



FCC CFR47 PART 15 SUBPART C CERTIFICATION

TEST REPORT

FOR 802.11B/G MINI-PCI CARD

MODEL NUMBER: PA3362U-1MPC

FCC ID: CJ6UPA3362WL

REPORT NUMBER: 03U2392-1

ISSUE DATE: DECEMBER 8, 2003

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

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



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1. TEST RESULT CERTIFICATION

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

EUT DESCRIPTION: 802.11b/g Mini-PCI Card

MODEL: PA3362U-1MPC

DATE TESTED: NOVEMBER 25 – DECEMBER 8, 2003

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: This document reports conditions under which testing was conducted and results of tests performed. 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.

Approved & Released For CCS By:

Tested By:

MA

MIKE HECKROTTE CHIEF ENGINEER COMPLIANCE CERTIFICATION SERVICES

YAN ZHENG EMC ENGINEER COMPLIANCE CERTIFICATION SERVICES

2. EUT DESCRIPTION

The EUT is an 802.11b/g transceiver. It is installed in a Toshiba Tablet PC host computer, model Portege M200, including co-location with the Toshiba PA3232U-1BTM Bluetooth radio card.

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

Frequency Band (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	17.77	59.84
2412 - 2462	802.11g	16.84	48.31

The WLAN radio utilizes two identical internal antennas for diversity. Additionally three antenna models in two antenna types are specified. One pair of a particular model is used in each particular installation.

One type is a Monopole antenna, model HTL017, with a maximum gain of 2.2 dBi.

The other type is a Planar Inverted F antenna, with two models: the highest gain model is TIAN01, with a maximum gain of 2.0dBi; the other model is HTL008, with a maximum gain of 0.5 dBi.

The Bluetooth radio card has a modular approval, FCC ID: CJ6UPA3232BT. The Bluetooth radio utilizes a film antenna with a maximum gain of 1.22 dBi.

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3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4/2001, FCC CFR 47 Part 2 and FCC CFR 47 Part 15.

4. 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>.



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

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5. CALIBRATION AND UNCERTAINTY

5.1. 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.

5.2. 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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5.3. TEST AND MEASUREMENT EQUIPMENT

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

TEST AND MEASUREMENT EQUIPMENT LIST						
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due Date		
EMI Test Receiver	R & S	ESHS 20	827129/006	7/17/2004		
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250- 25-2 8012-50-R-24-	2023	10/13/2004		
LISN, 10 kHz ~ 30 MHz	<u>Solar</u>	BNC	8379443	10/13/2004		
Line Filter	Lindgren	LMF-3489	497	CNR		
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	11/21/2004		
RF Filter Section	HP	85420E	3705A00256	11/21/2004		
Antenna, Bicon/Log, 25 ~ 2000 MHz	ARA	LPB-2520/A	1185	3/6/2004		
Antenna, Horn 1 ~ 18 GHz	EMCO	3115	6717	2/4/2004		
Antenna, Horn, 18 ~ 26 GHz	ARA	MWH-1826/B	1013	2/2/2004		
Amplifier 1-26GHz	MITEQ	NSP2600-SP	924342	4/25/2004		
Peak / Average Power Sensor	Agilent	E9327A	US40440755	11/7/2004		
Power Meter	Agilent	E4416A	GB41291160	11/7/2004		
Spectrum Analyzer	HP	E4446A	US42510266	7/23/2004		
Band Reject 2.4GHz	Micro-Tronics	BRM50702	003	N.C.R.		

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6. SETUP OF EQUIPMENT UNDER TEST

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST							
Device Type	Device Type Manufacturer Model Serial Number FCC ID						
LapTop	Toshiba	M200	93070085JU	N/A			
AC/DC Adapter	Toshiba	ADP-60RHA	G71C0002S110	N/A			

I/O CABLES

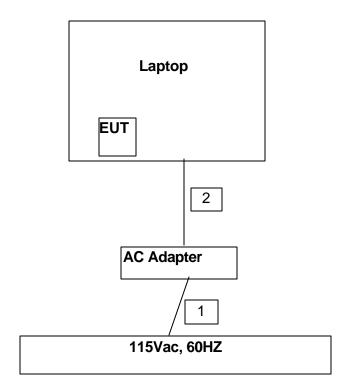
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US115	Unshielded	2m	N/A
2	DC	1	DC	Unshielded	2m	N/A

TEST SETUP

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

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SETUP DIAGRAM



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7. APPLICABLE LIMITS AND TEST RESULTS

7.1. 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 100 kHz. The sweep time is coupled.

RESULTS

No non-compliance noted:

802.11b Mode

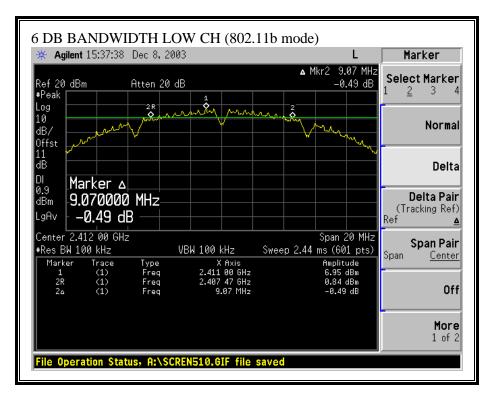
Channel	Frequency	6 dB Bandwidth	Minimum Limit	Margin
	(MHz)	(kHz)	(kHz)	(kHz)
Low	2412	9070	500	8570
Middle	2437	9100	500	8600
High	2462	9130	500	8630

802.11g Mode

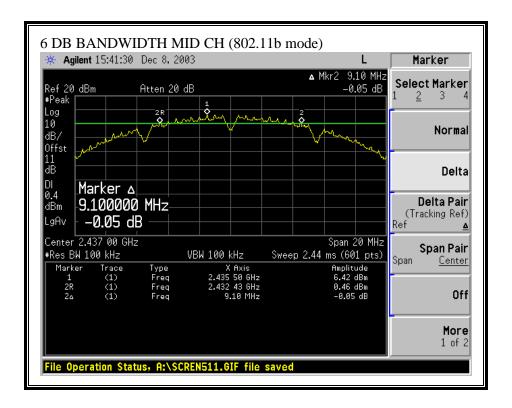
Channel	Frequency	6 dB Bandwidth	Minimum Limit	Margin
	(MHz)	(kHz)	(kHz)	(kHz)
Low	2412	16430	500	15930
Middle	2437	16430	500	15930
High	2462	16370	500	15870

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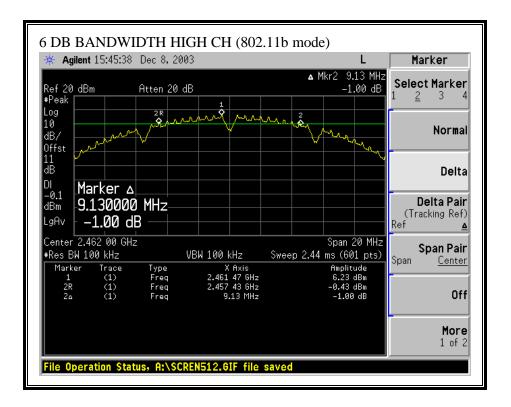
6 DB BANDWIDTH (802.11b MODE)



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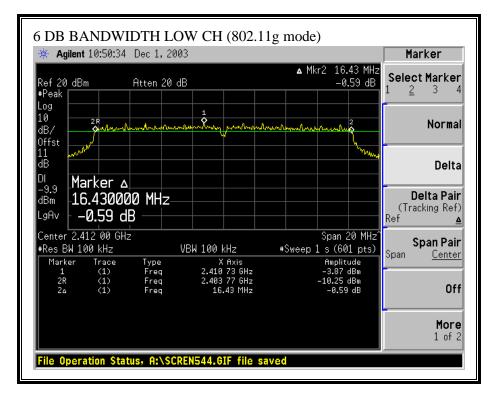


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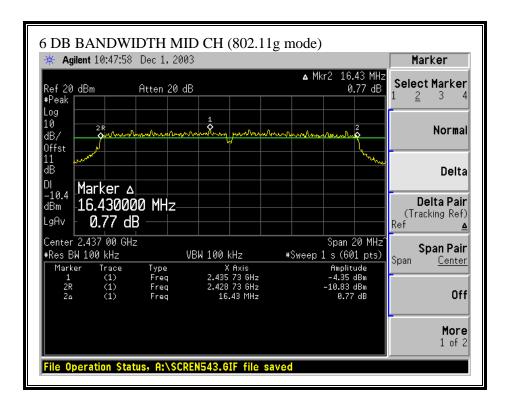


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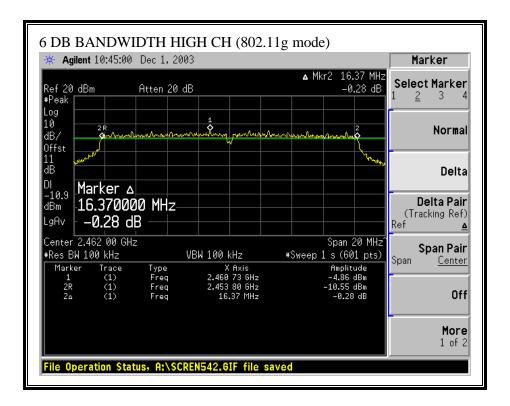
6 DB BANDWIDTH (802.11g MODE)



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7.2. 99% **BANDWIDTH**

LIMIT

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:

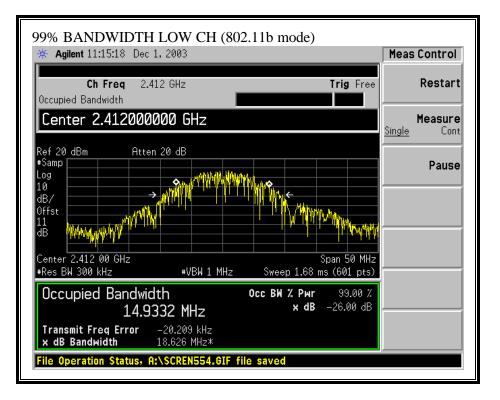
802.11b Mode						
Channel	Channel Frequency 99% Bandwidt					
	(MHz)	(MHz)				
Low	2412	14.9332				
Middle	2437	15.1227				
High	2462	14.8068				

802.11g Mode

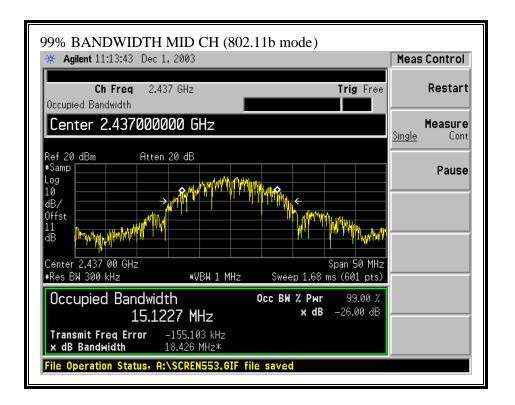
Channel	Frequency	99% Bandwidth
	(MHz)	(MHz)
Low	2412	16.6415
Middle	2437	16.5314
High	2462	16.6165

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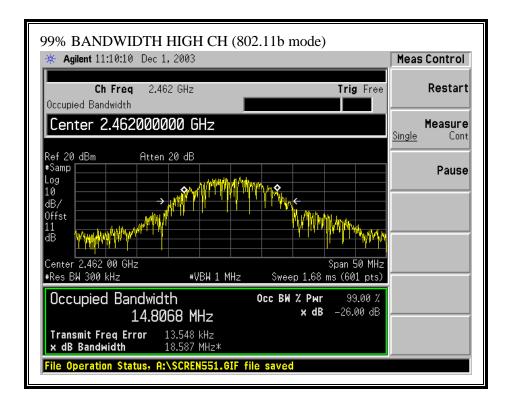
99% BANDWIDTH (802.11b MODE)



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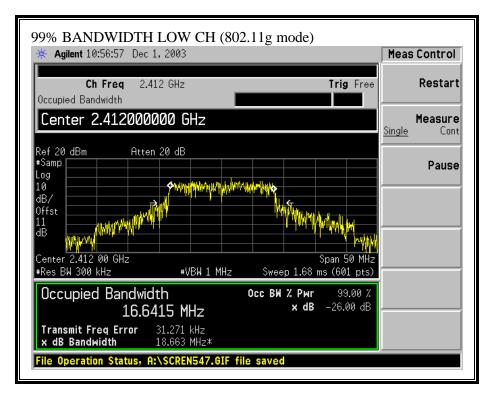


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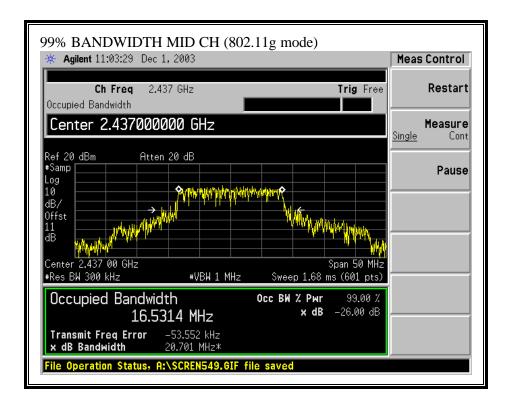


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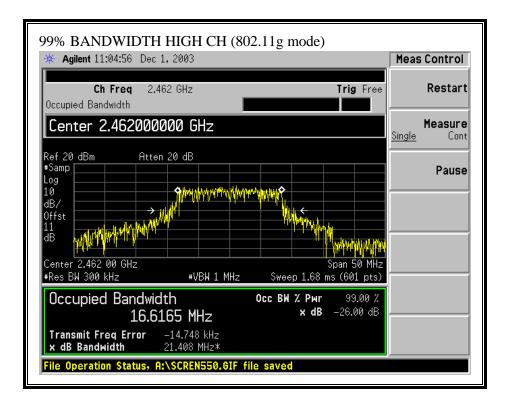
99% BANDWIDTH (802.11g MODE)



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

The maximum antenna gain is 2.2 dBi, therefore the limit is 30 dBm.

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

No non-compliance noted:

802.11b Mode

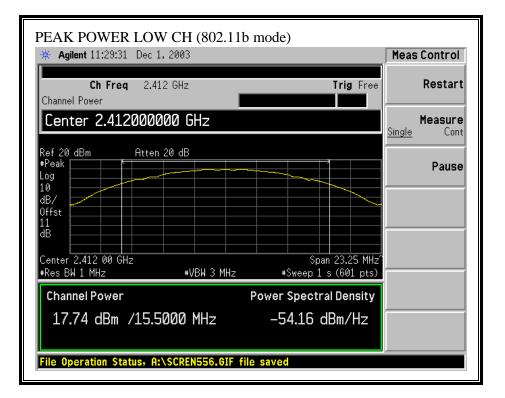
Channel	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Margin (dB)
	(IVITZ)	(ubiii)	(ubiii)	(UD)
Low	2412	17.74	30	-12.26
Middle	2437	17.62	30	-12.38
High	2462	17.77	30	-12.23

802.11g Mode

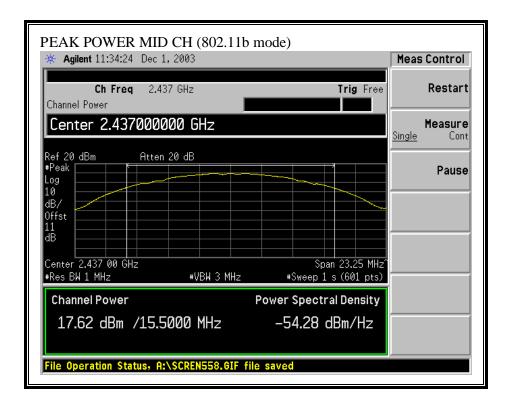
Channel	Frequency	Peak Power	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
Low	2412	16.84	30	-13.16
Middle	2437	16.39	30	-13.61
High	2462	16.46	30	-13.54

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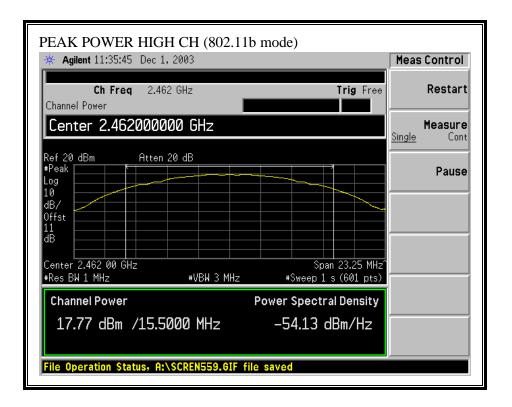
OUTPUT POWER (802.11b MODE)



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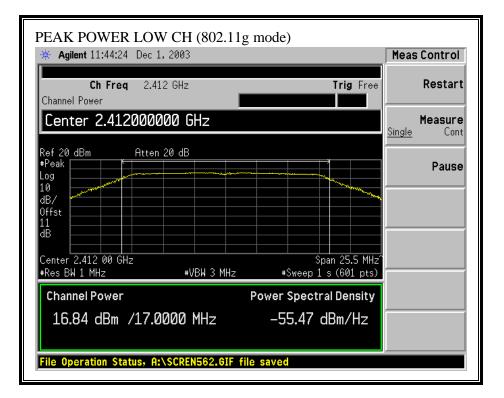


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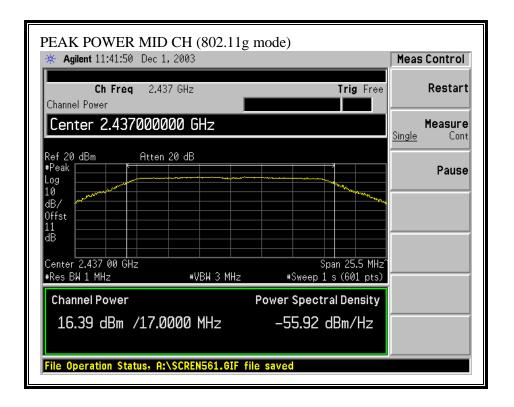


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OUTPUT POWER (802.11g MODE)



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✗ Agilent 11:39:27 Dec	1,2003		Meas Control
Ch Freq 2	162 GHz	Trig Free	Restart
Channel Power			
Center 2.462000	000 GHz		Measure Single Cont
			Single Cont
Ref 20 dBm Atte #Peak K	n 20 dB		Pause
Log			Fause
10 dB/			
Offst			
dB			
		Since 2E E Mile	
Center 2.462 00 GHz #Res BW 1 MHz	₩VBW 3 MHz	Span 25.5 MHz #Sweep 1 s (601 pts)	
Channel Power	P	ower Spectral Density	Í
16.46 dBm /17.	0000 MH7	-55.85 dBm/Hz	

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7.4. MAXIMUM PERMISSIBLE EXPOSURE

LIMITS

\$1.1310 The criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
(A) Lim	its for Occupational	/Controlled Exposure	es	
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f2)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits f	or General Populati	on/Uncontrolled Exp	osure	
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30

TABLE 1-LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)—Continued

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
30–300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500–100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occu-tion of the provided through the provided through the potential for exposure and can exercise control over their exposure.

pational/controlled limits apply provided he or she is made aware of the potential for exposure. NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be ex-posed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

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CALCULATIONS

Given

 $E = \sqrt{(30 * P * G)} / d$

where

and

E = Field Strength in Volts/meter

P = Power in Watts

 $S = E^{2}/3770$

G = Numeric antenna gain

d = Distance in meters

S = Power Density in milliwatts/square centimeter

Combining equations and rearranging the terms to express the distance as a function of the remaining variables yields:

 $d = \sqrt{((30 * P * G) / (3770 * S))}$

Changing to units of Power to mW and Distance to cm, using:

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

yields

 $d = 100 * \sqrt{((30 * (P / 1000) * G) / (3770 * S))}$ $d = 0.282 * \sqrt{(P * G / S)}$

where

d = distance in cm P = Power in mW G = Numeric antenna gain S = Power Density in mW/cm^2

Substituting the logarithmic form of power and gain using:

 $P(mW) = 10^{(HW)} (P(dBm) / 10)$ and $G(numeric) = 10^{(HW)} (G(dBi) / 10)$

yields

where

d = MPE distance in cm P = Power in dBm G = Antenna Gain in dBi S = Power Density Limit in mW/cm^2

 $d = 0.282 * 10 \wedge ((P + G) / 20) / \sqrt{S}$

Equation (1) and the measured peak power is used to calculate the MPE distance.

