



**FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 7**

CERTIFICATION TEST REPORT

FOR

WIRELESS LAN MODULE

MODEL NUMBER: DWM-W015

**FCC ID: EW4DWMW015
IC: 4250A-DWMW015**

REPORT NUMBER: 08J12039-1

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Prepared for
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: MITSUMI ELECTRIC CO., LTD.
1601, SAKAI, ATSUGI-SHI
KANAGAWA, JAPAN

EUT DESCRIPTION: WIRELESS LAN MODULE

MODEL: DWM-W015

802.11 EUT: * Radiated: _ AAAmPP3BG135, Tyco Antenna
_ AAAmPP3EH513, Foxconn Antenna
* Conducted: AAAmPP3CH327

802.11b/g EUT: * Radiated: _ AAAmPP3BG572, Tyco Antenna
_ AAAmPP3EH069, Foxconn Antenna
* Conducted: AAAmPP3CH207

DATE TESTED: AUGUST 24 - 28, 2008

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 7 Annex 8	Pass
INDUSTRY CANADA RSS-GEN Issue 2	Pass

Compliance Certification Services, Inc. (CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by CCS based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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

Approved & Released For CCS By:



THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

Tested By:



VIEN TRAN
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 2, and RSS-210 Issue 7.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Power Line Conducted Emission	+/- 2.3 dB
Radiated Emission	+/- 3.4 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 802.11 and 802.11 b/g portable game machines with Wireless LAN.

The radio module is manufactured by Mitsumi Electric Co., Ltd.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Band (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2472	802.11	2.93	2.0
2412 - 2462	802.11b	7.65	5.8
2412 - 2462	802.11g	12.31	17.0

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two different types of antennas, with a maximum gain of 0.879 dBi for Foxconn antenna (Dipole) and 0.80 dBi for Tyco antenna (PIFA).

5.4. SOFTWARE AND FIRMWARE

For 802.11 EUT: The test utility software that was used was WM TEST.

For 802.11bg EUT: The EUT driver and utility software installed in the host support equipment during testing was Atheros Radio Test 6000, revision 2.2 build #8, V53_mercury.

5.5. WORST-CASE CONFIGURATIONS

The worst-case data rate for each mode is determined to be as follows, based on preliminary tests of the chipset utilized in this radio.

All final tests in the 802.11 mode were made at 2 Mb/s.

All final tests in the 802.11b mode were made at 1 Mb/s.

All final tests in the 802.11g mode were made at 6 Mb/s.

The worst-position was the EUT with highest emissions. To determine the worst-case, the EUT was investigated for X, Y, Z, and mobile position, the worst-position was turned out to be a mobile position.

For AC line conducted and radiated emissions below 1 GHz. To determine the worst-case, the EUT was investigated with four different AC/DC adapters, and the worst-case configuration is turned out to be a Mitsumi AC/DC adapter.

5.6. DESCRIPTION OF TEST SETUP

FOR 802.11 EUT

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST			
Description	Manufacturer	Model	Serial Number
AC Adapter	Mitsumi	WAP-002	Sample #2

I/O CABLES

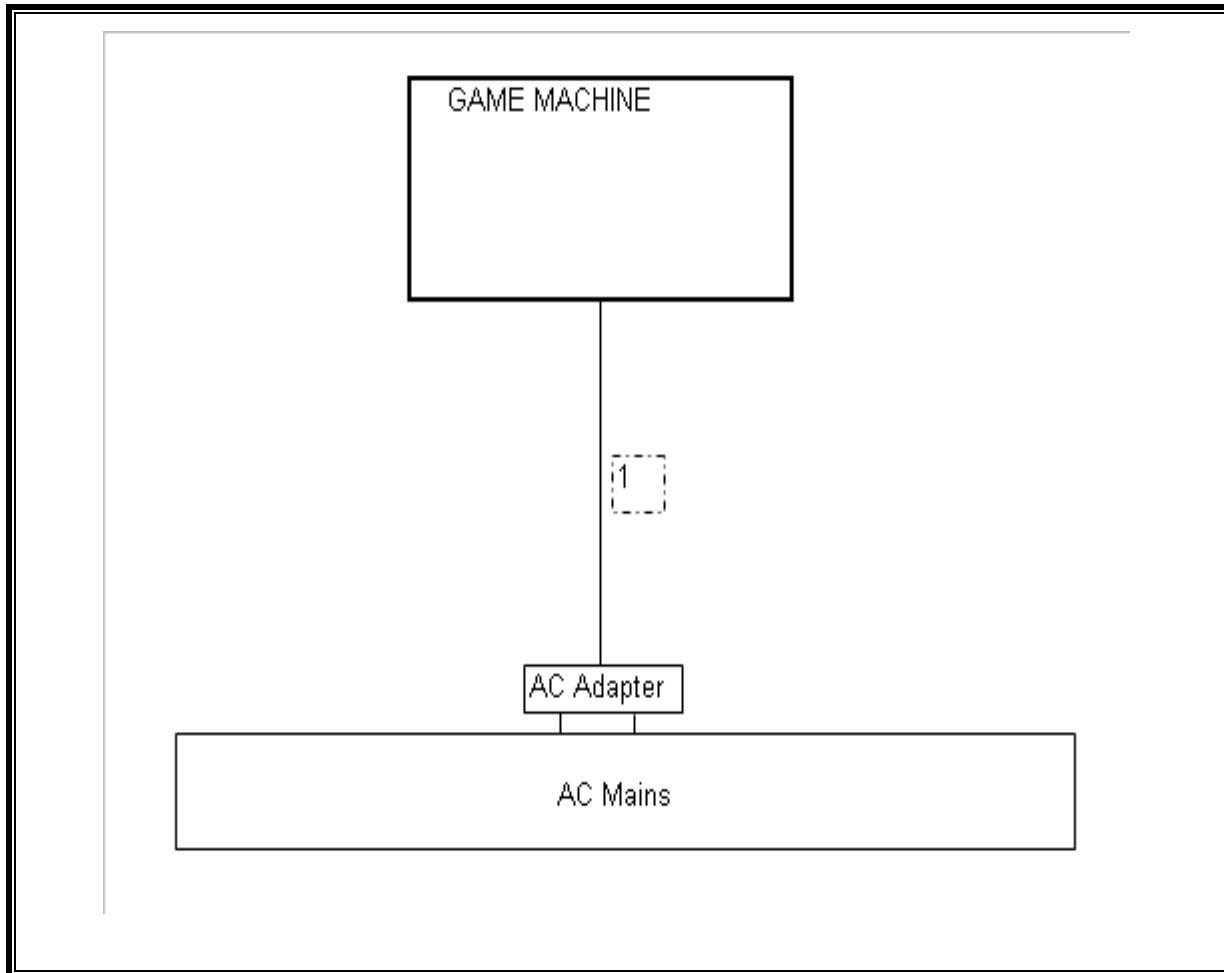
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	DC	1	DC	Un-shileded	1m	2-PRONG

TEST SETUP

The EUT is a stand alone unit during the test. Test software exercised the radio card.

SETUP DIAGRAM FOR TESTS

FOR RADIATED TEST



FOR 802.11b/g EUT

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST			
Description	Manufacturer	Model	Serial Number
Laptop	HP	6710b	CNU80800TB
AC Adapter	HP	PA-1900-18H2	W97950ELLV10VM
EUT AC Adapter	Mitsumi	WAP-002	Sample 2
USB Adapter Board	Nintendo	NA	NA

