FCC 47 CFR PART 15 SUBPART E

TEST REPORT

For

Wireless LAN Access Point

Model: H3C WA2110-AG

Trade Name: H3C

Prepared for

Hangzhou H3C Technologies Co., Ltd
310 Liuhe Road, Zhijiang Science Park,
Hangzhou 310053, P.R.China

Prepared by

COMPLIANCE CERTIFICATION SERVICES (KUNSHAN) INC.
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1. TEST RESULT CERTIFICATION

Applicant: Hangzhou H3C Technologies Co., Ltd
310 Liuhe Road, Zhijiang Science Park, Hangzhou 310053, P.R.China

Equipment Under Test: Wireless LAN Access Point

Trade Name: H3C

Model: H3C WA2110-AG

Date of Test: From January 20, 2007 to November 29, 2007

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC Part 15 Subpart E	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 15.407.

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

Approved by:

Miro Chueh
EMC Manager
Compliance Certification Service Inc.

Tested by:

Ruth Wu
EMC engineer
Compliance Certification Service Inc.

2. EUT DESCRIPTION

Product	Wireless LAN Access Point
Trade Name	H3C
Model Number	H3C WA2110-AG
Model Discrepancy	All the above models are identical except the model designation for different market.
Serial Number	N/A
Power Adapter Power Rating	Powered from an AC/DC power adapter Model Number:FSP025-1AD207A Input: AC 100-240V, 50-60Hz,0.7A Output: DC 48V, 0.52A
DC Power Cable Type	Unshielded, 1.5m (Non-Detachable) at Power Adapter with a core
Frequency Range	5150 ~ 5250 MHz
Transmit Power	IEEE 802.11a5150 ~ 5250 MHz :15.69dBm
Modulation Technique	IEEE 802.11a:OFDM (QPSK, BPSK, 16-QAM, 64-QAM)
Antenna Specification	PIFA antenna with 3.5dBi gain (Max)

Note: *1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.*

2. This submittal(s) (test report) is intended for FCC ID: **U6IH3CEWTO235A22W** *filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*

3. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4. Radiated testing was performed at an antenna to EUT distance 3 meters.

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.

EUT EXERCISE

The EUT is operated in the engineering mode to fix the Tx frequency for the purposes of measurement.

According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E. The composite system (Digital device) is in compliance with Subpart B authorized under the DoC procedure.

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 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

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.

DESCRIPTION OF TEST MODES

The following test mode was scanned during the preliminary test:

Mode 1: Wall, ceiling mounting, set the EUT vertically on the table top.

Mode 2: Table top mounting, set the EUT horizontally on the table top.

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

Mode 2: Table top mounting, set the EUT horizontally on the table top.

Then, the EUT configuration and cable configuration of the above highest emission mode was recorded for all final test items.

IEEE802.11a: 5150~5250MHz Channel low(5180MHz), Channel middle(5200MHz) and Channel high(5240MHz) 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. Below 1G: After the preliminary scan, the following test mode :normal link(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

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.

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.”

LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by A2LA for the specific scope of accreditation under testing cert#2541.01 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 A2LA or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission.

TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	47 CFR FCC Part 15/18 (using ANSI C63.4:2003)；VCCI V3; CNS 13438; CNS 13439; CNS 13803; CISPR 11; EN 55011; CISPR 13; EN 55013; CISPR 22:2005; CISPR 22:1997 +A1 :2000+A2 :2002；EN 55022:2006; EN55022 :1998 +A1 :2001+A2 :2003；EN 61000-6-3 (excluding discontinuous interference); EN 61000-6-4; AS/NZS CISPR 22；CAN/CSA-CEI/IEC CISPR 22；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；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；EN 300 220-3; EN 300 328; EN 300 330-2; EN 300 440-1; EN 300-440-2; EN 300 893; EN 301 489-01; EN 301 489-3; EN 301 489-07; EN 301 489-17；47 CFR FCC Part 15, 22, 24	ACCREDITED TESTING CERT #2541.01
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	VCCI 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

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	NB	HP6130	3106010149	DoC	HP	Shielded 1.2m with a Core	Un-Shielded, 1.5m
2	Wireless Controller	WX5002	02A23S006B000007	DoC	WX	Un-Shielded, 1.2m	Un-Shielded, 1.5m

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 15.407 REQUIREMENTS

RADIO FREQUENCY EXPOSURE (15.407)

In adopt with the Human Exposure IEEE C95.1, and according to the FCC 1.1310. The *Maximum Permissible Exposure (MPE)* is obligated to measure in order to prove the safety of radiation harmfulness to the human body.

The *Gain* of the antenna used is measured in an a*nechoic chamber.* The *maximum total power to the antenna* is to be recorded. By adopting the ***Friis Transmission Formula*** and the *power gain of the antenna,* we can find the distance right away from the product, where the limit of the MPE is.

L**imits for Maximum Permissible Exposure (MPE)**

Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Filed Strength (H) (A/m)**	**Power Density (S) (mW/cm2)**	**Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)**
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	100	6
3.0-30	1842/f	4.89/f	$900/f^2$	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	100	30
1.34-30	824/f	2.19/f	$180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

According to **OET BULLETIN 56 Fourth Edition/August 1999**, **Equation for Predicting RF Fields:**

Power density at the specific separation (portable): $S = \frac{PG}{4\pi R^2} = \frac{37.07 \times 2.24}{4\pi (20)^2} = 0.0165 mW/cm^2$

Where: S = *power density* (in appropriate units, e.g. mW/cm2)

P = *power input* to the antenna (in appropriate units, e.g., mW)

G = *power gain* of the antenna in the direction of interest relative to an isotropic radiator

R = *distance* to the center of radiation of the antenna (appropriate units, e.g., cm)

The *Numeric gain G* of antenna with a gain specified in dB is determined by:

$G = \text{Log}^{-1}$ (dB antenna gain/10)

$G = \text{Log}^{-1}$ (3.50 / 10) = 2.24

PEAK POWER (15.407)

LIMIT

- For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50mW (17dBm) or 4dBm + 10log B, where B is the 26dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4dBm in any 1 MHz band.
- For the band 5.25-5.35 GHz and 5.47-5.725GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250mW (24dBm) or 11dBm + 10logB, where B is the 26dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11dBm in any 1 MHz band.

If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. The peak power shall not exceeded the limit as follows:

Specified Limit of the Peak Power

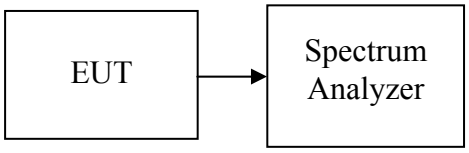
Frequency (MHz)	10 Log B (dB)	4 + 10 Log B	Power Limit (dBm)
5200	15.6	19.6	19.6

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2008
Low-Loss RF Cable	Huber + Suhner	Sucoflex 104	N/A	N/A

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

Test Configuration



TEST PROCEDURE

The test is performed in accordance with <FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices> – Part 15, Subpart E, August 2002.

TEST RESULTS

No non-compliance noted

Tested by: Ruth

Base Mode

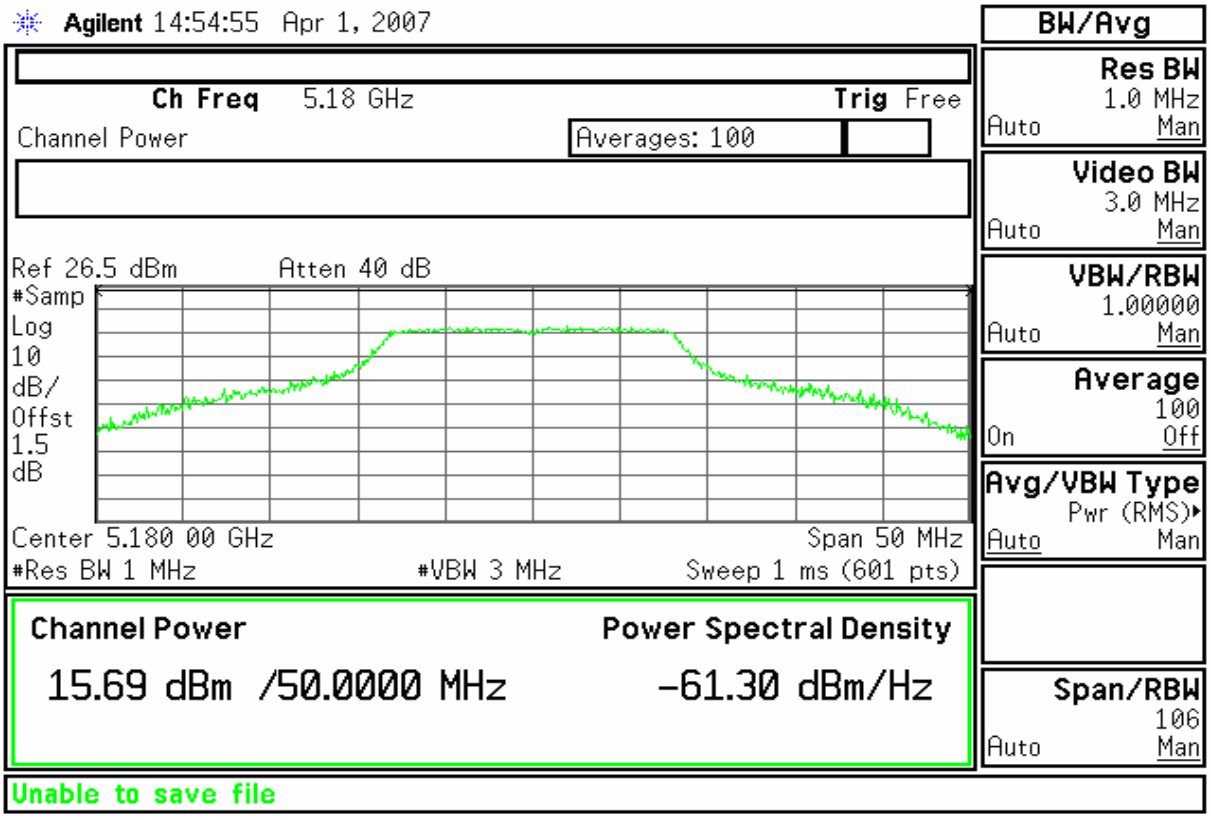
5150~5250MHz

Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)
Low	5180	15.69	17	-2.31
Middle	5200	13.96	17	-3.04
High	5240	14.52	17	-2.48

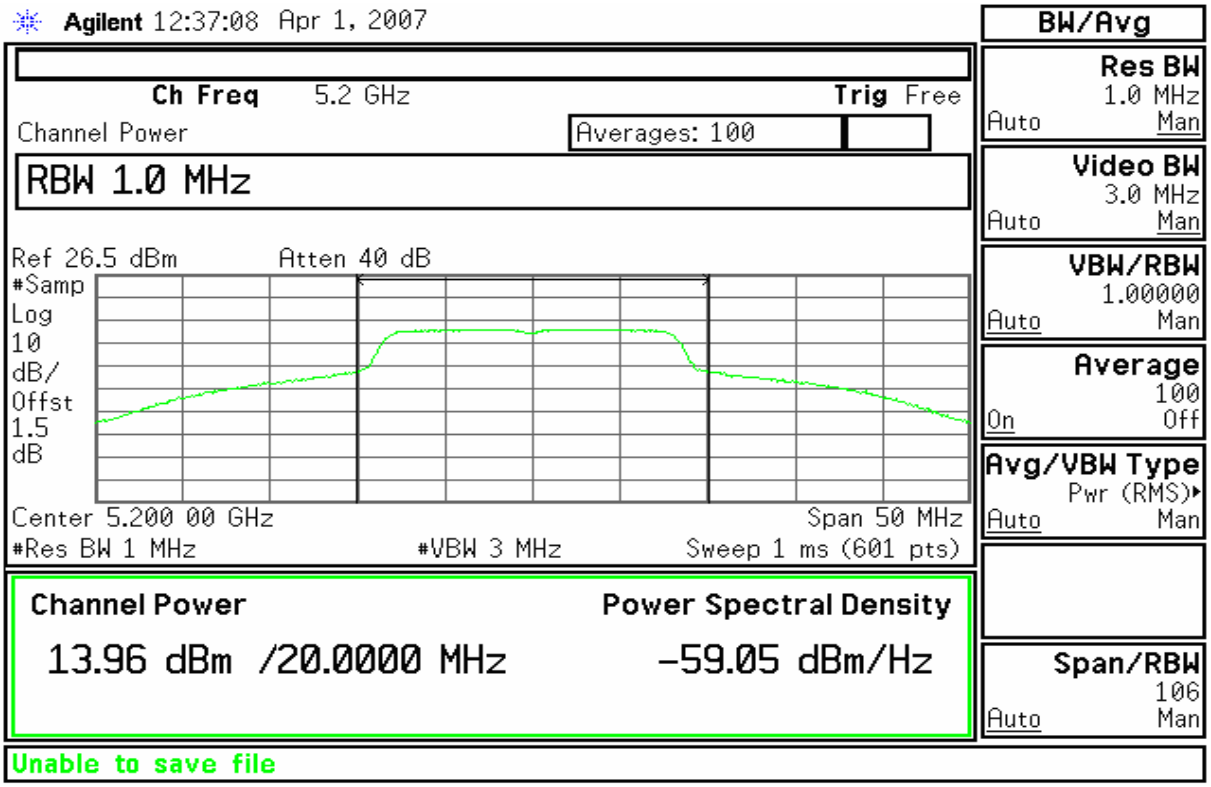
Test Data Plots

5150 - 5250MHz Band

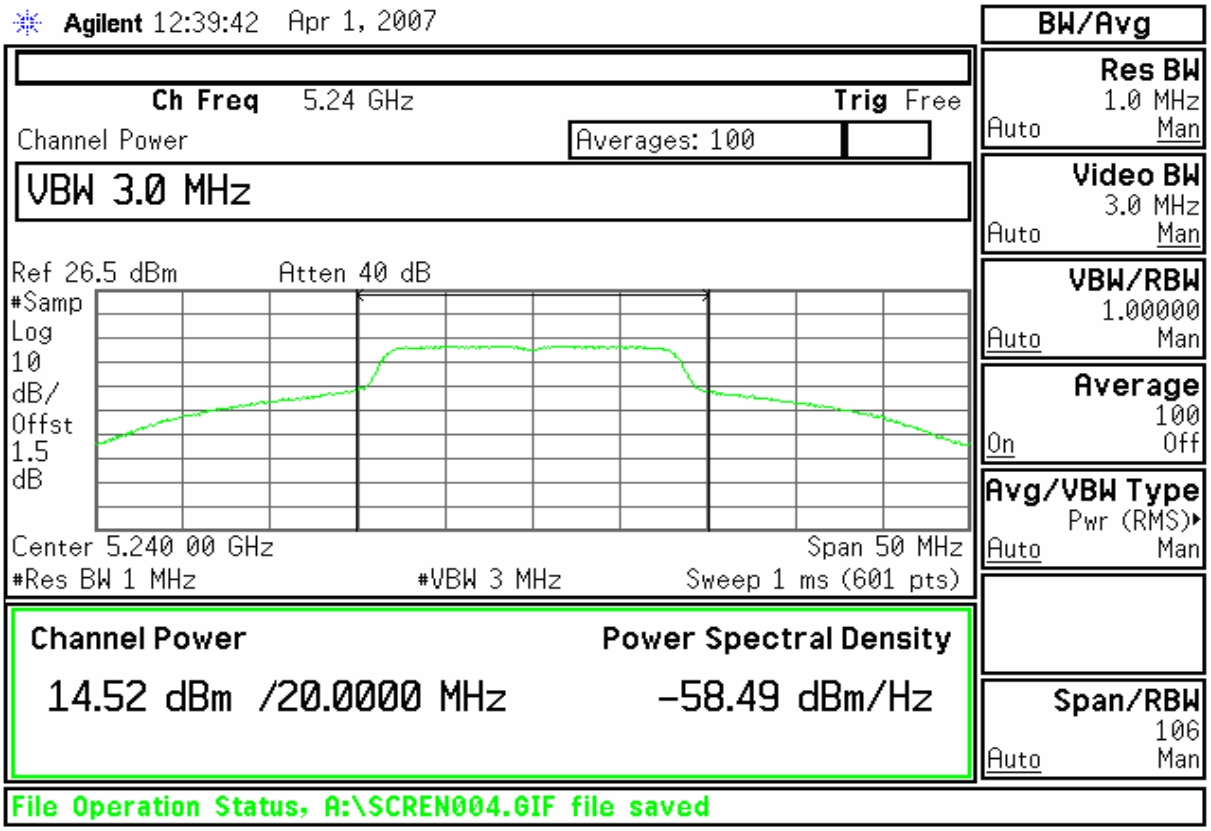
CH Low



CH Mid



CH High


Agilent 12:39:42 Apr 1, 2007
Ch Freq 5.24 GHz
Trig Free
Channel Power
Averages: 100
VBW 3.0 MHz
Ref 26.5 dBm
Atten 40 dB
#Samp
Log
10
dB/
Offst
1.5
dB
Center 5.240 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Channel Power
14.52 dBm /20.0000 MHz
Power Spectral Density
-58.49 dBm/Hz
File Operation Status, A:\SCREN004.GIF file saved
BW/Avg
Res BW
1.0 MHz
Auto Man
Video BW
3.0 MHz
Auto Man
VBW/RBW
1.00000
Auto Man
Average
100
On Off
Avg/VBW Type
Pwr (RMS)
Auto Man
Span/RBW
106
Auto Man

RADIATED UNDESIRABLE EMISSION (15.407)

LIMIT

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27dBm / MHz (68.2dBuV/m). But Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

The provisions of §15.205 apply to intentional radiators operating under this section. The EUT is set to transmit in a continuous mode.