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Equation (1)

LIMITS

From §1.1310 Table 1 (B), S = 1.0 mW/cm^2

RESULTS

No non-compliance noted:

Mode	Power Density Limit (mW/cm^2)	Output Power (dBm)	Antenna Gain (dBi)	MPE Distance (cm)
802.11b	1.0	17.77	2.20	2.81
802.11g	1.0	16.84	2.20	2.52

NOTE: For mobile or fixed location transmitters, the minimum separation distance is 20 cm, even if calculations indicate that the MPE distance would be less.

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7.5. 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 11.02 dB (including 10 dB pad and 1.02 dB 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	14.68	
Middle	2437	14.75	
High	2462	14.76	

802.11g Mode

Channel	Frequency	Average Power	
	(MHz)	(dBm)	
Low	2412	5.90	
Middle	2437	5.90	
High	2462	5.70	

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7.6. 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:

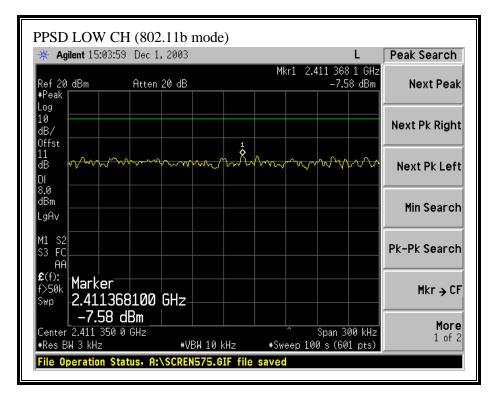
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-7.58	8	-15.58
Middle	2437	-7.79	8	-15.79
High	2462	-7.09	8	-15.09

802.11g Mode

Channel	Frequency	PPSD	Limit	Margin
	(MHz)	(dBm)	(dBm)	(dB)
Low	2412	-15.95	8	-23.95
Middle	2437	-15.45	8	-23.45
High	2462	-15.16	8	-23.16

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PEAK POWER SPECTRAL DENSITY (802.11b MODE)



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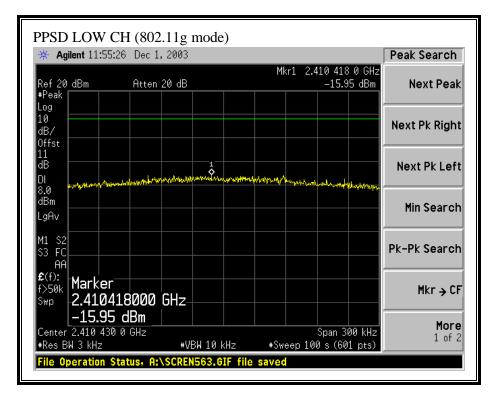
PPSD MID CH (802.	.11b mode)		
🔆 Agilent 14:44:34 Dec 1	, 2003	L	Peak Search
Ref 20 dBm Atten #Peak	Mk 20 dB	r1 2.432 645 4 GHz -7.79 dBm	Next Peak
Log 10 dB/			Next Pk Right
DI	www.www.	m i	Next Pk Left
8.0 dBm LgAv			Min Search
M1 S2 S3 FC AA			Pk-Pk Search
€(f): f>50k Swp 2.432645400	GHz		Mkr → CF
Center 2.432 533 3 GHz #Res BW 3 kHz	#VBW 10 kHz #Swe	Span 300 kHz eep 100 s (601 pts)	More 1 of 2
File Operation Status, A:	\SCREN573.GIF file saved		

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	CH (802.11b m	ode)		
Agilent 14:28:	:12 Dec 1, 2003		L	Peak Search
Ref 20 dBm #Peak	Atten 20 dB	Mkr1 :	2.462 846 1 GHz -7.09 dBm	Next Peak
Log 10 dB/ Offst				Next Pk Right
11 dB contraction DI	mont	www.www.	m Mann	Next Pk Left
8.0 dBm LgAv				Min Search
M1 S2 S3 FC				Pk-Pk Search
£(f): f>50k Swp 2.4628	46100 GHz—			Mkr → CF
-7.09 Center 2.462 815 #Res BW 3 kHz	5 0 GHz	10 kHz #Sweep 1	Span 300 kH2 100 s (601 pts)	More 1 of 2
File Operation S	tatus, A:\SCREN57	0.GIF file saved		

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PEAK POWER SPECTRAL DENSITY (802.11g MODE)



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Agilent 12:24:07	(802.11g mode)	1	Peak Search
Ref 20 dBm	Atten 20 dB	- Mkr1 2.437 611 9 -15.45 d	GHz
#Peak Log 10 dB/ Offst			Next Pk Right
DI and an and a second	entrem Mar Commentation and and and and and and and and and an	window and an advertised of the second of	Next Pk Left
dBm LgAv			Min Search
M1 S2 S3 FC AA			Pk-Pk Search
£(f): f>50k Swp 2.437611 -15.45 d			Mkr → CF
Center 2.437 666 7 #Res BW 3 kHz	GHz	^ Span 300 l z #Sweep 100 s (601 p	

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🔆 Agilen	t 14:00:07	Dec 1,	2003					L	Peak Search
#Peak	im	Atten 2	0 dB			Mkr1 2.4		3 GHz 6 dBm	Next Peak
Log 10									Next Pk Right
11 dB DI 🚧	Marriana	world Wards	w.chirouiaghte	marging	genters Aspenders	1 	wither	www.wlphu.co	Next Pk Left
8.0 dBm LgAv									Min Search
M1 S2 S3 FS AA									Pk-Pk Search
	arker .460409 15.16 d		6Hz						Mkr) CF
	460 333 3		#VBW	 10 kHz	#\$			00 kHz^ 1 pts)	More 1 of 2

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7.7. 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(c)).

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 100 kHz.

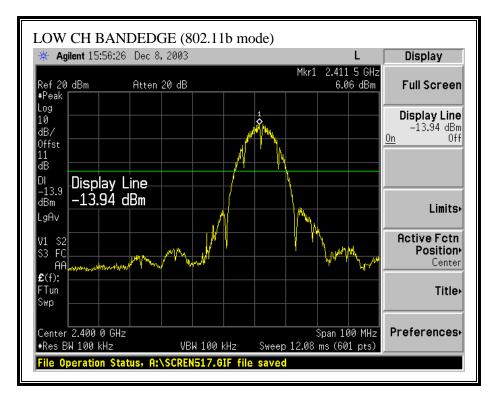
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

RESULTS

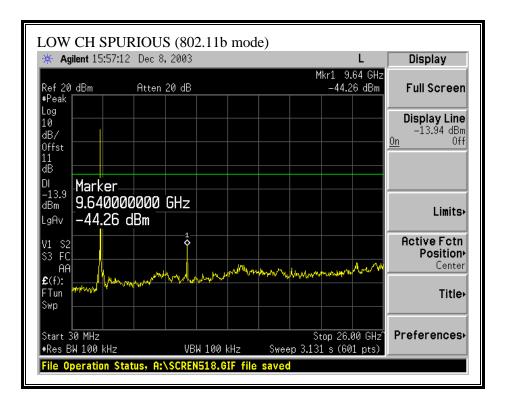
No non-compliance noted:

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SPURIOUS EMISSIONS, LOW CHANNEL (802.11b MODE)

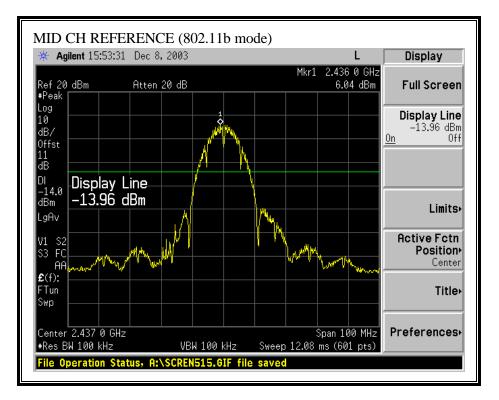


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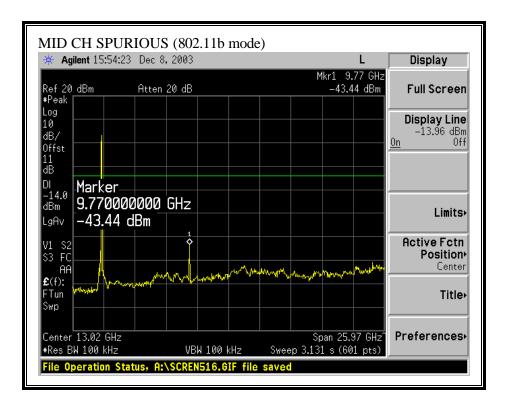


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SPURIOUS EMISSIONS, MID CHANNEL (802.11b MODE)

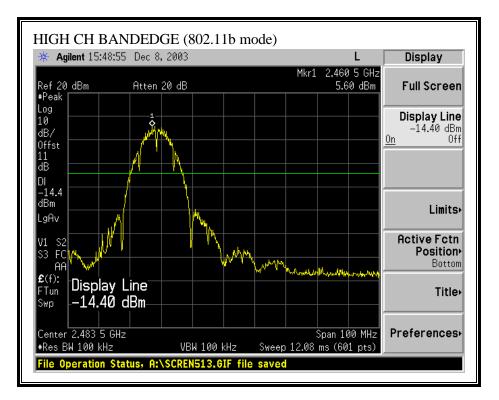


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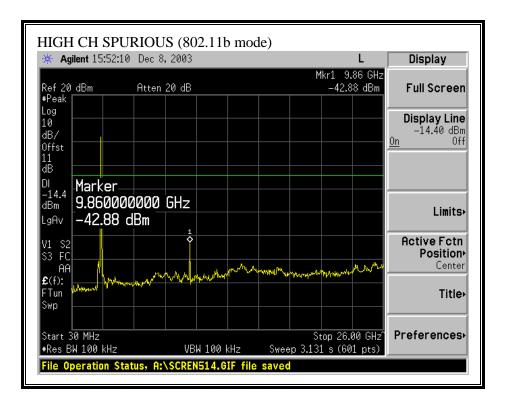


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SPURIOUS EMISSIONS, HIGH CHANNEL (802.11b MODE)

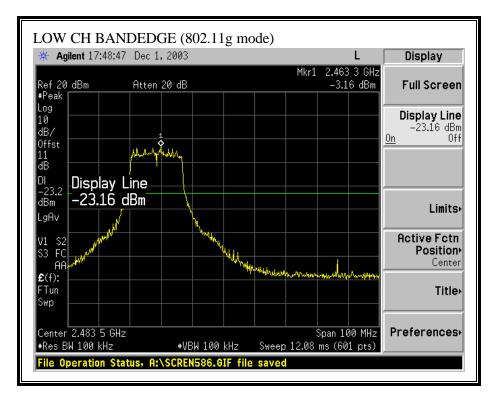


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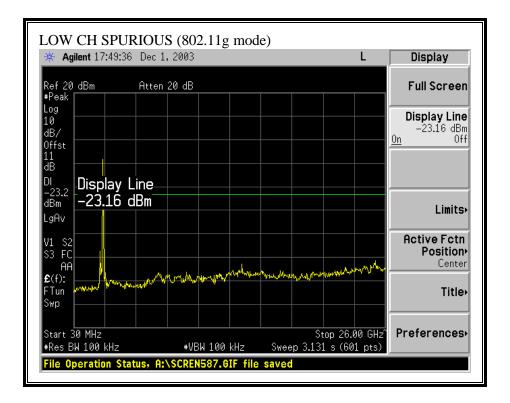


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SPURIOUS EMISSIONS, LOW CHANNEL (802.11g MODE)

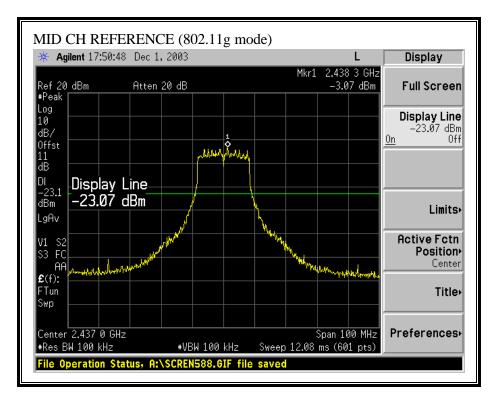


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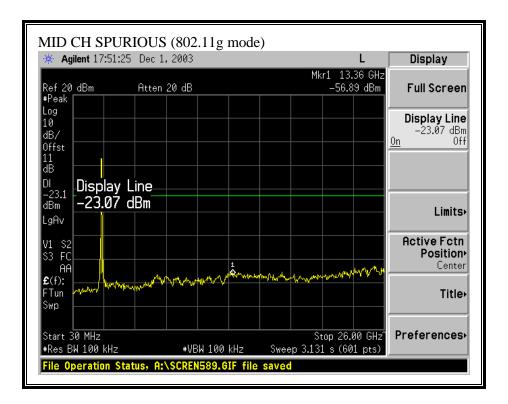


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SPURIOUS EMISSIONS, MID CHANNEL (802.11g MODE)

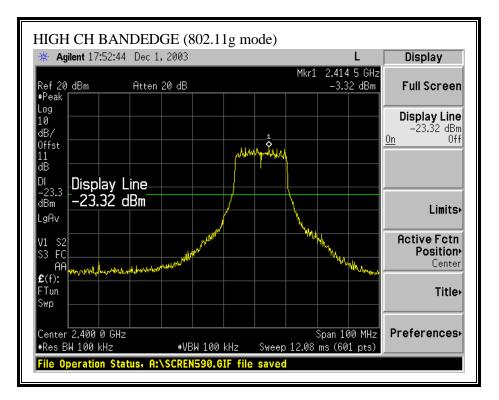


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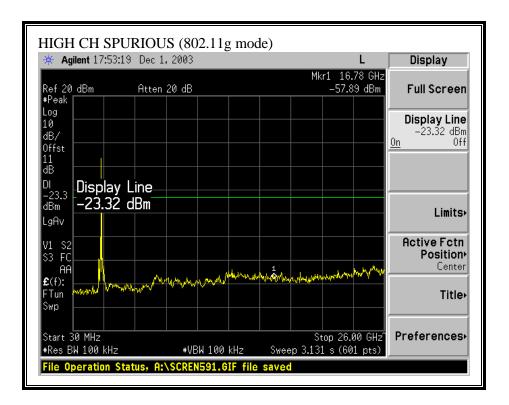


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SPURIOUS EMISSIONS, HIGH CHANNEL (802.11g MODE)



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7.8. RADIATED EMISSIONS LIMITS AND PROCEDRUES

7.8.1. 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 using measurement instrumentation 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.

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.

The configuration and orientation of the EUT was varied to determine the worst-case. The EUT was first configured as a typical laptop notebook PC resting on the turntable in a normal operating condition. It was then configured as a tablet PC and evaluated in X, Y and Z orientations. Worst-case results are reported.

7.8.2. CO-LOCATED TRANSMITTER RADIATED EMISSIONS

SUPPLEMENTAL TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna 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. Worst case results are reported.

