



**FCC CFR47 PART 15 SUBPART C
CLASS II PERMISSIVE CHANGE**

TEST REPORT

FOR

WIRELESS LAN PC CARD

MODEL NUMBER: PCWA-C800S

FCC ID: AK8PCWAC800S

REPORT NUMBER: 04I2547-1

ISSUE DATE: MARCH 16, 2004

Prepared for

**SONY CORPORATION
6-7-35 KITASHINAGAWA SHINAGAWA-KU
TOKYO, 141-0001 JAPAN**

Prepared by

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561F MONTEREY ROAD,
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1. TEST RESULT CERTIFICATION

COMPANY NAME: SONY CORPORATION
6-7-35 KITASHINAGAWA SHINAGAWA-KU
TOKYO, 141-0001 JAPAN

EUT DESCRIPTION: WIRELESS LAN PC CARD

MODEL: PCWA-C800S

DATE TESTED: MARCH 8 TO 10, 2004

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.

Note: The 2.4 GHz band is applicable to this report; another band of operation (5.2 GHz) is documented in a separate report.

Approved & Released For CCS By:

Tested By:



MIKE HECKROTTE
ENGINEERING MANAGER
COMPLIANCE CERTIFICATION SERVICES

THANH NGUYEN
EMC TECHNICIAN
COMPLIANCE CERTIFICATION SERVICES

2. DESCRIPTION OF CLASS II PERMISSIVE CHANGE

The EUT is an 802.11a/b/g transceiver.

The Class II Permissive Change consists of installing the EUT in a new host computer for a portable application. All specifications, including frequency, power, and antenna, are identical to the originally certified unit.

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 <http://www.ccsemc.com>.



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

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%.

5.3. TEST AND MEASUREMENT EQUIPMENT

TEST EQUIPMENT LIST				
Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date
EMI Receiver, 9 kHz ~ 2.9 GHz	HP	8542E	3942A00286	11/21/04
RF Filter Section	HP	85420E	3705A00256	11/21/04
30MHz--- 2Ghz	Sunol Sciences	JB1 Antenna	A121003	12/22/04
Antenna, Horn 1 ~ 18 GHz	EMCO	3117	29301	12/26/04
Preamplifier, 1 ~ 26.5 GHz	HP	8449B	3008A00369	4/25/04
Peak / Average Power Sensor	Agilent	E9327A	US40440755	11/7/04
Peak Power Meter	Agilent	E4416A	GB41291160	11/7/04
Spectrum Analyzer	HP	E4446A	US42510266	7/23/04
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	8379443	10/13/04
LISN, 10 kHz ~ 30 MHz	FCC	LISN-50/250-25-2	2023	10/13/04
EMI Test Receiver	R&S	ESHS 20	827129/006	7/17/04
AC Power Source, 10KVA	ACS	AFC-10K-AFC-2	J1568	CNR
Line Filter	Lingren	LMF-3489	497	CNR

6. SETUP OF EQUIPMENT UNDER TEST

SUPPORT EQUIPMENT

TEST PERIPHERALS				
Device Type	Manufacturer	Model Number	Serial Number	FCC ID
Ultra Slim Laptop	SONY	PCG-3xxx	N/A	N/A
AC/DC Adapter	SONY	PCGA-AC16V6	147774951-488204	N/A

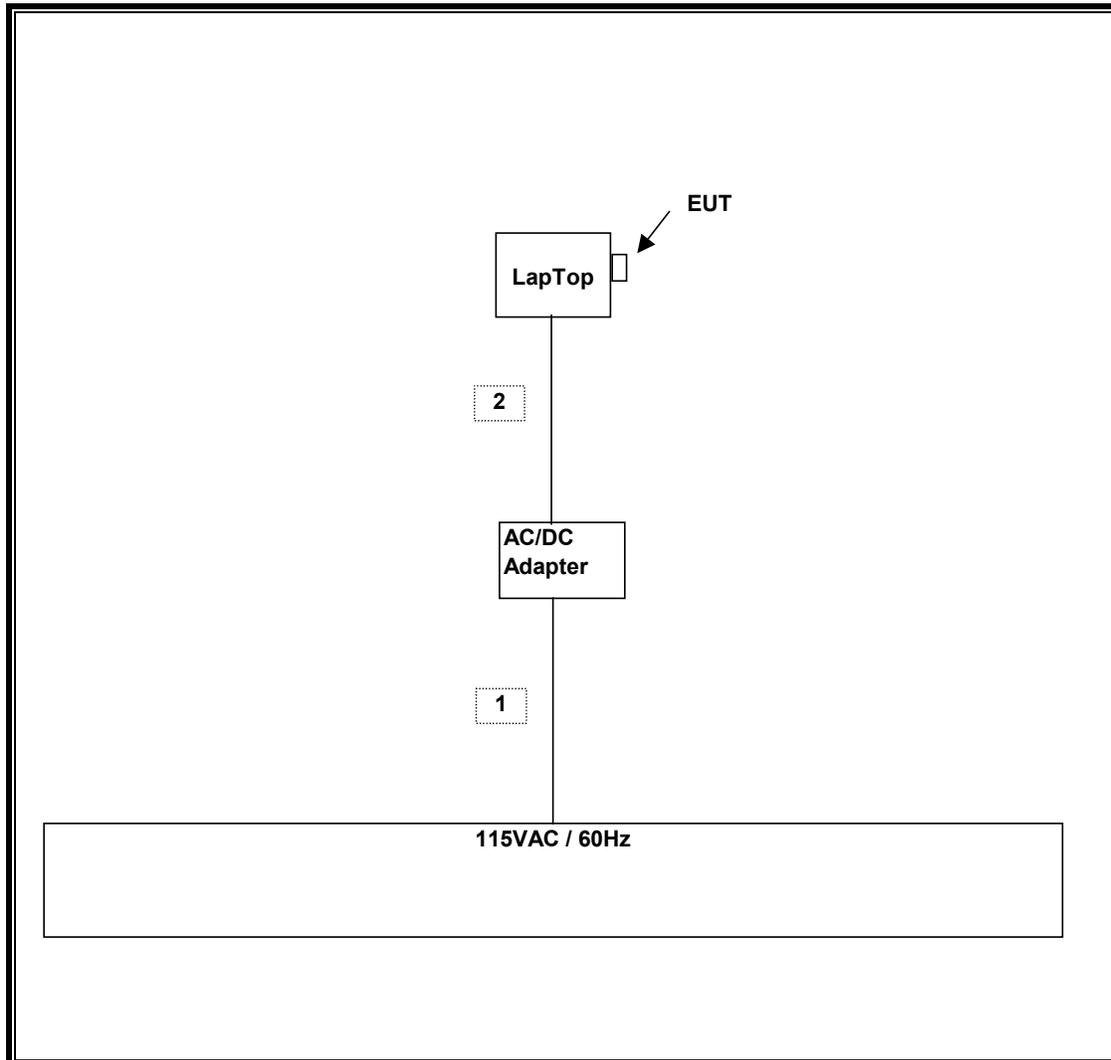
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	EU	Unshielded	1m	No
2	DC	1	DC	Unshielded	2m	No

TEST SETUP

The EUT is installed in a host laptop computer via a PCI adapter during the adjust target power test and direct to PCI slot for the rest of testing. Test software exercised the radio card.

SETUP DIAGRAM FOR TESTS



7. APPLICABLE LIMITS AND TEST RESULTS

7.1. RADIATED EMISSIONS

7.1.1. TRANSMITTER RADIATED SPURIOUS EMISSIONS

LIMITS

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41			

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

² Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§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 (MHz)	Field Strength (microvolts/meter)	Measurement Distance (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.

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.