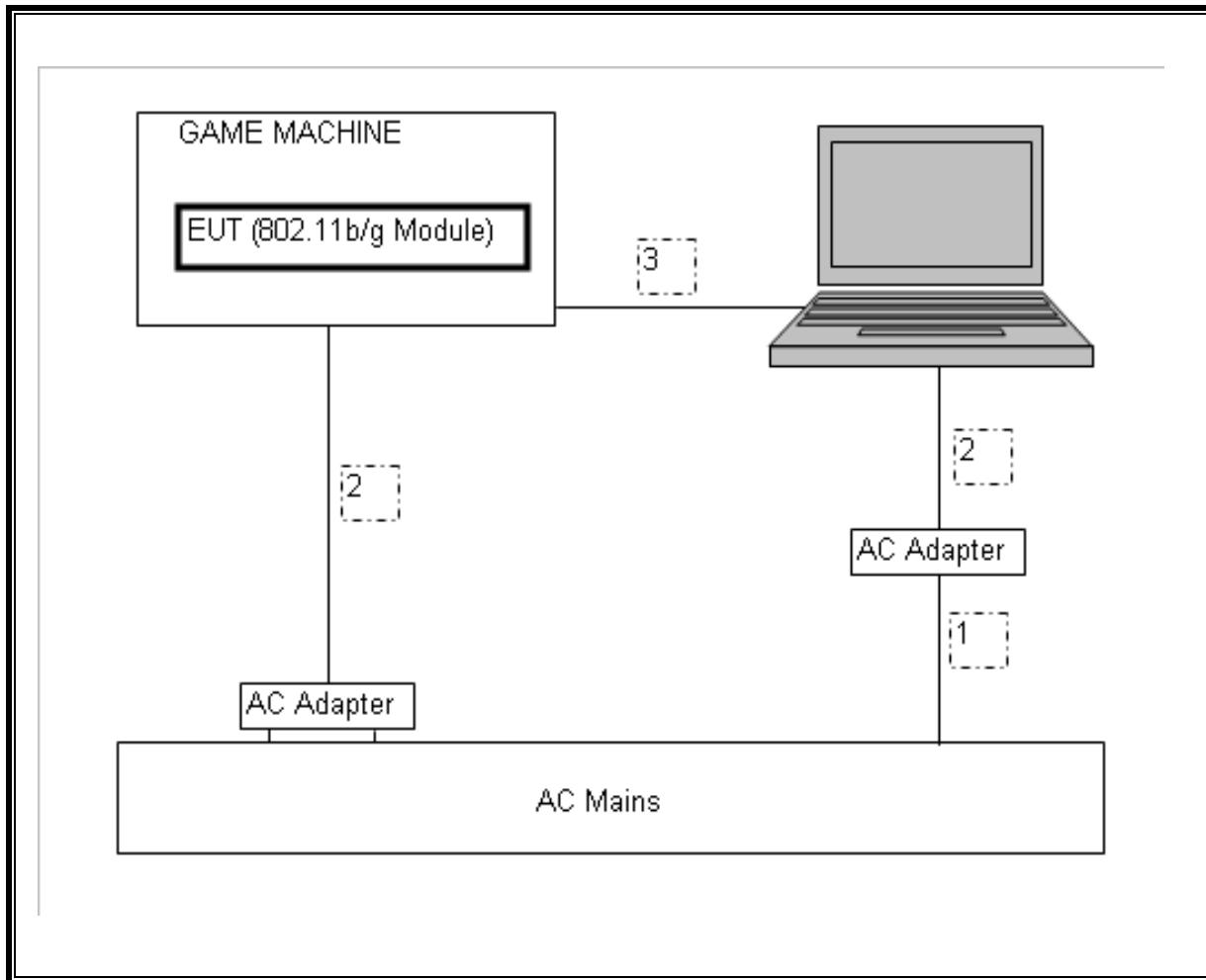
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US 115V	Un-shielded	2m	No
2	DC	2	DC	Un-shielded	2m	No
3	USB	1	USB	Un-shielded	2m	Yes
4	USB	1	SPI-USB	Un-shielded	0.3m	Yes

TEST SETUP

The EUT is connected to a host laptop computer via a USB adapter board during the tests. Test software exercised the radio card.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
EMI Receiver, 2.9 GHz	Agilent / HP	8542E	C00957	06/12/09
RF Filter Section, 2.9 GHz	Agilent / HP	85420E	C00958	06/12/09
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	05/09/09
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	10/25/08
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	N02481	10/25/08
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	01/27/09
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	08/07/09
Antenna, Horn, 18 GHz	ETS	3117	C01006	04/15/09
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	08/03/09
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	10/13/08
Peak Power Meter	Agilent / HP	E4416A	C00963	12/02/08
Peak / Average Power Sensor	Agilent	E9327A	C00964	12/02/08
Antenna, Horn 26 ~ 40 GHz	ARA	MWH-2640/B	C01009	04/13/09
4.0 GHz High Pass Filter	Micro Tronics	HPM13351	N/A	N/A
2.4 - 2.5 Reject Filter	Micro Tronics	BRM50702	N/A	N/A

7. ANTENNA PORT TEST RESULTS

7.1. 802.11 MODE

7.1.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2), IC RSS-210 A8.2 (a) & LP0002 §3.10.1 (6) (6.2.1)
The minimum 6 dB bandwidth shall be at least 500 kHz.

