



**FCC 47 CFR PART 15 SUBPART C &
INDUSTRY CANADA RSS-210
(Class II Permissive Change)**

TEST REPORT

For

802.11n 1x2 PCIe Minicard transceiver

Model: AR5B91

Trade Name: Atheros

Issued to

**Atheros Communications, Inc.
5480 Great America Parkway
Santa Clara, CA 95054**

Issued by

**Compliance Certification Services Inc.
No. 11, Wu-Gong 6th Rd., Wugu Industrial Park,
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1. TEST RESULT CERTIFICATION

Applicant: Atheros Communications, Inc.
5480 Great America Parkway
Santa Clara, CA 95054

Manufacturer: Atheros Communications, Inc.
5480 Great America Parkway
Santa Clara, CA 95054

Equipment Under Test: 802.11n 1x2 PCIe Minicard transceiver

Trade Name: AR5B91

Model Number: Atheros

Date of Test: November 13 ~ December 29, 2008

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15 Subpart C & INDUSTRY CANADA RSS-210 _{Issue 7}	No non-compliance noted

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2003 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247 and Industry Canada RSS-210 Issue 7.

The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:

Reviewed by:

Rex Lai
Section Manager
Compliance Certification Services Inc.

Amanda Wu
Section Manager
Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	802.11n 1x2 PCIe Minicard transceiver
Trade Name	Atheros
Model Number	AR5B91
Model Discrepancy	N/A
Power Adapter	IBM / Model: 92P1016 AC: Connector Type: US 115V Cable Type: Un-shielded, 2m DC: Connector Type: US 115V Cable Type: Un-shielded, 2m
Frequency Range	2412 ~ 2462 MHz
Transmit Power	PIFA Antenna: Original: IEEE 802.11b: 22.78 dBm IEEE 802.11g: 25.97 dBm IEEE 802.11n HT20 mode: 25.25dBm IEEE 802.11n HT40 mode: 26.06 dBm New: IEEE 802.11b mode: 22.64 dBm IEEE 802.11g mode: 24.90 dBm IEEE 802.11n HT20 mode: 25.65 dBm IEEE 802.11n HT40 mode: 25.59 dBm



Antenna Specification	Approved Antenna: PIFA Antenna / Gain: 3.62 dBi *Added Antenna:				
	No.	Antenna Part Number	Manufacture	Type	Peak Gain
	1	CAN4313 717 012501B (Main / Aux)	YAGEO	PIFA	1.39 dBi
	2	APP6P-700136 (L) / APP6P-700137 (R)	ACON	PIFA	-1.08 dBi
	3	CAN4313 794 012501B (Main)/ CAN4313 794 022501B(Aux) / CAN4313 583 032501B (MIMO)	YAGEO	PIFA	1.45 dBi
	4	APP6P-700189 (Main) / APP6P-700192 (Aux)	ACON	PIFA	1.11 dBi
	5	2023666-1 (R) / 2023665-1 (L) / 2023667-1 (MIMO)	TYCO	PIFA	-0.28 dBi
	6	CAN4313 810 012501B(Main)/ CAN4313 810 022501B (Aux)	YAGEO	PIFA	1.47 dBi
	7	APP6P-700093 (R)/ APP6P-700098 (L)	ACON	PIFA	1.00 dBi
	8	CAN4313 770 012501B(Main) / CAN4313 770 022501B(Aux) / CAN4313 770 032501B(MIMO)	YAGEO	PIFA	1.75 dBi
	9	CAN4313 659 022501B (Main / Aux) / CAN4313 659 032501B (MIMO)	YAGEO	PIFA	0.10 dBi
	10	90ZLAATA0039A	ASLINK	PIFA	1.7 dBi
	11	2023840-1	TYCO	PIFA	0.53 dBi
	12	CAN4313 748 012501B (Main) / CAN4313748032501B (2 END Cable)	YAGEO	PIFA	-0.56 dBi
	13	90ZLARFC0023A	ASLINK	Dipole (white)	2.00 dBi
	14	90ZLARFC0022A	ASLINK	Dipole (black)	2.00 dBi
	15	DAMA1BM3000402	INPAQ	Dipole (black)	3.20 dBi
16	2023901-1	TYCO	Dipole (black)	0.53 dBi	
17	EAM-S-13-003	INPAQ	PIFA	1.22dBi	
Class II Permissive change	<ol style="list-style-type: none"> 1. Added the other alternative pin to pin PA, detail please refer to PA datasheet. 2. Added 13 type of PIFA antenna and 4 type of Dipole antenna, please see "*" in this report, the detail information please refer to antenna specification and internal photos. 				

Remark: The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.



Original Maximum Output Power:

Frequency Band (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412-2462	802.11b	22.78	189.67
2412-2462	802.11g	25.97	395.37
2412-2462	802.11n HT20	25.25	334.97
2422-2452	802.11n HT40	26.06	403.65



3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4: 2003 and FCC CFR 47 Part 15.207, 15.209, 15.247, RSS-GEN Issue 2 and RSS-210 Issue 7.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

The tests documented in this report were performed in accordance with IC RSS-210, IC RSS-Gen, IC RSS-102, and ANSI C63.4: 2003.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4: 2003.



3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	(²)
13.36 - 13.41	322 - 335.4		

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

² Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.



3.5 DESCRIPTION OF TEST MODES

The EUT is an 802.11n 1*2 PCIe Mini card transceiver, with both full length and half length boards.

Software used to control the EUT for staying in continuous transmitting mode was programmed.

The worst-case data rates are determined to be as follows for each mode,

All final tests in the 802.11b mode were made at 1 Mb/s.

All final tests in the 802.11g mode were made at 6 Mb/s.

All final tests in the 802.11n HT20 mode were made at MCS1.

All final tests in the 802.11n HT40 mode were made at MCS0.

For RF conducted emissions, all tests were performed on half length and full length board excepted conducted peak power to use half length board only.

For RF radiated emissions, all tests were performed on half length and full length board.



4. INSTRUMENT CALIBRATION

4.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

4.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: Each piece of equipment is scheduled for calibration once a year.

Conducted Emissions Test Site				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360131	02/24/2009

3M Semi Anechoic Chamber				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	US42510252	10/07/2009
Test Receiver	Rohde&Schwarz	ESCI	100064	11/29/2009
Switch Controller	TRC	Switch Controller	SC94050010	05/03/2009
4 Port Switch	TRC	4 Port Switch	SC94050020	05/03/2009
Horn-Antenna	TRC	HA-0502	06	06/04/2009
Horn-Antenna	TRC	HA-0801	04	10/20/2009
Horn-Antenna	TRC	HA-1201A	01	10/15/2009
Horn-Antenna	TRC	HA-1301A	01	10/15/2009
Bilog- Antenna	Sunol Sciences	JB3	A030205	03/28/2009
Turn Table	Max-Full	MFT-120S	T120S940302	N.C.R.
Antenna Tower	Max-Full	MFA-430	A440940302	N.C.R.
Controller	Max-Full	MF-CM886	CC-C-1F-13	N.C.R.
Site NSA	CCS	N/A	FCC MRA: TW1039 IC: 2324G-1/-2	10/17/2010 11/04/2010
Test S/W	LABVIEW (V 6.1)			

Remark: The measurement uncertainty is less than +/-3.7046dB (30MHz ~ 1GHz), +/-3.0958dB (Above 1GHz) which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.



5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

No.11, Wugong 6th Rd., Wugu Industrial Park, Taipei Hsien 248, Taiwan

Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan

Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.




Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 0824-01 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	 FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12.2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method -47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	 IC 2324G-1 IC 2324G-2

** No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.*



6. SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix II for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No	Equipment	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
1.	Notebook PC	DELL	PP05L	7T390 A03	E2K5HCKT	N/A	AC I/P: Unshielded, 1.8m DC O/P: Unshielded, 1.8m with a core
2.	Test Kit	N/A	N/A	N/A	N/A	N/A	N/A

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



7. APPLICABLE RULES FOR INDUSTRY CANADA RSS-210

RSS-210 §2 General Certification Requirements and Specifications

RSS-210 §2.1 Frequency Stability

When the carrier frequency stability is not specified, it need not be tested, provided that the carrier frequency is chosen such that the fundamental modulation products (meaning the nominal bandwidth) lie totally within the bands listed in Tables 2, 3, 4 and 5 and do not fall into any restricted band listed in Table 1. Due account shall be taken of carrier frequency drift as a result of aging, temperature, humidity, and supply voltage variations when using frequencies near the band edges.

RSS-210 §2.2 Restricted Bands and Unwanted Emission Frequencies

Restricted bands, identified in Table 1, are designated primarily for safety-of-life services (distress calling and certain aeronautical bands), certain satellite downlinks, radio astronomy, and some government uses. Except where otherwise indicated, the following restrictions apply:

- (a) Fundamental components of modulation of LPDs shall not fall within the restricted bands of Table 1.
- (b) Unwanted emissions falling into restricted bands of Table 1 shall meet Tables 2 and 3 limits. It should also be noted that unwanted emissions falling in non-restricted bands do not need to be suppressed to a level lower than the Table 2 and 3 limits.
- (c) Unwanted emissions not falling within restricted frequency bands may also use the limits specified in the applicable annex.

RSS-210 §2.3 Licence-exempt Receivers

Category I licence-exempt receivers are required to have their spurious emissions comply with Section 7.2.3 of RSS-Gen.

RSS-210 §2.6 General Field Strength Limits

Table 2 and 3 list the permissible levels of unwanted emissions of transmitters and receivers. However, transmitters with field strengths that do not exceed the limits in these tables may also operate in these frequency bands, other than the restricted bands of Table 1 and the TV bands (i.e. unwanted emissions of transmitters and receivers are permitted to fall into Table 1 and TV frequencies but intentional emissions are prohibited). See the note of Table 2 for further details.



RSS-210 §2.7 Tables

RSS-210 Table 1: Restricted Frequency Bands ^(Note)

MHz	MHz	MHz	MHz	GHz
0.090-0.110	8.37625-8.38675	--	1718.8-1722.2	9.0-9.2
--	8.41425-8.41475	156.52475-156.52525	2200-2300	9.3-9.5
2.1735-2.1905	12.29-12.293	156.7-156.9	2310-2390	10.6-12.7
3.020-3.026	12.51975-12.52025	--	--	13.25-13.4
4.125-4.128	12.57675-12.57725	--	2655-2900	14.47-14.5
4.17725-4.17775	13.36-13.41	240-285	3260-3267	15.35-16.2
4.20725-4.20775	16.42-16.423	322-335.4	3332-3339	17.7-21.4
5.677-5.683	16.69475-16.69525	399.9-410	3345.8-3358	22.01-23.12
6.215-6.218	16.80425-16.80475	608-614	3500-4400	23.6-24.0
6.26775-6.26825	25.5-25.67	960-1427	4500-5150	31.2-31.8
6.31175-6.31225	37.5-38.25	1435-1626.5	5350-5460	36.43-36.5
8.291-8.294	73-74.6; 74.8-75.2	1645.5-1646.5	7250-7750	Above 38.6
8.362-8.366	108-138	1660-1710	8025-8500	

Note: Certain frequency bands listed in Table 2 and above 38.6 GHz are designated for low-power licence-exempt applications. These frequency bands and the requirements that apply to the devices are set out in this Standard as well as RSS-310.

RSS-210 Table 2: General Field Strength Limits for Transmitters and Receivers at Frequencies Above 30 MHz ^(Note)

Frequency (MHz)	Field Strength microvolts/m at 3 metres (watts, e.i.r.p.)	
	Transmitters	Receivers
30-88	100 (3 nW)	100 (3 nW)
88-216	150 (6.8 nW)	150 (6.8 nW)
216-960	200 (12 nW)	200 (12 nW)
Above 960	500 (75 nW)	500 (75 nW)

Note: Transmitting devices are not permitted in Table 1 bands or in TV bands (54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz, and 614-806 MHz). Prohibition of operation in TV bands does not apply to momentary devices, or to medical telemetry devices in the band 174-216 MHz, and to perimeter protection systems in the bands 54-72 and 76-88 MHz. The perimeter protection devices are to meet Table 3 field strengths limits.

**RSS-210 Table 3: General Field Strength Limits for Transmitters at Frequencies Below 30 MHz (Transmit)**

Frequency (fundamental or spurious)	Field Strength (microvolts/m)	Magnetic H-Field (microamperes/m)	Measurement Distance (metres)
9-490 kHz	2,400/F (F in kHz)	2,400/377F (F in Hz)	300
490-1.705 kHz	24,000/F (F in kHz)	24,000/377F (F in kHz)	30
1.705-30 MHz	30	N/A	30

Note: The emission limits for the bands 9-90 kHz and 110-490 kHz are based on measurements employing an average detector.

RSS-210 §Annex 8: Frequency Hopping and Digital Modulation Systems Operating in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz Bands

This section applies to systems that employ frequency hopping (FH) and digital modulation technology in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands. Systems in these bands may employ frequency hopping, digital modulation and or a combination (hybrid) of both techniques.

A frequency hopping system that synchronizes with another or several other systems (to avoid frequency collision among them) via off-air sensing or via connecting cables is not hopping randomly and therefore is not in compliance with RSS-210.

RSS-210 §A8.2 Digital Modulation Systems

These include systems employing digital modulation techniques resulting in spectral characteristics similar to direct sequence systems. The following applies to all three bands.

RSS-210 §A8.4 Transmitter Output Power and e.i.r.p. Requirements

(4) For systems employing digital modulation techniques operating in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands, the maximum peak conducted power shall not exceed 1 W. Except as provided in Section A8.4(5), the e.i.r.p. shall not exceed 4 W.

As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power (see RSS-Gen)

(5) Point-to-point systems in the bands 2400-2483.5 MHz and 5725-5850 MHz are permitted to have an e.i.r.p. higher than 4 W, provided that the higher e.i.r.p. is achieved by employing higher gain directional antennas and not higher transmitter output powers. Point-to-multipoint systems, omni-directional applications and multiple co-located transmitters transmitting the same information are prohibited from exceeding 4 W e.i.r.p. However, remote stations of point-to-multipoint systems shall be allowed to operate at greater than 4 W e.i.r.p. under the same conditions as for point-to-point systems.

Note: "Fixed, point-to-point operation", excludes point-to-multipoint systems, omnidirectional applications and multiple co-located transmitters transmitting the same information.



RSS-210 §A8.5 Out-of-band Emissions

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the radio frequency power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under section A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Tables 2 and 3 is not required.

RSS-Gen §2 General Information

Unless otherwise indicated, radiocommunications equipment is subject to licensing pursuant to subsection 4(1) of the *Radiocommunication Act*.

RSS-Gen §2.1.2 Category II Equipment

Category II equipment comprises radio devices where a standard has been prescribed but for which a TAC is not required, that is, equipment certification by Industry Canada or a Certification Body (CB) is not required (certification exempt), pursuant to subsection 4(3) of the *Radiocommunication Act*. The manufacturer or importer shall nevertheless ensure that the standards are complied with. A test report shall be available on request and the device shall be properly labelled.

RSS-Gen §2.2 Receivers

Radiocommunication receivers are defined as Category I equipment or Category II equipment by the characteristics outlined below.

RSS-Gen §2.2.1 Category I Equipment Receivers

A receiver is classified as Category I equipment if it meets one of the following conditions:

- (a) is a stand-alone receiver that is tunable to any frequency in the band 30-960 MHz;
- (b) is a receiver that is associated with Category I transmitters; or
- (c) is a scanner receiver.

Except for scanner receivers, which have their own RSSs, Category I receivers shall comply with the limits for receiver spurious emissions set out in Section 6 of this RSS-Gen, and shall be certified under the RSS applicable to the transmitter type with which the receiver is associated or designed to operate (NOT under RSS-Gen).

RSS-Gen §2.2.2 Category II Equipment Receivers

A receiver is classified as Category II equipment if it is not meeting the conditions of Section 2.2.1.

RSS-Gen §2.2.3 Licence-exempt Receivers

Paging receivers, “receive-only” earth stations operating with satellites approved by Industry Canada, and stand-alone receivers which are exempted from licensing, can be classified as either Category I or Category II. These receivers shall comply with the requirements of RSS-210 or RSS-310, respectively.



RSS-Gen §2.3 Licence-exempt Low-power Radiocommunication Devices (LPDs)

Licence-exempt low-power radiocommunication devices are devices which have intentional and unwanted emissions of very low signal levels such that they can co-exist with licensed radio services. LPDs are required to operate on a “no-interference no-protection” basis (i.e. they may not cause radio interference and cannot claim protection from interference). The requirements for LPDs are generally described in Section 7.

RSS-Gen §5.5 Exposure of Humans to RF Fields

Before equipment certification is granted, the applicable requirements of RSS-102 shall be met.

RSS-Gen §6 Receiver Spurious Emission Standard

The following receiver spurious emission limits shall be complied with:

(a) If a radiated measurement is made, all spurious emissions shall comply with the limits of Table 1.

RSS-Gen Table 1 - Spurious Emission Limits for Receivers

Frequency (MHz)	Field Strength microvolts/m at 3 metres
30-88	100
88-216	150
216-960	200
Above 960	500

(b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per any 4 kHz spurious frequency in the band 30-1000 MHz, or 5 nanowatts above 1 GHz.

RSS-Gen §7.1.4 Transmitter Antenna

A transmitter can only be sold or operated with antennas with which it was certified. A transmitter may be certified with multiple antenna types. An antenna type comprises antennas having similar in-band and out-of-band radiation patterns. Testing shall be performed using the highest-gain antenna of each combination of transmitter and antenna type for which certification is being sought, with the transmitter output power set at the maximum level. Any antenna of the same type and having equal or lesser gain as an antenna that had been successfully tested for certification with the transmitter, will also be considered certified with the transmitter, and may be used and marketed with the transmitter. The manufacturer shall include with the application for certification a list of acceptable antenna types to be used with the transmitter.

When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna manufacturer. Any antenna gain in excess of 6 dBi (6 dB above isotropic gain) shall be added to the measured RF output power before using the power limits specified in RSS-210 or RSS-310 for devices of RF output powers of 10 milliwatts or less. For devices of output powers greater than 10 milliwatts, except devices subject to RSS-210 Annex 8 (Frequency Hopping and Digital Modulation Systems Operating in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz Bands) or RSS-210 Annex 9 (Local Area Network Devices), the total antenna gain shall be added to the measured RF output power before using the specified power limits. For devices subject to RSS-210 Annex 8 or Annex 9, the antenna gain shall not be added.



RSS-Gen §7.2.2 Transmitter and Receiver AC Power Lines Conducted Emission Limits

Except when the requirements applicable to a given device state otherwise, for any licence-exempt radiocommunication device equipped to operate from the public utility AC power supply, either directly or indirectly, the radio frequency voltage that is conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in Table 2. The tighter limit applies at the frequency range boundaries.

RSS-Gen Table 2 – AC Power Lines Conducted Emission Limits

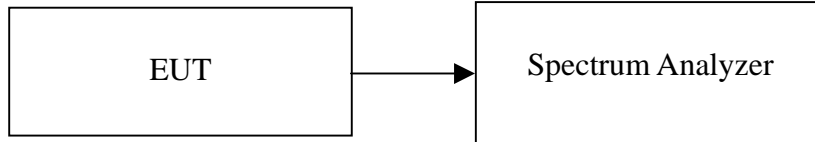
Frequency Range (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50

**Decreases with the logarithm of the frequency*

8. FCC PART 15.247 REQUIREMENTS & INDUSTRY CANADA RSS-210 REQUIREMENTS

8.1 99%BANDWIDTH

Test Configuration



TEST PROCEDURE

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

TEST RESULTS

Full Length Board::

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	2412	15.6838
Mid	2437	15.6431
High	2462	15.7134

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	2412	16.5203
Mid	2437	16.5286
High	2462	16.5456

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	2412	17.7354
Mid	2437	17.7143
High	2462	17.7447

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	2422	36.1324
Mid	2437	36.1427
High	2452	36.1433



Half Length Board:

Test mode: IEEE 802.11b mode

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	2412	15.6611
Mid	2437	15.7147
High	2462	15.6309

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	2412	16.5061
Mid	2437	16.5150
High	2462	16.5397

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	2412	17.7408
Mid	2437	17.7095
High	2462	17.7393

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Bandwidth (MHz)
Low	2422	36.1462
Mid	2437	36.1437
High	2452	36.1510



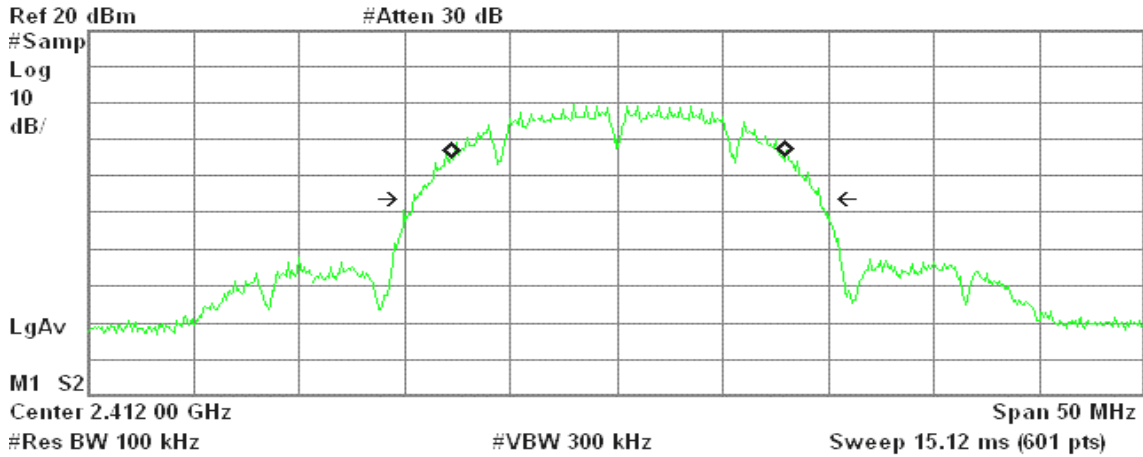
Test Plot

Full Length Board / IEEE 802.11b mode

99% Bandwidth (CH Low)

Agilent 17:32:51 Dec 29, 2008

R T



Occupied Bandwidth
15.6838 MHz

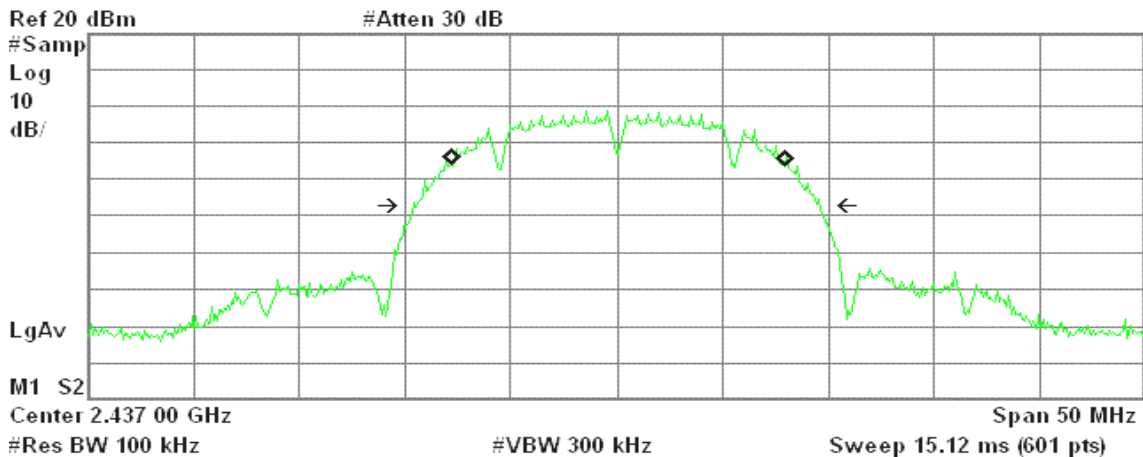
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 111.053 kHz
x dB Bandwidth 19.107 MHz*

99% Bandwidth (CH Mid)

Agilent 17:32:31 Dec 29, 2008

R T



Occupied Bandwidth
15.6431 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

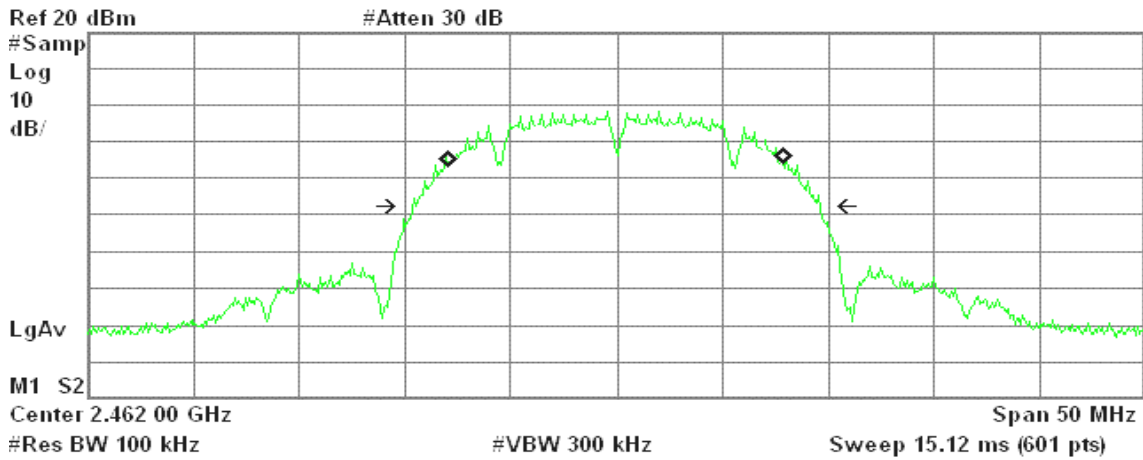
Transmit Freq Error 73.362 kHz
x dB Bandwidth 19.080 MHz*



99% Bandwidth (CH High)

Agilent 17:31:49 Dec 29, 2008

R T



Occupied Bandwidth
15.7134 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

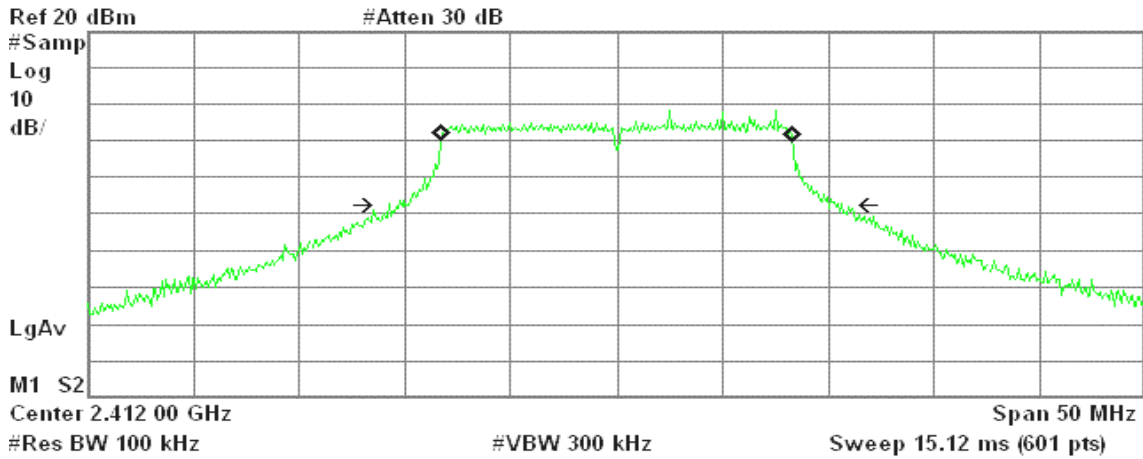
Transmit Freq Error -19.081 kHz
x dB Bandwidth 19.131 MHz*

IEEE 802.11g mode

99% Bandwidth (CH Low)

Agilent 17:30:00 Dec 29, 2008

R T



Occupied Bandwidth
16.5203 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

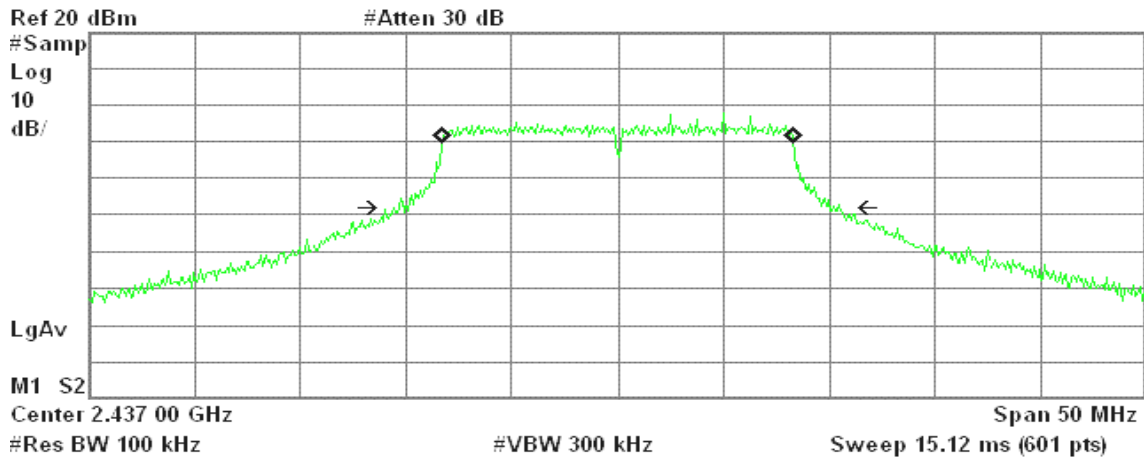
Transmit Freq Error 16.853 kHz
x dB Bandwidth 21.441 MHz*



99% Bandwidth (CH Mid)

Agilent 17:30:23 Dec 29, 2008

R T



Occupied Bandwidth
16.5286 MHz

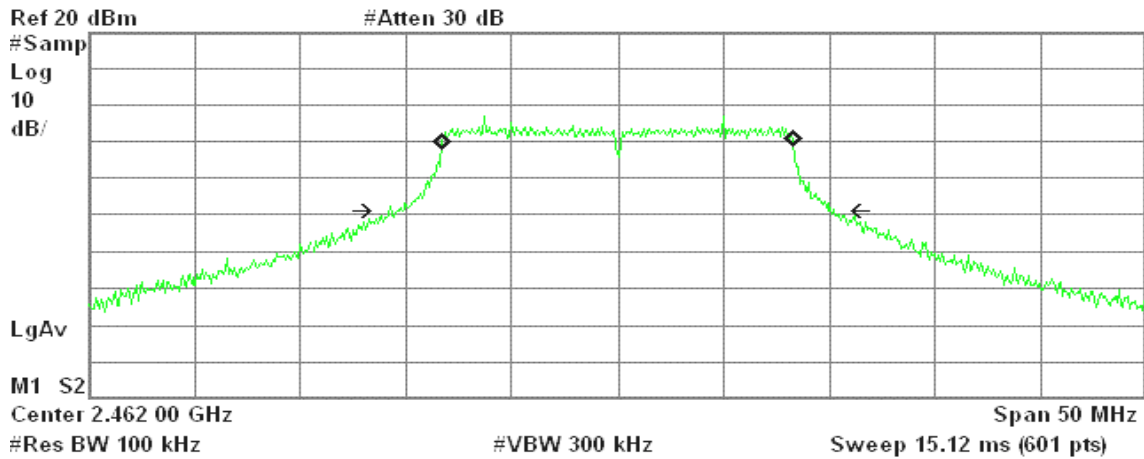
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 11.049 kHz
x dB Bandwidth 21.138 MHz*

99% Bandwidth (CH High)

Agilent 17:31:08 Dec 29, 2008

R T



Occupied Bandwidth
16.5456 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -3.410 kHz
x dB Bandwidth 21.055 MHz*

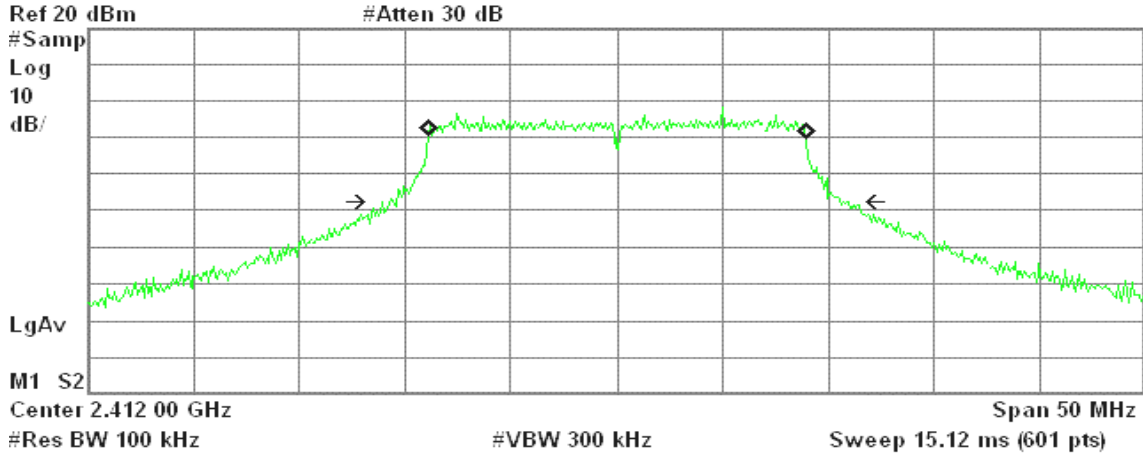


IEEE 802.11n HT20 mode

99% Bandwidth (CH Low)

Agilent 17:33:44 Dec 29, 2008

R T



Occupied Bandwidth
17.7354 MHz

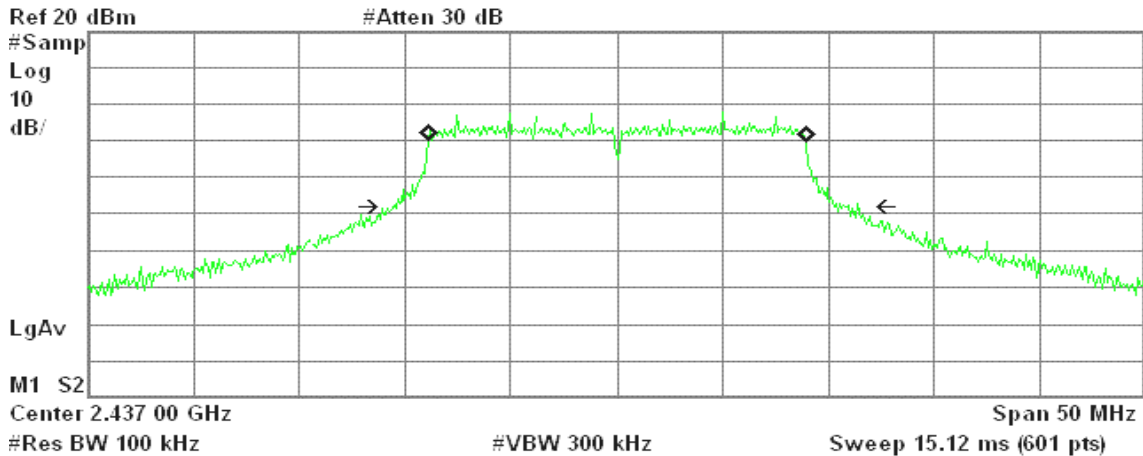
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 41.051 kHz
x dB Bandwidth 22.086 MHz*

99% Bandwidth (CH Mid)

Agilent 17:34:03 Dec 29, 2008

R T



Occupied Bandwidth
17.7143 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

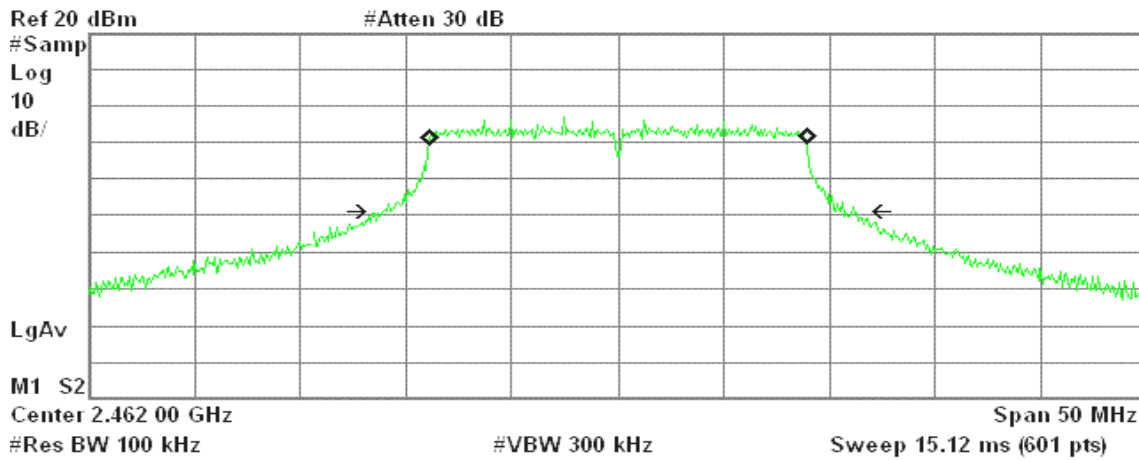
Transmit Freq Error 32.457 kHz
x dB Bandwidth 22.002 MHz*



99% Bandwidth (CH High)

Agilent 17:34:46 Dec 29, 2008

R T



Occupied Bandwidth

17.7447 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

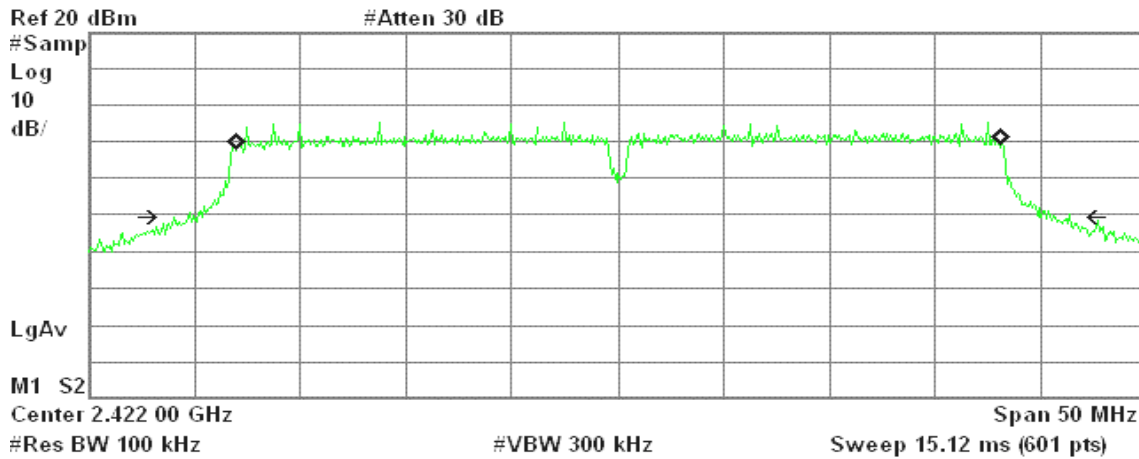
Transmit Freq Error	14.055 kHz
x dB Bandwidth	22.319 MHz*

IEEE 802.11n HT40 mode

99% Bandwidth (CH Low)

Agilent 17:36:16 Dec 29, 2008

R T



Occupied Bandwidth

36.1324 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

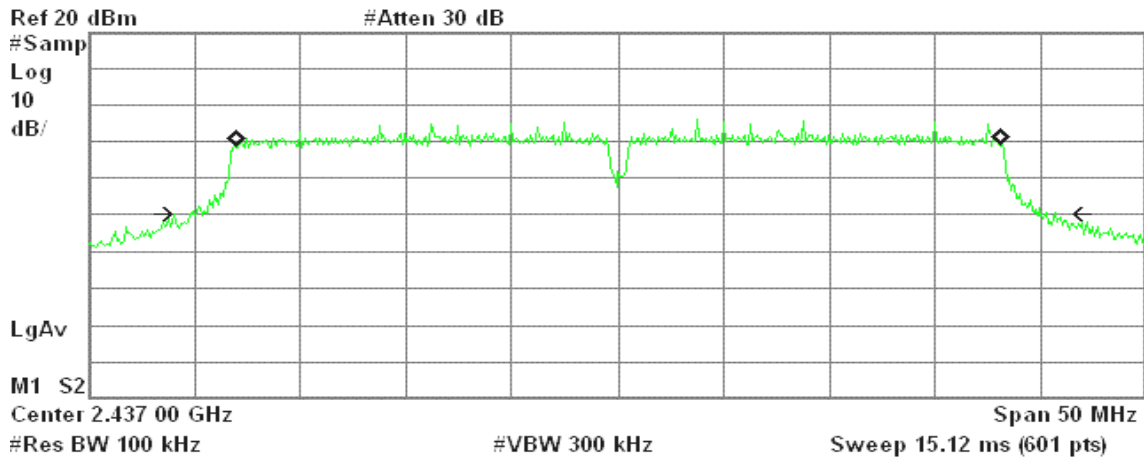
Transmit Freq Error	47.749 kHz
x dB Bandwidth	42.459 MHz*



99% Bandwidth (CH Mid)

Agilent 17:36:01 Dec 29, 2008

R T



Occupied Bandwidth
36.1427 MHz

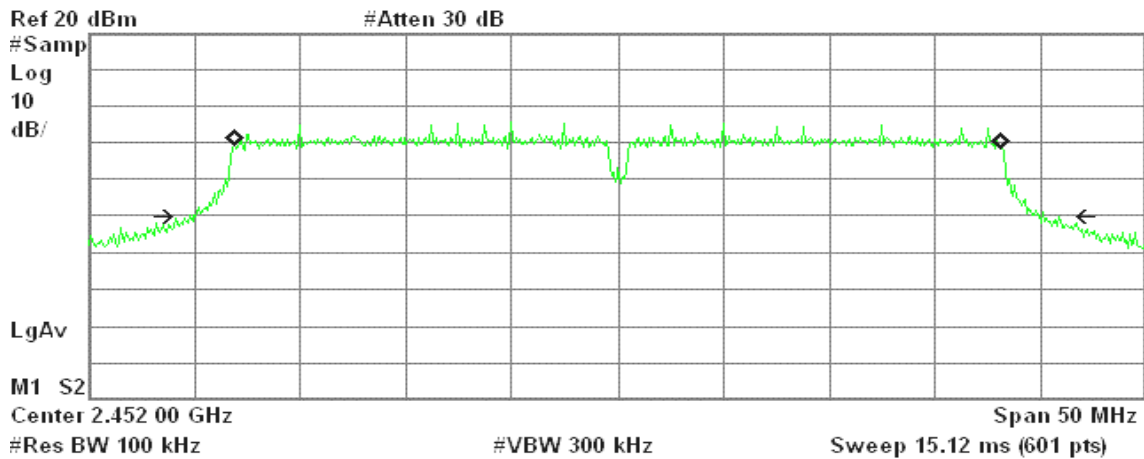
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 31.703 kHz
x dB Bandwidth 41.020 MHz*

99% Bandwidth (CH High)

Agilent 17:35:22 Dec 29, 2008

R T



Occupied Bandwidth
36.1433 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 14.948 kHz
x dB Bandwidth 41.208 MHz*

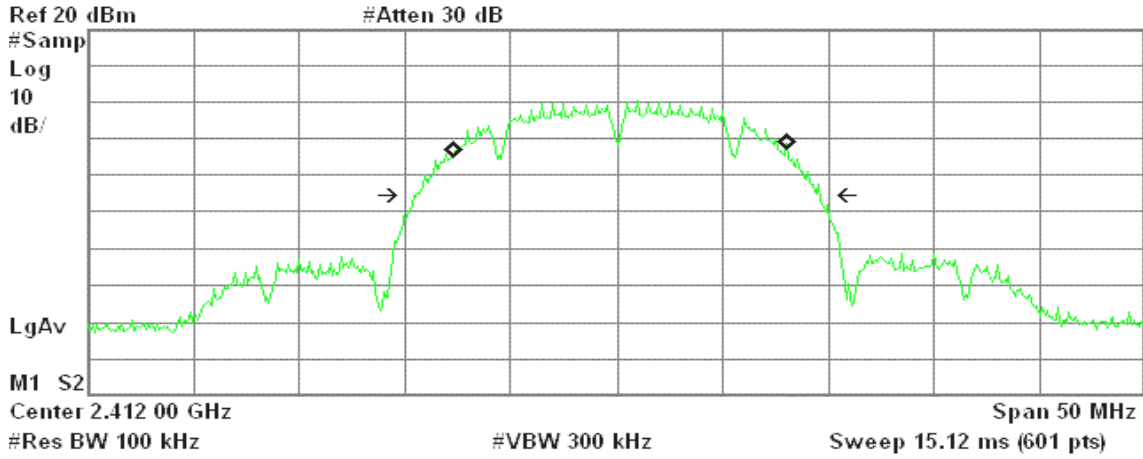


Half Length Board / IEEE 802.11b mode

99% Bandwidth (CH Low)

Agilent 18:01:50 Dec 29, 2008

R T



Occupied Bandwidth
15.6611 MHz

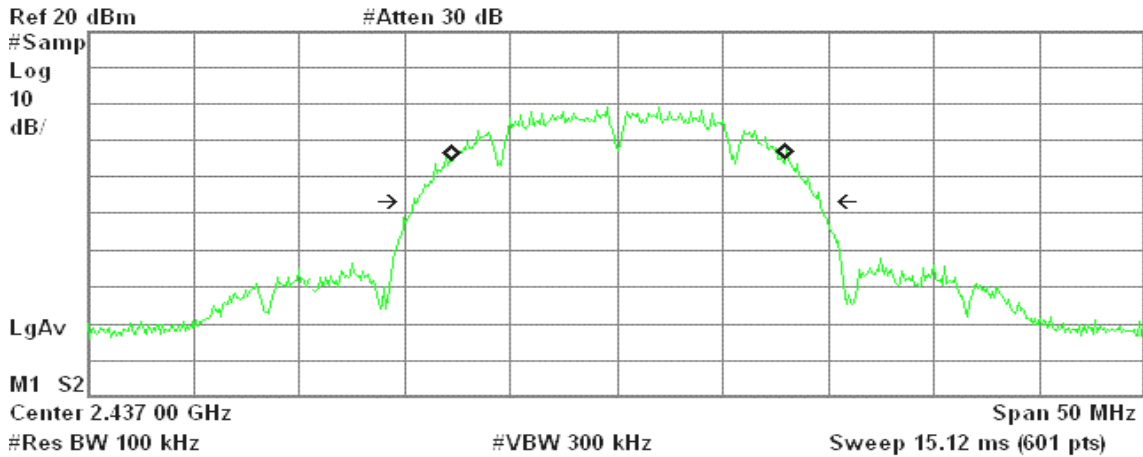
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 131.112 kHz
x dB Bandwidth 19.084 MHz*

99% Bandwidth (CH Mid)

Agilent 18:01:32 Dec 29, 2008

R T



Occupied Bandwidth
15.7147 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

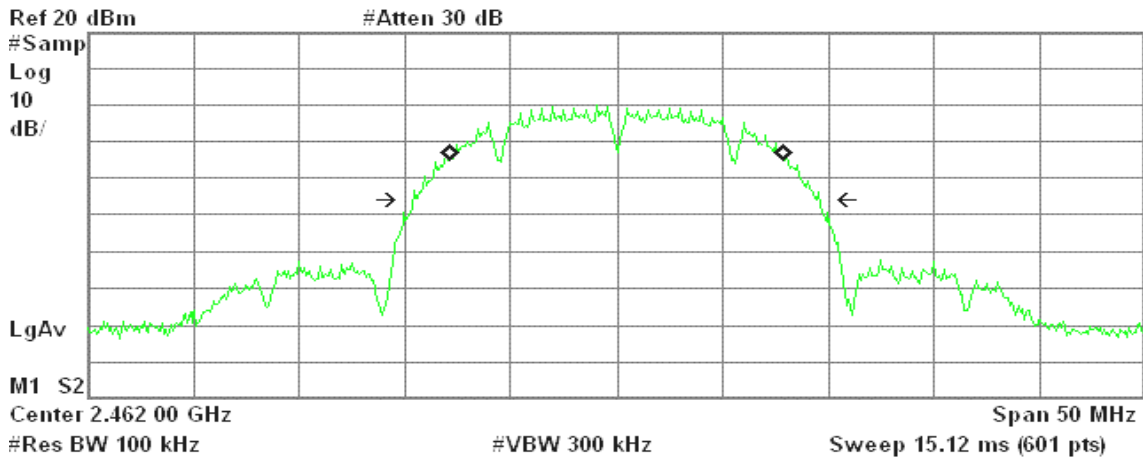
Transmit Freq Error 91.323 kHz
x dB Bandwidth 19.090 MHz*



99% Bandwidth (CH High)

Agilent 18:00:55 Dec 29, 2008

R T



Occupied Bandwidth
15.6309 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

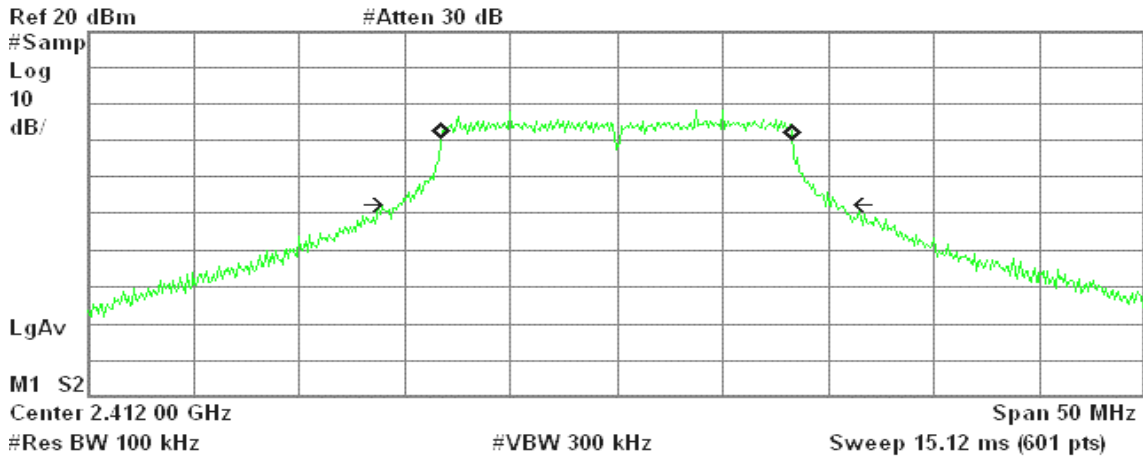
Transmit Freq Error -14.881 kHz
x dB Bandwidth 19.109 MHz*

IEEE 802.11g mode

99% Bandwidth (CH Low)

Agilent 17:59:31 Dec 29, 2008

R T



Occupied Bandwidth
16.5061 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

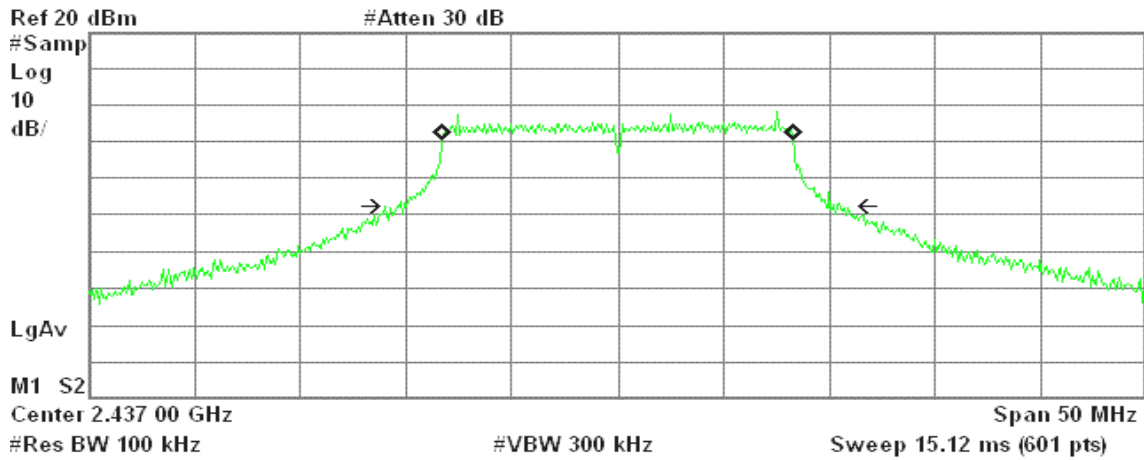
Transmit Freq Error 21.749 kHz
x dB Bandwidth 20.702 MHz*



99% Bandwidth (CH Mid)

Agilent 17:59:49 Dec 29, 2008

R T



Occupied Bandwidth
16.5150 MHz

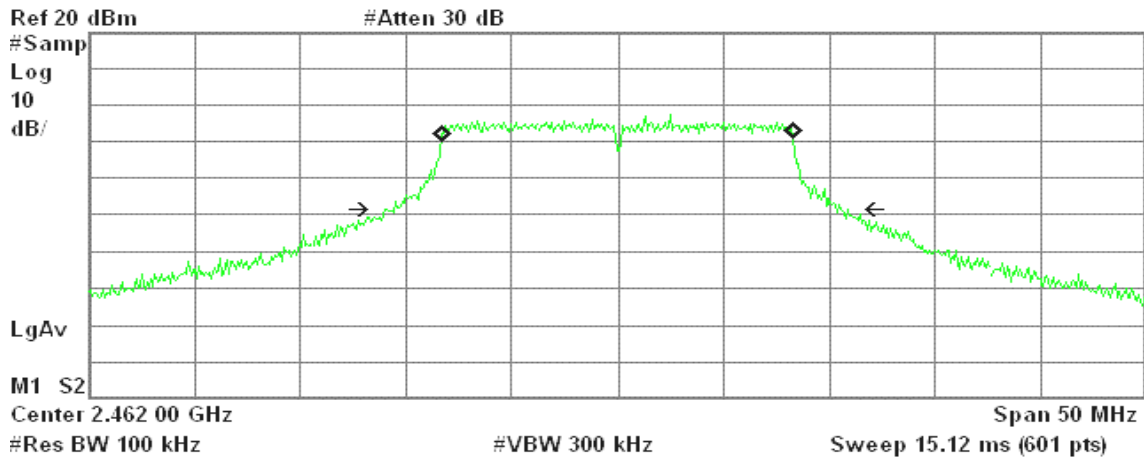
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 13.575 kHz
x dB Bandwidth 20.920 MHz*

99% Bandwidth (CH High)

Agilent 18:00:30 Dec 29, 2008

R T



Occupied Bandwidth
16.5397 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -7.497 kHz
x dB Bandwidth 21.936 MHz*



IEEE 802.11n HT20 mode

99% Bandwidth (CH Low)

Agilent 18:02:37 Dec 29, 2008

R T



Center 2.412 00 GHz Span 50 MHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 15.12 ms (601 pts)

Occupied Bandwidth
17.7408 MHz

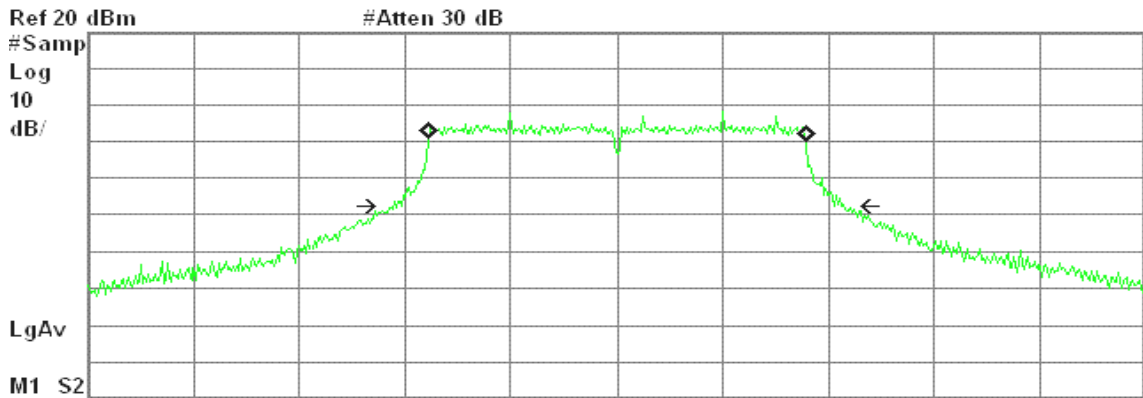
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 39.822 kHz
x dB Bandwidth 21.821 MHz*

99% Bandwidth (CH Mid)

Agilent 18:02:57 Dec 29, 2008

R T



Center 2.437 00 GHz Span 50 MHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 15.12 ms (601 pts)

Occupied Bandwidth
17.7095 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

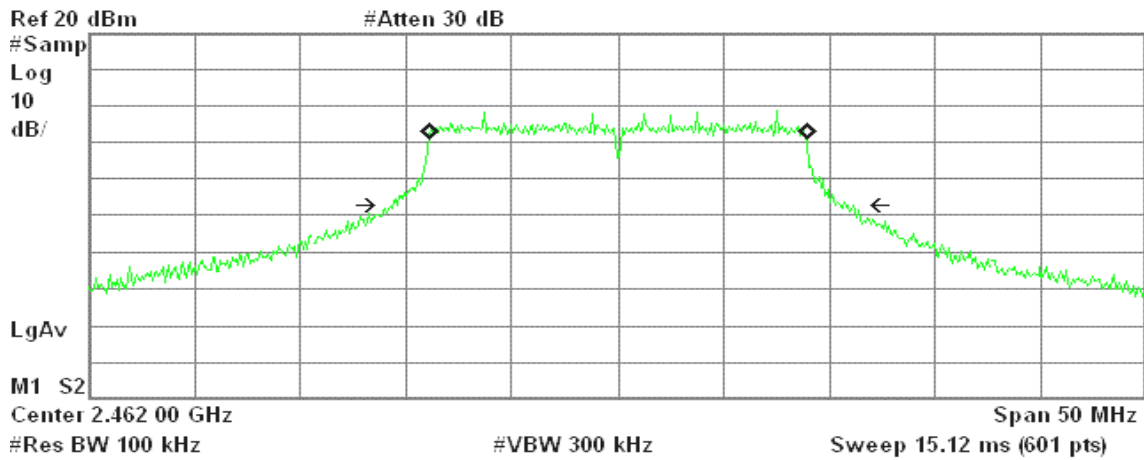
Transmit Freq Error 38.505 kHz
x dB Bandwidth 21.324 MHz*



99% Bandwidth (CH High)

Agilent 18:03:30 Dec 29, 2008

R T



Occupied Bandwidth

17.7393 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

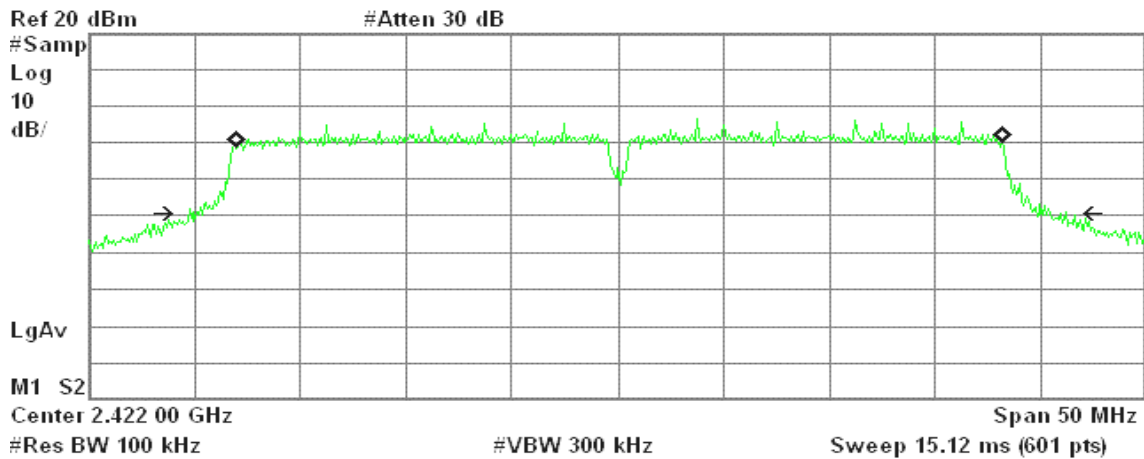
Transmit Freq Error	23.597 kHz
x dB Bandwidth	21.800 MHz*

IEEE 802.11n HT40 mode

99% Bandwidth (CH Low)

Agilent 18:04:51 Dec 29, 2008

R T



Occupied Bandwidth

36.1462 MHz

Occ BW % Pwr	99.00 %
x dB	-26.00 dB

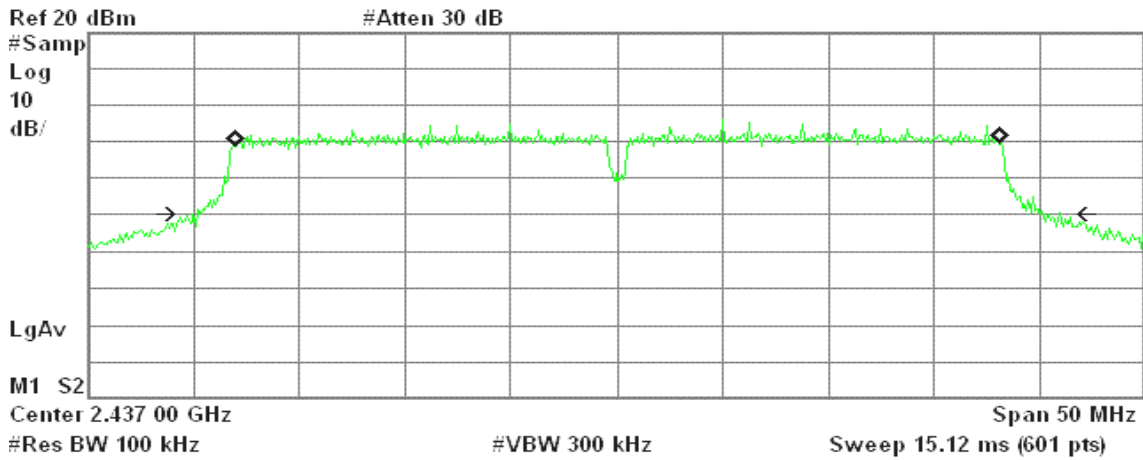
Transmit Freq Error	56.878 kHz
x dB Bandwidth	41.550 MHz*



99% Bandwidth (CH Mid)

Agilent 18:04:38 Dec 29, 2008

R T



Occupied Bandwidth
36.1437 MHz

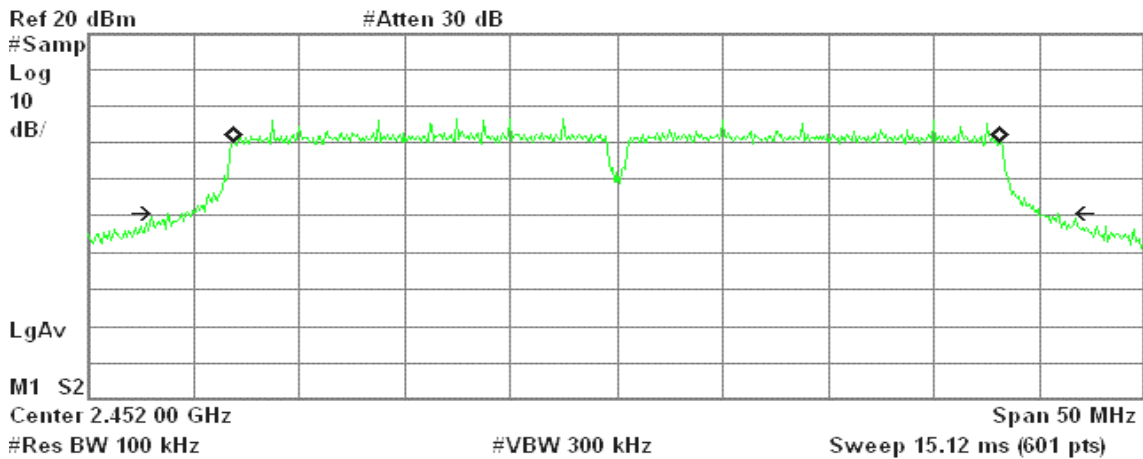
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 43.733 kHz
x dB Bandwidth 41.030 MHz*

99% Bandwidth (CH High)

Agilent 18:04:05 Dec 29, 2008

R T



Occupied Bandwidth
36.1510 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

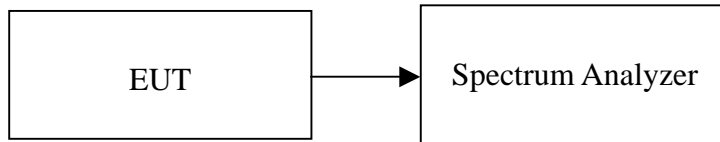
Transmit Freq Error 24.261 kHz
x dB Bandwidth 42.170 MHz*

8.2 6DB BANDWIDTH

LIMIT

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 6dB bandwidth shall be at least 500 kHz.

Test Configuration



TEST PROCEDURE

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 100 kHz, VBW = RBW, Span = 50 MHz, Sweep = auto.
4. Mark the peak frequency and -6dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

TEST RESULTS

No non-compliance noted.

**Test Data****Full Length Board:****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
Low	2412	12000	>500	PASS
Mid	2437	12000		PASS
High	2462	12420		PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
Low	2412	16500	>500	PASS
Mid	2437	16500		PASS
High	2462	16580		PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
Low	2412	17750	>500	PASS
Mid	2437	17750		PASS
High	2462	17750		PASS

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
Low	2422	36330	>500	PASS
Mid	2437	36420		PASS
High	2452	36420		PASS

**Half Length Board:****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
Low	2412	11580	>500	PASS
Mid	2437	11250		PASS
High	2462	12500		PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
Low	2412	16500	>500	PASS
Mid	2437	16500		PASS
High	2462	16500		PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
Low	2412	17750	>500	PASS
Mid	2437	17750		PASS
High	2462	17750		PASS

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
Low	2422	36250	>500	PASS
Mid	2437	36420		PASS
High	2452	36420		PASS



Test Plot

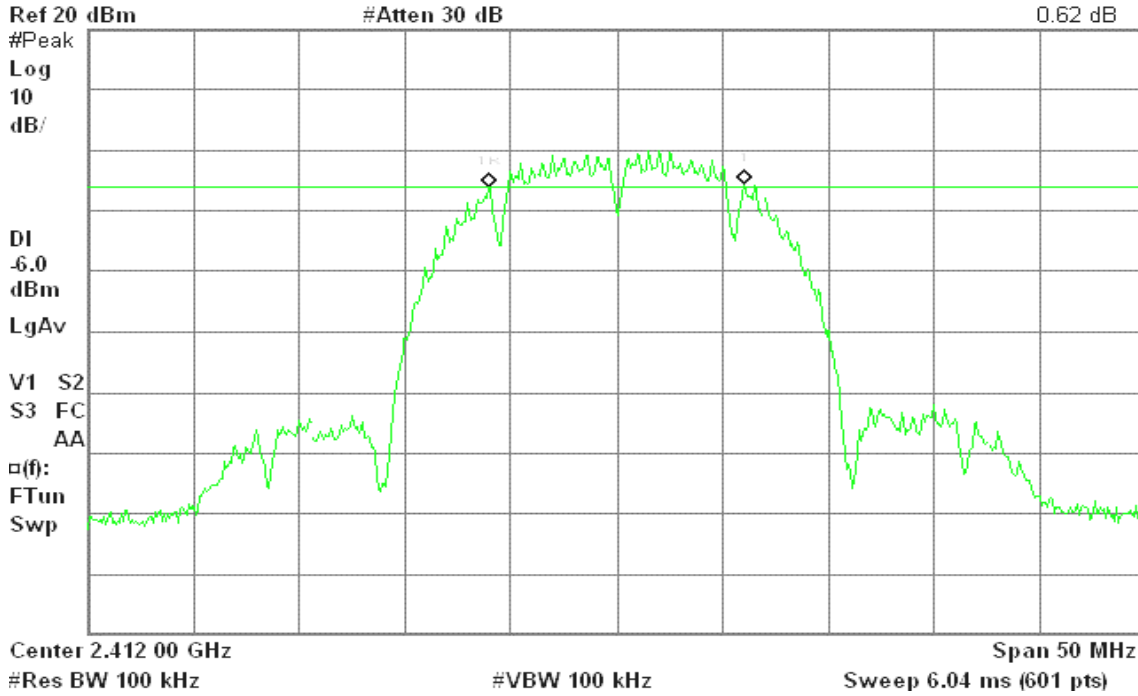
Full Length Board / IEEE 802.11b mode

6dB Bandwidth (CH Low)

Agilent 17:44:10 Dec 29, 2008

R T

Δ Mkr1 12.00 MHz
0.62 dB

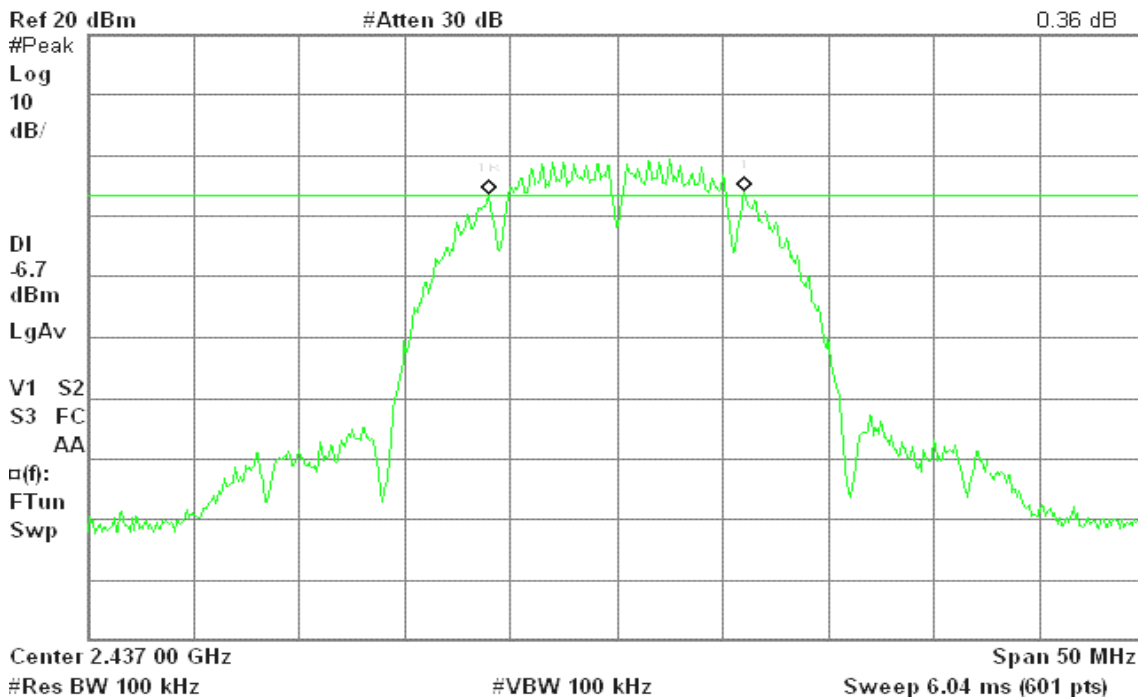


6dB Bandwidth (CH Mid)

Agilent 17:43:34 Dec 29, 2008

R T

Δ Mkr1 12.00 MHz
0.36 dB



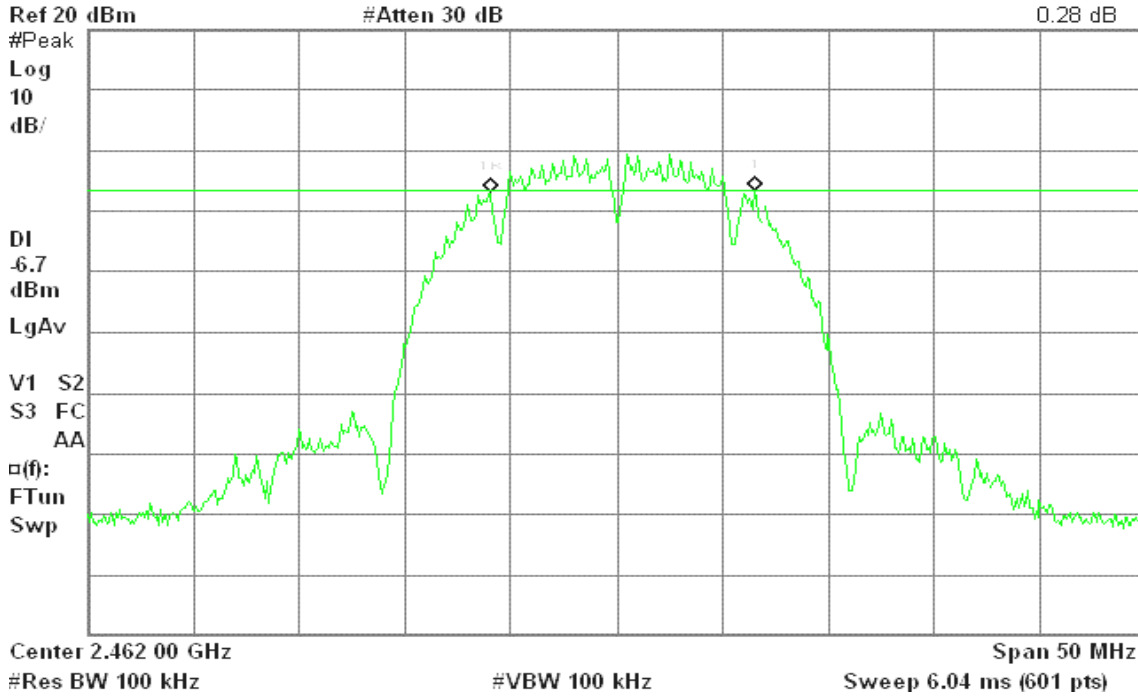


6dB Bandwidth (CH High)

Agilent 17:42:47 Dec 29, 2008

R T

Δ Mkr1 12.42 MHz
0.28 dB



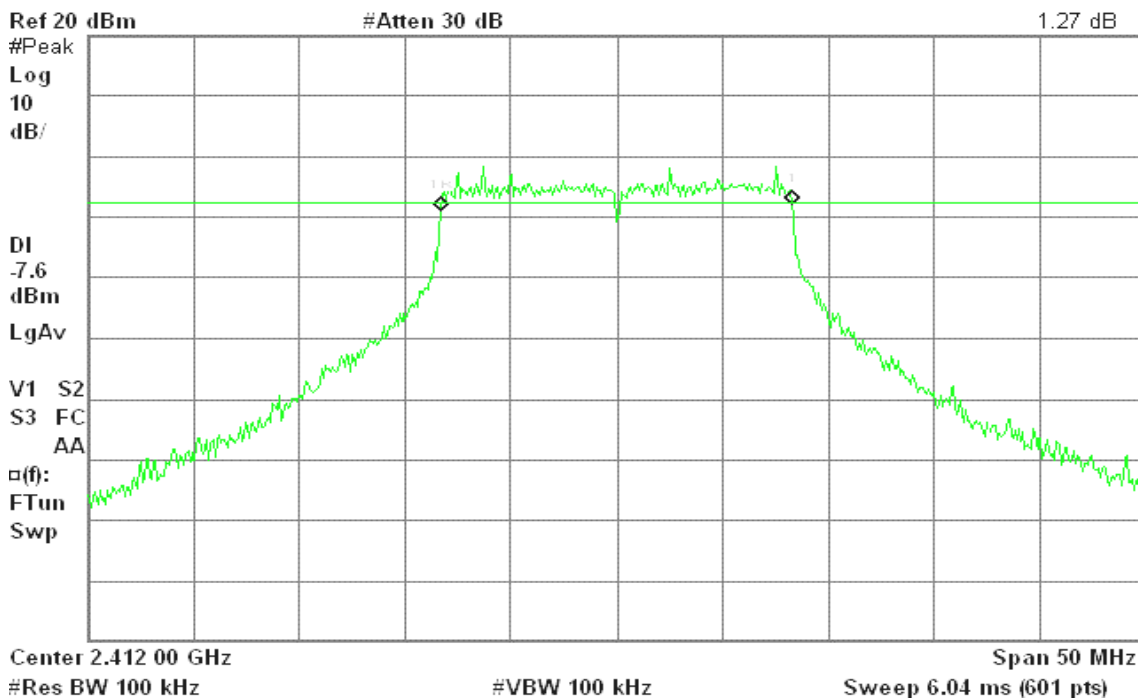
IEEE 802.11g mode

6dB Bandwidth (CH Low)

Agilent 17:40:23 Dec 29, 2008

R T

Δ Mkr1 16.50 MHz
1.27 dB



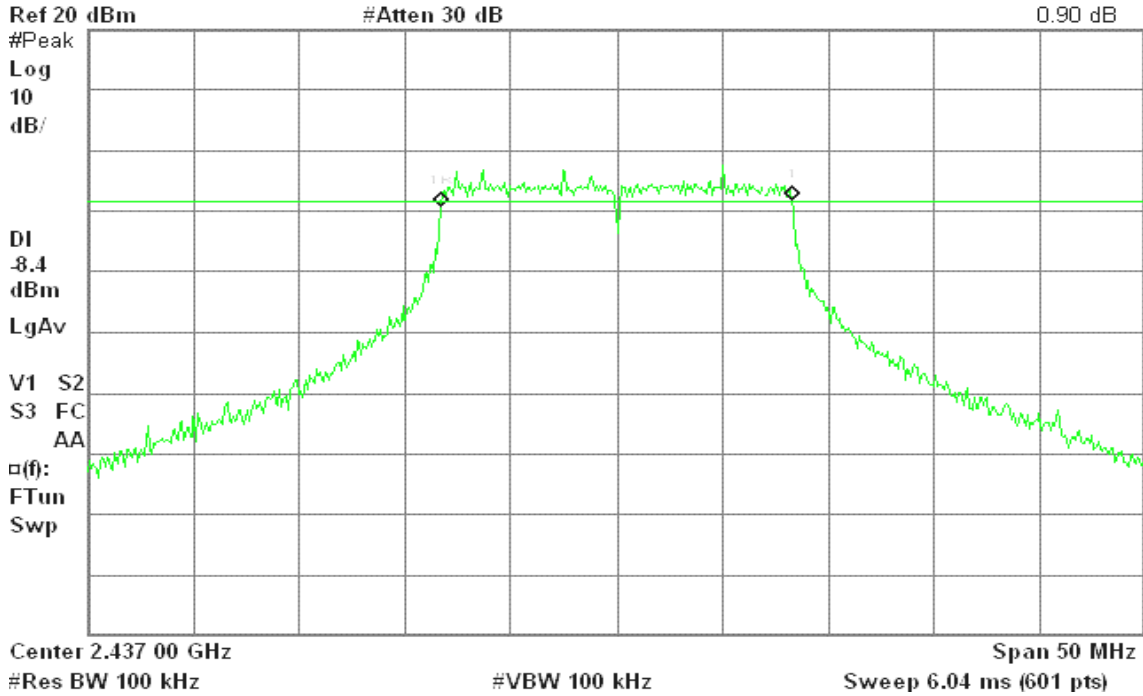


6dB Bandwidth (CH Mid)