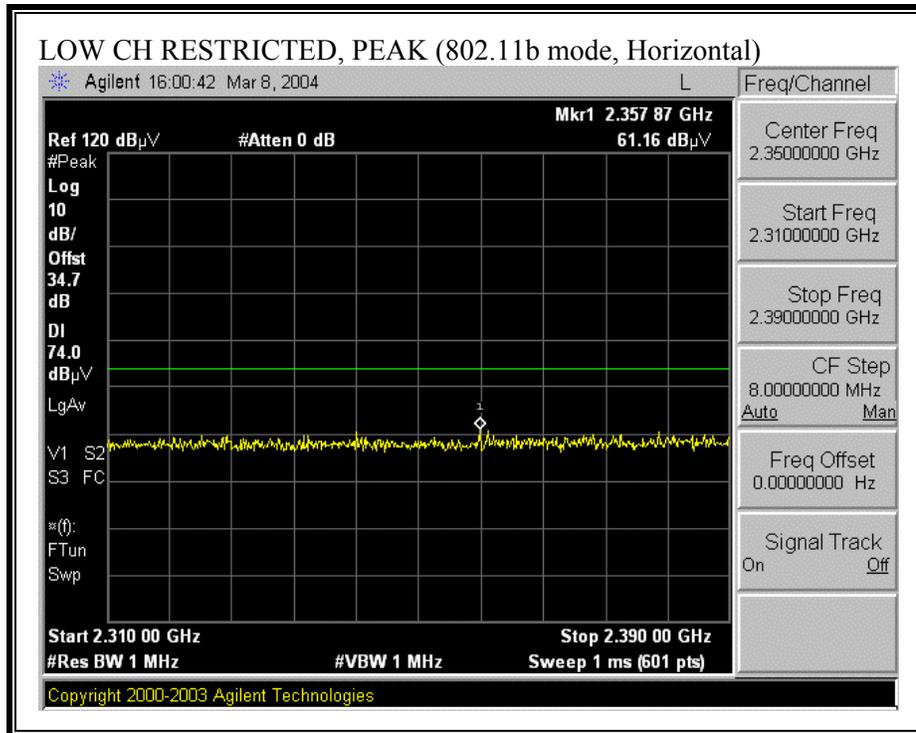
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

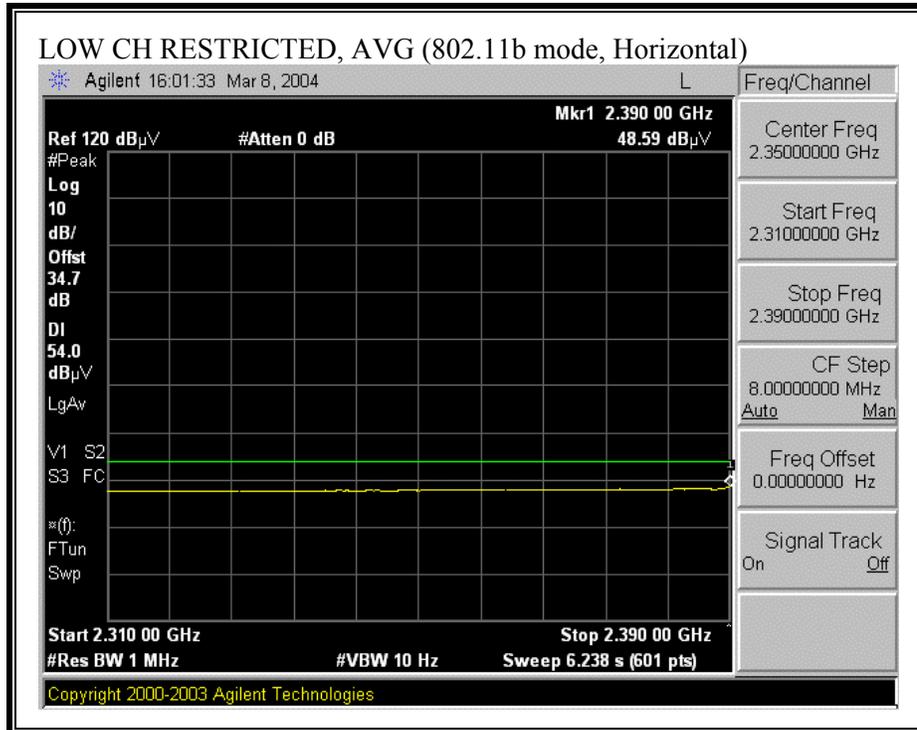
RESULTS

No non-compliance noted:

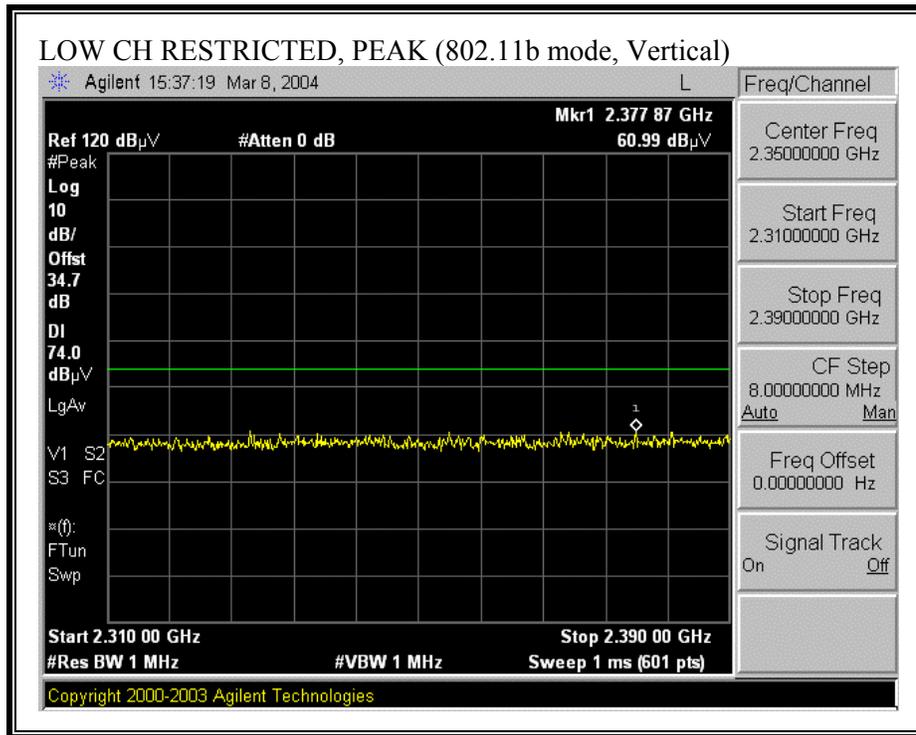
7.1.2. TRANSMITTER RADIATED EMISSIONS ABOVE 1 GHZ

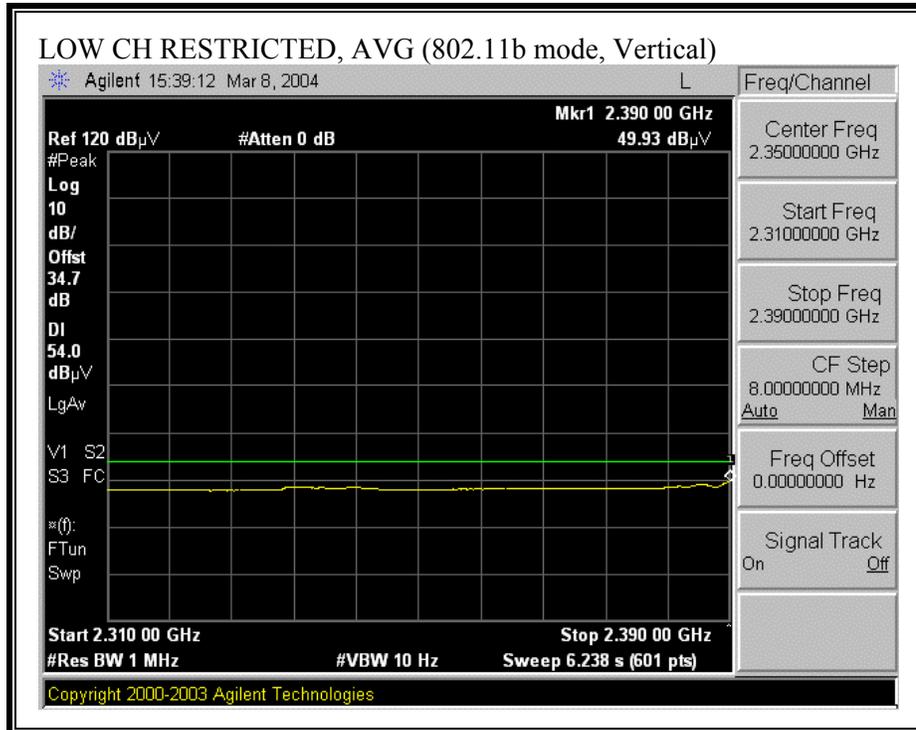
RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, HORIZONTAL)