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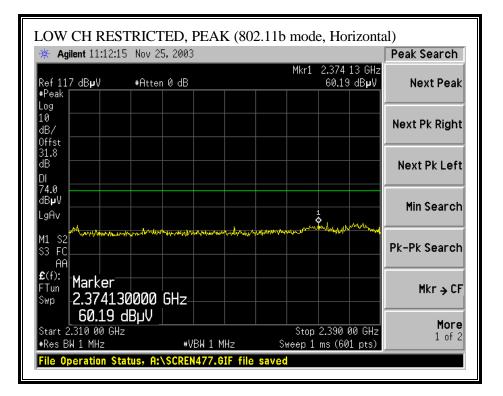
7.9. RADIATED EMISSIONS RESULTS WITH HTL017 ANTENNA

7.9.1. TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHZ

RESULTS

The worst-case condition was observed with the EUT in the laptop configuration. No non-compliance noted:

RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)

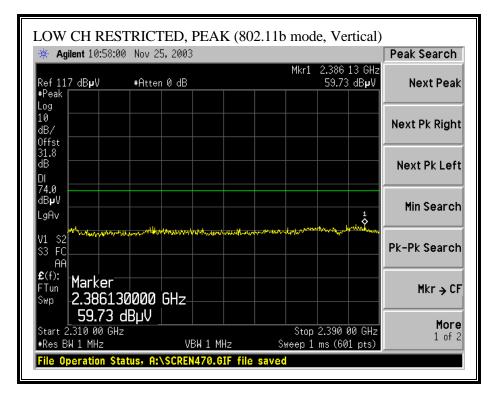


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LOW CH RESTRICT	ED, AVG (80	2.11b mode, Horizont	al)
🔆 Agilent 11:11:46 Nov 25	5, 2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.383 33 G 49.79 dBµ	
Log 10 dB/ 0ffst			Next Pk Right
31.8 dB DI 54.0			Next Pk Left
dBµV LgAv			Min Search
M1 S2 S3 FC AA		1 •	Pk-Pk Search
£(f): Marker FTun Swp 2.383330000 49.79 dBµV	GHz		Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz	#VBW 10 Hz		
File Operation Status, A:	SCREN476.GIF fi	le saved	

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RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)

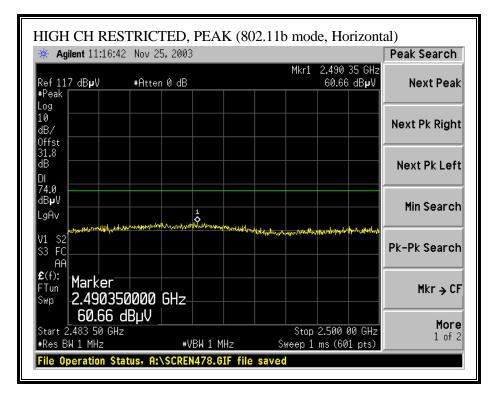


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LOW CH RESTRICT	ED, AVG (802.	11b mode, Vertical)	
🔆 Agilent 10:59:11 Nov 25	5, 2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.312 00 GHz 49.00 dBµV	Next Peak
Log 10 dB/ 0ffst			Next Pk Right
31.8 dB DI 54.0			Next Pk Left
dBµV LgAv			Min Search
M1 S2 S3 FC A AA			Pk-Pk Search
£(f): Marker FTun Swp 2.312000000 49.00 dBµV	GHz		Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz	#VBW 10 Hz		More 1 of 2
File Operation Status, A:	SCREN471.GIF file	saved	

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RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)

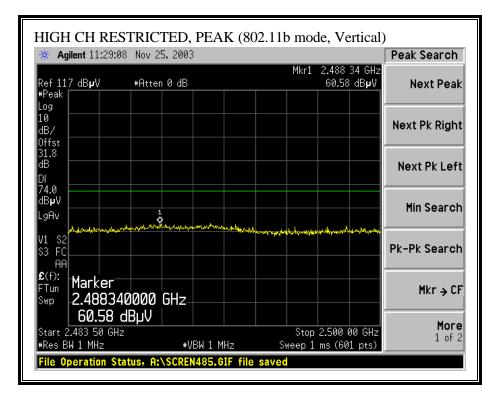


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HIGH CH RESTRICT	TED, AVG (802	2.11b mode, Horizont	al)
🔆 Agilent 11:17:39 Nov 25	5, 2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.490 60 GH: 49.98 dBµV	
Log 10 dB/ Offst			Next Pk Right
31.8 dB DI 54.0			Next Pk Left
dBµV LgAv			Min Search
M1 \$2 \$3 FC			Pk-Pk Search
£(f): Marker FTun Swp 2.4906000000 49.98 dB⊔V	GHz		Mkr → CF
Start 2.483 50 GHz ^ #Res BW 1 MHz	#VBW 10 Hz		
File Operation Status, A:\	SCREN479.GIF file	saved	

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RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, VERTICAL)



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HIGH CH RESTRIC	TED, AVG (802	2.11b mode, Vertical)	
🔆 Agilent 11:28:23 Nov 25	5, 2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.490 54 GHz 49.54 dBµV	
Log 10 dB/ Offst			Next Pk Right
31.8 dB DI 54.0			Next Pk Left
dBµV LgAv			Min Search
M1 S2 S3 FC	\$ \$		Pk-Pk Search
£(f): FTun Swp 2.490540000 49.54 dBµV	GHz		Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	#VBW 10 Hz		
File Operation Status, A:	SCREN484.GIF file	saved	

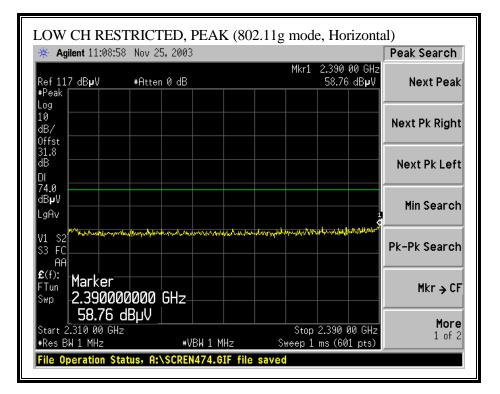
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HARMONICS AND SPURIOUS EMISSIONS (b MODE)

est Eng	m:	Yan Zheng													
roject #		03U2392													
Compan		Intel													
EUT Des	scrip.:	802.11b/g ca	urd with Toshiba	noteboo	k, with a	intenna H1	L017								
EUT M/I		M200													
Fest Tar		FCC Class B													
Mode Op	per:	Transmitt, b 1	node												
Fest Eau	unment:														
FMCO)Hom 1-1	8GHz	Pre-amplife	r1-26GF	z	5	Spectrum A	nalyzer			Horn >1	8GHz			
	N: 2238 @					Agile	nt E4446A	Analyz	er	T117; ARA	18-26GHz;	S/N:1013	-		
			T63 Mitea 6	46456	*	0									
🖛 Hi Fred	uency Cab	les -													
									Measureme			leasuremen			
□ (2	ft)	✓ (2 ~ 3 ft)	□ (4~6 ft)	🗹 (12 ft)					Resolution B Video Bandy		1 MHz Reso 10Hz Video	lution Bandw Bandwidth	ndth		
									· aco bala		10112 1100	Sakiwkill			
6					<i>c</i>		D.C.		. .		D1 - 1		N	1	.
f	Dist	Read Pk	Read Avg.	AF	CL	Amp	D Corr	HPF		Avg	Pk Lim	0	Pk Mar	0	Notes
GHz	feet	dBuV	dBuV	dB/m	dB	dB	dB		dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	
	(2412MI							10			- 4.0				
1824 1824	9.8 9.8	46.1 46.0	37.2 35.5	33.1 33.1	44 44	-35.3 -35.3	0.0	1.0 1.0	49.3 49.2	40.4 38.7	74.0 74.0	54.0 54.0	-24.7 -24.8	-13.6 -15.3	<u></u> н
	9.8 (2437MI				44	-35.5	0.0	1.0	49.2		/4.0	54.0	-24.8	-12.2	н
1874	9.8	44.5	32.6	33.1	44	-35.3	0.0	1.0	47.7	35.8	74.0	54.0	-26.3	-18.2	V
7.311	9.8	43.4	31.3	36.2	5.7	-34.6	0.0	1.0	51.7	39.6	74.0	54.0	-22.3	-14.4	V
4.874	9.8	44.4	32.9	33.1	44	-35.3	0.0	1.0	47.6	36.1	74.0	54.0	-26.4	-17.9	Н
7.311	9.8	43.2	31.4	36.2	5.7	-34.6	0.0	1.0	51.5	39.7	74.0	54.0	-22.5	-14.3	Н
<u>Channe 1</u> 1974	1 (2462N			22.5	47	25.2		10	-0.0	27.4	74.0	54.0	24.0	144	¥7
1.924 7.386	9.8 9.8	46.7 44.8	34.1 31.1	<u>33.2</u> 36.3	45 57	-35.3 -34.5	0.0	1.0 1.0	50.0 53.3	37.4 39.6	74.0 74.0	54.0 54.0	-24.0 -20.7	-16.6 -14.4	V V
4.924	<u>9.8</u>	45.8	33.3	33.2	45	-34.5	0.0	1.0	49.1	.39.0	74.0	54.0	-24.9	-14.4	Н
7.386	9.8	44.5	31.0	36.3	57	-34.5	0.0	1.0	53.0	39.5	74.0	54.0	-21.0	-14.5	н
						NO	RADIATIO	ON EM	ISSION FOU	UND ABOV	E 7.5GHz				
	c						D .	- ·						7 110	1 T · ·
			ent Frequency	y		Amp	Preamp (0	0	Field Strengt	
		Distance to							ct to 3 met			Pk Lim		l Strength L	
		Analyzer R	-			Avg			Strength @			0		s. Average L	
		Antenna Fa	actor			Peak HPF			k Field Stre	ength		Pk Mar	Margin vs	. Peak Limi	t
	AF	Cable Loss						s Filte							

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RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)

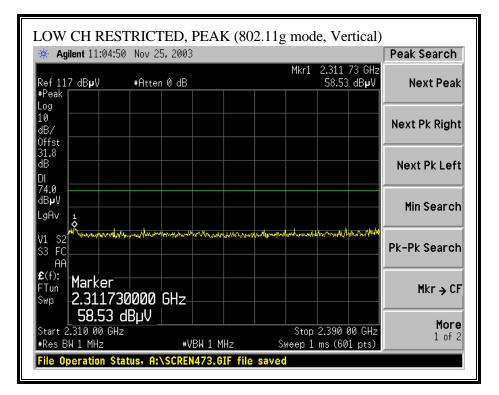


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		.11g mode, Horizontal	
🄆 Agilent 11:09:45 No	ov 25, 2003		Peak Search
Ref 117 dBµV #F	Atten 0 dB	Mkr1 2.312 00 GHz 47.04 dBµV	
#Peak Log 10			
dB/ Offst			Next Pk Right
31.8 dB DI			Next Pk Left
54.0 dBµV LgAv			Min Search
M1 S2 S3 FC \$			Pk-Pk Search
£(f): Marker FTun Swp 2.3120000	00 GHz		Mkr → CF
47.04 dBL Start 2.310 00 GHz #Res BW 1 MHz		Stop 2.390 00 GHz Sweep 6.238 s (601 pts)	
	A:\SCREN475.GIF file		

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RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)

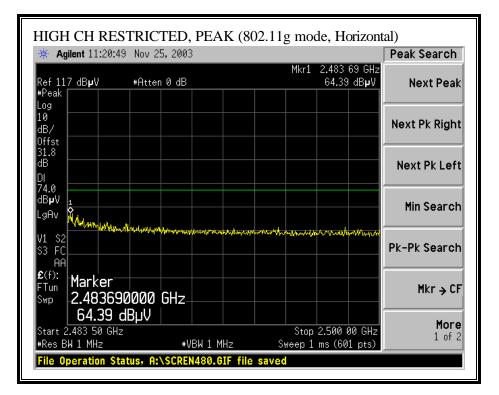


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🔆 Agilent 11:04:06 Nov	25, 2003	U U	Peak Search
Ref 117 dB µ V #At #Peak	en 0 dB	Mkr1 2.312 48.2	200 GHz 10 dBµV Next Peak
Log 10 dB/ Offst			Next Pk Right
31.8 dB DI 54.0			Next Pk Left
dB µ V LgAv			Min Search
M1 \$2 \$3 FC \$ AA £(f):			Pk-Pk Search
Extr: FTun Marker Swp 2.31200000 48.20 dBul			Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz	 #VBW 10 Hz	Stop 2.390 Sweep 6.238 s (6	

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RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)

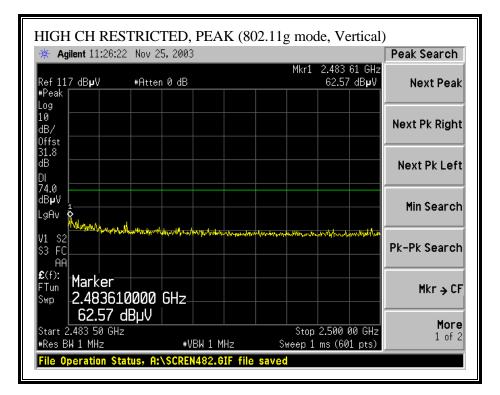


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HIGH CH RESTRICT		2.11g mode, Hor	izontal)
🔆 🗰 Agilent 11:21:24 Nov 25	5,2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.483 47.14	50 GHz 4 dBµV Next Peak
Log 10 dB/ 0ffst			Next Pk Right
31.8 dB DI 54.0			Next Pk Left
dBµV			Min Search
M1 S2 S3 FC AA £(f): Markar			Pk-Pk Search
Kry: FTun Swp 2.483500000 47.14 dBµV	GHz		Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	#VBW 10 Hz		
File Operation Status, A:	SCREN481.GIF file	saved	

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RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, VERTICAL)



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🔆 Agilent 11:27:00	Nov 25, 2003			Peak Search
Ref 117 dB µ V #Peak	#Atten 0 dB	Mkr1	2.483 50 GHz 46.89 dBµV	Next Peak
Log 10 dB/ Offst				Next Pk Right
31.8 dB DI 54.0				Next Pk Left
dBµV LgAv				Min Search
M1 S2 S3 FC AA £(f): Markor				Pk-Pk Search
FTun Swp 2.483500 46.89 dE				Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	• #VBW 10 F		2.500 00 GHz^ 37 s (601 pts)	More 1 of 2

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HARMONICS AND SPURIOUS EMISSIONS (g MODE)

