FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Notebook PC

Model: CM2; CM2 series

Trade Name: FIC

Wireless LAN module Brand name: Gemtek

Wireless LAN module Model Number: WMIB-184GW

Prepared for

First International Computer Inc.
NO.300,YangGuang St.,NeiHu,Taipei,Taiwan,114

Prepared by

COMPLIANCE CERTIFICATION SERVICES (KUNSHAN) INC.
10#Weiye Rd, Innovation Park Eco. & Tec. Development Zone
Kunshan city JiangSu, (215300) CHINA
TEL: 86-512-57355888
FAX: 86-512-57370818

Lab. Code: 200581-0

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1. TEST RESULT CERTIFICATION

Applicant: First International Computer Inc.
No.300 YangGuang st., NeiHu, Taipei, 114

Equipment Under Test: Notebook PC

Trade Name: FIC

Model: CM2; CM2 series

Date of Test: From March 22, 2006 to March 31, 2006

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC Part 15 Subpart C	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 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.

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

Approved by: *Reviewed by:*

Tony Houng
General Manager of Kunshan Laboratory
Compliance Certification Services Inc.

Miro Chueh
Section Manager of Kunshan Laboratory
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	Notebook PC
Trade Name	FIC
Model Number	CM2; CM2 series
Model Discrepancy	All the above models are identical except the model designation for different market.
Wireless LAN module Model Number	WMIB-184GW
Wireless LAN module Brand name	Gemtek
Power Supply	Powered from AC/DC power adapter Brandname: (1) LISHIN Model Number: 00335C1965 Input: AC 100-240V, 50~60Hz, 1.7A Output: DC 19V, 3.42A Brandname: (2) DELTA Model Number: SADP-65KB C Input: AC 100-240V, 50~60Hz, 1.5A Output: DC 19V, 3.42A Brandname: (3) DELTA Model Number: SADP-65KB B Input: AC 100-240V, 50~60Hz, 1.5A Output: DC 19V, 3.42A
Frequency Range	802.11b mode: 2412 ~ 2462 MHz 802.11g mode: 2412 ~ 2462 MHz
Transmit Power	802.11b mode: 17.81 dBm 802.11g mode: 14.60 dBm
Modulation Technique	802.11b: DSSS (CCK; DQPSK; DBPSK) 802.11g: OFDM
Transmit Data Rate	802.11b: 11Mbps(CCK) with fall back rates of 5.5, 2, and 1Mbps 802.11g : 54Mbps with fall back rates of 48/36/24/18/12/9/6 Mbps (OFDM)
Number of Channels	11 Channels
Antenna Specification	2 PIFA Antenna Gain: 1.69 dBi (Max)

Note: *This submittal(s) (test report) is intended for FCC ID: EUNCM2G filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2001 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.247.

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.

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 C63.4-2001 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 max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 13.1.4.1 of ANSI C63.4-2001.

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 has been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

IEEE802.11b: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with preliminary test 11, 5.5, 2, and 1, After the preliminary scan , the following test mode 11Mbps highest data rate (the worst case) are chosen for the final testing.

IEEE802.11g: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with preliminary test 54/48/36/24/18/12/9/6, After the preliminary scan , the following test mode 6Mbps data rate (the worst case) are chosen for the final testing.

4. 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.

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at
CCS China Kunshan Lab at 10#, Weiye Rd, Innovation Park Eco. & Tec. Development Zone
Kunshan city JiangSu, (215300)CHINA.
The measurement facilities are constructed in conformance with the requirements of CISPR 16-1, ANSI C63.4 and other equivalent standards.

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 National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code: 200581-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission.

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	NVLAP	EN 55022, EN 61000-3-2,EN 61000-3-3, EN550024, EN 61000-4-2, EN 61000-4-3, EN61000-4-4, EN 61000-4-5, EN 61000-4-6, IEC 61000-4-8, EN 61000-4-11 ANSI C63.4, CISPR16-1, IEC61000-3-2, IEC61000-3-3, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11	Lab. Code: 200581-0
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	93105, 90471
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	R-1600 C-1707
Norway	NEMKO	EN61000-6-1/2/3/4, EN 50082-1/2, IEC 61000-6-1/2/3/4, EN 50091-2, EN 55011, EN 55022, EN 55024, EN 61000-3-2/3, EN 61000-11, IEC 61000-4-2/3/4/5/6/8/11, CISPR16-1/2/3/4	ELA 105

** No part of this report may be used to claim or imply product endorsement by NVLAP 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 1 for the actual connections between EUT and support equipment.

SUPPORT EQUIPMENT

No	Equipment	Model	Serial No.	FCC ID	Trade Name	Data Cable	Power Cord
1	Monitor	CPD-G420	2404608	DoC	SONY	Shielded 1.8m with a Core	Un-Shielded, 1.5m
2	SPEAKER-1	CD-371	N/A	DoC	JINLIAN	Un-Shielded, 2.0m	N/A
3	HDD(USB) USB2.0	F12-UF	A0100214-4Cg 0007	DoC	TeraSys	Shielded, 1.8m	N/A
4	HDD(USB) USB2.0	F12-UF	A0100214-4Cg 0007	DoC	TeraSys	Shielded, 1.8m	N/A
5	HDD(USB) USB2.0	F12-UF	A0100214-4Cg 0009	DoC	TeraSys	Shielded, 1.8m	N/A
6	Keynoard (USB)	KB-9910	0081856	DoC	IBM	Shielded, 2m	N/A
7	Mouse (USB)	M-UV69a	323617-001	DoC	HP	Shielded, 2m	N/A

Notes:

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. FCC PART 15.247 REQUIREMENTS

7.1 6DB BANDWIDTH

LIMIT

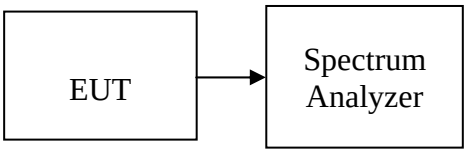
For the direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz.

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2006

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

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 = 100kHz, VBW = RBW, Span = 20MHz, 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

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
Low	2412	11209	>500	PASS
Mid	2437	11185		PASS
High	2462	10616		PASS

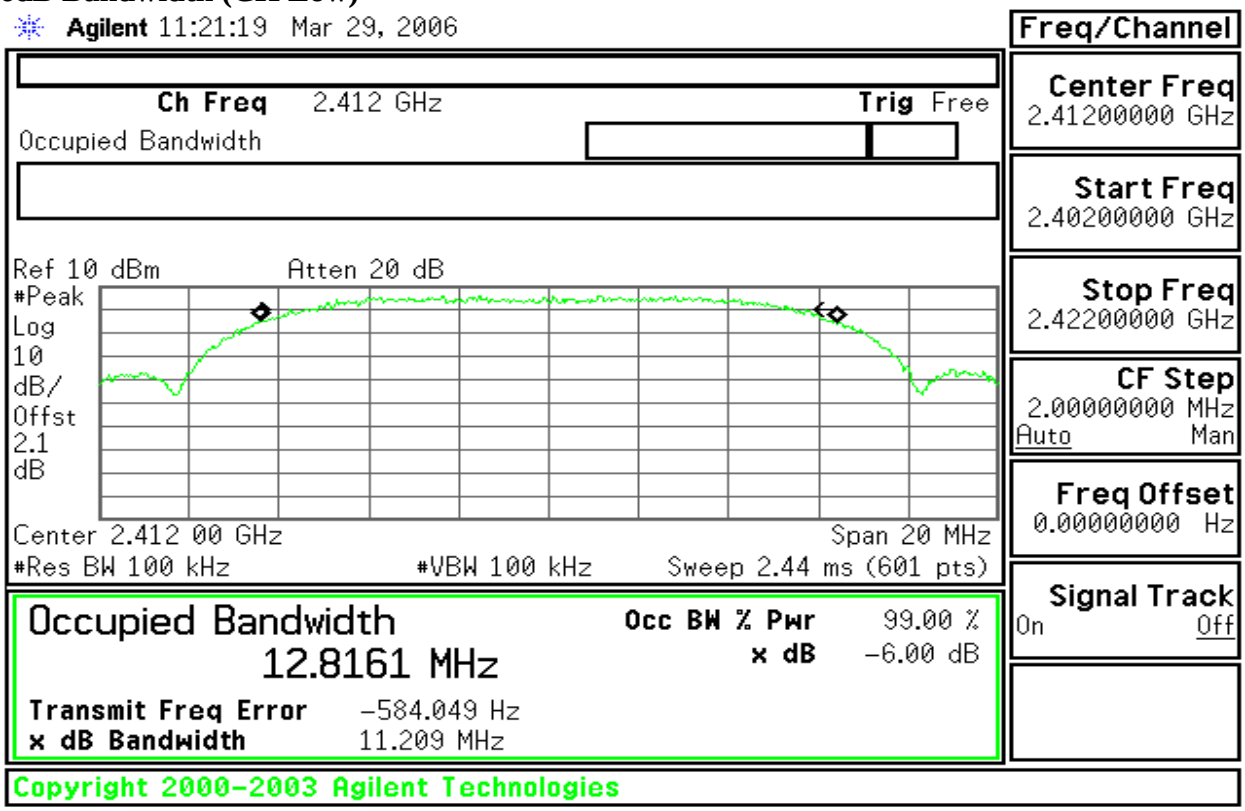
Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
Low	2412	16361	>500	PASS
Mid	2437	16365		PASS
High	2462	16425		PASS

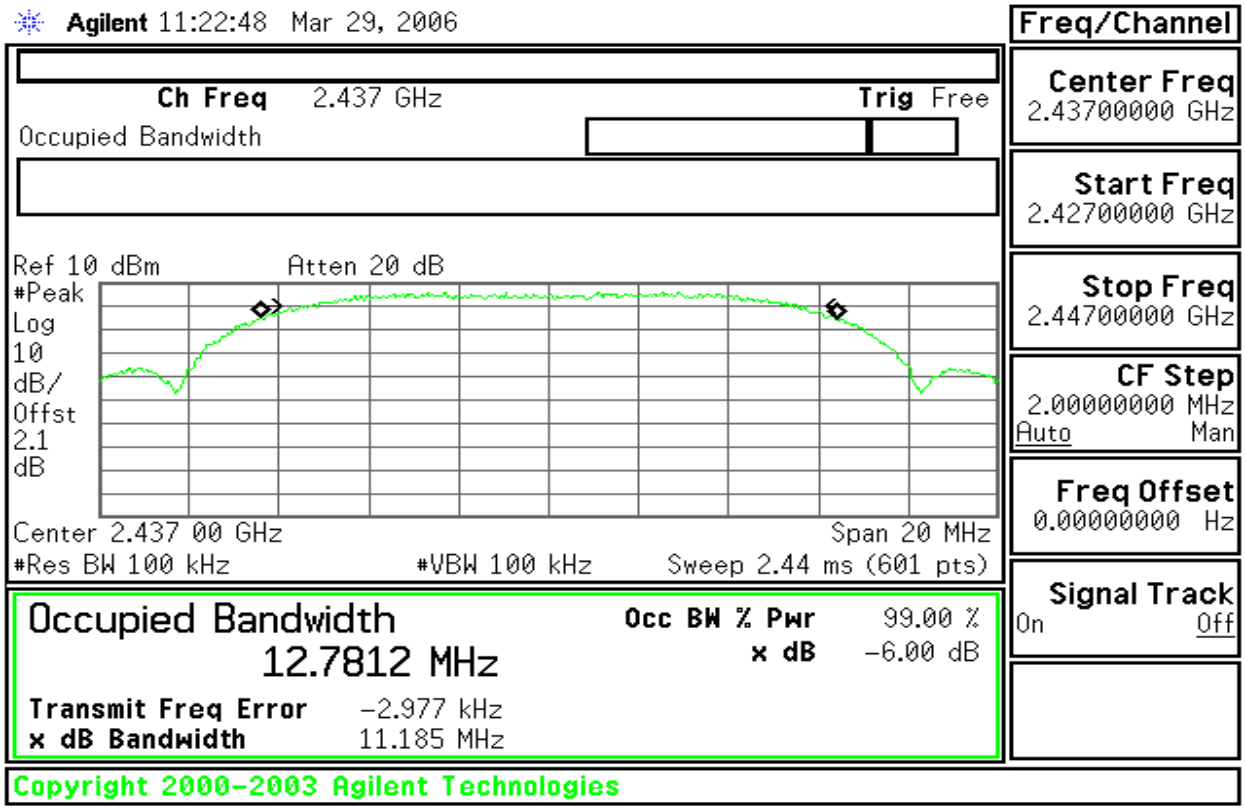
Test Plot

802.11b mode

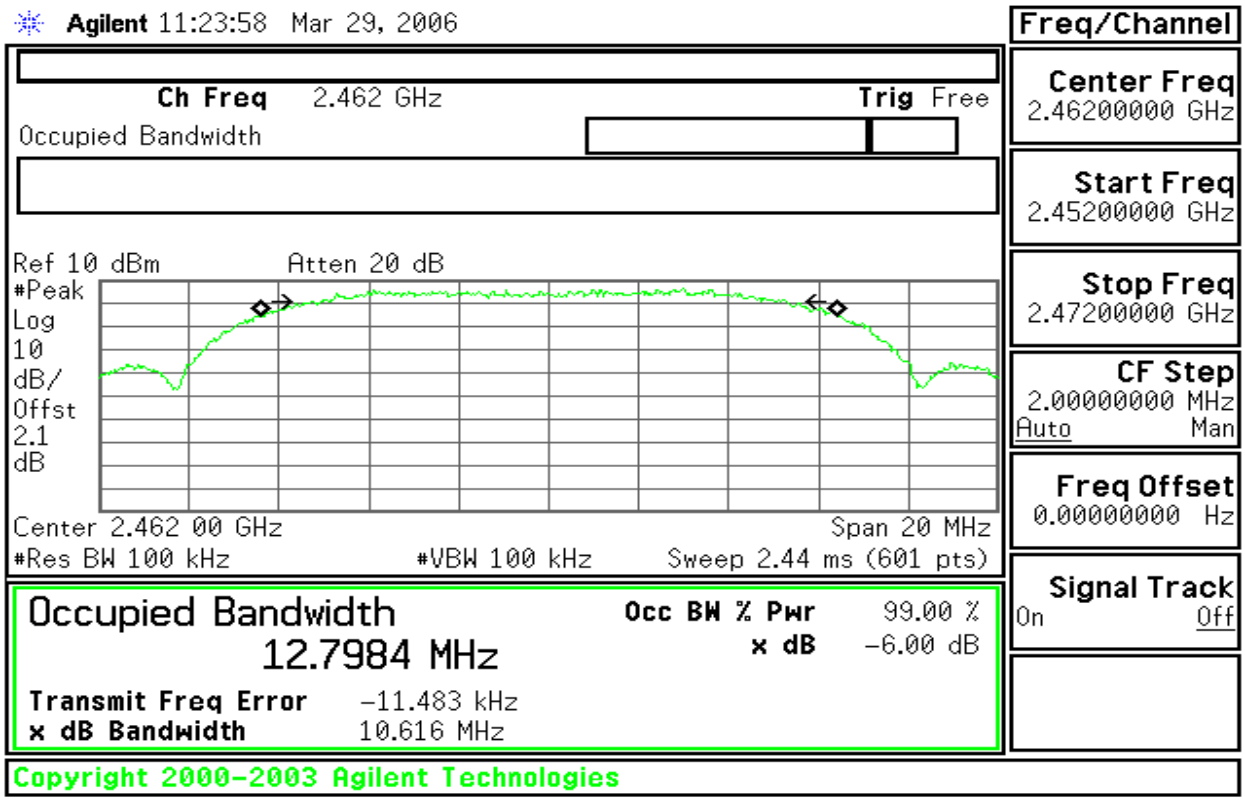
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

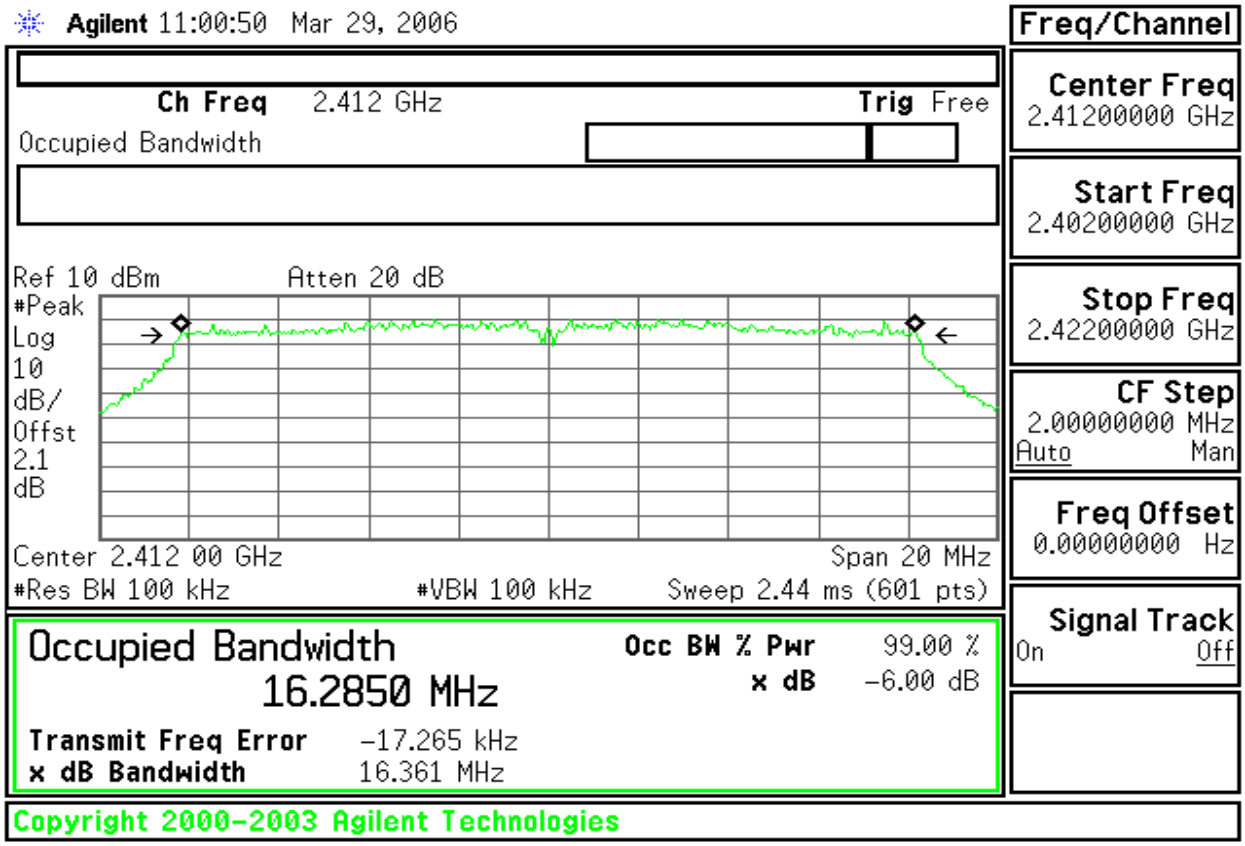


6dB Bandwidth (CH High)

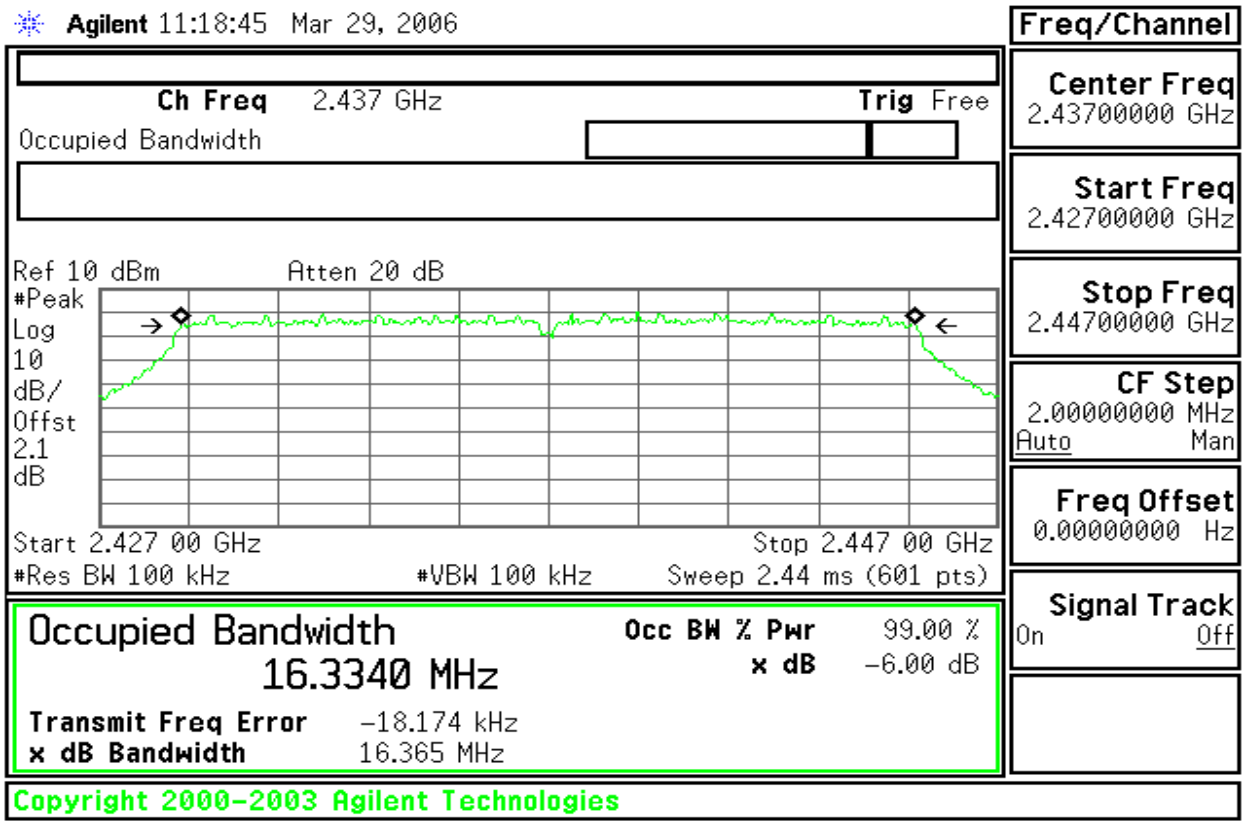


802.11g mode

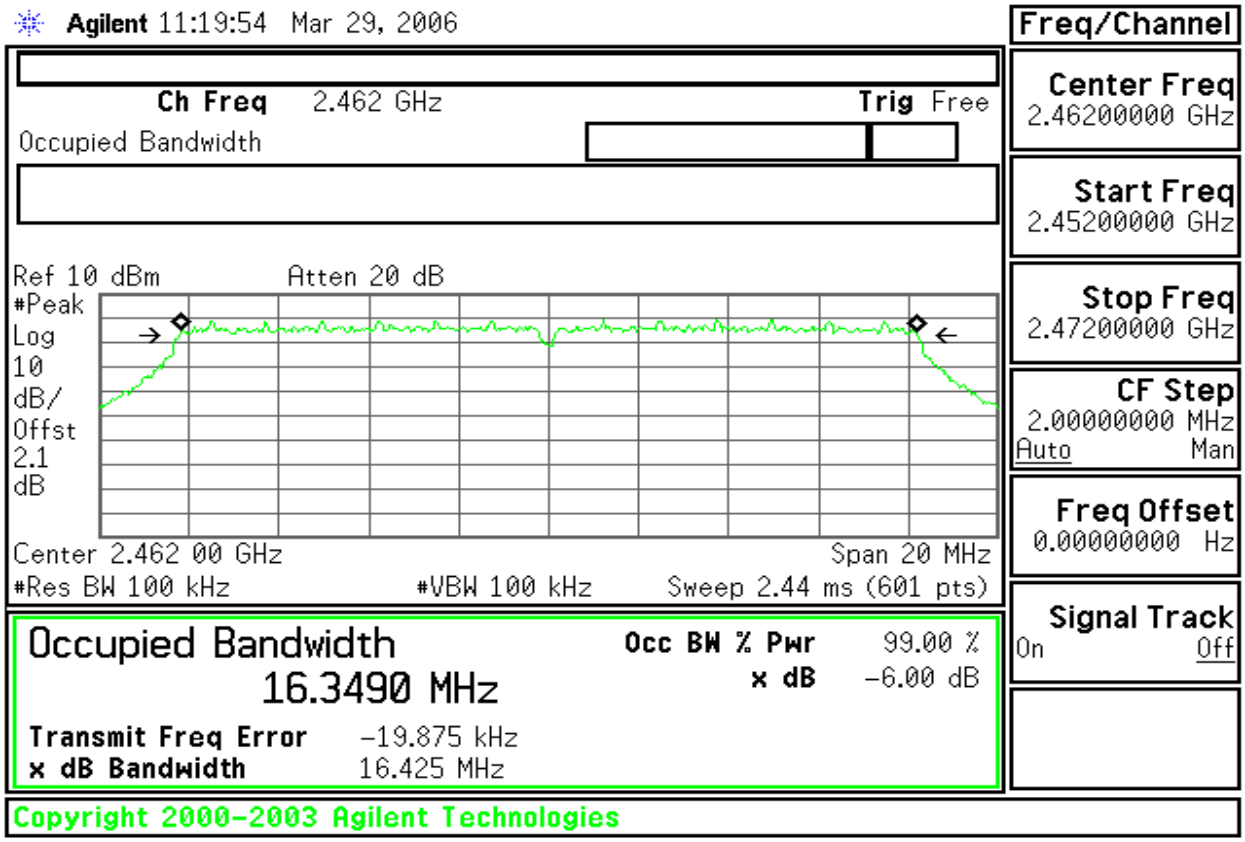
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)