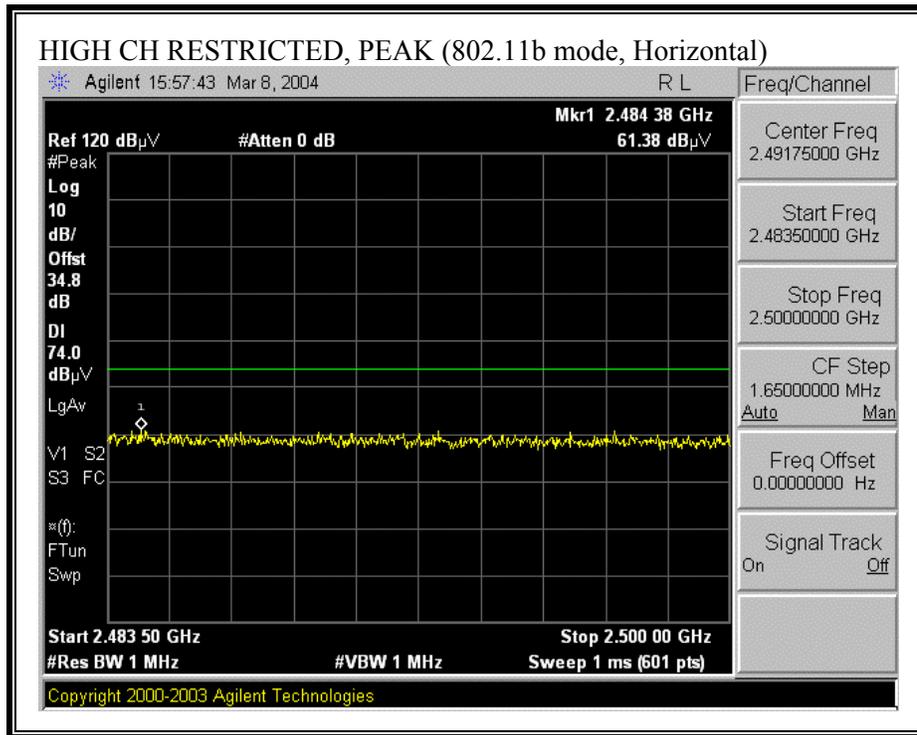


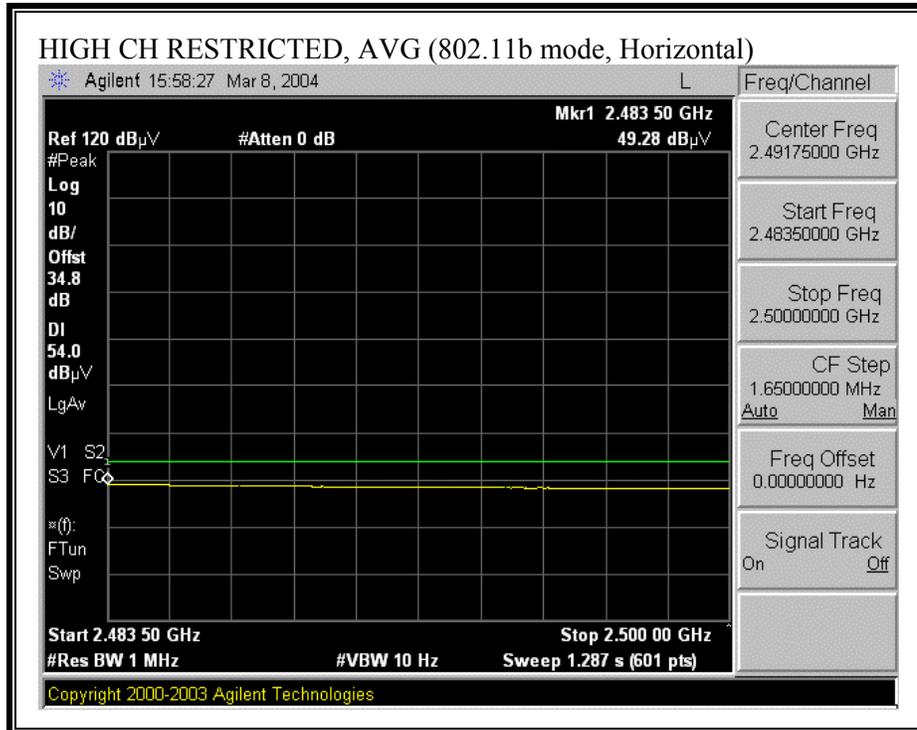
RESTRICTED BANDEDGE (b MODE, LOW CHANNEL, VERTICAL)



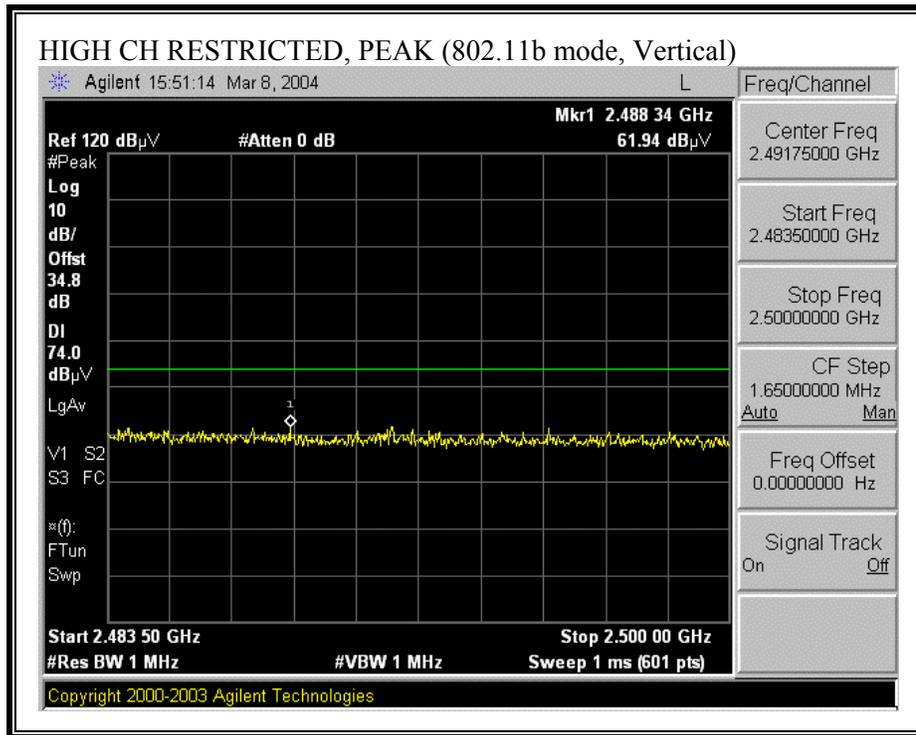


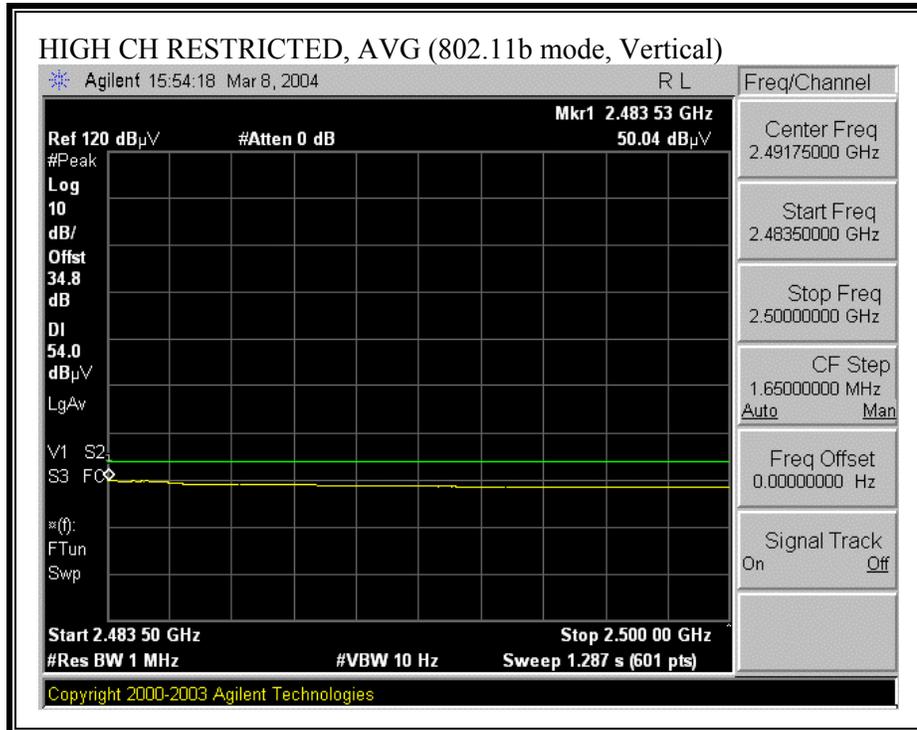
RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (b MODE, HIGH CHANNEL, VERTICAL)





HARMONICS AND SPURIOUS EMISSIONS (b MODE)

03/09/04 High Frequency Measurement
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Thanh Nguyen
 Project #: 04I2547
 Company: SONY Corporation (TOKYO)
 EUT Descr.: Wireless LAN PC Card (FCC ID: AK8PCWA800S)
 EUT M/N: PCWA-C800S (FCC ID: AK8PCWAC800S)
 Test Target: FCC Part 15.247&14.407 Class II Change
 Mode Oper: Transmitting b Mode.

