



**FCC 47 CFR PART 15 SUBPART C
(Class II Permissive Change)**

TEST REPORT

For

D-Link Corporation

802.11g Outdoor Access Point

Model: DWL-2700AP, DWL-2600AP (D-Link) / WAP-B13 (Nil)

Trade Name: D-Link

Issued to

**D-Link Corporation
No. 8, Li-shing Road VII, Science-based-Industrial Park,
Hsinchu, Taiwan, R.O.C.**

Issued by

**Compliance Certification Services Inc.
No. 81-1, Lane 210, Bade Rd. 2, Luchu Hsiang,
Taoyuan Hsien, (338) Taiwan, R.O.C.
TEL: 886-3-324-0332
FAX: 886-3-324-5235**



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TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION.....3

2. EUT DESCRIPTION4

3. TEST METHODOLOGY5

 3.1 EUT CONFIGURATION5

 3.2 EUT EXERCISE.....5

 3.3 GENERAL TEST PROCEDURES.....5

 3.4 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS.....6

 3.5 DESCRIPTION OF TEST MODES6

4. INSTRUMENT CALIBRATION.....7

5. FACILITIES AND ACCREDITATIONS8

 5.1 FACILITIES8

 5.2 EQUIPMENT.....8

 5.3 LABORATORY ACCREDITATIONS AND LISTING.....8

 5.4 TABLE OF ACCREDITATIONS AND LISTINGS.....9

6. SETUP OF EQUIPMENT UNDER TEST10

 6.1 SUPPORT EQUIPMENT10

7. FCC PART 15.247 REQUIREMENTS.....11

 7.1 BAND EDGES MEASUREMENT11

 7.2 SPURIOUS EMISSIONS24

 7.3 POWERLINE CONDUCTED EMISSIONS.....88



1. TEST RESULT CERTIFICATION

Applicant: D-Link Corporation
 No. 8, Li-shing Road VII, Science-based-Industrial Park,
 Hsinchu, Taiwan, R.O.C.

Equipment Under Test: 802.11g Outdoor Access Point

Trade Name: D-Link

Model: DWL-2700AP, DWL-2600AP (D-Link) / WAP-B13 (Nil)

Date of Test: October 31 ~ November 3, 2004

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 conducted and radiated emission limits of FCC Rules Part 15.247.

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

Approved by:

Reviewed by:

Harris W. Lai
 Director of Linkou Laboratory
 Compliance Certification Services Inc.

Devin Chang
 Section Manager
 Compliance Certification Services Inc.



2. EUT DESCRIPTION

Product	802.11g Outdoor Access Point
Trade Name	D-Link
Model Number	DWL-2700AP, DWL-2600AP (D-Link) / WAP-B13 (Nil)
Model Discrepancy	All the above models are identical except the model designation
Power Supply	Power adapter: Model: PSA31U-480 Input: 100~240Vac, 1A, 50-60Hz Output: 48Vdc, 0.625A ** Model: TG-6001-48V Input: 100~240Vac, 1.6A, 50-60Hz Output: 48Vdc, 1.1A Power hub: 48V
Frequency Range	IEEE 802.11b: 2412 ~ 2462 MHz IEEE 802.11g: Base mode: 2412 ~ 2462 MHz Turbo mode: 2437 MHz
Transmit Power	IEEE 802.11b: 22.14 dBm IEEE 802.11g: 21.57 dBm
Modulation Technique	IEEE 802.11b: DSSS (CCK; DQPSK; DBPSK) IEEE 802.11g: OFDM
Antenna Gain	1. Swivel Type Monopole Antenna: 5 dBi 2. High Gain Directional Panel Antenna: 16 dBi 3. ** Dual-Band Omni-Directional antenna: 4.5 dBi
Antenna Designation	1. Two Swivel Type Monopole Antenna, 2. High Gain Directional Panel Antenna; 3. **Dual-Band Omni-Directional antenna Embedded non-user changeable, two provided. Tx and Rx Diversity
Class II Permissive Change	Change 1: Add one power adapter (Please refer to the **-marked) Change 2: Add one antenna: 4.5dBi dual band antenna (Please refer to the **-marked) Change 3: Add co-location test with a 802.11a Mini PCI card (FCC ID: RRK2004090192-1)

Note: This submittal(s) (test report) is intended for FCC ID: KA22002090027-1 filing to comply with Section 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 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 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 15.247 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 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.



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(802.11g Outdoor Access Point) has been tested under operating condition.

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

Based on the Rules, this equipment is subjected to be tested on all the possible operating condition including the positional plane: Only x-plane, y-plane and z-plane be possible in the typical usage – both orthogonal plane have been evaluated and only the worst case data (y-plane) to be filed in the report.

1. Test EUT only:

IEEE802.11b: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 11Mbps highest data rate (worst case) are chosen for the final testing.

IEEE802.11g: Base mode Channel 1(2412MHz), Channel 6 (2437MHz) and Channel 11 (2462MHz) and Turbo mode (2437MHz) with 6Mbps data rate (worst case) are chosen for full testing.

2. Co-location test with 802.11a Mini PCI Card with the following configurations:

- 1) EUT/ 4.5dBi dual band antenna, 802.11a Mini PCI card / 5dBi dual band antenna.
- 2) EUT/16dBi panel directional antenna, 802.11a Mini PCI card /14dBi panel directional antenna.
- 3) EUT/16dBi panel directional antenna, 802.11a Mini PCI card /18dBi panel directional antenna.



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

No. 81-1, Lane 210, Bade Rd. 2, Luchu Hsiang, Taoyuan Hsien, Taiwan, R.O.C.

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

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

5.2 EQUIPMENT

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

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








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

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

5.3 LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code: 200600-0 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 (Registration no: 93105 and 90471).

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	NVLAP*	EN 55011, EN 55014-1, AS/NZS 1044, CNS 13783-1, EN 55022, CNS 13438, EN 61000-3-2, EN 61000-3-3, ANSI C63.4, FCC OST/MP-5, AS/NZS CISPR 22, 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	 200600-0
USA	FCC	3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements	 93105, 90471
Japan	VCCI	4 3/10 meter Open Area Test Sites to perform conducted/radiated measurements	 R-393/1066/725/879 C-402/747/912
Norway	NEMKO	EN 50081-1/2, EN 50082-1/2, IEC 61000-6-1/2, EN 50091-2, EN 50130-4, EN 55011, EN 55013, EN 55014-1/2, EN 55015, EN 55022, EN 55024, EN 61000-3-2/3, EN 61326-1, IEC 61000-4-2/3/4/5/6/8/11, EN 60601-1-2, EN 300 328-2, EN 300 422-2, EN 301 419-1, EN 301 489-01/03/07/08/09/17, EN 301 419-2/3, EN 300 454-2, EN 301 357-2	 ELA 124a ELA 124b ELA 124c
Taiwan	CNLA	EN 300 328-1, EN 300 328-2, EN 300 220-1, EN 300 220-2, EN 300 220-3, 47 CFR FCC Part 15 Subpart C, EN 61000-3-2, EN 61000-3-3, CNS 13439, CNS 13783-1, CNS 14115, CNS 13438, AS/NZS CISPR 22, CNS 13022-1, IEC 61000-4-2/3/4/5/6/8/11, CNS 13022-2/3	 0363 ILAC MRA
Taiwan	BSMI	CNS 13438, CNS 13783-1, CNS 13439, CNS 14115	 SL2-IS-E-0014 SL2-IN-E-0014 SL2-A1-E-0014 SL2-R1-E-0014 SL2-R2-E-0014 SL2-L1-E-0014
Canada	Industry Canada	RSS212, Issue 1	 IC 3991-3 IC 3991-4

* 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 SUPPORT EQUIPMENT

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

6.2 SUPPORT EQUIPMENT

Device Type	Brand	Model	FCC ID	Series No.	Data Cable	Power Cord
N/A	N/A	N/A	N/A	N/A	N/A	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 BAND EDGES MEASUREMENT

LIMIT

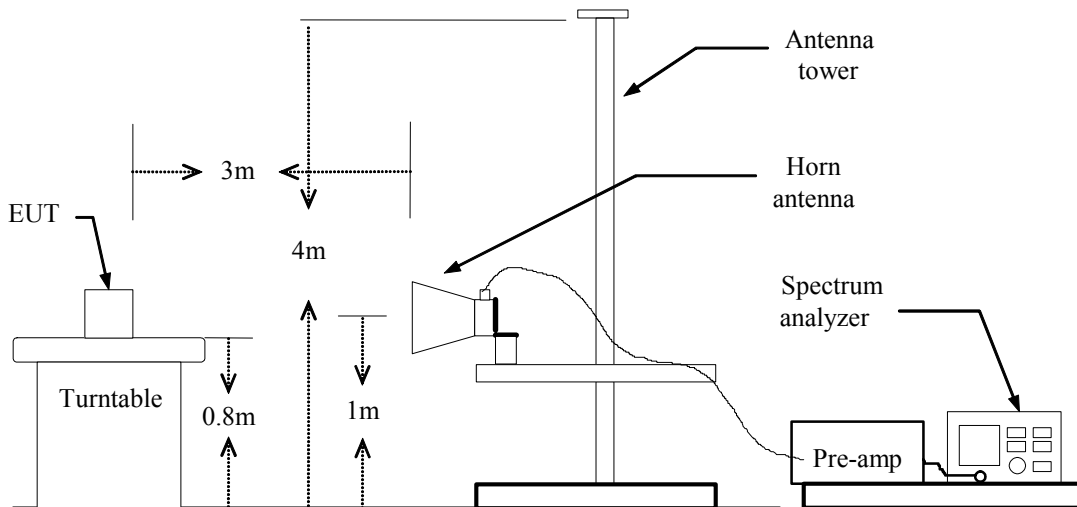
According to §15.247(c), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains 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 in 15.209(a).

MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	Agilent	E4446A	MY43360131	01/10/2005
Spectrum Analyzer	R&S	FSP30	100112	08/03/2005

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

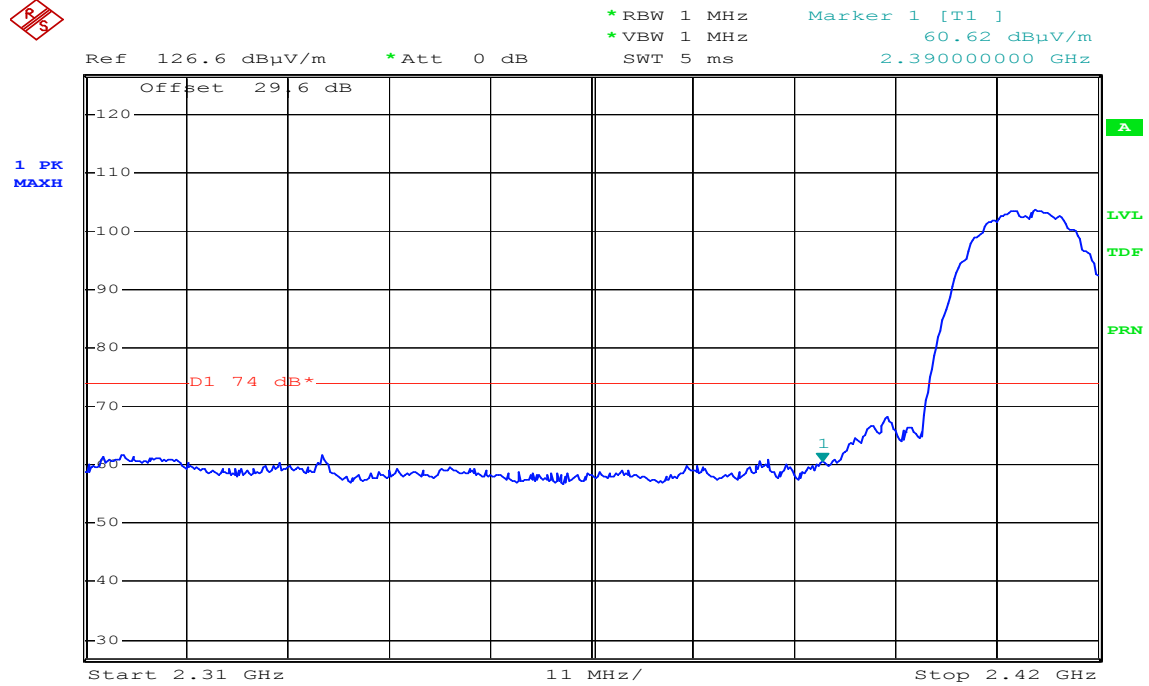
Refer to attach spectrum analyzer data chart.



Band Edges (IEEE 802.11b / CH Low)

Detector mode: Peak

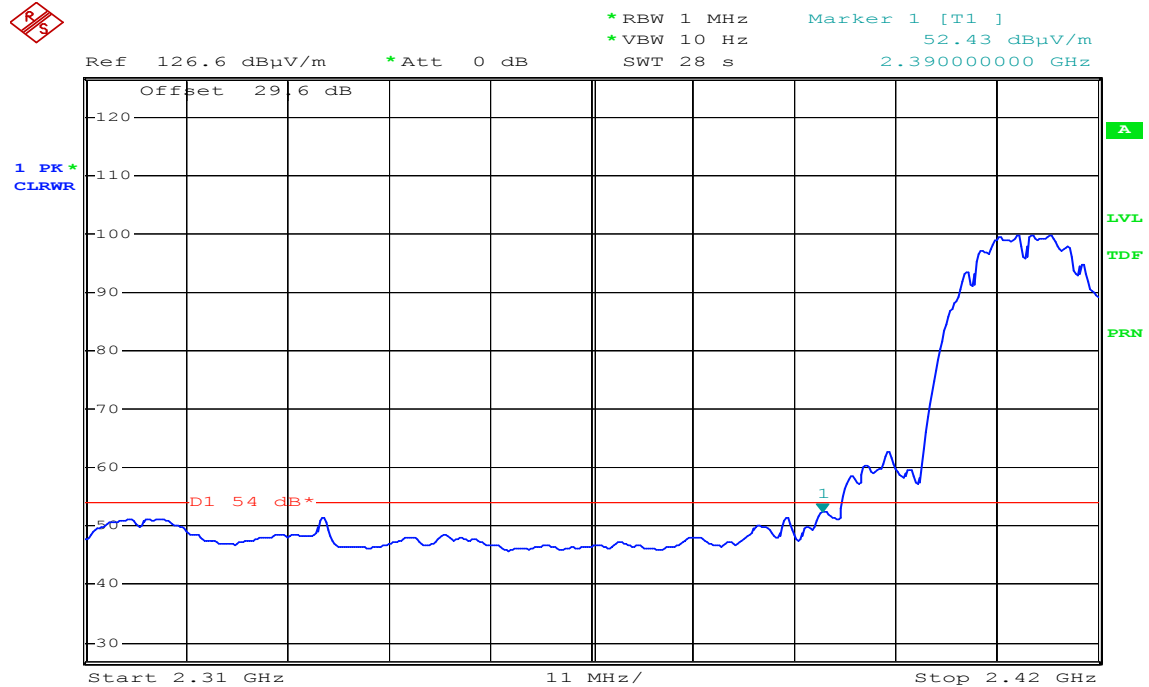
Polarity: Vertical



Date: 26.OCT.2004 05:58:05

Detector mode: Average

Polarity: Vertical

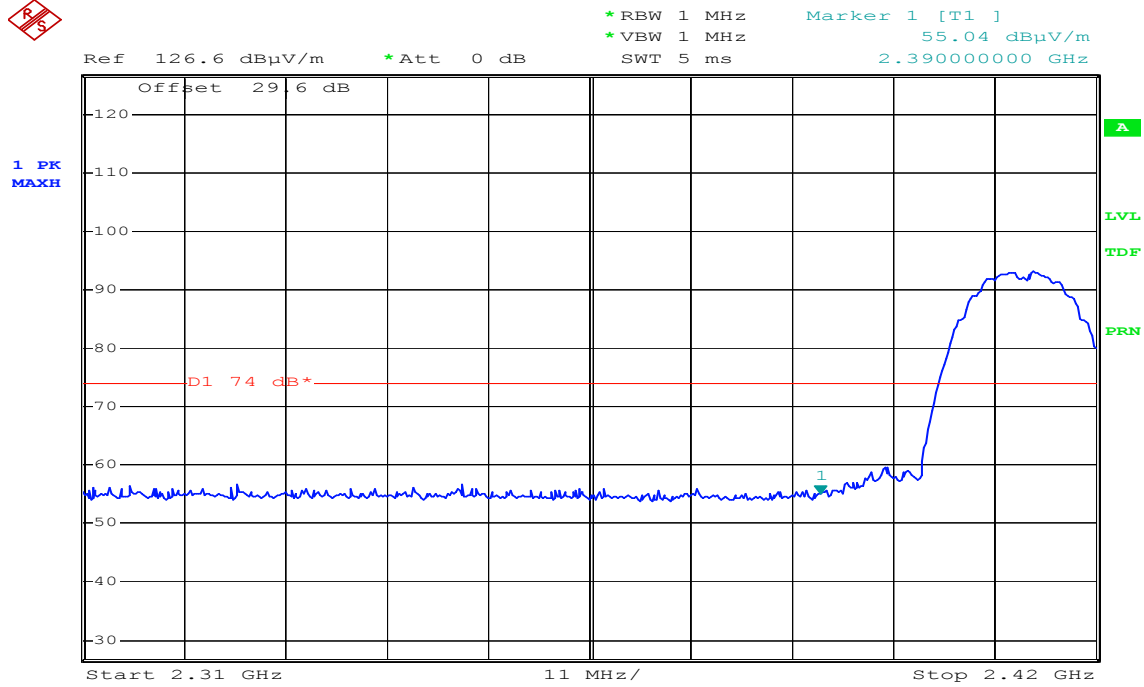


Date: 26.OCT.2004 05:56:30



Detector mode: Peak

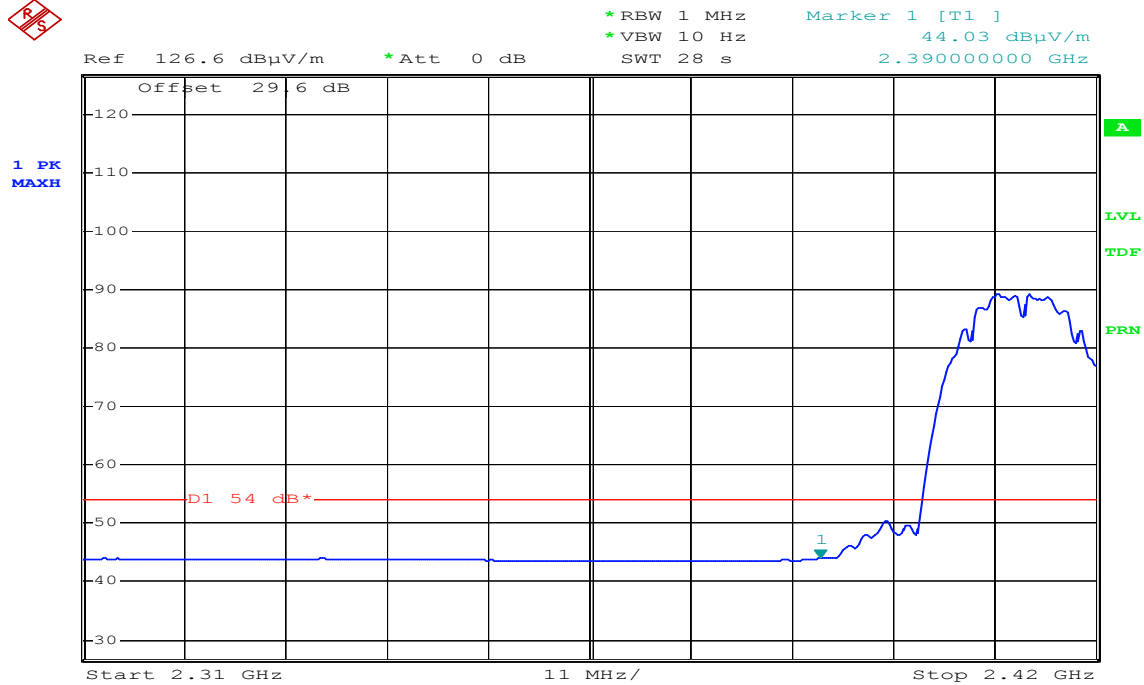
Polarity: Horizontal



Date: 26.OCT.2004 06:04:32

Detector mode: Average

Polarity: Horizontal



Date: 26.OCT.2004 06:07:22



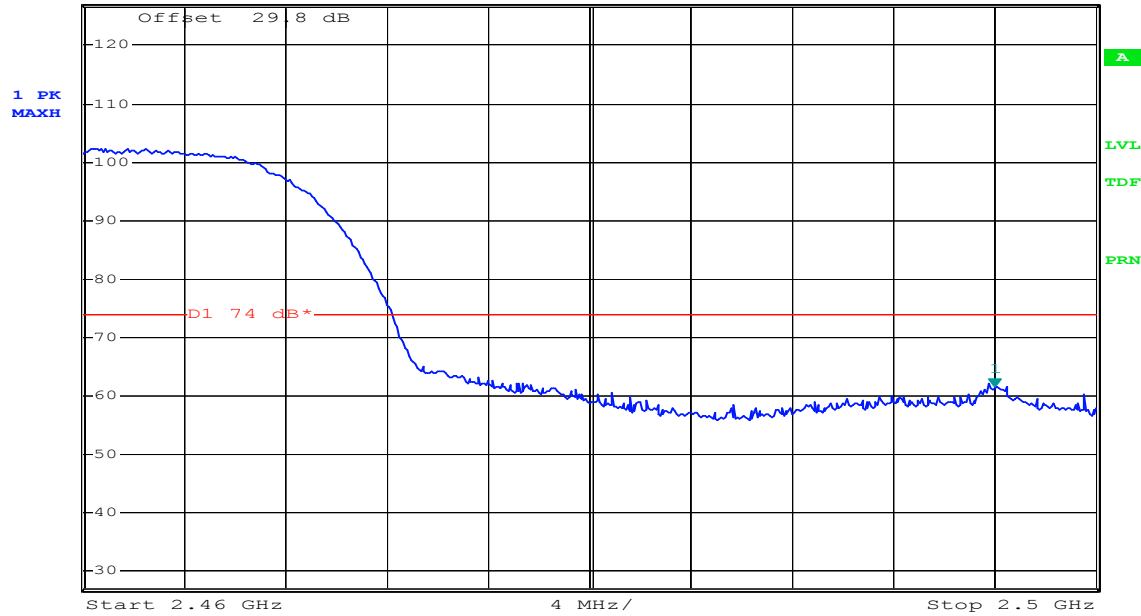
Band Edges (IEEE 802.11b / CH High)