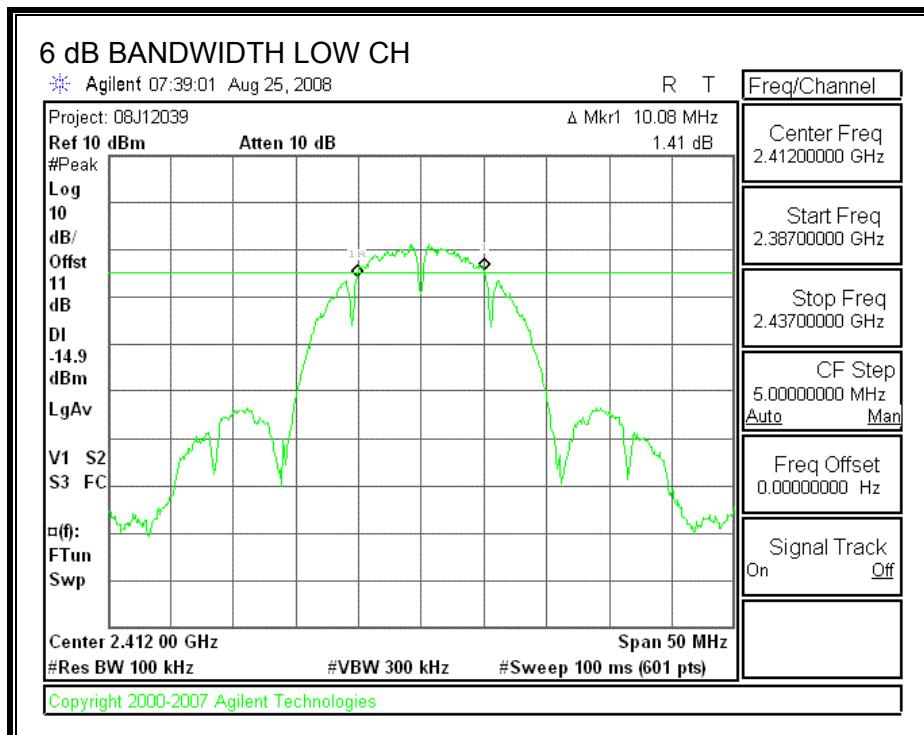
TEST PROCEDURE

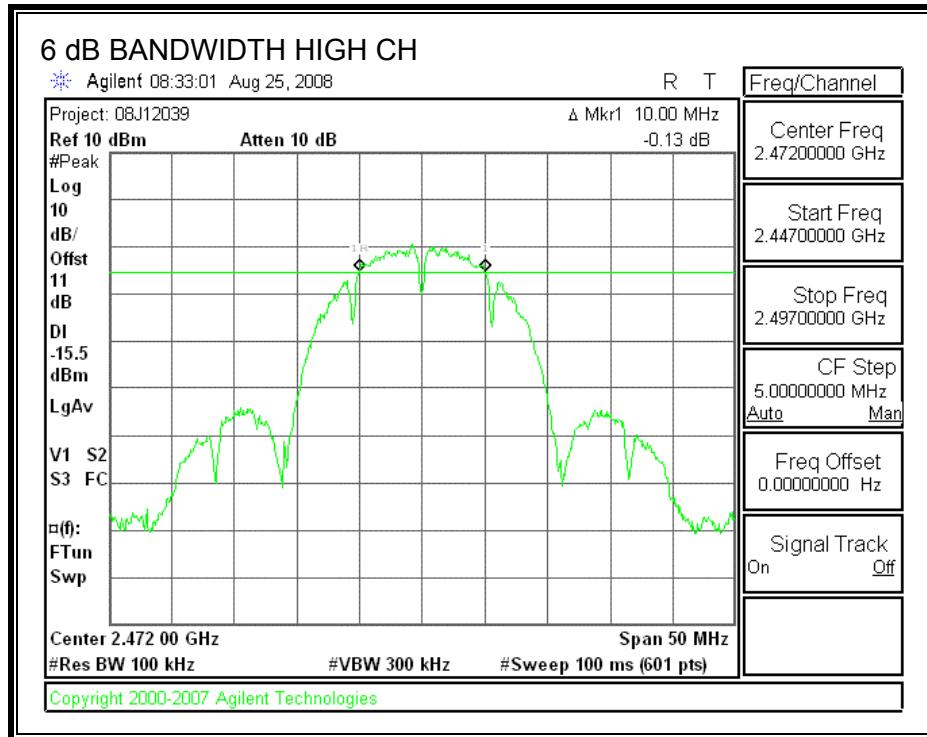
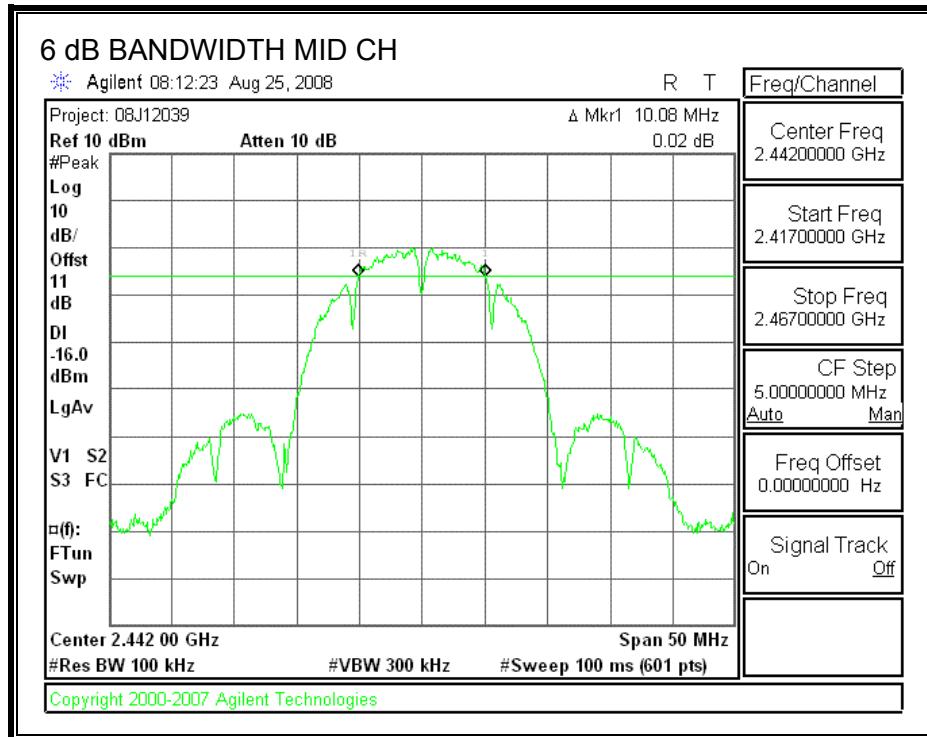
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	10.08	0.5
Middle	2442	10.08	0.5
High	2472	10.00	0.5

6 dB BANDWIDTH





7.1.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

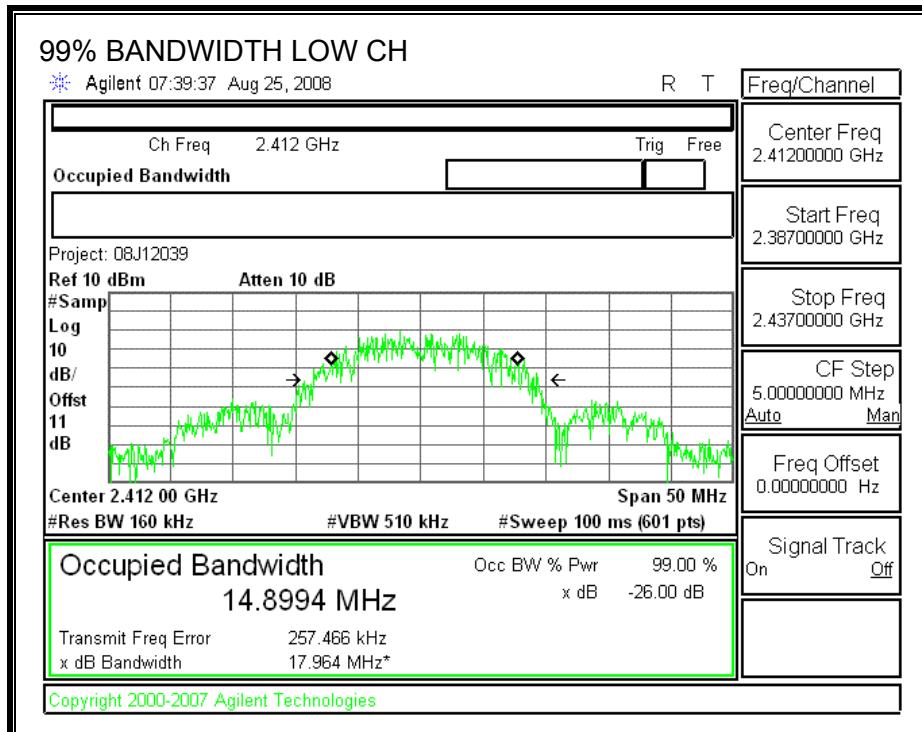
TEST PROCEDURE

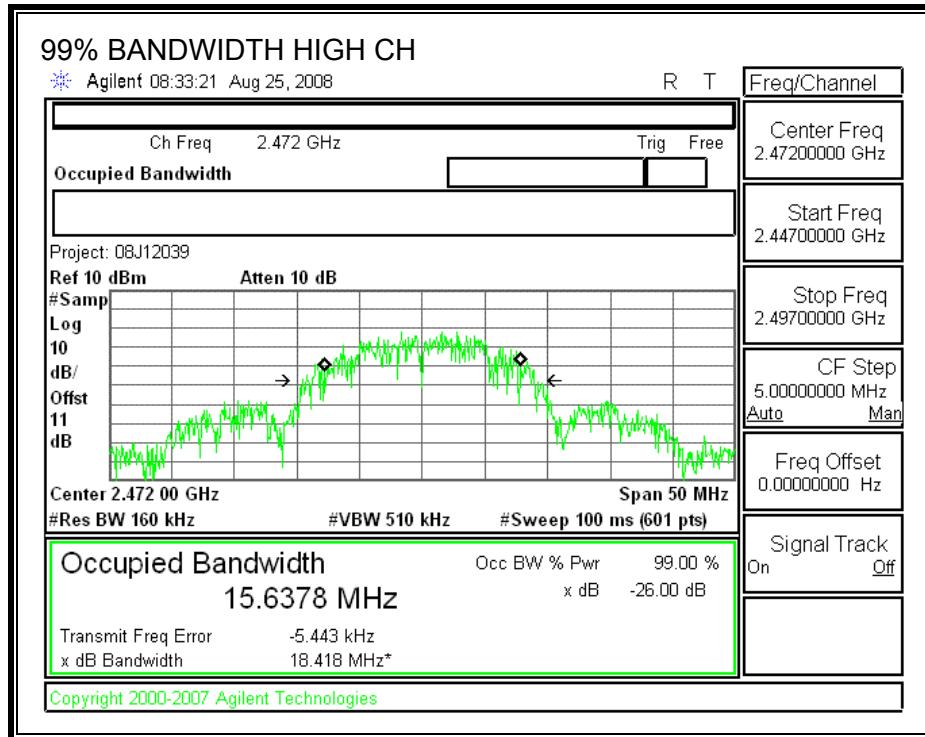
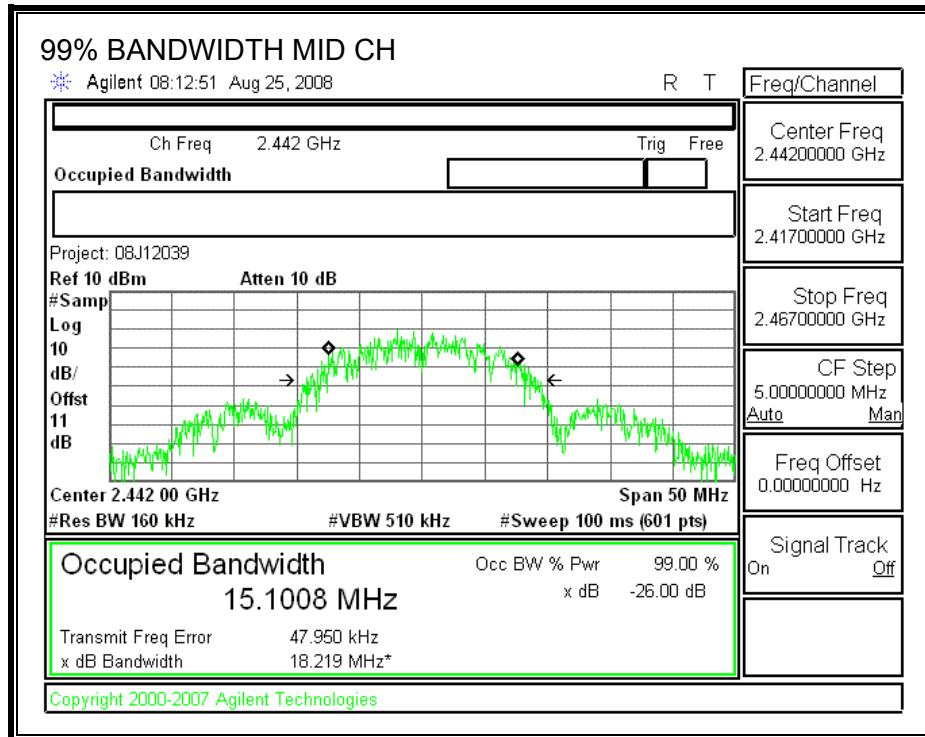
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	14.8994
Middle	2442	15.1008
High	2472	15.6378