Test Equipment:

EMCO Horn 1-18GHz	Spectrum Analyzer	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz
TI19; S/N: 29301 @1m	Agilent E4446A Analyzer	T34 HP 8449B		

Hi Frequency Cables
 (2 ft) (2 ~ 3 ft) (4 ~ 6 ft) (12 ft)

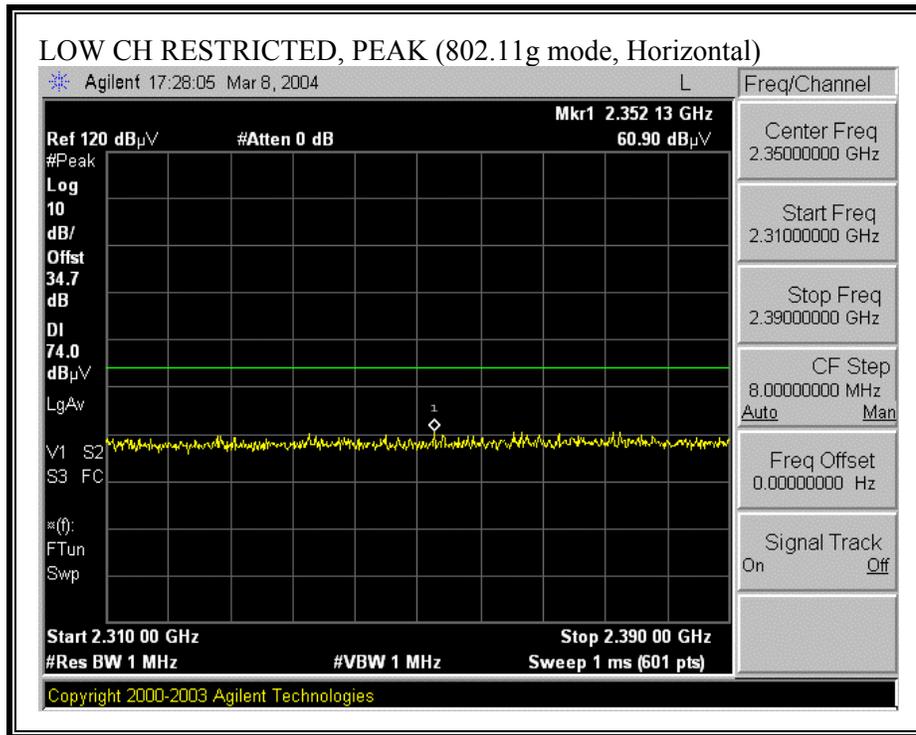
Peak Measurements:
 1 MHz Resolution Bandwidth
 1MHz Video Bandwidth

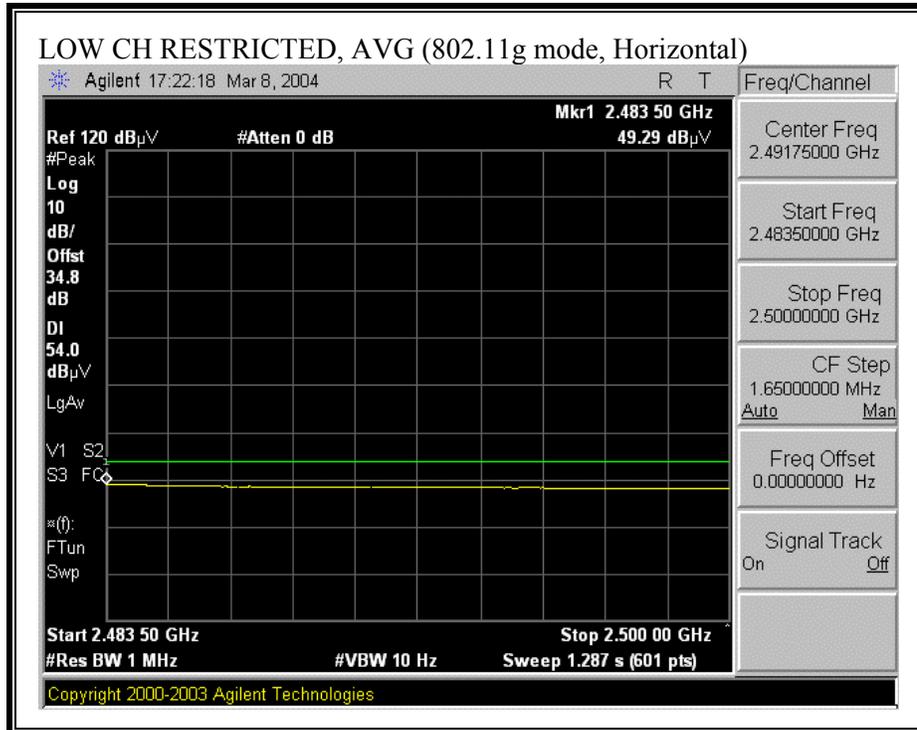
Average Measurements:
 1 MHz Resolution Bandwidth
 10Hz Video Bandwidth

f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
Tx b Mode															
Low Channel harmonics															
4.824	9.8	44.1	30.5	35.0	3.2	-34.5	0.0	1.0	48.8	35.2	74.0	54.0	-25.2	-18.8	V
12.059	9.8	41.0	30.3	39.6	5.5	-32.7	0.0	1.0	54.4	43.6	74.0	54.0	-19.6	-10.4	Noise Floor
4.874	9.8	41.4	30.6	35.0	3.3	-34.4	0.0	1.0	46.2	35.4	74.0	54.0	-27.8	-18.6	Noise Floor/H
No more spurious above 2nd Harmonic															
Mid Channel Harmonics															
4.874	9.8	43.1	32.3	35.0	3.3	-34.4	0.0	1.0	47.9	37.0	74.0	54.0	-26.1	-17.0	H
7.311	9.8	41.4	31.4	36.7	4.1	-33.8	0.0	1.0	49.3	39.3	74.0	54.0	-24.7	-14.7	Noise Floor
4.874	9.8	45.2	39.1	35.0	3.3	-34.4	0.0	1.0	50.0	43.9	74.0	54.0	-24.0	-10.1	V
7.310	9.8	45.5	34.7	36.7	4.1	-33.8	0.0	1.0	53.4	42.7	74.0	54.0	-20.6	-11.3	V
No more spurious emissions above 3rd Harmonic.															
High Channel Harmonics															
4.924	9.8	45.6	37.1	35.0	3.3	-34.4	0.0	1.0	50.4	41.9	74.0	54.0	-23.6	-12.1	V
7.386	9.8	42.7	31.1	36.7	4.2	-33.8	0.0	1.0	50.6	39.1	74.0	54.0	-23.4	-14.9	Noise Floor
4.924	9.8	42.5	30.9	35.0	3.3	-34.4	0.0	1.0	47.4	35.8	74.0	54.0	-26.6	-18.2	Noise Floor
No more spurious emissions above 2nd Harmonic.															
Spurious Emissions															
1.005	9.8	53.5	36.1	28.6	1.4	-37.3	0.0	1.0	47.2	29.9	74.0	54.0	-26.8	-24.1	H
1.100	9.8	53.6	36.3	28.7	1.5	-37.1	0.0	1.0	47.6	30.2	74.0	54.0	-26.4	-23.8	H
1.154	9.8	53.0	36.1	28.7	1.5	-37.1	0.0	1.0	47.1	30.2	74.0	54.0	-26.9	-23.8	H
1.005	9.8	53.9	35.5	28.6	1.4	-37.3	0.0	1.0	47.6	29.3	74.0	54.0	-26.4	-24.7	V
1.034	9.8	54.7	36.3	28.6	1.5	-37.2	0.0	1.0	48.5	30.1	74.0	54.0	-25.5	-23.9	V
1.096	9.8	54.5	36.2	28.7	1.5	-37.1	0.0	1.0	48.5	30.2	74.0	54.0	-25.5	-23.8	V
1.154	9.8	53.3	36.6	28.7	1.5	-37.1	0.0	1.0	47.5	30.7	74.0	54.0	-26.5	-23.3	H
No more spurious Emissions was detected .															

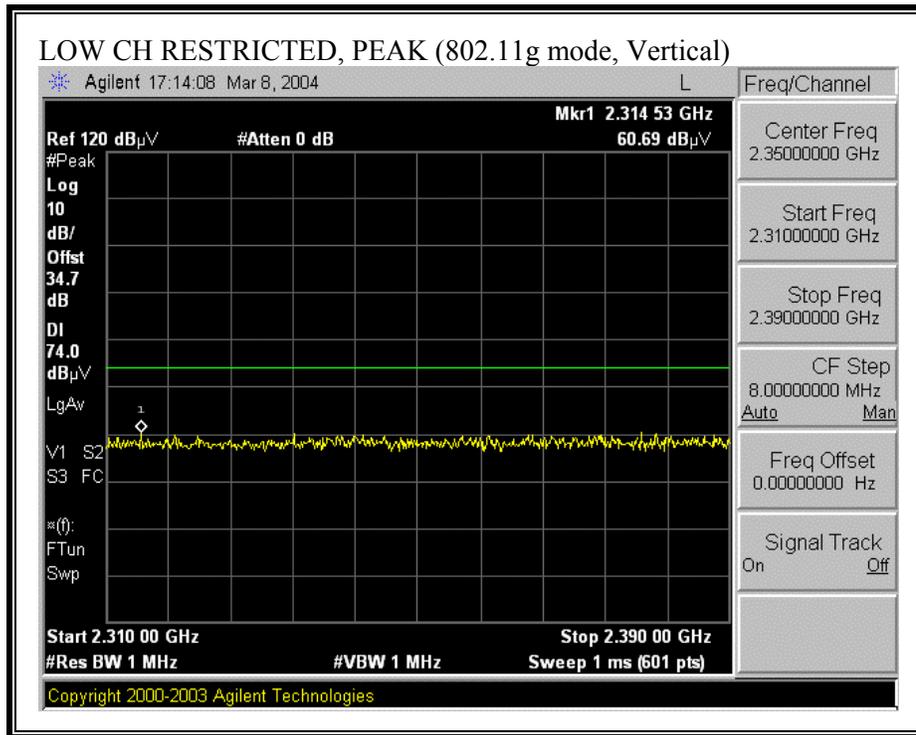
f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

