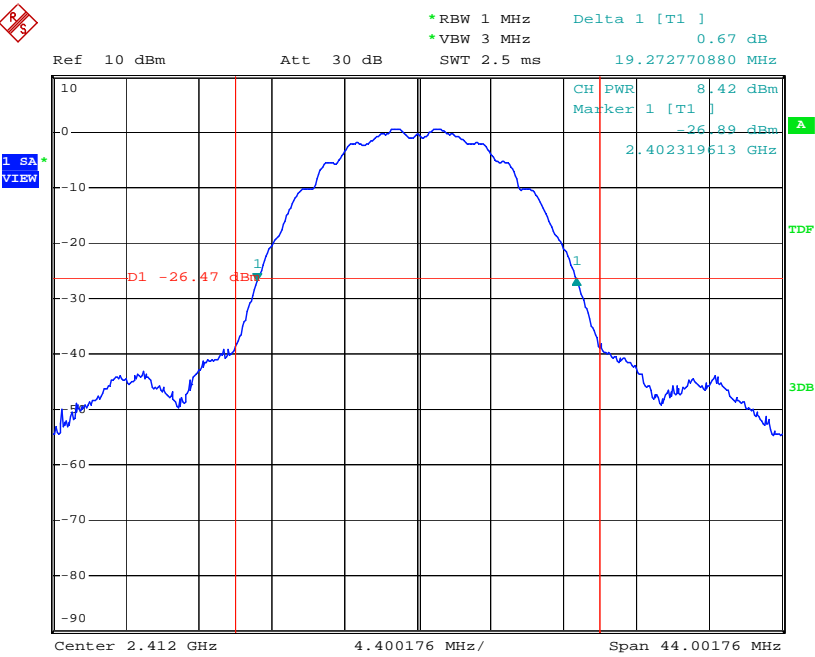
For 802.11n HT20/HT40

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	6.77	5.59	0.00475	0.00362	/	1
	2437	6.79	4.82	0.00478	0.00303	/	1
	2462	6.74	4.88	0.00472	0.00308	/	1
802.11n HT20 (MCS15)	2412	3.97	4.54	0.00249	0.00284	0.00533	1
	2437	3.90	4.37	0.00245	0.00274	0.00519	1
	2462	4.24	4.57	0.00265	0.00286	0.00551	1
802.11n HT40 (MCS0)	2422	6.40	5.62	0.00437	0.00365	/	1
	2437	6.04	5.64	0.00402	0.00366	/	1
	2452	5.75	5.34	0.00376	0.00342	/	1
802.11 HT40 (MCS15)	2422	4.35	5.51	0.00272	0.00356	0.00628	1
	2437	3.95	5.23	0.00248	0.00333	0.00581	1
	2452	4.00	4.68	0.00251	0.00394	0.00645	1

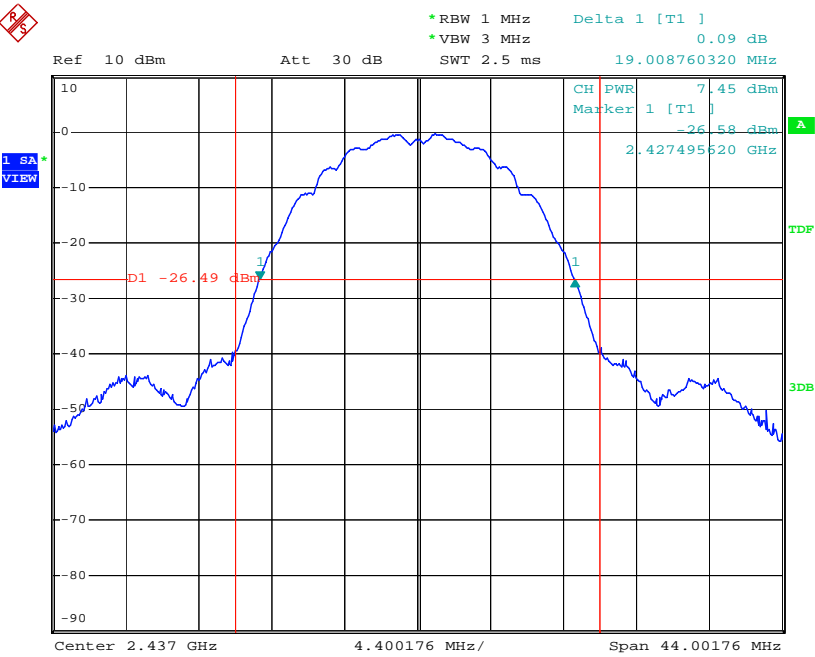
Note: The EUT shall be simultaneous transmission at the chain 0 and chain 1 for the MCS15 mode of 802.11n HT20 or HT40, all other mode shall be transmission only single chain (chain 0 or chain 1).

For 802.11b_chain 0_1M rate

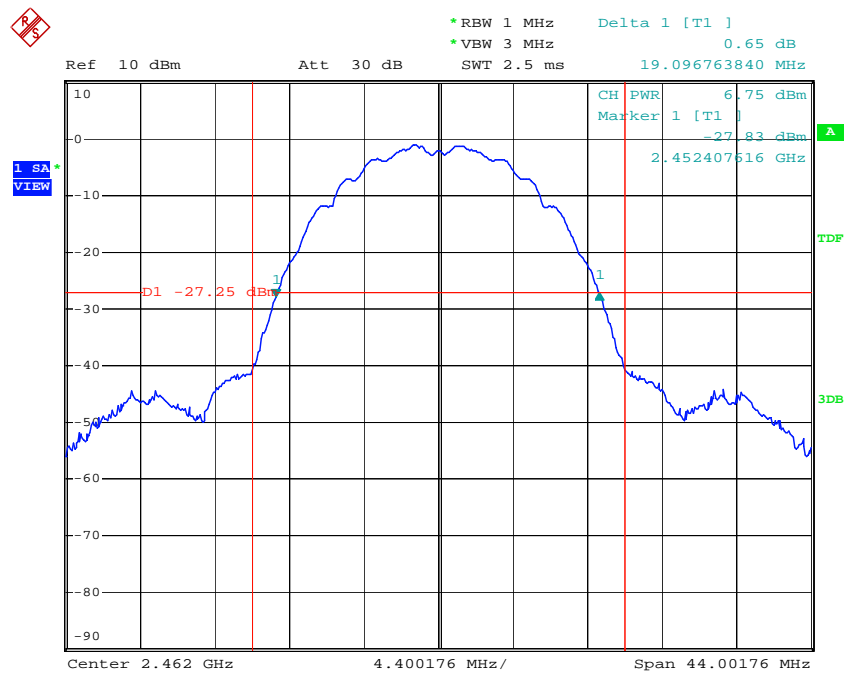
Low Channel:



Middle Channel:

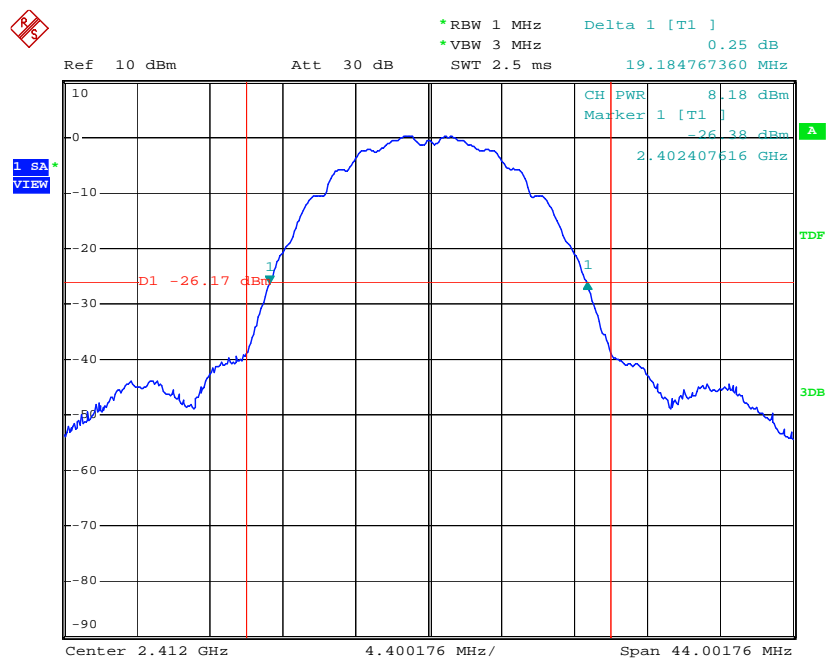


High Channel:

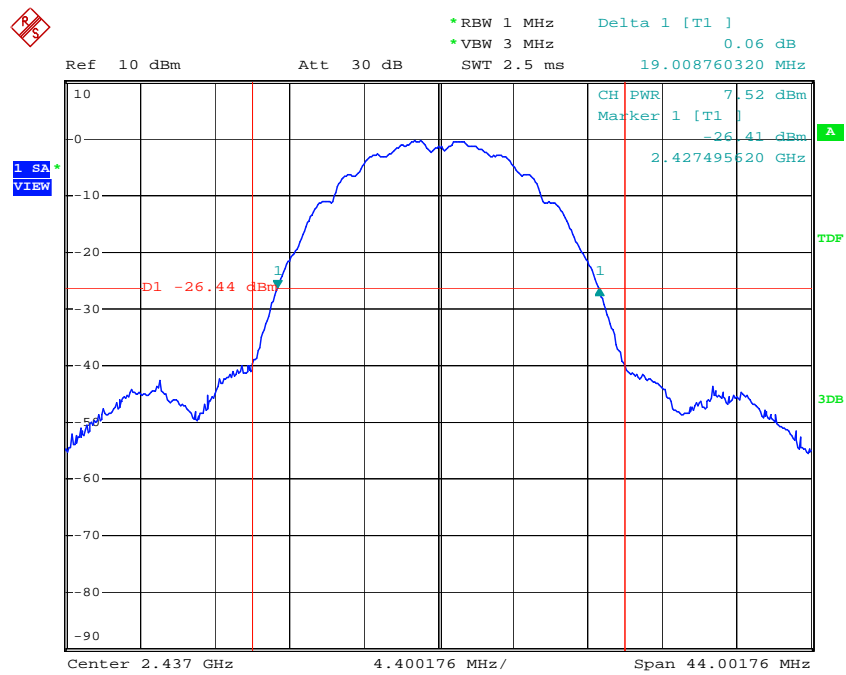


For 802.11b_chain 0_11M rate

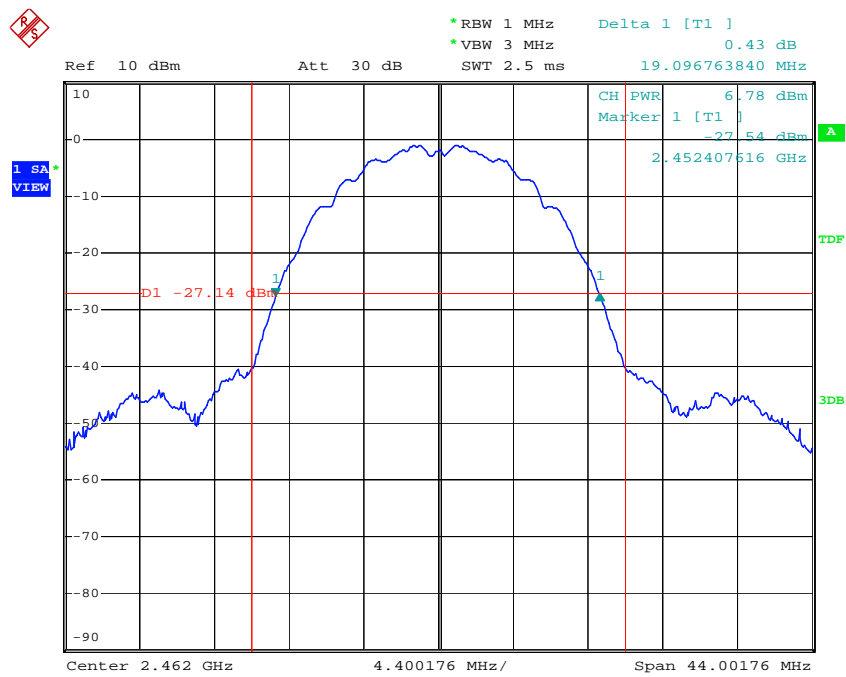
Low Channel:



Middle Channel:

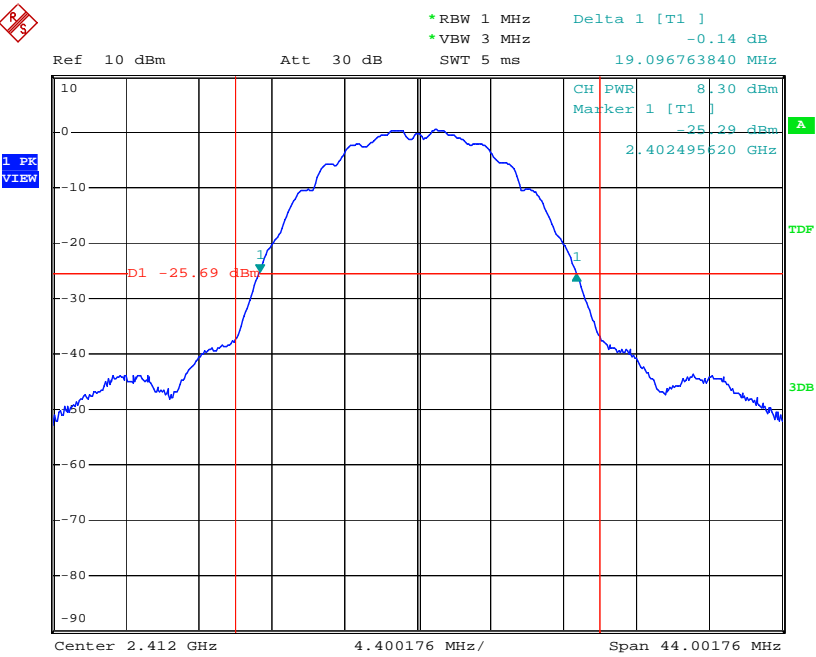


High Channel:

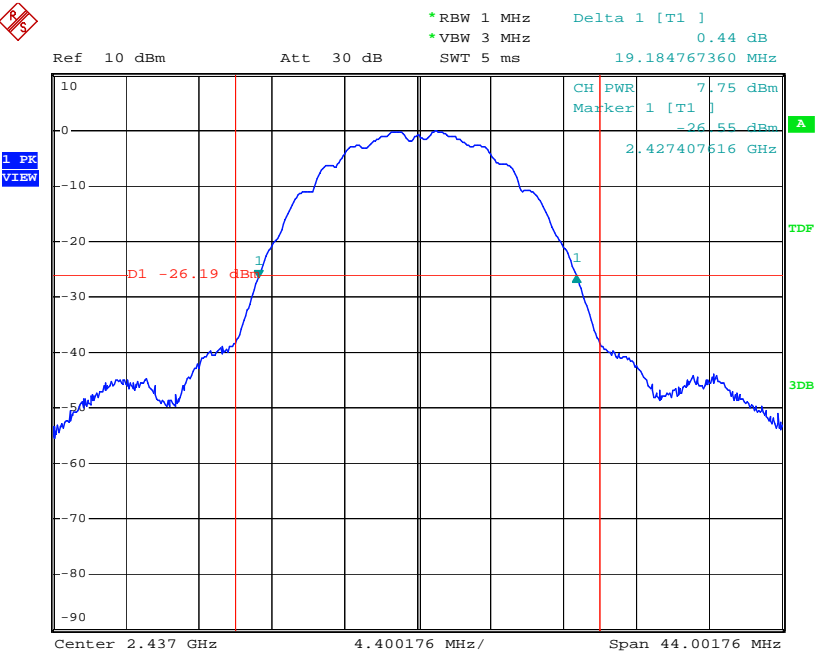


For 802.11b_chain 1_1M rate

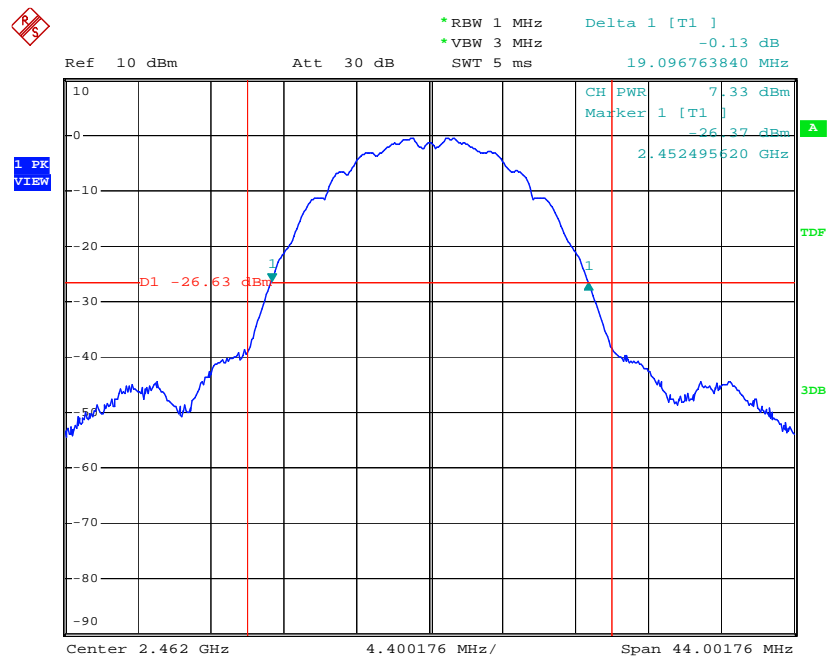
Low Channel:



Middle Channel:

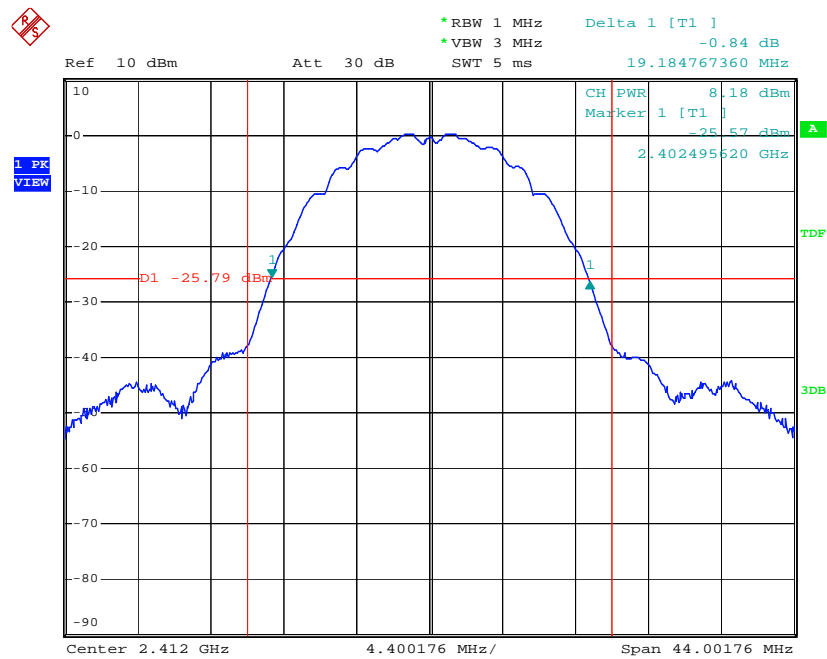


High Channel:

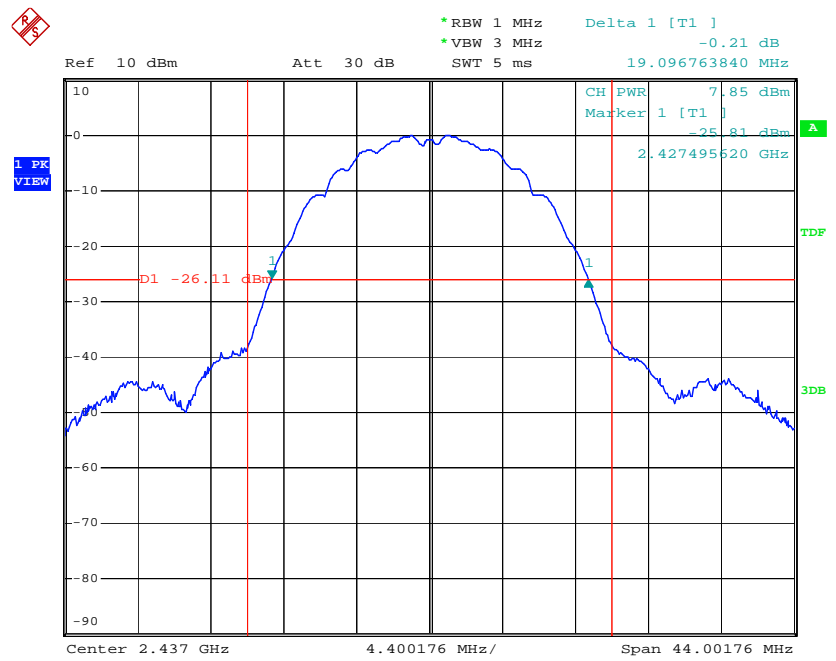


For 802.11b_chain 1_11M rate

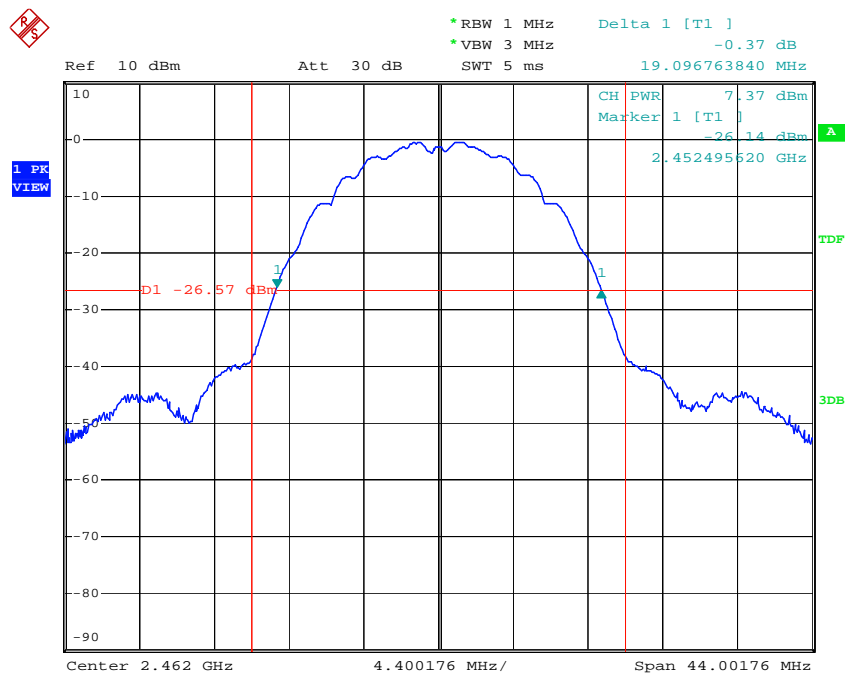
Low Channel:



Middle Channel:

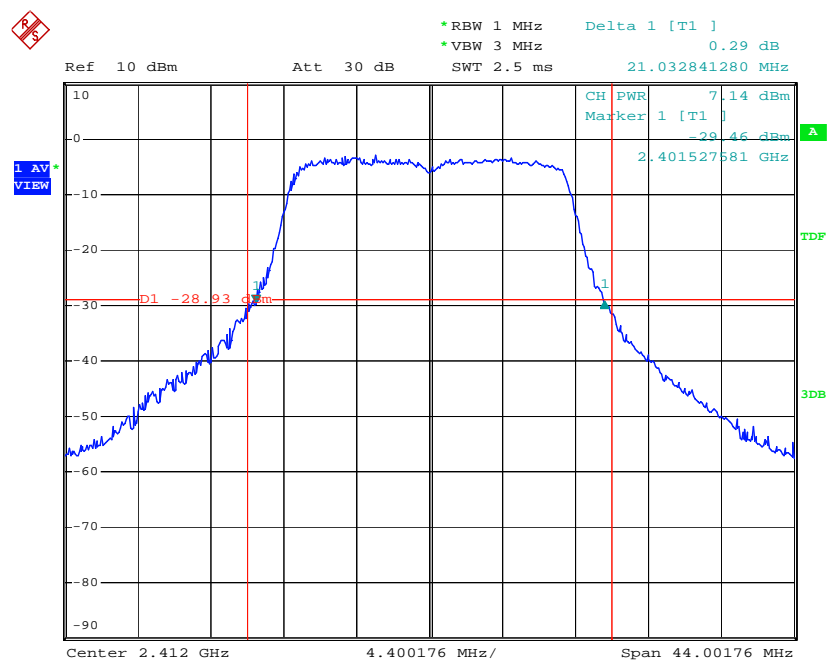


High Channel:

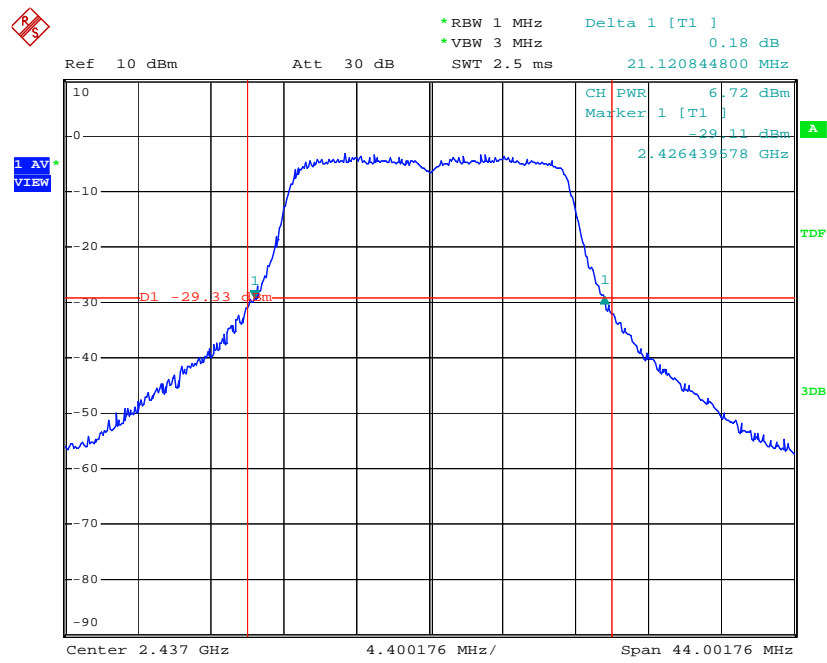


For 802.11g_chain 0_6M rate

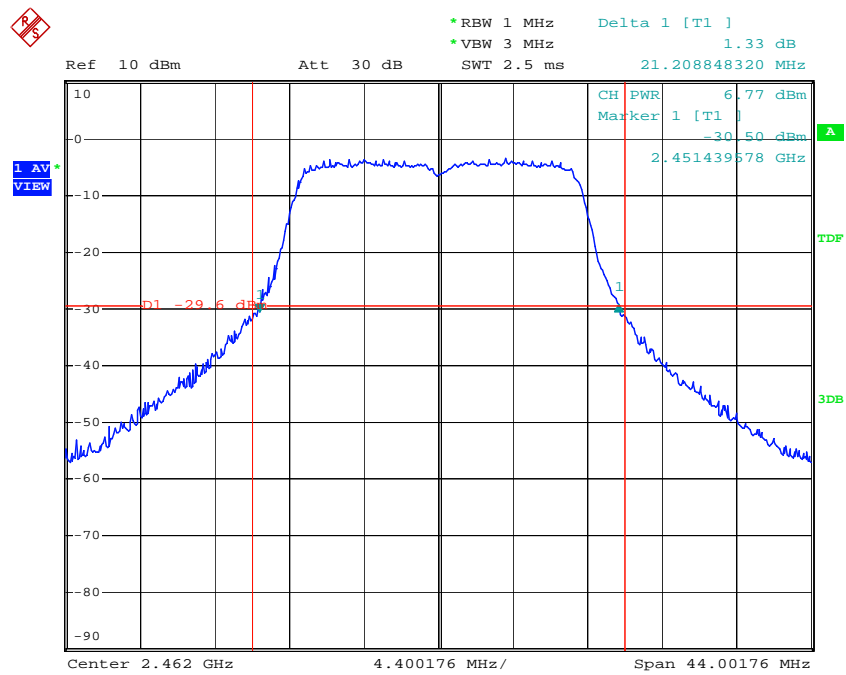
Low Channel:



Middle Channel:

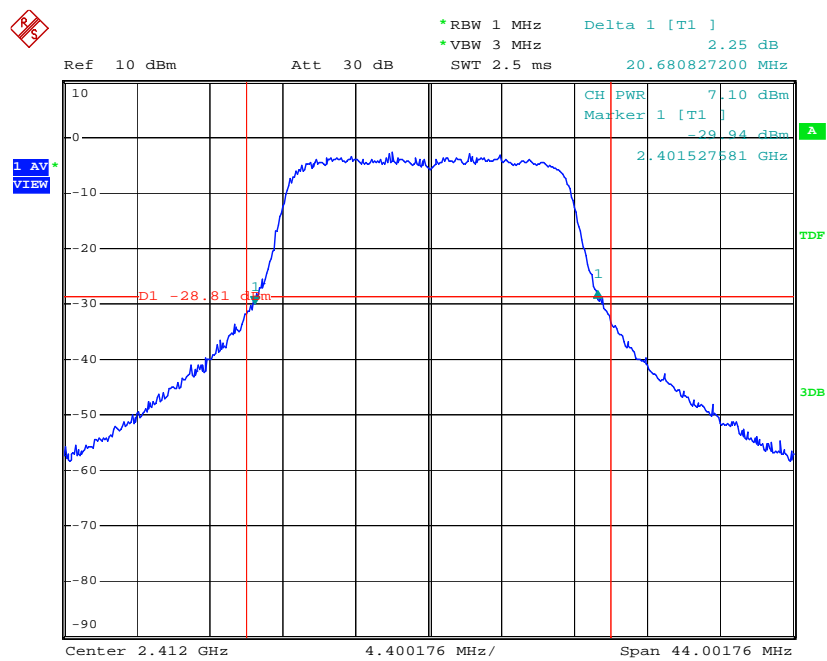


High Channel:

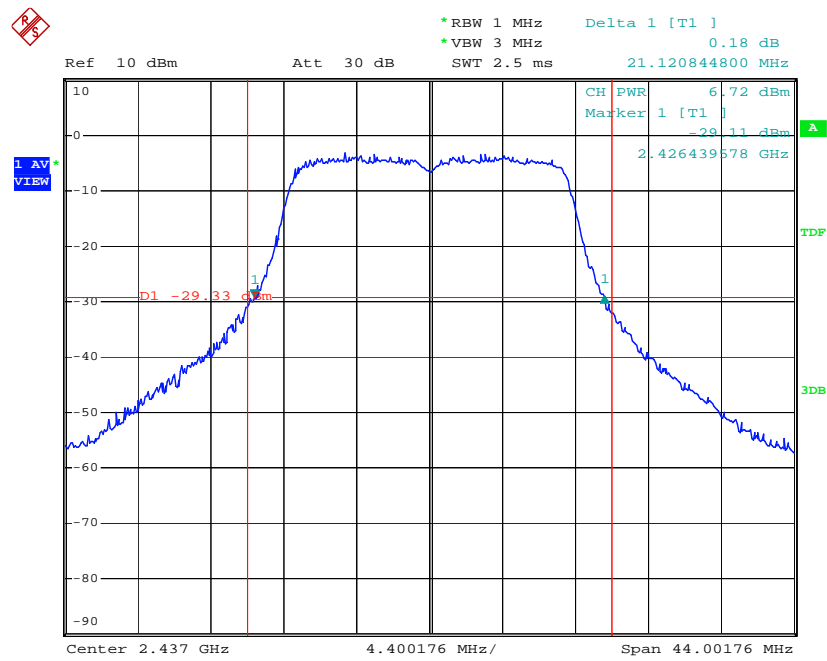


For 802.11g_chain 0_54M rate

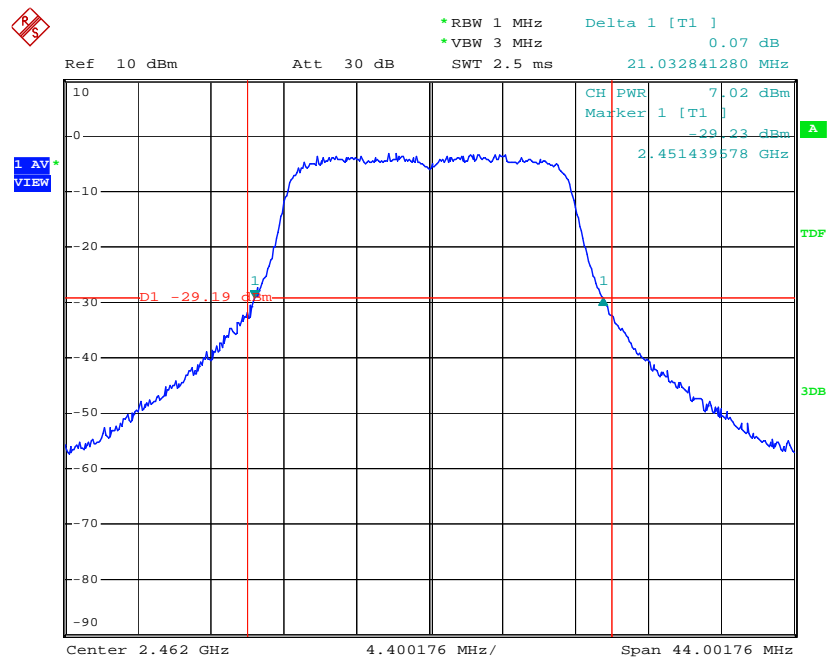
Low Channel:



Middle Channel:

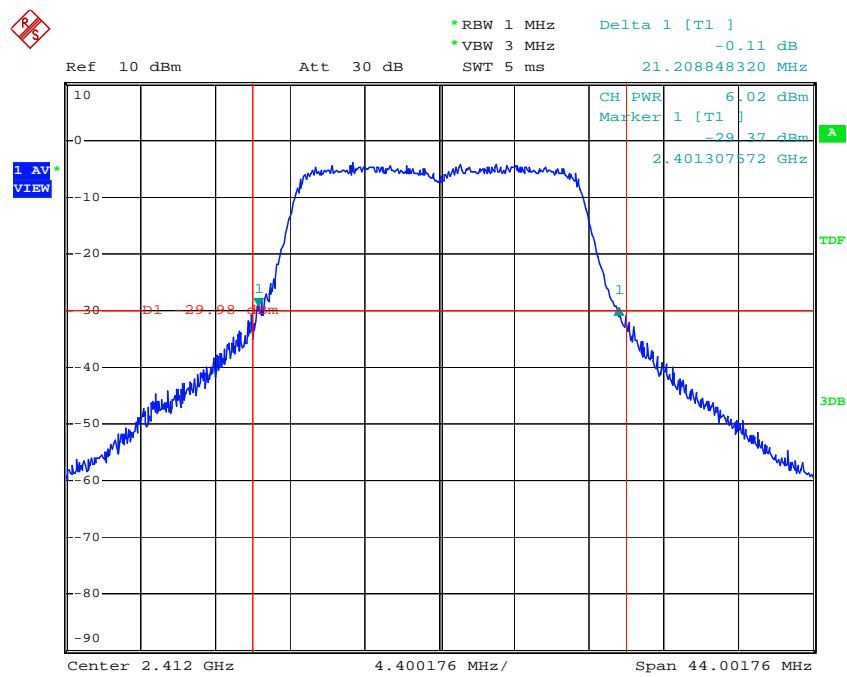


High Channel:

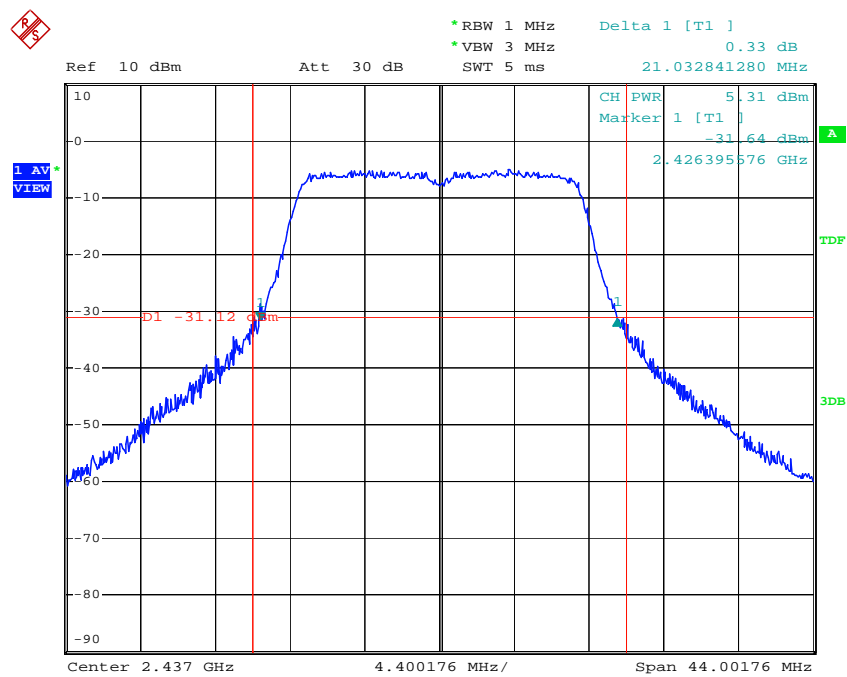


For 802.11g_chain 1_6M rate

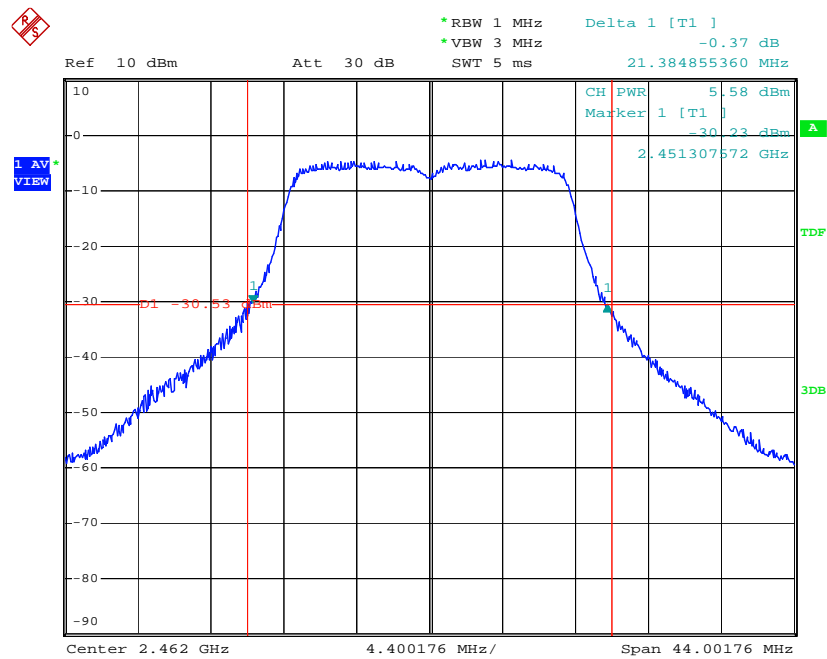
Low Channel:



Middle Channel:

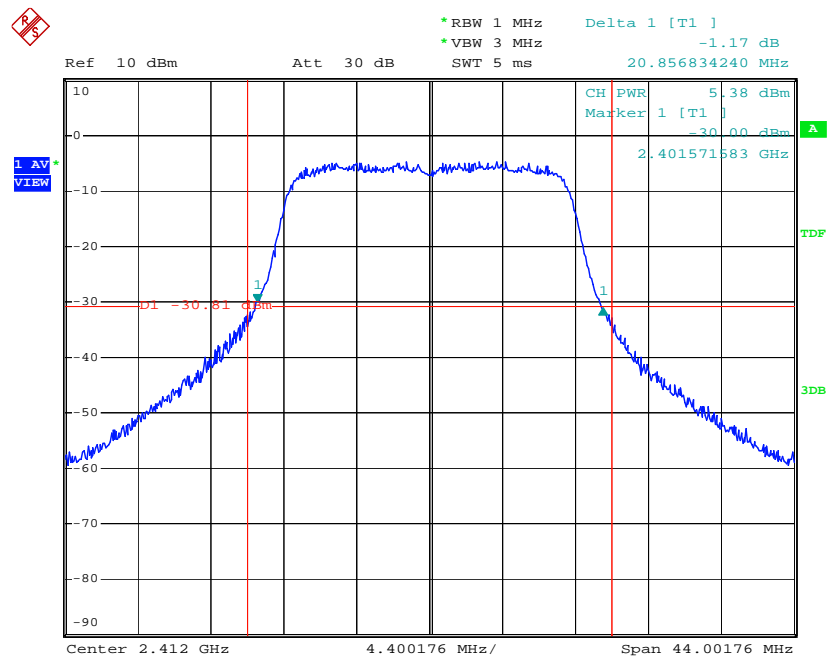


High Channel:

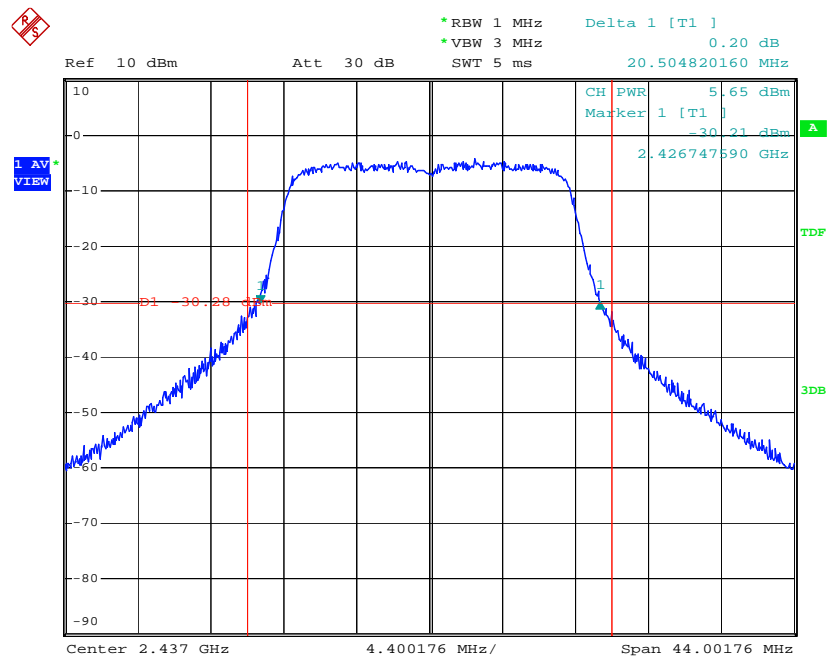


For 802.11g_chain 1_54M rate

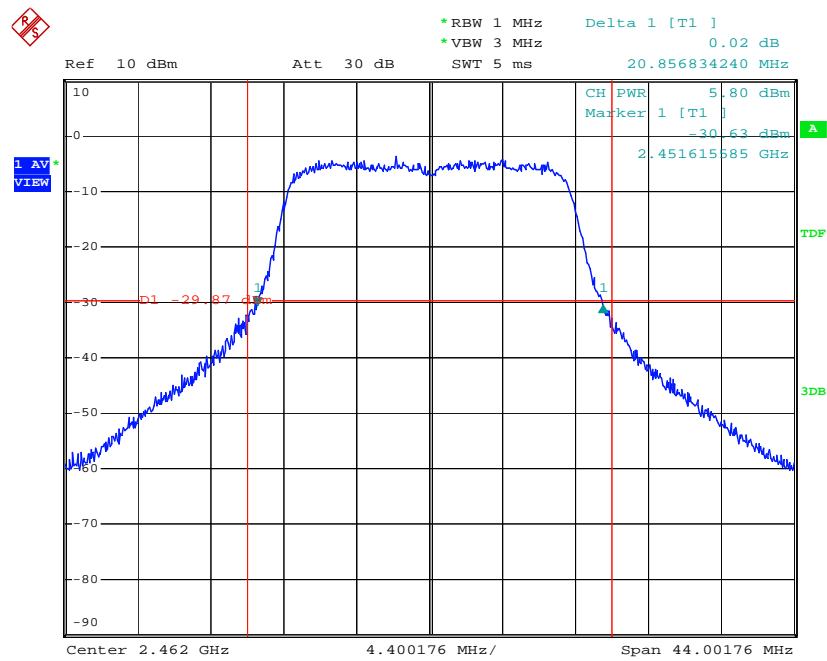
Low Channel:



Middle Channel:

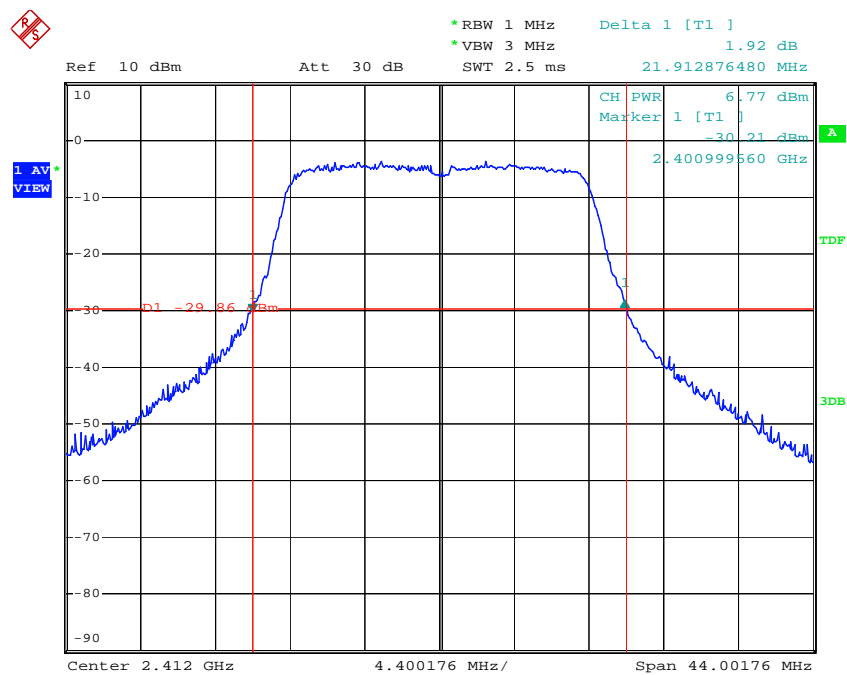


High Channel:

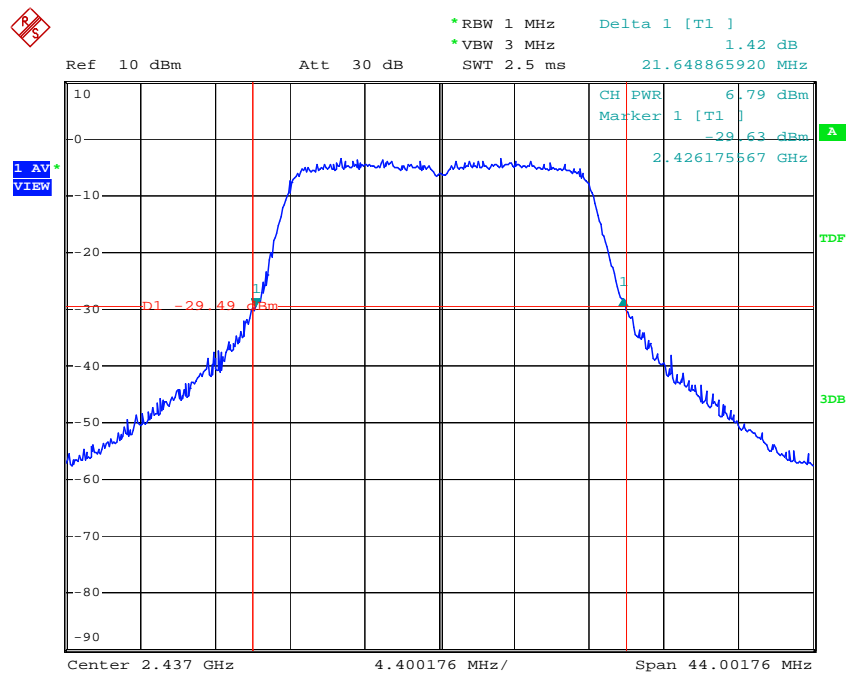


For 802.11n/HT20_chain 0_MCS0

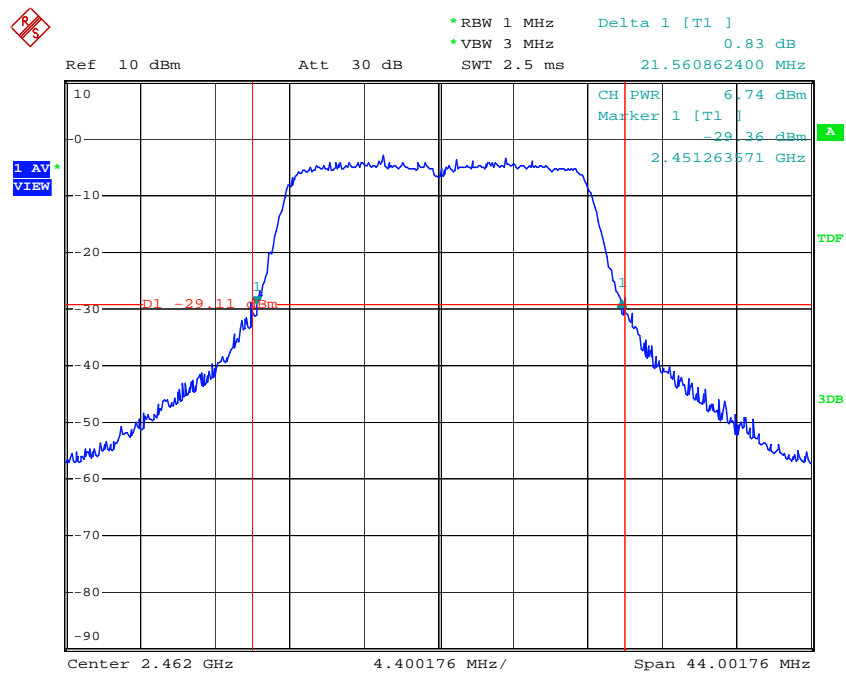
Low Channel:



Middle Channel:

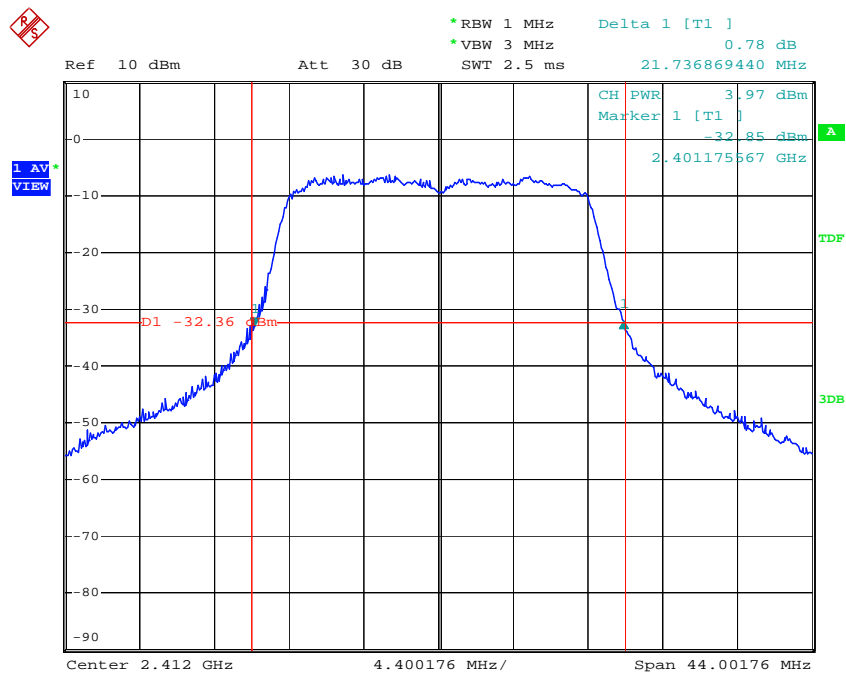


High Channel:

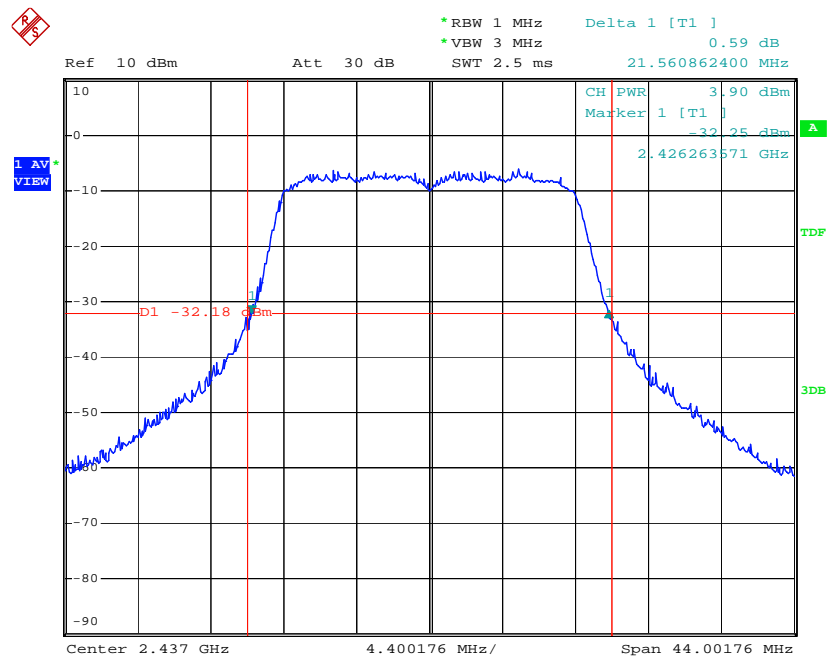


For 802.11n/HT20_chain 0_MCS15

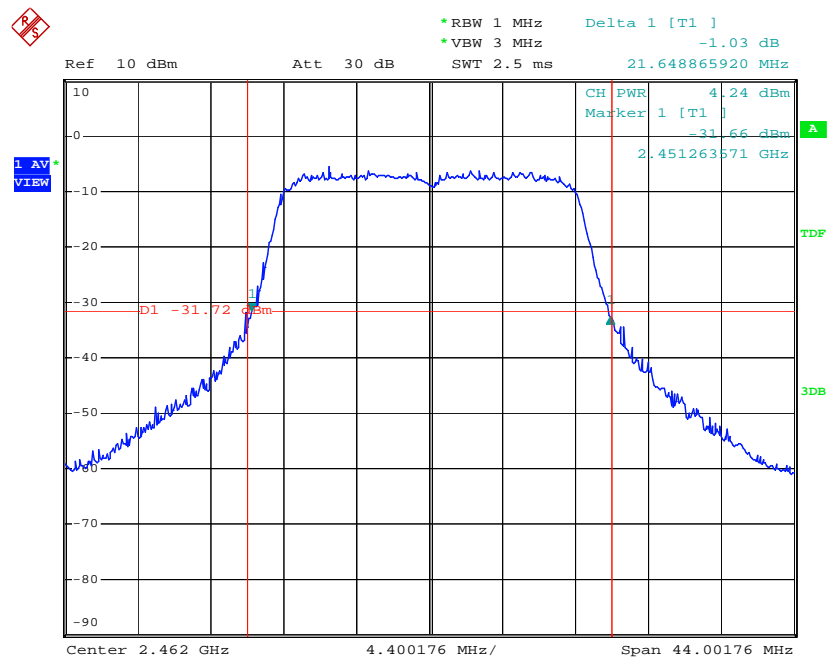
Low Channel:



Middle Channel:

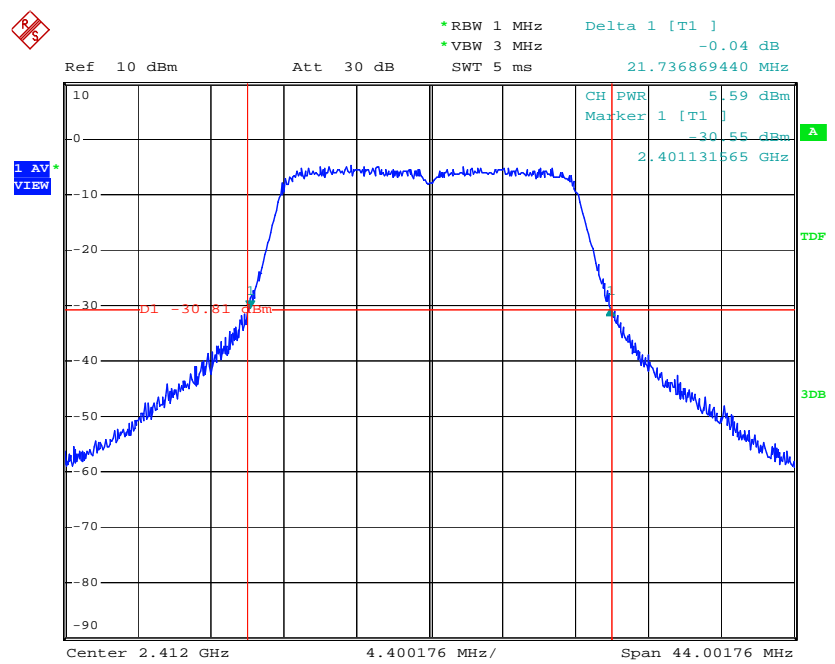


High Channel:

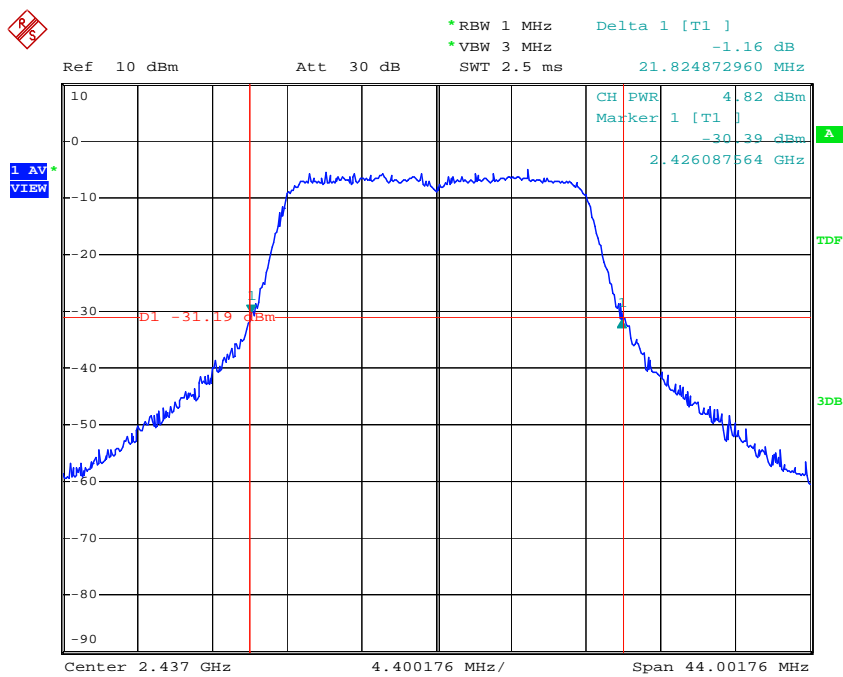


For 802.11n/HT20_chain 1_MCS0

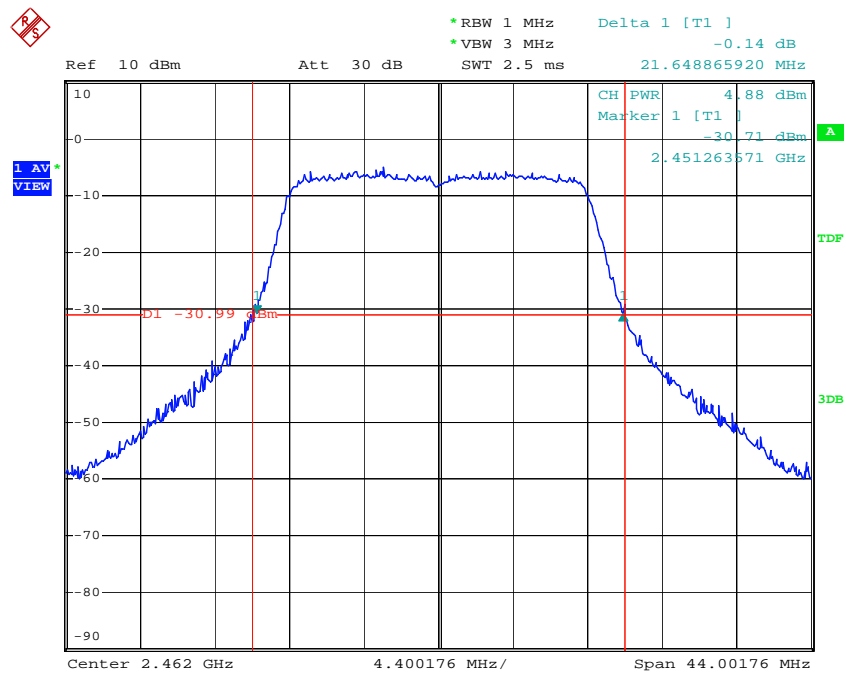
Low Channel:



Middle Channel:

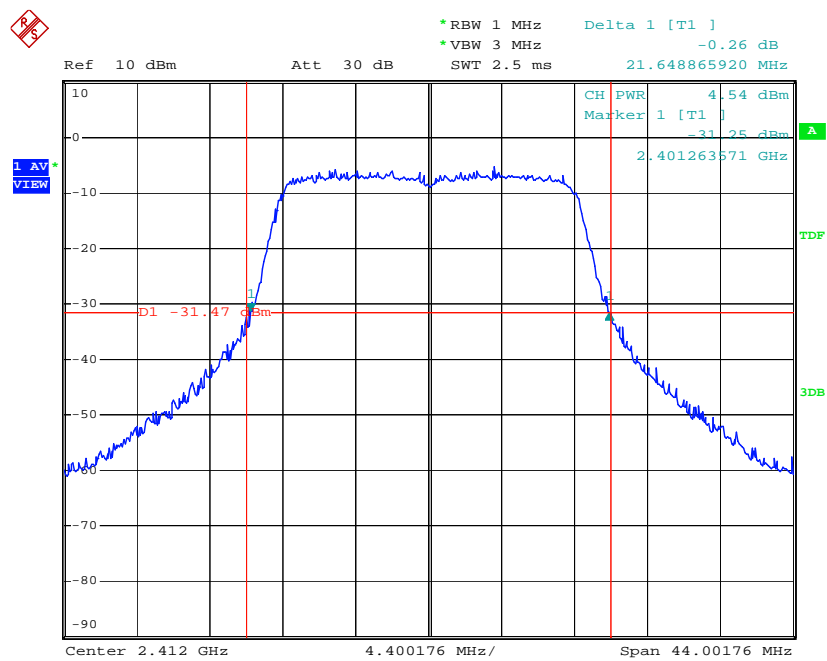


High Channel:

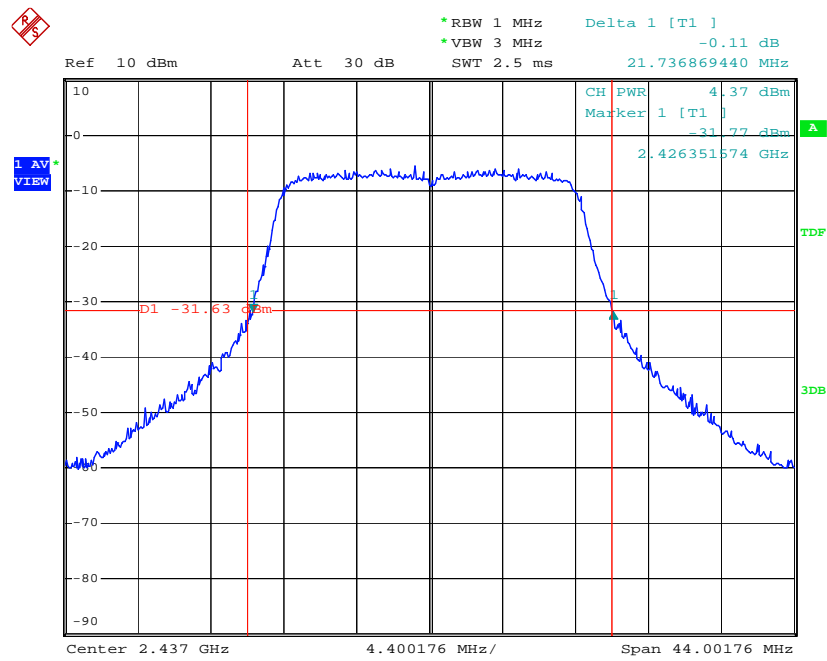


For 802.11n/HT20_chain 1_MCS15

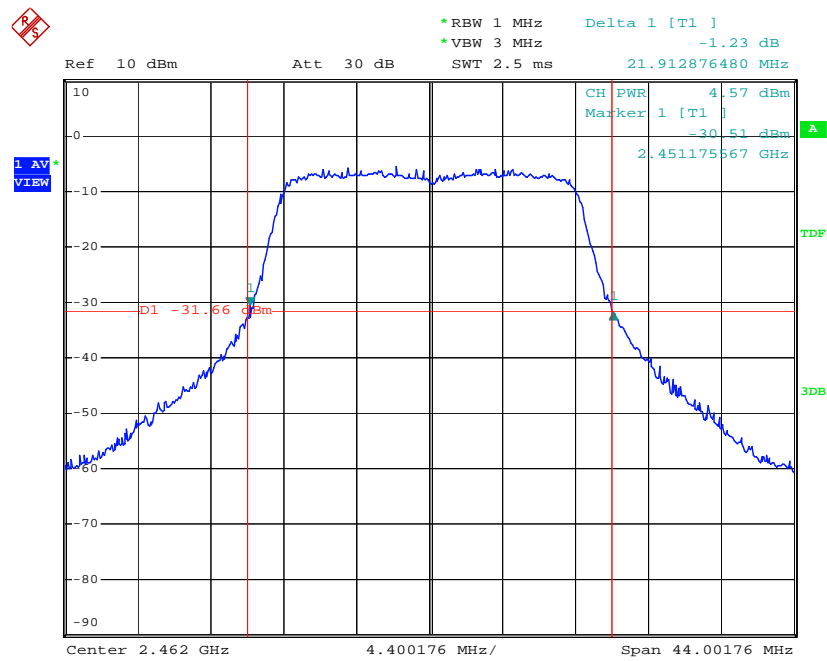
Low Channel:



Middle Channel:

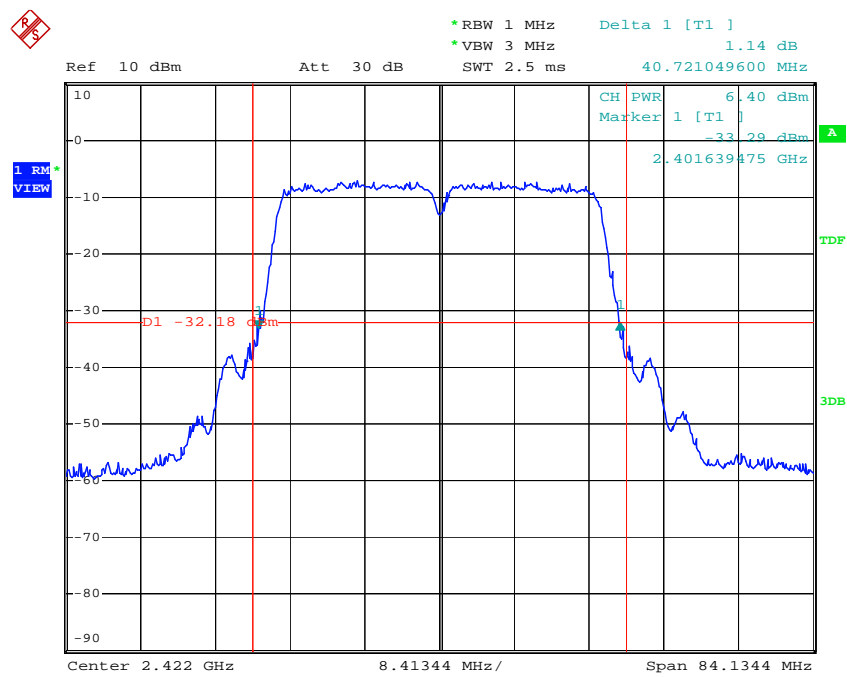


High Channel:

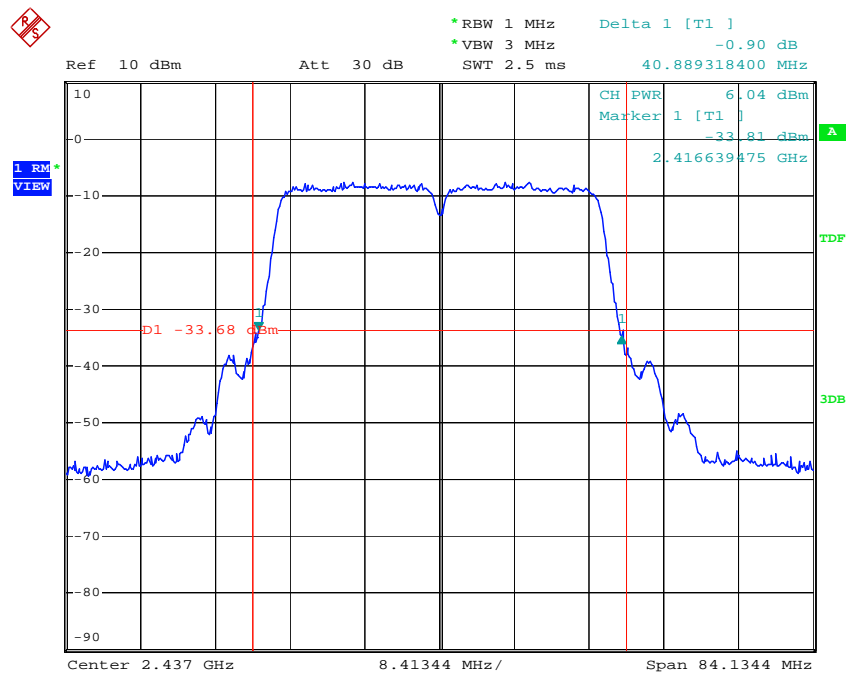


For 802.11n/HT40_chain 0_MCS0

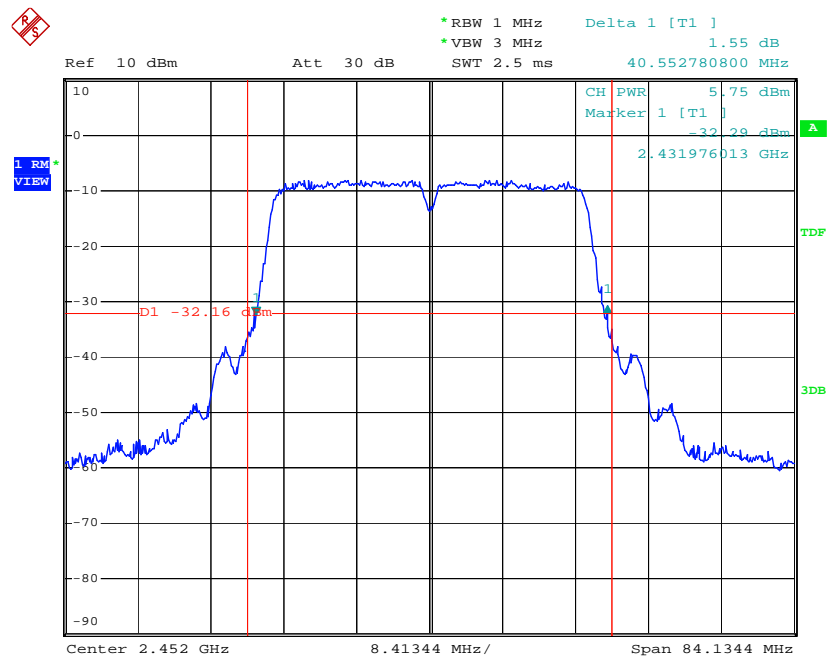
Low Channel:



Middle Channel:

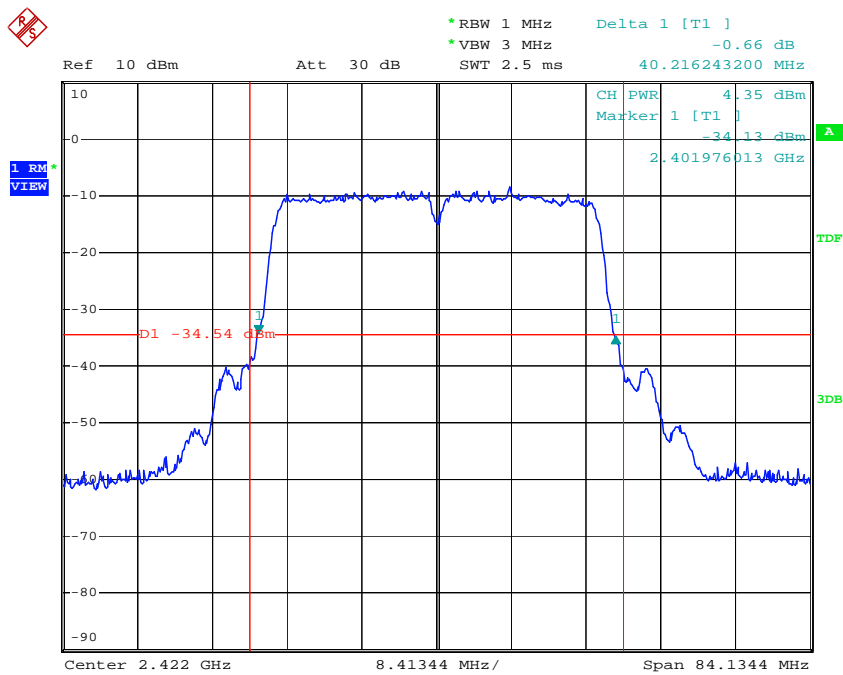


High Channel:

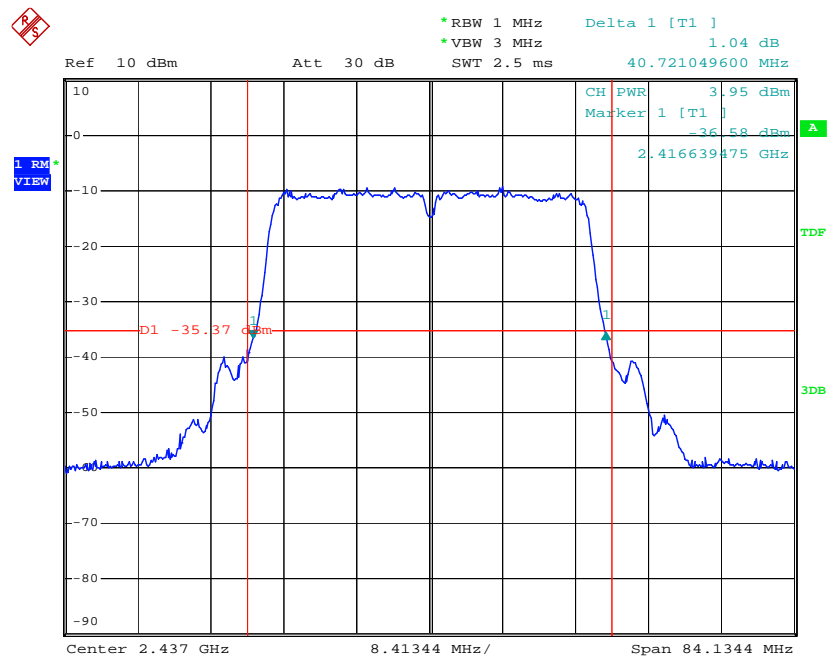


For 802.11n/HT40_chain 0_MCS15

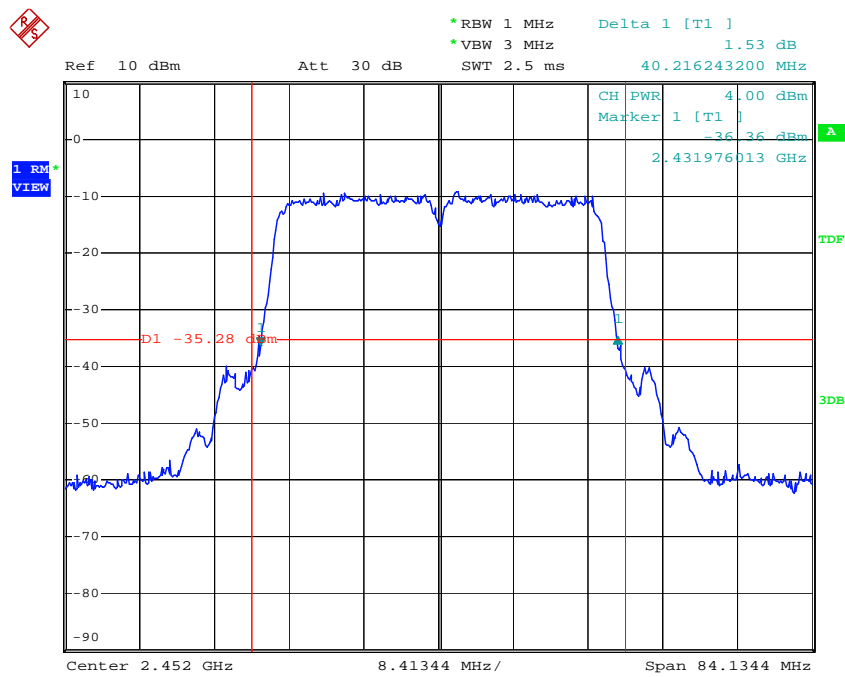
Low Channel:



Middle Channel:

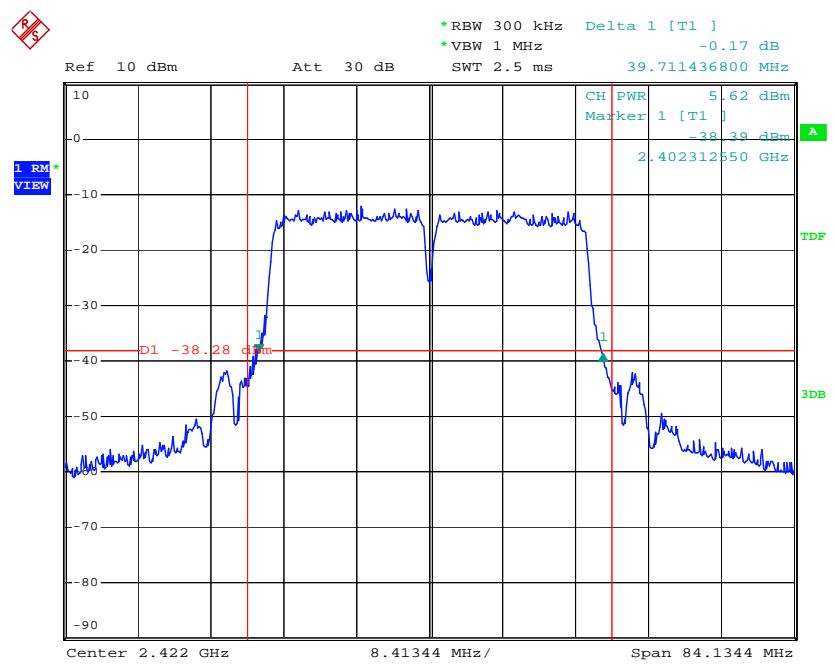


High Channel:

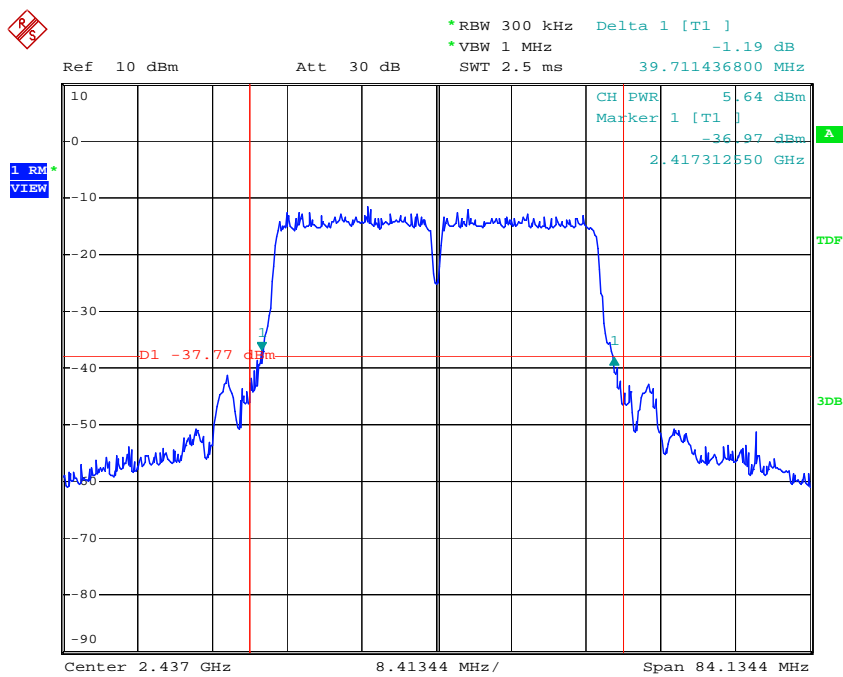


For 802.11n/HT40_chain 1_MCS0

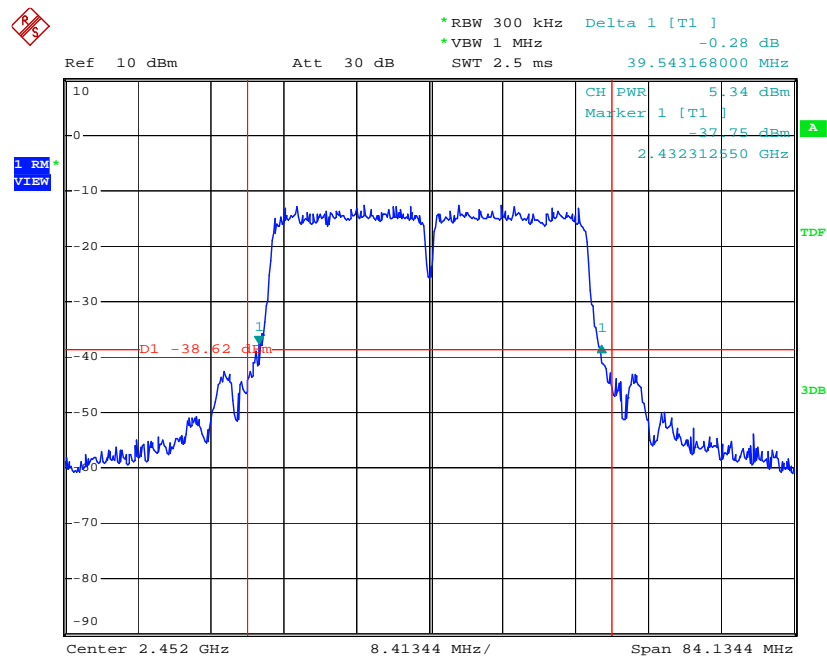
Low Channel:



Middle Channel:

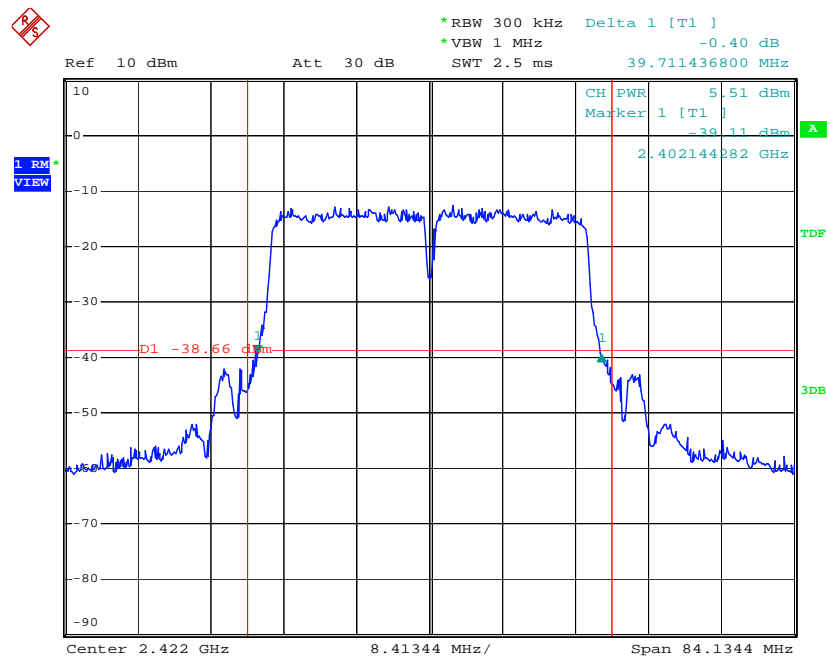


High Channel:

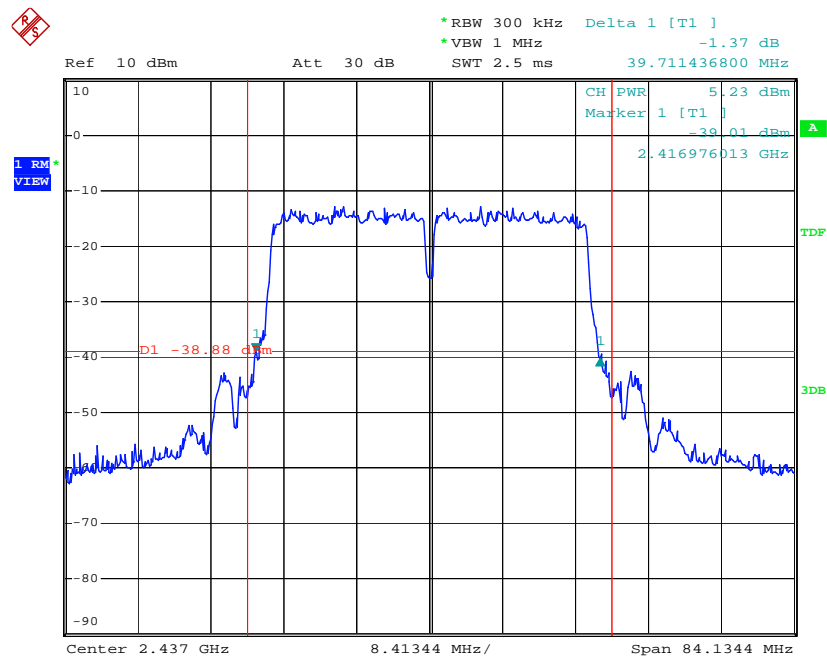


For 802.11n/HT40_chain 1_MCS15

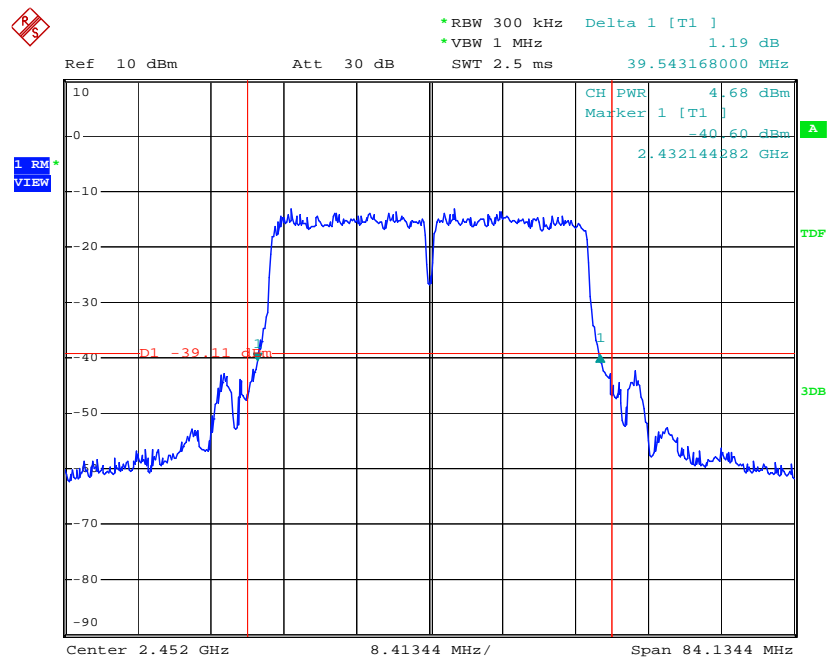
Low Channel:



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

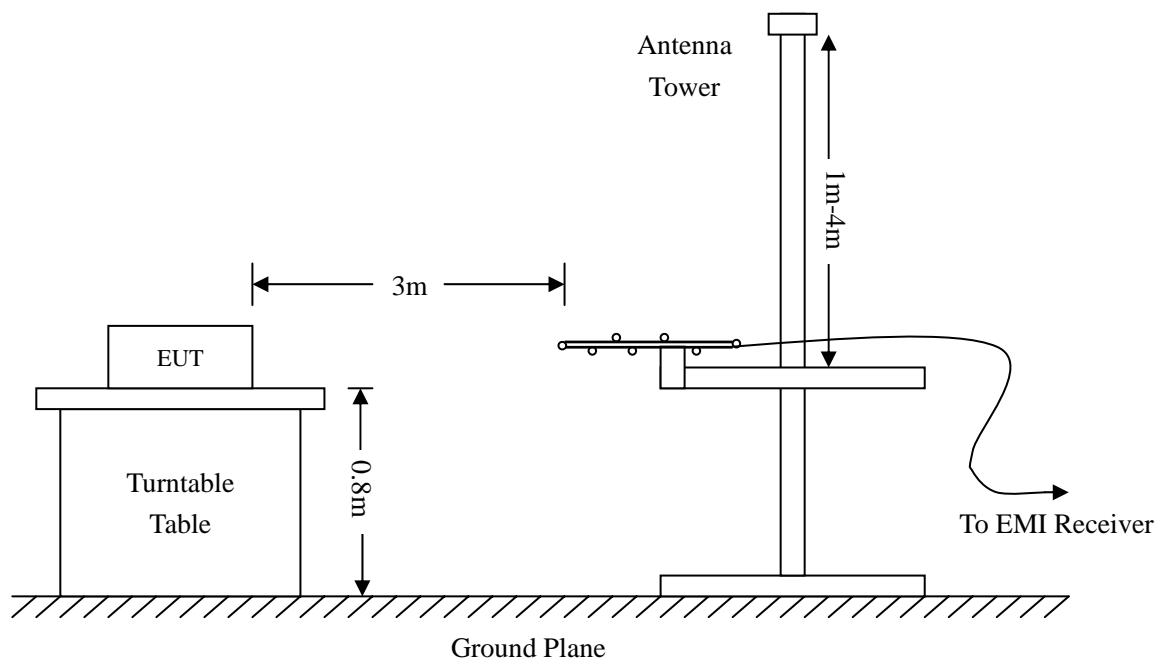
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2010-12-20	2011-12-19
EMI Test Receiver	R&S	ESVB	825471/005	2010-12-20	2011-12-19
Positioning Controller	C&C	CC-C-1F	N/A	2010-12-20	2011-12-19
RF Switch	EM	EMSW18	SW060023	2010-12-20	2011-12-19
Pre-amplifier	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:

-1.6 dBμV at 4924.0MHz in the Vertical polarization, Transmitting 802.11b High 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:

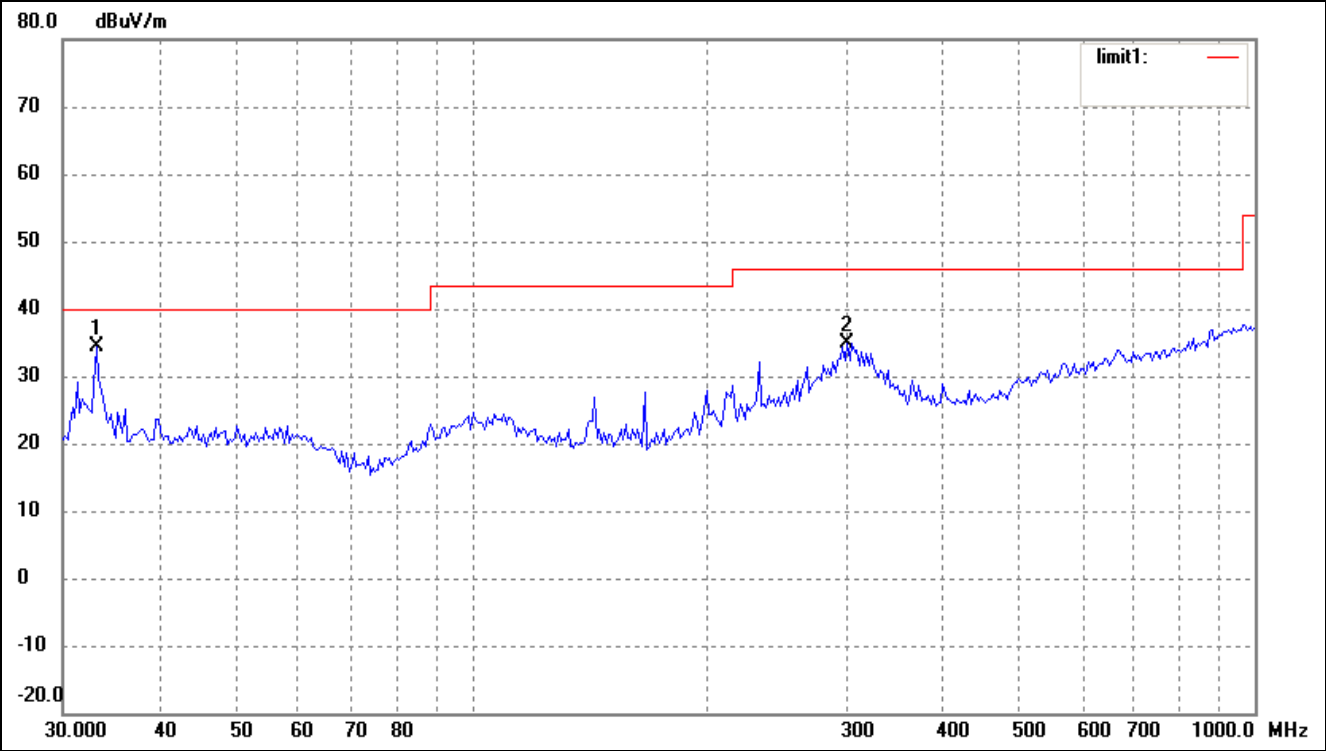
For 5dBi Antenna

Spurious Emission From 30 MHz to 1 GHz

Test mode: Transmitting (802.11b) Middle Channel

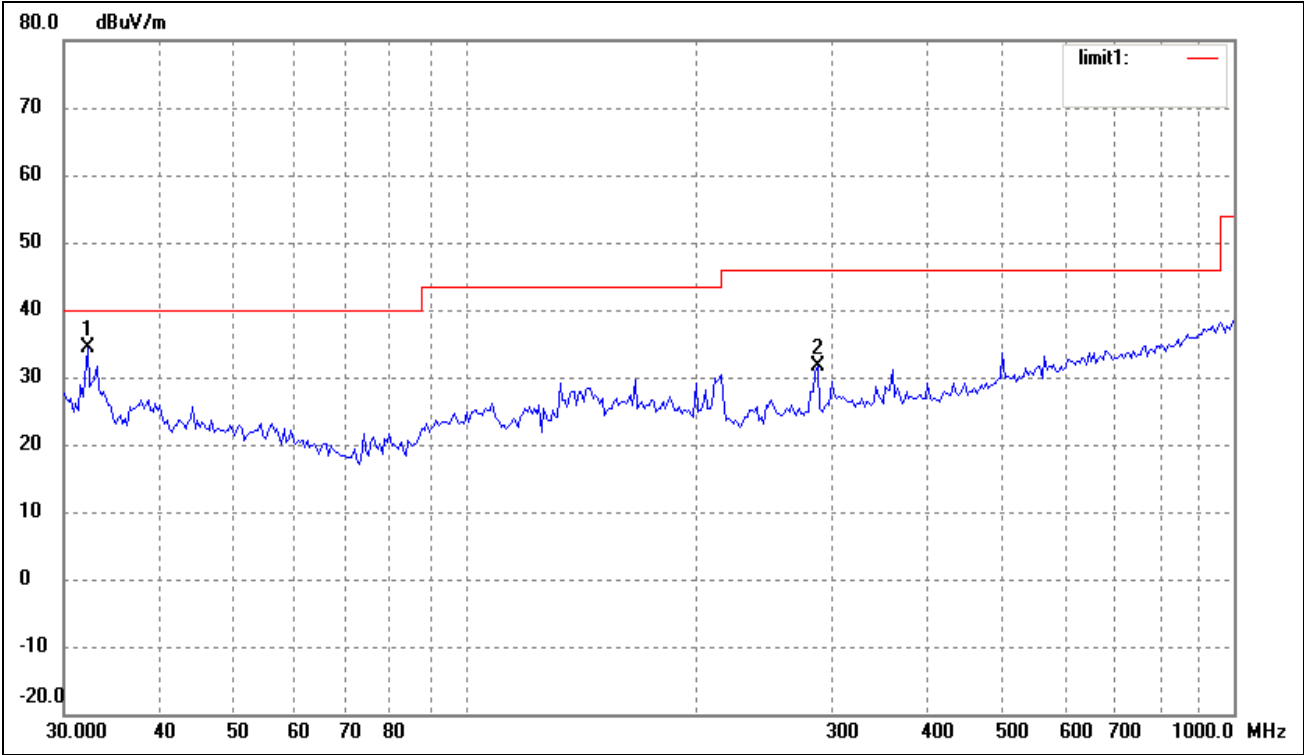
Comment:

Horizontal



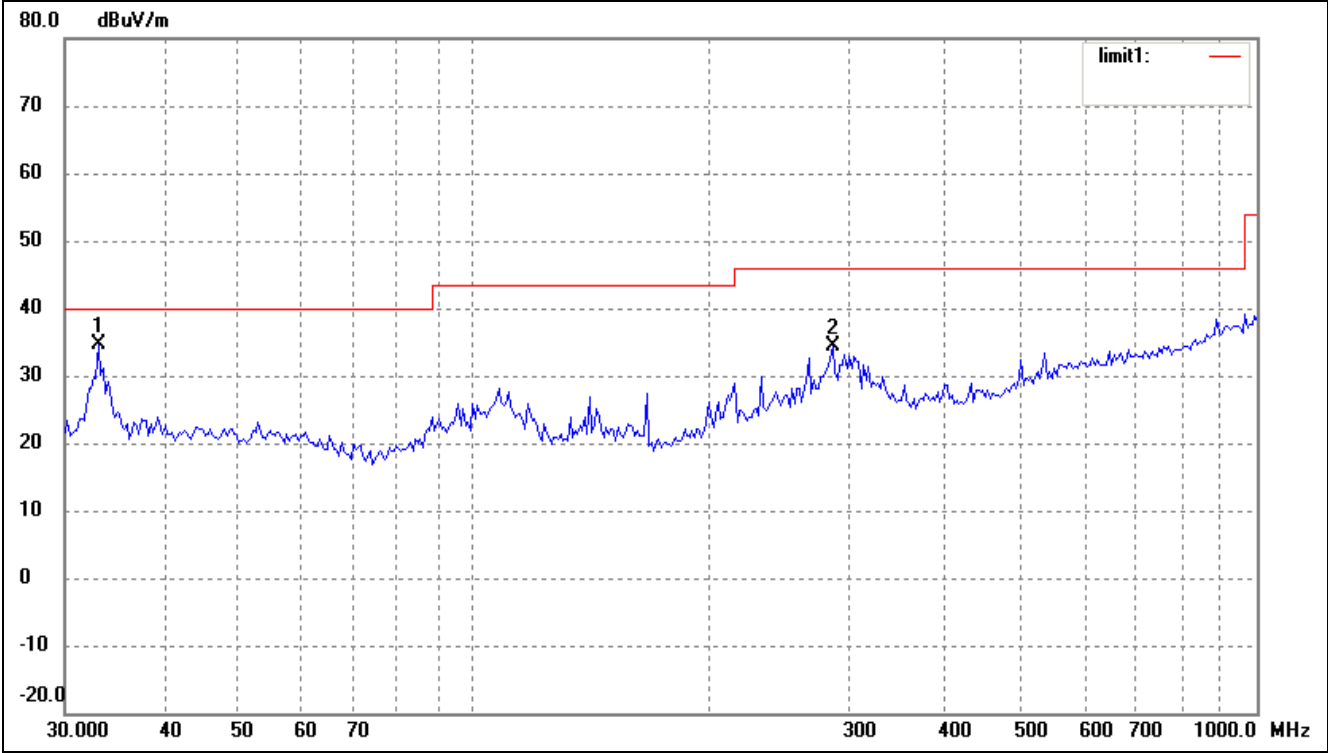
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	33.0950	27.65	6.77	34.42	40.00	-5.58	240	100	peak
2	301.4224	25.18	9.78	34.96	46.00	-11.04	50	100	peak

Vertical



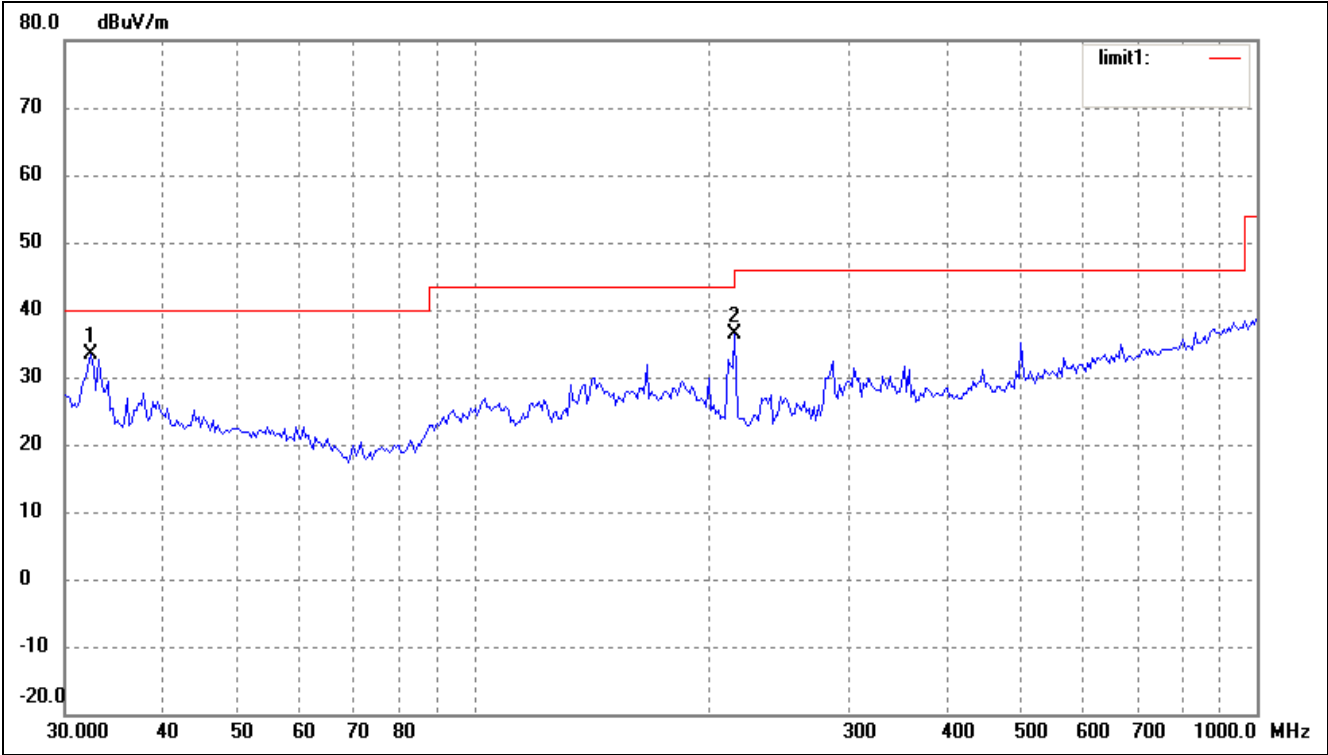
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	32.1795	27.52	6.77	34.29	40.00	-5.71	306	100	peak
2	286.9823	22.01	9.61	31.62	46.00	-14.38	78	100	peak

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



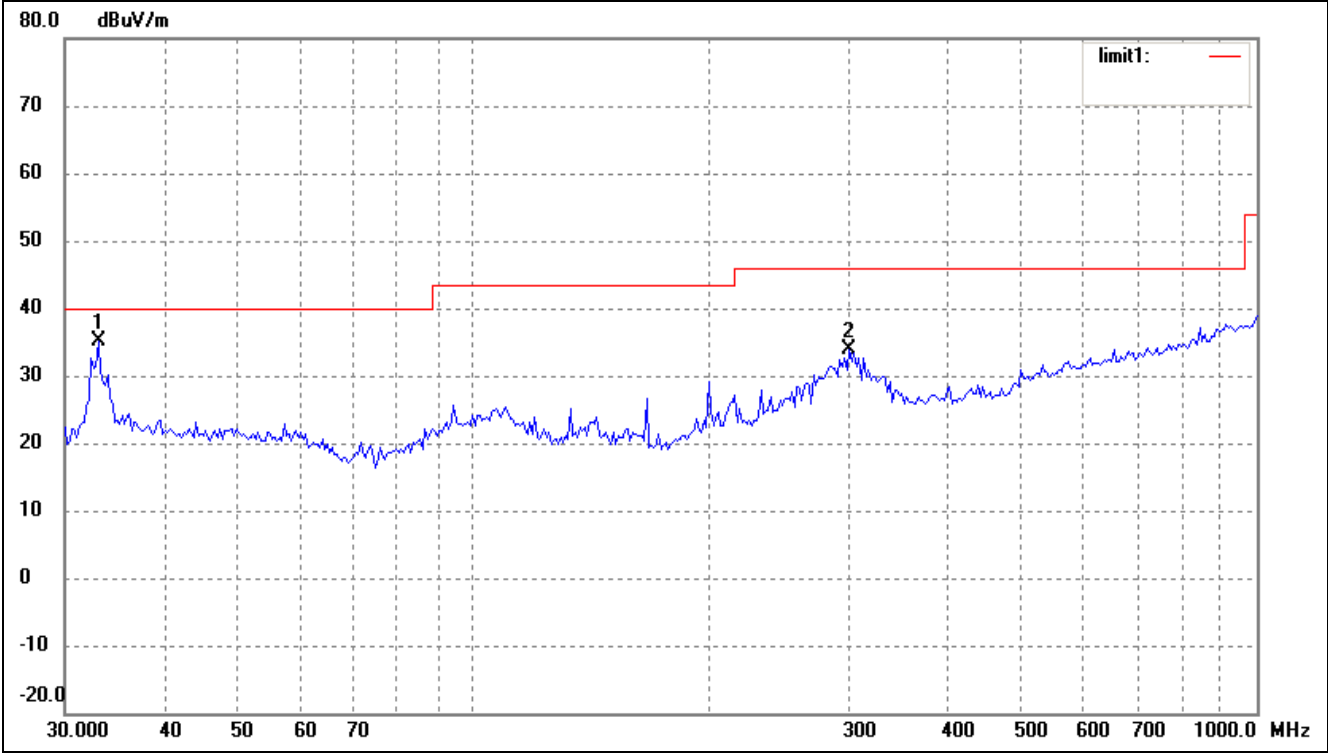
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	33.0950	27.74	6.77	34.51	40.00	-5.49	147	100	peak
2	286.9823	24.70	9.61	34.31	46.00	-11.69	25	100	peak

Vertical



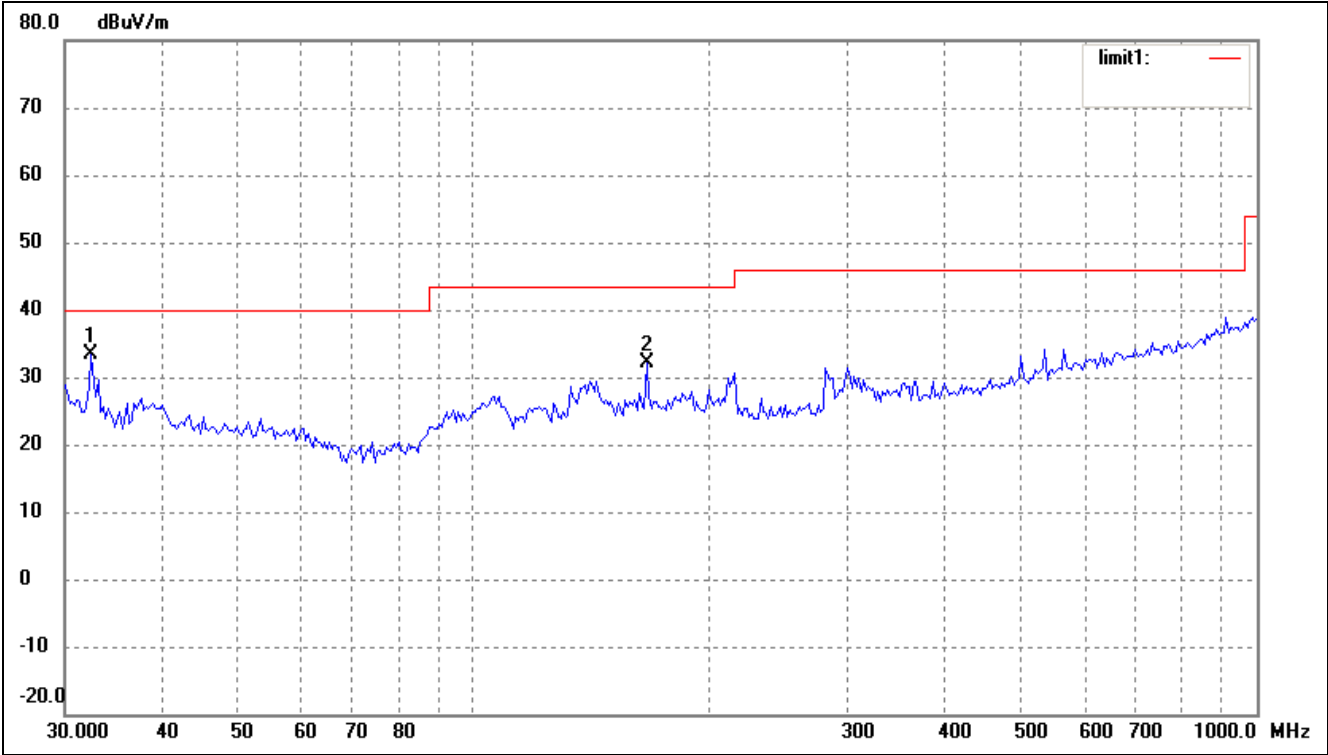
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	32.4059	26.73	6.77	33.50	40.00	-6.50	74	100	peak
2	215.2678	29.26	7.12	36.38	43.50	-7.12	52	100	peak

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



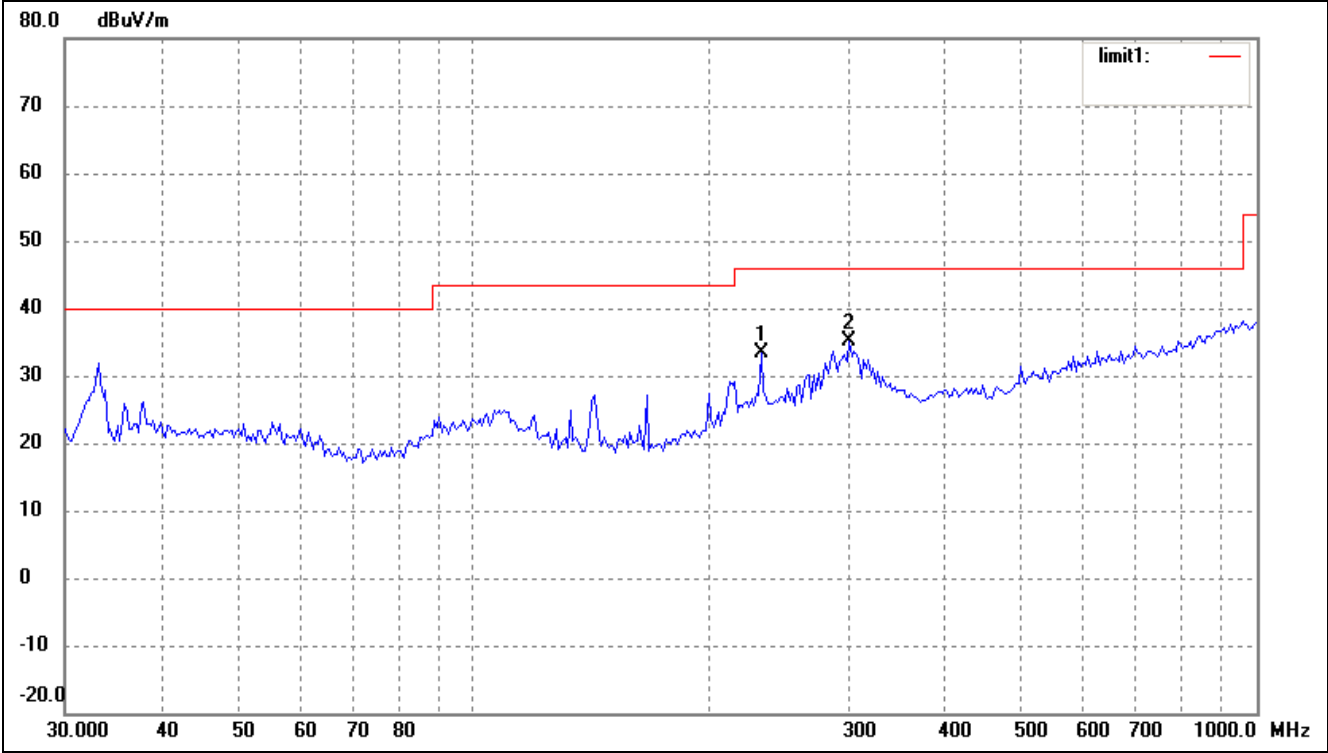
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	33.0950	28.27	6.77	35.04	40.00	-4.96	205	100	peak
2	301.4224	24.18	9.78	33.96	46.00	-12.04	69	100	peak

Vertical



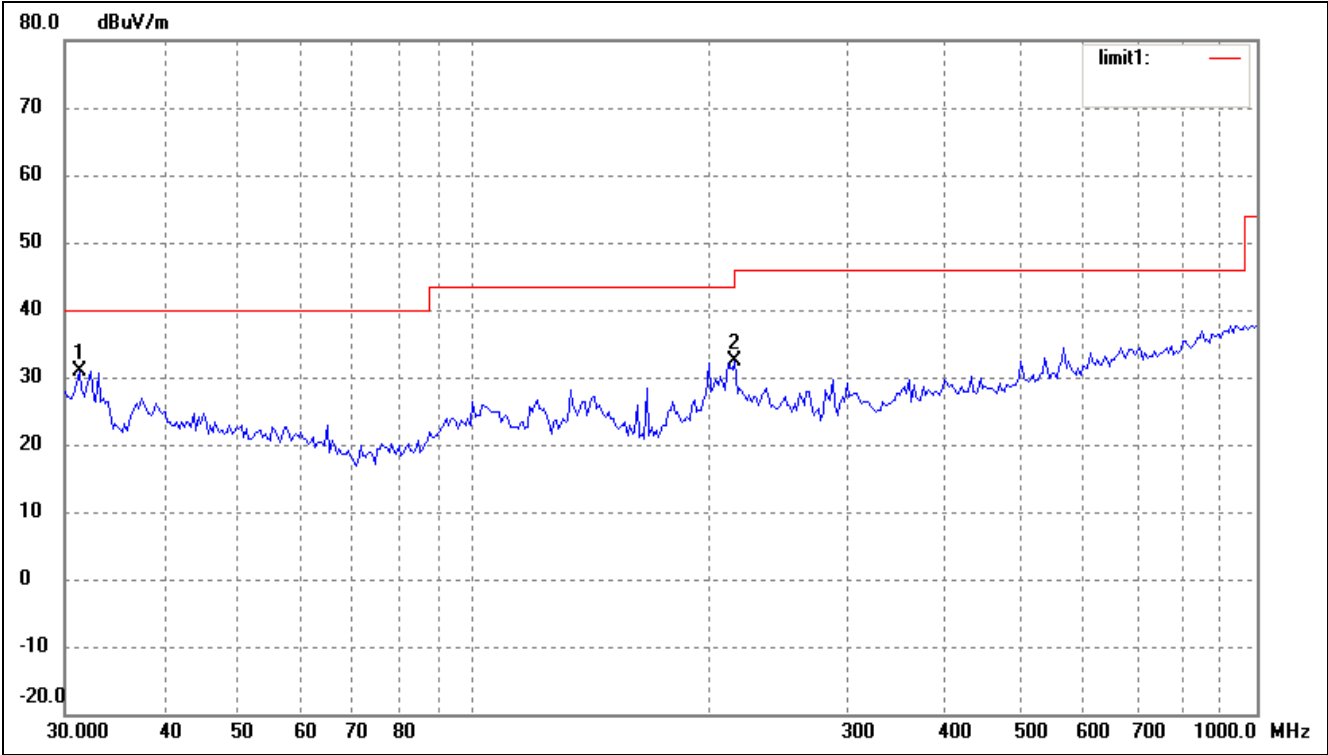
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	32.4059	26.72	6.77	33.49	40.00	-6.51	255	100	peak
2	166.0680	27.28	4.75	32.03	43.50	-11.47	77	100	peak

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	232.5318	25.46	8.01	33.47	46.00	-12.53	78	100	peak
2	301.4224	25.37	9.78	35.15	46.00	-10.85	150	100	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	31.2893	24.15	6.77	30.92	40.00	-9.08	200	100	peak
2	215.2678	25.33	7.12	32.45	43.50	-11.05	15	100	peak

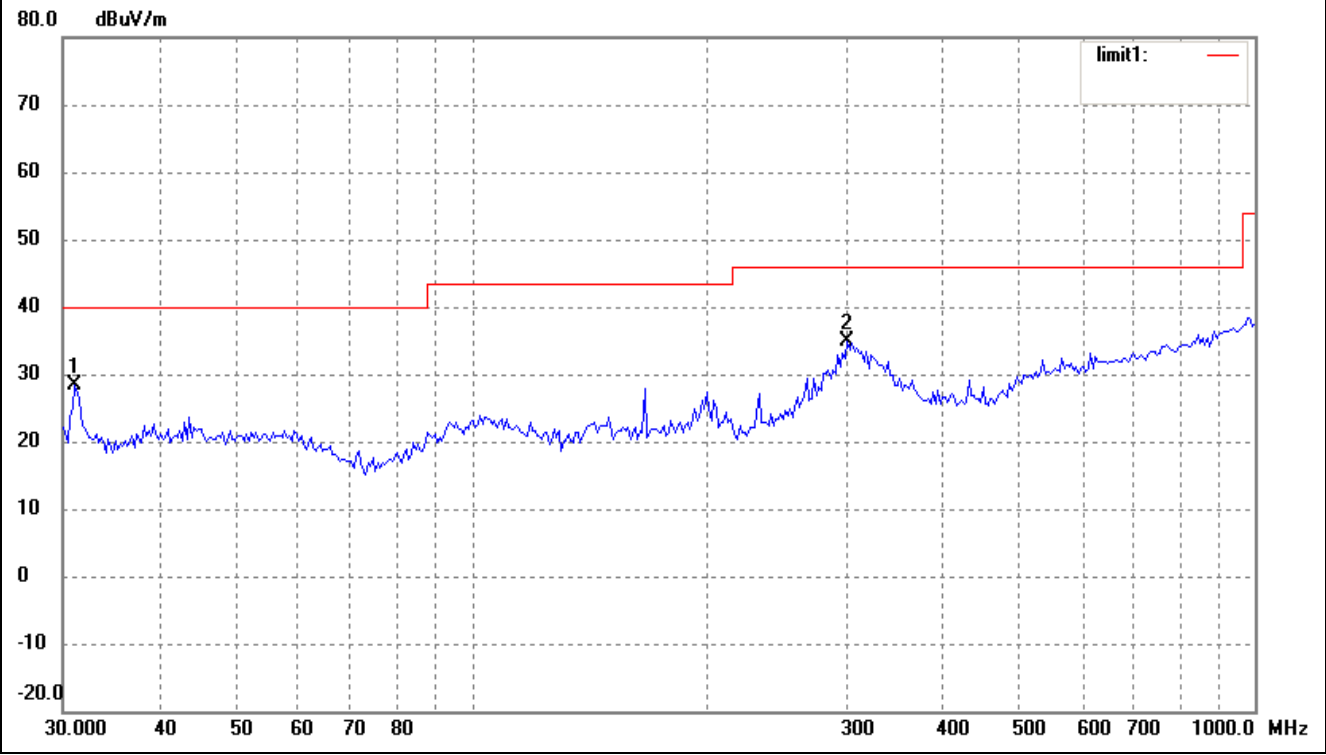
For 2dBi Antenna

Spurious Emission From 30 MHz to 1 GHz

Test mode: Transmitting (802.11b) Middle Channel

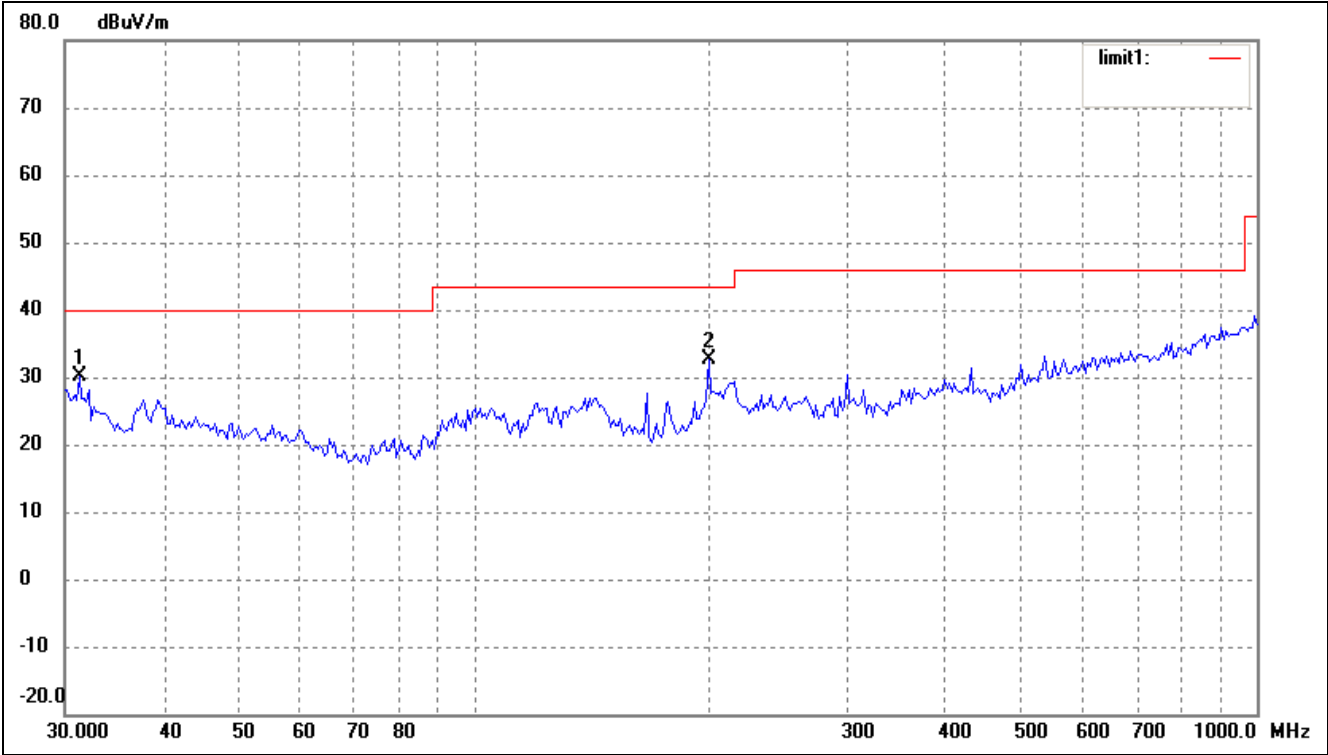
Comment:

Horizontal



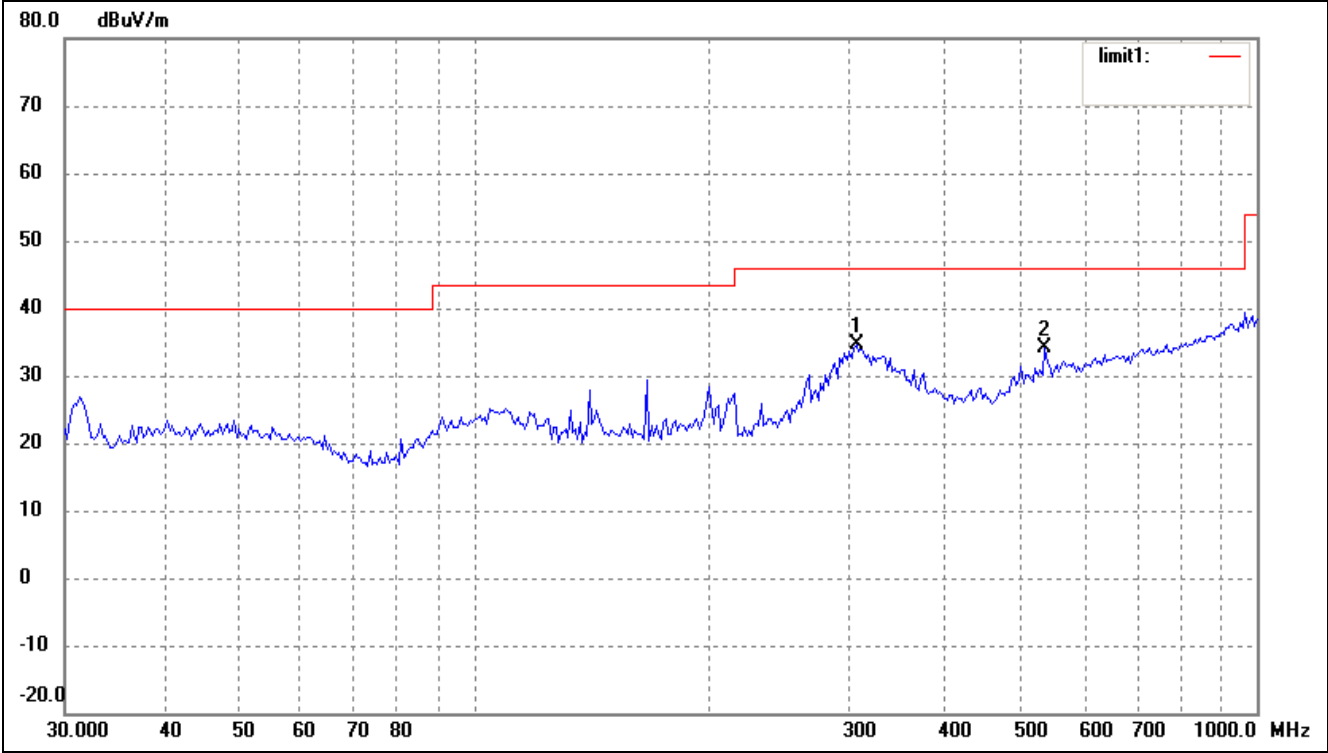
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	31.0706	21.70	6.77	28.47	40.00	-11.53	87	100	peak
2	301.4224	25.08	9.78	34.86	46.00	-11.14	301	100	peak

Vertical



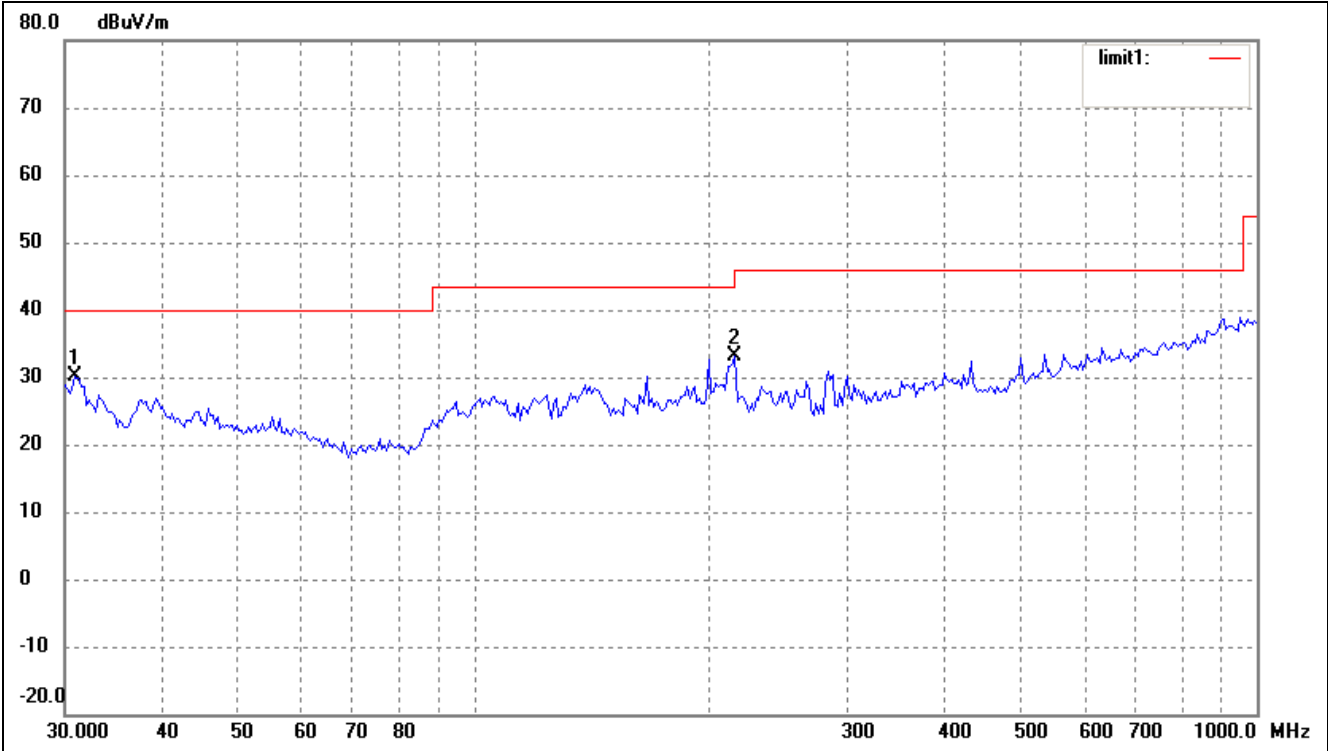
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	31.2893	23.27	6.77	30.04	40.00	-9.96	103	100	peak
2	199.2855	26.14	6.58	32.72	43.50	-10.78	66	100	peak

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



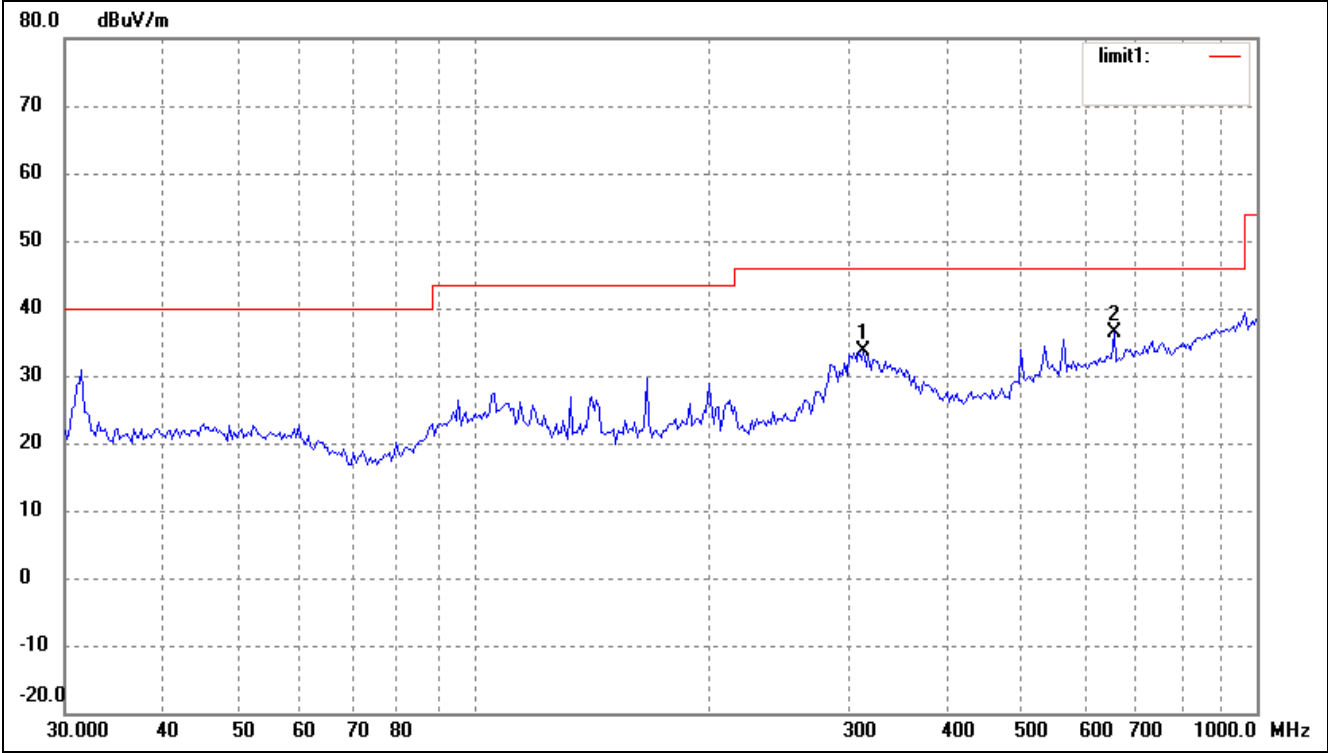
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	307.8313	24.85	9.86	34.71	46.00	-11.29	306	100	peak
2	535.7073	18.99	15.21	34.20	46.00	-11.80	147	100	peak

Vertical



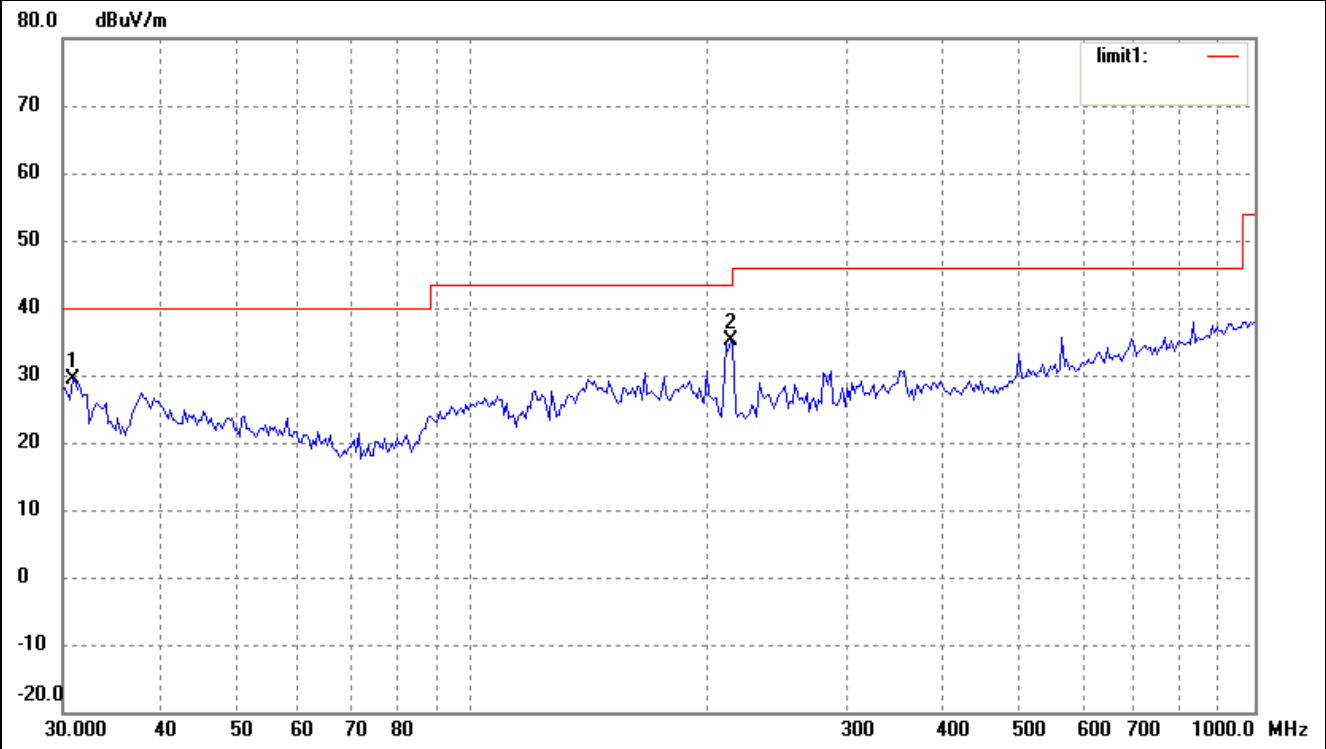
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	30.8535	23.47	6.77	30.24	40.00	-9.76	78	100	peak
2	215.2678	26.10	7.12	33.22	43.50	-10.28	21	100	peak

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



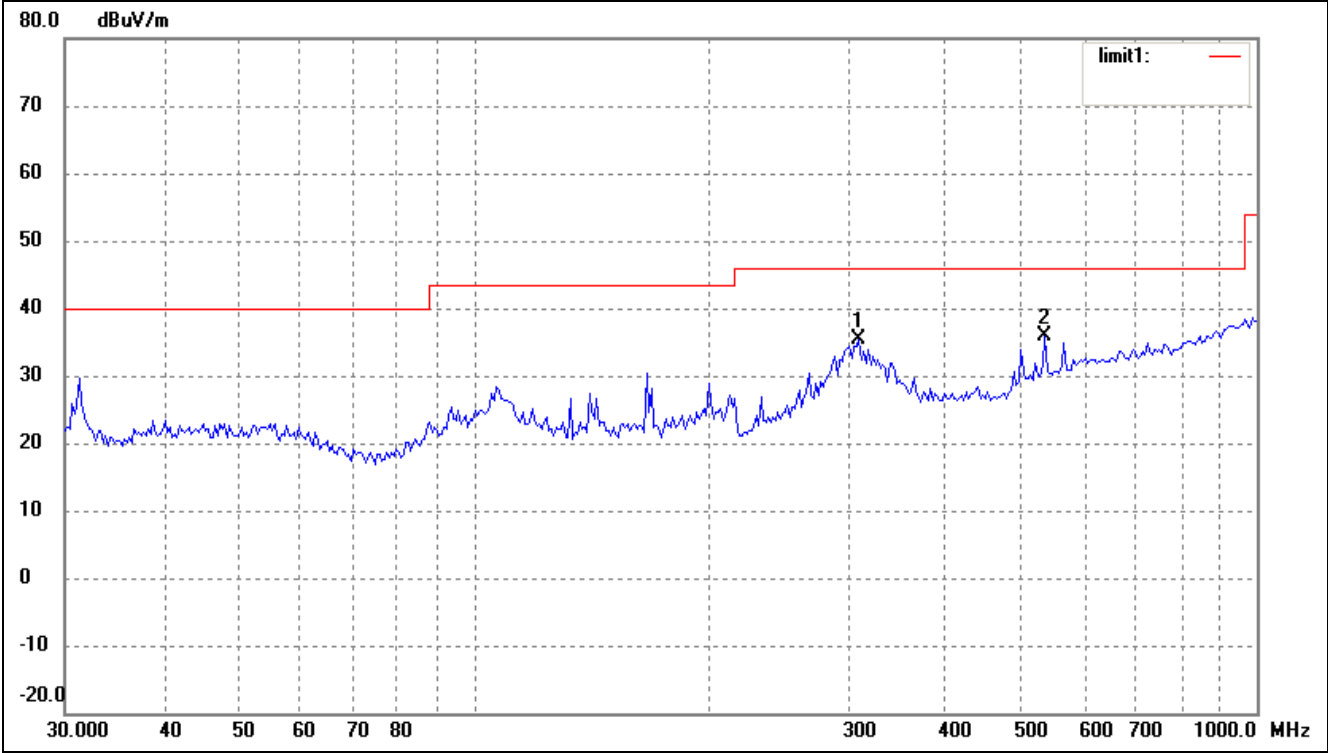
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	314.3765	23.75	9.93	33.68	46.00	-12.32	56	100	peak
2	656.5300	19.12	17.14	36.26	46.00	-9.74	90	100	peak

Vertical



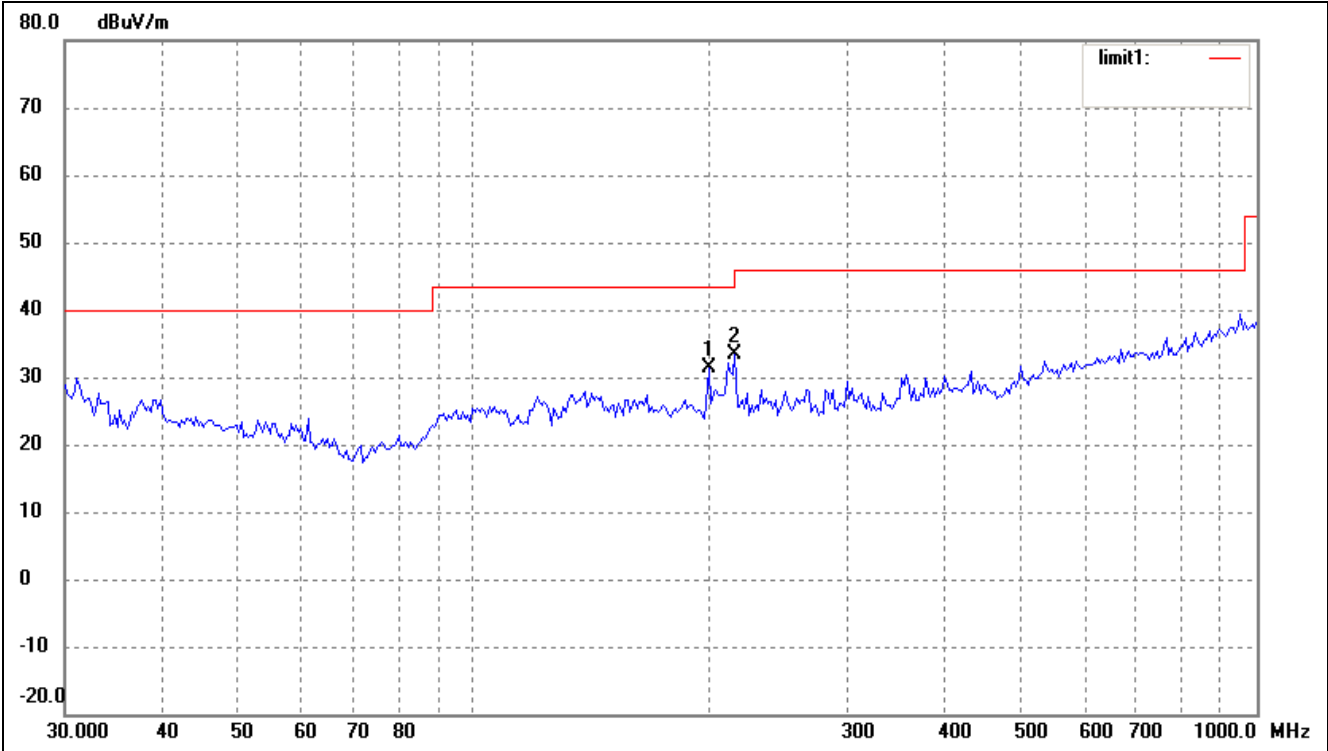
No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	30.8535	22.66	6.77	29.43	40.00	-10.57	47	100	peak
2	213.7634	28.02	7.06	35.08	43.50	-8.42	330	100	peak

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



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	309.9977	25.44	9.88	35.32	46.00	-10.68	55	100	peak
2	535.7073	20.65	15.21	35.86	46.00	-10.14	26	100	peak

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	(°)	(cm)	
1	199.2855	24.91	6.58	31.49	43.50	-12.01	25	100	peak
2	215.2678	26.26	7.12	33.38	43.50	-10.12	65	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	48.4	90	V	34.1	5.2	33.0	54.65	74	-19.4
4824.0	PK	43.2	270	H	34.1	5.2	33.0	49.54	74	-24.5
7236.0	PK	44.3	180	V	37.4	6.1	33.5	54.26	74	-19.7
7236.0	PK	37.5	45	H	37.4	6.1	33.5	47.52	74	-26.5
4824.0	AV	44.8	90	V	34.1	5.2	33.0	51.05	54	-3.0
4824.0	AV	33.9	270	H	34.1	5.2	33.0	40.16	54	-13.8
7236.0	AV	40.2	180	V	37.4	6.1	33.5	50.19	54	-3.8
7236.0	AV	30.8	45	H	37.4	6.1	33.5	40.80	54	-13.2
Middle Channel (1G to 25GHz)										
4874.0	PK	48.8	45	V	34.1	5.2	33.0	55.08	74	-18.9
4874.0	PK	42.2	270	H	34.1	5.2	33.0	48.48	74	-25.5
7311.0	PK	42.7	45	V	37.4	6.1	33.5	52.66	74	-21.3
7311.0	PK	36.9	180	H	37.4	6.1	33.5	46.86	74	-27.1
4874.0	AV	45.8	45	V	34.1	5.2	33.0	52.05	54	-2.0
4874.0	AV	36.7	270	H	34.1	5.2	33.0	43.01	54	-11.0
7311.0	AV	41.2	45	V	37.4	6.1	33.5	51.22	54	-2.8
7311.0	AV	32.6	180	H	37.4	6.1	33.5	42.62	54	-11.4
High Channel (1G to 25GHz)										
4924.0	PK	48.2	270	V	34.1	5.2	33.0	54.53	74	-19.5
4924.0	PK	39.4	45	H	34.1	5.2	33.0	45.72	74	-28.3
7386.0	PK	43.0	180	V	37.4	6.1	33.5	52.98	74	-21.0
7386.0	PK	33.8	45	H	37.4	6.1	33.5	43.77	74	-30.2
4924.0	AV	46.1	270	V	34.1	5.2	33.0	52.36	54	-1.6
4924.0	AV	36.4	45	H	34.1	5.2	33.0	42.73	54	-11.3
7386.0	AV	40.2	180	V	37.4	6.1	33.5	50.23	54	-3.8
7386.0	AV	31.7	45	H	37.4	6.1	33.5	41.68	54	-12.3

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 (802.11g)*

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	47.5	270	V	34.1	5.2	33.0	53.80	74	-20.2
4824.0	PK	37.0	90	H	34.1	5.2	33.0	43.26	74	-30.7
7236.0	PK	42.4	45	V	37.4	6.1	33.5	52.38	74	-21.6
7236.0	PK	33.3	60	H	37.4	6.1	33.5	43.31	74	-30.7
4824.0	AV	45.2	270	V	34.1	5.2	33.0	51.49	54	-2.5
4824.0	AV	36.7	90	H	34.1	5.2	33.0	42.98	54	-11.0
7236.0	AV	40.0	45	V	37.4	6.1	33.5	49.95	54	-4.1
7236.0	AV	30.9	60	H	37.4	6.1	33.5	40.88	54	-13.1
Middle Channel (1G to 25GHz)										
4874.0	PK	47.4	270	V	34.1	5.2	33.0	53.65	74	-20.4
4874.0	PK	36.6	90	H	34.1	5.2	33.0	42.86	74	-31.1
7311.0	PK	43.8	60	V	37.4	6.1	33.5	53.76	74	-20.2
7311.0	PK	34.7	45	H	37.4	6.1	33.5	44.71	74	-29.3
4874.0	AV	44.8	270	V	34.1	5.2	33.0	51.11	54	-2.9
4874.0	AV	34.6	90	H	34.1	5.2	33.0	40.92	54	-13.1
7311.0	AV	39.5	60	V	37.4	6.1	33.5	49.53	54	-4.5
7311.0	AV	30.0	45	H	37.4	6.1	33.5	40.02	54	-14.0
High Channel (1G to 25GHz)										
4924.0	PK	47.0	90	V	34.1	5.2	33.0	53.32	74	-20.7
4924.0	PK	37.3	270	H	34.1	5.2	33.0	43.58	74	-30.4
7386.0	PK	42.7	60	V	37.4	6.1	33.5	52.65	74	-21.4
7386.0	PK	33.4	60	H	37.4	6.1	33.5	43.42	74	-30.6
4924.0	AV	45.3	90	V	34.1	5.2	33.0	51.62	54	-2.4
4924.0	AV	36.3	270	H	34.1	5.2	33.0	42.58	54	-11.4
7386.0	AV	38.8	60	V	37.4	6.1	33.5	48.77	54	-5.2
7386.0	AV	29.5	60	H	37.4	6.1	33.5	39.48	54	-14.5

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.