99% BANDWIDTH





7.1.3. OUTPUT POWER

LIMITS

FCC §15.247 (b), IC RSS-210 A8.4, LP0002 § 3.10.1 (2) (2.3); (3) (3.1.1)
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

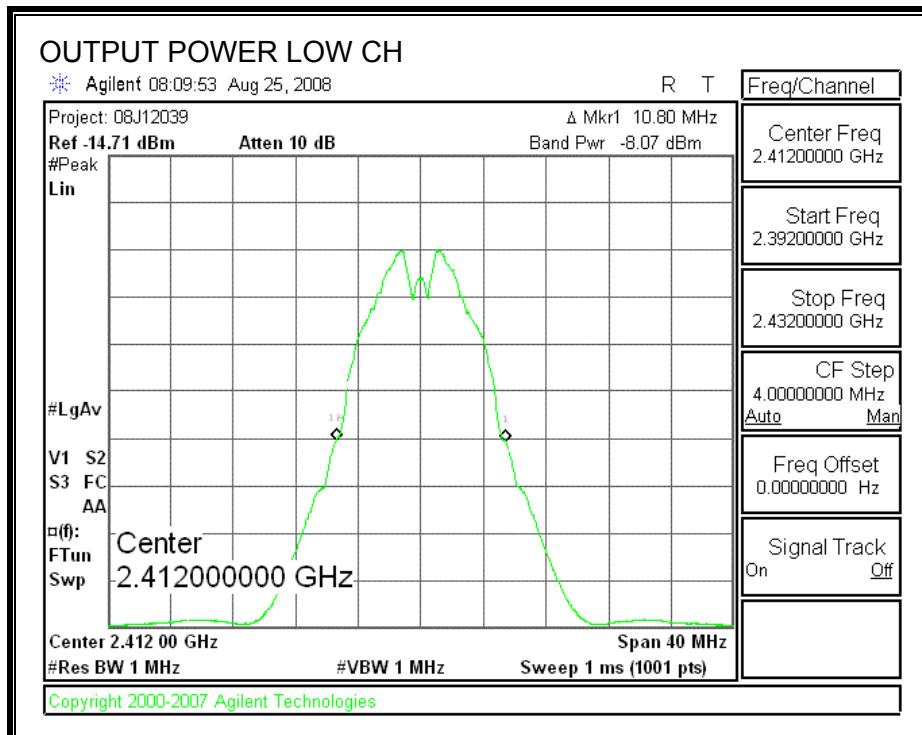
Peak power is measured using the Channel bandwidth Alternative peak output power procedure

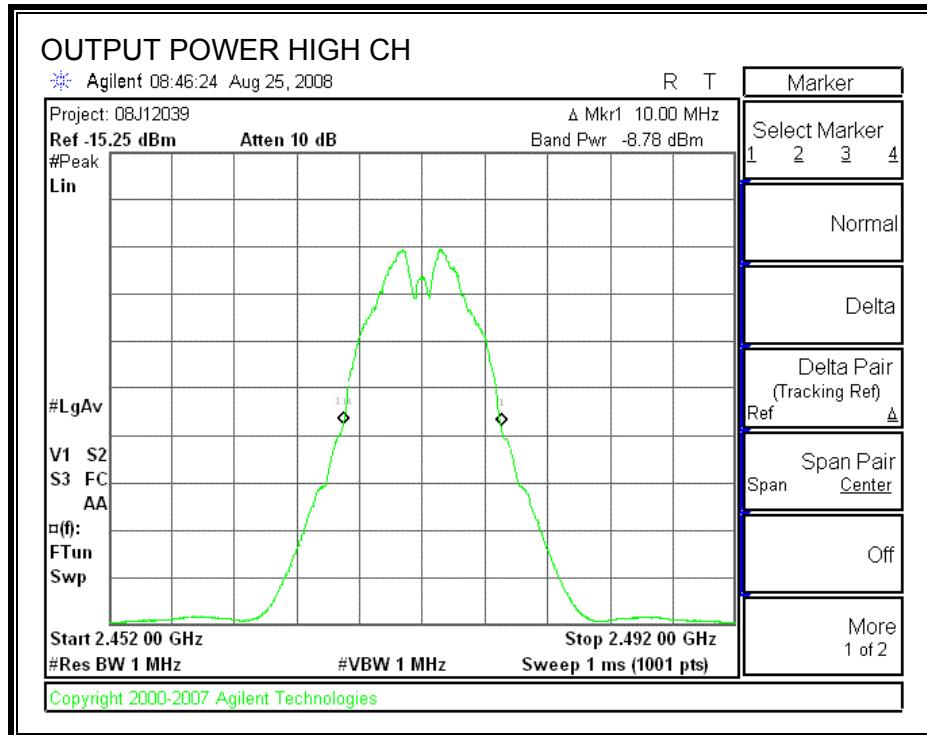
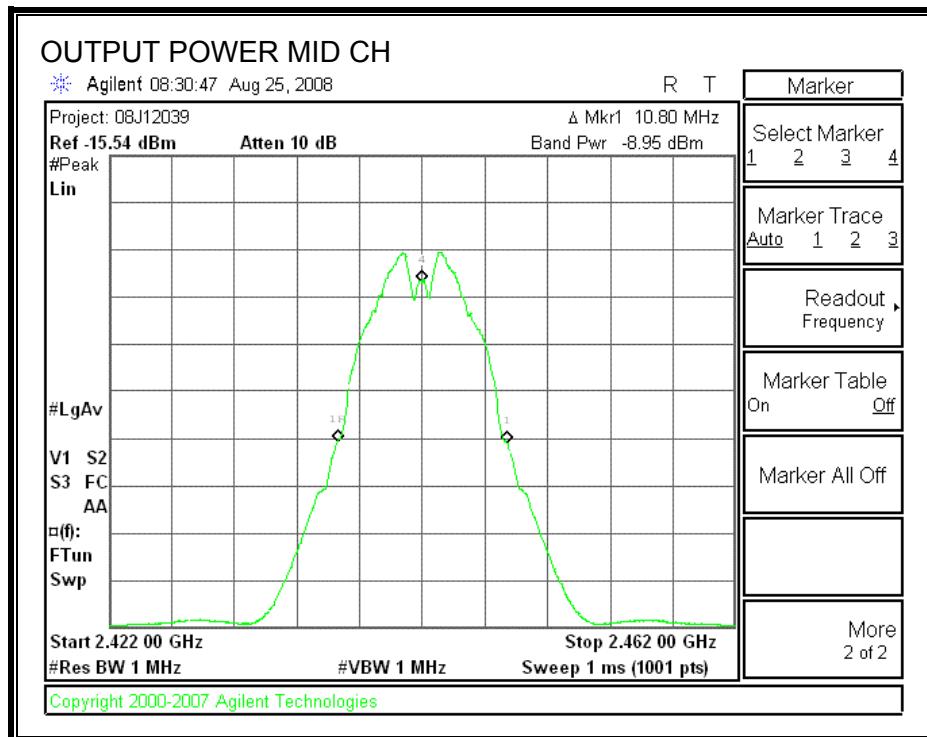
Channel	Frequency (MHz)	Spectrum Analyzer Reading (dBm)	Attenuator and Cable Offset (dB)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-8.07	11	2.93	30	-27.07
Middle	2442	-8.95	11	2.05	30	-27.95
High	2472	-8.78	11	2.22	30	-27.78

specified in "TCB Training for Devices covered under Scopes A1 - A4" by Joe Dichoso, May 2003