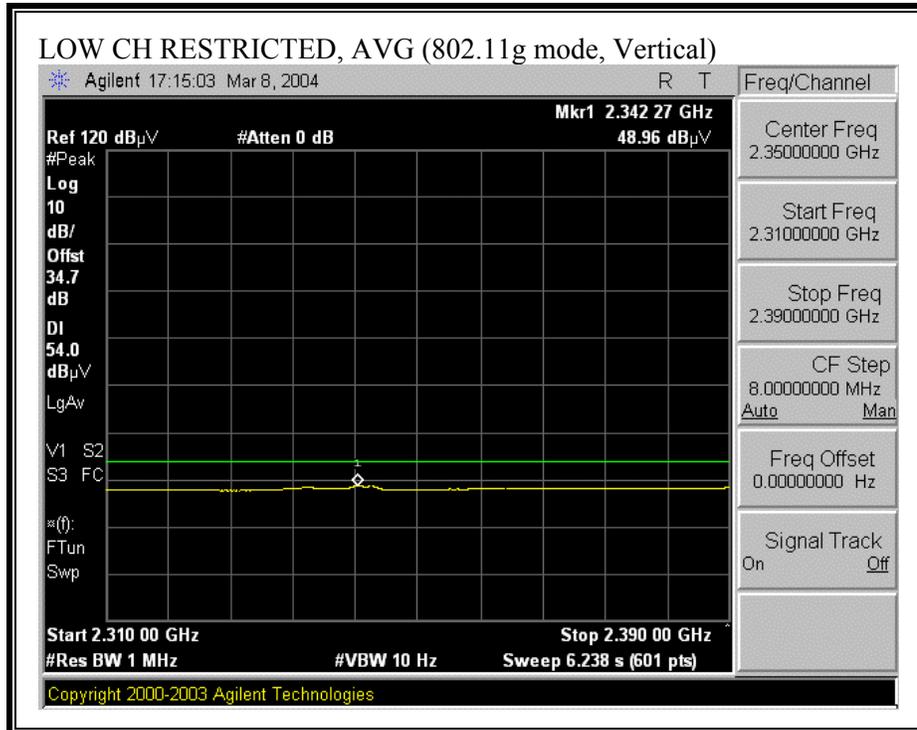
RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, HORIZONTAL)



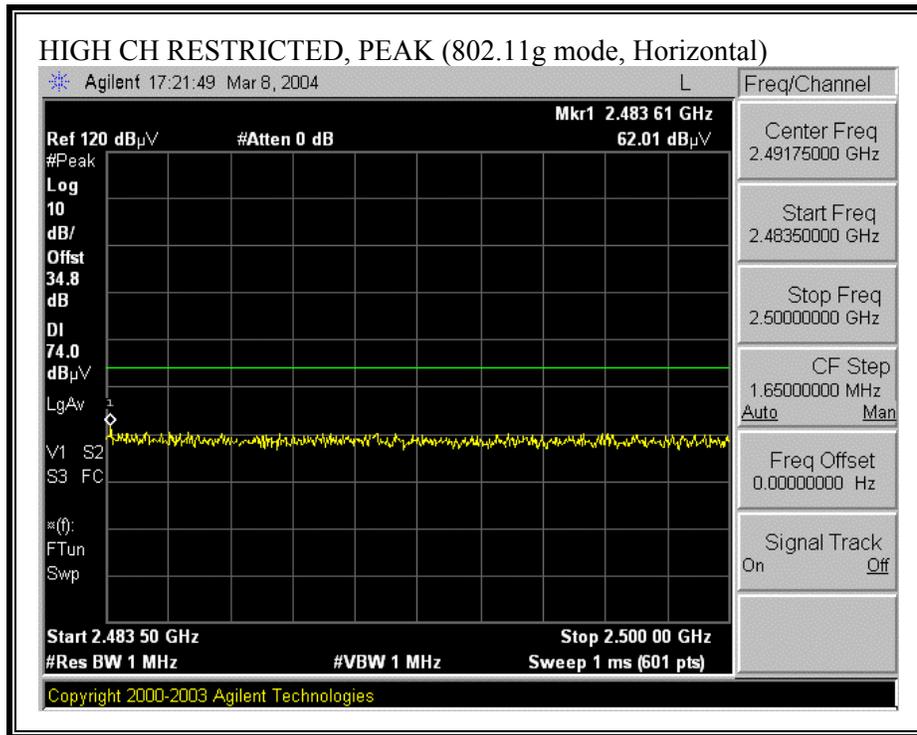


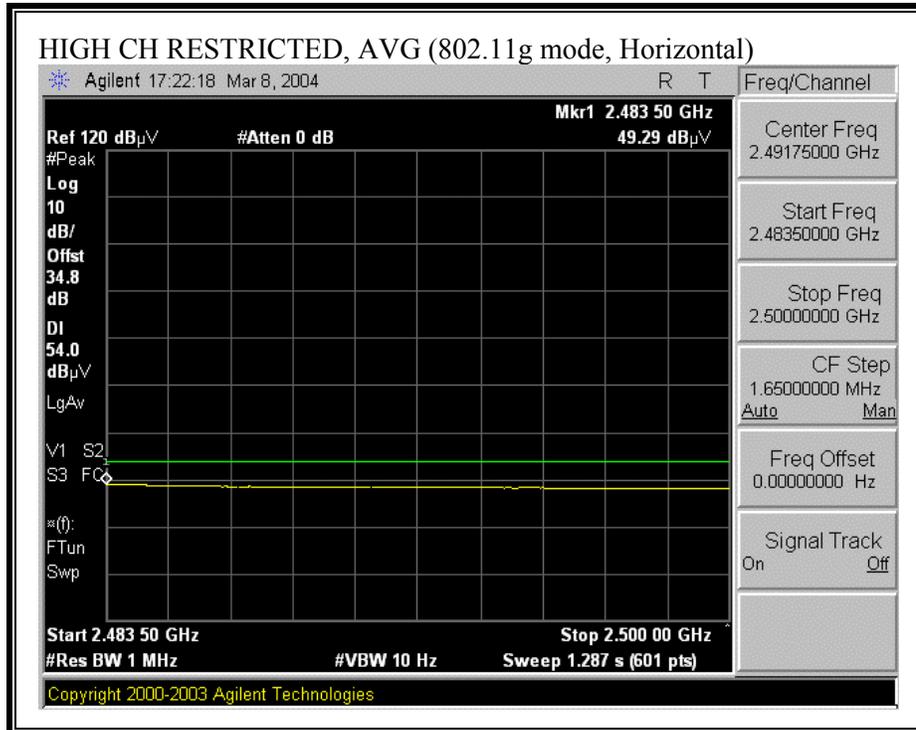
RESTRICTED BANDEDGE (g MODE, LOW CHANNEL, VERTICAL)