Agilent 17:41:22 Dec 29, 2008

R T

Δ Mkr1 16.50 MHz
0.90 dB

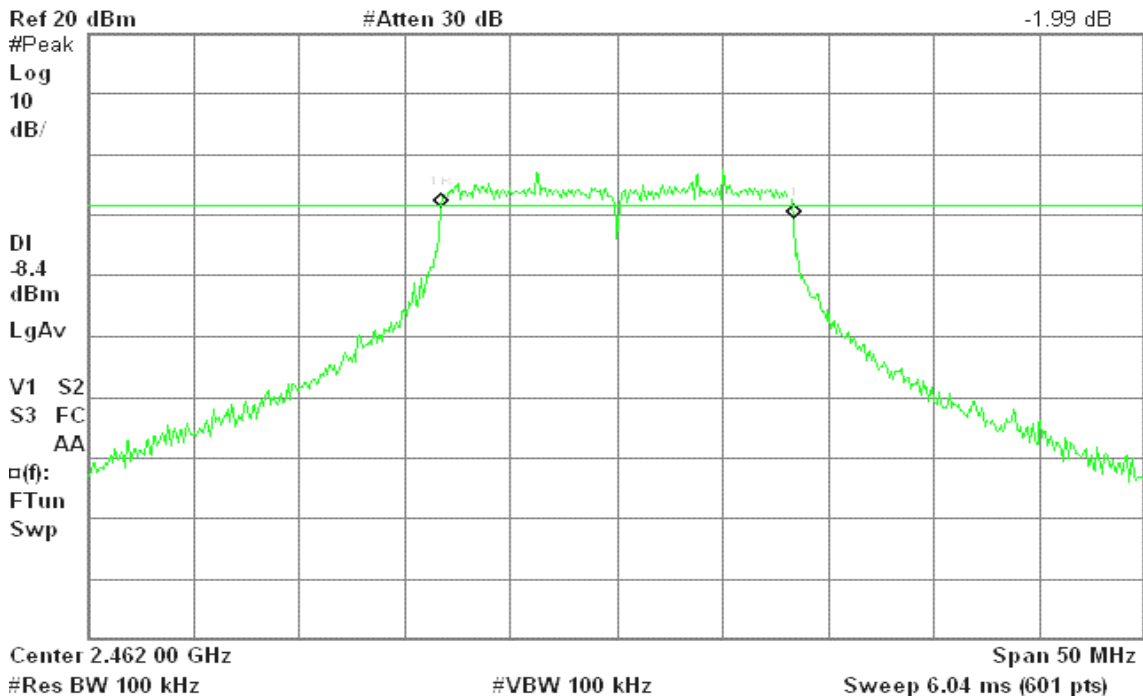


6dB Bandwidth (CH High)

Agilent 17:41:59 Dec 29, 2008

R T

Δ Mkr1 16.58 MHz
-1.99 dB





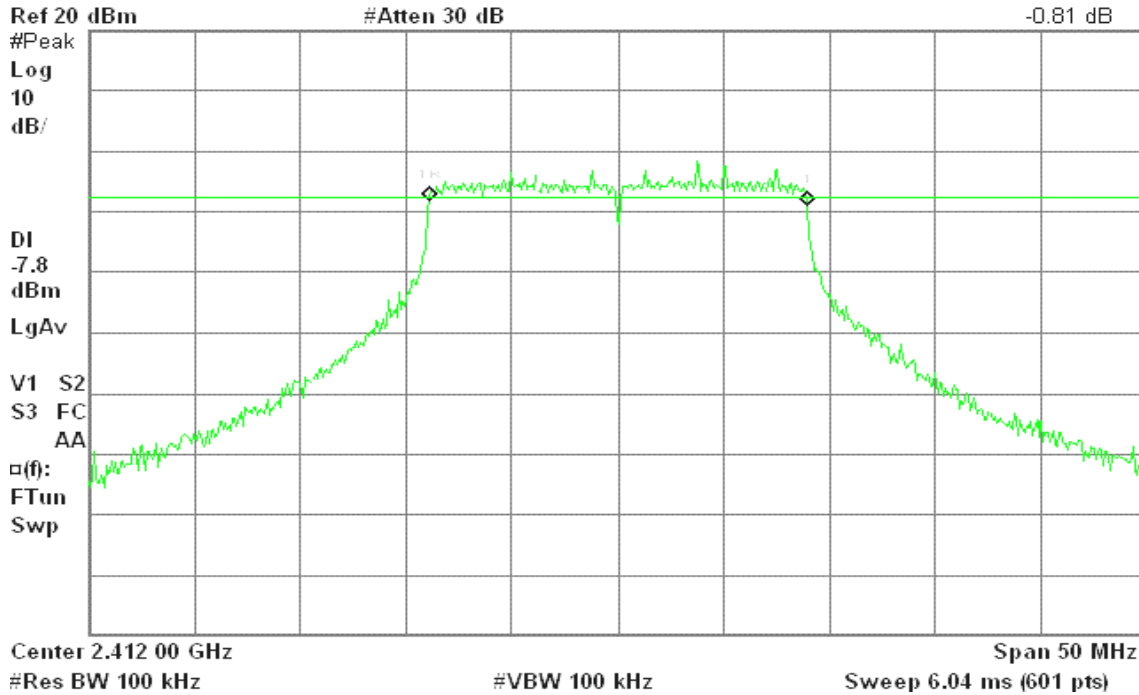
IEEE 802.11n HT20 mode

6dB Bandwidth (CH Low)

Agilent 17:44:54 Dec 29, 2008

R T

Δ Mkr1 17.75 MHz
-0.81 dB

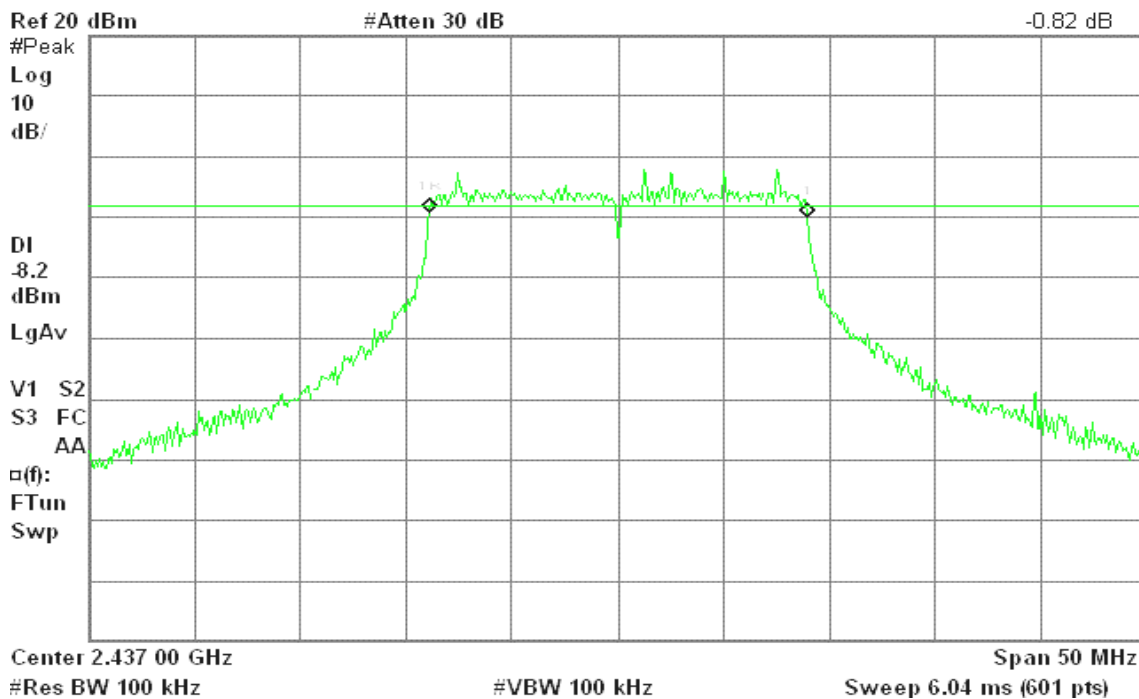


6dB Bandwidth (CH Mid)

Agilent 17:45:30 Dec 29, 2008

R T

Δ Mkr1 17.75 MHz
-0.82 dB



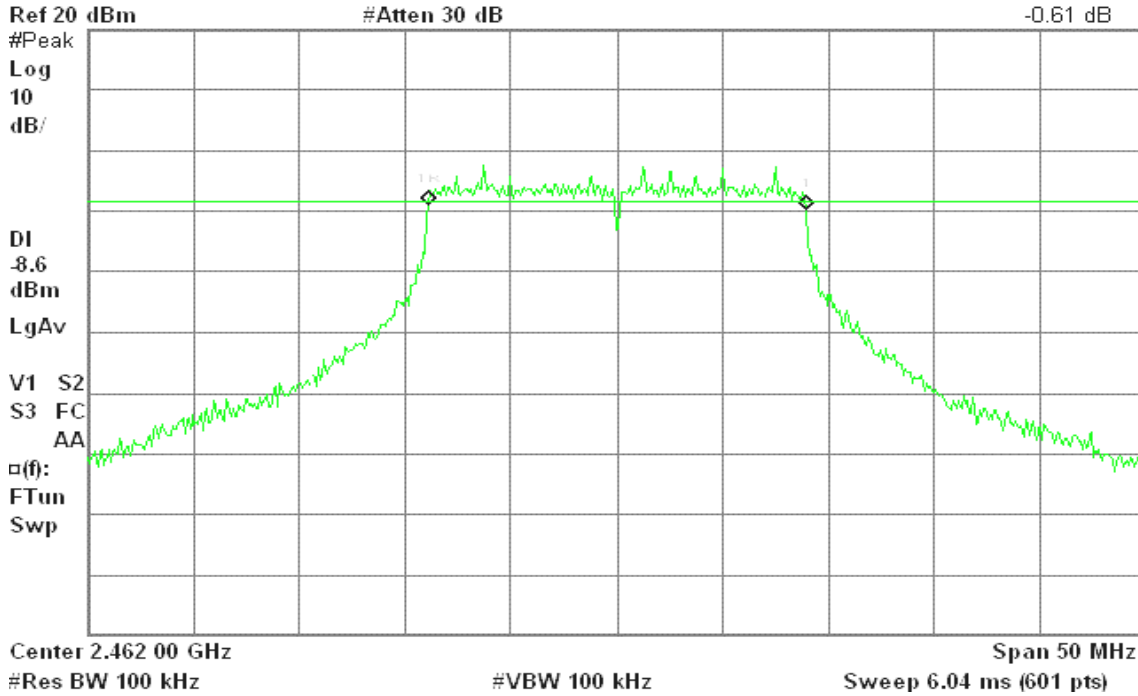


6dB Bandwidth (CH High)

Agilent 17:46:10 Dec 29, 2008

R T

Δ Mkr1 17.75 MHz
-0.61 dB



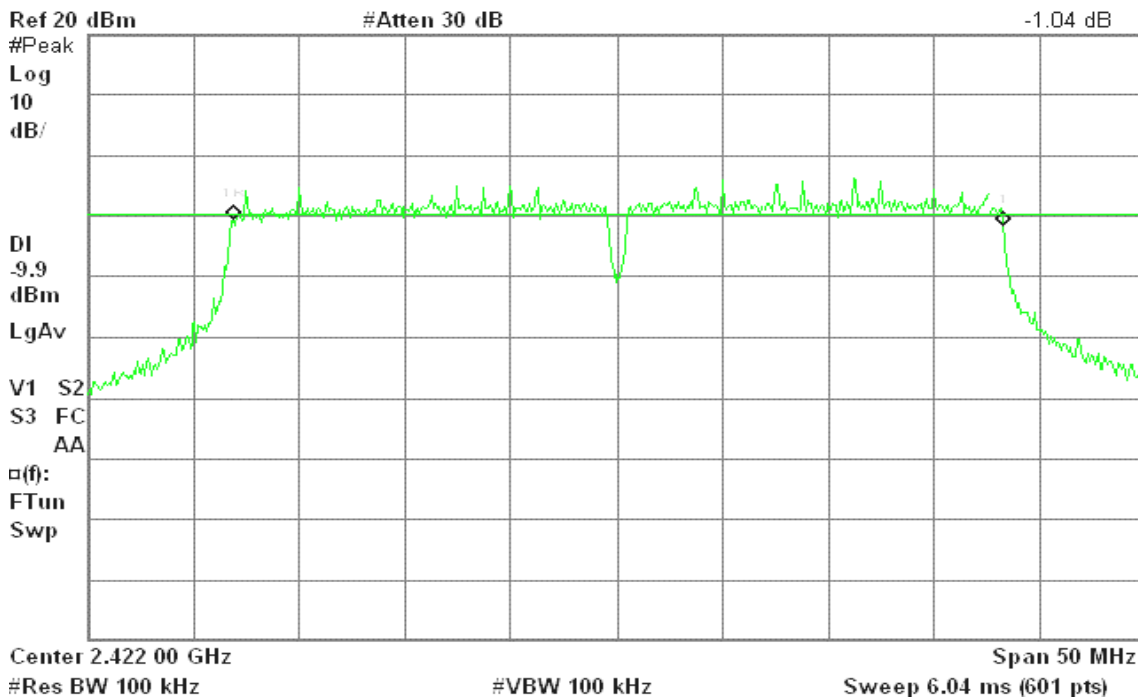
IEEE 802.11n HT40 mode

6dB Bandwidth (CH Low)

Agilent 17:48:27 Dec 29, 2008

R T

Δ Mkr1 36.33 MHz
-1.04 dB



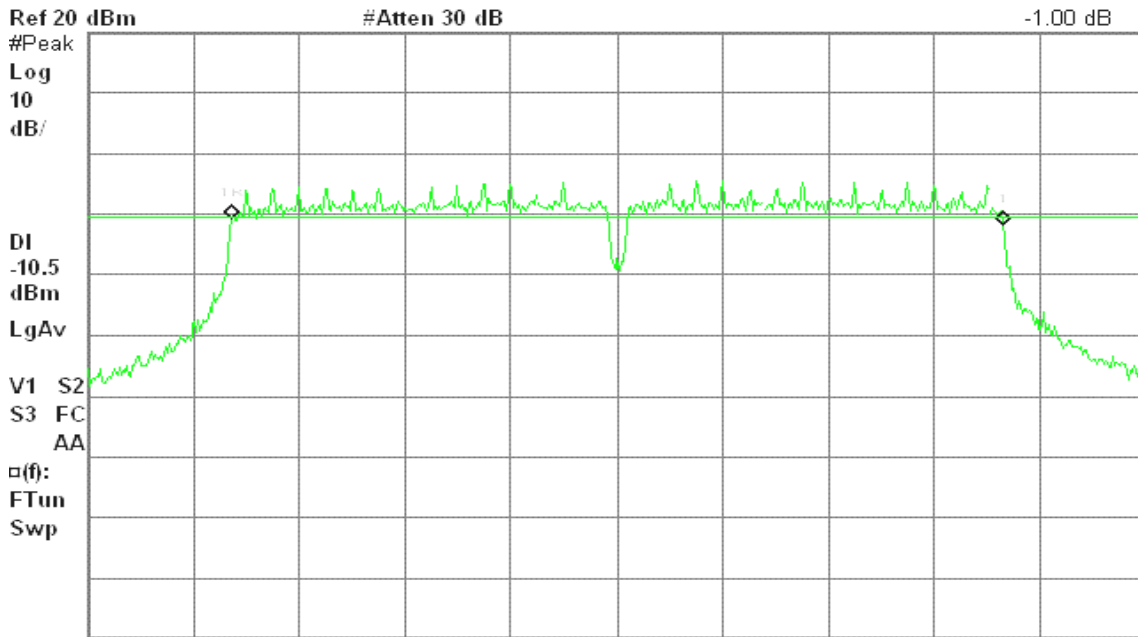


6dB Bandwidth (CH Mid)

Agilent 17:47:54 Dec 29, 2008

R T

Δ Mkr1 36.42 MHz
-1.00 dB



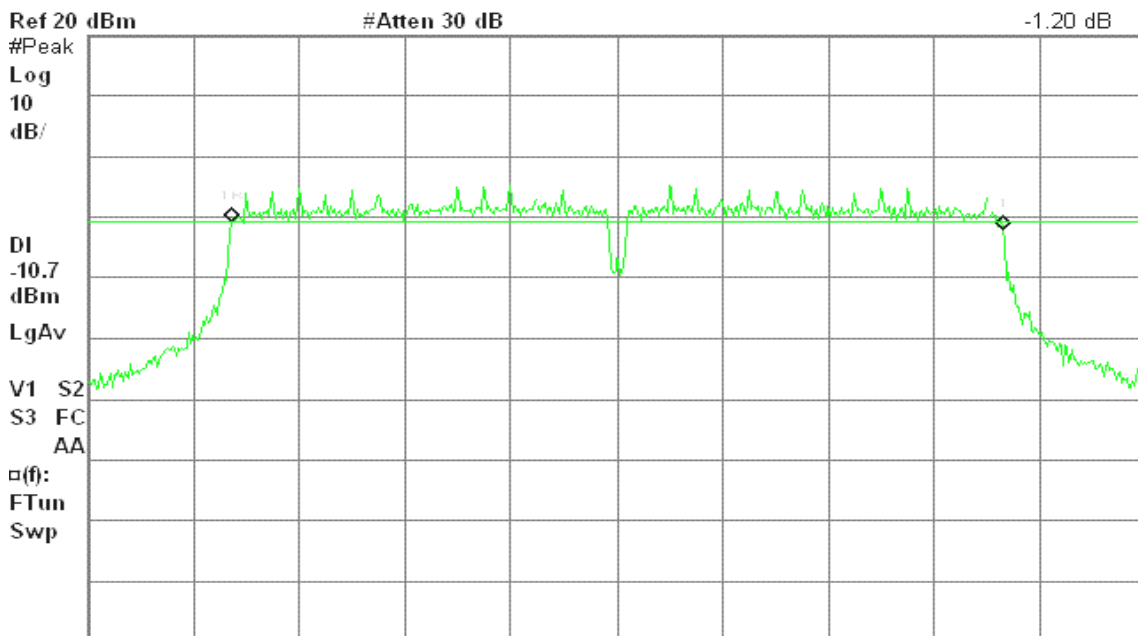
Center 2.437 00 GHz Span 50 MHz
#Res BW 100 kHz #VBW 100 kHz Sweep 6.04 ms (601 pts)

6dB Bandwidth (CH High)

Agilent 17:47:16 Dec 29, 2008

R T

Δ Mkr1 36.42 MHz
-1.20 dB



Center 2.452 00 GHz Span 50 MHz
#Res BW 100 kHz #VBW 100 kHz Sweep 6.04 ms (601 pts)



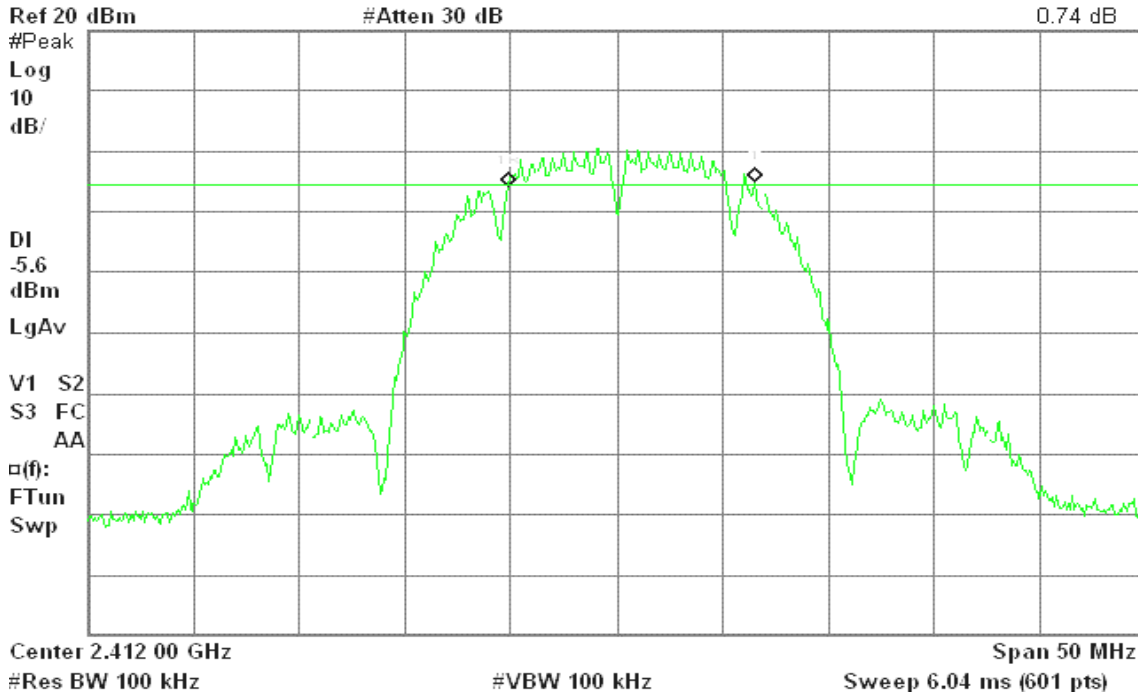
Half Length Board / IEEE 802.11b mode

6dB Bandwidth (CH Low)

Agilent 17:53:55 Dec 29, 2008

R T

Δ Mkr1 11.58 MHz
0.74 dB

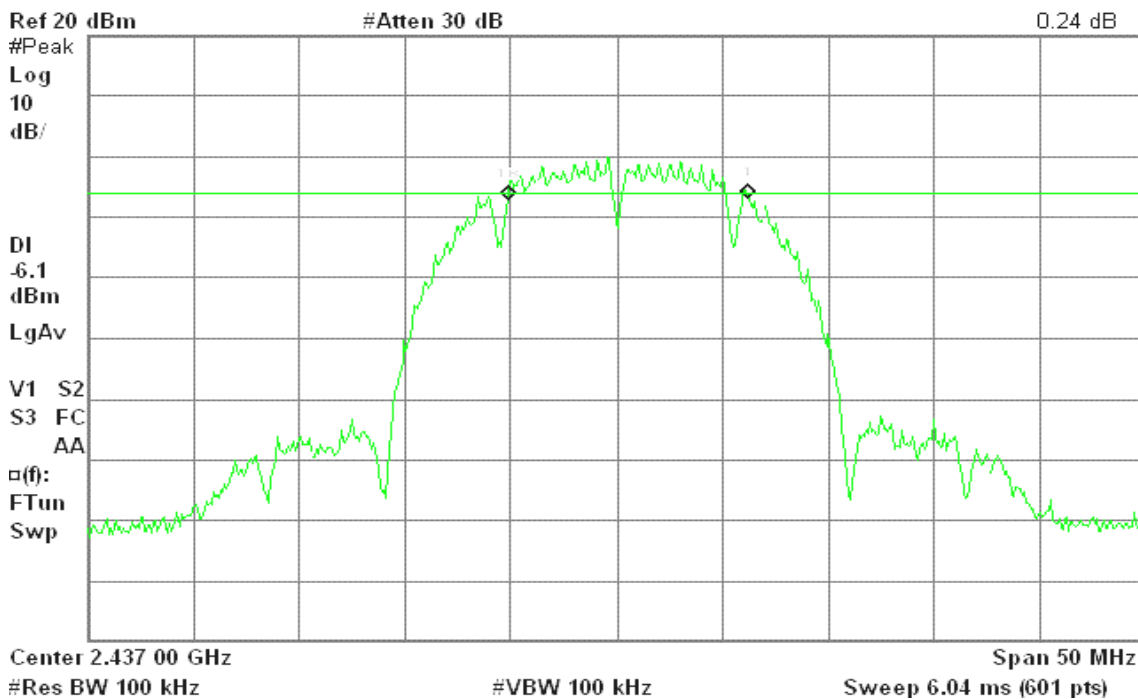


6dB Bandwidth (CH Mid)

Agilent 17:53:18 Dec 29, 2008

R T

Δ Mkr1 11.25 MHz
0.24 dB



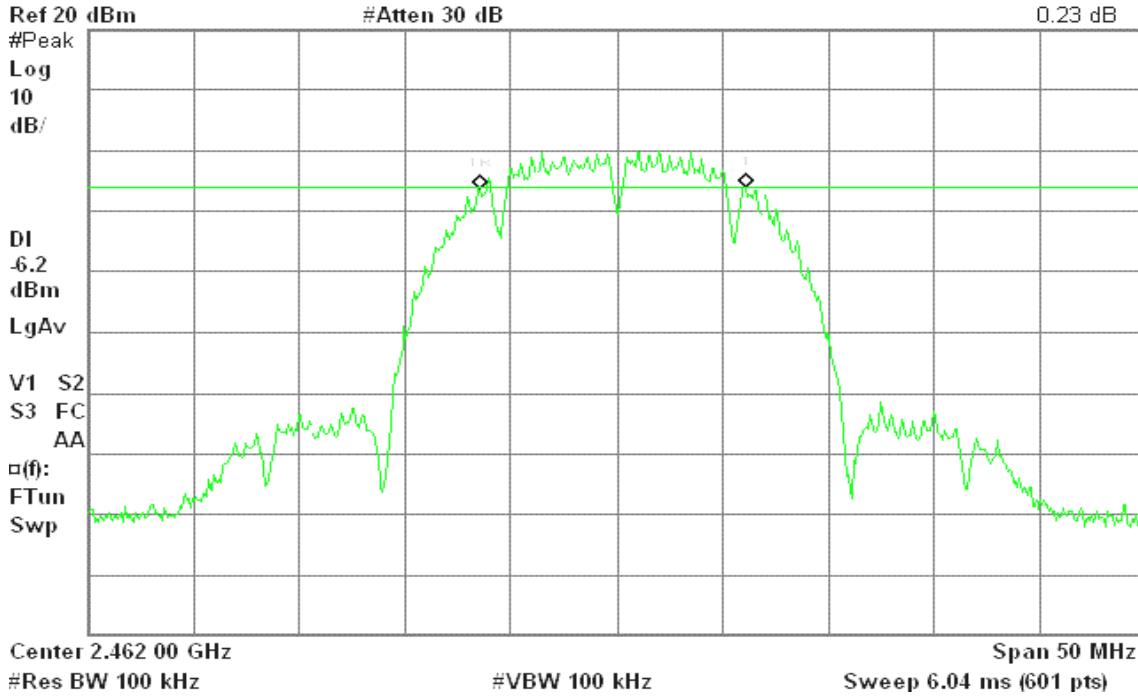


6dB Bandwidth (CH High)

Agilent 17:52:45 Dec 29, 2008

R T

Δ Mkr1 12.50 MHz
0.23 dB



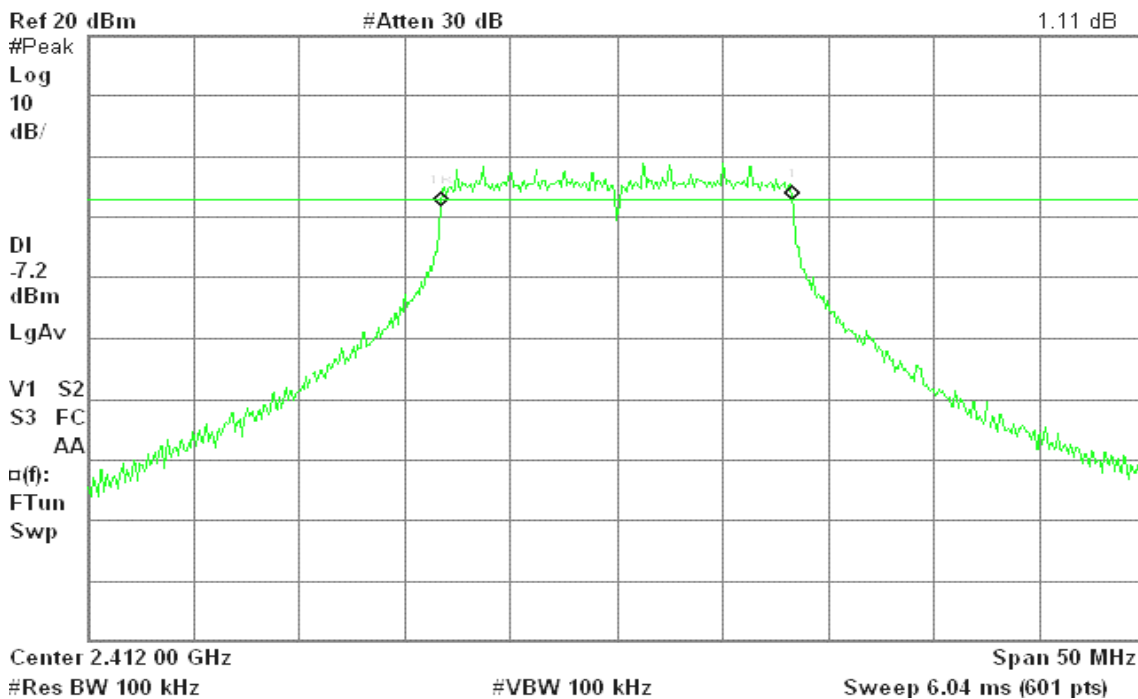
IEEE 802.11g mode

6dB Bandwidth (CH Low)

Agilent 17:50:55 Dec 29, 2008

R T

Δ Mkr1 16.50 MHz
1.11 dB



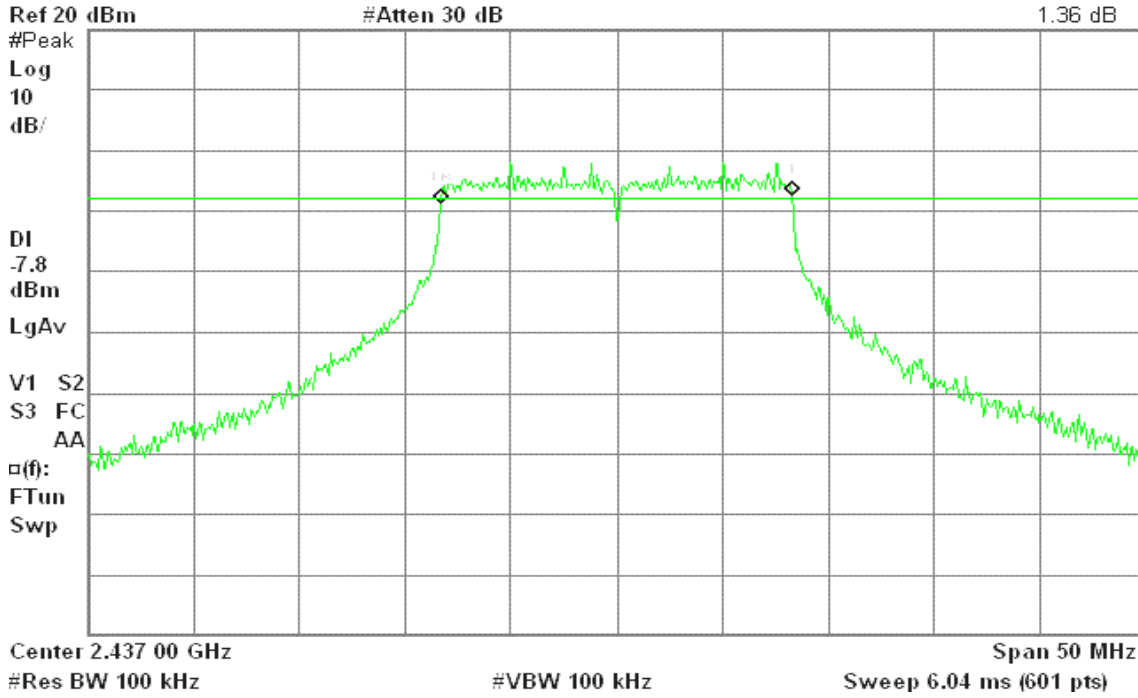


6dB Bandwidth (CH Mid)

Agilent 17:51:29 Dec 29, 2008

R T

Δ Mkr1 16.50 MHz
1.36 dB

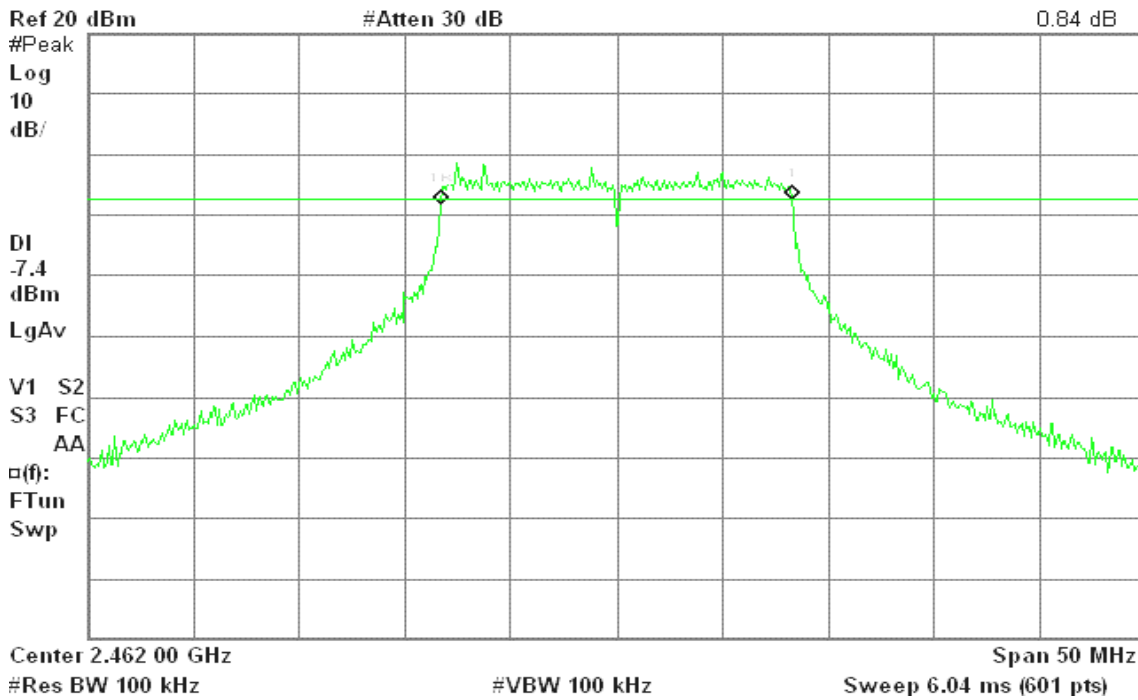


6dB Bandwidth (CH High)

Agilent 17:52:01 Dec 29, 2008

R T

Δ Mkr1 16.50 MHz
0.84 dB





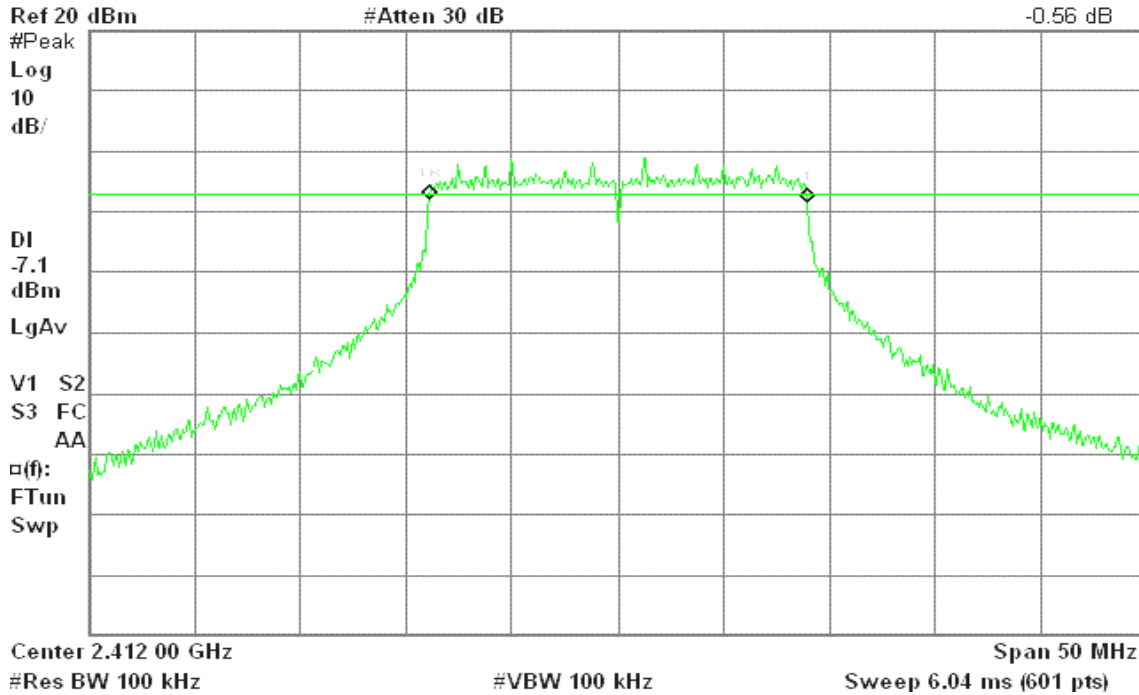
IEEE 802.11n HT20 mode

6dB Bandwidth (CH Low)

Agilent 17:54:35 Dec 29, 2008

R T

Δ Mkr1 17.75 MHz
-0.56 dB

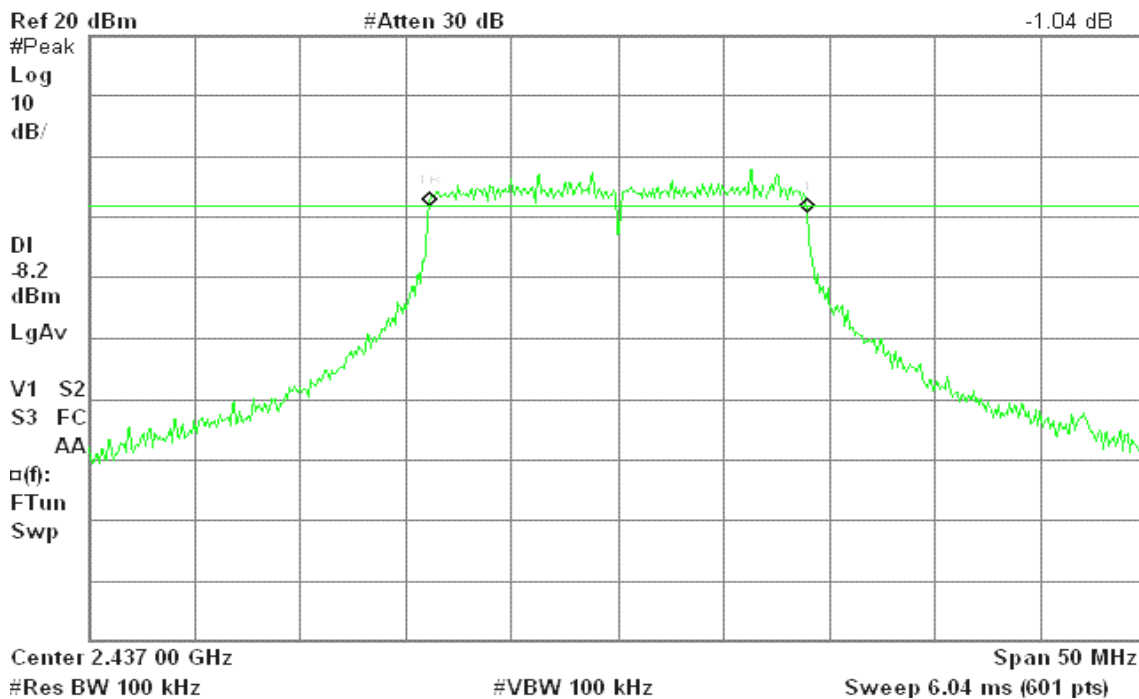


6dB Bandwidth (CH Mid)

Agilent 17:55:08 Dec 29, 2008

R T

Δ Mkr1 17.75 MHz
-1.04 dB



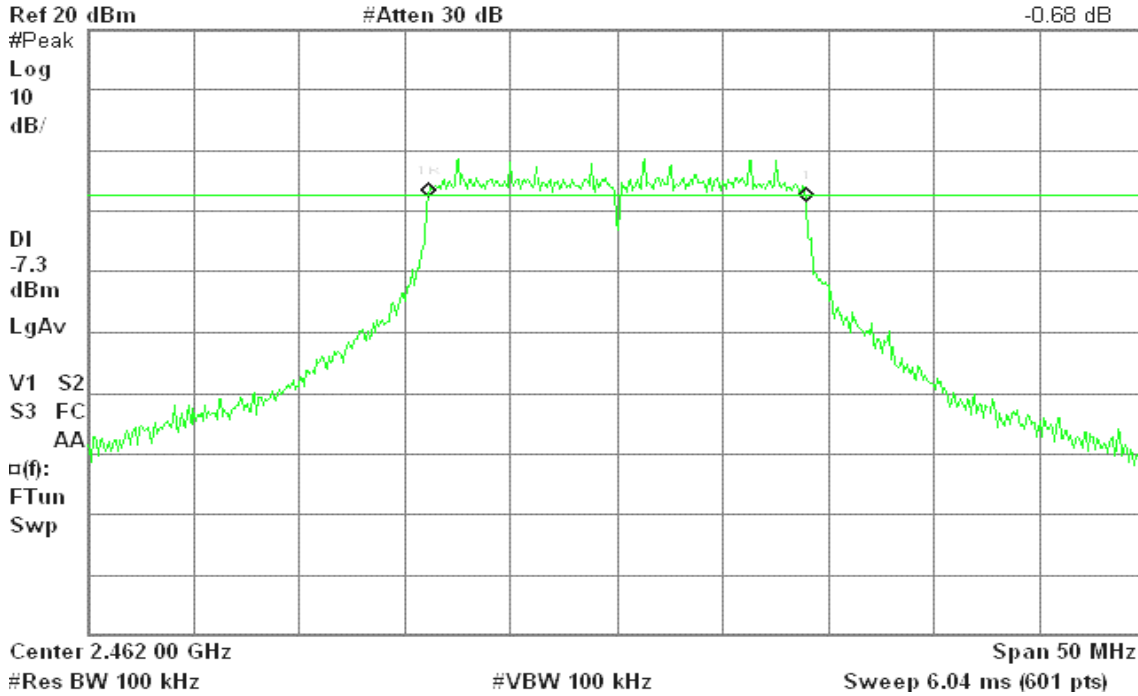


6dB Bandwidth (CH High)

Agilent 17:55:40 Dec 29, 2008

R T

Δ Mkr1 17.75 MHz
-0.68 dB



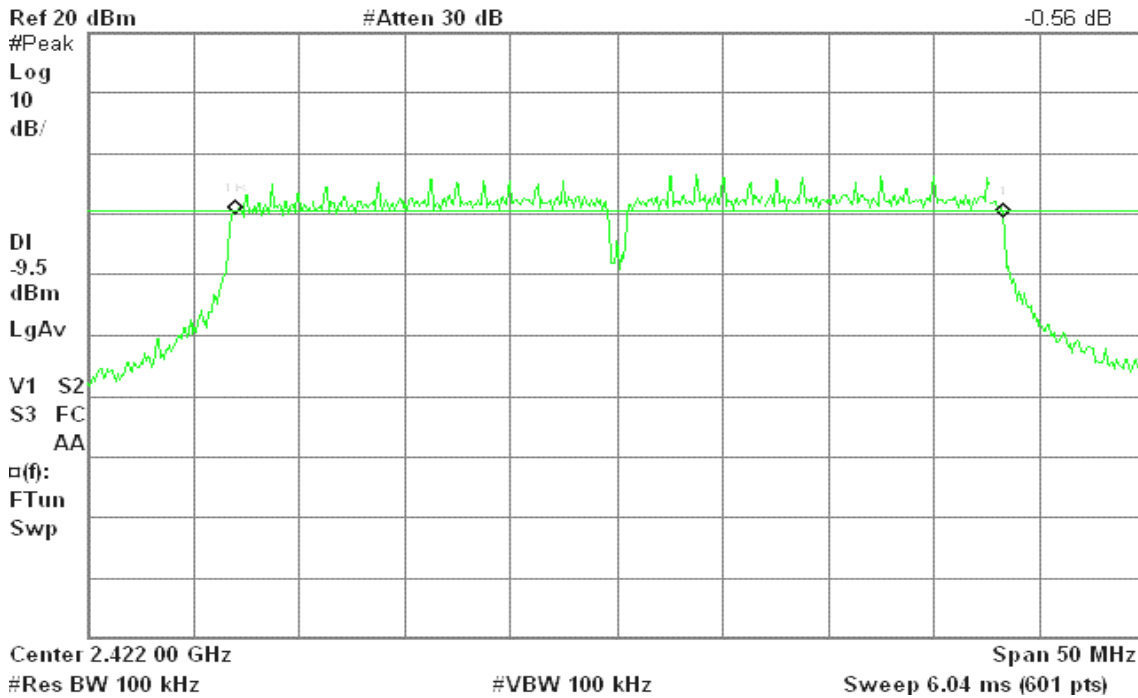
IEEE 802.11n HT40 mode

6dB Bandwidth (CH Low)

Agilent 17:57:52 Dec 29, 2008

R T

Δ Mkr1 36.25 MHz
-0.56 dB



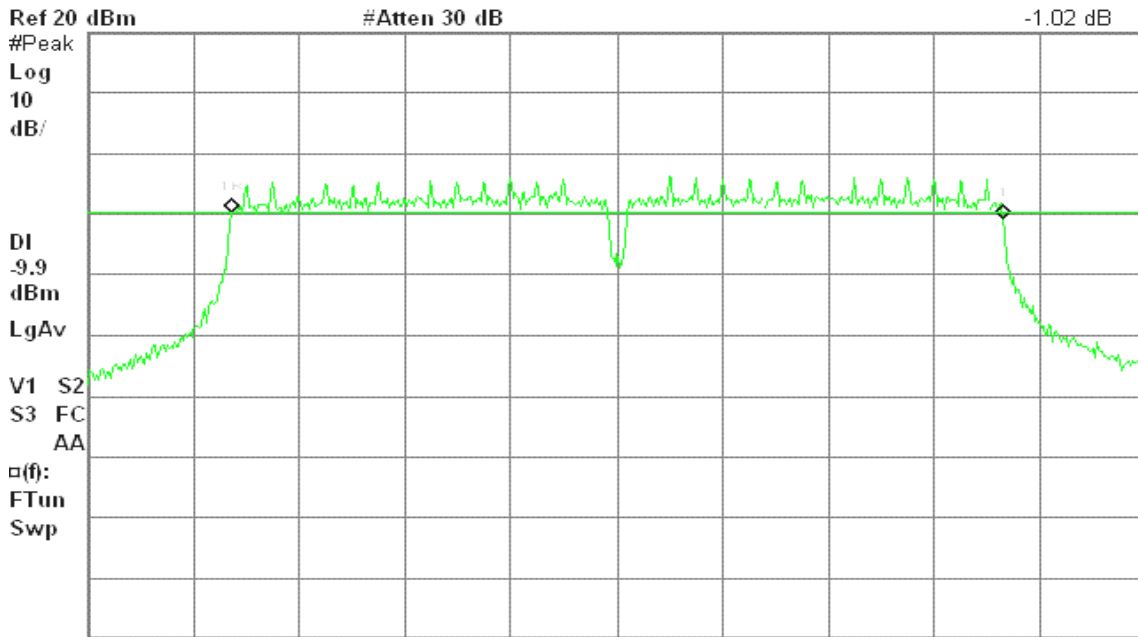


6dB Bandwidth (CH Mid)

Agilent 17:57:18 Dec 29, 2008

R T

Δ Mkr1 36.42 MHz
-1.02 dB



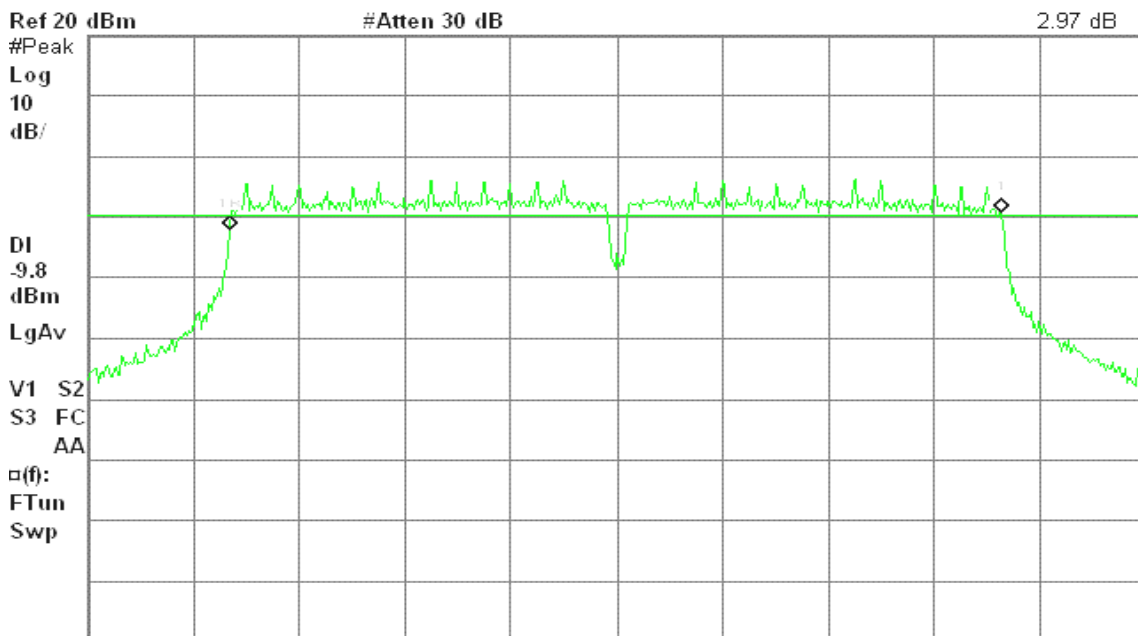
Center 2.437 00 GHz Span 50 MHz
#Res BW 100 kHz #VBW 100 kHz Sweep 6.04 ms (601 pts)

6dB Bandwidth (CH High)

Agilent 17:56:40 Dec 29, 2008

R T

Δ Mkr1 36.42 MHz
2.97 dB



Center 2.452 00 GHz Span 50 MHz
#Res BW 100 kHz #VBW 100 kHz Sweep 6.04 ms (601 pts)

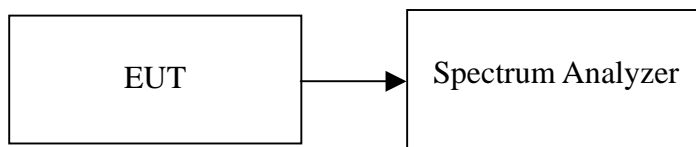
8.3 PEAK POWER

LIMIT

The maximum peak output power of the intentional radiator shall not exceed the following:

1. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.
2. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
3. According to RSS-210 §A8.4(4), for systems employing digital modulation techniques operating in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands, the maximum peak conducted power shall not exceed 1 W.

Test Configuration



TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW = 1 MHz, VBW \geq 3 MHz. in "Channel Power" measurement.
4. Record the max reading.
5. Repeat the above procedure until the measurements for all frequencies are completed.

TEST RESULTS

No non-compliance noted.

**Test Data****Test mode: IEEE 802.11b**

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limit (W)	Result
Low	2412	19.80	0.0955	1.00	PASS
Mid	2437	22.64	0.1837		PASS
High	2462	17.69	0.0587		PASS

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limit (W)	Result
Low	2412	20.23	0.1054	1.00	PASS
Mid	2437	24.90	0.3090		PASS
High	2462	19.45	0.0881		PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limit (W)	Result
Low	2412	18.90	0.0776	1.00	PASS
Mid	2437	25.65	0.3673		PASS
High	2462	19.47	0.0885		PASS

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Limit (W)	Result
Low	2422	21.87	0.1538	1.00	PASS
Mid	2437	25.59	0.3622		PASS
High	2452	19.38	0.0867		PASS



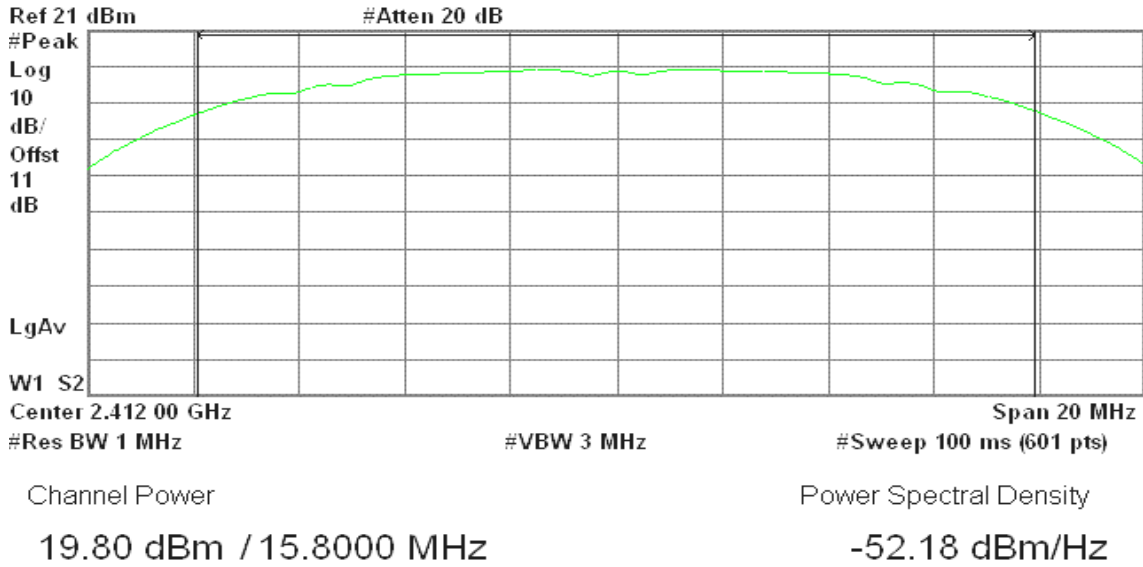
Test Plot

IEEE 802.11b

Peak Power (CH Low)

Agilent 13:19:25 Dec 12, 2008

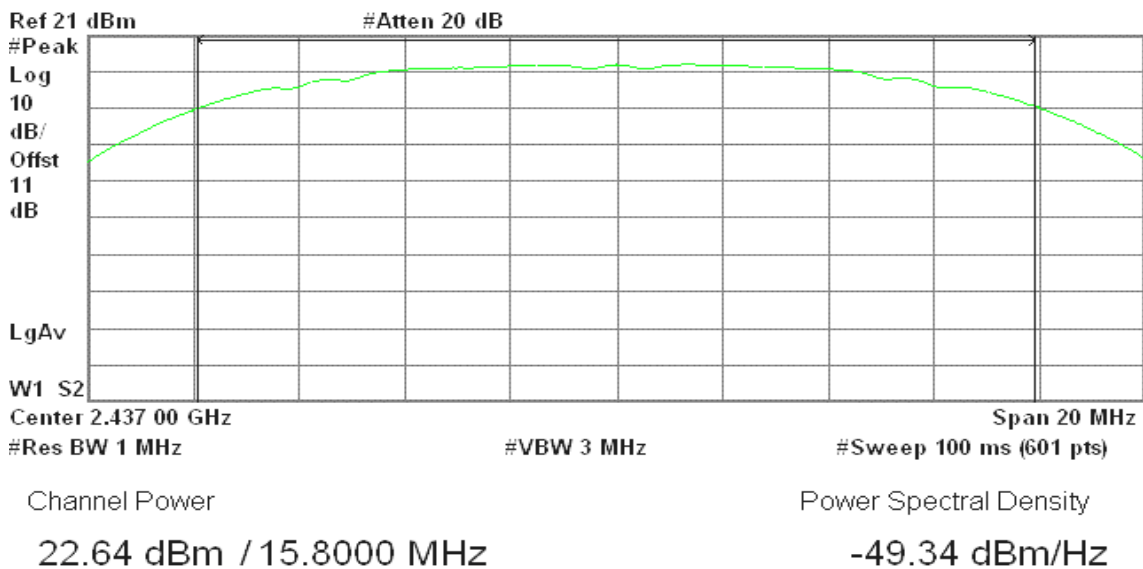
R T



Peak Power (CH Mid)

Agilent 13:16:28 Dec 12, 2008

R T

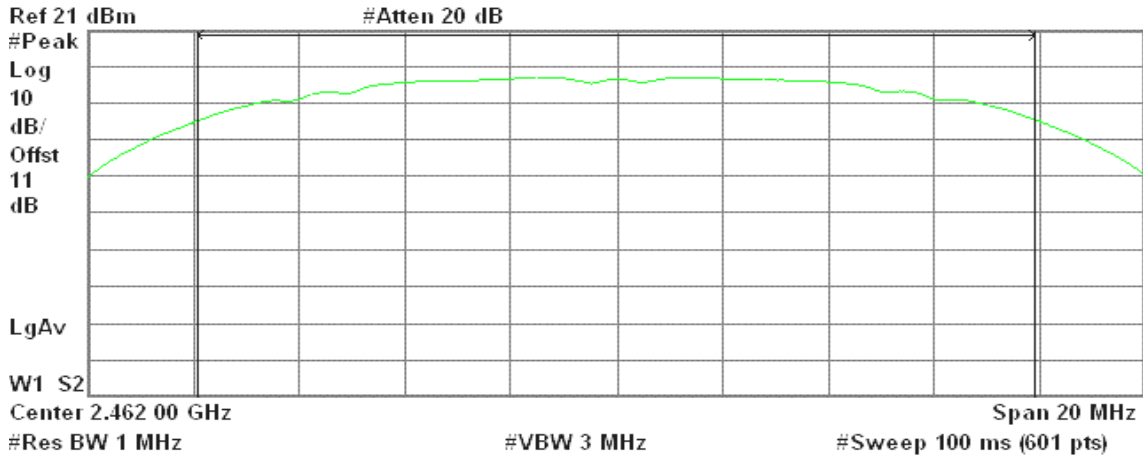




Peak Power (CH High)

Agilent 13:14:14 Dec 12, 2008

R T



Channel Power

17.69 dBm / 15.8000 MHz

Power Spectral Density

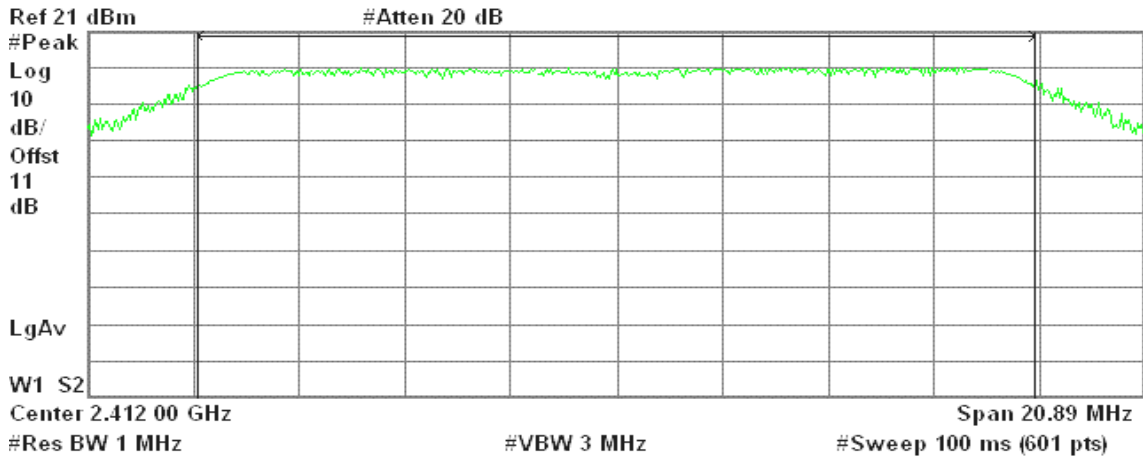
-54.30 dBm/Hz

IEEE 802.11g

Peak Power (CH Low)

Agilent 13:29:13 Dec 12, 2008

R T



Channel Power

21.87 dBm / 16.5000 MHz

Power Spectral Density

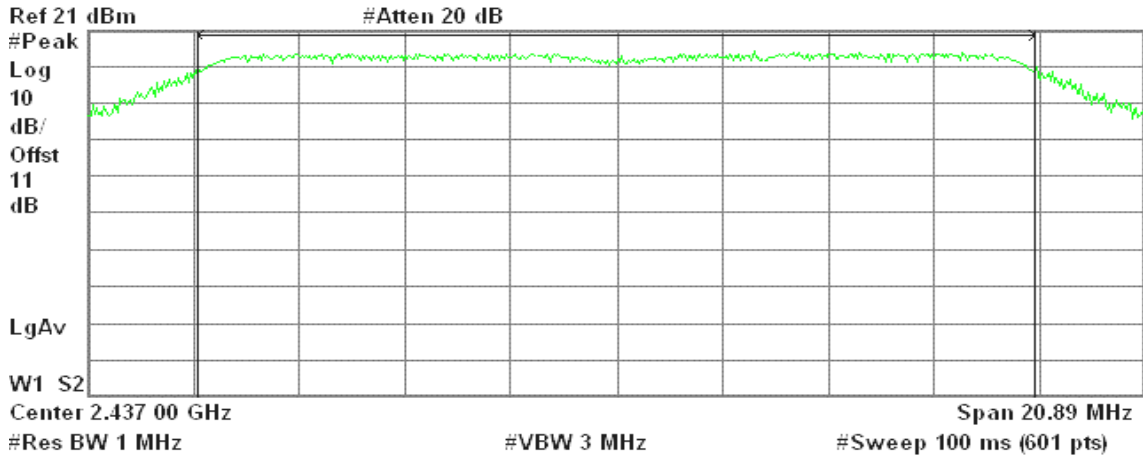
-50.30 dBm/Hz



Peak Power (CH Mid)

Agilent 13:27:23 Dec 12, 2008

R T



Channel Power

25.59 dBm / 16.5000 MHz

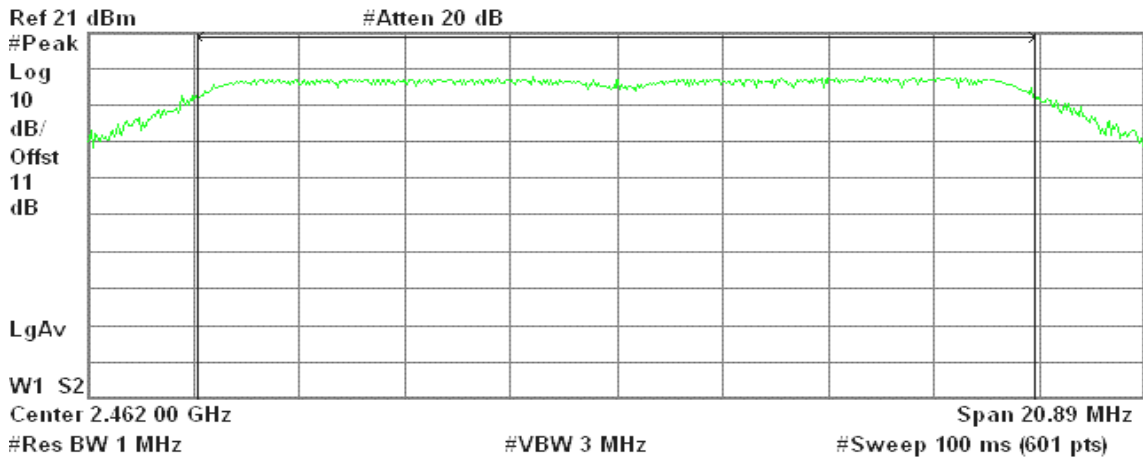
Power Spectral Density

-46.58 dBm/Hz

Peak Power (CH High)

Agilent 13:23:58 Dec 12, 2008

R T



Channel Power

19.38 dBm / 16.5000 MHz

Power Spectral Density

-52.80 dBm/Hz

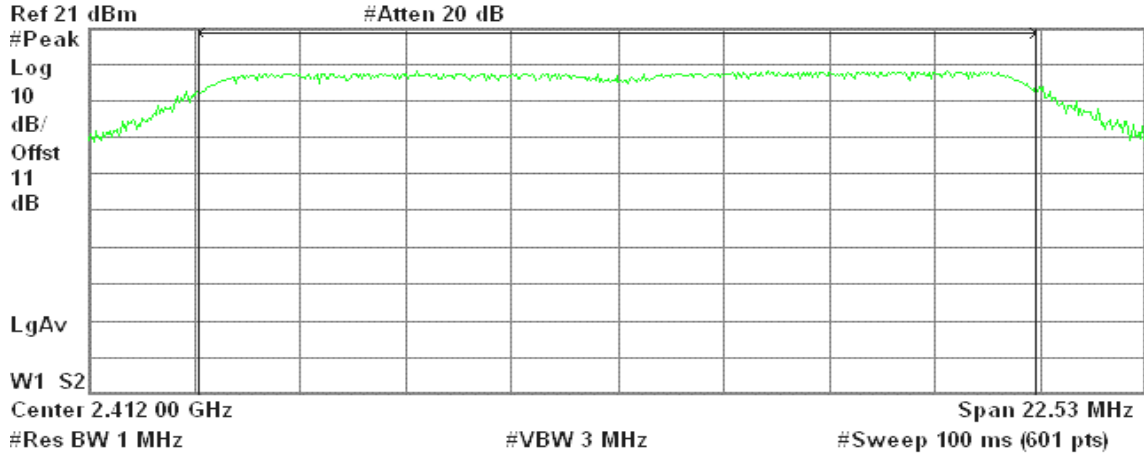


IEEE 802.11n HT20

Peak Power (CH Low)

Agilent 13:31:15 Dec 12, 2008

R T



Channel Power

20.23 dBm / 17.8000 MHz

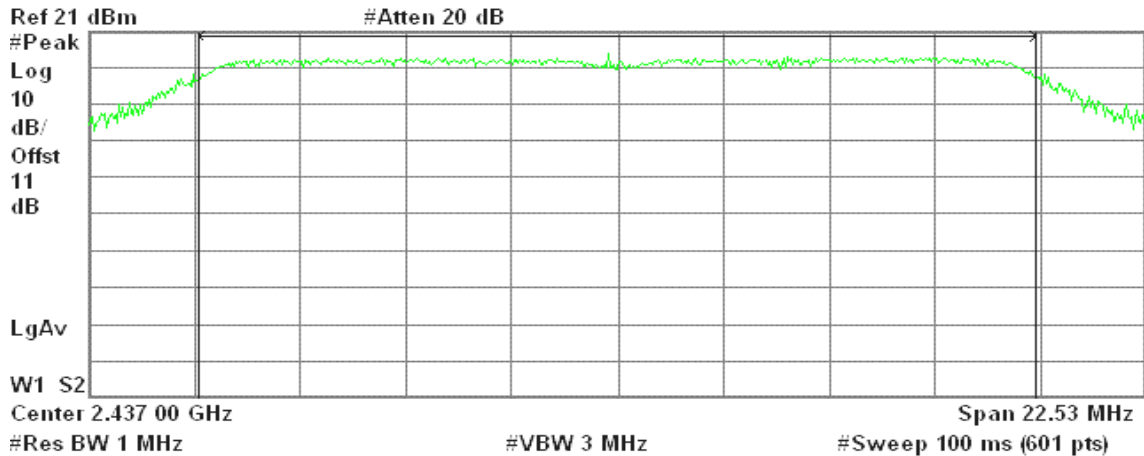
Power Spectral Density

-52.28 dBm/Hz

Peak Power (CH Mid)

Agilent 13:33:08 Dec 12, 2008

R T



Channel Power

24.90 dBm / 17.8000 MHz

Power Spectral Density

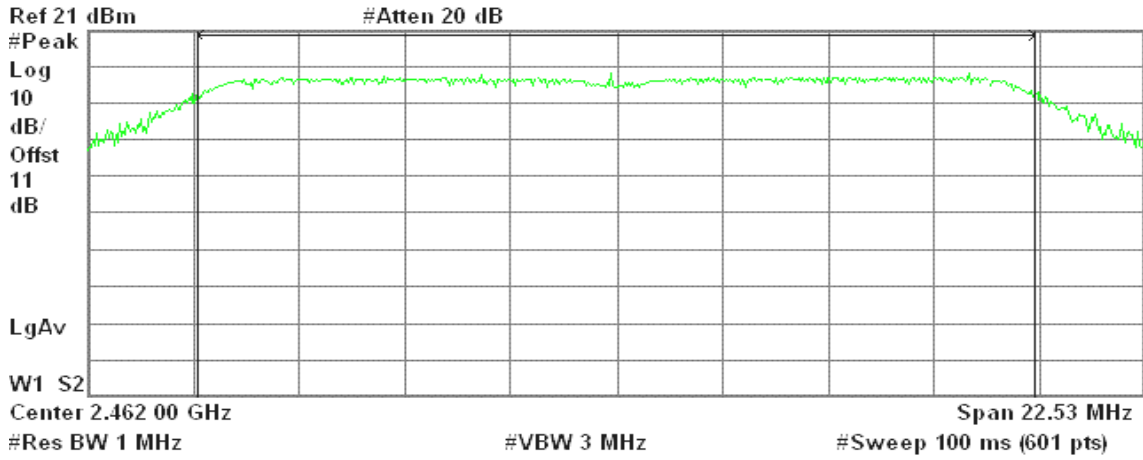
-47.60 dBm/Hz



Peak Power (CH High)

Agilent 13:34:24 Dec 12, 2008

R T



Channel Power

19.45 dBm / 17.8000 MHz

Power Spectral Density

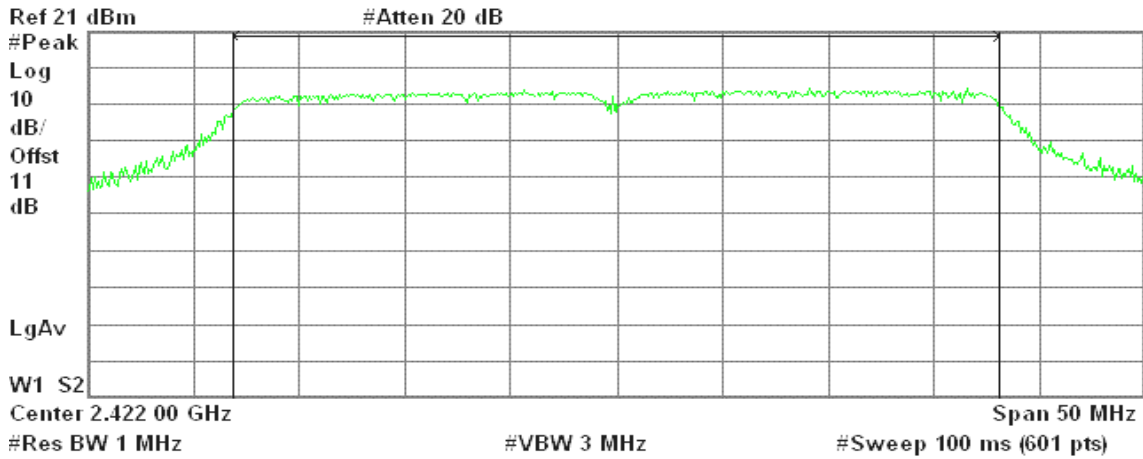
-53.05 dBm/Hz

IEEE 802.11n HT40

Peak Power (CH Low)

Agilent 13:38:29 Dec 12, 2008

R T



Channel Power

18.90 dBm / 36.2000 MHz

Power Spectral Density

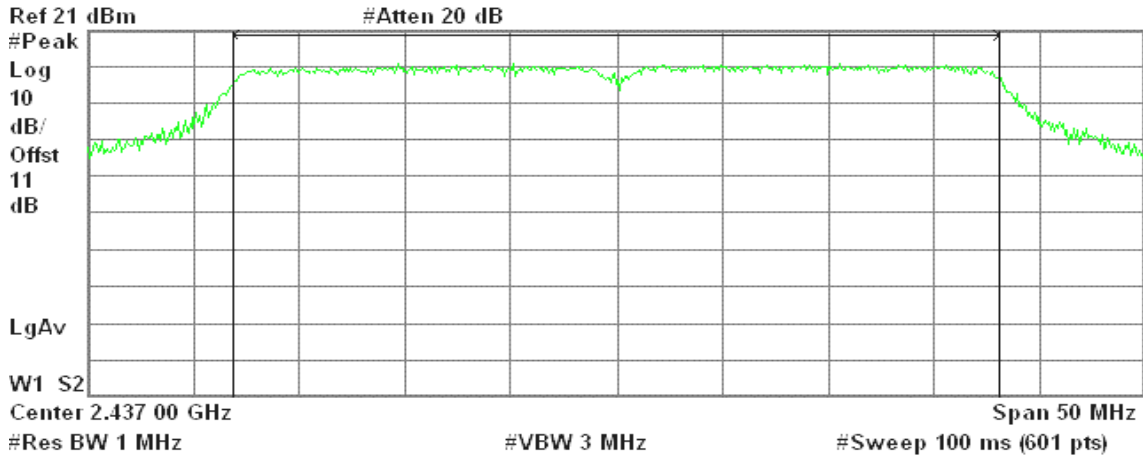
-56.69 dBm/Hz



Peak Power (CH Mid)

Agilent 13:39:44 Dec 12, 2008

R T



Channel Power

25.65 dBm / 36.2000 MHz

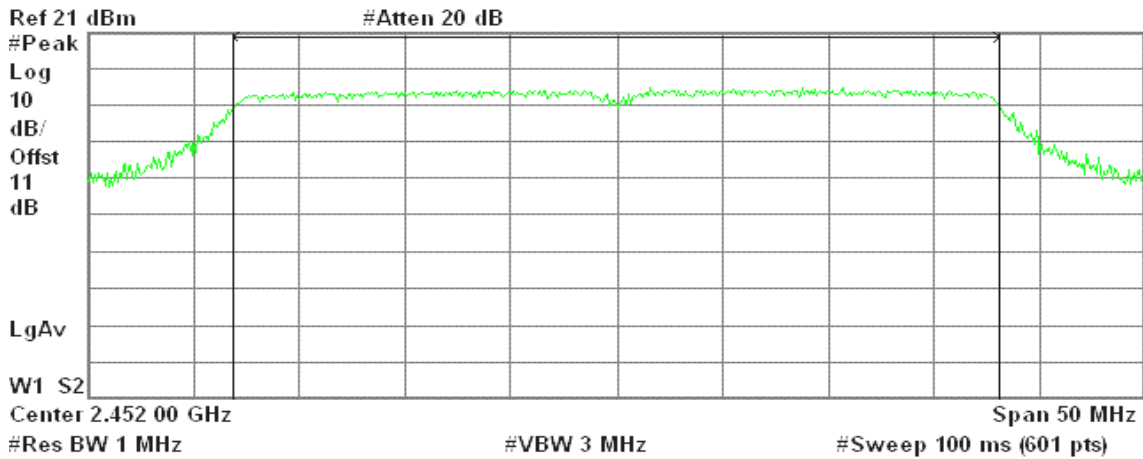
Power Spectral Density

-49.94 dBm/Hz

Peak Power (CH High)

Agilent 13:43:08 Dec 12, 2008

R T



Channel Power

19.47 dBm / 36.2000 MHz

Power Spectral Density

-56.12 dBm/Hz

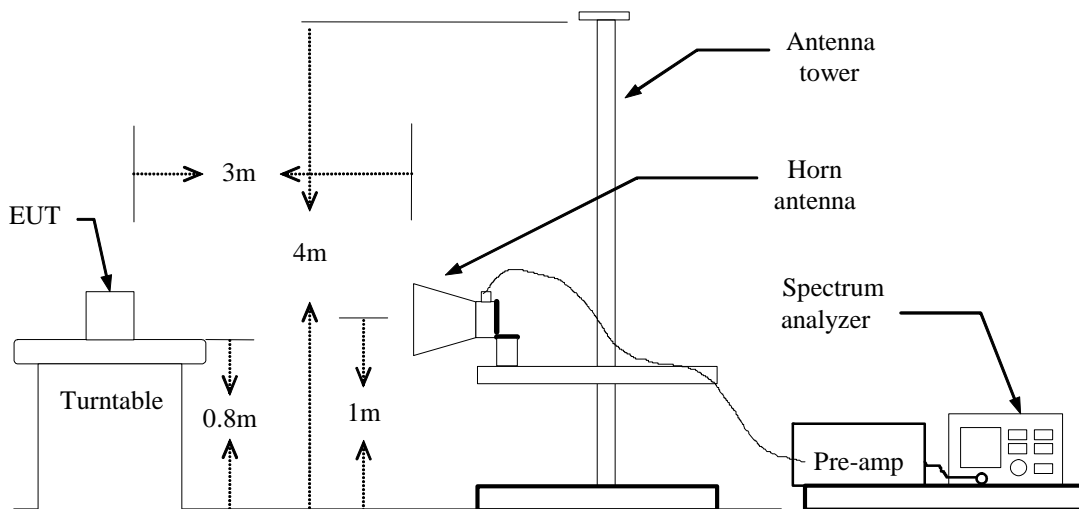
8.4 BAND EDGES MEASUREMENT

LIMIT

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

According to RSS-210 §A8.5, in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the radio frequency power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under section A8.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Tables 2 and 3 is not required. In addition, radiated emissions which fall in the restricted bands of Table 1 must also comply with the radiated emission limits specified in Tables 2 and 3.

Test Configuration





TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
 - (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

TEST RESULTS

Refer to attach spectrum analyzer data chart.



