

FCC CFR47 PART 15 SUBPART C CLASS II PERMISSIVE CHANGE

TEST REPORT

FOR

802.11b/g HALF SIZE MINI-PCI WLAN MODULE

MODEL NUMBER: PA3426U-1MPC

FCC ID: CJ6UPA3426WL

REPORT NUMBER: 05U3307-1

ISSUE DATE: MARCH 17, 2005

Prepared for TOSHIBA CORPORATION DIGITAL MEDIA NETWORK COMPANY 2-9 SUEHIRO-CHO, OME TOKYO, 198-8710, JAPAN

> Prepared by COMPLIANCE ENGINEERING SERVICES, INC. d.b.a. COMPLIANCE CERTIFICATION SERVICES 561F MONTEREY ROAD, MORGAN HILL, CA 95037, USA TEL: (408) 463-0885 FAX: (408) 463-0888

LAB CODE:200065-0

Revision History

Rev. Revisions

Revised By

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	TOSHIBA CORPORATION DIGITAL MEDIA NETWORK COMPANY 2-9 SUEHIRO-CHO, OME TOKYO, 198-8710, JAPAN				
EUT DESCRIPTION:	802.11 b/g HALF SIZE MINI-PCI WLAN MODULE				
MODEL:	PA3426U-1MPC				
SERIAL NUMBER:	0011F5-32AFOF				
DATE OF ORIGINAL TEST:	JANUARY 03 Thru FEBRUARY 04, 2005				
DATE OF ADDITIONAL TEST: MARCH 9-11, 2005					

APPLICABLE STANDARDS				
STANDARD	TEST RESULTS			
FCC PART 15 SUBPART C	NO NON-COMPLIANCE NOTED			

Compliance Certification Services, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by NVLAP, NIST, or any government agency.

Approved & Released For CCS By:

THU CHAN / EMC SUPERVISOR COMPLIANCE CERTIFICATION SERVICES

Additional tests conducted by:

Chin Pany

CHIN PANG / EMC ENGINEER COMPLIANCE CERTIFICATION SERVICES

Original tests conducted by

Chin Pany

CHIN PANG / EMC ENGINEER COMPLIANCE CERTIFICATION SERVICES

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.4, ANSI C63.7 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <u>http://www.ccsemc.com</u>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 200 MHz	+/- 3.3 dB
Radiated Emission, 200 to 1000 MHz	+4.5 / -2.9 dB
Radiated Emission, 1000 to 2000 MHz	+4.5 / -2.9 dB
Power Line Conducted Emission	+/- 2.9 dB

Uncertainty figures are valid to a confidence level of 95%.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 802.11b/g transceiver WLAN.

The radio module is manufactured by Atheros.

Optionally the WLAN may be collocated with one Bluetooth transceiver BC04 (FCC ID: CJ6UPA3418BT).

5.2. CLASS II PERMISSIVE CHANGE DESCRIPTION

The EUT was originally tested and reported under CCS project no.: 04U3194, and granted by TCB on February 28, 2005. The major change filed under this application is:

- The EUT is being used in a different host.

Additional tests were conducted on radiated emissions and AC power line conducted emissions, while conducted emissions data remains the same as what was performed under CCS project no.: 04U3194.

5.3. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range	Mode	Output Power	Output Power
(MHz)		(dBm)	(mW)
2412 - 2462	802.11b	19.44	87.90
2412 - 2462	802.11g	22.97	198.15
2412 - 2462	802.11g Turbo	21.53	142.23

2400 to 2483.5 MHz Authorized Band

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes four PIFA Film type antennas, each has a maximum gain as follows:

- 1. HTL017: 4.24 dBi at 2.4GHz without cable loss;
- 2. HTL004: 4.18 dBi at 2.4GHz without cable loss;
- 3. HTL008: 2.89 dBi at 2.4GHz without cable loss;
- 4. TIAN01: 4.02 dBi at 2.4GHz without cable loss.

The HTL017 antenna, which has the highest gain, represents the worst-case scenario.

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5.5. SOFTWARE AND FIRMWARE

The test firmware was installed in the EUT during testing.

The test utility software used during testing was "art program" rev. V5_2_b14.

5.6. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power. The highest measured output power was at 2412 MHz for both b and g modes.

The worst-case data rate for this channel is determined to be 1 Mb/s for b mode and 6 Mb/s for g mode, based on previous experience with 802.11b/g WLAN product design architectures.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST						
Description	Manufacturer	Model	Serial Number	FCC ID		
Laptop	Toshiba Libretto	XAL580TNHW	22062758J	DoC		
AC Adapter	Toshiba	PA24404	0110C1123893	NA		

I/O CABLES

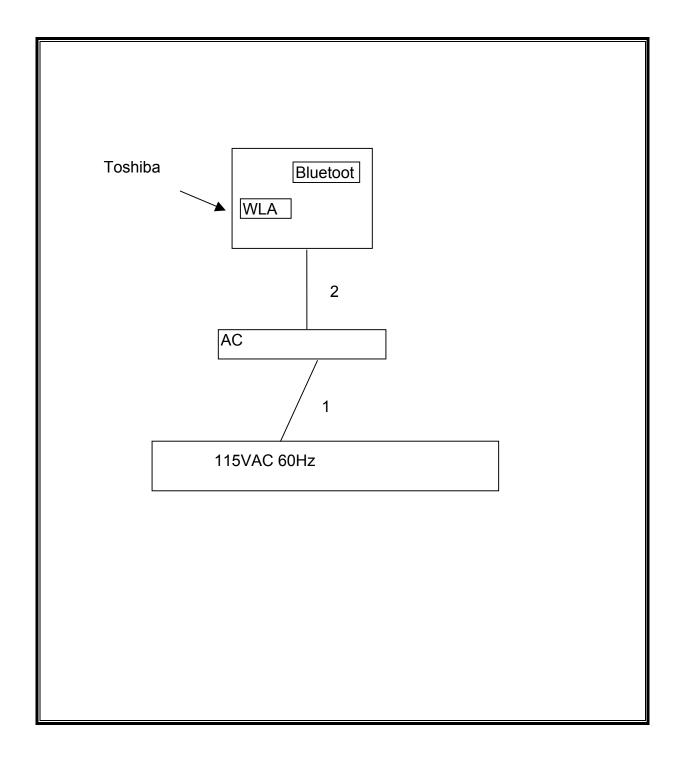
I/O CABLE LIST							
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks	
1	AC	1	US 115V	Un-shielded	2m	No	
2	DC	1	DC	Un-shielded	1m	No	

TEST SETUP

The EUT is installed in a host laptop computer during the tests. Test software exercised the radio card.

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SETUP DIAGRAM FOR TESTS



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6. TEST AND MEASUREMENT EQUIPMENT

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	Cal Due
EMI Test Receiver	R & S	ESHS 20	827129/006	10/22/2005
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	8/30/05
Site A Line Stabilizer / Conditioner	Tripplite	LC-1800a	A0051681	CNR
EMI Test Receiver	R & S	ESIB40	100192	1/28/06
Antenna, Horn 1 ~ 18 GHz	EMCO	3117	29301	9/12/05
Preamplifier, 1 ~ 26.5 GHz	HP	8449B	3008A00369	8/17/05
30MHz 2Ghz	Sunol Sciences	JB1 Antenna	A121003	9/12/05
SA RF Section, 1.5 GHz	HP	85680B	2814A04227	2/22/06
SA Display Section 2	HP	85662A	2816A16696	5/24/05
Quasi-Peak Adaptor	HP	85650A	2811A01155	5/24/05
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	2238	9/12/05
Preamplifier, 1 ~ 26 GHz	Miteq	NSP2600-44	646456	8/17/05

The following test and measurement equipment was utilized for the tests documented in this report:

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7. LIMITS AND RESULTS

7.1. CHANNEL TESTS FOR THE 2400 TO 2483.5 MHz BAND

7.1.1.6 dB BANDWIDTH

<u>LIMIT</u>

§15.247 (a) (2) For direct sequence systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

<u>RESULTS</u>

No non-compliance noted:

802.11b Mode

Channel	Frequency	6 dB Bandwidth	Minimum Limit	Margin
	(MHz)	(kHz)	(kHz)	(kHz)
Low	2412	12030	500	11530
Middle	2437	12000	500	11500
High	2462	12030	500	11530

802.11g Mode

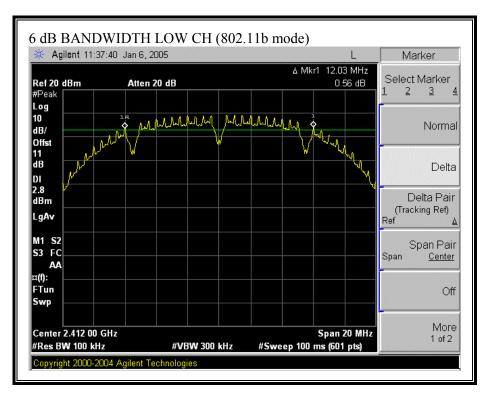
Channel	Frequency	6 dB Bandwidth	Minimum Limit	Margin
	(MHz)	(kHz)	(kHz)	(kHz)
Low	2412	16400	500	15900
Middle	2437	16300	500	15800
High	2462	16400	500	15900

802.11g Turbo Mode

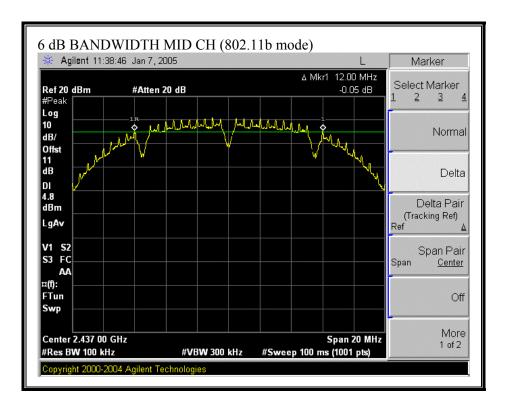
Channel	Frequency	6 dB Bandwidth	Minimum Limit	Margin
	(MHz)	(kHz)	(kHz)	(kHz)
Middle	2437	32500	500	32000

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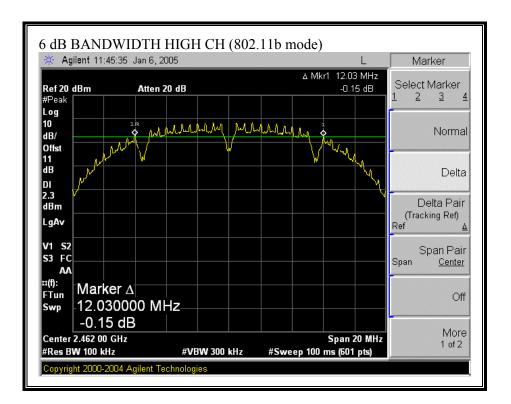
6 dB BANDWIDTH (802.11b MODE)



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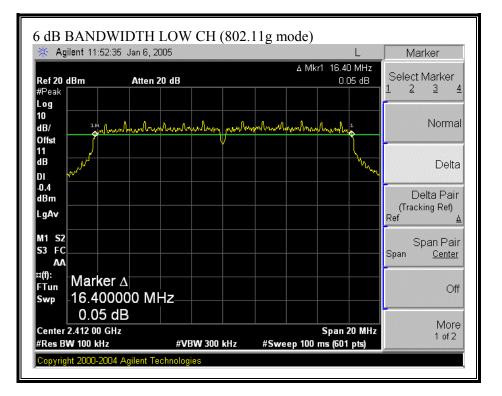


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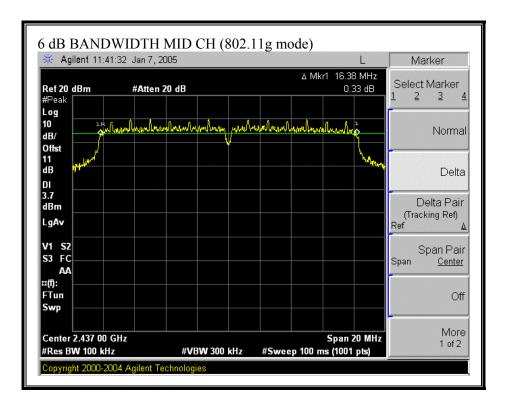


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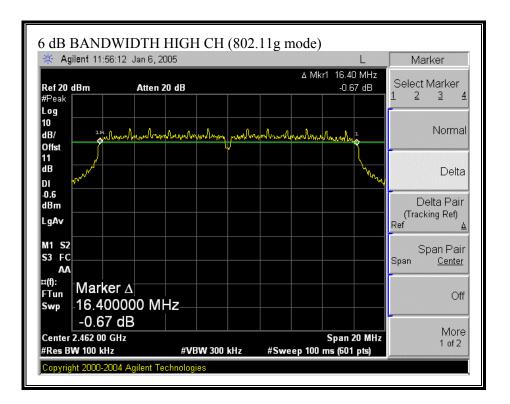
6 dB BANDWIDTH (802.11g MODE)



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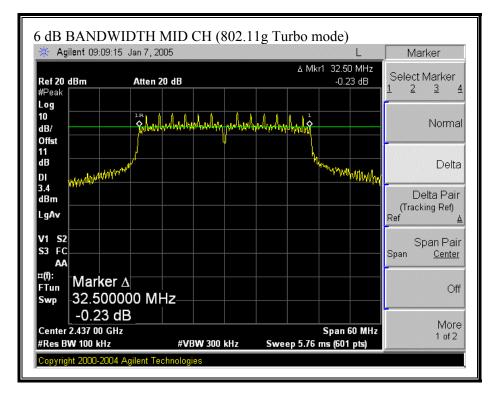


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6 dB BANDWIDTH (802.11g TURBO MODE)



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7.1.2. 99% BANDWIDTH

<u>LIMIT</u>

None; for reporting purposes only.