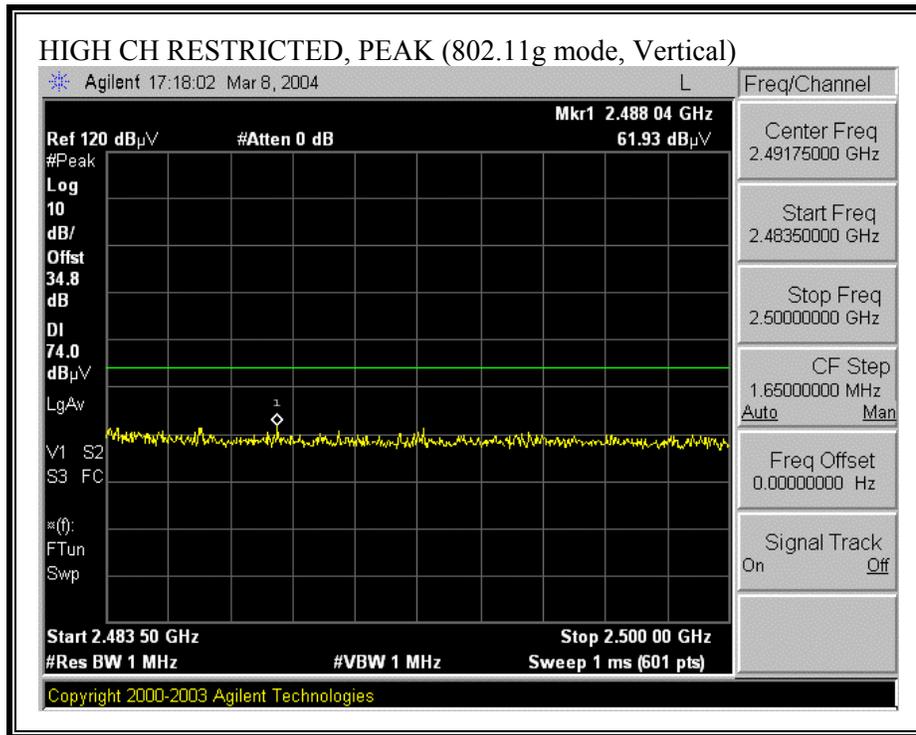


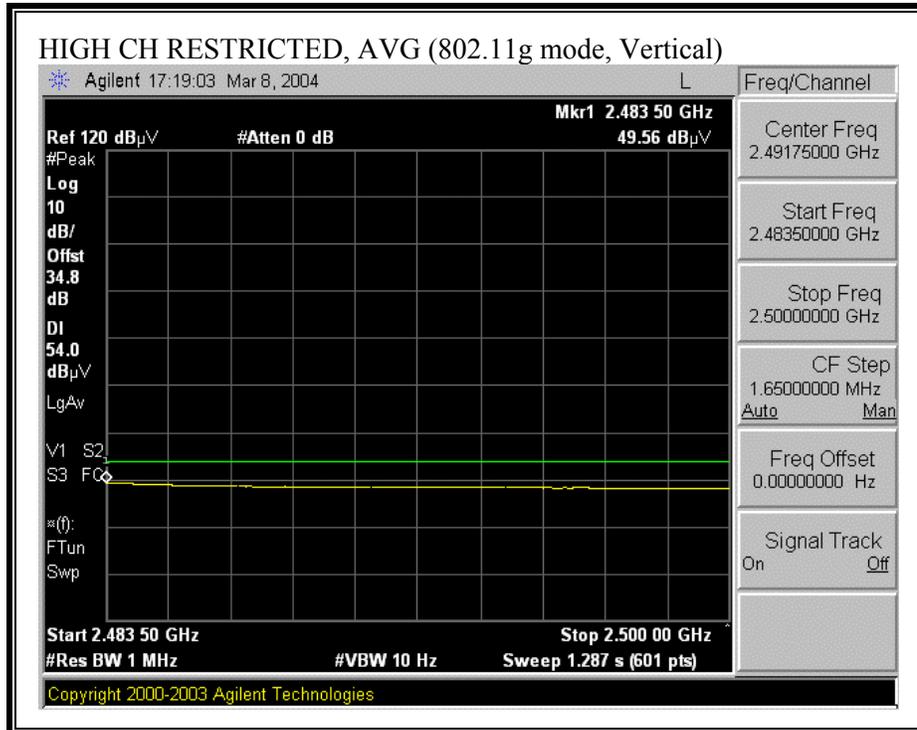
RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (g MODE, HIGH CHANNEL, VERTICAL)





HARMONICS AND SPURIOUS EMISSIONS (g MODE)

03/09/04 **High Frequency Measurement**
 Compliance Certification Services, Morgan Hill Open Field Site

Test Engr: Thanh Nguyen
 Project #: 04I2547
 Company: SONY Corporation (TOKYO)
 EUT Descr.: Wireless LAN PC Card (FCC ID: AK8PCWA800S)
 EUT M/N: PCWA-C800S
 Test Target: FCC Part 15.247&14.407 Class II Change
 Mode Oper: Transmitting g Mode.

Test Equipment:

EMCO Horn 1-18GHz	Spectrum Analyzer	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz
T119; S/N: 29301 @1m	Agilent E4446A Analyzer	T34 HP 8449B		

Hi Frequency Cables
 (2 ft) (2 ~ 3 ft) (4 ~ 6 ft) (12 ft)

Peak Measurements:
 1 MHz Resolution Bandwidth
 1MHz Video Bandwidth

Average Measurements:
 1 MHz Resolution Bandwidth
 10Hz Video Bandwidth

f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes
Tx g Mode															
Low Channel harmonics															
4.824	9.8	44.1	30.5	35.0	3.2	-34.5	0.0	1.0	48.8	35.2	74.0	54.0	-25.2	-18.8	Noise Floor
No harmonics Emissions was detected above 2nd Harmonics for all channels both Vertical and Horizontal mast antenna															
Spurious Emissions															
1.005	9.8	53.5	36.1	28.6	1.4	-37.3	0.0	1.0	47.2	29.9	74.0	54.0	-26.8	-24.1	H
1.100	9.8	53.6	36.3	28.7	1.5	-37.1	0.0	1.0	47.6	30.2	74.0	54.0	-26.4	-23.8	H
1.154	9.8	53.0	36.1	28.7	1.5	-37.1	0.0	1.0	47.1	30.2	74.0	54.0	-26.9	-23.8	H
1.005	9.8	53.9	35.5	28.6	1.4	-37.3	0.0	1.0	47.6	29.3	74.0	54.0	-26.4	-24.7	V
1.034	9.8	54.7	36.3	28.6	1.5	-37.2	0.0	1.0	48.5	30.1	74.0	54.0	-25.5	-23.9	V
1.096	9.8	54.5	36.2	28.7	1.5	-37.1	0.0	1.0	48.5	30.2	74.0	54.0	-25.5	-23.8	V
1.154	9.8	53.3	36.6	28.7	1.5	-37.1	0.0	1.0	47.5	30.7	74.0	54.0	-26.5	-23.3	H
No more spurious Emissions was detected.															

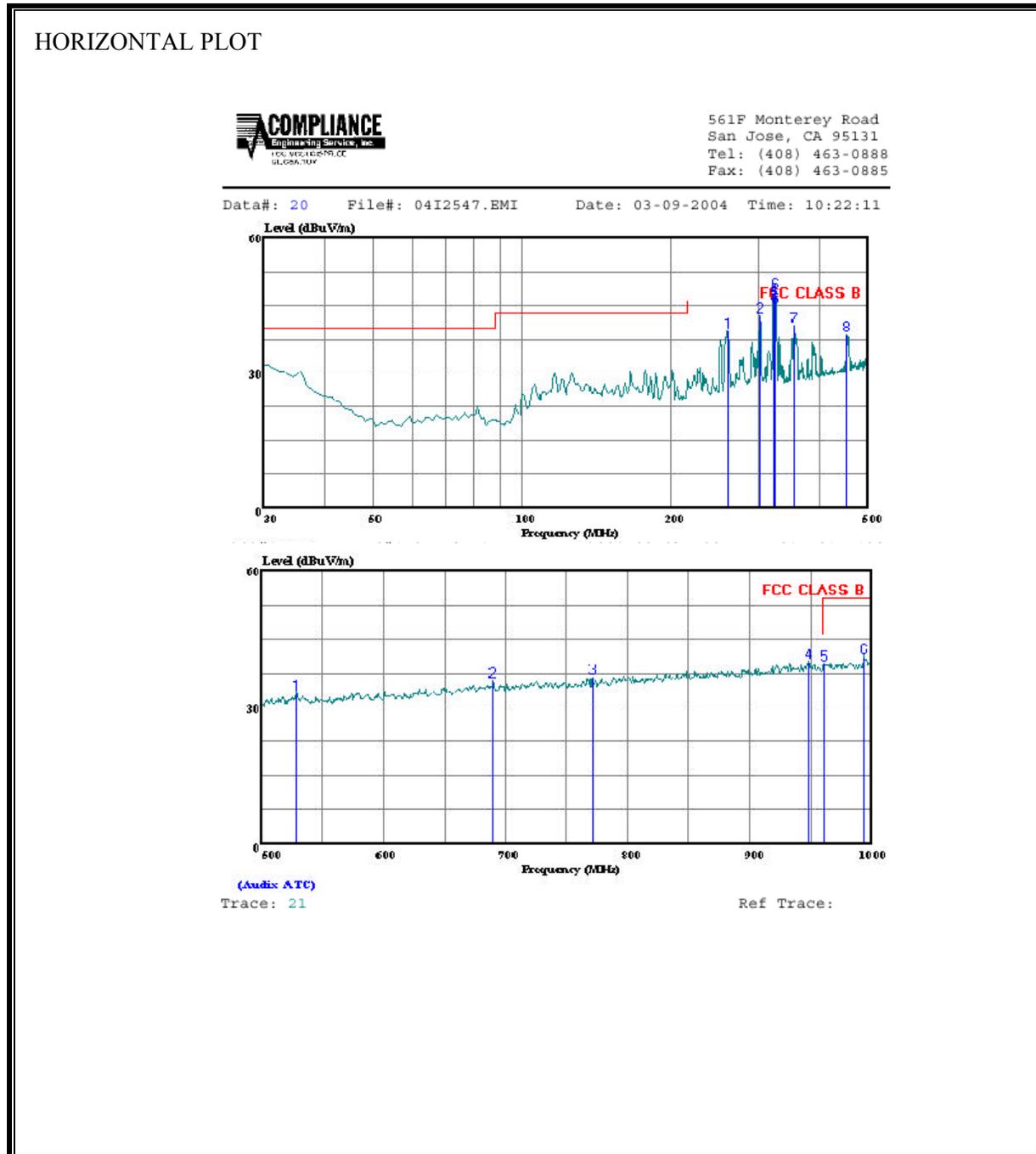
f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter		