Detector mode: Peak

Polarity: Vertical



Ref 126.8 dB μ V/m *Att 0 dB
*RBW 1 MHz Marker 1 [T1] 61.49 dB μ V/m
*VBW 1 MHz 2.495980000 GHz
SWT 2.5 ms



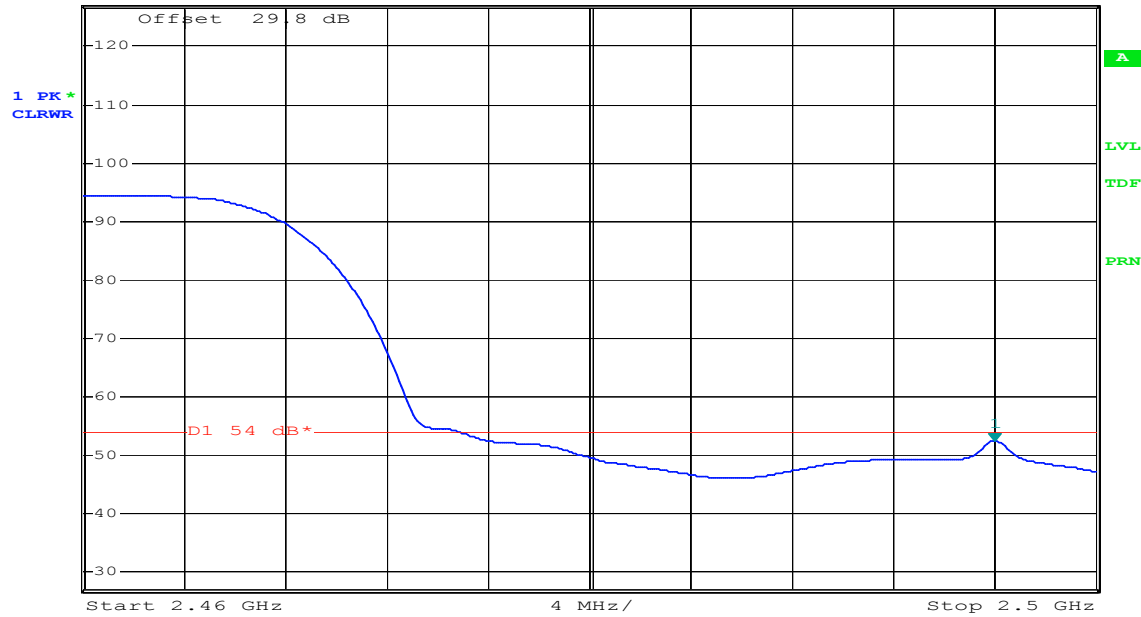
Date: 26.OCT.2004 06:18:34

Detector mode: Average

Polarity: Vertical



Ref 126.8 dB μ V/m *Att 0 dB
*RBW 1 MHz Marker 1 [T1] 52.39 dB μ V/m
*VBW 10 Hz 2.495980000 GHz
SWT 10 s

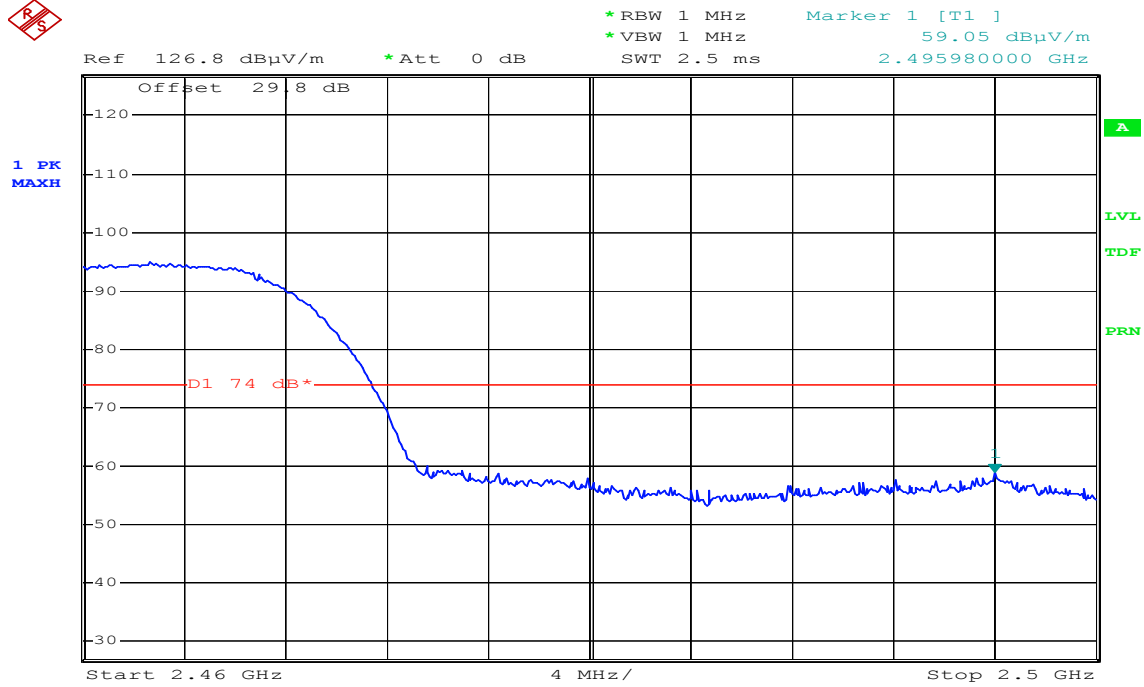


Date: 26.OCT.2004 06:17:23



Detector mode: Peak

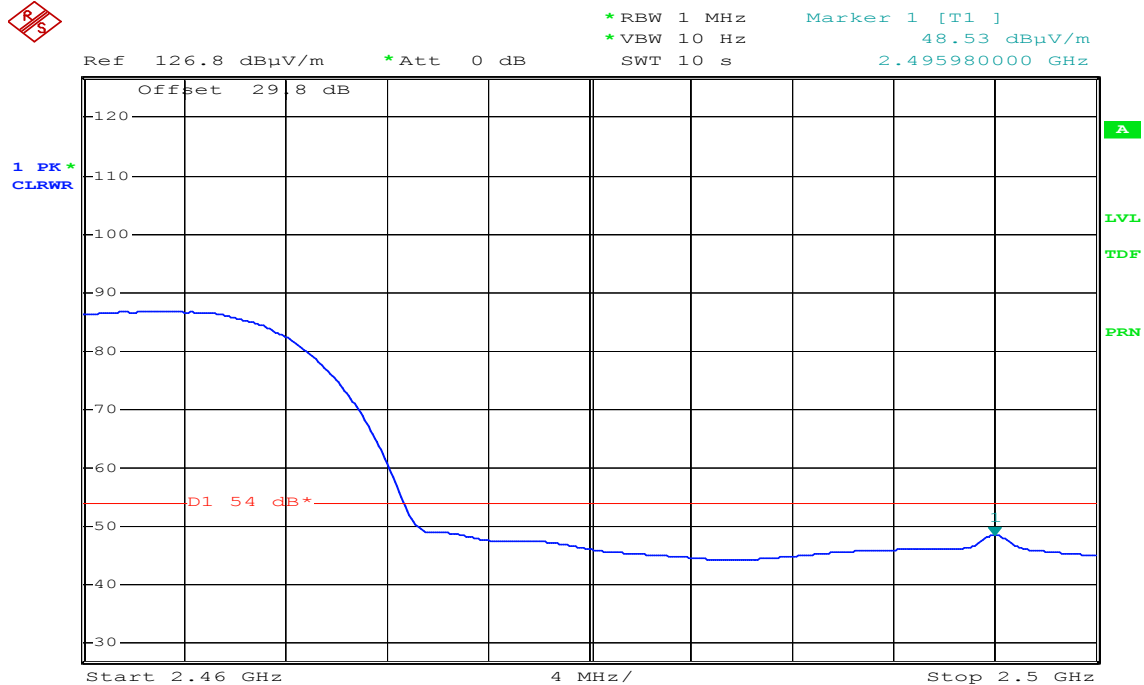
Polarity: Horizontal



Date: 26.OCT.2004 06:25:28

Detector mode: Average

Polarity: Horizontal



Date: 26.OCT.2004 06:24:32



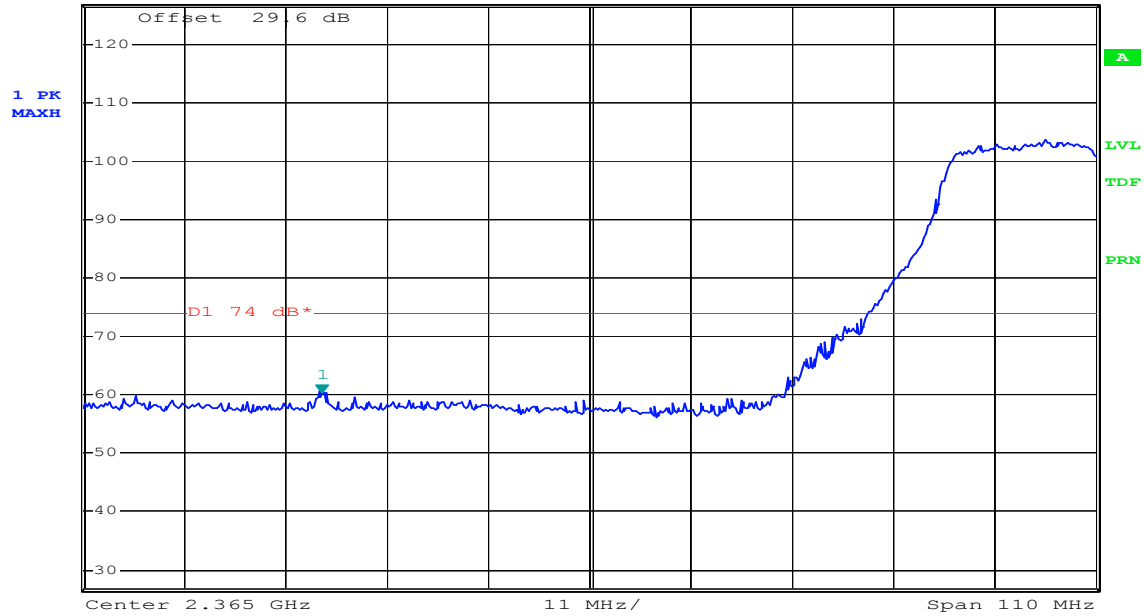
Band Edges (IEEE 802.11g / Base Mode / CH Low)

Detector mode: Peak

Polarity: Vertical



Ref 126.6 dB μ V/m *Att 0 dB
*RBW 1 MHz Marker 1 [T1] 60.44 dB μ V/m
*VBW 1 MHz 2.335880000 GHz
SWT 5 ms



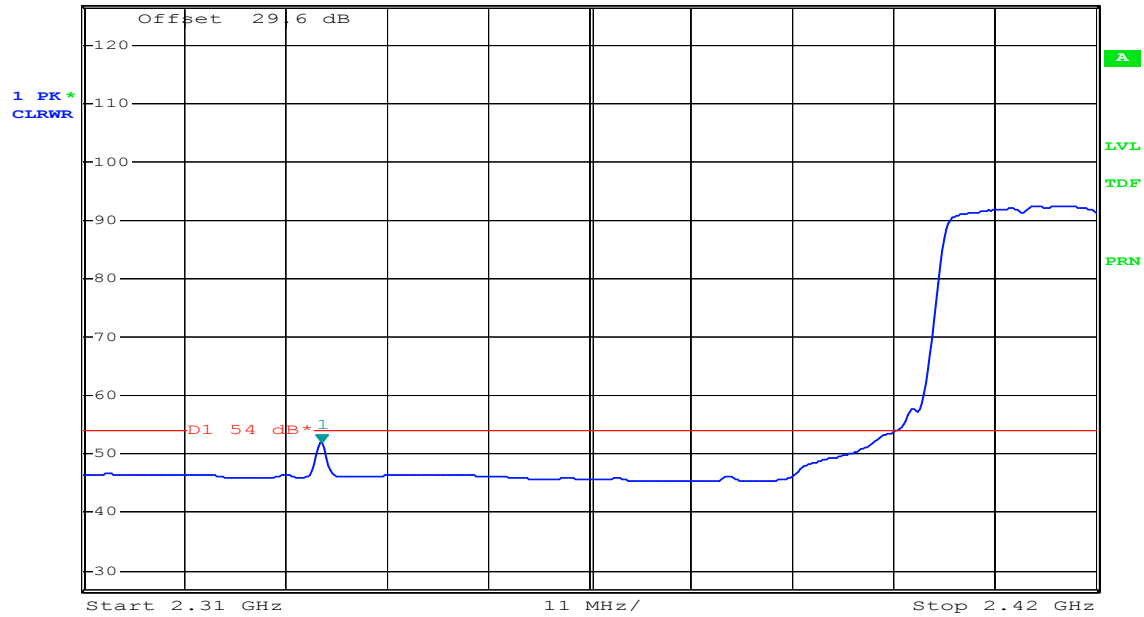
Date: 26.OCT.2004 06:46:59

Detector mode: Average

Polarity: Vertical



Ref 126.6 dB μ V/m *Att 0 dB
*RBW 1 MHz Marker 1 [T1] 51.94 dB μ V/m
*VBW 10 Hz 2.335880000 GHz
SWT 28 s

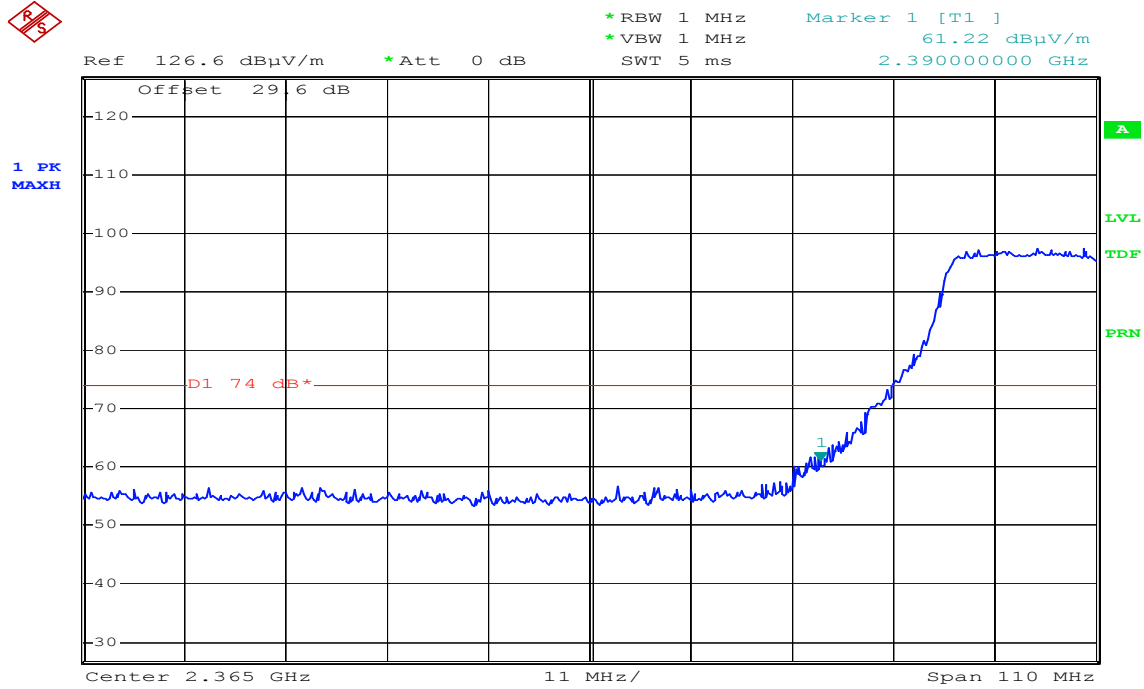


Date: 26.OCT.2004 06:38:45



Detector mode: Peak

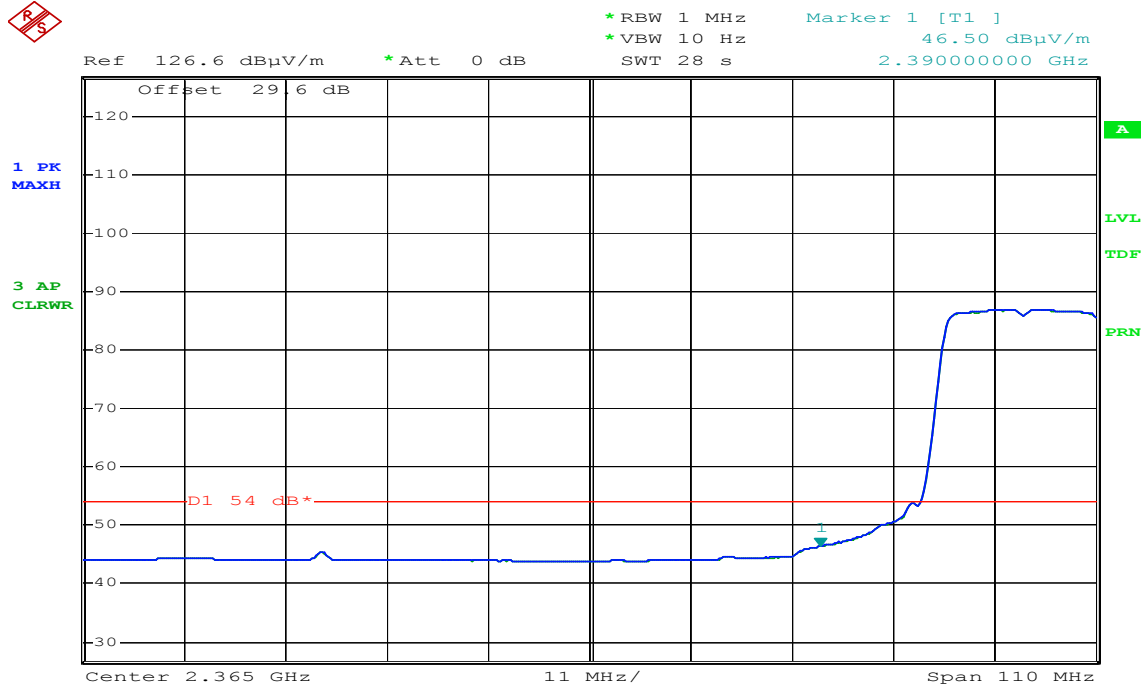
Polarity: Horizontal



Date: 26.OCT.2004 06:55:05

Detector mode: Average

Polarity: Horizontal



Date: 26.OCT.2004 06:53:04



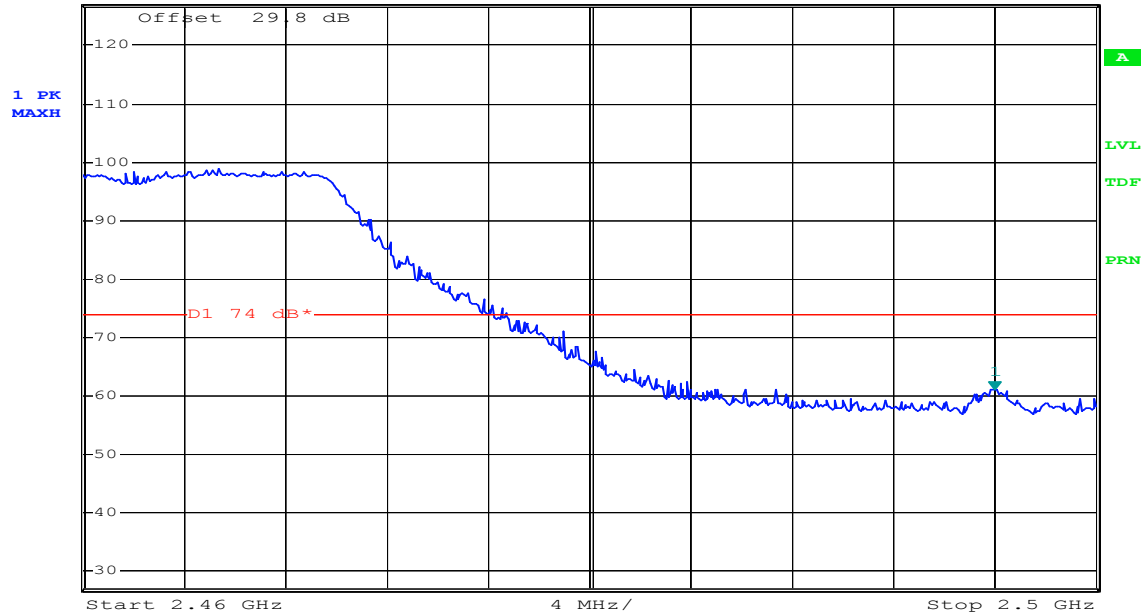
Band Edges (IEEE 802.11g / Base Mode / CH High)