mpin			Services, Mo												
est Eng		Yan Zheng													
roject # Company		03U2392 Intel													
EUT Des			rd with Toshiba	a noteboo	k, with	antenna H	TL017								
EUT M/I		M200													
Test Targ	·	FCC Class B													
Mode Op	er:	Transmitt, g 1	node												
Test Eau	ipment:														
EMCO	Hom 1-1	8GHz	Pre-amplife	r 1-26GI	Iz	s	Spectrum A	nalyzer			Horn > 1				
T60; S/I	N: 2238 @	93m -	T63 Mitea 6	46456	-	Agile	nt E4446A	Analyze	r _	T117; ARA	18-26GHz; S	5/N:1013	-		
🗕 Hi Freq			1												
									Aeasureme			leasuremen			
(2	ft)	✓ (2 ~ 3 ft)	$(4 \sim 6 \text{ft})$	🗹 (12 ft)	1. S.				Resolution E Video Bandy		1 MHz Reso 10Hz Video	lution Bandw Bandwidth	/idth		
						l			. neo baiki						
-			-	AF	CL	Amp	D Corr	HPF	Peak	Avg	Pk Lim	Avg Lim	Dl. Mon	Avg Mar	Notes
f	Dist	Read Pk	Read Avg.												
f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV		-	-				0		0		0	Hotes
f <u>GHz</u> Channe 1	feet	dBuV	Read Avg. dBuV	Ar dB/m	dB	dB	dB		dBuV/m	0		dBuV/m	dB	dB	Notes
<u>GHz</u> Channe 1 4824	feet (2412MI 9.8	dBuV Iz) 45.9	dBuV 32.1	dB/m 33.1	dB 44	dB -35.3	dB 0.0	1.0	dBuV/m 49.1	dBuV/m 35.3	dBuV/m 74.0	dBuV/m 54.0	dB -24.9	dB -18.7	V
GHz Channe 1 4824 4824	feet (2412MF 9.8 9.8	dBuV Hz) 45.9 46.1	dBuV	dB/m	dB	dB	dB		dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	
<u>GHz</u> Channe 1 4824 4824 Channe 6	feet (2412MF 9.8 9.8	dBuV Hz) 45.9 46.1 Hz)	dBuV 32.1 32.2	dB/m 33.1 33.1	dB 44 44	dB -35.3	dB 0.0 0.0	1.0 1.0	dBuV/m 49.1 49.3	dBuV/m 35.3 35.4	dBuV/m 74.0 74.0	dBuV/m 54.0 54.0	dB -24.9 -24.7	dB -18.7 -18.6	V
GHz Channe 1 4824 4824	feet (2412MF 9.8 9.8 (2437MF	dBuV Hz) 45.9 46.1	dBuV 32.1	dB/m 33.1	dB 44	dB -35.3 -35.3 -35.3 -35.3 -34.6	dB 0.0	1.0	dBuV/m 49.1	dBuV/m 35.3	dBuV/m 74.0	dBuV/m 54.0	dB -24.9	dB -18.7	V H
GHz Channe 1 4824 4824 Channe 6 4874 7.311 4874	feet (2412MF 98 98 (2437MF 98 98 98 98	dBuV tz) 45.9 46.1 tz) 44.4 44.6 44.5	dBuV 32.1 32.2 32.1 31.9 32.4	dB/m 33.1 33.1 33.1 36.2 33.1	dB 44 44 44 57 44	dB -35.3 -35.3 -35.3 -34.6 -35.3	dB 0.0 0.0 0.0 0.0	1.0 1.0 1.0 1.0 1.0	<u>dBuV/m</u> 49.1 49.3 47.6 52.9 47.7	dBuV/m 35.3 35.4 35.3 40.2 35.6	dBuV/m 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3	dB -18.7 -18.6 -18.7 -13.8 -13.8 -18.4	V H V V H
GHz Channe 1 4824 4824 Channe 6 4874 7.311 4874 7.311	feet (2412MF 9.8 9.8 (2437MF 9.8 9.8 9.8 9.8 9.8	dBuV 45.9 46.1 42 44.4 44.6 44.5 43.5	dBuV 32.1 32.2 32.1 31.9	dB/m 33.1 33.1 33.1 36.2	dB 44 44 44 57	dB -35.3 -35.3 -35.3 -35.3 -34.6	dB 0.0 0.0 0.0 0.0	1.0 1.0 1.0 1.0	<u>dBuV/m</u> 49.1 49.3 47.6 52.9	dBuV/m 35.3 35.4 35.3 40.2	dBuV/m 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1	dB -18.7 -18.6 -18.7 -13.8	V H V V
GHz Channe 1 4824 4824 Channe 6 4874 7.311 4874 7.311 Channe 1	feet (2412MI 98 98 (2437MI 98 98 98 98 98 98 (2462N	dBuV 45.9 46.1 42 44.4 44.4 44.5 43.5 (Hz)	dBuV 32.1 32.2 32.1 31.9 32.4 31.9	dB/m 33.1 33.1 36.2 33.1 36.2	dB 44 44 44 57 44 57	dB -35.3 -35.3 -35.3 -34.6 -35.3 -34.6	dB 0.0 0.0 0.0 0.0 0.0	10 10 10 10 10 10	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8	dBuV/m 35.3 35.4 35.3 40.2 35.6 40.2	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2	dB -18.7 -18.6 -18.7 -13.8 -18.4 -13.8	V H V V H H
GHz Channe 1 4824 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924	feet (2412MI 98 98 (2437MI 98 98 98 98 98 98 98 1 (2462M 98	dBuV fz) 45.9 46.1 fz) 44.4 44.6 44.5 43.5 Hz) 44.4	dBuV 32.1 32.2 32.1 31.9 32.4 31.9 31.9 32.0	dB/m 33.1 33.1 36.2 33.1 36.2 33.1 36.2 33.2	dB 44 44 44 57 44 57 44 57 44	dB -35.3 -35.3 -35.3 -35.3 -35.3 -35.3 -34.6 -35.3 -35.3	dB 0.0 0.0 0.0 0.0 0.0 0.0	10 10 10 10 10 10	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7	dBuV/m 35.3 35.4 35.3 40.2 35.6 40.2 35.5	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3	dB -18.7 -18.6 -18.7 -13.8 -18.4 -13.8 -18.4 -13.8	V H V V H H V
GHz Channe 1 4824 4824 Channe 6 4874 7.311 4874 7.311 Channe 1	feet (2412MI 98 98 (2437MI 98 98 98 98 98 98 (2462N	dBuV 45.9 46.1 42 44.4 44.4 44.5 43.5 (Hz)	dBuV 32.1 32.2 32.1 31.9 32.4 31.9	dB/m 33.1 33.1 36.2 33.1 36.2	dB 44 44 44 57 44 57	dB -35.3 -35.3 -35.3 -34.6 -35.3 -34.6	dB 0.0 0.0 0.0 0.0 0.0	10 10 10 10 10 10	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8	dBuV/m 35.3 35.4 35.3 40.2 35.6 40.2	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2	dB -18.7 -18.6 -18.7 -13.8 -18.4 -13.8	V H V V H H
GHz Channe 1 4824 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924 7.386	feet (2412MI 98 98 (2437MI 98 98 98 98 98 98 (2462M 98 98 98	dBuV 45.9 46.1 42 44.4 44.6 44.5 43.5 Hz) 44.4 43.6	dBuV 32.1 32.2 32.1 31.9 32.4 31.9 32.0 31.6	dB/m 33.1 33.1 36.2 33.1 36.2 33.2 36.3	dB 44 44 44 57 44 5.7 44 5.7 45 5.7	dB -35.3 -35.3 -35.3 -35.3 -34.6 -35.3 -34.6 -35.3 -34.5	dB 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	10 10 10 10 10 10 10 10	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7 52.1	dBuV/m 35.3 35.4 35.3 40.2 35.6 40.2 35.6 40.2	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3 -21.9	dB -18.7 -18.6 -18.7 -13.8 -18.7 -13.8 -18.7 -13.9	V H V V H H V V V
GHz Channe 1 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924 7.386 4.924	feet (2412MF 98 98 (2437MF 98 98 98 98 98 (2462N 98 98 98 98 98	dBuV 45.9 46.1 42 44.4 44.6 44.5 43.5 Hz) 44.4 43.6 43.6 43.6	dBuV 32.1 32.2 31.9 32.4 31.9 32.6 31.8	dB/m 33.1 33.1 36.2 33.1 36.2 33.1 36.2 33.2 36.3 33.2	dB 44 44 57 44 57 45 57 45	dB -353 -353 -346 -353 -346 -353 -346 -353 -345 -345 -345	dB 00 00 00 00 00 00 00 00 00 00	10 10 10 10 10 10 10 10 10	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7 52.3	dBuV/m 35.3 35.4 35.3 40.2 35.3 40.2 35.3 40.1	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3 -21.9 -25.5	dB -18.7 -18.6 -18.7 -13.8 -18.7 -13.8 -18.7 -13.9 -18.9	V H V V H H V V V H
GHz Channe 1 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924 7.386 4.924	feet (2412MF 98 98 (2437MF 98 98 98 98 98 (2462N 98 98 98 98 98	dBuV 45.9 46.1 42 44.4 44.6 44.5 43.5 Hz) 44.4 43.6 43.6 43.6	dBuV 32.1 32.2 31.9 32.4 31.9 32.6 31.8	dB/m 33.1 33.1 36.2 33.1 36.2 33.1 36.2 33.2 36.3 33.2	dB 44 44 57 44 57 45 57 45	dB -353 -353 -346 -353 -346 -353 -346 -353 -345 -345 -345	dB 00 00 00 00 00 00 00 00 00 00	10 10 10 10 10 10 10 10 10	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7 52.3	dBuV/m 35.3 35.4 35.3 40.2 35.6 40.2 35.3 40.1 35.1	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3 -21.9 -25.5	dB -18.7 -18.6 -18.7 -13.8 -18.7 -13.8 -18.7 -13.9 -18.9	V H V V H H V V V H
GHz Channe 1 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924 7.386 4.924	feet (2412MF 98 98 (2437MF 98 98 98 98 98 (2462N 98 98 98 98 98	dBuV 45.9 46.1 42 44.4 44.6 44.5 43.5 Hz) 44.4 43.6 43.6 43.6	dBuV 32.1 32.2 31.9 32.4 31.9 32.6 31.8	dB/m 33.1 33.1 36.2 33.1 36.2 33.1 36.2 33.2 36.3 33.2	dB 44 44 57 44 57 45 57 45	dB -353 -353 -346 -353 -346 -353 -346 -353 -345 -345 -345	dB 00 00 00 00 00 00 00 00 00 00	10 10 10 10 10 10 10 10 10	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7 52.3	dBuV/m 35.3 35.4 35.3 40.2 35.3 40.2 35.3 40.1	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3 -21.9 -25.5	dB -18.7 -18.6 -18.7 -13.8 -18.7 -13.8 -18.7 -13.9 -18.9	V H V V H H V V V H
GHz Channe 1 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924 7.386 4.924	feet (2412MI 98 98 98 98 98 98 98 (2462M 98 98 98 98 98	dBuV 45.9 45.9 46.1 47 44.4 44.6 44.5 44.5 44.4 43.6 44.4 43.6 45.2 43.8	dBuV 32.1 32.2 31.9 32.4 31.9 32.6 31.8	dB/m 33.1 33.1 36.2 33.1 36.2 33.2 36.3 33.2 36.3	dB 44 44 57 44 57 45 57 45	dB -353 -353 -346 -353 -346 -353 -346 -353 -345 -345 -345	dB 00 00 00 00 00 00 00 00 00 00	10 10 10 10 10 10 10 10 10 10 10 0NEM	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7 52.3	dBuV/m 35.3 35.4 35.3 40.2 35.3 40.2 35.3 40.1	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3 -21.9 -25.5 -21.7	dB -18.7 -18.6 -18.7 -13.8 -18.7 -13.8 -18.7 -13.9 -18.9	V H V V H H V V V H H
GHz Channe 1 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924 7.386 4.924	feet (2412MI 98 98 98 98 98 98 98 98 98 98 98 98 98	dBuV 45.9 45.9 46.1 42 44.4 44.6 44.5 43.5 Hz) 44.4 43.5 43.6 45.2 43.8 Measurem Distance to	dBuV 32.1 32.2 31.9 32.4 31.9 31.6 31.8 31.6 31.6 Antenna	dB/m 33.1 33.1 36.2 33.1 36.2 33.2 36.3 33.2 36.3	dB 44 44 57 44 57 45 57 45	dB -353 -353 -346 -353 -346 -353 -345 -353 -345 -353 -345 -345 -000 NO	dB 00 00 00 00 00 00 00 00 00 00 00 00 00	10 10 10 10 10 10 10 10 10 10 0NEM	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7 52.3 SSION FOR SSION FOR	dBuV/m 35.3 35.4 35.3 40.2 35.6 40.2 35.3 40.1 35.3 40.1 35.1 40.1 UND ABOV	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3 -21.9 -25.5 -21.7 -21.7 Average I Peak Field	dB -18.7 -18.6 -18.7 -13.8 -18.7 -13.9 -1 -13.9	V H V V H H H H h Limit imit
GHz Channe 1 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924 7.386 4.924	feet (2412MI 98 98 98 98 98 98 98 98 98 98 98 98 98	dBuV 45.9 46.1 47 44.4 44.6 44.5 43.5 Hr0 44.4 43.5 Hr2 43.8 Measurem Distance to Analyzer R	dBuV 32.1 32.2 31.9 32.4 31.9 31.6 31.6 31.6 Antenna eading	dB/m 33.1 33.1 36.2 33.1 36.2 33.2 36.3 33.2 36.3	dB 44 44 57 44 57 45 57 45	dB -35.3 -35.3 -35.3 -35.3 -35.3 -34.6 -35.3 -34.5 -35.3 -34.5 -35.3 -34.5 -34.5 -35.3 -34.5 -35.3 -34.5 -35.3 -34.5 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.6 -35.3 -34.5 -35.3 -34.5 -35.3 -34.5	dB 00	10 10 10 10 10 10 10 10 10 10 10 10 50N EM	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7 52.3 SSION FOO Strongth @	dBuV/m 35.3 35.4 35.5 40.2 35.6 40.2 35.1 40.1 35.1 40.1 35.3 35.3 36.3 37.4 37.5 40.1 37.5	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 540 540 540 540 540 540 540 540 540 540	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3 -21.9 -25.5 -21.7 -25.5 -21.7 Average I Peak Field Margin vs	dB -18.7 -18.6 -18.7 -13.8 -13.8 -13.8 -13.9 -18.9 -13.9 -1 -13.9	V H V V H H H H h Limit imit imit
GHz Channe 1 4824 Channe 6 4874 7.311 4874 7.311 Channe 1 4924 7.386 4.924	feet (2412MI 98 98 98 98 98 98 98 98 98 98 98 98 98	dBuV 45.9 45.9 46.1 42 44.4 44.6 44.5 43.5 Hz) 44.4 43.5 43.6 45.2 43.8 Measurem Distance to	dBuV 32.1 32.2 31.9 32.4 31.9 32.0 31.6 31.8 31.6 attach attach	dB/m 33.1 33.1 36.2 33.1 36.2 33.2 36.3 33.2 36.3	dB 44 44 57 44 57 45 57 45	dB -353 -353 -346 -353 -346 -353 -345 -353 -345 -353 -345 -345 -000 NO	dB 00	10 10 10 10 10 10 10 10 10 10 10 10 5 ain Correct Field S	dBuV/m 49.1 49.3 47.6 52.9 47.7 51.8 47.7 52.3 SSION FOR ct to 3 meters trength @ Field Street	dBuV/m 35.3 35.4 35.5 40.2 35.6 40.2 35.1 40.1 35.1 40.1 35.3 35.3 36.3 37.4 37.5 40.1 37.5	dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	dBuV/m 540 540 540 540 540 540 540 540 540 540	dB -24.9 -24.7 -26.4 -21.1 -26.3 -22.2 -26.3 -21.9 -25.5 -21.7 -25.5 -21.7 Average I Peak Field Margin vs	dB -18.7 -18.6 -18.7 -13.8 -18.7 -13.9 -1 -13.9	V H V V H H H H h Limit imit imit

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7.9.2. CO-LOCATED TRANSMITTER EMISSIONS ABOVE 1 GHz

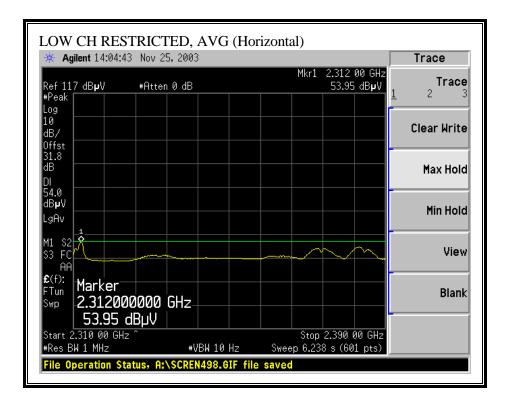
RESULTS

No non-compliance noted:

WORST-CASE RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

LOW CH RESTRIC	CTED, PEAK (Hori	zontal)	
🔆 Agilent 14:03:15 Nov	/ 25, 2003		Peak Search
#Peak	ten 0 dB	Mkr1 2.310 53 GHz 61.80 dBµV	Next Peak
Log 10 dB/ Offst			Next Pk Right
31.8 dB DI			Next Pk Left
74.0 dBµV LgAv	with the providence of the state of the stat	and the former of the stand of the	Min Search
V1 S2 S3 FC AA			Pk-Pk Search
£(f): FTun Swp 2.31053000 61.80 dBuv			Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz	*VBW 1 MHz A:\SCREN497.GIF file sa	Stop 2.390 00 GHz Sweep 1 ms (601 pts)	More 1 of 2
rite operation status,	H. ASCREN437.01F THE SC	WBW	

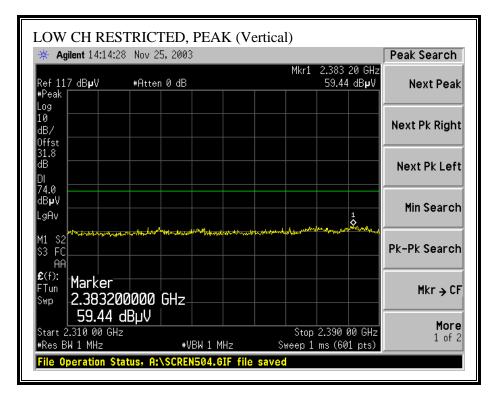
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REPORT NO: 03U2392-1

EUT: 802.11b/g Mini-PCI Card

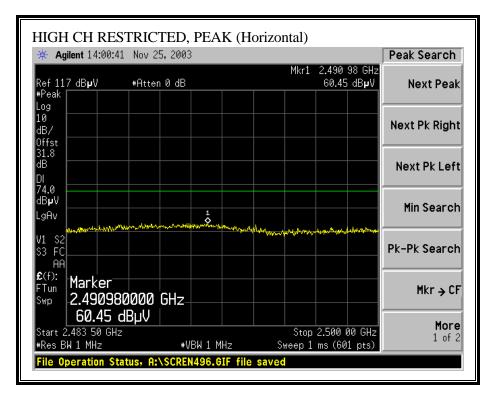


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LOW CH RESTRIC * Agilent 14:13:41 Nov)	Peak Search
Ref 117 dB µ V #Att #Peak	en 0 dB	Mkr1 2.382 80 47.77 dB	
Log 10 dB/ Offst			Next Pk Right
31.8 dB DI 54.0			Next Pk Left
54.0 dB µ V LgAv			Min Search
M1 \$2 \$3 FC AA		1	Pk-Pk Search
£(f): FTun Swp 2.382800000 47.77 dBµV			Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz	#VBW 10 Hz	Stop 2.390 00 0 Sweep 6.238 s (601 p	

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WORST-CASE RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

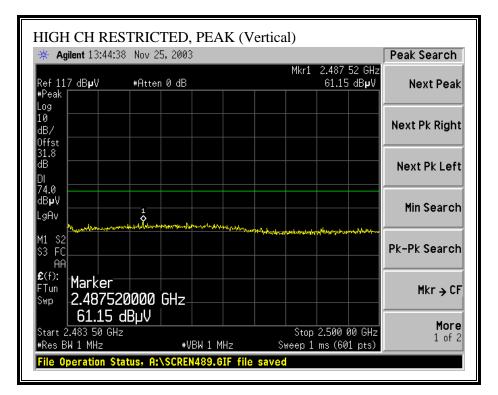


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HIGH CH REST			,		Peak Search
Ref 117 dB µ V #Peak	#Atten 0 dB		Mkr1	2.490 57 GHz 50.28 dBµV	
Log 10 dB/ Offst					Next Pk Right
31.8 dB DI					Next Pk Left
54.0 dBµV LgAv					Min Search
M1 S2 S3 FC AA			·		Pk-Pk Search
£ ^{(f):} Marker ^{FTun} 2.490570 50.28 dE					Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz		10 Hz		2.500 00 GHź 7 s (601 pts)	

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WORST-CASE RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



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HIGH CH RESTRIC * Agilent 13:46:00 Nov 2		,		Peak Search
Ref 117 dB µ V #Atte #Peak	n0dB	Mkr1	2.488 53 GHz 49.76 dBµV	
Log 10 dB/ Offst				Next Pk Right
31.8 dB DI 54.0				Next Pk Left
dBµV LgAv				Min Search
M1 \$2 \$3 FC AA £(f): Marker				Pk-Pk Search
E(f): FTun Marker Swp 2.488530000 49.76 dBuV	GHz			Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	#VBW 10 Hz	Stop Sweep 1.28) 2.500 00 GHz 37 s (601 pts)	More 1 of 2