HARMONICS AND SPURIOUS EMISSIONS (g TURBO MODE)

03/09/04 High Frequency Measurement Compliance Certification Services, Morgan Hill Open Field Site Test Engr: Thanh Nguyen Project #: 04I2547 Company: SONY Corporation (TOKYO) EUT Descr.: Wireless LAN PC Card (FCC ID: AK8PCWA800S) EUT M/N: PCWA-C800S Test Target: FCC Part 15.247&14.407 Class II Change Mode Oper: Transmitting g Turbo Mode. Test Equipment: <table style="width: 100%; border: none;"> <tr> <td style="border: 1px solid black; padding: 2px;">EMCO Horn 1-18GHz T119; S/N: 29301 @1m</td> <td style="border: 1px solid black; padding: 2px;">Spectrum Analyzer Agilent E4446A Analyzer</td> <td style="border: 1px solid black; padding: 2px;">Pre-amplifier 1-26GHz T34 HP 8449B</td> <td style="border: 1px solid black; padding: 2px;">Pre-amplifier 26-40GHz</td> <td style="border: 1px solid black; padding: 2px;">Horn > 18GHz</td> </tr> </table> <p>Hi Frequency Cables <input checked="" type="checkbox"/> (2 ft) <input type="checkbox"/> (2 ~ 3 ft) <input type="checkbox"/> (4 ~ 6 ft) <input checked="" type="checkbox"/> (12 ft)</p> <p>Peak Measurements: 1 MHz Resolution Bandwidth 1MHz Video Bandwidth</p> <p>Average Measurements: 1 MHz Resolution Bandwidth 10Hz Video Bandwidth</p>																EMCO Horn 1-18GHz T119; S/N: 29301 @1m	Spectrum Analyzer Agilent E4446A Analyzer	Pre-amplifier 1-26GHz T34 HP 8449B	Pre-amplifier 26-40GHz	Horn > 18GHz																									
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f GHz	Dist feet	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	HPF	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes																														
Tx g Turbo Mode																																													
MID Channel, harmonics																																													
4.874	9.8	44.1	30.5	35.0	3.3	-34.4	0.0	1.0	48.9	35.3	74.0	54.0	-25.1	-18.7	Noise Floor																														
No harmonics Emissions was detected above 2nd Harmonics both Vertical and Horizontal mast antenna																																													
Spurious Emissions																																													
1.005	9.8	53.5	36.1	28.6	1.4	-37.3	0.0	1.0	47.2	29.9	74.0	54.0	-26.8	-24.1	H																														
1.100	9.8	53.6	36.3	28.7	1.5	-37.1	0.0	1.0	47.6	30.2	74.0	54.0	-26.4	-23.8	H																														
1.154	9.8	53.0	36.1	28.7	1.5	-37.1	0.0	1.0	47.1	30.2	74.0	54.0	-26.9	-23.8	H																														
1.005	9.8	53.9	35.5	28.6	1.4	-37.3	0.0	1.0	47.6	29.3	74.0	54.0	-26.4	-24.7	V																														
1.034	9.8	54.7	36.3	28.6	1.5	-37.2	0.0	1.0	48.5	30.1	74.0	54.0	-25.5	-23.9	V																														
1.096	9.8	54.5	36.2	28.7	1.5	-37.1	0.0	1.0	48.5	30.2	74.0	54.0	-25.5	-23.8	V																														
1.154	9.8	53.3	36.6	28.7	1.5	-37.1	0.0	1.0	47.5	30.7	74.0	54.0	-26.5	-23.3	H																														
No more spurious Emissions was detected.																																													
<table style="width: 100%; border: none;"> <tr> <td>f</td><td>Measurement Frequency</td><td>Amp</td><td>Preamp Gain</td><td>Avg Lim</td><td>Average Field Strength Limit</td></tr> <tr> <td>Dist</td><td>Distance to Antenna</td><td>D Corr</td><td>Distance Correct to 3 meters</td><td>Pk Lim</td><td>Peak Field Strength Limit</td></tr> <tr> <td>Read</td><td>Analyzer Reading</td><td>Avg</td><td>Average Field Strength @ 3 m</td><td>Avg Mar</td><td>Margin vs. Average Limit</td></tr> <tr> <td>AF</td><td>Antenna Factor</td><td>Peak</td><td>Calculated Peak Field Strength</td><td>Pk Mar</td><td>Margin vs. Peak Limit</td></tr> <tr> <td>CL</td><td>Cable Loss</td><td>HPF</td><td>High Pass Filter</td><td></td><td></td></tr> </table>																f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit	Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit	Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit	AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit	CL	Cable Loss	HPF	High Pass Filter		
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7.1.3. WORST-CASE RADIATED EMISSIONS BELOW 1 GHz

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



HORIZONTAL DATA

Condition: FCC CLASS B HORIZONTAL
 Test Operator: : THANH NGUYEN
 Project #: : 04I2547
 Company: : SONY Corporation (TOKYO)
 EUT: : Wireless LAN PC Card
 Model No: : PCWA-C800S (FCC ID: AK8PCWAC800S)
 Configuration: : EUT on the Ultra Slim LAPTOP
 Target of Test: : FCC Class B
 Mode of Operation: Tx worst case

Page: 1

	Freq	Remark	Read Level	Factor	Level	Limit Line	Over Limit
	MHz		dBuV	dB	dBuV/m	dBuV/m	dB
1	260.300	Peak	24.61	14.58	39.19	46.00	-6.81
2	302.130	Peak	26.61	15.97	42.58	46.00	-3.42
3	321.870	QP	29.10	16.26	45.36	46.00	-0.64
4 *	321.870	Peak	30.42	16.27	46.69	46.00	0.69
5	325.630	QP	28.21	16.39	44.60	46.00	-1.40
6 *	325.630	Peak	31.74	16.39	48.13	46.00	2.13
7	353.830	Peak	23.61	16.97	40.57	46.00	-5.43
1	528.000	Peak	12.11	20.98	33.09	46.00	-12.91
2	689.500	Peak	12.28	23.46	35.74	46.00	-10.26
3	771.000	Peak	12.32	24.41	36.73	46.00	-9.27
4	948.000	Peak	13.05	26.88	39.92	46.00	-6.08
5	961.500	Peak	12.48	27.02	39.50	54.00	-14.51
6	994.000	Peak	13.47	27.50	40.97	54.00	-13.03

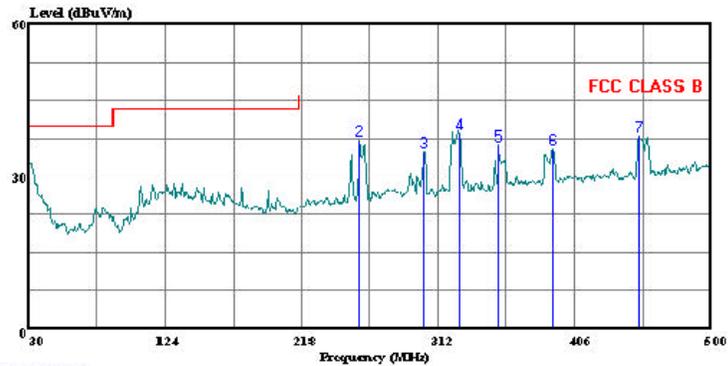
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



561F Monterey Road
San Jose, CA 95131
Tel: (408) 463-0888
Fax: (408) 463-0885

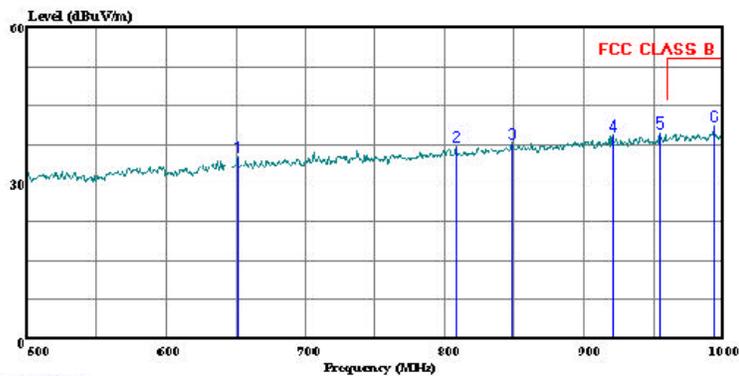
Data#: 39 File#: 04i2547.emi Date: 03-09-2004 Time: 11:12:24