7.2 PEAK POWER

LIMIT

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

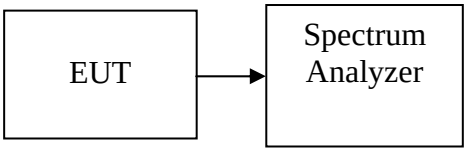
1. For systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 watt.
2. Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2006

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

Test Configuration



TEST PROCEDURE

The transmitter output is connected to the Spectrum analyzer. The Spectrum analyzer is set to the peak power detection.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Output Power (dBm)	Factor (dB)	Output Power (dBm)	Output Power (W)	Limit (W)	Result
Low	2412	15.56	2.10	17.66	0.05834	1	PASS
Mid	2437	15.71	2.10	17.81	0.06039		PASS
High	2462	15.45	2.10	17.55	0.05689		PASS

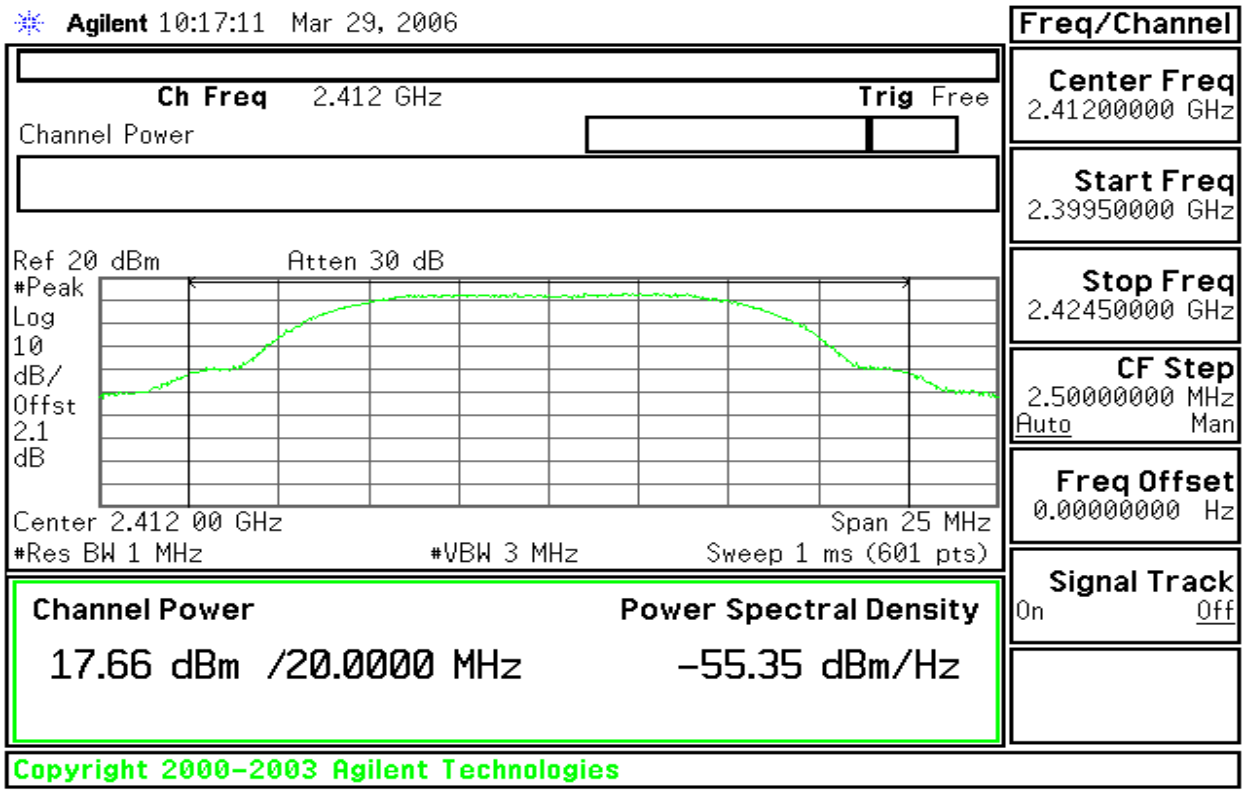
Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Output Power (dBm)	Factor (dB)	Output Power (dBm)	Output Power (W)	Limit (W)	Result
Low	2412	12.27	2.10	14.37	0.02735	1	PASS
Mid	2437	12.60	2.10	14.70	0.02951		PASS
High	2462	12.57	2.10	14.67	0.02931		PASS

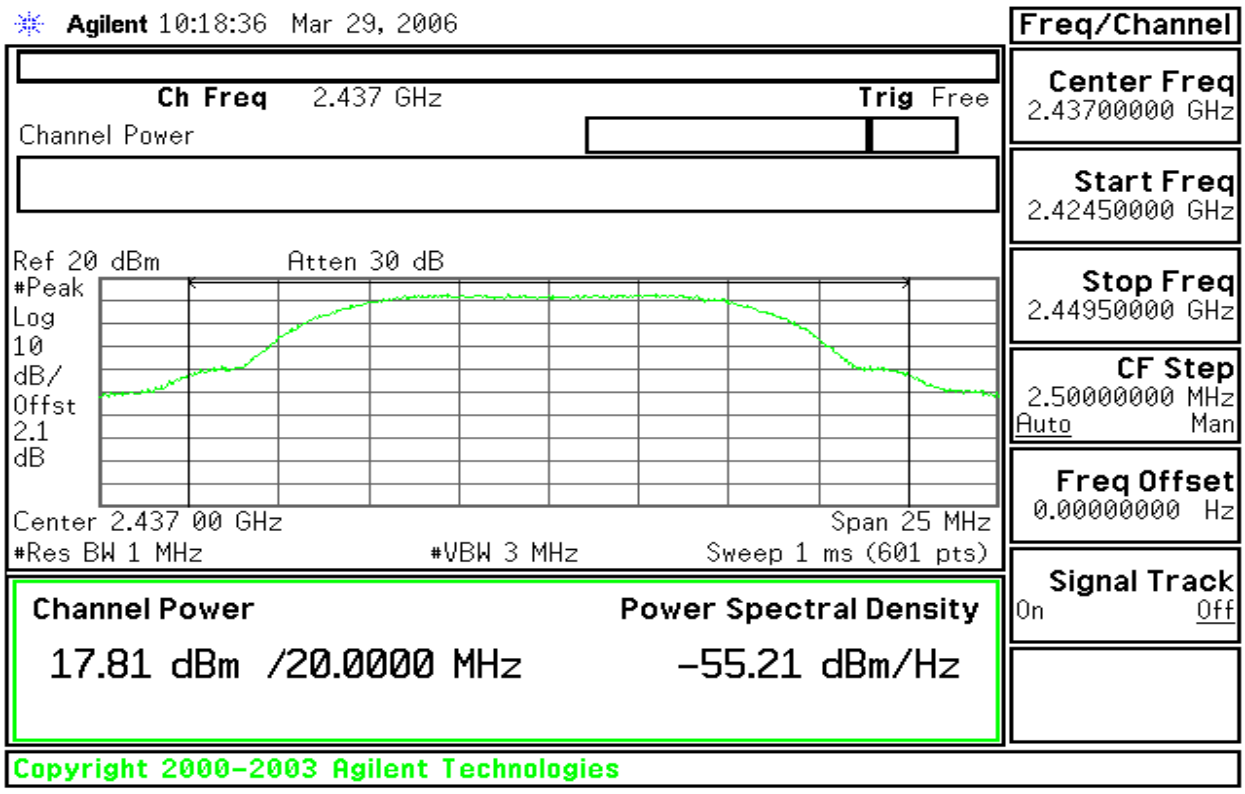
Test Plot

802.11b mode

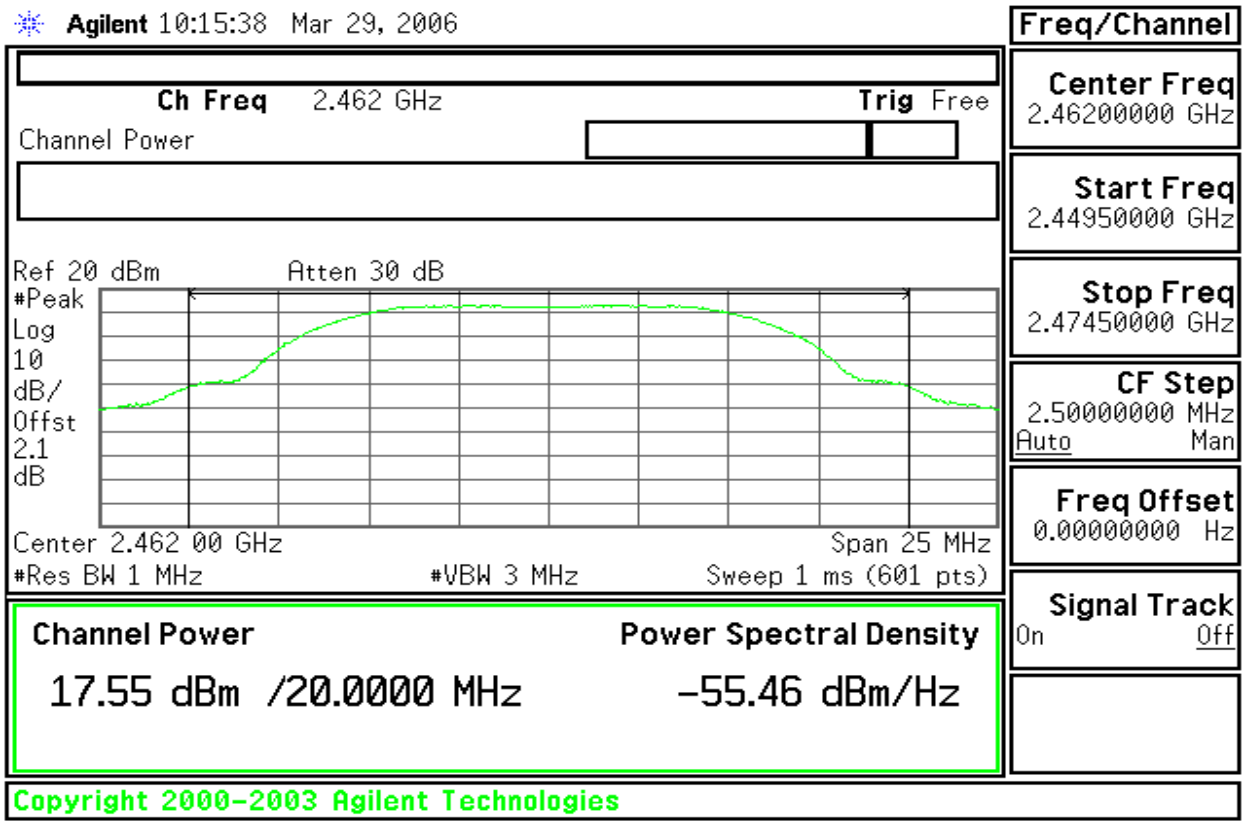
Peak power (CH Low)



Peak power (CH Mid)

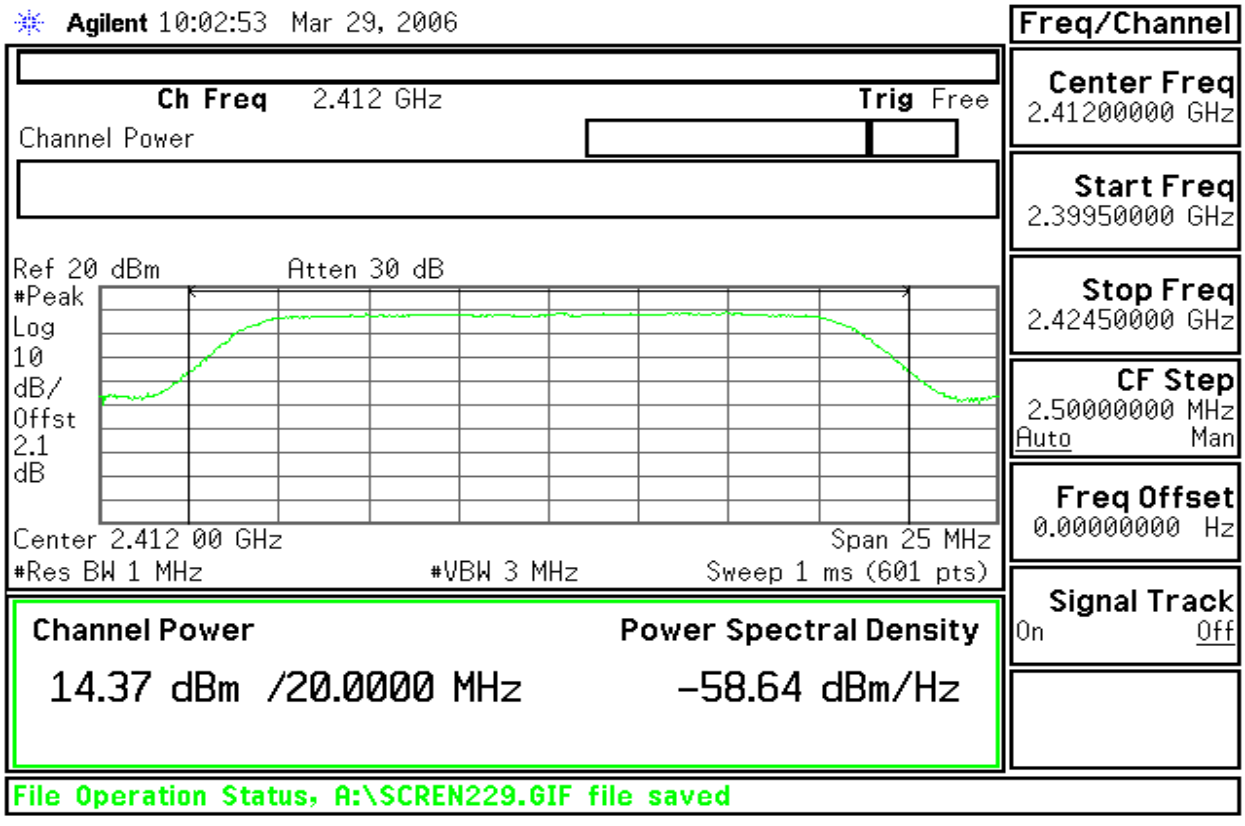


Peak power (CH High)

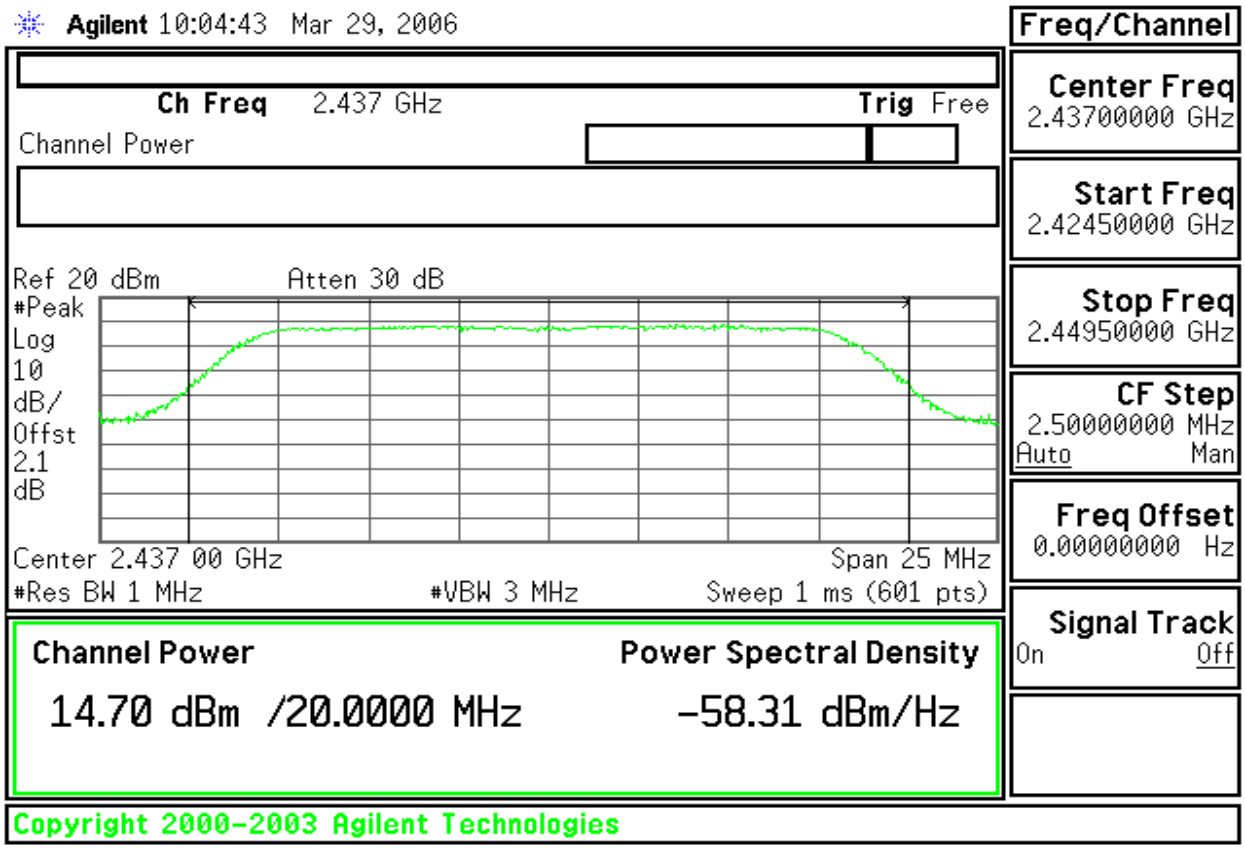


802.11g mode

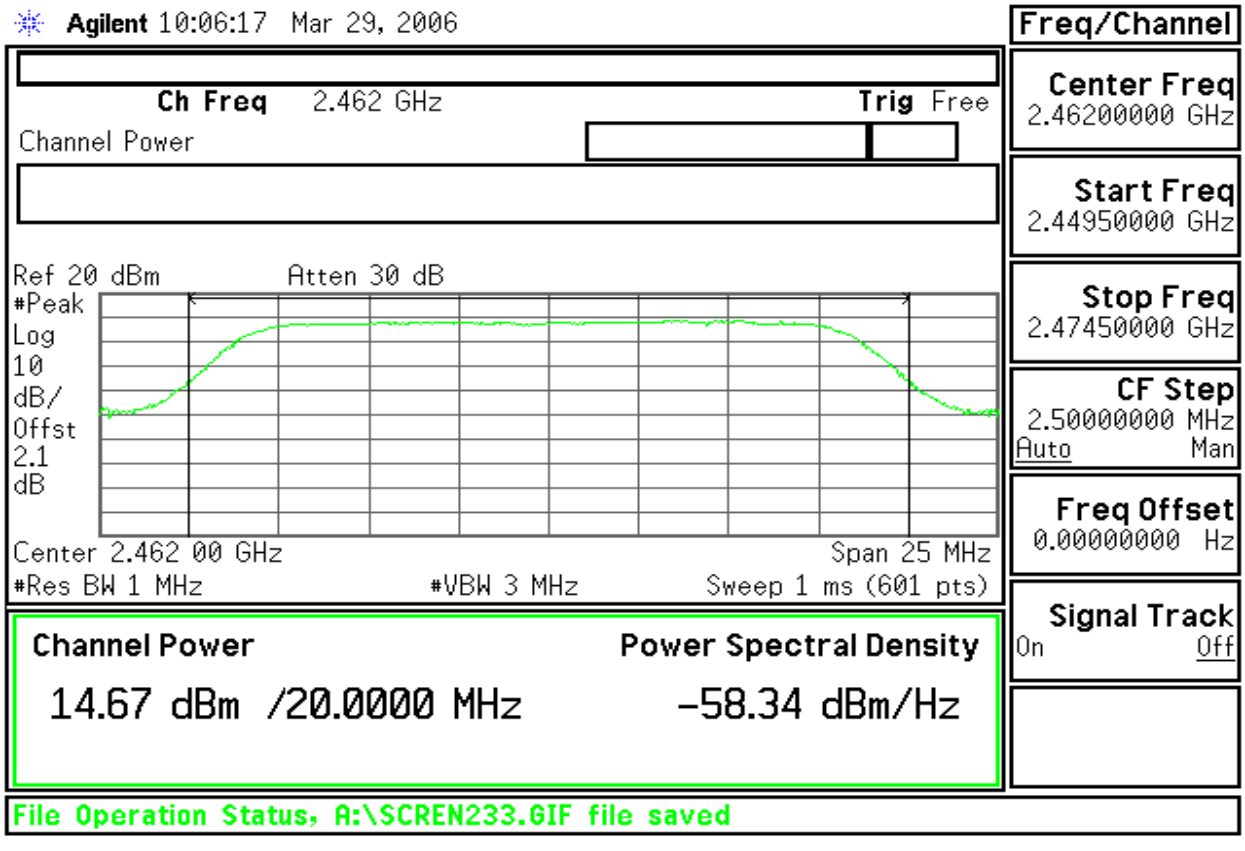
Peak power (CH Low)



Peak power (CH Mid)



Peak power (CH High)



7.3 BAND EDGES MEASUREMENT

LIMIT

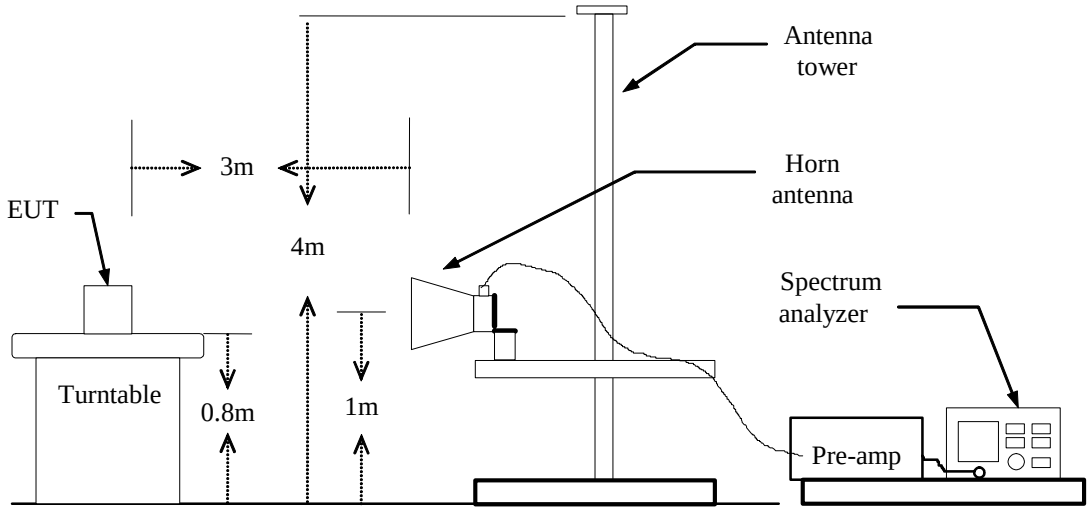
According to §15.247(c), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, 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 in15.209(a).

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2006
Pre-Amplfier	Miteq	NSP4000-NF	870731	01/21/2007
Horn Antenna	Austriah	BBHA9120D	D267	09/20/2006
Turn Table	CT	CT123	4162	N.C.R
Antenna Tower	CT	CTERG23	3253	N.C.R
Controller	CT	CT1OO	95635	N.C.R
Coax Switch	Anitsu	MP 598	M 80094	N/A
Site NSA	CCS Lab.	N/A	N/A	12/11/2006

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

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.