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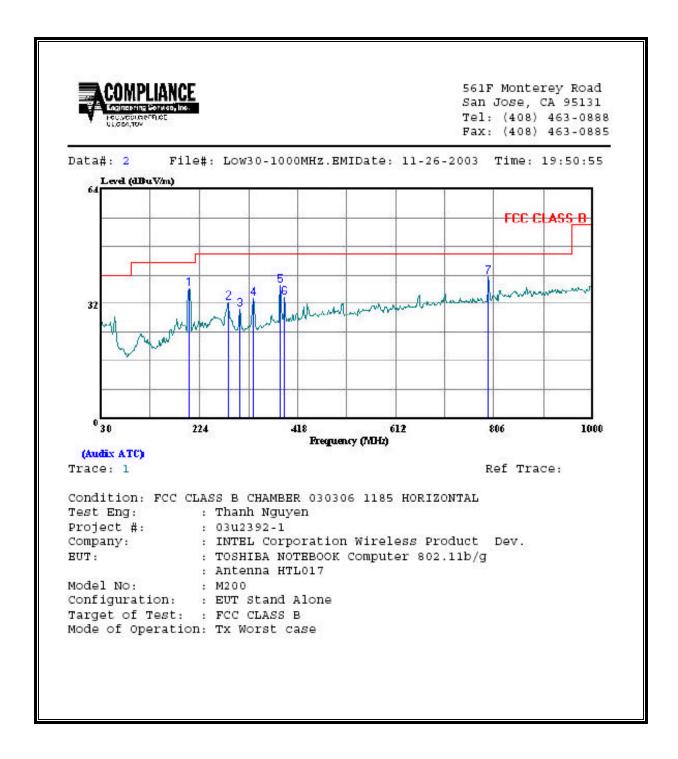
WORST-CASE HARMONICS AND SPURIOUS EMISSIONS

Complia			Measureme Services, Mo		ill Op	en Field	Site									
Test Eng		Yan Zheng														
Project #		03U2392														
Compan EUT De		Intel	ard with Toshiba	notohoo	الد محيطة	ontonno IP	TT 017									
EUT De		M200	ad with Toshiba	1 Hoteboo	K, WIUI	anenna H	11017									
Test Tar		FCC Class B														
Mode Oj	per:	Transmit, Co	-Location with v	worst pos	ition, w	orst-case co	onfiguration	& wors	st channel							
Test Eau	uinment:															
						c	Spectrum A	nalvzer								
	0 Hom 1-1		Pre-amplife	r 1-26GH	łz		•				Horn > 18	SGHz				
T60; S/	/N: 2238 @	∮3m -	T63 Mitea 6	46456	-	Agile	ent E4446A	Analyze	er -	T117: ARA	18-26GHz: S	S/N:1013	-			
			1													
🗕 Hi Free	quency Cat	les														
	equency Cab				_	1			Measureme			leasuremen				
Hi Free			□ (4~6 ft)	▼ (12 ft)				1 MHz	Resolution B	andwidth	1 MHz Reso	lution Bandw				
			□ (4~6 ft)	▼ (12 ft)				1 MHz		andwidth		lution Bandw				
□ (2	2 ft)	✓ (2 ~ 3 ft)				Amp		1 MHz 1 MHz	Resolution B Video Bandy	andwidth width	1 MHz Reso 10Hz Video	lution Bandw Bandwidth	vidth	Avg Mar	No	tos
f (2	2 ft) Dist	 ✓ (2 ~ 3 ft) Read Pk 	Read Avg.	AF	CL	Amp	D Corr	1 MHz 1 MHz	Resolution B Video Bandy Peak	andwidth vidth Avg	1 MHz Reso 10Hz Video Pk Lim	lution Bandw Bandwidth Avg Lim	ridth Pk Mar	Avg Mar	Not	tes
f GHz	2 ft) Dist feet	 ✓ (2 ~ 3 ft) Read Pk dBuV 			CL	Amp dB		1 MHz 1 MHz	Resolution B Video Bandy Peak	andwidth vidth Avg	1 MHz Reso 10Hz Video	lution Bandw Bandwidth Avg Lim	vidth	Avg Mar dB	Not	tes
f GHz Channe 1	2 ft) Dist	 ✓ (2 ~ 3 ft) Read Pk dBuV 	Read Avg.	AF	CL	-	D Corr	1 MHz 1 MHz	Resolution B Video Bandy Peak	andwidth vidth Avg	1 MHz Reso 10Hz Video Pk Lim	lution Bandw Bandwidth Avg Lim	ridth Pk Mar	0		tes
f GHz Channe 1 4.924 7.386	2 ft) Dist feet 11 (2462W 9.8 9.8	 ✓ (2 ~ 3 ft) Read Pk dBuV Hz) 45.9 45.0 	Read Avg. dBuV 34.0 31.1	AF dB/m 33.2 36.3	CL dB 45 57	dB -35.3 -34.5	D Corr dB 0.0	1 MHz 1MHz HPF	Resolution B Video Bandy Peak dBuV/m 49.2 53.5	Avg dBuV/m 37.3 39.6	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0	lution Bandw Bandwidth Avg Lim dBuV/m 54.0 54.0	vidth Pk Mar dB -24.8 -20.5	dB -16.7 -14.4	N	V V
f GHz Channe 1 4.924 7.386 4.924	2 ft) Dist feet 11 (2462N 9.8 9.8 9.8 9.8	 ✓ (2 ~ 3 ft) Read Pk dBuV Hz) 45.9 45.0 45.3 	Read Avg. dBuV 34.0 31.1 33.6	AF dB/m 33.2 36.3 33.2	CL dB 45 57 45	dB -35.3 -34.5 -35.3	D Corr dB 00 00	1 MHz 1MHz HPF 10 10 10	Resolution B Video Bandw Peak dBuV/m 49.2 53.5 48.6	Avg dBuV/m 37.3 39.6 36.9	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0	Avg Lim dBuV/m 54.0 54.0 54.0	ridth Pk Mar dB -24.8 -20.5 -25.4	dB -16.7 -14.4 -17.1	V V F	V V H
f GHz Channe 1 4.924 7.386 4.924	2 ft) Dist feet 11 (2462W 9.8 9.8	 ✓ (2 ~ 3 ft) Read Pk dBuV Hz) 45.9 45.0 	Read Avg. dBuV 34.0 31.1	AF dB/m 33.2 36.3	CL dB 45 57	dB -35.3 -34.5	D Corr dB 0.0	1 MHz 1MHz HPF	Resolution B Video Bandy Peak dBuV/m 49.2 53.5	Avg dBuV/m 37.3 39.6	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0	lution Bandw Bandwidth Avg Lim dBuV/m 54.0 54.0	vidth Pk Mar dB -24.8 -20.5	dB -16.7 -14.4	N	V V H
f GHz Channe 1 4924 7.386	2 ft) Dist feet 11 (2462N 9.8 9.8 9.8 9.8	 ✓ (2 ~ 3 ft) Read Pk dBuV Hz) 45.9 45.0 45.3 	Read Avg. dBuV 34.0 31.1 33.6	AF dB/m 33.2 36.3 33.2	CL dB 45 57 45	dB -35.3 -34.5 -35.3 -34.5	D Corr dB 0.0 0.0 0.0	1 MHz 1MHz HPF 10 10 10	Resolution B Video Bandw Peak dBuV/m 49.2 53.5 48.6 52.3	Avg dBuV/m 37.3 39.6 36.9	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	Avg Lim dBuV/m 54.0 54.0 54.0	ridth Pk Mar dB -24.8 -20.5 -25.4	dB -16.7 -14.4 -17.1	V V F	V V H
f GHz Channe 1 4.924 7.386 4.924	2 ft) Dist feet 11 (2462N 9.8 9.8 9.8 9.8	 ✓ (2 ~ 3 ft) Read Pk dBuV Hz) 45.9 45.0 45.3 	Read Avg. dBuV 34.0 31.1 33.6	AF dB/m 33.2 36.3 33.2	CL dB 45 57 45	dB -35.3 -34.5 -35.3 -34.5	D Corr dB 0.0 0.0 0.0	1 MHz 1MHz HPF 10 10 10	Resolution B Video Bandw Peak dBuV/m 49.2 53.5 48.6 52.3	Avg dBuV/m 37.3 39.6 36.9 39.5	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	Avg Lim dBuV/m 54.0 54.0 54.0	ridth Pk Mar dB -24.8 -20.5 -25.4	dB -16.7 -14.4 -17.1	V V F	V V H
f GHz Channe 1 4.924 7.386 4.924	2 ft) Dist feet 11 (2462N 9.8 9.8 9.8 9.8	 ✓ (2~3 ft) Read Pk dBuV H20 45.0 45.3 43.8 	Read Avg. dBuV 34.0 31.1 33.6	AF dB/m 33.2 36.3 33.2 36.3	CL dB 45 57 45	dB -35.3 -34.5 -35.3 -34.5	D Corr dB 0.0 0.0 0.0	1 MHz 1 MHz HPF 10 10 10 10 10 0 NEM	Resolution B Video Bandw Peak dBuV/m 49.2 53.5 48.6 52.3	Avg dBuV/m 37.3 39.6 36.9 39.5	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0 74.0 5.75GHz	lution Bandwidth Bandwidth Avg Lim dBuV/m 54.0 54.0 54.0	Pk Mar dB -24.8 -20.5 -25.4 -21.7	dB 16.7 14.4 17.1 14.5	V V F F	V V H
f GHz Channe 1 4.924 7.386 4.924	2 ft) Dist feet 11 (2462) 98 98 98 98 98	 ✓ (2~3 ft) Read Pk dBuV H20 45.0 45.3 43.8 	Read Avg. dBuV 34.0 31.1 33.6 31.0 ent Frequency	AF dB/m 33.2 36.3 33.2 36.3	CL dB 45 57 45 57	dB -35.3 -34.5 -35.3 -34.5 NO Amp	D Corr dB 00 00 00 RADIATIO	1 MHz 1MHz HPF 10 10 10 10 0NEM	Resolution B Video Bandw Peak dBuV/m 49.2 53.5 48.6 52.3	Avg dBuV/m 37.3 39.6 36.9 39.5 IND ABOV	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0 74.0 5.75GHz	lution Bandwidth Bandwidth dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0	Pk Mar dB -24.8 -20.5 -25.4 -21.7 Average 1	dB -16.7 -14.4 -17.1	N Y F F F	V V H
f GHz Channe 1 4.924 7.386 4.924	2 ft) Dist feet 11 (2462) 98 98 98 98 98 98	 ✓ (2~3 ft) Read Pk dBuV Hz) 45.9 45.0 45.3 43.8 Measuremotic 	Read Avg. dBuV 34.0 31.1 33.6 31.0 ent Frequency Antenna	AF dB/m 33.2 36.3 33.2 36.3	CL dB 45 57 45 57	dB -35.3 -34.5 -35.3 -34.5 NO Amp	D Corr dB 00 00 00 RADIATIO	1 MHz 1MHz HPF 10 10 10 10 50NEM	Resolution B Video Bandy Peak dBuV/m 49.2 53.5 48.6 52.3 SSION FOI	Avg dBuV/m 37.3 39.6 36.9 39.5 39.5 39.5 39.5 39.5 39.5 39.5 39	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	lution Bandwidth Bandwidth dBuV/m 54.0 54.0 54.0 54.0 54.0 54.0 54.0 54.0	hidth Pk Mar dB -24.8 -20.5 -25.4 -21.7 -21.7 -21.7 -21.7 -21.7 -21.7 -21.7	dB -16.7 -14.4 -17.1 -14.5 -14.5	N F F h Limit mit	V V H
f GHz Channe 1 4.924 7.386 4.924	2 ft) Dist feet 11 (2462) 98 98 98 98 98 98	 ✓ (2~3 ft) Read Pk dBuV Hz) 45.9 45.0 45.3 43.8 Measurement Distance to 	Read Avg. dBuV 34.0 31.1 33.6 31.0 ent Frequency o Antenna Reading	AF dB/m 33.2 36.3 33.2 36.3	CL dB 45 57 45 57	dB -35.3 -34.5 -35.3 -34.5 -35.3 -34.5 -35.3 -34.5 NO Amp D Corr Avg	D Corr dB 00 00 00 RADIATI Preamp O Distance Average	1 MHz 1MHz 1MHz 10 10 10 10 10 10 50 EM	Resolution B Video Bandy Peak dBuV/m 49.2 53.5 48.6 52.3 SSION FOI	andwidth vidth Avg <u>dBuV/m</u> <u>37,3</u> <u>39,6</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u>	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	lution Bandwidth Avg Lim dBuV/m 54.0 54.0 54.0 54.0 Avg Lim Pk Lim Avg Mar	ridth Pk Mar dB -24.8 -20.5 -25.4 -21.7 Average I Peak Field Margin v:	dB -16.7 -14.4 -17.1 -14.5 -14.5 -14.5 -14.5	h Limit imit	V V H
f GHz Channe 1 4.924 7.386 4.924	2 ft) Dist feet 11 (2462) 98 98 98 98 98 98 1	Read Pk dBuV Hz) 45.0 45.0 45.3 43.8 Measurem Distance to Analyzer R	Read Avg, dBuV 34.0 31.1 33.6 31.0 ent Frequency Antenna Reading actor	AF dB/m 33.2 36.3 33.2 36.3	CL dB 45 57 45 57	dB -35.3 -34.5 -35.3 -34.5 -35.3 -34.5 -35.3 -34.5 NO Amp D Corr Avg	D Corr dB 00 00 00 RADIATI Preamp O Distance Average	1 MHz 1MHz HPF 10 10 10 10 10 10 10 50 NEM Gain Correct Field S ad Peak	Resolution B Video Bandy Peak dBuV/m 49.2 53,5 48.6 52.3 SSION FOI SSION FOI ct to 3 mete Strength @ < Field Stre	andwidth vidth Avg <u>dBuV/m</u> <u>37,3</u> <u>39,6</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u> <u>30,5</u>	1 MHz Reso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	lution Bandwidth Avg Lim dBuV/m 54.0 54.0 54.0 54.0 Avg Lim Pk Lim Avg Mar	ridth Pk Mar dB -24.8 -20.5 -25.4 -21.7 Average I Peak Field Margin v:	dB -16.7 -14.4 -17.1 -14.5 -14.5 -14.5 -14.5 -14.5 -14.5 -14.5 -14.5 -14.5 -14.5 -14.5 -14.5 -14.5 -14.4 -15.7 -14.4 -15.7 -14.4 -15.7 -14.4 -15.7 -14.4 -15.7 -14.4 -17.1 -14.5 -16.7 -14.4 -17.1 -14.5 -16.7 -14.4 -17.1 -14.5 -16.7 -14.4 -17.1 -14.5 -16.7 -14.4 -17.1 -14.5 -16.7 -14.4 -17.1 -14.5 -16.7 -14.5 -16.7 -17.1 -17.5 -17	h Limit imit	V V H

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7.9.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

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



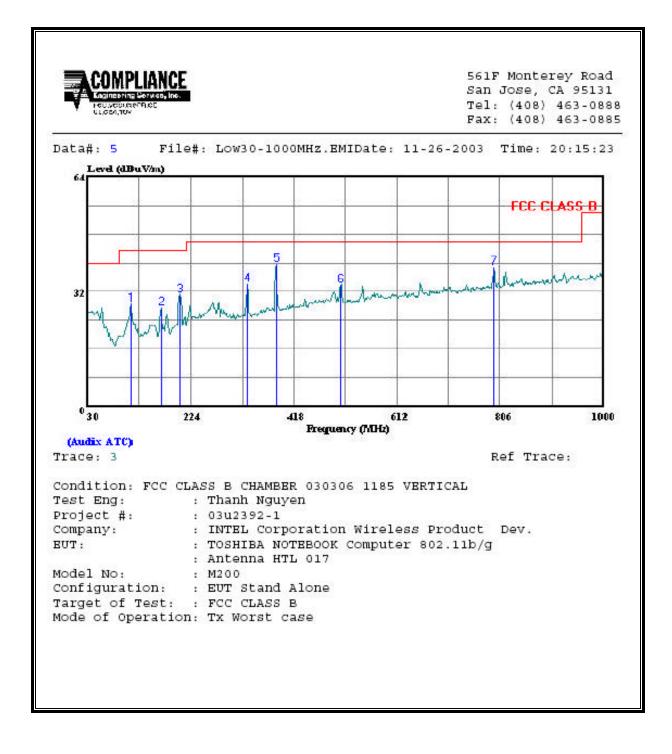
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	Freq	Remark	Read Level	Factor	Level	Limit Line	Over Limit
	MHz	1 <u>00 - 100 - 1000</u> 3	dBuV	db	dbuv/m	dbuV/m	dB
1	203.630	Peak	25.61	10.59	36.20	43.50	-7.30
1 2 3	281.230	Peak	18.77	13.59	32.36	46.00	-13.64
3	305.480	Peak	16.60	13.96	30.56	46.00	-15.44
4	329.730	Peak	18.81	14.68	33.49	46.00	-12.51
5	383.080	Peak	21.09	16.06	37.15	46.00	-8.85
4 5 6 7	392.780	Peak	17.40	16.28	33.68	46.00	-12.32
7	795.330	Peak	16.90	22.76	39.66	46.00	-6.34

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



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	Freq	Remark	Read Level	Factor	Level	Limit Line	Over Limit
	MHZ			db	dBuV/m	dBuV/m	dB
1	111.480	Peak	17.72	10.88	28.60	43.50	-14.90
2	167.740	Peak	17.38	10.08	27.46	43.50	-16.04
3	204.600	Peak	20.28	10.68	30.97	43.50	-12.53
1 5	329.730	Peak	19.41	14.68	34.09	46.00	-11.91
5	385.990	Peak	23.60	16.15	39.75	46.00	-6.25
5	506.270	Peak	14.91	18.93	33.84	46.00	-12.16
7	795.330	Peak	16.00	22.76	38.76	46.00	-7.24