Detector mode: Peak

Polarity: Vertical



Ref 126.8 dB μ V/m *Att 0 dB *RBW 1 MHz Marker 1 [T1]
*VBW 1 MHz 61.11 dB μ V/m
SWT 2.5 ms 2.495980000 GHz



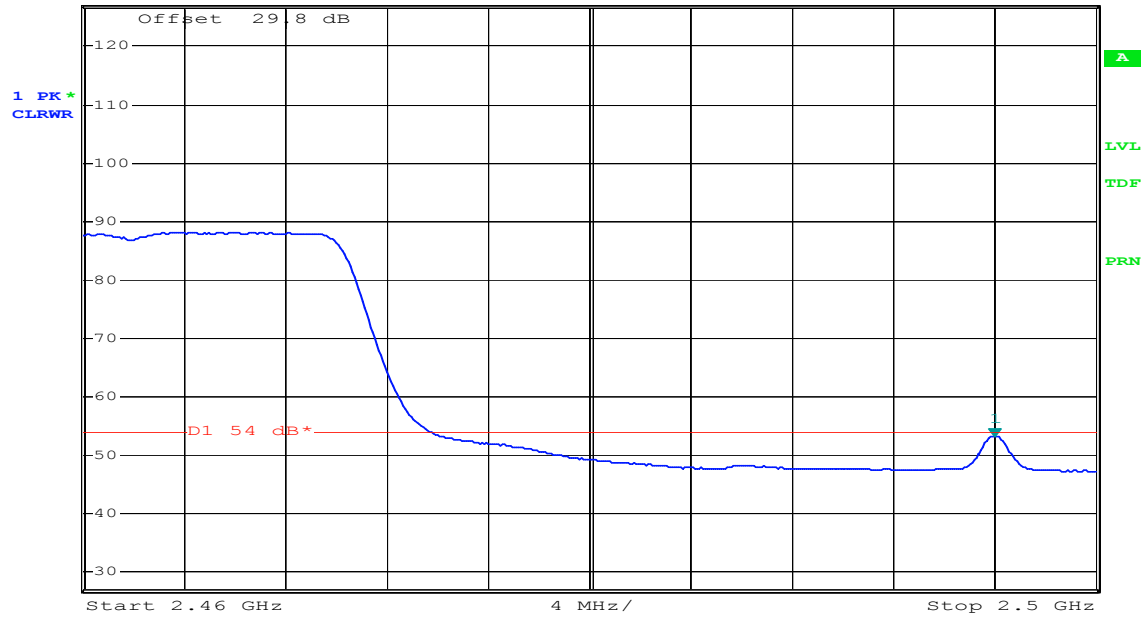
Date: 26.OCT.2004 08:15:13

Detector mode: Average

Polarity: Vertical



Ref 126.8 dB μ V/m *Att 0 dB *RBW 1 MHz Marker 1 [T1]
*VBW 10 Hz 53.23 dB μ V/m
SWT 10 s 2.495980000 GHz

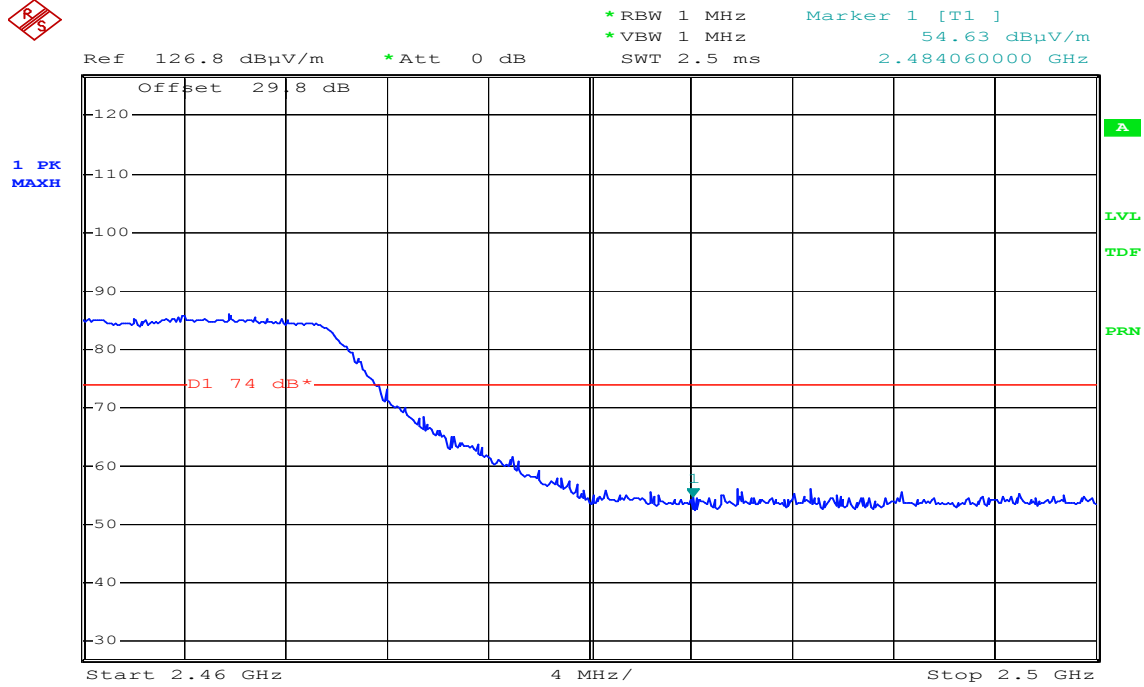


Date: 26.OCT.2004 08:11:13



Detector mode: Peak

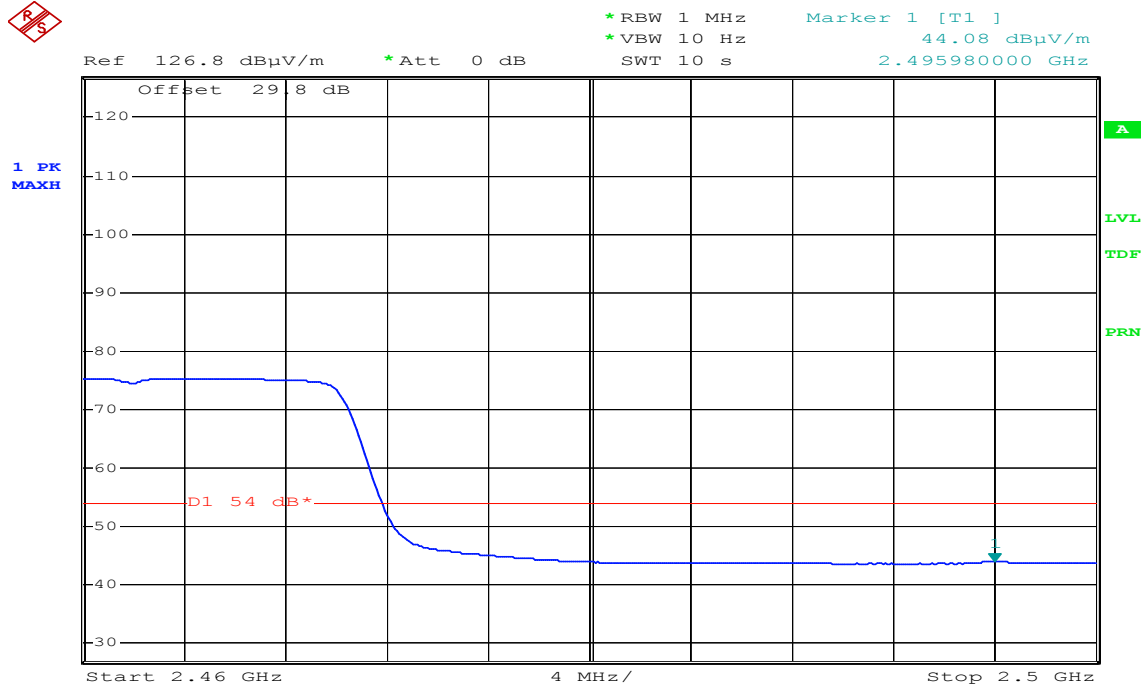
Polarity: Horizontal



Date: 26.OCT.2004 08:24:43

Detector mode: Average

Polarity: Horizontal



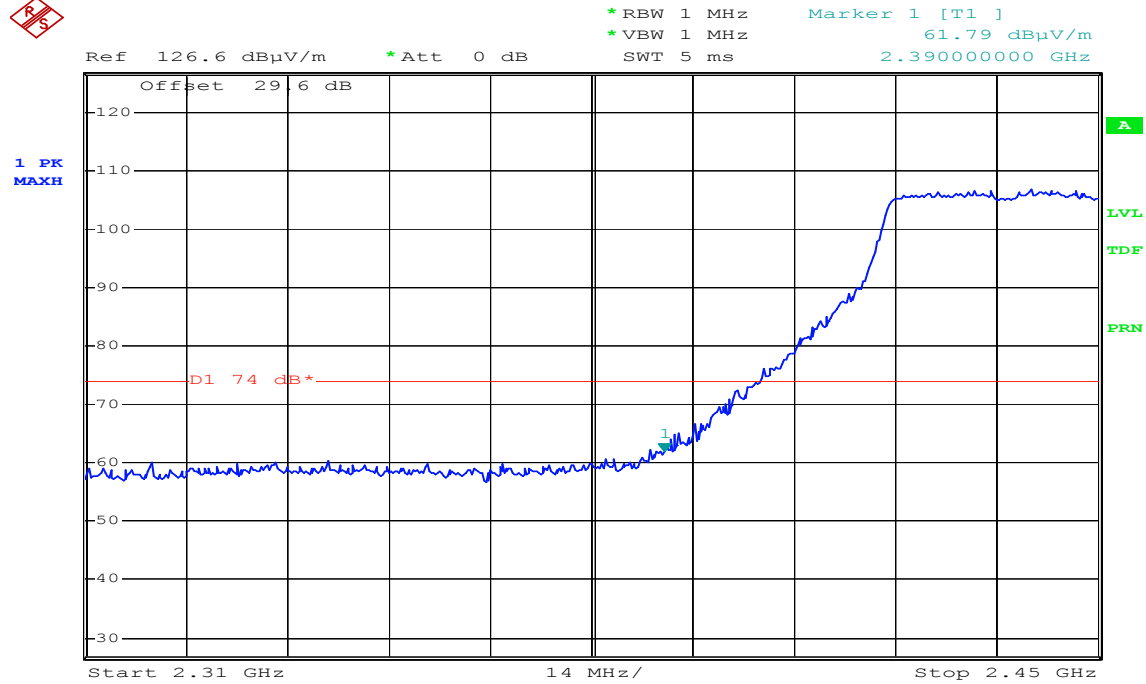
Date: 26.OCT.2004 08:22:33



Band Edges (IEEE 802.11g / Turbo mode / CH Low)

Detector mode: Peak

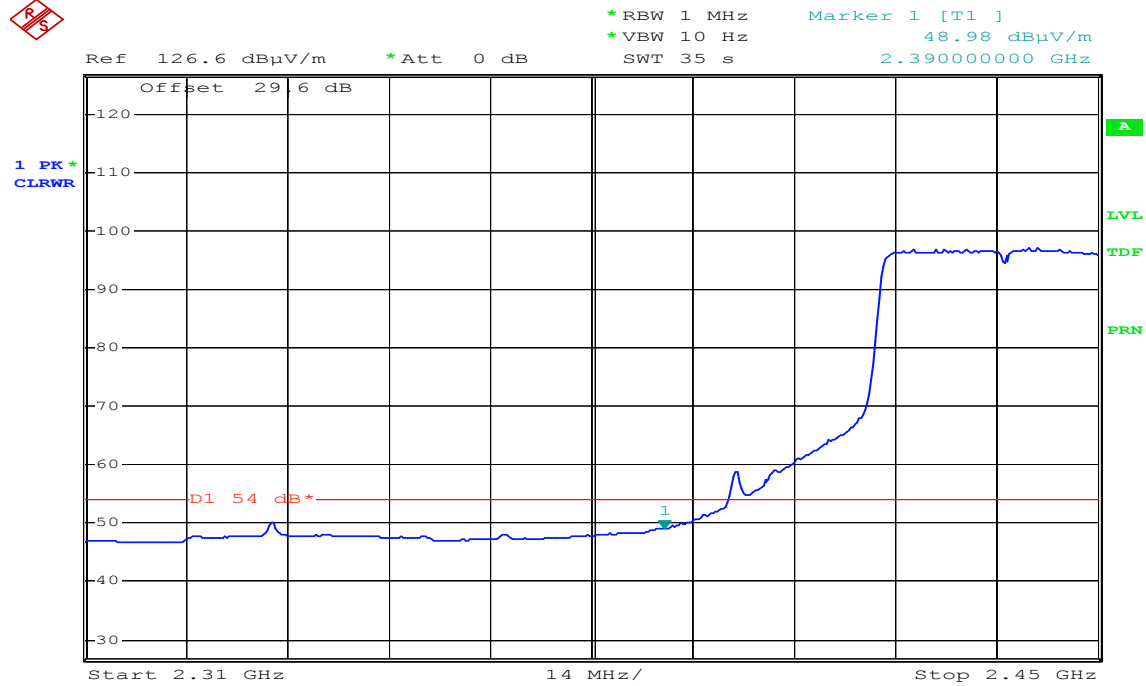
Polarity: Vertical



Date: 26.OCT.2004 08:41:27

Detector mode: Average

Polarity: Vertical

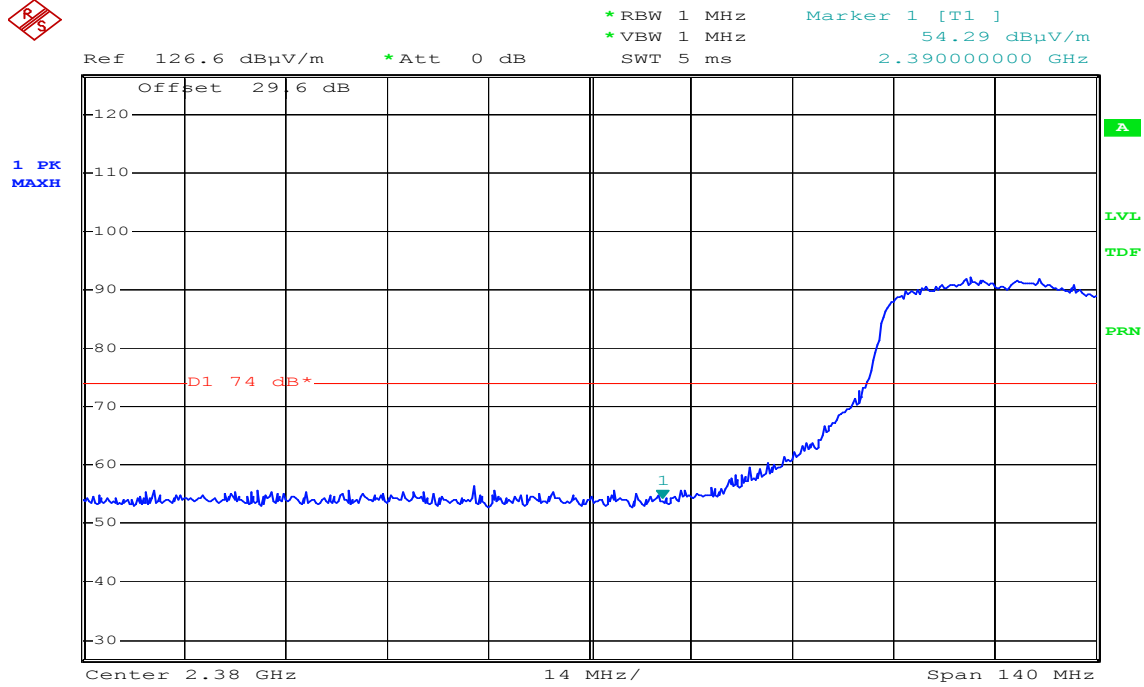


Date: 26.OCT.2004 08:39:01



Detector mode: Peak

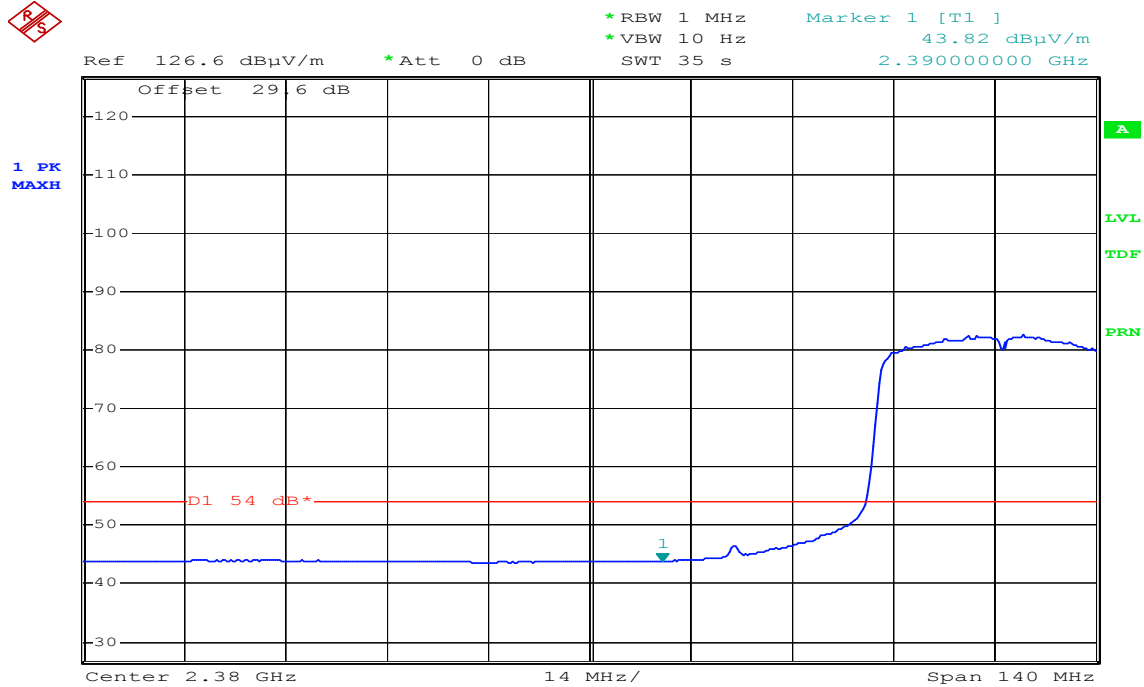
Polarity: Horizontal



Date: 26.OCT.2004 08:54:14

Detector mode: Average

Polarity: Horizontal



Date: 26.OCT.2004 08:51:27



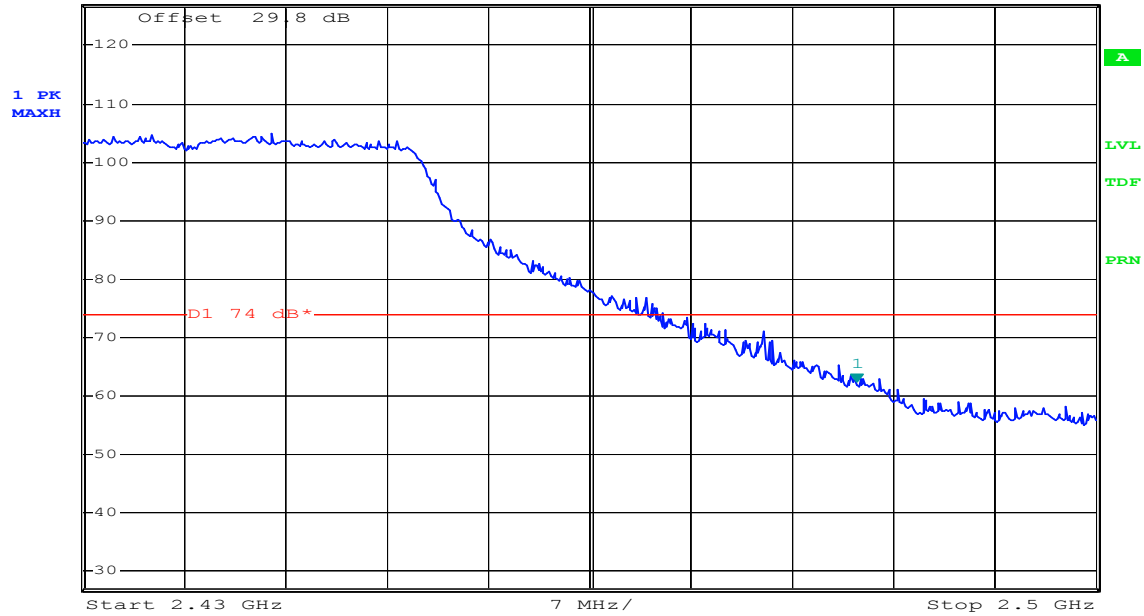
Band Edges (IEEE 802.11g / Turbo mode / CH High)