TEST PROCEDURE

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

RESULTS

No non-compliance noted:

802.11b Mode							
Channel	Frequency	99% Bandwidth					
	(MHz)	(MHz)					
Low	2412	15.8089					
Middle	2437	15.8007					
High	2462	15.8009					

802.11g Mode

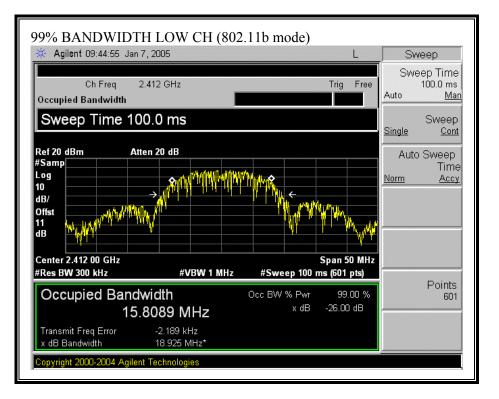
Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
Low	2412	16.6204
Middle	2437	16.6343
High	2462	16.6233

802.11g Turbo Mode

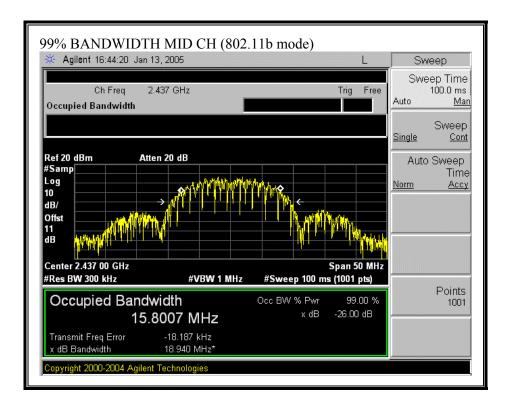
Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
Middle	2437	32.8648

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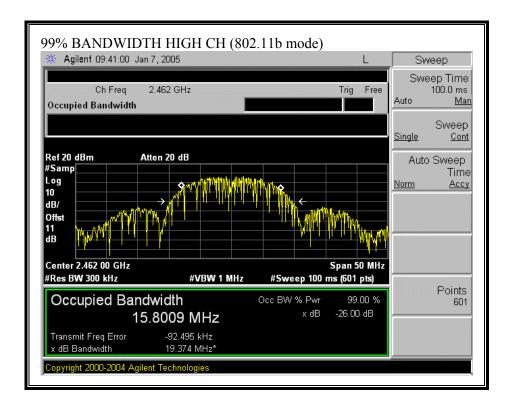
99% BANDWIDTH (802.11b MODE)



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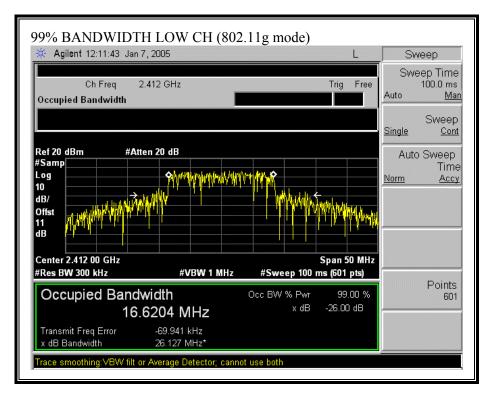


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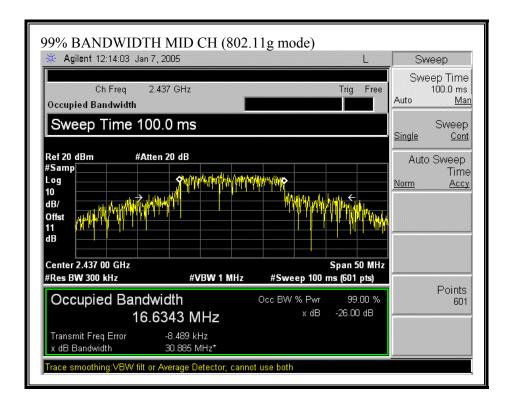


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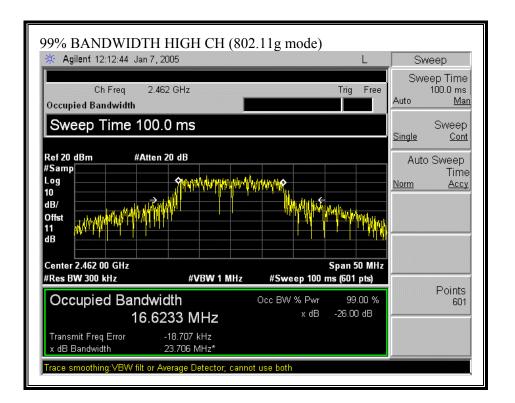
99% BANDWIDTH (802.11g MODE)



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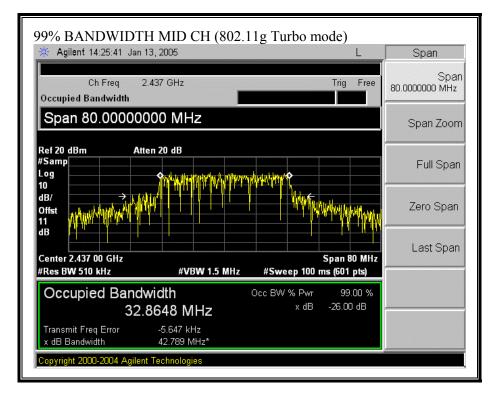


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99% BANDWIDTH (802.11g TURBO MODE)



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7.1.3. PEAK OUTPUT POWER

PEAK POWER LIMIT

§15.247 (b) The maximum peak output power of the intentional radiator shall not exceed the following:

15.247 (b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz , and 5725-5850 MHz bands: 1 watt.

\$15.247 (b) (4) Except as shown in paragraphs (b)(4) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

§15.247 (b) (4) (i) Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer and the analyzer's internal channel power integration function is used to integrate the power over a bandwidth greater than or equal to the 99% bandwidth.

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RESULTS

The maximum antenna gain is 4.24 dBi for other than fixed, point-to-point operations, therefore the limit is 30 dBm.

No non-compliance noted:

802.11b Mode

Channel	Frequency	Peak Power	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
Low	2412	19.44	30	-10.56
Middle	2437	19.39	30	-10.61
High	2462	19.40	30	-10.60

802.11g Mode

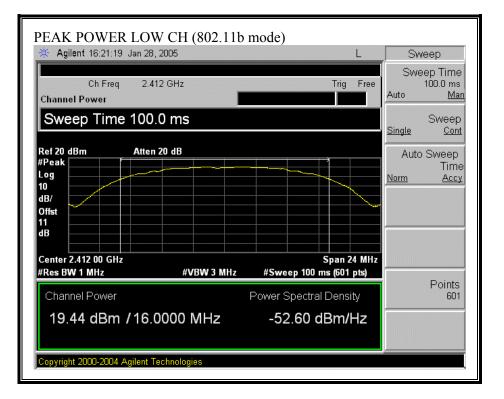
Channel	Frequency	Peak Power	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
Low	2412	22.97	30	-7.03
Middle	2437	22.74	30	-7.26
High	2462	22.78	30	-7.22

802.11g Turbo Mode

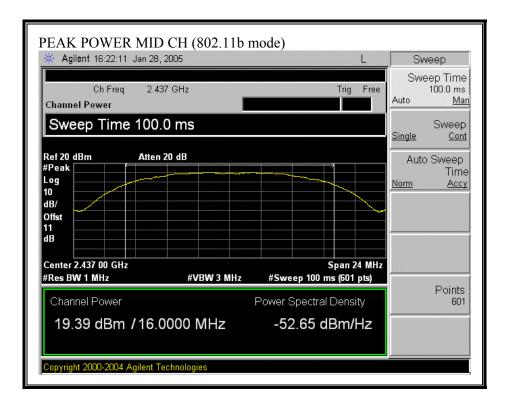
Channel	Frequency	Peak Power	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
Middle	2437	21.53	30	-8.47

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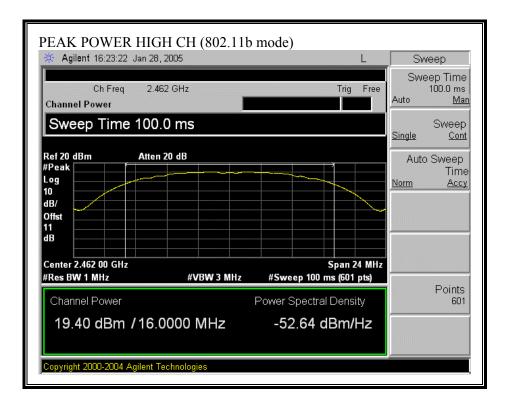
OUTPUT POWER (802.11b MODE)



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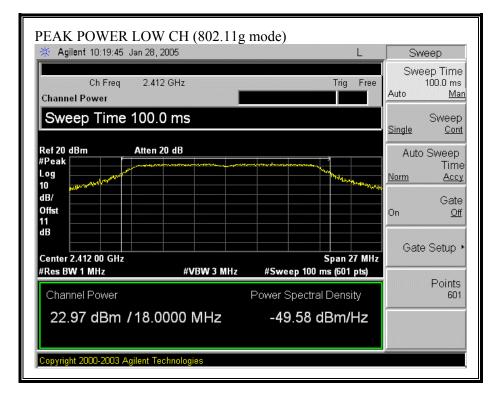


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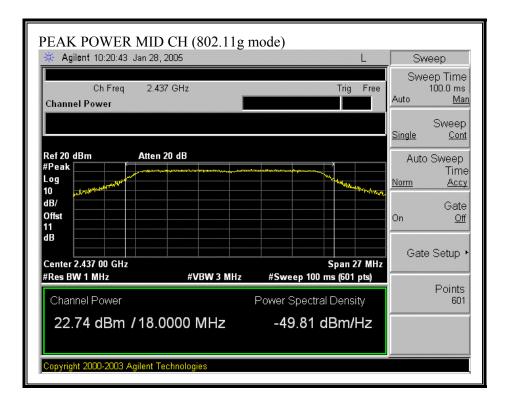


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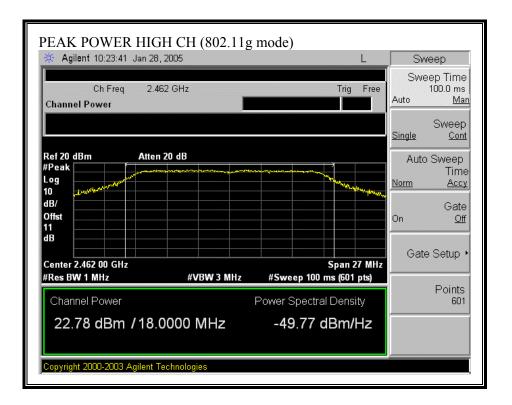
OUTPUT POWER (802.11g MODE)



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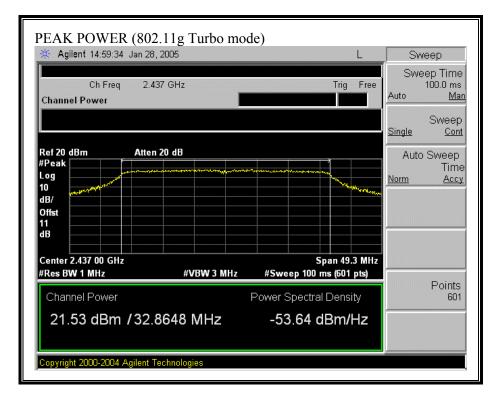


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OUTPUT POWER (802.11g TURBO MODE)



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7.1.4. AVERAGE POWER

AVERAGE POWER LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

No non-compliance noted:

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1dB cable) was entered as an offset in the power meter to allow for direct reading of power.

802.11b Mode

Channel	Frequency	Average Power
	(MHz)	(dBm)
Low	2412	16.56
Middle	2437	16.39
High	2462	16.45

802.11g Mode

Channel	Frequency	Average Power
	(MHz)	(dBm)
Low	2412	15.21
Middle	2437	15.05
High	2462	15.12

802.11g Turbo Mode

Channel	Frequency	Average Power
	(MHz)	(dBm)
Middle	2437	15.00

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7.1.5. PEAK POWER SPECTRAL DENSITY

<u>LIMIT</u>

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

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer, the maximum level in a 3 kHz bandwidth is measured with the spectrum analyzer using RBW = 3 kHz and VBW > 3 kHz, sweep time = span / 3 kHz, and video averaging is turned off. The PPSD is the highest level found across the emission in any 3 kHz band.

RESULTS

No non-compliance noted:

802.11b Mode

Channel	Frequency	PPSD	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
Low	2412	-8.39	8	-16.39
Middle	2437	-7.81	8	-15.81
High	2462	-8.34	8	-16.34

802.11g Mode

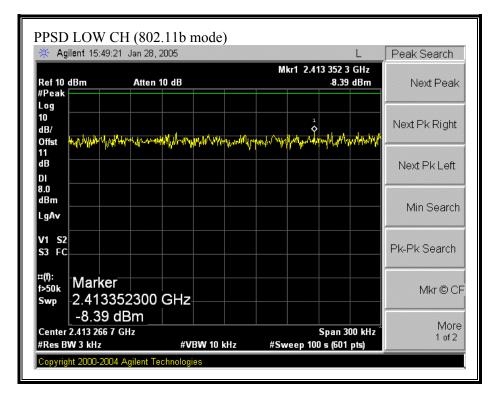
Channel	Frequency	PPSD	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
Low	2412	-8.96	8	-16.96
Middle	2437	-8.18	8	-16.18
High	2462	-8.78	8	-16.78

802.11g Turbo Mode

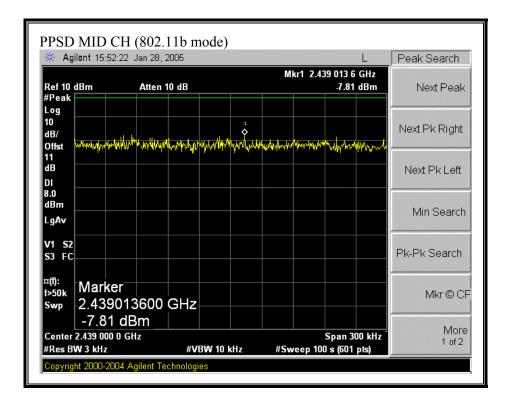
Channel	Frequency	PPSD	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
Middle	2437	-9.61	8	-17.61

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PEAK POWER SPECTRAL DENSITY (802.11b MODE)



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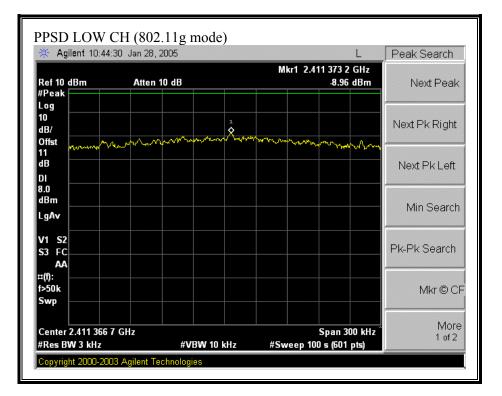