PIFA Antenna / Full Length Board:

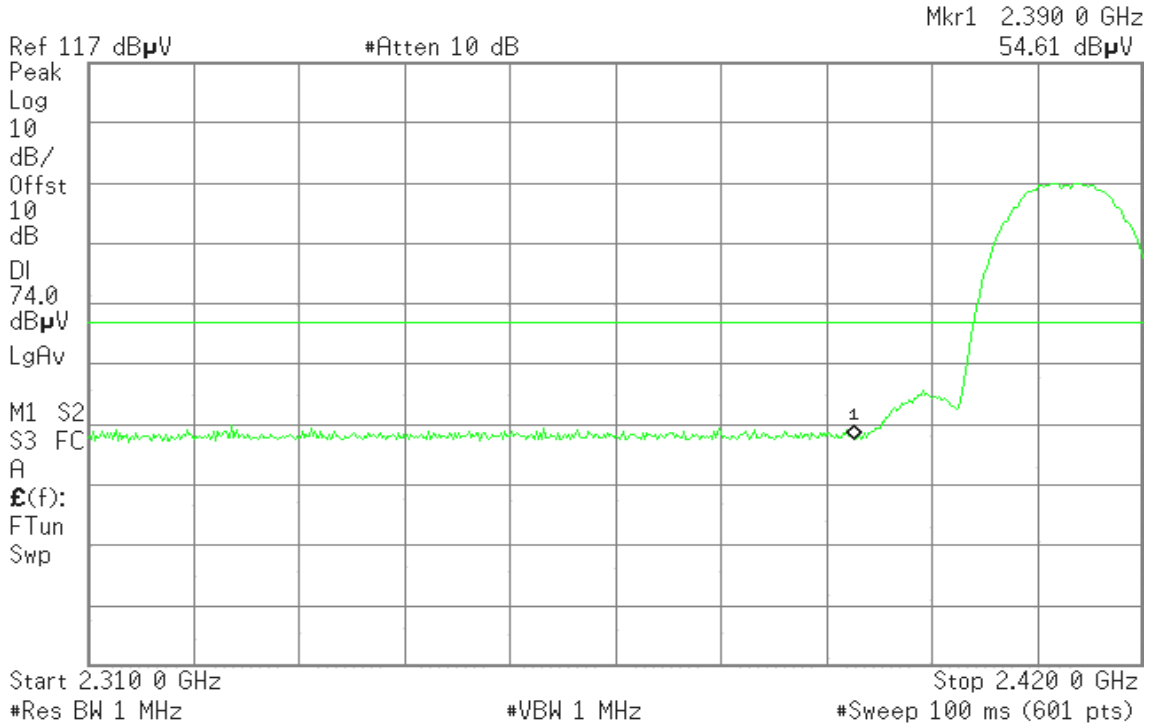
Band Edges (IEEE 802.11b mode / CH Low)

Detector mode: Peak

Polarity: Vertical

Agilent 13:22:49 Nov 13, 2008

R T



Detector mode: Average

Polarity: Vertical

Agilent 13:23:11 Nov 13, 2008

R T





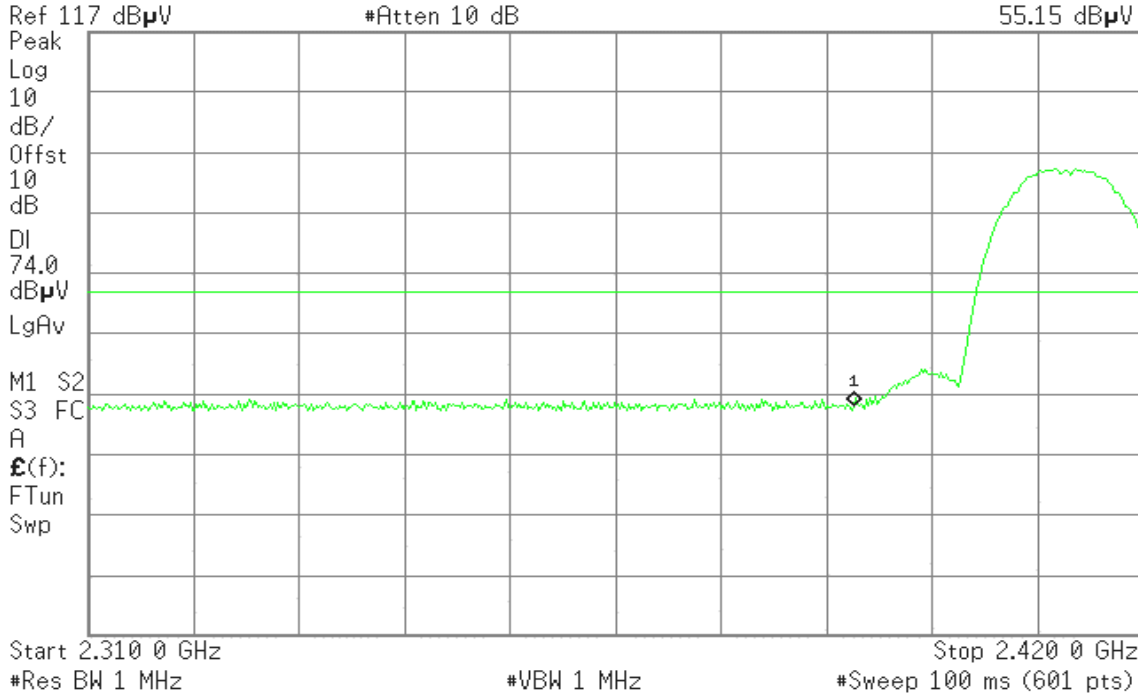
Detector mode: Peak

Polarity: Horizontal

Agilent 13:25:18 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
55.15 dBµV



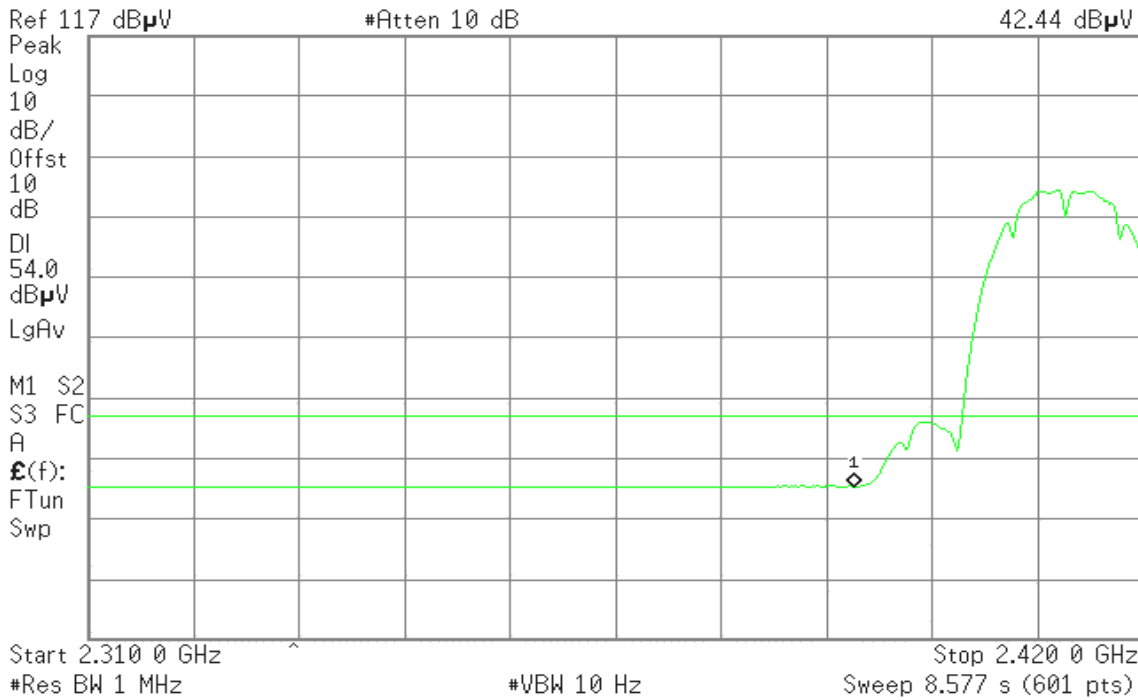
Detector mode: Average

Polarity: Horizontal

Agilent 13:25:35 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
42.44 dBµV





Band Edges (IEEE 802.11b mode / CH High)

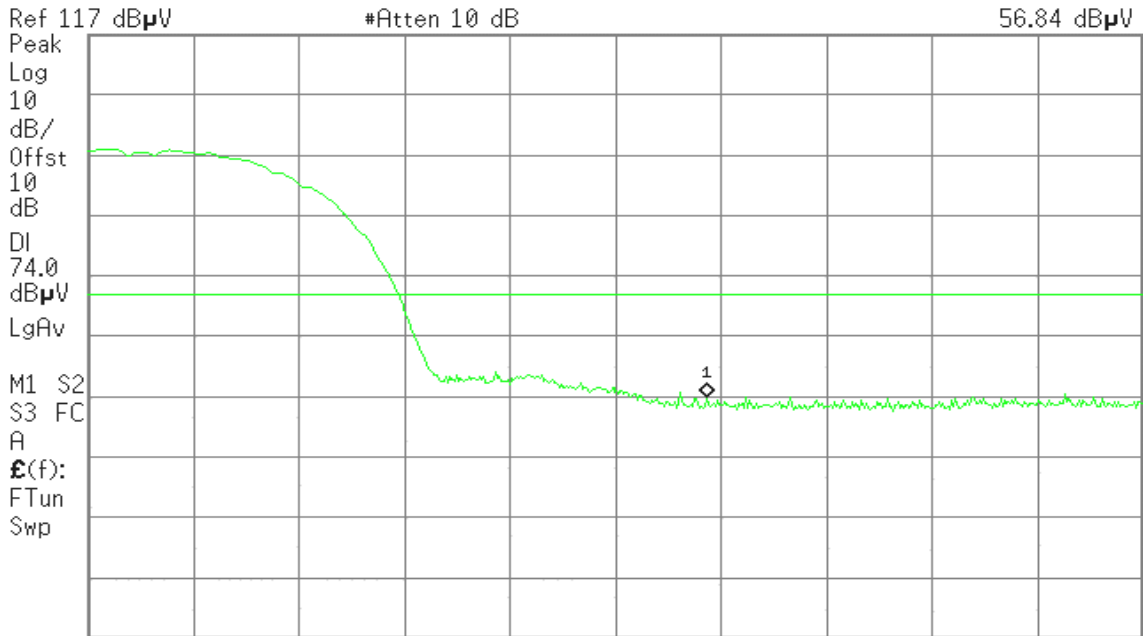
Detector mode: Peak

Polarity: Vertical

Agilent 13:34:34 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
56.84 dB μ V



Start 2.460 00 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.500 00 GHz #Sweep 100 ms (601 pts)

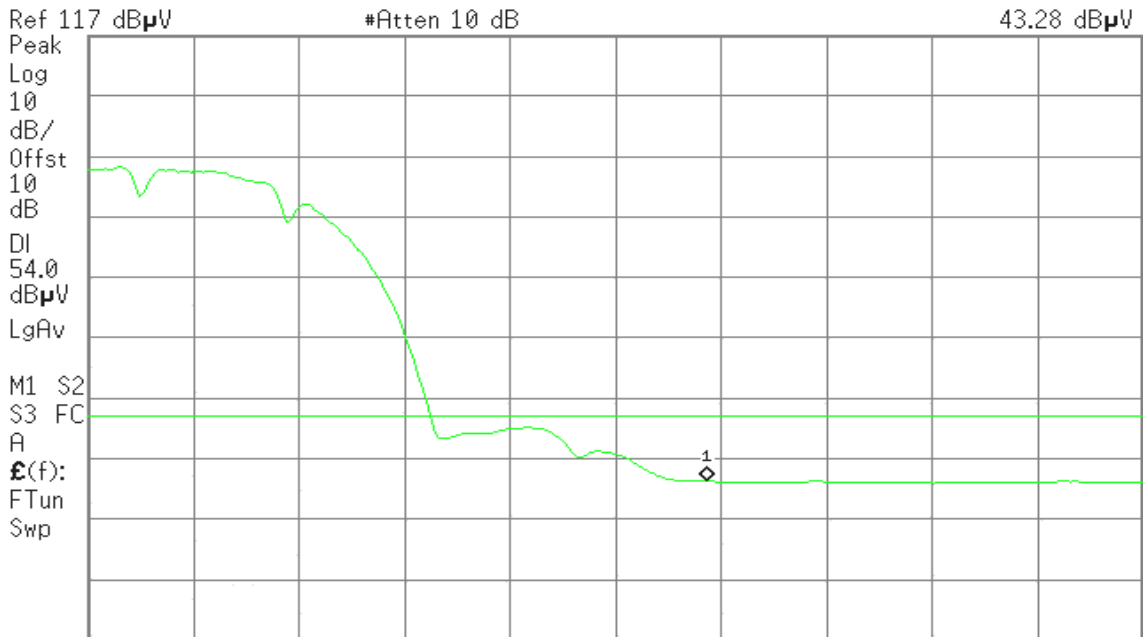
Detector mode: Average

Polarity: Vertical

Agilent 13:34:47 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
43.28 dB μ V



Start 2.460 00 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.500 00 GHz Sweep 3.119 s (601 pts)



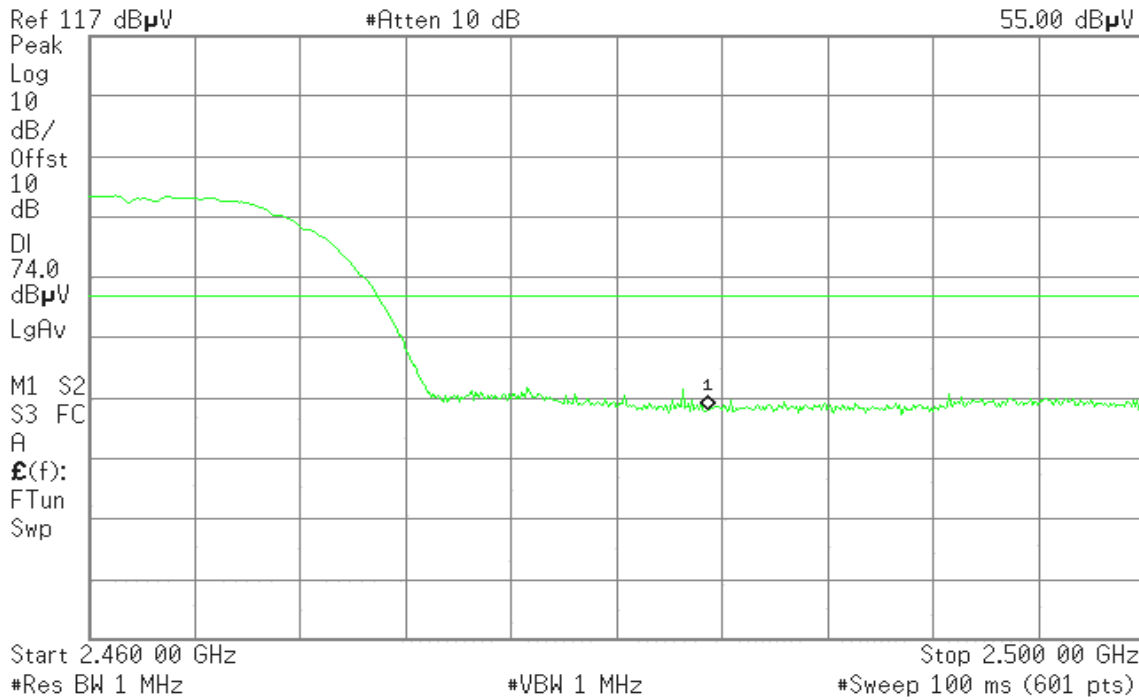
Detector mode: Peak

Polarity: Horizontal

Agilent 13:36:32 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
55.00 dBμV



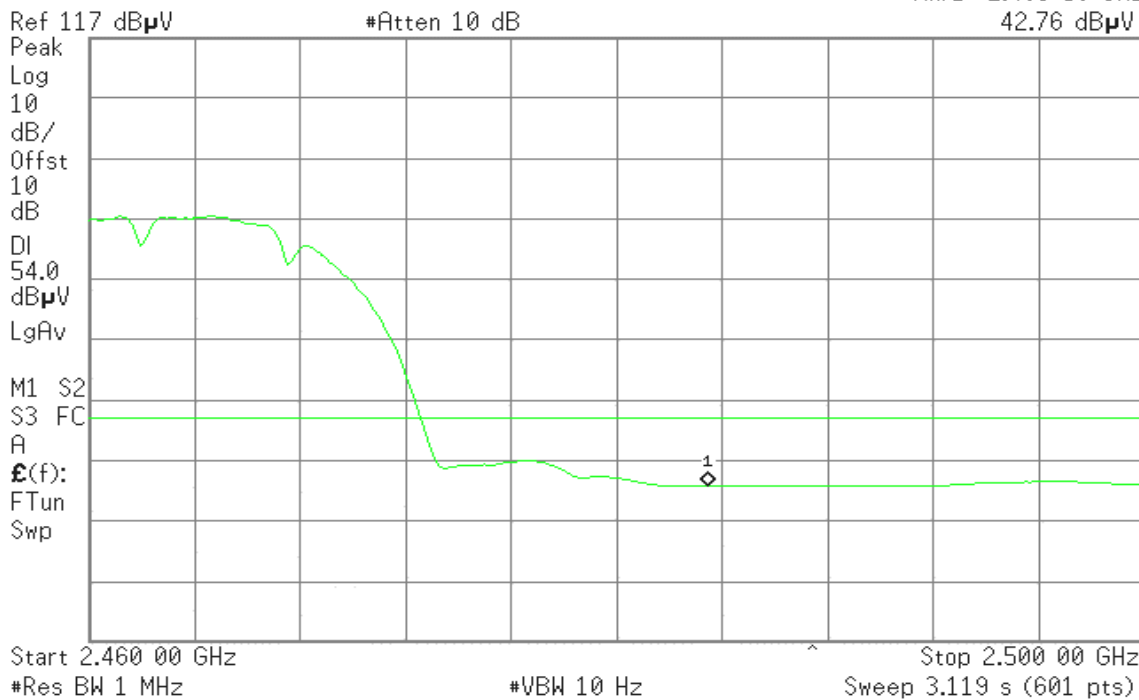
Detector mode: Average

Polarity: Horizontal

Agilent 13:36:44 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
42.76 dBμV





Band Edges (IEEE 802.11g mode / CH Low)

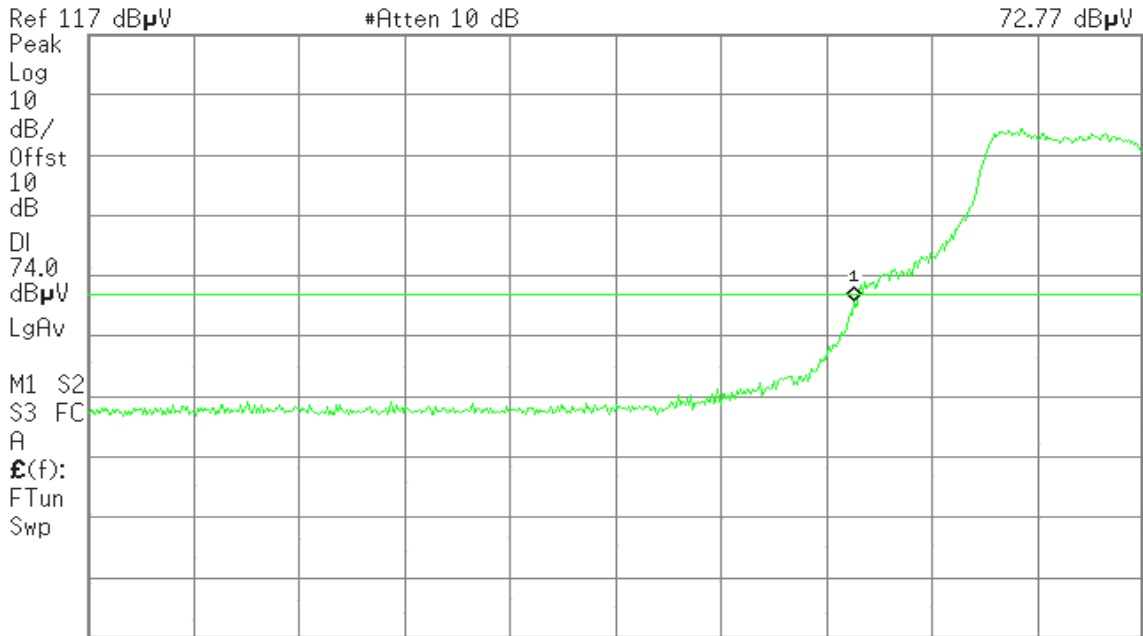
Detector mode: Peak

Polarity: Vertical

Agilent 13:56:27 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
72.77 dBμV



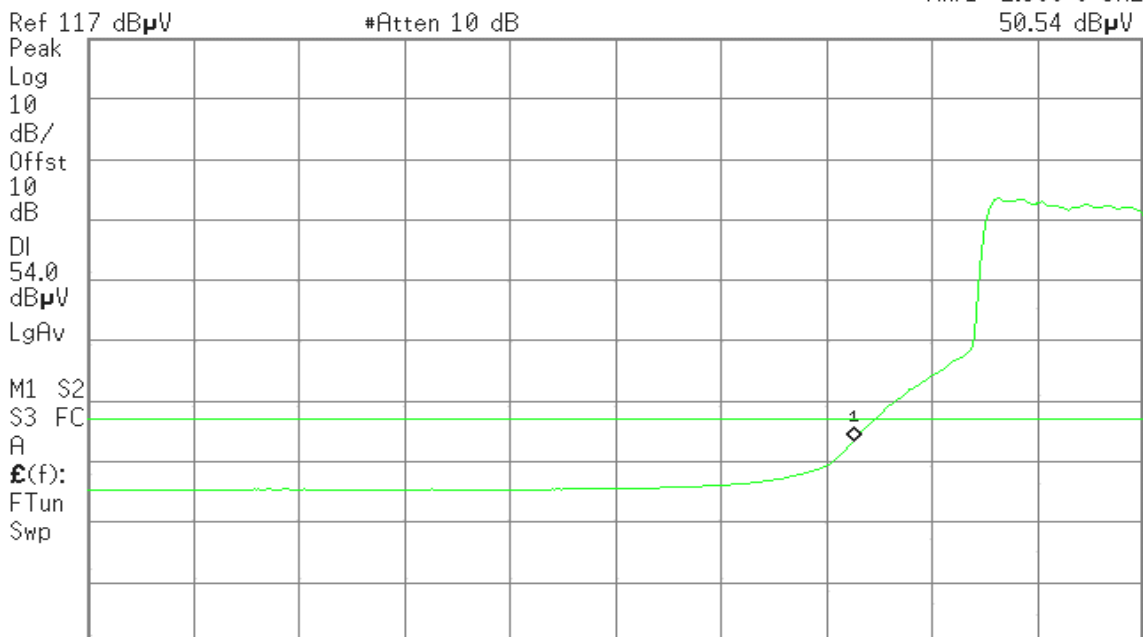
Detector mode: Average

Polarity: Vertical

Agilent 13:57:00 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
50.54 dBμV





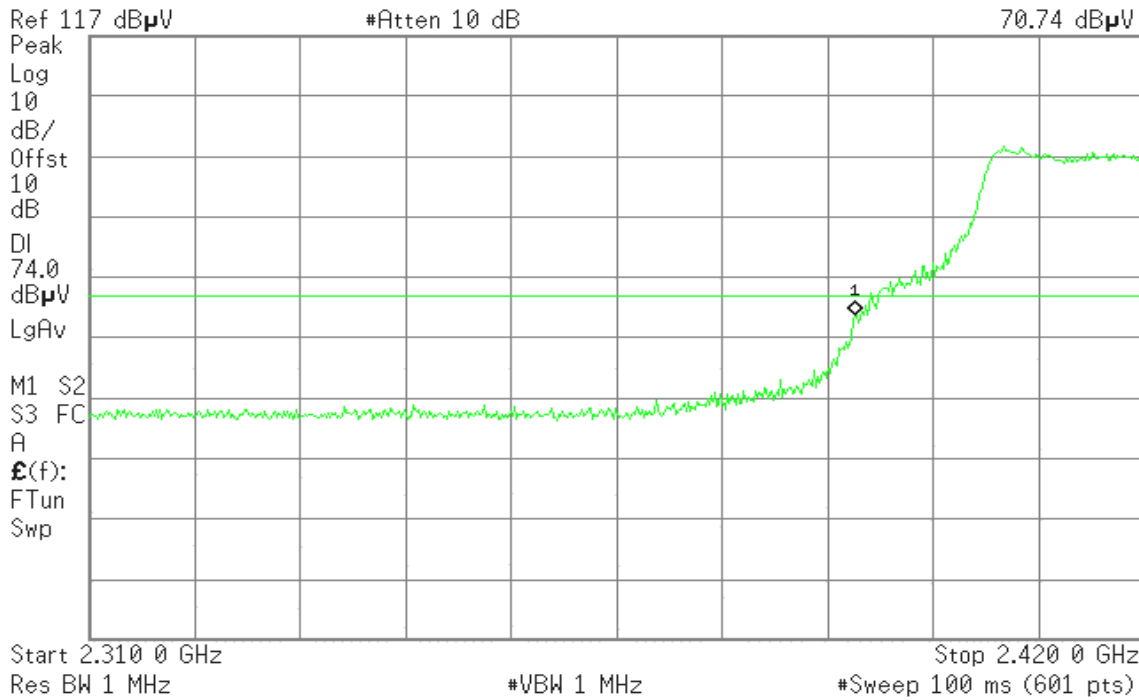
Detector mode: Peak

Polarity: Horizontal

Agilent 13:58:31 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
70.74 dBμV



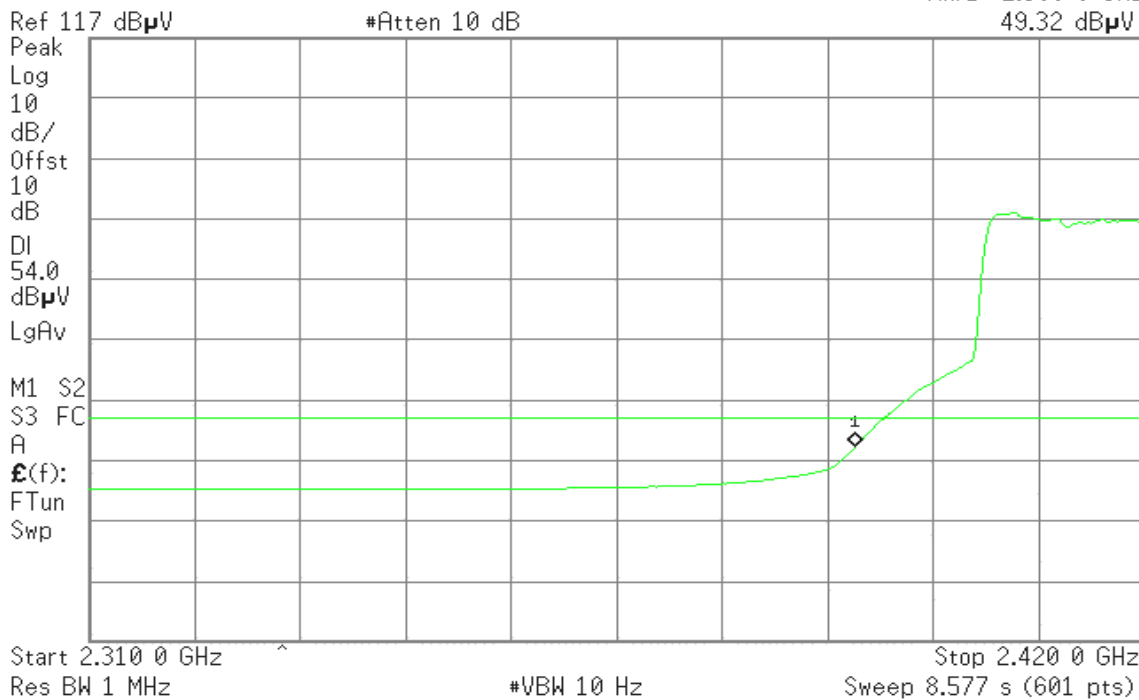
Detector mode: Average

Polarity: Horizontal

Agilent 13:58:51 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
49.32 dBμV





Band Edges (IEEE 802.11g mode / CH High)

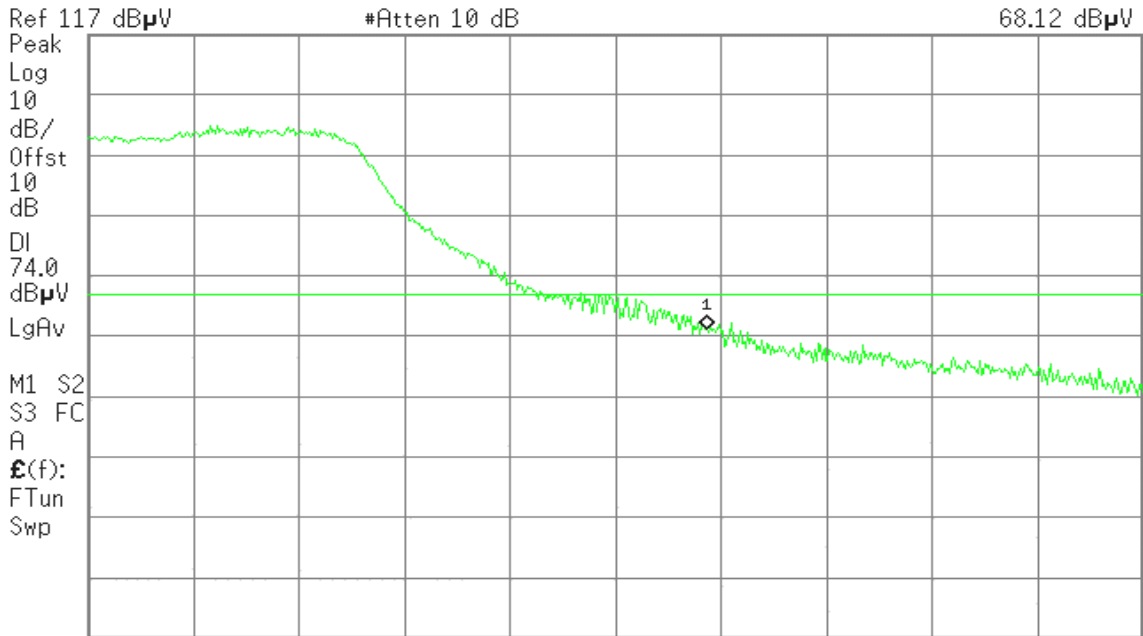
Detector mode: Peak

Polarity: Vertical

Agilent 14:07:37 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
68.12 dB μ V



Start 2.460 00 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.500 00 GHz #Sweep 100 ms (601 pts)

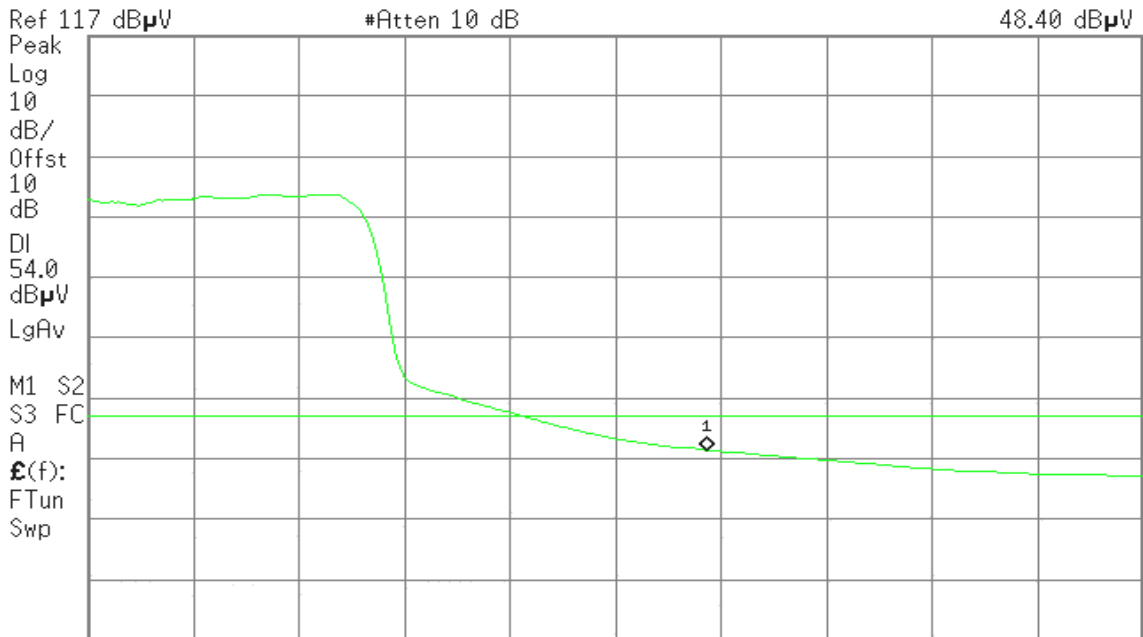
Detector mode: Average

Polarity: Vertical

Agilent 14:07:54 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
48.40 dB μ V



Start 2.460 00 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.500 00 GHz Sweep 3.119 s (601 pts)



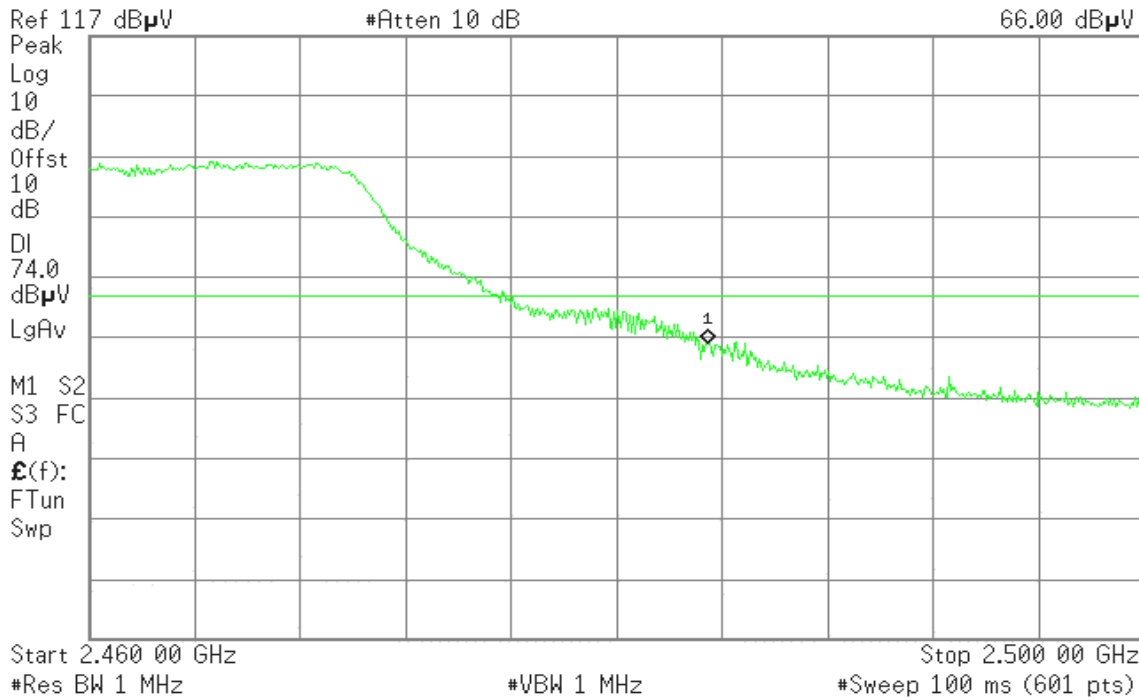
Detector mode: Peak

Polarity: Horizontal

Agilent 14:09:19 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
66.00 dBμV



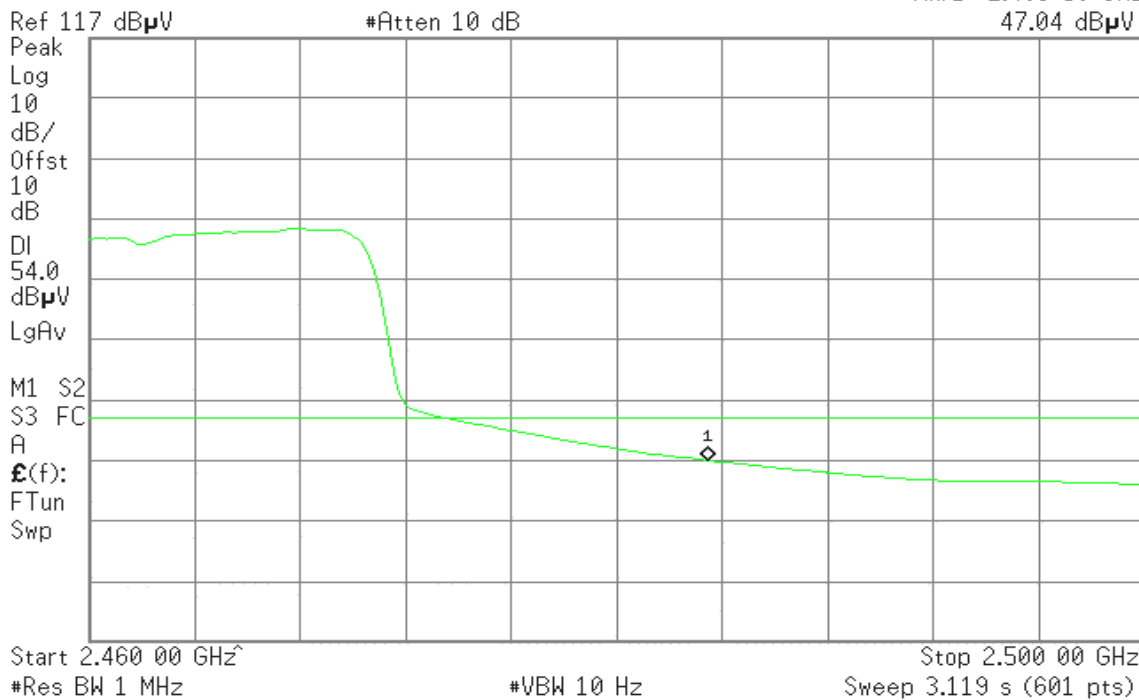
Detector mode: Average

Polarity: Horizontal

Agilent 14:09:31 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
47.04 dBμV





Band Edges (IEEE 802.11n HT20 mode / CH Low)

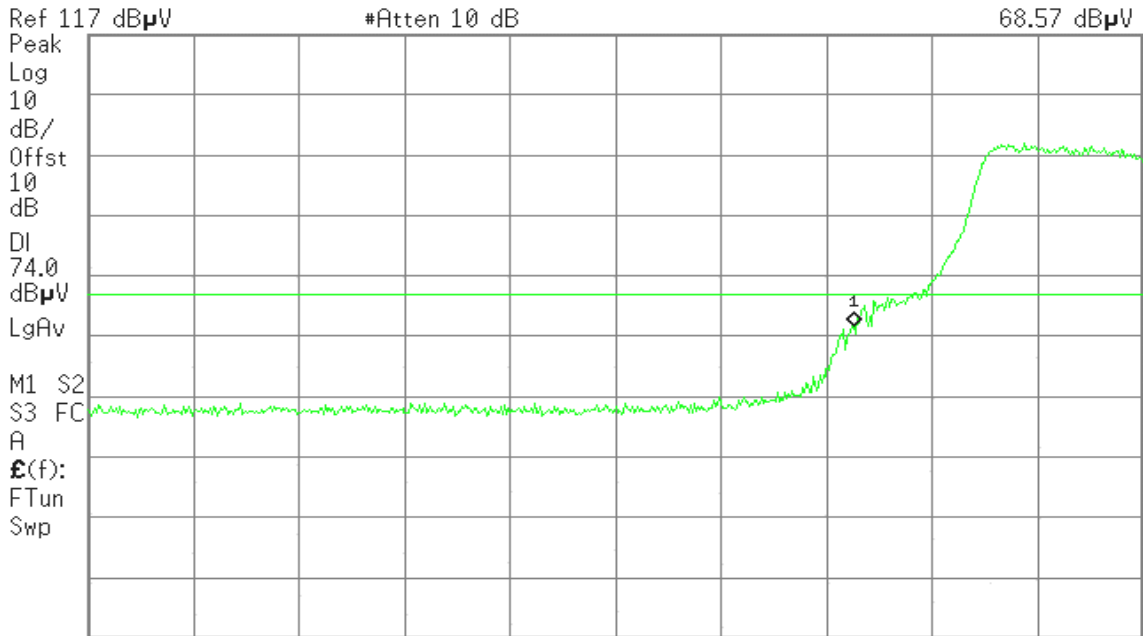
Detector mode: Peak

Polarity: Vertical

Agilent 14:47:47 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
68.57 dB μ V



Start 2.310 0 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.420 0 GHz #Sweep 100 ms (601 pts)

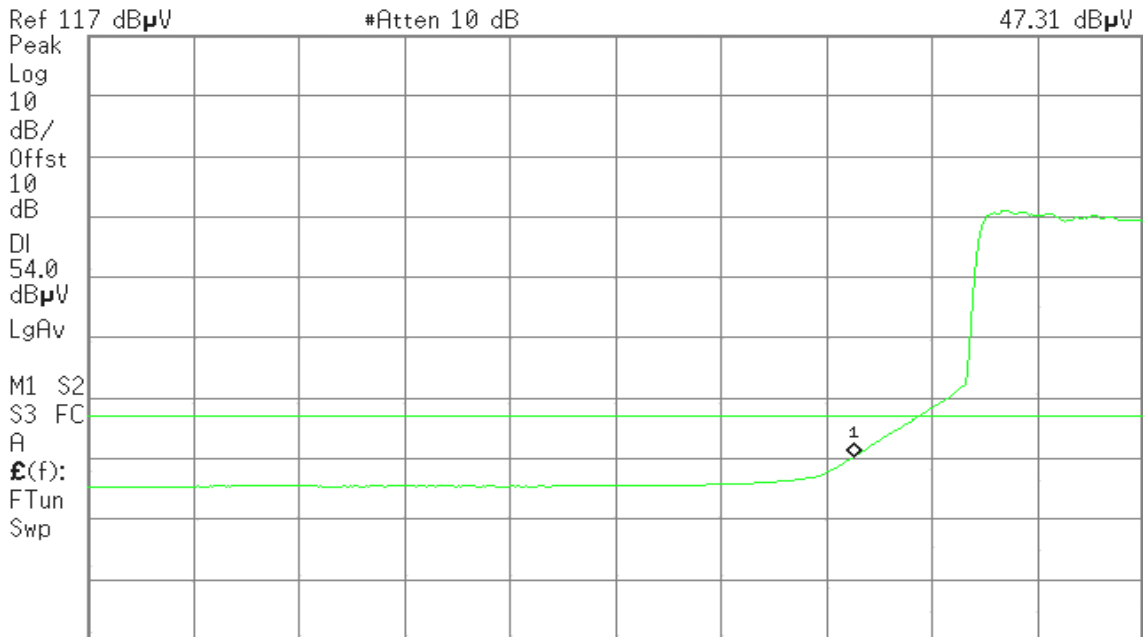
Detector mode: Average

Polarity: Vertical

Agilent 14:48:12 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
47.31 dB μ V



Start 2.310 0 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.420 0 GHz Sweep 8.577 s (601 pts)



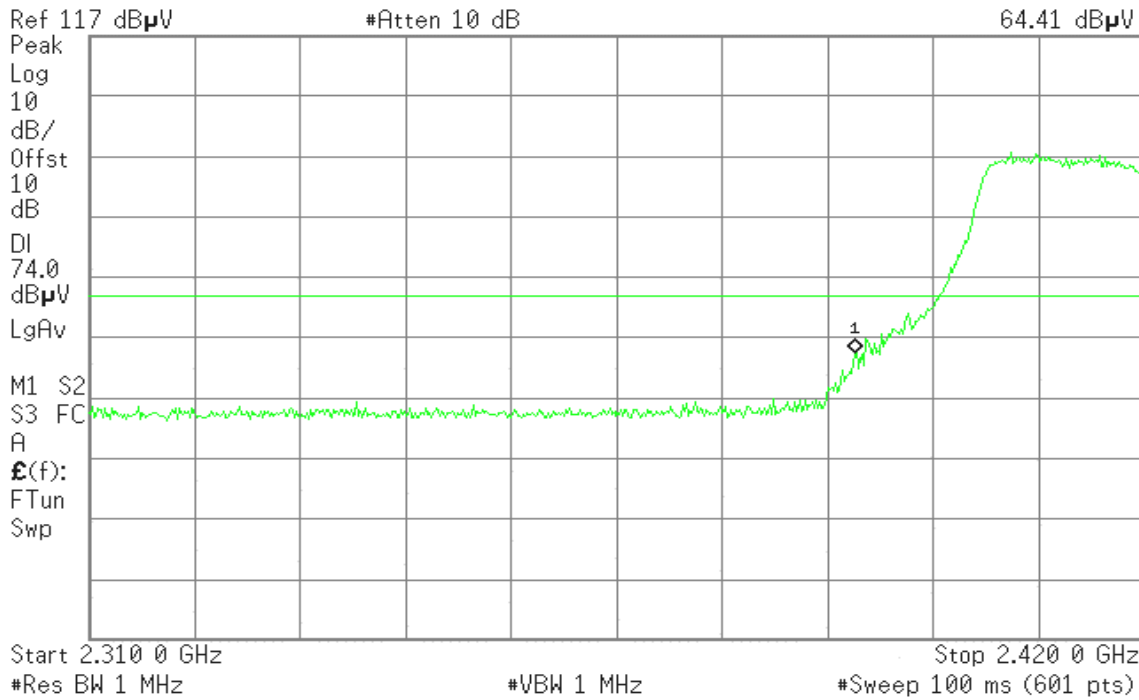
Detector mode: Peak

Polarity: Horizontal

Agilent 14:50:38 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
64.41 dB μ V



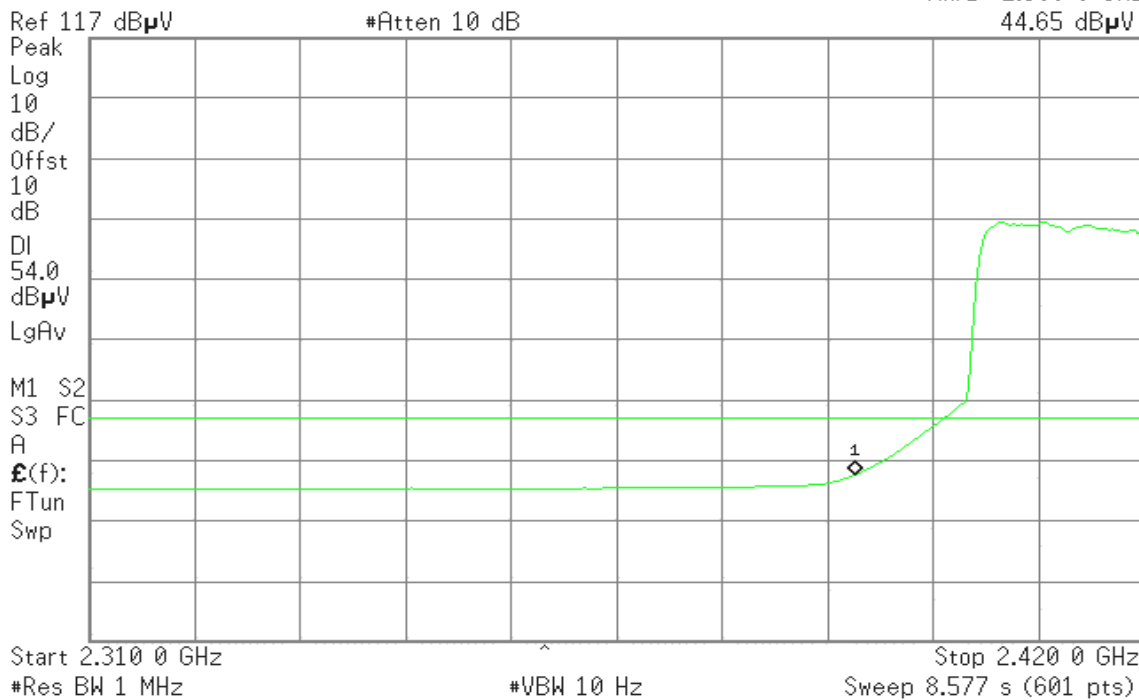
Detector mode: Average

Polarity: Horizontal

Agilent 14:50:59 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
44.65 dB μ V





Band Edges (IEEE 802.11n HT20 mode / CH High)

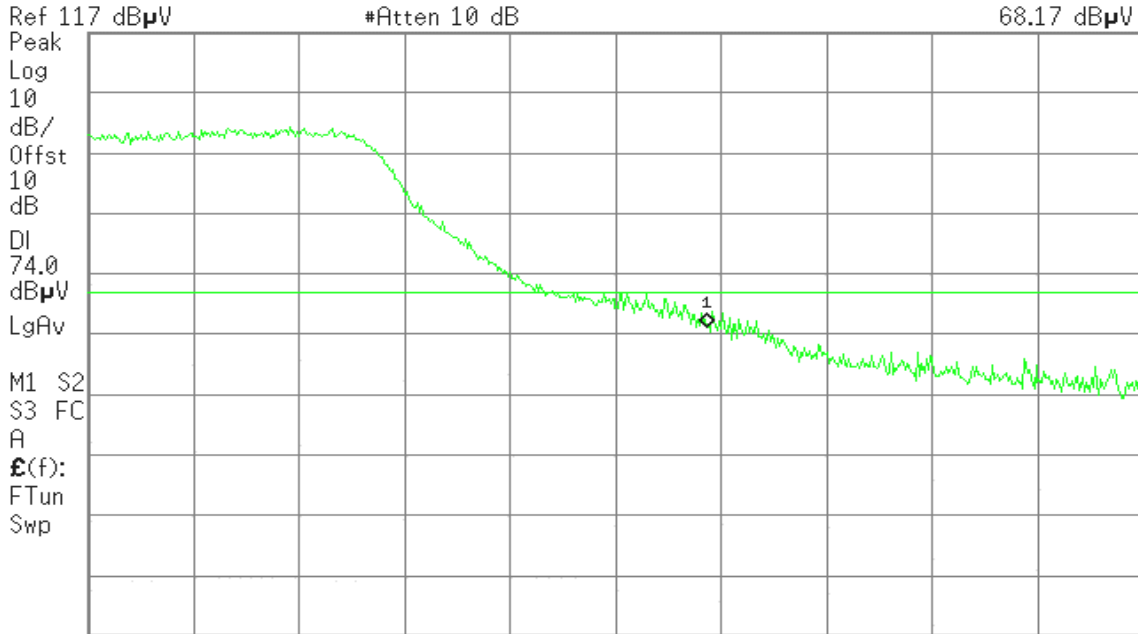
Detector mode: Peak

Polarity: Vertical

Agilent 15:04:41 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
68.17 dBμV



Start 2.460 00 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.500 00 GHz #Sweep 100 ms (601 pts)

Detector mode: Average

Polarity: Vertical

Agilent 15:04:55 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
48.01 dBμV



Start 2.460 00 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.500 00 GHz Sweep 3.119 s (601 pts)



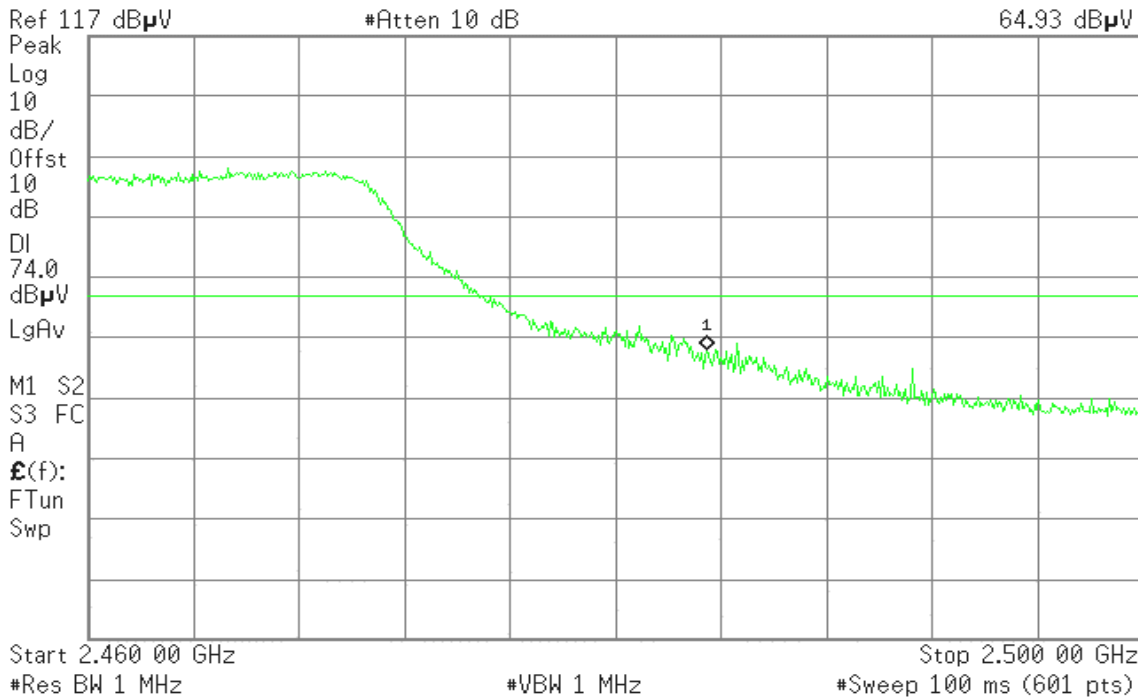
Detector mode: Peak

Polarity: Horizontal

Agilent 15:06:48 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
64.93 dBμV



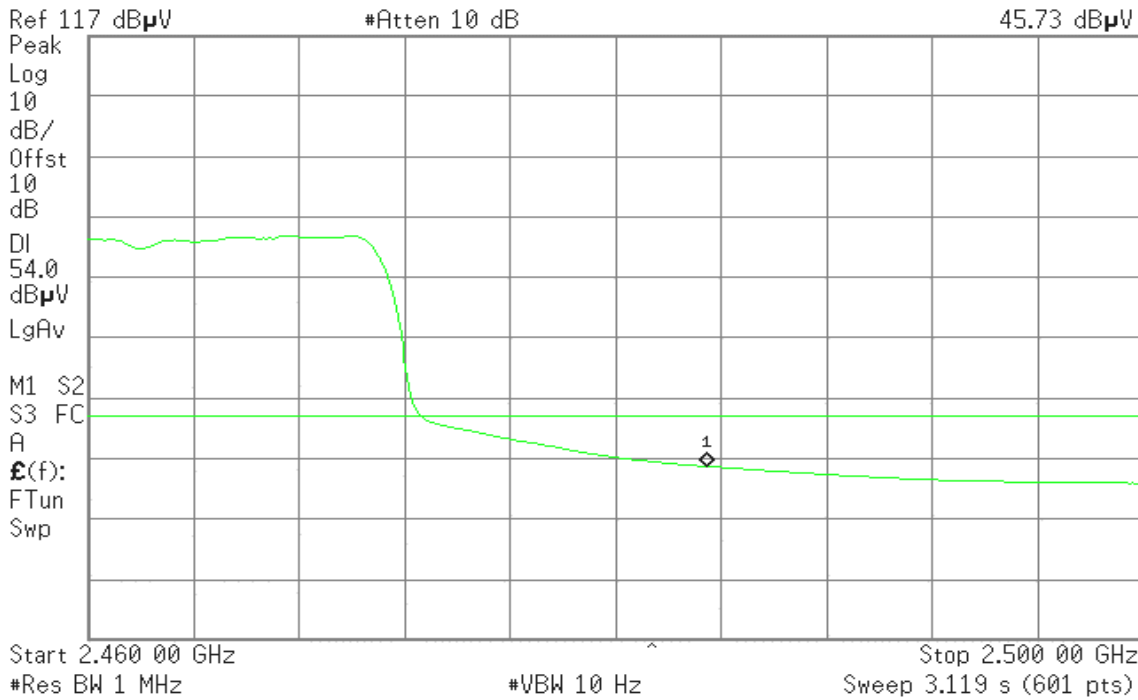
Detector mode: Average

Polarity: Horizontal

Agilent 15:07:03 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
45.73 dBμV





Band Edges (IEEE 802.11n HT40 mode / CH Low)

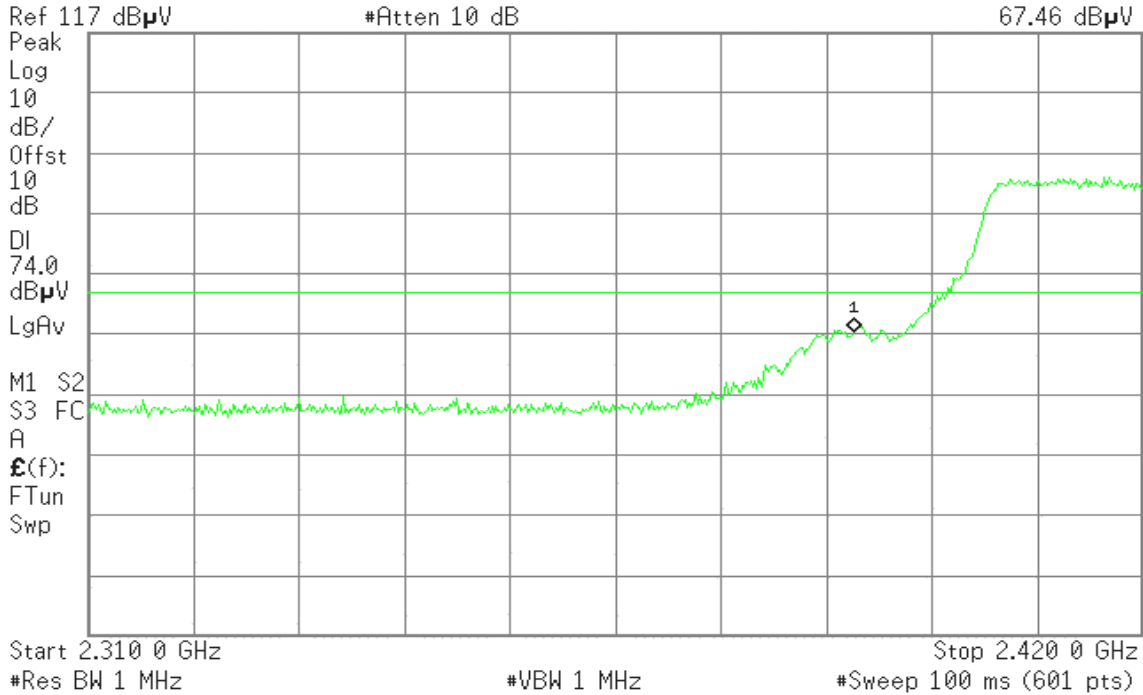
Detector mode: Peak

Polarity: Vertical

Agilent 15:42:22 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
67.46 dB μ V



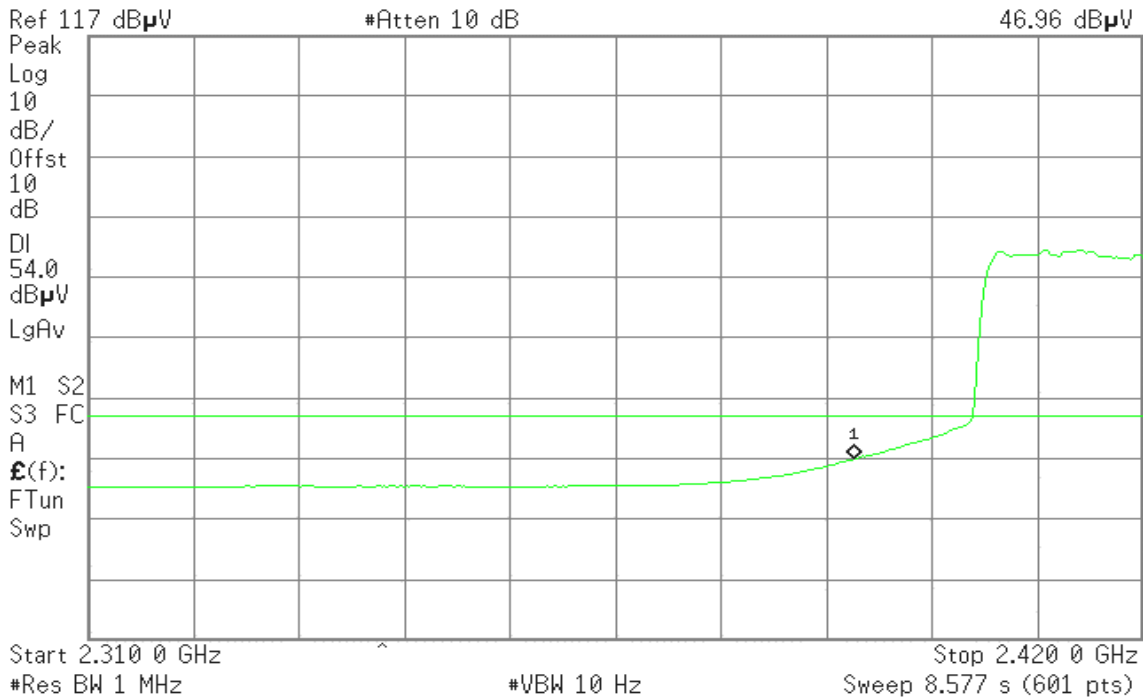
Detector mode: Average

Polarity: Vertical

Agilent 15:42:47 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
46.96 dB μ V





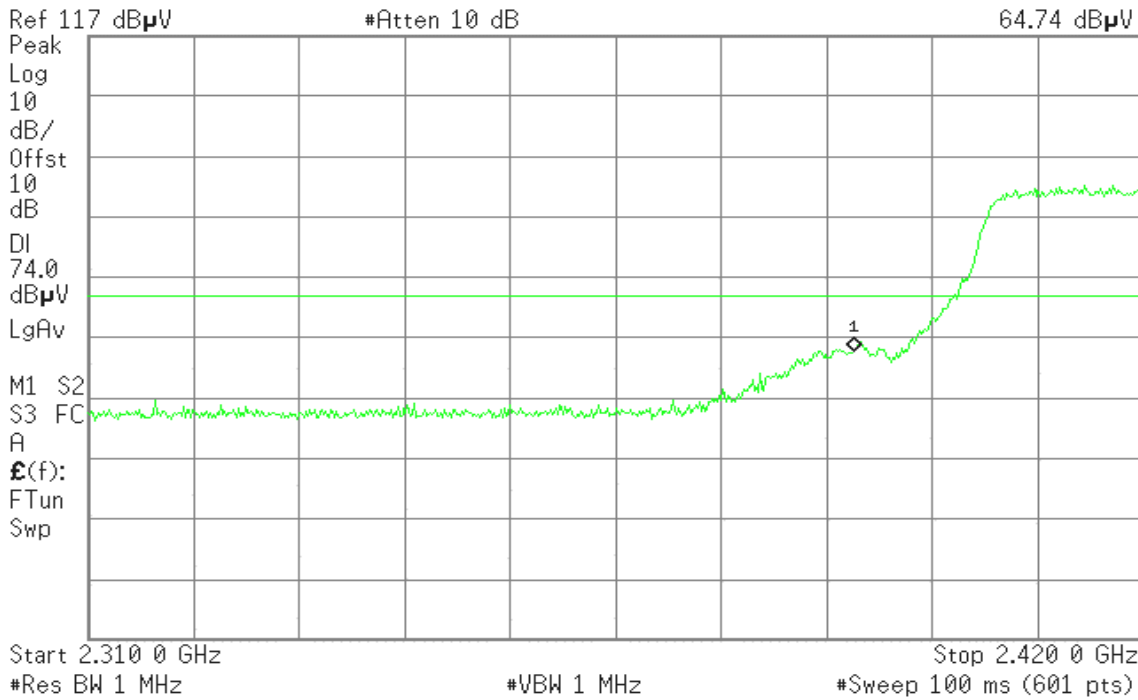
Detector mode: Peak

Polarity: Horizontal

Agilent 15:43:52 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
64.74 dBμV



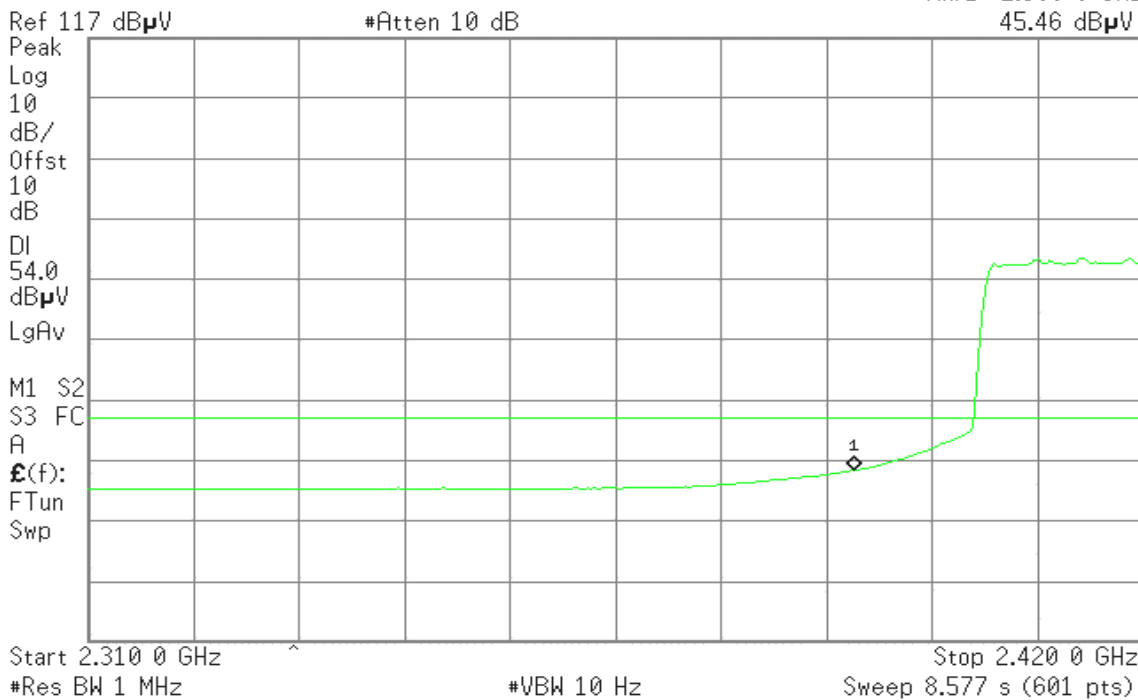
Detector mode: Average

Polarity: Horizontal

Agilent 15:44:09 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
45.46 dBμV





Band Edges (IEEE 802.11n HT40 mode / CH High)

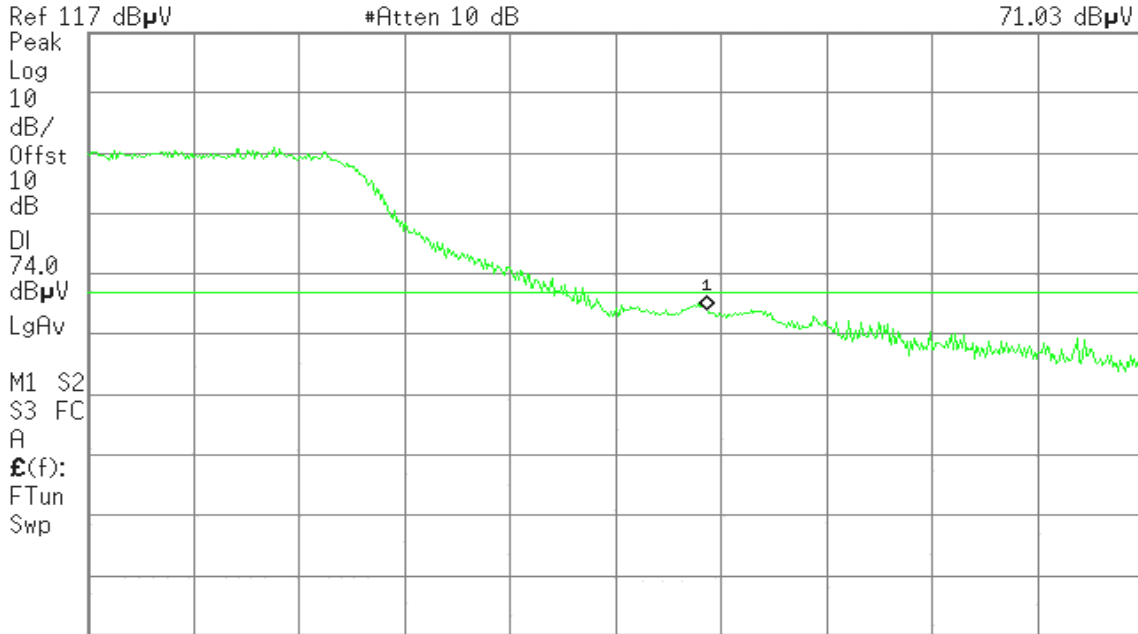
Detector mode: Peak

Polarity: Vertical

Agilent 16:05:24 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
71.03 dB μ V



Start 2.460 00 GHz

#Res BW 1 MHz

#VBW 1 MHz

Stop 2.500 00 GHz

#Sweep 100 ms (601 pts)

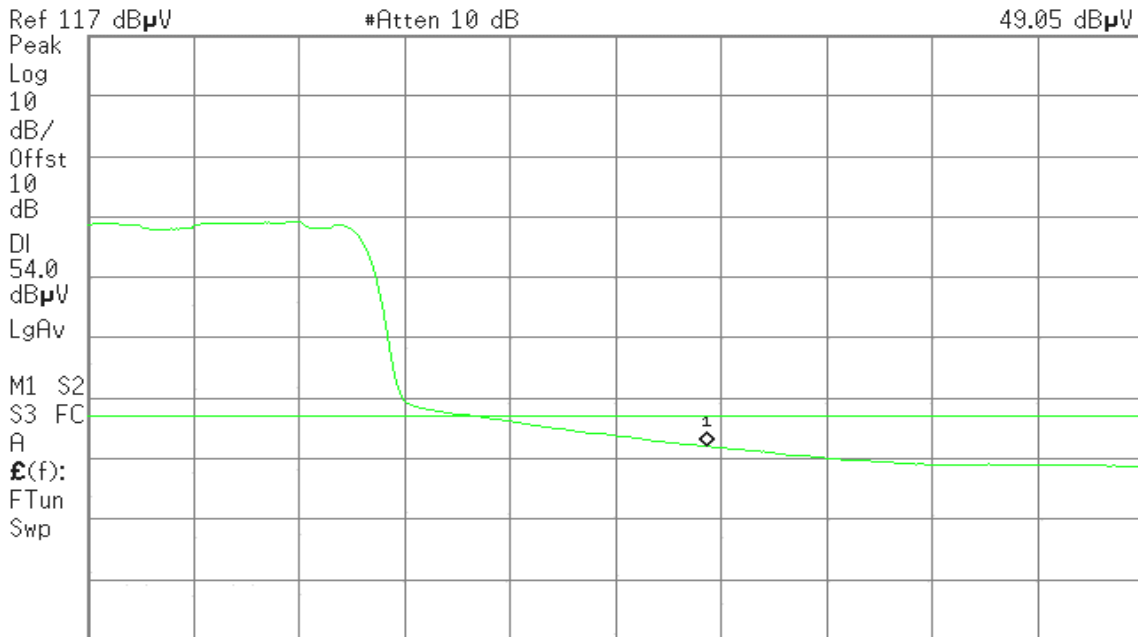
Detector mode: Average

Polarity: Vertical

Agilent 16:05:49 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
49.05 dB μ V



Start 2.460 00 GHz

#Res BW 1 MHz

#VBW 10 Hz

Stop 2.500 00 GHz

Sweep 3.119 s (601 pts)



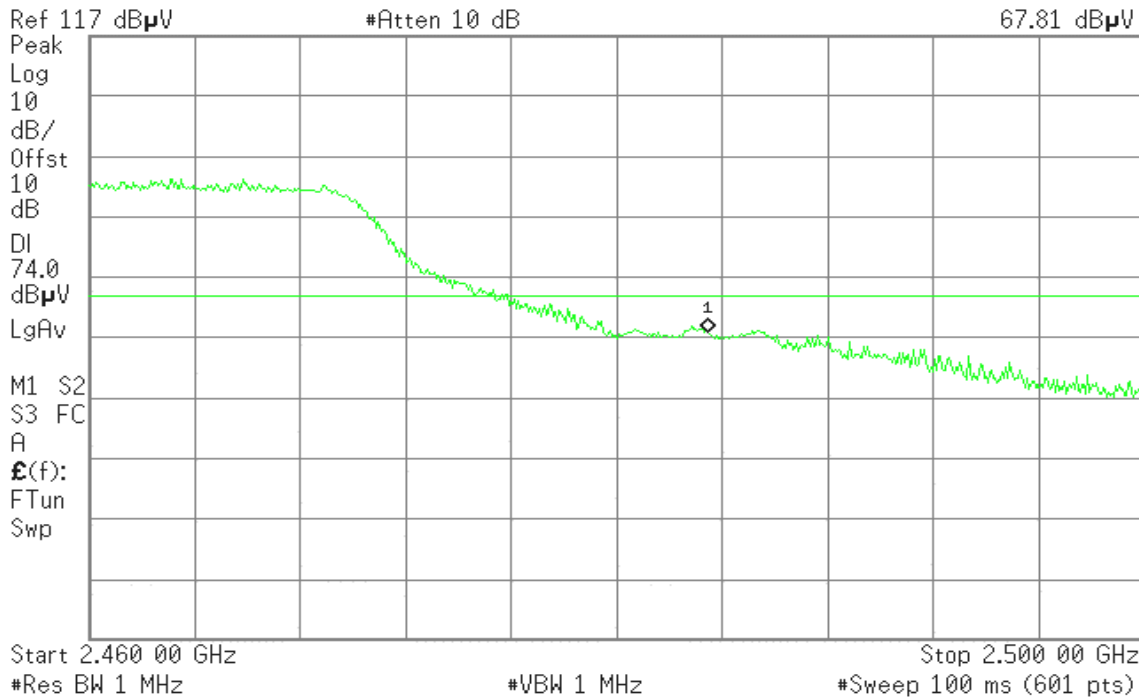
Detector mode: Peak

Polarity: Horizontal

Agilent 16:07:22 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
67.81 dB μ V



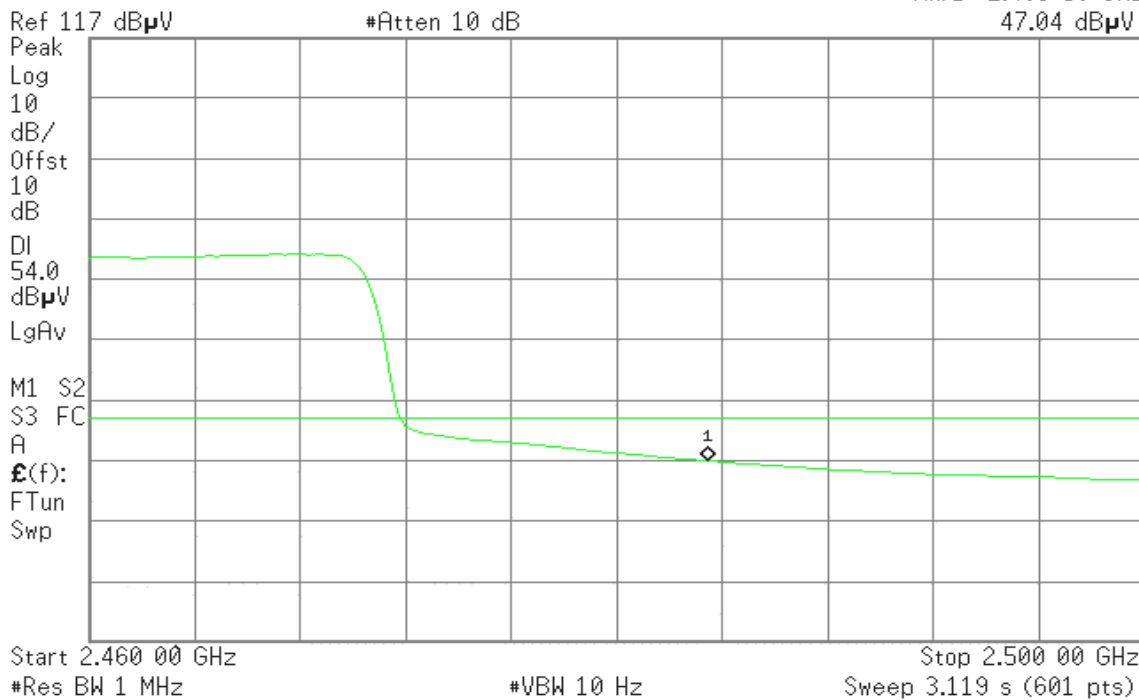
Detector mode: Average

Polarity: Horizontal

Agilent 16:08:09 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
47.04 dB μ V





PIFA Antenna / Half Length Board:

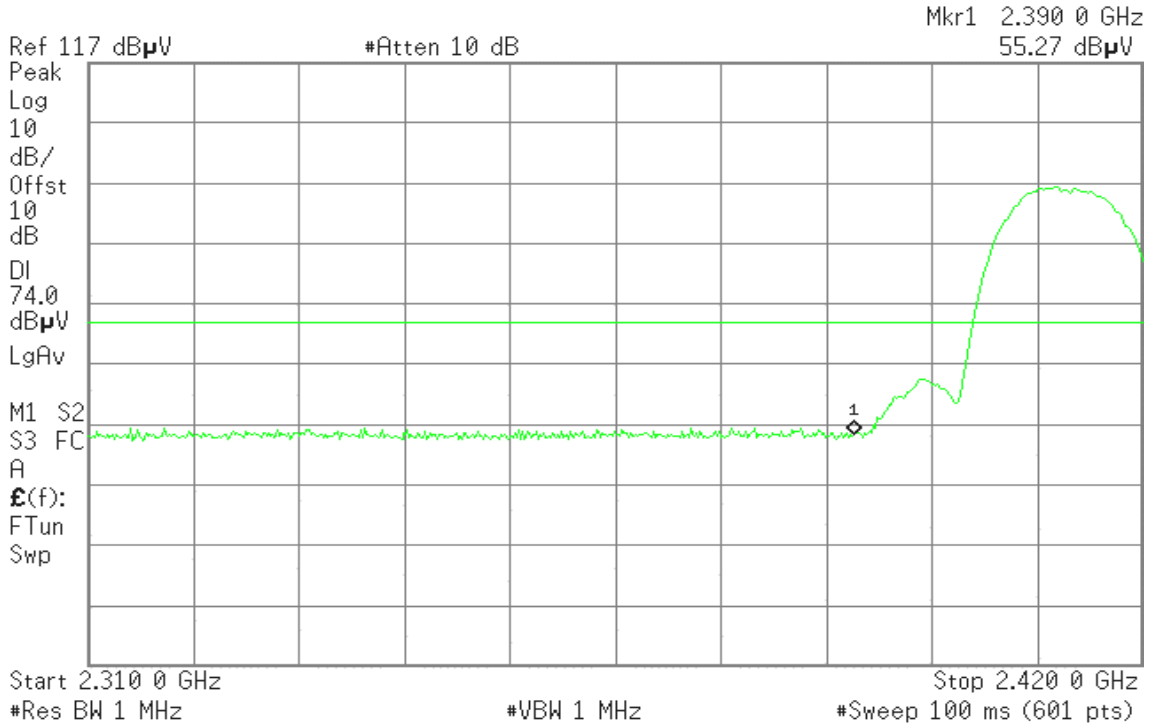
Band Edges (IEEE 802.11b mode / CH Low)

Detector mode: Peak

Polarity: Vertical

Agilent 18:03:40 Nov 13, 2008

R T



Detector mode: Average

Polarity: Vertical

Agilent 18:03:57 Nov 13, 2008

R T





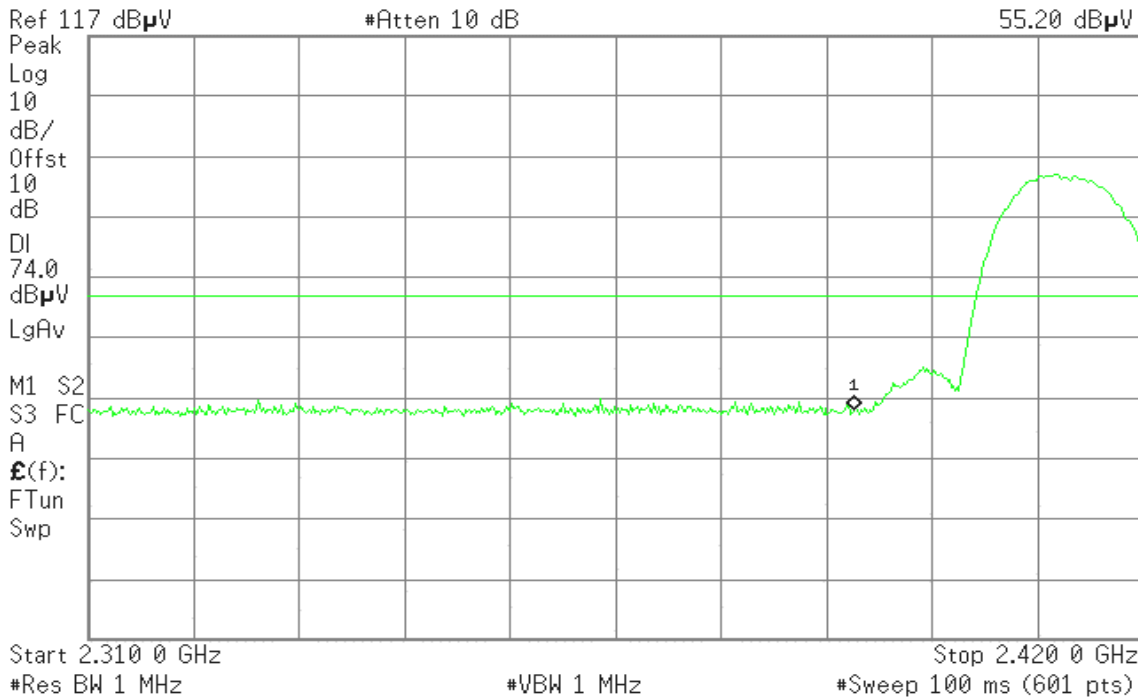
Detector mode: Peak

Polarity: Horizontal

Agilent 18:05:30 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
55.20 dBμV



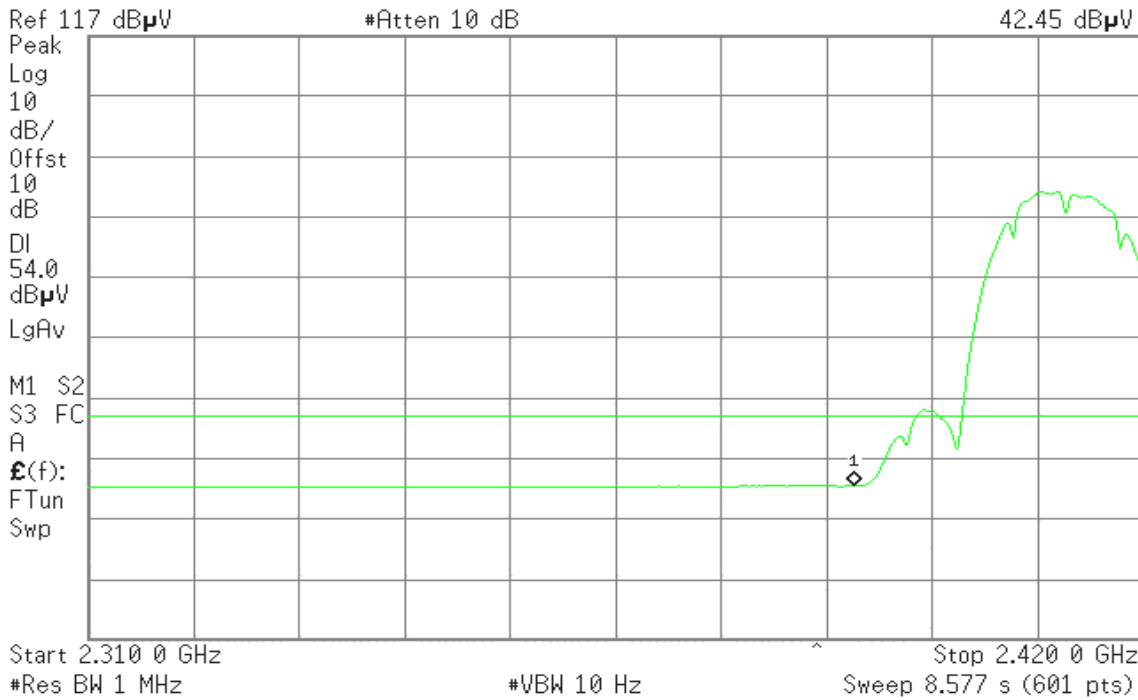
Detector mode: Average

Polarity: Horizontal

Agilent 18:05:53 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
42.45 dBμV





Band Edges (IEEE 802.11b mode / CH High)

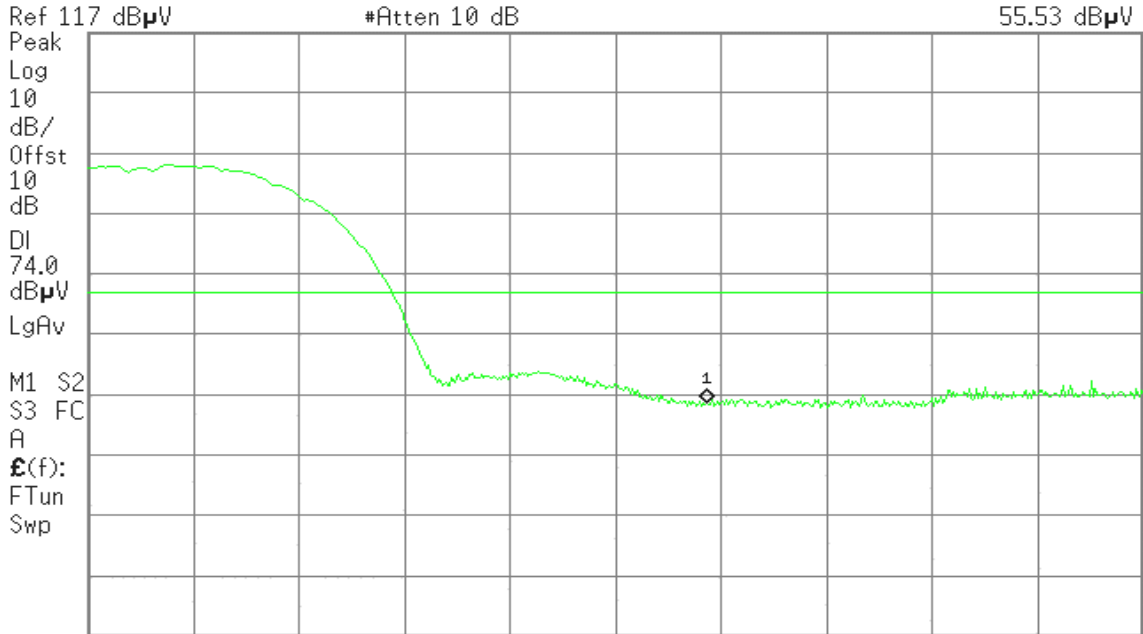
Detector mode: Peak

Polarity: Vertical

Agilent 17:50:57 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
55.53 dB μ V



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 1 MHz

#Sweep 100 ms (601 pts)

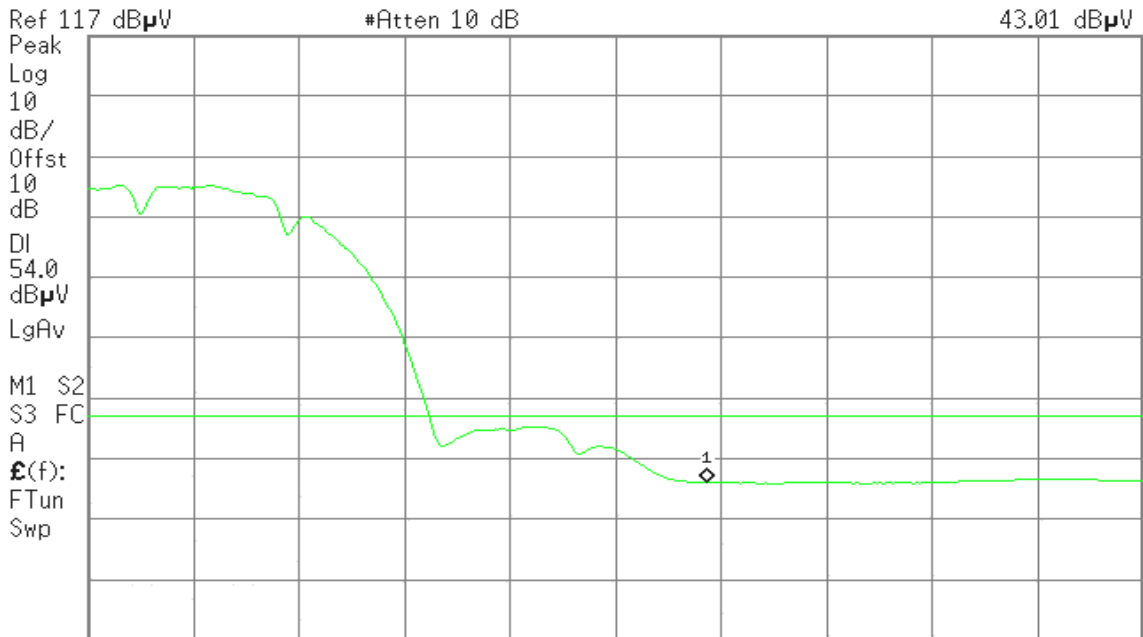
Detector mode: Average

Polarity: Vertical

Agilent 17:51:10 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
43.01 dB μ V



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 10 Hz

Sweep 3.119 s (601 pts)



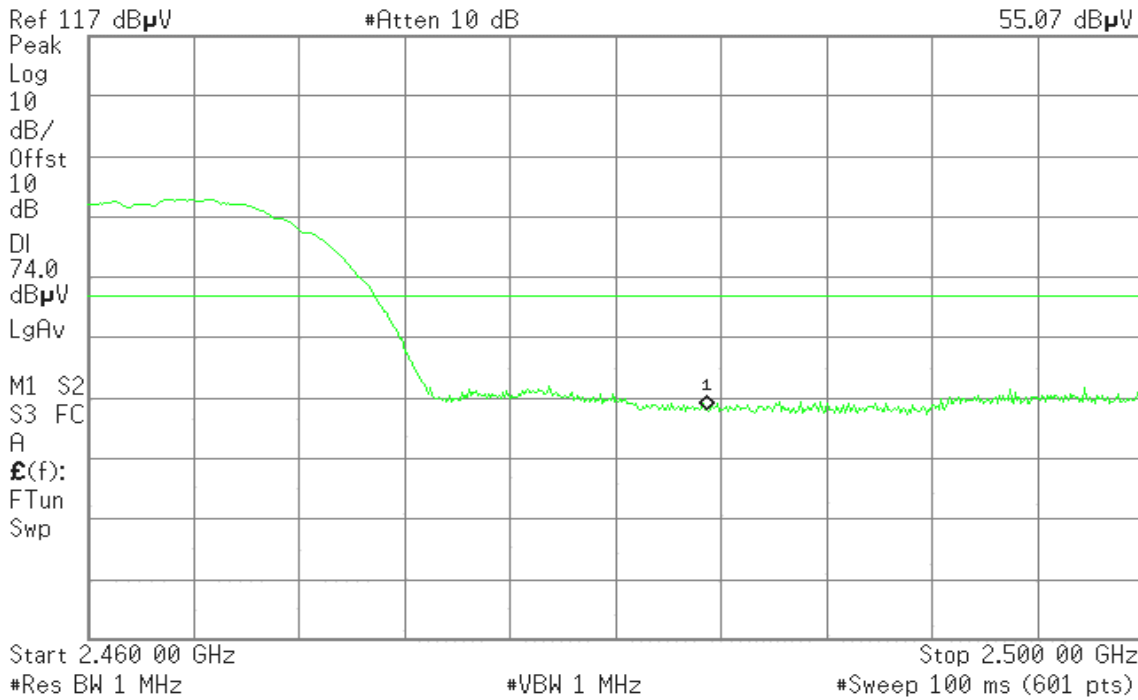
Detector mode: Peak

Polarity: Horizontal

Agilent 17:52:24 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
55.07 dBμV



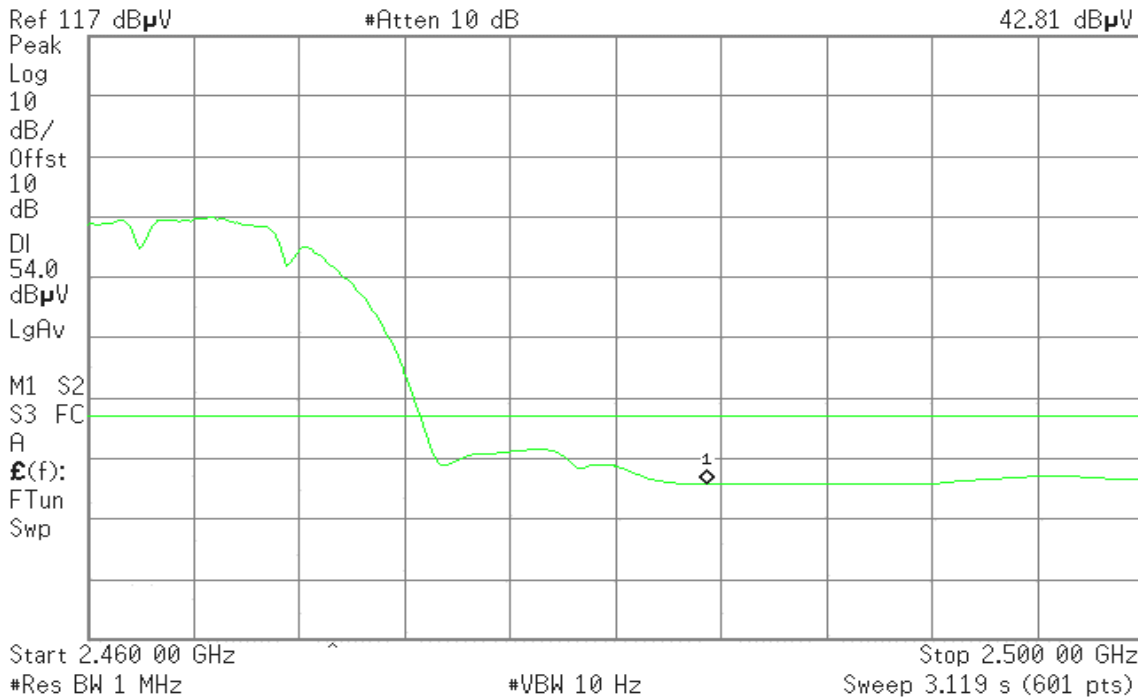
Detector mode: Average

Polarity: Horizontal

Agilent 17:52:37 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
42.81 dBμV





Band Edges (IEEE 802.11g mode / CH Low)

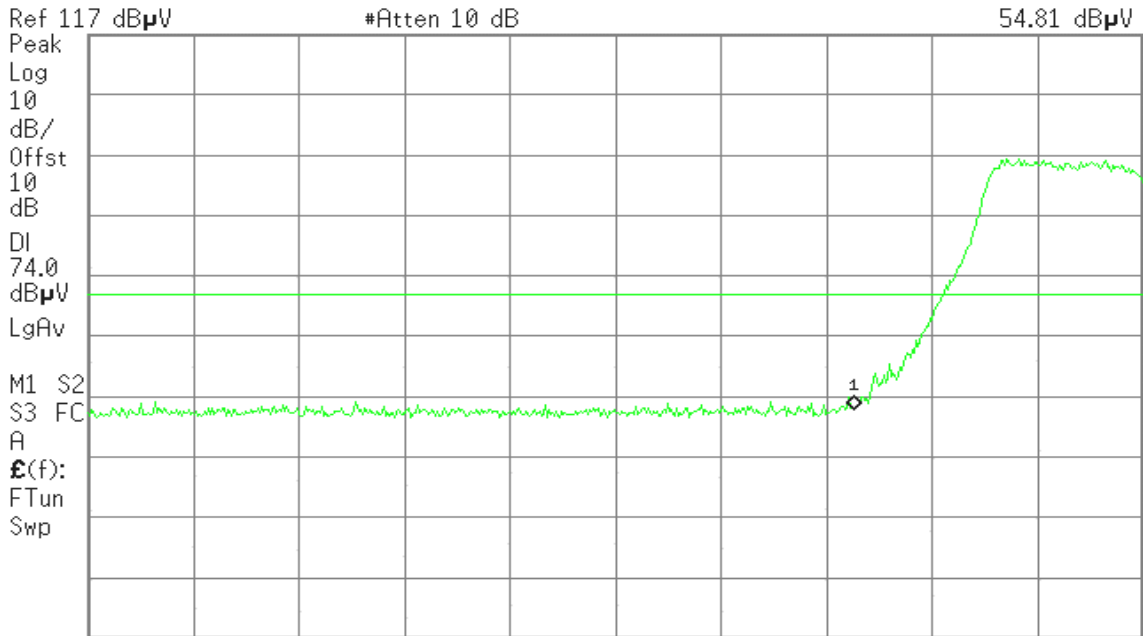
Detector mode: Peak

Polarity: Vertical

Agilent 18:46:16 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
54.81 dB μ V



Start 2.310 0 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.420 0 GHz #Sweep 100 ms (601 pts)

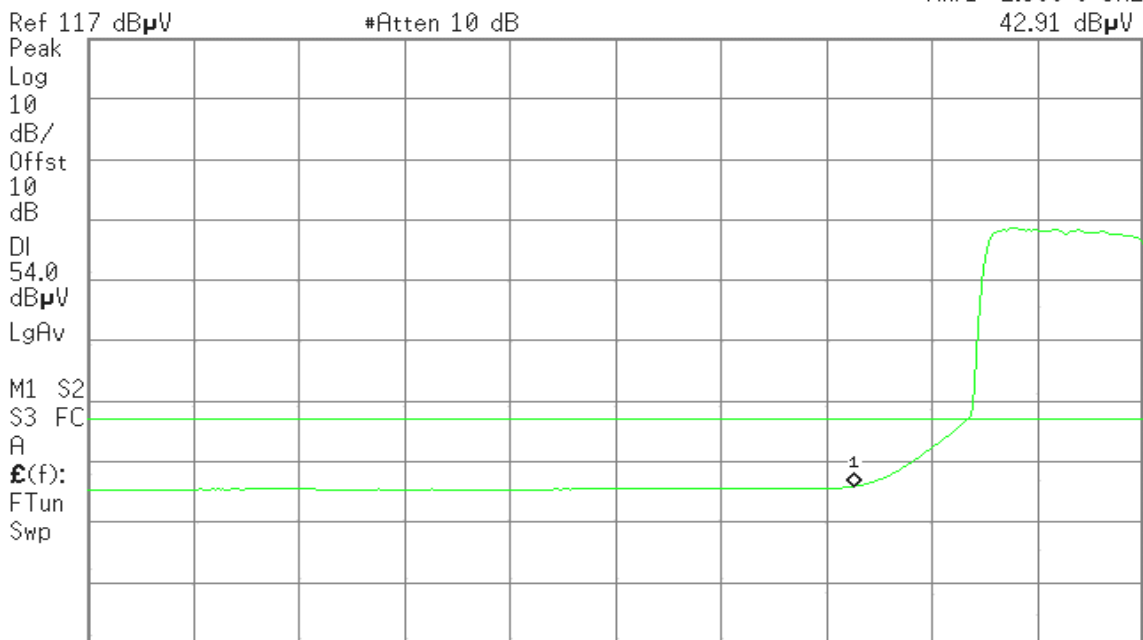
Detector mode: Average

Polarity: Vertical

Agilent 18:46:33 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
42.91 dB μ V



Start 2.310 0 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.420 0 GHz Sweep 8.577 s (601 pts)



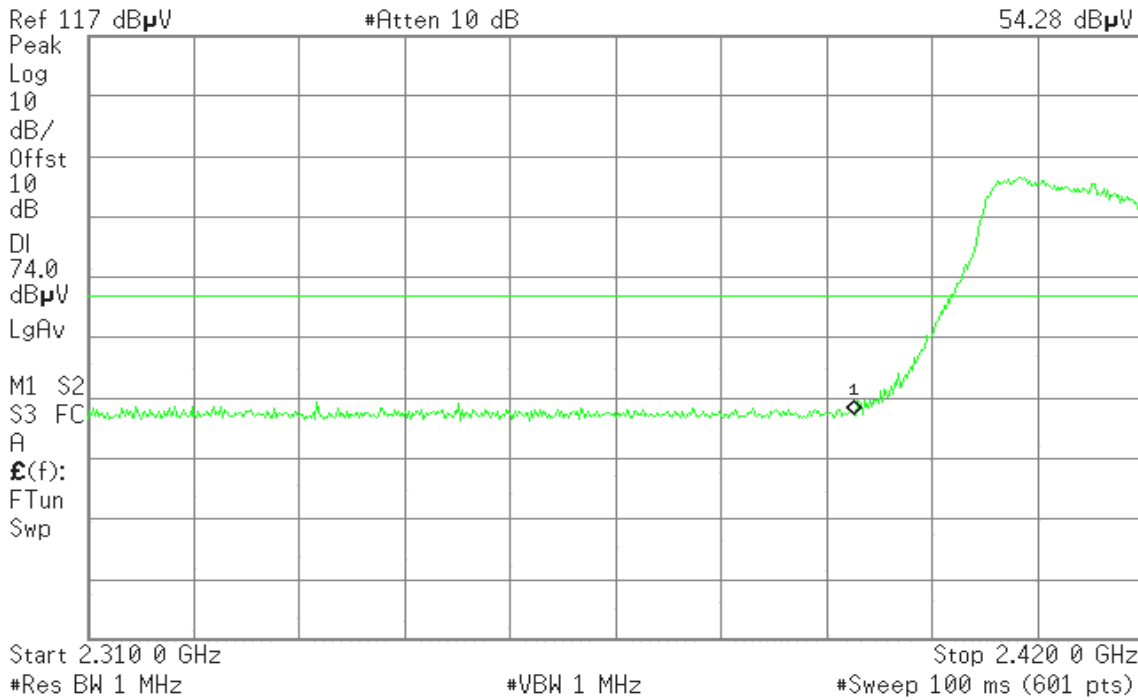
Detector mode: Peak

Polarity: Horizontal

Agilent 18:48:01 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
54.28 dB μ V



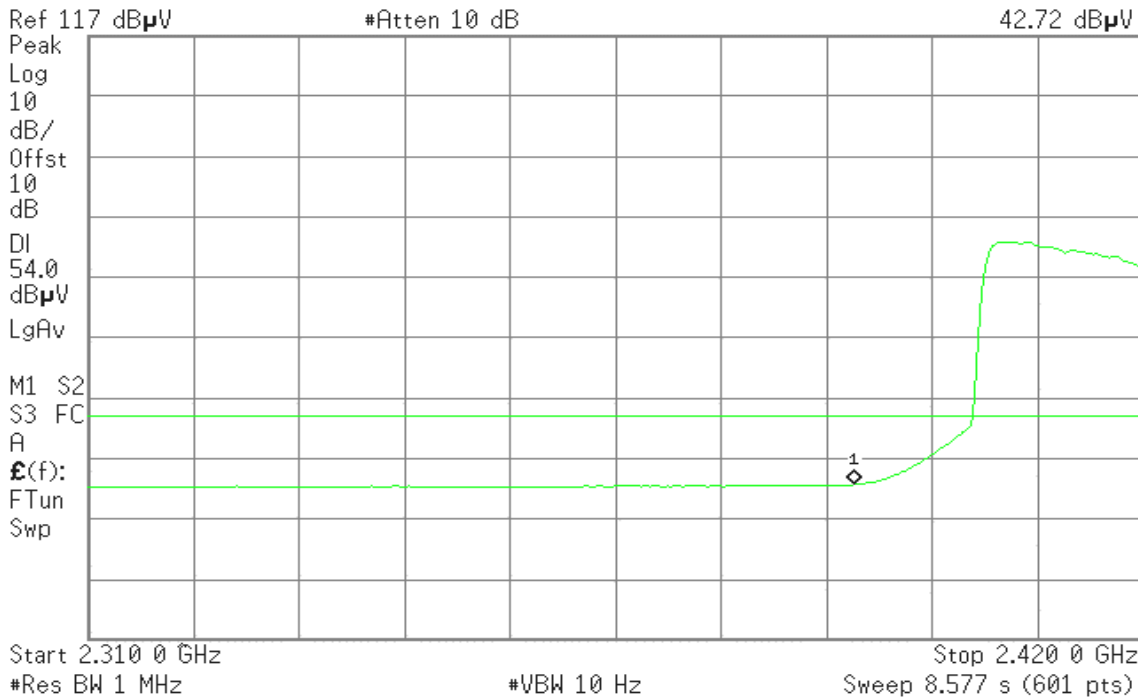
Detector mode: Average

Polarity: Horizontal

Agilent 18:48:16 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
42.72 dB μ V





Band Edges (IEEE 802.11g mode / CH High)

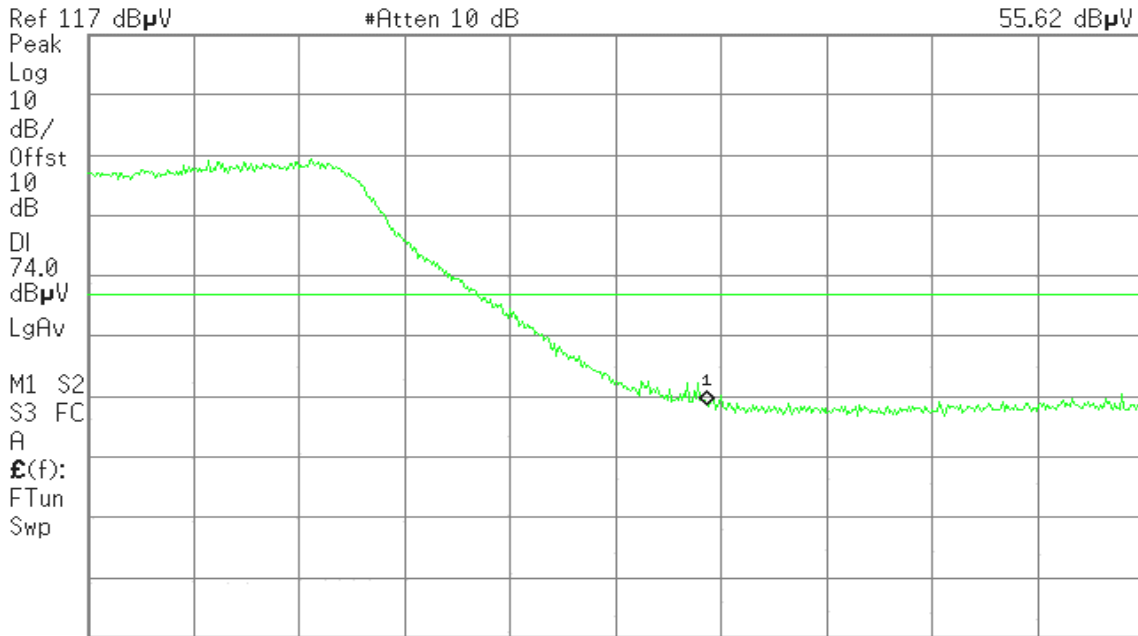
Detector mode: Peak

Polarity: Vertical

Agilent 18:57:27 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
55.62 dB μ V



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 1 MHz

#Sweep 100 ms (601 pts)

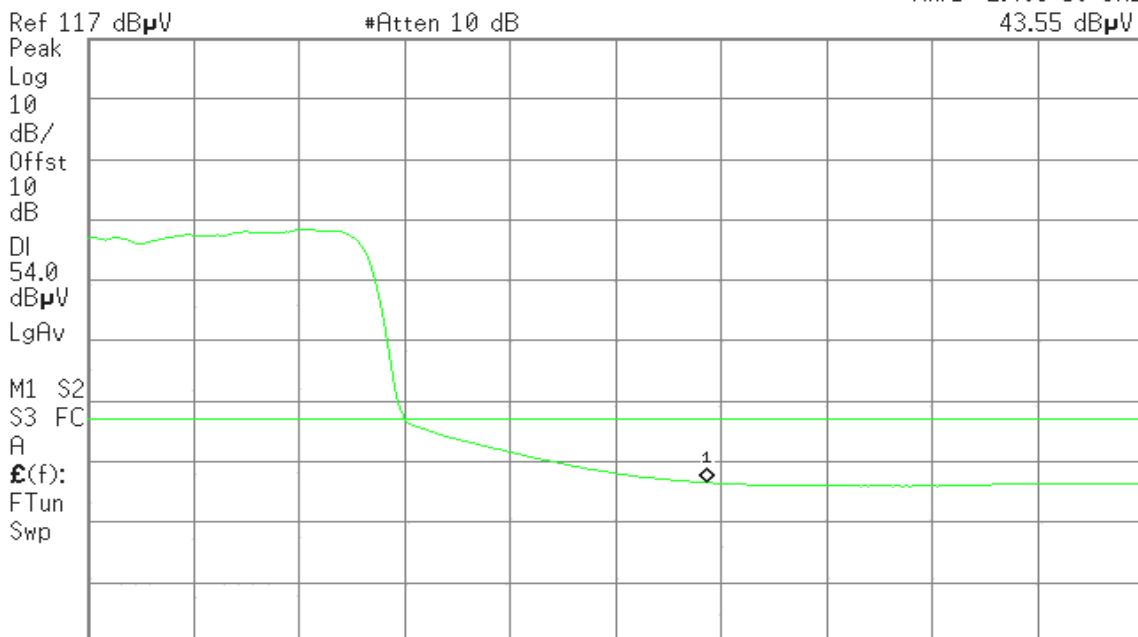
Detector mode: Average

Polarity: Vertical

Agilent 18:57:48 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
43.55 dB μ V



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 10 Hz

Sweep 3.119 s (601 pts)



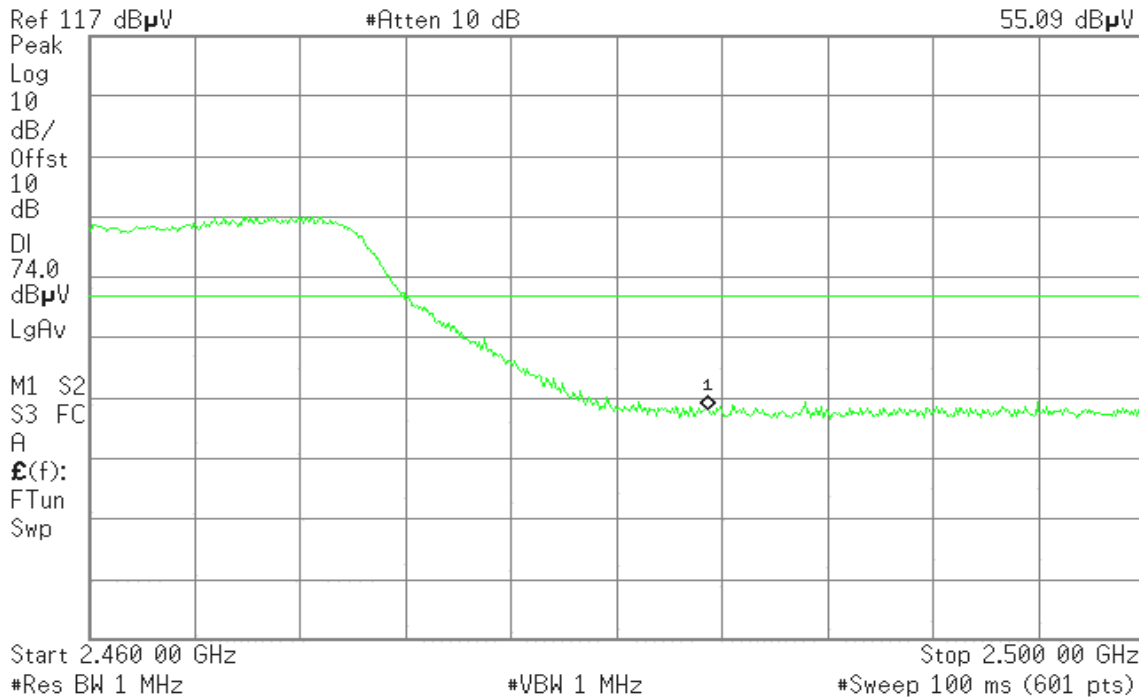
Detector mode: Peak

Polarity: Horizontal

Agilent 18:59:14 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
55.09 dBμV



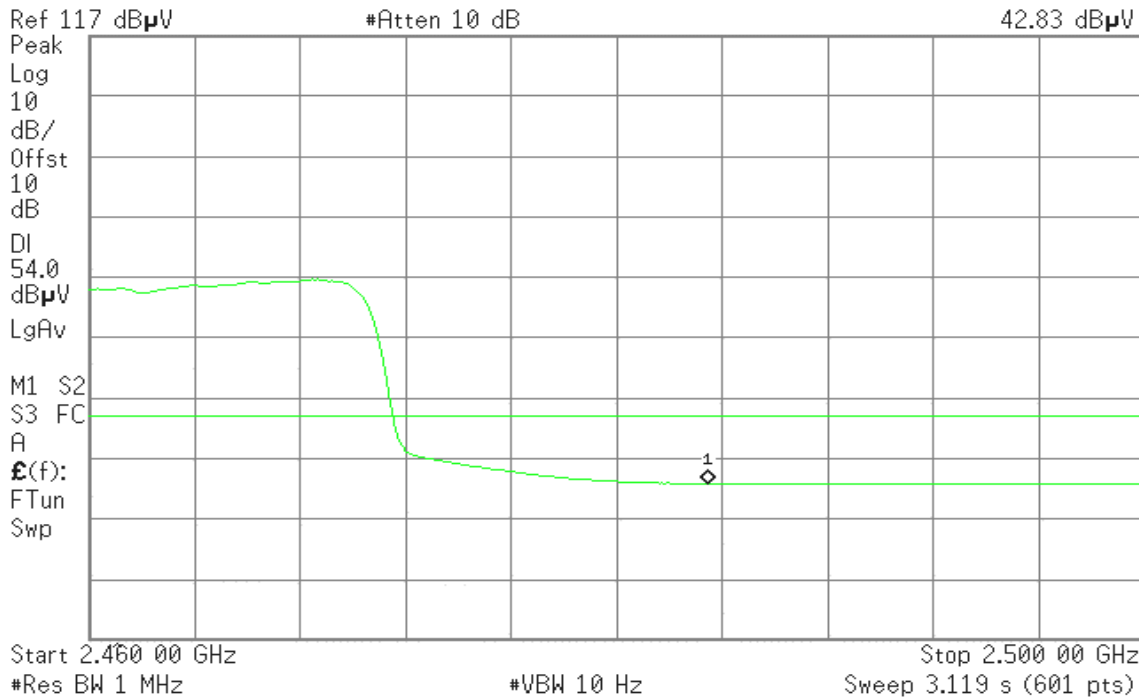
Detector mode: Average

Polarity: Horizontal

Agilent 18:59:27 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
42.83 dBμV





Band Edges (IEEE 802.11n HT20 mode / CH Low)

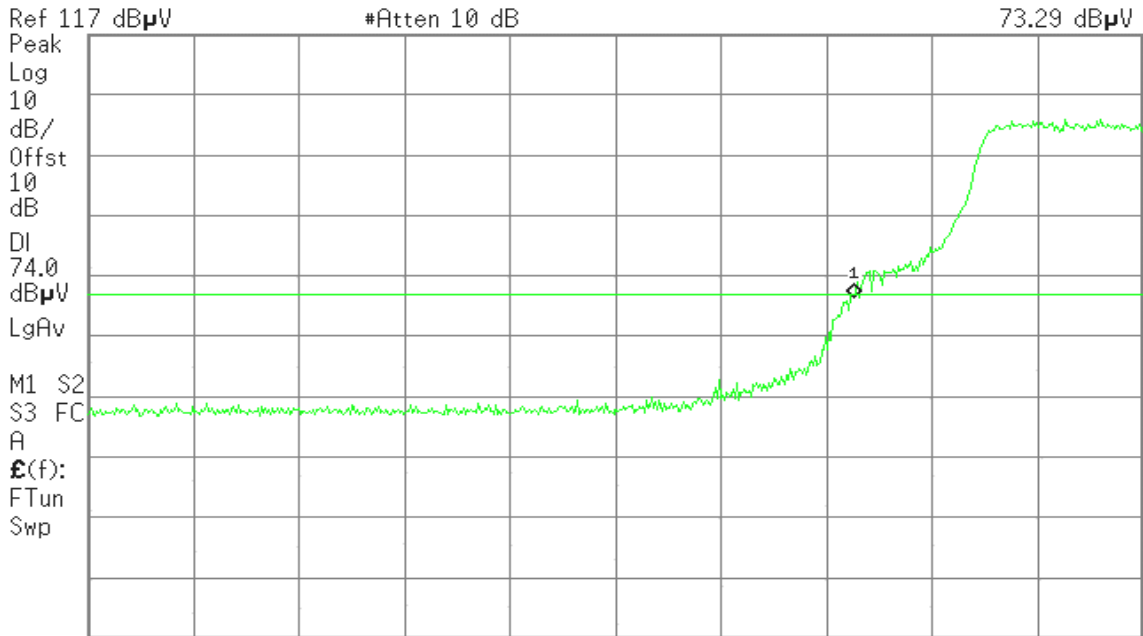
Detector mode: Peak

Polarity: Vertical

Agilent 19:44:19 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
73.29 dBμV



#Atten 10 dB
#Res BW 1 MHz #VBW 1 MHz #Sweep 100 ms (601 pts)

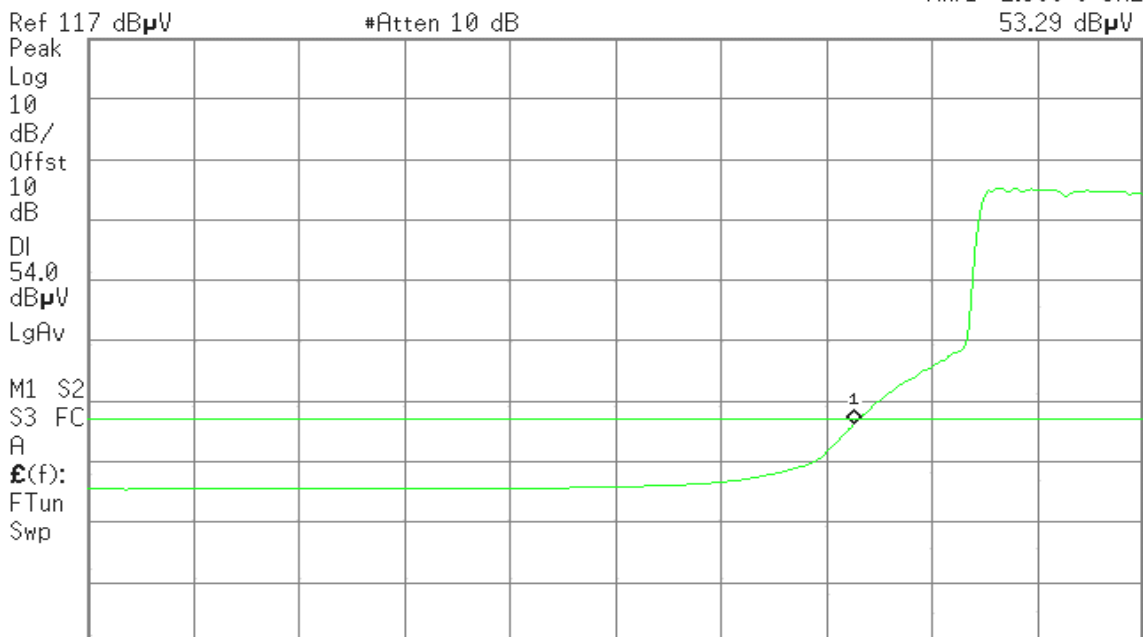
Detector mode: Average

Polarity: Vertical

Agilent 19:39:53 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
53.29 dBμV



#Atten 10 dB
#Res BW 1 MHz #VBW 10 Hz Sweep 8.577 s (601 pts)



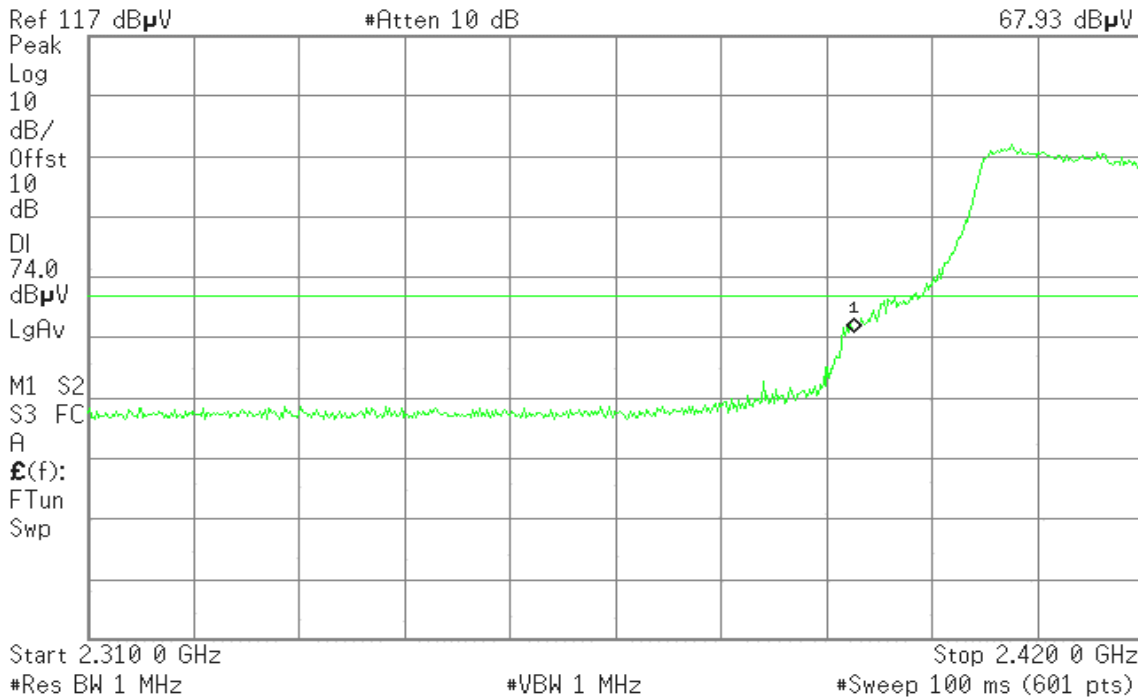
Detector mode: Peak

Polarity: Horizontal

Agilent 19:46:28 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
67.93 dBμV



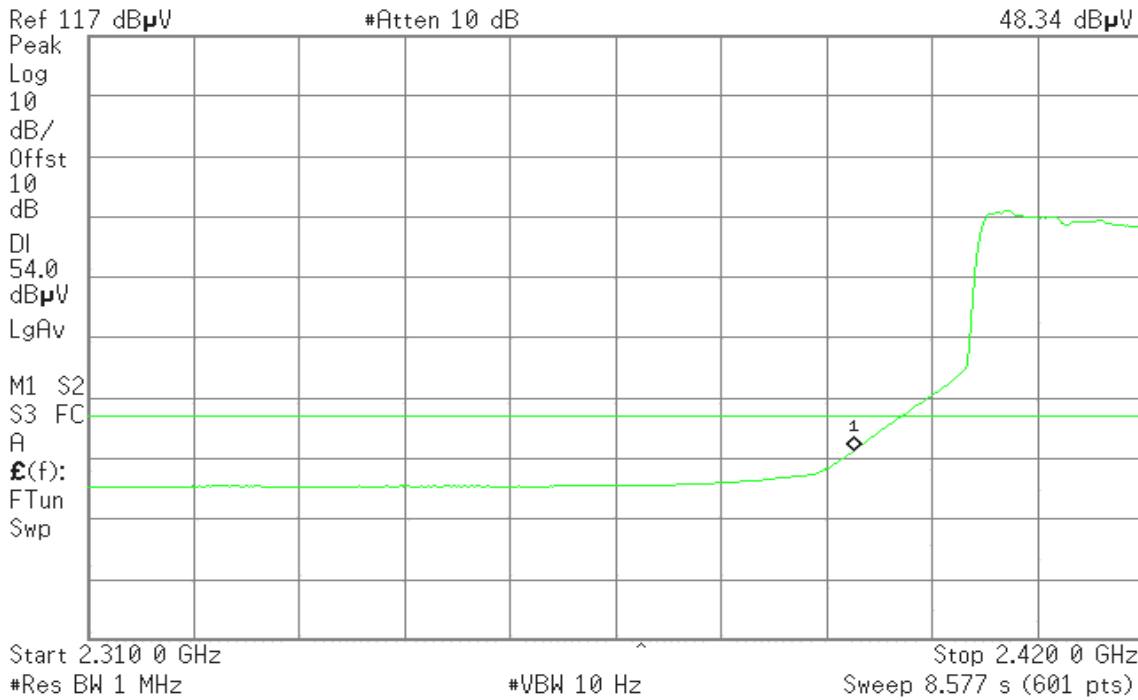
Detector mode: Average

Polarity: Horizontal

Agilent 19:46:49 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
48.34 dBμV





Band Edges (IEEE 802.11n HT20 mode / CH High)

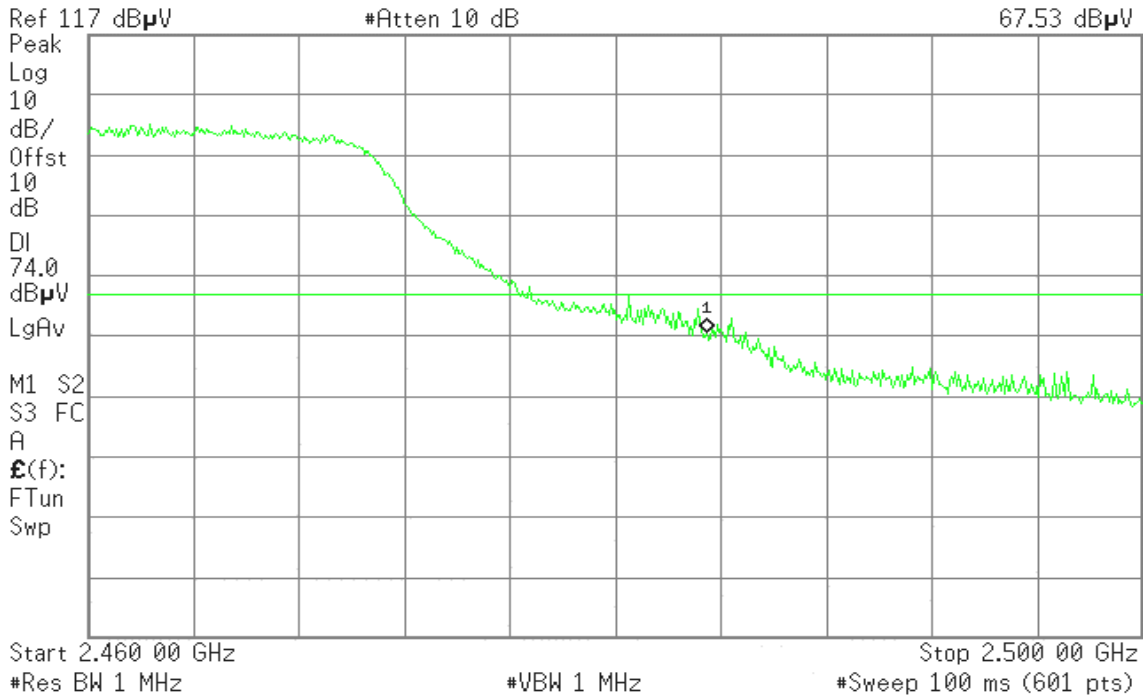
Detector mode: Peak

Polarity: Vertical

Agilent 19:57:55 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
67.53 dB μ V



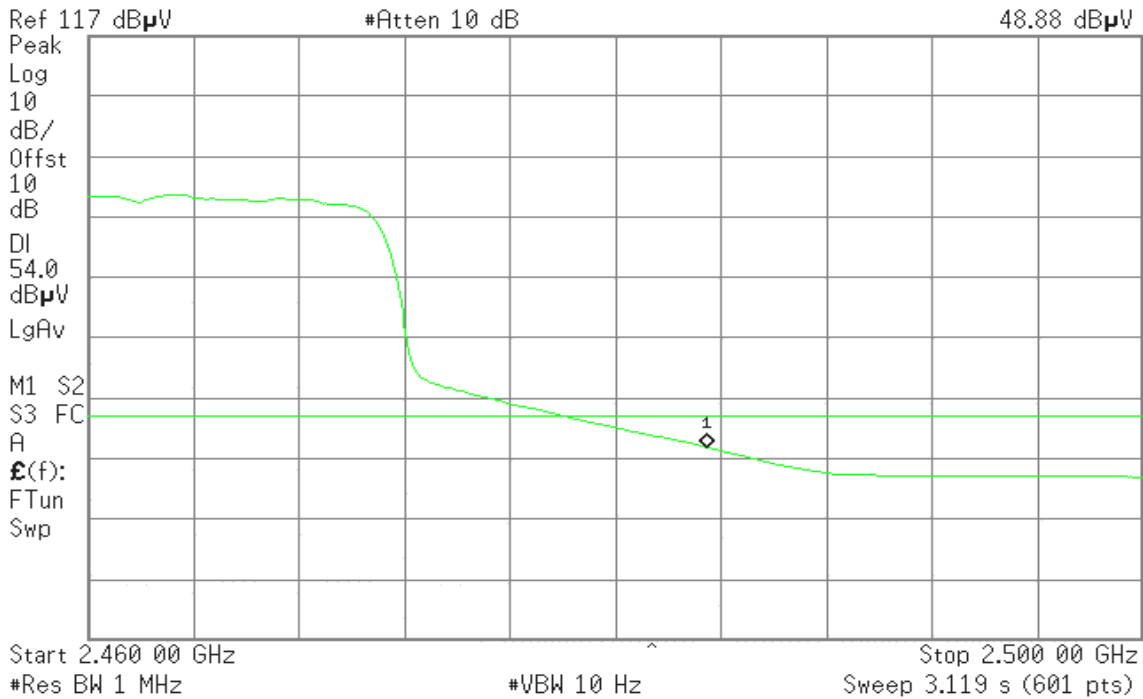
Detector mode: Average

Polarity: Vertical

Agilent 19:58:12 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
48.88 dB μ V





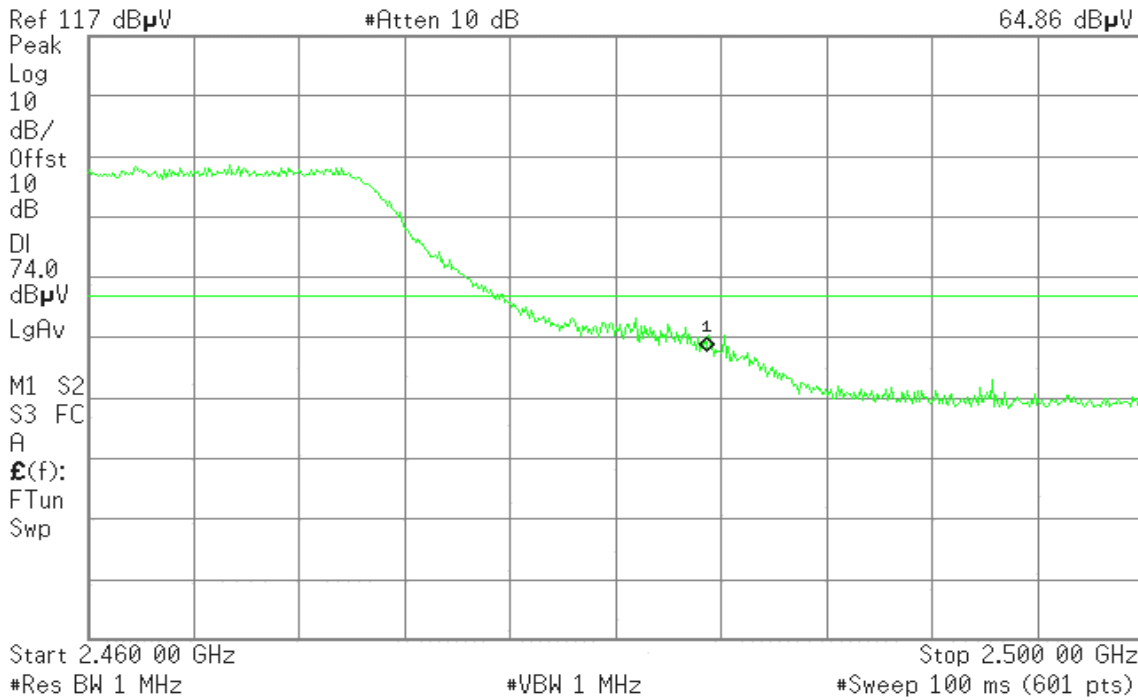
Detector mode: Peak

Polarity: Horizontal

Agilent 19:59:31 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
64.86 dB μ V



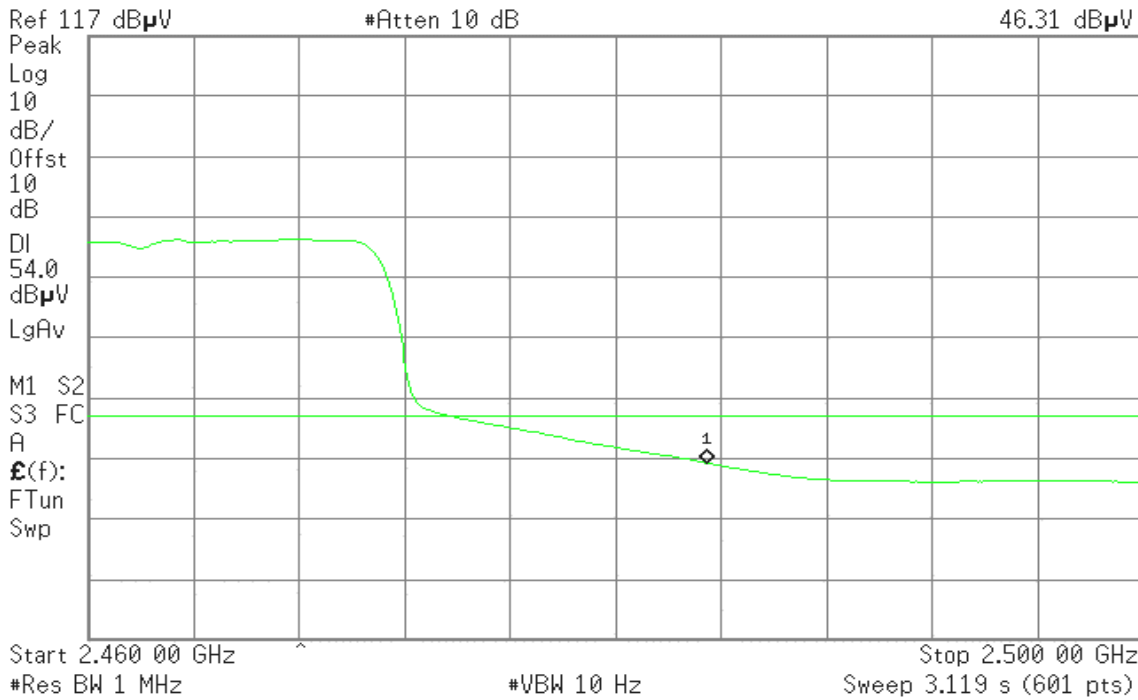
Detector mode: Average

Polarity: Horizontal

Agilent 19:59:45 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
46.31 dB μ V





Band Edges (IEEE 802.11n HT40 mode / CH Low)

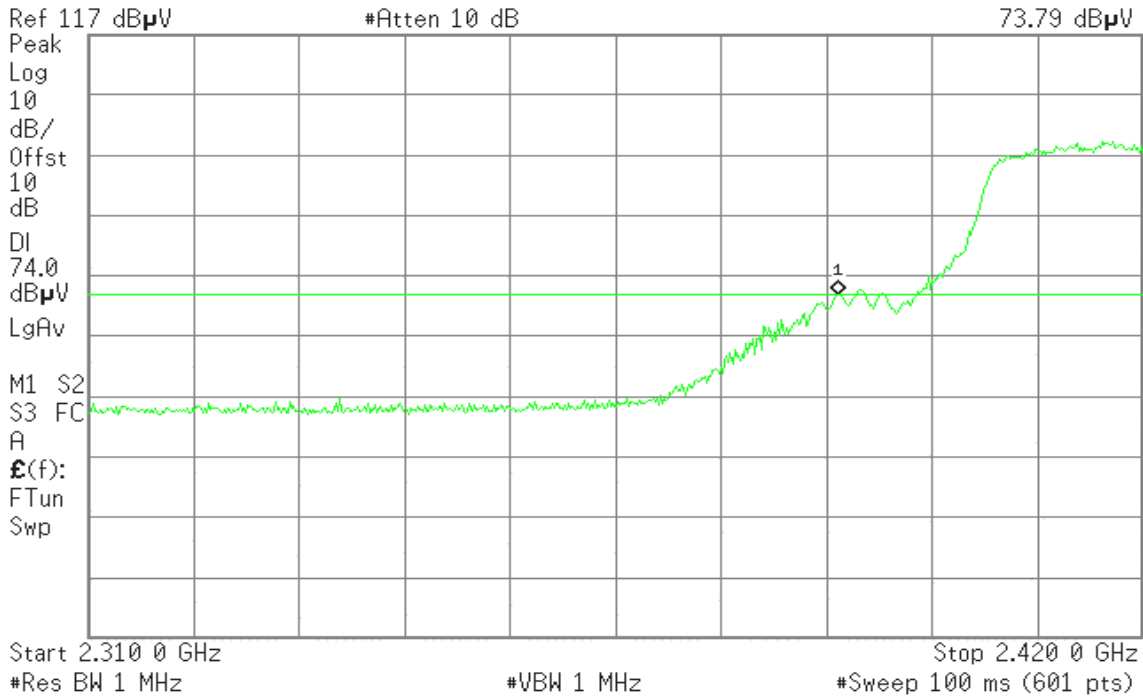
Detector mode: Peak

Polarity: Vertical

Agilent 20:34:23 Nov 13, 2008

R T

Mkr1 2.388 4 GHz
73.79 dBμV



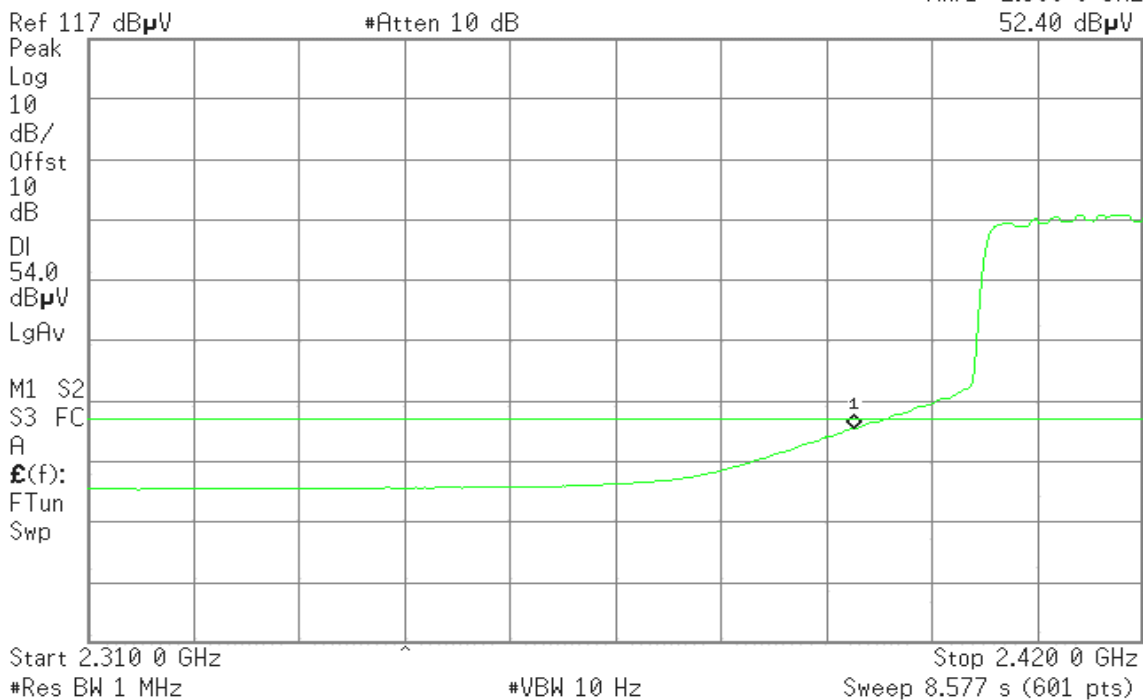
Detector mode: Average

Polarity: Vertical

Agilent 20:32:18 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
52.40 dBμV





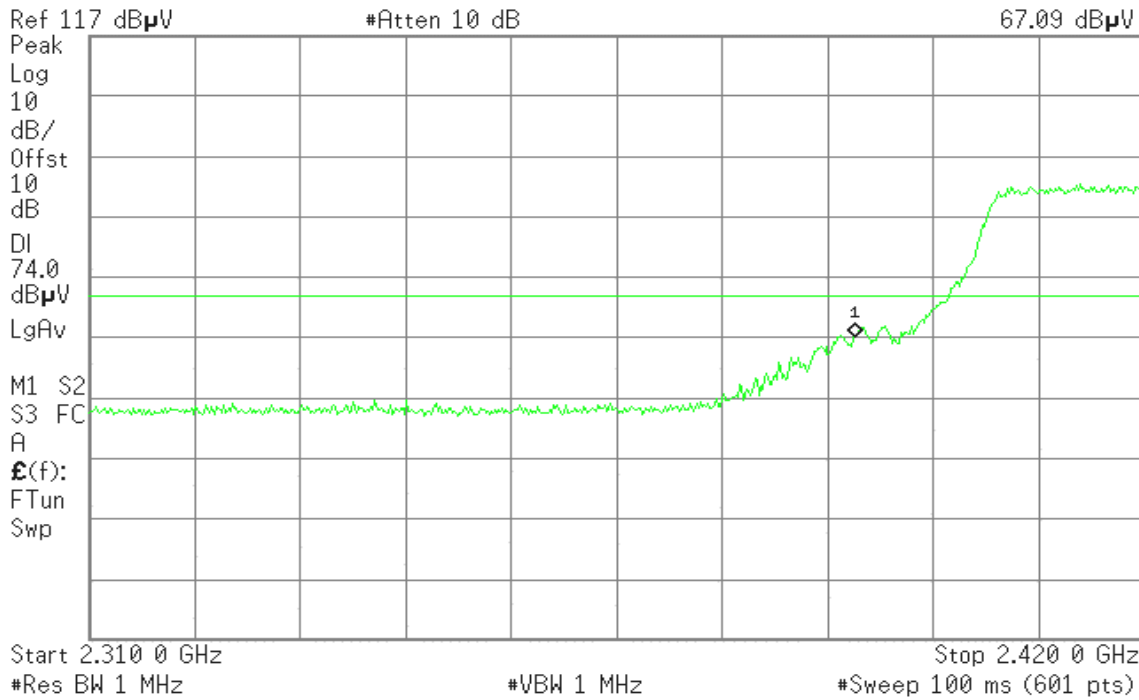
Detector mode: Peak

Polarity: Horizontal

Agilent 20:36:20 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
67.09 dBμV



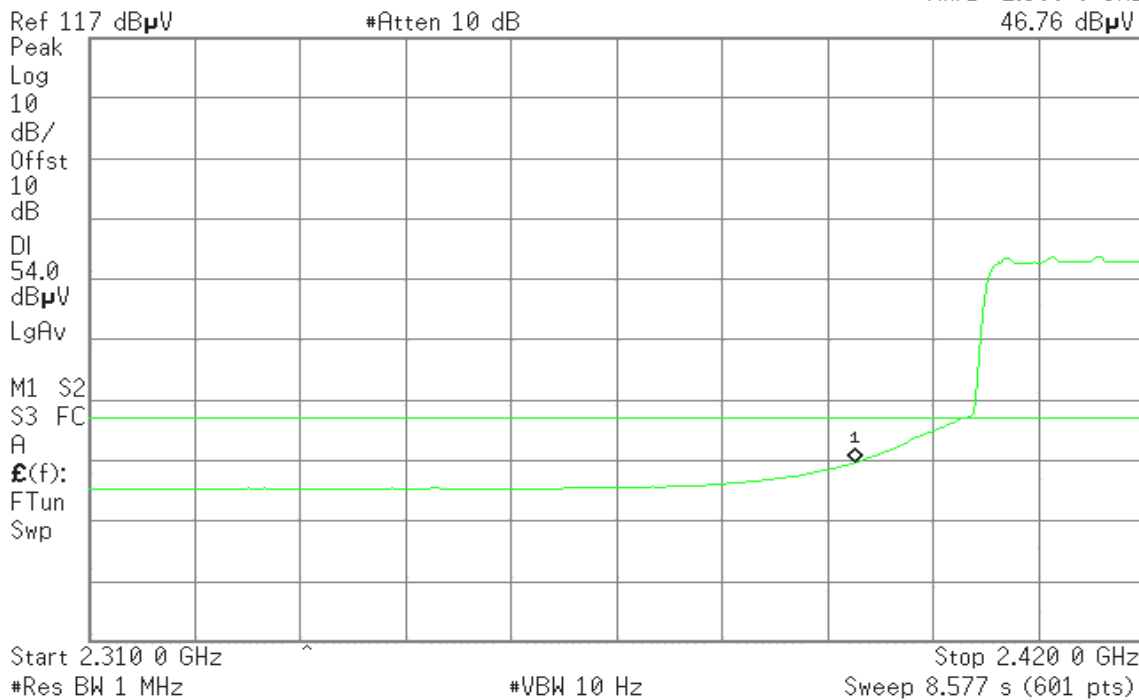
Detector mode: Average

Polarity: Horizontal

Agilent 20:36:38 Nov 13, 2008

R T

Mkr1 2.390 0 GHz
46.76 dBμV





Band Edges (IEEE 802.11n HT40 mode / CH High)

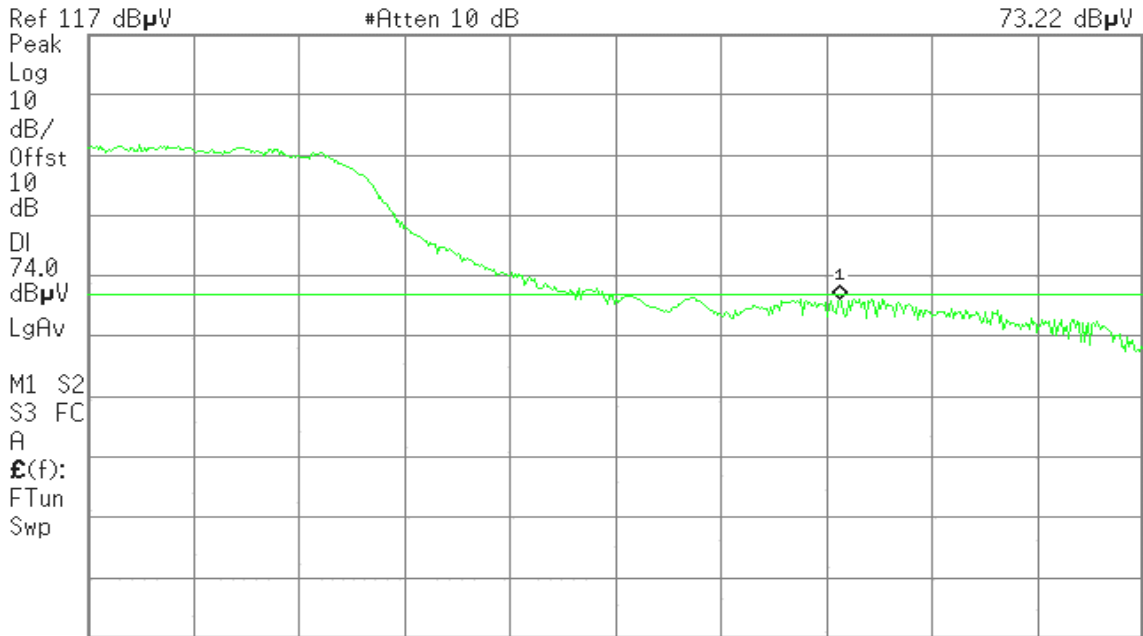
Detector mode: Peak

Polarity: Vertical

Agilent 20:50:37 Nov 13, 2008

R T

Mkr1 2.488 50 GHz
73.22 dB μ V



Start 2.460 00 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.500 00 GHz #Sweep 100 ms (601 pts)

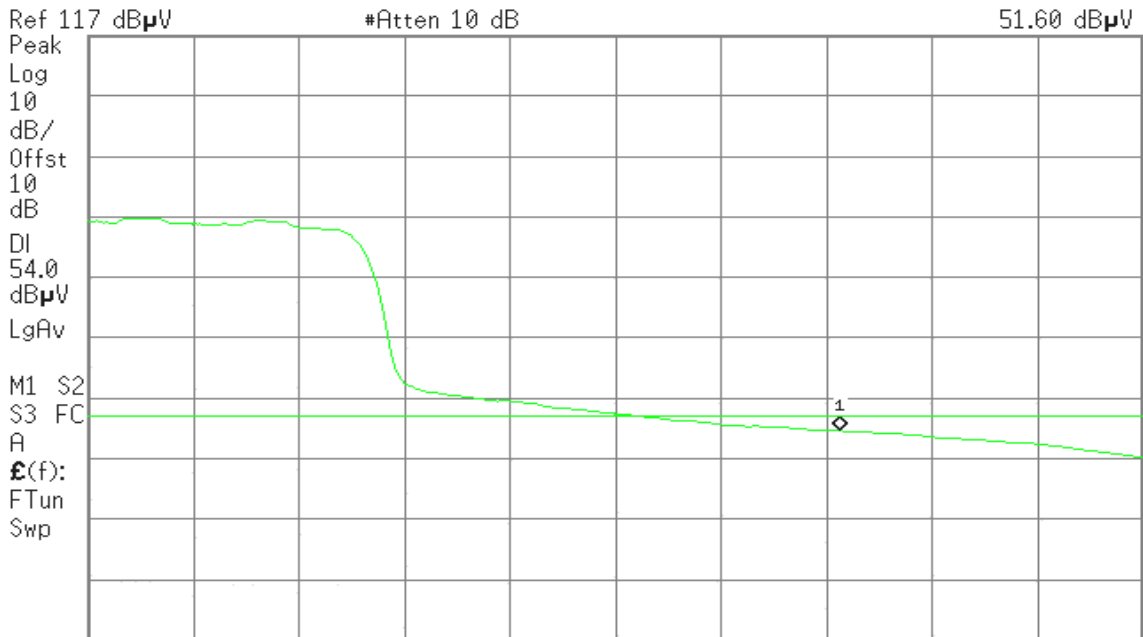
Detector mode: Average

Polarity: Vertical

Agilent 20:51:05 Nov 13, 2008

R T

Mkr1 2.488 50 GHz
51.60 dB μ V



Start 2.460 00 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.500 00 GHz Sweep 3.119 s (601 pts)



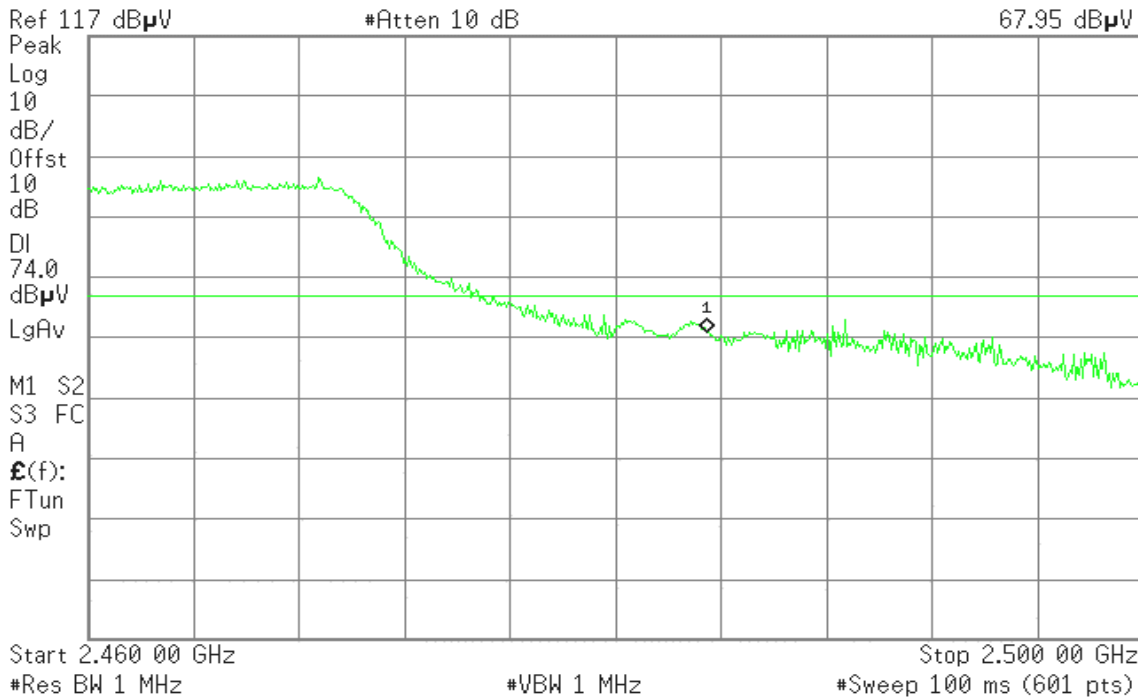
Detector mode: Peak

Polarity: Horizontal

Agilent 20:52:06 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
67.95 dBμV



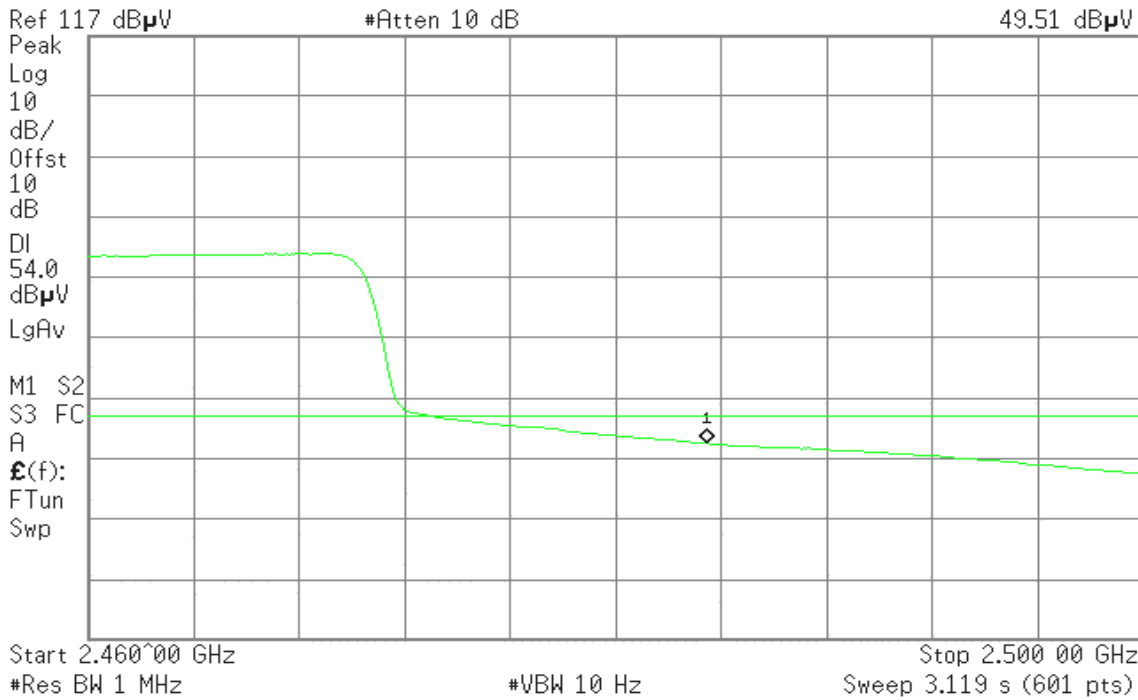
Detector mode: Average

Polarity: Horizontal

Agilent 20:52:20 Nov 13, 2008

R T

Mkr1 2.483 50 GHz
49.51 dBμV





Dipole Antenna / Full Length Board:

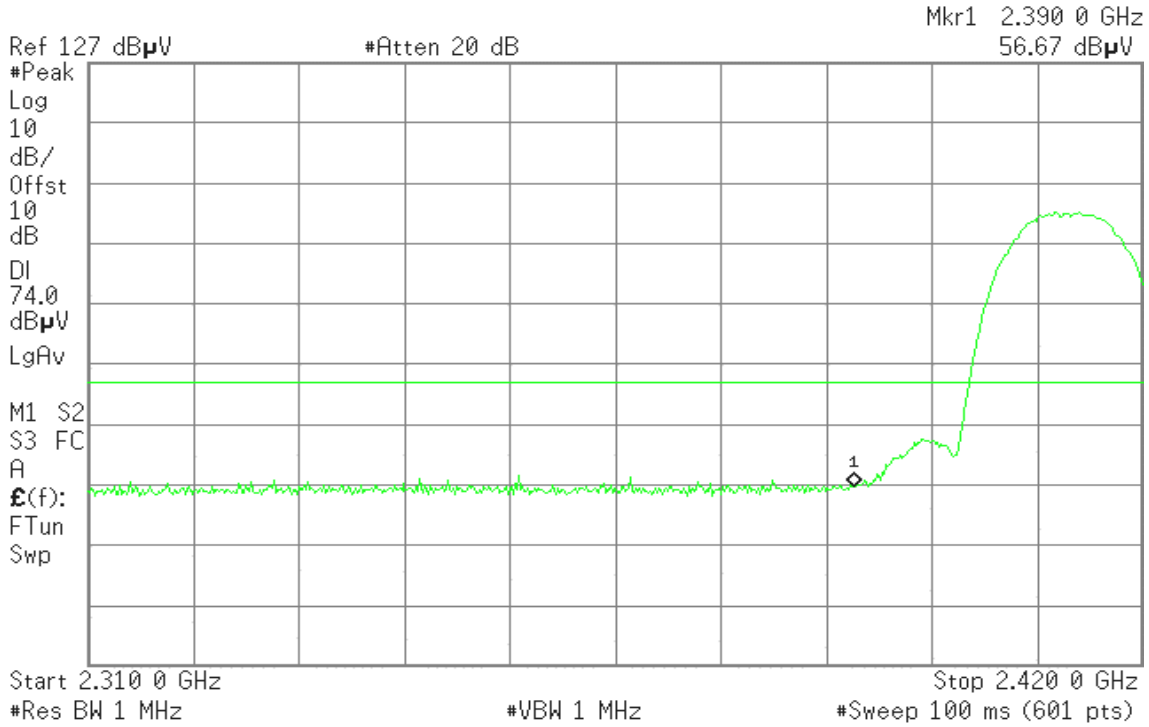
Band Edges (IEEE 802.11b mode / CH Low)

Detector mode: Peak

Polarity: Vertical

Agilent 20:23:58 Dec 24, 2008

R T

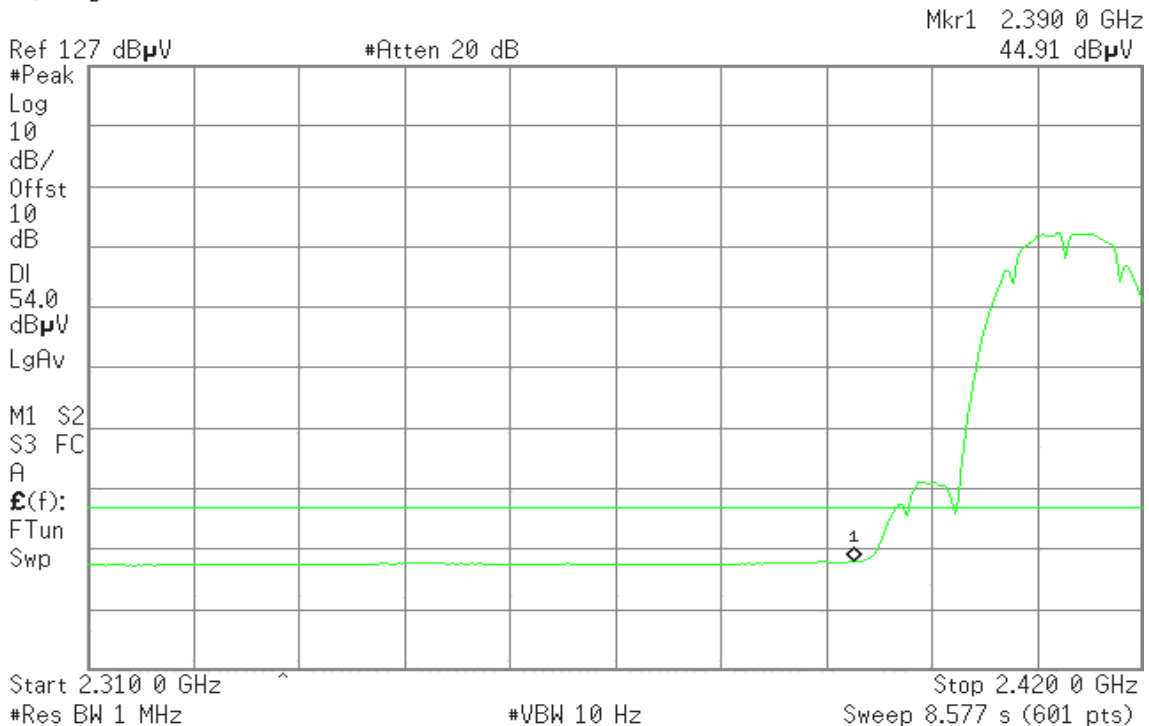


Detector mode: Average

Polarity: Vertical

Agilent 20:23:42 Dec 24, 2008

R T





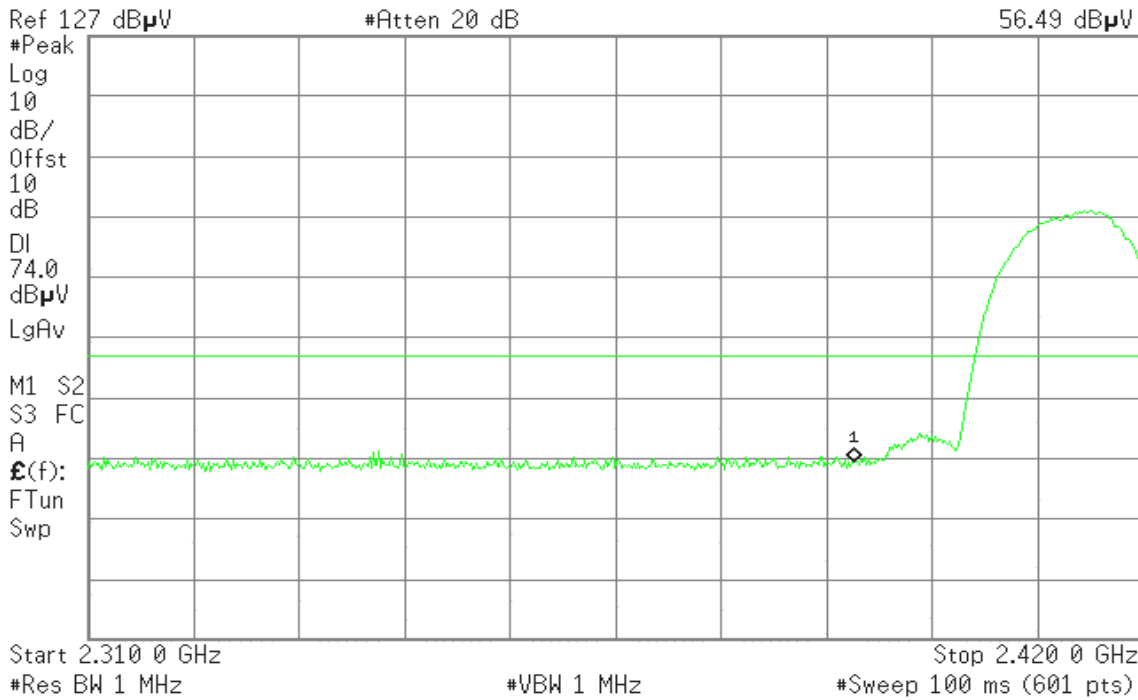
Detector mode: Peak

Polarity: Horizontal

Agilent 20:24:16 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
56.49 dBμV



Detector mode: Average

Polarity: Horizontal

Agilent 20:24:35 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
44.57 dBμV





Band Edges (IEEE 802.11b mode / CH High)

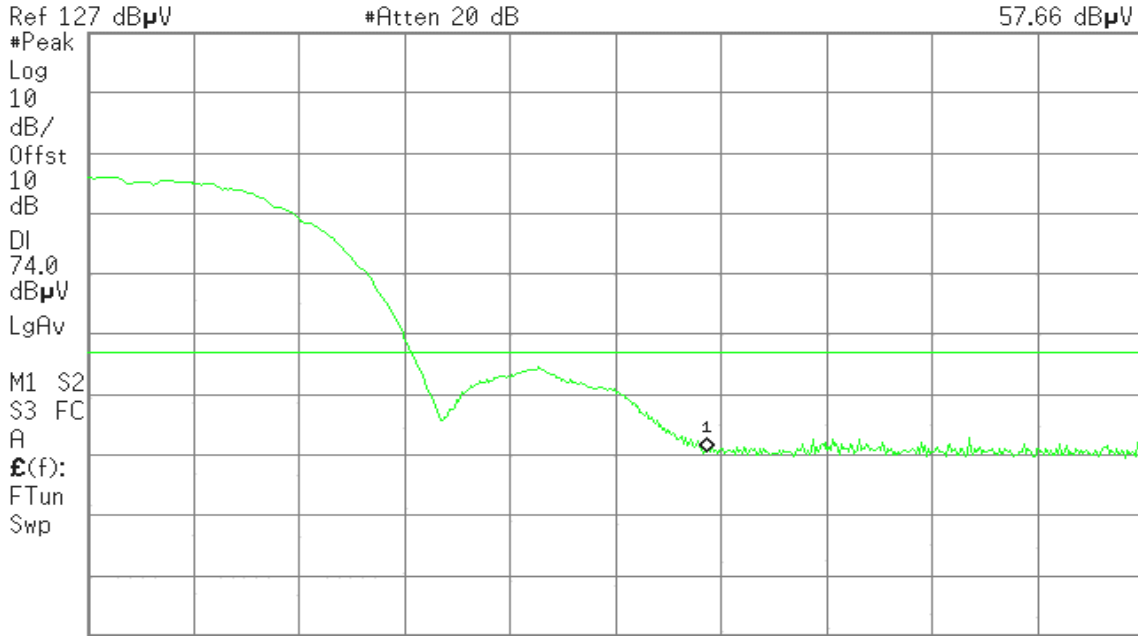
Detector mode: Peak

Polarity: Vertical

Agilent 20:18:16 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
57.66 dBμV



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 1 MHz

#Sweep 100 ms (601 pts)

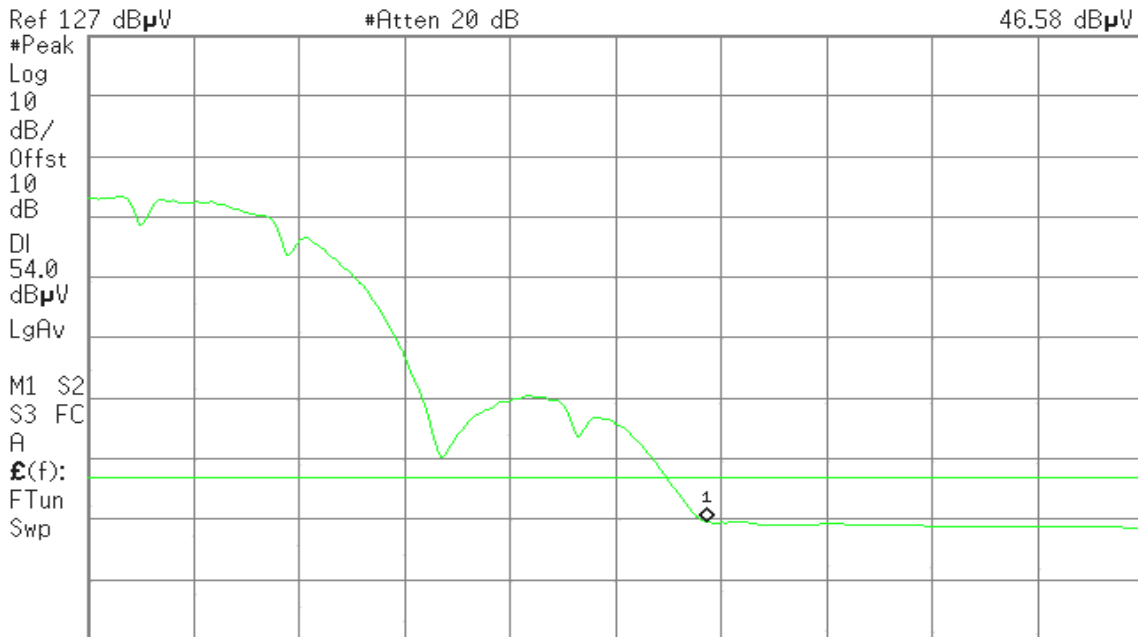
Detector mode: Average

Polarity: Vertical

Agilent 20:17:58 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
46.58 dBμV



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 10 Hz

Sweep 3.119 s (601 pts)



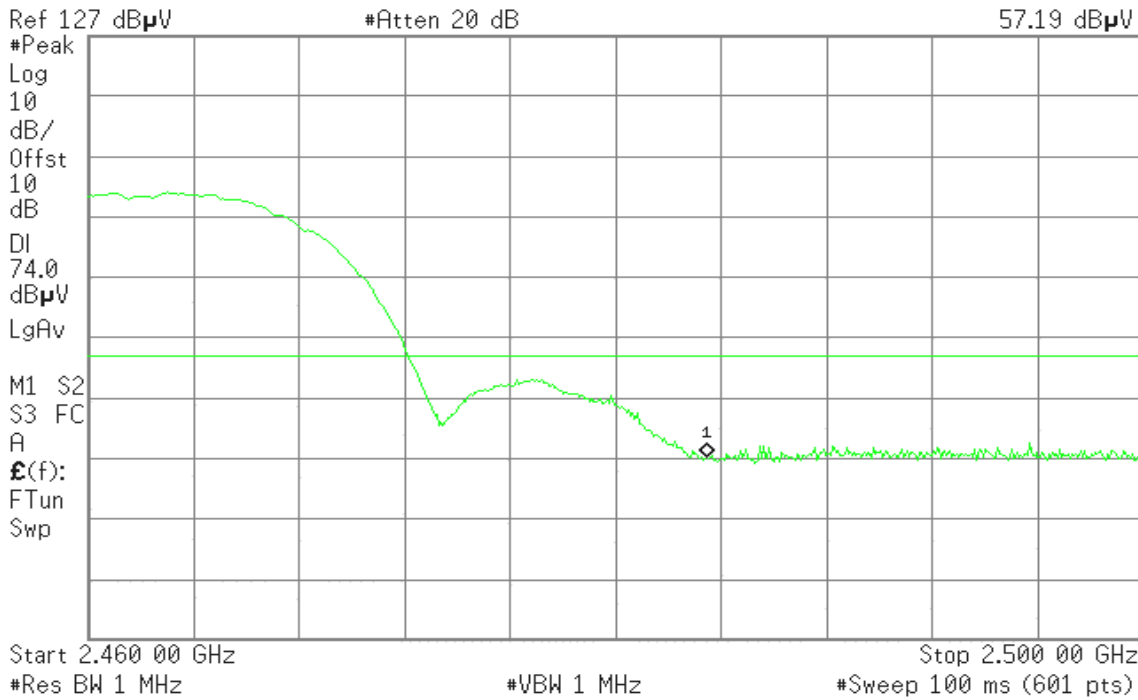
Detector mode: Peak

Polarity: Horizontal

Agilent 20:18:37 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
57.19 dB μ V



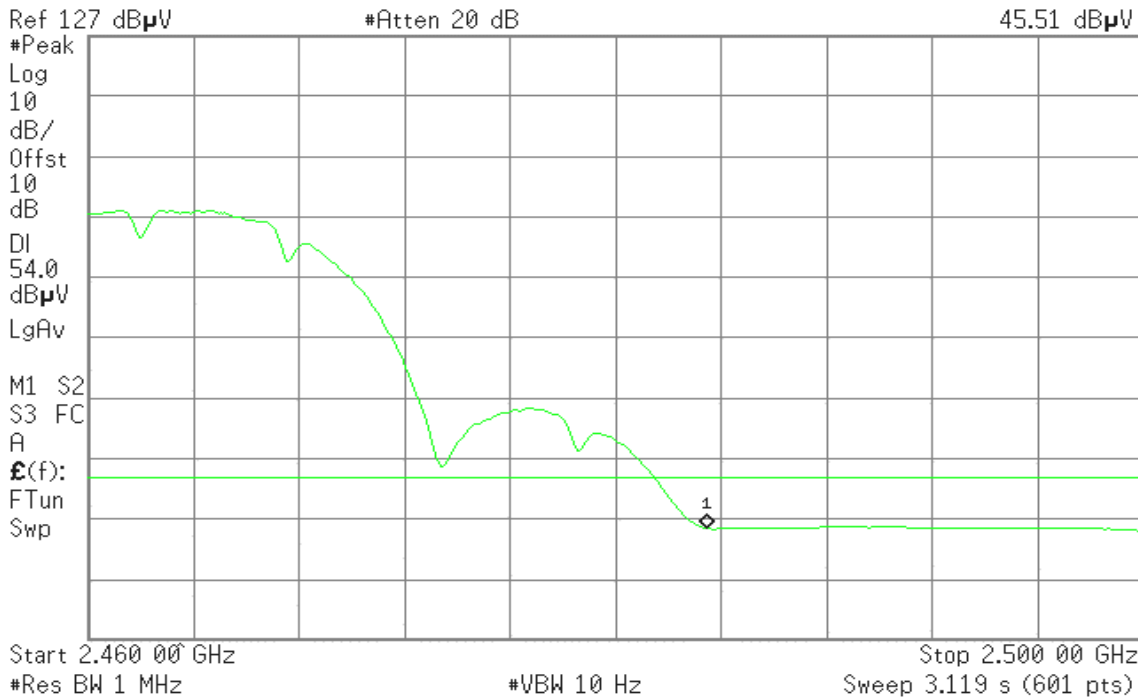
Detector mode: Average

Polarity: Horizontal

Agilent 20:18:53 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
45.51 dB μ V





Band Edges (IEEE 802.11g mode / CH Low)

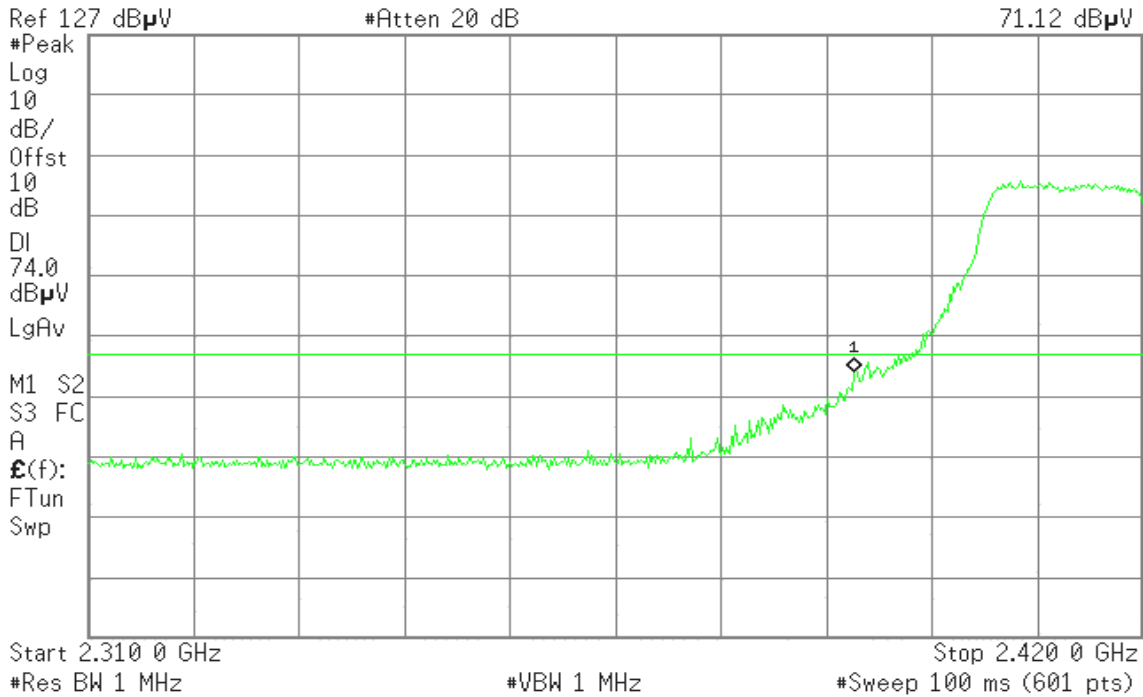
Detector mode: Peak

Polarity: Vertical

Agilent 20:03:40 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
71.12 dBμV



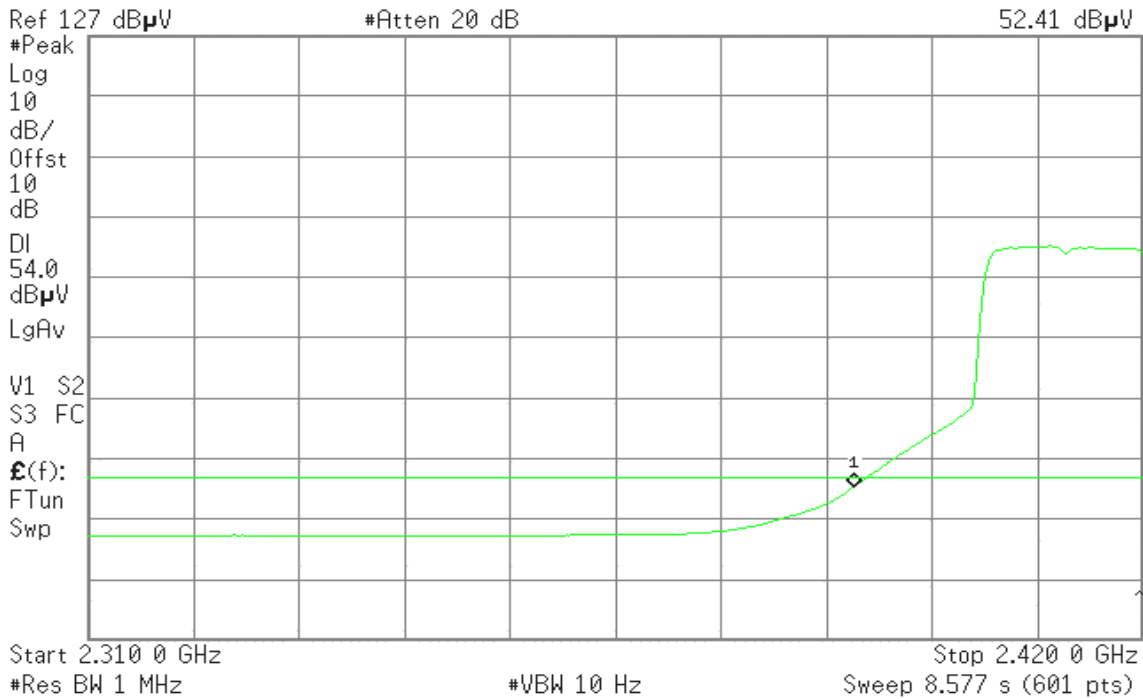
Detector mode: Average

Polarity: Vertical

Agilent 20:03:21 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
52.41 dBμV





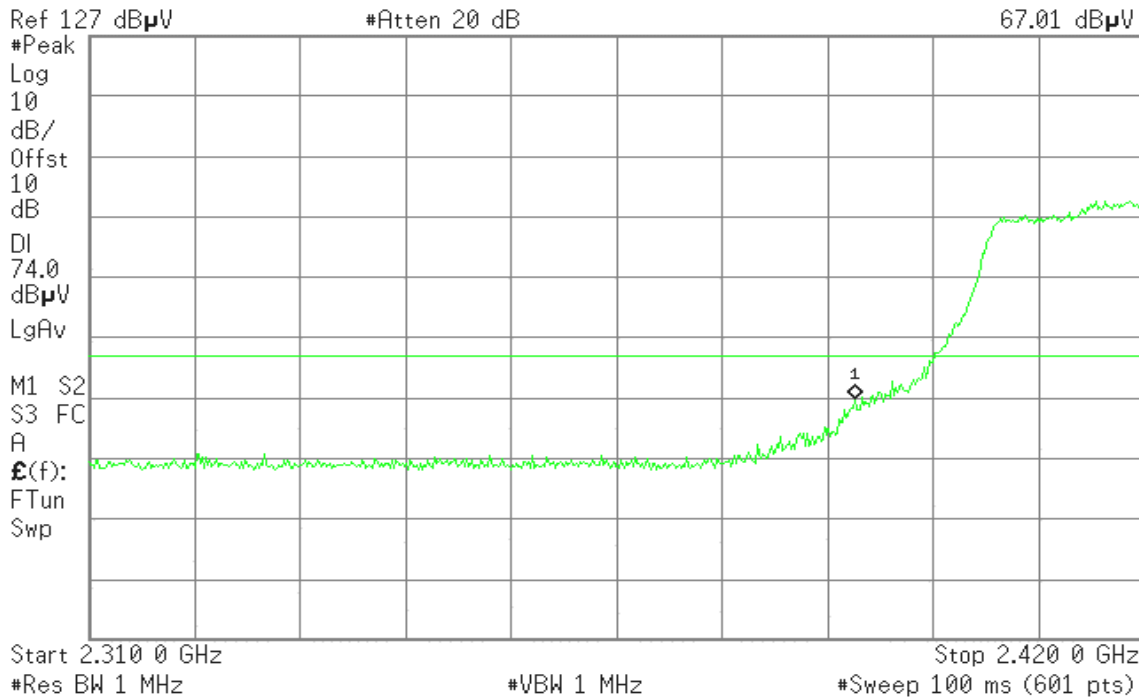
Detector mode: Peak

Polarity: Horizontal

Agilent 20:07:53 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
67.01 dBμV



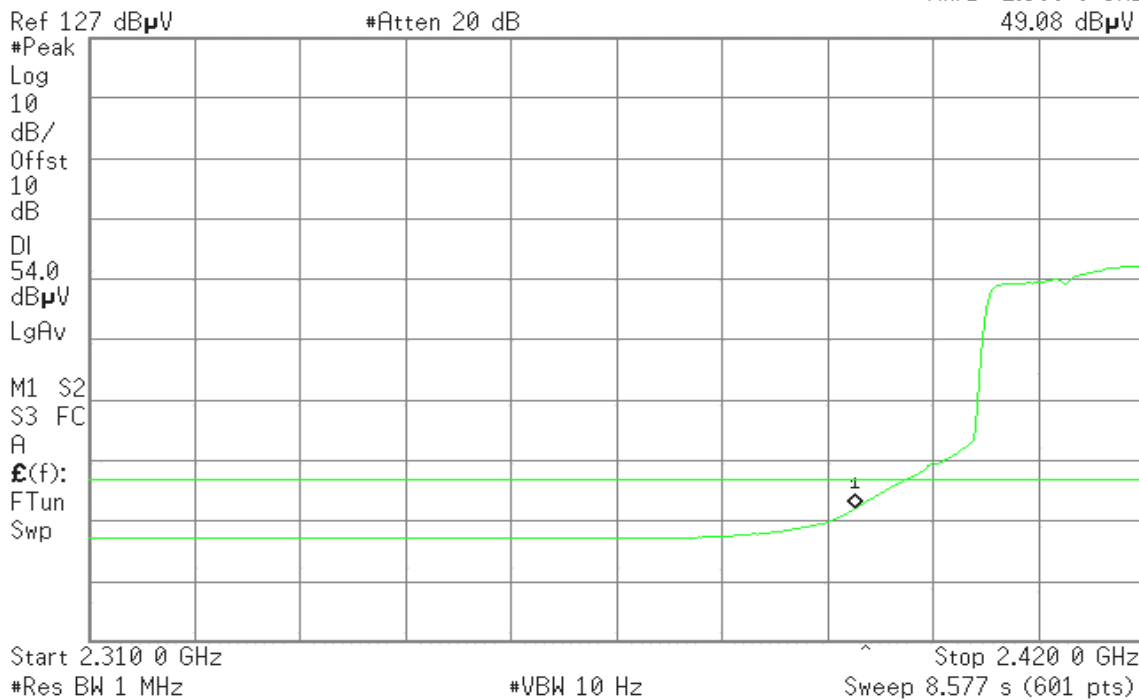
Detector mode: Average

Polarity: Horizontal

Agilent 20:07:28 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
49.08 dBμV





Band Edges (IEEE 802.11g mode / CH High)

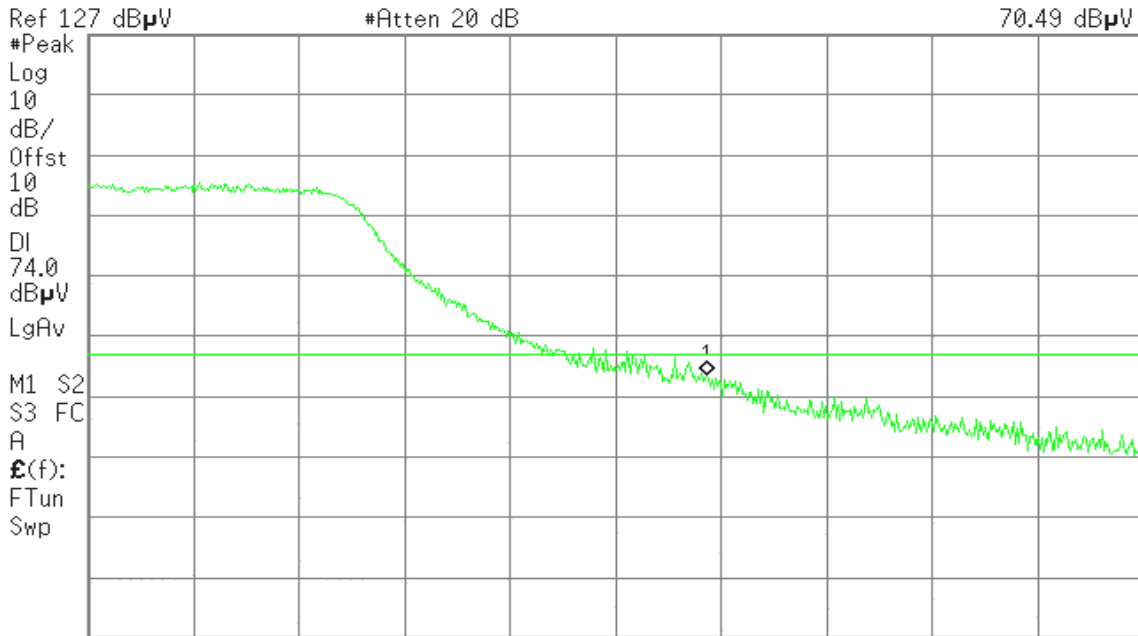
Detector mode: Peak

Polarity: Vertical

Agilent 20:14:27 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
70.49 dBμV



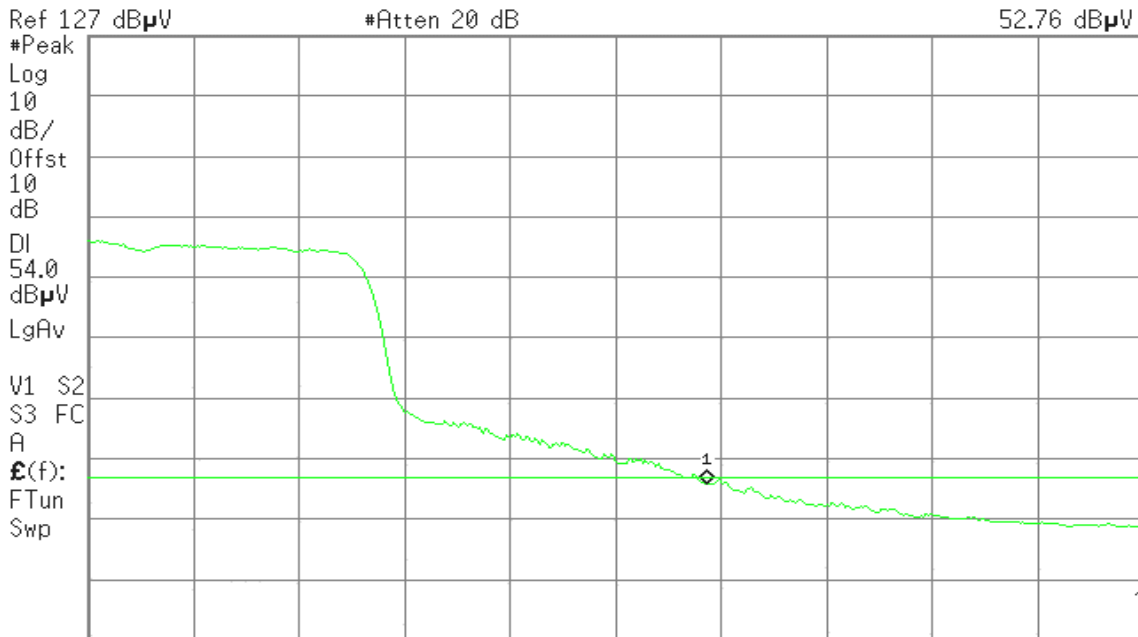
Detector mode: Average

Polarity: Vertical

Agilent 20:12:40 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
52.76 dBμV





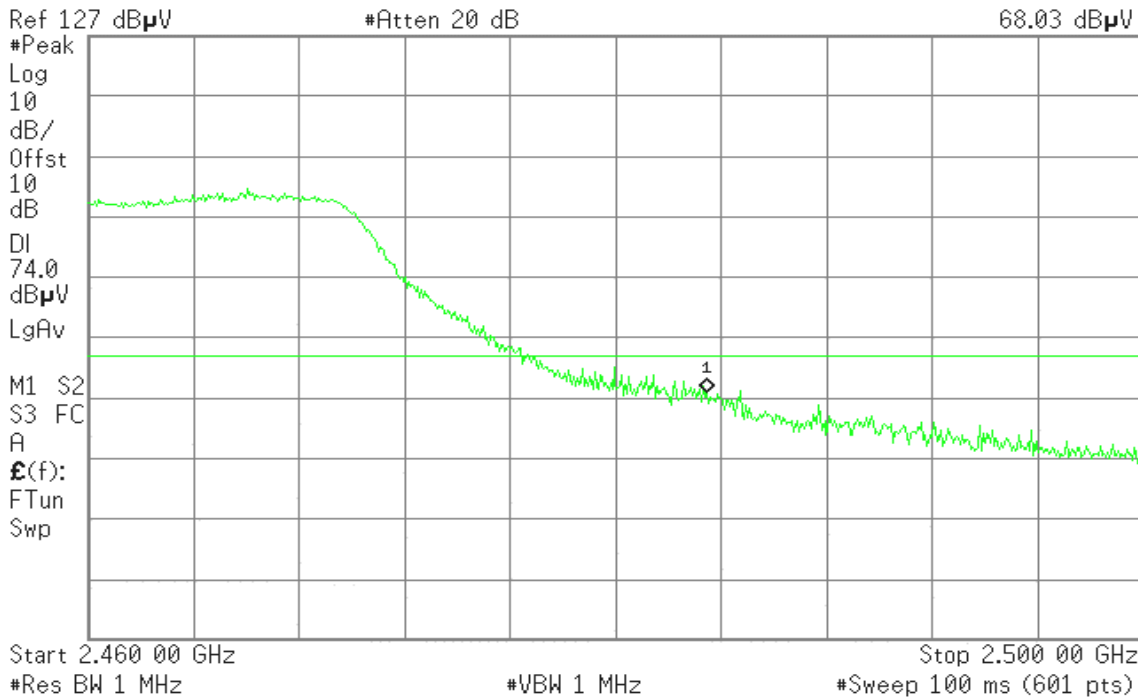
Detector mode: Peak

Polarity: Horizontal

Agilent 20:14:53 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
68.03 dB μ V



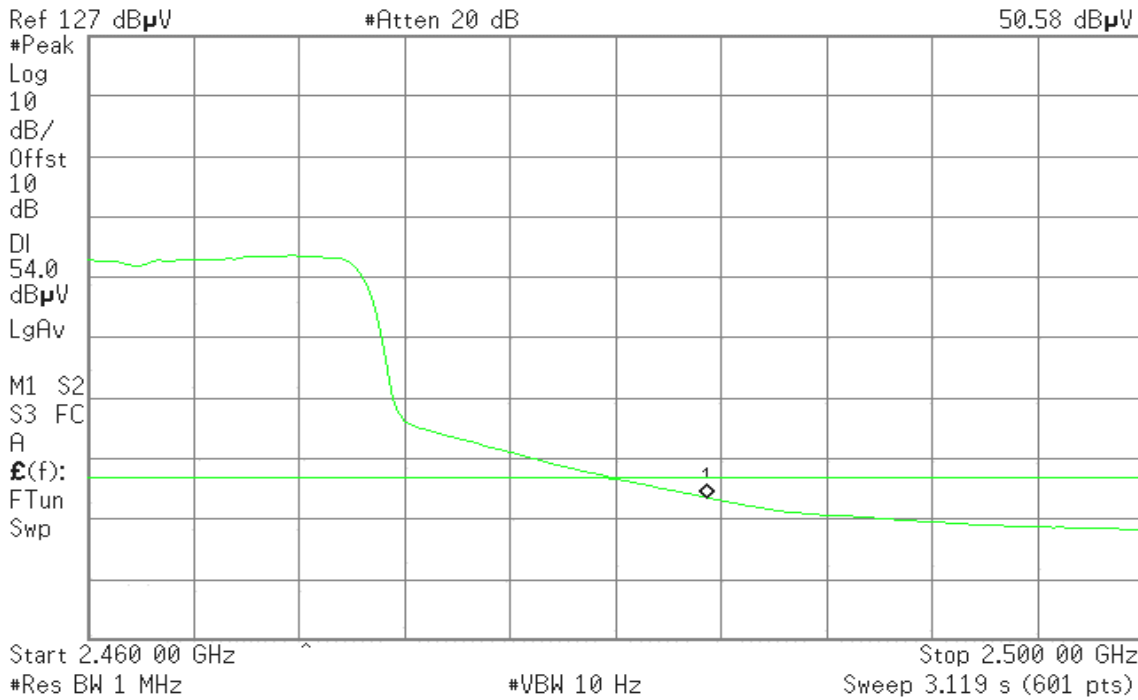
Detector mode: Average

Polarity: Horizontal

Agilent 20:15:35 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
50.58 dB μ V





Band Edges (IEEE 802.11n HT20 mode / CH Low)

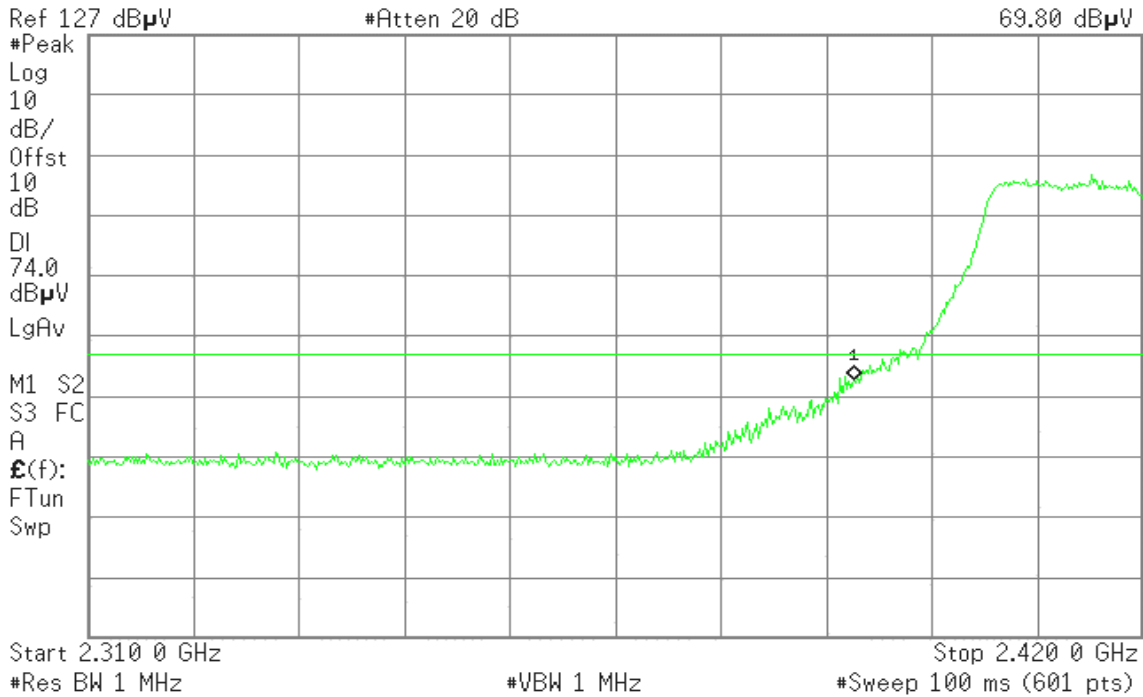
Detector mode: Peak

Polarity: Vertical

Agilent 20:09:37 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
69.80 dBμV



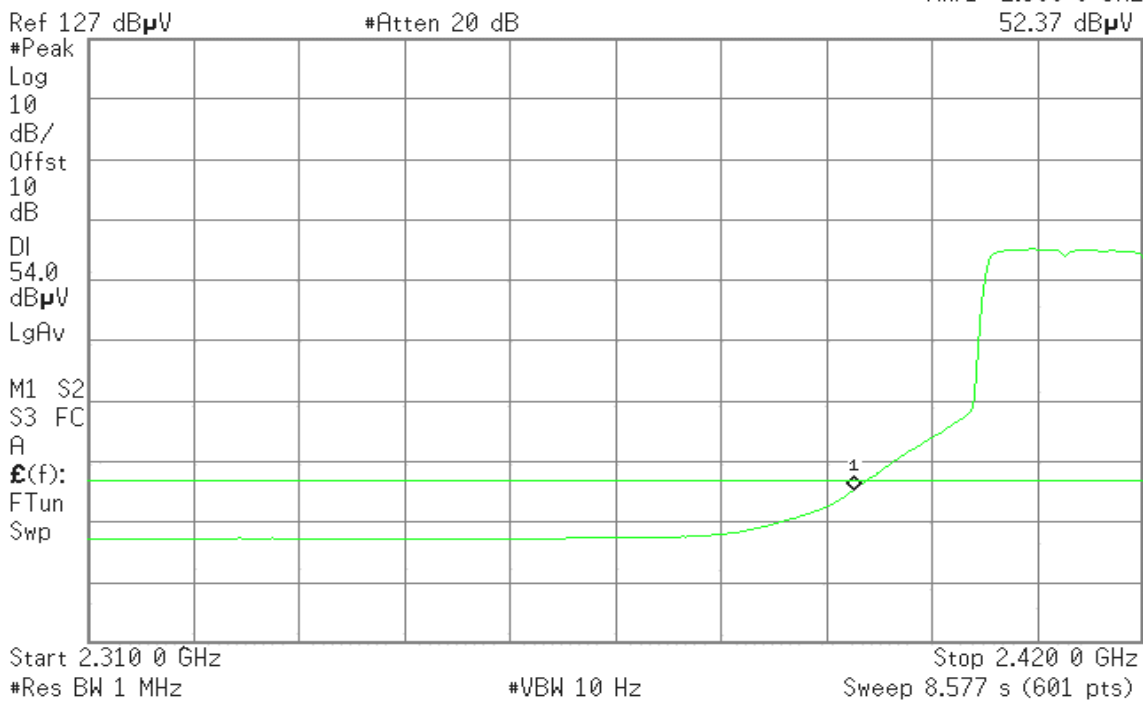
Detector mode: Average

Polarity: Vertical

Agilent 20:09:00 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
52.37 dBμV





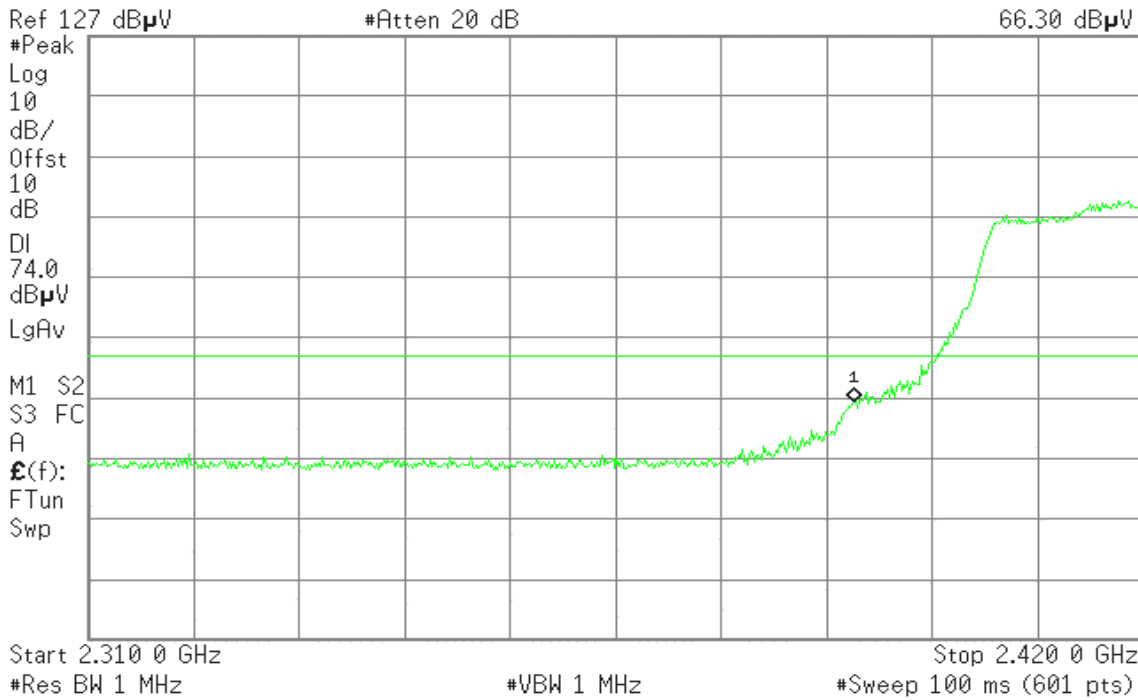
Detector mode: Peak

Polarity: Horizontal

Agilent 20:08:14 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
66.30 dBµV



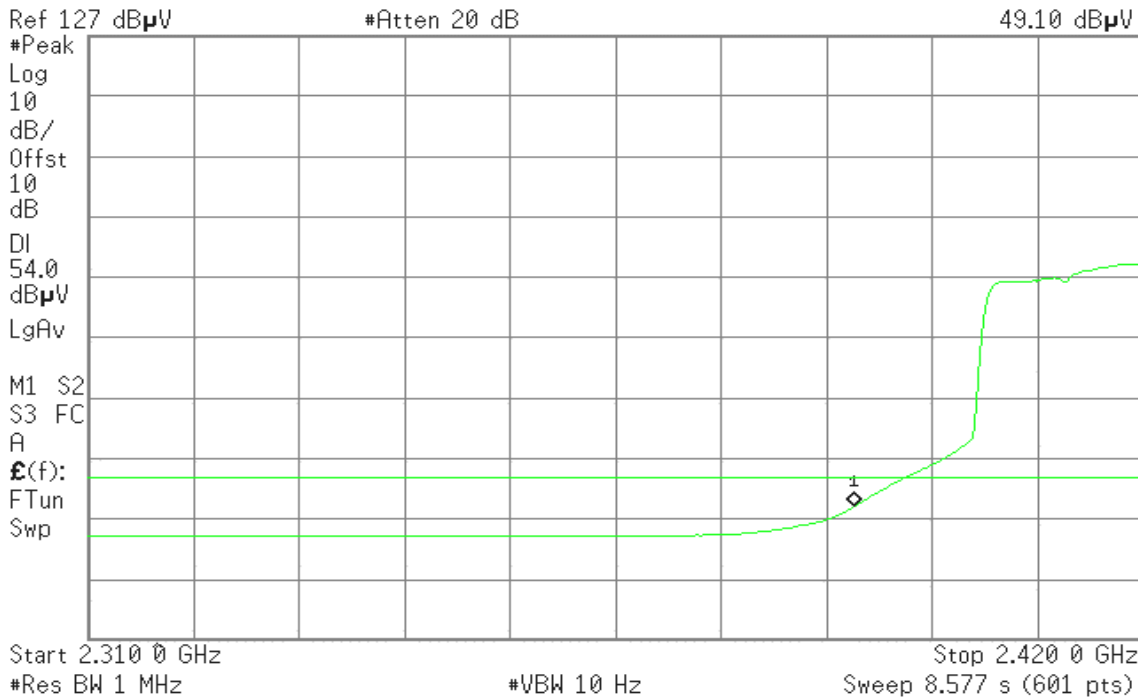
Detector mode: Average

Polarity: Horizontal

Agilent 20:08:37 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
49.10 dBµV





Band Edges (IEEE 802.11n HT20 mode / CH High)

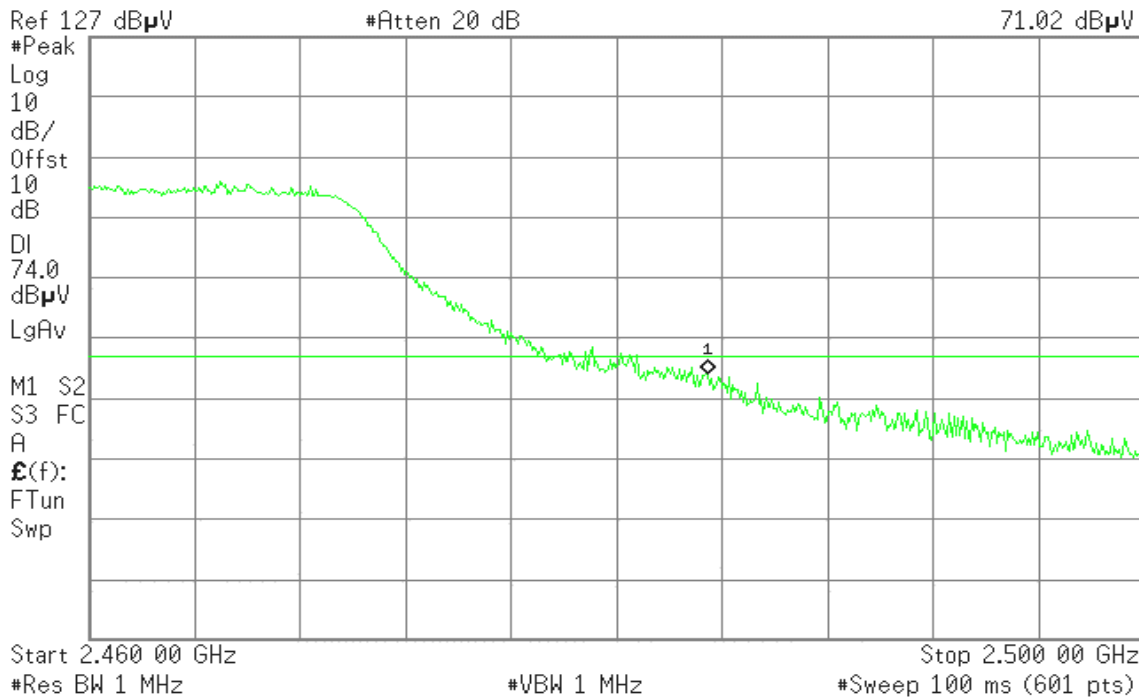
Detector mode: Peak

Polarity: Vertical

Agilent 20:14:10 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
71.02 dB μ V



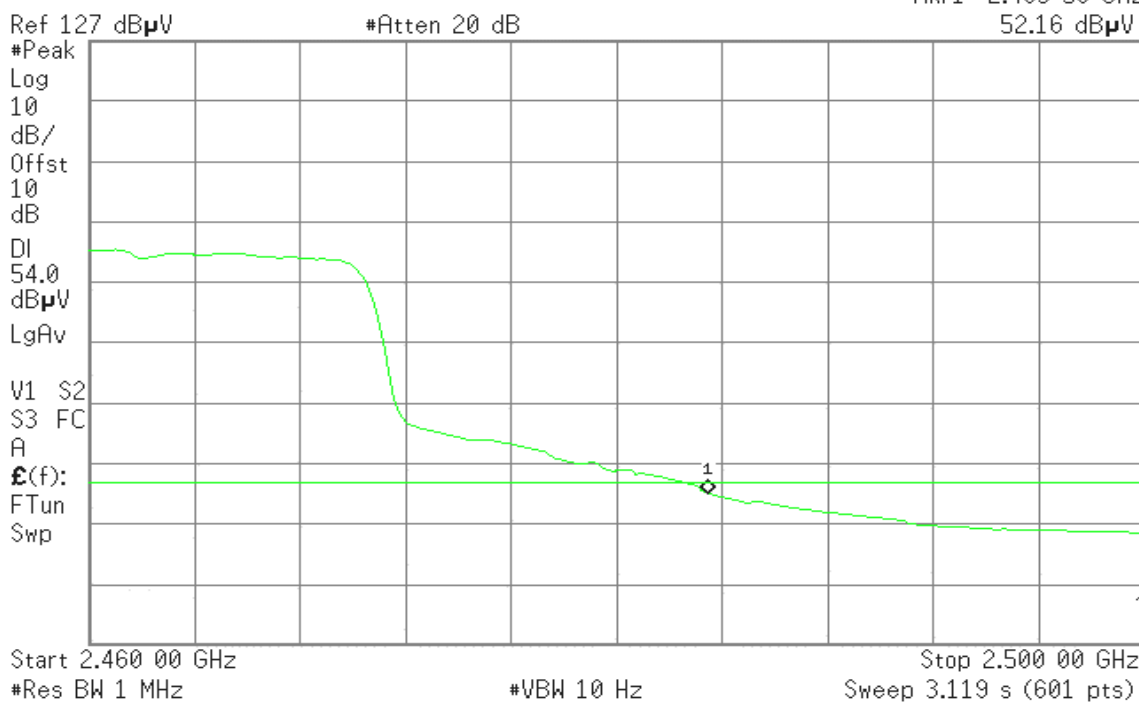
Detector mode: Average

Polarity: Vertical

Agilent 20:13:51 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
52.16 dB μ V





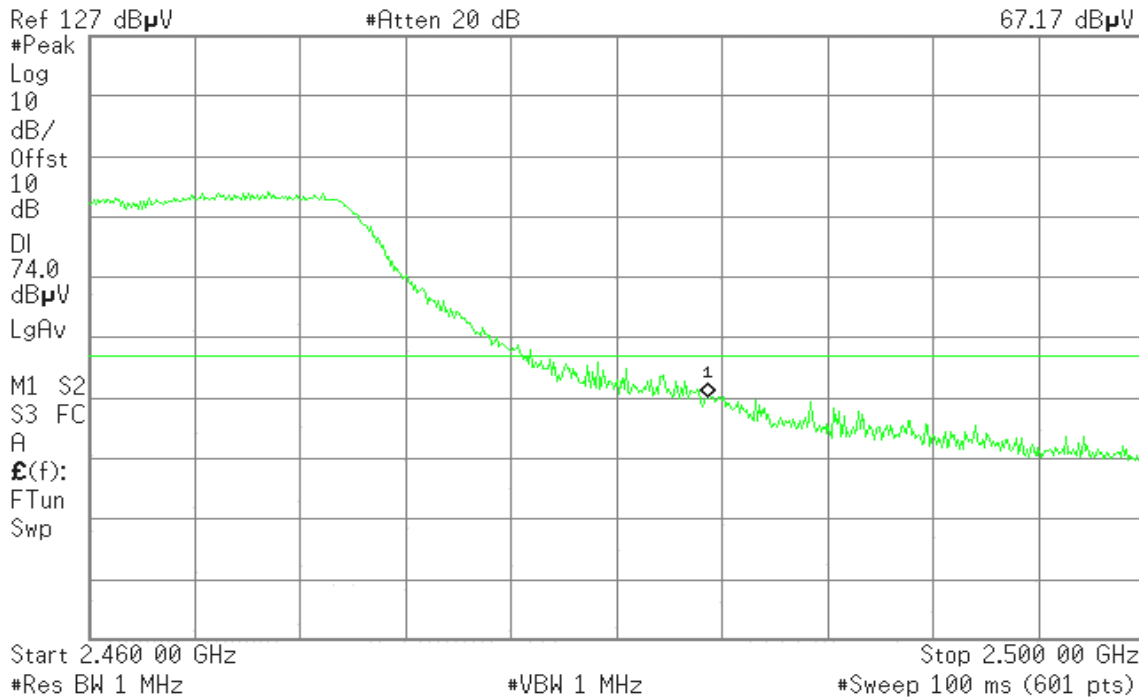
Detector mode: Peak

Polarity: Horizontal

Agilent 20:15:04 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
67.17 dB μ V



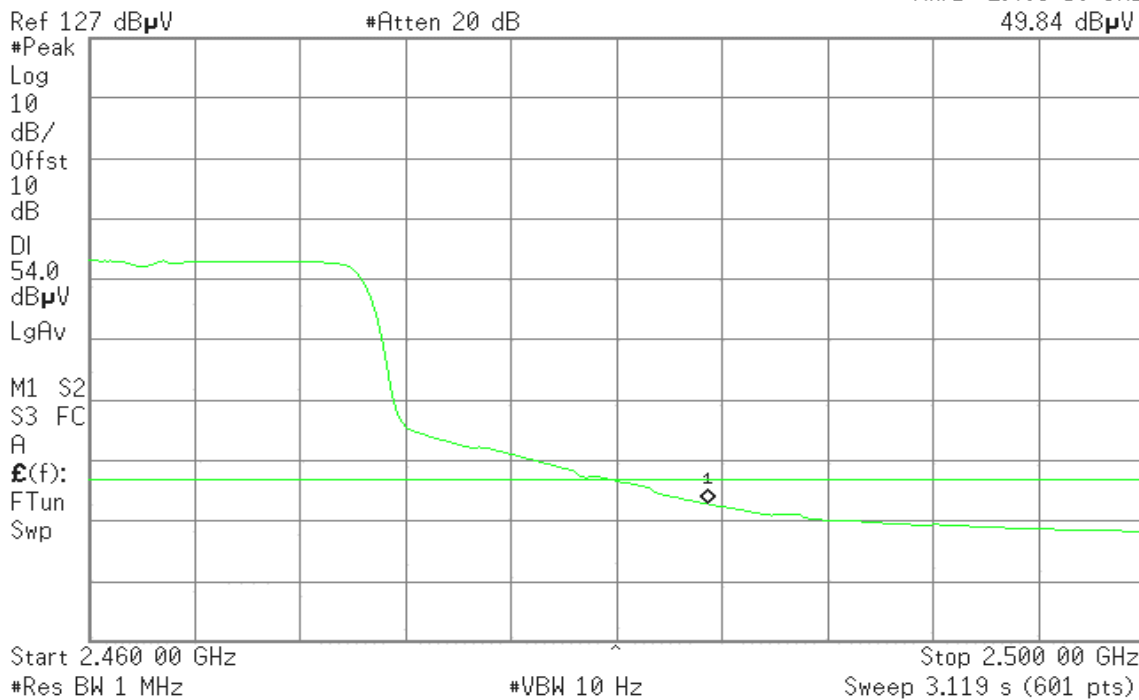
Detector mode: Average

Polarity: Horizontal

Agilent 20:15:20 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
49.84 dB μ V





Band Edges (IEEE 802.11n HT40 mode / CH Low)

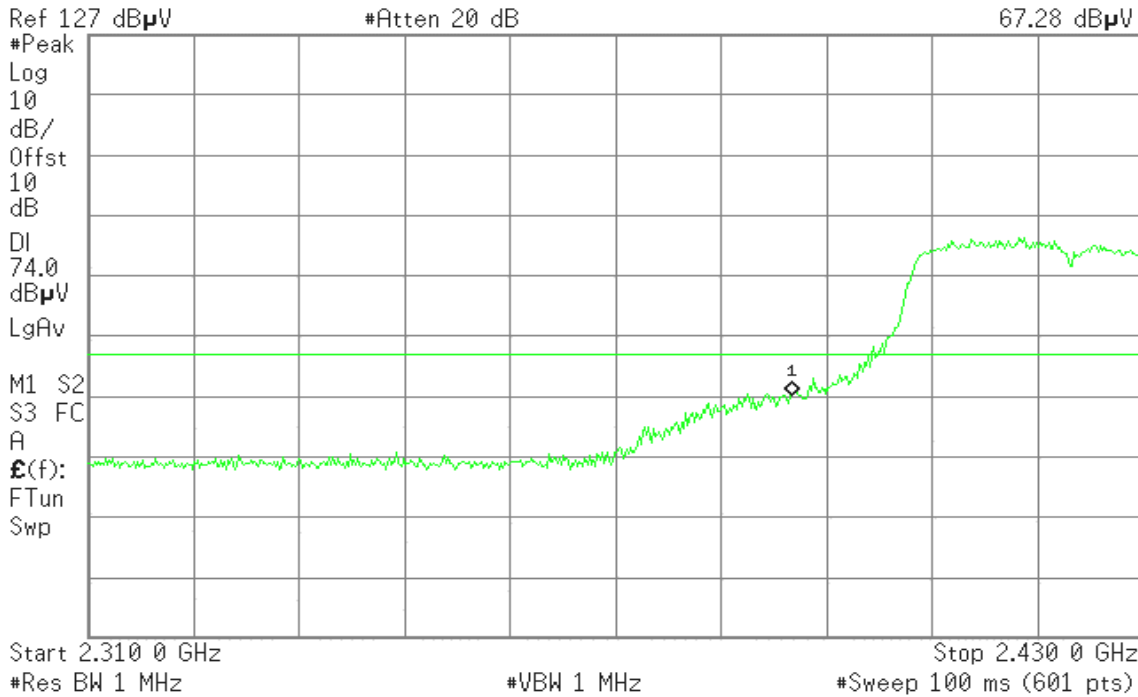
Detector mode: Peak

Polarity: Vertical

Agilent 20:29:55 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
67.28 dBμV



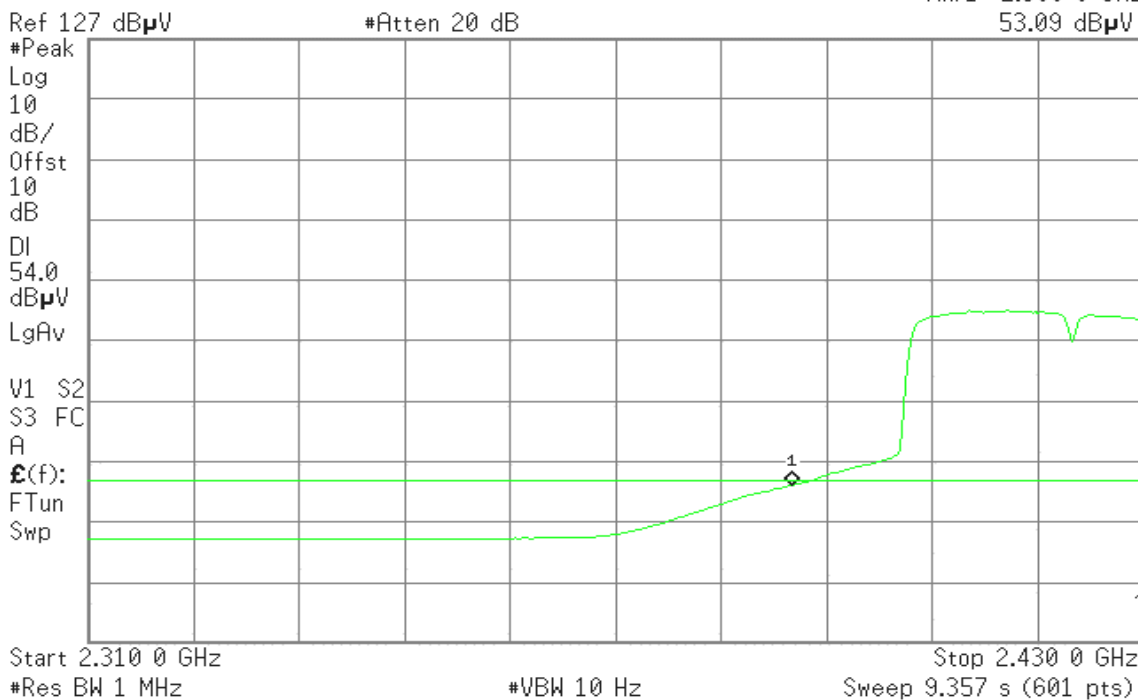
Detector mode: Average

Polarity: Vertical

Agilent 20:29:37 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
53.09 dBμV





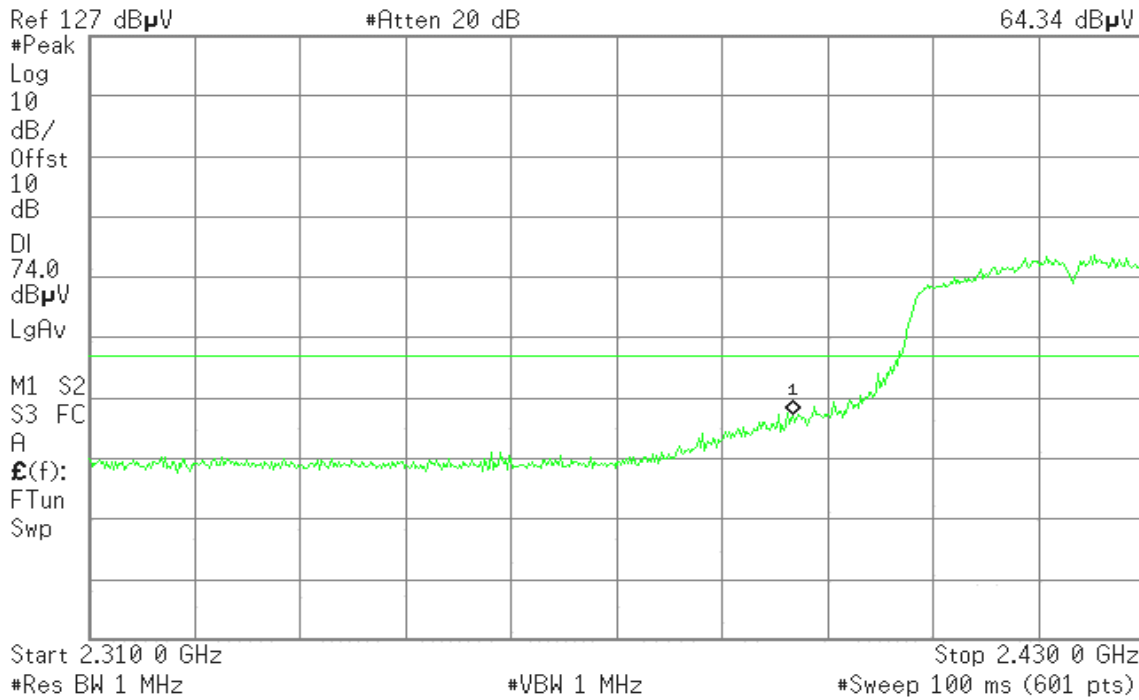
Detector mode: Peak

Polarity: Horizontal

Agilent 20:30:15 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
64.34 dBµV



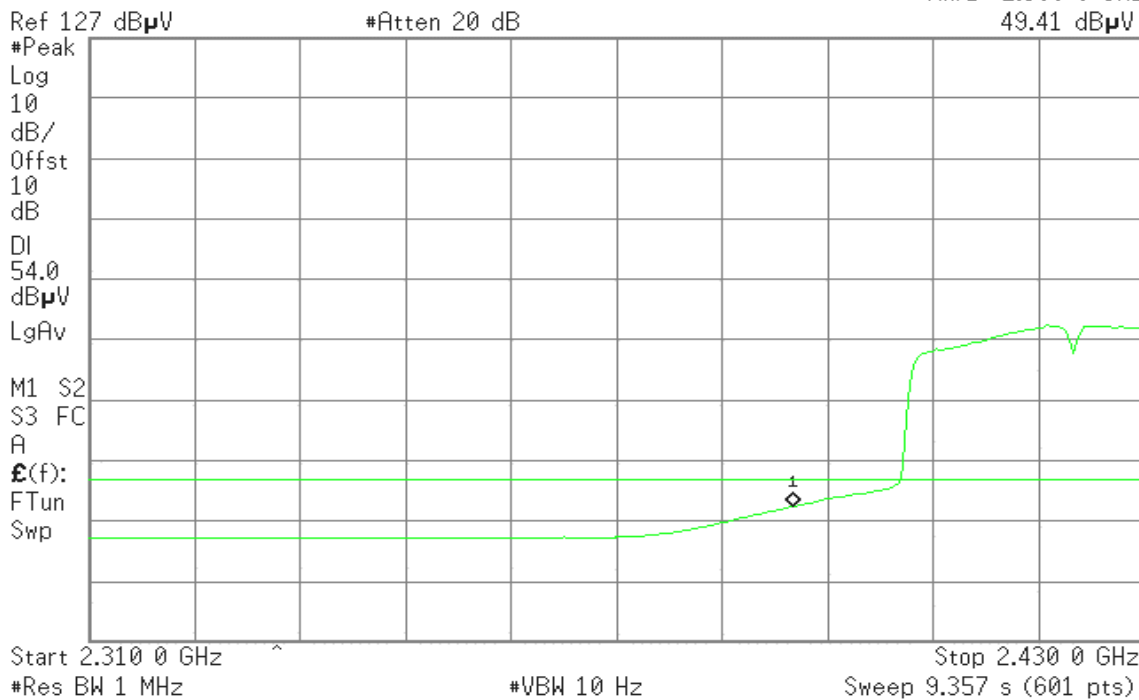
Detector mode: Average

Polarity: Horizontal

Agilent 20:30:38 Dec 24, 2008

R T

Mkr1 2.390 0 GHz
49.41 dBµV





Band Edges (IEEE 802.11n HT40 mode / CH High)

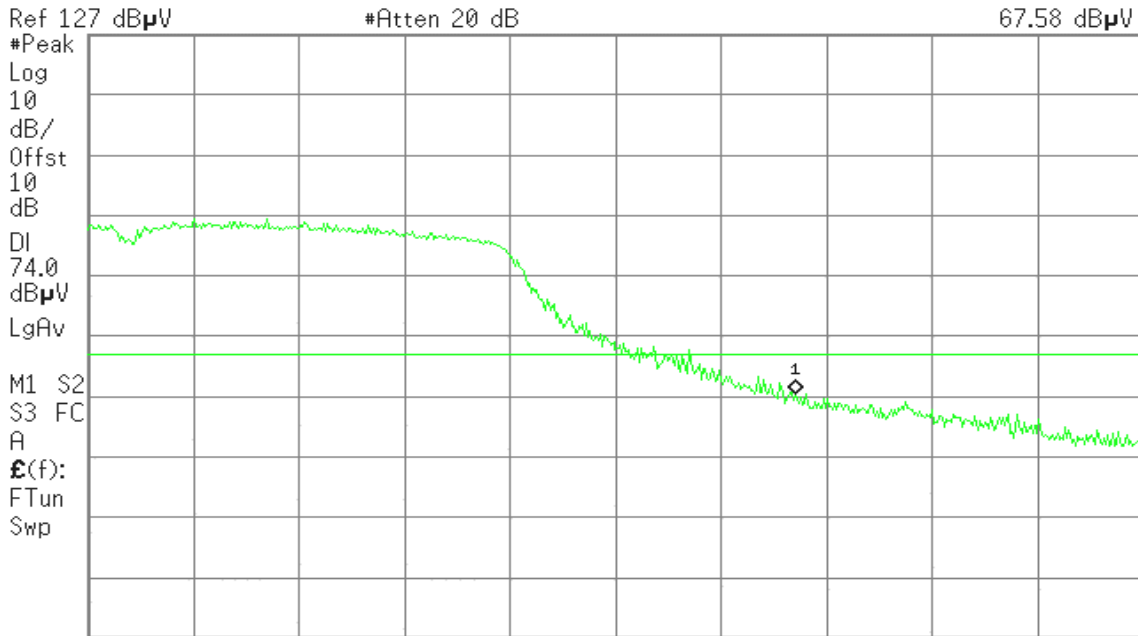
Detector mode: Peak

Polarity: Vertical

Agilent 20:32:42 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
67.58 dBμV



Start 2.450 00 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.500 00 GHz #Sweep 100 ms (601 pts)

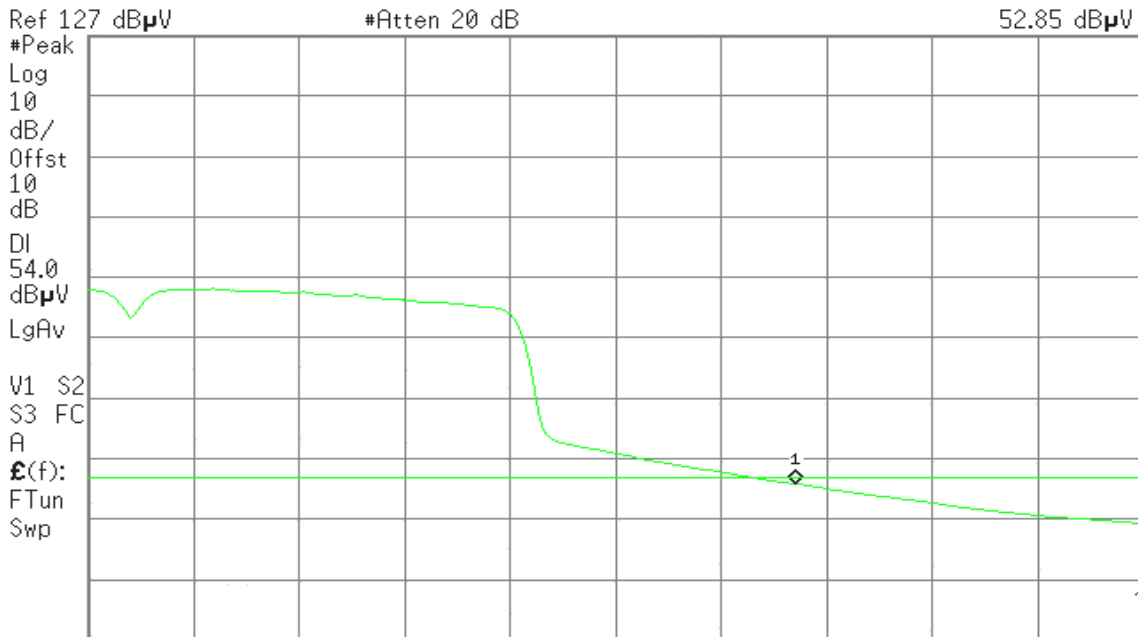
Detector mode: Average

Polarity: Vertical

Agilent 20:32:25 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
52.85 dBμV



Start 2.450 00 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.500 00 GHz Sweep 3.899 s (601 pts)



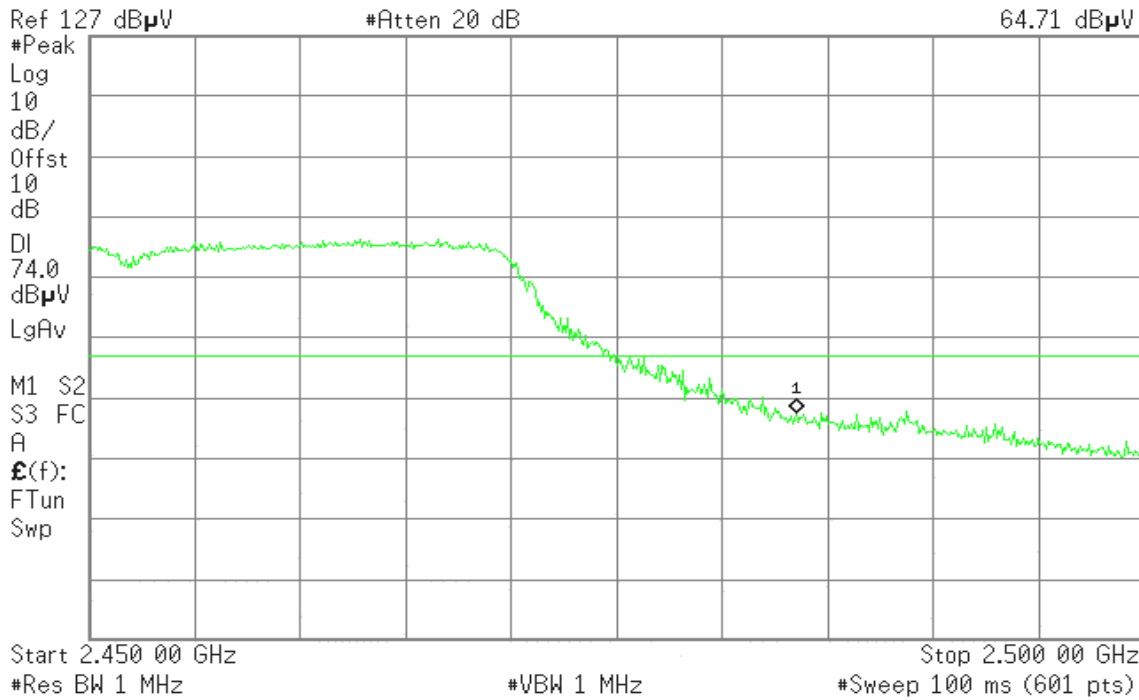
Detector mode: Peak

Polarity: Horizontal

Agilent 20:33:03 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
64.71 dBμV