Detector mode: Peak

Polarity: Vertical



Ref 126.8 dB μ V/m *Att 0 dB
*RBW 1 MHz Marker 1 [T1] 62.39 dB μ V/m
*VBW 1 MHz SWT 2.5 ms 2.483500000 GHz



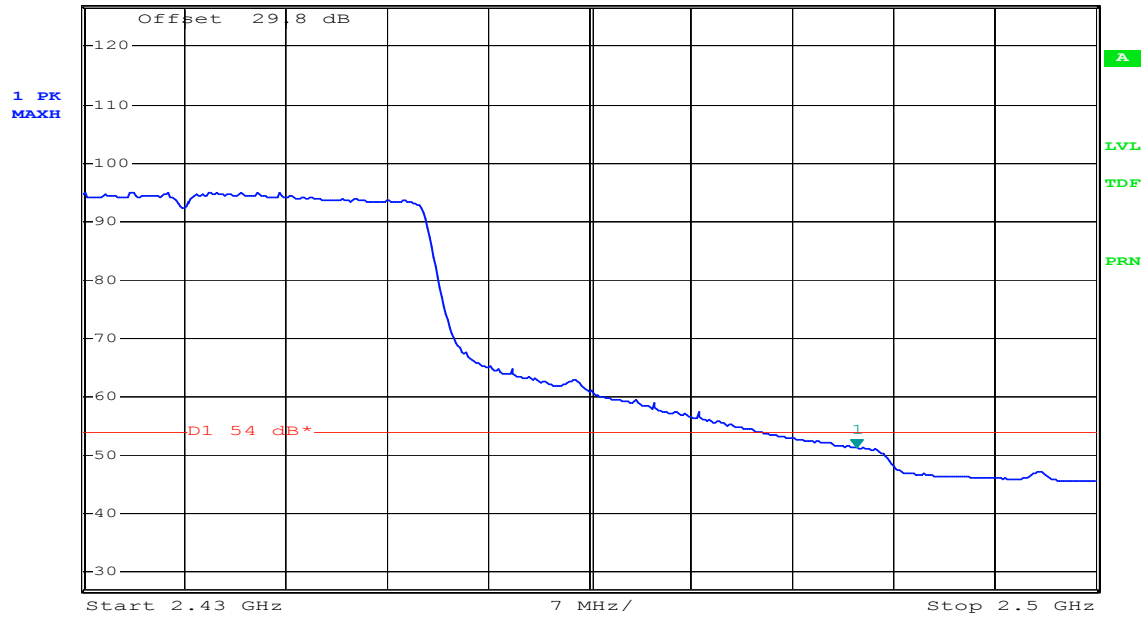
Date: 26.OCT.2004 09:09:44

Detector mode: Average

Polarity: Vertical



Ref 126.8 dB μ V/m *Att 0 dB
*RBW 1 MHz Marker 1 [T1] 51.22 dB μ V/m
*VBW 10 Hz SWT 17.5 s 2.483500000 GHz

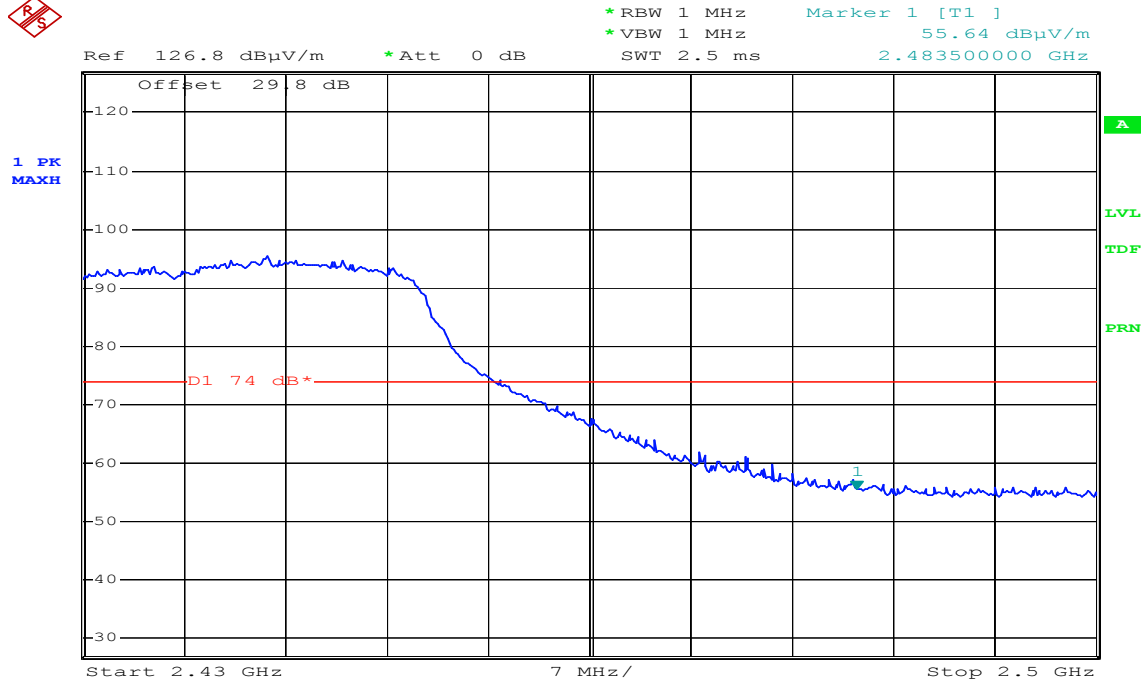


Date: 26.OCT.2004 09:08:44



Detector mode: Peak

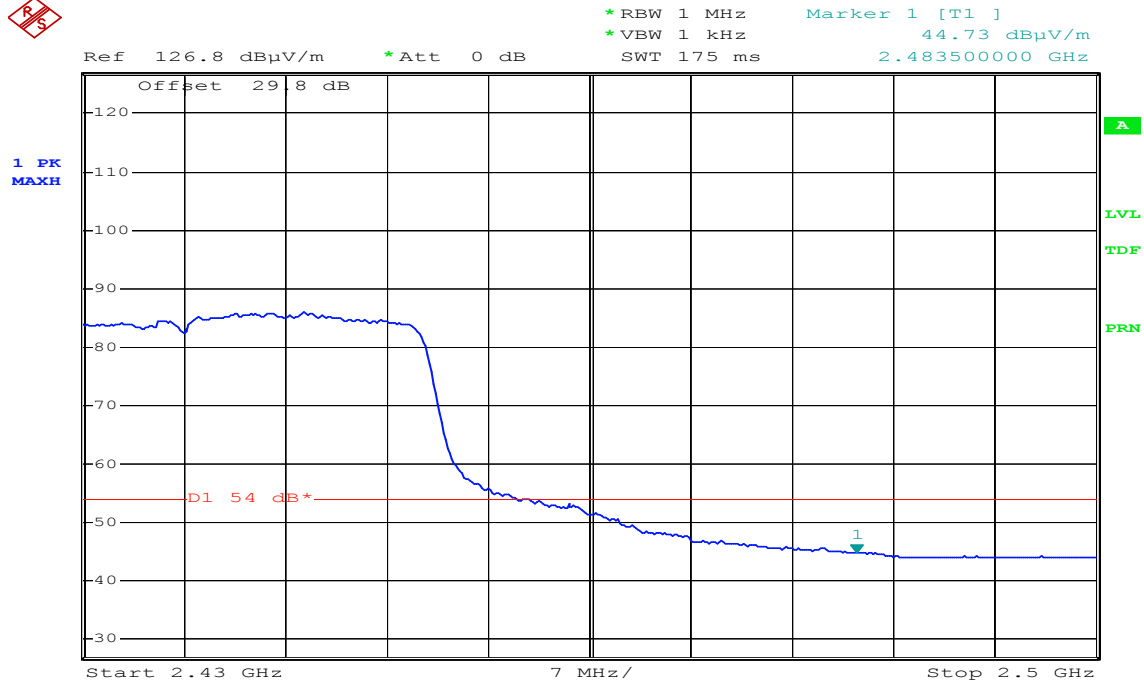
Polarity: Horizontal



Date: 26.OCT.2004 09:02:52

Detector mode: Average

Polarity: Horizontal



Date: 26.OCT.2004 08:56:43



7.2 SPURIOUS EMISSIONS

7.2.1 CONDUCTED MEASUREMENT

LIMIT

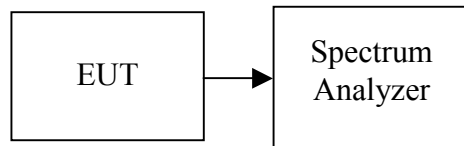
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the 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	MY43360131	01/10/2005

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 26GHz range 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 ~ 25.97GHz

Agilent 13:54:56 Nov 9, 2004

L

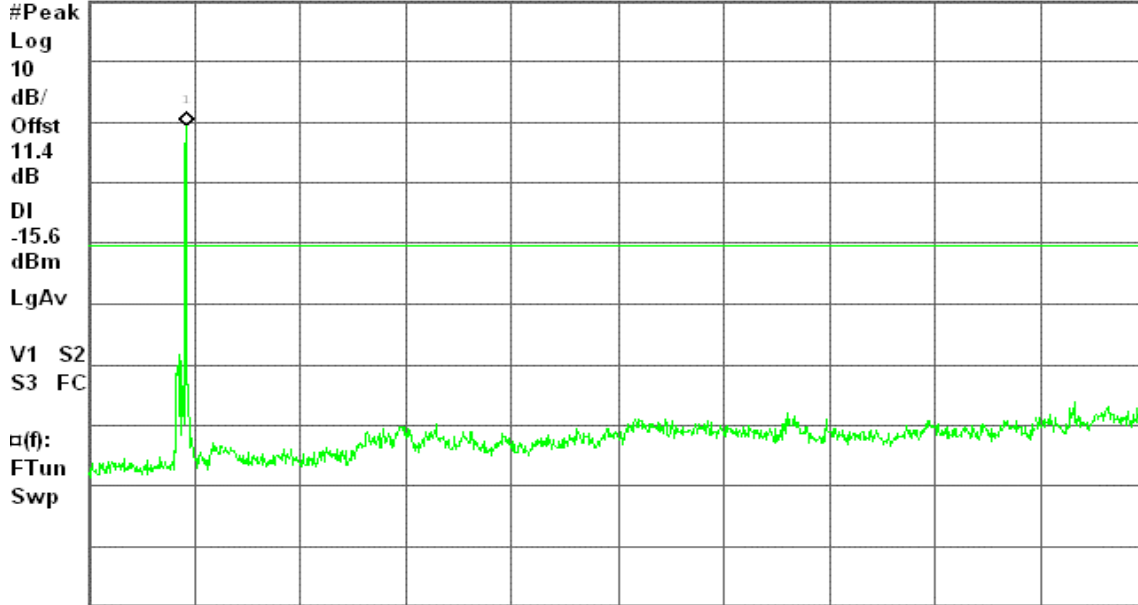
Spurious, b Mode Low Ch.

Mkr1 2.42 GHz

Ref 25 dBm

Atten 30 dB

4.45 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.482 s (1001 pts)

IEEE 802.11b / CH Mid

30MHz ~ 25.97GHz

Agilent 14:02:31 Nov 9, 2004

L

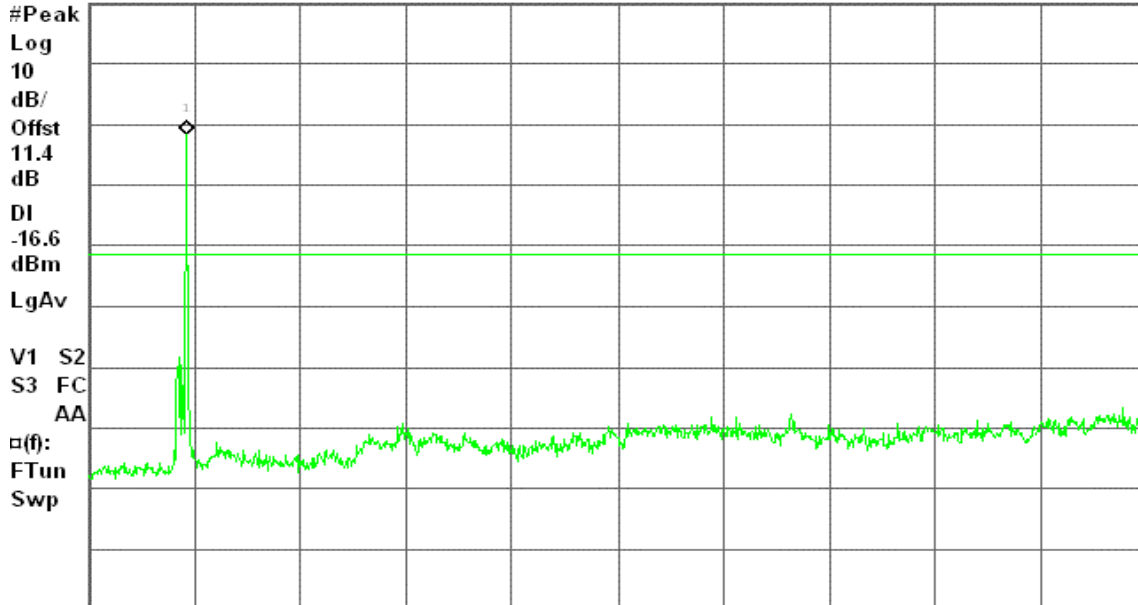
Spurious, b Mode Mid Ch.

Mkr1 2.45 GHz

Ref 25 dBm

Atten 30 dB

3.43 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.482 s (1001 pts)



IEEE 802.11b / CH High

30MHz ~ 25.97GHz

Agilent 14:14:49 Nov 9, 2004

L

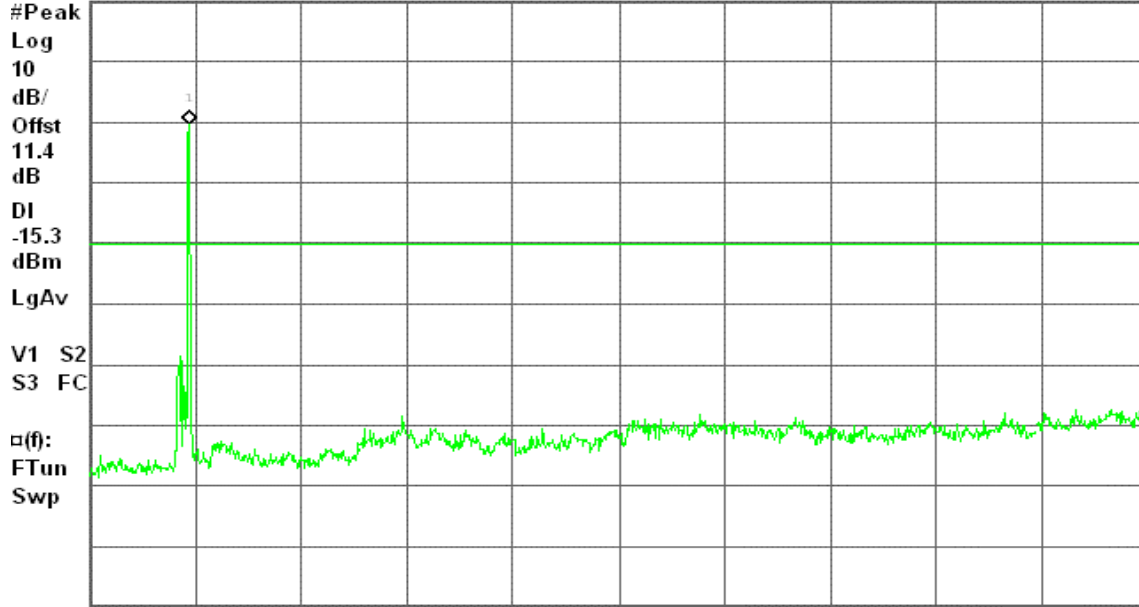
Spurious, b Mode High Ch.

Mkr1 2.47 GHz

Ref 25 dBm

Atten 30 dB

4.70 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.482 s (1001 pts)

IEEE 802.11g / Base Mode / CH Low

30MHz ~ 25.97GHz

Agilent 15:17:28 Nov 9, 2004

L

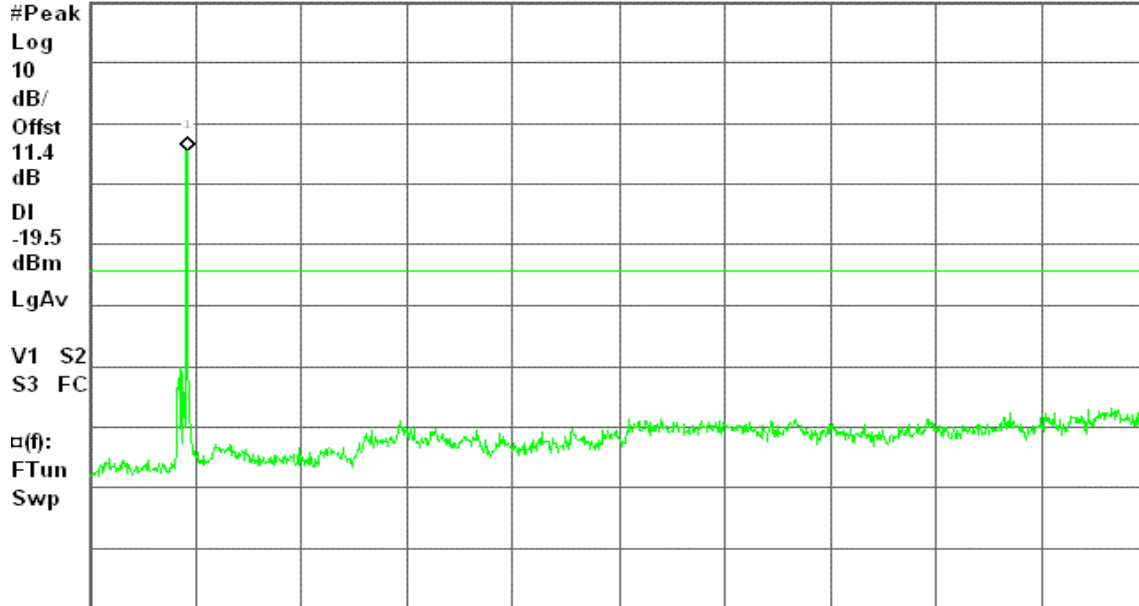
Spurious, g Mode Low Ch.