*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	47.4	122	V	34.1	5.2	33.0	53.72	74	-20.3
4824.0	PK	37.2	32	H	34.1	5.2	33.0	43.48	74	-30.5
7236.0	PK	42.5	36	V	37.4	6.1	33.5	52.48	74	-21.5
7236.0	PK	33.1	45	H	37.4	6.1	33.5	43.11	74	-30.9
4824.0	AV	43.8	122	V	34.1	5.2	33.0	50.13	54	-3.9
4824.0	AV	33.6	32	H	34.1	5.2	33.0	39.85	54	-14.2
7236.0	AV	38.4	36	V	37.4	6.1	33.5	48.44	54	-5.6
7236.0	AV	28.8	45	H	37.4	6.1	33.5	38.75	54	-15.3
Middle Channel (1G to 25GHz)										
4874.0	PK	46.7	60	V	34.1	5.2	33.0	53.00	74	-21.0
4874.0	PK	36.2	222	H	34.1	5.2	33.0	42.45	74	-31.6
7311.0	PK	41.7	180	V	37.4	6.1	33.5	51.67	74	-22.3
7311.0	PK	32.4	182	H	37.4	6.1	33.5	42.35	74	-31.7
4874.0	AV	43.6	60	V	34.1	5.2	33.0	49.88	54	-4.1
4874.0	AV	32.9	222	H	34.1	5.2	33.0	39.21	54	-14.8
7311.0	AV	37.2	180	V	37.4	6.1	33.5	47.20	54	-6.8
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	39.3	90	V	37.4	6.1	33.5	49.33	74	-24.7
7386.0	PK	27.0	221	H	37.4	6.1	33.5	37.01	74	-37.0
4924.0	AV	42.3	272	V	34.1	5.2	33.0	48.58	54	-5.4
4924.0	AV	32.8	43	H	34.1	5.2	33.0	39.10	54	-14.9
7386.0	AV	36.2	90	V	37.4	6.1	33.5	46.22	54	-7.8
7386.0	AV	27.9	221	H	37.4	6.1	33.5	37.88	54	-16.1

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	52.66	74	-21.3
4844.0	PK	36.2	276	H	34.1	5.2	33.0	42.46	74	-31.5
7266.0	PK	40.3	33	V	37.4	6.1	33.5	50.29	74	-23.7
7266.0	PK	30.2	63	H	37.4	6.1	33.5	40.20	74	-33.8
4844.0	AV	42.9	91	V	34.1	5.2	33.0	49.20	54	-4.8
4844.0	AV	33.8	276	H	34.1	5.2	33.0	40.11	54	-13.9
7266.0	AV	36.1	33	V	37.4	6.1	33.5	46.05	54	-8.0
7266.0	AV	27.9	63	H	37.4	6.1	33.5	37.87	54	-16.1
Middle Channel (1G to 25GHz)										
4874.0	PK	45.0	46	V	34.1	5.2	33.0	51.34	74	-22.7
4874.0	PK	35.8	125	H	34.1	5.2	33.0	42.12	74	-31.9
7311.0	PK	38.3	72	V	37.4	6.1	33.5	48.25	74	-25.8
7311.0	PK	29.6	35	H	37.4	6.1	33.5	39.55	74	-34.5
4874.0	AV	41.9	46	V	34.1	5.2	33.0	48.23	54	-5.8
4874.0	AV	33.7	125	H	34.1	5.2	33.0	40.01	54	-14.0
7311.0	AV	35.7	72	V	37.4	6.1	33.5	45.66	54	-8.3
7311.0	AV	25.4	35	H	37.4	6.1	33.5	35.37	54	-18.6
High Channel (1G to 25GHz)										
4904.0	PK	44.7	11	V	34.1	5.2	33.0	50.96	74	-23.0
4904.0	PK	35.9	56	H	34.1	5.2	33.0	42.17	74	-31.8
7356.0	PK	38.2	26	V	37.4	6.1	33.5	48.19	74	-25.8
7356.0	PK	28.2	115	H	37.4	6.1	33.5	38.20	74	-35.8
4904.0	AV	42.5	11	V	34.1	5.2	33.0	48.77	54	-5.2
4904.0	AV	34.0	56	H	34.1	5.2	33.0	40.33	54	-13.7
7356.0	AV	35.3	26	V	37.4	6.1	33.5	45.34	54	-8.7
7356.0	AV	25.5	115	H	37.4	6.1	33.5	35.46	54	-18.5

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	43.2	223	V	34.1	5.2	33.0	49.48	74	-24.5
4824.0	PK	34.1	45	H	34.1	5.2	33.0	40.41	74	-33.6
7236.0	PK	37.3	11	V	37.4	6.1	33.5	47.29	74	-26.7
7236.0	PK	28.1	32	H	37.4	6.1	33.5	38.06	74	-35.9
4824.0	AV	40.9	223	V	34.1	5.2	33.0	47.23	54	-6.8
4824.0	AV	32.0	45	H	34.1	5.2	33.0	38.25	54	-15.8
7236.0	AV	35.5	11	V	37.4	6.1	33.5	45.54	54	-8.5
7236.0	AV	26.9	32	H	37.4	6.1	33.5	36.86	54	-17.1
Middle Channel (1G to 25GHz)										
4874.0	PK	42.6	45	V	34.1	5.2	33.0	48.87	74	-25.1
4874.0	PK	34.8	22	H	34.1	5.2	33.0	41.08	74	-32.9
7311.0	PK	36.6	72	V	37.4	6.1	33.5	46.63	74	-27.4
7311.0	PK	28.0	90	H	37.4	6.1	33.5	38.03	74	-36.0
4874.0	AV	40.2	45	V	34.1	5.2	33.0	46.53	54	-7.5
4874.0	AV	31.5	22	H	34.1	5.2	33.0	37.83	54	-16.2
7311.0	AV	34.9	72	V	37.4	6.1	33.5	44.86	54	-9.1
7311.0	AV	26.8	90	H	37.4	6.1	33.5	36.83	54	-17.2
High Channel (1G to 25GHz)										
4924.0	PK	41.9	273	V	34.1	5.2	33.0	48.24	74	-25.8
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	40.0	273	V	34.1	5.2	33.0	46.32	54	-7.7
4924.0	AV	30.9	153	H	34.1	5.2	33.0	37.15	54	-16.9
7386.0	AV	35.0	22	V	37.4	6.1	33.5	45.00	54	-9.0
7386.0	AV	26.9	245	H	37.4	6.1	33.5	36.86	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	41.2	277	V	34.1	5.2	33.0	47.49	74	-26.5
4824.0	PK	30.9	94	H	34.1	5.2	33.0	37.16	74	-36.8
7236.0	PK	36.8	245	V	37.4	6.1	33.5	46.77	74	-27.2
7236.0	PK	27.2	60	H	37.4	6.1	33.5	37.15	74	-36.9
4824.0	AV	39.0	277	V	34.1	5.2	33.0	45.31	54	-8.7
4824.0	AV	28.7	94	H	34.1	5.2	33.0	35.01	54	-19.0
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	40.7	220	V	34.1	5.2	33.0	46.98	74	-27.0
4874.0	PK	31.0	25	H	34.1	5.2	33.0	37.26	74	-36.7
7311.0	PK	35.3	11	V	37.4	6.1	33.5	45.32	74	-28.7
7311.0	PK	26.1	46	H	37.4	6.1	33.5	36.09	74	-37.9
4874.0	AV	38.8	220	V	34.1	5.2	33.0	45.11	54	-8.9
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	39.7	34	V	34.1	5.2	33.0	45.99	74	-28.0
4924.0	PK	30.0	214	H	34.1	5.2	33.0	36.26	74	-37.7
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	38.4	34	V	34.1	5.2	33.0	44.68	54	-9.3
4924.0	AV	29.3	214	H	34.1	5.2	33.0	35.61	54	-18.4
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	33.9	30	H	34.1	5.2	33.0	40.22	74	-33.8
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	29.7	30	H	34.1	5.2	33.0	36.02	54	-18.0
7236.0	AV	33.7	256	V	37.4	6.1	33.5	43.73	54	-10.3
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	39.3	33	V	34.1	5.2	33.0	45.58	54	-8.4
4874.0	AV	29.9	222	H	34.1	5.2	33.0	36.22	54	-17.8
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	38.6	270	V	34.1	5.2	33.0	44.93	54	-9.1
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	41.3	91	V	34.1	5.2	33.0	47.64	74	-26.4
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	37.9	91	V	34.1	5.2	33.0	44.15	54	-9.9
4844.0	AV	28.7	276	H	34.1	5.2	33.0	34.95	54	-19.1
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	42.9	46	V	34.1	5.2	33.0	49.15	74	-24.9
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	46.11	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	41.7	11	V	34.1	5.2	33.0	48.03	74	-26.0
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	38.0	11	V	34.1	5.2	33.0	44.34	54	-9.7
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.

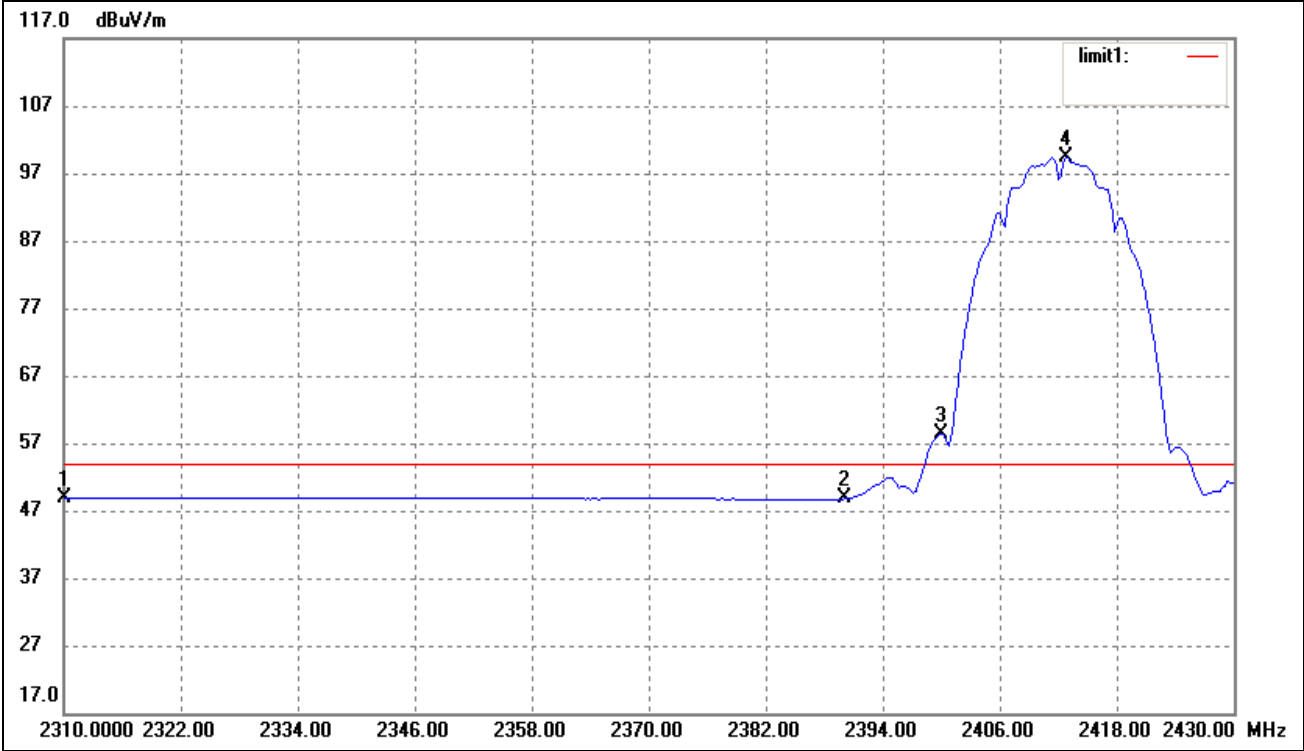
9.4 Environmental Conditions

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

9.5 Summary of Test Results/Plots

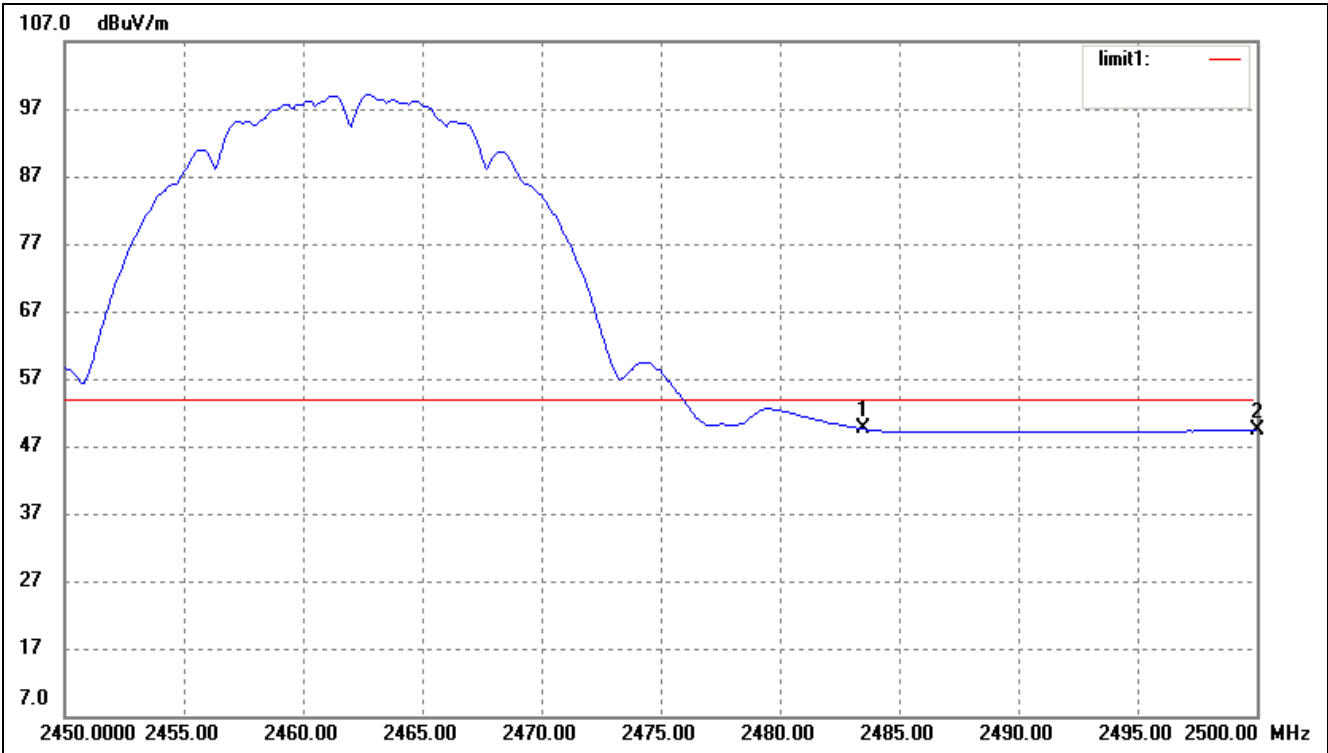
Test mode	Frequency MHz	Limit dBuV /dB	Result
802.11b	2390.00	<54dBuV	Pass
	2400.00	>20dB	Pass
	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass
802.11g	2390.00	<54dBuV	Pass
	2400.00	>20dB	Pass
	2483.50	<54dBuV	Pass
	2500.00	<54dBuV	Pass
802.11n HT20	2390.00	<54dBuV	Pass
	2400.00	>20dB	Pass
	2483.50	<54dBuV	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	12.49	36.35	48.84	54.00	-5.16	Average Detector
	2310.000	15.11	36.35	51.46	74.00	-22.54	Peak Detector
2	2390.000	12.22	36.54	48.76	54.00	-5.24	Average Detector
	2390.000	14.81	36.54	51.35	74.00	-22.65	Peak Detector
3	2400.000	21.69	36.57	58.26	/	/	Average Detector
4	2412.720	62.72	36.60	99.32	/	/	Average Detector

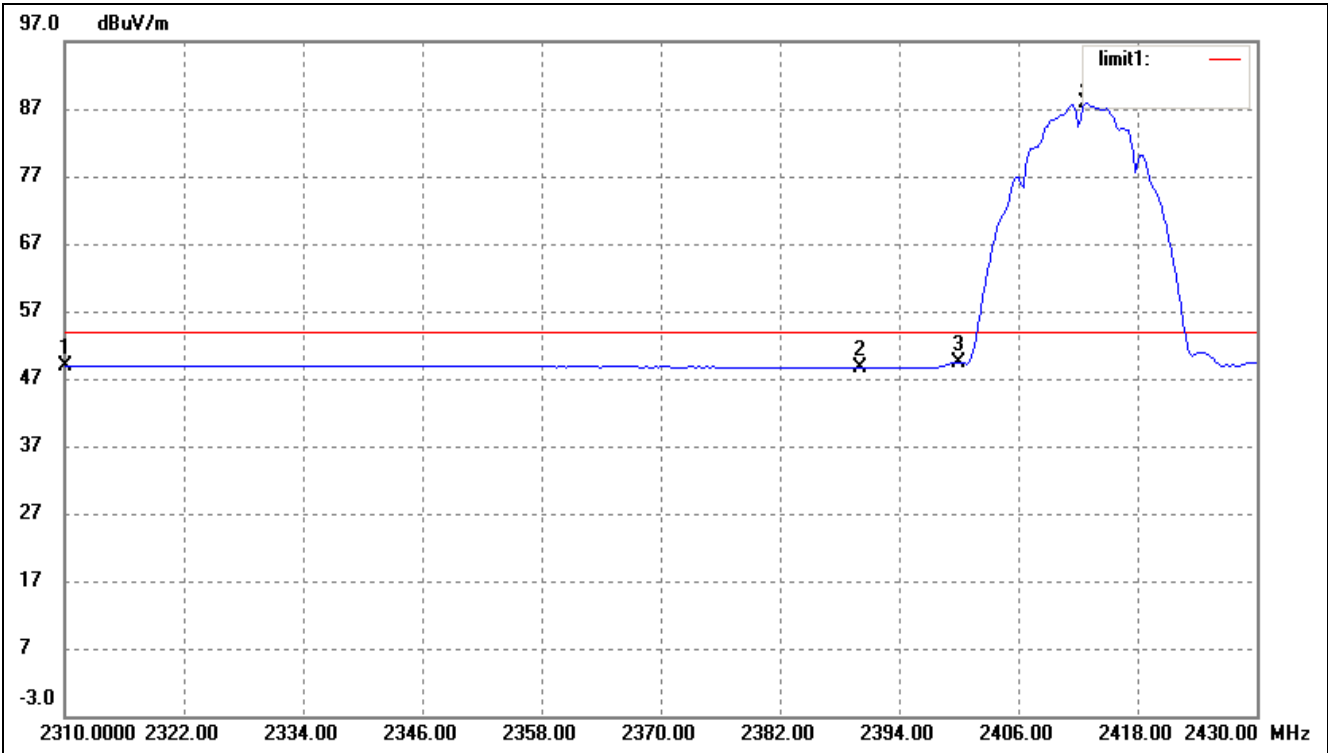
Highest Bandedge



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	12.75	36.77	49.52	54.00	-4.48	Average Detector
	2483.500	15.86	36.77	52.63	74.00	-21.37	Peak Detector
2	2500.000	12.52	36.82	49.34	54.00	-4.66	Average Detector
	2500.000	15.36	36.82	52.18	74.00	-21.82	Peak Detector

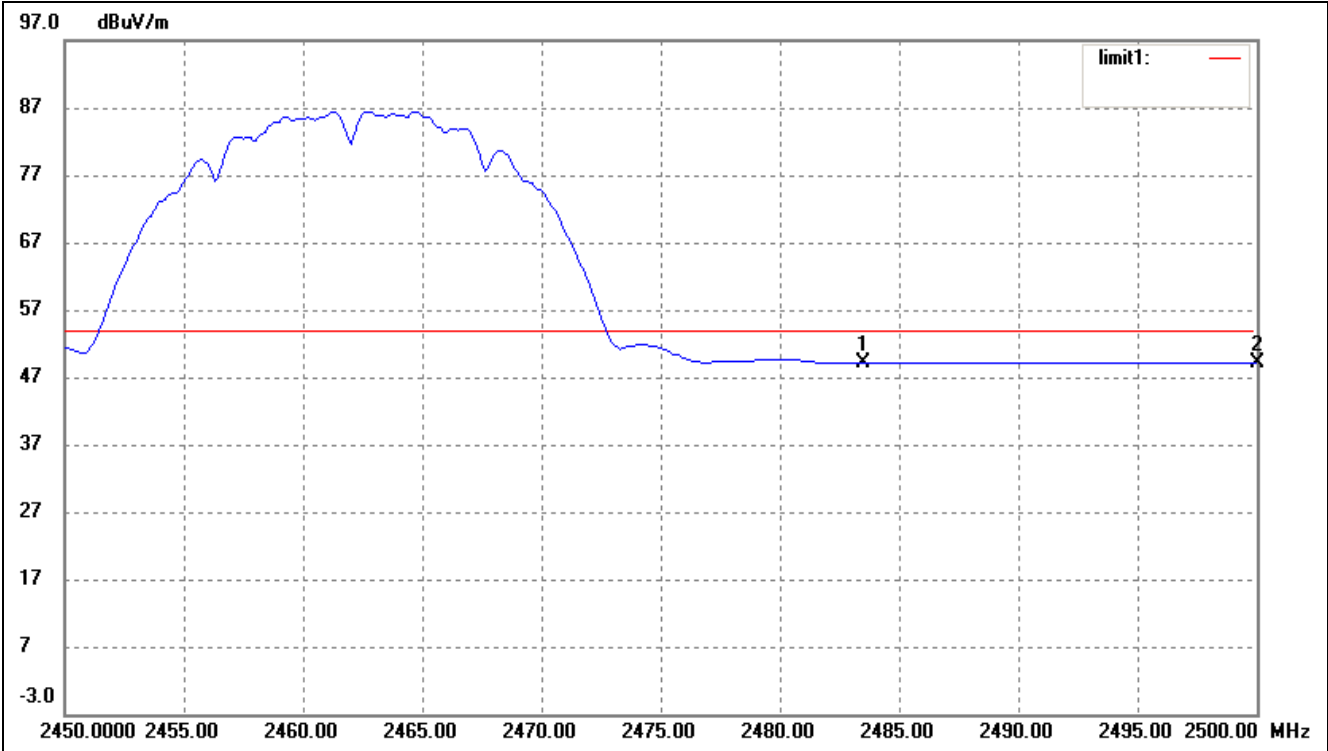
For 802.11b (Chain 1)

Lowest Bandedge



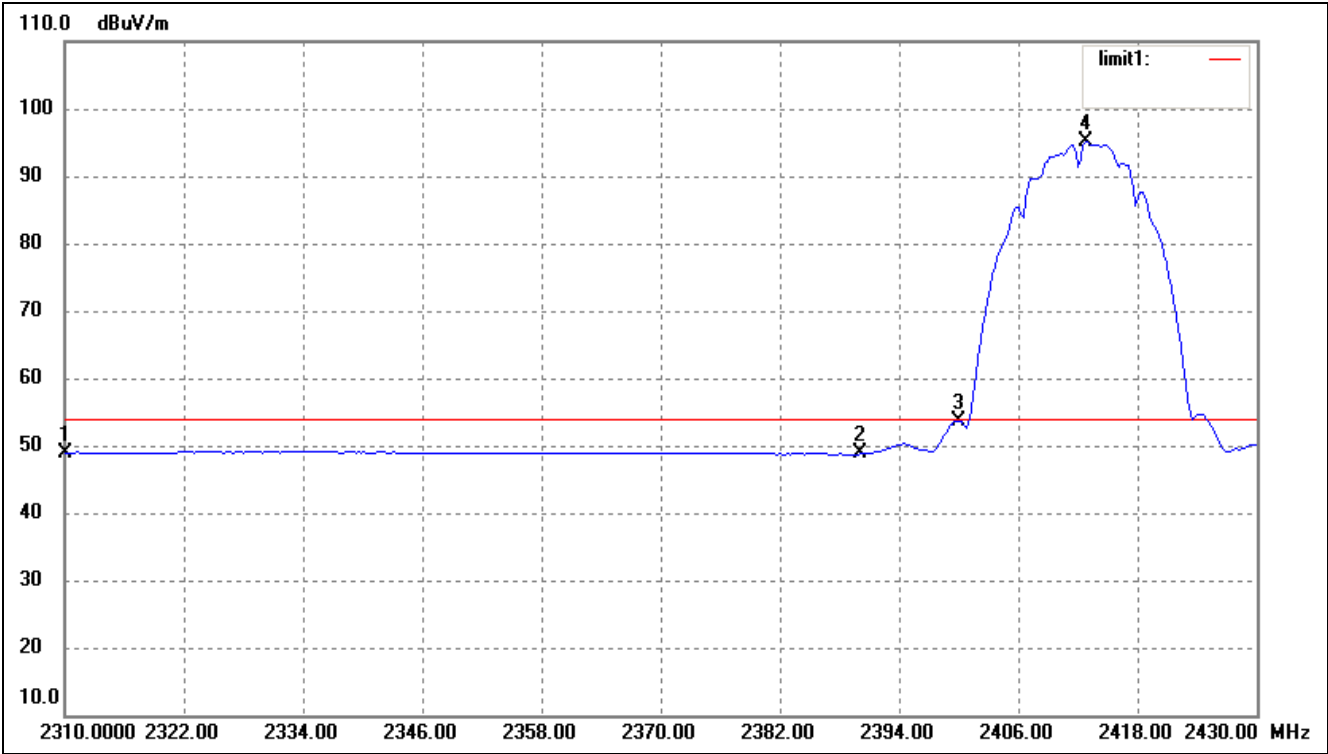
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.52	36.35	48.87	54.00	-5.13	Average Detector
	2310.000	15.71	36.35	52.06	74.00	-21.94	Peak Detector
2	2390.000	12.13	36.54	48.67	54.00	-5.33	Average Detector
	2390.000	15.15	36.54	51.69	74.00	-22.31	Peak Detector
3	2400.000	12.80	36.57	49.37	/	/	Average Detector
4	2412.720	51.38	36.60	87.98	/	/	Average Detector

Highest Bandedge



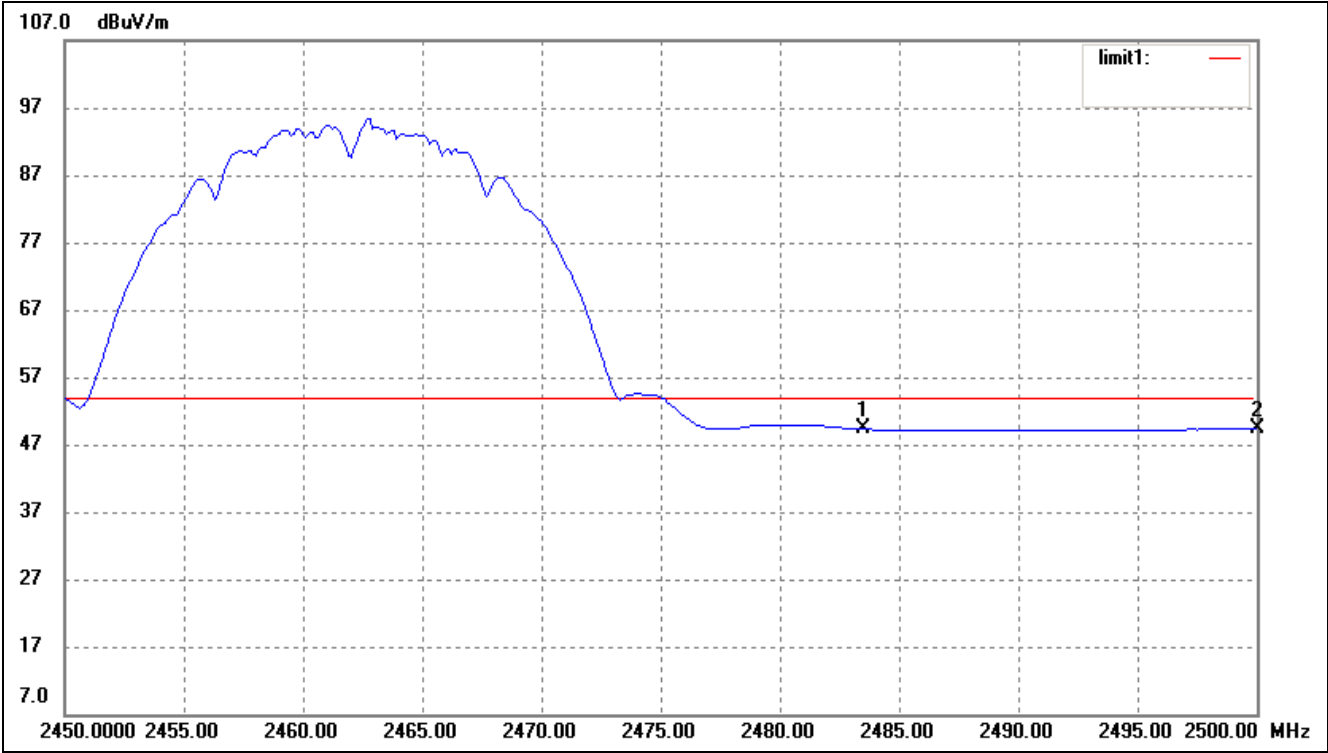
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	12.33	36.77	49.10	54.00	-4.90	Average Detector
	2483.500	15.40	36.77	52.17	74.00	-21.83	Peak Detector
2	2500.000	12.35	36.82	49.17	54.00	-4.83	Average Detector
	2500.000	15.44	36.82	52.26	74.00	-21.74	Peak Detector

For 2dBi Antenna
For 802.11b (Chain 0)
Lowest Bandedge



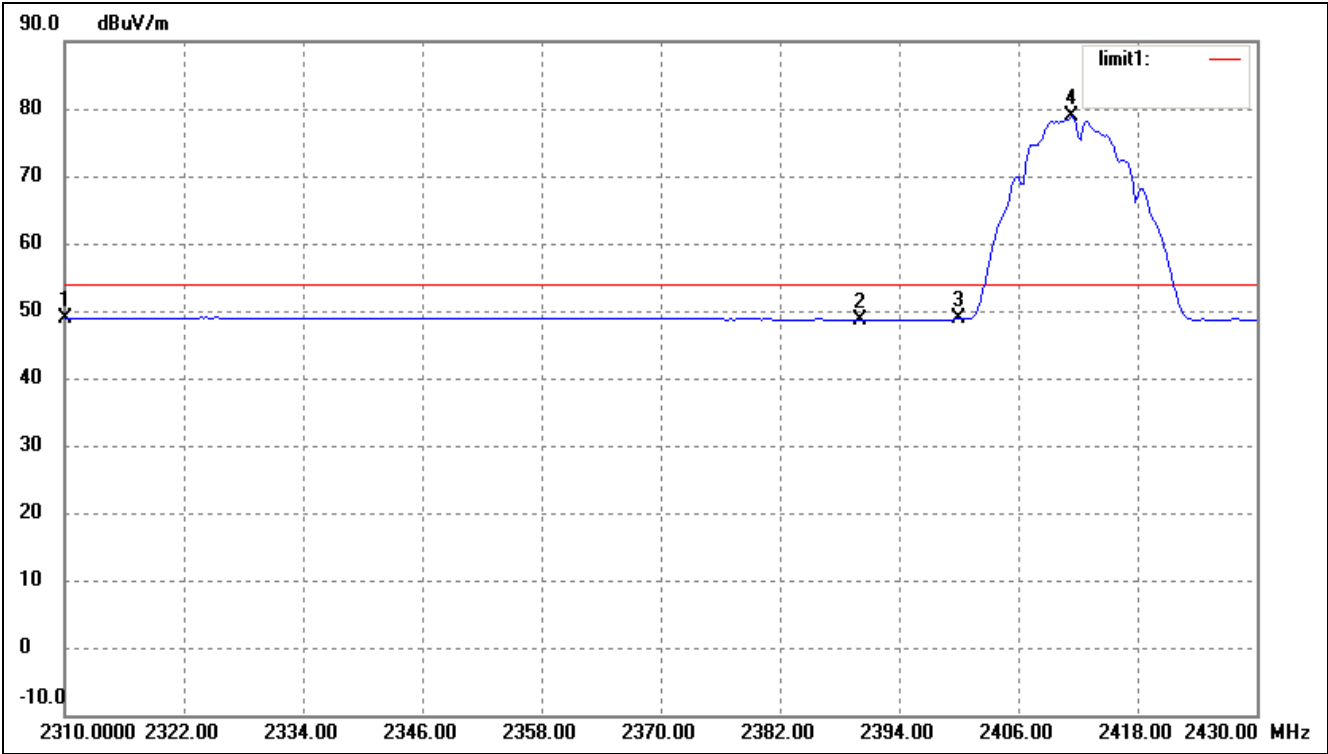
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.59	36.35	48.94	54.00	-5.06	Average Detector
	2310.000	14.06	36.35	50.41	74.00	-23.59	Peak Detector
2	2390.000	12.24	36.54	48.78	54.00	-5.22	Average Detector
	2390.000	13.62	36.54	50.16	74.00	-23.84	Peak Detector
3	2400.000	17.09	36.57	53.66	/	/	Average Detector
4	2412.720	58.56	36.60	95.16	/	/	Average Detector