RESULTS

OUTPUT POWER





7.1.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e), IC RSS-210 A8.2 (b), 3.10.1 (6) (6.2.2)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

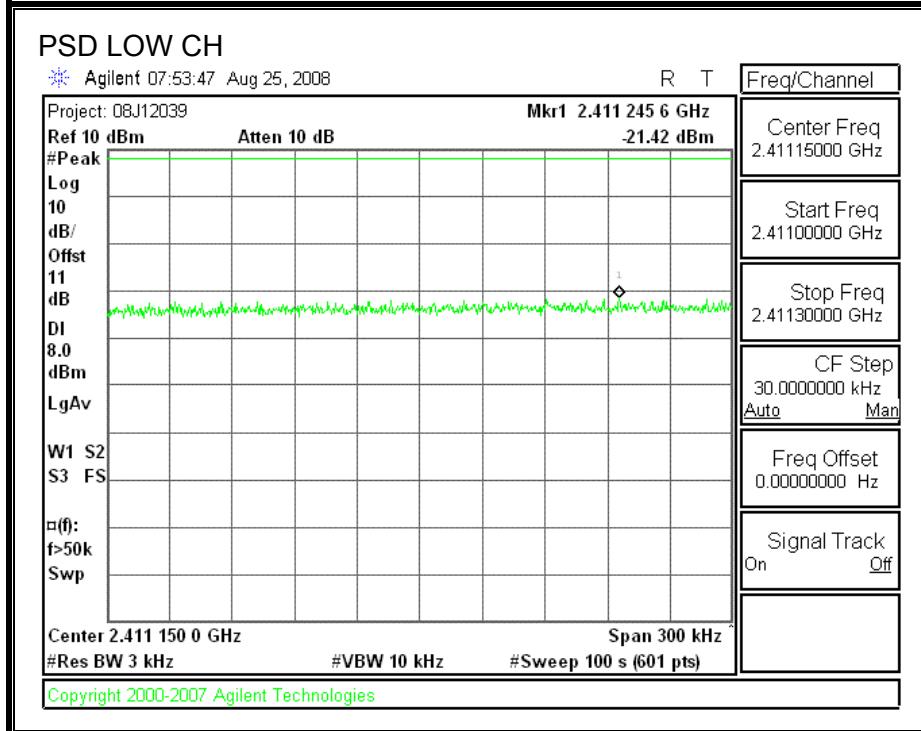
TEST PROCEDURE

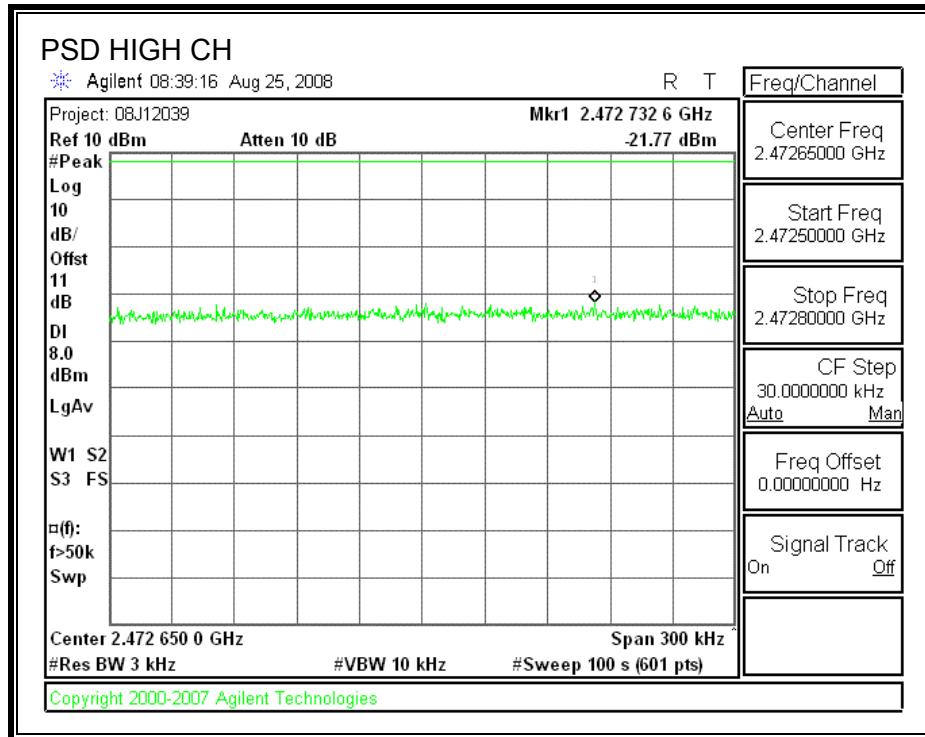
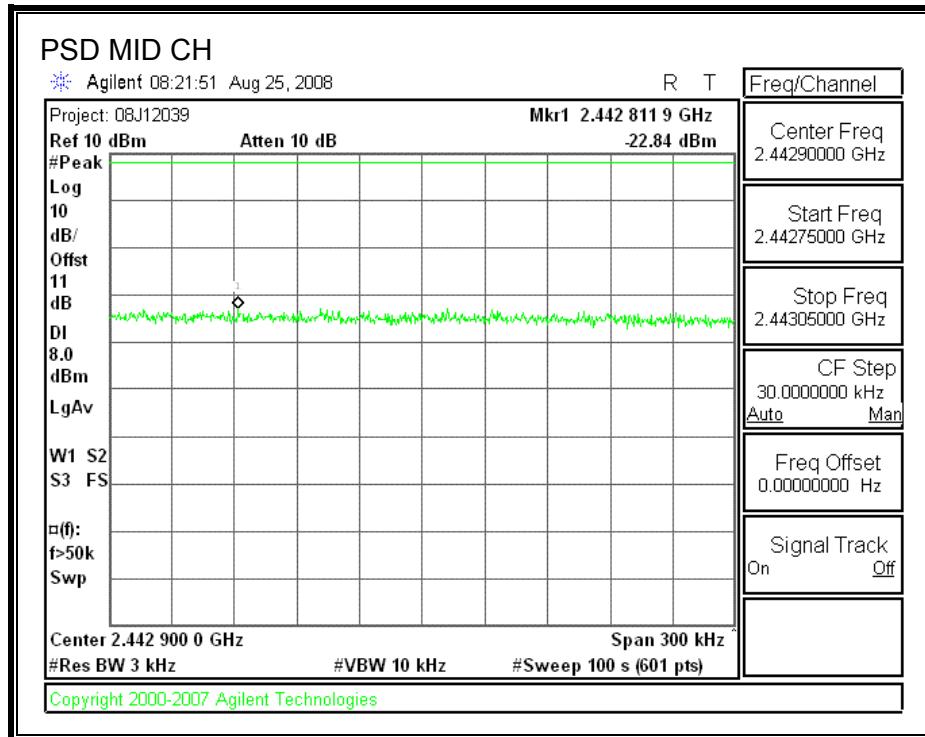
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document "Measurement of Digital Transmission Systems Operating under Section 15.247", March 23, 2005.