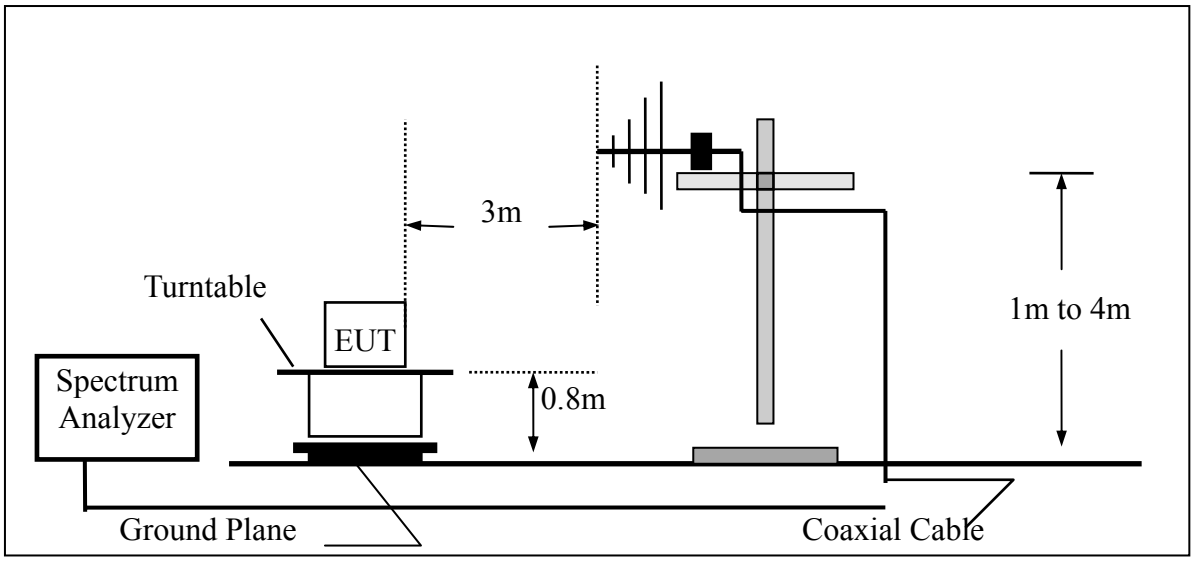
MEASUREMENT EQUIPMENT USED

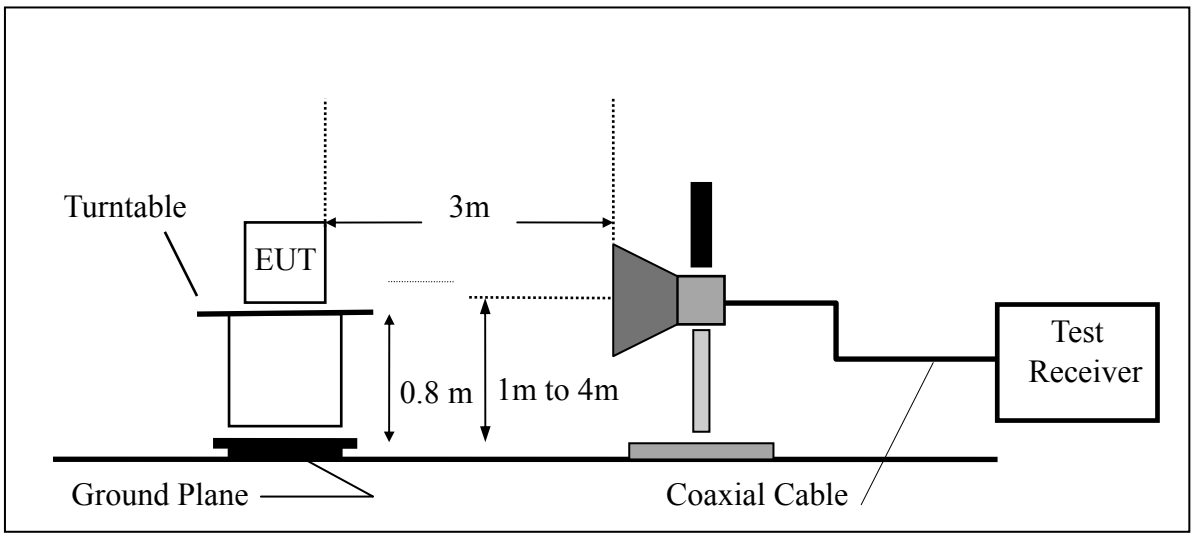
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2008
Pre-Amplfier	Miteq	NSP4000-NF	870731	01/21/2008
Horn Antenna	Austriah	BBHA9120D	D267	09/20/2007
Turn Table	CT	CT123	4162	N.C.R
Antenna Tower	CT	CTERG23	3253	N.C.R
Controller	CT	CT1OO	95635	N.C.R
Coax Switch	Anitsu	MP 598	M 80094	N/A
Site NSA	CCS Lab.	N/A	N/A	12/11/2007

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

Test Configuration

Radiated Emission Test Setup (for frequency below 1000MHz)





Radiated Emission Test Setup (for frequency over 1 GHz)

TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable is rotated for 360 degrees to determine the orientation for generating the maximum emission level.
3. The 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 is performed on the six highest emissions to ensure EUT compliance.
5. Then, each emission is to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

6. Repeat the above procedure until all channels are recorded.

Note: *The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 100kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.*

Factor Calculation

The Factor is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

F = AF + CL - AG

Where F = Factor
E = Field Strength in Volts / meter
AF = Antenna factor
CL = Cable attenuation factor (cable loss)
AG = Amplifier gain

EIRP Calculation

Given $E = \frac{\sqrt{(30 \times P \times G}}{d}$

Where E = Field strength (Volts/Meter)
P = Power (Watts)
G = Numeric antenna gain
d = Distance (Meter)

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields

$$P \times G = \frac{(d \times E)^2}{30}$$

Re-arranging the terms yields

P (mW) = P (W) / 1000 and
*d (cm) =100 * d (m)*

Converting to the logarithmic form and changing to units of mW and μV/m, using

P (mW) = P (W) / 1000 and E (uV/m) = E (V/m) / 1000000

Yields

$$10\log(P \times G) = 10\log d^2 + 10\log E^2 - 10\log 30 - 10\log 10^9 = 20\log d + 20\log E - 104.77$$

*Where 10 log (P * G) is PG in dBm and 20 log (E) is E in dBuV/m*

Since

*EIRP = P * G*

Then, at a specification distance of 3 meters, the EIRP, in terms of field strength, is

*EIRP (dBm) = P * G (dBm) = E (dBuV/m) – 95.2*

Band-edge Radiated Emissions

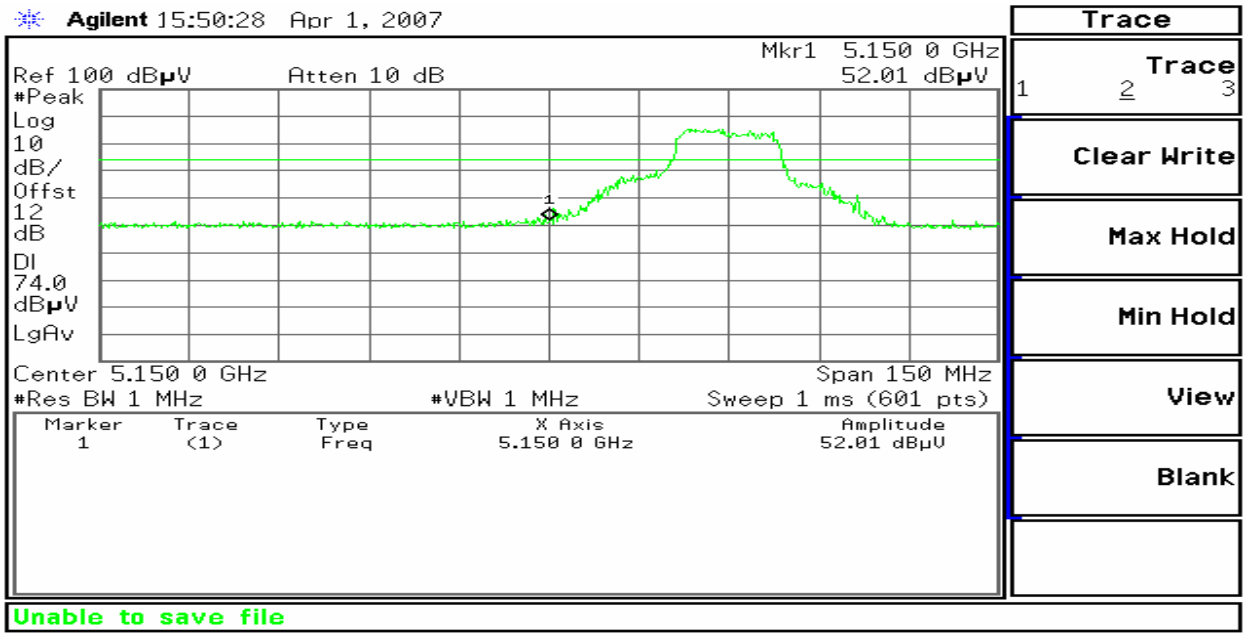
TEST RESULTS

No non-compliance noted

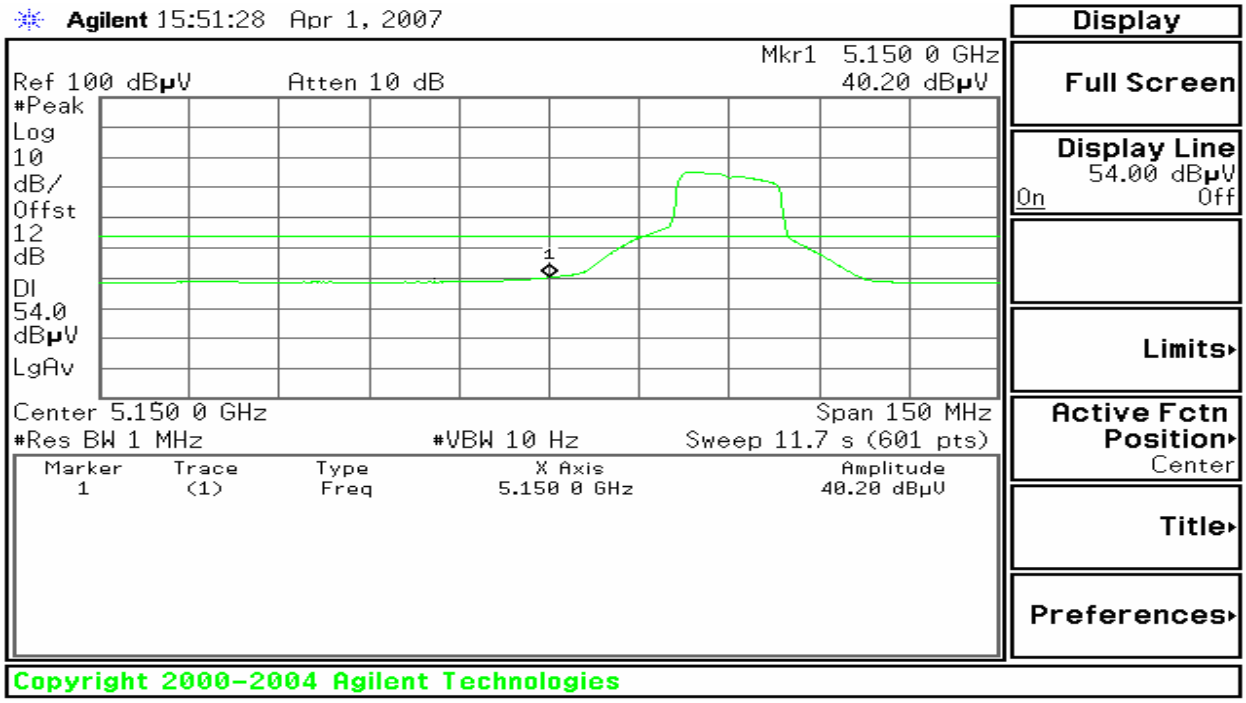
Tested by: Ruth

Band Edges (802.11a/ CH 5180MHz)

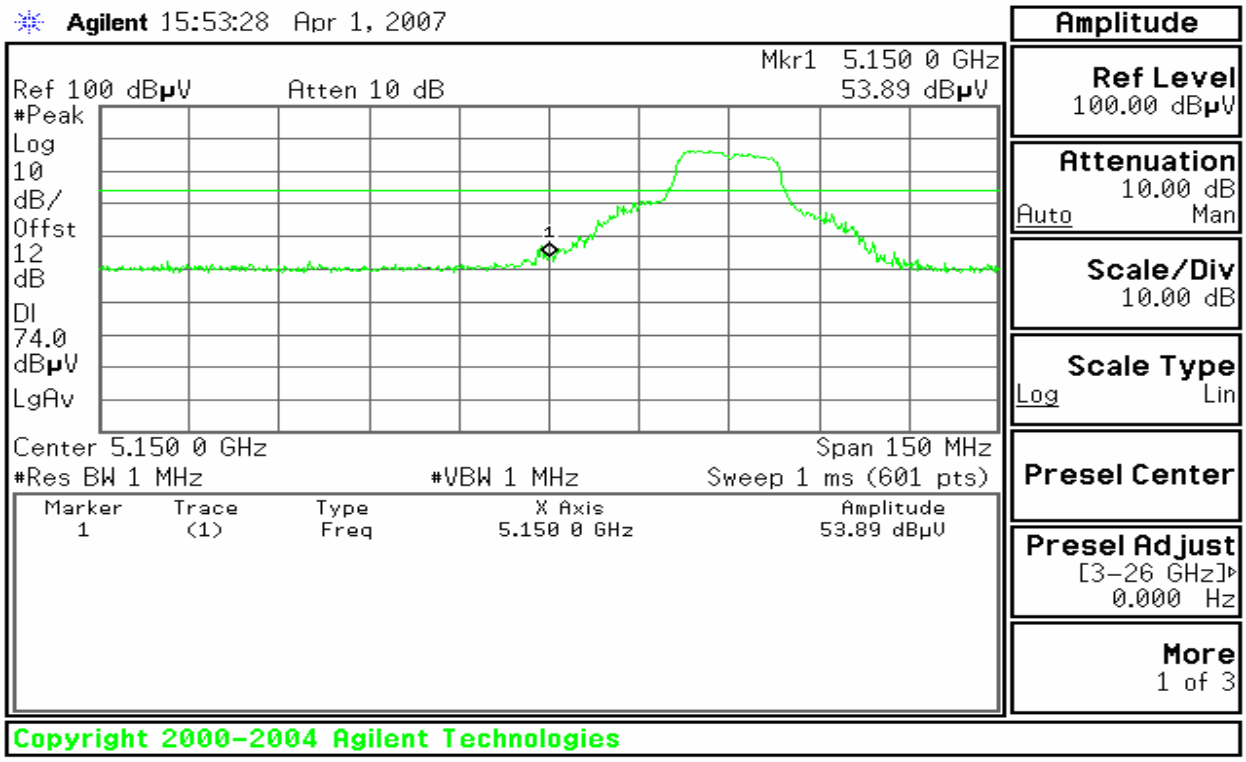
Detector mode: Peak **Polarity: Vertical**