Highest Bandedge



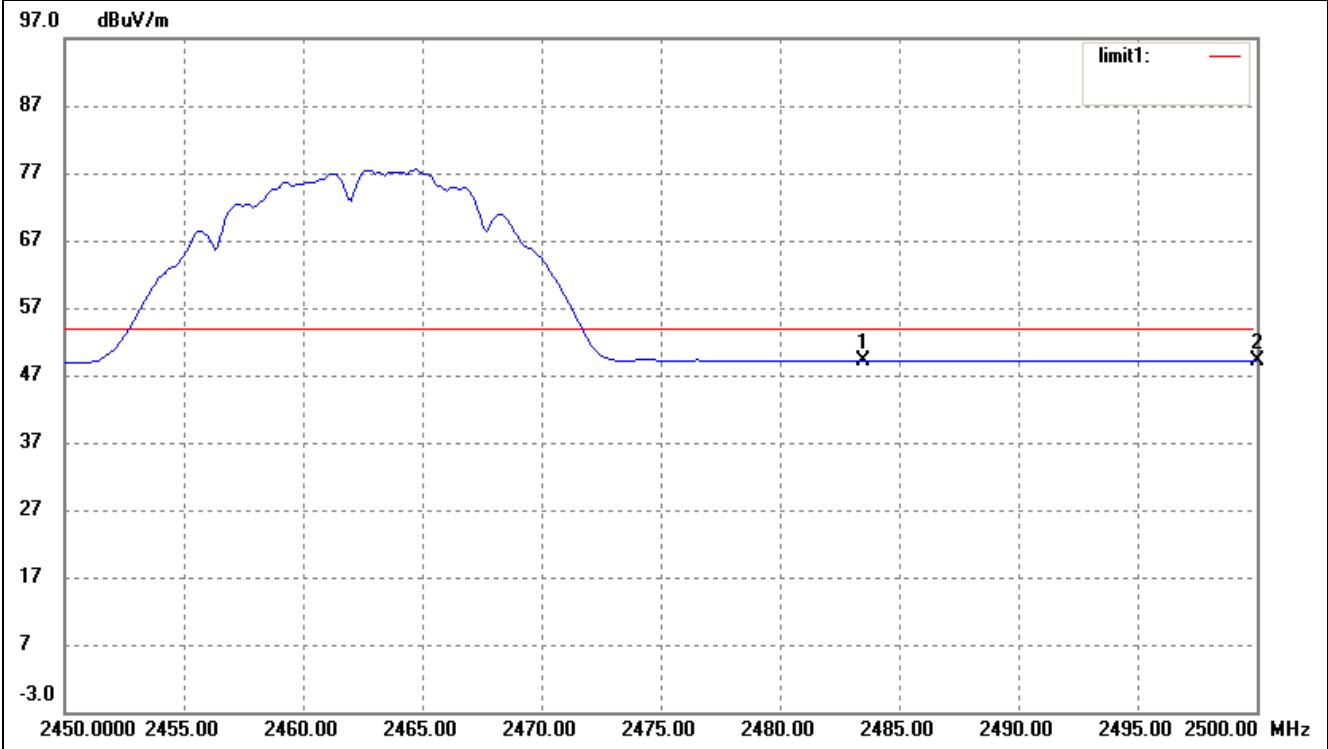
No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	12.58	36.77	49.35	54.00	-4.65	Average Detector
	2483.500	14.72	36.77	51.49	74.00	-22.51	Peak Detector
2	2500.000	12.49	36.82	49.31	54.00	-4.69	Average Detector
	2500.000	14.57	36.82	51.39	74.00	-22.61	Peak Detector

For 2dBi Antenna
For 802.11b (Chain 1)
Lowest Bandedge



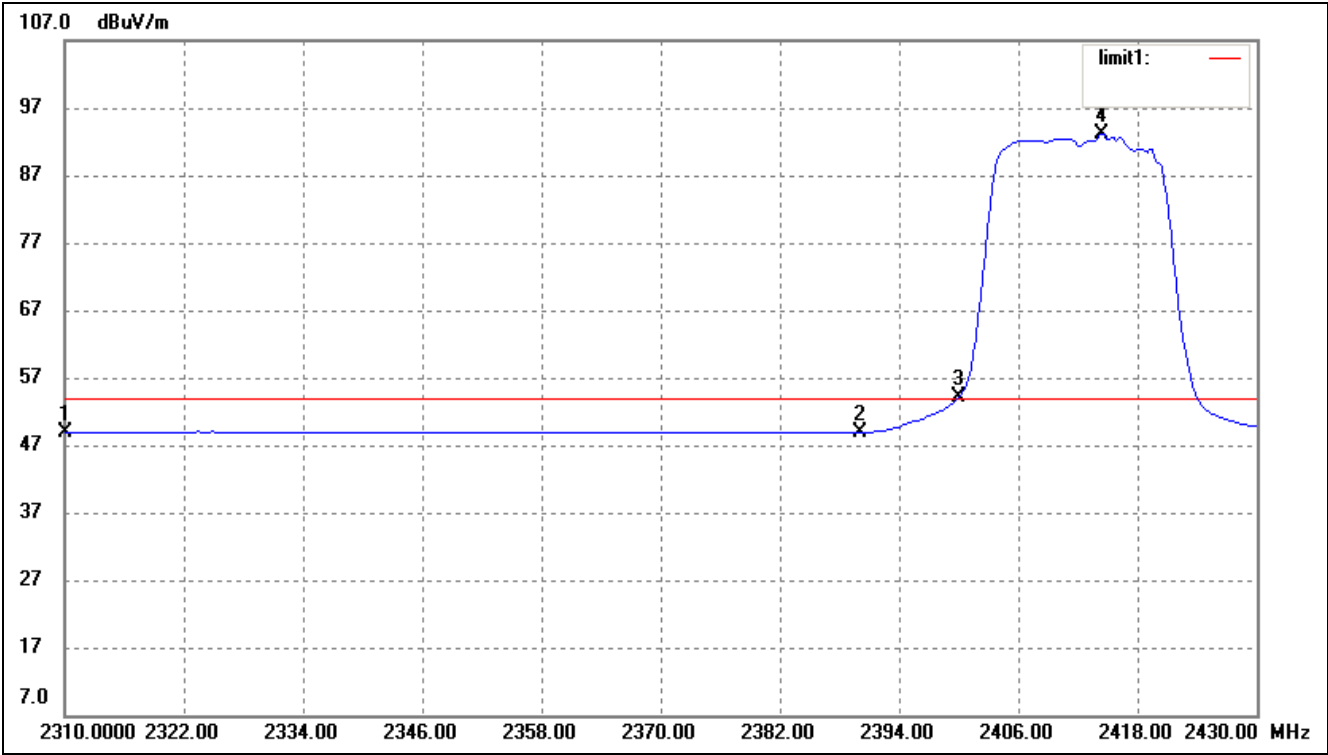
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.58	36.35	48.93	54.00	-5.07	Average Detector
	2310.000	14.68	36.35	51.03	74.00	-22.97	Peak Detector
2	2390.000	12.16	36.54	48.70	54.00	-5.30	Average Detector
	2390.000	14.34	36.54	50.88	74.00	-23.12	Peak Detector
3	2400.000	12.21	36.57	48.78	/	/	Average Detector
4	2411.280	42.20	36.60	78.80	/	/	Average Detector

Highest Bandedge



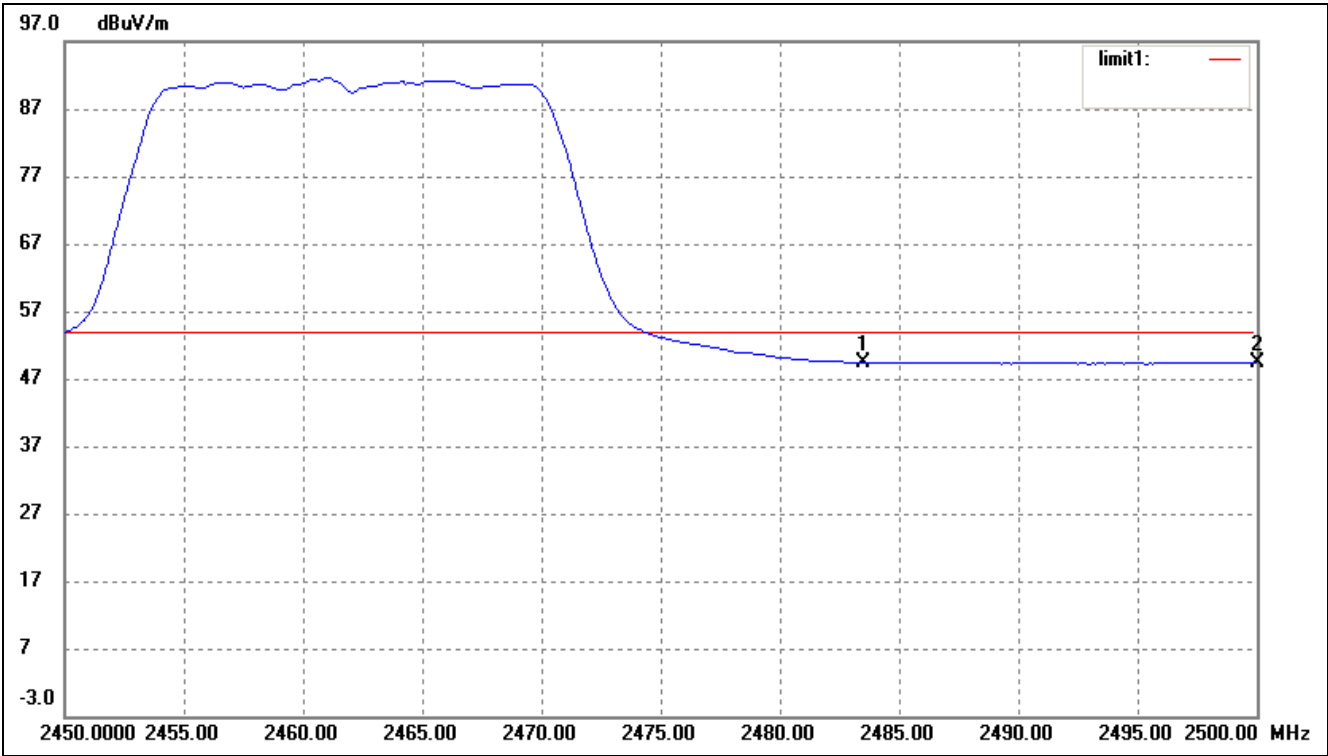
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	12.32	36.77	49.09	54.00	-4.91	Average Detector
	2483.500	14.91	36.77	51.68	74.00	-22.32	Peak Detector
2	2500.000	12.35	36.82	49.17	54.00	-4.83	Average Detector
	2500.000	14.89	36.82	51.71	74.00	-22.29	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	12.56	36.35	48.91	54.00	-5.09	Average Detector
	2310.000	15.86	36.35	52.21	74.00	-21.79	Peak Detector
2	2390.000	12.38	36.54	48.92	54.00	-5.08	Average Detector
	2390.000	15.60	36.54	52.14	74.00	-21.86	Peak Detector
3	2400.000	17.53	36.57	54.10	/	/	Average Detector
4	2414.400	56.53	36.60	93.13	/	/	Average Detector

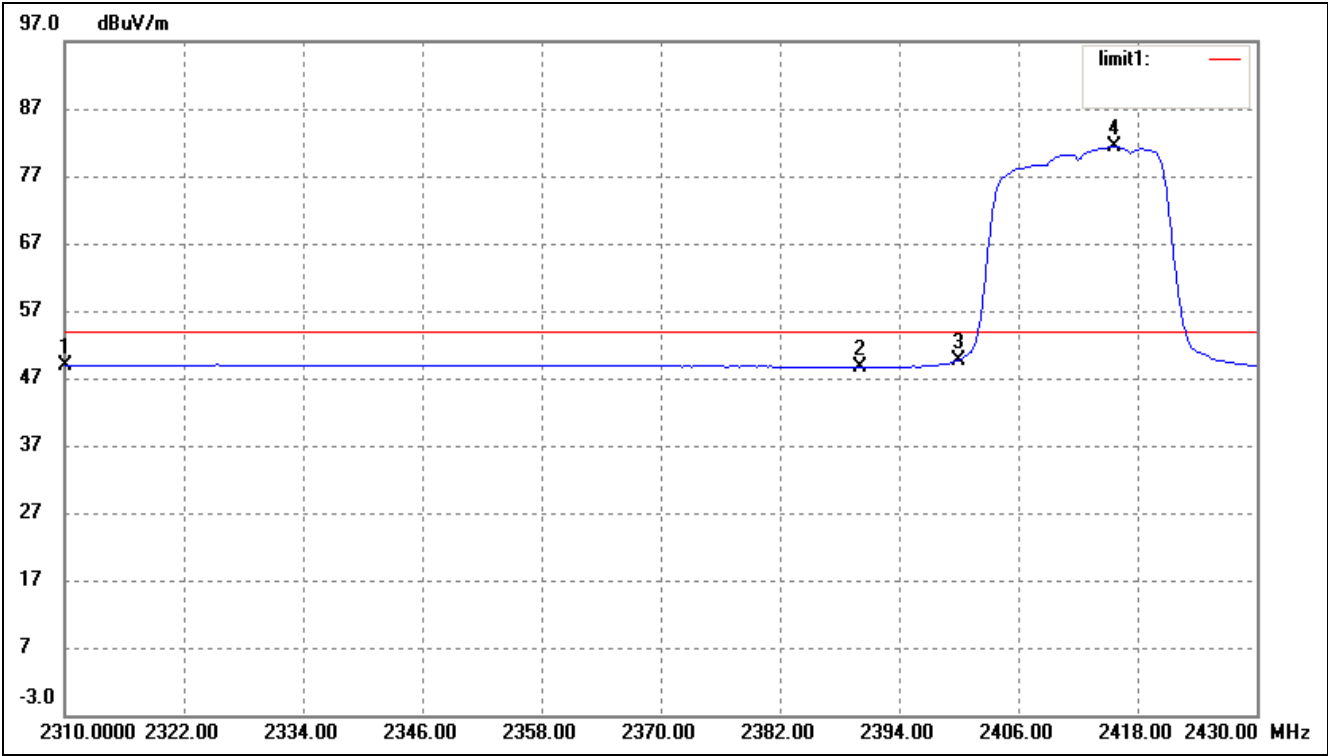
Highest Bandedge



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	12.63	36.77	49.40	54.00	-4.60	Average Detector
	2483.500	15.92	36.77	52.69	74.00	-21.31	Peak Detector
2	2500.000	12.52	36.82	49.34	54.00	-4.66	Average Detector
	2500.000	16.04	36.82	52.86	74.00	-21.14	Peak Detector

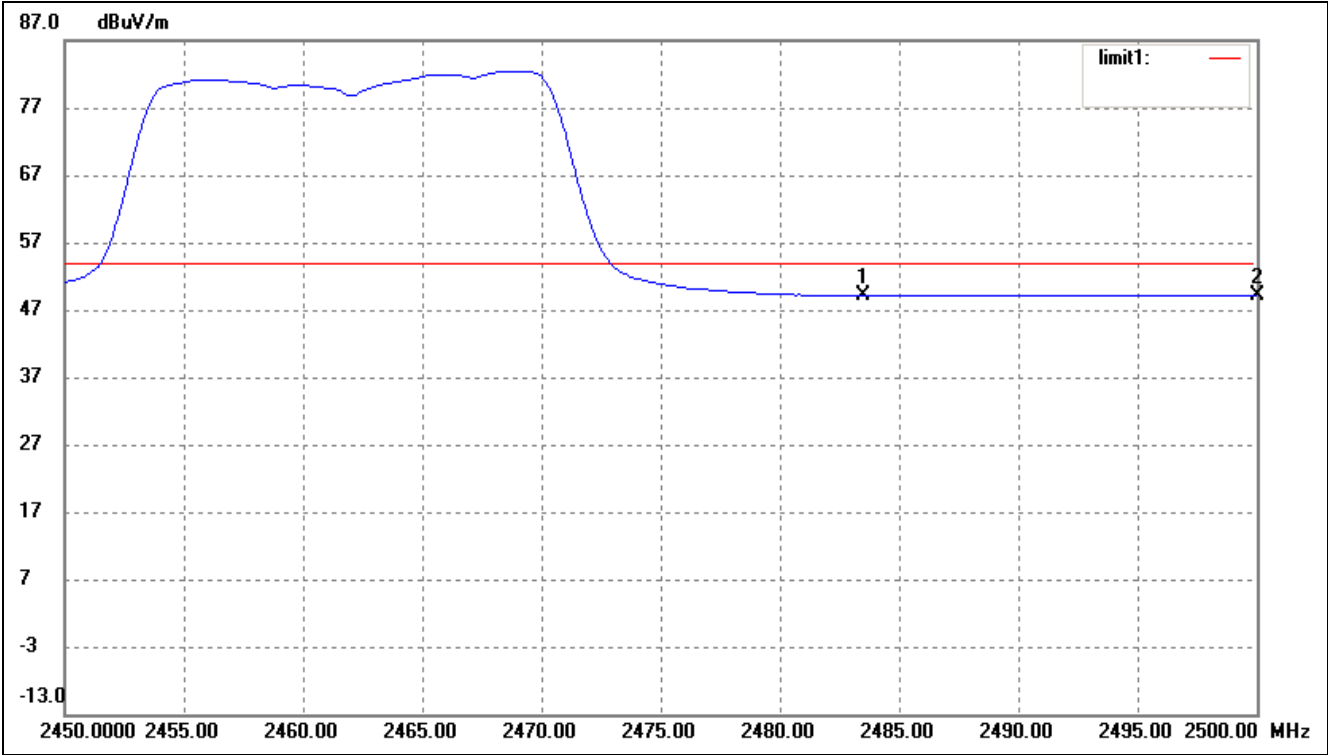
For 5dBi Antenna
For 802.11g (Chain 1)

Lowest Bandedge



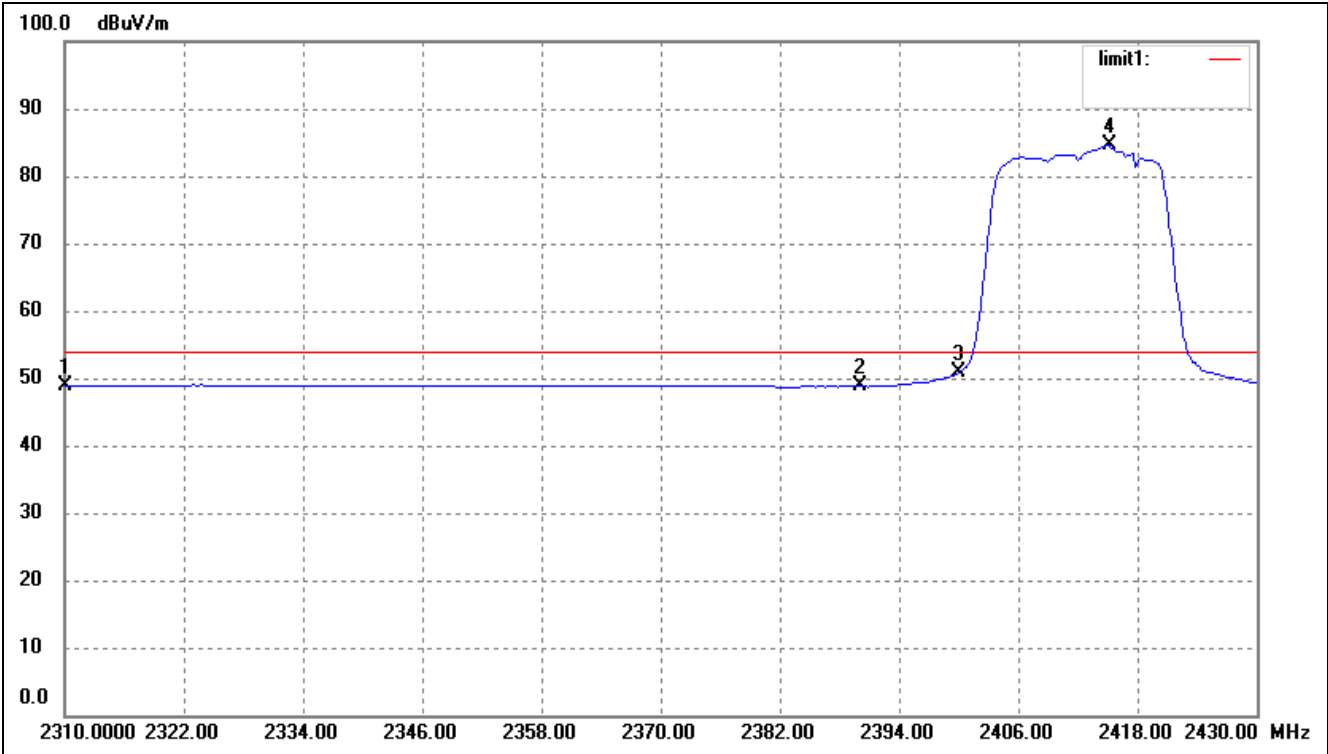
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.54	36.35	48.89	54.00	-5.11	Average Detector
	2310.000	15.81	36.35	52.16	74.00	-21.84	Peak Detector
2	2390.000	12.17	36.54	48.71	54.00	-5.29	Average Detector
	2390.000	15.54	36.54	52.08	74.00	-21.92	Peak Detector
3	2400.000	13.15	36.57	49.72	/	/	Average Detector
4	2415.600	44.82	36.60	81.42	/	/	Average Detector

Highest Bandedge



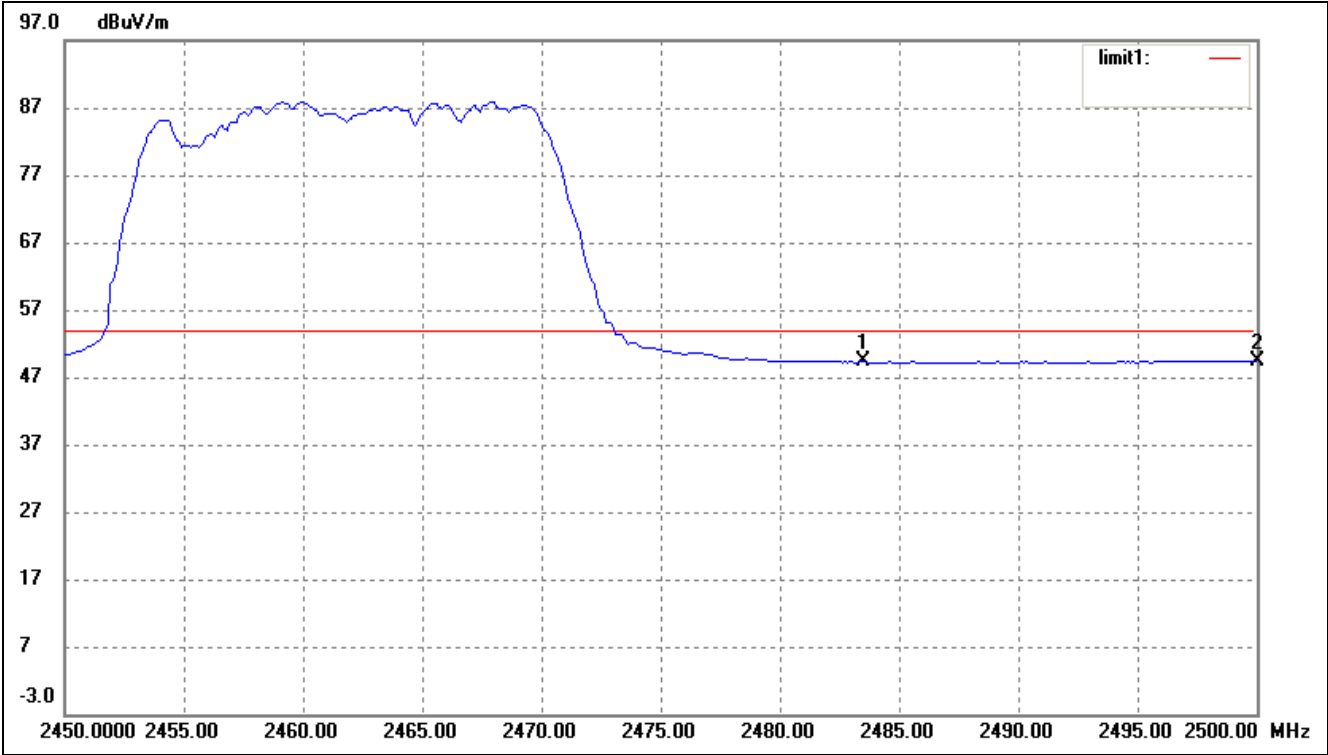
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	12.39	36.77	49.16	54.00	-4.84	Average Detector
	2483.500	15.92	36.77	52.69	74.00	-21.31	Peak Detector
2	2500.000	12.37	36.82	49.19	54.00	-4.81	Average Detector
	2500.000	15.93	36.82	52.75	74.00	-21.25	Peak Detector

For 2dBi Antenna
For 802.11g (Chain 0)
Lowest Bandedge



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.57	36.35	48.92	54.00	-5.08	Average Detector
	2310.000	16.06	36.35	52.41	74.00	-21.59	Peak Detector
2	2390.000	12.26	36.54	48.80	54.00	-5.20	Average Detector
	2390.000	15.83	36.54	52.37	74.00	-21.63	Peak Detector
3	2400.000	14.27	36.57	50.84	/	/	Average Detector
4	2415.120	48.06	36.60	84.66	/	/	Average Detector

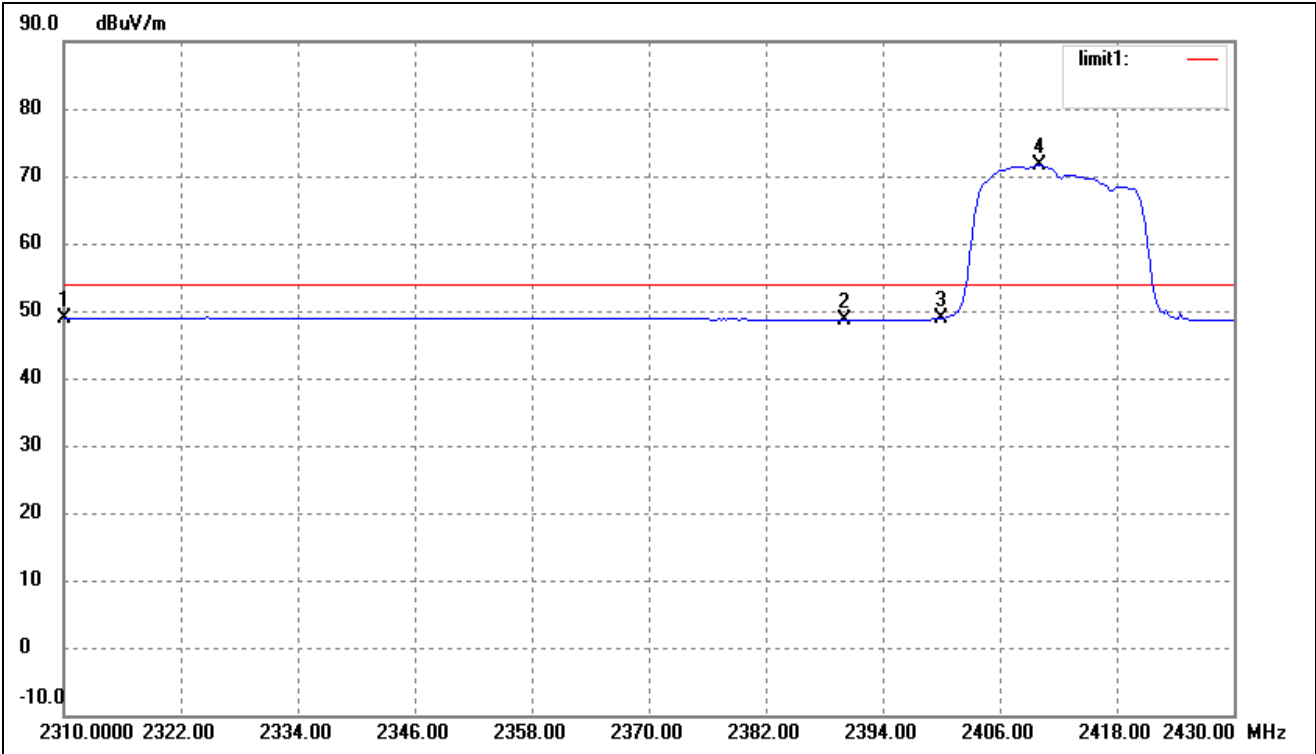
Highest Bandedge



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	12.50	36.77	49.27	54.00	-4.73	Average Detector
	2483.500	15.59	36.77	52.36	74.00	-21.64	Peak Detector
2	2500.000	12.47	36.82	49.29	54.00	-4.71	Average Detector
	2500.000	15.70	36.82	52.52	74.00	-21.48	Peak Detector

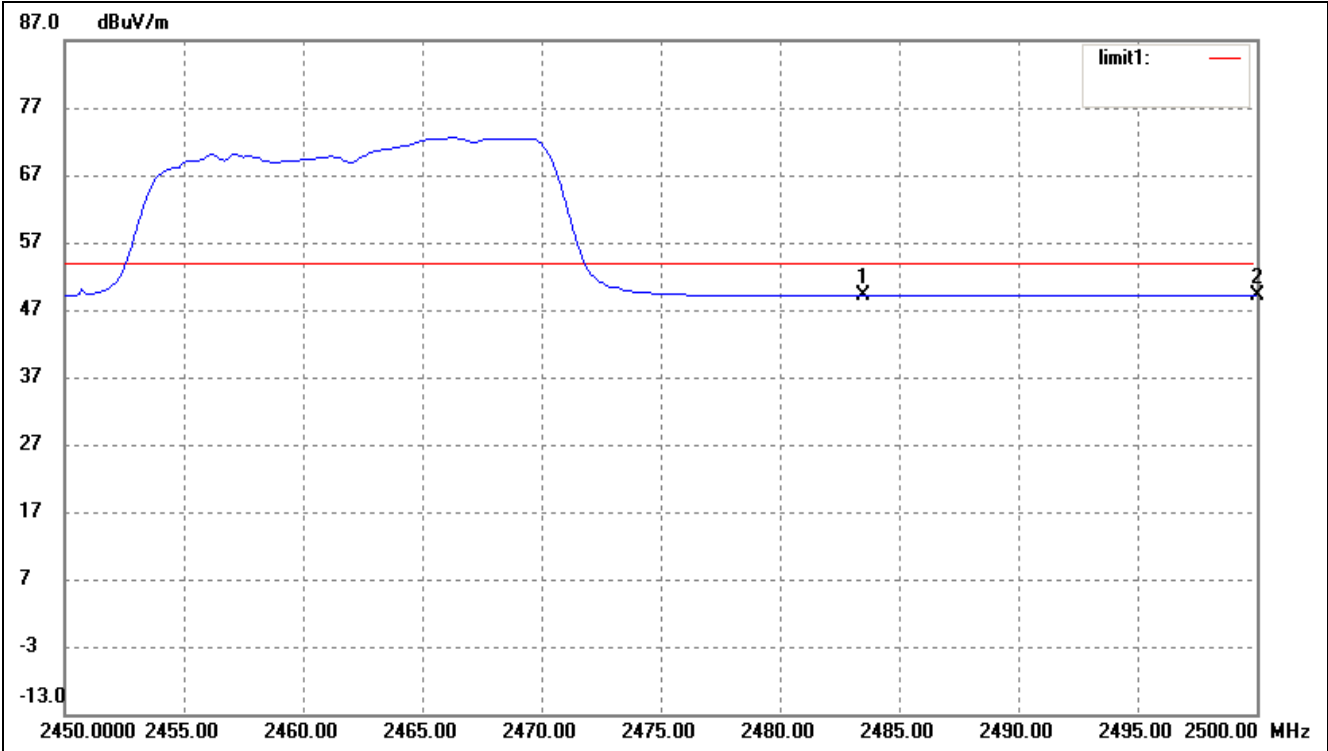
For 2dBi Antenna
For 802.11g (Chain 1)