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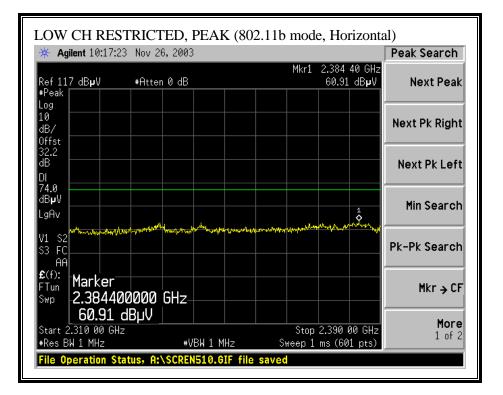
7.10. RADIATED EMISSIONS RESULTS WITH TIAN01 ANTENNA

7.10.1. TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHz

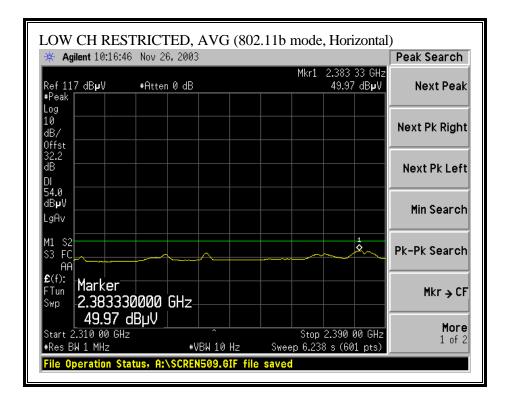
RESULTS

The worst-case condition was observed with the EUT in the laptop configuration. No non-compliance noted:

RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)

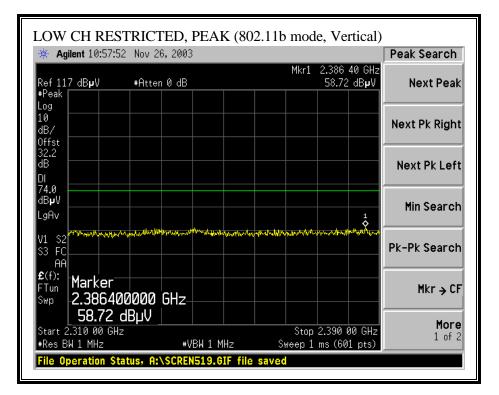


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RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)

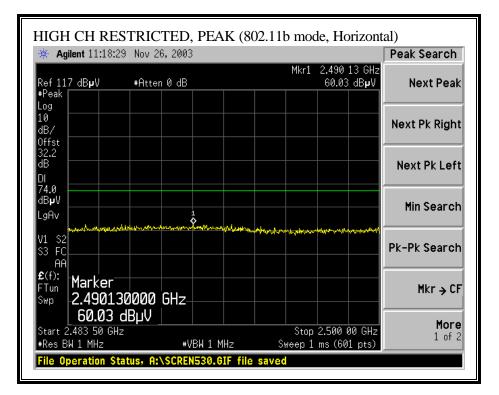


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LOW CH RESTRICT	ED, AVG (802	.11b mode, Vertical)
🔆 Agilent 10:58:20 Nov 26	6, 2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.342 40 GH 46.86 dBµ	
Log 10 dB/ 0ffst			Next Pk Right
32.2 dB DI			Next Pk Left
54.0 dB µ V LgAv			Min Search
M1 \$2 \$3 FC AA £(f): Marker	1		Pk-Pk Search
KTV: Marker Swp 2.342400000 46.86 dBµV	GHz		Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz File Operation Status, A:\		Stop 2.390 00 GH Sweep 6.238 s (601 pts	
rie operation status, H.V	SGRENSZO. OIF THE	Saveu	

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RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)

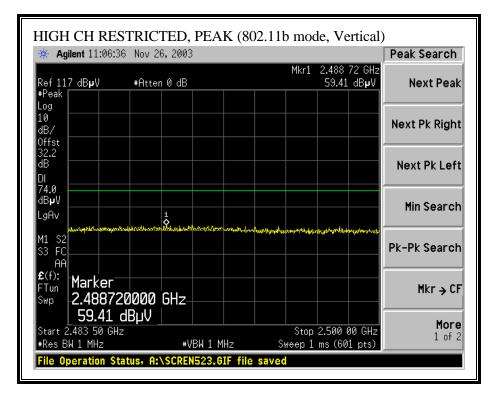


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HIGH CH REST	RICTED, AVG (80	02.11b mode, Horizonta	1)
🔆 Agilent 11:19:31	Nov 26, 2003		Peak Search
Ref 117 dB µ V +	#Atten 0 dB	Mkr1 2.490 62 GHz 48.14 dBµV	Next Peak
Log 10 dB/			Next Pk Right
32.2 dB DI 54.0			Next Pk Left
dBµV			Min Search
M1 S2 S3 FC	<u>1</u>		Pk-Pk Search
£(f): FTun Swp -2.4906200 48.14 dB			Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	*VBW 10 Hz		More 1 of 2
File Operation Statu	s, A:\SCREN531.GIF fi	le saved	

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RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, VERTICAL)



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HIGH CH RESTRIC	TED, AVG (802	.11b mode, Vertical)	
🔆 Agilent 11:07:27 Nov 20	6,2003		Peak Search
Ref 117 dB µ V #Atter #Peak	n 0 dB	Mkr1 2.491 17 GHz 47.56 dBµV	
Log 10 dB/ 0ffst			Next Pk Right
32.2 dB DI			Next Pk Left
54.0 dB µ V LgAv			Min Search
M1 \$2 \$3 FC AA	\$		Pk-Pk Search
£(f): FTun Swp 2.491170000 47.56 dBuV	GHz		Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	#VBW 10 Hz		More 1 of 2
File Operation Status, A:	SCREN524.GIF file	saved	

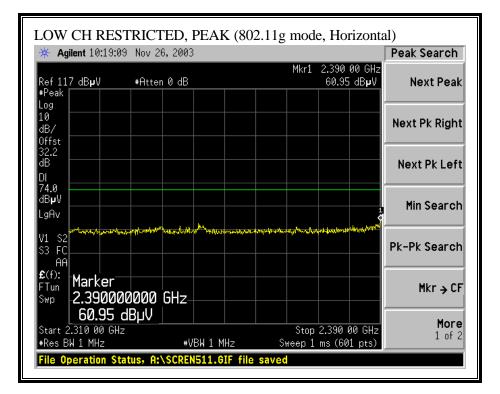
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HARMONICS AND SPURIOUS EMISSIONS (b MODE)

Complu Test Eng Project # Compan EUT Des	gr: #: y:	Yan Zheng 03U2392 Intel	Services, Mo												
EUT M/I Fest Tary Mode Op	N: get:	M200 FCC Class B Transmitt, b i			-,										
Fest Equ	ipment:														
EMCO	Horn 1-1	8GHz	Pre-amplife	er 1-26Gl	Hz	5	Spectrum A	nalyzer			Horn >1	8CH7			
T60; S/	N: 2238 @	93m –	T63 Miteq 6	46456	Ŧ	Agile	ent E4446A	Analyz	er _	T117; ARA	18-26GHz;		-		
Hi Free	quency Cat ft)	le: ▼ (2 ~ 3 ft)	(4 ~ 6 ft)	V (12 ft)				1 MHz	Measureme Resolution B Video Bandy	andwidth		leasuremen lution Bandw Bandwidth			
f	Dist	Read Pk	Read Avg.	AF	CL	Amp	D Corr	HPF	Peak	Avg	Pk Lim	Avg Lim		Avg Mar	Notes
GHz	feet (2412MI	dBuV	dBuV	dB/m	dB	dB	dB		dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	
∩hanne 1		43.9	33.4	33.1	4.4	-35.3	0.0	1.0	47.1	36.6	74.0	54.0	-26.9	-17.4	v
	9.8	43.9		33.1	4.4	-35.3	0.0	1.0	46.2	33.6	74.0	54.0	-27.8	-20.4	Н
1.824 1.824	9.8	43.0	30.4	33.1											
l.824 l.824 Channe 6	9.8 (2437MI	43.0 Hz)						10	44.0					10.0	**
1.824 1.824 Channe 6 1.874	9.8 (2437MI 9.8	43.0 Iz) 43.6	31.5	33.1	4.4	-35.3	0.0	1.0	46.8	34.7	74.0	54.0	-27.2	-19.3	V
4.824 4.824 Channe 6 4.874 7.311	9.8 (2437MI 9.8 9.8	43.0 Hz) 43.6 43.2	31.5 31.0	33.1 36.2	4.4 5.7	-34.6	0.0	1.0	51.5	39.3	74.0	54.0	-22.5	-14.7	v
4.824 4.824 Channe 6 4.874 7.311 4.874	9.8 (2437MI 9.8	43.0 Iz) 43.6	31.5	33.1 36.2 33.1	4.4 5.7 4.4	-34.6 -35.3						54.0 54.0		-14.7 -20.5	
4.824 4.824 Channe 6 4.874 7.311 4.874 7.311	9.8 (2437MI 9.8 9.8 9.8 9.8 9.8	43.0 Hz) 43.6 43.2 43.0 42.0	31.5 31.0 30.3	33.1 36.2	4.4 5.7	-34.6	0.0 0.0	1.0 1.0	51.5 46.2	39.3 33.5	74.0 74.0	54.0	-22.5 -27.8	-14.7	V H
4.824 4.824 Channe 6 4.874 7.311 4.874 7.311 Channe 1 4.924	9.8 (2437MI 9.8 9.8 9.8 9.8 1 (2462M 9.8	43.0 Hz) 43.6 43.2 43.0 42.0 Hz) 42.9	31.5 31.0 30.3 30.1 32.0	33.1 36.2 33.1 36.2 33.2	4.4 5.7 4.4 5.7 4.5	-34.6 -35.3 -34.6 -35.3	0.0 0.0 0.0 0.0	1.0 1.0 1.0	51.5 46.2 50.3 46.2	39.3 33.5 38.4 35.3	74.0 74.0 74.0 74.0	54.0 54.0 54.0 54.0	-22.5 -27.8 -23.7 -27.8	-14.7 -20.5 -15.6 -18.7	V H H V
4.824 4.824 Channe 6 4.874 7.311 4.874 7.311 Channe 1 4.924 7.386	9.8 (2437MI 9.8 9.8 9.8 9.8 9.8 1 (2462M 9.8 9.8 9.8	43.0 Hz) 43.6 43.2 43.0 42.0 Hz) 42.9 43.6	31.5 31.0 30.3 30.1 32.0 31.2	33.1 36.2 33.1 36.2 33.2 36.3	4.4 5.7 4.4 5.7 4.5 5.7	-34.6 -35.3 -34.6 -35.3 -34.5	0.0 0.0 0.0 0.0 0.0	1.0 1.0 1.0 1.0 1.0	51.5 46.2 50.3 46.2 52.1	39.3 33.5 38.4 35.3 39.7	74.0 74.0 74.0 74.0 74.0 74.0	54.0 54.0 54.0 54.0 54.0 54.0	-22.5 -27.8 -23.7 -27.8 -27.8 -21.9	-14.7 -20.5 -15.6 -18.7 -14.3	V H H V V
1.824 1.824 Channe 6 1.874 7.311 1.874 7.311 Channe 1 1.924 7.386 1.924	9.8 (2437MI 9.8 9.8 9.8 9.8 1 (2462M 9.8 9.8 9.8 9.8 9.8 9.8 9.8	43.0 Hz) 43.6 43.2 43.0 42.0 Hz) 42.9 43.6 43.3	31.5 31.0 30.3 30.1 32.0 31.2 30.3	33.1 36.2 33.1 36.2 33.2 36.3 33.2	4.4 5.7 4.4 5.7 4.5 5.7 4.5	-34.6 -35.3 -34.6 -35.3 -34.5 -35.3	0.0 0.0 0.0 0.0 0.0 0.0	1.0 1.0 1.0 1.0 1.0 1.0	51.5 46.2 50.3 46.2 52.1 46.6	39.3 33.5 38.4 35.3 39.7 33.6	74.0 74.0 74.0 74.0 74.0 74.0 74.0	54.0 54.0 54.0 54.0 54.0 54.0 54.0	-22.5 -27.8 -23.7 -27.8 -21.9 -27.4	-14.7 -20.5 -15.6 -18.7 -14.3 -20.4	V H H V V H
4.824 4.824 Channe 6 4.874 7.311 4.874 7.311 Channe 1 4.924 7.386 4.924	9.8 (2437MI 9.8 9.8 9.8 9.8 9.8 1 (2462M 9.8 9.8 9.8	43.0 Hz) 43.6 43.2 43.0 42.0 Hz) 42.9 43.6	31.5 31.0 30.3 30.1 32.0 31.2	33.1 36.2 33.1 36.2 33.2 36.3	4.4 5.7 4.4 5.7 4.5 5.7	-34.6 -35.3 -34.6 -35.3 -34.5 -35.3 -34.5	0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0	51.5 46.2 50.3 46.2 52.1 46.6 51.0	39.3 33.5 38.4 35.3 39.7 33.6 38.6	74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	54.0 54.0 54.0 54.0 54.0 54.0	-22.5 -27.8 -23.7 -27.8 -27.8 -21.9	-14.7 -20.5 -15.6 -18.7 -14.3	V H H V V
Channe 1 4.824 4.824 Channe 6 4.874 7.311 4.874 7.311 Channe 1 4.924 7.386 4.924 7.386	9.8 (2437MI 9.8 9.8 9.8 9.8 1 (2462M 9.8 9.8 9.8 9.8 9.8 9.8 9.8	43.0 Hz) 43.6 43.2 43.0 42.0 Hz) 42.9 43.6 43.3	31.5 31.0 30.3 30.1 32.0 31.2 30.3	33.1 36.2 33.1 36.2 33.2 36.3 33.2	4.4 5.7 4.4 5.7 4.5 5.7 4.5	-34.6 -35.3 -34.6 -35.3 -34.5 -35.3 -34.5	0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0	51.5 46.2 50.3 46.2 52.1 46.6 51.0	39.3 33.5 38.4 35.3 39.7 33.6	74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	54.0 54.0 54.0 54.0 54.0 54.0 54.0	-22.5 -27.8 -23.7 -27.8 -21.9 -27.4	-14.7 -20.5 -15.6 -18.7 -14.3 -20.4	V H H V V H
1.824 1.824 Channe 6 1.874 7.311 1.874 7.311 Channe 1 1.924 7.386 1.924	9.8 (2437MI 9.8 9.8 9.8 9.8 1 (2462M 9.8 9.8 9.8 9.8 9.8 9.8 9.8	43.0 Hz) 43.6 43.2 43.0 42.0 Hz) 42.9 43.6 43.3	31.5 31.0 30.3 30.1 32.0 31.2 30.3	33.1 36.2 33.1 36.2 33.2 36.3 33.2	4.4 5.7 4.4 5.7 4.5 5.7 4.5	-34.6 -35.3 -34.6 -35.3 -34.5 -35.3 -34.5	0.0 0.0 0.0 0.0 0.0 0.0 0.0	1.0 1.0 1.0 1.0 1.0 1.0 1.0	51.5 46.2 50.3 46.2 52.1 46.6 51.0	39.3 33.5 38.4 35.3 39.7 33.6 38.6	74.0 74.0 74.0 74.0 74.0 74.0 74.0 74.0	54.0 54.0 54.0 54.0 54.0 54.0 54.0	-22.5 -27.8 -23.7 -27.8 -21.9 -27.4	-14.7 -20.5 -15.6 -18.7 -14.3 -20.4	V H H V V H

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RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)

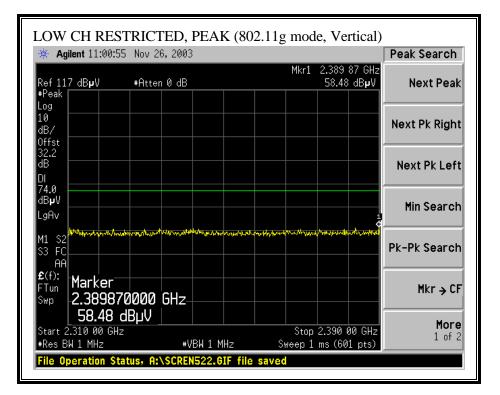


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LOW CH RESTRICT	ED, AVG (802	2.11g mode, Horizonta	l)
🔆 Agilent 10:19:52 Nov 26	6, 2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.344 00 GHz 48.25 dBµV	
Log 10 dB/ 0ffst			Next Pk Right
32.2 dB DI 54.0			Next Pk Left
dBµV			Min Search
M1 S2 S3 FC AA			Pk-Pk Search
£(f): FTun Swp 2.344000000 48.25 dBµV	GHz		Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz	#VBW 10 Hz		
File Operation Status, A:	SCREN512.GIF file	e saved	

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RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)

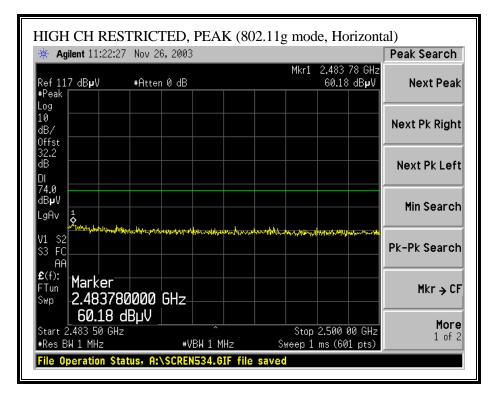


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🔆 Agilent 11:00:10 Nov		.11g mode, Vertical)	Peak Search
Ref 117 dB µ V #At #Peak	ten ØdB	Mkr1 2.342 40 G 46.72 dBµ	
Log 10 dB/ 0ffst			Next Pk Right
32.2 dB DI			Next Pk Left
54.0 dBµV LgAv			Min Search
M1 \$2 \$3 FC	1 0		Pk-Pk Search
£(f): FTun Swp 2.34240000 46.72 dBu			Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz	#VBW 10 Hz	Stop^2.390 00 GH Sweep 6.238 s (601 pts	

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RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)