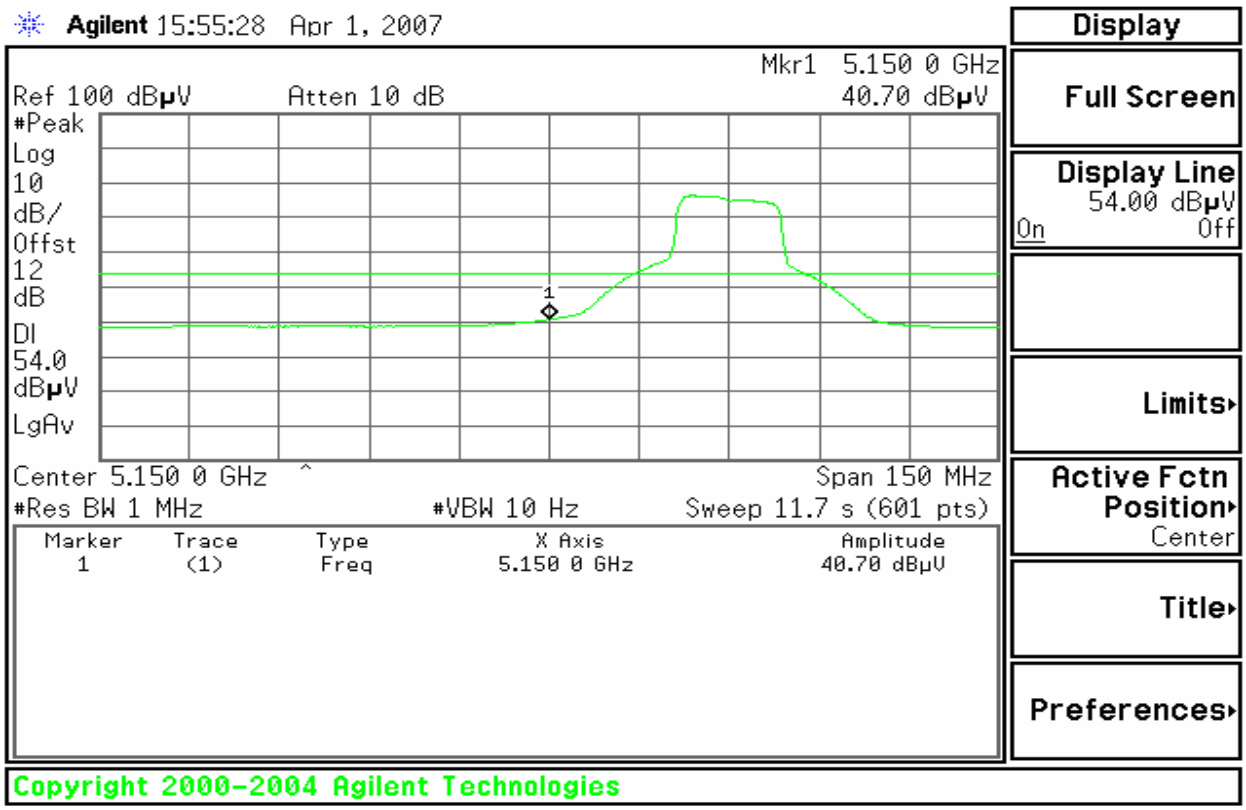
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**

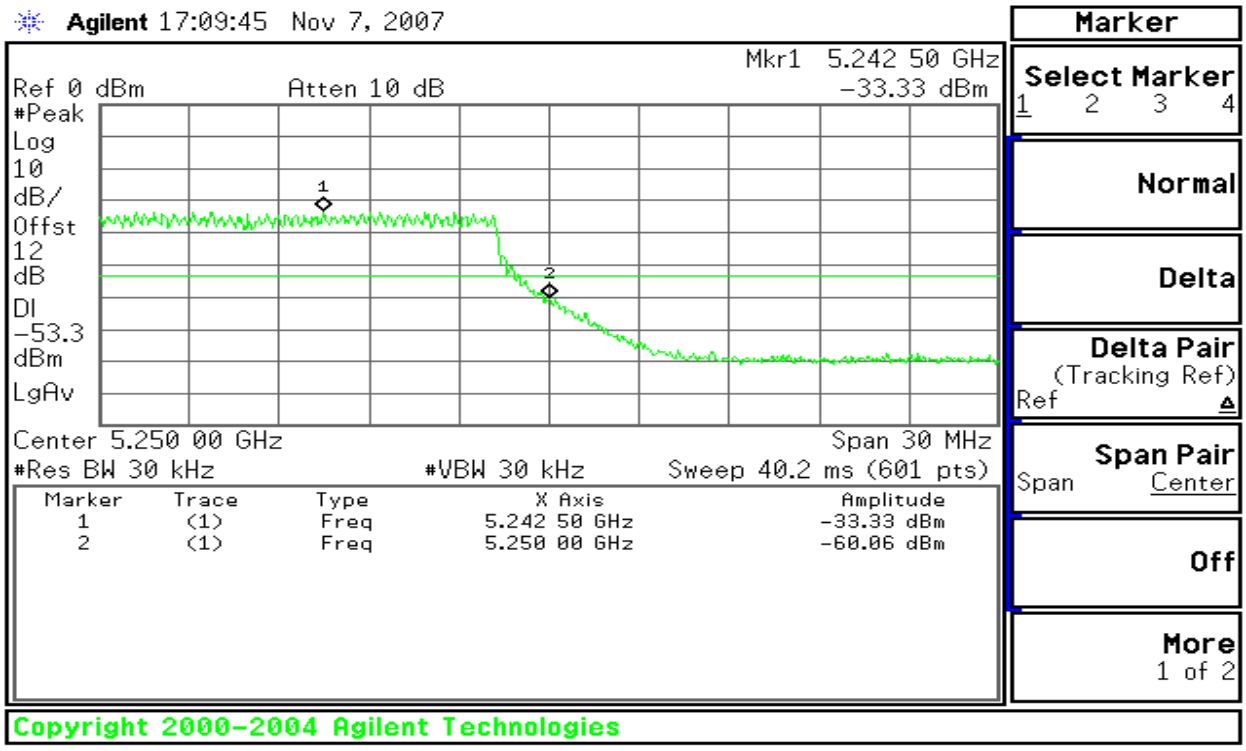


Detector mode: Average **Polarity: Horizontal**

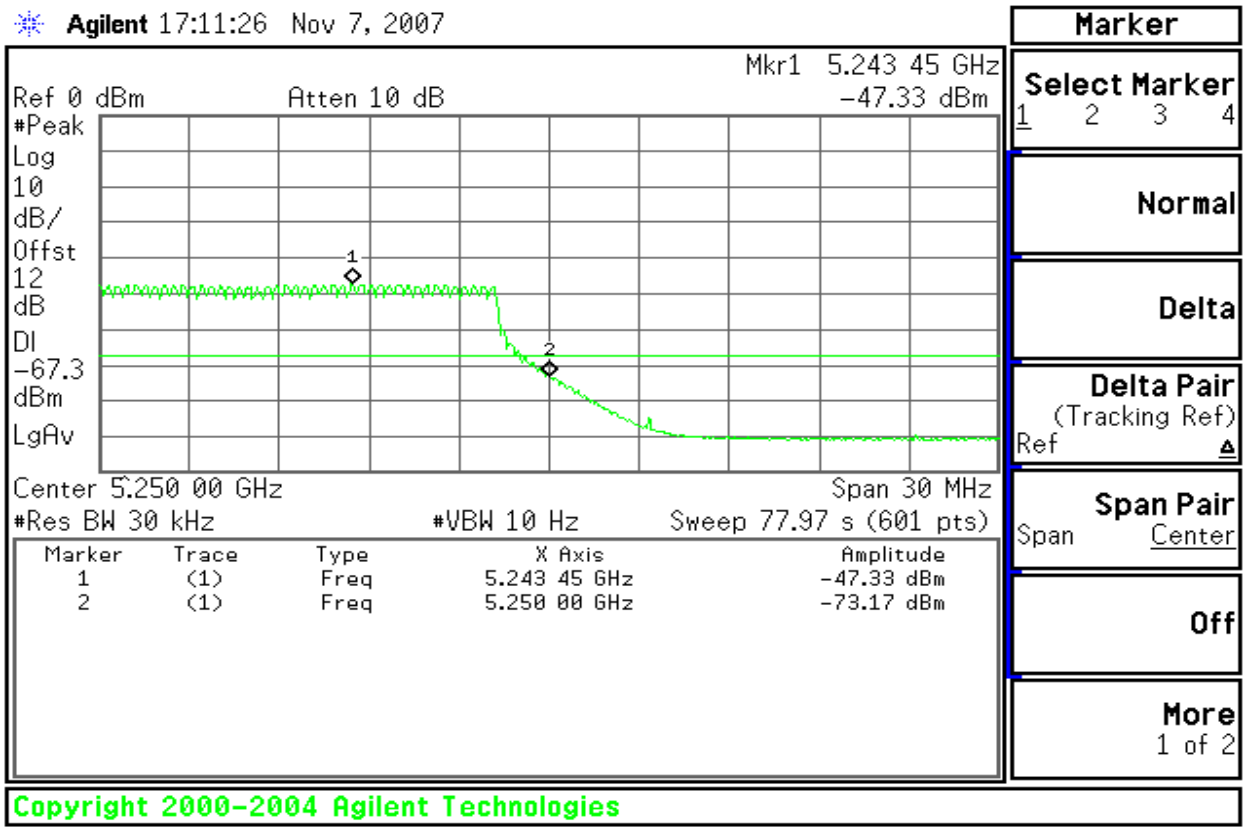


Band Edges (802.11a/ CH 5240MHz)

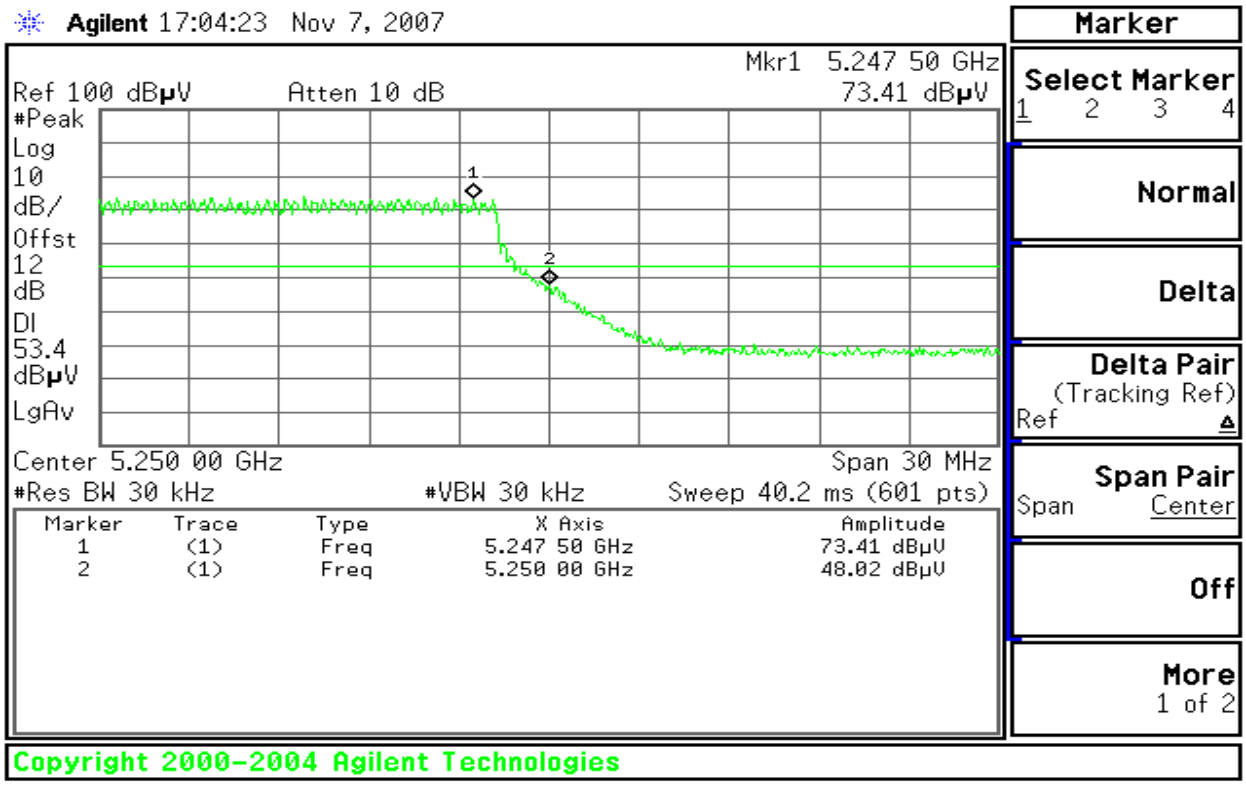
Detector mode: Peak **Polarity: Vertical**



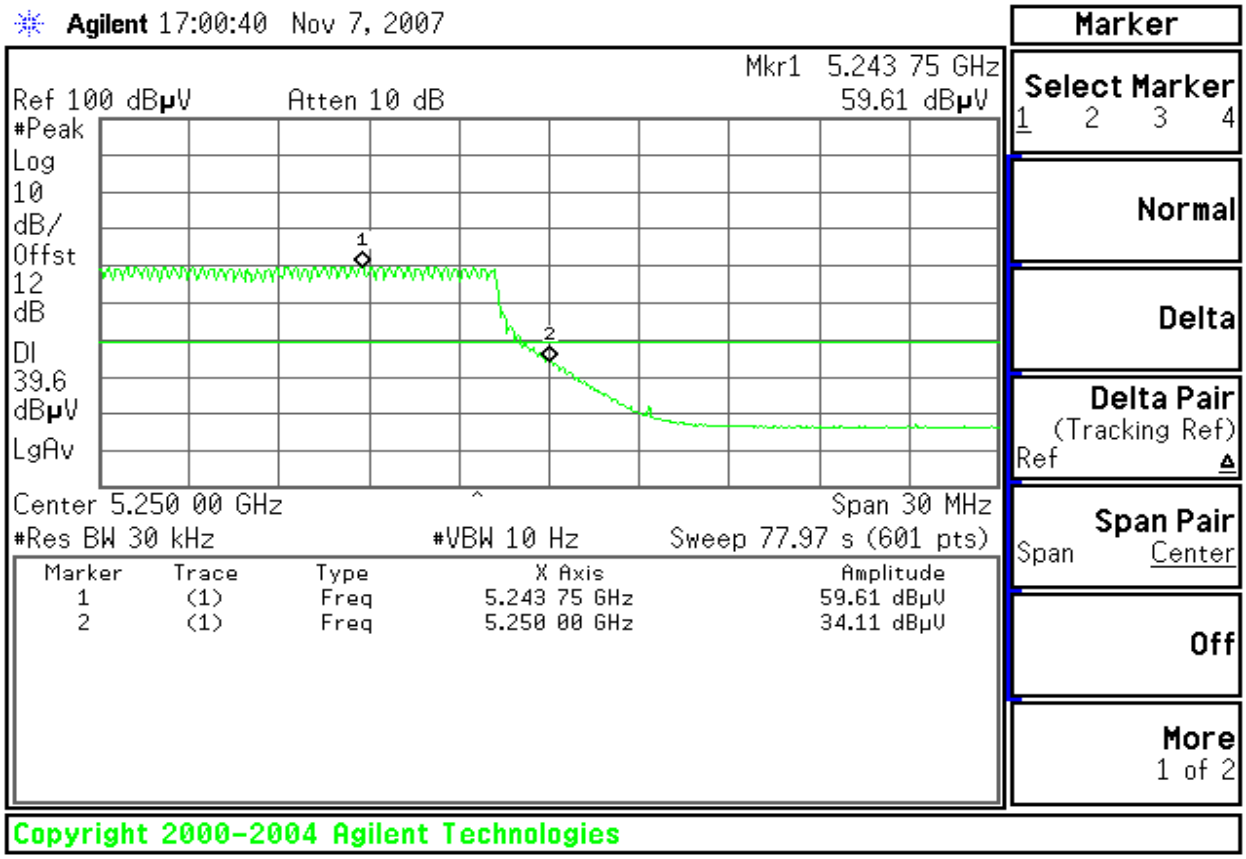
Detector mode: Average **Polarity: Vertical**