RESULTS

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-21.42	8	-29.42
Middle	2442	-22.84	8	-30.84
High	2472	-21.77	8	-29.77

POWER SPECTRAL DENSITY





7.1.5. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d), IC RSS-210 A8.5, LP0002 § 3.10.1 (5)
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

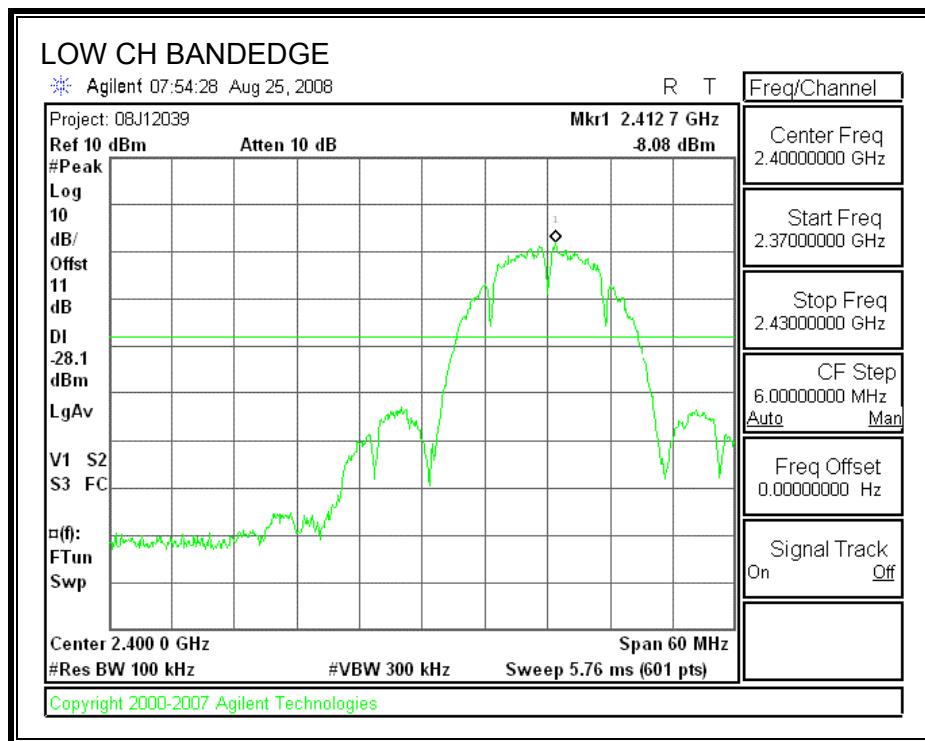
TEST PROCEDURE

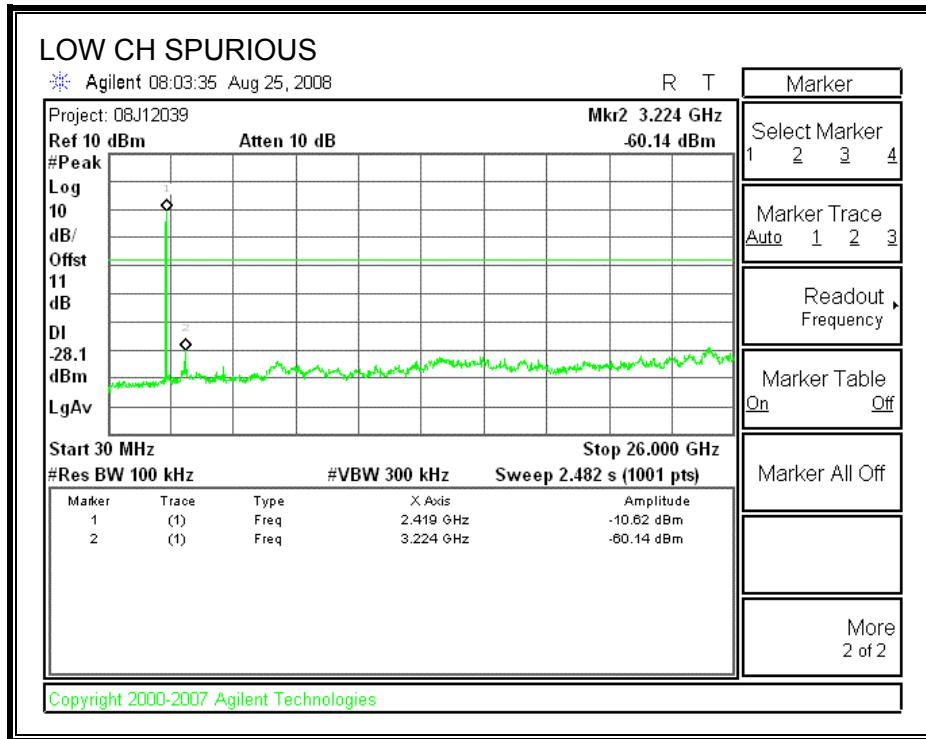
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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