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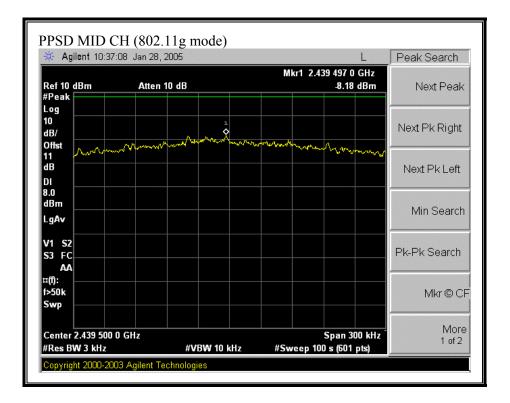
🔆 Ag	ilent 15:55:30	Jan 28, 200	5					L	Peak Search
Ref 10 #Peak	dBm	Atten 10 d	B		M	kr1 2.46	2 683 0 -8.34		Next Peak
Log 10 dB/ Offst	Nurthellowersystems	nyhwdy mwdrod	walloward	al a south the	urthetter	hatayoning	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	********	Next Pk Right
11 dB									Next Pk Left
DI 8.0 dBm LgAv									Min Search
V1 S2 S3 FC									Pk-Pk Search
	Marker 2.46268	3000 G	Hz						Mkr © Cl
	-8.34 d 2.462 533 3 G W 3 kHz		#VBW 1	0 kHz	#Sw	veep 100	Span 30) s (601		More 1 of 2

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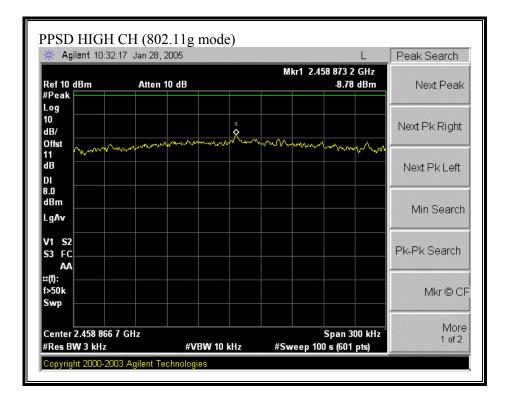
PEAK POWER SPECTRAL DENSITY (802.11g MODE)



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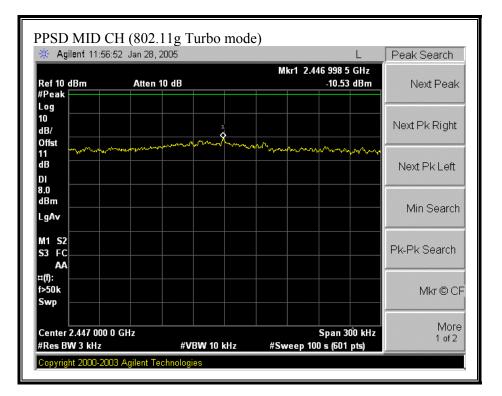


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PEAK POWER SPECTRAL DENSITY (802.11g TURBO MODE)



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7.1.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

§15.247 (c) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in §15.209(a) is not required. 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 §15.205(a).

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

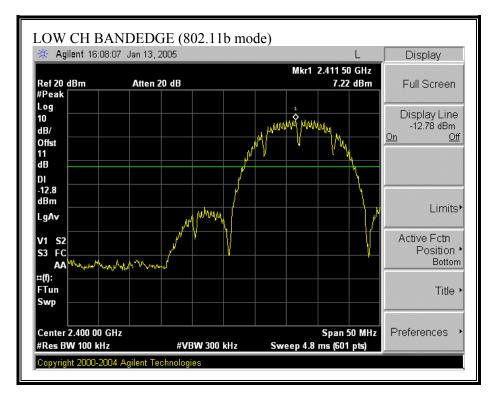
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

RESULTS

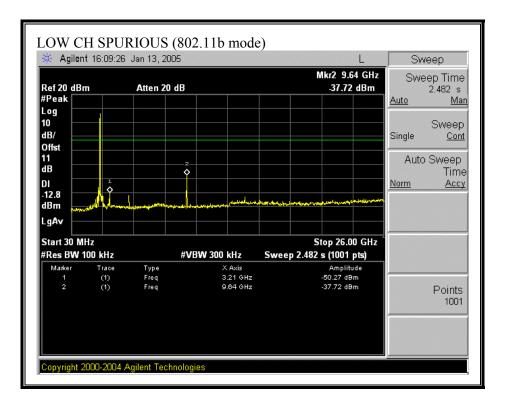
No non-compliance noted:

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SPURIOUS EMISSIONS, LOW CHANNEL (802.11b MODE)

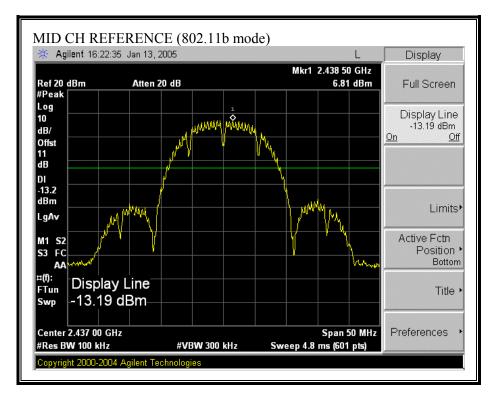


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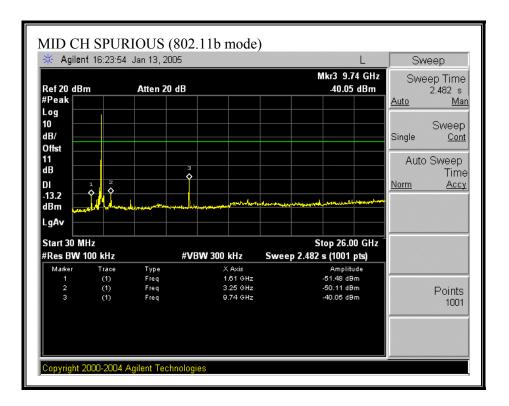


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SPURIOUS EMISSIONS, MID CHANNEL (802.11b MODE)

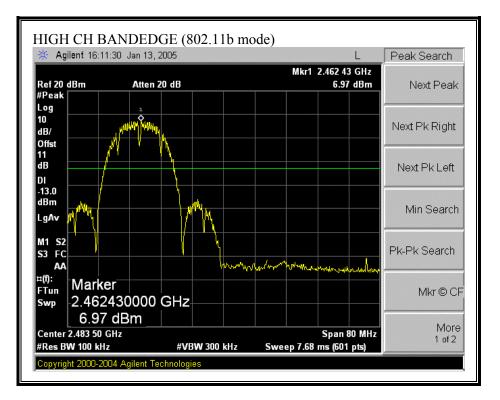


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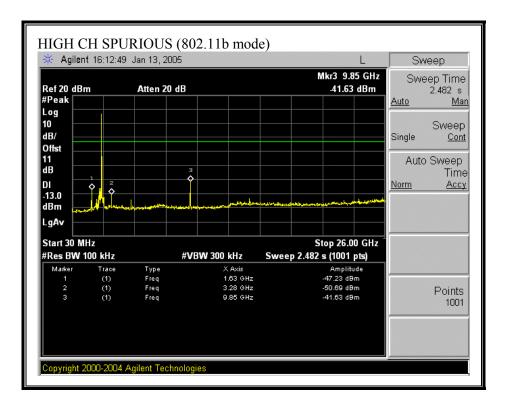


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SPURIOUS EMISSIONS, HIGH CHANNEL (802.11b MODE)

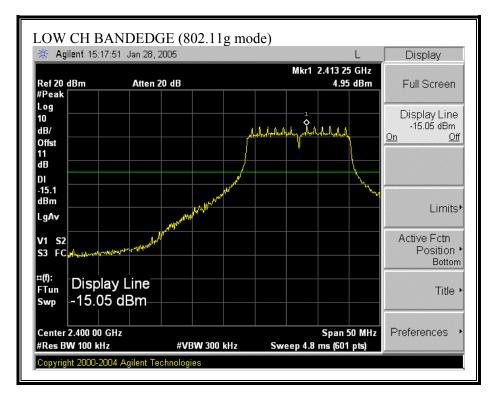


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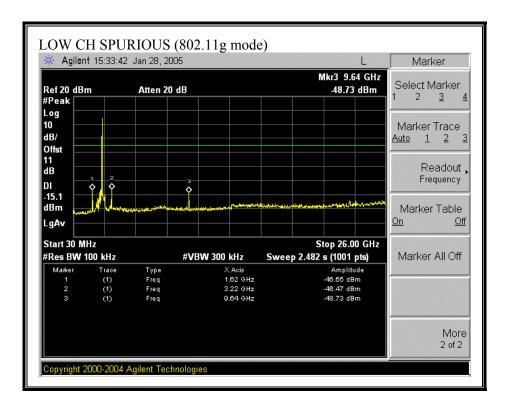


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SPURIOUS EMISSIONS, LOW CHANNEL (802.11g MODE)

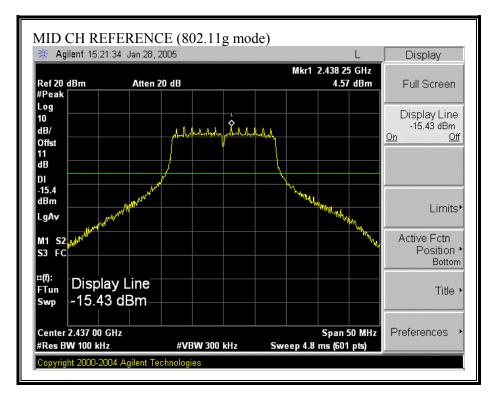


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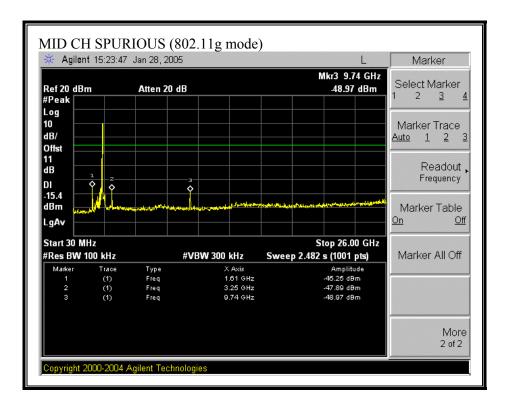


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SPURIOUS EMISSIONS, MID CHANNEL (802.11g MODE)

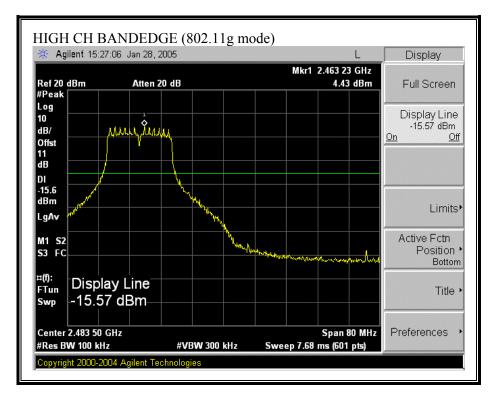


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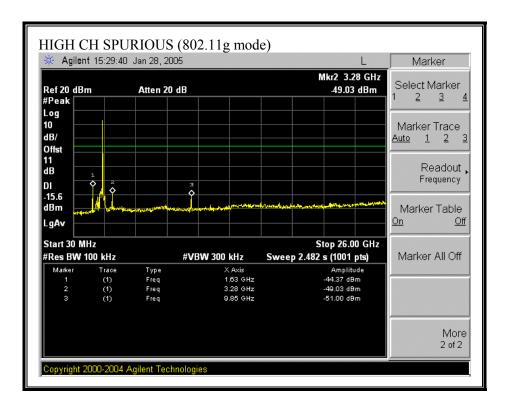


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SPURIOUS EMISSIONS, HIGH CHANNEL (802.11g MODE)

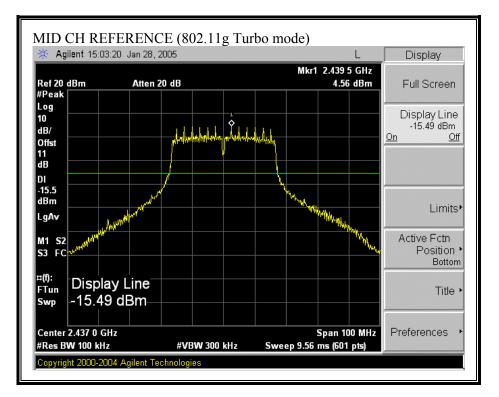


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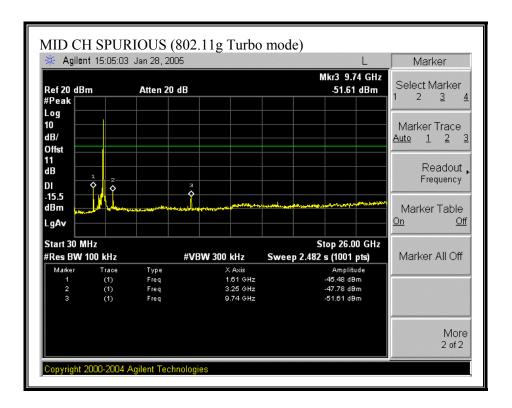


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SPURIOUS EMISSIONS, MID CHANNEL (802.11g TURBO MODE)



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7.2. RADIATED EMISSIONS

7.2.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

LIMITS

§15.205 (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 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

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

² Above 38.6

§15.205 (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.

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\$15.209 (a) 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	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

** 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.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

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TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

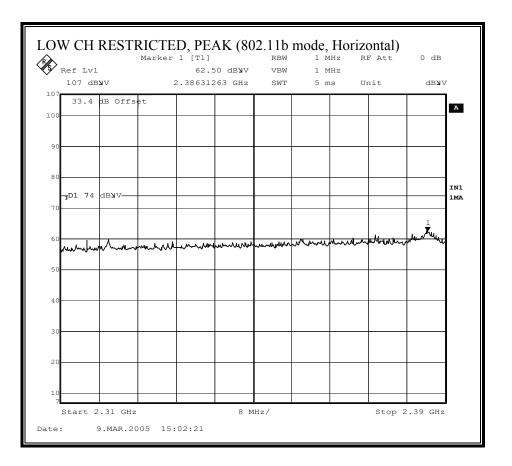
SUPPLEMENTAL TEST PROCEDURE FOR CO-LOCATED TRANSMITTERS

The dominant transmitter is set to the worst case channel. The spurious emissions performance of the dominant transmitter is investigated as the settings of the non-dominant transmitter are varied. The spectrum is searched for intermodulation products. Worst-case results are reported.