Detector mode: Peak **Polarity: Horizontal**



Detector mode: Average **Polarity: Horizontal**



Harmonic and Spurious Radiated Emission

Below 1 GHz

Operation Mode: Normal Link **Test Date:** March 28, 2007

Temperature: 20°C **Tested by:** ruth

Humidity: 60 % 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)
76.5331	V	QP	51.82	-14.41	37.41	40	-2.59
225.872	V	QP	51.73	-10.06	41.67	46	-4.33
401.002	V	QP	45.67	-4.58	41.09	46	-4.91
424.85	V	QP	44.12	-4.02	40.1	46.0	-5.9
737.67	V	QP	37.4	1.52	38.92	46.0	-7.08
922.846	V	QP	39.73	3.93	43.66	46.0	-2.34
175.5511	H	QP	46.79	-10.48	36.31	43.5	-7.19
325.2505	H	QP	49.49	-7.07	42.42	46	-3.58
401.002	H	QP	49.21	-4.58	44.63	46	-1.37
424.8497	H	QP	46.72	-4.02	42.7	46	-3.3
830.2605	H	QP	40.12	2.89	43.01	46.0	-2.99
919.982	H	QP	38.52	3.9	42.42	46.0	-3.58

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.*

5.EIRP Limit=-27dBm=68.2dBuV/m

Above 1 GHz

Operation Mode:	TX / IEEE 802.11a(5150~5250MHz) / CH Low	**Test Date:**	April 8, 2007
Temperature:	20°C	**Tested by:**	ruth
Humidity:	70 % 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
1812.23	V	46.87	*45.26*	1.39	48.26	*46.65*	88.20	68.20	-21.55	average
10365.06	V	37	*34.96*	15.06	52.06	*50.02*	88.20	68.20	-18.18	average
15539.26	V	30.88	*28.86*	20.03	50.91	*48.89*	74.00	54.00	-5.11	average
N/A										
N/A										
N/A										
1820.23	H	48.26	*43.34*	1.39	49.65	*44.73*	88.20	68.20	-23.47	average
10366.23	H	37.95	*36*	15.06	53.01	*51.06*	88.20	68.20	-17.14	average
15540.26	H	31.03	*29.95*	20.03	51.06	*49.98*	74.00	54.00	-4.02	average
N/A										
N/A										
N/A										

REMARKS:

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 802.11a(5150~5250MHz) / CH Middle	**Test Date:**	April 8, 2007
Temperature:	20°C	**Tested by:**	ruth
Humidity:	70 % 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
1906.32	V	46.67	44.94	1.32	47.99	46.26	88.20	68.20	-21.94	average
10396.26	V	36.03	34.65	15.03	51.06	49.68	88.20	68.20	-18.52	average
15601.92	V	28.24	26.93	20.05	48.29	46.98	74.00	54.00	-7.02	average
N/A										
N/A										
N/A										
1910.03	H	47.27	43.34	1.32	48.59	47.06	88.20	68.20	-21.14	average
10400.03	H	36.03	34.12	15.03	51.06	49.15	88.20	68.20	-19.05	average
15602.30	H	29.22	27.25	20.04	49.26	47.29	74.00	54.00	-6.71	average
N/A										
N/A										
N/A										

REMARKS:

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 802.11a(5150~5250MHz)/ CH High	**Test Date:**	April 8, 2007
Temperature:	20°C	**Tested by:**	ruth
Humidity:	70 % 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
1829.32	V	48.34	46.74	1.31	49.65	48.05	88.20	68.20	-20.15	average
10479.65	V	39.05	35.26	15	54.05	50.26	88.20	68.20	-17.94	average
15719.26	V	32.23	29.98	20.03	52.26	50.01	74.00	54.00	-3.99	average
N/A										
N/A										
N/A										
1902.32	H	48.69	45.97	1.32	50.01	47.29	88.20	68.20	-20.91	average
10480.03	H	38.98	36.06	15	53.98	51.06	88.20	68.20	-17.14	average
15720.23	H	31.26	29.29	20.03	51.29	49.32	74.00	54.00	-4.68	average
N/A										
N/A										
N/A										

REMARKS:

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).*

PEAK POWER SPECTRAL DENSITY (15.407)

LIMIT

- For the band 5.15-5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50mW or 4dBm + 10logB, where B is the 26dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4dBm in any 1MHz band.
- For the band 5.25-5.35 GHz and 5.47-5.725GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250mW or 11dBm + 10logB, where B is the 26dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11dBm in any 1MHz band.

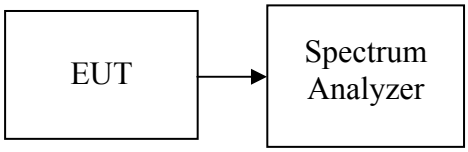
If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2008
Low-Loss RF Cable	Huber + Suhner	Sucoflex 104	N/A	N/A

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

Test Configuration



TEST PROCEDURE

The test is performed in accordance with <FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices> – Part 15, Subpart E, August 2002, Method 2.

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 Spectrum.
3. Set RBW = 1MHz, VBW = 3MHz, Span = 30MHz, Sweep time = Auto.
4. Record the maximum reading.
5. The above procedure is repeated until all the channels are recorded.

TEST RESULTS

No non-compliance noted

Tested by: Ruth

Base mode

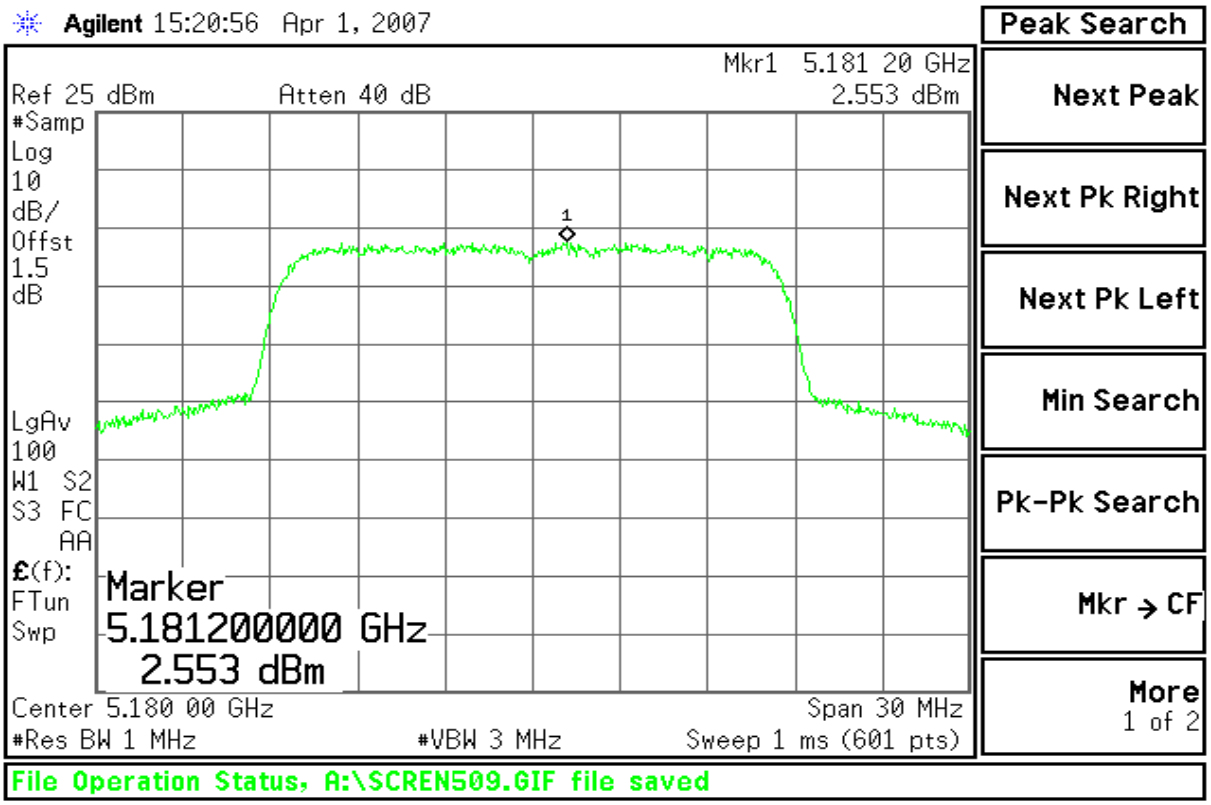
5150~5250MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	5180	2.55	4.00	-1.44
Middle	5200	1.42	4.00	-2.58
High	5240	2.35	4.00	-1.65

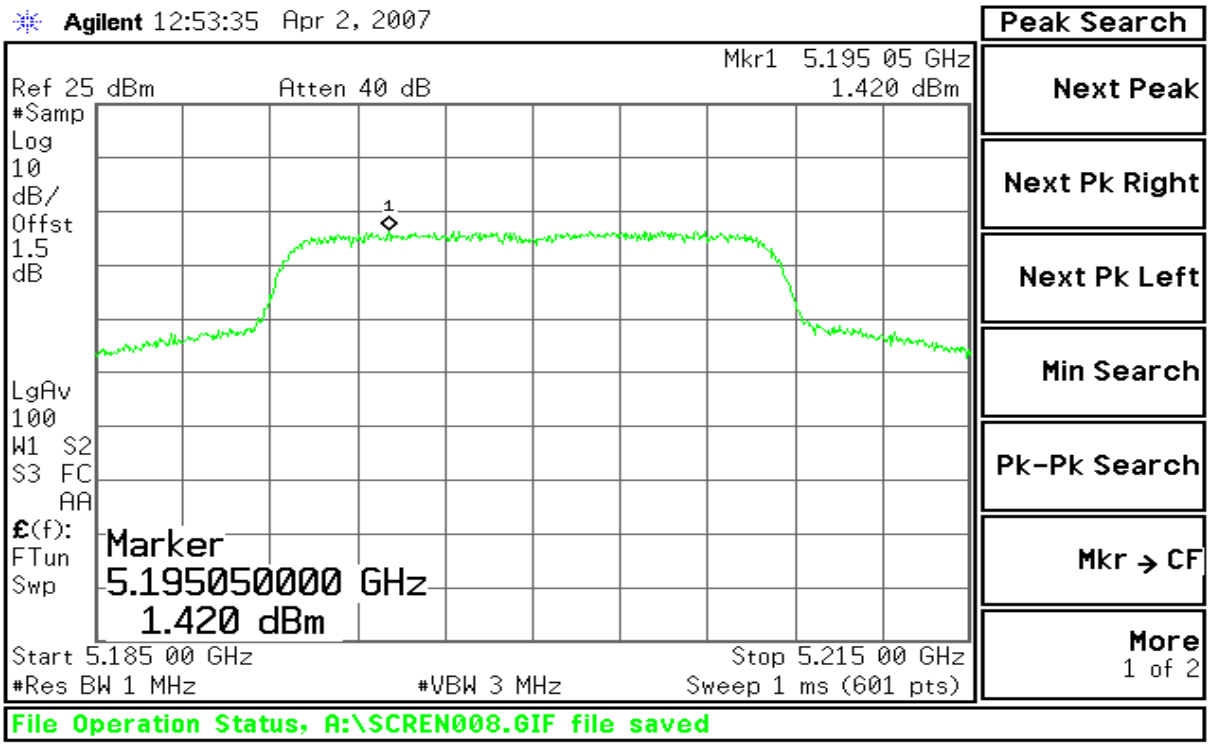
Test Data Plots

PPSD

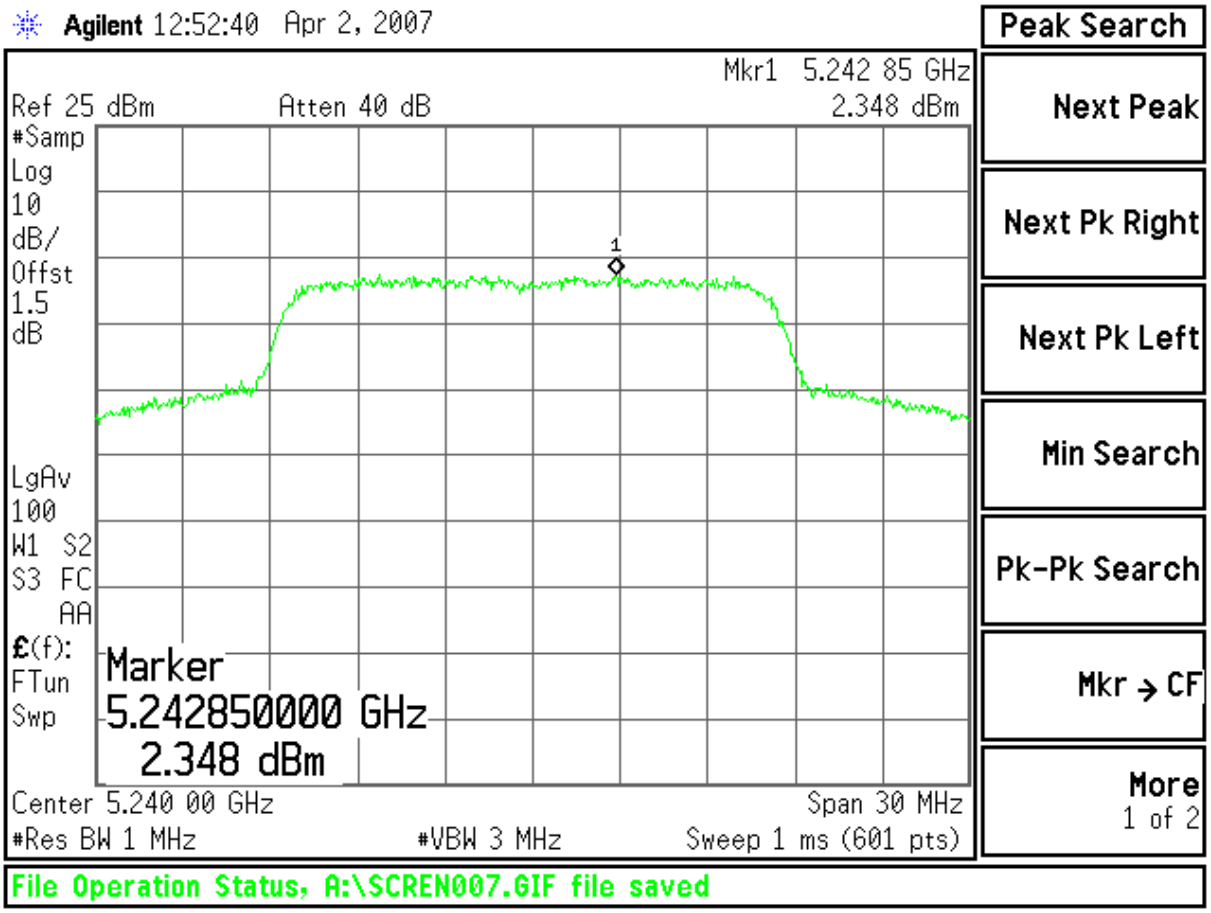
5150~5250 CH Low



CH Mid



CH High


Agilent 12:52:40 Apr 2, 2007
Mkr1 5.242 85 GHz
Ref 25 dBm
Atten 40 dB
2.348 dBm
#Samp
Log
10
dB/
Offst
1.5
dB
LgAv
100
W1 S2
S3 FC
AA
£(f):
FTun
Swp
Marker
5.242850000 GHz
2.348 dBm
Center 5.240 00 GHz
Span 30 MHz
#Res BW 1 MHz
#VBW 3 MHz
Sweep 1 ms (601 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
File Operation Status, A:\SCREN007.GIF file saved

CONDUCTED UNDESIRABLE EMISSION (15.407)

LIMIT

Transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27dBm / MHz. Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

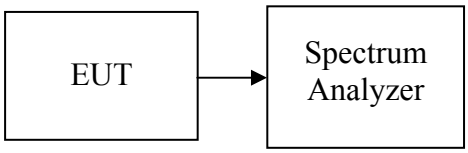
The provisions of §15.205 apply to intentional radiators operating under this section.