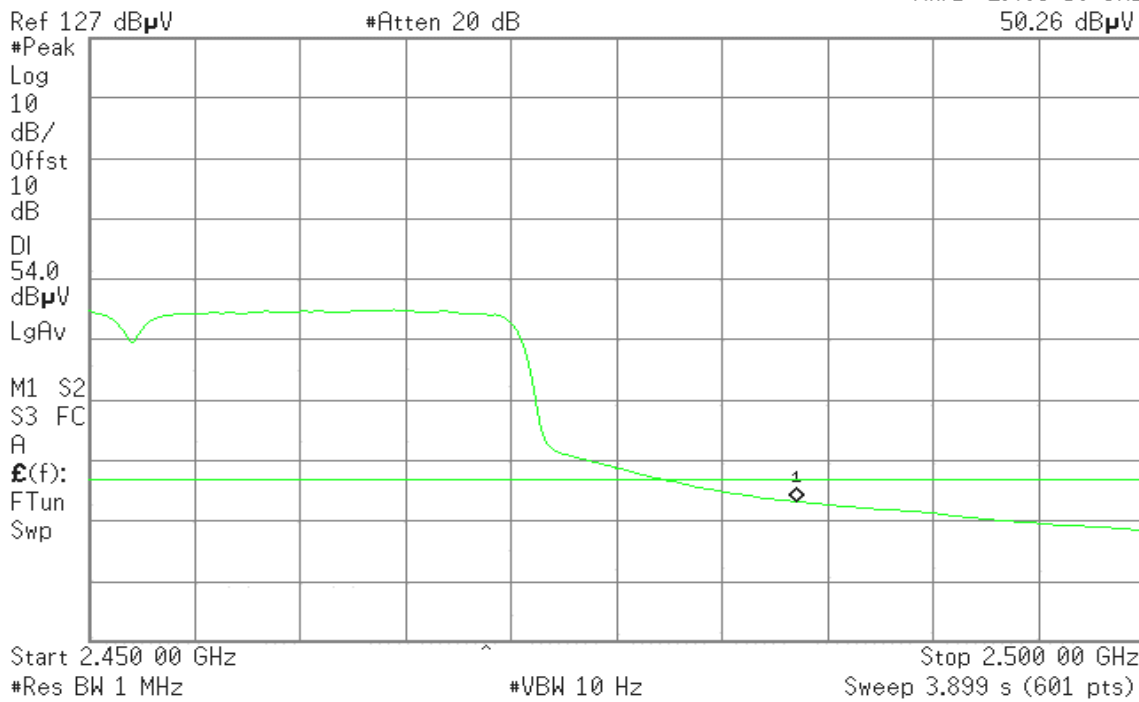
Detector mode: Average

Polarity: Horizontal

Agilent 20:33:21 Dec 24, 2008

R T

Mkr1 2.483 50 GHz
50.26 dBμV





Dipole Antenna / Half Length Board:

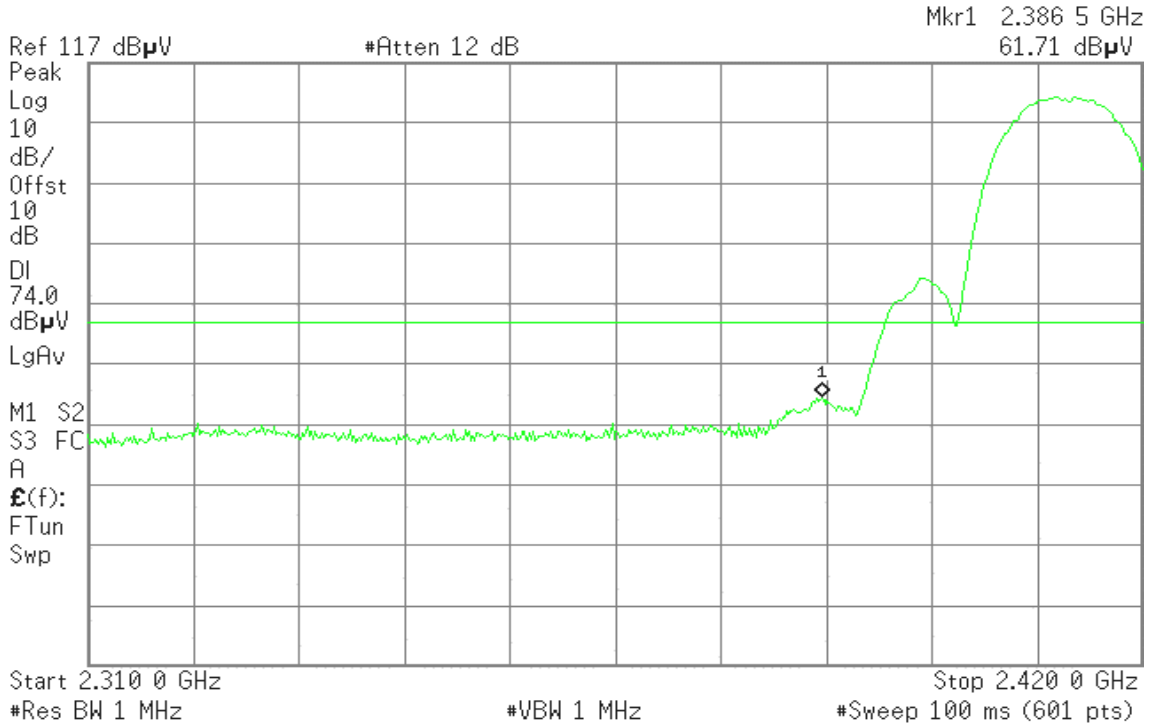
Band Edges (IEEE 802.11b mode / CH Low)

Detector mode: Peak

Polarity: Vertical

Agilent 22:34:28 Nov 20, 2008

R T

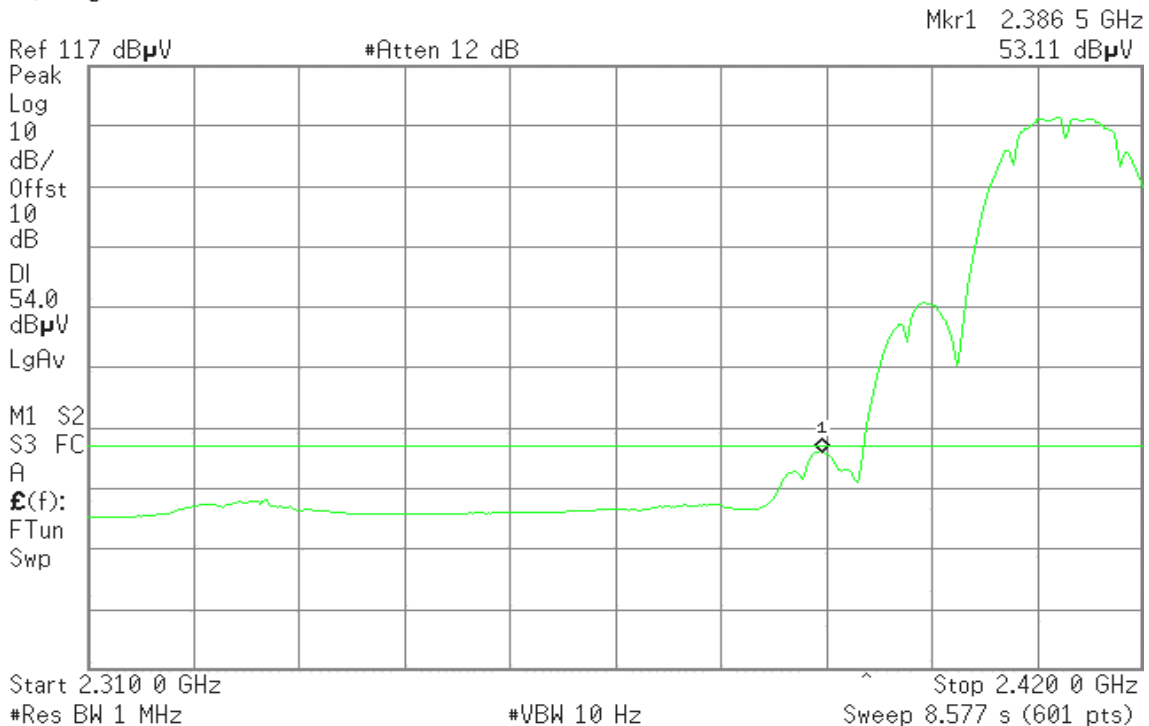


Detector mode: Average

Polarity: Vertical

Agilent 22:34:08 Nov 20, 2008

R T





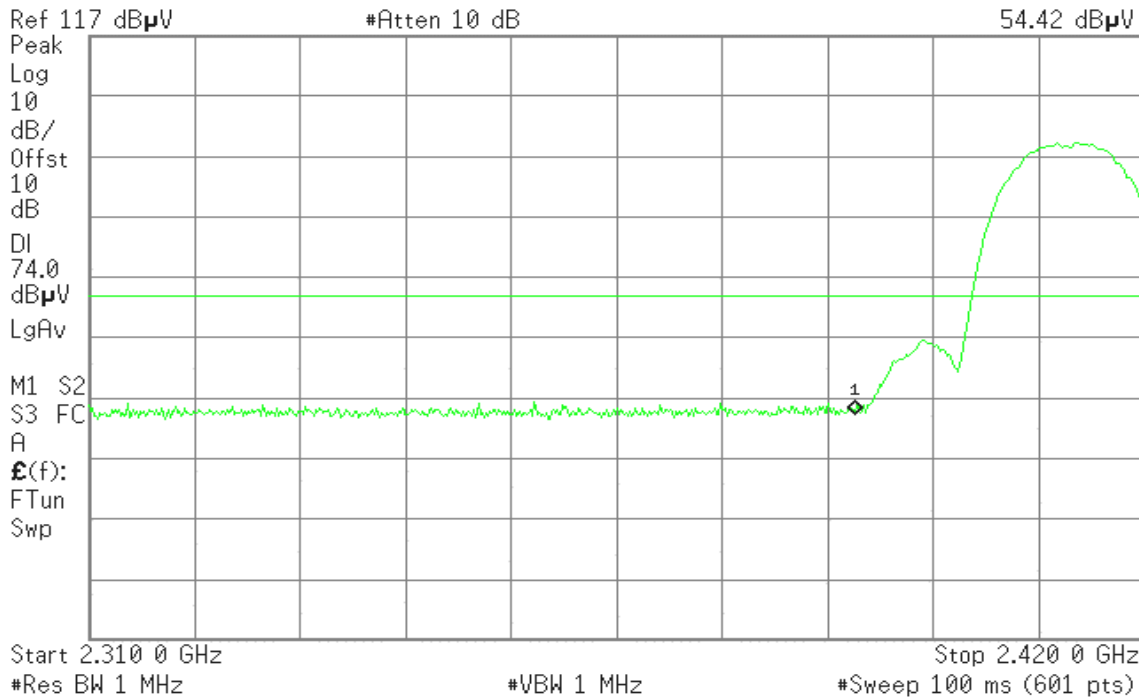
Detector mode: Peak

Polarity: Horizontal

Agilent 22:26:26 Nov 20, 2008

R T

Mkr1 2.390 0 GHz
54.42 dBµV



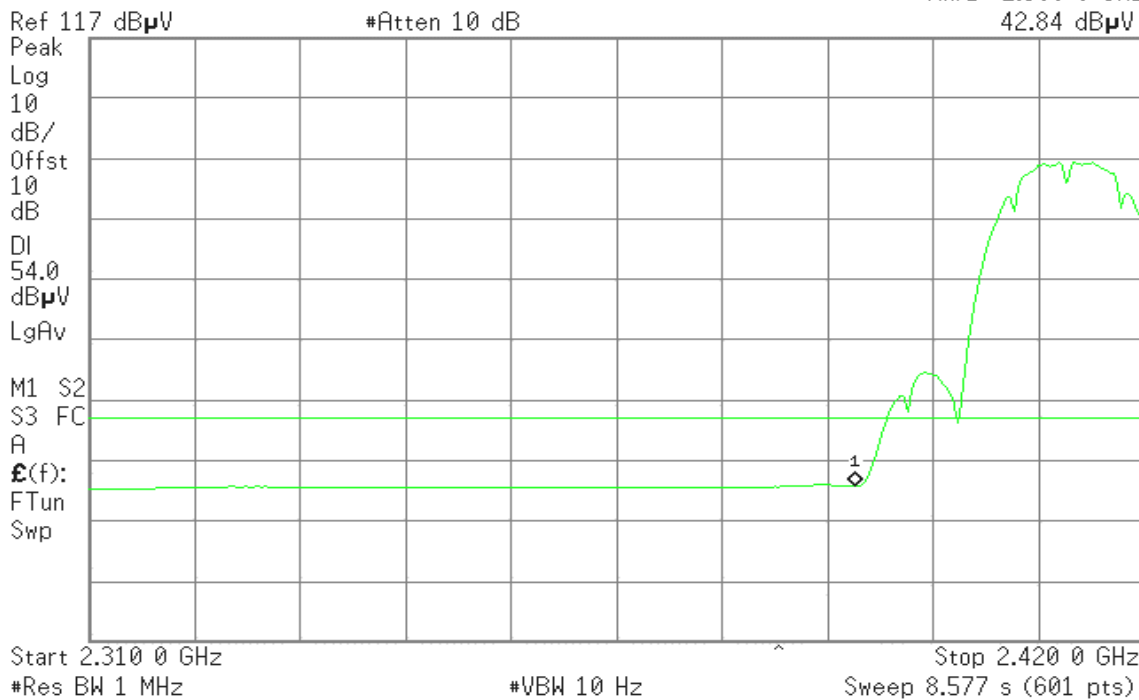
Detector mode: Average

Polarity: Horizontal

Agilent 22:26:53 Nov 20, 2008

R T

Mkr1 2.390 0 GHz
42.84 dBµV





Band Edges (IEEE 802.11b mode / CH High)

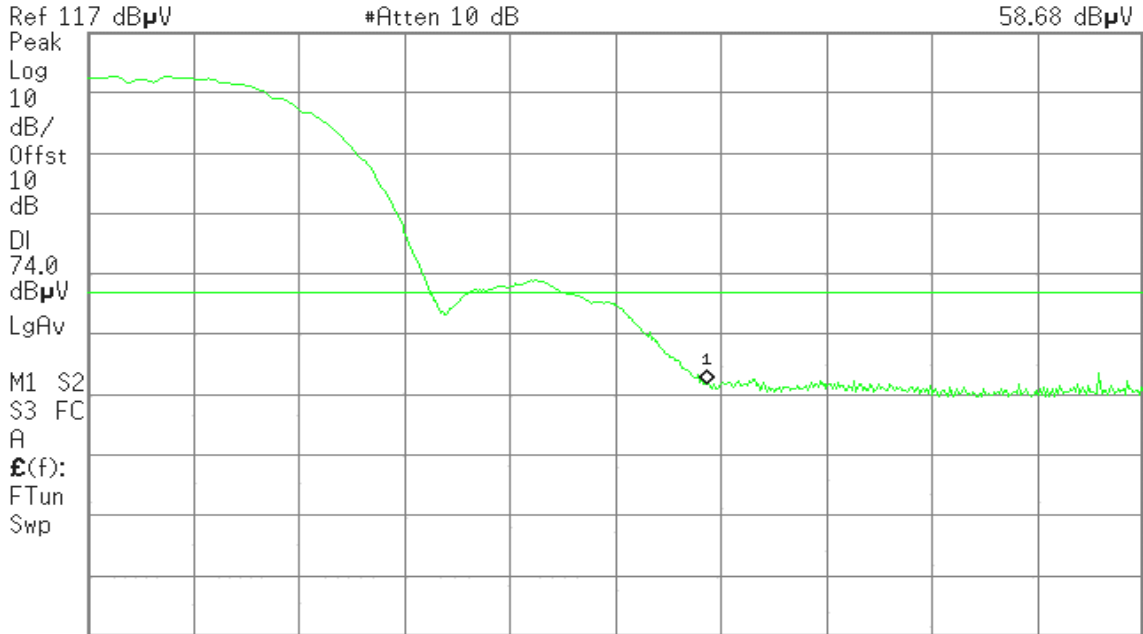
Detector mode: Peak

Polarity: Vertical

Agilent 22:08:02 Nov 20, 2008

R T

Mkr1 2.483 50 GHz
58.68 dBμV



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 1 MHz

#Sweep 100 ms (601 pts)

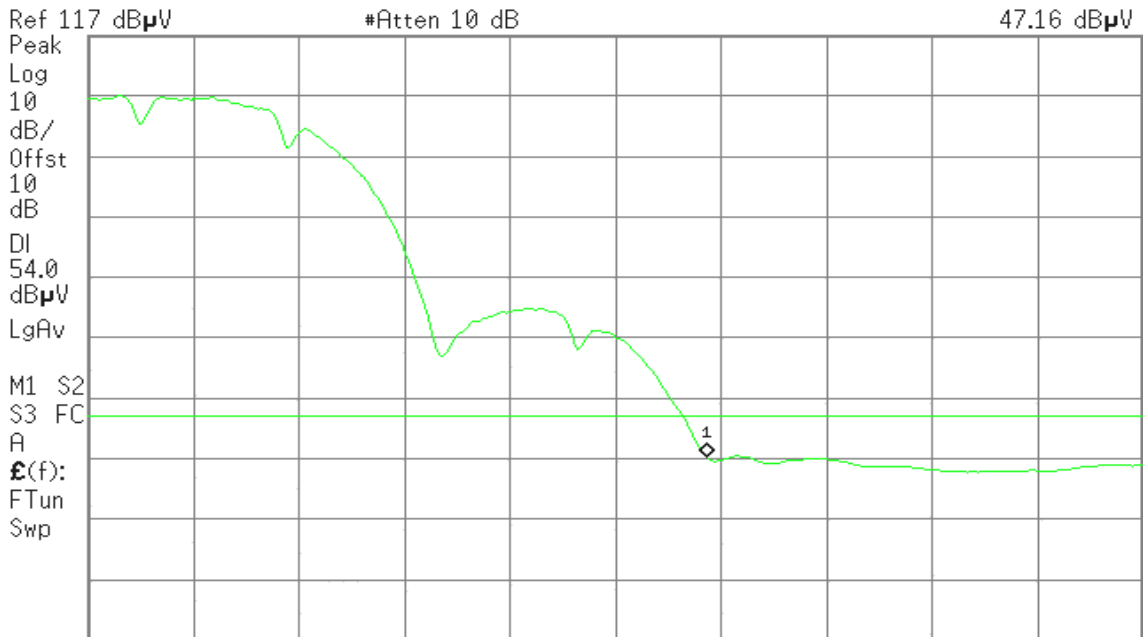
Detector mode: Average

Polarity: Vertical

Agilent 22:08:23 Nov 20, 2008

R T

Mkr1 2.483 50 GHz
47.16 dBμV



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 10 Hz

Sweep 3.119 s (601 pts)



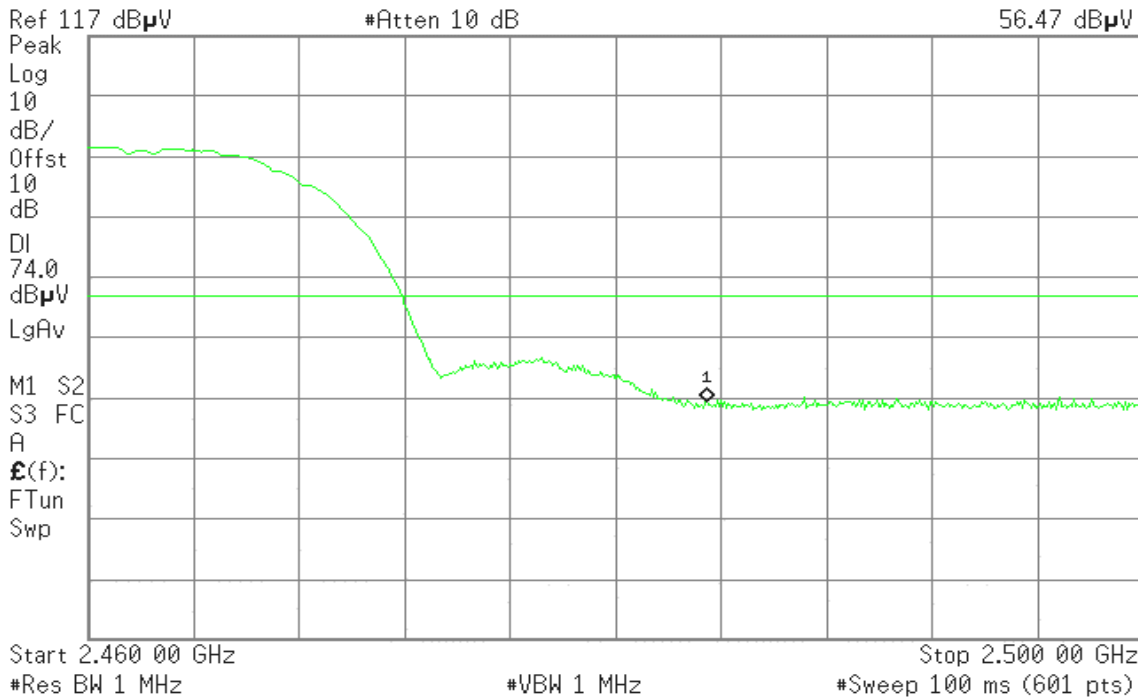
Detector mode: Peak

Polarity: Horizontal

Agilent 22:02:30 Nov 20, 2008

R T

Mkr1 2.483 50 GHz
56.47 dBμV



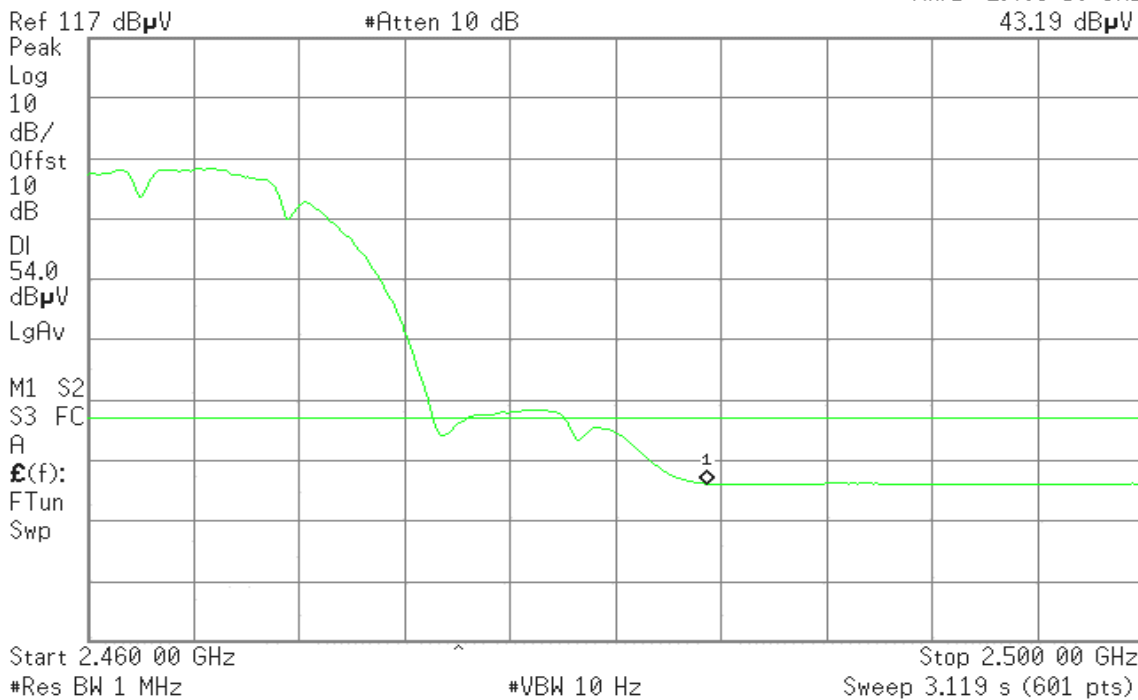
Detector mode: Average

Polarity: Horizontal

Agilent 22:02:53 Nov 20, 2008

R T

Mkr1 2.483 50 GHz
43.19 dBμV





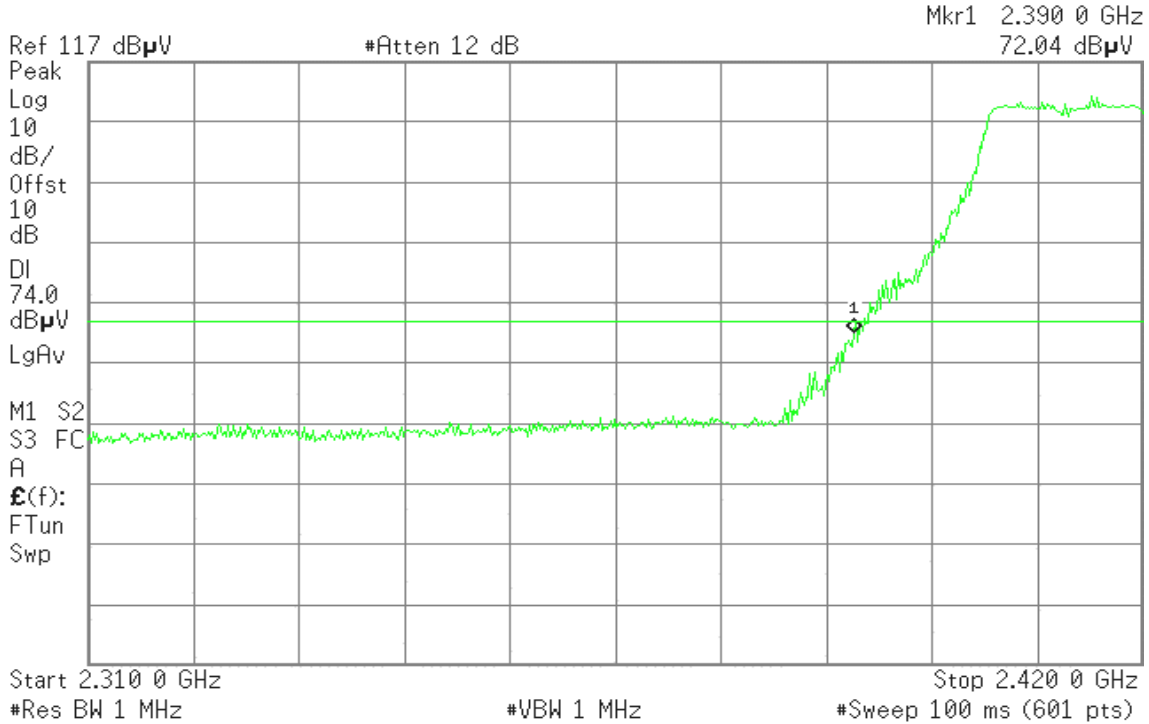
Band Edges (IEEE 802.11g mode / CH Low)

Detector mode: Peak

Polarity: Vertical

Agilent 22:43:58 Nov 20, 2008

R T

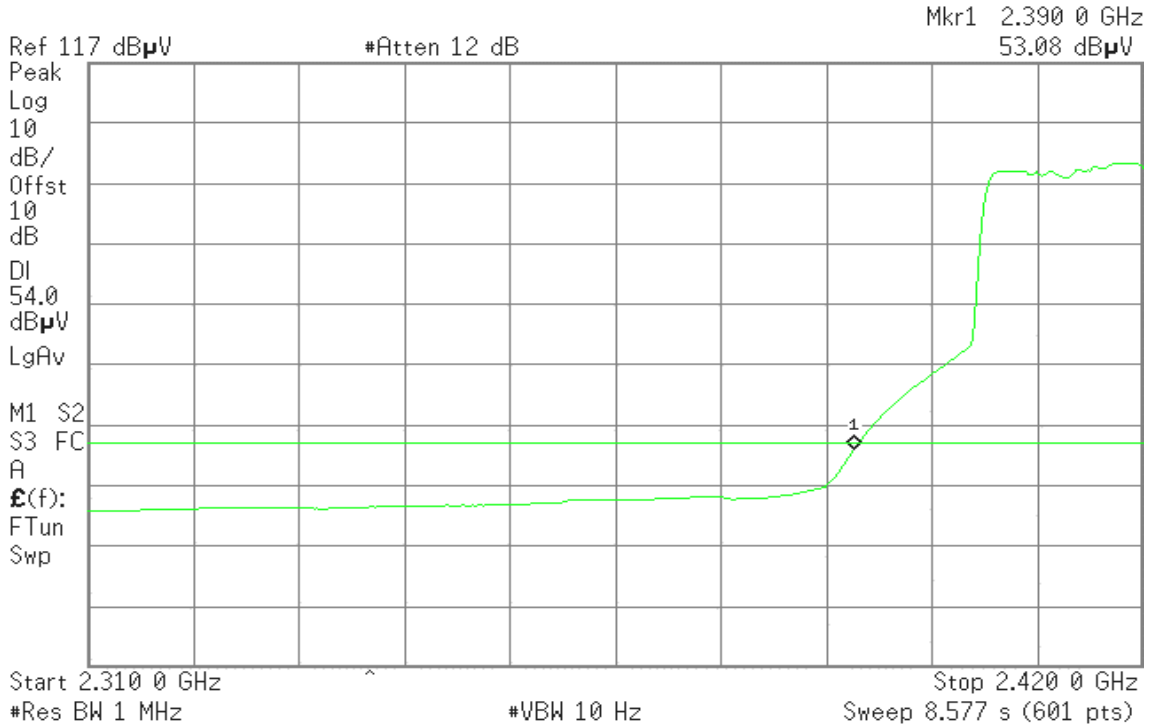


Detector mode: Average

Polarity: Vertical

Agilent 22:45:58 Nov 20, 2008

R T





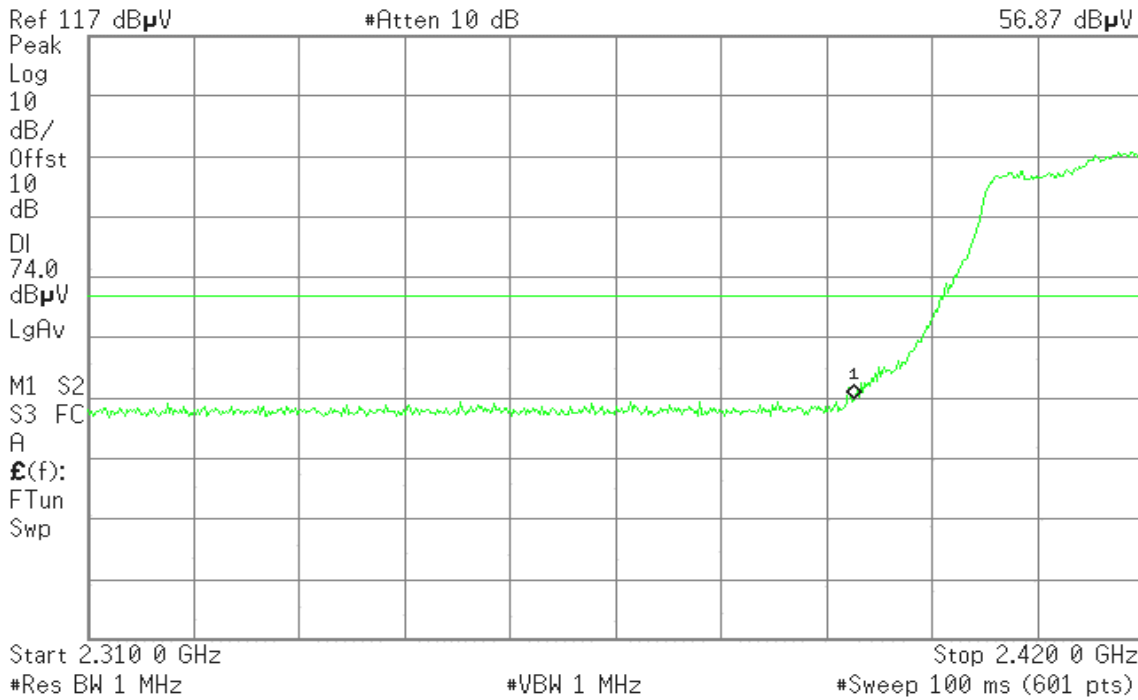
Detector mode: Peak

Polarity: Horizontal

Agilent 22:49:47 Nov 20, 2008

R T

Mkr1 2.390 0 GHz
56.87 dBμV



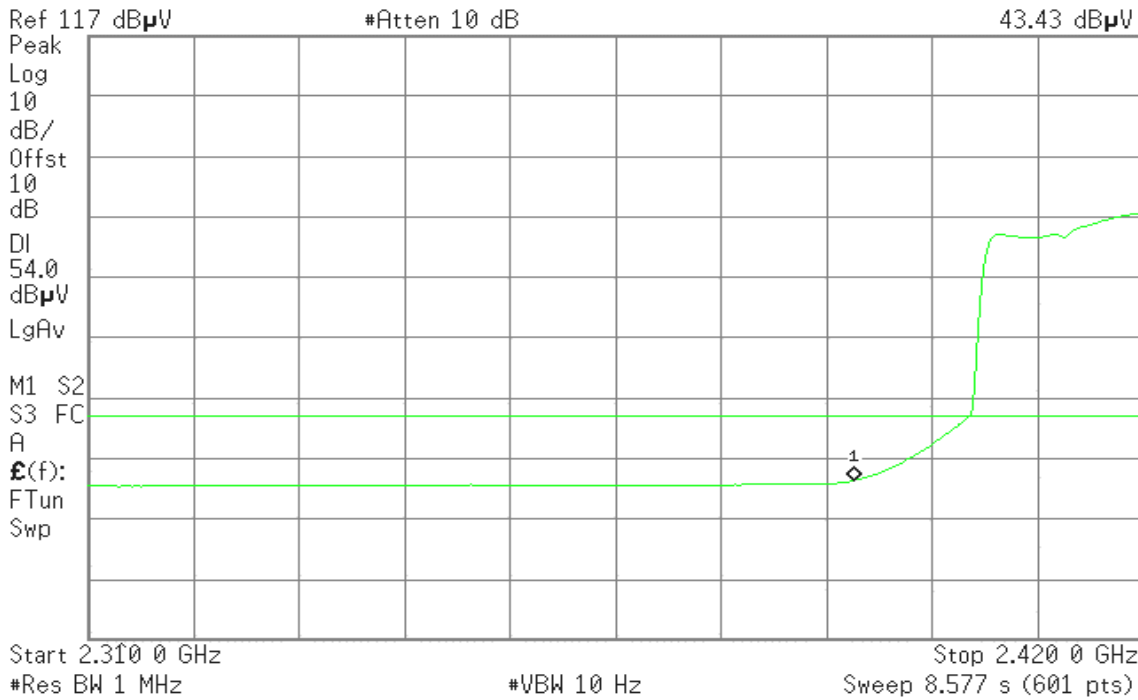
Detector mode: Average

Polarity: Horizontal

Agilent 22:50:14 Nov 20, 2008

R T

Mkr1 2.390 0 GHz
43.43 dBμV





Band Edges (IEEE 802.11g mode / CH High)

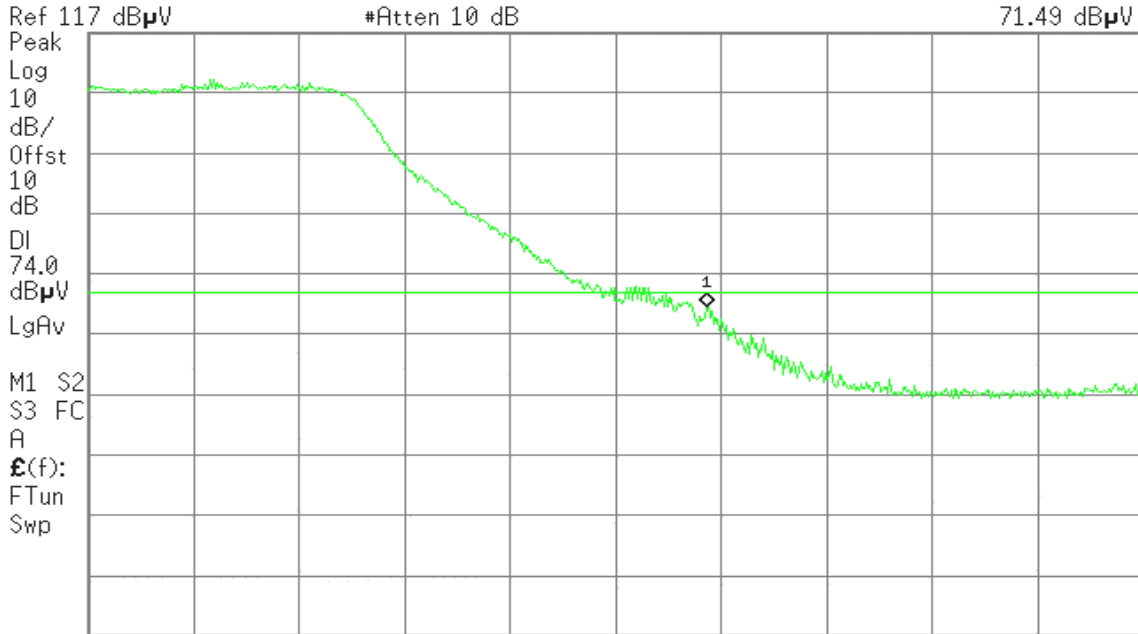
Detector mode: Peak

Polarity: Vertical

Agilent 23:03:05 Nov 20, 2008

R T

Mkr1 2.483 50 GHz
71.49 dB μ V



Start 2.460 00 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.500 00 GHz #Sweep 100 ms (601 pts)

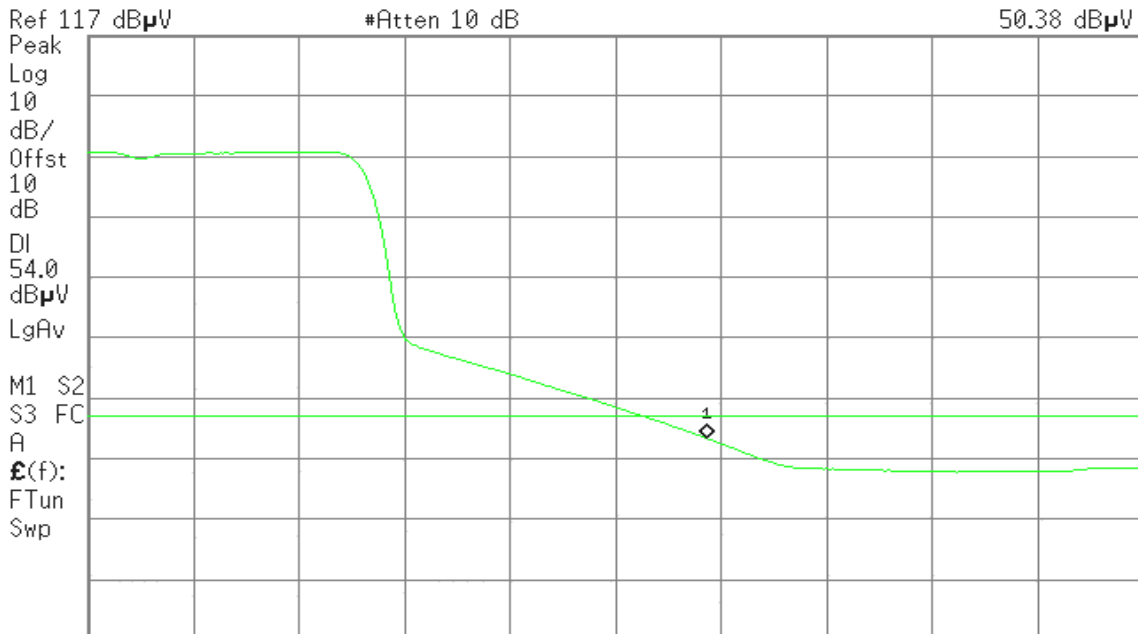
Detector mode: Average

Polarity: Vertical

Agilent 23:02:36 Nov 20, 2008

R T

Mkr1 2.483 50 GHz
50.38 dB μ V



Start 2.460 00 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.500 00 GHz Sweep 3.119 s (601 pts)



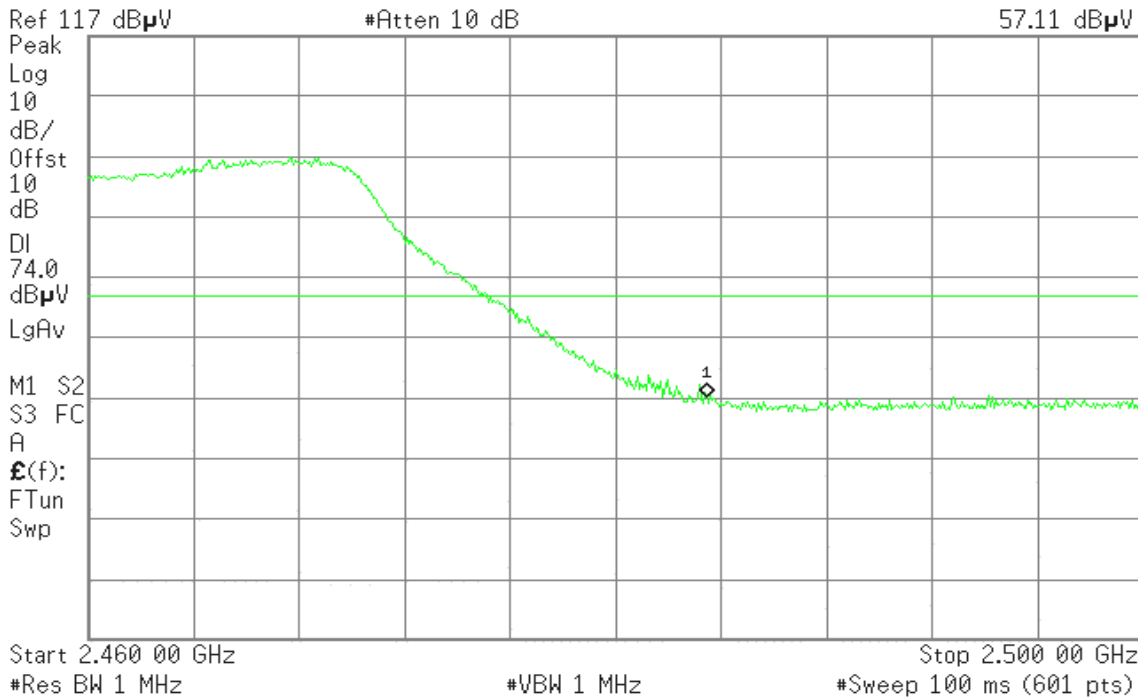
Detector mode: Peak

Polarity: Horizontal

Agilent 23:11:28 Nov 20, 2008

R T

Mkr1 2.483 50 GHz
57.11 dBμV



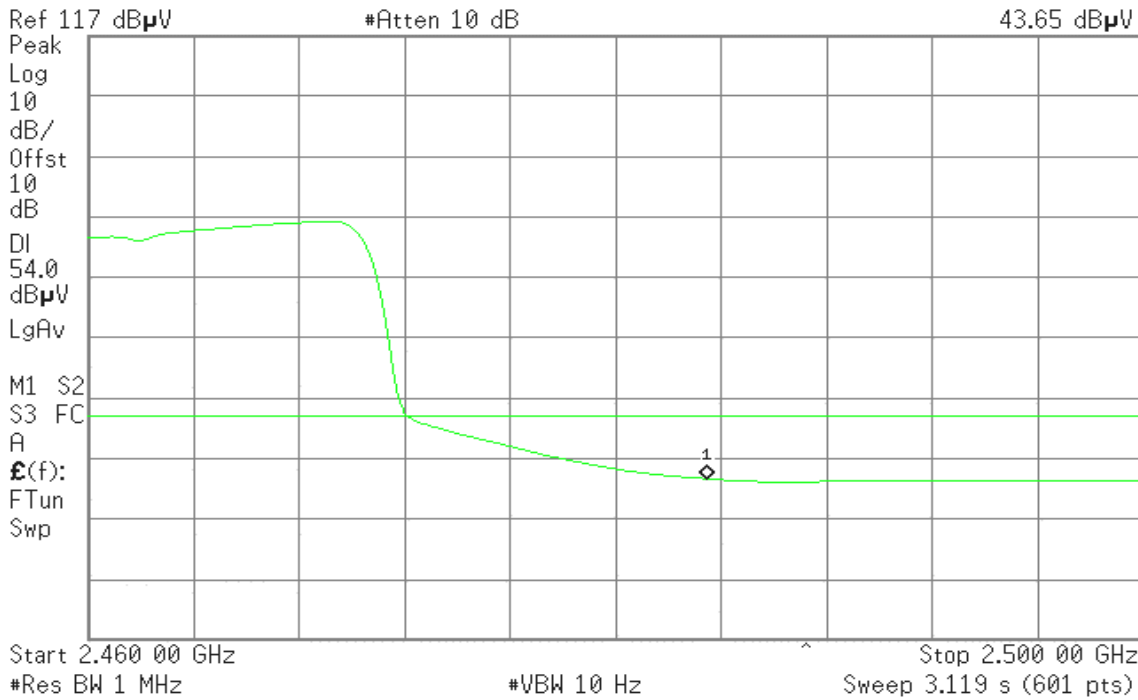
Detector mode: Average

Polarity: Horizontal

Agilent 23:10:36 Nov 20, 2008

R T

Mkr1 2.483 50 GHz
43.65 dBμV





Band Edges (IEEE 802.11n HT20 mode / CH Low)

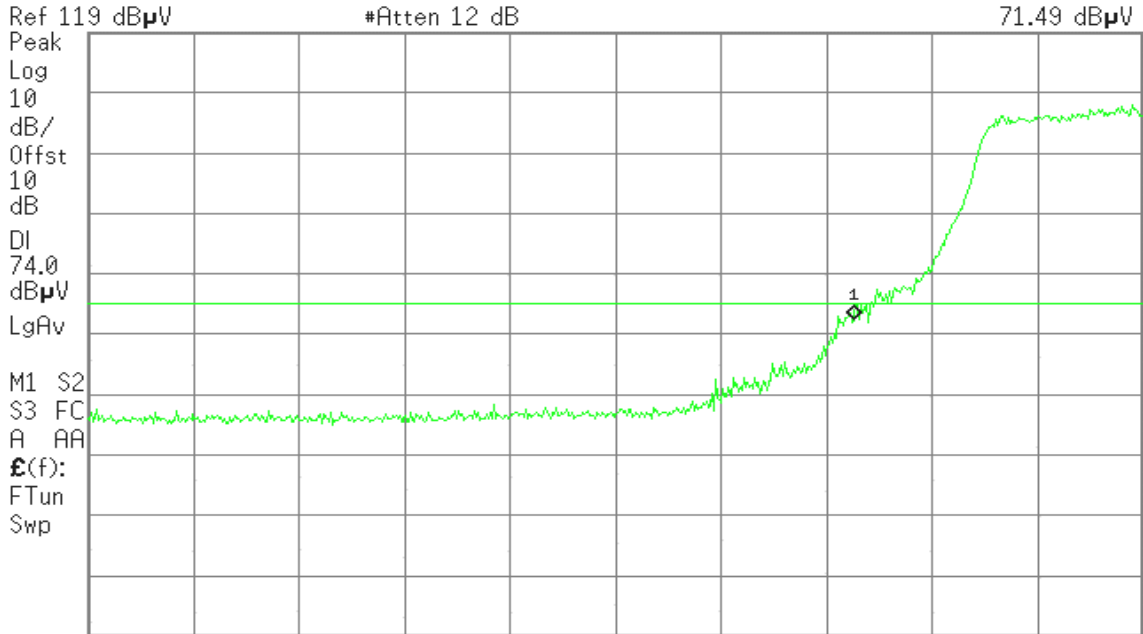
Detector mode: Peak

Polarity: Vertical

Agilent 13:38:07 Nov 23, 2008

R T

Mkr1 2.390 0 GHz
71.49 dB μ V



Start 2.310 0 GHz #Res BW 1 MHz #VBW 1 MHz Stop 2.420 0 GHz #Sweep 100 ms (601 pts)

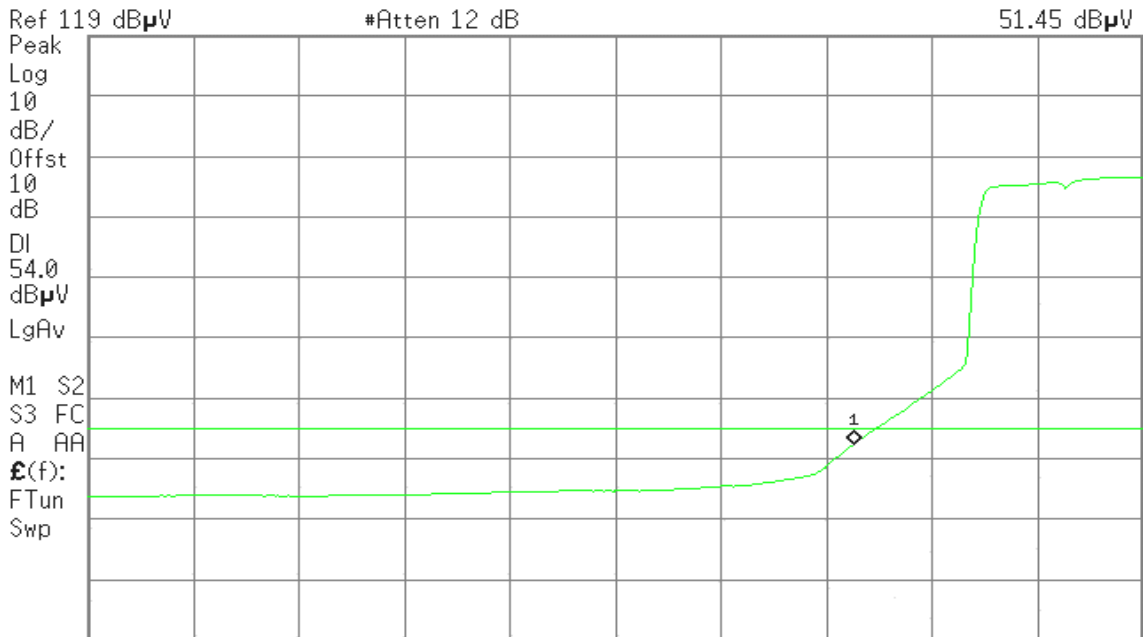
Detector mode: Average

Polarity: Vertical

Agilent 13:38:35 Nov 23, 2008

R T

Mkr1 2.390 0 GHz
51.45 dB μ V



Start 2.310 0 GHz #Res BW 1 MHz #VBW 10 Hz Stop 2.420 0 GHz Sweep 8.577 s (601 pts)



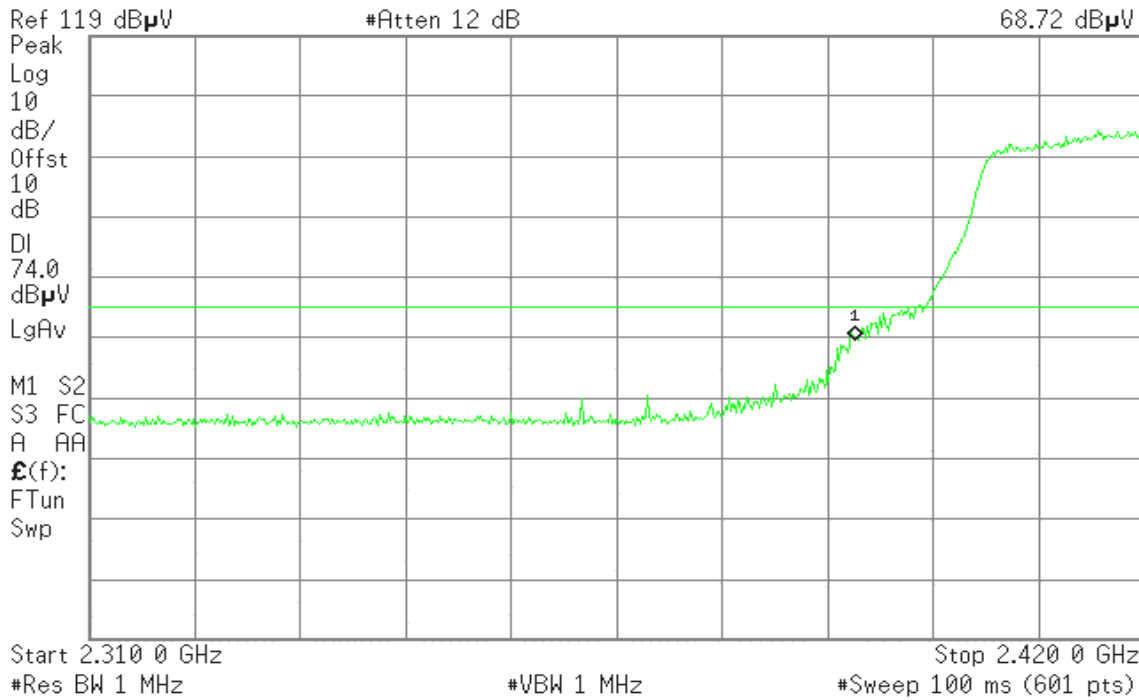
Detector mode: Peak

Polarity: Horizontal

Agilent 13:45:35 Nov 23, 2008

R T

Mkr1 2.390 0 GHz
68.72 dBμV



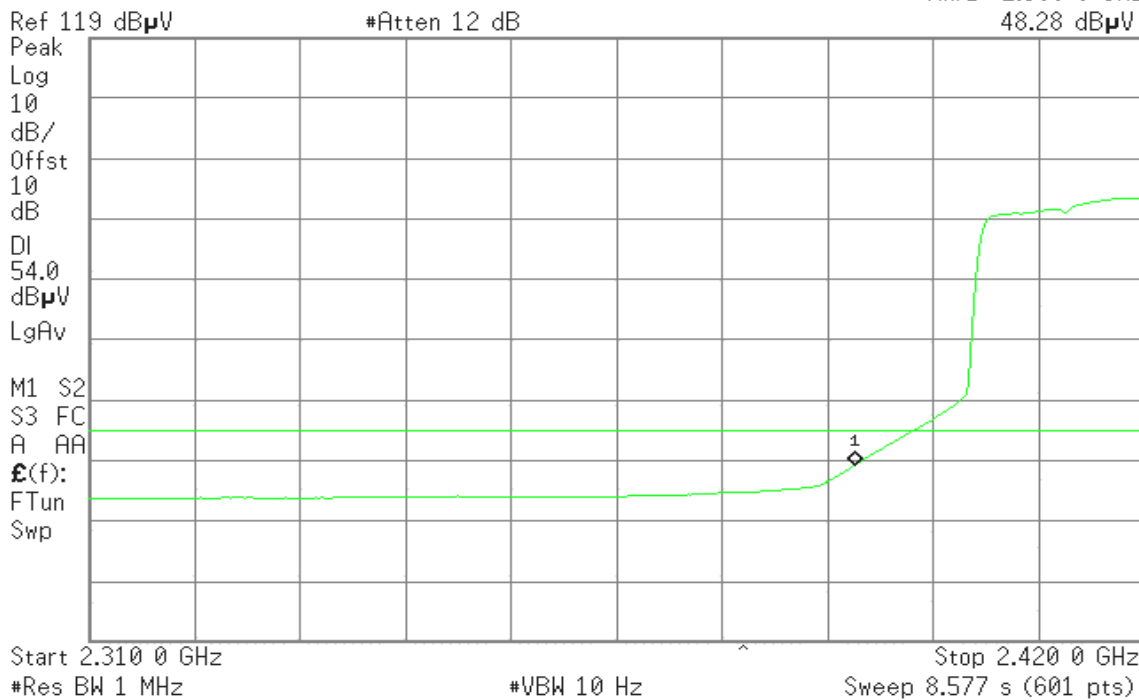
Detector mode: Average

Polarity: Horizontal

Agilent 13:46:00 Nov 23, 2008

R T

Mkr1 2.390 0 GHz
48.28 dBμV





Band Edges (IEEE 802.11n HT20 mode / CH High)

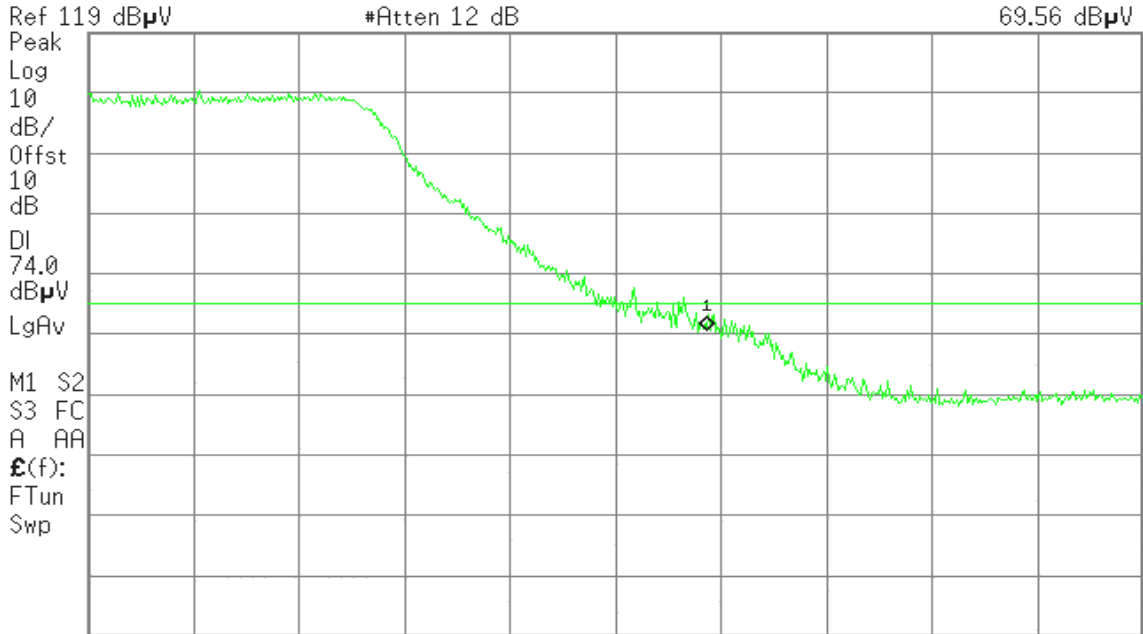
Detector mode: Peak

Polarity: Vertical

Agilent 14:20:40 Nov 23, 2008

R T

Mkr1 2.483 50 GHz
69.56 dBμV



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 1 MHz

#Sweep 100 ms (601 pts)

Detector mode: Average

Polarity: Vertical

Agilent 14:20:12 Nov 23, 2008

R T

Mkr1 2.483 50 GHz
53.23 dBμV



Start 2.460 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 10 Hz

Sweep 3.119 s (601 pts)



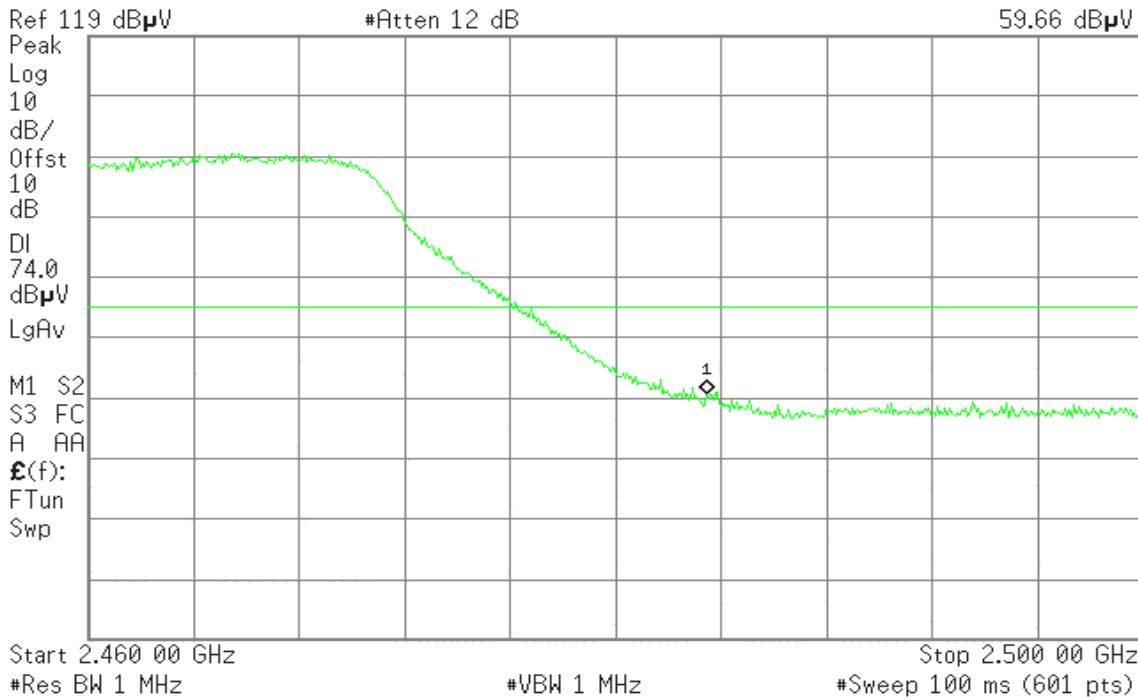
Detector mode: Peak

Polarity: Horizontal

Agilent 14:26:43 Nov 23, 2008

R T

Mkr1 2.483 50 GHz
59.66 dBμV



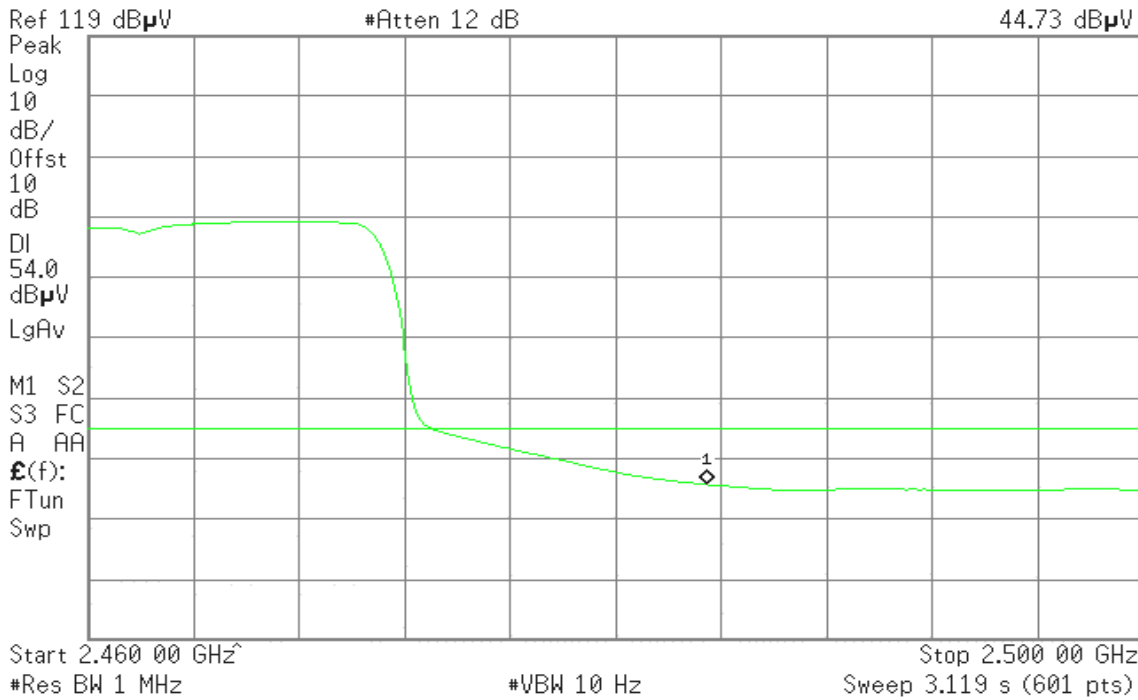
Detector mode: Average

Polarity: Horizontal

Agilent 14:27:02 Nov 23, 2008

R T

Mkr1 2.483 50 GHz
44.73 dBμV





Band Edges (IEEE 802.11n HT40 mode / CH Low)

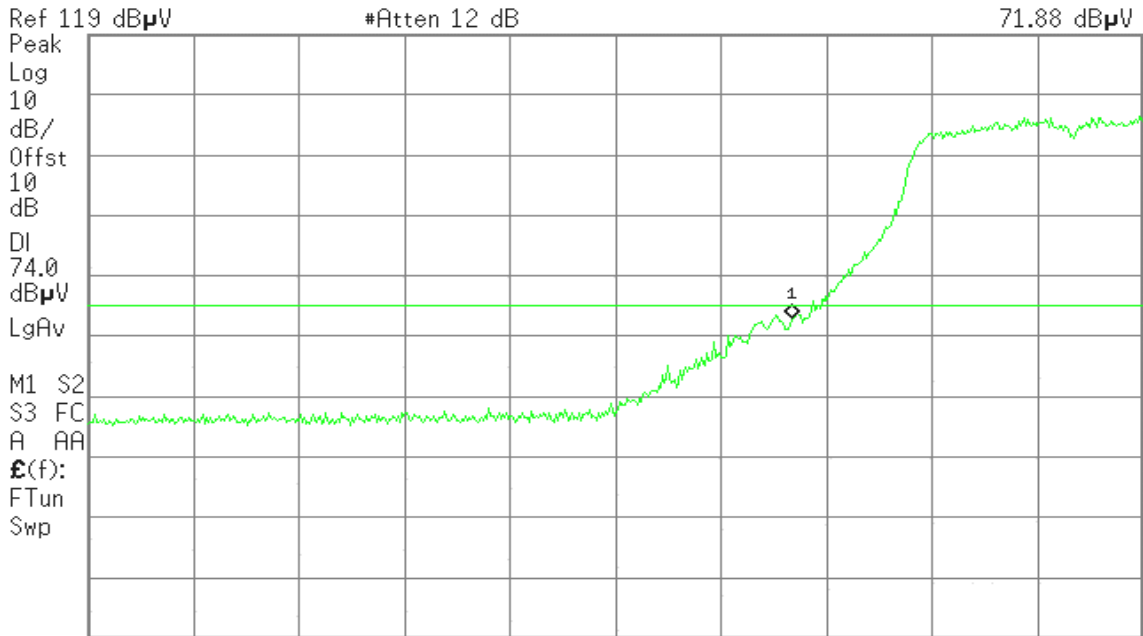
Detector mode: Peak

Polarity: Vertical

Agilent 12:11:58 Nov 23, 2008

R T

Mkr1 2.390 0 GHz
71.88 dBμV



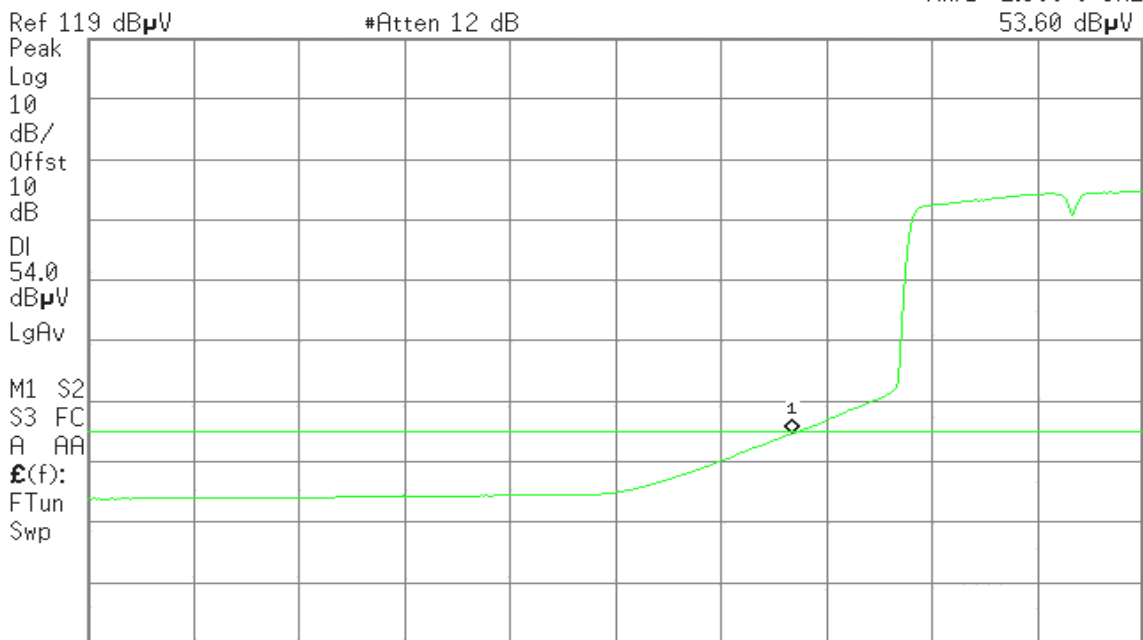
Detector mode: Average

Polarity: Vertical

Agilent 12:11:34 Nov 23, 2008

R T

Mkr1 2.390 0 GHz
53.60 dBμV





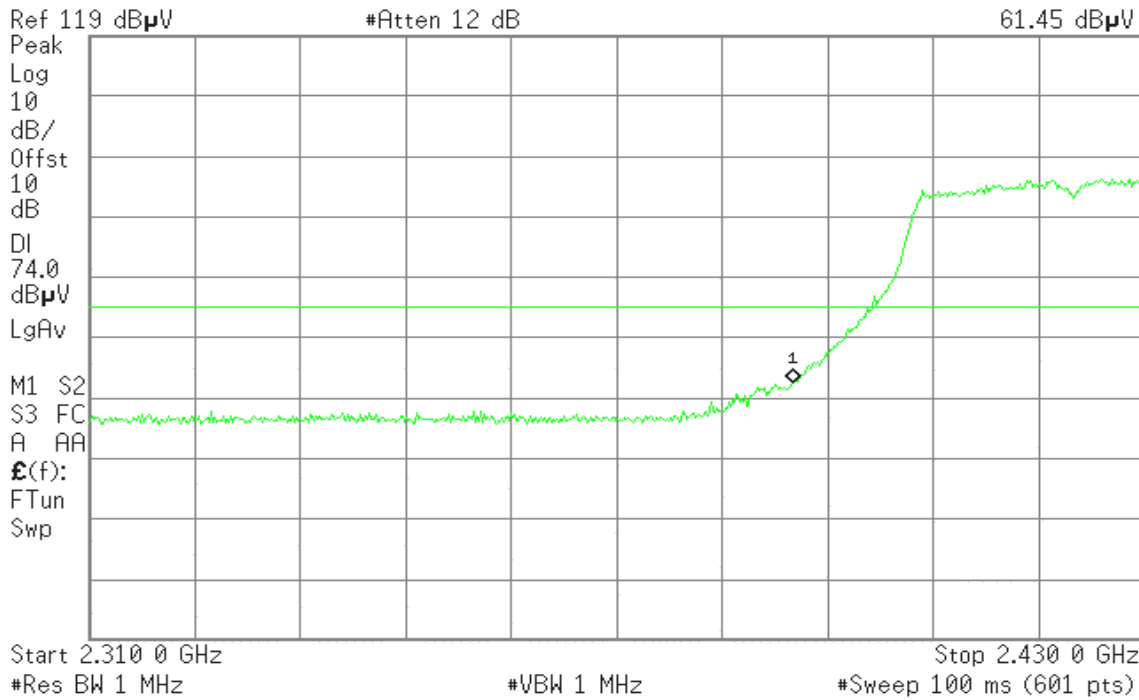
Detector mode: Peak

Polarity: Horizontal

Agilent 12:18:02 Nov 23, 2008

R T

Mkr1 2.390 0 GHz
61.45 dBμV



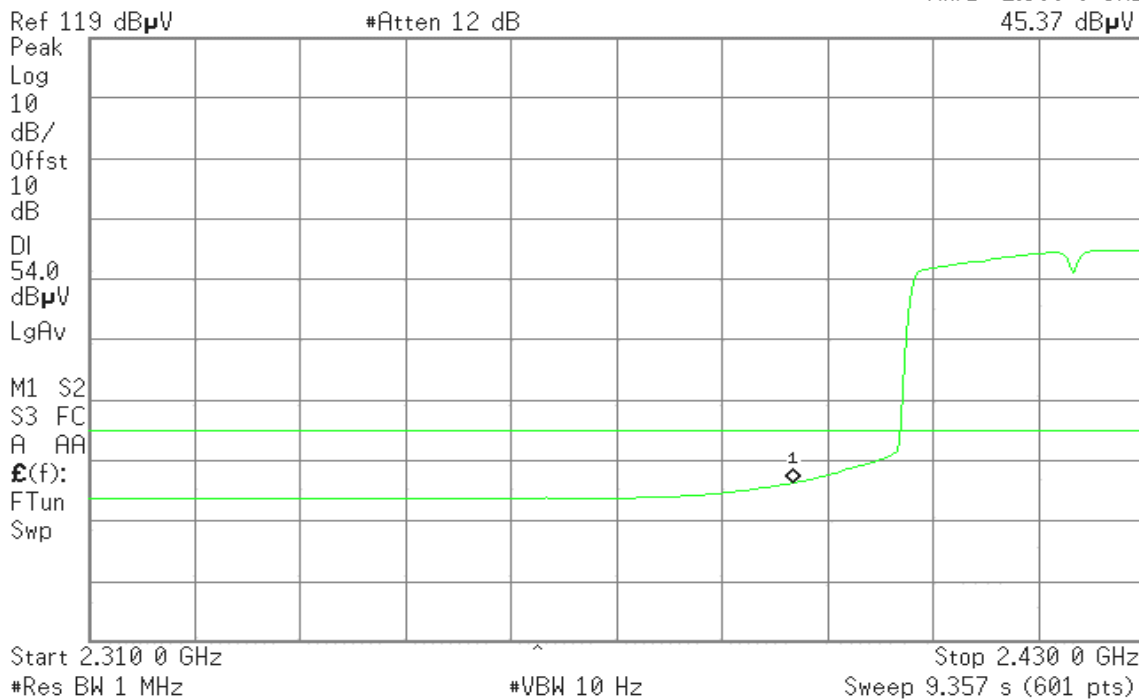
Detector mode: Average

Polarity: Horizontal

Agilent 12:18:25 Nov 23, 2008

R T

Mkr1 2.390 0 GHz
45.37 dBμV





Band Edges (IEEE 802.11n HT40 mode / CH High)

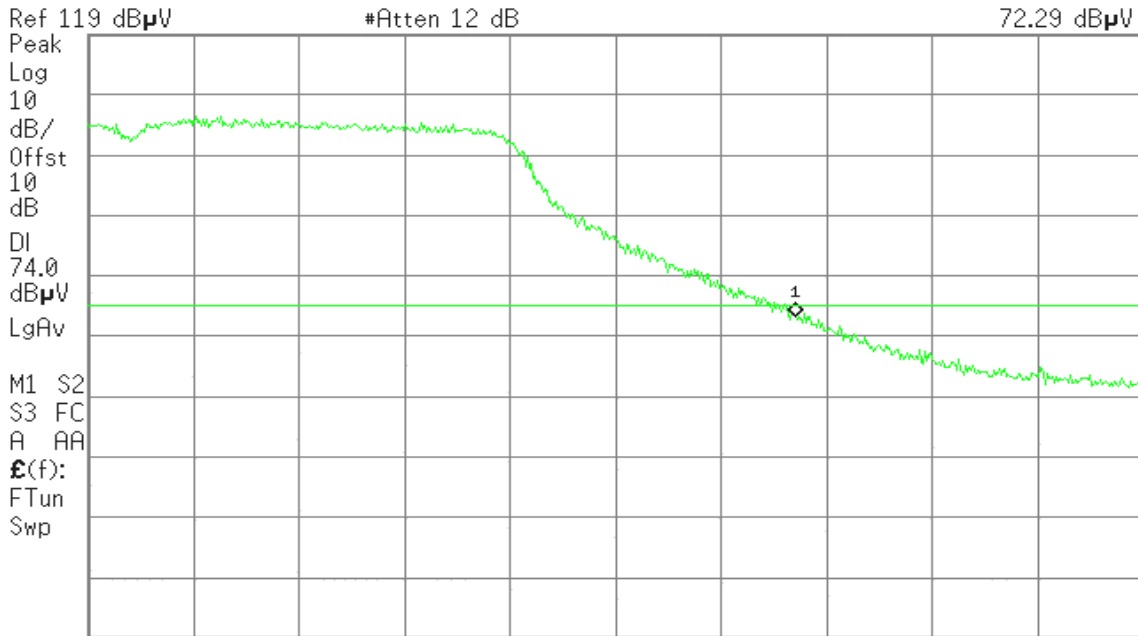
Detector mode: Peak

Polarity: Vertical

Agilent 12:36:09 Nov 23, 2008

R T

Mkr1 2.483 50 GHz
72.29 dB μ V



Start 2.450 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 1 MHz

#Sweep 100 ms (601 pts)

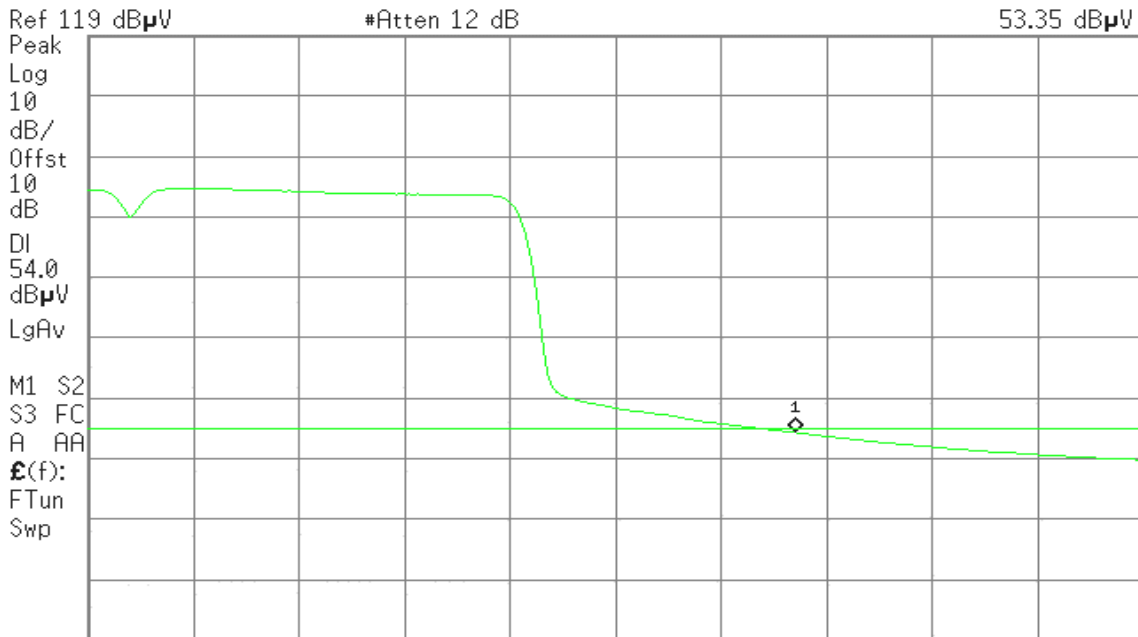
Detector mode: Average

Polarity: Vertical

Agilent 12:35:47 Nov 23, 2008

R T

Mkr1 2.483 50 GHz
53.35 dB μ V



Start 2.450 00 GHz

Stop 2.500 00 GHz

#Res BW 1 MHz

#VBW 10 Hz

Sweep 3.899 s (601 pts)



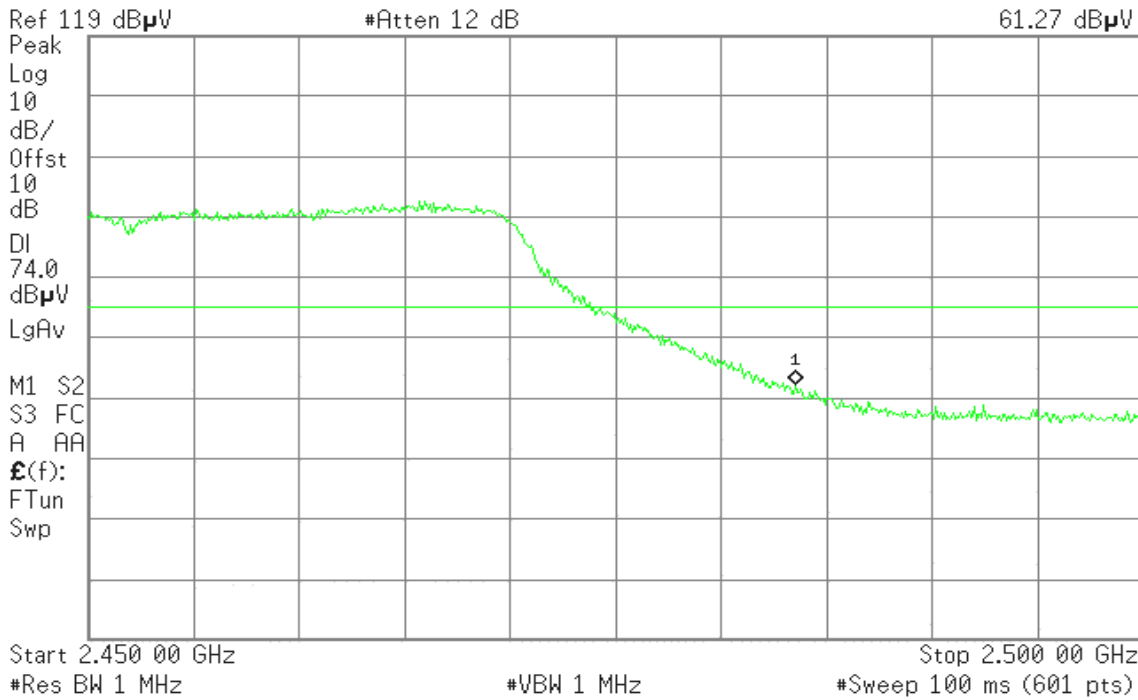
Detector mode: Peak

Polarity: Horizontal

Agilent 12:42:30 Nov 23, 2008

R T

Mkr1 2.483 50 GHz
61.27 dBμV



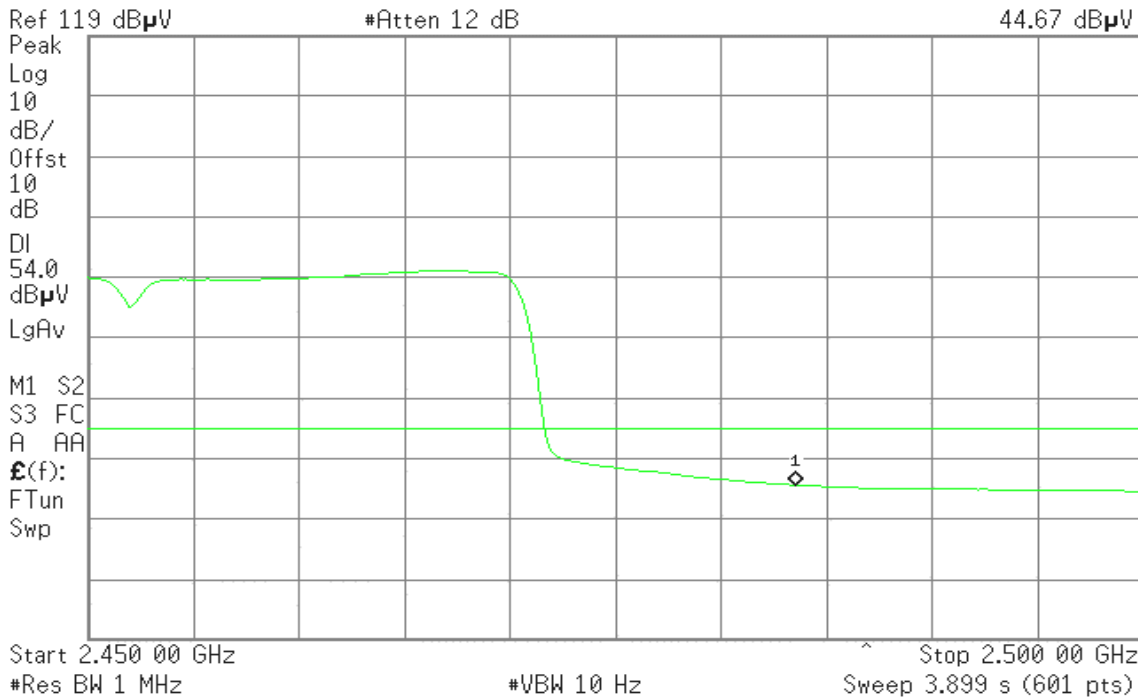
Detector mode: Average

Polarity: Horizontal

Agilent 12:42:49 Nov 23, 2008

R T

Mkr1 2.483 50 GHz
44.67 dBμV

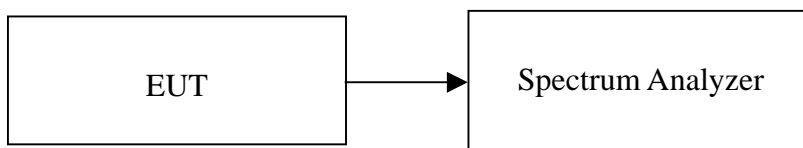


8.5 PEAK POWER SPECTRAL DENSITY

LIMIT

1. According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
2. According to §15.247(f), the digital modulation operation of the hybrid system, with the frequency hopping turned off, shall comply with the power density requirements of paragraph (d) of this section.