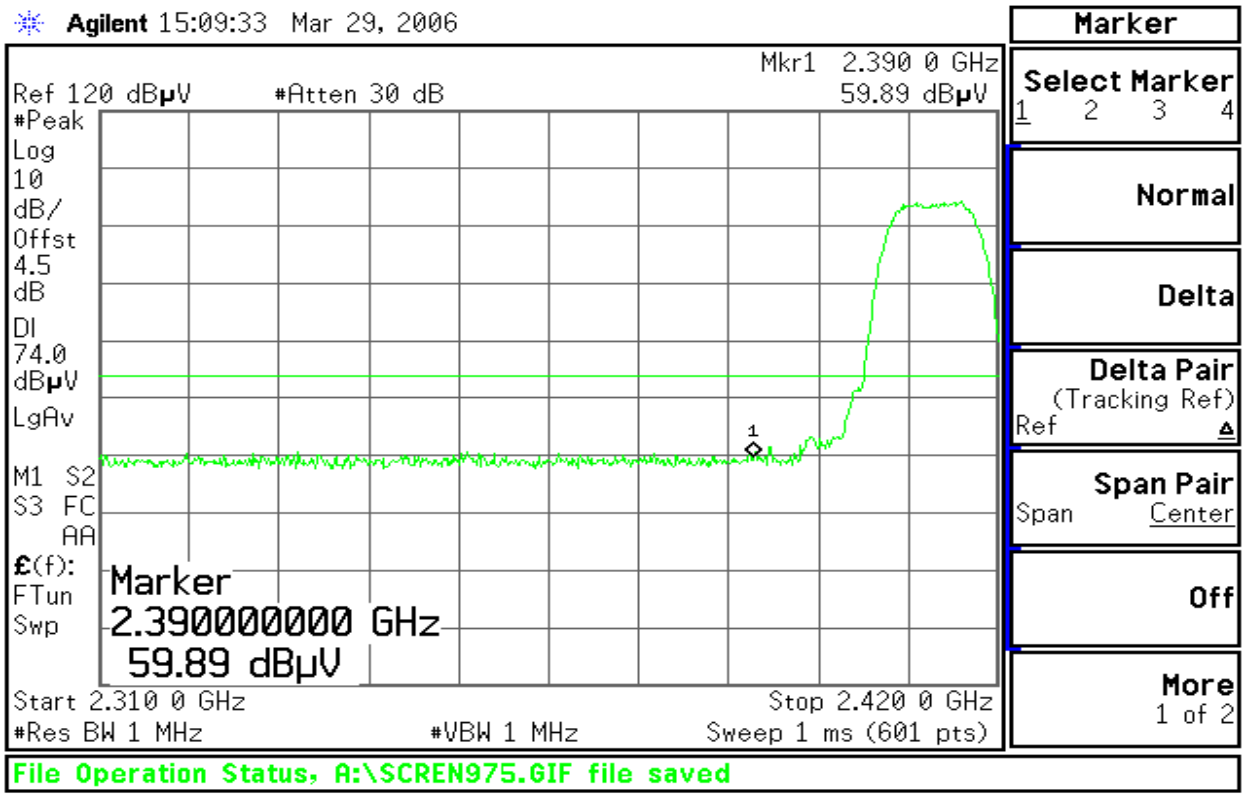
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
   (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
   (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

TEST RESULTS

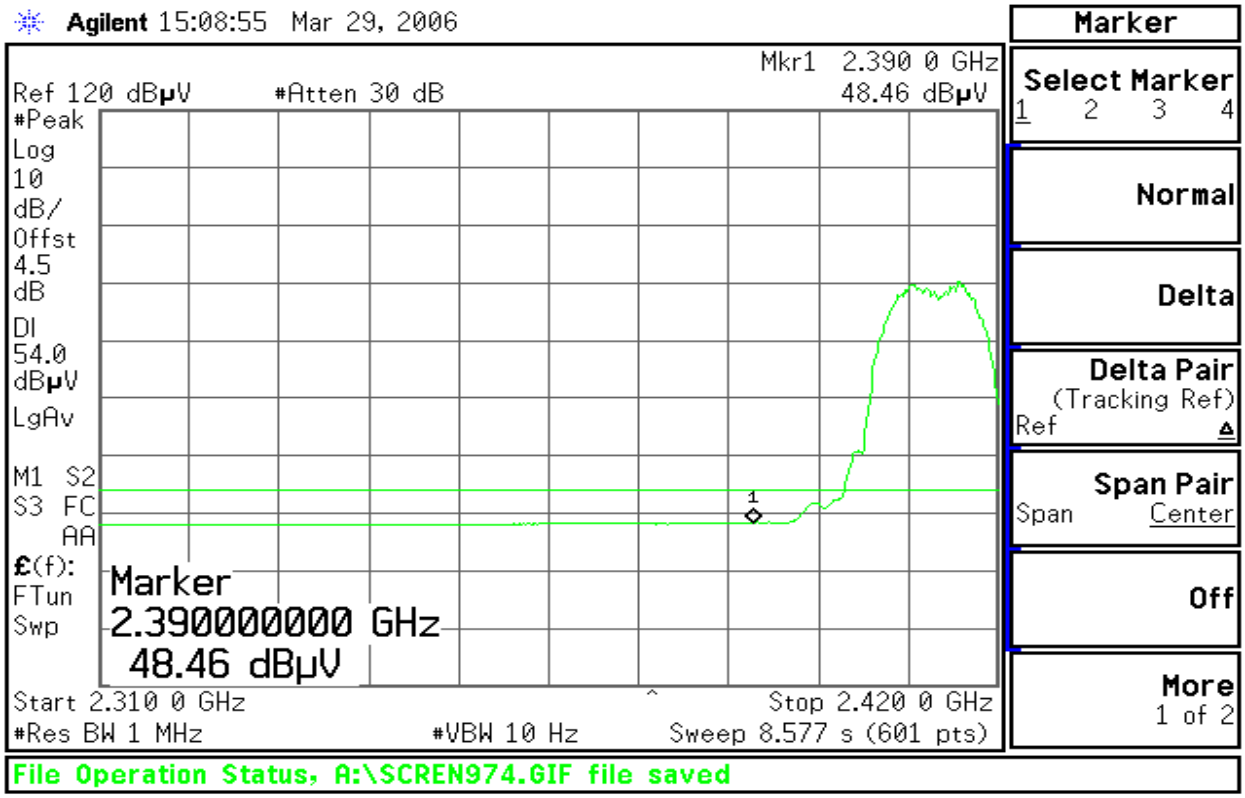
Refer to attach spectrum analyzer data chart.

Band Edges (802.11b / CH Low)

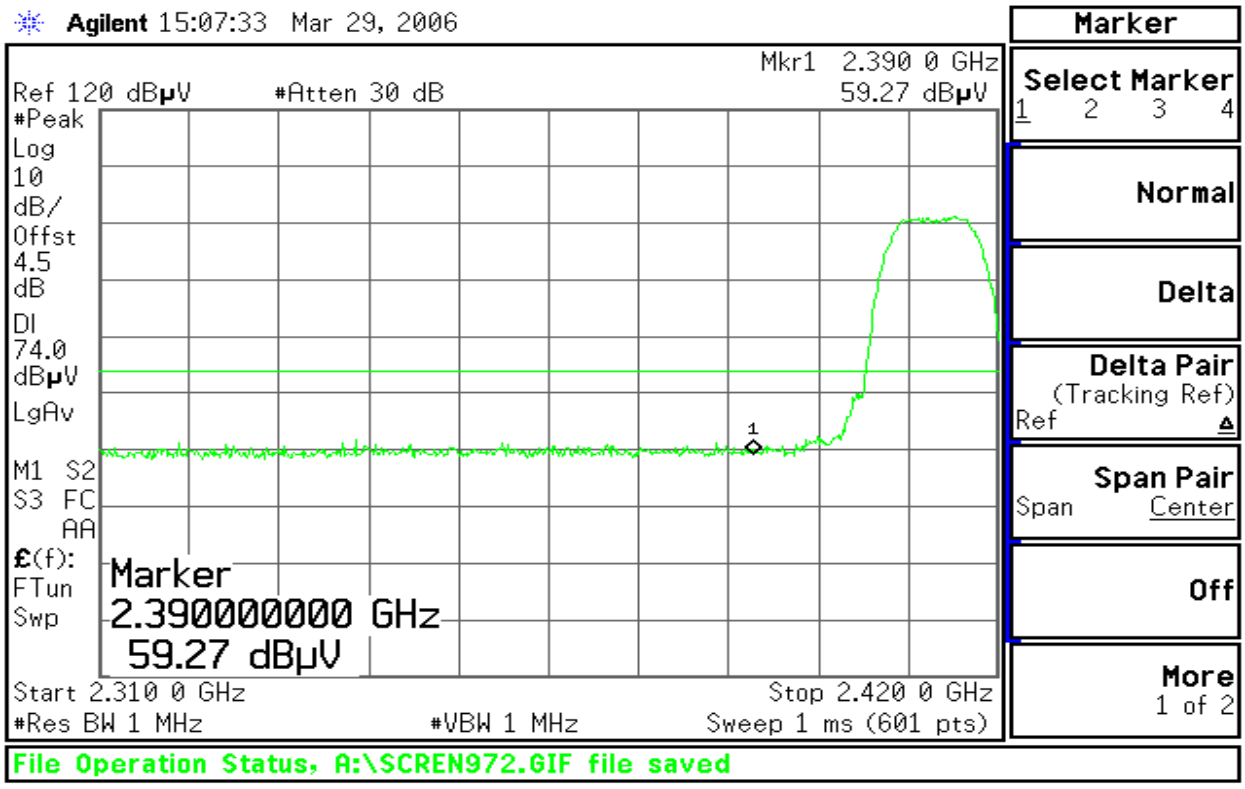
Detector mode: Peak **Polarity: Vertical**



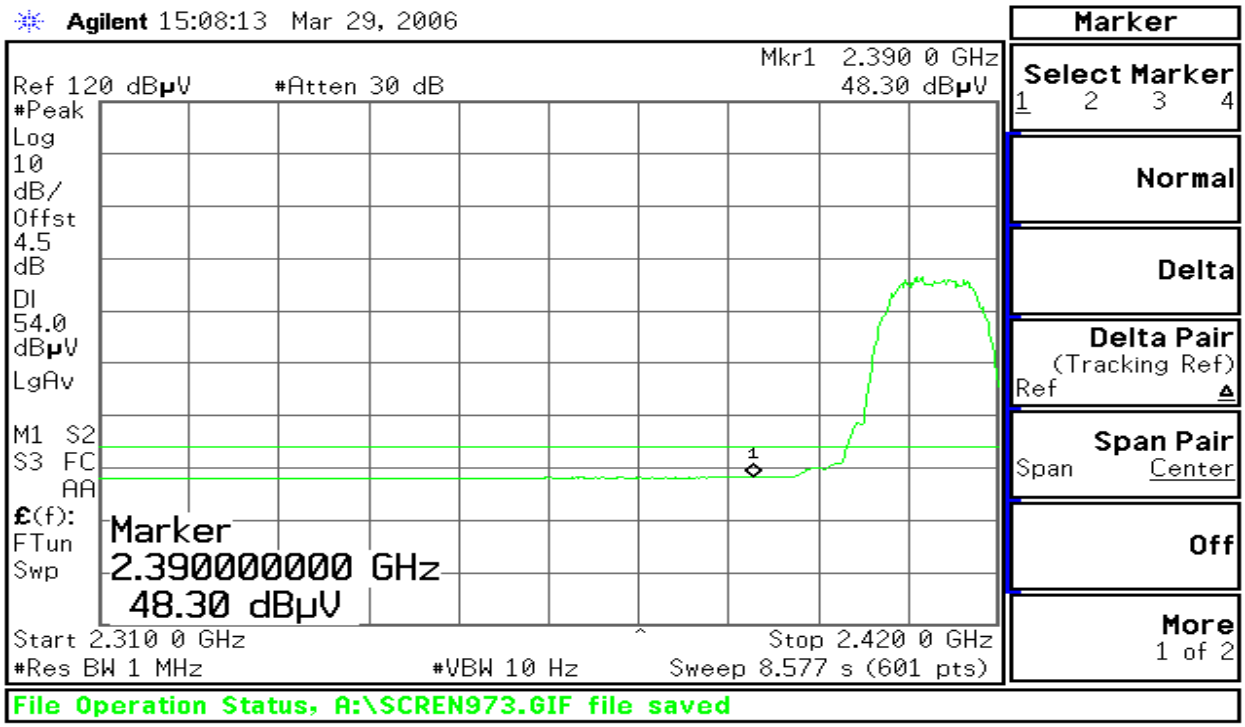
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**

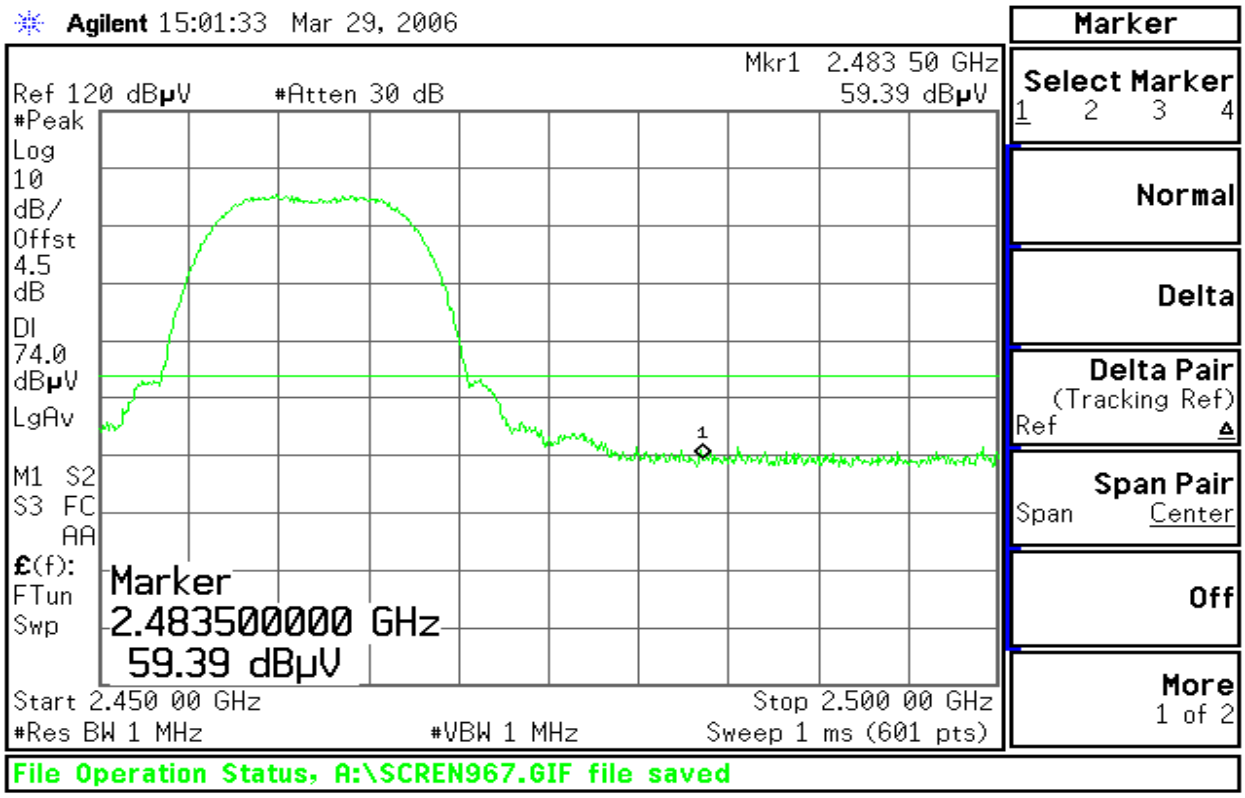


Detector mode: Average **Polarity: Horizontal**

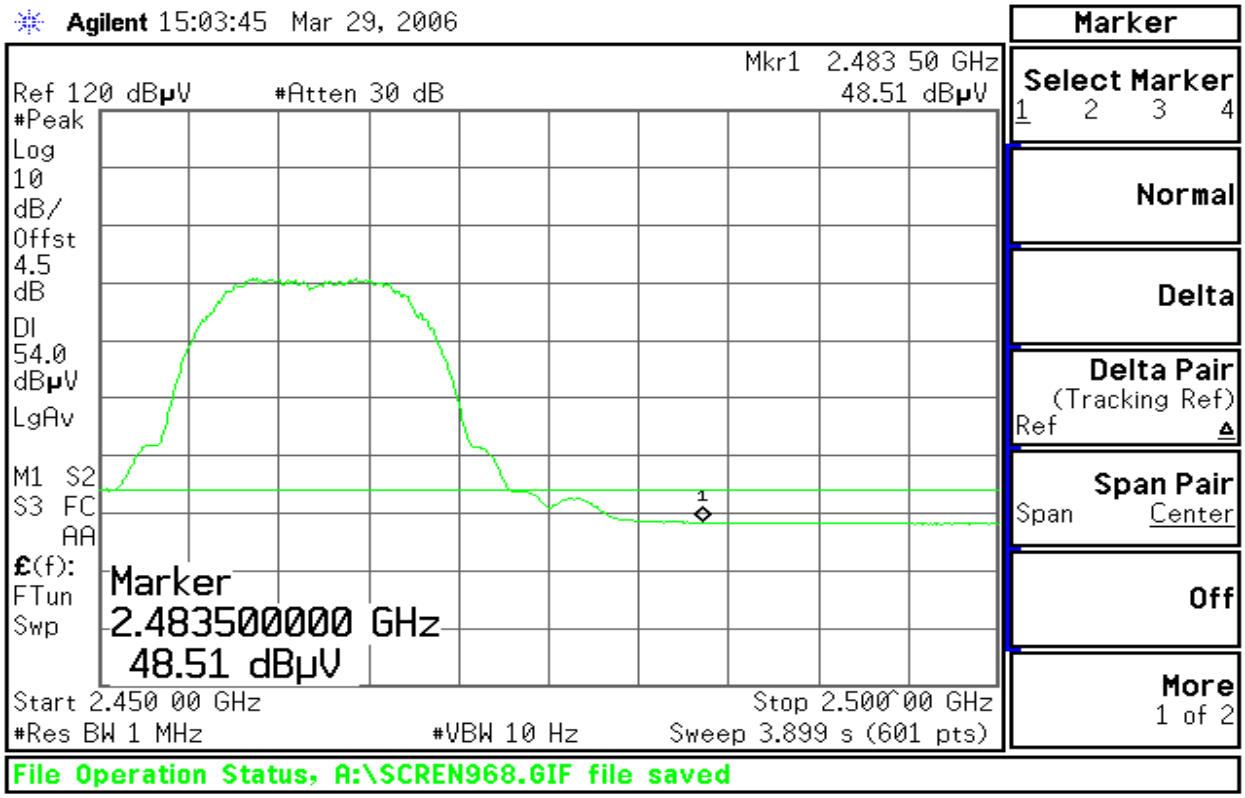


Band Edges (802.11b / CH High)

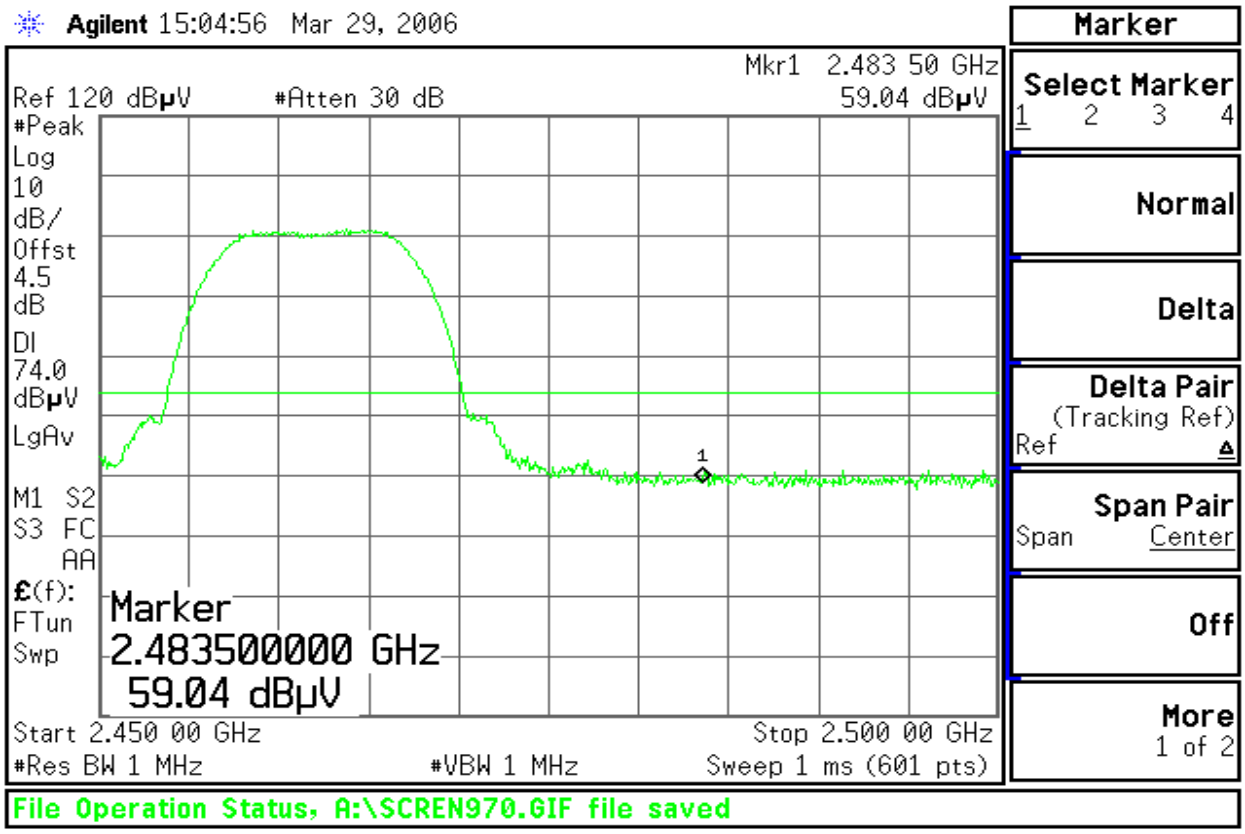
Detector mode: Peak **Polarity: Vertical**



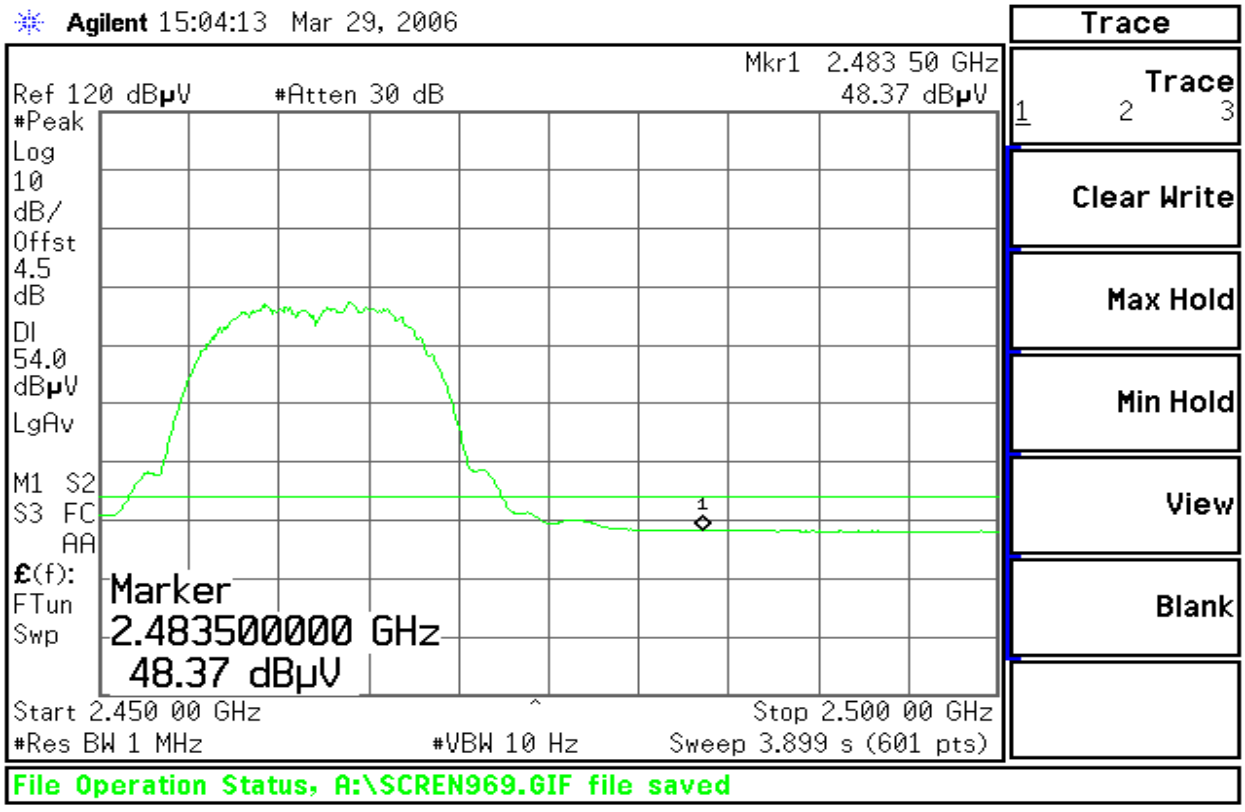
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**