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2008
Low-Loss RF Cable	Huber + Suhner	Sucoflex 104	N/A	N/A

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 1 MHz. The video bandwidth is set to 1 MHz. Peak detection measurements are compared to the average EIRP limit, adjusted for the maximum antenna gain. If necessary, additional average detection measurements are made.

Measurements are made over the 30 MHz to 40 GHz range with the transmitter set to the lowest, middle, and highest channels.

TEST RESULTS

No non-compliance noted

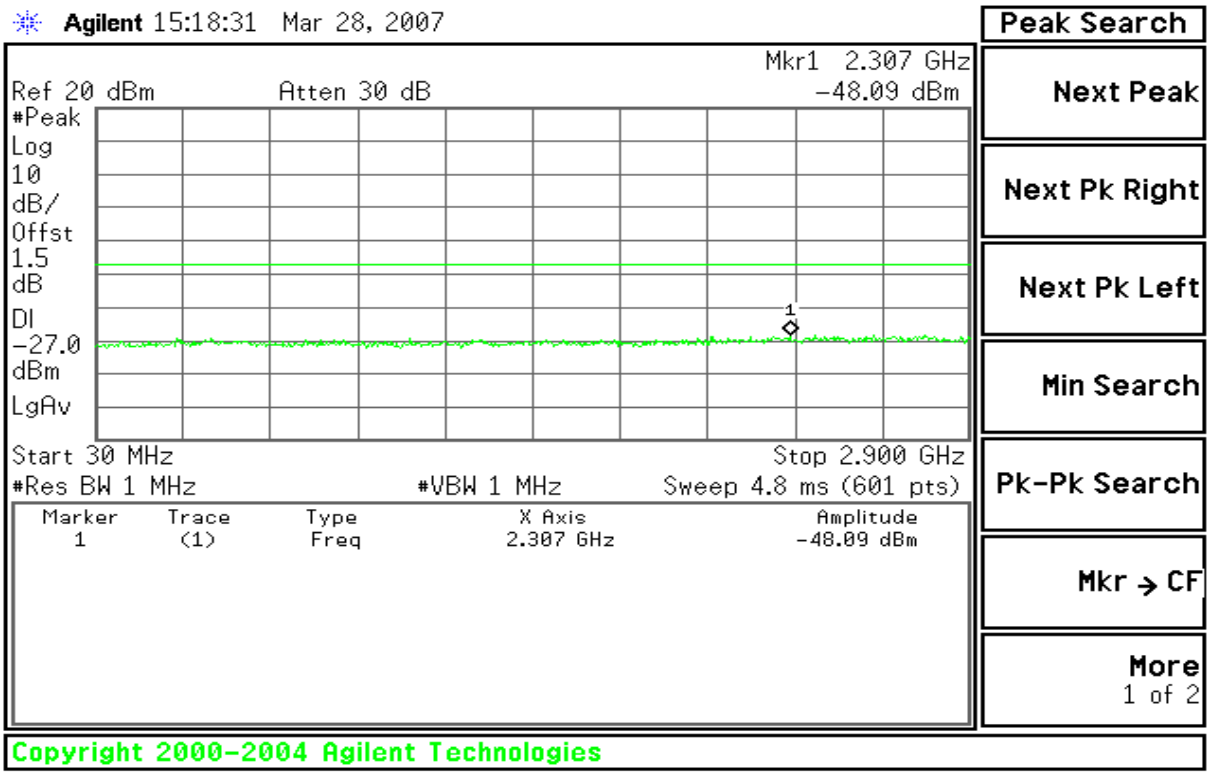
*(**Note:** Maximum antenna gain =3.5 dBi, therefore there is no reduction due to antenna gain.)*