Test Configuration



TEST PROCEDURE

1. Place the EUT on the table and set it in transmitting mode.
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 = 3 kHz, VBW = 10 kHz, Span = 300 kHz, Sweep time = 100 s
3. Record the max reading.
4. Repeat the above procedure until the measurements for all frequencies are completed.

TEST RESULTS

No non-compliance noted.

**Test Data****Full Length Board:****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-11.77	8.00	PASS
Mid	2437	-8.42		PASS
High	2462	-13.12		PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-11.10	8.00	PASS
Mid	2437	-7.17		PASS
High	2462	-14.60		PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-12.95	8.00	PASS
Mid	2437	-8.97		PASS
High	2462	-14.05		PASS

Test mode: IEEE 802.11n HT40 mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2422	-15.12	8.00	PASS
Mid	2437	-7.33		PASS
High	2452	-12.38		PASS

**Half Length Board:****Test mode: IEEE 802.11b mode**

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-15.67	8.00	PASS
Mid	2437	-13.07		PASS
High	2462	-18.08		PASS

Test mode: IEEE 802.11g mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-18.05	8.00	PASS
Mid	2437	-12.96		PASS
High	2462	-17.37		PASS

Test mode: IEEE 802.11n HT20 mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-16.41	8.00	PASS
Mid	2437	-9.81		PASS
High	2462	-14.93		PASS

Test mode: IEEE 802.11n HT40 mode

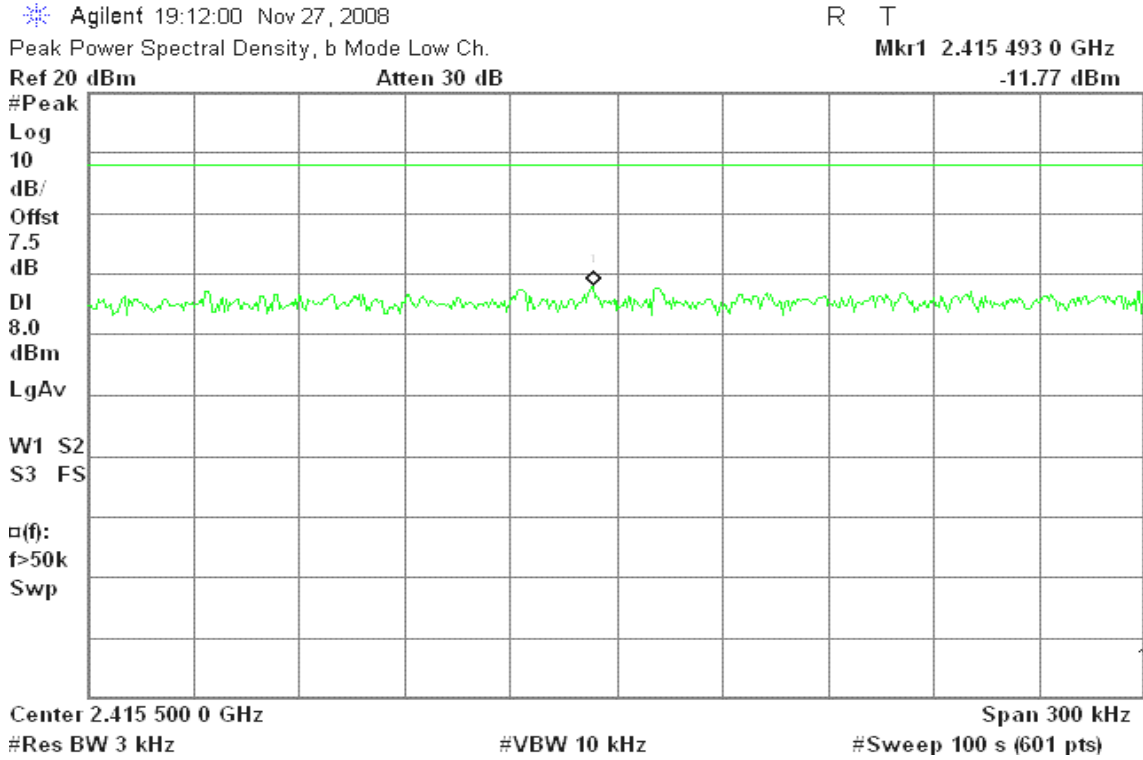
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	2422	-14.56	8.00	PASS
Mid	2437	-8.41		PASS
High	2452	-14.43		PASS



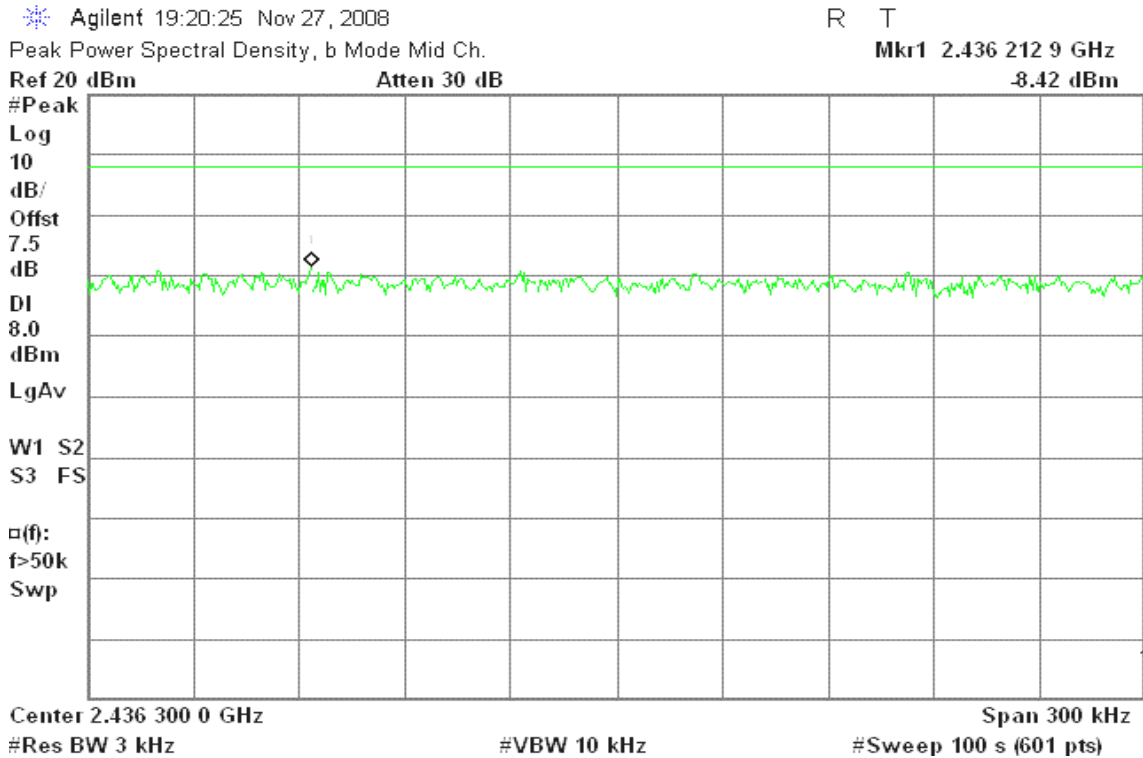
Test Plot

Full Length Board / IEEE 802.11b

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 19:25:50 Nov 27, 2008

R T

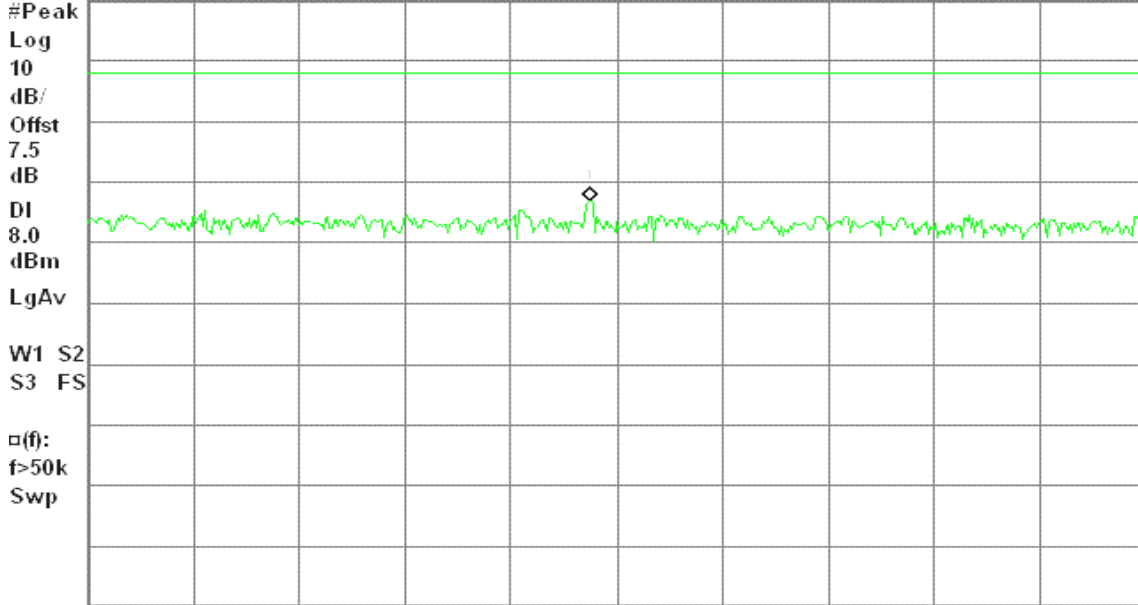
Peak Power Spectral Density, b Mode High Ch.

Mkr1 2.460 492 0 GHz

Ref 20 dBm

Atten 30 dB

-13.12 dBm



Center 2.460 500 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

IEEE 802.11g

PPSD (CH Low)

Agilent 19:31:15 Nov 27, 2008

R T

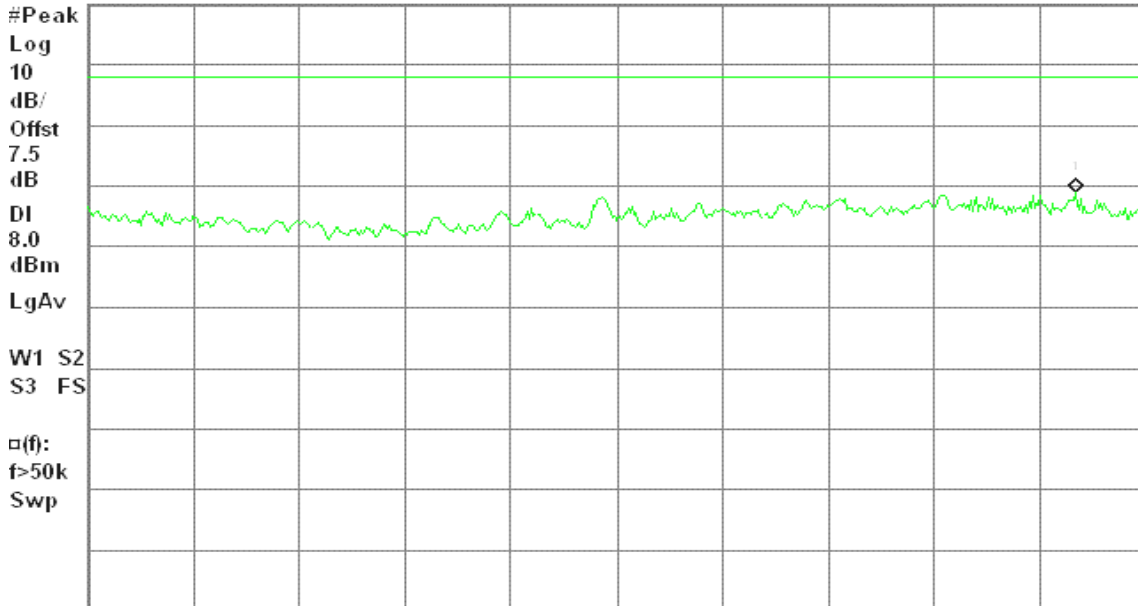
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.415 780 6 GHz

Ref 20 dBm

Atten 30 dB

-11.10 dBm



Center 2.415 650 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 19:35:08 Nov 27, 2008

R T

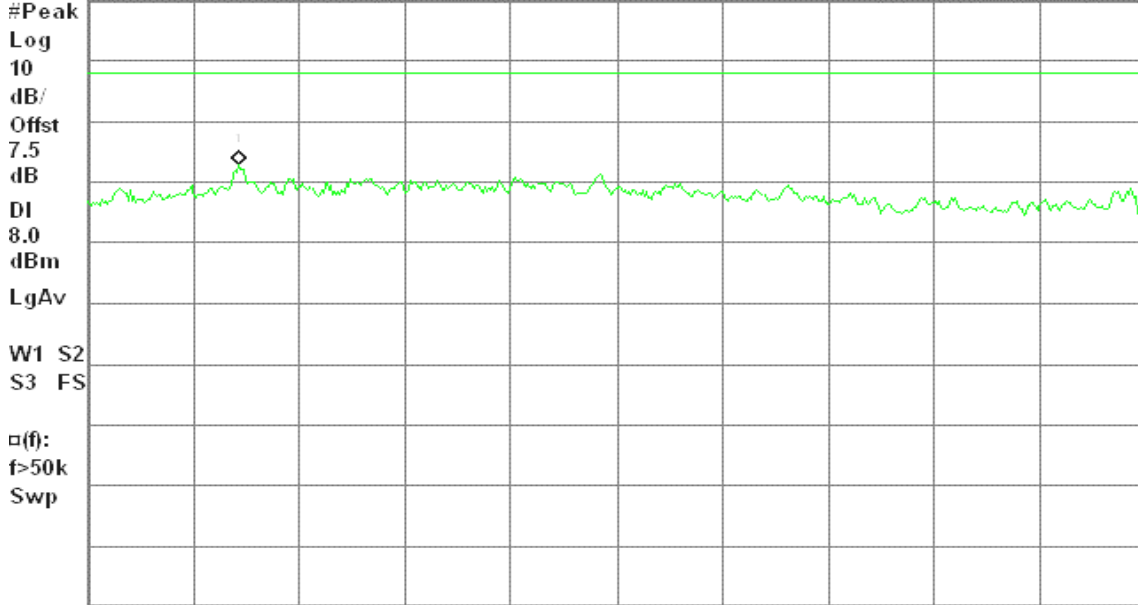
Peak Power Spectral Density, g Mode Mid Ch.

Mkr1 2.435 992 2 GHz

Ref 20 dBm

Atten 30 dB

-7.17 dBm



Center 2.436 100 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 19:39:32 Nov 27, 2008

R T

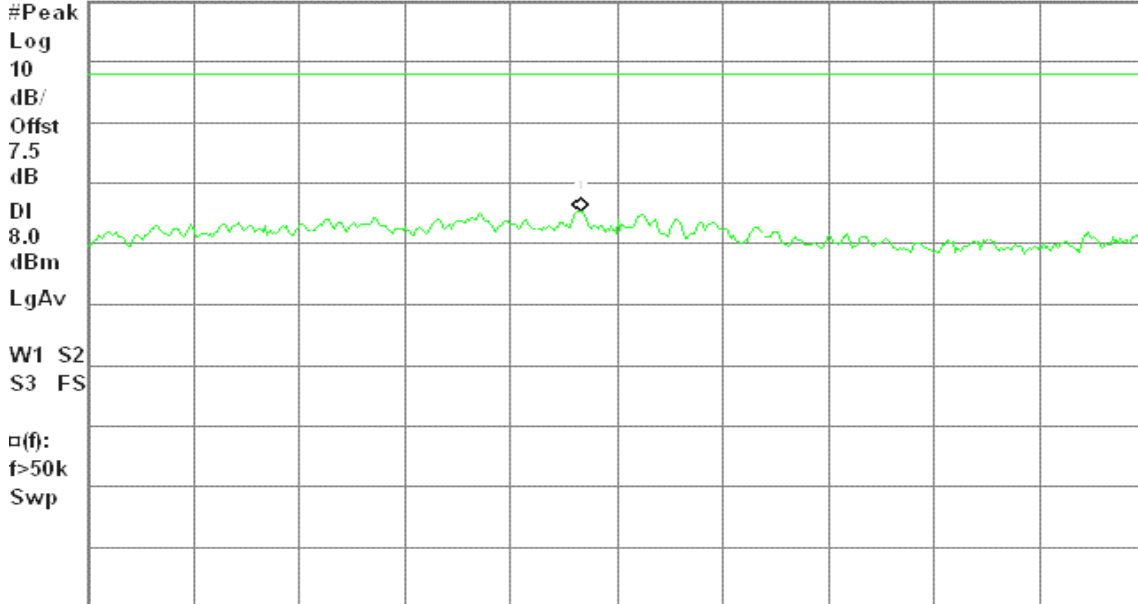
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.462 339 5 GHz

Ref 20 dBm

Atten 30 dB

-14.60 dBm



Center 2.462 350 0 GHz

Span 300 kHz

#Res BW 3 kHz

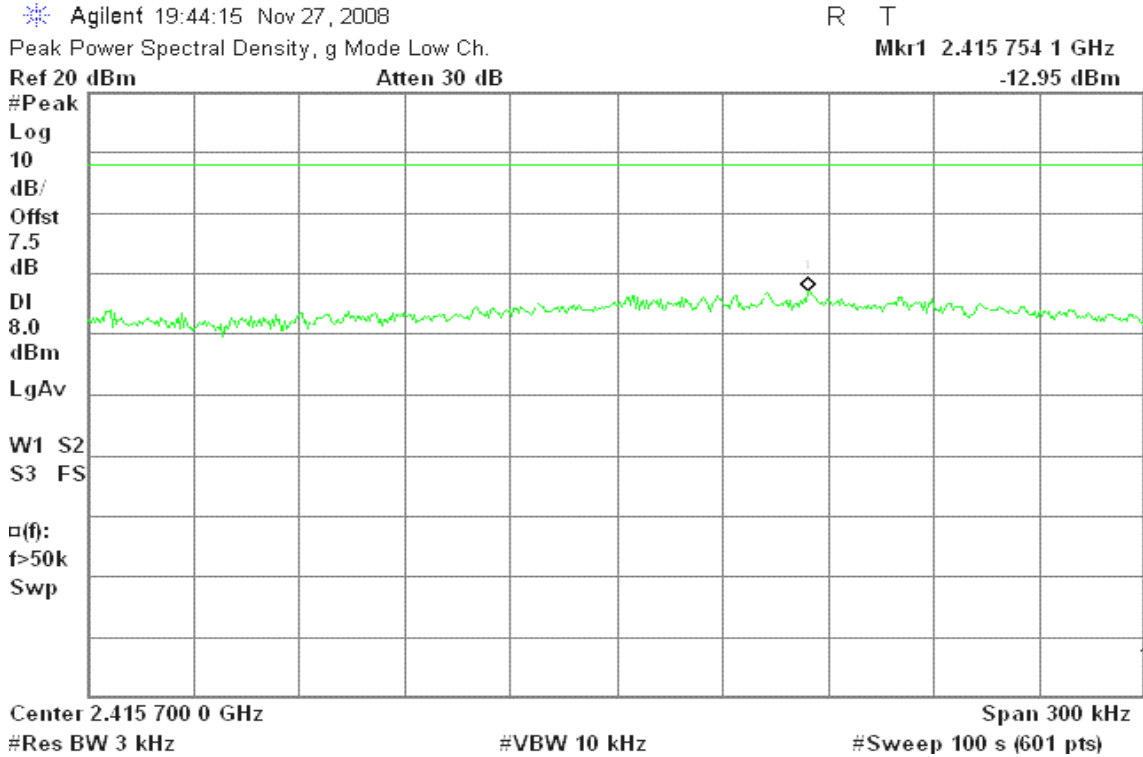
#VBW 10 kHz

#Sweep 100 s (601 pts)

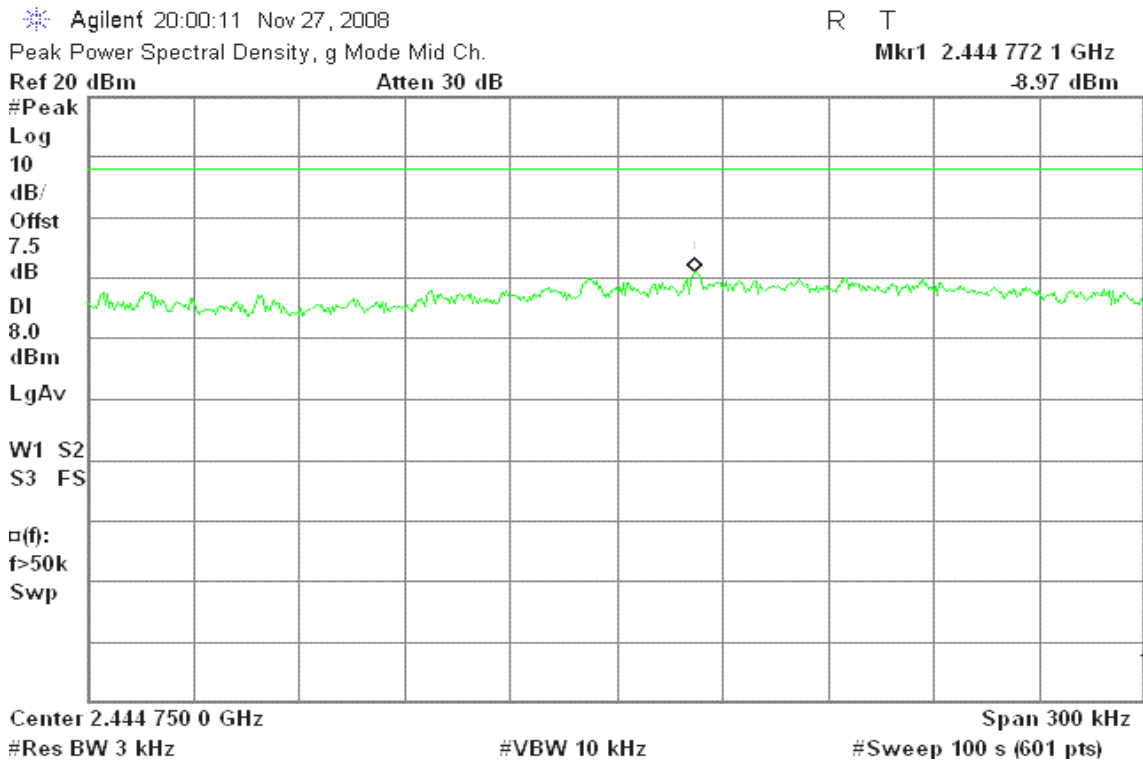


IEEE 802.11n HT20

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 20:05:29 Nov 27, 2008

R T

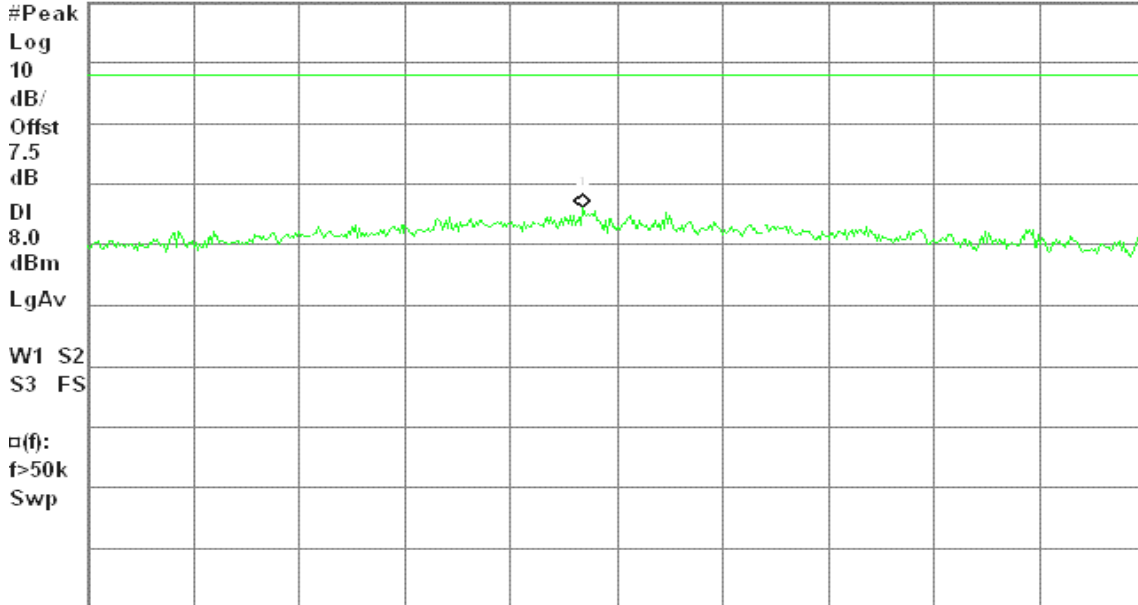
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.469 490 0 GHz

Ref 20 dBm

Atten 30 dB

-14.05 dBm



Center 2.469 500 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

IEEE 802.11n HT40

PPSD (CH Low)

Agilent 20:48:00 Nov 27, 2008

R T

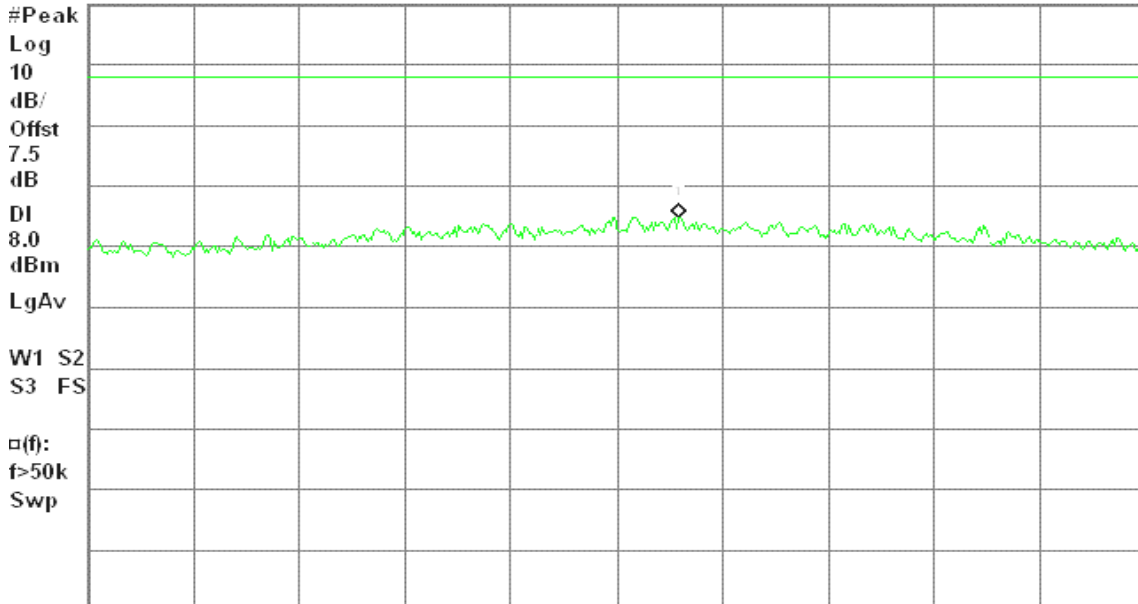
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.435 117 6 GHz

Ref 20 dBm

Atten 30 dB

-15.12 dBm



Center 2.435 100 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 20:33:04 Nov 27, 2008

R T

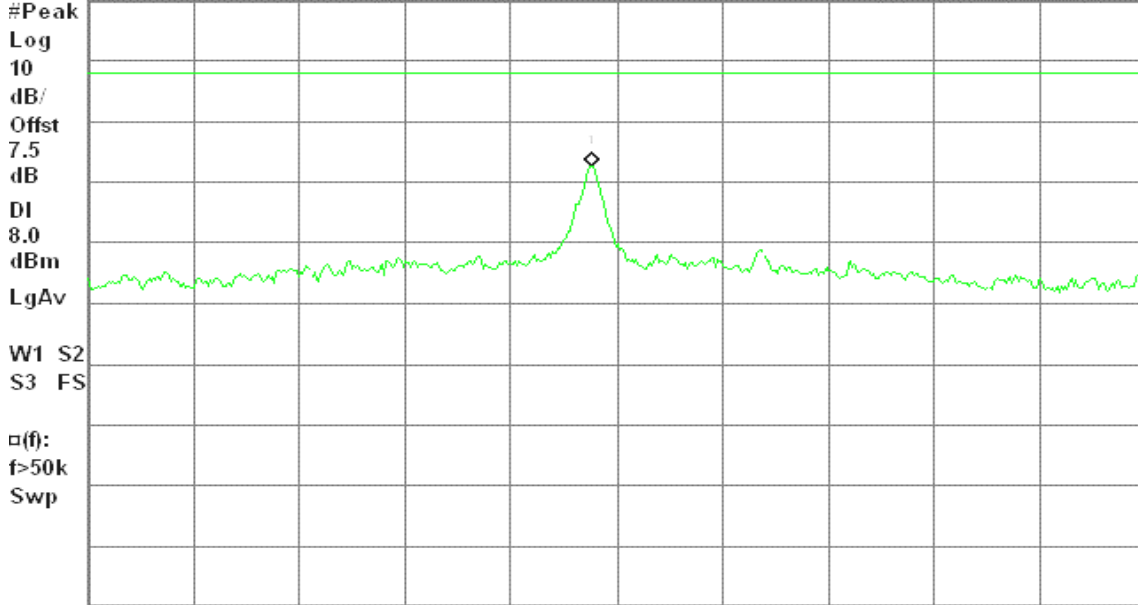
Peak Power Spectral Density, g Mode Mid Ch.

Mkr1 2.436 992 5 GHz

Ref 20 dBm

Atten 30 dB

-7.33 dBm



Center 2.437 000 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 20:28:53 Nov 27, 2008

R T

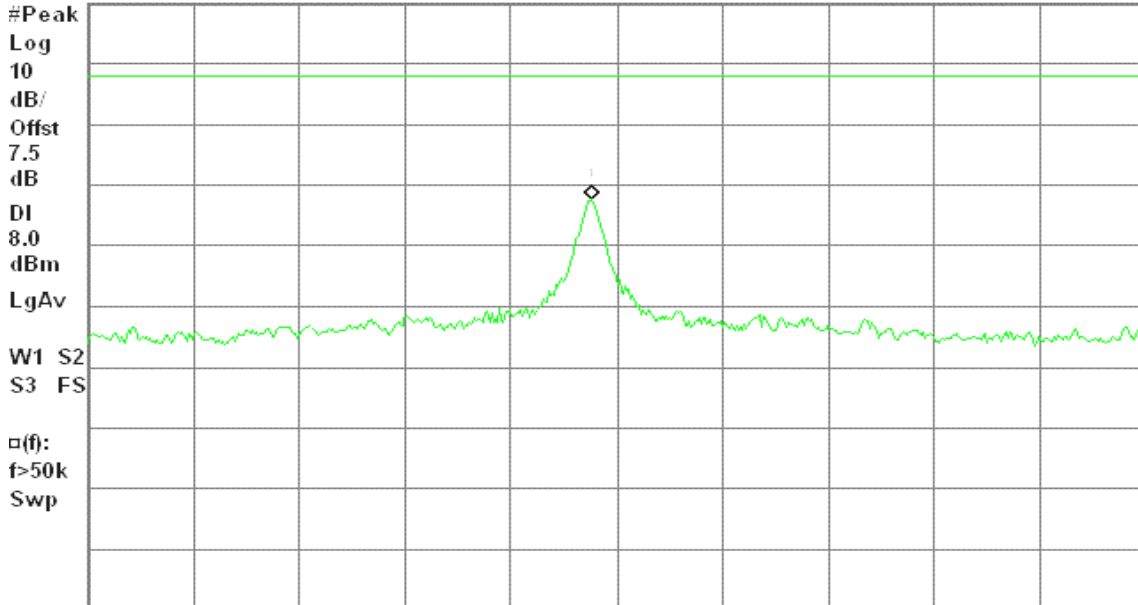
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.451 992 5 GHz

Ref 20 dBm

Atten 30 dB

-12.38 dBm



Center 2.452 000 0 GHz

Span 300 kHz

#Res BW 3 kHz

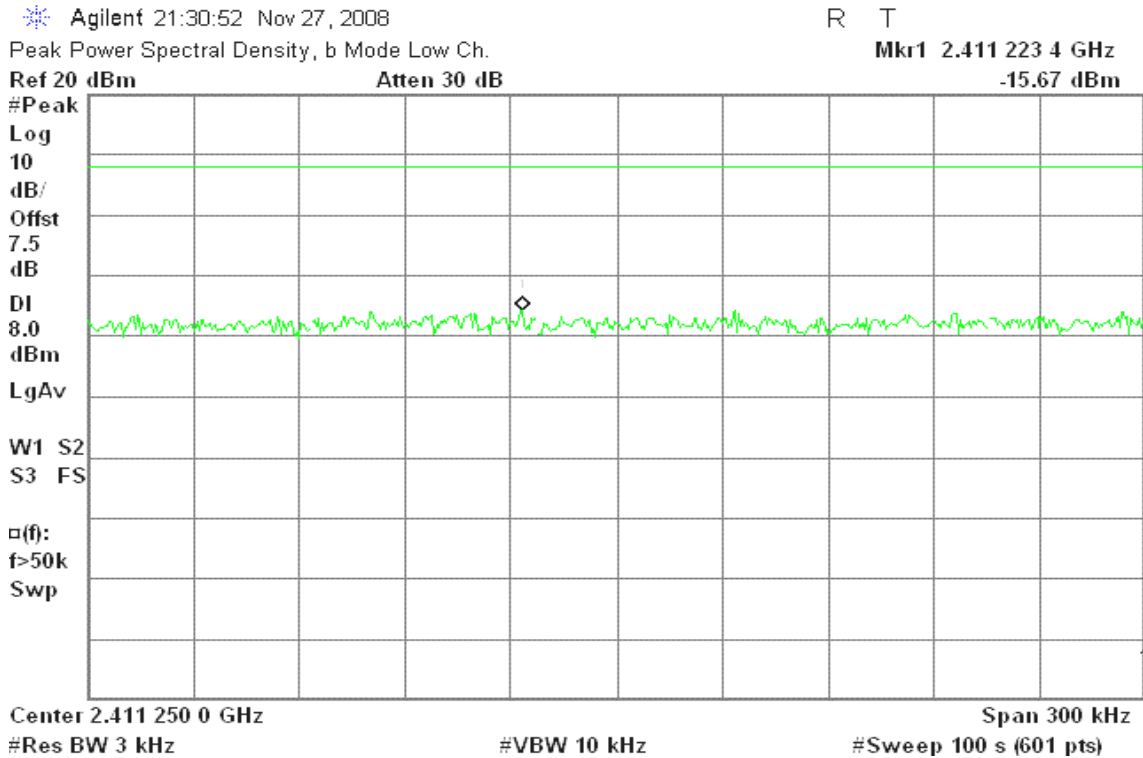
#VBW 10 kHz

#Sweep 100 s (601 pts)

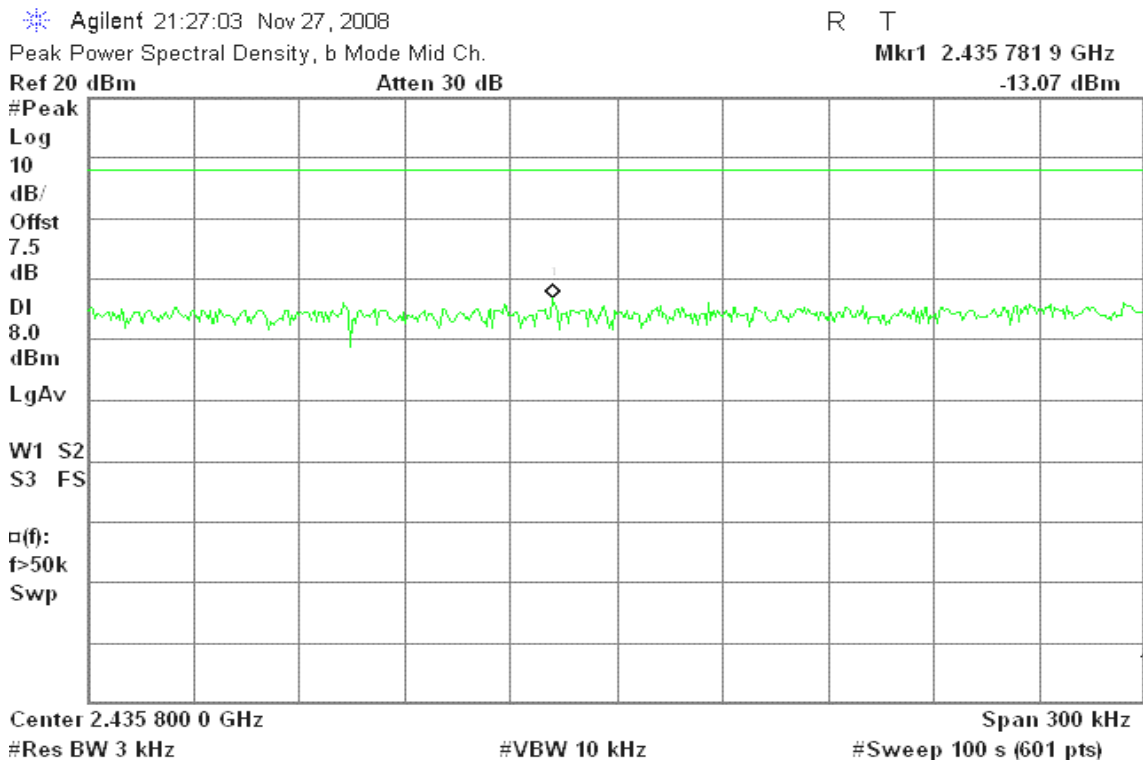


Half Length Board / IEEE 802.11b

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 21:23:26 Nov 27, 2008

R T

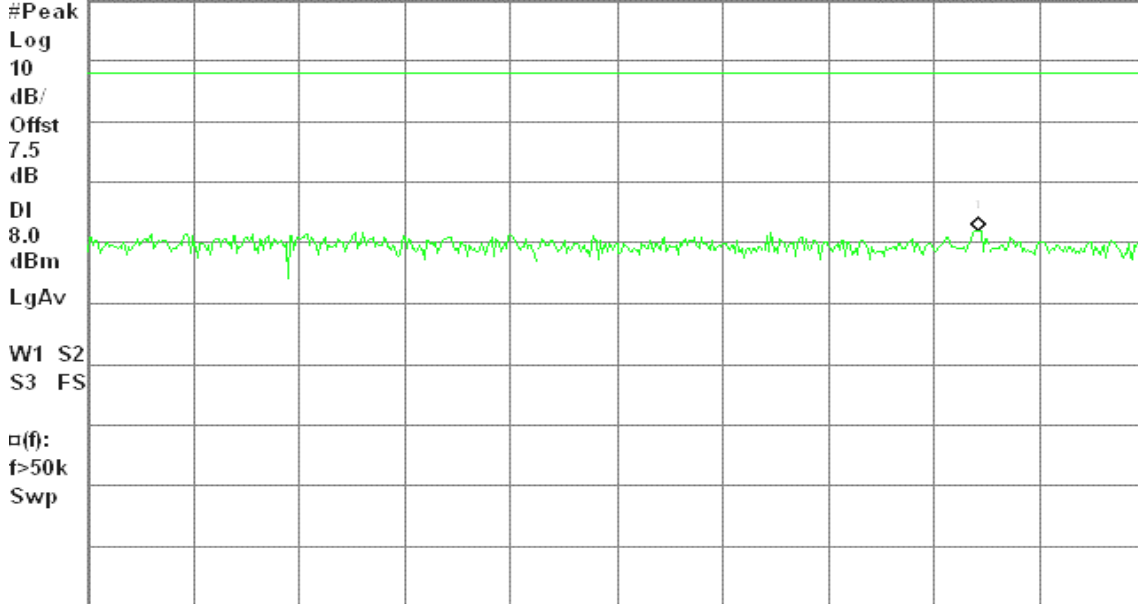
Peak Power Spectral Density, b Mode High Ch.

Mkr1 2.464 003 2 GHz

Ref 20 dBm

Atten 30 dB

-18.08 dBm



Center 2.463 900 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

IEEE 802.11g

PPSD (CH Low)

Agilent 21:10:21 Nov 27, 2008

R T

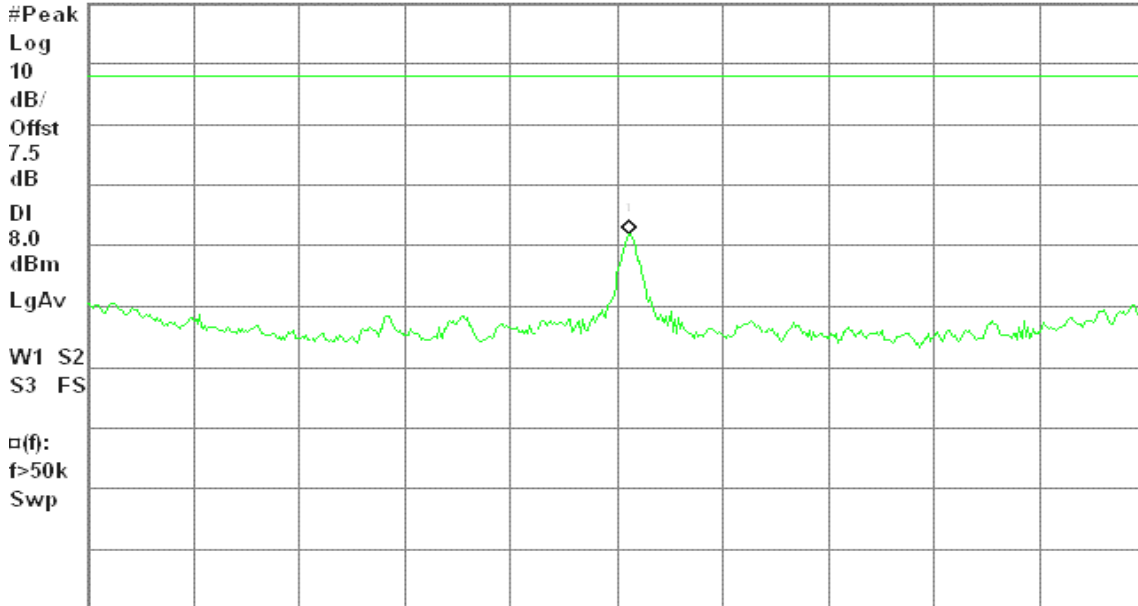
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.412 003 5 GHz

Ref 20 dBm

Atten 30 dB

-18.05 dBm



Center 2.412 000 0 GHz

Span 300 kHz

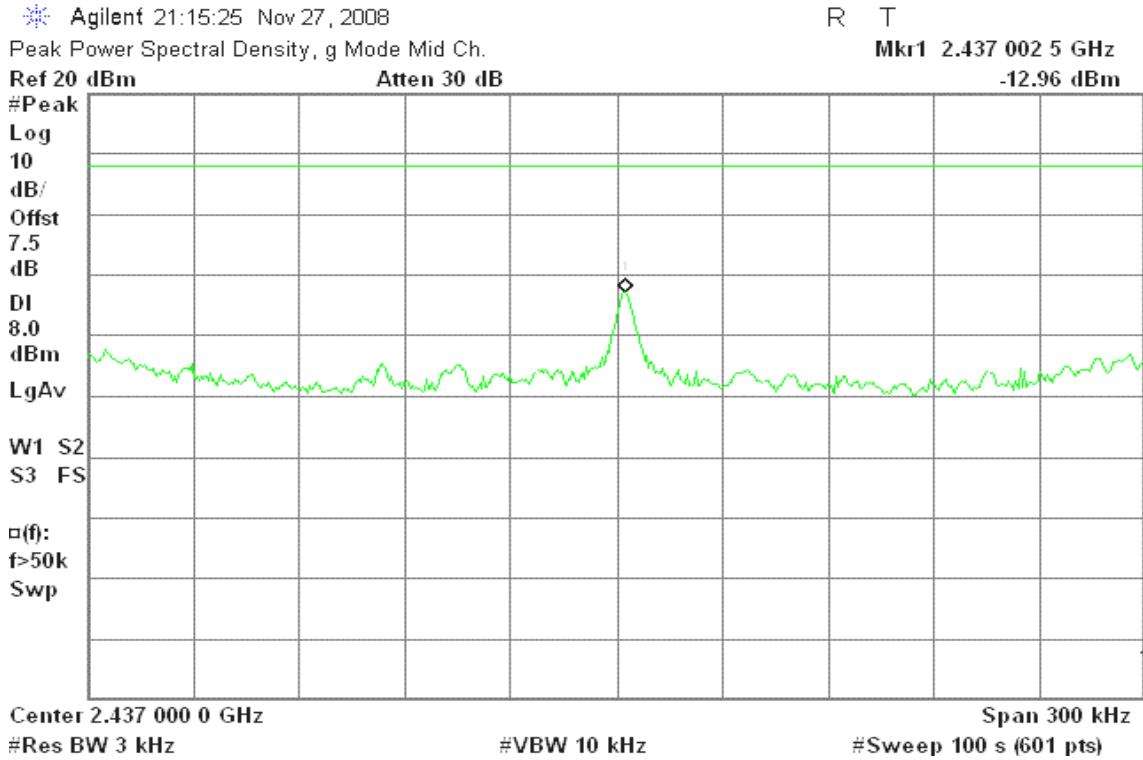
#Res BW 3 kHz

#VBW 10 kHz

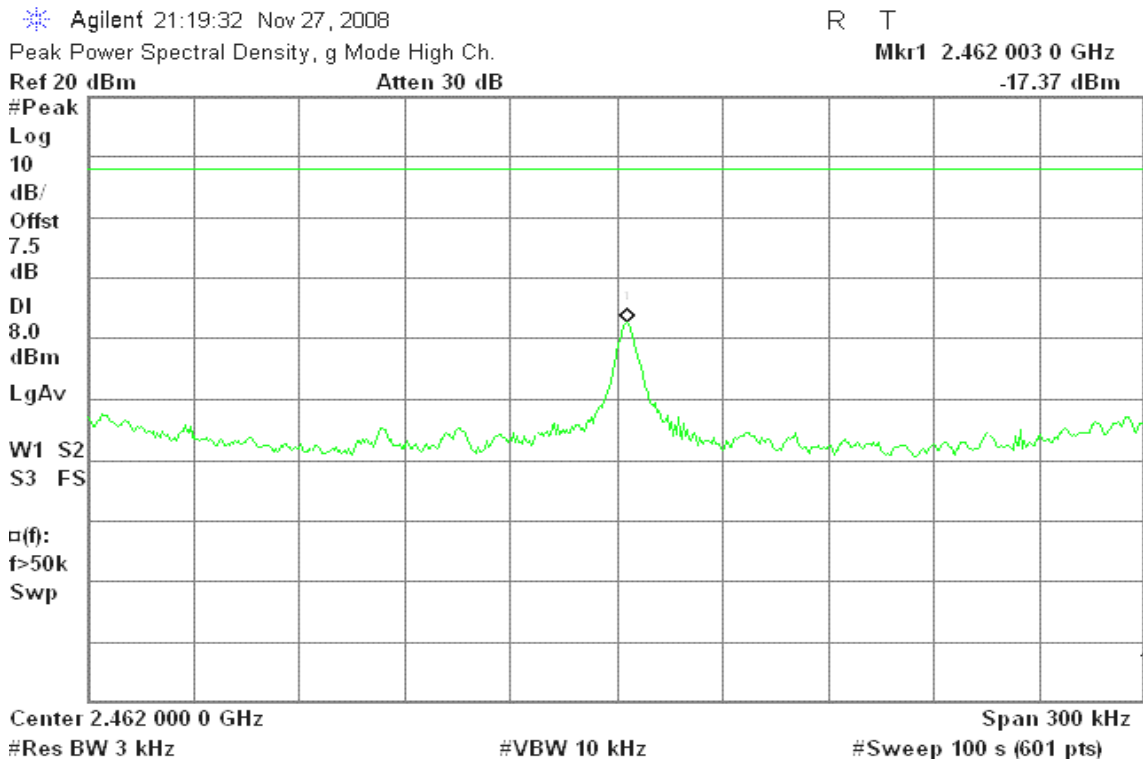
#Sweep 100 s (601 pts)



PPSD (CH Mid)



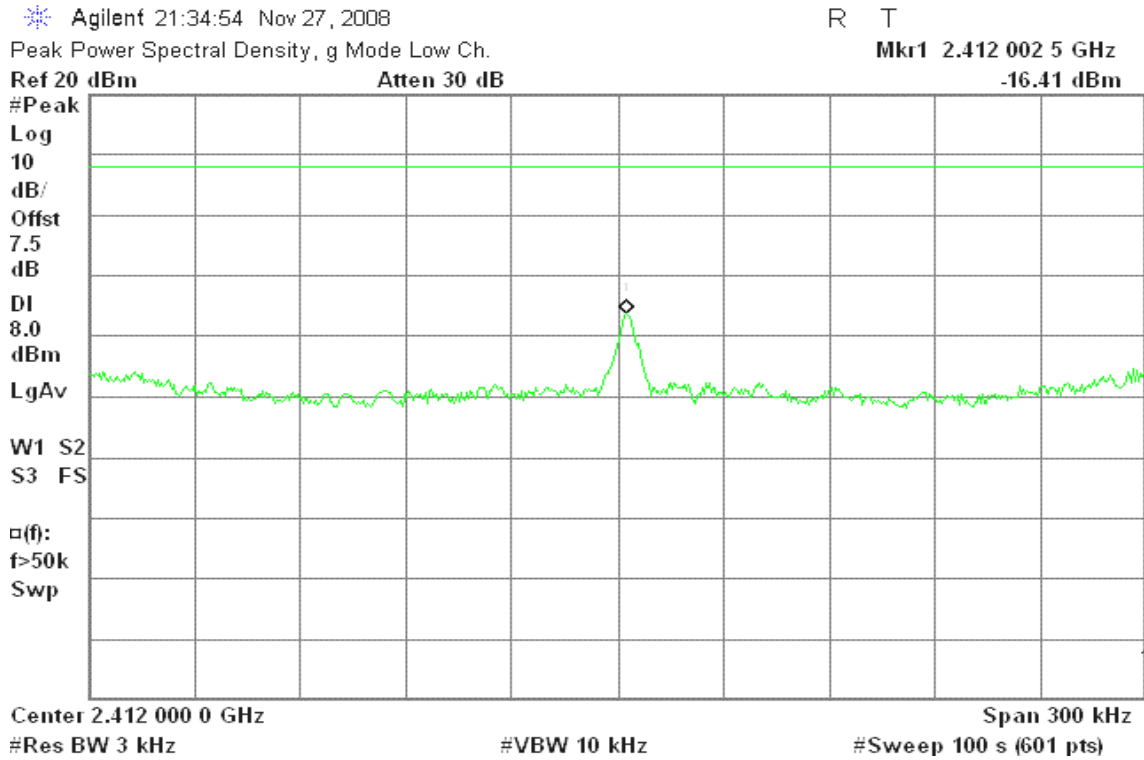
PPSD (CH High)



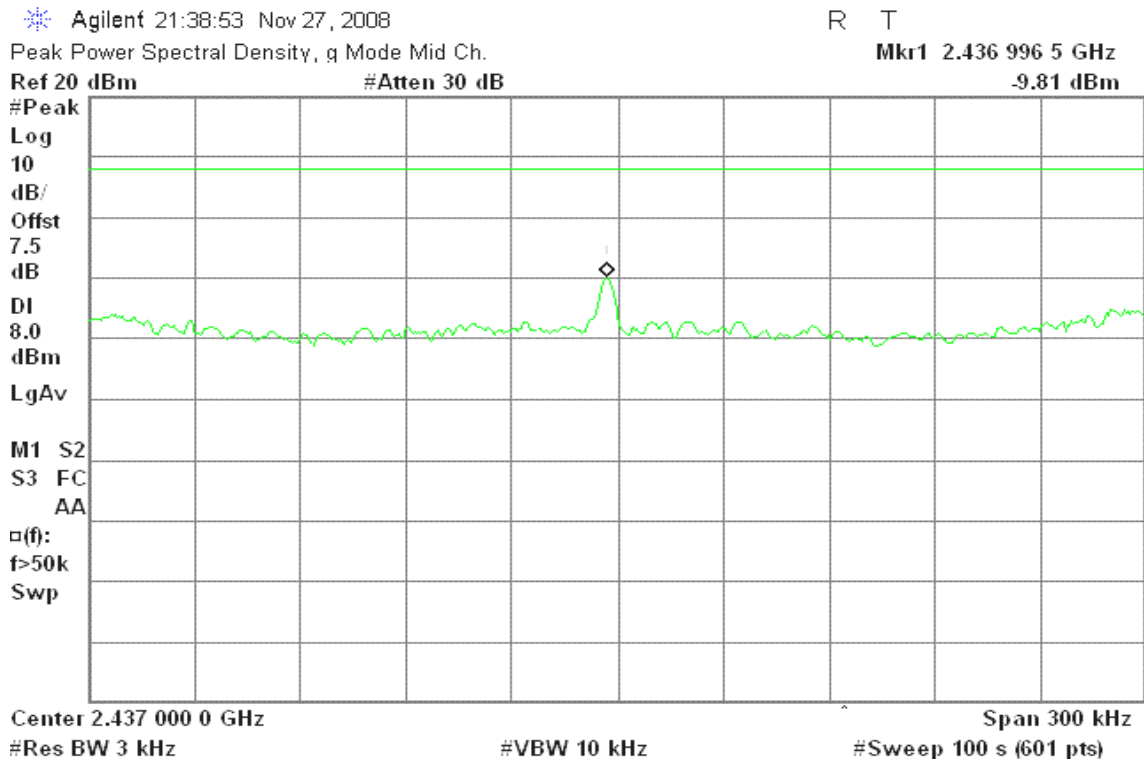


IEEE 802.11n HT20

PPSD (CH Low)



PPSD (CH Mid)





PPSD (CH High)

Agilent 21:43:16 Nov 27, 2008

R T

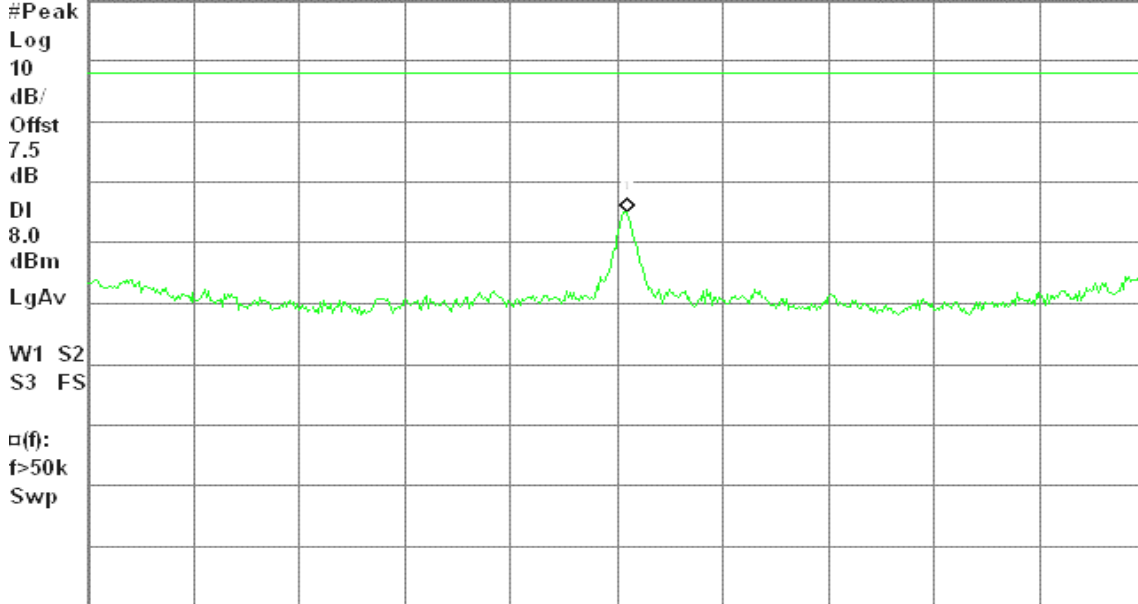
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.462 003 0 GHz

Ref 20 dBm

Atten 30 dB

-14.93 dBm



Center 2.462 000 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

IEEE 802.11n HT40

PPSD (CH Low)

Agilent 10:48:41 Dec 15, 2008

R T

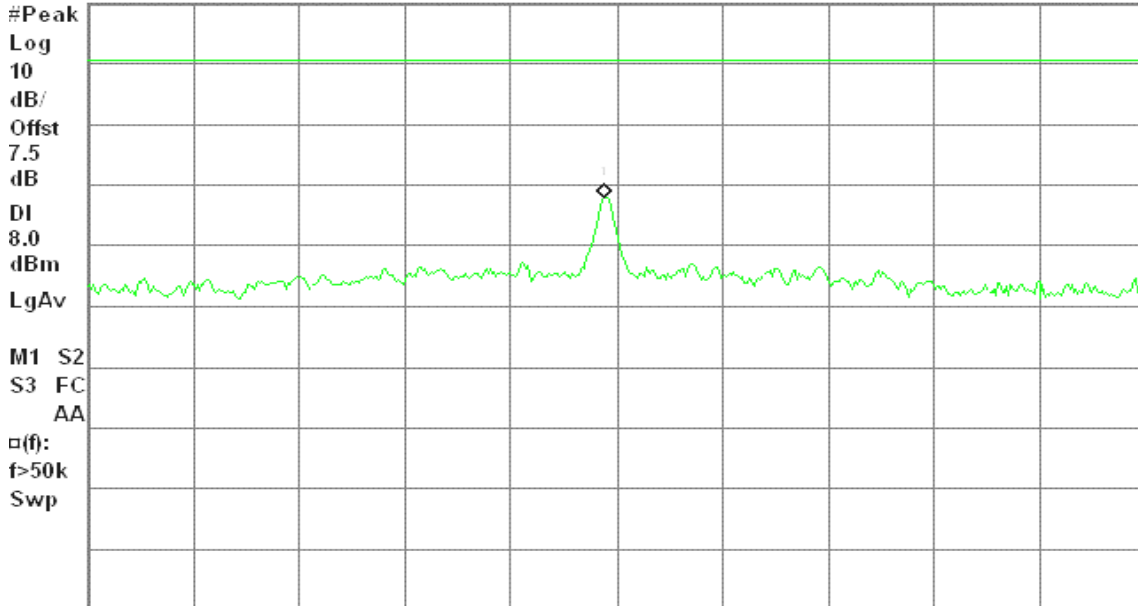
Peak Power Spectral Density, g Mode Low Ch.

Mkr1 2.421 996 0 GHz

Ref 17.5 dBm

#Atten 20 dB

-14.56 dBm



Center 2.422 000 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)



PPSD (CH Mid)

Agilent 10:45:41 Dec 15, 2008

R T

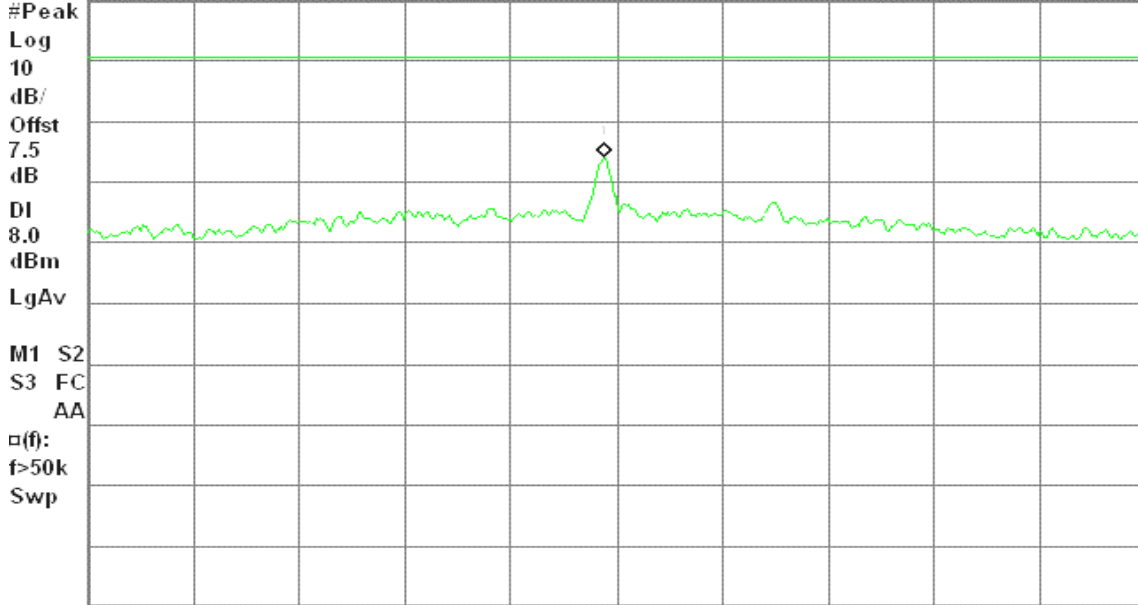
Peak Power Spectral Density, g Mode Mid Ch.

Mkr1 2.436 996 0 GHz

Ref 17.5 dBm

#Atten 20 dB

-8.41 dBm



Center 2.437 000 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

PPSD (CH High)

Agilent 10:51:21 Dec 15, 2008

R T

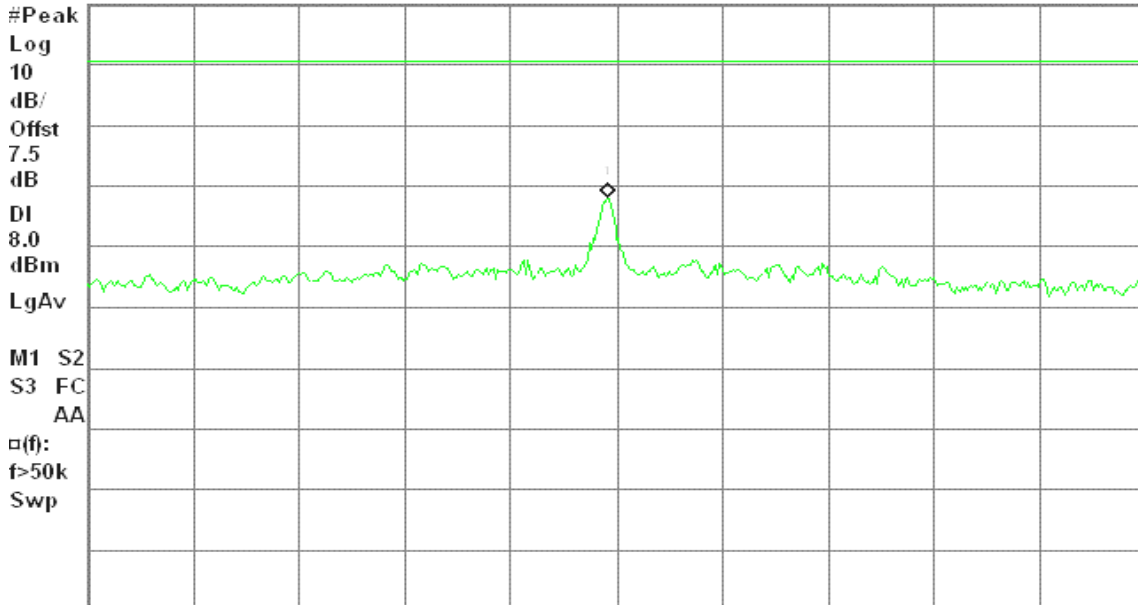
Peak Power Spectral Density, g Mode High Ch.

Mkr1 2.451 997 0 GHz

Ref 17.5 dBm

#Atten 20 dB

-14.43 dBm



Center 2.452 000 0 GHz

Span 300 kHz

#Res BW 3 kHz

#VBW 10 kHz

#Sweep 100 s (601 pts)

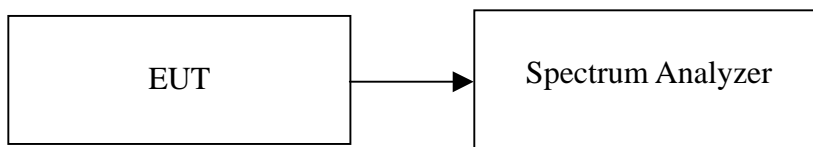
8.6 SPURIOUS EMISSIONS

8.6.1 CONDUCTED MEASUREMENT

LIMIT

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

Test Configuration



TEST PROCEDURE

Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 100 kHz.

Measurements are made over the 13GHz to 26GHz range with the transmitter set to the lowest, middle, and highest channels.

TEST RESULTS

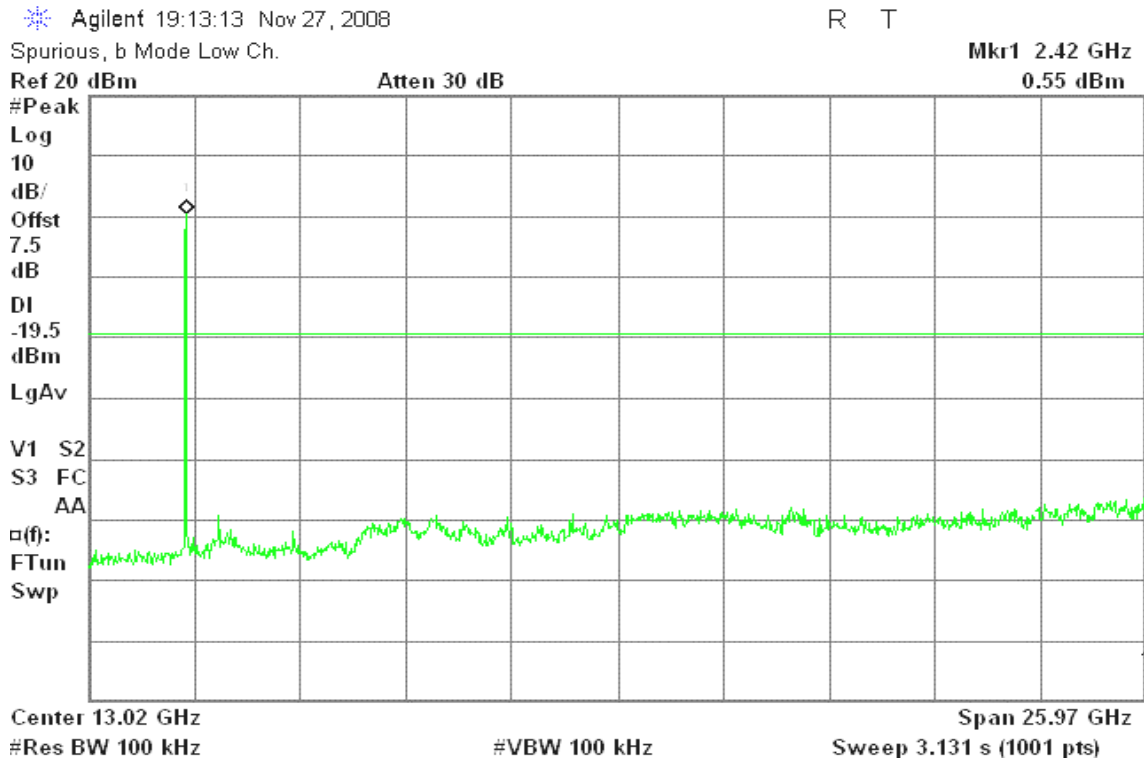
No non-compliance noted.