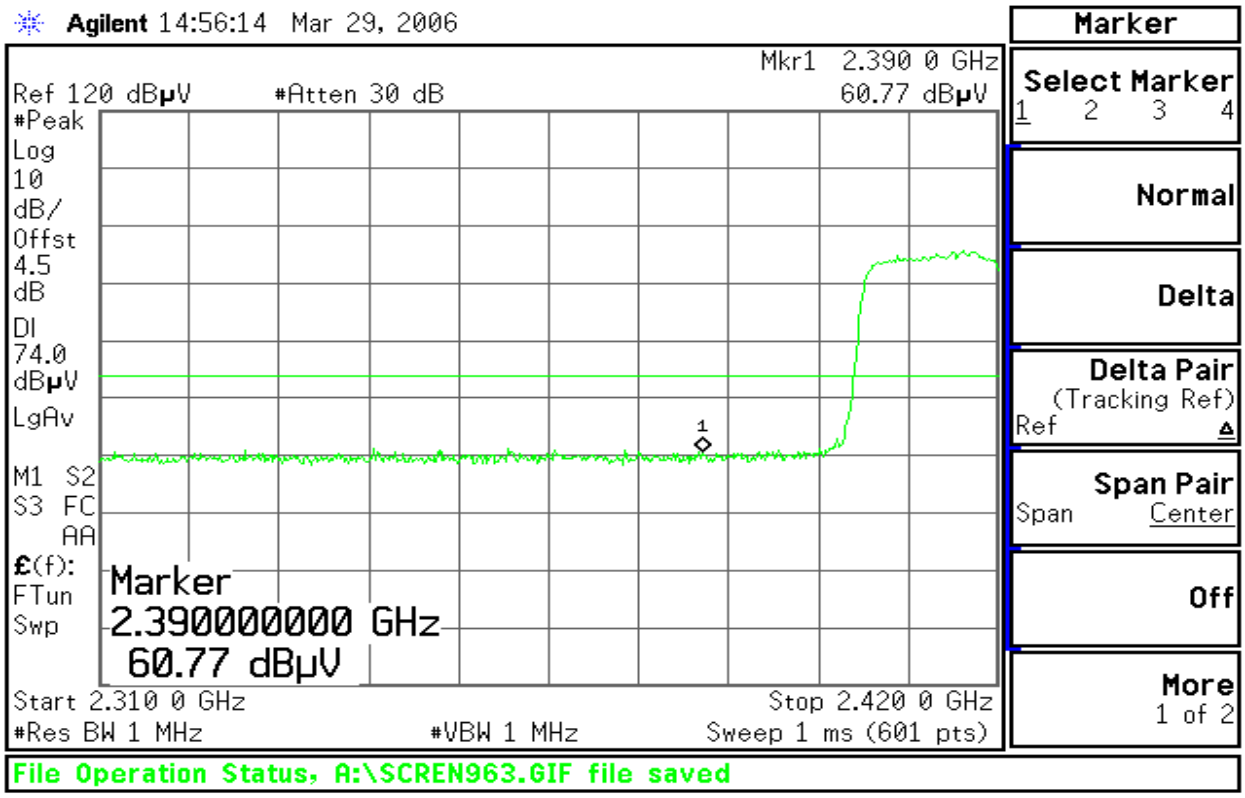


Detector mode: Average **Polarity: Horizontal**

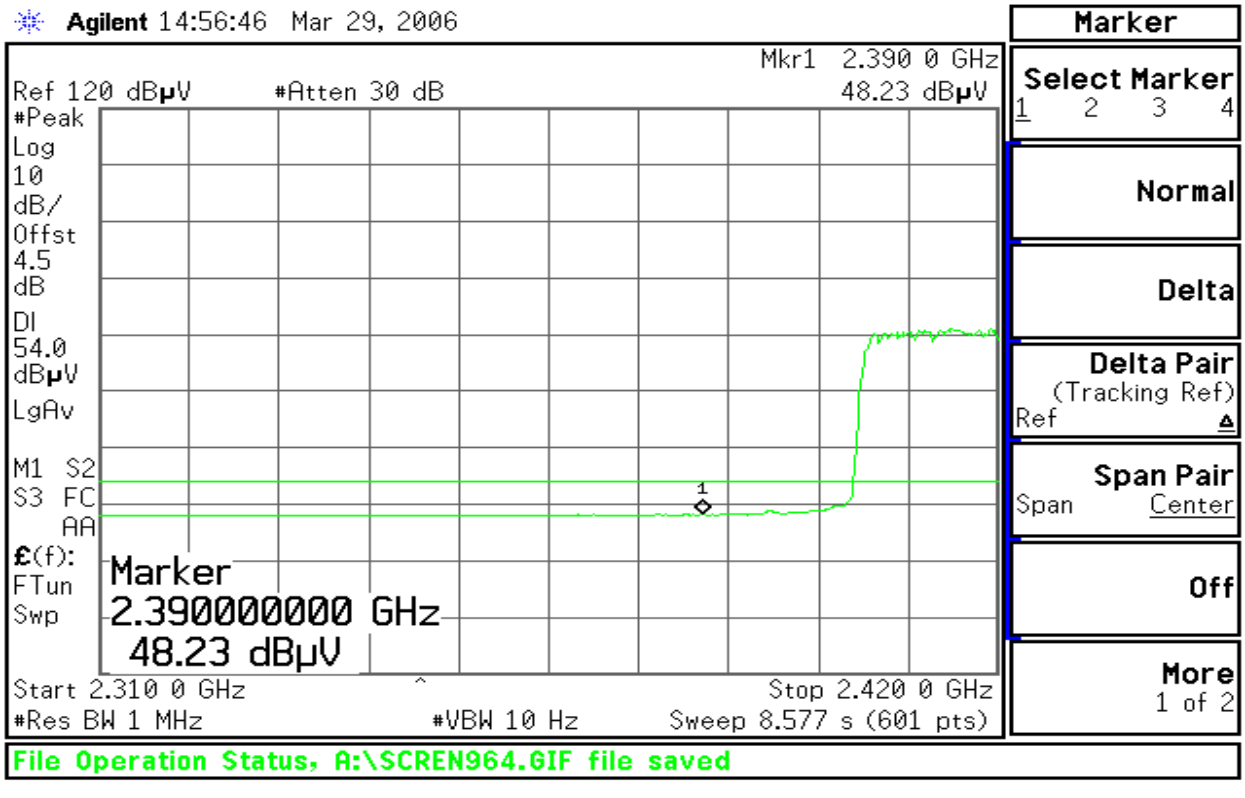


Band Edges (802.11g / CH Low)

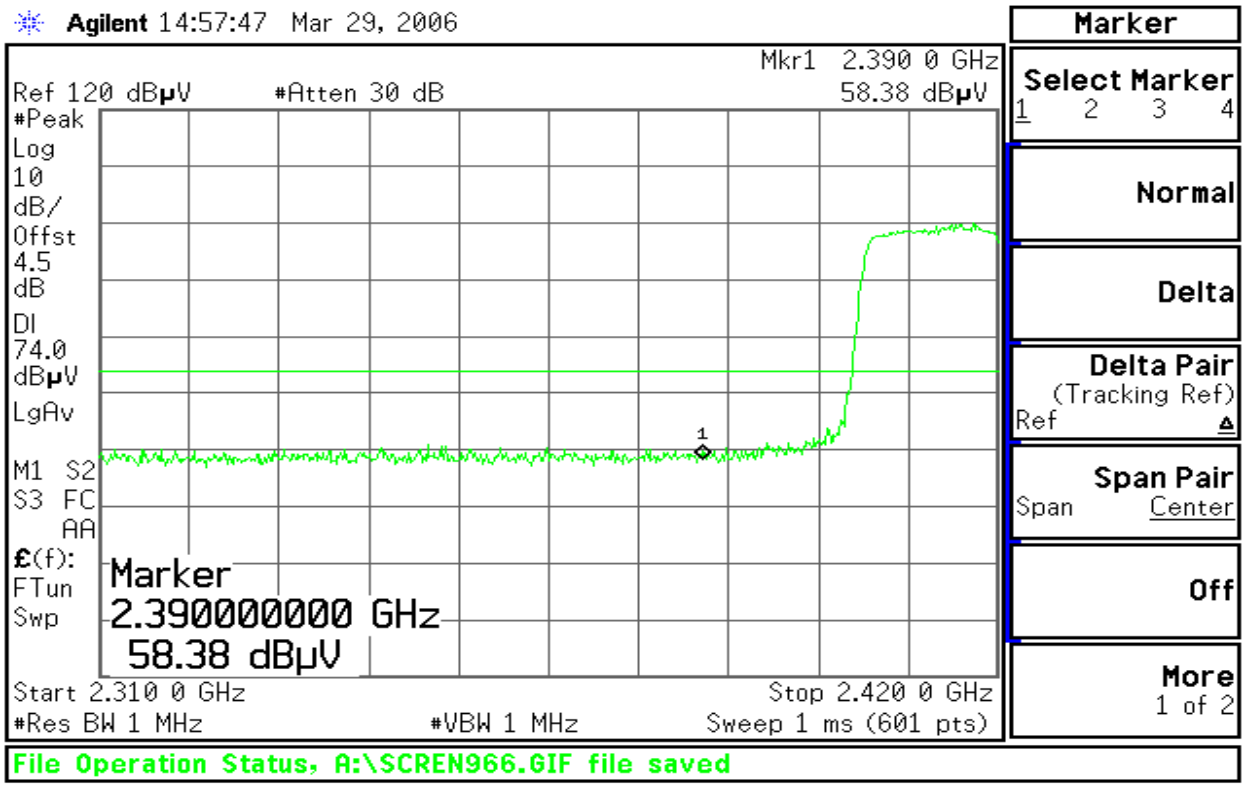
Detector mode: Peak **Polarity: Vertical**



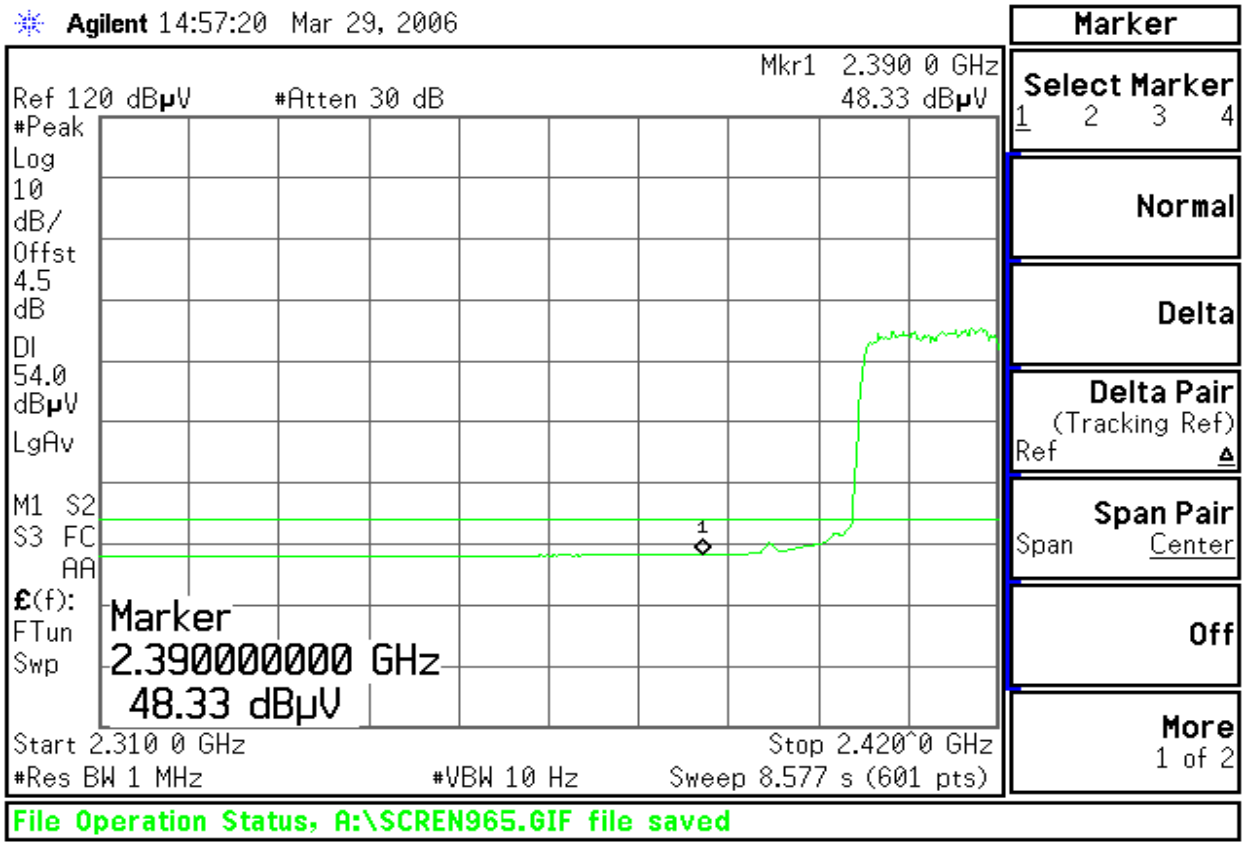
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**

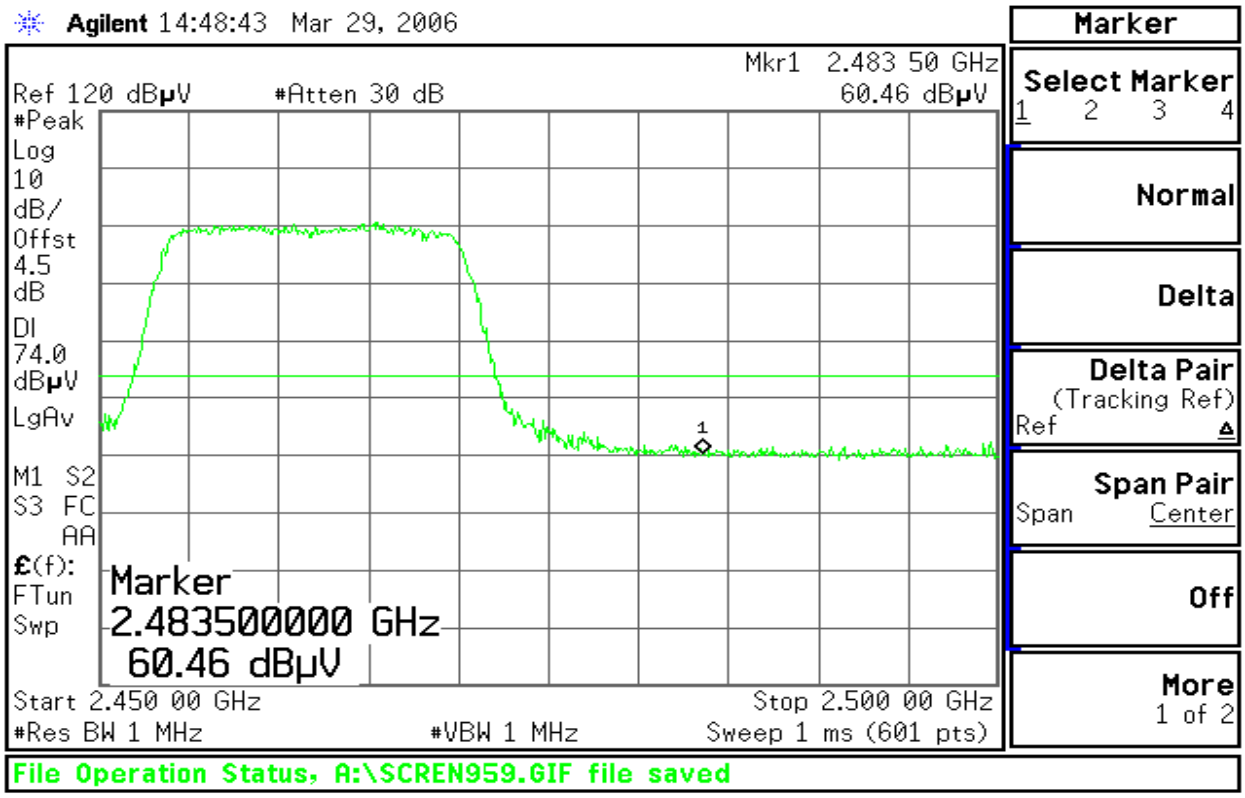


Detector mode: Average **Polarity: Horizontal**

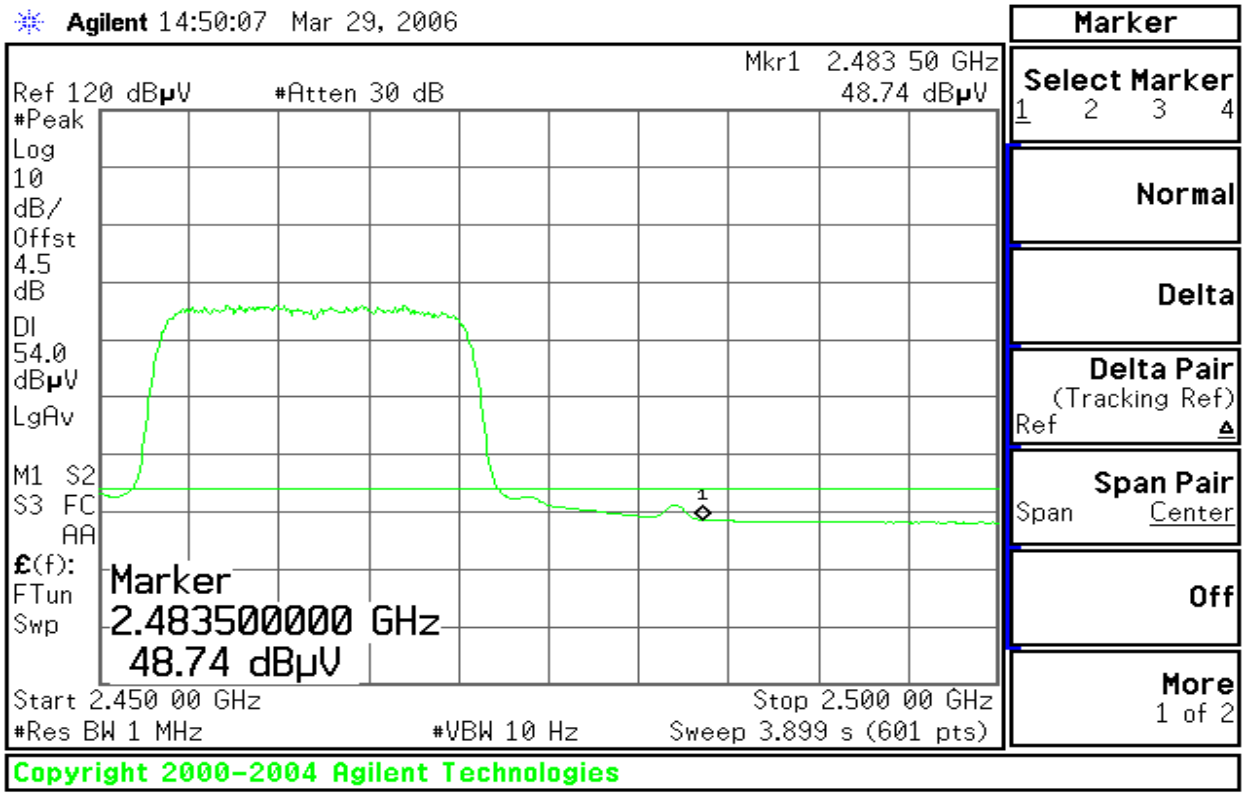


Band Edges (802.11g / CH High)

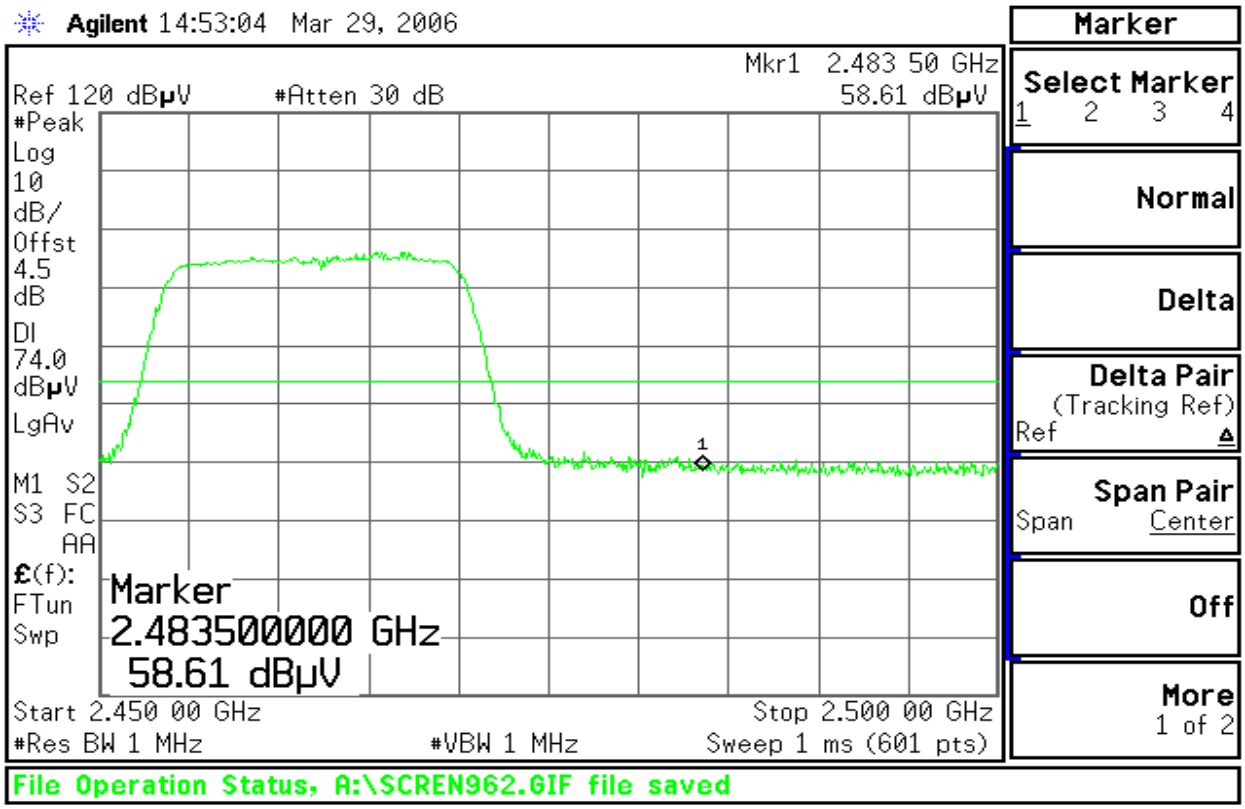
Detector mode: Peak **Polarity: Vertical**



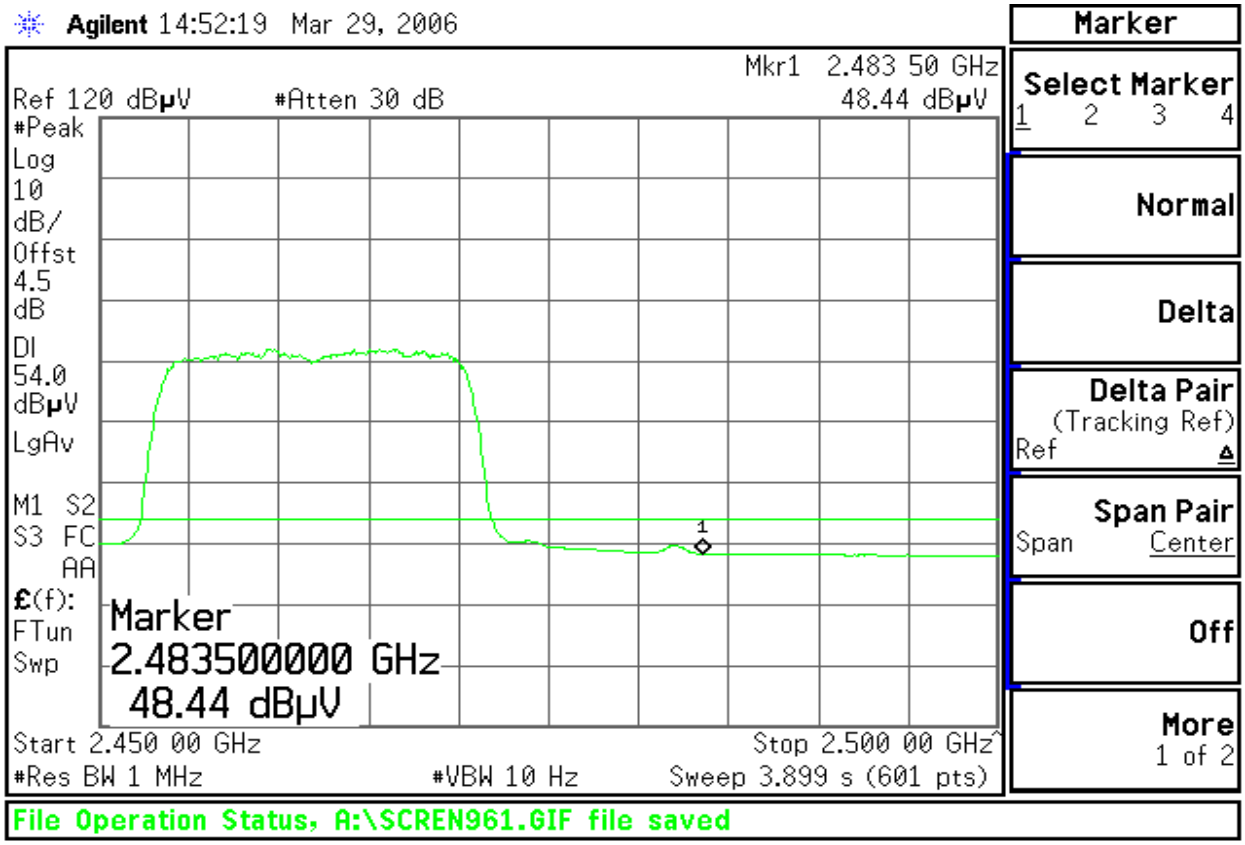
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**