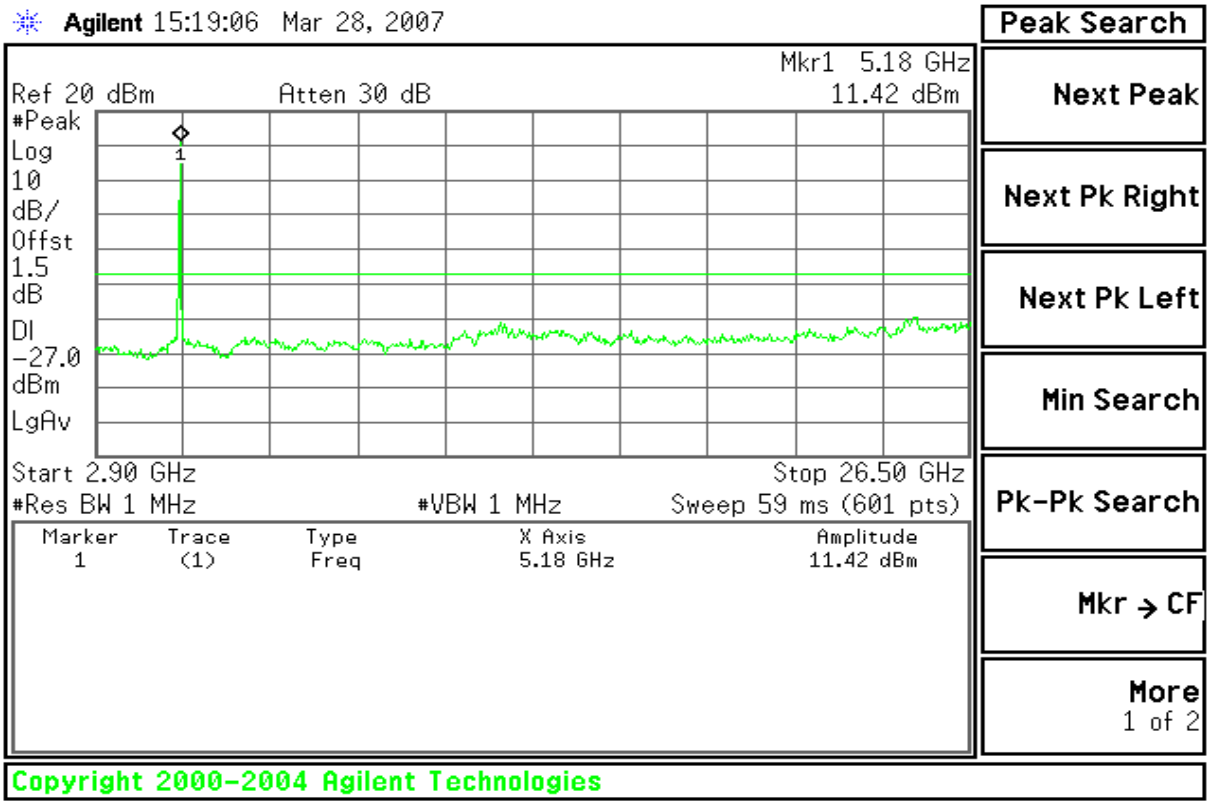
Tested by: Ruth

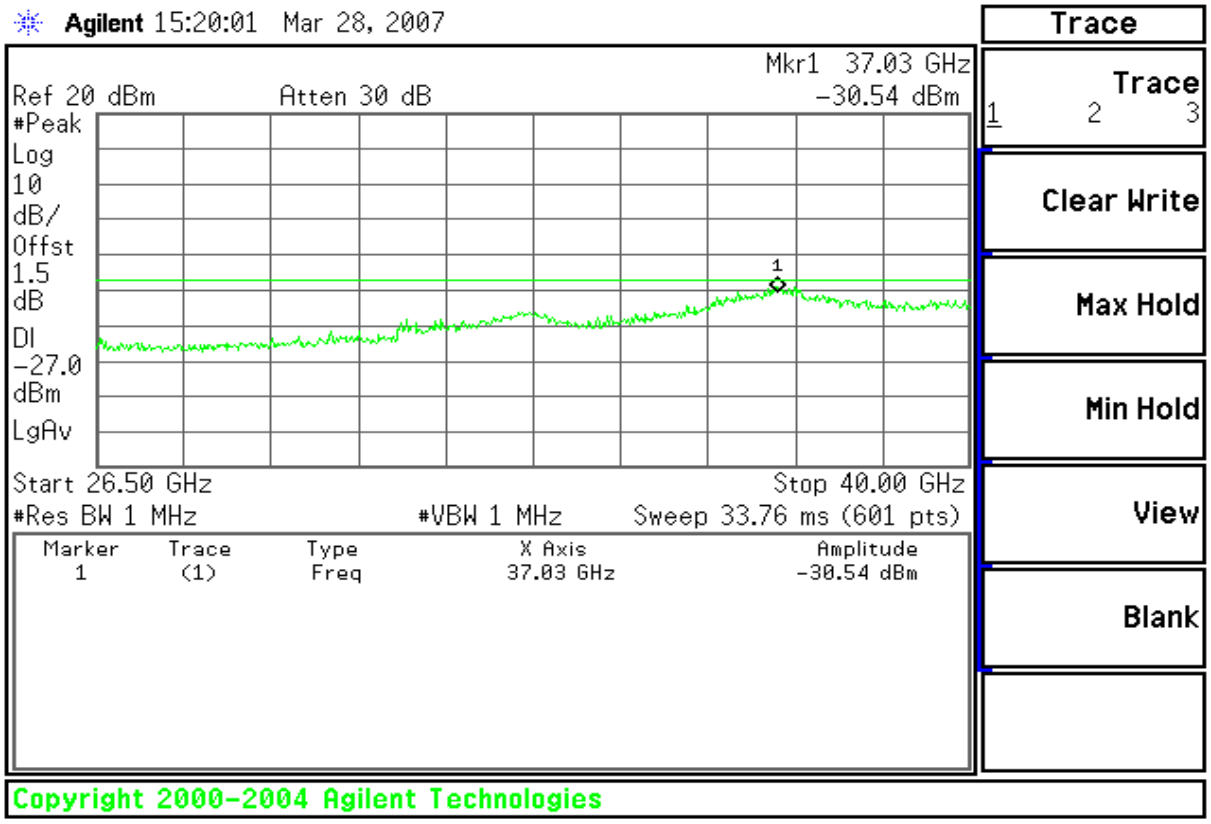
Test Data Plots

Conducted Spurious Emissions

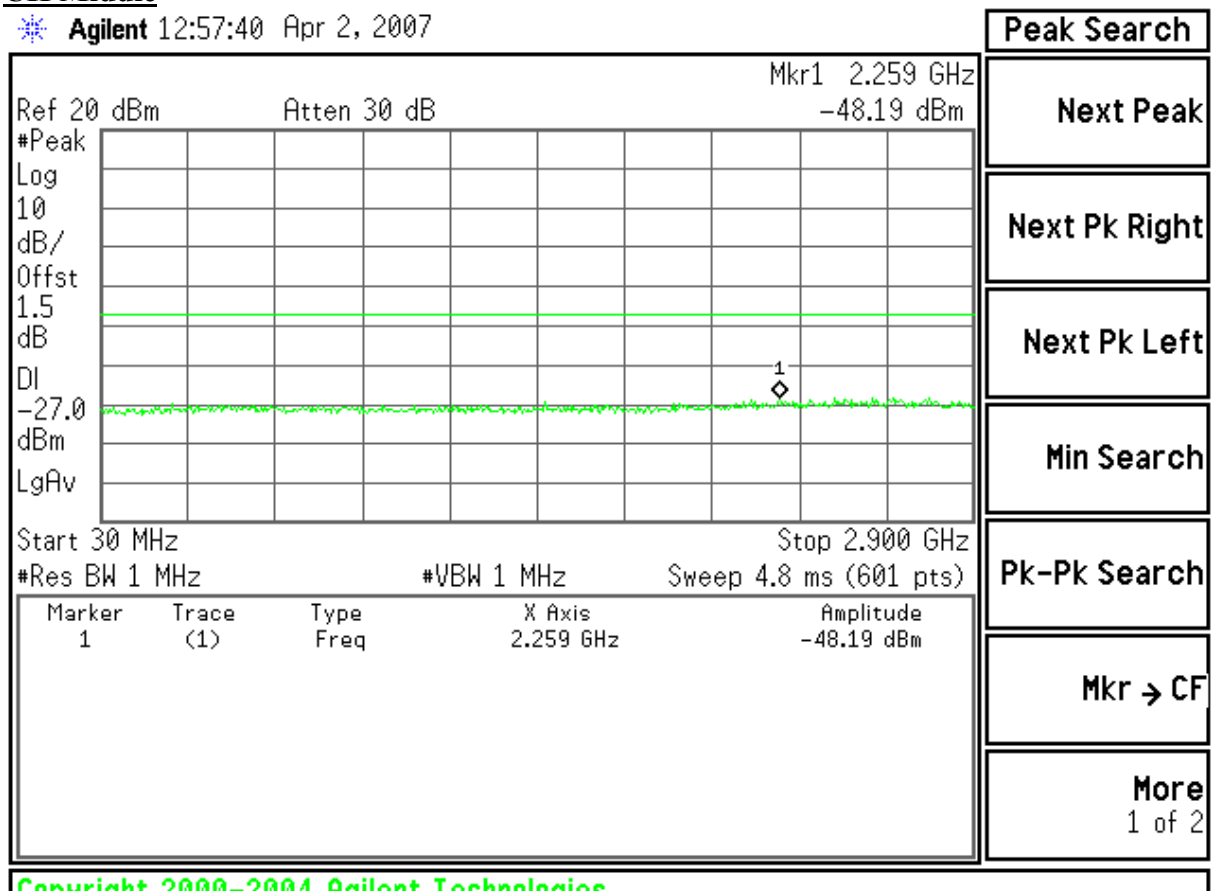
5150~5250MHz CH Low

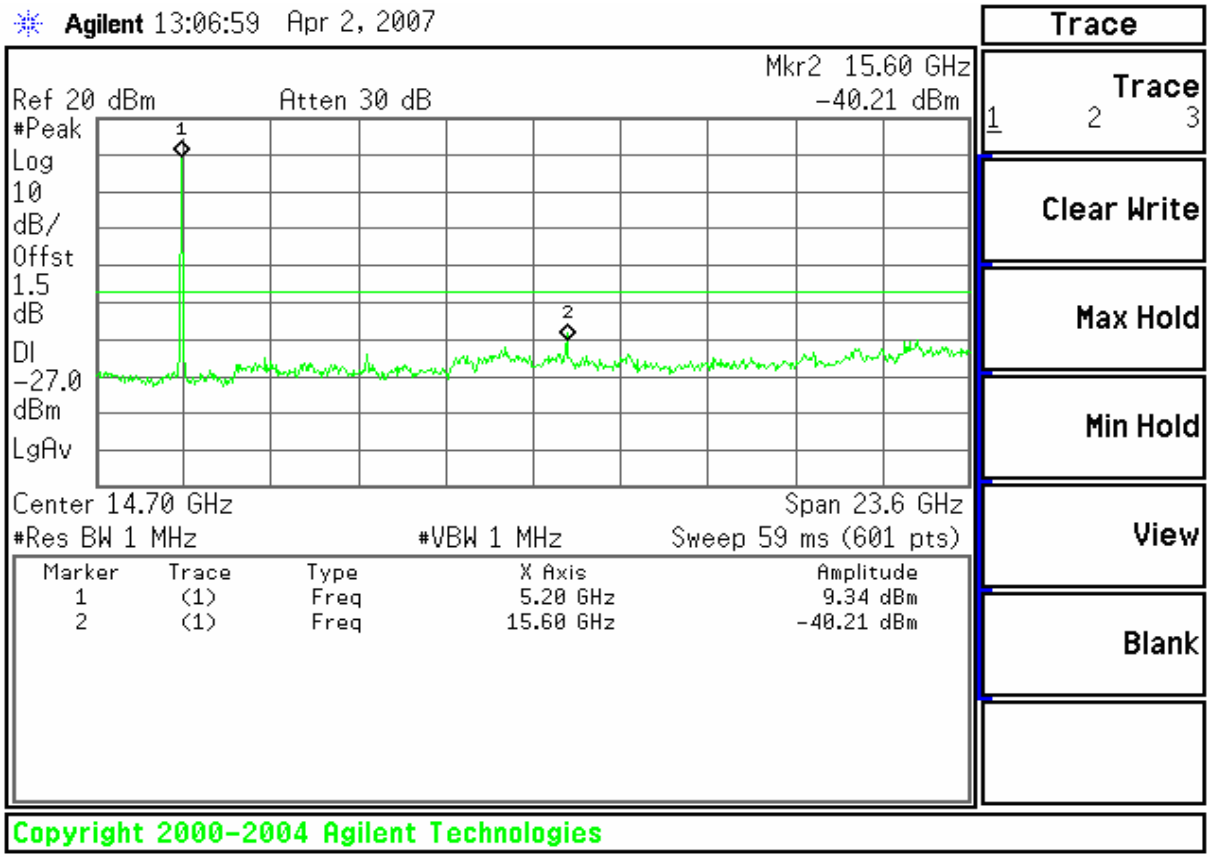


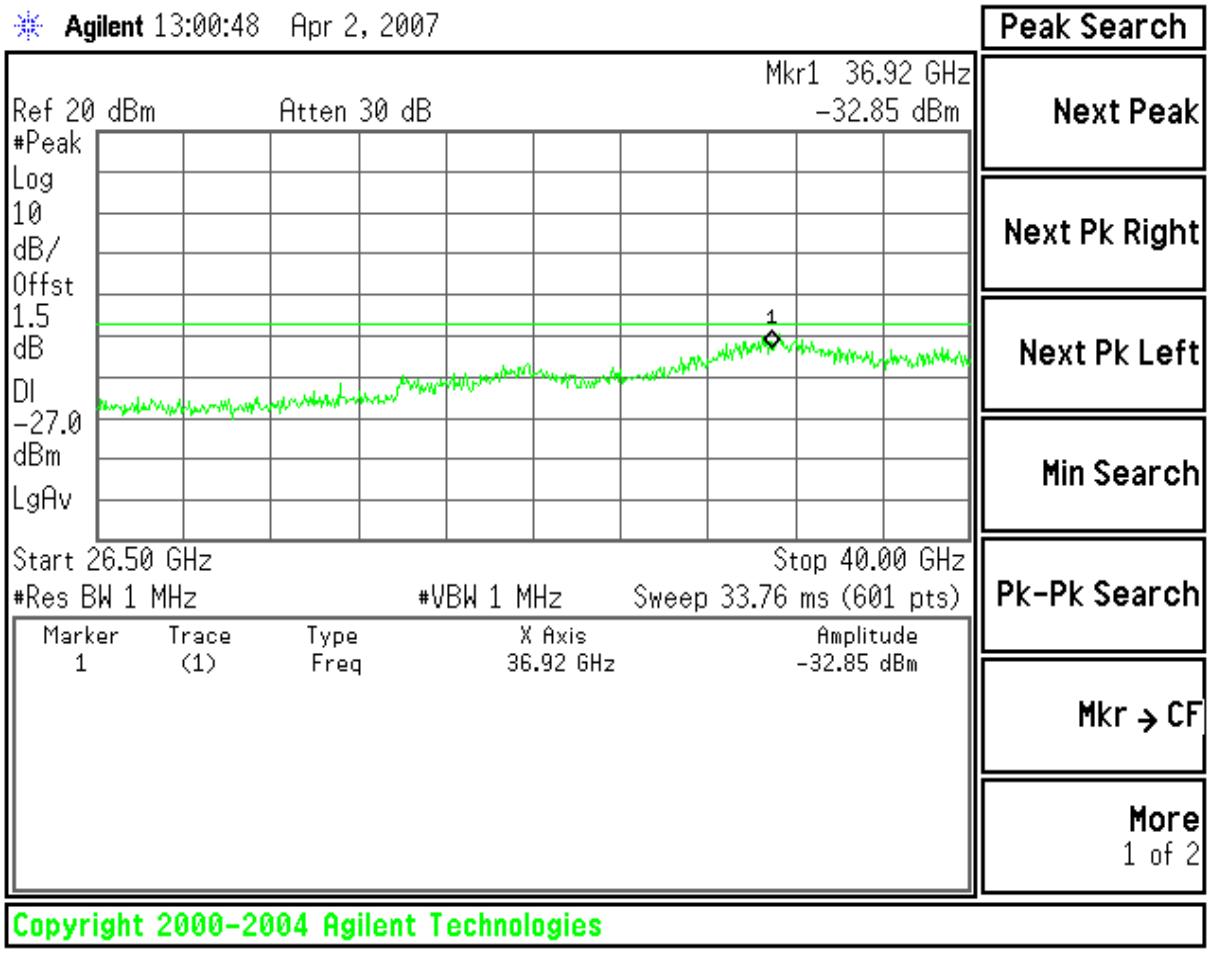



Agilent 15:20:01 Mar 28, 2007
Mkr1 37.03 GHz
Ref 20 dBm
Atten 30 dB
-30.54 dBm
#Peak
Log
10
dB/
Offst
1.5
dB
Dl
-27.0
dBm
LgAv
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 33.76 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 37.03 GHz -30.54 dBm
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
Copyright 2000-2004 Agilent Technologies

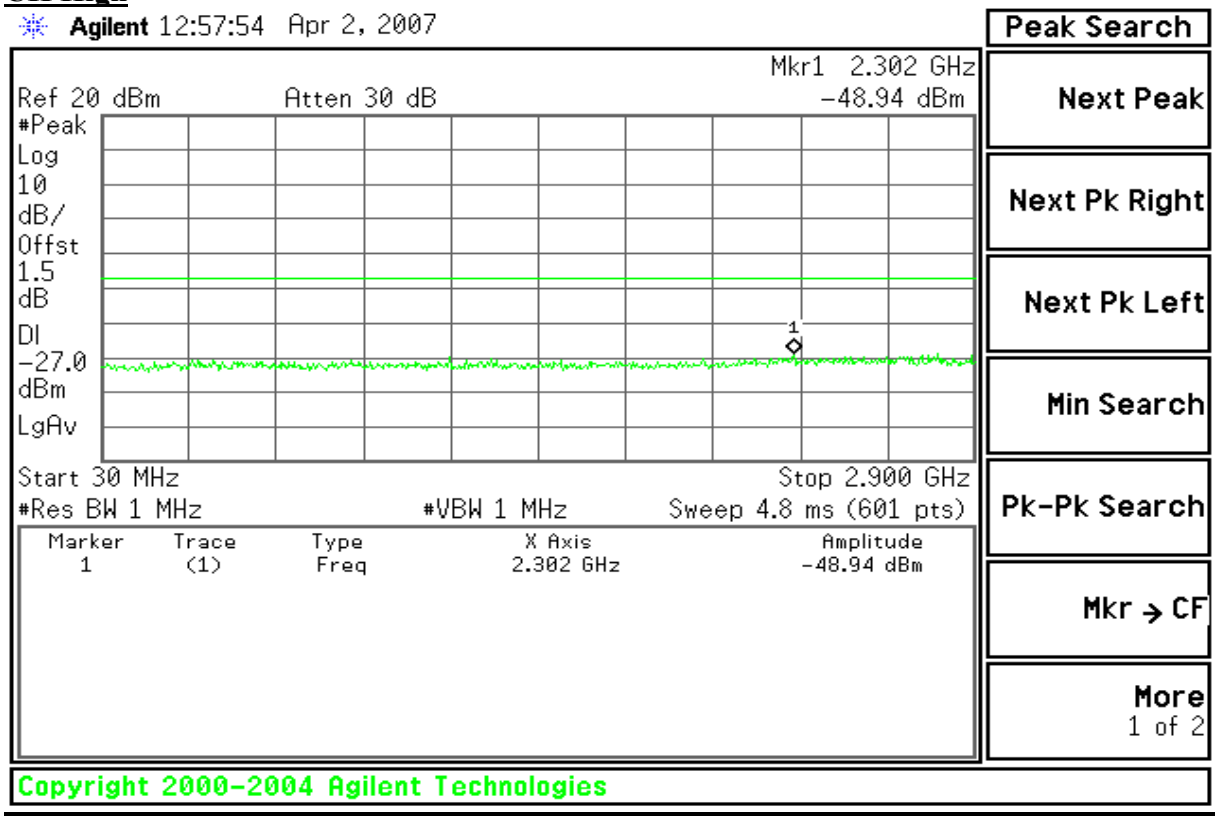
CH Middle

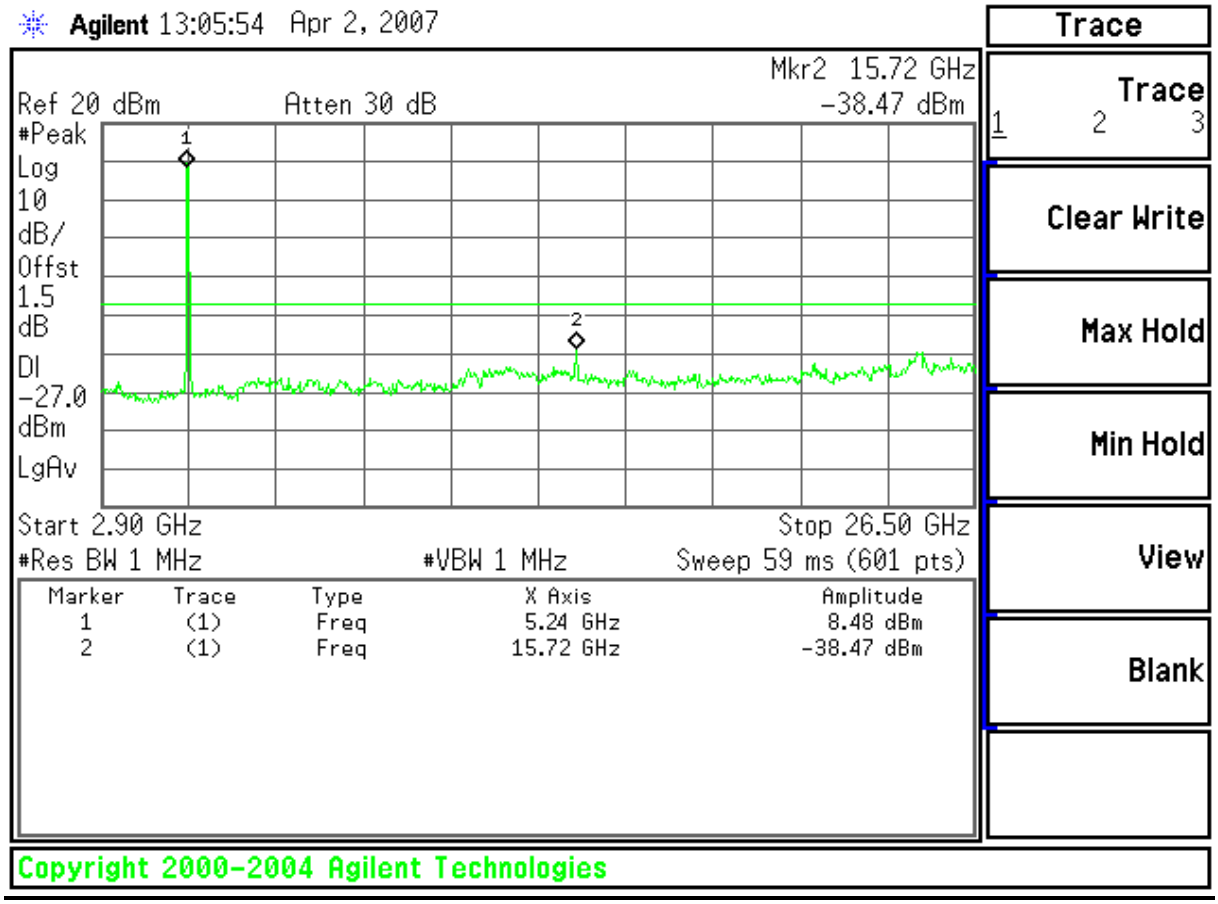

Agilent 12:57:40 Apr 2, 2007
Mkr1 2.259 GHz
Ref 20 dBm
Atten 30 dB
-48.19 dBm
#Peak
Log
10
dB/
Offst
1.5
dB
Dl
-27.0
dBm
LgAv
Start 30 MHz
Stop 2.900 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.8 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.259 GHz -48.19 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Copyright 2000-2004 Agilent Technologies

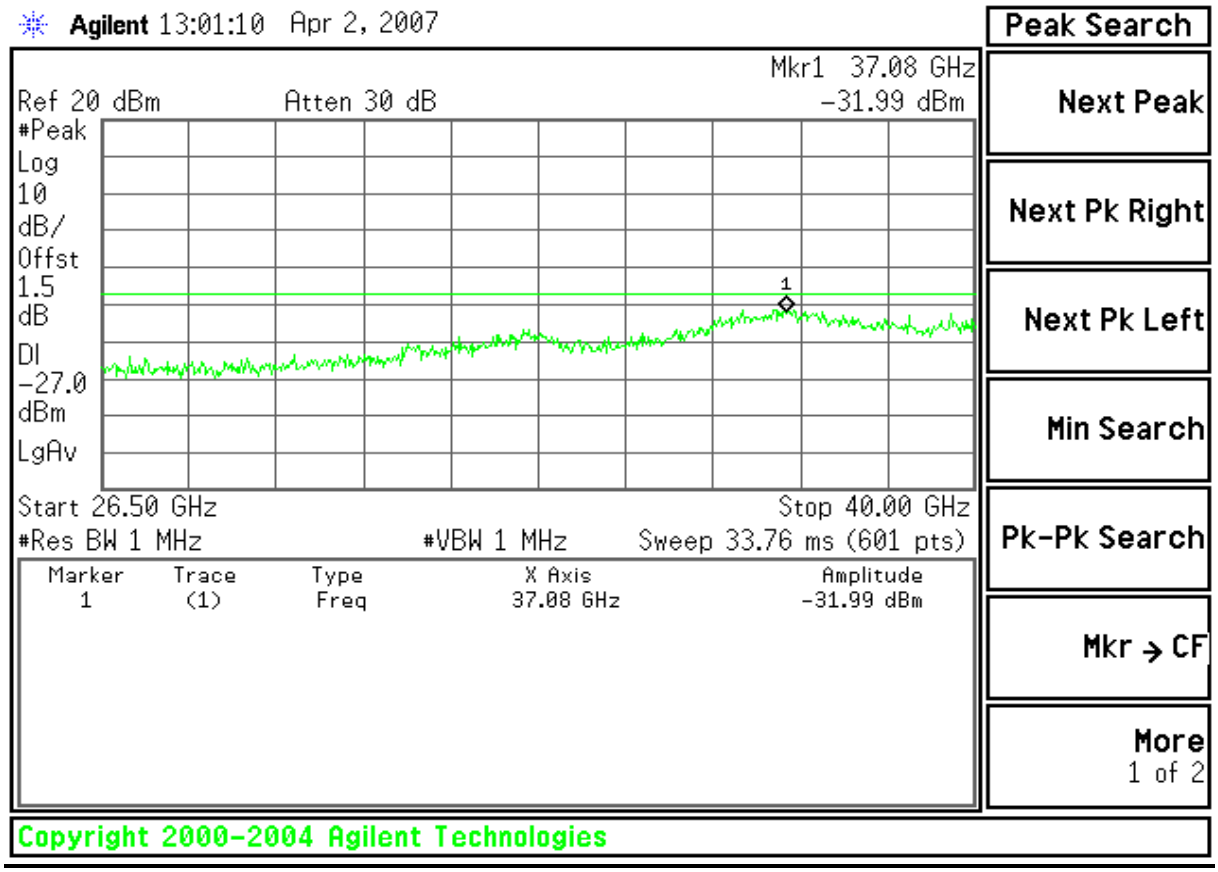

Agilent 13:06:59 Apr 2, 2007
Mkr2 15.60 GHz
Ref 20 dBm
Atten 30 dB
-40.21 dBm
#Peak
Log
10
dB/
Offst
1.5
dB
Dl
-27.0
dBm
LgAv
Center 14.70 GHz
Span 23.6 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 59 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 5.20 GHz 9.34 dBm
2 (1) Freq 15.60 GHz -40.21 dBm
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
Copyright 2000-2004 Agilent Technologies


Agilent 13:00:48 Apr 2, 2007
Mkr1 36.92 GHz
Ref 20 dBm
Atten 30 dB
-32.85 dBm
#Peak
Log
10
dB/
Offst
1.5
dB
Dl
-27.0
dBm
LgAv
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 33.76 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 36.92 GHz -32.85 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Copyright 2000-2004 Agilent Technologies

CH High


Agilent 12:57:54 Apr 2, 2007
Mkr1 2.302 GHz
Ref 20 dBm
Atten 30 dB
-48.94 dBm
#Peak
Log
10
dB/
Offst
1.5
dB
Dl
-27.0
dBm
LgAv
Start 30 MHz
Stop 2.900 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 4.8 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.302 GHz -48.94 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Copyright 2000-2004 Agilent Technologies


Agilent 13:05:54 Apr 2, 2007
Mkr2 15.72 GHz
Ref 20 dBm
Atten 30 dB
-38.47 dBm
#Peak
Log
10
dB/
Offst
1.5
dB
Dl
-27.0
dBm
LgAv
Start 2.90 GHz
Stop 26.50 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 59 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 5.24 GHz 8.48 dBm
2 (1) Freq 15.72 GHz -38.47 dBm
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
Copyright 2000-2004 Agilent Technologies


Agilent 13:01:10 Apr 2, 2007
Mkr1 37.08 GHz
Ref 20 dBm
Atten 30 dB
-31.99 dBm
#Peak
Log
10
dB/
Offst
1.5
dB
Dl
-27.0
dBm
LgAv
Start 26.50 GHz
Stop 40.00 GHz
#Res BW 1 MHz
#VBW 1 MHz
Sweep 33.76 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 37.08 GHz -31.99 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
Mkr → CF
More
1 of 2
Copyright 2000-2004 Agilent Technologies

FREQUENCY STABILITY (15.407)

LIMIT

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

Referring to the theory of operation, the crystal used to set the frequency has a temperature coefficient of +/- 20 ppm over the specified rated temperature range. For a transmitter fundamental frequency of 5.24 GHz, this corresponds to +/- 104.8 kHz.