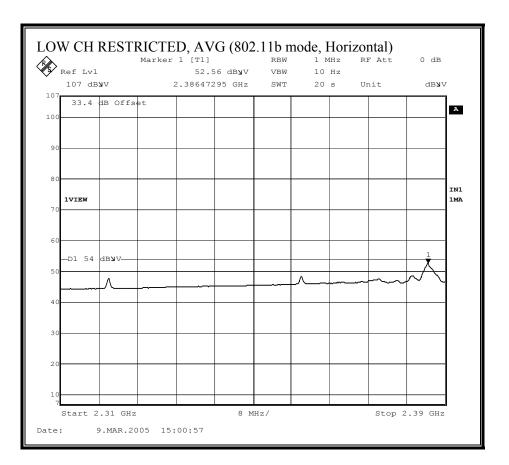
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7.2.2. TRANSMITTER ABOVE 1 GHz

RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)

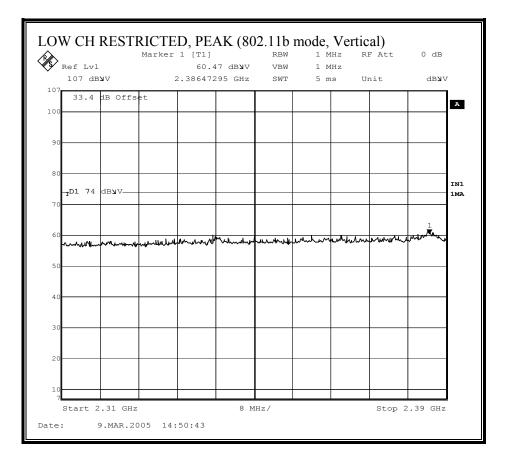


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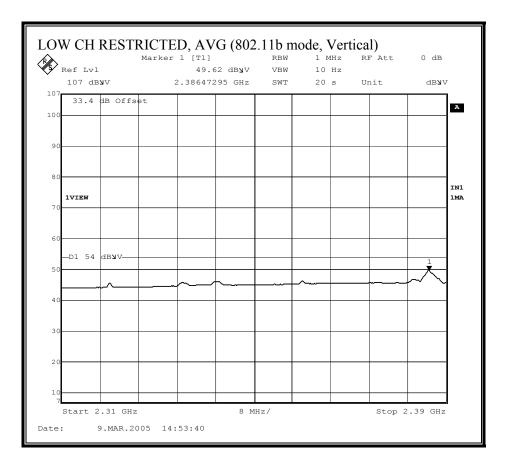


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RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)

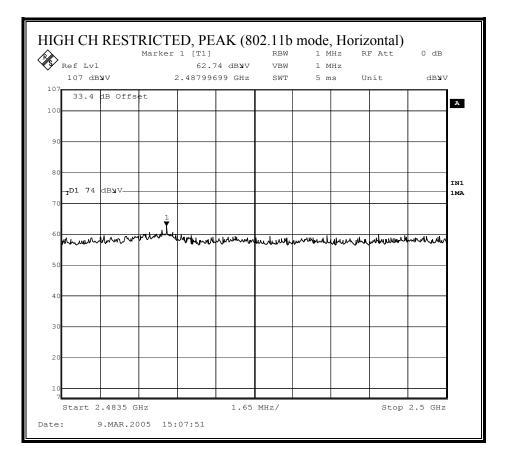


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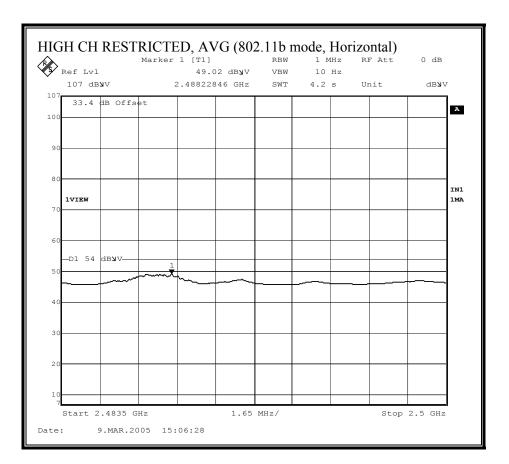


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RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)

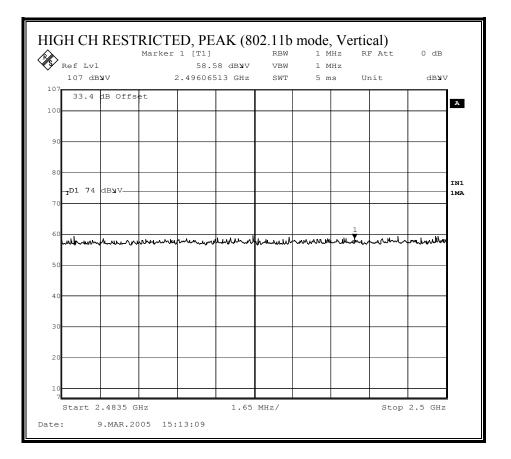


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RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, VERTICAL)



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Ref Lvl	er 1 [T1] 45.19 dBNV		RF Att	0 ab
	2.48793086 GHz		Unit	db y v
33.4 dB Offset				
IVIEW				
	1			
	×	 		

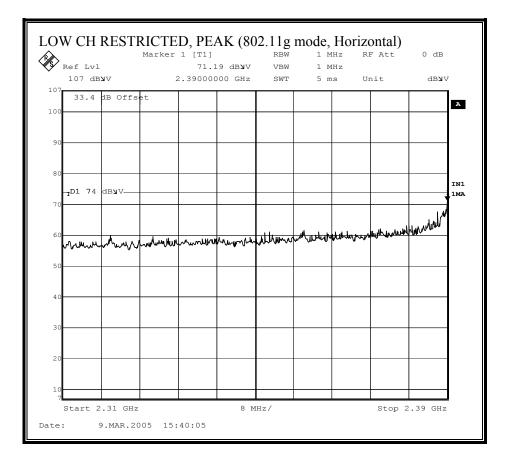
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HARMONICS AND SPURIOUS EMISSIONS (b MODE)

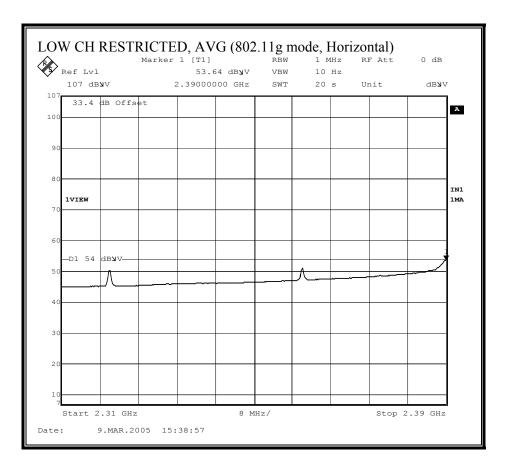
ompan UT De UT M/ est Ta	N:MB5 rget:FC	iba	Half Size Mir 2017 Ant	ui-PCI V	WLAN	Module	e with Lib	retto l	L5 Las Ve	gas Subnot	tebook				
	uipmen														
EMCO Horn 1-18GHz Pre-amplifer 1-2		lifer 1-26 GHz Pre-amplifer 26-40 GHz						Horn >	18GHz		Limit				
T119;	S/N: 293	:01 @3m 🕌	T34 HP	8449B	•	·			-					FC	C 15.205
	uency Cał ot cable		ot cable	4 foot	cable	12	2 foot cable		1	HPF	Reje	ct Filter		Peak Mea RBW=VB	surements W=1MHz
2_C	hin	•	•		•	12	_Neelesh	~		•		•			/leasurements Hz ; VBW=10Hz
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
ow ch															<u> </u>
.824 .824	3.0 3.0	46.8 45.5	39.6 39.0	33.7 33.7	3.7 3.7	-34.2 -34.2	0.0 0.0	0.0 0.0	50.0 48.7	42.8 42.2	74 74	54 54	-24.0 -25.3	-11.2 -11.8	V H
uid ch															
.874	3.0	47.0	41.0	33.7	3.7	-34.2	0.0	0.0	50.3	44.3	74	54	-23.7	-9.7	v
311 874	3.0 3.0	50.0 45.6	43.0 38.5	35.7 33.7	4.6 3.7	-33.7 -34.2	0.0 0.0	0.0 0.0	56.6 48.9	49.6 41.8	74 74	54 54	-17.4 -25.1	-4.4 -12.2	V H
311	3.0	48.0	40.3	35.7	4.6	-33.7	0.0	0.0 0.0	54.6	46.9	74	54	-19.4	-7.1	H
ugh ch		 													
924	3.0	46.6	38.0	33.8	3.8	-34.2	0.0	0.0	49.9	41.3	74	54 54	-24.1	-12.7	V
386 924	3.0 3.0	48.6 46.8	39.8 39.0	35.7 33.8	4.7 3.8	-33.7 -34.2	0.0 0.0	0.0 0.0	55.3 50.1	46 <i>5</i> 42 <i>3</i>	74 74	54 54	-18.7 -23.9	-7.5 -11.7	V H
.38 6	3.0	48.2	39.5	35.7	4.7	-33.7	0.0	0.0	54.9	46.2	74	54	-19.1	-7.8	H
lote: No d	ther emi	issions were	detected above	the syste	m noise	floor									
		Measurem Distance to Analyzer R Antenna Fa Cable Loss	eading actor	у		Amp D Corr Avg Peak HPF	Average	Corre Field S d Peal	t to 3 mete Strength @ c Field Stre	3 m	<u>1</u>	Pk Lim Avg Mar	Peak Fiel Margin vs	Field Strengt d Strength L Average L Peak Limit	.imit .imit

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RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)

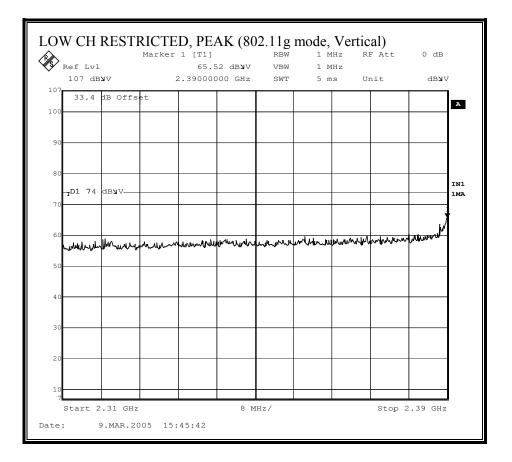


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RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)

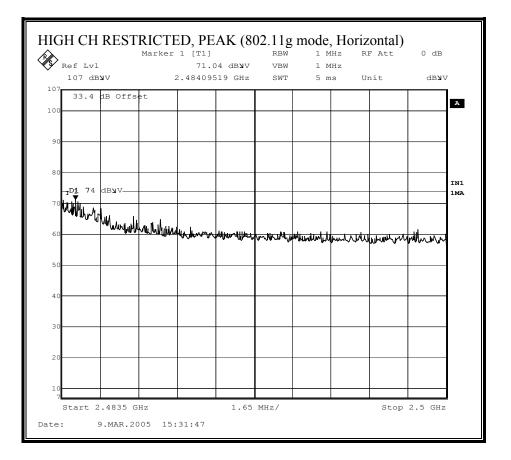


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Ref Lvl	(er 1 [T1] 49.46 dB y V	10 Hz	RF Att	U QB
	2.39000000 GHz		Unit	db y v
33.4 dB Offset				
1VIEW				
-D1 54 dB y V				
		 ^		

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RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)

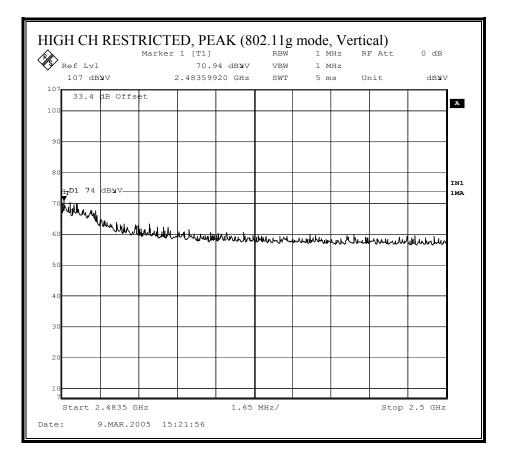


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Ref Lvl	cer 1 [T1] 53.82 dB y V	RBW VBW	1 MHz 10 Hz	RF Att	0 dB
107 db y v	2.48353307 GHz	SWT	4.2 s	Unit	db y v
7 33.4 dB Offset					2
0					
30					
30					
1VIEW					11
70					
50					
D1 54 dBNV					
50					
10					
30					
20					
10					

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RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, VERTICAL)



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Ref Lvl	cer 1 [T1] 52.19 dB y V		10 Hz	RF Att	
107 dB y V	2.48350000 GHz	SWT	4.2 s	Unit	db y v
33.4 dB Offset					
1VIEW					
IVIEW					
D1 54 dBNV					

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HARMONICS AND SPURIOUS EMISSIONS (g MODE)

UT De UT M est Ta	'N:MB: rget:FC		Half Size Mir 2017 Ant	ni-PCI V	VLAN	Module	with Lib	retto	L5 Las Ve	gas Subno	tebook				
est Eq	uipmen	<u>t:</u>													Limit
	O Horn I			plifer 1-2			Pre-amplife	r 26-40	DGHz		Horn >	18GHz	_	F	CC 15.205
		01 @3m 🔽	T34 HI	98449B	•	-			•						• • • • • • • • • • • • • • • • • • •
	uency Cal		ot cable	4 foot	cable	12	foot cable			HPF	Reje	ct Filter			<u>asurements</u> 3W=1MHz
2_C	hin	•	•		•	12	Neelesh	•		-		•			<u>Measurements</u> IHz ; VBW=10Hz
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Ma dB	r Notes (V/H)
w ch 824	3.0	45.D	33.5	33.7	3.7	-34.2	0.0	0.0	48.2	36.7	74	54	-25.8	-17.3	v
824	3.0	44.7	33.4	33.7	3.7	-34.2	0.0	0.0	47.9	36.6	74	54	- 26.1	-17.4	H
uid ch	20	46.0	22.0	227	27	24.2	0.0	0.0	40.2	27.1	74	E 4	24.7	16.0	v
.874 .311	3.D 3.D	46.0 49.5	33.8 35.6	33.7 35.7	3.7 4.6	-34.2 -33.7	0.0 0.0	0.0 0.0	49.3 56.1	37.1 42.2	74 74	54 54	-24.7 -17.9	-16.9 -11.8	v v
.874 211	3.0	45.5	33.6	33.7	3.7	-34.2	0.0	0.0	48.8	36.9	74	54	-25.2	-17.1	H
311	3.0	48.6	35.0	35.7	4.6	-33.7	0.0	0.0	55.2	41.6	74	54	- 18.8	-12.4	Н
igh ch	3.0	46.3	34.5	33.8	3.8	-34.2	0.0	0.0	49.6	37.8	74	54	-24.4	-16.2	v
924 386	3.0	46.3 51.6	34.5	33.8	3.8 4.7	-34.2 -33.7	0.0	0.0 0.0	49.6 58.3	37.8 43.2	74 74	54 54	-24.4 -15.7	-16.2	v v
924	3.0	44.3	33.3	33.8	3.8	-34.2	0.0	0.0	47.6	36.6	74	54	- 26.4	-17.4	H
386	3.0	49.0	35.0	35.7	4.7	-33.7	0.0	0.0	55.7	41.7	74	54	-18.3	-12.3	Н
	1		1	1		L									
ote: No o	other emi	ssions were	detected above	the syste	m noise	floor									
_		Measurem Distance to Analyzer R Antenna Fa Cable Losa	leading actor	у	_	Amp D Corr Avg Peak HPF	Average	Corre Field : d Peal	ct to 3 mete Strength @ k Field Stre r	3 m		Pk Lim	Peak Fiel Margin vs	Field Streng d Strength : s. Average : s. Peak Lim	Limit Limit