Mkr1 2.42 GHz

Ref 25 dBm

Atten 30 dB

0.55 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.482 s (1001 pts)



IEEE 802.11g / Base Mode / CH Mid

30MHz ~ 25.97GHz

Agilent 15:25:42 Nov 9, 2004

L

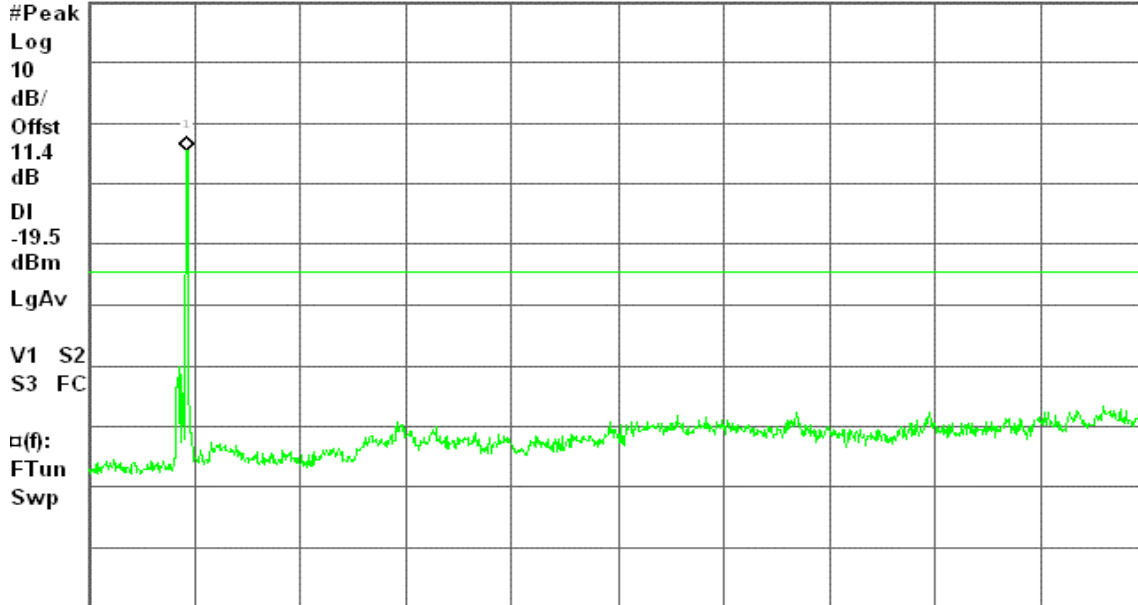
Spurious, g Mode Mid Ch.

Mkr1 2.42 GHz

Ref 25 dBm

Atten 30 dB

0.46 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.482 s (1001 pts)

IEEE 802.11g / Base Mode / CH High

30MHz ~ 25.97GHz

Agilent 15:32:12 Nov 9, 2004

L

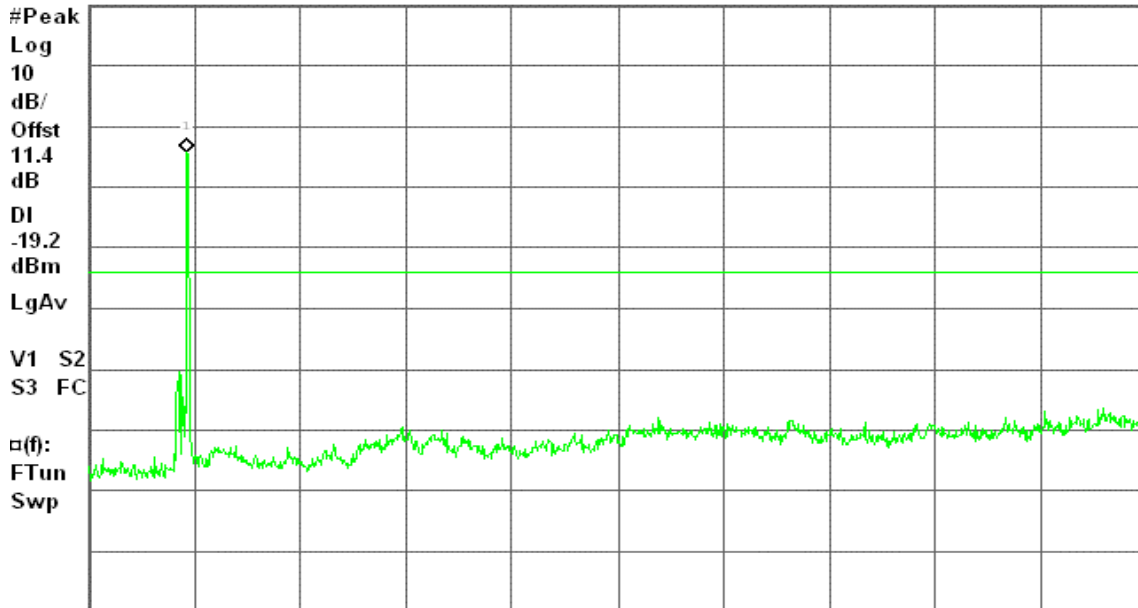
Spurious, g Mode High Ch.

Mkr1 2.45 GHz

Ref 25 dBm

Atten 30 dB

0.80 dBm



Center 13.02 GHz

Span 25.97 GHz

#Res BW 100 kHz

#VBW 300 kHz

Sweep 2.482 s (1001 pts)



IEEE 802.11g / Turbo mode

30MHz ~ 25.97 GHz

Agilent 15:41:42 Nov 9, 2004

L

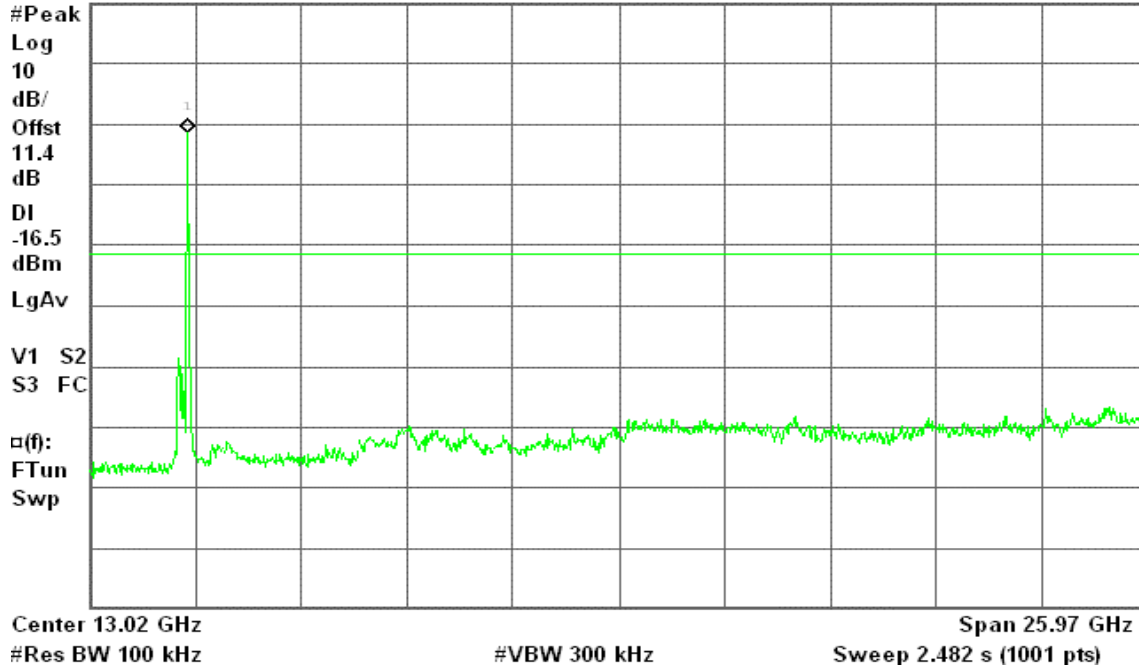
Spurious, g turbo Mode Mid Ch.

Mkr1 2.45 GHz

Ref 25 dBm

Atten 30 dB

3.49 dBm





7.2.2 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 (μ V/m at 3-meter)	Field Strength (dB μ V/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

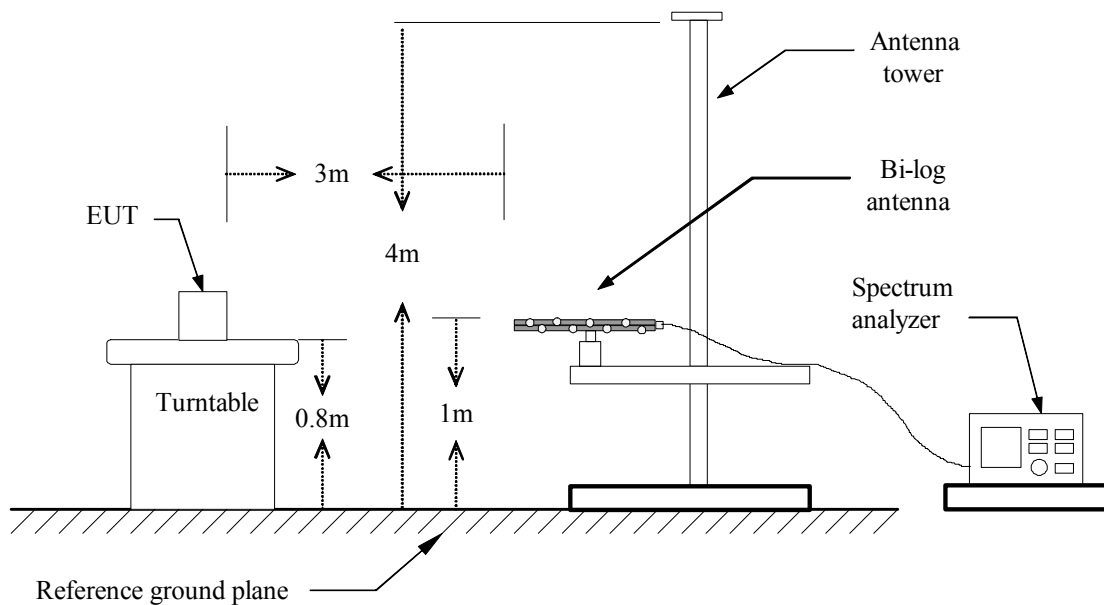
MEASUREMENT EQUIPMENT USED

Open Area Test Site # 3				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	ADVANTEST	R3261A	N/A	03/18/2005
EMI Test Receiver	R&S	ESVS20	838804/004	01/04/2005
Pre-Amplifier	HP	8447D	2944A09173	03/03/2005
Bi-log Antenna	SCHWAZBECK	VULB9163	145	07/05/2005
Turn Table	EMCO	2081-1.21	9709-1885	N.C.R
Antenna Tower	EMCO	2075-2	9707-2060	N.C.R
Controller	EMCO	2090	9709-1256	N.C.R
RF Switch	ANRITSU	MP59B	M53867	N.C.R
Site NSA	C&C	N/A	N/A	09/06/2005
Horn antenna	Schwarzbeck	BBHA 9120	D210	02/23/2005
Horn antenna	EMCO	3116	2487	11/27/2004
Loop Antenna	EMCO	6502	2356	07/10/2005
Pre-Amplifier	HP	8449B	3008B00965	10/02/2005

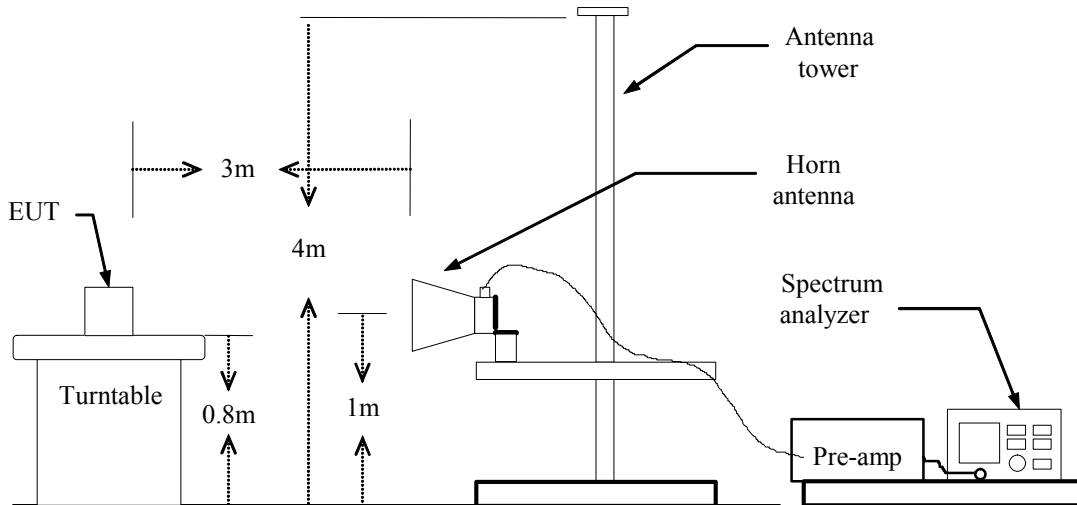
Remark: Each piece of equipment is scheduled for calibration once a year.

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. Set the spectrum analyzer in the following setting as:

Below 1GHz:

RBW=100kHz / VBW=300kHz / Sweep=AUTO

Above 1GHz:

(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

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



TEST RESULTS

CONDITION A: TX / IEEE 802.11b/g mode with Dual-Band Omni-Directional antenna

Below 1 GHz

Operation Mode: TX / IEEE 802.11b / CH Low

Test Date: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)
63.30	V	Peak	22.20	12.36	34.56	40.00	-5.44
68.25	V	Peak	25.29	10.71	36.00	40.00	-4.00
287.85	V	Peak	21.28	16.21	37.49	46.00	-8.51
500.67	V	Peak	12.62	22.53	35.15	46.00	-10.85
658.17	V	Peak	9.77	25.03	34.80	46.00	-11.20
942.83	V	Peak	6.22	28.76	34.98	46.00	-11.02
193.80	H	Peak	23.60	14.30	37.90	43.50	-5.60
215.40	H	Peak	20.80	15.17	35.97	43.50	-7.53
245.10	H	Peak	19.12	16.12	35.24	46.00	-10.76
288.30	H	Peak	17.95	16.23	34.18	46.00	-11.82
500.67	H	Peak	11.12	22.53	33.65	46.00	-12.35
658.17	H	Peak	9.11	25.03	34.14	46.00	-11.86

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: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)
68.25	V	Peak	25.13	10.71	35.84	40.00	-4.16
200.55	V	Peak	21.53	14.93	36.46	43.50	-7.04
288.30	V	Peak	21.62	16.23	37.85	46.00	-8.15
499.50	V	Peak	11.99	22.49	34.48	46.00	-11.52
658.17	V	Peak	9.61	25.03	34.64	46.00	-11.36
942.83	V	Peak	6.56	28.76	35.32	46.00	-10.68
166.80	H	Peak	26.76	11.91	38.67	43.50	-4.83
194.25	H	Peak	22.90	14.35	37.25	43.50	-6.25
254.55	H	Peak	20.56	16.20	36.76	46.00	-9.24
266.70	H	Peak	18.99	15.91	34.90	46.00	-11.10
500.67	H	Peak	11.78	22.53	34.31	46.00	-11.69
658.17	H	Peak	10.44	25.03	35.47	46.00	-10.53

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: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)
68.25	V	Peak	25.13	10.71	35.84	40.00	-4.16
200.56	V	Peak	23.53	14.93	38.46	43.50	-5.04
287.85	V	Peak	23.12	16.21	39.33	46.00	-6.67
499.50	V	Peak	13.99	22.49	36.48	46.00	-9.52
658.17	V	Peak	8.61	25.03	33.64	46.00	-12.36
942.83	V	Peak	6.22	28.76	34.98	46.00	-11.02
154.65	H	Peak	27.50	11.24	38.74	43.50	-4.76
169.95	H	Peak	24.36	12.15	36.51	43.50	-6.99
200.55	H	Peak	25.87	14.93	40.80	43.50	-2.70
288.30	H	Peak	18.78	16.23	35.01	46.00	-10.99
500.67	H	Peak	13.45	22.53	35.98	46.00	-10.02
942.83	H	Peak	5.22	28.76	33.98	46.00	-12.02

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 / Base Mode / CH Low Test Date: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)
64.65	V	Peak	21.89	11.91	33.80	40.00	-6.20
200.55	V	Peak	16.87	14.93	31.80	43.50	-11.70
288.30	V	Peak	22.45	16.23	38.68	46.00	-7.32
500.67	V	Peak	12.95	22.53	35.48	46.00	-10.52
659.33	V	Peak	9.75	25.05	34.80	46.00	-11.20
942.83	V	Peak	6.06	28.76	34.82	46.00	-11.18
154.65	H	Peak	24.34	11.24	35.58	43.50	-7.92
200.55	H	Peak	21.70	14.93	36.63	43.50	-6.87
287.85	H	Peak	18.28	16.21	34.49	46.00	-11.51
499.50	H	Peak	12.49	22.49	34.98	46.00	-11.02
659.33	H	Peak	9.92	25.05	34.97	46.00	-11.03
942.83	H	Peak	4.89	28.76	33.65	46.00	-12.35

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 / Base Mode / CH Mid Test Date: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)
64.20	V	Peak	21.99	12.06	34.05	40.00	-5.95
250.05	V	Peak	16.52	16.31	32.83	46.00	-13.17
288.30	V	Peak	21.12	16.23	37.35	46.00	-8.65
500.67	V	Peak	11.95	22.53	34.48	46.00	-11.52
659.33	V	Peak	9.25	25.05	34.30	46.00	-11.70
944.00	V	Peak	6.23	28.77	35.00	46.00	-11.00
140.25	H	Peak	26.79	10.88	37.67	43.50	-5.83
154.65	H	Peak	27.67	11.24	38.91	43.50	-4.59
174.00	H	Peak	23.75	12.46	36.21	43.50	-7.29
236.55	H	Peak	18.04	15.78	33.82	46.00	-12.18
500.67	H	Peak	11.95	22.53	34.48	46.00	-11.52
659.33	H	Peak	9.25	25.05	34.30	46.00	-11.70

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 / Base Mode / CH High Test Date: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)
67.80	V	Peak	24.65	10.86	35.51	40.00	-4.49
250.05	V	Peak	16.52	16.31	32.83	46.00	-13.17
288.30	V	Peak	20.28	16.23	36.51	46.00	-9.49
500.67	V	Peak	12.12	22.53	34.65	46.00	-11.35
666.33	V	Peak	12.66	25.17	37.83	46.00	-8.17
942.83	V	Peak	6.06	28.76	34.82	46.00	-11.18
167.25	H	Peak	24.89	11.94	36.83	43.50	-6.67
200.55	H	Peak	20.70	14.93	35.63	43.50	-7.87
244.65	H	Peak	17.27	16.10	33.37	46.00	-12.63
500.67	H	Peak	11.62	22.53	34.15	46.00	-11.85
658.17	H	Peak	9.77	25.03	34.80	46.00	-11.20
942.83	H	Peak	5.56	28.76	34.32	46.00	-11.68

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 / Turbo mode

Test Date: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)
64.20	V	Peak	22.49	12.06	34.55	40.00	-5.45
250.05	V	Peak	16.85	16.31	33.16	46.00	-12.84
288.30	V	Peak	21.78	16.23	38.01	46.00	-7.99
499.50	V	Peak	11.99	22.49	34.48	46.00	-11.52
658.17	V	Peak	9.11	25.03	34.14	46.00	-11.86
942.83	V	Peak	5.89	28.76	34.65	46.00	-11.35
154.65	H	Peak	24.67	11.24	35.91	43.50	-7.59
170.85	H	Peak	24.66	12.22	36.88	43.50	-6.62
193.80	H	Peak	21.77	14.30	36.07	43.50	-7.43
288.30	H	Peak	18.62	16.23	34.85	46.00	-11.15
499.50	H	Peak	11.82	22.49	34.31	46.00	-11.69
942.83	H	Peak	5.22	28.76	33.98	46.00	-12.02

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:** November 2, 2004**Temperature:** 20°C**Tested by:** Max Yao**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)				
2173.33	V	49.84	---	-3.81	46.03	---	74.00	54.00	-7.97	Peak
2206.67	V	52.17	---	-3.70	48.47	---	74.00	54.00	-5.53	Peak
3166.67	V	50.17	---	-0.91	49.26	---	74.00	54.00	-4.74	Peak
4866.00	V	49.67	44.37	3.38	53.05	47.75	74.00	54.00	-6.25	AVG
N/A										
2173.33	H	46.00	---	-3.81	42.19	---	74.00	54.00	-11.81	Peak
2206.67	H	48.00	---	-3.70	44.30	---	74.00	54.00	-9.70	Peak
4866.67	H	45.34	---	3.38	48.72	---	74.00	54.00	-5.28	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX / IEEE 802.11b / CH High

Test Date: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)				
2173.33	V	50.17	---	-3.81	46.36	---	74.00	54.00	-7.64	Peak
2206.67	V	52.67	---	-3.70	48.97	---	74.00	54.00	-5.03	Peak
3158.33	V	48.84	---	-0.95	47.89	---	74.00	54.00	-6.11	Peak
4916.67	V	47.00	---	3.49	50.49	---	74.00	54.00	-3.51	Peak
N/A										
2173.33	H	46.17	---	-3.81	42.36	---	74.00	54.00	-11.64	Peak
2206.67	H	47.84	---	-3.70	44.14	---	74.00	54.00	-9.86	Peak
4916.67	H	43.84	---	3.49	47.33	---	74.00	54.00	-6.67	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX / IEEE 802.11g / Base Mode / CH Mid Test Date: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)				
2206.67	V	52.17	---	-3.70	48.47	---	74.00	54.00	-5.53	Peak
3158.33	V	49.17	---	-0.95	48.22	---	74.00	54.00	-5.78	Peak
3408.33	V	46.84	---	0.02	46.86	---	74.00	54.00	-7.14	Peak
4866.67	V	43.00	---	3.38	46.38	---	74.00	54.00	-7.62	Peak
N/A										
2173.33	H	45.00	---	-3.81	41.19	---	74.00	54.00	-12.81	Peak
2206.67	H	46.50	---	-3.70	42.80	---	74.00	54.00	-11.20	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.