TEST RESULTS

No non-compliance noted

Channel Frequency (MHz)	Measured Frequency (MHz)	Delta Frequency (kHz)	20 ppm Limit (± kHz)	Margin (kHz)
5240	5239.974	-26.00	104.80	-80.40

Note: *An examination of the band-edge plots shows that the emission will stay within the authorized band over the entire temperature range.*

26 DB EMISSION BANDWITH (15.407)

LIMIT

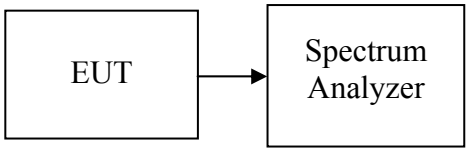
For purposes of this subpart, the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2008
Low-Loss RF Cable	Huber + Suhner	Sucoflex 104	N/A	N/A

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.Mark the peak frequency and –26dBc (upper and lower) frequency.

4.Repeat until all the rest channels were investigated.

TEST RESULTS

No non-compliance noted

Tested by: Ruth

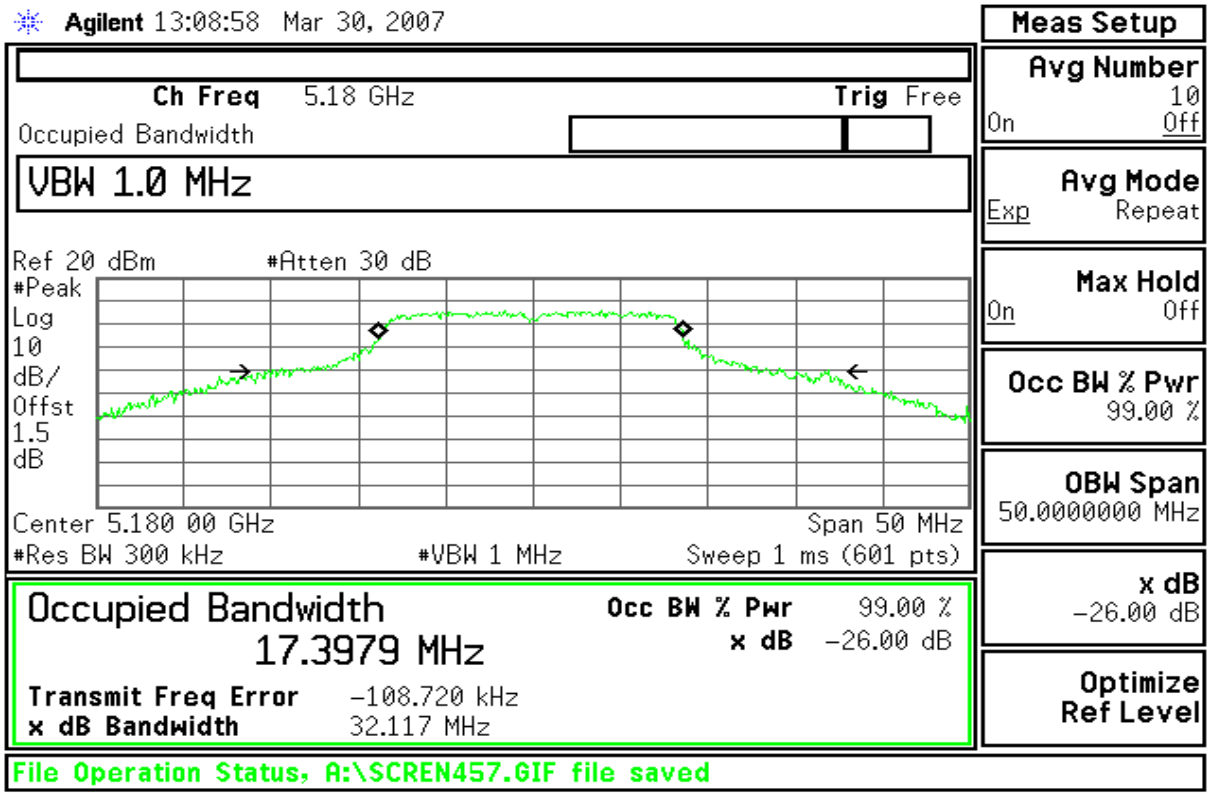
5150~5250MHz

Channel	Frequency (MHz)	Bandwidth (kHz)
Low	5180	32117
Middle	5200	35716
High	5240	35134

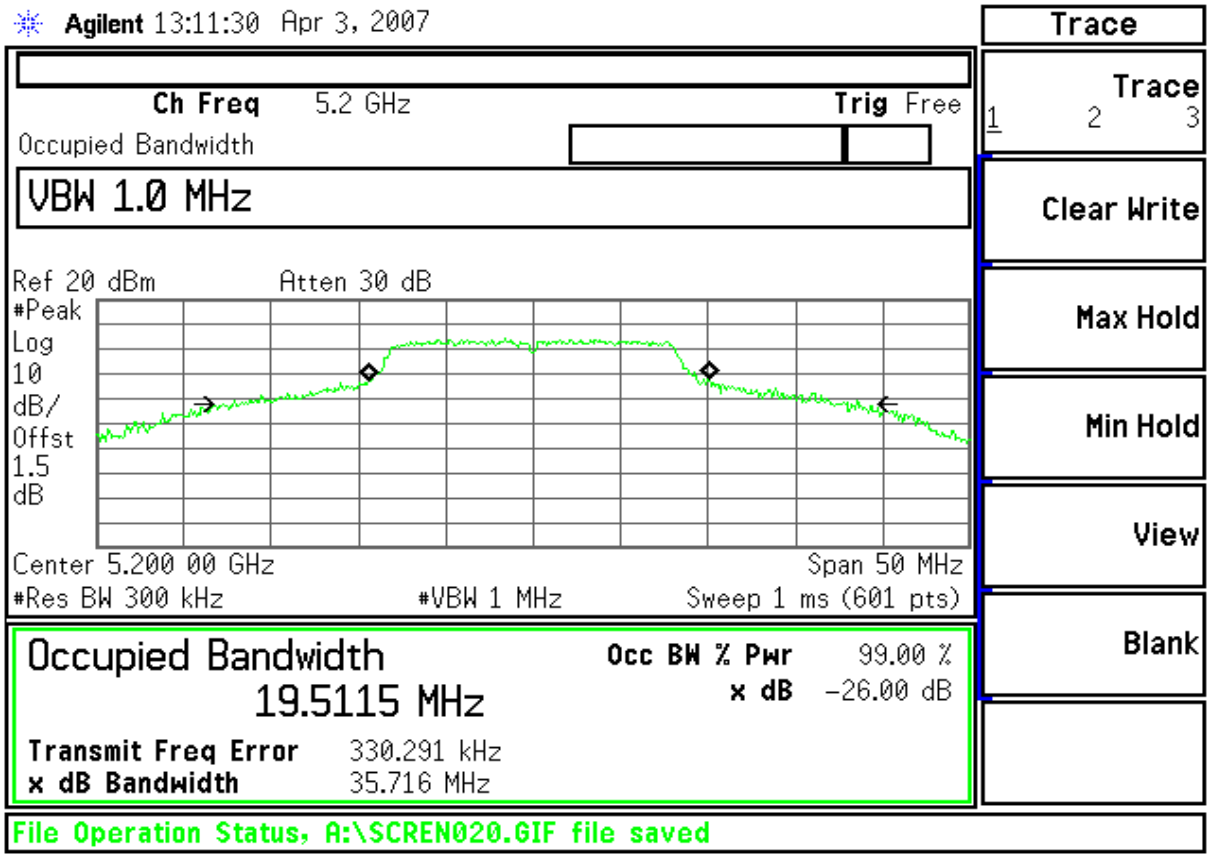
TEST DATA PLOTS

5150~5250MHz Band

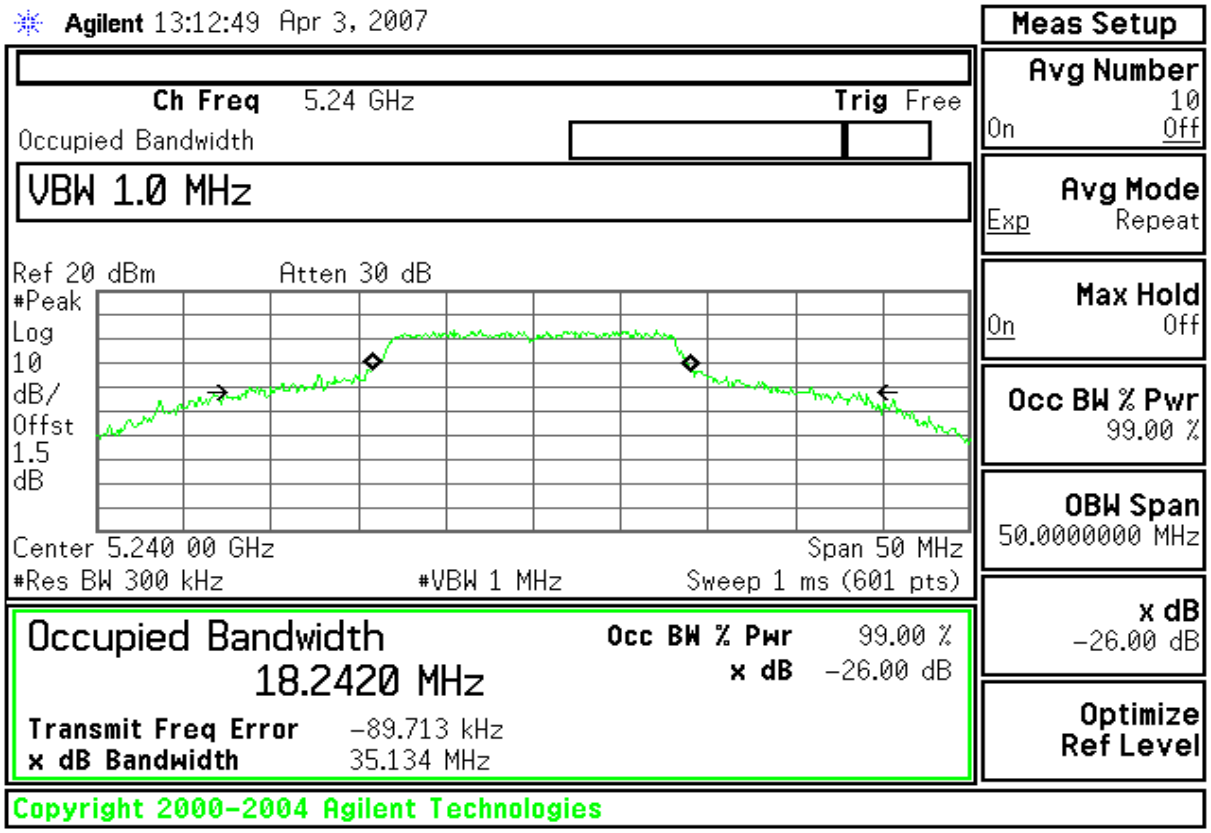
CH Low



CH Mid


Agilent 13:11:30 Apr 3, 2007
Ch Freq 5.2 GHz
Trig Free
Occupied Bandwidth
VBW 1.0 MHz
Ref 20 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
1.5
dB
Center 5.200 00 GHz
Span 50 MHz
#Res BW 300 kHz
#VBW 1 MHz
Sweep 1 ms (601 pts)
Occupied Bandwidth
19.5115 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error 330.291 kHz
x dB Bandwidth 35.716 MHz
Trace
Trace
1 2 3
Clear Write
Max Hold
Min Hold
View
Blank
File Operation Status, A:\SCREN020.GIF file saved

CH High


Agilent 13:12:49 Apr 3, 2007
Ch Freq 5.24 GHz
Trig Free
Occupied Bandwidth
VBW 1.0 MHz
Ref 20 dBm
Atten 30 dB
#Peak
Log
10
dB/
Offst
1.5
dB
Center 5.240 00 GHz
Span 50 MHz
#Res BW 300 kHz
#VBW 1 MHz
Sweep 1 ms (601 pts)
Occupied Bandwidth
18.2420 MHz
Occ BW % Pwr 99.00 %
x dB -26.00 dB
Transmit Freq Error -89.713 kHz
x dB Bandwidth 35.134 MHz
Meas Setup
Avg Number
10
On Off
Avg Mode
Exp Repeat
Max Hold
On Off
Occ BW % Pwr
99.00 %
OBW Span
50.0000000 MHz
x dB
-26.00 dB
Optimize
Ref Level
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PEAK EXCURSION (15.407)

LIMIT

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

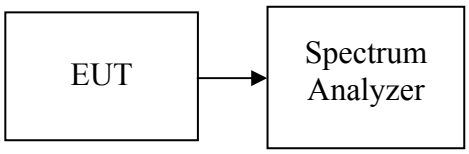
MEASUREMENT EQUIPMENT USED

Remark

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY44020154	11/16/2008
Low-Loss RF Cable	Huber + Suhner	Sucoflex 104	N/A	N/A

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

Test Configuration



TEST PROCEDURE

The test is performed in accordance with <FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices> – Part 15, Subpart E, August 2002.

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 spectrum.
3. Trace A, Set RBW =1MHz, VBW = 3MHz, Span = 50MHz, Max. hold.
4. Trace B, Set RBW = 1MHz, VBW = 30kHz, Span = 50MHz, Max. hold.
5. Delta Mark trace A Maximum frequency and trace B same frequency.
6. Repeat the above procedure until measurements for all frequencies were complete.