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HARMONICS AND SPURIOUS EMISSIONS (g TURBO MODE)

d ch i	2 foot cable 3 foot cable 4 foot cable 12 foot cable 12 foot cable HPF Reject Filter RBW=VBW=1MHz 2 Chin 0 0 Fit Peak Avg Pk Image: Notestand Strength Limit f Dist Read Pk Read Avg AF CL Amp D Corr Fit Peak Avg Pk Lin Avg Lin Pk Mar Avg Mar Notes GHz (m) dBuV dBuV dBn dB dB<	2 foot cable 3 foot cable 4 foot cable 12 foot cable 12 foot cable HPF Reject Filter RBW=VBW=1MHz 2 Chin 0 0 0 Fit Peak Avg Pk Image: New Sector S			<u>t:</u> 1-18GHz :01 @3m <mark>-</mark>	Pre-am T34 HP	plifer 1-2 8449B	6 GHz	F	're-amplife	er 26-4()GHz		Horn >	18GHz	·	. FC	Limit C 15.205
f Dist Read Pk Read Avg. AF CL Amp D Corr Fltr Peak Avg Pk Lin Avg Lin Pk Mar Avg Mar Notes GHz (m) dBuV dBuV dB dC dC	f Dist Read Pk Read Avg. AF CL Amp D Corr Fltr Peak Avg Pk Lin Avg Lim Pk Mar Avg Mar Notes GHz (m) dBuV dBnV dB dC dC dC dC dC dC dC dC	f Dist Read Pk Read Avg. AF CL Amp D Corr Fltr Peak Avg Pk Lin Avg Lin Pk Mar Avg Mar Notes GHz (m) dBuV dBuV dB dBuV/m dBuV/m dBuV/m dB dB (V/H) dch 0 95 35.4 33.7 3.7 -34.2 0.0 0.0 52.8 38.7 74 54 -21.2 -15.3 V 11 3.0 51.0 35.8 35.7 4.6 -33.7 0.0 0.0 55.3 40.6 74 54 -16.4 -11.6 V 111 3.0 52.5 36.0 35.7 4.6 -33.7 0.0 0.0 59.1 42.6 74 54 -14.9 -11.4 H 111 3.0 52.5 36.0 35.7 4.6	2 fo	ot cable		ot cable	4 foot	cable •			•		HPF	Reje	ct Filter •		RBW=VBV	W=1MHz Aeasurements
d ch i	d ch i	d ch i	f GHz					1				1	0		-		Avg Mar	Notes
f Measurement Frequency Amp Preamp Gain Avg Lim Average Field Strength Limit Dist Distance to Antenna D Corr Distance Correct to 3 meters Pk Lim Peak Field Strength Limit Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	f Measurement Frequency Amp Preamp Gain Avg Lim Average Field Strength Limit Dist Distance to Antenna D Corr Distance Correct to 3 meters Pk Lim Peak Field Strength Limit Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	f Measurement Frequency Amp Preamp Gain Avg Lim Average Field Strength Limit Dist Distance to Antenna D Corr Distance Correct to 3 meters Pk Lim Peak Field Strength Limit Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	d ch 374 311 374 311	3.0 3.0	51.0 52.0	35.8 37.3	35.7 33.7	4.6 3.7	-33.7 -34.2	0.0 0.0	0.0 0.0	52.8 57.6 55.3	38.7 42.4 40.6	74 74 74	54 54	-16.4 -18.7	-11.6 -13.4	V V H
				Dist Read AF	Distance to Analyzer R Antenna F	Antenna teading actor	à		D Corr Avg Peak	Distance Average Calculate	Corre Field S d Peal	Strength @ c Field Stre	3 m		Pk Lim Avg Mar	Peak Fiel Margin vs	d Strength L . Average L	imit imit

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7.2.3 CO-LOCATED TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHz

Worst-case configurations are determined as:

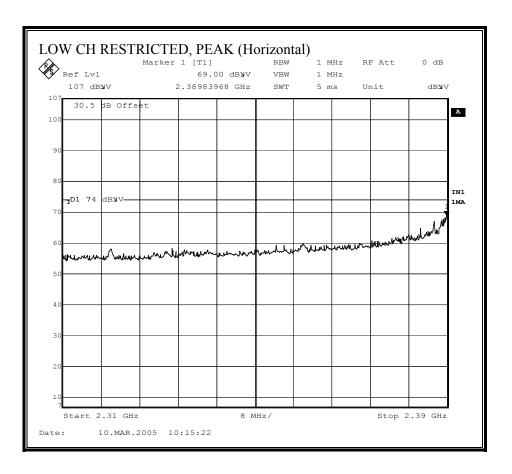
Lower bandedge: WLAN in g mode at low channel and Bluetooth at low channel; Upper bandedge: WLAN in g mode at high channel and Bluetooth at high channel; Harmonics and spurious emissions: WLAN in g mode at mid channel and Bluetooth at mid channel.

RESULTS

No non-compliance noted:

The dominant transmitter is the WLAN.

WORST-CASE RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



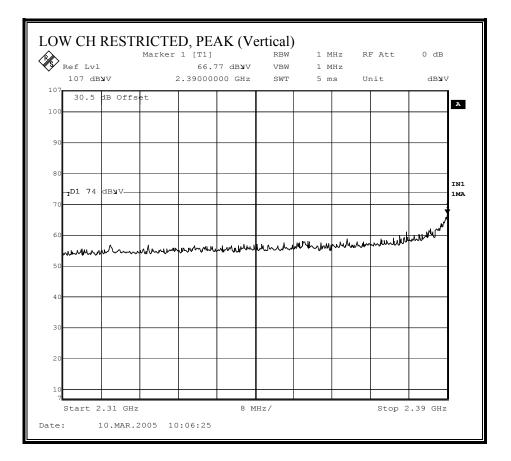
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REPORT NO: 05U3307-1 EUT: 802.11 b/g HALF SIZE MINI-PCI WLAN MODULE

	ker 1 [T1]		1 MHz	RF Att	0 dB
Ref Lvl 107 dBNV	52.75 dB¥V 2.39000000 GHz		10 Hz 20 s	Unit	db n v
	2.53000000 0112	0.11	20 0	01110	
30.5 dB Offset					
1VIEW					
					1
D1 54 dBWV					
$ \wedge $		/	` <u> </u>		
Start 2.31 GHz	8 MH				2.39 GHz

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WORST-CASE RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



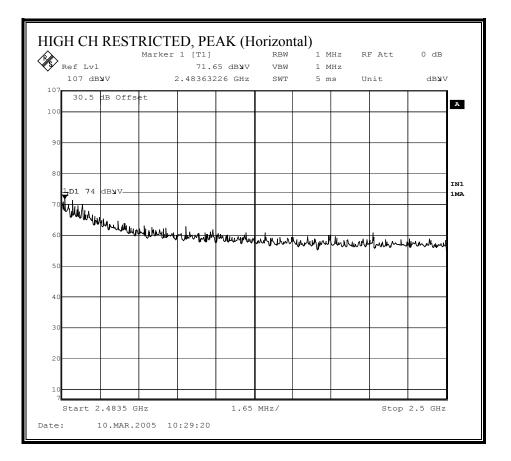
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REPORT NO: 05U3307-1 EUT: 802.11 b/g HALF SIZE MINI-PCI WLAN MODULE

Ref Lvl	er 1 [T1] 49.24 dB y V	10 Hz	RF Att	
	2.39000000 GHz	20 s	Unit	dbyv
30.5 dB Offset				
)				
				I
1VIEW				1
<u>↓</u>		 <u></u>		
)				

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WORST-CASE RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

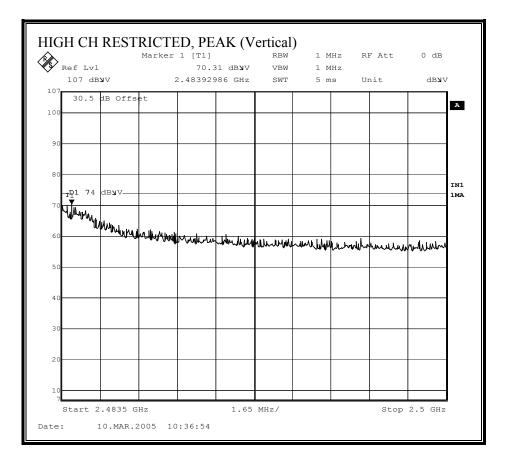


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	ker 1 [T1]			RF Att	0 dB
Ref Lvl	52.95 dB u V				
107 dB y V	2.48350000 GHz	SWT	4.2 s	Unit	dB N
30.5 dB Offset					
IVIEW					
_D1 54 dB¥V					
	<u> </u>		~		
Start 2.4835 GHz	1.65		I	1	2.5 GHz

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WORST-CASE RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