7.4 PEAK POWER SPECTRAL DENSITY

LIMIT

1. For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

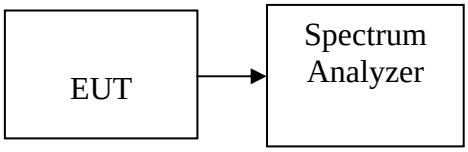
2. The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2006

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

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 = 3kHz, VBW = 10kHz, Span = 300kHz, Sweep=100s

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

Test mode: IEEE 802.11b

Channel	Frequency	Reading (dBm)	Factor (dB)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-13.68	2.10	-11.58	8.00	PASS
Mid	2437	-16.85	2.10	-14.75		PASS
High	2462	-14.57	2.10	-12.47		PASS

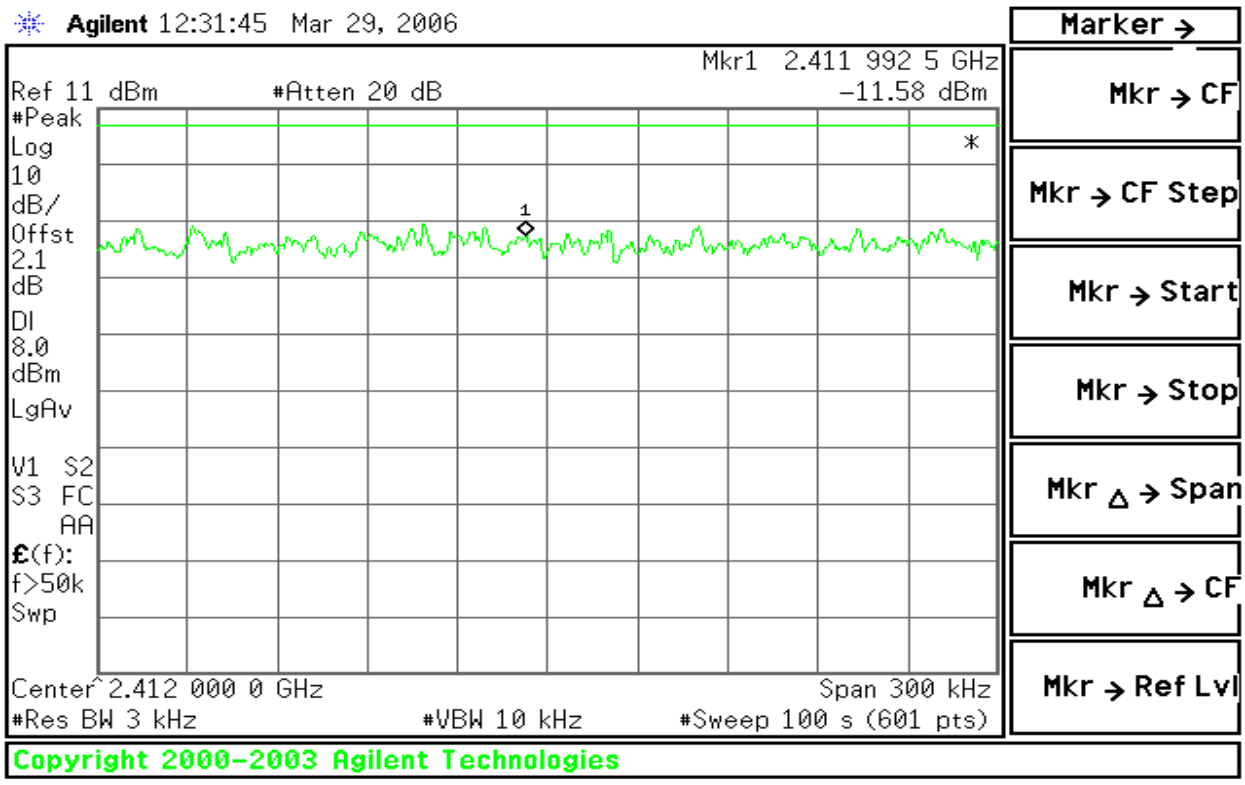
Test mode: IEEE 802.11g

Channel	Frequency	Reading (dBm)	Factor (dB)	PPSD (dBm)	Limit (dBm)	Result
Low	2412	-18.20	2.10	-16.10	8.00	PASS
Mid	2437	-18.51	2.10	-16.41		PASS
High	2462	-18.52	2.10	-16.42		PASS

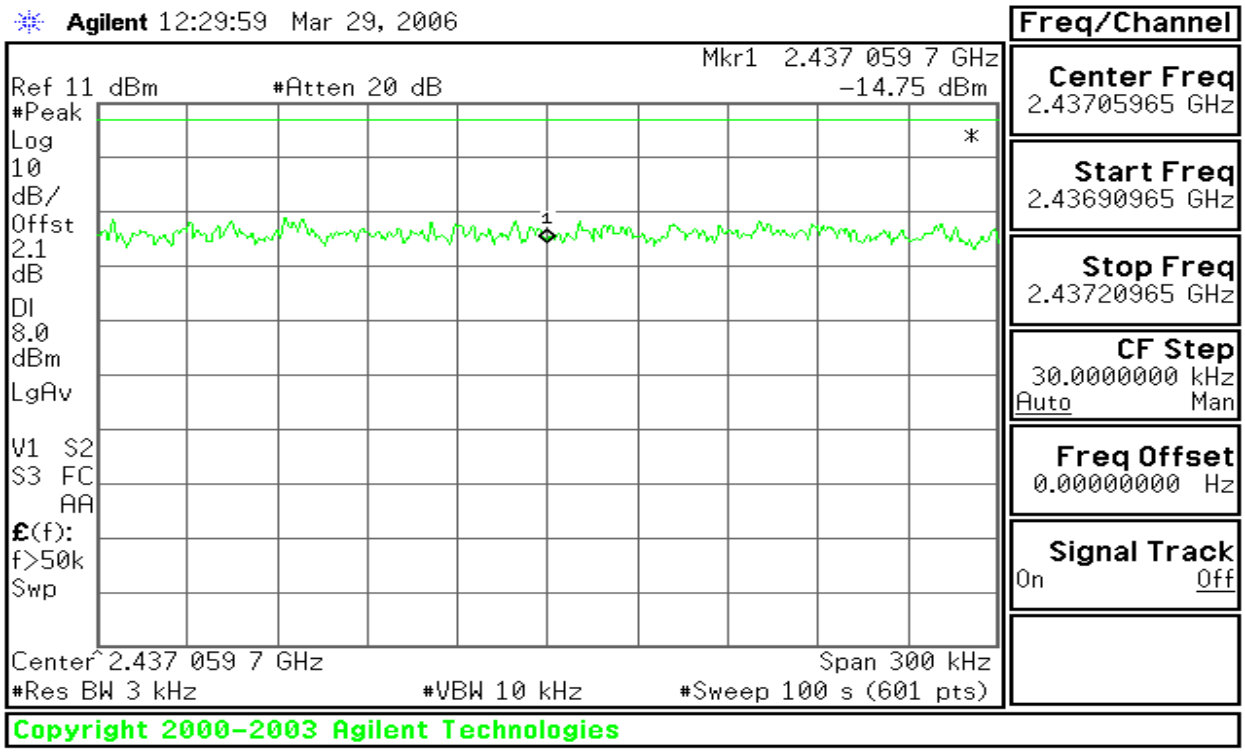
Test Plot

802.11b mode

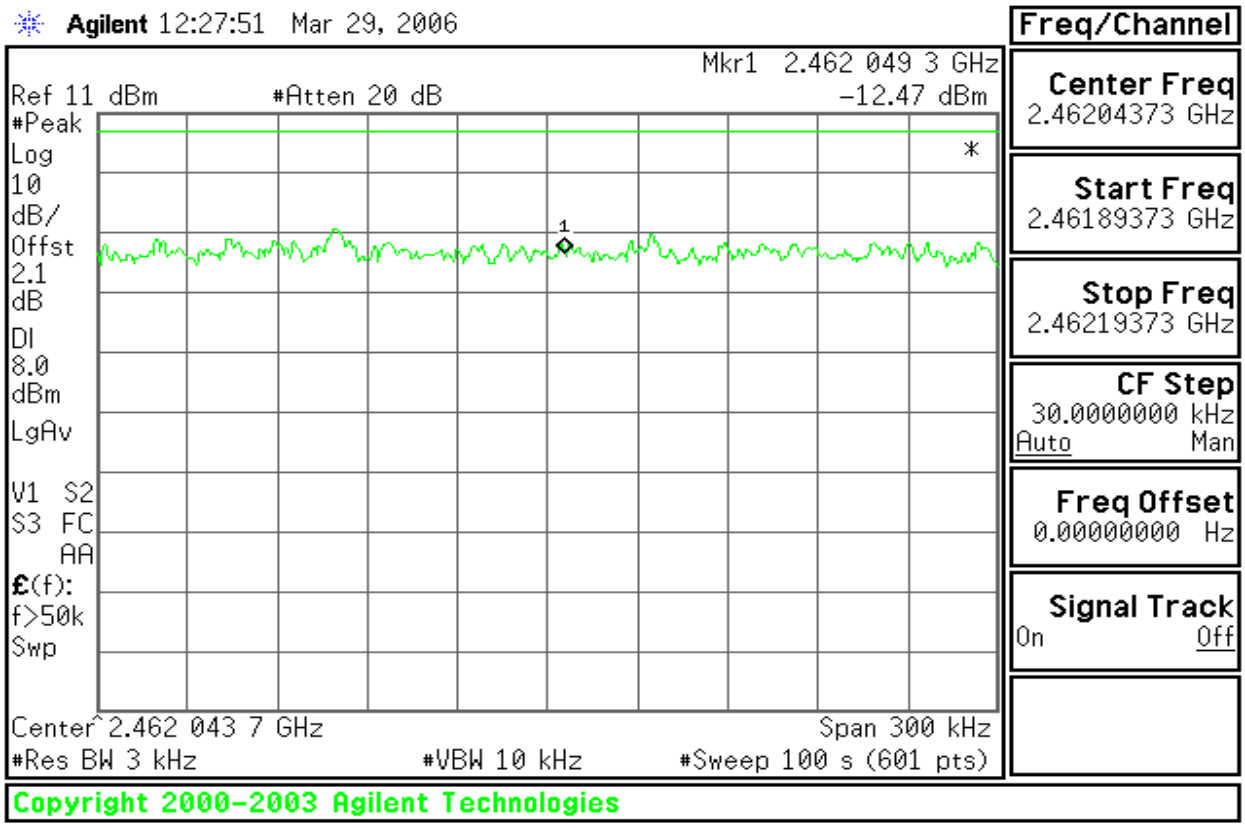
PPSD (CH Low)



PPSD (CH Mid)

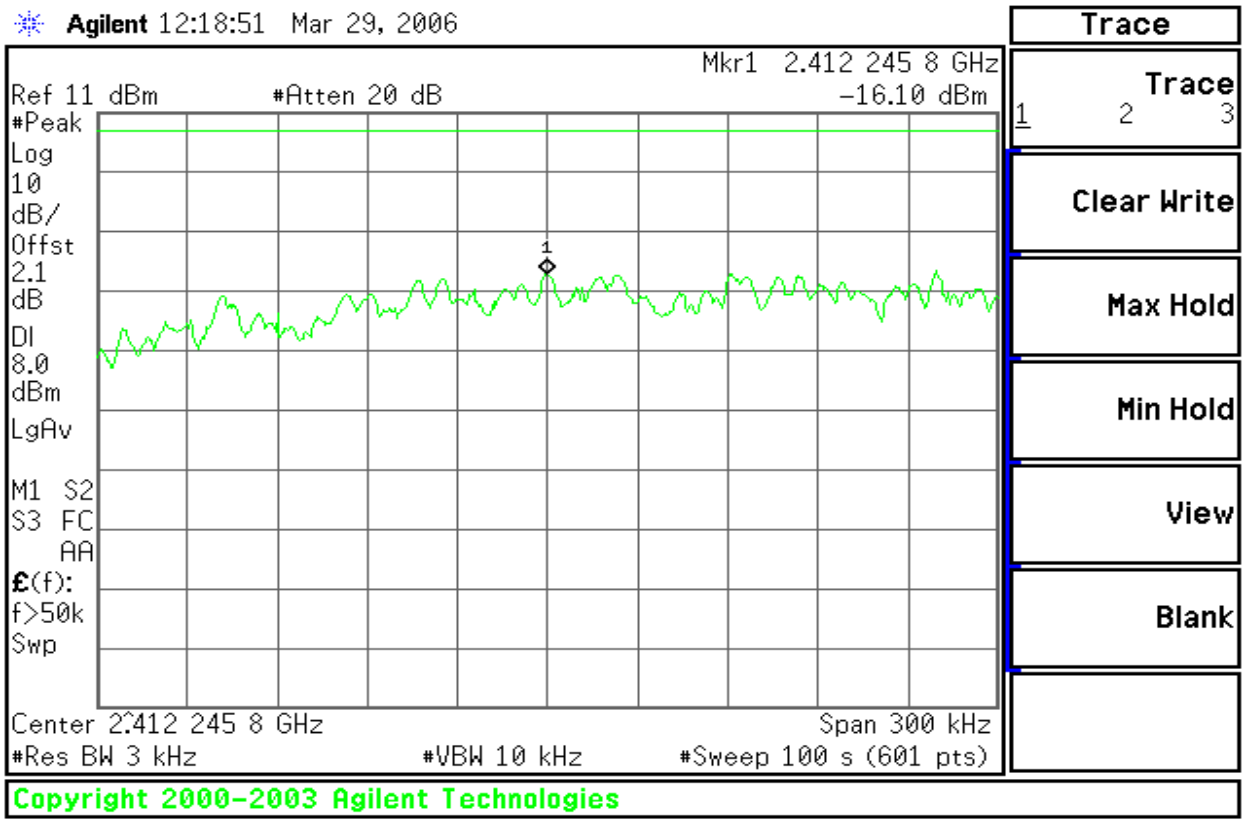


PPSD (CH High)

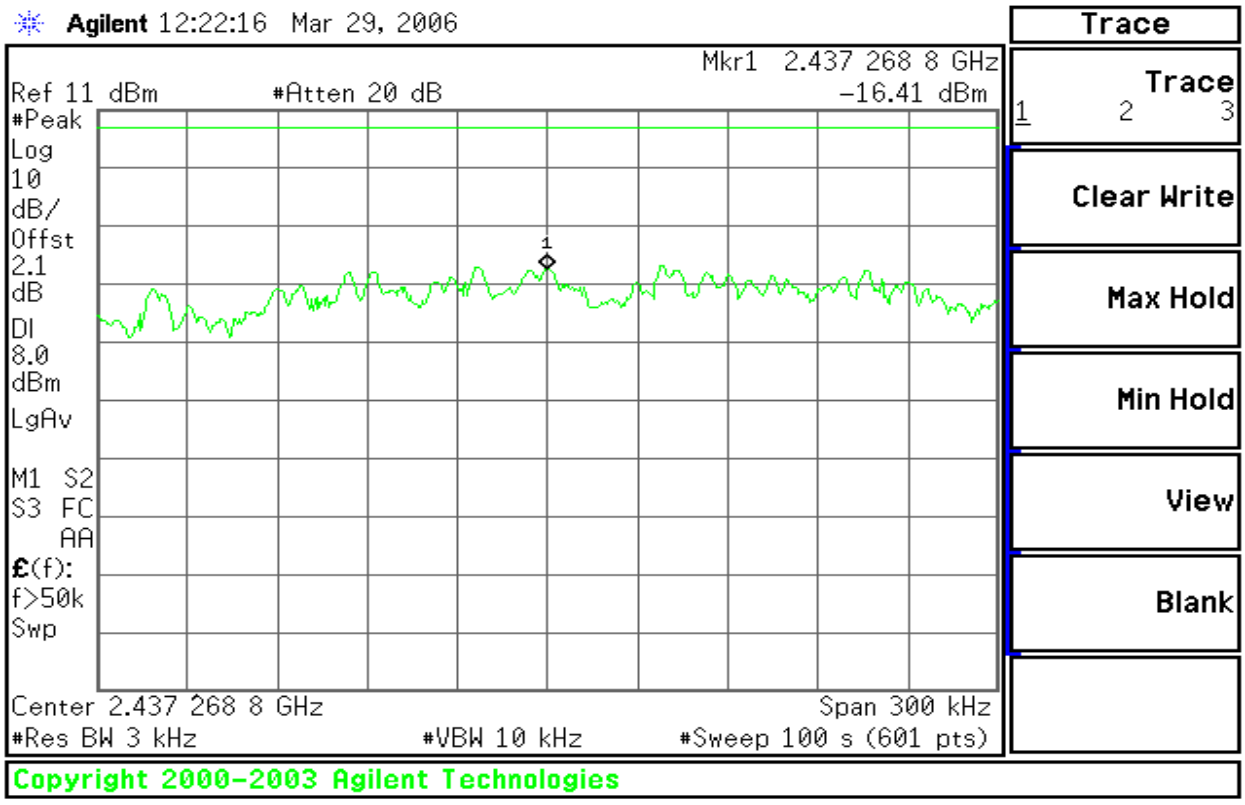


802.11g mode

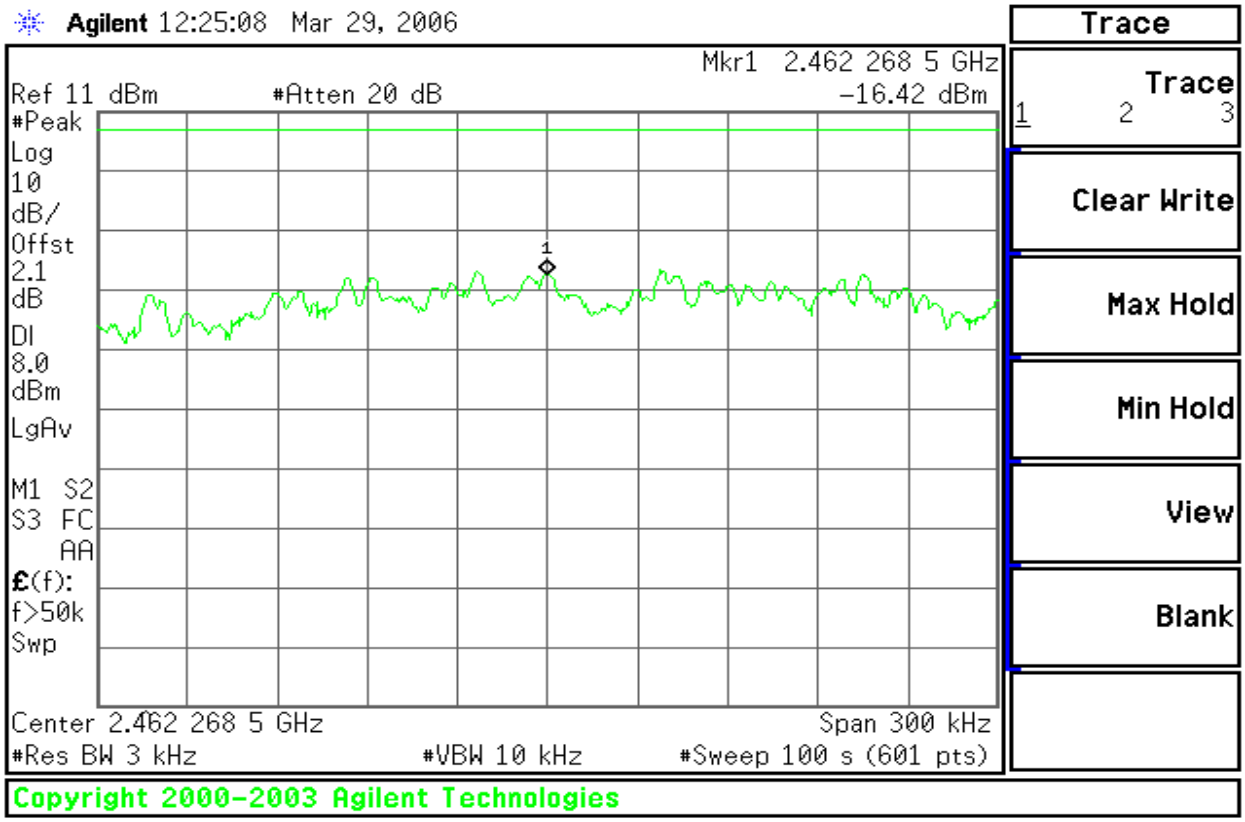
PPSD (CH Low)



PPSD (CH Mid)



PPSD (CH High)



7.5 SPURIOUS EMISSIONS

7.5.1 Conducted Measurement

LIMIT

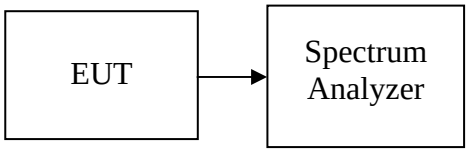
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2006

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

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 30MHz to 26GHzrange with the transmitter set to the lowest, middle, and highest channels.