**Operation Mode:** TX / IEEE 802.11g / Base Mode / CH High **Test Date:** November 2, 2004**Temperature:** 20°C**Tested by:** Max Yao**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)				
2206.67	V	51.84	---	-3.70	48.14	---	74.00	54.00	-5.86	Peak
3166.67	V	47.84	---	-0.91	46.93	---	74.00	54.00	-7.07	Peak
3400.00	V	46.17	---	-0.01	46.16	---	74.00	54.00	-7.84	Peak
4858.33	V	43.34	---	3.37	46.71	---	74.00	54.00	-7.29	Peak
N/A										
1593.33	H	44.00	---	-6.84	37.16	---	74.00	54.00	-16.84	Peak
2206.67	H	48.34	---	-3.70	44.64	---	74.00	54.00	-9.36	Peak
4841.67	H	41.67	---	3.33	45.00	---	74.00	54.00	-9.00	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX / IEEE 802.11g / Turbo mode

Test Date: November 2, 2004

Temperature: 20°C

Tested by: Max Yao

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)				
2173.33	V	48.50	---	-3.81	44.69	---	74.00	54.00	-9.31	Peak
2206.67	V	54.17	---	-3.70	50.47	---	74.00	54.00	-3.53	Peak
3158.33	V	49.67	---	-0.95	48.72	---	74.00	54.00	-5.28	Peak
4866.67	V	44.34	---	3.38	47.72	---	74.00	54.00	-6.28	Peak
N/A										
1596.67	H	45.67	---	-6.82	38.85	---	74.00	54.00	-15.15	Peak
2206.67	H	50.17	---	-3.70	46.47	---	74.00	54.00	-7.53	Peak
4791.67	H	42.50	---	3.22	45.72	---	74.00	54.00	-8.28	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



CONDITION B: Co-Location of EUT with TX IEEE 802.11a

Below 1 GHz

Operation Mode: TX IEEE 802.11a / CH 5180 / 5dBi +
TX IEEE 802.11b / CH 2412 / 4.5dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
63.30	V	Peak	22.20	12.36	34.56	40.00	-5.44
68.25	V	Peak	25.29	10.71	36.00	40.00	-4.00
287.85	V	Peak	21.28	16.21	37.49	46.00	-8.51
500.67	V	Peak	12.62	22.53	35.15	46.00	-10.85
658.17	V	Peak	9.77	25.03	34.80	46.00	-11.20
942.83	V	Peak	6.22	28.76	34.98	46.00	-11.02
193.80	H	Peak	23.60	14.30	37.90	43.50	-5.60
215.40	H	Peak	20.80	15.17	35.97	43.50	-7.53
245.10	H	Peak	19.12	16.12	35.24	46.00	-10.76
288.30	H	Peak	17.95	16.23	34.18	46.00	-11.82
500.67	H	Peak	11.12	22.53	33.65	46.00	-12.35
658.17	H	Peak	9.11	25.03	34.14	46.00	-11.86

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 802.11a / CH 5180 / 5dBi +
TX IEEE 802.11b / CH 2437 / 4.5dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
68.25	V	Peak	25.13	10.71	35.84	40.00	-4.16
200.55	V	Peak	21.53	14.93	36.46	43.50	-7.04
288.30	V	Peak	21.62	16.23	37.85	46.00	-8.15
499.50	V	Peak	11.99	22.49	34.48	46.00	-11.52
658.17	V	Peak	9.61	25.03	34.64	46.00	-11.36
942.83	V	Peak	6.56	28.76	35.32	46.00	-10.68
166.80	H	Peak	26.76	11.91	38.67	43.50	-4.83
194.25	H	Peak	22.90	14.35	37.25	43.50	-6.25
254.55	H	Peak	20.56	16.20	36.76	46.00	-9.24
266.70	H	Peak	18.99	15.91	34.90	46.00	-11.10
500.67	H	Peak	11.78	22.53	34.31	46.00	-11.69
658.17	H	Peak	10.44	25.03	35.47	46.00	-10.53

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 802.11a / CH 5180 / 5dBi +
TX IEEE 802.11b / CH 2462 / 4.5dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
68.25	V	Peak	25.13	10.71	35.84	40.00	-4.16
200.56	V	Peak	23.53	14.93	38.46	43.50	-5.04
287.85	V	Peak	23.12	16.21	39.33	46.00	-6.67
499.50	V	Peak	13.99	22.49	36.48	46.00	-9.52
658.17	V	Peak	8.61	25.03	33.64	46.00	-12.36
942.83	V	Peak	6.22	28.76	34.98	46.00	-11.02
154.65	H	Peak	27.50	11.24	38.74	43.50	-4.76
169.95	H	Peak	24.36	12.15	36.51	43.50	-6.99
200.55	H	Peak	25.87	14.93	40.80	43.50	-2.70
288.30	H	Peak	18.78	16.23	35.01	46.00	-10.99
500.67	H	Peak	13.45	22.53	35.98	46.00	-10.02
942.83	H	Peak	5.22	28.76	33.98	46.00	-12.02

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 802.11a / CH 5180 / 5dBi +
TX IEEE 802.11g / CH 2412 / 4.5dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
64.65	V	Peak	21.89	11.91	33.80	40.00	-6.20
200.55	V	Peak	16.87	14.93	31.80	43.50	-11.70
288.30	V	Peak	22.45	16.23	38.68	46.00	-7.32
500.67	V	Peak	12.95	22.53	35.48	46.00	-10.52
659.33	V	Peak	9.75	25.05	34.80	46.00	-11.20
942.83	V	Peak	6.06	28.76	34.82	46.00	-11.18
154.65	H	Peak	24.34	11.24	35.58	43.50	-7.92
200.55	H	Peak	21.70	14.93	36.63	43.50	-6.87
287.85	H	Peak	18.28	16.21	34.49	46.00	-11.51
499.50	H	Peak	12.49	22.49	34.98	46.00	-11.02
659.33	H	Peak	9.92	25.05	34.97	46.00	-11.03
942.83	H	Peak	4.89	28.76	33.65	46.00	-12.35

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 802.11a / CH 5180 / 5dBi +
TX IEEE 802.11g / CH 2437 / 4.5dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
64.20	V	Peak	21.99	12.06	34.05	40.00	-5.95
250.05	V	Peak	16.52	16.31	32.83	46.00	-13.17
288.30	V	Peak	21.12	16.23	37.35	46.00	-8.65
500.67	V	Peak	11.95	22.53	34.48	46.00	-11.52
659.33	V	Peak	9.25	25.05	34.30	46.00	-11.70
944.00	V	Peak	6.23	28.77	35.00	46.00	-11.00
140.25	H	Peak	26.79	10.88	37.67	43.50	-5.83
154.65	H	Peak	27.67	11.24	38.91	43.50	-4.59
174.00	H	Peak	23.75	12.46	36.21	43.50	-7.29
236.55	H	Peak	18.04	15.78	33.82	46.00	-12.18
500.67	H	Peak	11.95	22.53	34.48	46.00	-11.52
659.33	H	Peak	9.25	25.05	34.30	46.00	-11.70

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 802.11a / CH 5180 / 5dBi +
TX IEEE 802.11g / CH 2462 / 4.5dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
67.80	V	Peak	24.65	10.86	35.51	40.00	-4.49
250.05	V	Peak	16.52	16.31	32.83	46.00	-13.17
288.30	V	Peak	20.28	16.23	36.51	46.00	-9.49
500.67	V	Peak	12.12	22.53	34.65	46.00	-11.35
666.33	V	Peak	12.66	25.17	37.83	46.00	-8.17
942.83	V	Peak	6.06	28.76	34.82	46.00	-11.18
167.25	H	Peak	24.89	11.94	36.83	43.50	-6.67
200.55	H	Peak	20.70	14.93	35.63	43.50	-7.87
244.65	H	Peak	17.27	16.10	33.37	46.00	-12.63
500.67	H	Peak	11.62	22.53	34.15	46.00	-11.85
658.17	H	Peak	9.77	25.03	34.80	46.00	-11.20
942.83	H	Peak	5.56	28.76	34.32	46.00	-11.68

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.



TX IEEE 802.11a / CH 5180 / 5dBi +
Operation Mode: TX IEEE 802.11g / Turbo CH 2437 /
4.5dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
64.20	V	Peak	22.49	12.06	34.55	40.00	-5.45
250.05	V	Peak	16.85	16.31	33.16	46.00	-12.84
288.30	V	Peak	21.78	16.23	38.01	46.00	-7.99
499.50	V	Peak	11.99	22.49	34.48	46.00	-11.52
658.17	V	Peak	9.11	25.03	34.14	46.00	-11.86
942.83	V	Peak	5.89	28.76	34.65	46.00	-11.35
154.65	H	Peak	24.67	11.24	35.91	43.50	-7.59
170.85	H	Peak	24.66	12.22	36.88	43.50	-6.62
193.80	H	Peak	21.77	14.30	36.07	43.50	-7.43
288.30	H	Peak	18.62	16.23	34.85	46.00	-11.15
499.50	H	Peak	11.82	22.49	34.31	46.00	-11.69
942.83	H	Peak	5.22	28.76	33.98	46.00	-12.02

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 802.11a / CH 5320 / 14dBi +
TX IEEE 802.11b / CH 2412 / 16dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
57.00	V	Peak	22.54	14.06	36.60	40.00	-3.40
287.85	V	Peak	18.12	16.21	34.33	46.00	-11.67
350.17	V	Peak	16.65	18.04	34.69	46.00	-11.31
499.50	V	Peak	16.16	22.49	38.65	46.00	-7.35
658.17	V	Peak	13.94	25.03	38.97	46.00	-7.03
952.17	V	Peak	11.40	28.90	40.30	46.00	-5.70
68.25	H	Peak	25.43	10.71	36.14	40.00	-3.86
250.05	H	Peak	20.69	16.31	37.00	46.00	-9.00
288.30	H	Peak	21.12	16.23	37.35	46.00	-8.65
350.17	H	Peak	18.65	18.04	36.69	46.00	-9.31
500.67	H	Peak	14.45	22.53	36.98	46.00	-9.02
942.83	H	Peak	7.89	28.76	36.65	46.00	-9.35

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 802.11a / CH 5320 / 14dBi +
TX IEEE 802.11b / CH 2437 / 16dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
56.55	V	Peak	22.70	14.15	36.85	40.00	-3.15
287.85	V	Peak	18.12	16.21	34.33	46.00	-11.67
350.17	V	Peak	16.82	18.04	34.86	46.00	-11.14
499.50	V	Peak	15.99	22.49	38.48	46.00	-7.52
658.17	V	Peak	12.11	25.03	37.14	46.00	-8.86
942.83	V	Peak	10.06	28.76	38.82	46.00	-7.18
65.10	H	Peak	23.30	11.76	35.06	40.00	-4.94
250.05	H	Peak	20.52	16.31	36.83	46.00	-9.17
288.30	H	Peak	20.95	16.23	37.18	46.00	-8.82
350.17	H	Peak	18.65	18.04	36.69	46.00	-9.31
658.17	H	Peak	12.27	25.03	37.30	46.00	-8.70
942.83	H	Peak	8.22	28.76	36.98	46.00	-9.02

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 802.11a / CH 5320 / 14dBi +
TX IEEE 802.11b / CH 2462 / 16dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
56.55	V	Peak	22.53	14.15	36.68	40.00	-3.32
287.85	V	Peak	18.95	16.21	35.16	46.00	-10.84
350.17	V	Peak	16.82	18.04	34.86	46.00	-11.14
500.67	V	Peak	16.95	22.53	39.48	46.00	-6.52
659.33	V	Peak	14.09	25.05	39.14	46.00	-6.86
942.83	V	Peak	9.06	28.76	37.82	46.00	-8.18
68.25	H	Peak	24.26	10.71	34.97	40.00	-5.03
200.55	H	Peak	20.37	14.93	35.30	43.50	-8.20
288.30	H	Peak	21.45	16.23	37.68	46.00	-8.32
350.17	H	Peak	19.15	18.04	37.19	46.00	-8.81
499.50	H	Peak	14.49	22.49	36.98	46.00	-9.02
658.17	H	Peak	13.11	25.03	38.14	46.00	-7.86

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 802.11a / CH 5320 / 14dBi +
TX IEEE 802.11g / CH 2412 / 16dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
56.55	V	Peak	23.20	14.15	37.35	40.00	-2.65
287.85	V	Peak	18.95	16.21	35.16	46.00	-10.84
304.67	V	Peak	20.65	16.81	37.46	46.00	-8.54
500.67	V	Peak	16.45	22.53	38.98	46.00	-7.02
659.33	V	Peak	14.09	25.05	39.14	46.00	-6.86
944.00	V	Peak	9.07	28.77	37.84	46.00	-8.16
67.80	H	Peak	24.44	10.86	35.30	40.00	-4.70
250.05	H	Peak	20.35	16.31	36.66	46.00	-9.34
287.85	H	Peak	21.95	16.21	38.16	46.00	-7.84
350.17	H	Peak	19.32	18.04	37.36	46.00	-8.64
500.67	H	Peak	14.62	22.53	37.15	46.00	-8.85
659.33	H	Peak	12.09	25.05	37.14	46.00	-8.86

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 802.11a / CH 5320 / 14dBi +
TX IEEE 802.11g / CH 2437 / 16dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
56.10	V	Peak	22.86	14.24	37.10	40.00	-2.90
287.85	V	Peak	18.62	16.21	34.83	46.00	-11.17
500.67	V	Peak	16.62	22.53	39.15	46.00	-6.85
659.33	V	Peak	13.75	25.05	38.80	46.00	-7.20
675.67	V	Peak	11.05	25.34	36.39	46.00	-9.61
942.83	V	Peak	9.22	28.76	37.98	46.00	-8.02
68.25	H	Peak	25.26	10.71	35.97	40.00	-4.03
200.55	H	Peak	20.87	14.93	35.80	43.50	-7.70
288.30	H	Peak	20.95	16.23	37.18	46.00	-8.82
350.17	H	Peak	19.48	18.04	37.52	46.00	-8.48
500.67	H	Peak	15.28	22.53	37.81	46.00	-8.19
659.33	H	Peak	13.09	25.05	38.14	46.00	-7.86

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 802.11a / CH 5320 / 14dBi +
TX IEEE 802.11g / CH 2462 / 16dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
58.80	V	Peak	19.72	13.70	33.42	40.00	-6.58
288.30	V	Peak	17.12	16.23	33.35	46.00	-12.65
400.33	V	Peak	12.51	20.72	33.23	46.00	-12.77
500.67	V	Peak	16.28	22.53	38.81	46.00	-7.19
659.33	V	Peak	12.42	25.05	37.47	46.00	-8.53
946.33	V	Peak	11.42	28.81	40.23	46.00	-5.77
68.25	H	Peak	24.76	10.71	35.47	40.00	-4.53
250.05	H	Peak	20.52	16.31	36.83	46.00	-9.17
288.30	H	Peak	21.28	16.23	37.51	46.00	-8.49
350.17	H	Peak	18.32	18.04	36.36	46.00	-9.64
500.67	H	Peak	14.95	25.03	39.98	46.00	-6.02
658.17	H	Peak	13.27	25.03	38.30	46.00	-7.70

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 802.11a / CH 5320 / 14dBi +
TX IEEE 802.11g / Turbo CH 2437 / 16dBi **Test Date:** November 2, 2004

Temperature: 28°C **Tested by:** Max Yao

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)
59.25	V	Peak	24.23	13.61	37.84	40.00	-2.16
288.30	V	Peak	21.28	16.23	37.51	46.00	-8.49
350.17	V	Peak	17.15	18.04	35.19	46.00	-10.81
499.50	V	Peak	17.49	22.49	39.98	46.00	-6.02
659.33	V	Peak	15.75	25.05	40.80	46.00	-5.20
942.83	V	Peak	9.72	28.76	38.48	46.00	-7.52
68.25	H	Peak	26.09	10.71	36.80	40.00	-3.20
141.60	H	Peak	24.45	10.91	35.36	43.50	-8.14
250.05	H	Peak	21.19	16.31	37.50	46.00	-8.50
288.30	H	Peak	20.62	16.23	36.85	46.00	-9.15
499.50	H	Peak	14.49	22.49	36.98	46.00	-9.02
658.17	H	Peak	11.61	25.03	36.64	46.00	-9.36

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 802.11a Base mode / CH 5745 / 18dBi
+ TX IEEE 802.11b / CH 2412 / 16dBi

Test Date: November 2, 2004

Temperature: 28°C

Tested by: Max Yao

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)
59.25	V	Peak	24.56	13.61	38.17	40.00	-1.83
141.60	V	Peak	21.79	10.91	32.70	43.50	-10.80
288.30	V	Peak	17.45	16.23	33.68	46.00	-12.32
350.17	V	Peak	16.15	18.04	34.19	46.00	-11.81
455.17	V	Peak	19.12	20.41	39.53	46.00	-6.47
952.17	V	Peak	8.73	28.90	37.63	46.00	-8.37
56.55	H	Peak	18.34	14.15	32.49	40.00	-7.51
68.70	H	Peak	22.93	10.56	33.49	40.00	-6.51
141.60	H	Peak	21.79	10.91	32.70	43.50	-10.80
250.05	H	Peak	19.52	16.31	35.83	46.00	-10.17
287.85	H	Peak	20.95	16.21	37.16	46.00	-8.84
455.17	H	Peak	18.12	20.41	38.53	46.00	-7.47

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 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11b / CH 2437 / 16dBi **Test Date:** November 2, 2004
Temperature: 28°C **Tested by:** Max Yao
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)
63.30	V	Peak	24.37	12.36	36.73	40.00	-3.27
141.15	V	Peak	22.01	10.90	32.91	43.50	-10.59
250.05	V	Peak	17.35	16.31	33.66	46.00	-12.34
288.30	V	Peak	16.78	16.23	33.01	46.00	-12.99
455.17	V	Peak	19.29	20.41	39.70	46.00	-6.30
942.83	V	Peak	6.56	28.76	35.32	46.00	-10.68
58.80	H	Peak	24.15	13.70	37.85	40.00	-2.15
73.20	H	Peak	25.22	9.93	35.15	40.00	-4.85
141.60	H	Peak	21.29	10.91	32.20	43.50	-11.30
250.05	H	Peak	20.69	16.31	37.00	46.00	-9.00
288.30	H	Peak	19.28	16.23	35.51	46.00	-10.49
455.17	H	Peak	18.79	20.41	39.20	46.00	-6.80

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 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11b / CH 2462 / 16dBi **Test Date:** November 2, 2004
Temperature: 28°C **Tested by:** Max Yao
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)
68.25	V	Peak	25.29	10.71	36.00	40.00	-4.00
141.15	V	Peak	19.51	10.90	30.41	43.50	-13.09
250.05	V	Peak	16.69	16.31	33.00	46.00	-13.00
455.17	V	Peak	18.95	20.41	39.36	46.00	-6.64
575.33	V	Peak	7.79	24.83	32.62	46.00	-13.38
942.83	V	Peak	6.72	28.76	35.48	46.00	-10.52
64.20	H	Peak	21.50	12.06	33.56	40.00	-6.44
68.25	H	Peak	23.59	10.71	34.30	40.00	-5.70
250.05	H	Peak	19.85	16.31	36.16	46.00	-9.84
287.85	H	Peak	18.95	16.21	35.16	46.00	-10.84
455.17	H	Peak	18.79	20.41	39.20	46.00	-6.80
500.67	H	Peak	12.45	22.53	34.98	46.00	-11.02

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 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11g / CH 2412 / 16dBi **Test Date:** November 2, 2004
Temperature: 28°C **Tested by:** Max Yao
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)
57.45	V	Peak	22.38	13.97	36.35	40.00	-3.65
141.60	V	Peak	20.62	10.91	31.53	43.50	-11.97
250.05	V	Peak	19.35	16.31	35.66	46.00	-10.34
350.17	V	Peak	13.32	18.04	31.36	46.00	-14.64
500.67	V	Peak	10.78	22.53	33.31	46.00	-12.69
942.83	V	Peak	8.56	28.76	37.32	46.00	-8.68
52.05	H	Peak	19.00	15.06	34.06	40.00	-5.94
141.60	H	Peak	19.12	10.91	30.03	43.50	-13.47
250.05	H	Peak	19.02	16.31	35.33	46.00	-10.67
450.50	H	Peak	13.20	20.19	33.39	46.00	-12.61
500.67	H	Peak	9.45	22.53	31.98	46.00	-14.02
658.17	H	Peak	6.77	25.03	31.80	46.00	-14.20