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Marı Ref Lvl	cer 1 [T1] 51.97 dB y V			RF Att	U dB
	51.97 dBNV 2.48350000 GHz			Unit	dbyv
30.5 dB Offset		-			
30.5 dB Offset					
1VIEW					
IVIEW					
-D1 54 dBNV					
			~~~		

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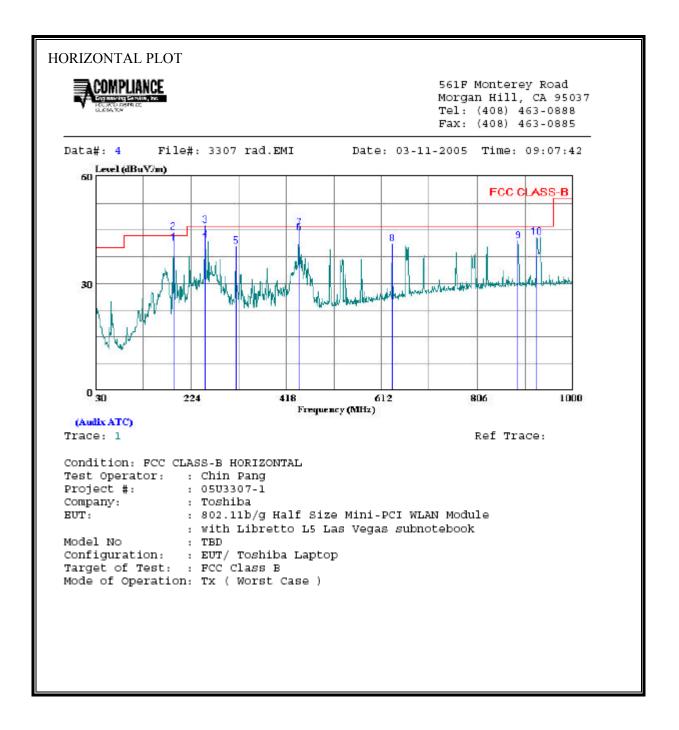
#### WORST-CASE HARMONICS AND SPURIOUS EMISSIONS

f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lin       Avg Lin       Pk Mar       Avg Mar       Notes         GHz       (m)       dBvV       dBvV       dBv       dB       dB       dB       dB       dB       dB       dB       dB       BuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         dch	Inter 1.26GHz         T34 HP 8449B         FCC 15.205         Stort cable         12 foot cable         12 foot cable         12 foot cable         12 foot cable         V         V         V         V         V         V         V         V         V         V         V         OB         V         V         V         V         V         OD       OD         V       Pk Mar       Aveg Mar       Notes         V       dB       D       Cor       Filt       Peak       Aveg Mar       Notes         V       dB       dB       OD       OD       OD       OD	EMCO Horn 1-18GHz       Pre-amplifer 1-26GHz       Pre-amplifer 26-40GHz       Horn > 18GHz       Limit         T119; S/N: 29301 @3m       T34 HP 8449B       Image: Colored and the system and the	EMCO Horn 1-18GHz       Pre-amplifer 1-26GHz       Pre-amplifer 26-40GHz       Horn > 18GHz       Limit         T119; S/N: 29301 @3m       T34 HP 8449B       Image: Colored and the system and the	EMCO Horn 1-18GHz       Pre-amplifer 1-26GHz       Pre-amplifer 26-40GHz       Horn > 18GHz       Limit         T119; S/N: 29301 @3m       T34 HP 8449B       Image: Colored and the system and the	UT M/N est Tar; ode Op CO4 and	N:MB5 get:FC per: Co d WLA	02.11b/g F 51H w/HTI 5C 15.247 blocation B .N	Half Size Mir 2017 Ant Shuetooth and							gas Subnot	tebook				
The requency Cables       FCC 15 205         2 foot cable       3 foot cable       4 foot cable       12 foot cable       HPF       Reject Filter       Peak Measurements RBW=VBW=1MHz         2_Chin       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       Peak Measurements RBW=1MHz       VBW=10HJ         f       Dist       Read Pk       Read Avg       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lin       Avg Lim       Pk Mar       Avg Mar       Notes         6Hz       0 dBuV       dB/u       dB/m       dB       dB       dB       dB       dB       dB       dB       dB       dD       O or       Ftr       Peak       Avg       Pk Lin       Avg Mar       Notes         6Hz       d51       30       460       338       337       37       342       00       00       698       407.7       74       54       247.7       169       V         811       30       460.7       33.7       3.7       .342       00       00       50.8       47.7       54       .247.7       169       V         811       30       <	T34 HP 8449B       Peak Measurements         3 foot cable       4 foot cable       12 foot cable         12_Neelesh       12_Neelesh         Pk       Read Avg.       AF       CL         Amp       D Corr       Fltr       Peak       Avg       Pk Lim       Avg Lim       Pk Mar       Avg Mar       Notes         V       dBuV       dB/m       dB       dB       dB       dB       dB       U/m       dBuV/m       dBuV/m       dBuV/m       dBuV/m       dB       0       (V/H)         3338       337       37       342       0.0       0.0       59.8       40.7       74       54       -24.7       -16.9       V         36.0       35.7       4.6       -33.7       0.0       0.0       57.6       42.6       74       54       -24.7       -16.9       V         33.5       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -24.7       -16.9       V         34.0       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -24.0       -17.2       H         34.0 <td< th=""><th>International problem in the second problem i</th><th>International product of the product o</th><th>Tile: S/N: 29301 @3n       FCC 15.205         Tile: S/N: 29301 @3n       FCC 15.205         Paik HPE 449B       Peak Measurements         Tile: S/N: 29301 @3n       Peak Measurements         Peak Measurements         Peak Measurements         Peak Measurements         Peak Measurements         RBW=10Hz         Peak Measurements         RBW=10Hz         Peak Measurements         RBW=10Hz         Peak May dB wV       dB wV/m       Notes         GHz       Mar Avg Mar       Notes         GHZ       Measurements         (W/H)       dB wV/m       BB wV/m       BB wV/m       Measurements         RBW=10 Corr       Fltre       Peak Measurements         RBW=10 Corr       Piek Mar Avg Mar       Notes         Mar Margun vs. Average Measurements         RBW=10 Corr       BB dB       dB dB       MBW-1010      <th< th=""><th></th><th></th><th>_</th><th>Deve eee</th><th>-16-14</th><th>CTL-</th><th></th><th>Pro annlife</th><th>or 26 41</th><th>CH-</th><th></th><th>Horn &gt;</th><th>18GHz</th><th></th><th></th><th>Limit</th></th<></th></td<>	International problem in the second problem i	International product of the product o	Tile: S/N: 29301 @3n       FCC 15.205         Tile: S/N: 29301 @3n       FCC 15.205         Paik HPE 449B       Peak Measurements         Tile: S/N: 29301 @3n       Peak Measurements         Peak Measurements         Peak Measurements         Peak Measurements         Peak Measurements         RBW=10Hz         Peak Measurements         RBW=10Hz         Peak Measurements         RBW=10Hz         Peak May dB wV       dB wV/m       Notes         GHz       Mar Avg Mar       Notes         GHZ       Measurements         (W/H)       dB wV/m       BB wV/m       BB wV/m       Measurements         RBW=10 Corr       Fltre       Peak Measurements         RBW=10 Corr       Piek Mar Avg Mar       Notes         Mar Margun vs. Average Measurements         RBW=10 Corr       BB dB       dB dB       MBW-1010 <th< th=""><th></th><th></th><th>_</th><th>Deve eee</th><th>-16-14</th><th>CTL-</th><th></th><th>Pro annlife</th><th>or 26 41</th><th>CH-</th><th></th><th>Horn &gt;</th><th>18GHz</th><th></th><th></th><th>Limit</th></th<>			_	Deve eee	-16-14	CTL-		Pro annlife	or 26 41	CH-		Horn >	18GHz			Limit
HiFrequency Cables       Peak Measurements         2 foot cable       3 foot cable       4 foot cable       12 foot cable       12 foot cable       Peak       Reject Filter       Average Measurements         f       Dist       Read Pk       Read Avg       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lim       Avg Lim       Pk Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dBr       dB       dB       dB       dB       dB       dB       With the second transform       Notes         GHz       (m)       dBuV       dBuV       dBr       dB       dB       dB       dB       dB       dB       dB       dV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         did ch       30       46.0       33.8       33.7       3.7       34.2       0.0       0.0       57.6       42.6       74       54       -24.7       -16.9       V         311       3.0       51.0       36.0       35.7       46       -33.7       0.0       0.0       56.6       42.0       74       54       -16.4       -11.4       V	Biot cable       12 foot cable         12_Neelesh       Image: Secter State       Peak Measurements RBW=VBW=1MHz         Peak Marge Measurements RBW=1MHz; VBW=10Hz         Pik Read Avg. AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pik Lin       Avg Lin       Pik Mar       Avg Mar       Notes         V       dB       dB       dB       dB       Marge Measurements         V       dB       dB       dB       dB       Marge Marge Marge Measurements         V       dB       dB       dB       dB       Marge Marge Measurements         V       dB       dB       dB       Marge Marge Measurements         V       dB       dB       Marge M	Hi Frequency Cables       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       Peak Measurements RBW=UBW=1MHz         2_Chin       0       0       12_Neelesh       0       0       12_Neelesh       0       0       Peak Mark       Average Measurements RBW=1MHz       Average Measurements RBW=10Hz         f       Dist       Read Pk       Read Ave       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lim       Avg Mar       Notes         GHz       (m)       dBuV       dB/uV       dB       dB       dB       dB       dB       (W/H)         idch       30       46.0       33.8       33.7       3.7       -34.2       0.0       0.0       49.3       37.1       74       54       -24.7       -16.9       V         sli       3.0       46.7       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -24.7       -16.9       V         sli       3.0       45.7       3.6       -33.7       0.0       0.0       50.8       40.7       74       54       -24.9       -16.7       V <td< td=""><td>H Frequency Cables       3 foot cable       4 foot cable       12 foot cable       HPF       Reject Filter       Peak Measurements RBW=VBW=1MHz         2_Chin       0       0       12_Neelesh       0       0       12_Neelesh       Notes         f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk       Lin       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       U/m       dBuV/m       dBuV/m       dB       W       (V/H)         id ch       30       46.0       33.8       33.7       3.7       -34.2       0.0       0.0       49.3       37.1       74       54       -24.7       -16.9       V         81       3.0       45.7       3.7       -34.2       0.0       0.0       59.8       40.7       74       54       -24.7       -16.9       V         81       3.0       45.8       34.0       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -24.0       -17.2       H         81</td><td>H Frequency Cables       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       Peak Measurements RBW=UBW=1MHz         2_Chin       0       0       12_Neelesh       0       0       92       0       0       92       0       0       92       0       0       92       0       0       92       0       0       92       37.1       74       54       24.7       16.9       V       V/H)         id ch       30       46.0       33.8       33.7       3.7       34.2       0.0       0.0       50.8       74       54       24.7       16.9       V         311       3.0       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       50.8       74       54       -24.7       16.9       V         311       3.0       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       50.0       36.8       74       54       -24.7       16.9       V         311       3.0       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       50.0       36.8       74       54       -24.9</td><td></td><td></td><td></td><td></td><td></td><td>OGHZ</td><td></td><td>сте-анфтис</td><td>51 ZU-40</td><td></td><td></td><td></td><td></td><td></td><td>FC</td><td>C 15.205</td></td<>	H Frequency Cables       3 foot cable       4 foot cable       12 foot cable       HPF       Reject Filter       Peak Measurements RBW=VBW=1MHz         2_Chin       0       0       12_Neelesh       0       0       12_Neelesh       Notes         f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk       Lin       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       U/m       dBuV/m       dBuV/m       dB       W       (V/H)         id ch       30       46.0       33.8       33.7       3.7       -34.2       0.0       0.0       49.3       37.1       74       54       -24.7       -16.9       V         81       3.0       45.7       3.7       -34.2       0.0       0.0       59.8       40.7       74       54       -24.7       -16.9       V         81       3.0       45.8       34.0       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -24.0       -17.2       H         81	H Frequency Cables       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       Peak Measurements RBW=UBW=1MHz         2_Chin       0       0       12_Neelesh       0       0       92       0       0       92       0       0       92       0       0       92       0       0       92       0       0       92       37.1       74       54       24.7       16.9       V       V/H)         id ch       30       46.0       33.8       33.7       3.7       34.2       0.0       0.0       50.8       74       54       24.7       16.9       V         311       3.0       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       50.8       74       54       -24.7       16.9       V         311       3.0       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       50.0       36.8       74       54       -24.7       16.9       V         311       3.0       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       50.0       36.8       74       54       -24.9						OGHZ		сте-анфтис	51 ZU-40						FC	C 15.205
2 foot cable       3 foot cable       4 foot cable       12 foot cable <th>3 Bot cable       4 Bot cable       12 Bot cable       12 Bot cable       12 Bot cable       HPF       Reject Filter       RBW=VBW=1MHz         PR       Read Avg.       AF       CL       Amp       D Corr       Fltr       Pe ak       Avg       Pk Lin       Avg Lin       Avg Mar       Avg Mar       Notes         V       dBuV       dB/m       dB       dB       dB       dB       dBuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         0       33.8       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -24.7       -16.9       V         3 6.0       35.7       4.6       -33.7       0.0       0.0       57.6       42.6       74       54       -24.7       -16.9       V         3 3.6       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -24.7       -16.9       V         3 4.0       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -24.0       -17.2       H         4       34.0       33.7       3.7       -34.2</th> <th>2 foot cable       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       RBW=VBW=1MHz         f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lim       Avg Lim       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       dB       dB       W/m       Pack       Avg Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       BuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         ideA      </th> <th>2 foot cable       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       RBW=VBW=1MHz         f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Filt       Peak       Avg       Pk Lim       Avg Lim       Avg Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dBn       dB       dB       dB       dB       dB       dB       dB       V/m       Pack       Avg Lim       Avg Lim       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dBn       dB       dB       dB       dB       dB       dB       V/m       dBuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         side       10       46.0       33.7       3.7       3.42       0.0       0.0       59.8       40.7       74       54       -24.7       -16.9       V         311       3.0       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       57.6       42.6       74       54       -16.4       -11.4       V         311       3.0       50.0</th> <th>2 foot cable       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       RBW=VBW=1MHz         f       Dist       Read Pk       Read Avg. dBuV       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lim       Avg Lim       Avg Mar       Notes         gHz       (m)       dBuV       dBuV       dBm       dB       dB       dB       dB       dB       dB       dB       Measurements         result       (m)       dBuV       dBuV       dBm       dB       dB       dB       dB       dB       dB       dB       dW/m       dBuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         idea       d       d       dB       dW/m       dB       dB       dW/m       dB       dB       dW/m       dW/m       dB       dB       dW/m       dW/m       dB       dB       dW/m       <thdm m<="" th="">       dW/m</thdm></th> <th></th> <th></th> <th></th> <th>134 HF</th> <th>°8449B</th> <th></th> <th></th> <th></th> <th></th> <th>•</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th><u> </u></th>	3 Bot cable       4 Bot cable       12 Bot cable       12 Bot cable       12 Bot cable       HPF       Reject Filter       RBW=VBW=1MHz         PR       Read Avg.       AF       CL       Amp       D Corr       Fltr       Pe ak       Avg       Pk Lin       Avg Lin       Avg Mar       Avg Mar       Notes         V       dBuV       dB/m       dB       dB       dB       dB       dBuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         0       33.8       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -24.7       -16.9       V         3 6.0       35.7       4.6       -33.7       0.0       0.0       57.6       42.6       74       54       -24.7       -16.9       V         3 3.6       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -24.7       -16.9       V         3 4.0       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -24.0       -17.2       H         4       34.0       33.7       3.7       -34.2	2 foot cable       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       RBW=VBW=1MHz         f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lim       Avg Lim       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       dB       dB       W/m       Pack       Avg Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       BuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         ideA	2 foot cable       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       RBW=VBW=1MHz         f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Filt       Peak       Avg       Pk Lim       Avg Lim       Avg Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dBn       dB       dB       dB       dB       dB       dB       dB       V/m       Pack       Avg Lim       Avg Lim       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dBn       dB       dB       dB       dB       dB       dB       V/m       dBuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         side       10       46.0       33.7       3.7       3.42       0.0       0.0       59.8       40.7       74       54       -24.7       -16.9       V         311       3.0       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       57.6       42.6       74       54       -16.4       -11.4       V         311       3.0       50.0	2 foot cable       3 foot cable       4 foot cable       12 foot cable       12 foot cable       HPF       Reject Filter       RBW=VBW=1MHz         f       Dist       Read Pk       Read Avg. dBuV       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lim       Avg Lim       Avg Mar       Notes         gHz       (m)       dBuV       dBuV       dBm       dB       dB       dB       dB       dB       dB       dB       Measurements         result       (m)       dBuV       dBuV       dBm       dB       dB       dB       dB       dB       dB       dB       dW/m       dBuV/m       dBuV/m       dBuV/m       dB       dB       (V/H)         idea       d       d       dB       dW/m       dB       dB       dW/m       dB       dB       dW/m       dW/m       dB       dB       dW/m       dW/m       dB       dB       dW/m       dW/m <thdm m<="" th="">       dW/m</thdm>				134 HF	°8449B					•						<u> </u>