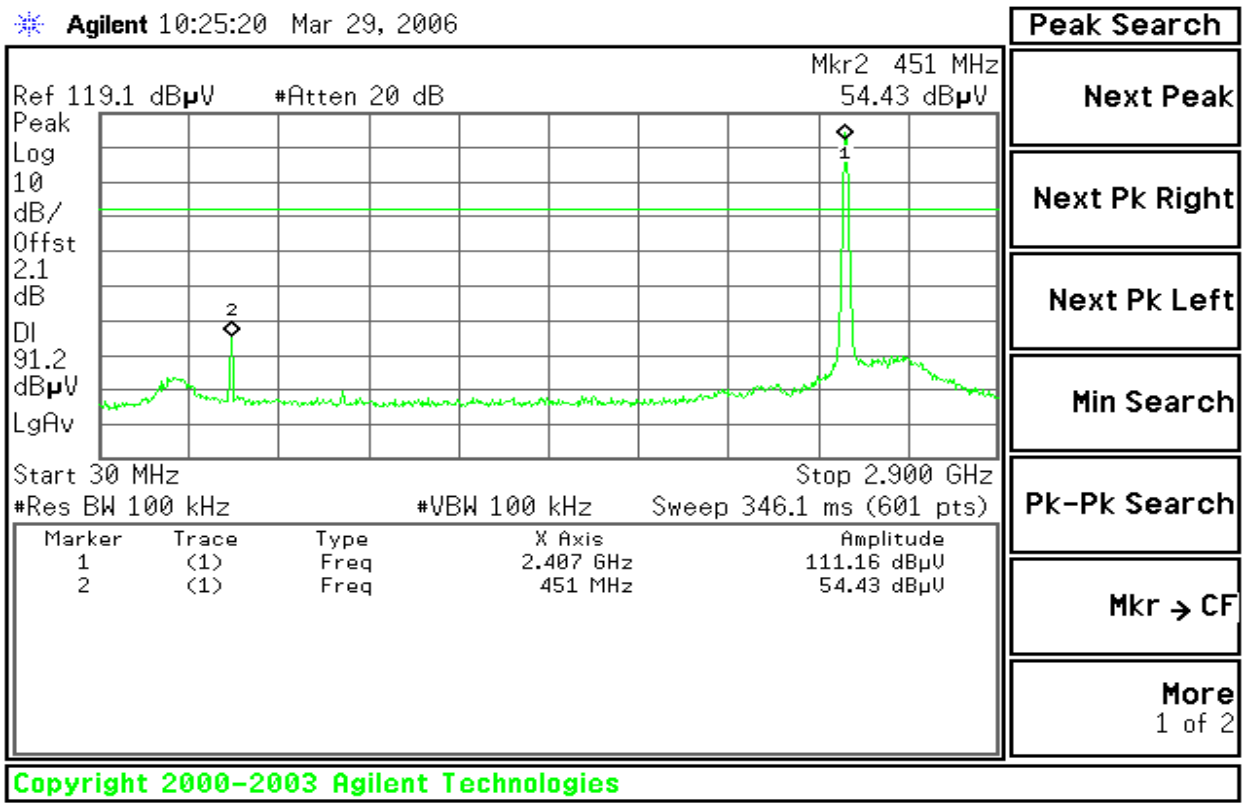
TEST RESULTS

No non-compliance noted

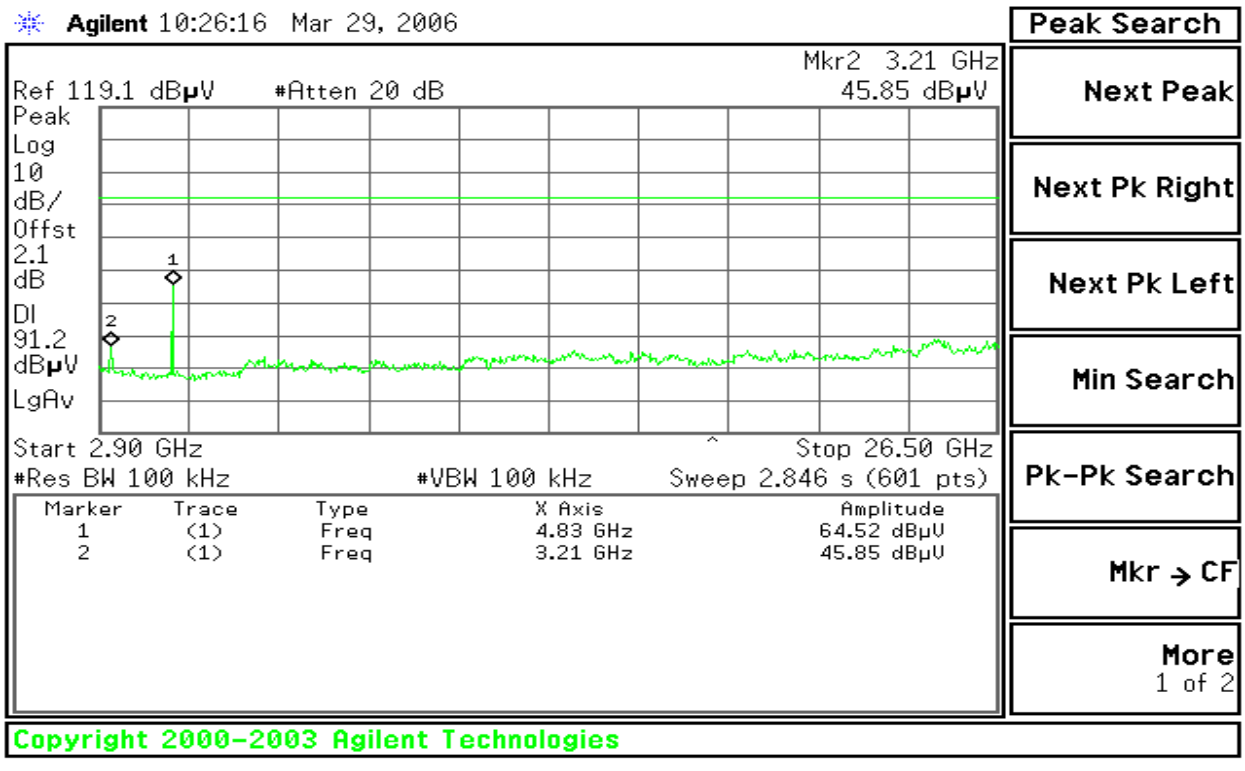
Test Plot

IEEE 802.11b / CH Low

30MHz ~ 2.9GHz

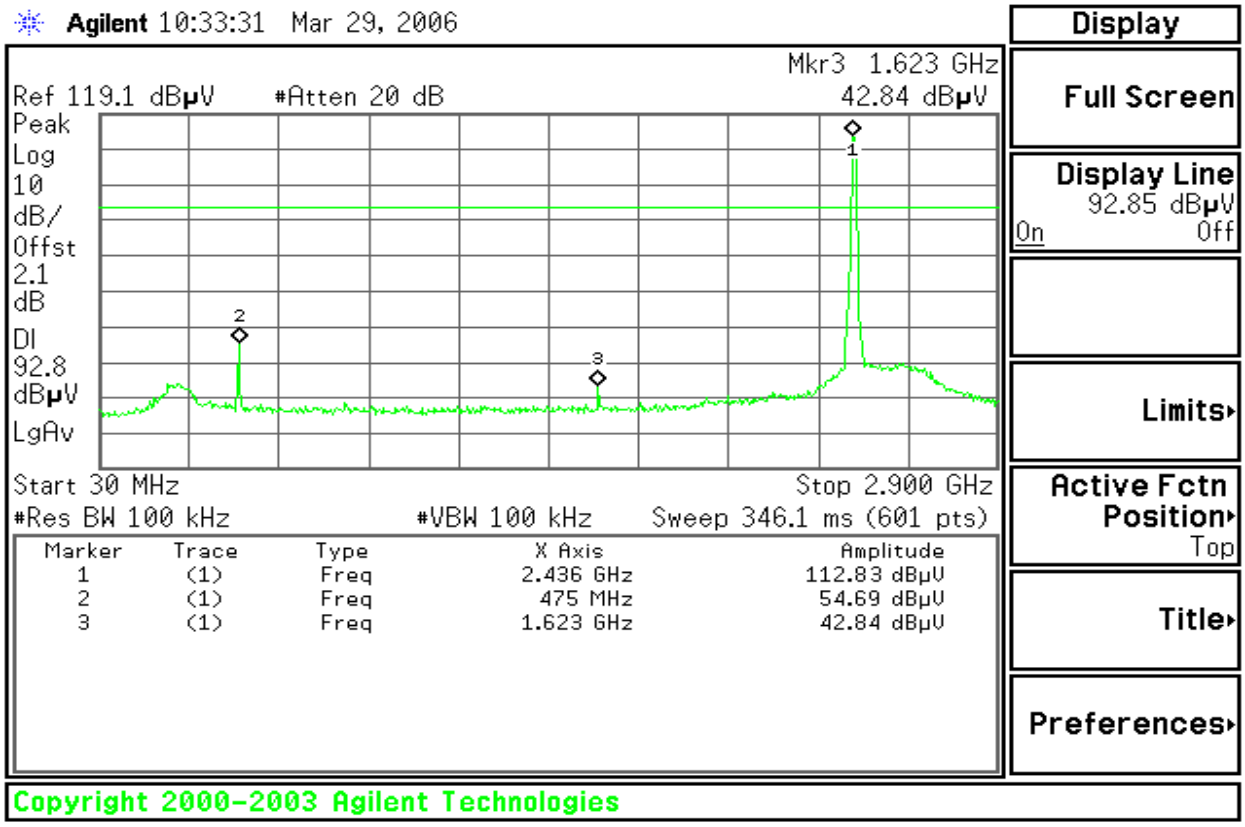


2.9GHz ~ 26.5GHz

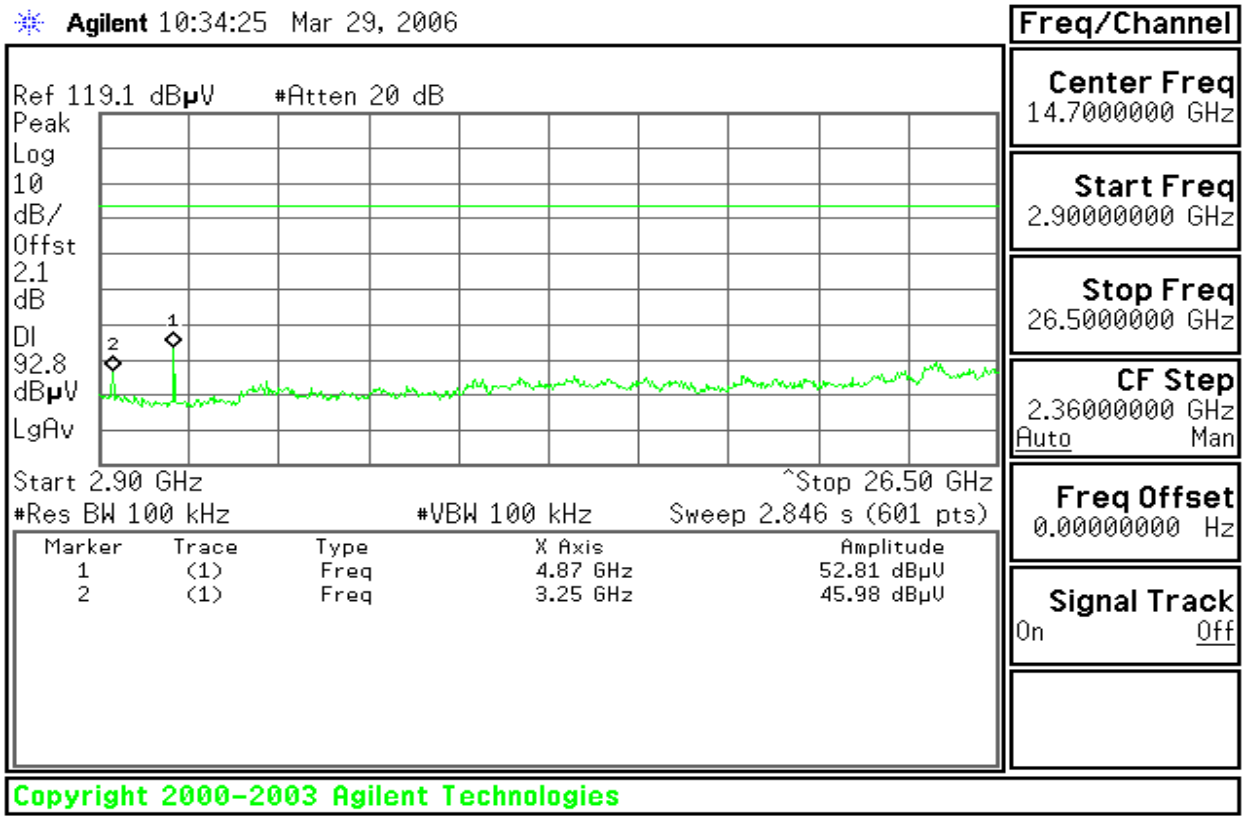


IEEE 802.11b / CH Mid

30MHz ~ 2.9GHz

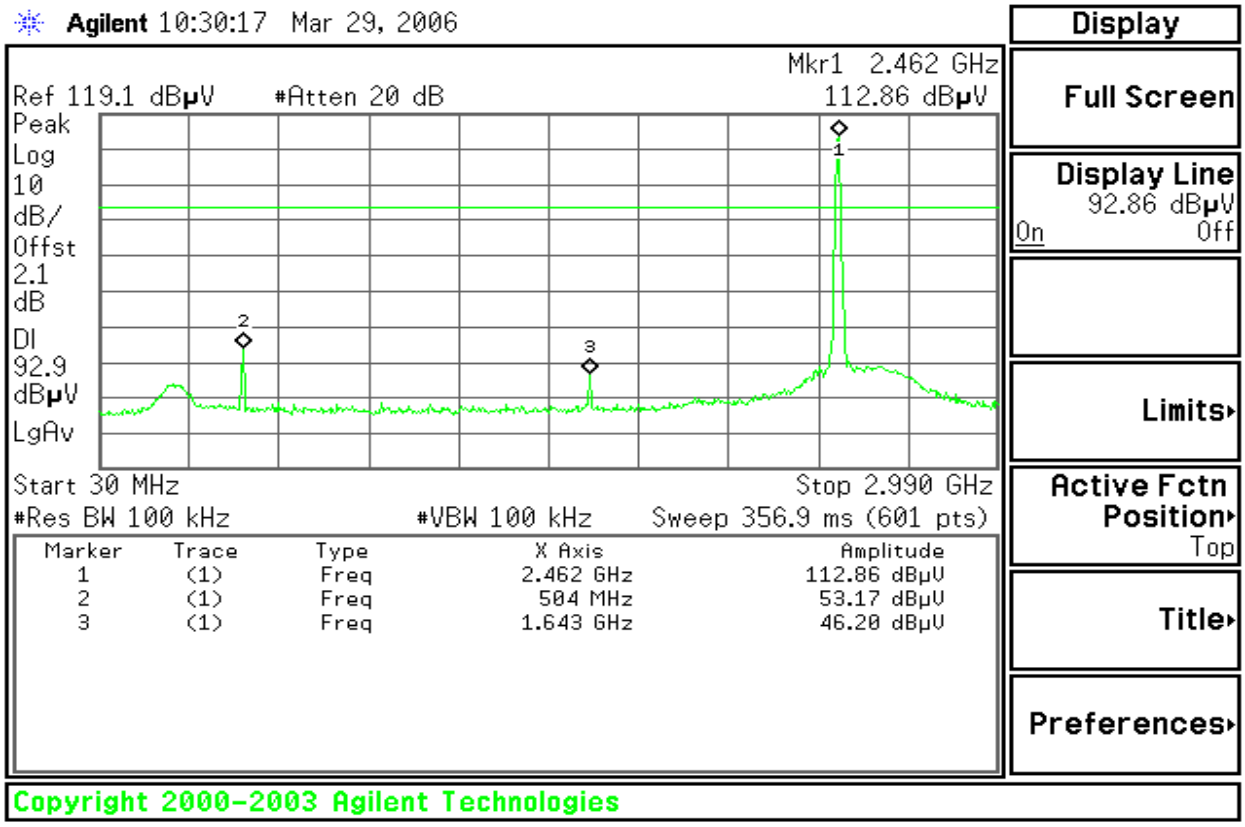


2.9GHz ~ 26.5GHz

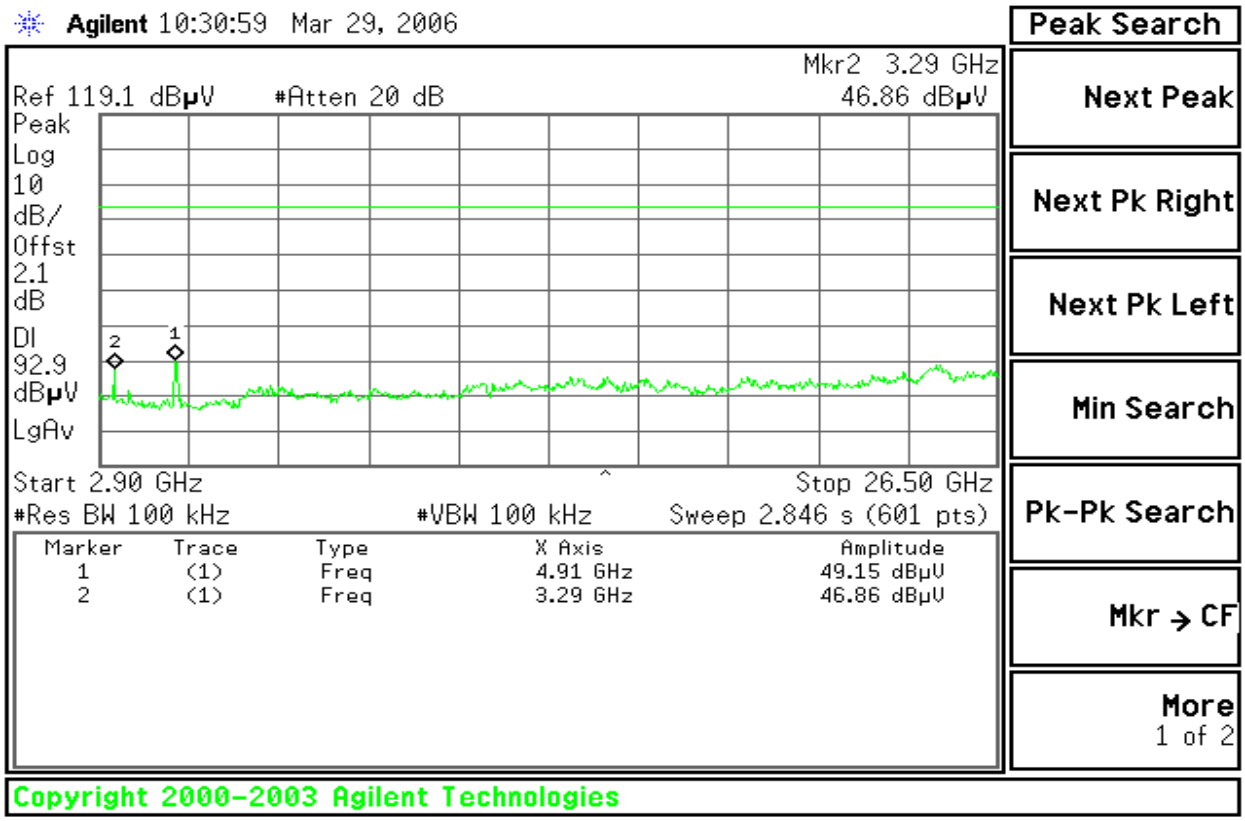


IEEE 802.11b / CH High

30MHz ~ 2.9GHz

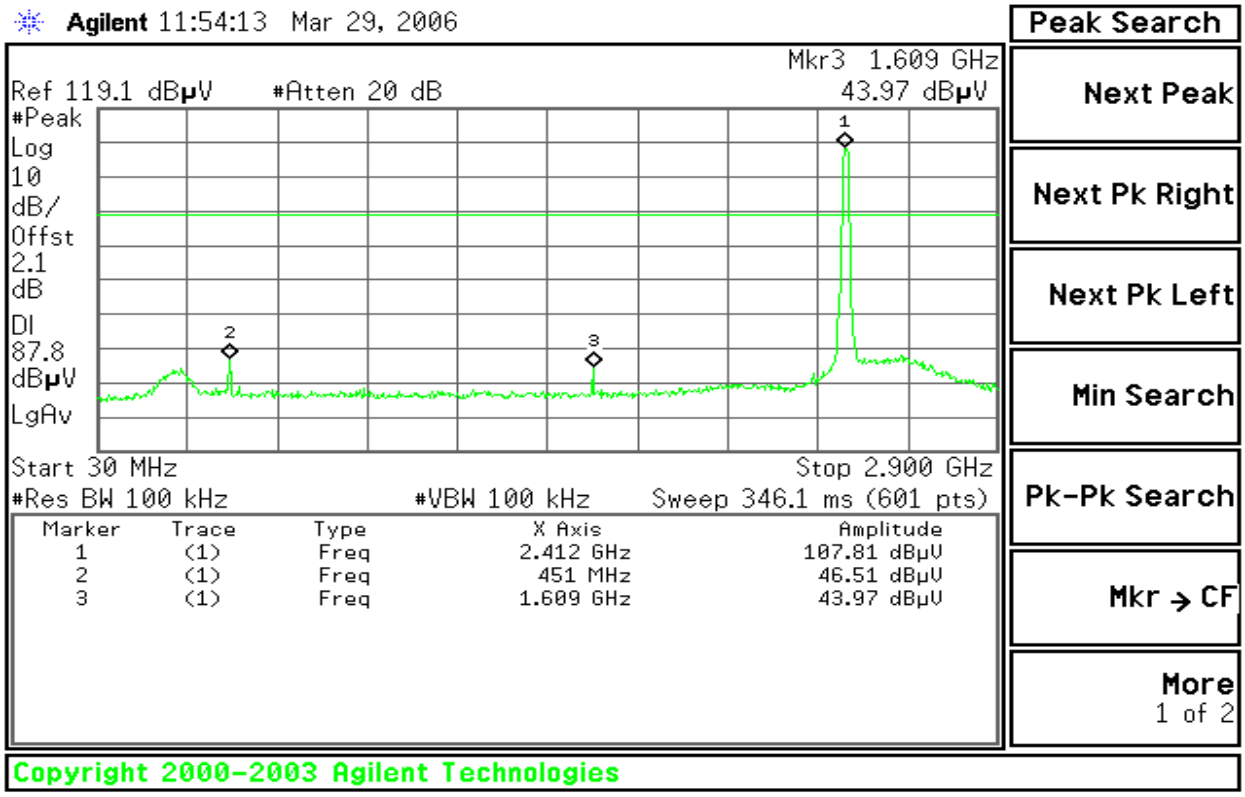


2.9GHz ~ 26.5GHz

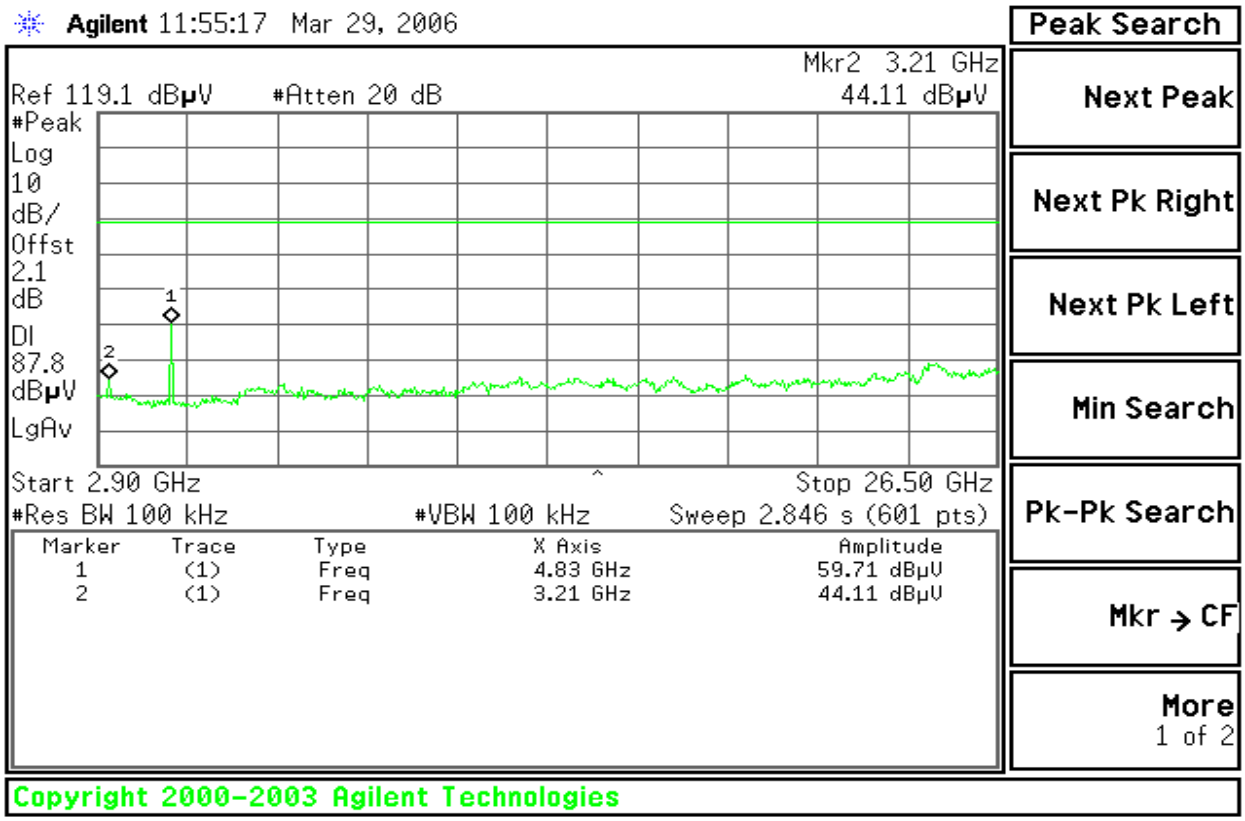


IEEE 802.11g / CH Low

30MHz ~ 2.9GHz

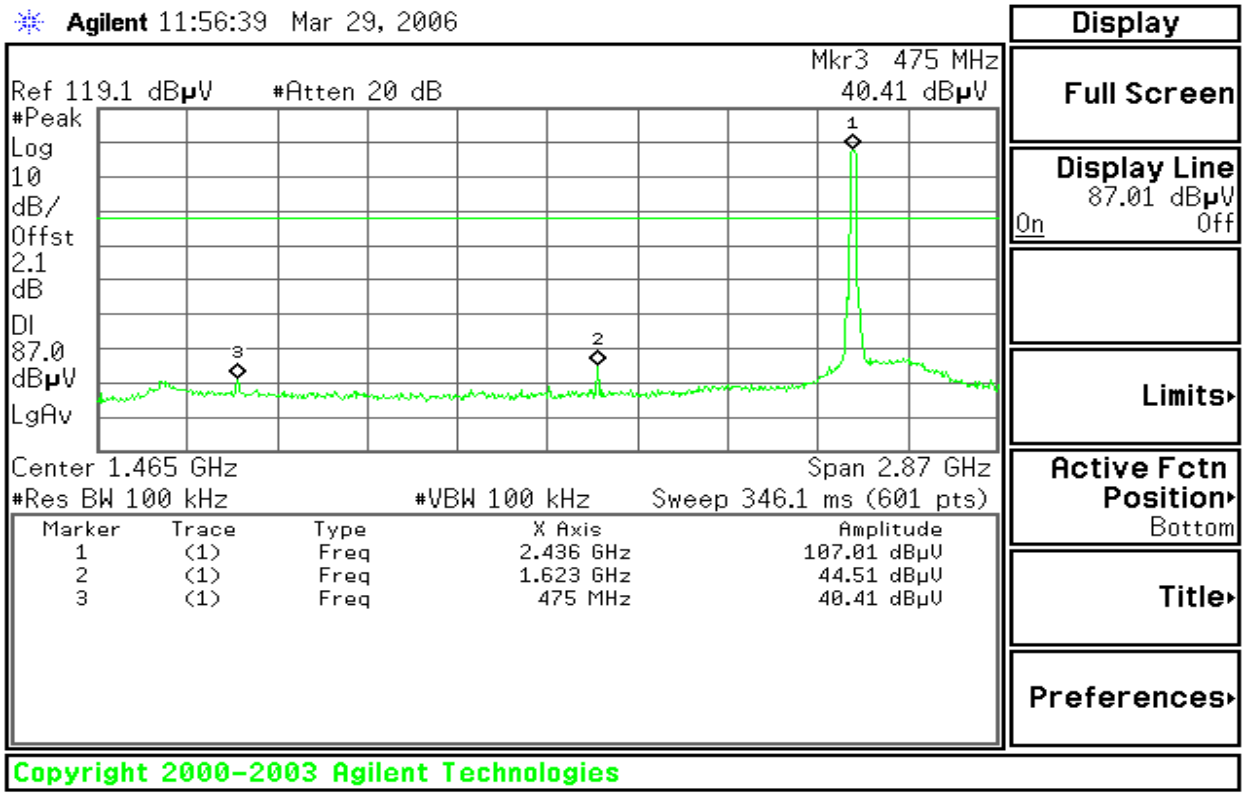


2.9GHz ~ 26.5GHz

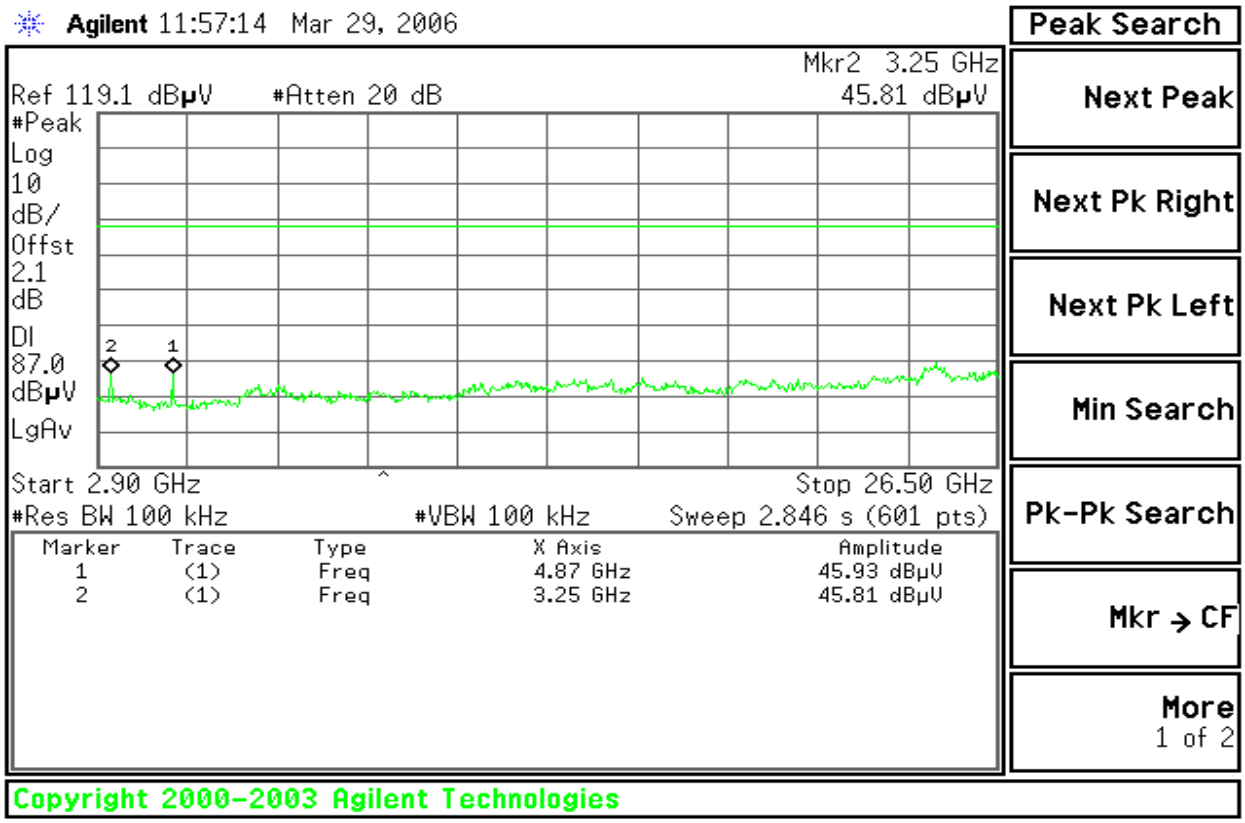


IEEE 802.11g / CH Mid

30MHz ~ 2.9GHz

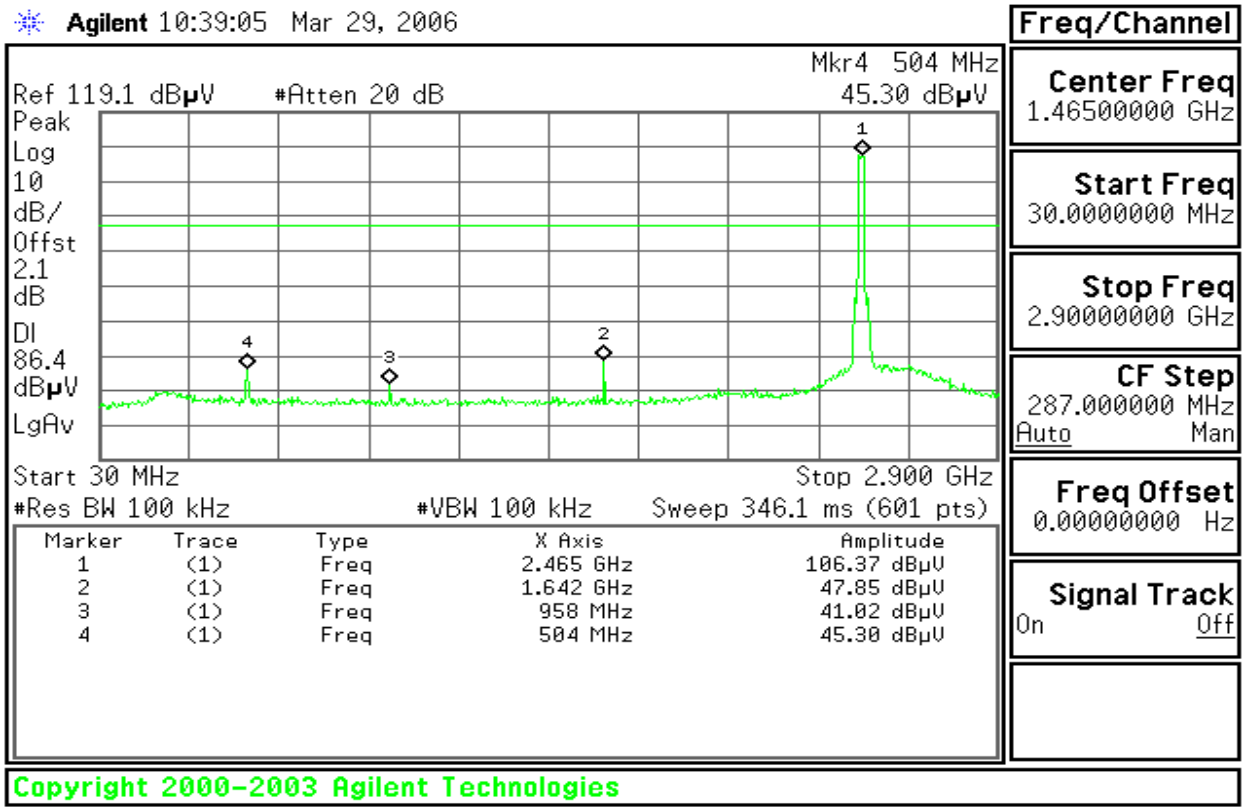


2.9GHz ~ 26.5GHz

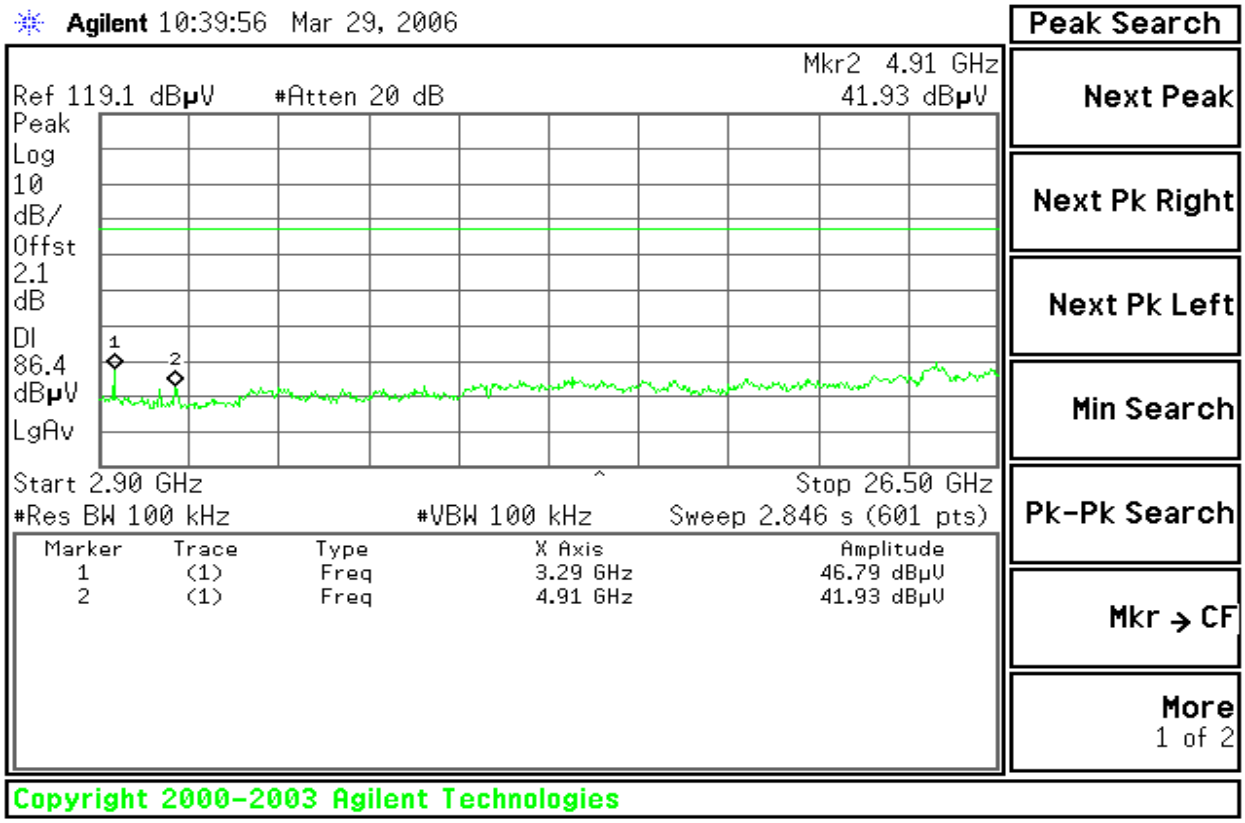


IEEE 802.11g / CH High

30MHz ~ 2.9GHz



2.9GHz ~ 26.5GHz



7.5.2 Radiated Emissions

LIMIT

1. 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 (mV/m)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

Note: *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 above emission table, the tighter limit applies at the band edges.

Frequency (Hz)	Field Strength (µV/m at 3-meter)	Field Strength (dBµV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

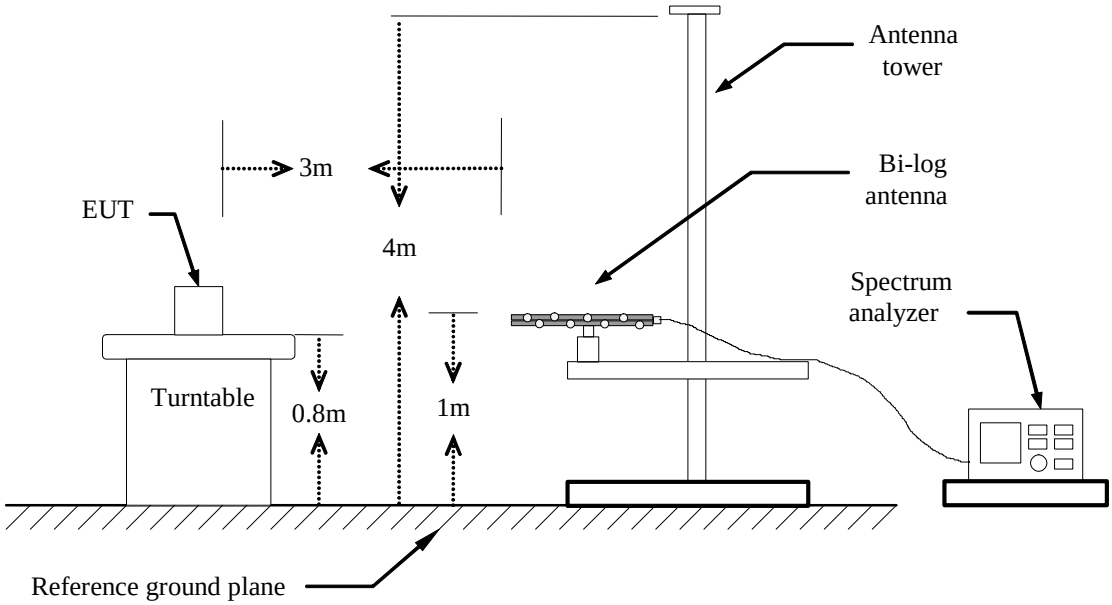
MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2006
ESPI3 EMI RECEIVER	R&S	ESPI3	101026	01/21/2007
Pre-Amplfier	MINI	ZFL-1000VH2	d041703	01/21/2007
Pre-Amplfier	Miteq	NSP4000-NF	870731	01/21/2007
Bilog Antenna	Sunol Sciences	JB1	A110204-2	11/13/2006
Horn Antenna	Austriah	BBHA9120D	D267	09/20/2006
Turn Table	CT	CT123	4162	N.C.R
Antenna Tower	CT	CTERG23	3253	N.C.R
Controller	CT	CT1OO	95635	N.C.R
Coax Switch	Anitsu	MP 598	M 80094	N/A
Site NSA	CCS Lab.	N/A	N/A	12/11/2006

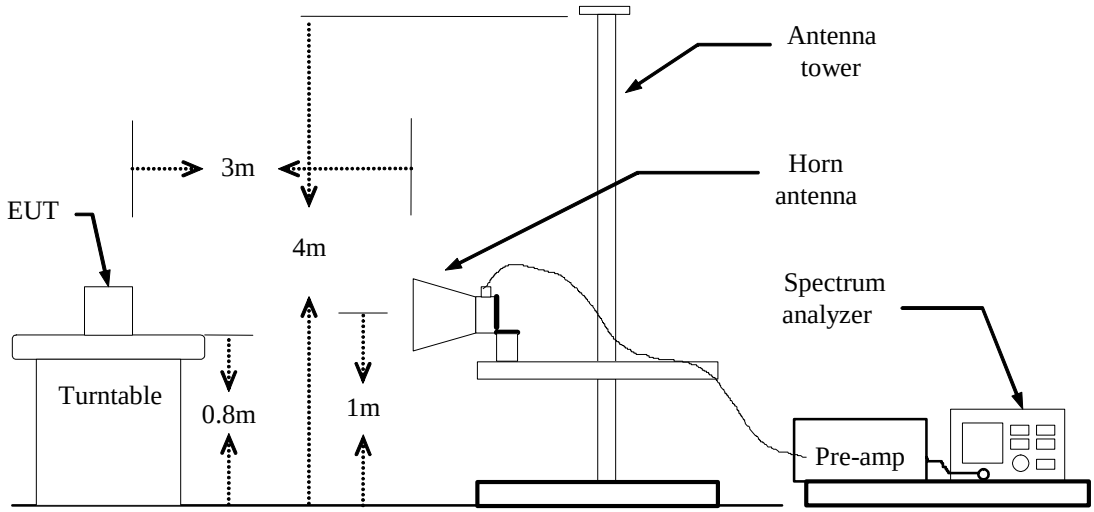
Remark: *Each piece of equipment is scheduled for calibration once a year.*

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. Repeat above procedures until the measurements for all frequencies are complete.

TEST RESULTS

Below 1 GHz

Operation Mode: TX / IEEE 802.11b / CH Low **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
196.11	V	Peak	36.22	-0.92	35.3	43.5	-8.2
261.58	V	Peak	41.01	-5.59	35.42	46.0	-10.58
294.04	V	Peak	37.39	-3.89	33.5	46.0	-12.5
326.65	V	Peak	37.95	-2.14	35.81	46.0	-10.19
391.18	V	Peak	38.4	1.24	39.64	46.0	-6.36
423.44	V	Peak	36.93	2.82	39.75	46.0	-6.25
196.11	H	Peak	38.4	-3.7	34.7	43.5	-8.8
233.98	H	Peak	47.06	-7.13	39.93	46.0	-6.07
261.58	58	Peak	43.9	-9.43	34.47	46.0	-11.53
294.04	H	Peak	44.72	-8.89	35.83	46.0	-10.17
326.65	H	Peak	41.71	-7.14	34.57	46.0	-11.43
455.71	H	Peak	35.59	-1.49	34.1	46.0	-11.9

Notes:

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 detector mode.*
3. *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.*
4. *The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.*

Operation Mode: TX / IEEE 802.11b / CH Mid **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
196.11	V	Peak	34.81	-0.92	33.89	43.5	-9.61
232.90	V	Peak	38.77	-5.08	33.69	46.0	-12.31
294.04	V	Peak	39.92	-3.89	36.03	46.0	-9.97
391.18	V	Peak	38.55	1.24	39.79	46.0	-6.21
423.44	V	Peak	36.55	2.82	39.37	46.0	-6.63
455.71	V	Peak	40.09	4.28	44.37	46.0	-1.63
196.11	H	Peak	40.58	-3.7	36.88	43.5	-6.62
232.90	H	Peak	46.49	-7.08	39.41	46.0	-6.59
261.58	H	Peak	47.79	-9.43	38.36	46.0	-7.64
325.25	H	Peak	42.21	-7.22	34.99	46.0	-11.01
391.18	H	Peak	38.42	-3.84	34.58	46.0	-11.42
455.71	H	Peak	33.23	-1.49	31.74	46.0	-14.26

Notes:

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 detector mode.

3. 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.

4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.

Operation Mode: TX / IEEE 802.11b / CH High **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
166.89	V	Peak	33.67	-2.24	31.43	43.5	-12.07
196.11	V	Peak	35.04	-16.86	18.18	43.5	-25.32
261.58	V	Peak	39.45	-5.59	33.86	46.0	-12.14
294.04	V	Peak	39.28	-3.89	35.39	46.0	-10.61
326.65	V	Peak	38.09	-2.14	35.95	46.0	-10.05
391.18	V	Peak	36.61	1.24	37.85	46.0	-8.15
196.11	H	Peak	39.91	-3.7	36.21	43.5	-7.29
261.58	H	Peak	46.83	-9.43	37.4	46.0	-8.6
325.25	H	Peak	42.17	-7.22	34.95	46.0	-11.05
391.18	H	Peak	34.31	-3.84	30.47	46.0	-15.53
455.71	H	Peak	33.22	-1.49	31.73	46.0	-14.27
684.36	H	Peak	28.87	5.19	34.06	46.0	-11.94

Notes:

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 detector mode.

3. 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.

4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.

Operation Mode: TX / IEEE 802.11g / CH Low **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
166.89	V	Peak	33.67	-2.24	31.43	43.5	-12.07
196.11	V	Peak	33.03	-0.92	32.11	43.5	-11.39
261.58	V	Peak	41.34	-5.59	35.75	46.0	-10.25
326.65	V	Peak	38.97	-2.14	36.83	46.0	-9.17
391.18	V	Peak	37.49	1.24	38.73	46.0	-7.27
423.44	V	Peak	37.42	2.82	40.24	46.0	-5.76
196.11	H	Peak	37.04	-3.7	33.34	43.5	-10.16