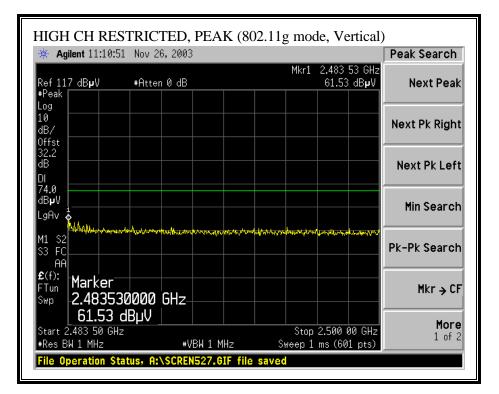


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HIGH CH RESTRIC	ГЕD, AVG (80	2.11g mode, Horizon	tal)
🔆 Agilent 11:22:48 Nov 26	6,2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.483 53 GH 46.91 dBµV	
Log 10 dB/ 0ffst			Next Pk Right
0132 32.2 dB DI 54.0			Next Pk Left
dBµV			Min Search
M1 \$2 \$3 FC AA £(f): Manual and			Pk-Pk Search
^{£(7):} Marker _{FTun} 2.483530000 46.91 dBμV	GHz		Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	#VBW 10 Hz		z 1 of 2
File Operation Status, A:	SURENSSS. GIF THE	3 SAVEU	

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RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, VERTICAL)



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HIGH CH RESTRICT	TED, AVG (8	02.11g mode, Vertical)	
🔆 Agilent 11:11:39 Nov 26	6, 2003		Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1 2.483 50 GHz 46.67 dB µ V	
Log 10 dB/ Offst			Next Pk Right
32.2 dB DI 54.0			Next Pk Left
dBµV LgAv			Min Search
M1 \$2 \$3 FCo AA £(f): Manlant			Pk-Pk Search
E(T): Marker FTun 2.483500000 46.67 dBuV	GHz		Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	#VBW 10 Hz		More 1 of 2
File Operation Status, A:	SUREN528.GIF	lle saved	

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HARMONICS AND SPURIOUS EMISSIONS (g MODE)

	ance Ce	runcation	Services, Mo	ngan H	ш Ор	en rield	Site																	
fest Eng	gr:	Yan Zheng																						
Project #		03U2392																						
Compan		Intel																						
EUT Descrip.: 802.11b /g card with Toshiba notebook, with antenna TIAN01 EUT M/N: M200																								
EUT M/N: M20 Test Target: FCC Class B																								
Mode O	0	Transmitt, g i																						
Test Eau	iipment:	_																						
EMCC)Hom 1-	IOCTL.	Pre-amplife		Ta	s	Spectrum A	nalyzer			Horn > 1	BGHz												
	N: 2238 (<u>n</u>	Agile	nt E4446A	Analyze	er	T117; ARA	18-26GHz; S	5/N:1013	-											
,6/			T63 Mitea 6	546456	-	gat																		
Hi Free	quency Cal		□ (4~6 ft)	🔽 (12 ft)				1 MHz	Measureme Resolution E Video Bandy	andwidth		l easuremen lution Bandw Bandwidth												
f	Dist	Read Pk	Read Avg.	AF	CL	Amp	D Corr	HPF	Peak	Avg	Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes									
GHz	feet	dBuV	dBuV	dB/m	dB	dB	dB		dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB										
	(2412M																							
4.824	9.8	43.5	31.3	.33.1	4.4	-35.3	0.0	1.0	46.7	34.5	74.0	54.0	-27.3	-19.5	V									
4.824 Channe 6	9.8 (2427M	43.3	31.1	33.1	44	-35.3	0.0	1.0	46.5	34.3	74.0	54.0	-27.5	-19.7	Н									
4.874	9.8	44.7	31.6	33.1	4.4	-35.3	0.0	1.0	47.9	34.8	74.0	54.0	-26.1	-19.2	V									
7.311	9.8	43.1	31.3	36.2	5.7	-34.6	0.0	1.0	51.4	39.6	74.0	54.0	-22.6	-14.4	v									
4.874	9.8	42.7	30.2	.33.1	4.4	-35.3	0.0	1.0	45.9	33.4	74.0	54.0	-28.1	-20.6	Н									
7.311	9.8	43.2	29.6	36.2	5.7	-34.6	0.0	1.0	51.5	37.9	74.0	54.0	-22.5	-16.1	Н									
	11 (2462N 9.8	1Hz) 44.9	32.0	33.2	45	-35.3	0.0	1.0	48.2	35.3	74.0	54.0	-25.8	-18.7	v									
	9.8	44.9	31.9	36.3	45	-35.3	0.0	1.0	48.2	40.4	74.0	54.0 54.0	-25.8	-18.7	v									
4.924	9.8	45.7	31.7	33.2	45	-35.3	0.0	1.0	49.0	35.0	74.0	54.0	-25.0	-19.0	H									
4.924 7.386	9.8	44.6	30.8	36.3	5.7	-34.5	0.0	1.0	53.1	39.3	74.0	54.0	-20.9	-14.7	Н									
4.924 7.386 4.924	2.0					NO	RADIATI	ONEM	ISSION FO	JND ABOV	E 7.5GHz													
4.924 7.386 4.924	20	1	1			10																		
4.924 7.386 4.924	- 20					10									f Measurement Frequency Amp Preamp Gain Avg Lim Average Field Strength Limit									
Channe 1 4924 7.386 4.924 7.386	f	Measurem	ent Frequenc	у		Amp		Gain	l		I	Avg Lim	Average I	Field Strengt	h Limit									
4.924 7.386 4.924		Measurem Distance to	-	у		Amp	Preamp Distance	Correc	ct to 3 met			Pk Lim	Peak Field	d Strength L	imit									
4.924 7.386 4.924	f Dist		Antenna	у		Amp	Preamp Distance	Correc	ct to 3 meto Strength @		<u> </u>	Pk Lim	Peak Field	0	imit									
4.924 7.386 4.924	f Dist	Distance to	Antenna Reading actor	у		Amp D Corr	Preamp Distance Average	Correct Field S ed Peak	Strength @ c Field Stre	3 m	I	Pk Lim Avg Mar	Peak Field Margin vs	d Strength L	imit .imit									

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7.10.2. CO-LOCATED TRANSMITTER EMISSIONS ABOVE 1 GHz

RESULTS

No non-compliance noted:

WORST-CASE RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

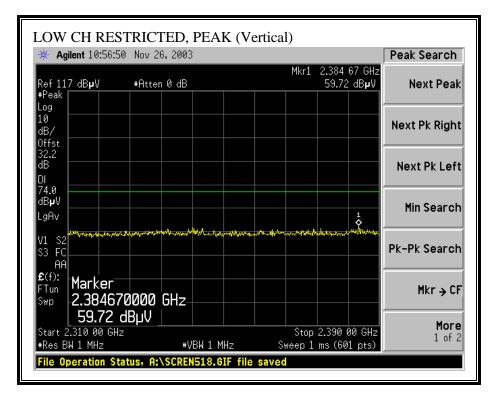
LOW CH REST	RICTED,	PEAK (Ho	rizontal)		
🔆 Agilent 10:13:22	Nov 26, 2003	}			Peak Search
Ref 117 dB µ V #Peak	#Atten 0 dB		Mkr1	2.384 67 GHz 60.29 dBµV	Next Peak
Log 10 dB/ Offst					Next Pk Right
32.2 dB DI					Next Pk Left
74.0 dB µ V LgAv			and the first production		Min Search
V1 S2 S3 FC AA	**************************************				Pk-Pk Search
£(f): FTun Swp 2.384670					Mkr → CF
60.29 df Start 2.310 00 GHz #Res BW 1 MHz	·	BW 1 MHz	Sweep 1	2.390 00 GHz ms (601 pts)	More 1 of 2
File Operation Stat	us, A:\SCREI	1507.GIF file	saved		

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🔆 Agilent 10:14:37	Nov 26, 2003			Peak Search
Ref 117 dB µ V #Peak	#Atten 0 dB	Mkr1	2.383 47 GHz 49.97 dBµV	Next Peak
Log 10 dB/ Offst				Next Pk Right
32.2 dB DI				Next Pk Left
54.0 dB µ V LgAv				Min Search
M1 S2 S3 FC AA £(f): Manufactor				Pk-Pk Search
E(1): FTun Swp 2.383470 49.97 df				Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz	#VBW 10 Hz		2.390 00 GHz 8 s (601 pts)	More 1 of 2

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WORST-CASE RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

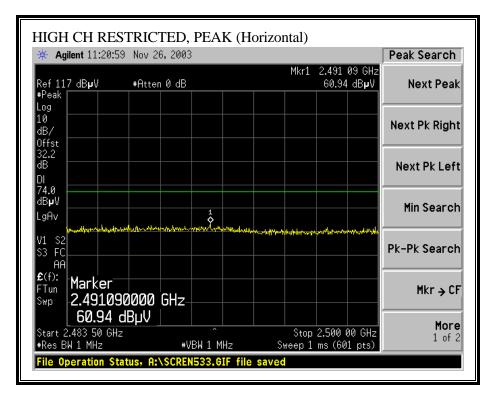


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LOW CH RESTRIC	FED, AVG (Vertical)		
🔆 Agilent 10:56:26 Nov 2	6, 2003		Peak Search
Ref 117 dBµV #Atter #Peak	n 0 dB	Mkr1 2.342 27 GHz 46.89 dBµV	Next Peak
Log 10 dB/ 0ffst			Next Pk Right
312.2 dB DI 54.0			Next Pk Left
dB µ V LgAv			Min Search
M1 S2 S3 FC AA	1		Pk-Pk Search
£(f): FTun Swp 2.342270000 46.89 dBµV	GHz		Mkr → CF
Start 2.310 00 GHz #Res BW 1 MHz		Stop 2.390 00 GHz p 6.238 s (601 pts)	More 1 of 2
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WORST-CASE RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)

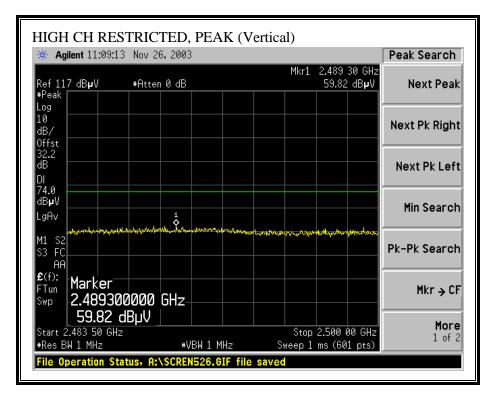


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🔆 Agilent 11:20:20	6 Nov 26, 2	003				Peak Search
Ref 117 dB µ V #Peak	#Atten 0 d	зВ		Mkr1	2.490 87 GH 48.25 dBµ	
H GAK Log 10 dB/ 0ffst						Next Pk Right
32.2 dB DI 54.0						Next Pk Left
dBµV						Min Search
M1 \$2 \$3 FC AA £(f): Monton		1 •				Pk-Pk Search
FTun Marker Swp 2.49087 48.25 c		z				Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz		*VBW 10 F	z Swe		2.500 00 GH 7 s (601 pts	

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WORST-CASE RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



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HIGH CH RESTRIC	ГЕD, AVG (Ve	rtical)		
🔆 Agilent 11:08:37 Nov 26	6, 2003			Peak Search
Ref 117 dB µ V #Atten #Peak	0 dB	Mkr1	2.491 03 GHz 47.46 dBµV	Next Peak
Log 10 dB/ 0ffst				Next Pk Right
32.2 dB DI 54.0				Next Pk Left
dBµV LgAv				Min Search
M1 \$2 \$3 FC AA £(f): -Mankar				Pk-Pk Search
E(T): FTun Swp 2.491030000 47.46 dBuV	GHz			Mkr → CF
Start 2.483 50 GHz #Res BW 1 MHz	#VBW 10 Hz	Sweep 1.28	2.500 00 GHz^ 7 s (601 pts)	More 1 of 2
File Operation Status, A:	SCREN525.GIF file	saved		

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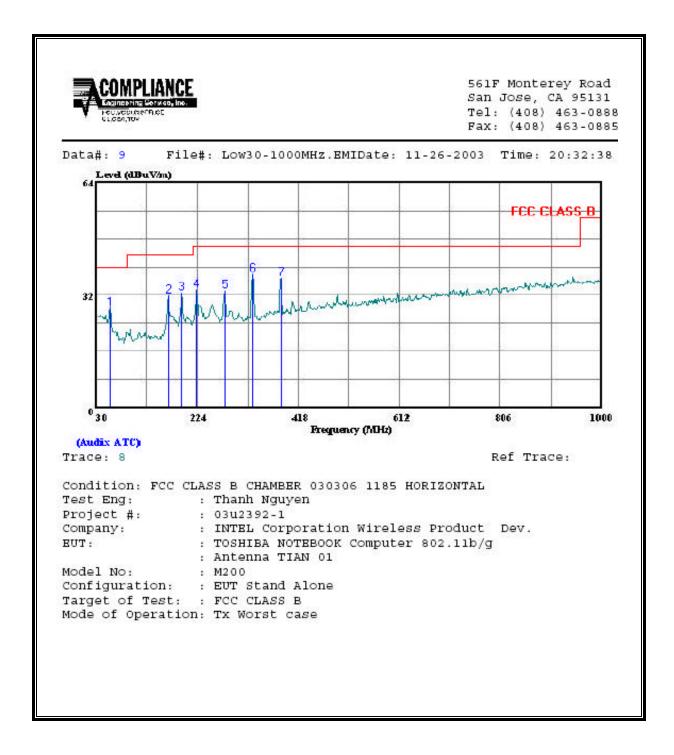
WORST-CASE HARMONICS AND SPURIOUS EMISSIONS