Lowest Bandedge



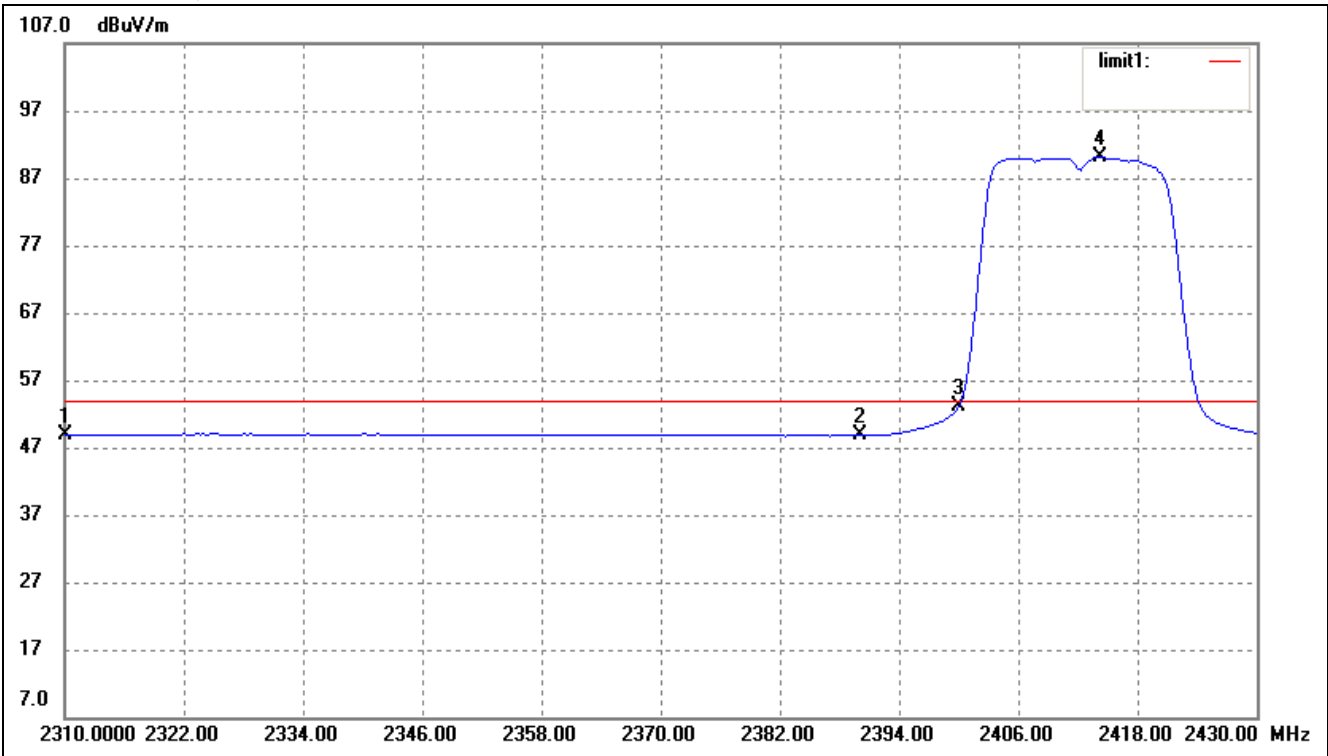
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.57	36.35	48.92	54.00	-5.08	Average Detector
	2310.000	15.23	36.35	51.58	74.00	-22.42	Peak Detector
2	2390.000	12.19	36.54	48.73	54.00	-5.27	Average Detector
	2390.000	15.49	36.54	52.03	74.00	-21.97	Peak Detector
3	2400.000	12.36	36.57	48.93	/	/	Average Detector
4	2410.080	34.99	36.60	71.59	/	/	Average Detector

Highest Bandedge



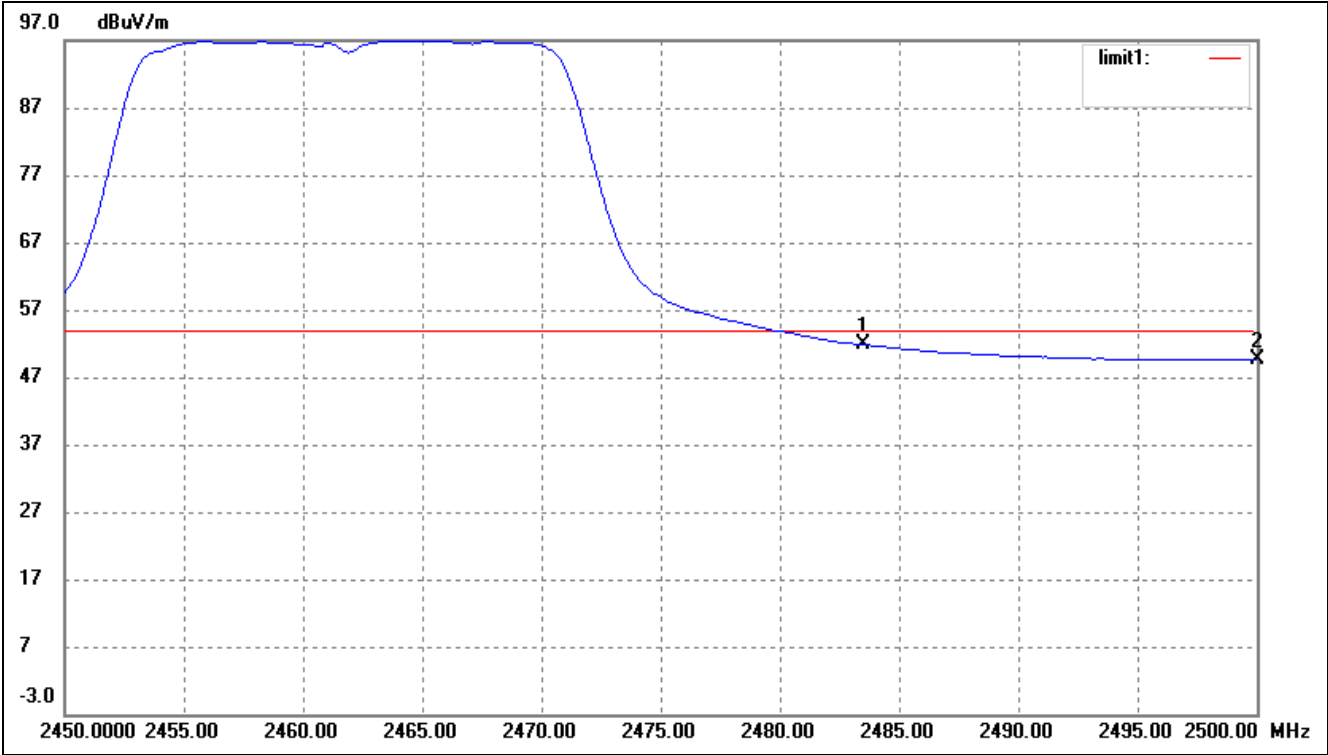
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	12.33	36.77	49.10	54.00	-4.90	Average Detector
	2483.500	16.10	36.77	52.87	74.00	-21.13	Peak Detector
2	2500.000	12.38	36.82	49.20	54.00	-4.80	Average Detector
	2500.000	15.78	36.82	52.60	74.00	-21.40	Peak Detector

For 5dBi Antenna
For 802.11n/HT20
Lowest Bandedge



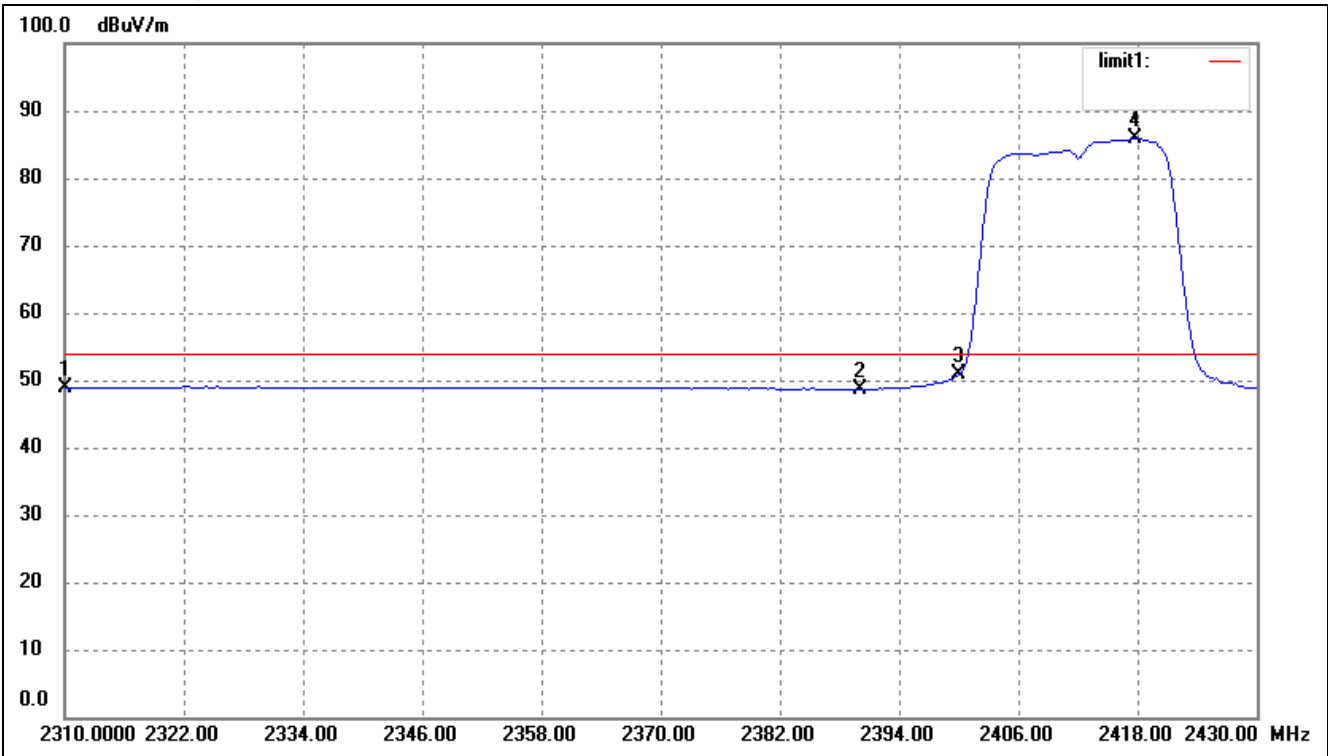
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.60	36.35	48.95	54.00	-5.05	Average Detector
	2310.000	15.34	36.35	51.69	74.00	-22.31	Peak Detector
2	2390.000	12.25	36.54	48.79	54.00	-5.21	Average Detector
	2390.000	15.27	36.54	51.62	74.00	-22.38	Peak Detector
3	2400.000	16.58	36.57	53.15	/	/	Average Detector
4	2414.160	53.49	36.60	90.09	/	/	Average Detector

Highest Bandedge



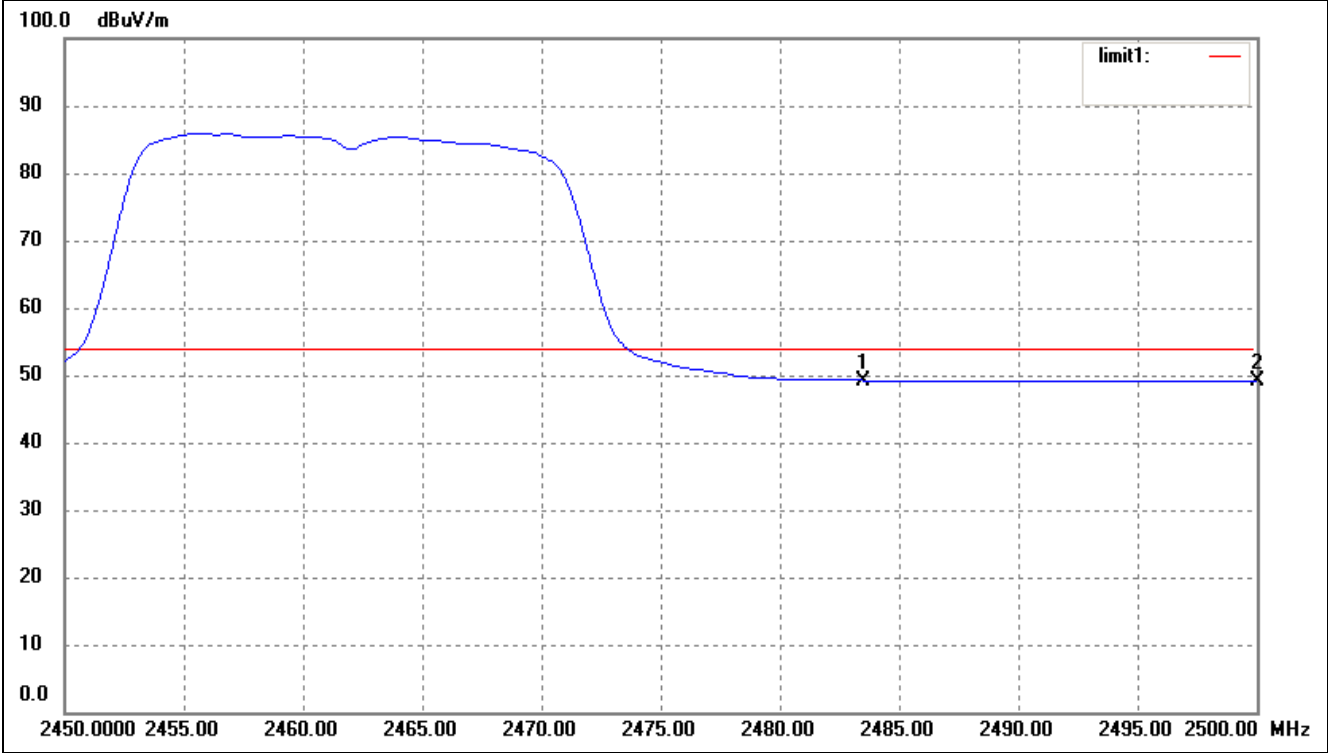
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	15.07	36.77	51.84	54.00	-2.16	Average Detector
	2483.500	17.42	36.77	54.19	74.00	-19.81	Peak Detector
2	2500.000	12.76	36.82	49.58	54.00	-4.42	Average Detector
	2500.000	15.51	36.82	52.33	74.00	-21.67	Peak Detector

For 2dBi Antenna
For 802.11n/HT20
Lowest Bandedge



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.60	36.35	48.95	54.00	-5.05	Average Detector
	2310.000	17.13	36.35	53.48	74.00	-20.52	Peak Detector
2	2390.000	12.18	36.54	48.72	54.00	-5.28	Average Detector
	2390.000	16.57	36.54	53.11	74.00	-20.89	Peak Detector
3	2400.000	14.29	36.57	50.86	/	/	Average Detector
4	2417.760	49.26	36.62	85.88	/	/	Average Detector

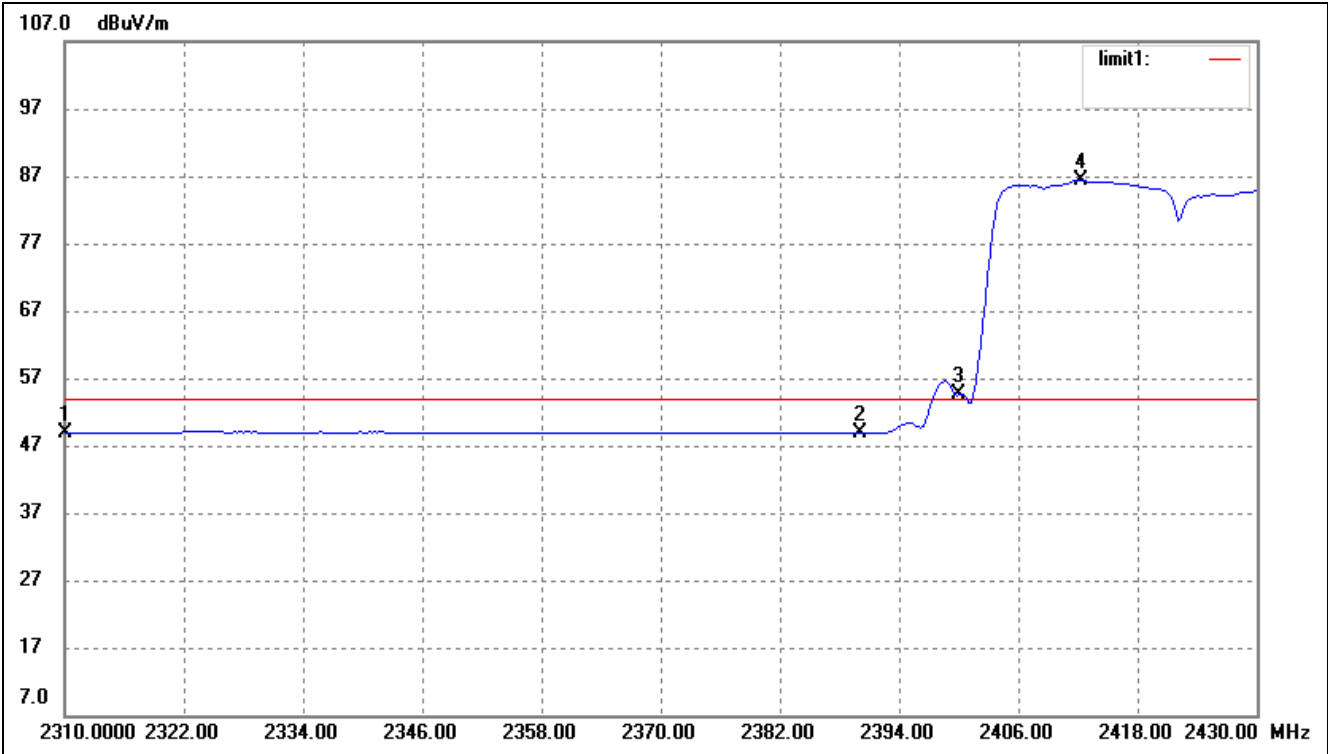
Highest Bandedge



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	12.47	36.77	49.24	54.00	-4.76	Average Detector
	2483.500	16.27	36.77	53.04	74.00	-20.97	Peak Detector
2	2500.000	12.30	36.82	49.12	54.00	-4.88	Average Detector
	2500.000	16.38	36.82	53.20	74.00	-20.80	Peak Detector

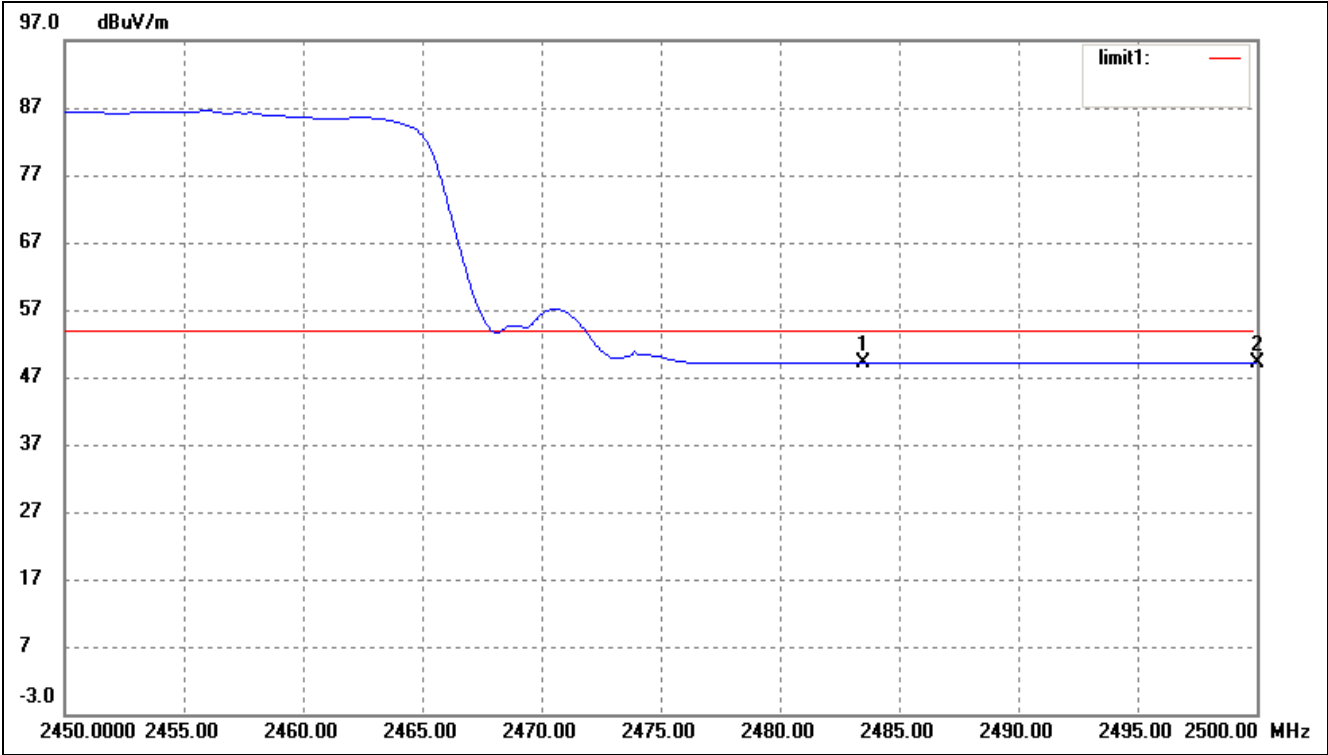
For 5dBi Antenna
For 802.11n/HT40

Lowest Bandedge



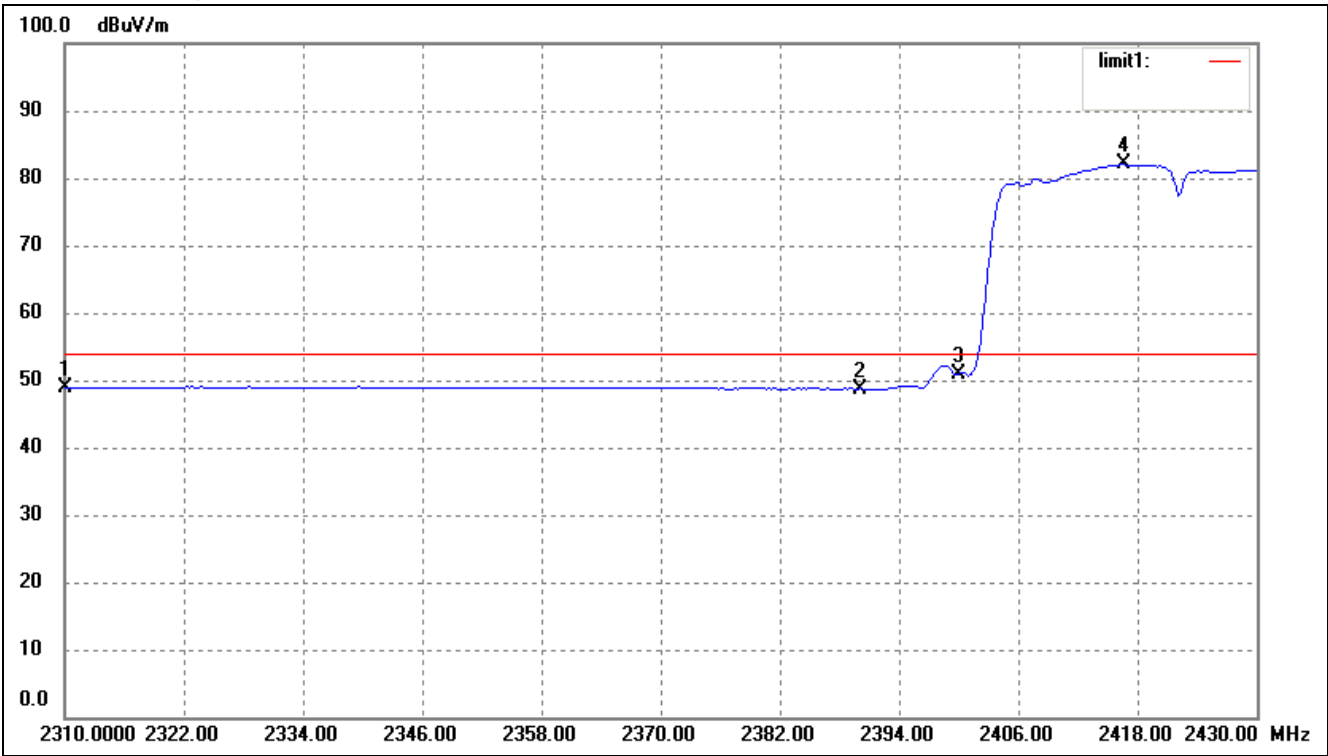
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.62	36.35	48.97	54.00	-5.03	Average Detector
	2310.000	16.02	36.35	52.37	74.00	-21.63	Peak Detector
2	2390.000	12.27	36.54	48.81	54.00	-5.19	Average Detector
	2390.000	15.81	36.54	52.35	74.00	-21.65	Peak Detector
3	2400.000	18.04	36.57	54.61	/	/	Average Detector
4	2412.240	49.69	36.60	86.29	/	/	Average Detector

Highest Bandedge



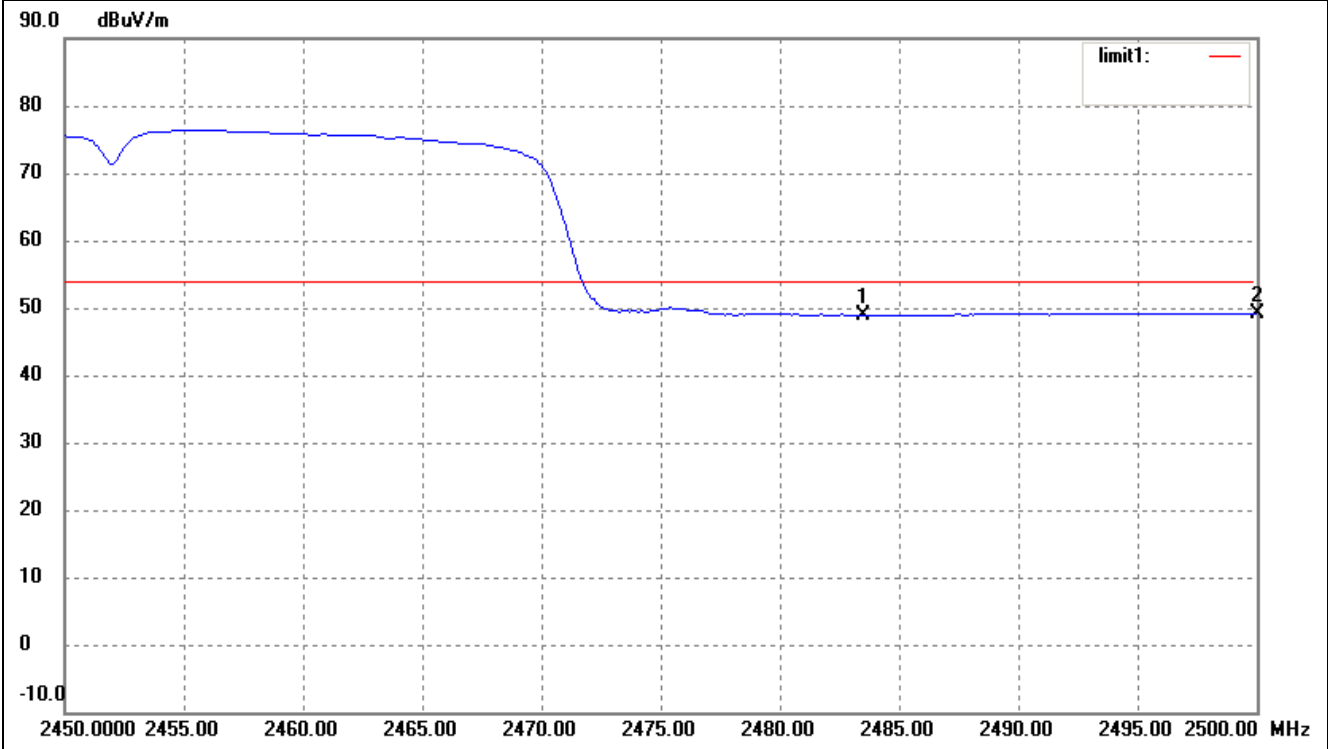
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	12.35	36.77	49.12	54.00	-4.88	Average Detector
	2483.500	15.90	36.77	52.67	74.00	-21.33	Peak Detector
2	2500.000	12.37	36.82	49.19	54.00	-4.81	Average Detector
	2500.000	15.62	36.82	52.44	74.00	-21.56	Peak Detector

For 2dBi Antenna
For 802.11n/HT40
Lowest Bandedge



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	12.56	36.35	48.91	54.00	-5.09	Average Detector
	2310.000	15.84	36.35	52.19	74.00	-21.81	Peak Detector
2	2310.000	12.21	36.54	48.75	54.00	-5.25	Average Detector
	2310.000	15.49	36.54	52.03	74.00	-21.97	Peak Detector
3	2400.000	14.42	36.57	50.99	/	/	Average Detector
4	2416.560	45.41	36.61	82.02	/	/	Average Detector

Highest Bandedge



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	12.21	36.77	48.98	54.00	-5.02	Average Detector
	2483.500	15.59	36.77	52.36	74.00	-21.64	Peak Detector
2	2500.000	12.23	36.82	49.05	54.00	-4.95	Average Detector
	2500.000	15.32	36.82	52.14	74.00	-21.86	Peak Detector

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