f         Dist         Read Pk         Read Avg.         AF         CL         Amp         D Corr         Fltr         Peak         Avg         Pk Lin         Avg Lin         Pk Mar         Avg Mar         Notes           GHz         (m)         dBuV         dBuV         dB         dB         dB         dB         dB         dB         dB         V         Pk Lin         Avg Lin         Pk Mar         Avg Mar         Notes           dich	Pk       Read Avg.       AF       CL       Amp       D Corr       Flr       Peak       Avg       Pk Lin       Avg Lin       Pk Mar       Avg Mar       Notes         V       dBuV       dB/m       dB	f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Fltr       Peak       Avg       Pk Lim       Avg Lin       Pk Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       dB       dB       Weight MB       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       Weight MB       Notes         GHz       (m)       dBuV       dB       dB       dB       dB       dB       dB       Wight MB       Notes         gHz       (m)       dBuV       dB       dB       dB       dB       dB       dB       Vin       dB       Vin       dB       Vin       Notes         gHz       30       460       338       337       37       -342       0.0       0.0       50.8       40.7       74       54       -24.7       -16.9       V         881       3.0       45.5       34.0       33.7       3.7       -34.2       0.0       0.0       50.0       36.8       74       54       -24.9	f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D Corr       Flr       Peak       Avg       Pk Lim       Avg Lim       Pk Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       dB       dB       Vinit       dBuV/m       dBuV/m       dB       dB       (V/H)         aid ch	f       Dist       Read Pk       Read Avg.       AF       CL       Amp       D       Corr       Flt       Peak       Avg       Pk       Lim       Avg Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       dB       dB       dB       W       Mar       Avg Mar       Notes         GHz       (m)       dBuV       dBuV       dB       dB       dB       dB       dB       dB       W       Mar       Avg Mar       Notes         gHz       (m)       dBuV       dB       dB       dB       dB       dB       dB       dB       dB       V/m       dB       dB       (V/H)         idch				ot cable	4 foot	rable	12	2 foot cable		1	HPF	Reje	ct Filter			
GHz         (m)         dBuV         dB/m         dB         dB         dB         dB         dB         dB         dB         dV/m         dBuV/m         dBuV/m         dB         dB         (V/H)           uid ch         874         3.0         46.0         33.8         33.7         3.7         -34.2         0.0         0.0         49.3         37.1         74         54         -24.7         -16.9         V           881         3.0         47.5         37.4         33.7         3.7         -34.2         0.0         0.0         50.8         40.7         74         54         -24.7         -16.9         V           30         47.5         37.4         3.3.7         3.7         -34.2         0.0         0.0         50.8         40.7         74         54         -23.2         -13.3         V           311         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         50.8         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         56.6	V         dB/w         dB         dW/m         dBuV/m         dBuV/m         dB         dB         (V/H)           1         33.8         33.7         3.7         -34.2         0.0         0.0         49.3         37.1         74         54         -24.7         -16.9         V           5         37.4         33.7         3.7         -34.2         0.0         0.0         50.8         40.7         74         54         -24.7         -16.9         V           1         36.0         35.7         4.6         -33.7         0.0         0.0         50.8         40.7         74         54         -24.7         -16.4         -11.4         V           235.5         33.7         3.7         -34.2         0.0         0.0         50.0         36.8         74         54         -24.9         -16.7         V           34.0         33.7         3.7         -34.2         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           1         35.4         35.7	GHz         (n)         dBuV         dBuV         dB         dB         dB         dB         dB         dB         dB         dW/m         dBuV/m         dB         dB         dB         (V/H)           id ch         574         3.0         46.0         33.8         33.7         3.7.7         34.2         0.0         0.0         49.3         37.1         74         54         -24.7         -16.9         V           881         3.0         47.5         37.4         33.7         3.7.3         -34.2         0.0         0.0         59.8         40.7         74         54         -24.7         -16.9         V           311         3.0         51.0         36.0         35.7         4.6         -33.7         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         50.0         36.8         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.	GHz         (m)         dBuV         dBuV         dB         dW/m         dB         dB         dW/m         dB         dB         (V/H)           atch         574         3.0         46.0         33.8         33.7         3.7         -34.2         0.0         0.0         49.3         37.1         74         54         -24.7         -16.9         V           30         475         37.4         33.7         3.7         -34.2         0.0         0.0         50.8         40.7         74         54         -24.7         -16.9         V           311         3.0         51.0         36.0         35.7         4.6         -33.7         0.0         0.0         57.6         42.6         74         54         -24.9         -16.7         V           311         3.0         45.8         34.0         33.7         3.7         0.0         0.0         56.6	GHz         (m)         dBuV         dBuV         dB         dB         dB         dB         dB         dB         dB         dW/m         dBuV/m         dB         dB         dB         (V/H)           id ch         574         3.0         46.0         33.8         33.7         3.7.         34.2         0.0         0.0         49.3         37.1         74         54         -24.7         -16.9         V           81         3.0         47.5         37.4         33.7         3.7.         -34.2         0.0         0.0         59.8         40.7         74         54         -24.7         -16.9         V           311         3.0         51.0         36.0         35.7         4.6         -33.7         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         50.0         36.8         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0 </th <th>2_Ch</th> <th>in</th> <th>•</th> <th>•</th> <th></th> <th>-</th> <th>12</th> <th>Neelesh</th> <th>•</th> <th></th> <th>•</th> <th></th> <th>•</th> <th></th> <th></th> <th></th>	2_Ch	in	•	•		-	12	Neelesh	•		•		•			
874       3.0       46.0       33.8       33.7       3.7       3.42       0.0       0.0       49.3       37.1       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       -34.2       0.0       0.0       59.8       40.7       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -23.2       -13.3       V         311       3.0       46.7       33.5       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -24.0       -17.2       H         881       3.0       45.8       34.0       33.7       3.7       -34.2       0.0       0.0       49.1       37.3       74       54       -24.9       -16.7       V         311       3.0       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         iote: No other emissions were detect	i       37.4       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -23.2       -13.3       V         i       36.0       35.7       4.6       -33.7       0.0       0.0       57.6       42.6       74       54       -16.4       -11.4       V         i       33.5       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -16.4       -11.4       V         i       33.7       3.7       -34.2       0.0       0.0       50.0       36.8       74       54       -16.7       V         i       34.0       33.7       3.7       -34.2       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         i       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         ere detected above the system noise floor	874       3.0       46.0       33.8       33.7       3.7       3.42       0.0       0.0       49.3       37.1       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       3.42       0.0       0.0       50.8       40.7       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       3.42       0.0       0.0       50.8       40.7       74       54       -23.2       -13.3       V         874       3.0       46.7       33.5       33.7       3.7       3.42       0.0       0.0       50.0       36.8       74       54       -24.0       -17.2       H         881       3.0       45.8       34.0       33.7       3.7       -3.42       0.0       0.0       56.6       42.0       74       54       -24.0       -16.7       V         311       3.0       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         9       16.7       V<	874       3.0       46.0       33.8       33.7       3.7       -34.2       0.0       0.0       49.3       37.1       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -23.2       -13.3       V         311       3.0       46.7       33.5       3.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -16.4       -11.4       V         874       3.0       46.7       33.5       33.7       3.7       -3.42       0.0       0.0       50.0       36.8       74       54       -16.7       V         881       3.0       45.8       34.0       33.7       3.7       -3.42       0.0       0.0       56.6       42.0       74       54       -24.9       -16.7       V         311       3.0       50.0 <th< th=""><th>874       3.0       46.0       33.8       33.7       3.7       3.4.2       0.0       0.0       49.3       37.1       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       3.4.2       0.0       0.0       50.8       40.7       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       -3.4.2       0.0       0.0       50.8       40.7       74       54       -23.2       -13.3       V         874       3.0       46.7       33.5       33.7       3.7       -3.4.2       0.0       0.0       50.8       62.6       74       54       -16.4       -11.4       V         881       3.0       45.8       34.0       33.7       3.7       -3.4.2       0.0       0.0       56.6       42.0       74       54       -24.0       -16.7       V         311       3.0       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         ate: No other emissions were det</th><th>1</th><th></th><th></th><th></th><th>1</th><th></th><th></th><th>1</th><th>1</th><th></th><th><u> </u></th><th></th><th>-</th><th></th><th></th><th>1</th></th<>	874       3.0       46.0       33.8       33.7       3.7       3.4.2       0.0       0.0       49.3       37.1       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       3.4.2       0.0       0.0       50.8       40.7       74       54       -24.7       -16.9       V         881       3.0       47.5       37.4       33.7       3.7       -3.4.2       0.0       0.0       50.8       40.7       74       54       -23.2       -13.3       V         874       3.0       46.7       33.5       33.7       3.7       -3.4.2       0.0       0.0       50.8       62.6       74       54       -16.4       -11.4       V         881       3.0       45.8       34.0       33.7       3.7       -3.4.2       0.0       0.0       56.6       42.0       74       54       -24.0       -16.7       V         311       3.0       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         ate: No other emissions were det	1				1			1	1		<u> </u>		-			1
881       3.0       47.5       37.4       33.7       3.7       3.4.2       0.0       0.0       50.8       40.7       74       54       -23.2       -13.3       V         311       30       51.0       36.0       35.7       4.6       -33.7       0.0       0.0       57.6       42.6       74       54       -16.4       -11.4       V         874       3.0       45.7       3.3.5       33.7       3.7       3.4.2       0.0       0.0       57.6       42.6       74       54       -16.4       -11.4       V         881       3.0       45.8       34.0       33.7       3.7       -34.2       0.0       0.0       49.1       37.3       74       54       -24.9       -16.7       V         311       3.0       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -24.9       -16.7       V         311       3.0       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H       -16.7       V       -16.7	i       37.4       33.7       3.7       -34.2       0.0       0.0       50.8       40.7       74       54       -23.2       -13.3       V         i       36.0       35.7       4.6       -33.7       0.0       0.0       57.6       42.6       74       54       -16.4       -11.4       V         i       33.5       33.7       3.7       -34.2       0.0       0.0       57.6       42.6       74       54       -16.4       -11.4       V         i       33.7       3.7       -34.2       0.0       0.0       50.0       36.8       74       54       -16.7       V         i       34.0       33.7       3.7       -34.2       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         i       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         ere detected above the system noise floor	881         3.0         47.5         37.4         33.7         3.7         3.4.2         0.0         0.0         50.8         40.7         74         54         -23.2         -13.3         V           311         3.0         51.0         36.0         35.7         4.6         -33.7         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         33.7         0.0         0.0         56.6 <t< td=""><td>881         3.0         47.5         37.4         33.7         3.7         34.2         0.0         0.0         50.8         40.7         74         54         -23.2         -13.3         V           311         3.0         51.0         36.0         35.7         4.6         33.7         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           881         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         59.0         36.8         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -0.0         0.0         49.1         37.3         74         54         -24.0         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         <td< td=""><td>881         3.0         47.5         37.4         33.7         3.7         3.4.2         0.0         0.0         50.8         40.7         74         54         -23.2         -13.3         V           311         3.0         51.0         36.0         35.7         4.6         -33.7         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -24.9         -16.7         V           311         3.0         45.8         34.0         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         &lt;</td><td></td><td>3.0</td><td>46 በ</td><td>33.8</td><td>33.7</td><td>37</td><td>-34.2</td><td>0.0</td><td>0.0</td><td>49.3</td><td>37.1</td><td>74</td><td>54</td><td>.24.7</td><td>-16.9</td><td>v</td></td<></td></t<>	881         3.0         47.5         37.4         33.7         3.7         34.2         0.0         0.0         50.8         40.7         74         54         -23.2         -13.3         V           311         3.0         51.0         36.0         35.7         4.6         33.7         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           881         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         59.0         36.8         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -0.0         0.0         49.1         37.3         74         54         -24.0         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0 <td< td=""><td>881         3.0         47.5         37.4         33.7         3.7         3.4.2         0.0         0.0         50.8         40.7         74         54         -23.2         -13.3         V           311         3.0         51.0         36.0         35.7         4.6         -33.7         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -24.9         -16.7         V           311         3.0         45.8         34.0         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         &lt;</td><td></td><td>3.0</td><td>46 በ</td><td>33.8</td><td>33.7</td><td>37</td><td>-34.2</td><td>0.0</td><td>0.0</td><td>49.3</td><td>37.1</td><td>74</td><td>54</td><td>.24.7</td><td>-16.9</td><td>v</td></td<>	881         3.0         47.5         37.4         33.7         3.7         3.4.2         0.0         0.0         50.8         40.7         74         54         -23.2         -13.3         V           311         3.0         51.0         36.0         35.7         4.6         -33.7         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -16.4         -11.4         V           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         57.6         42.6         74         54         -24.9         -16.7         V           311         3.0         45.8         34.0         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         <		3.0	46 በ	33.8	33.7	37	-34.2	0.0	0.0	49.3	37.1	74	54	.24.7	-16.9	v