11/26/03 Compli a	mgn		Measureme Services, Mo		lill Op	en Field	Site								
Test Eng	8	Yan Zheng													
Project #		03U2392 Intel													
Compan			ard with Toshiba	a noteboo	k with	antanna TI	A NO1								
EUT Des EUT M/I		M200	iu with rosinoz	1 HOLEDOOI	K, WILLI C	uncinia 11.	ALNO1								
Test Tar		FCC Class B													
Mode Op	per:	Transmitt, Co	o-Location with	worst pos	sition, w	orst config	guration & v	vorst cha	annel						
Test Equ	uipment:														
ЕМСО) Horn 1-1	8GHz	Pre-amplife	er 1-26Gl	Hz	s	Spectrum Ai	nalyzer			Horn > 1	8CHz			
T60.51	DL 2229 /	3.2m	T63 Miteq 6	46456	т	Acto	ent E4446A .	Analyzer		T117; ARA	18-26GHz; S		-		
						Agne			er						
100; 5/	/N: 2238 @		1			gat			- 1						
					_	gat			-						
	quency Cab	oles	$(4 \sim 6 \text{ ft})$	🔽 (12 ft)		a n		Peak M	Measureme		Average M	leasuremen	ts: idth		
Hi Free	quency Cab	oles	(4 ~ 6 ft)	🗸 (12 ft)	_			Peak M	-	andwidth	Average M 1 MHz Reso 10Hz Video	lution Bandw	ts: idth		
Hi Free	quency Cab	oles	(4 ~ 6 ft)	V (12 ft)				Peak M	Measureme Resolution B	andwidth	1 MHz Reso	lution Bandw	 idth		
Hi Free	quency Cab	les ✓ (2 ~ 3 ft)					1	Peak M 1 MHz1 1 MHz V	Measureme Resolution B	andwidth vidth	1 MHz Řeso 10Hz Video	lution Bandw Bandwidth	idth	Avg Mar	Notes
f GHz	equency Cab 2 ft) Dist feet	Read Pk dBuV			CL	Amp dB	1	Peak M 1 MHz1 1 MHz V	Measureme Resolution B Video Bandy Peak	andwidth vidth Avg	1 MHz Reso	lution Bandw	idth	Avg Mar dB	Notes
f GHz Channe 1	Dist feet freet feet	eles ✓ (2 ~ 3 ft) Read Pk dBuV IHz)	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Peak M 1 MHz1 1 MHz V HPF	Measureme Resolution B Video Bandy Peak dBuV/m	andwidth vidth Avg dBuV/m	1 MHz Řeso 10Hz Video Pk Lim dBuV/m	lution Bandw Bandwidth Avg Lim dBuV/m	idth Pk Mar dB	dB	
f GHz Channe 1 4.924	Dist feet 11 (2462M 9.8	Read Pk dBuV Hz) 43.5	Read Avg. dBuV 32.0	AF dB/m 33.2	CL dB 4.5	Amp dB -35.3	D Corr dB 0.0	Peak M 1 MHz1 1MHz V HPF	Measureme Resolution B Video Bandy Peak dBuV/m 46.8	andwidth vidth Avg <u>dBuV/m</u> 35.3	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0	lution Bandw Bandwidth Avg Lim dBuV/m 54.0	Pk Mar dB -27.2	dB -18.7	v
f GHz Channe 1 4924 7.386	Dist feet freet feet	eles ✓ (2 ~ 3 ft) Read Pk dBuV IHz)	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Peak M 1 MHz1 1 MHz V HPF	Measureme Resolution B Video Bandy Peak dBuV/m	andwidth vidth Avg dBuV/m	1 MHz Řeso 10Hz Video Pk Lim dBuV/m	lution Bandw Bandwidth Avg Lim dBuV/m	idth Pk Mar dB	dB	
f GHz Channe 1 4.924 7.386 4.924	Dist feet 11 (2462M 9.8 9.8	Read Pk dBuV Hz) 43.5 43.8	Read Avg. dBuV 32.0 31.1	AF dB/m 33.2 36.3	CL dB 4.5 5.7	Amp dB -35.3 -34.5	D Corr dB 0.0 0.0	Peak M 1 MHz 1 MHz HPF 1.0 1.0	Measureme Resolution B Video Bandv Peak dBuV/m 46.8 52.3	Avg dBuV/m 35.3 39.6	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0 74.0	lution Bandw Bandwidth Avg Lim dBuV/m 54.0 54.0	idth Pk Mar dB -27.2 -21.7	dB -18.7 -14.4	V V
f GHz Channe 1 4.924 7.386 4.924	Dist feet 11 (2462M) 9.8 9.8	Nes √ (2 ~ 3 ft) Read Pk dBuV (Hz) 43.5 43.8 43.0	Read Avg. dBuV 32.0 31.1 30.3	AF dB/m 33.2 36.3 33.2	CL dB 4.5 5.7 4.5	Amp dB -35.3 -34.5 -35.3 -34.5	D Corr dB 0.0 0.0 0.0 0.0	Peak M 1 MHz 1 MHz 1 MHz 1 MHz 1 1 MHz 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Measureme Resolution B Video Bandv Peak dBuV/m 46.8 52.3 46.3 51.4	andwidth vidth Avg dBuV/m 35.3 39.6 33.6 38.6	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	lution Bandw Bandwidth Avg Lim dBuV/m 54.0 54.0 54.0	idth Pk Mar dB -27.2 -21.7 -27.7	dB -18.7 -14.4 -20.4	V V H
f GHz	Dist feet 11 (2462M) 9.8 9.8	Nes √ (2 ~ 3 ft) Read Pk dBuV (Hz) 43.5 43.8 43.0	Read Avg. dBuV 32.0 31.1 30.3	AF dB/m 33.2 36.3 33.2	CL dB 4.5 5.7 4.5	Amp dB -35.3 -34.5 -35.3 -34.5	D Corr dB 0.0 0.0 0.0 0.0	Peak M 1 MHz 1 MHz 1 MHz 1 MHz 1 1 MHz 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Measureme Resolution B Video Bandw Peak dBuV/m 46.8 52.3 46.3	andwidth vidth Avg dBuV/m 35.3 39.6 33.6 38.6	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	lution Bandw Bandwidth Avg Lim dBuV/m 54.0 54.0 54.0	idth Pk Mar dB -27.2 -21.7 -27.7	dB -18.7 -14.4 -20.4	V V H
f GHz Channe 1 4.924 7.386 4.924	Dist feet 11 (2462M) 9.8 9.8	Nes √ (2 ~ 3 ft) Read Pk dBuV (Hz) 43.5 43.8 43.0	Read Avg. dBuV 32.0 31.1 30.3	AF dB/m 33.2 36.3 33.2	CL dB 4.5 5.7 4.5	Amp dB -35.3 -34.5 -35.3 -34.5	D Corr dB 0.0 0.0 0.0 0.0	Peak M 1 MHz 1 MHz 1 MHz 1 MHz 1 1 MHz 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Measureme Resolution B Video Bandv Peak dBuV/m 46.8 52.3 46.3 51.4	andwidth vidth Avg dBuV/m 35.3 39.6 33.6 38.6	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	lution Bandw Bandwidth Avg Lim dBuV/m 54.0 54.0 54.0	idth Pk Mar dB -27.2 -21.7 -27.7	dB -18.7 -14.4 -20.4	V V H
f GHz Channe 1 4.924 7.386 4.924	Dist feet 11 (2462M) 9.8 9.8	ke: ▼ (2 ~ 3 ft) Read Pk <u>dBuV</u> Hz) 43.5 43.8 43.0 42.9	Read Avg. dBuV 32.0 31.1 30.3	AF dB/m 33.2 36.3 33.2 36.3	CL dB 4.5 5.7 4.5	Amp dB -35.3 -34.5 -35.3 -34.5	D Corr dB 0.0 0.0 0.0 0.0	Peak M 1 MHz1 1 MHz V HPF 1.0 1.0 1.0 1.0 1.0	Measureme Resolution B Video Bandv Peak dBuV/m 46.8 52.3 46.3 51.4	andwidth vidth Avg dBuV/m 35.3 39.6 33.6 38.6	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	lution Bandw Bandwidth Avg Lim dBuV/m 54.0 54.0 54.0 54.0	Pk Mar dB -27.2 -21.7 -27.7 -22.6	dB -18.7 -14.4 -20.4	V V H H
f GHz Channe 1 4.924 7.386 4.924	rquency Cab 2 ft) Dist <u>feet</u> 11 (2462M 9.8 9.8 9.8 9.8 9.8 9.8 1 1	ke: ▼ (2 ~ 3 ft) Read Pk <u>dBuV</u> Hz) 43.5 43.8 43.0 42.9	Read Avg. dBuV 32.0 31.1 30.3 30.1 ent Frequency	AF dB/m 33.2 36.3 33.2 36.3	CL dB 4.5 5.7 4.5 5.7	Amp dB -35.3 -34.5 -34.5 -34.5 -34.5 -34.5 -34.5 -34.5	D Corr dB 0.0 0.0 0.0 0.0 RADIATIC	Peak M 1 MHz 1 MHz 1 MHz 1 MHz 1 0 1.0 1.0 1.0 1.0 1.0 1.0 5 N EMI	Measureme Resolution B Video Bandv Peak dBuV/m 46.8 52.3 46.3 51.4	andwidth vidth 35,3 39,6 38,6 JND ABOV	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	lution Bandwi Bandwidth Avg Lim dBuV/m 54.0 54.0 54.0 54.0 54.0	Pk Mar dB -27.2 -21.7 -27.7 -22.6 	dB -18.7 -14.4 -20.4 -15.4	V V H H
f GHz Channe 1 4.924 7.386 4.924	guency Cab 2 ft) Dist feet 11 (2462M 9.8 9.8 9.8 9.8 9.8 9.8 1 1 1 1 1 1 1 1 2 4 6 2 8 1 1 1 1 2 4 6 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ke: ✓ (2 ~ 3 ft) Read Pk <u>dBuV</u> Hz) 43.5 43.8 43.0 42.9 Measuremo	Read Avg. dBuV 32.0 31.1 30.3 30.1 ent Frequenc	AF dB/m 33.2 36.3 33.2 36.3	CL dB 4.5 5.7 4.5 5.7	Amp dB -35.3 -34.5 -34.5 -34.5 -34.5 -34.5 -34.5 -34.5	D Corr dB 0.0 0.0 0.0 0.0 RADIATIO	Peak M 1 MHz 1 10 1.0 1.0 0 N EMI Gain Correct	Measureme Resolution B Video Bandv Peak dBuV/m 46.8 52.3 46.3 51.4 ISSION FOI	andwidth vidth 35.3 39.6 33.6 38.6 UND ABOV	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	Avg Lim Avg Lim dBuV/m 54.0 54.0 54.0 54.0 S4.0	Pk Mar dB -27.2 -21.7 -27.7 -22.6 Average I Peak Field	dB -18.7 -14.4 -20.4 -15.4 -i5.4	V V H H
f GHz Channe 1 4.924 7.386 4.924	guency Cab 2 ft) Dist feet 11 (2462M 9.8 9.8 9.8 9.8 9.8 9.8 1 1 1 1 1 1 1 1 2 4 6 2 8 1 1 1 1 2 4 6 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ke: ✓ (2~3 ft) Read Pk <u>dBuV</u> H2) 43.5 43.8 43.0 42.9 Measureme Distance to	Read Avg. dBuV 32.0 31.1 30.3 30.1 ent Frequency Antenna Reading	AF dB/m 33.2 36.3 33.2 36.3	CL dB 4.5 5.7 4.5 5.7	Amp dB -35.3 -34.5 -34.5 -34.5 -34.5 NO Amp D Corr	D Corr dB 0.0 0.0 0.0 0.0 RADIATIC Preamp C Distance Average	Peak M 1 MHz 1 1 MHZ 1 MHZ 1 MHZ 1 MHZ 1 M	Measureme Resolution B Video Bandv Peak dBuV/m 46.8 52.3 46.3 51.4 ISSION FOI	andwidth vidth 35.3 39.6 38.6 UND ABOV UND ABOV SPTS 3 m	1 MHz Řeso 10Hz Video Pk Lim dBuV/m 74.0 74.0 74.0 74.0	Avg Lim Avg Lim dBuV/m 54.0 54.0 54.0 54.0 Avg Lim Pk Lim Avg Mar	Pk Mar dB -27.2 -21.7 -27.7 -22.6 Average I Peak Field Margin vs	dB -18.7 -14.4 -20.4 -15.4 -15.4	V V H H

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7.10.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

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

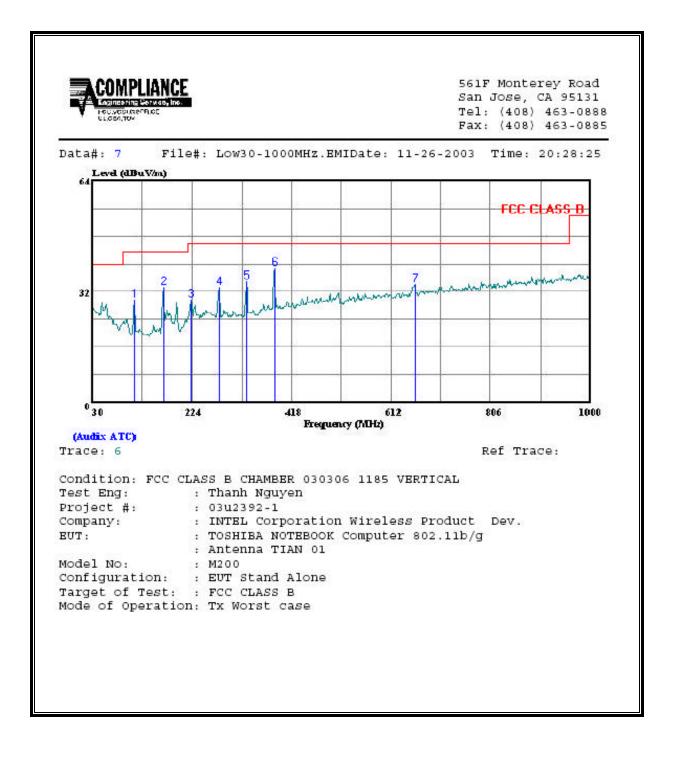


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	Freq	Remark	Read Level	Factor	Level	Limit Line	Over Limit
	MHz		dBuV	db	dBuV/m	dBuV/m	dB
1 2 3	57.160	Peak	14.83	13.46	28.29	40.00	-11.71
2	167.740	Peak	21.83	10.08	31.91	43.50	-11.59
3	193.930	Peak	22.08	10.56	32.64	43.50	-10.86
4	223.030	Peak	21.85	11.78	33.63	46.00	-12.37
4 5 6 7	276.380	Peak	19.60	13.56	33.16	46.00	-12.84
6	329.730	Peak	23.29	14.68	37.97	46.00	-8.03
7	385.990	Peak	20.68	16.15	36.83	46.00	-9.17

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



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	Freq	Remark	Read Level H	Factor	Level	Limit Line	Over Limit
	MHZ		dBuV	dB	dBuV/m	dBuV/m	dB
1	111.480	Peak	18.75	10.88	29.63	43.50	-13.87
2	167.740	Peak	23.26	10.08	33.34	43.50	-10.16
3	223.030	Peak	17.93	11.78	29.71	46.00	-16.29
4	276.380	Peak	19.55	13.56	33.11	46.00	-12.89
4 5 6 7	329.730	Peak	20.32	14.68	35.00	46.00	-11.00
6	385.990	Peak	22.71	16.15	38.86	46.00	-7.14
7	657.590	Peak	13.24	20.85	34.09	46.00	-11.91

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7.11. POWERLINE CONDUCTED EMISSIONS

LIMIT

\$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 μ 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:

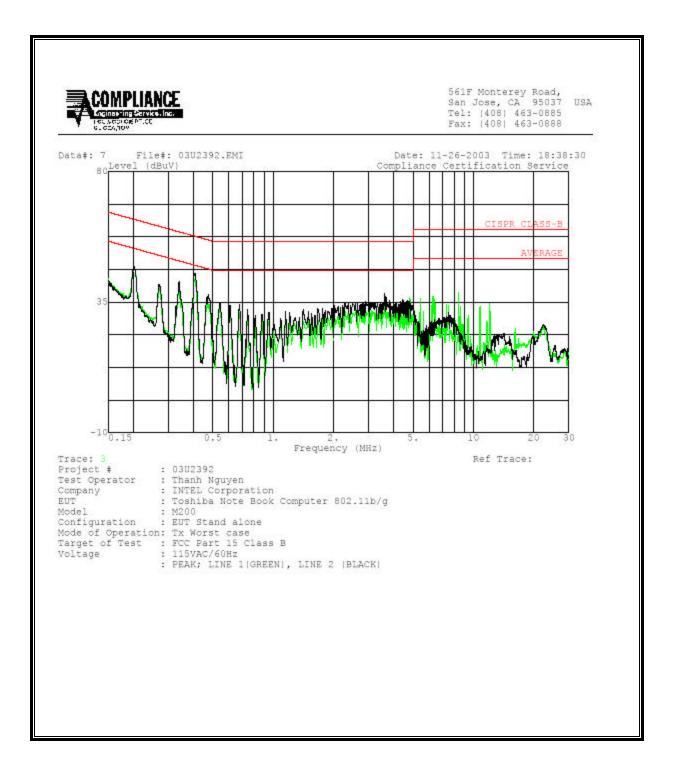
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<u>6 WORST EMISSIONS</u>

	CONDUCTED EMISSIONS DATA (115VAC 60Hz)											
Freq.		Reading		Closs	Limit	EN_B	Mar	gin	Remark			
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1/L2			
0.40	42.70			0.00	58.74	48.74	-16.04	-6.04	L1			
0.20	47.08			0.00	64.51	54.51	-17.43	-7.43	L1			
8.46	38.24			0.00	60.00	50.00	-21.76	-11.76	L1			
0.41	44.86			0.00	58.69	48.69	-13.83	-3.83	L2			
0.20	47.18			0.00	64.51	54.51	-17.33	-7.33	L2			
3.60	38.02			0.00	56.00	46.00	-17.98	-7.98	L2			
6 Worst I	Data											

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LINE 1 AND LINE 2 RESULTS



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8. SETUP PHOTOS

ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP

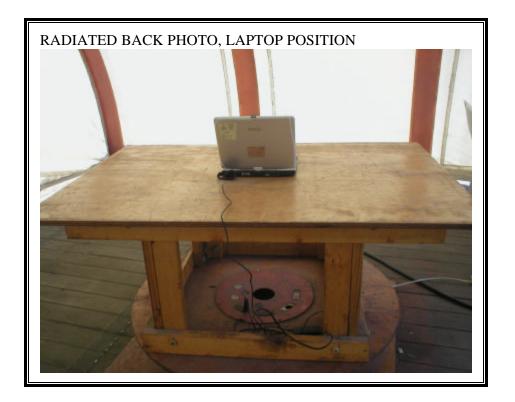


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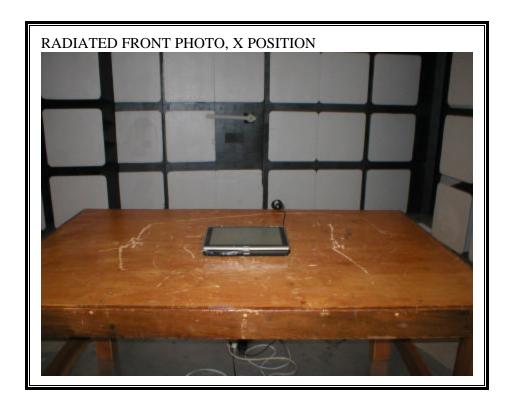
RADIATED RF MEASUREMENT SETUP



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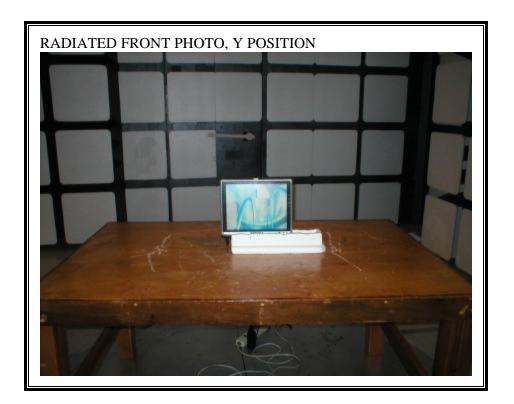
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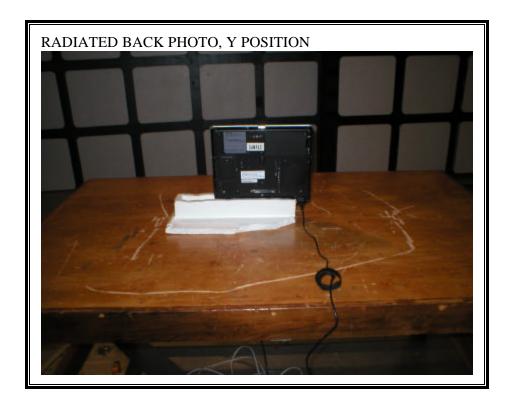
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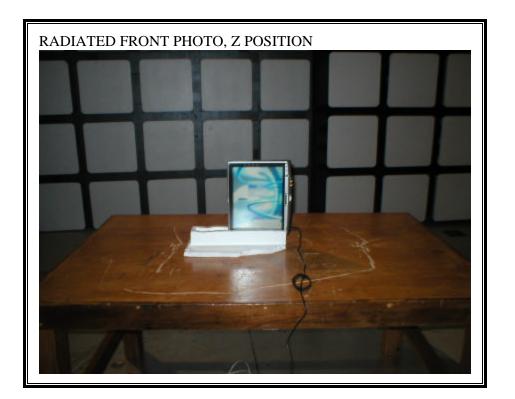
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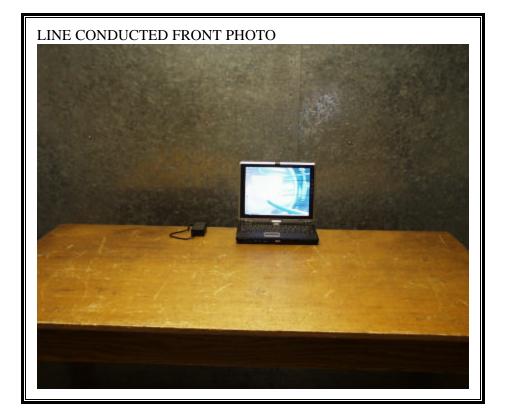


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POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP



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END OF REPORT

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