228.57	H	Peak	45.41	-6.73	38.68	46.0	-7.32
261.58	H	Peak	43.76	-9.43	34.33	46.0	-11.67
326.65	H	Peak	41.8	-7.14	34.66	46.0	-11.34
455.71	H	Peak	33.81	-1.49	32.32	46.0	-13.68
684.36	H	Peak	28.69	5.19	33.88	46.0	-12.12

Notes:

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 detector mode.

3. 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.

4. The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.

Operation Mode: TX / IEEE 802.11g / CH Mid **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
196.11	V	Peak	34.18	-0.92	33.26	43.5	-10.24
261.58	V	Peak	39.48	-5.59	33.89	46.0	-12.11
294.04	V	Peak	42.23	-3.89	38.34	46.0	-7.66
423.44	V	Peak	36.83	2.82	39.65	46.0	-6.35
455.98	V	Peak	35.11	4.29	39.4	46.0	-6.6
196.11	H	Peak	37.45	-3.7	33.75	43.5	-9.75
228.57	H	Peak	44.63	-6.73	37.9	46.0	-8.1
261.58	H	Peak	44.7	-9.43	35.27	46.0	-10.73
326.65	H	Peak	39.45	-7.14	32.31	46.0	-13.69
455.71	H	Peak	35.25	-1.49	33.76	46.0	-12.24
684.36	H	Peak	28.94	5.19	34.13	46.0	-11.87

Notes:

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 detector mode.*
3. *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.*
4. *The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.*

Operation Mode: TX / IEEE 802.11g / CH High **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
196.11	V	Peak	39.58	-0.92	38.66	43.5	-4.84
261.58	V	Peak	43.7	-5.59	38.11	46.0	-7.89
294.04	V	Peak	42.18	-3.89	38.29	46.0	-7.71
455.71	V	Peak	38.3	4.28	42.58	46.0	-3.42
587.97	V	Peak	34.93	3.35	38.28	46.0	-7.72
750.3	V	Peak	33.39	8.67	42.06	46.0	-3.94
196.11	H	Peak	40.84	-3.7	37.14	43.5	-6.36
232.9	H	Peak	46.76	-7.08	39.68	46.0	-6.32
326.65	H	Peak	40.64	-7.14	33.5	46.0	-12.5
391.18	H	Peak	35.42	-3.84	31.58	46.0	-14.42
619.83	H	Peak	29.07	4.16	33.23	46.0	-12.77
684.36	H	Peak	29.2	5.19	34.39	46.0	-11.61

Notes:

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 detector mode.*
3. *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.*
4. *The IF bandwidth of SPA between 30MHz to 1GHz was 100kHz.*

Above 1 GHz

Operation Mode: TX / IEEE 802.11b / CH Low **Test Date:** March 31, 2006

Temperature: 23°C **Tested by:** Spring

Humidity: 56 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4783.33	V	37.56	27.47	10.09	47.65	37.56	74	54	-16.44	Peak
7257.00	V	46.18	30.61	15.57	61.75	46.18	74	54	-7.82	Peak
4850.00	H	38.27	27.9	10.37	48.64	38.27	74	54	-15.73	Peak
7375.00	H	47.37	31.26	16.11	63.48	47.37	74	54	-6.63	Peak

Notes:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser 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.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

Operation Mode: TX / IEEE 802.11b / CH Mid **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4833.33	V	37.35	27.08	10.27	47.62	37.35	74	54	-16.65	Peak
7750.00	V	46.91	31.05	15.86	62.77	46.91	74	54	-7.09	Peak
4858.33	H	38.06	27.64	10.42	48.48	38.06	74	54	-15.94	Peak
4966.66	H	39.1	28.06	11.04	50.14	39.1	74	54	-14.90	Peak
7400.00	H	47.15	30.91	16.24	63.39	47.15	74	54	-6.85	Peak

Notes:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser 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.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

Operation Mode: TX / IEEE 802.11b / CH High **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4791.66	V	38.03	27.95	10.08	48.11	38.03	74	54	-15.97	Peak
7416.66	V	46.85	30.63	16.22	63.07	46.85	74	54	-7.15	Peak
4741.66	H	37.49	27.38	10.11	47.6	37.49	74	54	-16.51	Peak
7266.66	H	45.68	30.15	15.53	61.21	45.68	74	54	-8.32	Peak

Notes:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser 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.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

Operation Mode: TX / IEEE 802.11g / CH Low **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4908.33	V	38.06	27.36	10.70	48.76	38.06	74	54	-15.94	Peak
7216.66	V	46.15	30.89	15.26	61.41	46.15	74	54	-7.85	Peak
4916.66	H	37.98	27.23	10.75	48.73	37.98	74	54	-16.02	Peak
7400.00	H	45.90	29.66	16.24	62.14	45.90	74	54	-8.10	Peak
7700.00	H	46.62	30.72	15.90	62.52	46.62	74	54	-7.38	Peak

Notes:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser 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.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

Operation Mode: TX / IEEE 802.11g / CH Mid **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4941.66	V	38.61	27.72	10.89	49.50	38.61	74	54	-15.39	Peak
7450.00	V	46.69	30.51	16.18	62.87	46.69	74	54	-7.31	Peak
7700.00	V	47.10	31.20	15.90	63.00	47.10	74	54	-6.90	Peak
4966.66	H	37.96	26.92	11.04	49.00	37.96	74	54	-16.04	Peak
7350.00	H	46.59	30.62	15.97	62.56	46.59	74	54	-7.41	Peak

Notes:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser 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.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

Operation Mode: TX / IEEE 802.11g / CH High **Test Date:** March 31, 2006

Temperature: 20°C **Tested by:** Spring

Humidity: 70 % RH **Polarity:** Ver. / Hor.