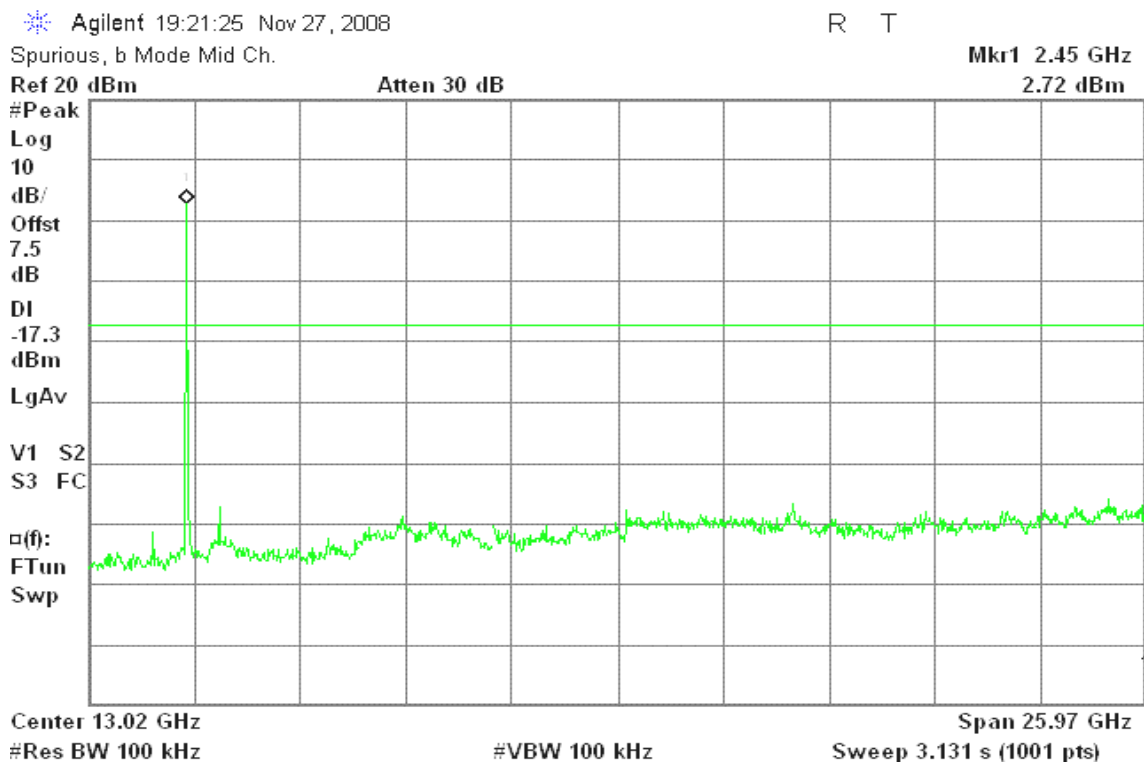
Test Plot

Full Length Board / IEEE 802.11b

CH Low



CH Mid





CH High

Agilent 19:27:03 Nov 27, 2008

R T

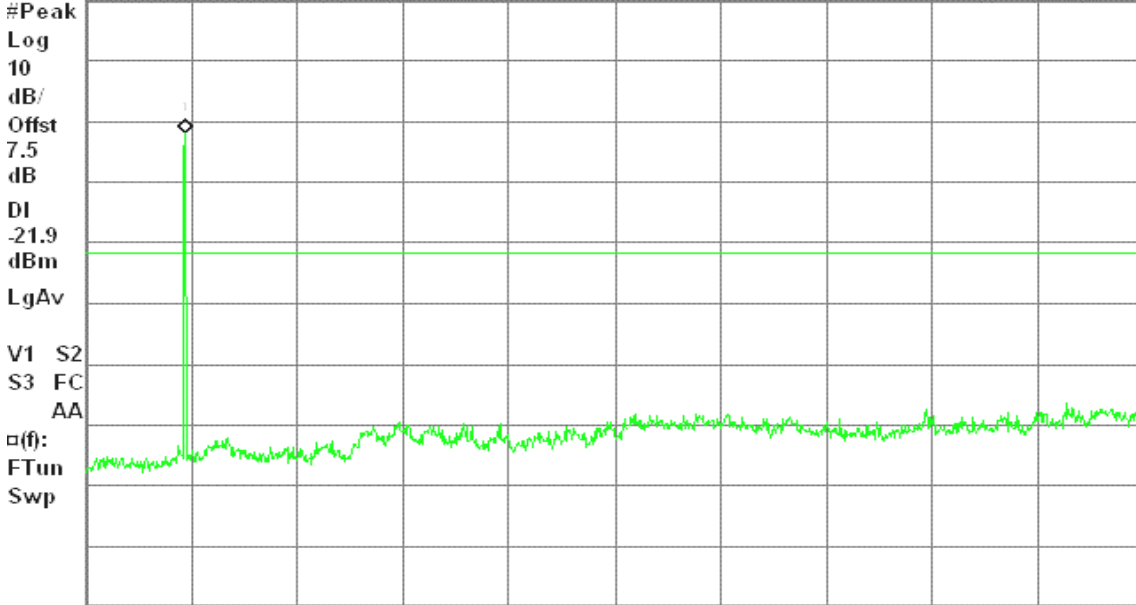
Spurious, b Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 30 dB

-1.90 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

IEEE 802.11g

CH Low

Agilent 19:32:09 Nov 27, 2008

R T

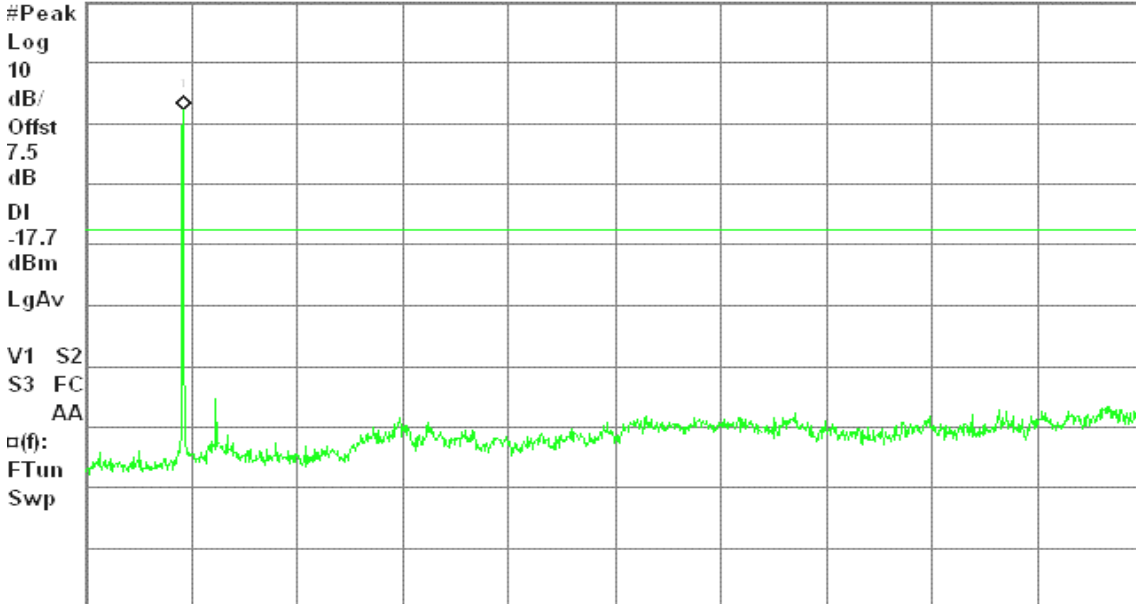
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 30 dB

2.31 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 19:36:11 Nov 27, 2008

R T

Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz
2.58 dBm

Ref 20 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

7.5

dB

DI

-17.4

dBm

LgAv

V1 S2

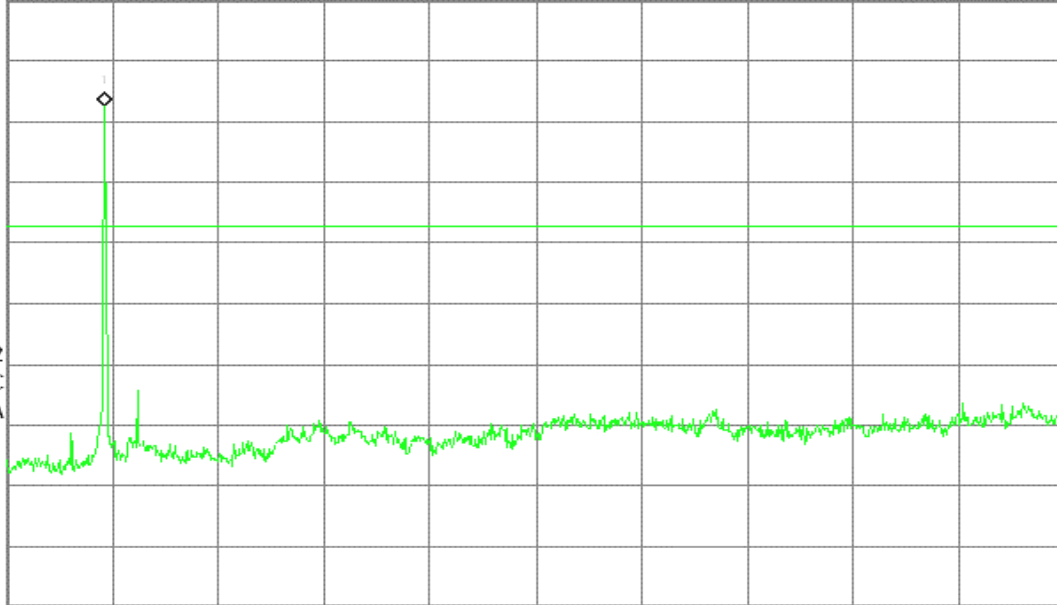
S3 FC

AA

□(f):

FTun

Swp



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 19:40:27 Nov 27, 2008

R T

Spurious, g Mode High Ch.

Mkr1 2.45 GHz
-4.32 dBm

Ref 20 dBm

Atten 30 dB

#Peak

Log

10

dB/

Offst

7.5

dB

DI

-24.3

dBm

LgAv

V1 S2

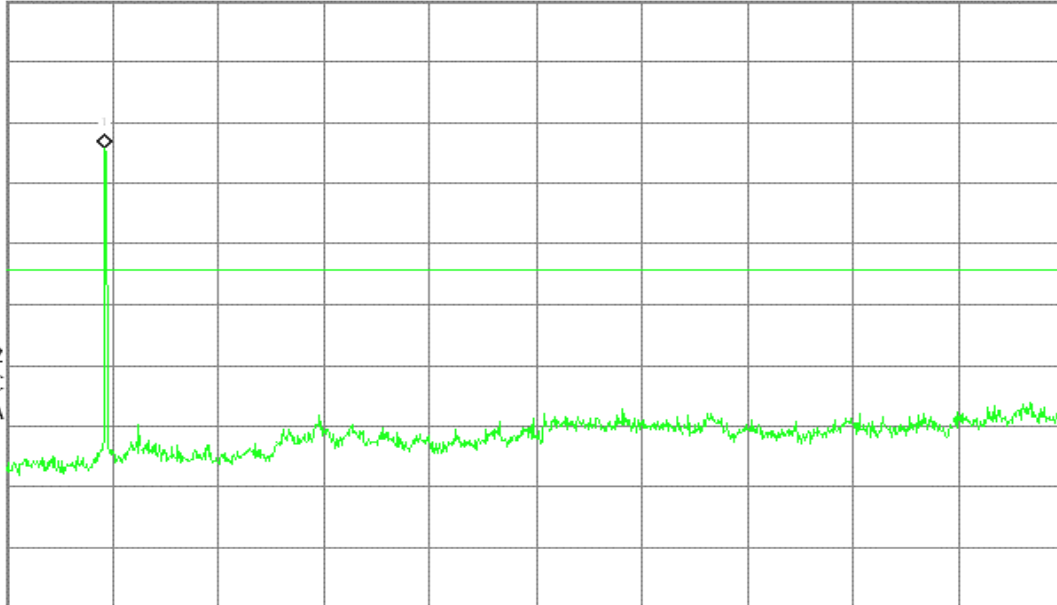
S3 FC

AA

□(f):

FTun

Swp



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



IEEE 802.11n HT20

CH Low

Agilent 19:46:59 Nov 27, 2008

R T

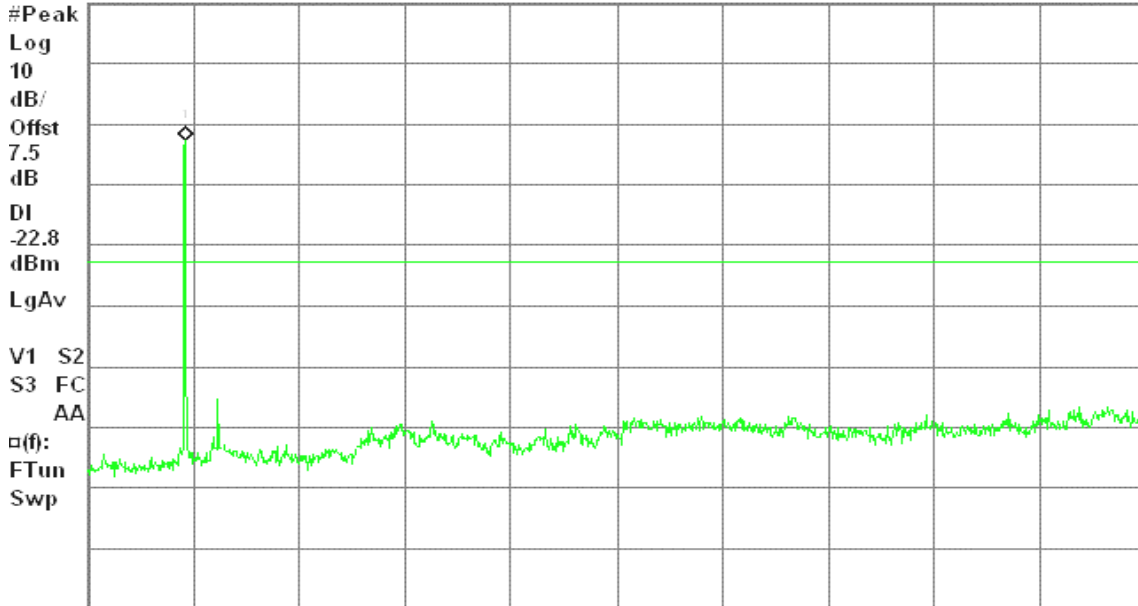
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 30 dB

-2.67 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH Mid

Agilent 20:01:17 Nov 27, 2008

R T

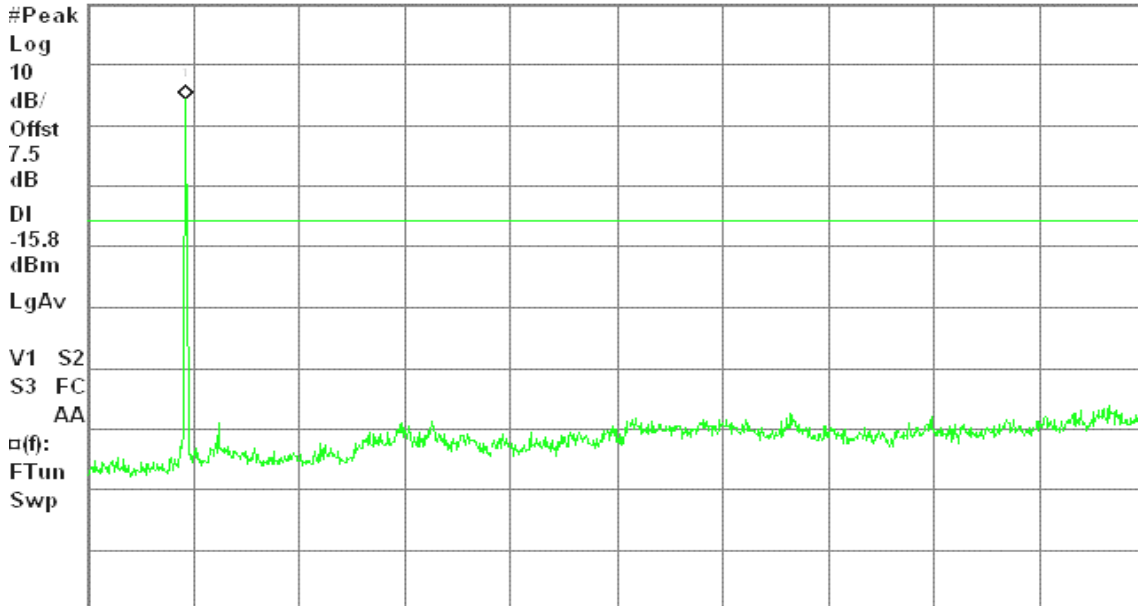
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 30 dB

4.24 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH High

Agilent 20:06:28 Nov 27, 2008

R T

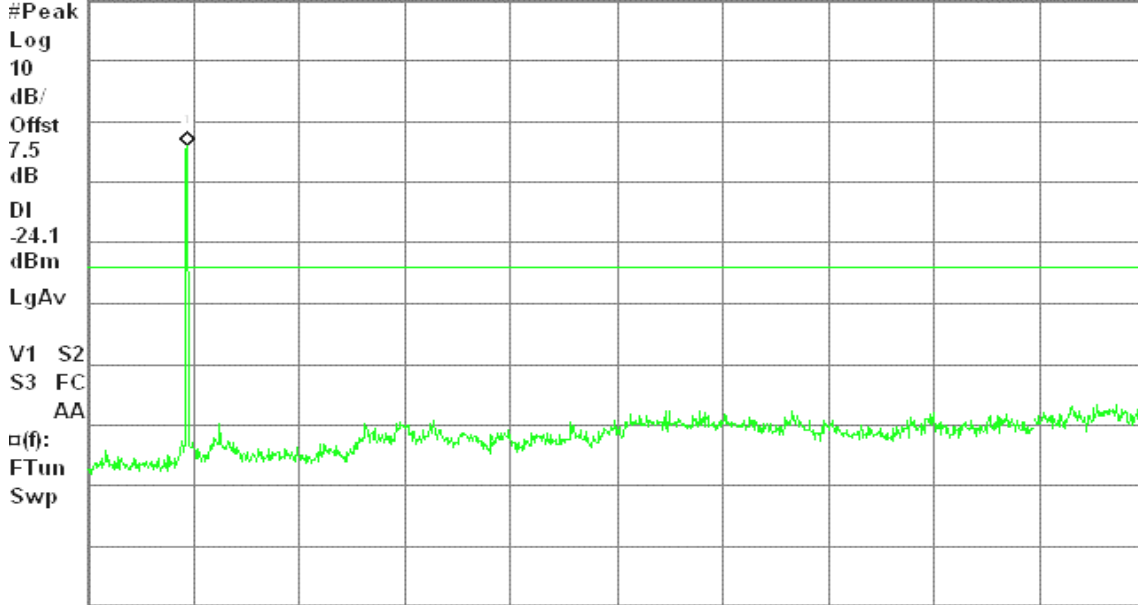
Spurious, g Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 30 dB

-4.15 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

IEEE 802.11n HT40

CH Low

Agilent 20:51:14 Nov 27, 2008

R L

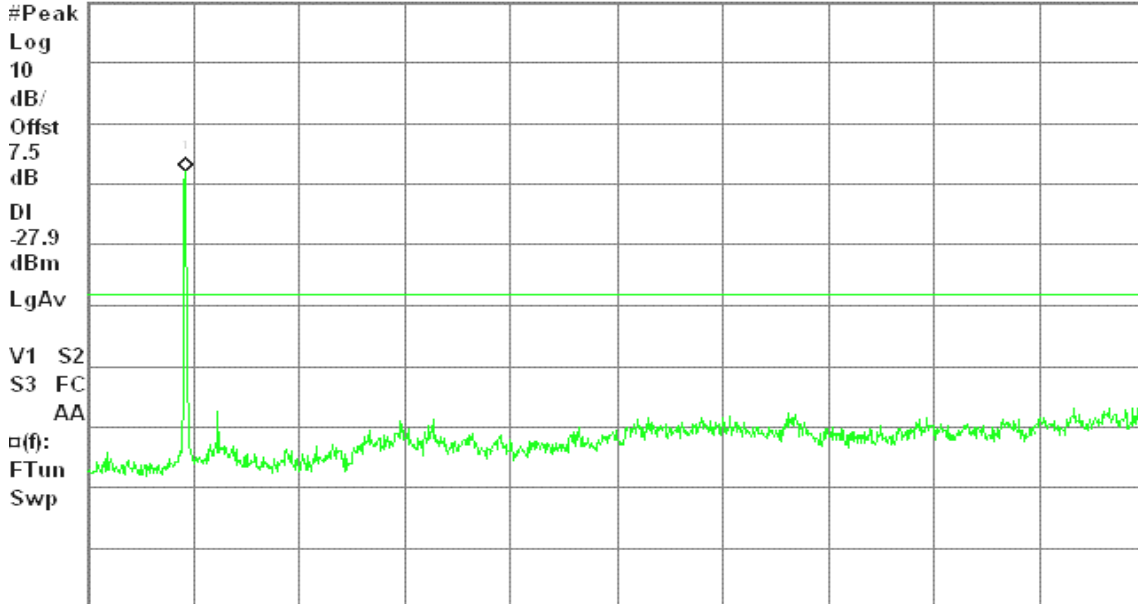
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 30 dB

-7.93 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 20:34:58 Nov 27, 2008

R L

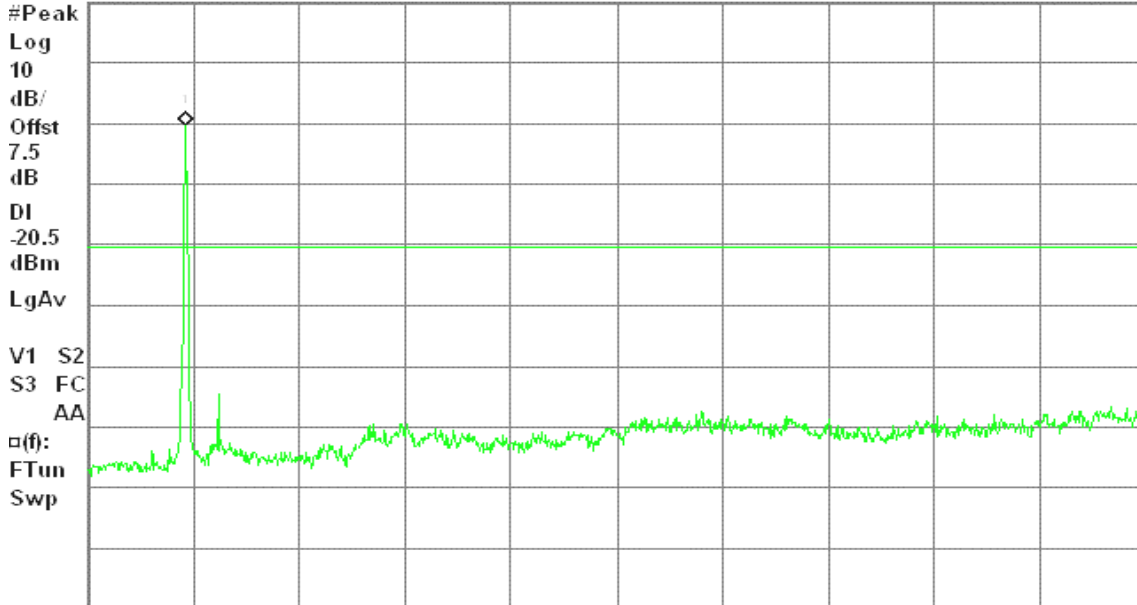
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 30 dB

-0.47 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 20:29:54 Nov 27, 2008

R T

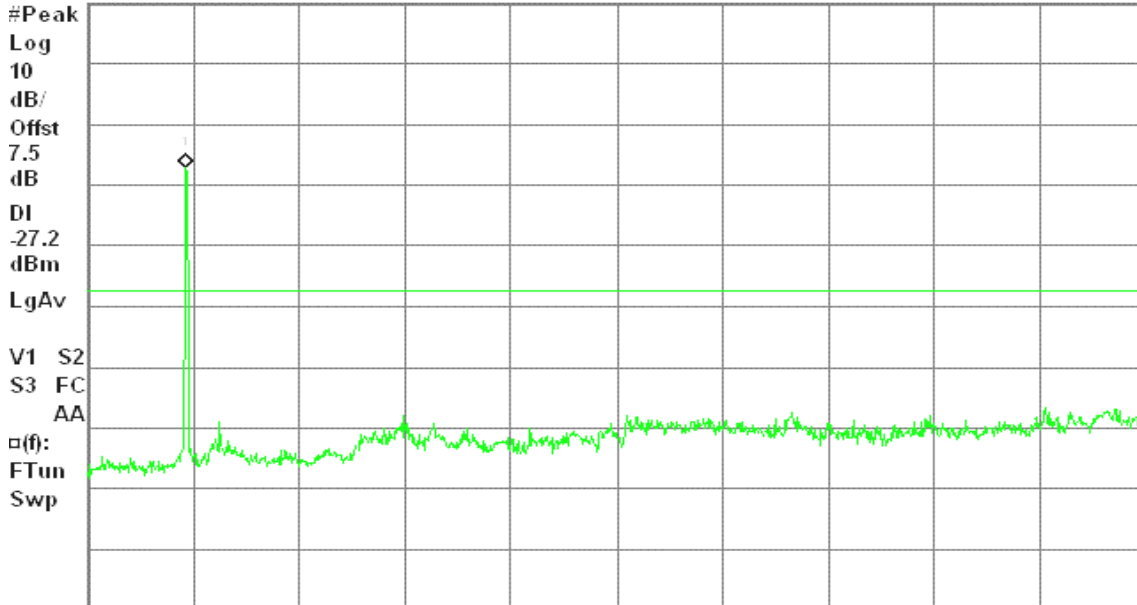
Spurious, g Mode High Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 30 dB

-7.20 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

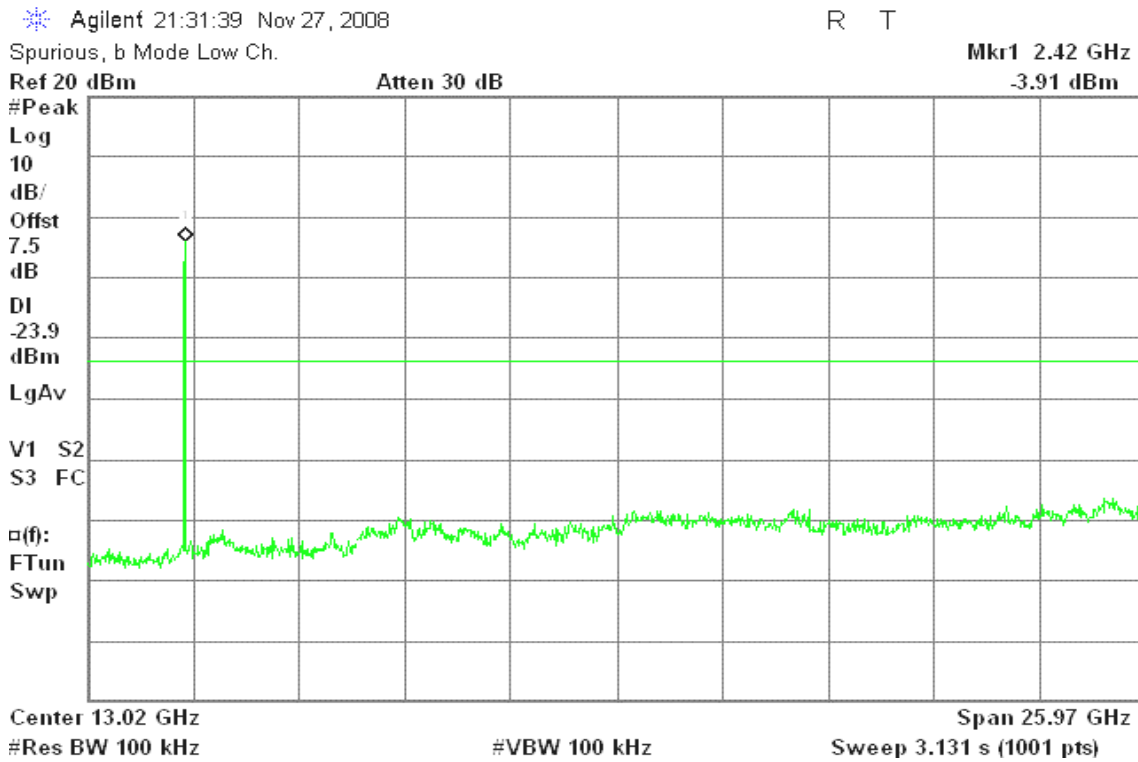
#VBW 100 kHz

Sweep 3.131 s (1001 pts)

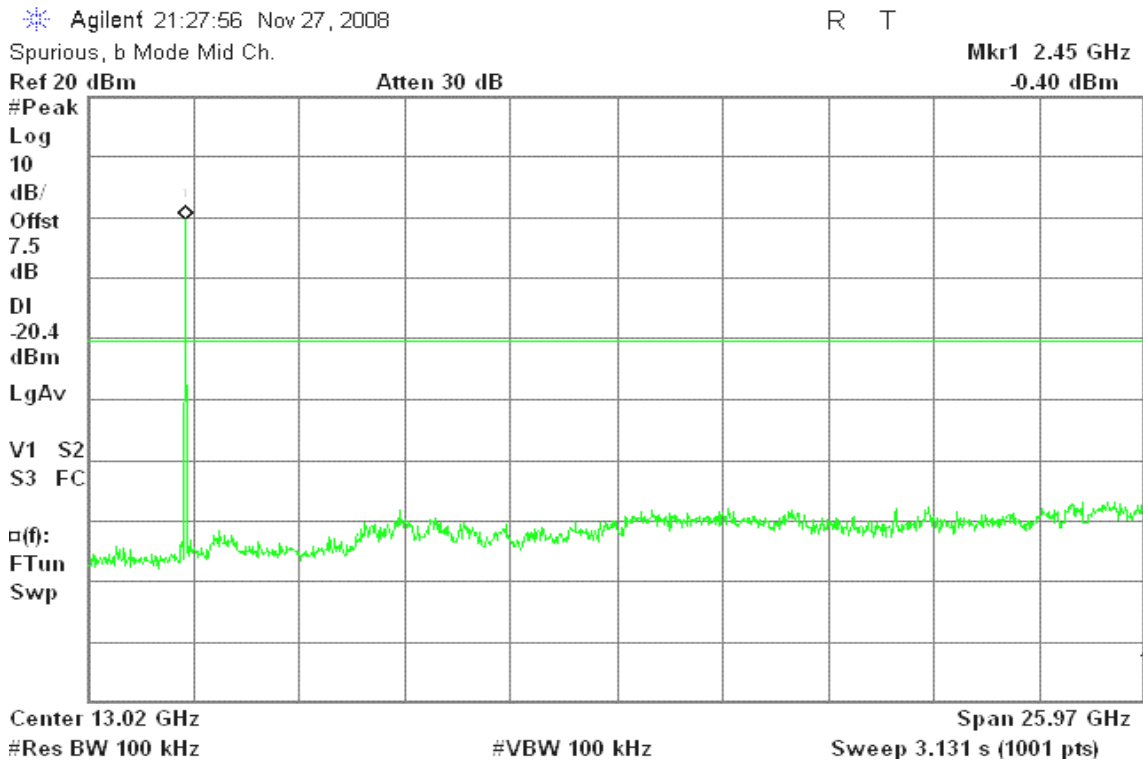


Half Length Board / IEEE 802.11b

CH Low



CH Mid





CH High

Agilent 21:24:10 Nov 27, 2008

R T

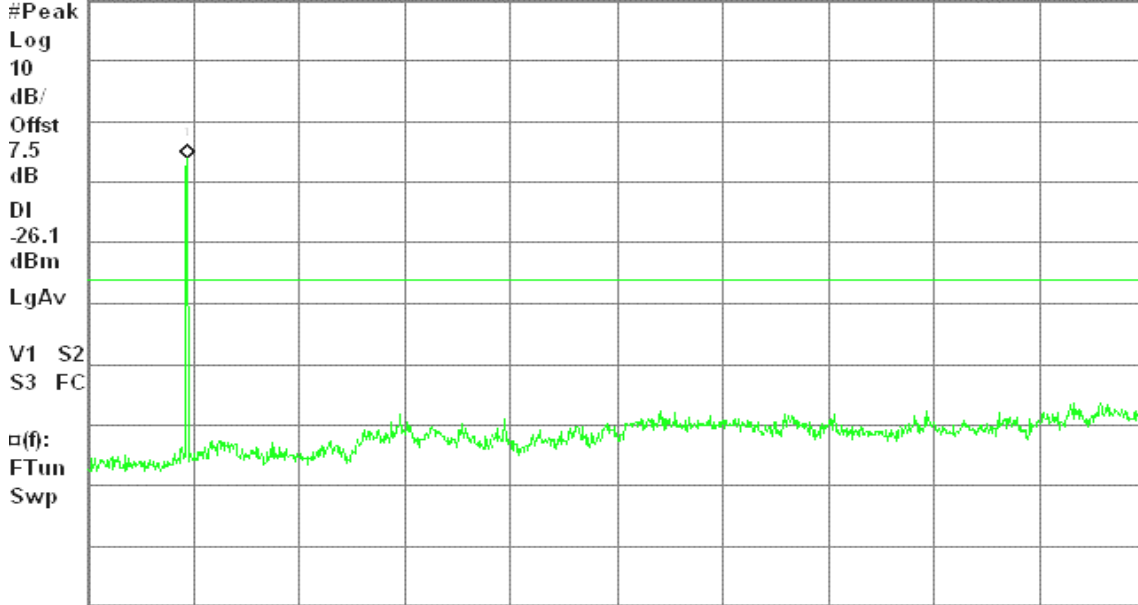
Spurious, b Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 30 dB

-6.09 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

IEEE 802.11g

CH Low

Agilent 21:11:15 Nov 27, 2008

R T

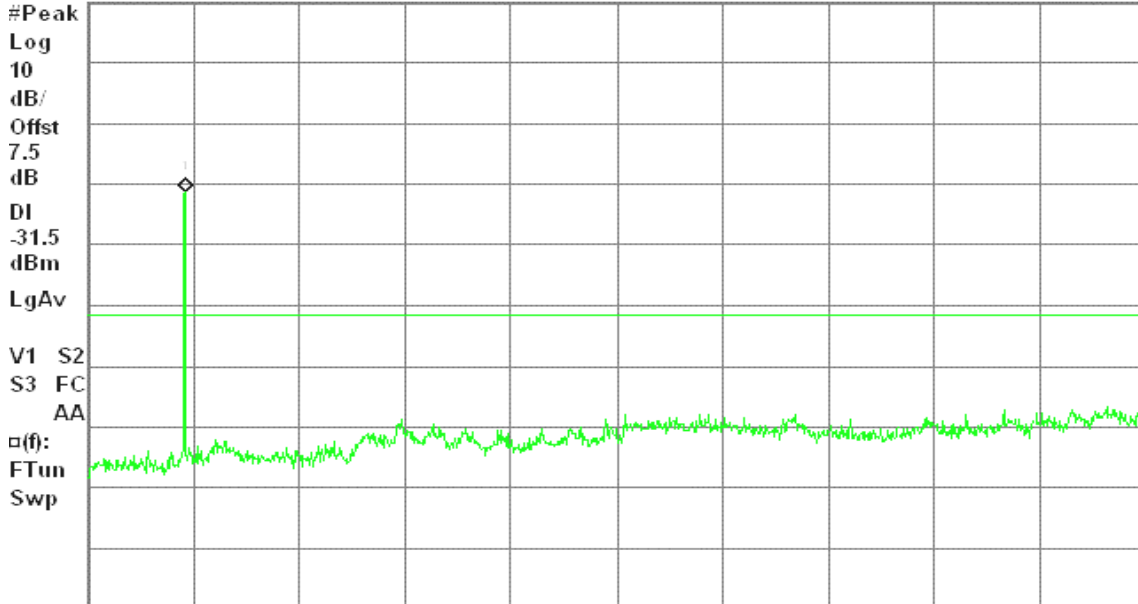
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 30 dB

-11.45 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH Mid

Agilent 21:16:15 Nov 27, 2008

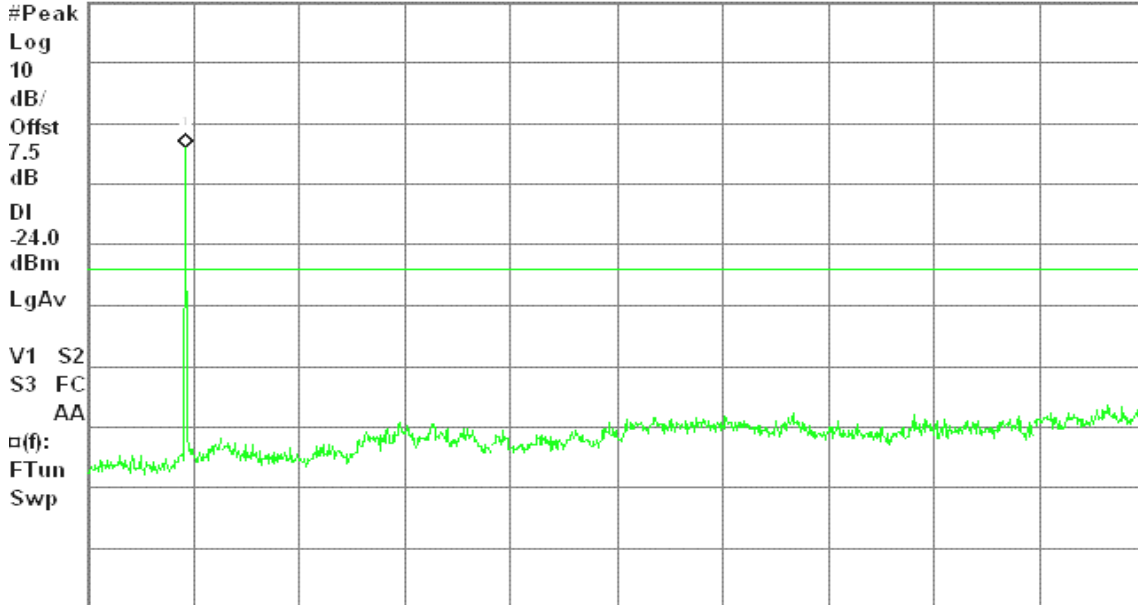
R T

Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz
-4.04 dBm

Ref 20 dBm

Atten 30 dB



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH High

Agilent 21:20:32 Nov 27, 2008

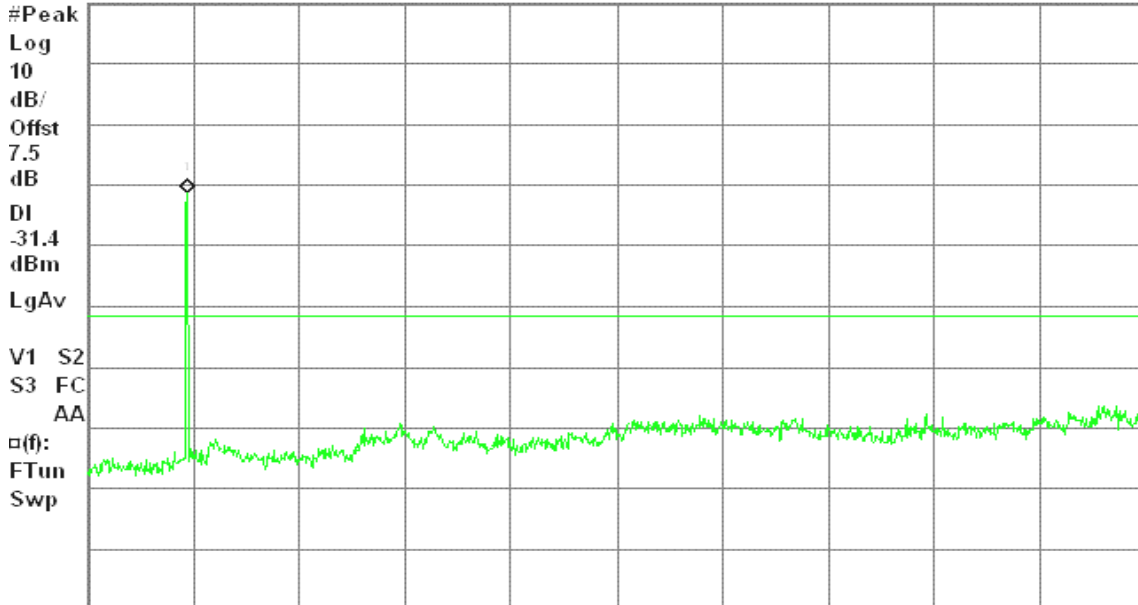
R T

Spurious, g Mode High Ch.

Mkr1 2.47 GHz
-11.38 dBm

Ref 20 dBm

Atten 30 dB



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



IEEE 802.11n HT20

CH Low

Agilent 21:35:44 Nov 27, 2008

R T

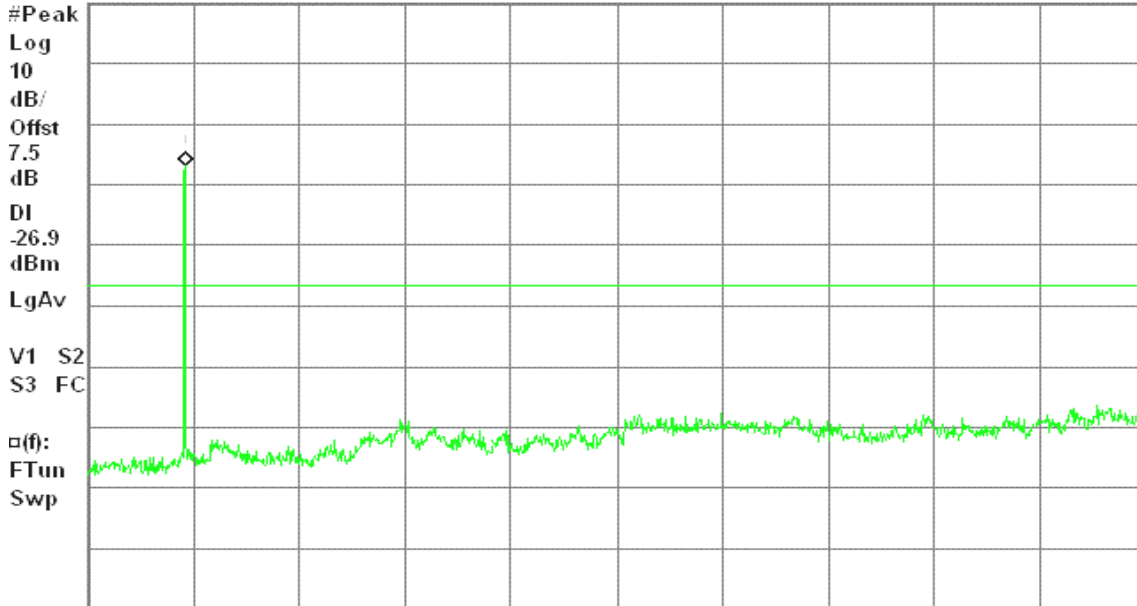
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 30 dB

-6.85 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

CH Mid

Agilent 21:39:53 Nov 27, 2008

R T

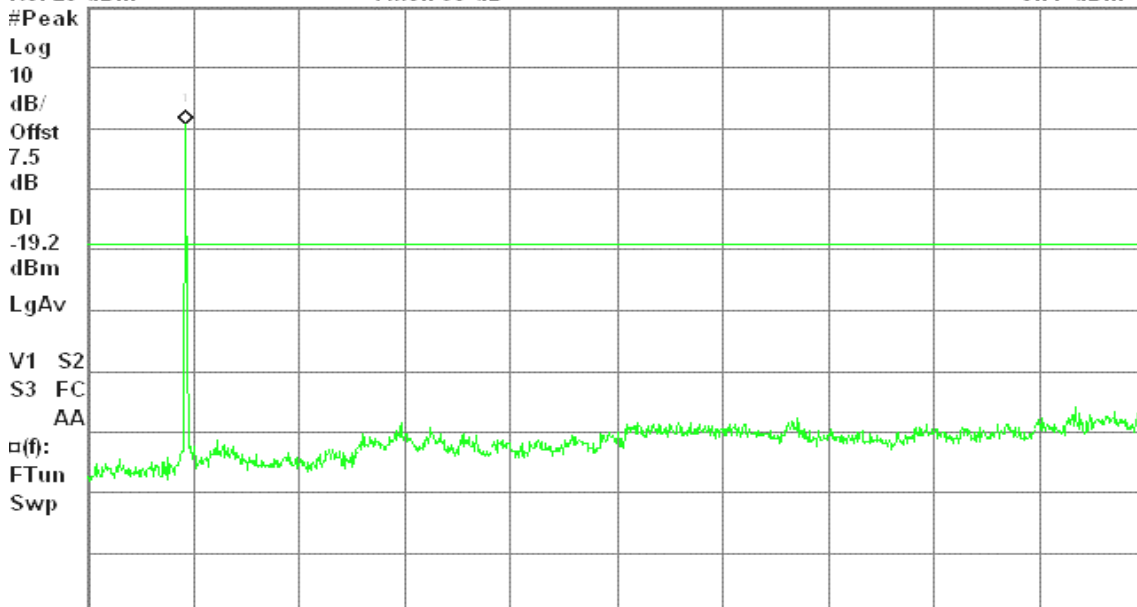
Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz

Ref 20 dBm

Atten 30 dB

0.77 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



CH High

Agilent 21:46:42 Nov 27, 2008

R T

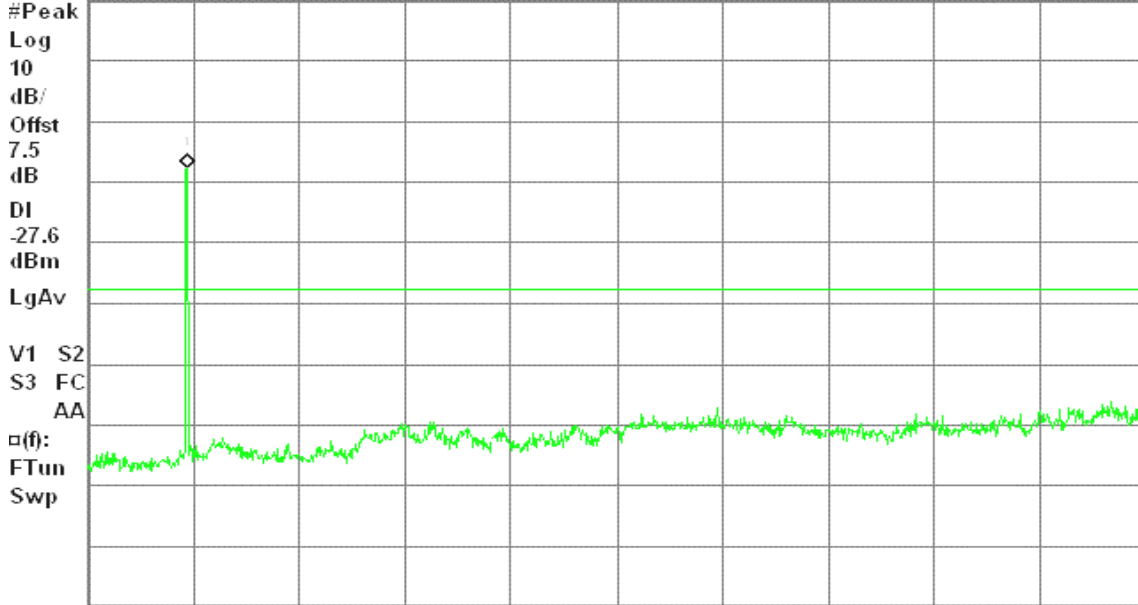
Spurious, g Mode High Ch.

Mkr1 2.47 GHz

Ref 20 dBm

Atten 30 dB

-7.62 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)

IEEE 802.11n HT40

CH Low

Agilent 21:58:47 Nov 27, 2008

R T

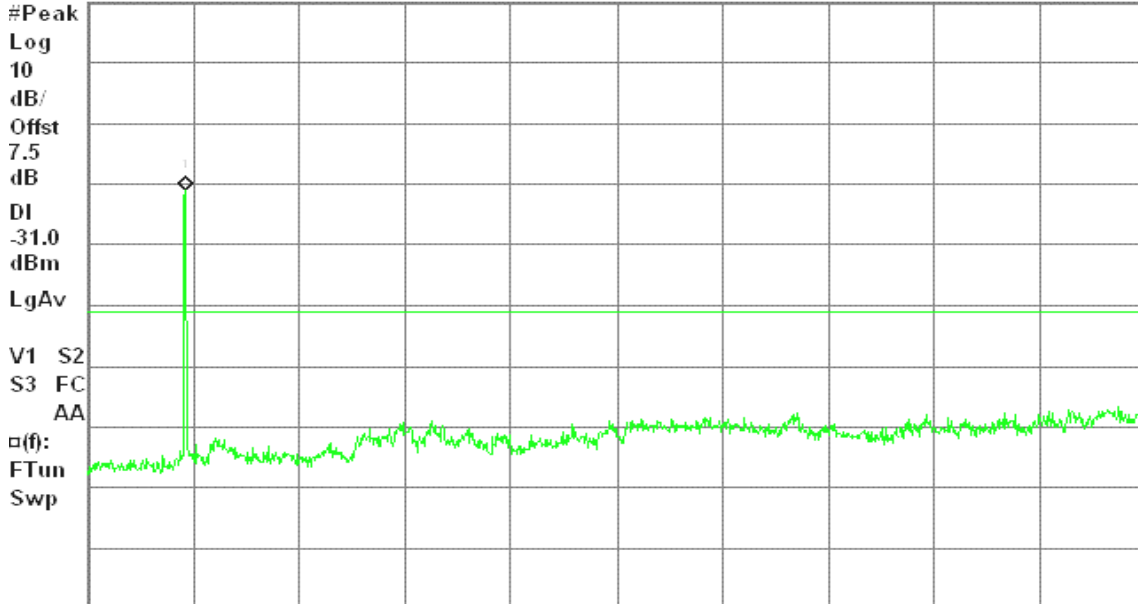
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 20 dBm

Atten 30 dB

-10.99 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 100 kHz

Sweep 3.131 s (1001 pts)



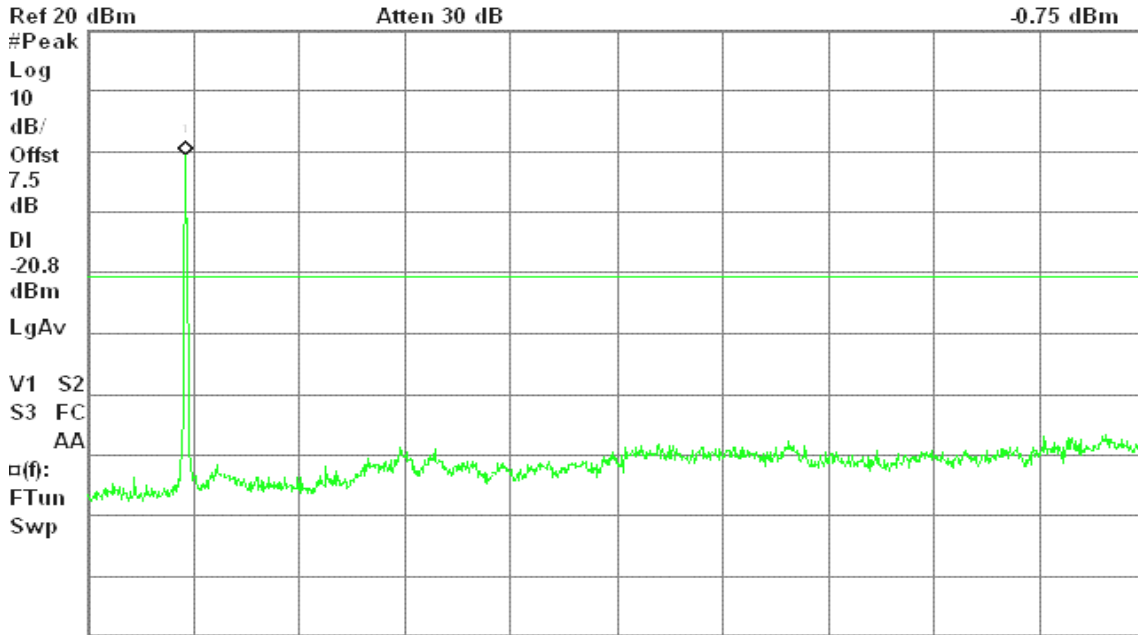
CH Mid

Agilent 21:54:33 Nov 27, 2008

R T

Spurious, g Mode Mid Ch.

Mkr1 2.45 GHz
-0.75 dBm



Center 13.02 GHz Span 25.97 GHz
#Res BW 100 kHz #VBW 100 kHz Sweep 3.131 s (1001 pts)

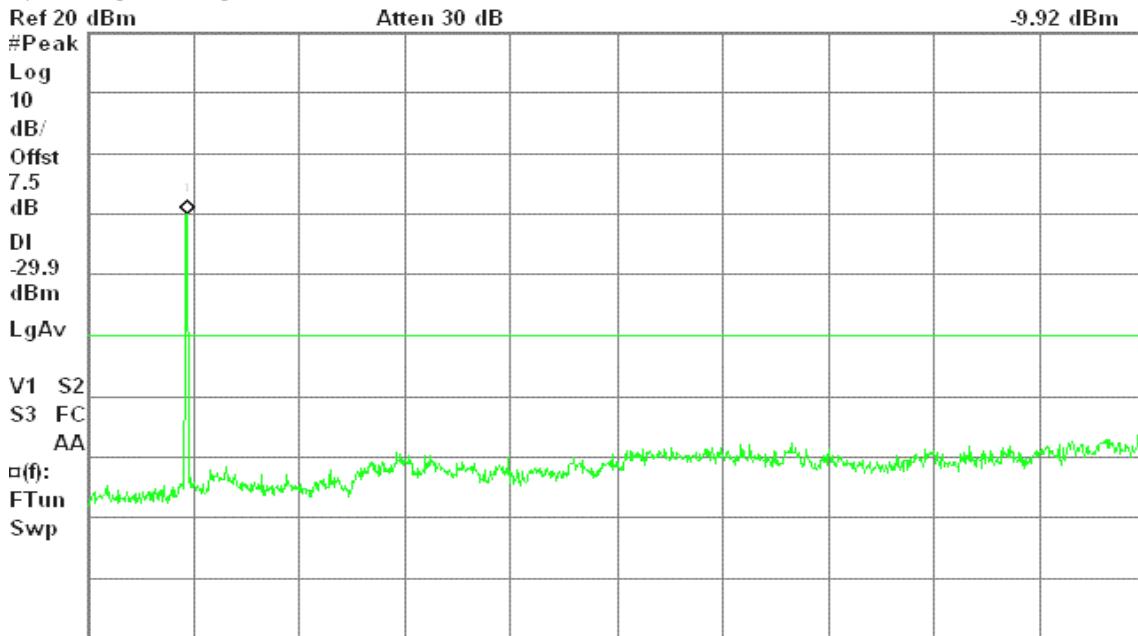
CH High

Agilent 21:50:17 Nov 27, 2008

R T

Spurious, g Mode High Ch.

Mkr1 2.47 GHz
-9.92 dBm



Center 13.02 GHz Span 25.97 GHz
#Res BW 100 kHz #VBW 100 kHz Sweep 3.131 s (1001 pts)



8.6.2 RADIATED EMISSIONS

LIMIT

1. According to §15.209(a) and RSS-210 Table 2, except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V/m}$)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

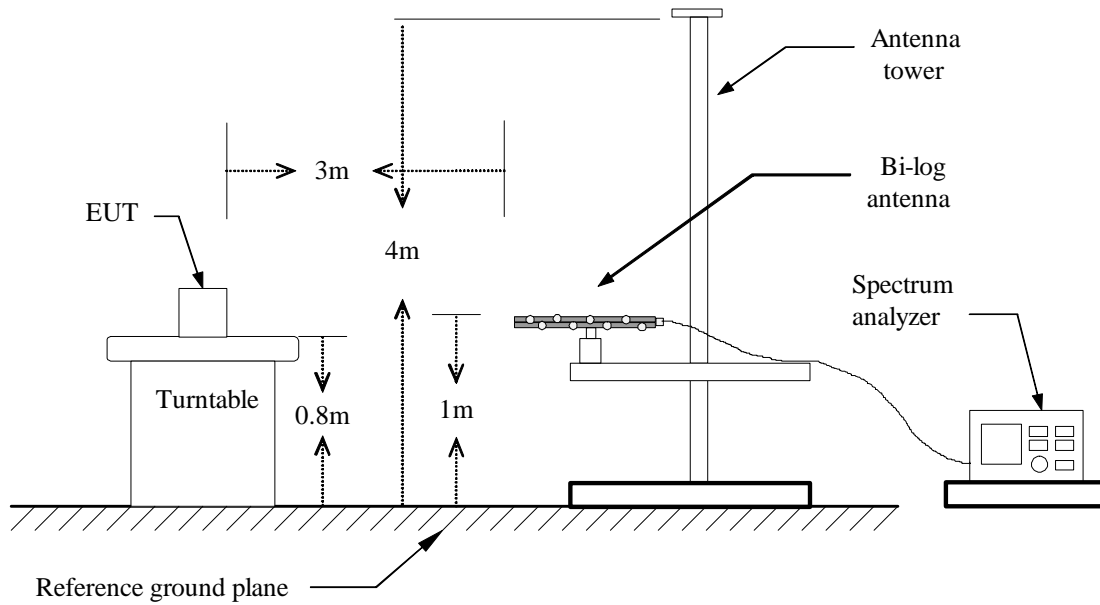
Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of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

2. In the emission table above, the tighter limit applies at the band edges.

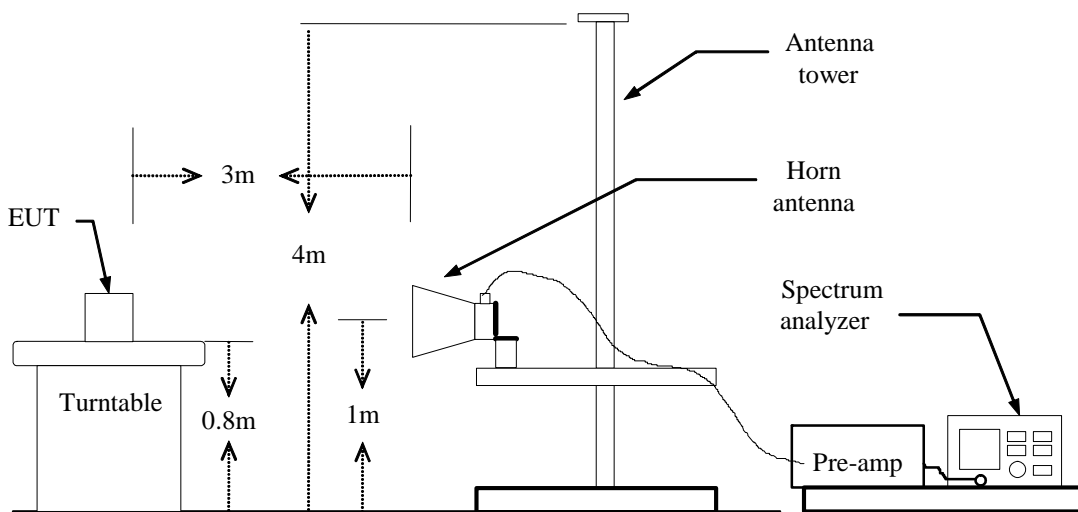
Frequency (MHz)	Field Strength ($\mu\text{V/m}$ at 3-meter)	Field Strength (dB $\mu\text{V/m}$ at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

Below 1 GHz



Above 1 GHz





TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
Below 1GHz:
RBW=100kHz / VBW=300kHz / Sweep=AUTO
Above 1GHz:
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.

**Below 1GHz****PIFA Antenna / Full Length Board:****Operation Mode:** Continue Transmit**Test Date:** November 26, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
181.97	V	46.82	-10.67	36.15	43.50	-7.35	Peak
299.98	V	45.33	-8.61	36.71	46.00	-9.29	Peak
335.55	V	45.72	-8.04	37.68	46.00	-8.32	Peak
400.22	V	42.58	-6.05	36.53	46.00	-9.47	Peak
663.73	V	42.32	-2.21	40.11	46.00	-5.89	Peak
995.15	V	40.50	2.29	42.79	54.00	-11.21	Peak
199.75	H	44.19	-8.13	36.06	43.50	-7.44	Peak
298.37	H	53.30	-8.63	44.67	46.00	-1.33	QP
335.55	H	53.27	-8.04	45.23	46.00	-0.77	QP
400.22	H	51.08	-6.05	45.03	46.00	-0.97	QP
497.22	H	44.44	-4.22	40.22	46.00	-5.78	Peak
995.15	H	47.71	2.29	50.00	54.00	-4.00	Peak

Remark:

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).

**PIFA Antenna / Half Length Board:****Operation Mode:** Continue Transmit**Test Date:** November 26, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
177.12	V	47.49	-10.85	36.65	43.50	-6.85	Peak
298.37	V	44.15	-8.63	35.52	46.00	-10.48	Peak
335.55	V	44.66	-8.04	36.62	46.00	-9.38	Peak
663.73	V	40.61	-2.21	38.40	46.00	-7.60	Peak
784.98	V	39.49	0.27	39.76	46.00	-6.24	Peak
948.27	V	37.05	1.83	38.87	46.00	-7.13	Peak
99.52	H	56.42	-13.36	43.06	43.50	-0.44	QP
298.37	H	52.16	-8.63	43.53	46.00	-2.47	QP
335.55	H	53.19	-8.04	45.15	46.00	-0.85	QP
500.45	H	46.53	-4.13	42.39	46.00	-3.61	Peak
663.73	H	42.86	-2.21	40.66	46.00	-5.34	Peak
995.15	H	46.64	2.29	48.93	54.00	-5.07	Peak

Remark:

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).

**Above 1 GHz****PIFA Antenna / Full Length Board:****Operation Mode:** TX / IEEE 802.11b / CH Low**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1236.67	V	59.70	---	-8.98	50.72	---	74.00	54.00	-3.28	Peak
N/A										
1300.00	H	58.63	---	-8.83	49.80	---	74.00	54.00	-4.20	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / CH Mid

Test Date: November 13, 2008

Temperature: 23°C

Tested by: Mimic Yang

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1293.33	V	58.09	---	-8.85	49.24	---	74.00	54.00	-4.76	Peak
N/A										
1213.33	H	58.55	---	-9.04	49.51	---	74.00	54.00	-4.49	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11b / CH High**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1223.33	V	58.78	---	-9.01	49.77	---	74.00	54.00	-4.23	Peak
N/A										
1236.67	H	59.05	---	-8.98	50.07	---	74.00	54.00	-3.93	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH Low

Test Date: November 13, 2008

Temperature: 23°C

Tested by: Mimic Yang

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1356.67	V	58.83	---	-8.70	50.13	---	74.00	54.00	-3.87	Peak
7233.33	V	52.86	38.27	2.96	55.82	41.23	74.00	54.00	-12.77	AVG
N/A										
1296.67	H	59.84	---	-8.84	51.00	---	74.00	54.00	-3.00	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11g / CH Mid**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1230.00	V	58.87	---	-9.00	49.87	---	74.00	54.00	-4.13	Peak
3250.00	V	51.03	---	-0.85	50.19	---	74.00	54.00	-3.81	Peak
4875.00	V	50.51	---	0.24	50.75	---	74.00	54.00	-3.25	Peak
7308.33	V	63.98	50.35	2.95	66.93	53.30	74.00	54.00	-0.70	AVG
N/A										
1233.33	H	57.86	---	-8.99	48.87	---	74.00	54.00	-5.13	Peak
3250.00	H	49.54	---	-0.85	48.69	---	74.00	54.00	-5.31	Peak
7308.33	H	58.22	44.01	2.95	61.17	46.96	74.00	54.00	-7.04	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH High

Test Date: November 13, 2008

Temperature: 23°C

Tested by: Mimic Yang

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1193.33	V	58.80	---	-9.08	49.72	---	74.00	54.00	-4.28	Peak
3333.33	V	50.34	---	-0.69	49.65	---	74.00	54.00	-4.35	Peak
7391.67	V	57.45	41.71	2.93	60.38	44.64	74.00	54.00	-9.36	AVG
N/A										
1236.67	H	59.05	---	-8.98	50.07	---	74.00	54.00	-3.93	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT20 mode / CH Low**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1290.00	V	60.23	---	-8.86	51.38	---	74.00	54.00	-2.62	Peak
7250.00	V	51.98	36.92	2.96	54.94	39.88	74.00	54.00	-14.12	AVG
N/A										
1256.67	H	59.40	---	-8.93	50.46	---	74.00	54.00	-3.54	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT20 mode / CH Mid**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1283.33	V	59.45	---	-8.87	50.58	---	74.00	54.00	-3.42	Peak
7308.33	V	62.30	47.83	2.95	65.25	50.78	74.00	54.00	-3.22	AVG
N/A										
1280.00	H	58.81	---	-8.88	49.93	---	74.00	54.00	-4.07	Peak
7308.33	H	55.79	41.35	2.95	58.74	44.30	74.00	54.00	-9.70	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT20 mode / CH High**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1283.33	V	58.84	---	-8.87	49.97	---	74.00	54.00	-4.03	Peak
7375.00	V	55.79	40.32	2.93	58.72	43.25	74.00	54.00	-10.75	AVG
N/A										
1213.33	H	58.59	---	-9.04	49.55	---	74.00	54.00	-4.45	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH Low**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1280.00	V	59.24	---	-8.88	50.36	---	74.00	54.00	-3.64	Peak
N/A										
1286.67	H	58.95	---	-8.86	50.08	---	74.00	54.00	-3.92	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH Mid**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1233.33	V	60.01	---	-8.99	51.02	---	74.00	54.00	-2.98	Peak
7316.67	V	60.04	46.62	2.95	62.99	49.57	74.00	54.00	-4.43	AVG
N/A										
1270.00	H	59.68	---	-8.90	50.78	---	74.00	54.00	-3.22	Peak
7325.00	H	54.76	41.00	2.94	57.70	43.94	74.00	54.00	-10.06	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH High**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1280.00	V	59.43	---	-8.88	50.55	---	74.00	54.00	-3.45	Peak
N/A										
1276.67	H	59.24	---	-8.89	50.36	---	74.00	54.00	-3.64	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**PIFA Antenna / Half Length Board:****Operation Mode:** TX / IEEE 802.11b / CH Low**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1290.00	V	59.16	---	-8.86	50.30	---	74.00	54.00	-3.70	Peak
N/A										
1233.33	H	59.19	---	-8.99	50.20	---	74.00	54.00	-3.80	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11b / CH Mid**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1273.33	V	59.23	---	-8.90	50.33	---	74.00	54.00	-3.67	Peak
4875.00	V	55.52	50.63	0.24	55.76	50.87	74.00	54.00	-3.13	AVG
N/A										
1253.33	H	58.98	---	-8.94	50.04	---	74.00	54.00	-3.96	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / CH High

Test Date: November 13, 2008

Temperature: 23°C

Tested by: Mimic Yang

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1263.33	V	59.76	---	-8.92	50.84	---	74.00	54.00	-3.16	Peak
N/A										
1326.67	H	58.27	---	-8.77	49.50	---	74.00	54.00	-4.50	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11g / CH Low**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1250.00	V	58.49	---	-8.95	49.54	---	74.00	54.00	-4.46	Peak
N/A										
1213.33	H	59.50	---	-9.04	50.46	---	74.00	54.00	-3.54	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11g / CH Mid**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1280.00	V	59.74	---	-8.88	50.86	---	74.00	54.00	-3.14	Peak
4991.67	V	51.44	---	-0.02	51.42	---	74.00	54.00	-2.58	Peak
7308.33	V	48.88	---	2.95	51.83	---	74.00	54.00	-2.17	Peak
N/A										
1240.00	H	59.12	---	-8.97	50.15	---	74.00	54.00	-3.85	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH High

Test Date: November 13, 2008

Temperature: 23°C

Tested by: Mimic Yang

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1270.00	V	59.24	---	-8.90	50.34	---	74.00	54.00	-3.66	Peak
N/A										
1290.00	H	58.58	---	-8.86	49.72	---	74.00	54.00	-4.28	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT20 mode / CH Low**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1246.67	V	59.38	---	-8.96	50.42	---	74.00	54.00	-3.58	Peak
7241.67	V	54.01	38.90	2.96	56.97	41.86	74.00	54.00	-12.14	AVG
N/A										
1300.00	H	58.87	---	-8.83	50.04	---	74.00	54.00	-3.96	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT20 mode / CH Mid**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1286.67	V	58.92	---	-8.86	50.05	---	74.00	54.00	-3.95	Peak
4875.00	V	55.56	41.38	0.24	55.80	41.62	74.00	54.00	-12.38	AVG
7308.33	V	58.22	42.59	2.95	61.17	45.54	74.00	54.00	-8.46	AVG
N/A										
1263.33	H	59.27	---	-8.92	50.35	---	74.00	54.00	-3.65	Peak
4875.00	H	51.34	---	0.24	51.58	---	74.00	54.00	-2.42	Peak
7308.33	H	56.04	40.71	2.95	58.99	43.66	74.00	54.00	-10.34	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT20 mode / CH High**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1216.67	V	58.95	---	-9.03	49.93	---	74.00	54.00	-4.07	Peak
N/A										
1160.00	H	58.96	---	-9.16	49.79	---	74.00	54.00	-4.21	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH Low**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1213.33	V	59.18	---	-9.04	50.14	---	74.00	54.00	-3.86	Peak
N/A										
1180.00	H	59.24	---	-9.12	50.13	---	74.00	54.00	-3.87	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH Mid**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1216.67	V	59.05	---	-9.03	50.02	---	74.00	54.00	-3.98	Peak
4875.00	V	54.85	40.65	0.24	55.09	40.89	74.00	54.00	-13.11	AVG
7325.00	V	58.31	41.42	2.94	61.25	44.36	74.00	54.00	-9.64	AVG
9750.00	V	48.31	34.38	9.65	57.96	44.03	74.00	54.00	-9.97	AVG
N/A										
1223.33	H	59.31	---	-9.01	50.30	---	74.00	54.00	-3.70	Peak
7308.33	H	53.12	38.95	2.95	56.07	41.90	74.00	54.00	-12.10	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH High**Test Date:** November 13, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
1220.00	V	59.46	---	-9.02	50.44	---	74.00	54.00	-3.56	Peak
N/A										
1276.67	H	59.09	---	-8.89	50.20	---	74.00	54.00	-3.80	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Below 1GHz****Dipole Antenna / Full Length Board:****Operation Mode:** Continue Transmit**Test Date:** December 24, 2008**Temperature:** 23°C**Tested by:** Nan Tsai**Humidity:** 50% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
36.47	V	37.90	-6.33	31.57	40.00	-8.43	QP
165.80	V	48.79	-10.44	38.35	43.50	-5.15	Peak
233.70	V	44.62	-9.92	34.70	46.00	-11.30	Peak
299.98	V	46.31	-8.61	37.70	46.00	-8.30	Peak
699.30	V	40.90	-2.06	38.84	46.00	-7.16	Peak
799.53	V	36.10	0.42	36.52	46.00	-9.48	Peak
99.52	H	47.97	-13.36	34.61	43.50	-8.89	Peak
144.78	H	46.23	-9.19	37.03	43.50	-6.47	Peak
165.80	H	41.25	-10.44	30.81	43.50	-12.69	QP
233.70	H	45.21	-9.92	35.29	46.00	-10.71	QP
298.37	H	40.10	-8.63	31.47	46.00	-14.53	QP
400.22	H	42.96	-6.05	36.92	46.00	-9.08	Peak

Remark:

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).

**Dipole Antenna / Half Length Board:****Operation Mode:** Continue Transmit**Test Date:** November 26, 2008**Temperature:** 24°C**Tested by:** Wolf Huang**Humidity:** 50% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
36.47	V	37.90	-6.33	31.57	40.00	-8.43	QP
165.80	V	48.79	-10.44	38.35	43.50	-5.15	Peak
233.70	V	44.62	-9.92	34.70	46.00	-11.30	Peak
299.98	V	46.31	-8.61	37.70	46.00	-8.30	Peak
699.30	V	40.90	-2.06	38.84	46.00	-7.16	Peak
799.53	V	36.10	0.42	36.52	46.00	-9.48	Peak
99.52	H	47.97	-13.36	34.61	43.50	-8.89	Peak
144.78	H	46.23	-9.19	37.03	43.50	-6.47	Peak
165.80	H	41.25	-10.44	30.81	43.50	-12.69	QP
233.70	H	45.21	-9.92	35.29	46.00	-10.71	QP
298.37	H	40.10	-8.63	31.47	46.00	-14.53	QP
400.22	H	42.96	-6.05	36.92	46.00	-9.08	Peak

Remark:

1. Measuring frequencies from 30 MHz to the 1GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.
3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11b / CH Mid**Test Date:** December 24, 2008**Temperature:** 21°C**Tested by:** Nan Tasi**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4875.00	V	55.33	51.44	0.24	55.57	51.68	74.00	54.00	-2.32	AVG
7308.33	V	52.18	44.20	2.95	55.13	47.15	74.00	54.00	-6.85	AVG
N/A										
4875.00	H	49.64	---	0.24	49.88	---	74.00	54.00	-4.12	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / CH High

Test Date: December 24, 2008

Temperature: 21°C

Tested by: Nan Tasi

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
5000.00	V	50.53	---	-0.04	50.49	---	74.00	54.00	-3.51	Peak
N/A										
4900.00	H	49.56	---	0.18	49.75	---	74.00	54.00	-4.25	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH Mid

Test Date: December 24, 2008

Temperature: 21°C

Tested by: Nan Tasi

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4875.00	V	51.23	---	0.24	51.47	---	74.00	54.00	-2.53	Peak
5000.00	V	49.32	36.10	-0.04	49.28	36.06	74.00	54.00	-17.94	AVG
7316.67	V	55.69	42.41	2.95	58.64	45.36	74.00	54.00	-8.64	AVG
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH High

Test Date: December 24, 2008

Temperature: 21°C

Tested by: Nan Tasi

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4983.33	V	51.68	36.60	-0.00	51.68	36.60	74.00	54.00	-2.32	Peak
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT20 mode / CH Mid**Test Date:** December 24, 2008**Temperature:** 21°C**Tested by:** Nan Tasi**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4875.00	V	57.02	43.14	0.24	57.26	43.38	74.00	54.00	-10.62	AVG
7308.33	V	62.52	47.02	2.95	65.47	49.97	74.00	54.00	-4.03	AVG
N/A										
4875.00	H	51.06	---	0.24	51.29	---	74.00	54.00	-2.71	Peak
7316.67	H	55.32	41.48	2.95	58.27	44.43	74.00	54.00	-9.57	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / CH High

Test Date: December 24, 2008

Temperature: 21°C

Tested by: Nan Tasi

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4991.67	V	51.37	---	-0.02	51.35	---	74.00	54.00	-2.65	Peak
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH Low**Test Date:** December 24, 2008**Temperature:** 21°C**Tested by:** Nan Tasi**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4991.67	V	52.75	36.18	-0.02	52.73	36.16	74.00	54.00	-17.84	AVG
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH Mid**Test Date:** December 24, 2008**Temperature:** 21°C**Tested by:** Nan Tasi**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4875.00	V	55.54	42.73	0.24	55.77	42.97	74.00	54.00	-11.03	AVG
7316.67	V	60.93	47.88	2.95	63.88	50.83	74.00	54.00	-3.17	AVG
N/A										
4866.67	H	51.03	---	0.26	51.29	---	74.00	54.00	-2.71	Peak
7325.00	H	53.28	41.23	2.94	56.22	44.17	74.00	54.00	-9.83	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH High**Test Date:** December 24, 2008**Temperature:** 21°C**Tested by:** Nan Tasi**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4991.67	V	51.44	---	-0.02	51.42	---	74.00	54.00	-2.58	Peak
N/A										
4975.00	H	49.88	---	0.02	49.89	---	74.00	54.00	-4.11	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Dipole Antenna / Half Length Board:

Operation Mode: TX / IEEE 802.11b / CH Low

Test Date: November 20, 2008

Temperature: 21°C

Tested by: Wolf Huang

Humidity: 53 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4825.00	V	51.33	---	0.35	51.68	---	74.00	54.00	-2.32	Peak
4991.67	V	52.07	35.75	-0.02	52.05	35.73	74.00	54.00	-18.27	AVG
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11b / CH Mid**Test Date:** November 20, 2008**Temperature:** 21°C**Tested by:** Wolf Huang**Humidity:** 53 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4875.00	V	55.33	51.44	0.24	55.57	51.68	74.00	54.00	-2.32	AVG
7308.33	V	52.18	44.20	2.95	55.13	47.15	74.00	54.00	-6.85	AVG
N/A										
4875.00	H	49.64	---	0.24	49.88	---	74.00	54.00	-4.12	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11b / CH High

Test Date: November 21, 2008

Temperature: 21°C

Tested by: Wolf Huang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
5000.00	V	50.53	---	-0.04	50.49	---	74.00	54.00	-3.51	Peak
N/A										
4900.00	H	49.56	---	0.18	49.75	---	74.00	54.00	-4.25	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH Mid

Test Date: November 21, 2008

Temperature: 21°C

Tested by: Wolf Huang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4875.00	V	51.23	---	0.24	51.47	---	74.00	54.00	-2.53	Peak
5000.00	V	49.32	36.10	-0.04	49.28	36.06	74.00	54.00	-17.94	AVG
7316.67	V	55.69	42.41	2.95	58.64	45.36	74.00	54.00	-8.64	AVG
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11g / CH High

Test Date: November 20, 2008

Temperature: 21°C

Tested by: Wolf Huang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4983.33	V	51.68	36.60	-0.00	51.68	36.60	74.00	54.00	-2.32	Peak
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / CH Low

Test Date: November 21, 2008

Temperature: 21°C

Tested by: Wolf Huang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4991.67	V	50.29	---	-0.02	50.27	---	74.00	54.00	-3.73	Peak
7233.33	V	48.96	---	2.96	51.92	---	74.00	54.00	-2.08	Peak
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT20 mode / CH Mid**Test Date:** November 21, 2008**Temperature:** 21°C**Tested by:** Wolf Huang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4875.00	V	57.02	43.14	0.24	57.26	43.38	74.00	54.00	-10.62	AVG
7308.33	V	62.52	47.02	2.95	65.47	49.97	74.00	54.00	-4.03	AVG
N/A										
4875.00	H	51.06	---	0.24	51.29	---	74.00	54.00	-2.71	Peak
7316.67	H	55.32	41.48	2.95	58.27	44.43	74.00	54.00	-9.57	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT20 mode / CH High

Test Date: November 21, 2008

Temperature: 21°C

Tested by: Wolf Huang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4991.67	V	51.37	---	-0.02	51.35	---	74.00	54.00	-2.65	Peak
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Operation Mode: TX / IEEE 802.11n HT40 mode / CH Low

Test Date: November 21, 2008

Temperature: 21°C

Tested by: Wolf Huang

Humidity: 50 % RH

Polarity: Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4991.67	V	52.75	36.18	-0.02	52.73	36.16	74.00	54.00	-1.27	Peak
N/A										
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH Mid**Test Date:** November 21, 2008**Temperature:** 21°C**Tested by:** Wolf Huang**Humidity:** 50 % RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4875.00	V	55.54	42.73	0.24	55.77	42.97	74.00	54.00	-11.03	AVG
7316.67	V	60.93	47.88	2.95	63.88	50.83	74.00	54.00	-3.17	AVG
N/A										
4866.67	H	51.03	---	0.26	51.29	---	74.00	54.00	-2.71	Peak
7325.00	H	53.28	41.23	2.94	56.22	44.17	74.00	54.00	-9.83	AVG
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Operation Mode:** TX / IEEE 802.11n HT40 mode / CH High**Test Date:** November 21, 2008**Temperature:** 21°C**Tested by:** Wolf Huang**Humidity:** 50% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4991.67	V	51.44	---	-0.02	51.42	---	74.00	54.00	-2.58	Peak
N/A										
4975.00	H	49.88	---	0.02	49.89	---	74.00	54.00	-4.11	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**PIFA Antenna / Full Length Board:****Operation Mode:** RX / IEEE 802.11g**Test Date:** November 23, 2008**Temperature:** 23°C**Tested by:** Wolf Huang**Humidity:** 48% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4208.33	V	47.16	---	0.90	48.06	---	74.00	54.00	-5.94	Peak
N/A										
3695.00	H	47.77	---	0.07	47.85	---	74.00	54.00	-6.15	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**PIFA Antenna / Half Length Board:****Operation Mode:** RX / IEEE 802.11g**Test Date:** November 23, 2008**Temperature:** 23°C**Tested by:** Wolf Huang**Humidity:** 48% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4978.33	V	50.60	---	0.01	50.61	---	74.00	54.00	-3.39	Peak
N/A										
5853.33	H	50.00	---	0.94	50.94	---	74.00	54.00	-3.06	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Dipole Antenna / Half Length Board:****Operation Mode:** RX / IEEE 802.11g**Test Date:** December 12, 2008**Temperature:** 23°C**Tested by:** Mimic Yang**Humidity:** 53% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
2000.00	V	52.16	---	-4.18	47.98	---	74.00	54.00	-6.02	Peak
2793.33	V	53.80	---	-1.86	51.95	---	74.00	54.00	-2.05	Peak
N/A										
2796.67	H	50.39	---	-1.85	48.55	---	74.00	54.00	-5.45	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Dipole Antenna / Half Length Board:****Operation Mode:** RX / IEEE 802.11g**Test Date:** November 23, 2008**Temperature:** 23°C**Tested by:** Wolf Huang**Humidity:** 48% RH**Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
4208.33	V	47.16	---	0.90	48.06	---	74.00	54.00	-5.94	Peak
N/A										
3695.00	H	47.77	---	0.07	47.85	---	74.00	54.00	-6.15	Peak
N/A										

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser; with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).