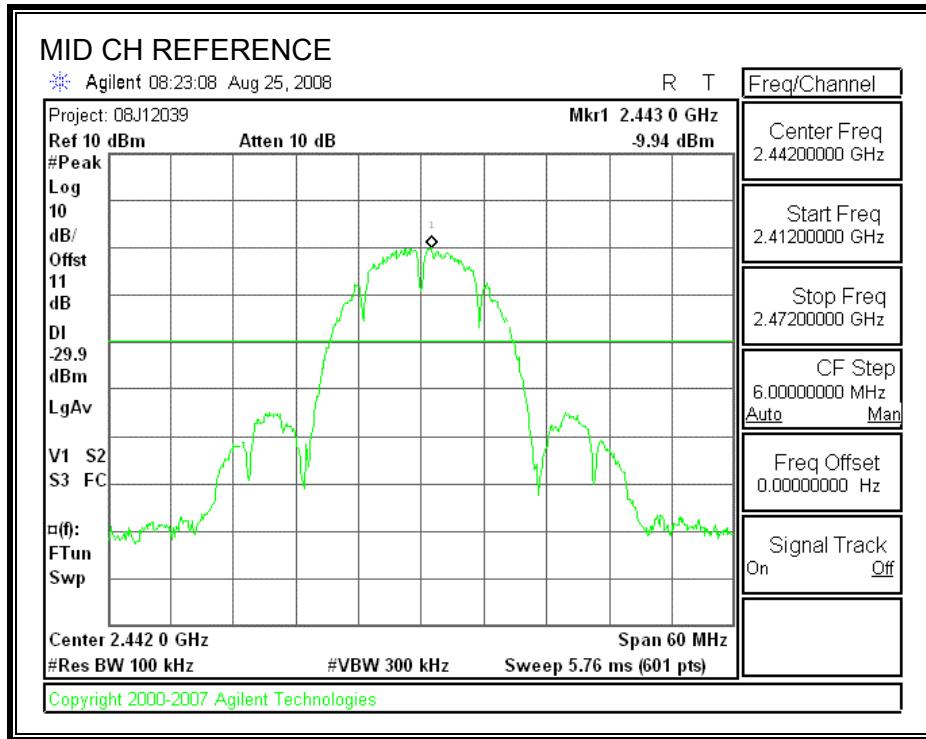
RESULTS

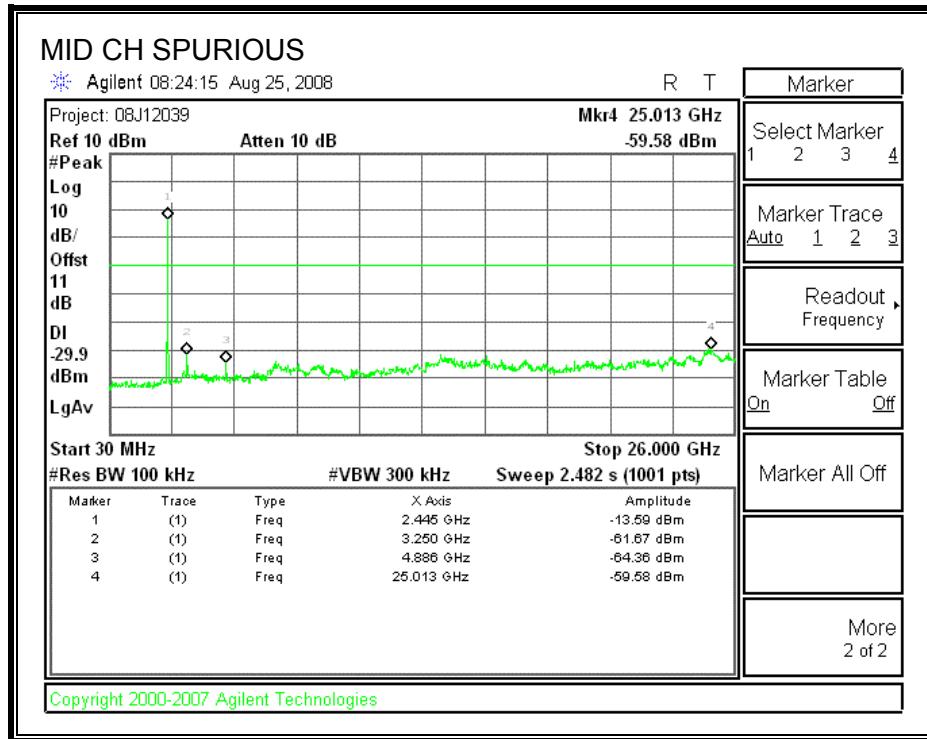
SPURIOUS EMISSIONS, LOW CHANNEL



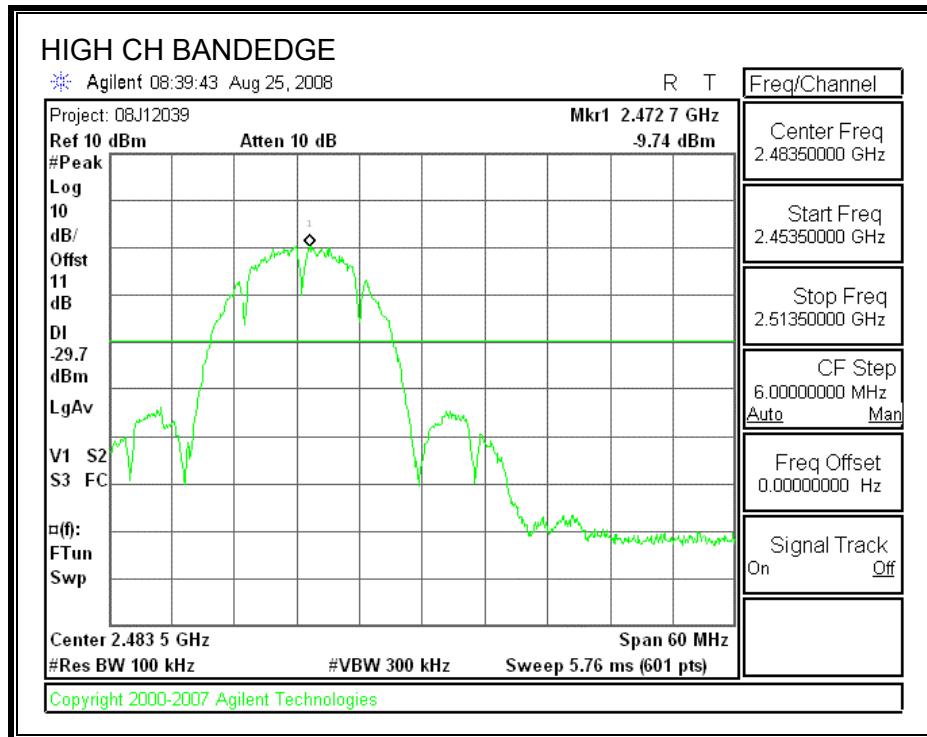


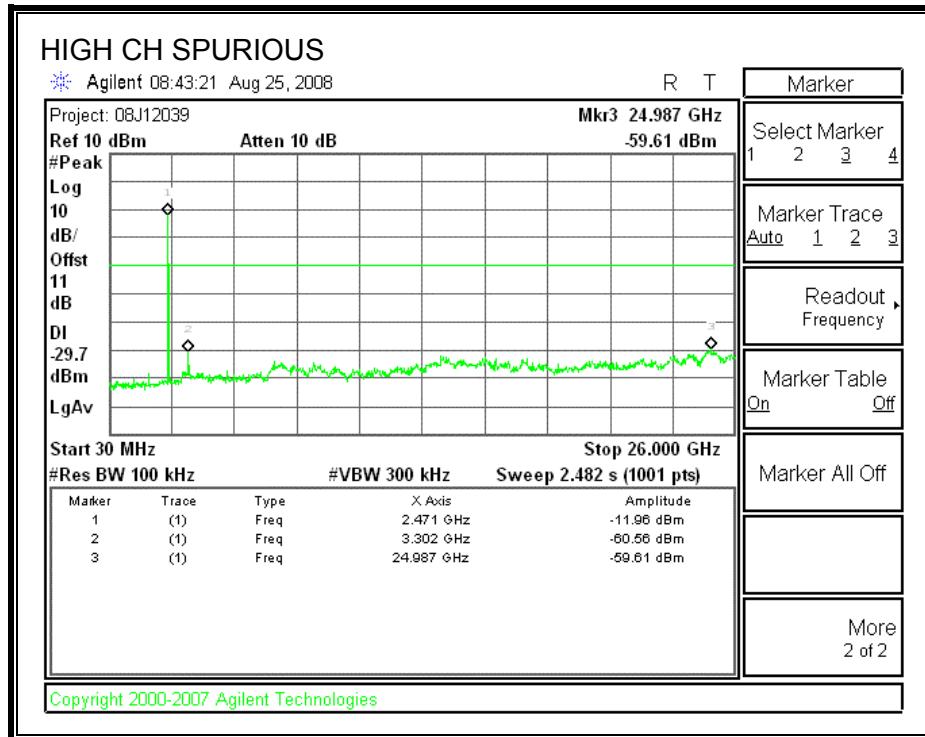
SPURIOUS EMISSIONS, MID CHANNEL





SPURIOUS EMISSIONS, HIGH CHANNEL





7.2. 802.11b MODE

7.2.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2), IC RSS-210 A8.2 (a) & LP0002 §3.10.1 (6) (6.2.1)
The minimum 6 dB bandwidth shall be at least 500 kHz.