874         3.0         46.7         33.5         33.7         3.7         3.4.2         0.0         0.0         50.0         36.8         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -17.4         -12.0         H           ote: No other emissions were detected above the system noise floor	33.5       33.7       3.7       -34.2       0.0       0.0       50.0       36.8       74       54       -24.0       -17.2       H         34.0       33.7       3.7       -34.2       0.0       0.0       49.1       37.3       74       54       -24.0       -17.2       H         34.0       33.7       3.7       -34.2       0.0       0.0       49.1       37.3       74       54       -24.0       -17.2       H         35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         ere detected above the system noise floor	874       3.0       46.7       33.5       33.7       3.7       -34.2       0.0       0.0       50.0       36.8       74       54       -24.0       -17.2       H         881       3.0       45.8       34.0       33.7       3.7       -3.4.2       0.0       0.0       49.1       37.3       74       54       -24.0       -17.2       H         881       3.0       45.8       34.0       33.7       3.7       -3.4.2       0.0       0.0       49.1       37.3       74       54       -24.9       -16.7       V         311       3.0       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         ote: No other emissions were detected above the system noise floor	874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         50.0         36.8         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -17.4         -12.0         H           ote: No other emissions were detected above the system moise floor	874         3.0         46.7         33.5         33.7         3.7         -34.2         0.0         0.0         50.0         36.8         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.0         -17.2         H           881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -17.4         -12.0         H           ote: No other emissions were detected above the system noise floor																
881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           ete: No other emissions were detected above the system noise floor                    17.4         -12.0         H           ete: No other emissions were detected above the system noise floor <td>i       34.0       33.7       3.7       -34.2       0.0       0.0       49.1       37.3       74       54       -24.9       -16.7       V         i       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -24.9       -16.7       V         ere detected above the system noise floor      </td> <td>681         3.0         45.8         34.0         33.7         3.7         3.4.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           ote: No other emissions were detected above the system noise floor        </td> <td>881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           ete: No other emissions were detected above the system noise floor        </td> <td>681         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           ote: No other emissions were detected above the system noise floor        </td> <td></td>	i       34.0       33.7       3.7       -34.2       0.0       0.0       49.1       37.3       74       54       -24.9       -16.7       V         i       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -24.9       -16.7       V         ere detected above the system noise floor	681         3.0         45.8         34.0         33.7         3.7         3.4.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           ote: No other emissions were detected above the system noise floor	881         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           ete: No other emissions were detected above the system noise floor	681         3.0         45.8         34.0         33.7         3.7         -34.2         0.0         0.0         49.1         37.3         74         54         -24.9         -16.7         V           311         3.0         50.0         35.4         35.7         4.6         -33.7         0.0         0.0         56.6         42.0         74         54         -24.9         -16.7         V           ote: No other emissions were detected above the system noise floor																
311       30       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         dete: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         dete: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         dete: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         dete: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         dete: No other emissions were detected above the system noise floor       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         dete: No other emissions were detected above the system noise floor       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         detemission system noise flo	35.4     35.7     4.6     -33.7     0.0     0.0     56.6     42.0     74     54     -17.4     -12.0     H       ere detected above the system noise floor       ere detected above the system noise floor       Amp     Preamp Gain       Avg Lim       Avg Average Field Strength Limit       ere adding       Avg Average Field Strength @ 3 m       Avg Mar Margin vs. Average Limit       a Factor       Peak Calculated Peak Field Strength       Pk Mar Margin vs. Peak Limit	311       30       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         ie: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         f       Measurement Frequency       Amp       Preamp Gain       Avg Lim       Average Field Strength Limit         Dist       Distance to Antenna       D Corr       Distance Correct to 3 meters       Pk Lim       Peak Field Strength Limit         Read       Analyzer Reading       Avg       Average Field Strength @ 3 m       Avg Mar       Margin vs. Average Limit         AF       Antenna Factor       Peak       Calculated Peak Field Strength       Pk Mar       Margin vs. Peak Limit	311       3.0       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         det: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         det: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         det: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         det: No other emissions were detected above the system noise floor       0.0       56.6       42.0       74       54       -17.4       -12.0       H         dete: No other emissions were detected above the system noise floor       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         dete: No other emissions were detected above the system noise floor       Amp       Preamp Gain       Avg       Avg Lim       Average Field Strength Limit         Distance to Antenna       D Corr       Distance Correct to 3 meter	311       30       50.0       35.4       35.7       4.6       -33.7       0.0       0.0       56.6       42.0       74       54       -17.4       -12.0       H         ote: No other emissions were detected above the system noise floor <td></td>																
f       Measurement Frequency       Amp       Preamp Gain       Avg Lim       Average Field Strength Limit         Dist       Distance to Antenna       D Corr       Distance Correct to 3 meters       Pk Lim       Peak Field Strength Limit         Read       Analyzer Reading       Avg       Average Field Strength @ 3 m       Avg Mar       Margin vs. Average Limit         AF       Antenna Factor       Peak       Calculated Peak Field Strength       Pk Mar       Margin vs. Peak Limit	rement Frequency Amp Preamp Gain Avg Lim Average Field Strength Limit e to Antenna D Corr Distance Correct to 3 meters Pk Lim Peak Field Strength Limit er Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit a Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	f       Measurement Frequency       Amp       Preamp Gain       Avg Lim       Average Field Strength Limit         Dist       Distance to Antenna       D Corr       Distance Correct to 3 meters       Pk Lim       Peak Field Strength Limit         Read       Analyzer Reading       Avg       Average Field Strength (@ 3 m)       Avg Mar       Margin vs. Average Limit         AF       Antenna Factor       Peak       Calculated Peak Field Strength       Pk Mar       Margin vs. Peak Limit	f       Measurement Frequency       Amp       Preamp Gain       Avg Lim       Average Field Strength Limit         Dist       Distance to Antenna       D Corr       Distance Correct to 3 meters       Pk Lim       Peak Field Strength Limit         Read       Analyzer Reading       Avg       Average Field Strength @ 3 m       Avg Mar       Margin vs. Average Limit         AF       Antenna Factor       Peak       Calculated Peak Field Strength       Pk Mar       Margin vs. Peak Limit	f       Measurement Frequency       Amp       Preamp Gain       Avg Lim       Average Field Strength Limit         Dist       Distance to Antenna       D Corr       Distance Correct to 3 meters       Pk Lim       Peak Field Strength Limit         Read       Analyzer Reading       Avg       Average Field Strength (@ 3 m)       Avg Mar       Margin vs. Average Limit         AF       Antenna Factor       Peak       Calculated Peak Field Strength       Pk Mar       Margin vs. Peak Limit	311	3.0	50.0	35.4	35.7	4.6	-33.7	0.0	0.0	56.6	42.0	74	54	-17.4	-12.0	Н
Dist Distance to Antenna D Corr Distance Correct to 3 meters Pk Lim Peak Field Strength Limit Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	er to Antenna D Corr Distance Correct to 3 meters Pk Lim Peak Field Strength Limit er Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit a Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	Dist     Distance to Antenna     D Corr     Distance Correct to 3 meters     Pk Lim     Peak Field Strength Limit       Read     Analyzer Reading     Avg     Average Field Strength @ 3 m     Avg Mar     Margin vs. Average Limit       AF     Antenna Factor     Peak     Calculated Peak Field Strength     Pk Mar     Margin vs. Peak Limit	Dist Distance to Antenna D Corr Distance Correct to 3 meters Pk Lim Peak Field Strength Limit Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	Dist     Distance to Antenna     D Corr     Distance Correct to 3 meters     Pk Lim     Peak Field Strength Limit       Read     Analyzer Reading     Avg     Average Field Strength @ 3 m     Avg Mar     Margin vs. Average Limit       AF     Antenna Factor     Peak     Calculated Peak Field Strength     Pk Mar     Margin vs. Peak Limit						m noise										
Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	er Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit a Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	Read Analyzer Reading Avg Average Field Strength @ 3 m Avg Mar Margin vs. Average Limit AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit				-	У			-		ot to 3 mete	***		-	-	-	
AF Antenna Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	a Factor Peak Calculated Peak Field Strength Pk Mar Margin vs. Peak Limit	AF Antenna Factor	AF Antenna Factor	AF Antenna Factor															-	
CL Cable Loss HPF High Pass Filter	Loss HPF High Pass Filter	CL Cable Loss HPF High Pass Filter	CL Cable Loss HPF High Pass Filter	CL Cable Loss HPF High Pass Filter			2	0			0	<u> </u>		~ ~			-	~		
						CL	Cable Loss	s			HPF	High Pas	s Filter		-			-		

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# 7.2.5 WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

## SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)



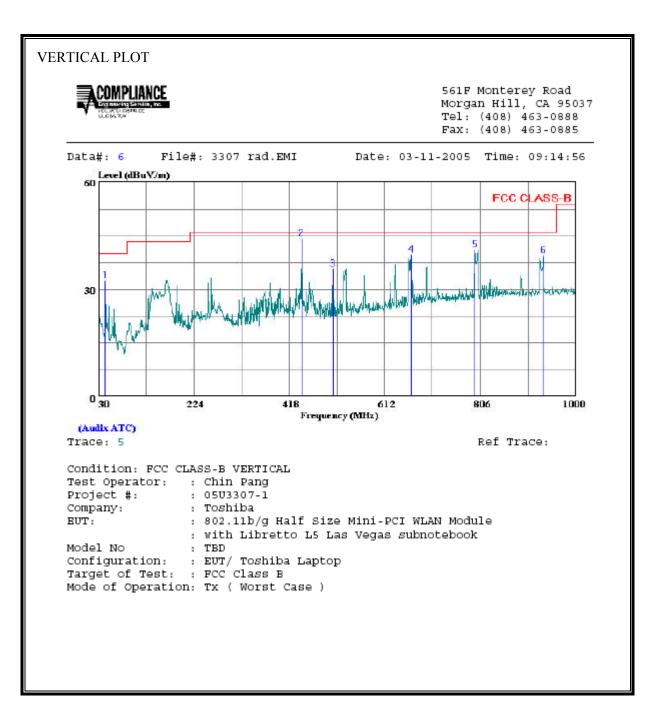
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### REPORT NO: 05U3307-1 EUT: 802.11 b/g HALF SIZE MINI-PCI WLAN MODULE

HORIZONTAL DA	ТА			
Freq	Read Level Factor	Limit Level Line	Over Limit Remark	Page: 1
MHz	dBuV dB	$\overline{d}\overline{BuV/m}$ $\overline{dBuV/m}$	dB	
1 189.080 2 * 189.080 3 * 253.100 4 253.100 5 316.150 6 444.190 7 444.190 8 634.310 9 888.450	56.12 -14.72 59.20 -14.72 59.90 -13.58 55.80 -13.62 51.90 -11.39 52.60 -8.40 54.10 -8.40 45.70 -4.68	41.40 43.50 44.48 43.50 46.32 46.00 42.18 46.00 40.51 46.00 44.20 46.00 45.70 46.00 41.02 46.00	-2.10 QP 0.98 Peak 0.32 Peak -3.82 QP -5.49 Peak -1.80 QP -0.30 Peak -4.98 Peak -4.06 Peak	

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#### SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)



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## REPORT NO: 05U3307-1 EUT: 802.11 b/g HALF SIZE MINI-PCI WLAN MODULE

VERTIC	AL DATA							
	Freq	Read Level		Level	Limit Line	Over Limit		Page: 1
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	43.580	47.20	-14.89	32.31	40.00	-7.69	Peak	
2	443.220							
3	507.240	42.80	-7.13	35.67	46.00	-10.33	Peak	
4	666.320							
5	794.360							
6	934.040	40.10	-0.65	39.45	46.00	-6.55	Peak	

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# 7.3 POWERLINE CONDUCTED EMISSIONS

# <u>LIMIT</u>

\$15.207 (a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that 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 the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

The lower limit applies at the boundary between the frequency ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)			
	Quasi-peak	Average		
0.15-0.5	66 to 56 *	56 to 46 *		
0.5-5	56	46		
5-30	60	50		

Decreases with the logarithm of the frequency.

# TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

The resolution bandwidth is set to 9 kHz for both peak detection and quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

Line conducted data is recorded for both NEUTRAL and HOT lines.

# **RESULTS**

No non-compliance noted:

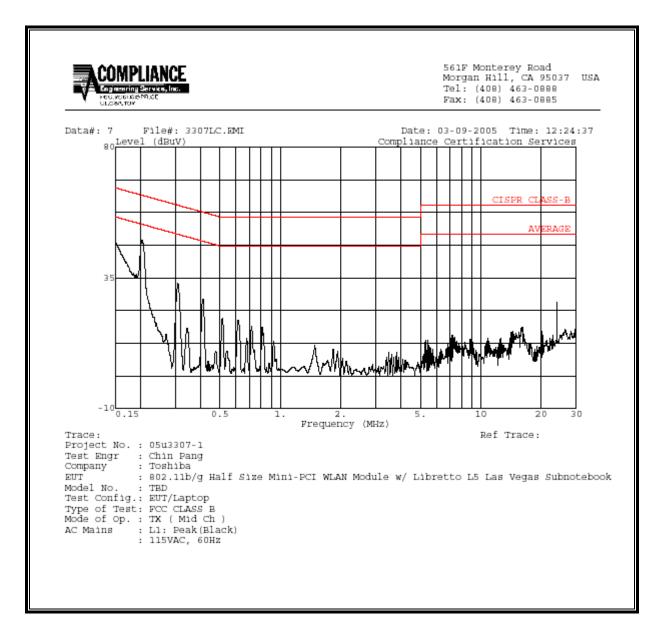
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#### **<u>6 WORST EMISSIONS</u>**

CONDUCTED EMISSIONS DATA (115VAC 60Hz)										
Freq.	Reading			Closs	Limit	FCC_B	Margin		Remark	
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2	
0.15	47.54			0.00	66.00	56.00	-18.46	-8.46	L1	
0.25	47.72			0.00	61.92	51.92	-14.20	-4.20	L1	
0.31	32.69			0.00	59.97	49.97	-27.28	-17.28	L1	
0.15	46.50			0.00	65.89	55.89	-19.39	-9.39	L2	
0.20	47.48			0.00	63.45	53.45	-15.97	-5.97	L2	
0.31	32.90			0.00	59.97	49.97	-27.07	-17.07	L2	
6 Worst I	Data									

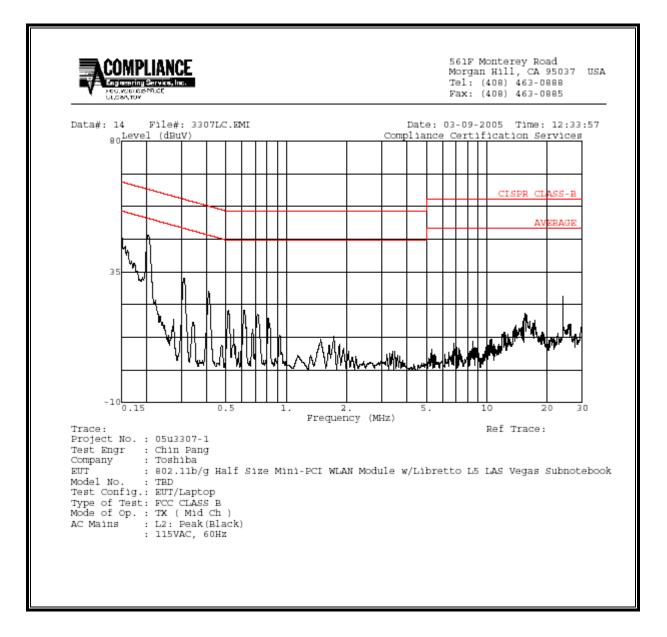
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#### LINE 1 RESULT



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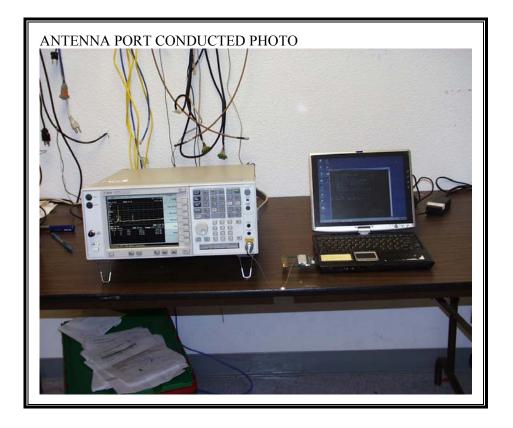
#### LINE 2 RESULT



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# 8 SETUP PHOTOS

# ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP

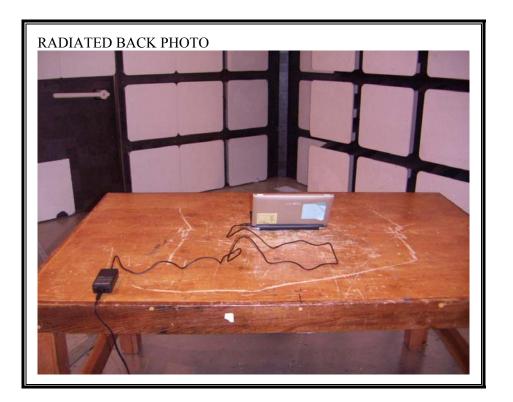


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#### RADIATED RF MEASUREMENT SETUP FOR BELOW 1 GHz TESTING

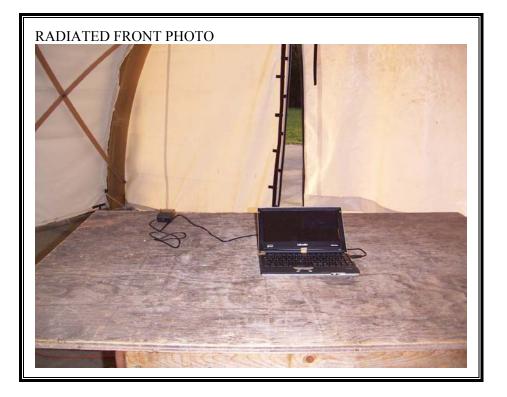


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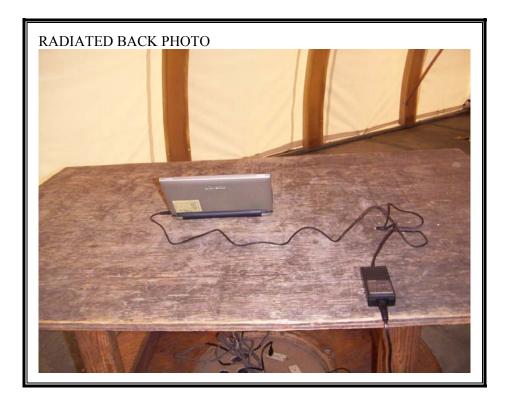


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#### RADIATED RF MEASUREMENT SETUP FOR ABOVE 1 GHz TESTING



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# POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP



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**END OF REPORT** 

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