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 802.11a Base mode / CH 5745 / 18dBi
+ TX IEEE 802.11g / CH 2437 / 16dBi **Test Date:** November 2, 2004

Temperature: 28°C **Tested by:** Max Yao

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)
57.00	V	Peak	22.87	14.06	36.93	40.00	-3.07
141.60	V	Peak	21.29	10.91	32.20	43.50	-11.30
250.05	V	Peak	18.35	16.31	34.66	46.00	-11.34
450.05	V	Peak	9.53	20.19	29.72	46.00	-16.28
499.50	V	Peak	11.16	22.49	33.65	46.00	-12.35
942.83	V	Peak	8.22	28.76	36.98	46.00	-9.02
52.05	H	Peak	19.33	15.06	34.39	40.00	-5.61
56.10	H	Peak	17.91	14.24	32.15	40.00	-7.85
141.15	H	Peak	18.68	10.90	29.58	43.50	-13.92
250.05	H	Peak	19.02	16.31	35.33	46.00	-10.67
450.50	H	Peak	11.87	20.19	32.06	46.00	-13.94
499.50	H	Peak	10.67	22.49	33.16	46.00	-12.84

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 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11g / CH 2462 / 16dBi **Test Date:** November 2, 2004
Temperature: 28°C **Tested by:** Max Yao
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)
56.55	V	Peak	23.03	14.15	37.18	40.00	-2.82
141.15	V	Peak	20.84	10.90	31.74	43.50	-11.76
250.05	V	Peak	18.52	16.31	34.83	46.00	-11.17
350.17	V	Peak	12.82	18.04	30.86	46.00	-15.14
499.50	V	Peak	11.82	22.49	34.31	46.00	-11.69
942.83	V	Peak	8.39	28.76	37.15	46.00	-8.85
52.05	H	Peak	19.50	15.06	34.56	40.00	-5.44
141.60	H	Peak	18.12	10.91	29.03	43.50	-14.47
250.05	H	Peak	18.52	16.31	34.83	46.00	-11.17
350.17	H	Peak	13.65	18.04	31.69	46.00	-14.31
450.50	H	Peak	13.37	20.19	33.56	46.00	-12.44
500.67	H	Peak	11.28	22.53	33.81	46.00	-12.19

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 802.11a Base mode / CH 5745 / 18dBi
+ TX IEEE 802.11g / Turbo CH 2437 / 16dBi **Test Date:** November 2, 2004

Temperature: 28°C **Tested by:** Max Yao

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)
56.55	V	Peak	22.70	14.15	36.85	40.00	-3.15
141.15	V	Peak	20.51	10.90	31.41	43.50	-12.09
250.05	V	Peak	19.02	16.31	35.33	46.00	-10.67
350.17	V	Peak	12.82	18.04	30.86	46.00	-15.14
499.50	V	Peak	11.16	22.49	33.65	46.00	-12.35
941.67	V	Peak	8.21	28.76	36.97	46.00	-9.03
52.05	H	Peak	18.83	15.06	33.89	40.00	-6.11
250.05	H	Peak	18.52	16.31	34.83	46.00	-11.17
350.17	H	Peak	13.82	18.04	31.86	46.00	-14.14
450.50	H	Peak	12.87	20.19	33.06	46.00	-12.94
500.67	H	Peak	10.78	22.53	33.31	46.00	-12.69
659.33	H	Peak	6.92	25.05	31.97	46.00	-14.03

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 802.11a Base mode / CH 5180 / 5dBi
+ TX IEEE 802.11b / CH 2412 / 4.5dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	54.67	---	-3.81	50.86	---	74.00	54.00	-3.14	Peak
2206.67	V	53.50	---	-3.70	49.80	---	74.00	54.00	-4.20	Peak
3158.33	V	49.00	---	-0.90	48.10	---	74.00	54.00	-5.90	Peak
4816.67	V	46.34	---	3.28	49.62	---	74.00	54.00	-4.38	Peak
N/A										
2173.33	H	46.34	---	-3.81	42.53	---	74.00	54.00	-11.47	Peak
2206.67	H	47.50	---	-3.70	43.80	---	74.00	54.00	-10.20	Peak
4816.00	H	44.84	---	3.28	48.12	---	74.00	54.00	-5.88	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5180 / 5dBi
+ TX IEEE 802.11b / CH 2437 / 4.5dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	49.84	---	-3.81	46.03	---	74.00	54.00	-7.97	Peak
2206.67	V	52.17	---	-3.70	48.47	---	74.00	54.00	-5.53	Peak
3166.67	V	50.17	---	-0.91	49.26	---	74.00	54.00	-4.74	Peak
4866.00	V	49.67	44.37	3.38	53.05	47.75	74.00	54.00	-6.25	AVG
N/A										
2173.33	H	46.00	---	-3.81	42.19	---	74.00	54.00	-11.81	Peak
2206.67	H	48.00	---	-3.70	44.30	---	74.00	54.00	-9.70	Peak
4866.67	H	45.34	---	3.38	48.72	---	74.00	54.00	-5.28	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5180 / 5dBi
+ TX IEEE 802.11b / CH 2462 / 4.5dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	50.17	---	-3.81	46.36	---	74.00	54.00	-7.64	Peak
2206.67	V	52.67	---	-3.70	48.97	---	74.00	54.00	-5.03	Peak
3158.33	V	48.84	---	-0.95	47.89	---	74.00	54.00	-6.11	Peak
4916.67	V	47.00	---	3.49	50.49	---	74.00	54.00	-3.51	Peak
N/A										
2173.33	H	46.17	---	-3.81	42.36	---	74.00	54.00	-11.64	Peak
2206.67	H	47.84	---	-3.70	44.14	---	74.00	54.00	-9.86	Peak
4916.67	H	43.84	---	3.49	47.33	---	74.00	54.00	-6.67	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5180 / 5dBi
+ TX IEEE 802.11g Base mode / CH 2412 / 4.5dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	48.34	---	-3.81	44.53	---	74.00	54.00	-9.47	Peak
2206.67	V	48.67	---	-3.70	44.97	---	74.00	54.00	-9.03	Peak
3166.67	V	48.00	---	-0.91	47.09	---	74.00	54.00	-6.91	Peak
5166.67	V	43.00	---	4.02	47.02	---	74.00	54.00	-6.98	Peak
N/A										
1440.00	H	45.84	---	-8.00	37.84	---	74.00	54.00	-16.16	Peak
2206.67	H	47.50	---	-3.70	43.80	---	74.00	54.00	-10.20	Peak
4966.67	H	40.84	---	3.60	44.44	---	74.00	54.00	-9.56	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5180 / 5dBi
+ TX IEEE 802.11g Base mode / CH 2437 / 4.5dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2206.67	V	52.17	---	-3.70	48.47	---	74.00	54.00	-5.53	Peak
3158.33	V	49.17	---	-0.95	48.22	---	74.00	54.00	-5.78	Peak
3408.33	V	46.84	---	0.02	46.86	---	74.00	54.00	-7.14	Peak
4866.67	V	43.00	---	3.38	46.38	---	74.00	54.00	-7.62	Peak
N/A										
2173.33	H	45.00	---	-3.81	41.19	---	74.00	54.00	-12.81	Peak
2206.67	H	46.50	---	-3.70	42.80	---	74.00	54.00	-11.20	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5180 / 5dBi
+ TX IEEE 802.11g Base mode / CH 2462 / 4.5dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2206.67	V	51.84	---	-3.70	48.14	---	74.00	54.00	-5.86	Peak
3166.67	V	47.84	---	-0.91	46.93	---	74.00	54.00	-7.07	Peak
3400.00	V	46.17	---	-0.01	46.16	---	74.00	54.00	-7.84	Peak
4858.33	V	43.34	---	3.37	46.71	---	74.00	54.00	-7.29	Peak
N/A										
1593.33	H	44.00	---	-6.84	37.16	---	74.00	54.00	-16.84	Peak
2206.67	H	48.34	---	-3.70	44.64	---	74.00	54.00	-9.36	Peak
4841.67	H	41.67	---	3.33	45.00	---	74.00	54.00	-9.00	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5180 / 5dBi
+ TX IEEE 802.11g Turbo mode / CH 2437 / 4.5dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	48.50	---	-3.81	44.69	---	74.00	54.00	-9.31	Peak
2206.67	V	54.17	---	-3.70	50.47	---	74.00	54.00	-3.53	Peak
3158.33	V	49.67	---	-0.95	48.72	---	74.00	54.00	-5.28	Peak
4866.67	V	44.34	---	3.38	47.72	---	74.00	54.00	-6.28	Peak
N/A										
1596.67	H	45.67	---	-6.82	38.85	---	74.00	54.00	-15.15	Peak
2206.67	H	50.17	---	-3.70	46.47	---	74.00	54.00	-7.53	Peak
4791.67	H	42.50	---	3.22	45.72	---	74.00	54.00	-8.28	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5320 / 14dBi
+ TX IEEE 802.11b / CH 2412 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
3558.33	V	51.17	---	0.65	51.82	---	74.00	54.00	-2.18	Peak
4816.67	V	46.84	---	3.28	50.12	---	74.00	54.00	-3.88	Peak
5591.67	V	45.67	---	4.81	50.48	---	74.00	54.00	-3.52	Peak
N/A										
1440.00	H	45.50	---	-8.00	37.50	---	74.00	54.00	-16.50	Peak
1670.00	H	46.67	---	-6.41	40.26	---	74.00	54.00	-13.74	Peak
4816.67	H	41.50	---	3.28	44.78	---	74.00	54.00	-9.22	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5320 / 14dBi
+ TX IEEE 802.11b / CH 2437 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	50.50	---	-3.81	46.69	---	74.00	54.00	-7.31	Peak
2206.67	V	49.17	---	-3.70	45.47	---	74.00	54.00	-8.53	Peak
4866.67	V	42.67	---	3.38	46.05	---	74.00	54.00	-7.95	Peak
5541.67	V	45.50	---	4.76	50.26	---	74.00	54.00	-3.74	Peak
N/A										
1663.33	H	47.50	---	-6.45	41.05	---	74.00	54.00	-12.95	Peak
1780.00	H	47.17	---	-5.83	41.34	---	74.00	54.00	-12.66	Peak
4866.67	H	41.50	---	3.38	44.88	---	74.00	54.00	-9.12	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5320 / 14dBi
+ TX IEEE 802.11b / CH 2462 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	50.67	---	-3.81	46.86	---	74.00	54.00	-7.14	Peak
2206.67	V	49.84	---	-3.70	46.14	---	74.00	54.00	-7.86	Peak
3666.67	V	44.67	---	1.14	45.81	---	74.00	54.00	-8.19	Peak
4916.67	V	47.84	---	3.49	51.33	---	74.00	54.00	-2.67	Peak
N/A										
1676.67	H	47.00	---	-6.38	40.62	---	74.00	54.00	-13.38	Peak
1780.00	H	45.50	---	-5.83	39.67	---	74.00	54.00	-14.33	Peak
4916.67	H	48.50	---	3.49	51.99	---	74.00	54.00	-2.01	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5320 / 14dBi
+ TX IEEE 802.11g Base mode / CH 2412 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	49.67	---	-3.81	45.86	---	74.00	54.00	-8.14	Peak
2206.67	V	47.67	---	-3.70	43.97	---	74.00	54.00	-10.03	Peak
3666.67	V	44.34	---	1.14	45.48	---	74.00	54.00	-8.52	Peak
4816.67	V	41.67	---	3.28	44.95	---	74.00	54.00	-9.05	Peak
N/A										
1593.33	H	44.34	---	-6.84	37.50	---	74.00	54.00	-16.50	Peak
2036.67	H	43.67	---	-4.27	39.40	---	74.00	54.00	-14.60	Peak
4808.33	H	41.34	---	3.26	44.60	---	74.00	54.00	-9.40	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5320 / 14dBi
+ TX IEEE 802.11g Base mode / CH 2437 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	47.50	---	-3.81	43.69	---	74.00	54.00	-10.31	Peak
2206.67	V	48.50	---	-3.70	44.80	---	74.00	54.00	-9.20	Peak
3575.00	V	49.00	---	0.72	49.72	---	74.00	54.00	-4.28	Peak
3616.67	V	46.34	---	0.91	47.25	---	74.00	54.00	-6.75	Peak
N/A										
1693.33	H	44.67	---	-6.29	38.38	---	74.00	54.00	-15.62	Peak
4891.67	H	42.34	---	3.44	45.78	---	74.00	54.00	-8.22	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5320 / 14dBi
+ TX IEEE 802.11g Base mode / CH 2462 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	48.34	---	-3.81	44.53	---	74.00	54.00	-9.47	Peak
3616.67	V	46.00	---	0.91	46.91	---	74.00	54.00	-7.09	Peak
3666.67	V	45.50	---	1.14	46.64	---	74.00	54.00	-7.36	Peak
4916.67	V	44.00	---	3.49	47.49	---	74.00	54.00	-6.51	Peak
N/A										
1680.00	H	45.34	---	-6.36	38.98	---	74.00	54.00	-15.02	Peak
1760.00	H	46.84	---	-5.94	40.90	---	74.00	54.00	-13.10	Peak
3550.00	H	45.67	---	0.61	46.28	---	74.00	54.00	-7.72	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5320 / 14dBi
+ TX IEEE 802.11g Turbo mode / CH 2437 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
2173.33	V	49.00	---	-3.81	45.19	---	74.00	54.00	-8.81	Peak
2206.67	V	50.34	---	-3.70	46.64	---	74.00	54.00	-7.36	Peak
3550.00	V	45.34	---	0.61	45.95	---	74.00	54.00	-8.05	Peak
3658.33	V	46.34	---	1.10	47.44	---	74.00	54.00	-6.56	Peak
N/A										
1066.67	H	47.84	---	-9.96	37.88	---	74.00	54.00	-16.12	Peak
1760.00	H	46.00	---	-5.94	40.06	---	74.00	54.00	-13.94	Peak
3583.33	H	44.84	---	0.76	45.60	---	74.00	54.00	-8.40	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5745 / 18dBi
+ TX IEEE 802.11b / CH 2412 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
1440.00	V	48.00	---	-8.00	40.00	---	74.00	54.00	-14.00	Peak
2173.33	V	52.50	---	-3.81	48.69	---	74.00	54.00	-5.31	Peak
2206.67	V	47.17	---	-3.70	43.47	---	74.00	54.00	-10.53	Peak
4866.67	V	45.00	---	3.38	48.38	---	74.00	54.00	-5.62	Peak
N/A										
2063.33	H	43.84	---	-4.18	39.66	---	74.00	54.00	-14.34	Peak
2636.67	H	44.84	---	-2.42	42.42	---	74.00	54.00	-11.58	Peak
4900.00	H	41.50	---	3.45	44.95	---	74.00	54.00	-9.05	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5745 / 18dB
+ TX IEEE 802.11b / CH 2437 / 16dB

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
1596.67	V	47.17	---	-6.82	40.35	---	74.00	54.00	-13.65	Peak
2173.33	V	51.00	---	-3.81	47.19	---	74.00	54.00	-6.81	Peak
2206.67	V	46.84	---	-3.70	43.14	---	74.00	54.00	-10.86	Peak
4866.67	V	45.84	---	3.38	49.22	---	74.00	54.00	-4.78	Peak
N/A										
1596.67	H	47.34	---	-6.82	40.52	---	74.00	54.00	-13.48	Peak
2173.33	H	50.00	---	-3.81	46.19	---	74.00	54.00	-7.81	Peak
2206.67	H	48.00	---	-3.70	44.30	---	74.00	54.00	-9.70	Peak
4908.33	H	42.00	---	3.47	45.47	---	74.00	54.00	-8.53	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11b / CH 2462 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
1593.33	V	46.17	---	-6.84	39.33	---	74.00	54.00	-14.67	Peak
2173.33	V	51.17	---	-3.81	47.36	---	74.00	54.00	-6.64	Peak
2206.67	V	47.00	---	-3.70	43.30	---	74.00	54.00	-10.70	Peak
4916.67	V	46.67	---	3.49	50.16	---	74.00	54.00	-3.84	Peak
N/A										
1643.33	H	44.17	---	-6.56	37.61	---	74.00	54.00	-16.39	Peak
1940.00	H	43.00	---	-4.80	38.20	---	74.00	54.00	-15.80	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11g / CH 2412 / 16dBi **Test Date:** October 31, 2004
Temperature: 28°C **Tested by:** Max Yao
Humidity: 60% 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)				
1596.67	V	50.00	---	-6.82	43.18	---	74.00	54.00	-10.82	Peak
2173.33	V	48.50	---	-3.81	44.69	---	74.00	54.00	-9.31	Peak
2206.67	V	46.00	---	-3.70	42.30	---	74.00	54.00	-11.70	Peak
4816.67	V	42.00	---	3.28	45.28	---	74.00	54.00	-8.72	Peak
N/A										
2333.33	H	44.84	---	-3.27	41.57	---	74.00	54.00	-12.43	Peak
4816.67	H	41.84	---	3.28	45.12	---	74.00	54.00	-8.88	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11g / CH 2437 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
1593.33	V	46.00	---	-6.84	39.16	---	74.00	54.00	-14.84	Peak
2173.33	V	47.84	---	-3.81	44.03	---	74.00	54.00	-9.97	Peak
2206.67	V	46.17	---	-3.70	42.47	---	74.00	54.00	-11.53	Peak
4866.67	V	42.84	---	3.38	46.22	---	74.00	54.00	-7.78	Peak
N/A										
1440.00	H	42.17	---	-8.00	34.17	---	74.00	54.00	-19.83	Peak
4883.33	H	40.34	---	3.42	43.76	---	74.00	54.00	-10.24	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11g / CH 2462 / 16dBi

Test Date: October 31, 2004

Temperature: 28°C

Tested by: Max Yao

Humidity: 60% 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)				
1596.67	V	45.84	---	-6.82	39.02	---	74.00	54.00	-14.98	Peak
2173.33	V	49.34	---	-3.81	45.53	---	74.00	54.00	-8.47	Peak
2206.67	V	47.34	---	-3.70	43.64	---	74.00	54.00	-10.36	Peak
4916.67	V	47.17	---	3.49	50.66	---	74.00	54.00	-3.34	Peak
N/A										
2340.00	H	44.34	---	-3.25	41.09	---	74.00	54.00	-12.91	Peak
4916.67	H	43.17	---	3.49	46.66	---	74.00	54.00	-7.34	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



Operation Mode: TX IEEE 802.11a Base mode / CH 5745 / 18dBi + TX IEEE 802.11g / Turbo CH 2437 / 16dBi **Test Date:** October 31, 2004
Temperature: 28°C **Tested by:** Max Yao
Humidity: 60% 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)				
1593.33	V	46.00	---	-6.84	39.16	---	74.00	54.00	-14.84	Peak
2173.33	V	47.00	---	-3.81	43.19	---	74.00	54.00	-10.81	Peak
2206.67	V	49.84	---	-3.70	46.14	---	74.00	54.00	-7.86	Peak
4866.67	V	42.84	---	3.38	46.22	---	74.00	54.00	-7.78	Peak
N/A										
1633.33	H	43.84	---	-6.61	37.23	---	74.00	54.00	-16.77	Peak
2083.33	H	44.84	---	-4.11	40.73	---	74.00	54.00	-13.27	Peak
4166.67	H	43.34	---	2.64	45.98	---	74.00	54.00	-8.02	Peak
N/A										

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 to 10th harmonics of fundamental, RBW = 1MHz, VBW = 1MHz, Sweep time = Auto.
 - b. AV Setting 1GHz to 10th harmonics of fundamental, RBW = 1MHz, VBW = 10Hz, Sweep time = Auto.



7.3 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

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI TEST RECEIVER 9kHz-30MHz	ROHDE & SCHWARZ	ESHS30	828144/003	09/24/2005
TWO-LINE V-NETWORK 9kHz-30MHz	SCHAFFNER	NNB41	03/10013	06/11/2005
LISN 10kHz-100MHz	EMCO	3825/2	9106-1809	02/05/2005

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



Test Configuration

1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.4.
2. The EUT was plug-in the host PC via USB port. The host PC system was placed on the center of the back edge on the test table. The peripherals like modem, monitor printer, K/B, and mouse were placed on the side of the host PC system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
3. The keyboard was placed directly in the front of the monitor, flushed with the front tabletop. The mouse was placed next to the Keyboard, flushed with the back of keyboard.
4. The spacing between the peripherals was 10 centimeters.
5. External I/O cables were draped along the edge of the test table and bundle when necessary.
6. The host PC system was connected with 110Vac/60Hz power source.