(Auxix ATC)
Trace: 38

Ref Trace:

Data#: 37 File#: 04i2547.emi Date: 03-09-2004 Time: 11:08:47



(Auxix ATC)
Trace: 36

Ref Trace:

VERTICAL DATA

Condition: FCC CLASS B VERTICAL
 Test Operator: : THANH NGUYEN
 Project #: : 04I2547
 Company: : SONY Corporation (TOKYO)
 EUT: : Wireless LAN PC Card
 Model No: : PCWA-C800S (FCC ID: AK8PCWAC800S)
 Configuration: : EUT on the ULtra Slim LAPTOP
 Target of Test: : FCC Class B
 Mode of Operation: Tx worst case

	Freq	Remark	Read		Limit		Over
			Level	Factor	Level	Line	
	MHz		dBuV	dB	dBuV/m	dBuV/m	dB
1	30.470	Peak	9.75	22.95	32.70	40.00	-7.30
2	257.480	Peak	22.63	14.45	37.09	46.00	-8.91
3	302.130	Peak	18.85	15.97	34.82	46.00	-11.18
4	326.100	Peak	22.04	16.39	38.43	46.00	-7.57
5	353.830	Peak	19.11	16.97	36.07	46.00	-9.93
1	651.000	Peak	12.07	22.95	35.02	46.00	-10.98
2	808.500	Peak	12.09	25.09	37.18	46.00	-8.82
3	849.000	Peak	12.05	25.51	37.56	46.00	-8.44
4	921.000	Peak	12.43	26.73	39.16	46.00	-6.84
5	954.500	Peak	12.69	26.94	39.63	46.00	-6.37
6	993.500	Peak	13.54	27.49	41.03	54.00	-12.97

7.2. 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.

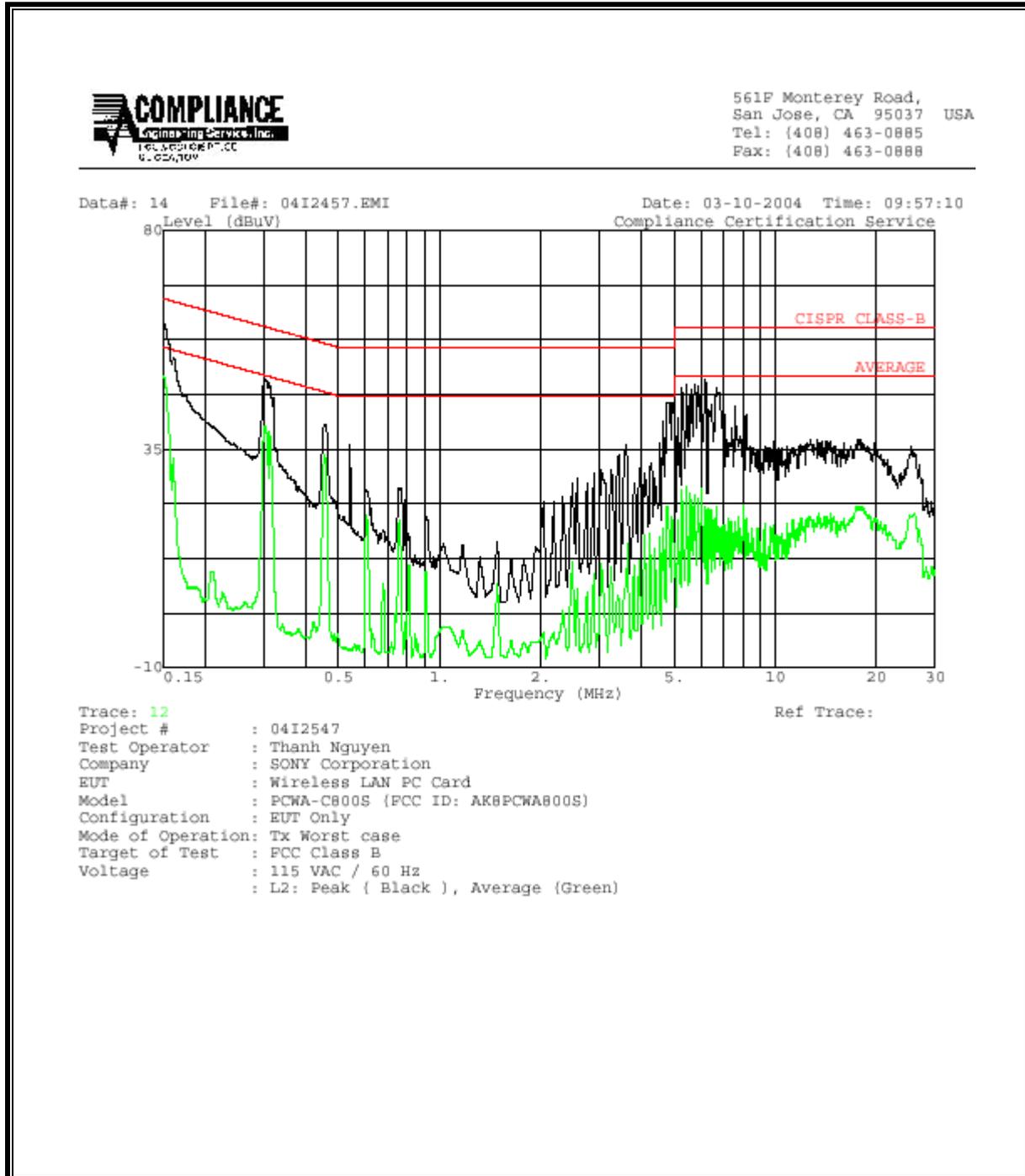
RESULTS

No non-compliance noted:

6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	EN_B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.15	57.36	--	33.77	0.00	66.00	56.00	-8.64	-22.23	L1
0.28	51.92	--	40.98	0.00	62.37	52.37	-10.45	-11.39	L1
6.73	49.06	--	22.43	0.00	60.00	50.00	-10.94	-27.57	L1
0.15	61.24	--	50.15	0.00	66.00	56.00	-4.76	-5.85	L2
0.30	49.62	--	39.88	0.00	61.71	51.71	-12.09	-11.83	L2
6.19	49.50	--	26.91	0.00	60.00	50.00	-10.50	-23.09	L2
6 Worst Data									

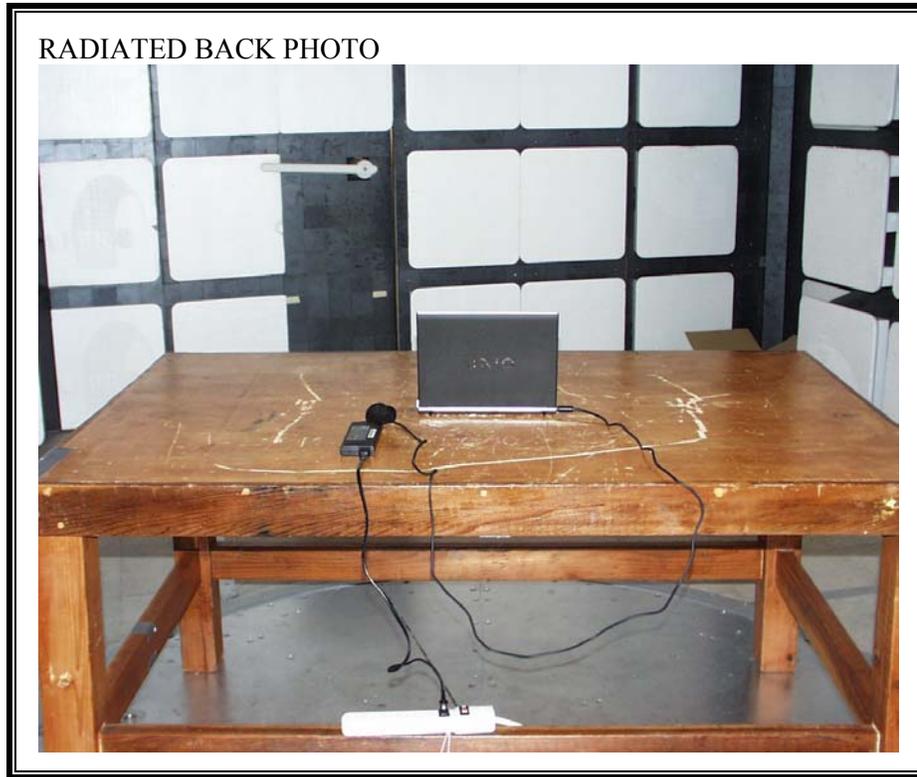
LINE 2 RESULTS



8. SETUP PHOTOS

RADIATED RF MEASUREMENT SETUP





POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP





END OF REPORT