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
4966.66	V	38.06	27.02	11.04	49.1	38.06	74	54	-15.94	Peak
52.0833	V	39.07	26.43	12.64	51.71	39.07	74	54	-14.93	Peak
7433.33	V	47.02	30.82	16.2	63.22	47.02	74	54	-6.98	Peak
7658.33	V	46.81	30.87	15.94	62.75	46.81	74	54	-7.19	Peak
4608.33	H	37.51	27.32	10.19	47.7	37.51	74	54	-16.49	Peak
4900.00	H	37.98	27.32	10.66	48.64	37.98	74	54	-16.02	Peak
7375.00	H	46.10	29.99	16.11	62.21	46.10	74	54	-7.90	Peak
7825.00	H	45.73	29.78	15.95	61.68	45.73	74	54	-8.27	Peak

Notes:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Measurements above show only up to 6 maximum emissions noted, or would be lesser 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.*
3. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.*
4. *Spectrum setting:*
   a. *Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.*
   b. *AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.*

7.6 POWERLINE CONDUCTED EMISSIONS

LIMIT

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

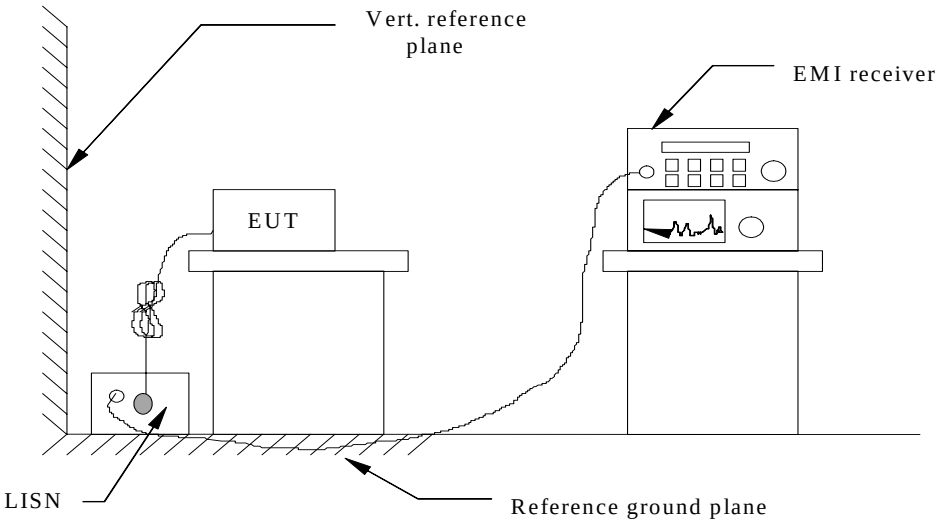
Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

MEASUREMENT EQUIPMENT USED

Conducted Emission Test Site A (10m chamber)				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESI26	100068	01/21/2007
EMC Analyzer	Agilent	E7402A	US41160329	01/21/2007
LISN	FCC	FCC-LISN-50-50-2-M	01067	07/29/2006
LISN (EUT)	FCC	FCC-LISN-50-50-2-M	01068	07/29/2006
TRANSIENT LIMITER	SCHAFFNER	CFL9206	1710	07/29/2006
EMI Monitor control box	FCC	0-SVDC	N/A	N/A

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

Test Configuration



See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

DECISION OF FINAL TEST MODE

1. The following test mode(s) were scanned during the preliminary test:

Model 1: AC/DC power adapter Brandname: LISHIN Model Number: 00335C1965
Mode1 2: AC/DC power adapter Brandname: DELTA Model Number: SADP-65KB C
Mode1 3: AC/DC power adapter Brandname: DELTA Model Number: SADP-65KB B

2. After the preliminary scan, the following test mode was found to produce the highest emission level.

Model 1: AC/DC power adapter Brandname: LISHIN Model Number: 00335C1965
Mode1 2: AC/DC power adapter Brandname: DELTA Model Number: SADP-65KB C
Mode1 3: AC/DC power adapter Brandname: DELTA Model Number: SADP-65KB B

Test Data

Model: CM2 **Test Mode:** Mode1

Temperature: 25°C **Humidity:** 62% RH

Tested by: meteor **Test Results:** Pass

(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	PEAK. Raw (dBuV)	Q.P. Raw (dBuV)	AVG Raw (dBuV)	Q.P. Limit (dBuV)	AVG Limit (dBuV)	Margin (dB)	Factor (dB)	Remark
0.220	55.07	42.10	31.87	63.99	53.99	-22.12	10.30	Line
0.290	46.24	38.69	30.30	61.97	51.97	-21.67	10.29	Line
0.572	40.41	41.85	36.89	56.00	46.00	-9.11	10.38	Line
0.939	37.35	36.66	28.17	56.00	46.00	-17.83	10.47	Line
3.723	33.15	26.20	16.97	56.00	46.00	-29.03	10.78	Line
22.513	39.14	30.72	21.36	60.00	50.00	-28.64	13.00	Line
0.216	53.44	41.37	31.22	64.09	54.09	-22.87	10.39	Neutral
0.568	41.40	41.46	35.18	56.00	46.00	-10.82	10.48	Neutral
0.935	37.36	36.66	25.87	56.00	46.00	-20.13	10.56	Neutral
4.092	32.34	27.15	13.79	56.00	46.00	-32.21	11.13	Neutral
4.853	33.21	28.01	15.56	56.00	46.00	-30.44	11.10	Neutral
23.474	38.61	31.82	20.35	60.00	50.00	-29.65	13.52	Neutral

Test Data

Model: CM2 **Test Mode:** Mode2

Temperature: 25°C **Humidity:** 62% RH

Tested by: meteor **Test Results:** Pass

(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	PEAK. Raw (dBuV)	Q.P. Raw (dBuV)	AVG Raw (dBuV)	Q.P. Limit (dBuV)	AVG Limit (dBuV)	Margin (dB)	Factor (dB)	Remark
0.205	60.23	46.30	36.11	64.41	54.41	-18.30	10.30	Line
0.272	51.13	42.01	33.06	62.50	52.50	-19.44	10.29	Line
0.339	43.48	38.63	31.31	60.60	50.60	-19.29	10.38	Line
1.214	35.08	36.01	32.86	56.00	46.00	-13.14	10.47	Line
1.555	35.73	36.57	34.16	56.00	46.00	-11.84	10.78	Line
5.462	32.18	35.87	32.68	60.00	50.00	-17.32	13.00	Line
0.201	62.95	50.28	38.67	64.52	54.52	-15.85	10.39	Neutral
0.268	53.58	45.38	35.44	62.61	52.61	-17.17	10.48	Neutral
1.610	36.21	36.75	34.35	56.00	46.00	-11.65	10.56	Neutral
4.565	31.71	20.81	12.51	56.00	46.00	-33.49	11.13	Neutral
5.631	32.84	17.45	11.72	60.00	50.00	-38.28	11.10	Neutral
7.378	32.22	27.36	22.84	60.00	50.00	-27.16	13.52	Neutral

Test Data

Model: CM2 **Test Mode:** Mode 3

Temperature: 25°C **Humidity:** 62% RH

Tested by: meteor **Test Results:** Pass

(The chart below shows the highest readings taken from the final data)

Freq. (MHz)	PEAK. Raw (dBuV)	Q.P. Raw (dBuV)	AVG Raw (dBuV)	Q.P. Limit (dBuV)	AVG Limit (dBuV)	Margin (dB)	Factor (dB)	Remark
0.198	54.93	43.52	33.50	64.62	54.62	-21.12	10.30	Line
0.268	45.81	38.84	30.33	62.61	52.61	-22.28	10.29	Line
3.234	42.80	40.00	32.73	56.00	46.00	-13.27	10.38	Line
3.627	43.79	37.50	28.10	56.00	46.00	-17.90	10.47	Line
3.955	44.82	43.13	33.79	60.00	46.00	-12.21	10.78	Line
5.615	44.34	39.81	33.04	60.00	50.00	-16.96	13.00	Line
0.201	54.22	42.53	33.21	64.52	54.52	-21.31	10.39	Neutral
3.434	43.99	38.27	28.45	56.00	46.00	-17.55	10.48	Neutral
3.771	44.36	42.13	33.05	56.00	46.00	-12.95	10.56	Neutral
4.036	44.35	41.76	32.73	56.00	46.00	-13.27	11.13	Neutral
4.428	43.92	41.21	34.85	56.00	46.00	-11.15	11.10	Neutral
8.997	41.24	38.89	35.05	60.00	50.00	-14.95	13.52	Neutral

Remark:

1. *The measuring frequencies range between 0.15 MHz and 30 MHz.*
2. *The emissions measured in the frequency range between 0.15 MHz and 30MHz were made with an instrument using Quasi-peak detector and Average detector.*
3. *"---" denotes the emission level was or more than 2dB below the Average limit, and no re-check was made.*
4. *The IF bandwidth of SPA between 0.15MHz and 30MHz was 10KHz. The IF bandwidth of Test Receiver between 0.15MHz and 30MHz was 9kHz.*

Note:

Freq. = Emission frequency in KHz

Factor (dB) = cable loss + Insertion loss of LISN+ Insertion loss of TRANSIENT LIMITER (The TRANSIENT LIMITER included 10 dB ATTENUATION)

Amptd dBuV = Uncorrected Analyzer/Receiver reading + cable loss + Insertion loss of LISN+ Insertion loss of TRANSIENT LIMITER, if it > 0.5 dB

Limit dBuV = Limit stated in standard

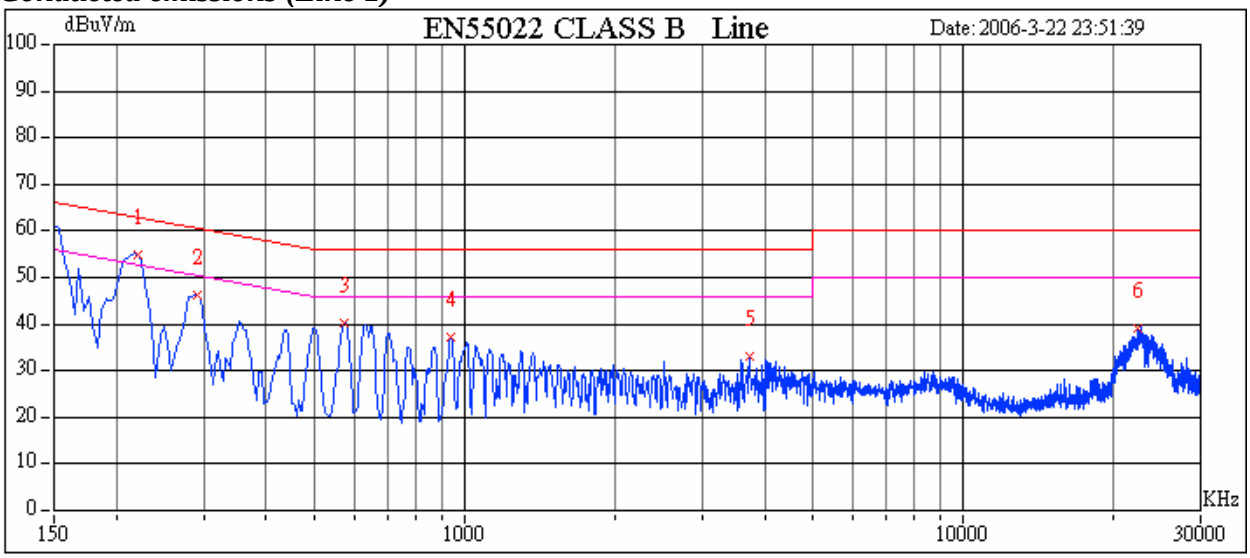
Margin dB = Reading in reference to limit

Calculation Formula

Margin (dB) = Amptd (dBuV) – Limit (dBuV)

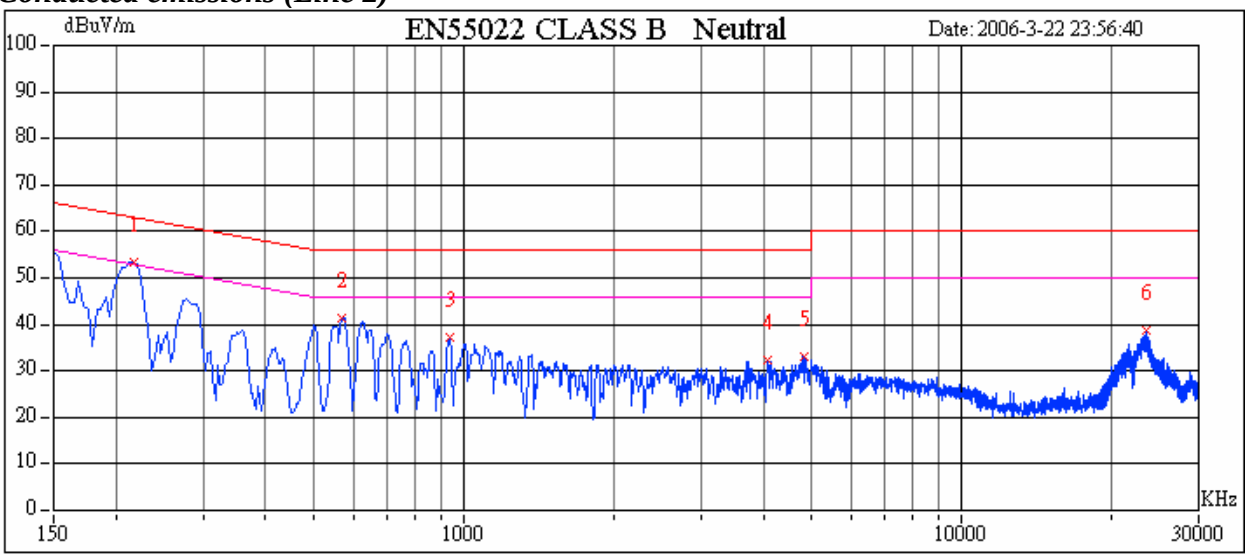
Test Plot
Mode 1

Conducted emissions (Line 1)



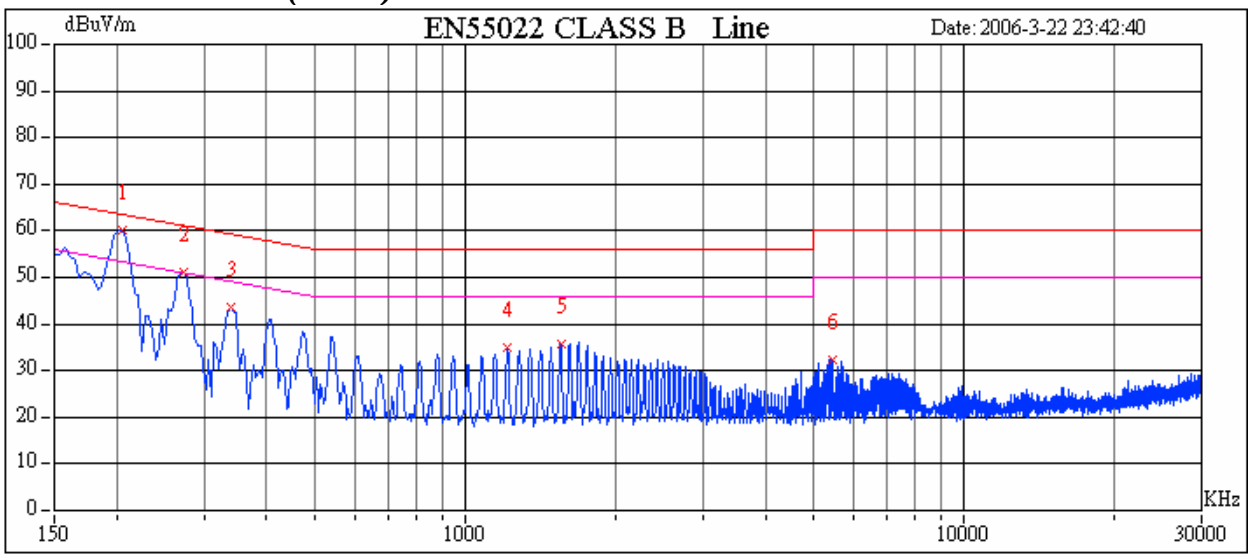
Test Plot

Conducted emissions (Line 2)



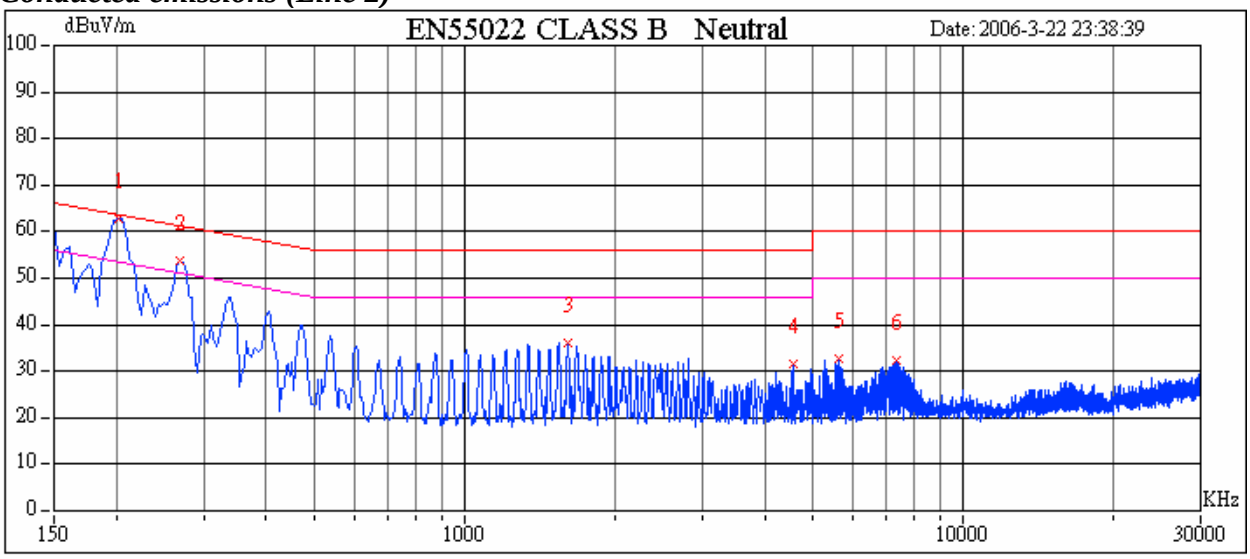
Mode 2

Conducted emissions (Line 1)



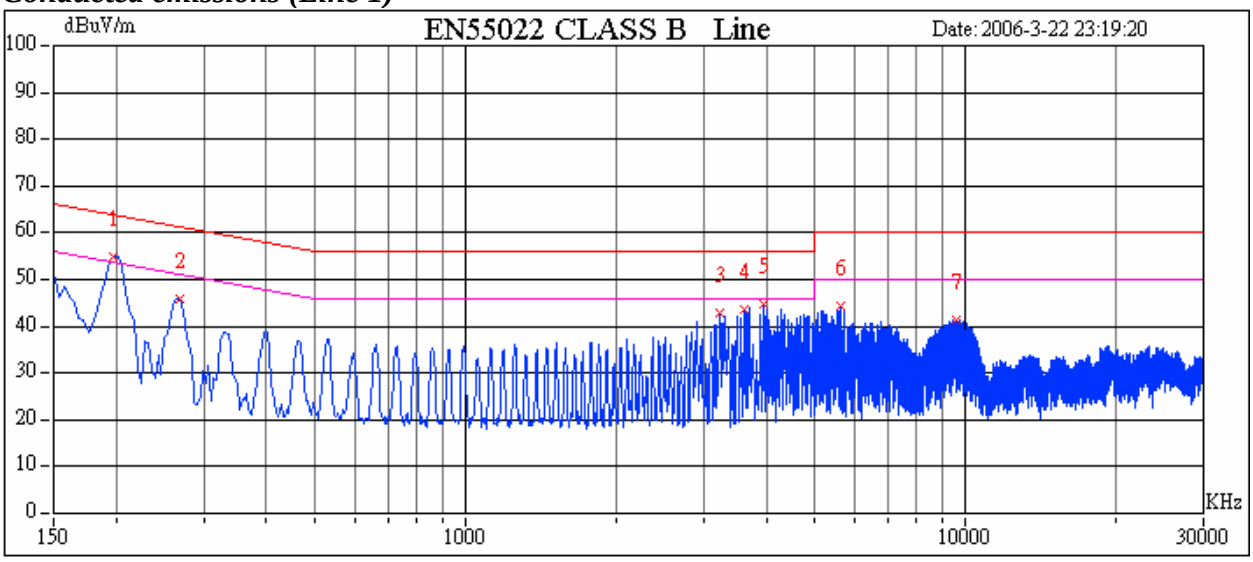
Test Plot

Conducted emissions (Line 2)



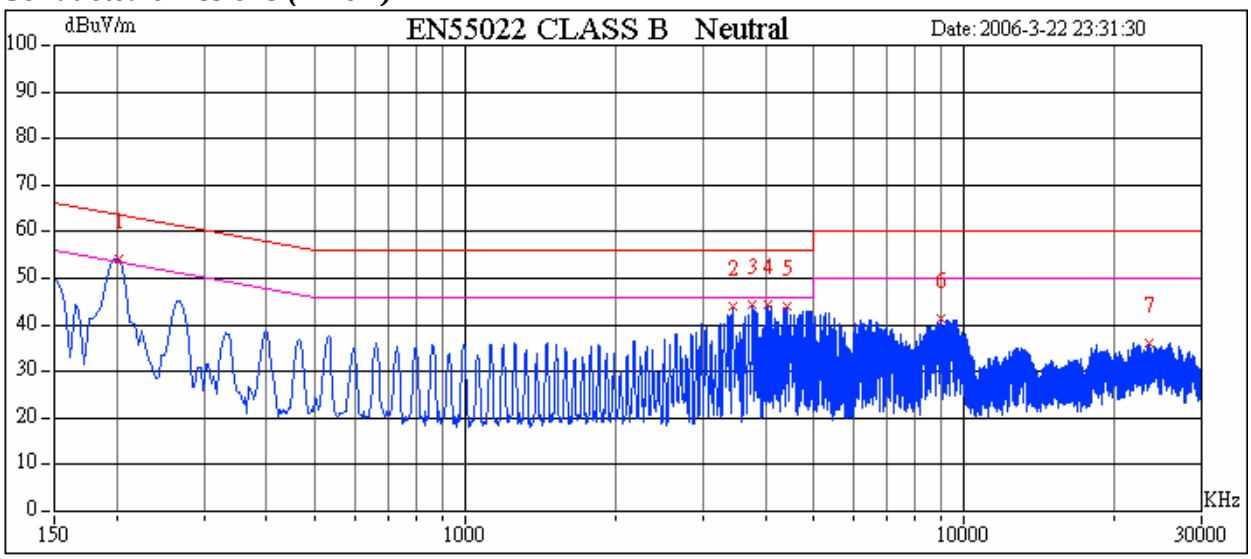
Mode 3

Conducted emissions (Line 1)



Test Plot

Conducted emissions (Line 2)



Common Mode Conducted Emission

Not applicable