The EUT is set to transmit in a continuous mode.

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.

Test Data

Operation Mode: Normal mode **Test Date:** November 3, 2004
Temperature: 22°C **Tested by:** Max Yao
Humidity: 65 % RH

FREQ MHz	Q.P. Raw dBuV	AVG Raw dBuV	Q.P. Limit dBuV	AVG Limit dBuV	Q.P. Margin dB	AVG Margin dB	NOTE
0.860	43.40	---	56.00	46.00	-12.60	---	L1
3.502	49.70	43.90	56.00	46.00	-6.30	-2.10	L1
3.898	48.60	42.80	56.00	46.00	-7.40	-3.20	L1
14.000	47.10	---	60.00	50.00	-12.90	---	L1
15.488	56.40	43.50	60.00	50.00	-3.60	-6.50	L1
27.533	54.90	44.50	60.00	50.00	-5.10	-5.50	L1
0.860	42.40	---	56.00	46.00	-13.60	---	L2
3.498	53.25	42.90	56.00	46.00	-2.75	-3.10	L2
3.894	53.17	42.60	56.00	46.00	-2.83	-3.40	L2
14.437	57.20	46.30	60.00	50.00	-2.80	-3.70	L2
15.082	57.40	44.70	60.00	50.00	-2.60	-5.30	L2
27.600	47.50	---	60.00	50.00	-12.50	---	L2

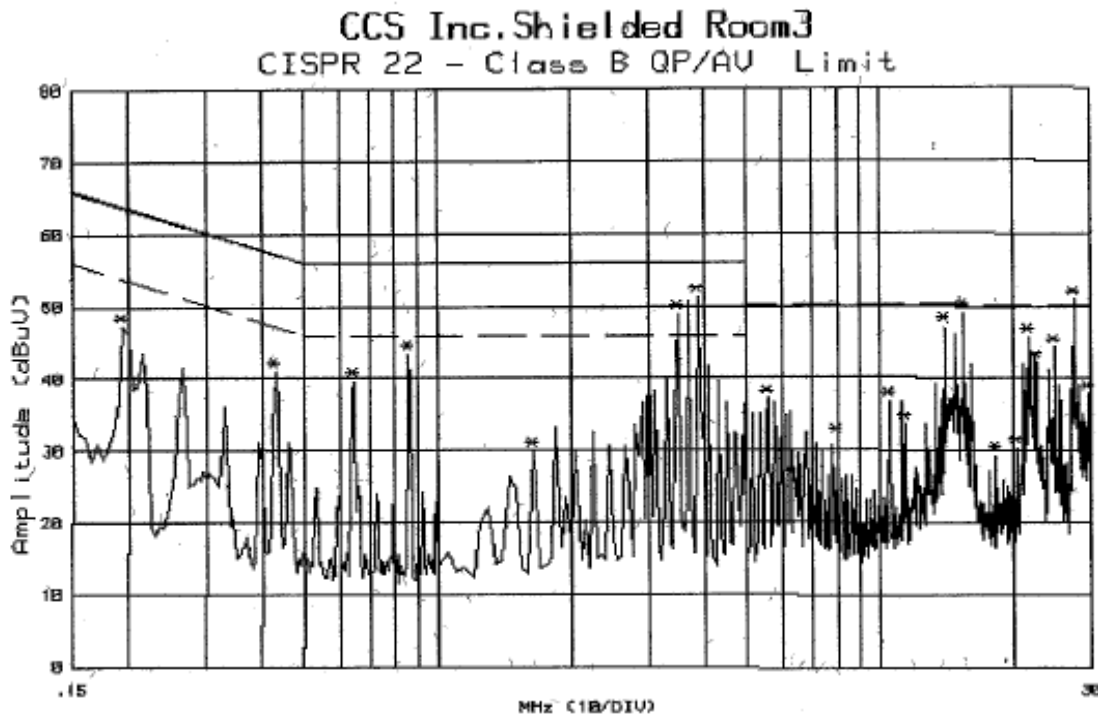
Note:

1. Measuring frequencies from 0.15 MHz to 30MHz.
2. The emissions measured in frequency range from 0.15 MHz to 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
4. The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;
5. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)

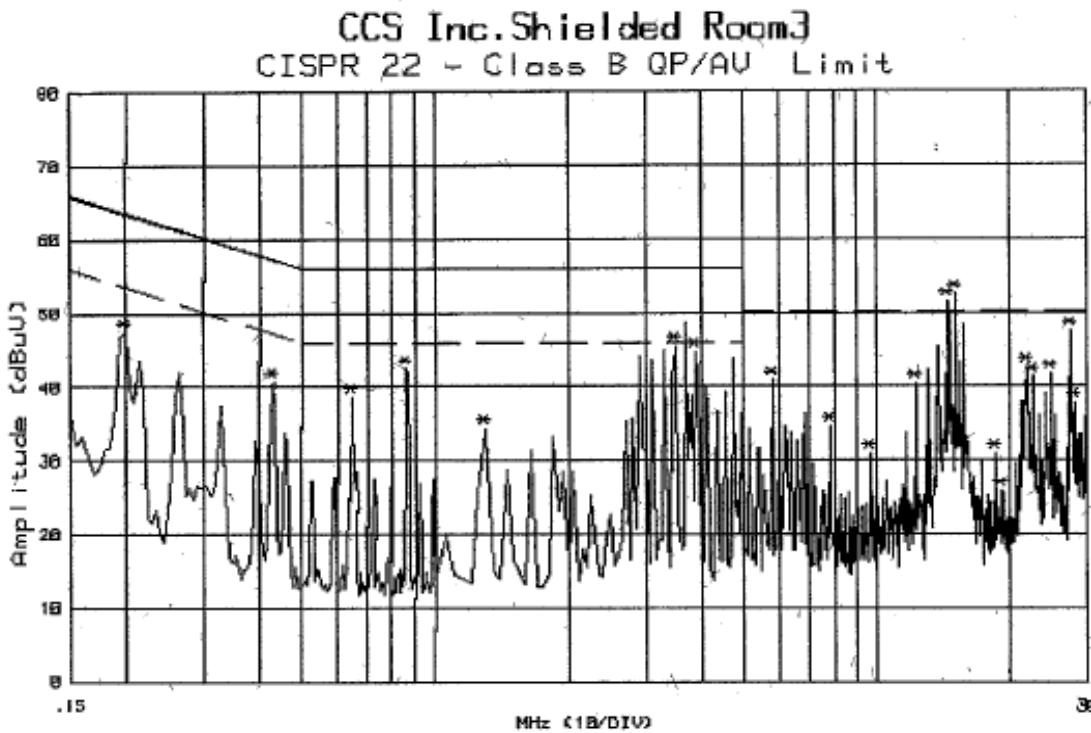


Test Plots

Conducted emissions (Line 1)

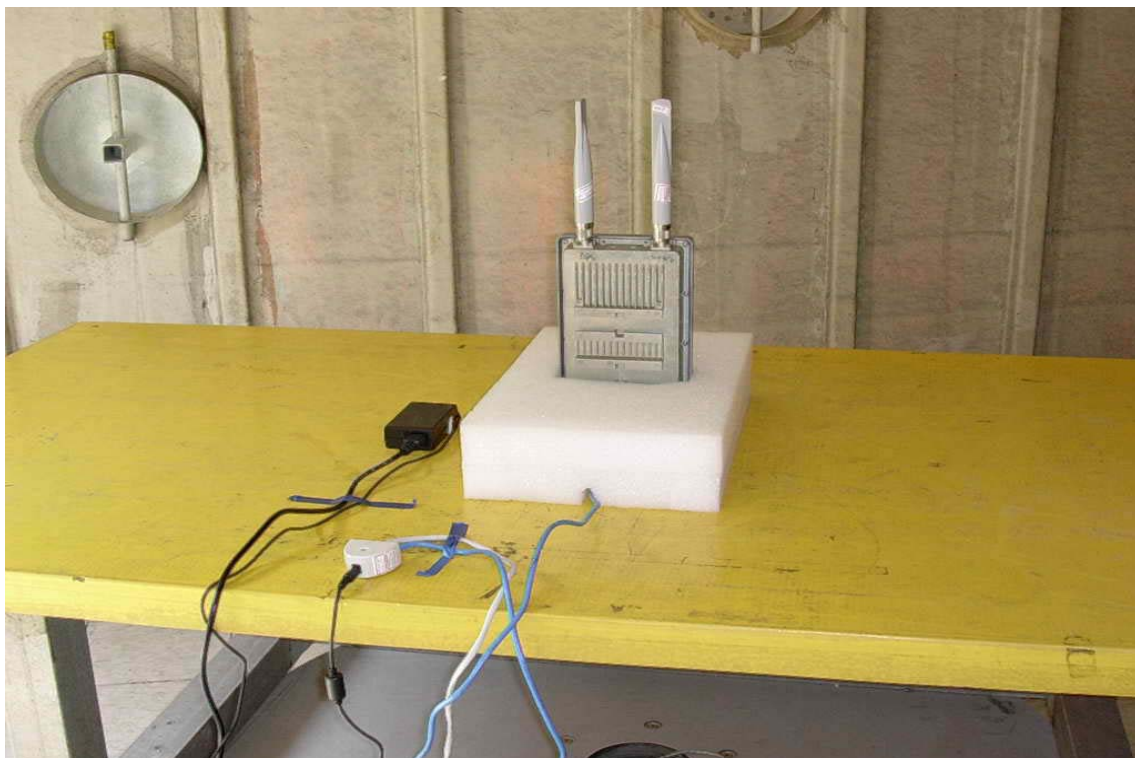


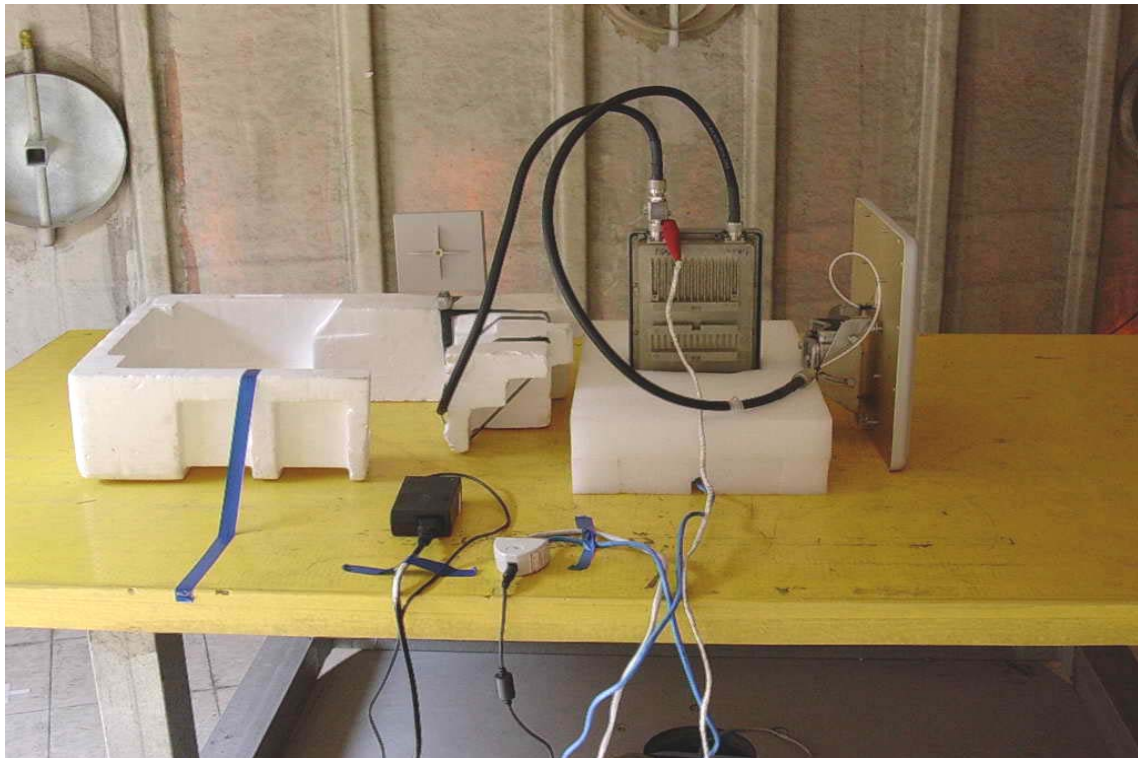
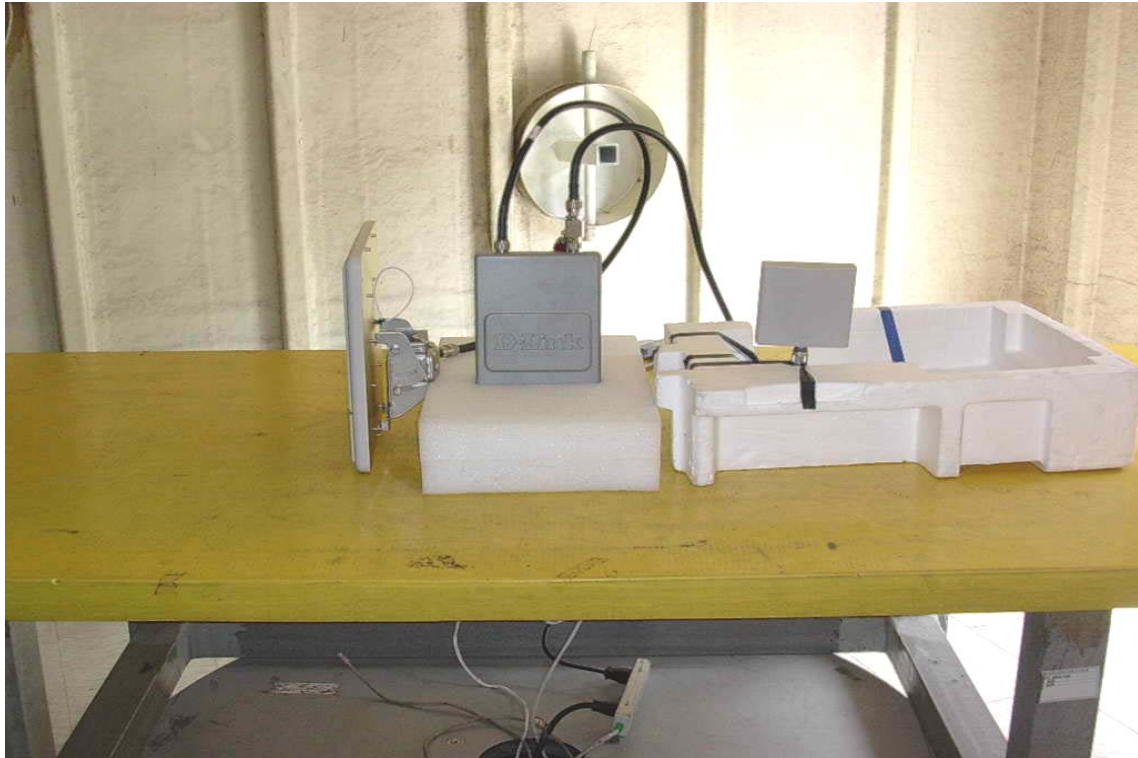
Conducted emissions (Line 2)

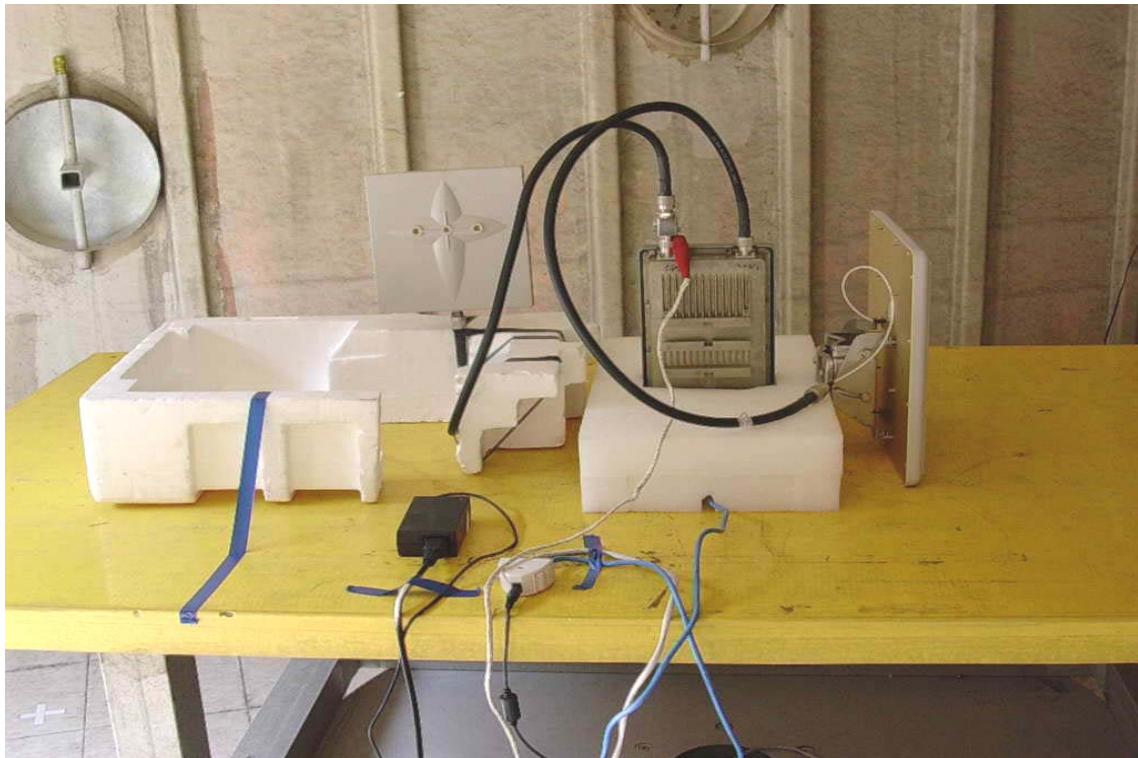
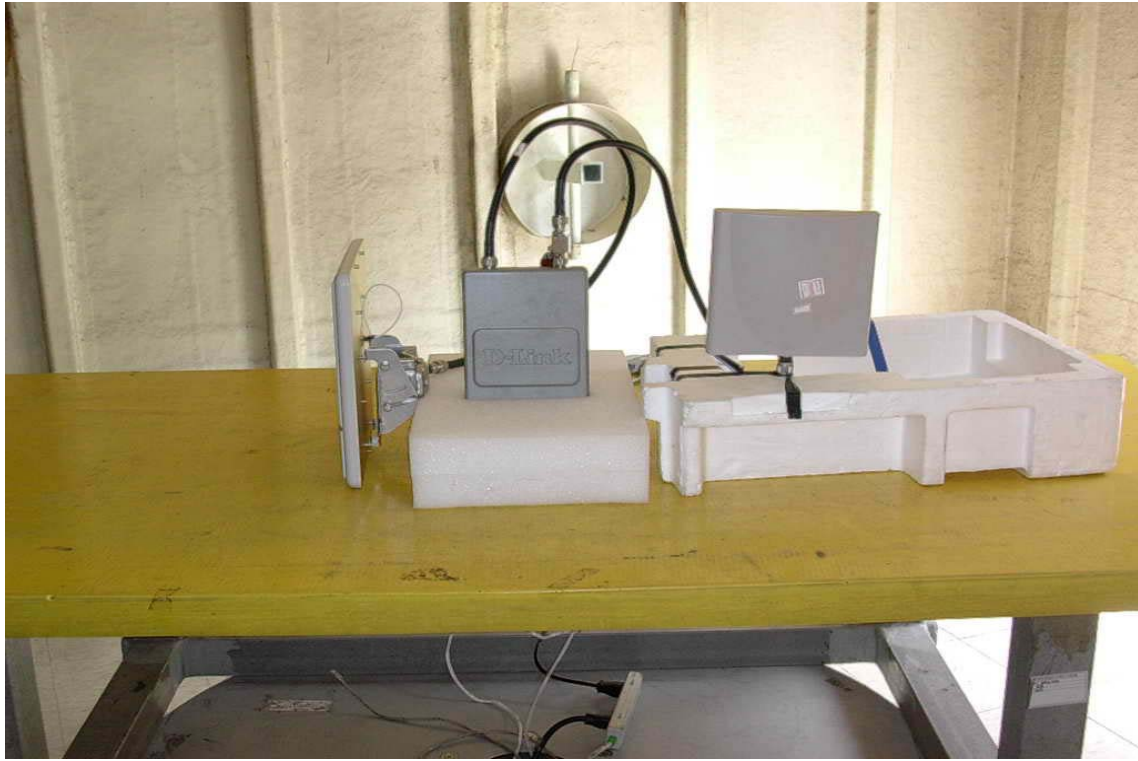


APPENDIX 1 PHOTOGRPHS OF TEST SETUP

Radiated Emission Set up Photos









Conducted Emission Set Up Photos