TEST RESULTS

No non-compliance noted

Tested by: Ruth

5150~5250MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)
Low	5180	7. 10	13	-5.90
Middle	5200	6.61		-6.39
High	5240	6.64		-6.36

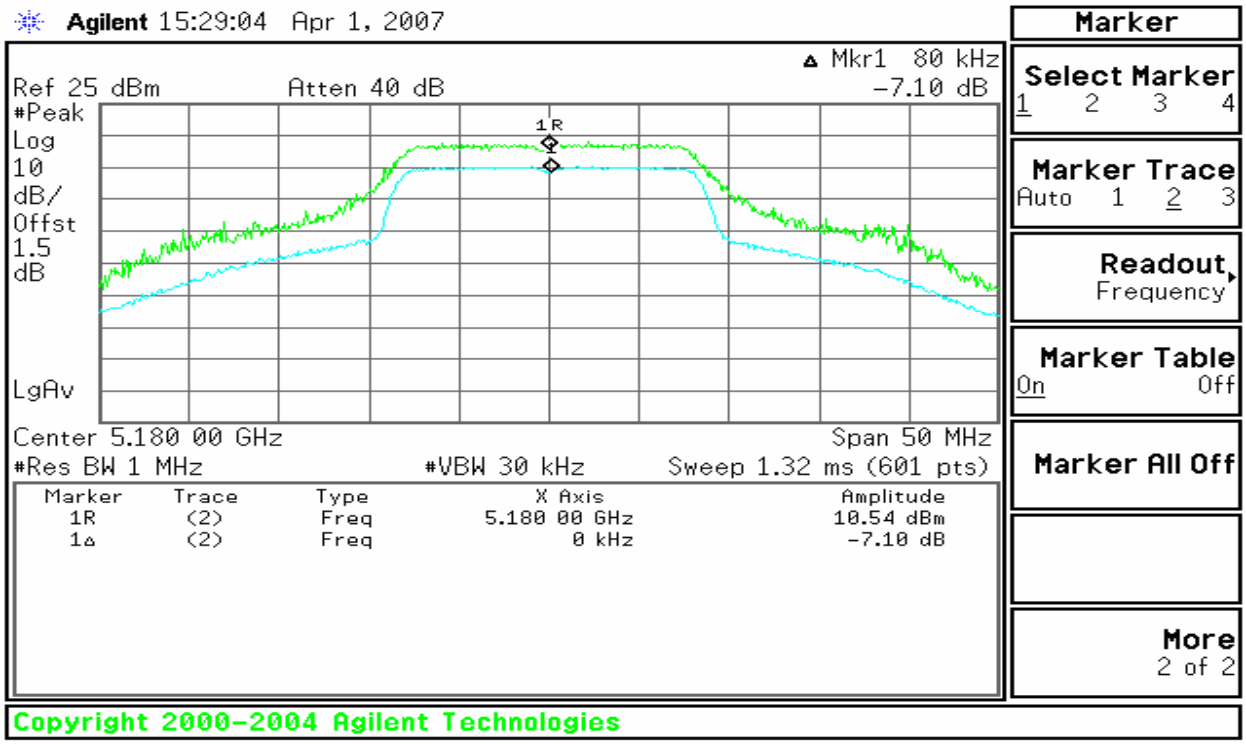
(Note: Maximum antenna gain = 3.5 dBi, therefore there is no reduction due to antenna gain.)

Test Data Plots

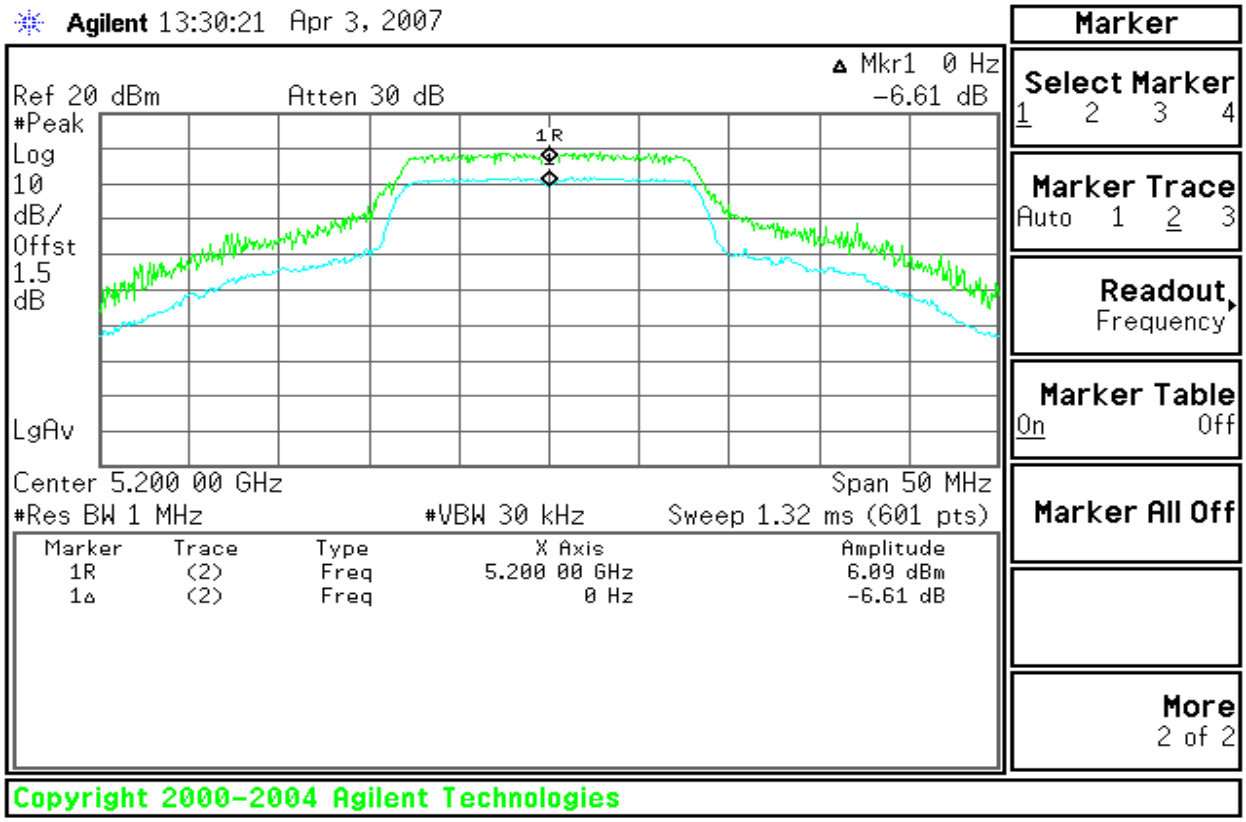
Peak Excursion

5150~5250MHz Band

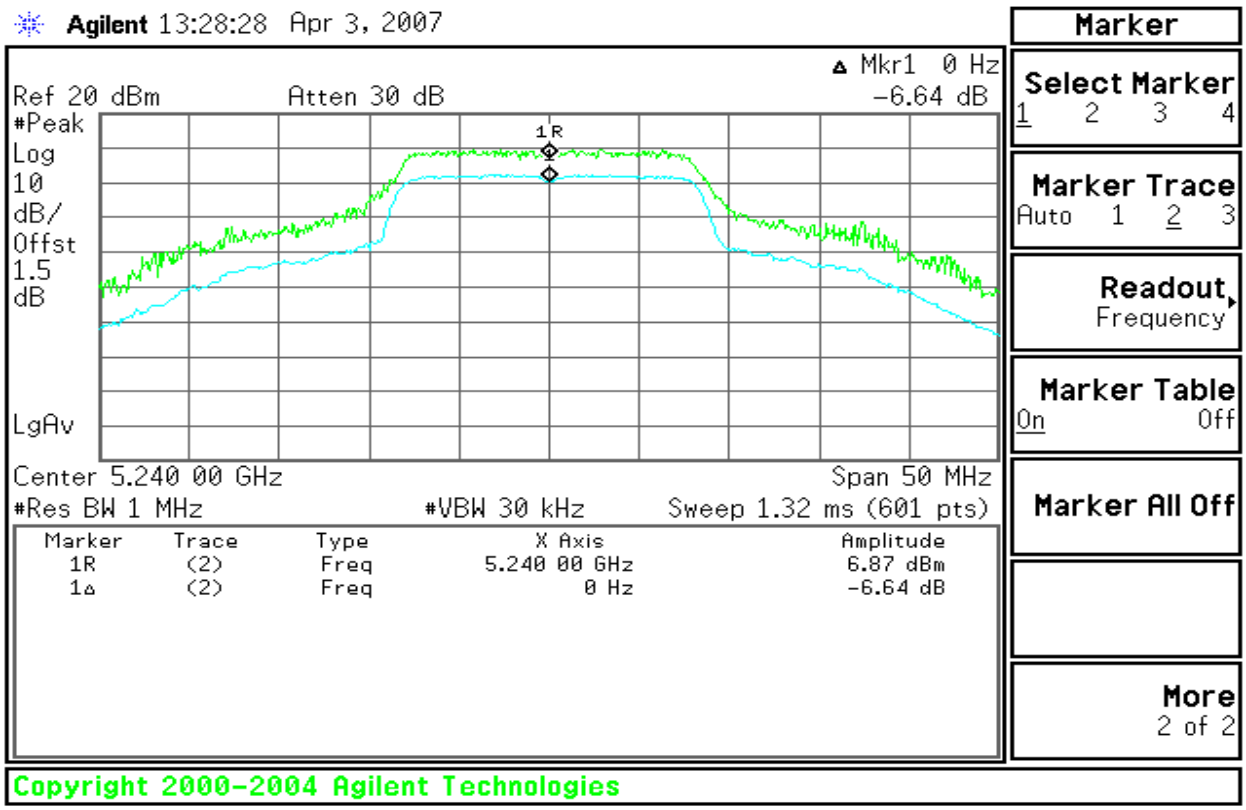
CH Low



CH Middle



CH High


Agilent 13:28:28 Apr 3, 2007
Ref 20 dBm
Atten 30 dB
Mkr1 0 Hz
-6.64 dB
#Peak
Log
10
dB/
Offst
1.5
dB
1R
LgAv
Center 5.240 00 GHz
Span 50 MHz
#Res BW 1 MHz
#VBW 30 kHz
Sweep 1.32 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (2) Freq 5.240 00 GHz 6.87 dBm
1Δ (2) Freq 0 Hz -6.64 dB
Marker
Select Marker
1 2 3 4
Marker Trace
Auto 1 2 3
Readout
Frequency
Marker Table
On Off
Marker All Off
More
2 of 2
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POWERLINE CONDUCTED EMISSION (15.407)

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 of 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range of 0.15 MHz to 0.50 MHz). The limits at a specific frequency range is listed as follows:

Frequency Range (MHz)	Limit (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

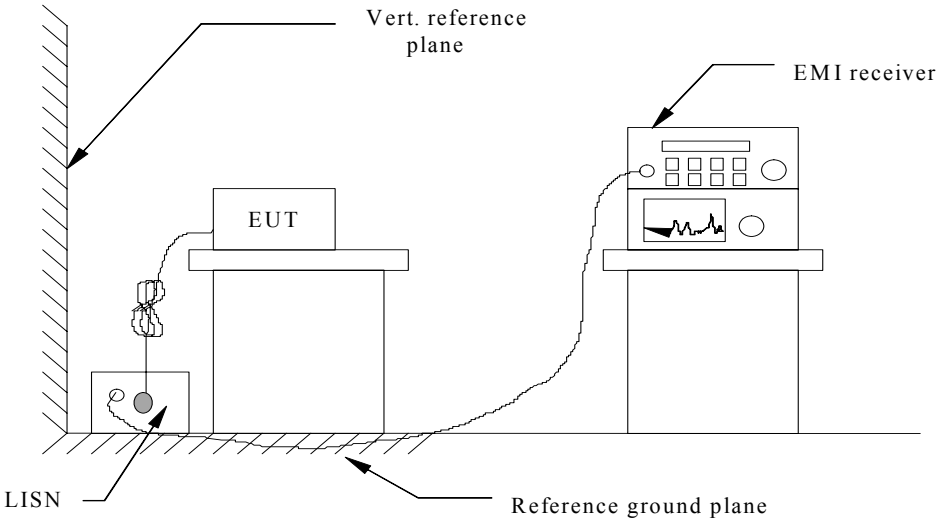
Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

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	01/21/2008
EMC Analyzer	Agilent	E7402A	US41160329	01/21/2008
LISN	FCC	FCC-LISN-50-50-2-M	01067	N/A
LISN (EUT)	FCC	FCC-LISN-50-50-2-M	01068	07/29/2008
FOUR BALANCED TELECOM PAIRS ISN	FCC	FCC-TLISN-T8-02	20165	08/30/2007
4-WIRE ISN	R&S	ENY41	830663/024	08/30/2007
Double 2-Wire ISN	R&S	ENY22	830661/027	08/30/2007
TRANSIENT LIMITER	SCHAFFNER	CFL9206	1710	05/19/2008
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



TEST RESULTS

No non-compliance noted

Test Data

Model: H3C WA2110-AG **Test Mode:** Normal Link

Temperature: 25°C **Humidity:** 50% RH

Tested by:ruth **Test Results:** Pass

Frequency (KHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB)	QP Result (dBuV)	AV Result (dBuV)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
190.2	26.06	25.94	10.36	36.42	36.3	64.85	54.85	-28.43	-18.55	L1
231.4	24.75	25.09	10.36	35.11	35.45	63.67	53.67	-28.56	-18.22	L1
329.8	28.54	28.33	10.4	38.94	38.73	60.86	50.86	-21.92	-12.13	L1
1023.8	8.65	7.71	10.43	19.08	18.14	56.00	46.00	-36.92	-27.86	L1
1646.7	8.92	8.74	10.48	19.4	19.22	56.00	46.00	-36.60	-26.78	L1
17812.5	5.6	11.02	12.04	17.64	23.06	60.00	50.00	-42.36	-26.94	L1
183.9	24.15	18.32	10.4	34.55	28.72	65.03	55.03	-30.48	-26.31	L2
235.1	23.93	23.43	10.39	34.32	33.82	63.57	53.57	-29.25	-19.75	L2
331.3	21.3	21.81	10.4	31.7	32.21	60.82	50.82	-29.12	-18.61	L2
375.9	25.48	26.59	10.4	35.88	36.99	59.55	49.55	-23.67	-12.56	L2
987.5	9.05	7.87	10.42	19.47	18.29	56.00	46.00	-36.53	-27.71	L2
1908.1	11.62	10.94	10.49	22.11	21.43	56.00	46.00	-33.89	-24.57	L2

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

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

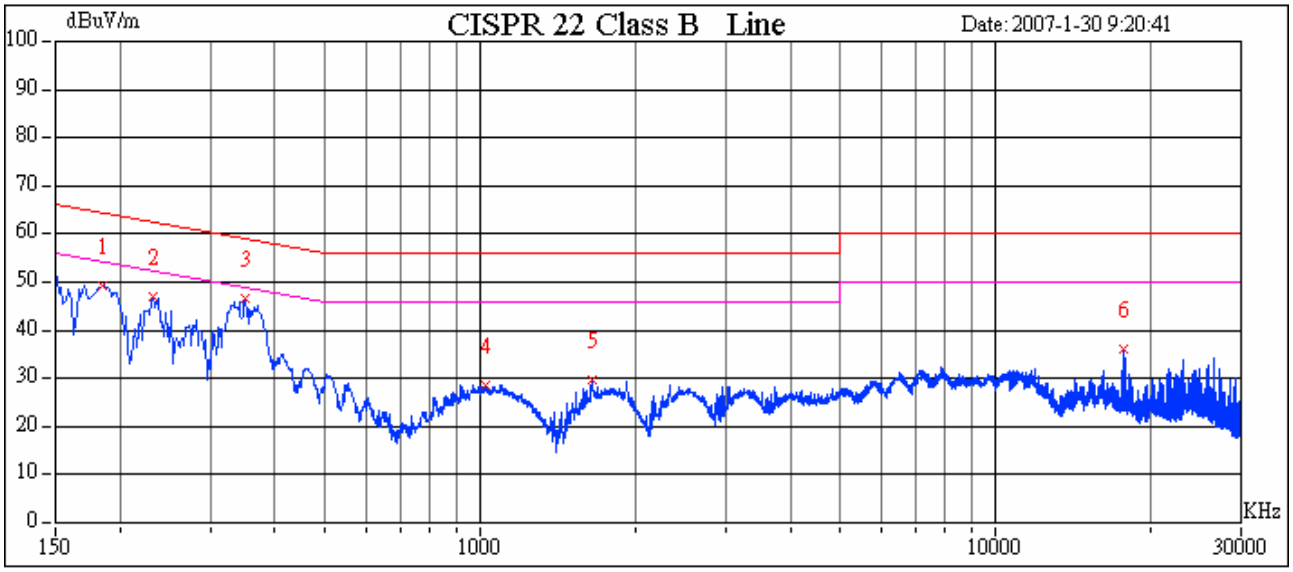
Margin dB = Reading in reference to limit

Calculation Formula

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

Test Plot

Conducted emissions (Line 1)



Test Plot

Conducted emissions (Line 2)