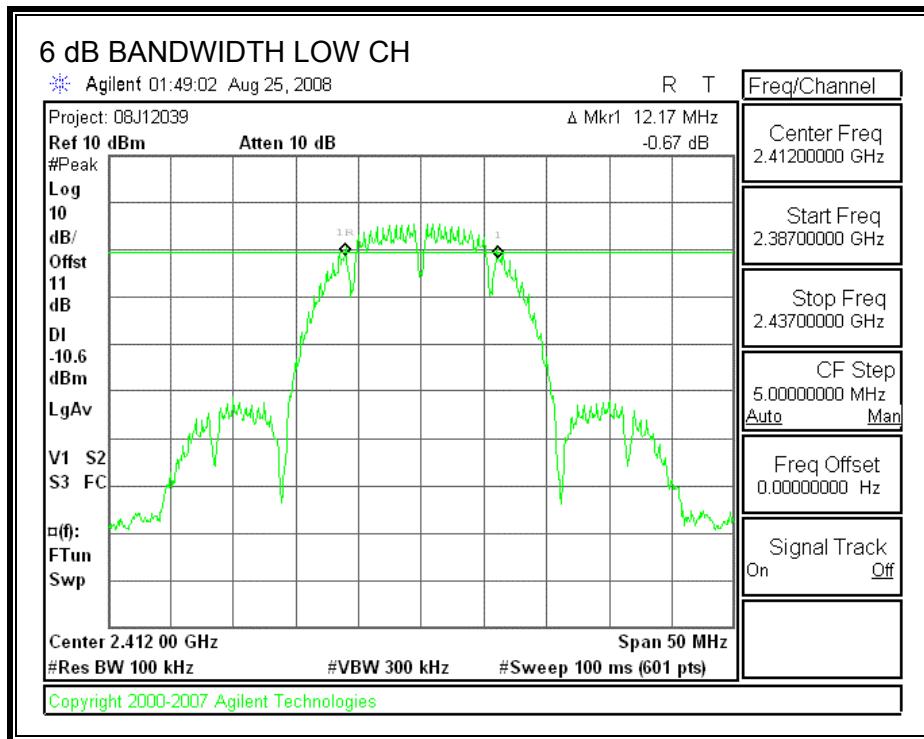
TEST PROCEDURE

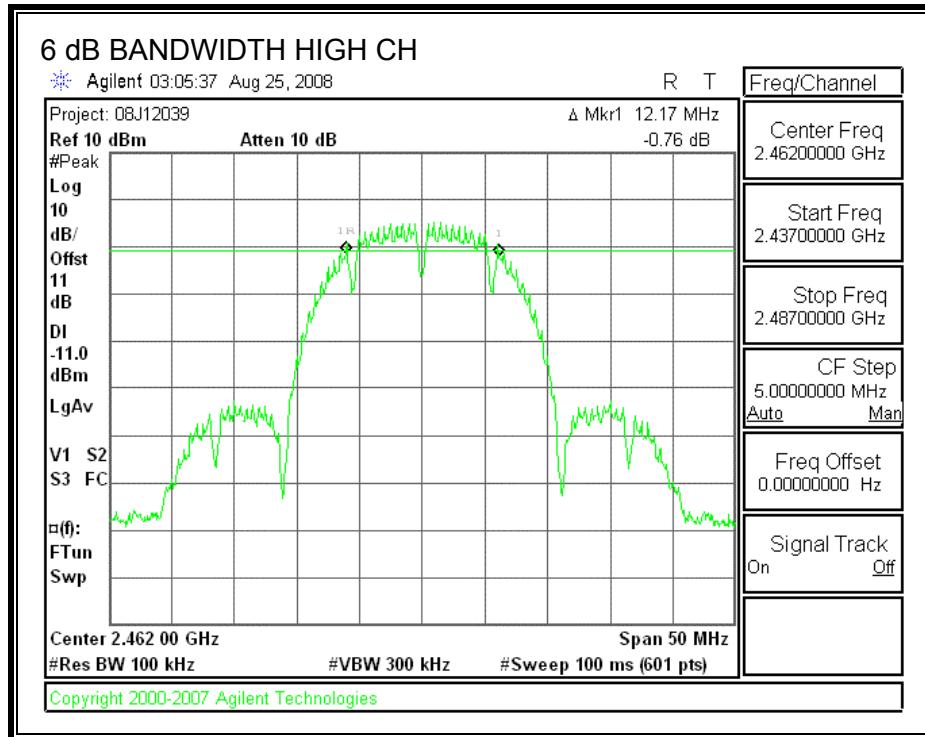
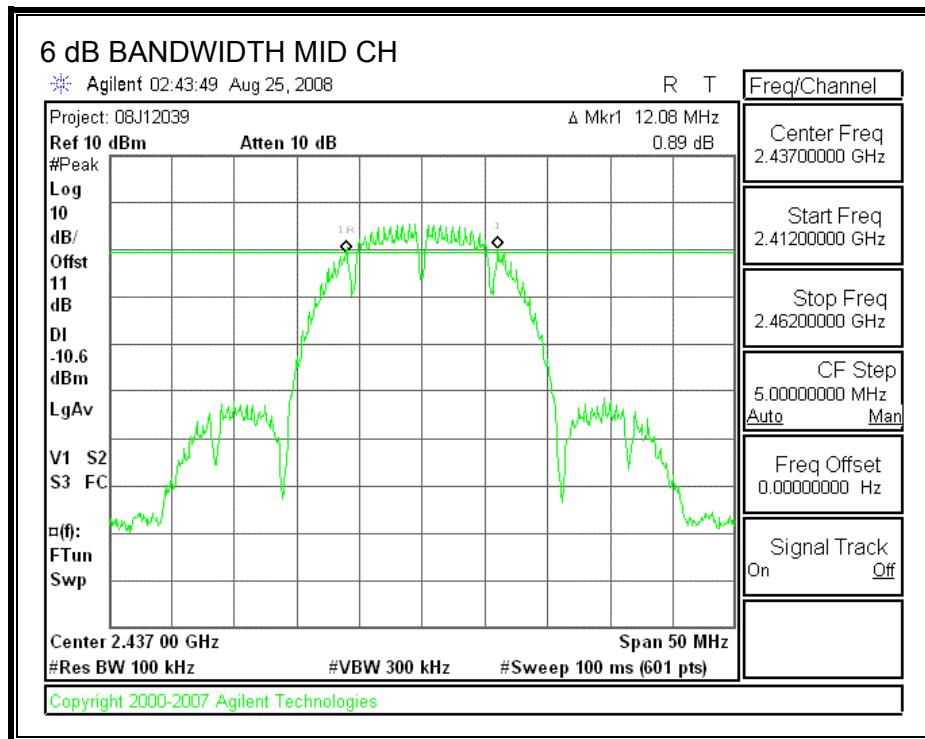
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	12.17	0.5
Middle	2437	12.08	0.5
High	2462	12.17	0.5

6 dB BANDWIDTH





7.2.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

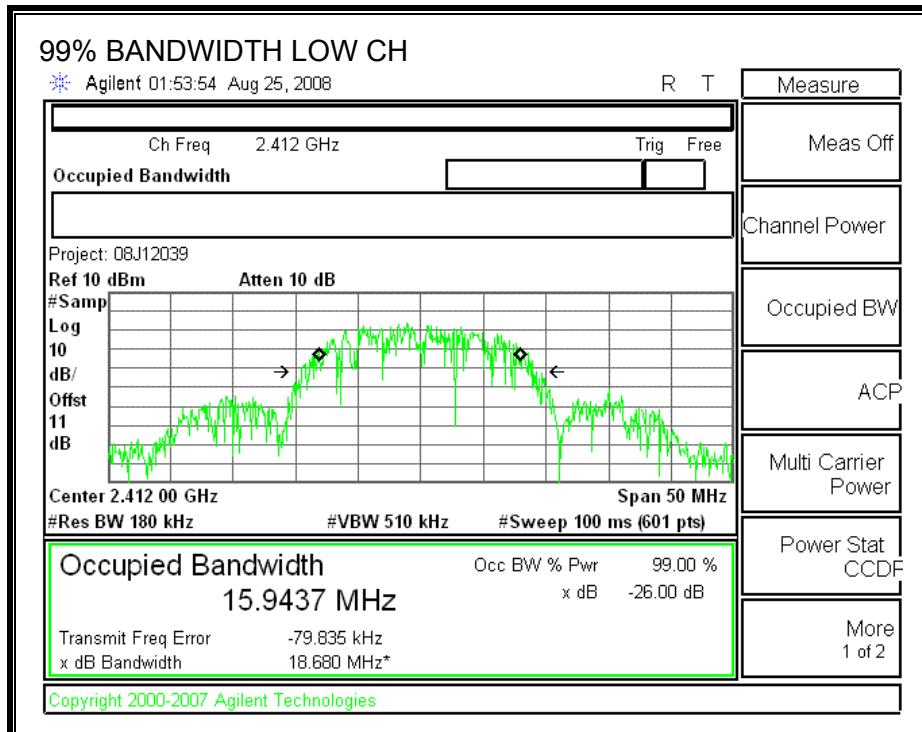
TEST PROCEDURE

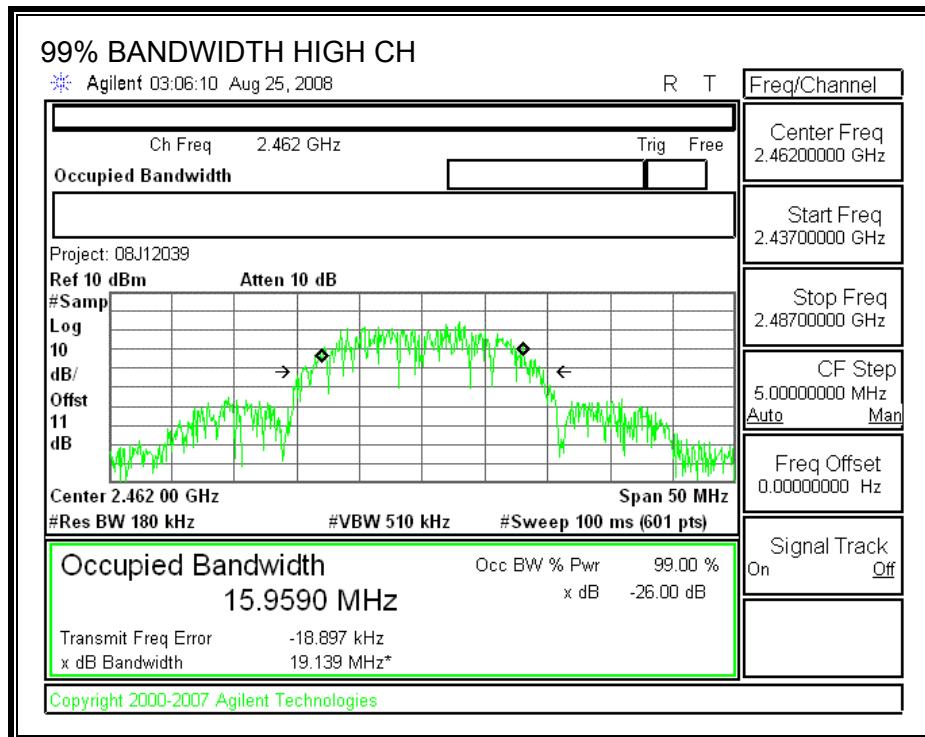
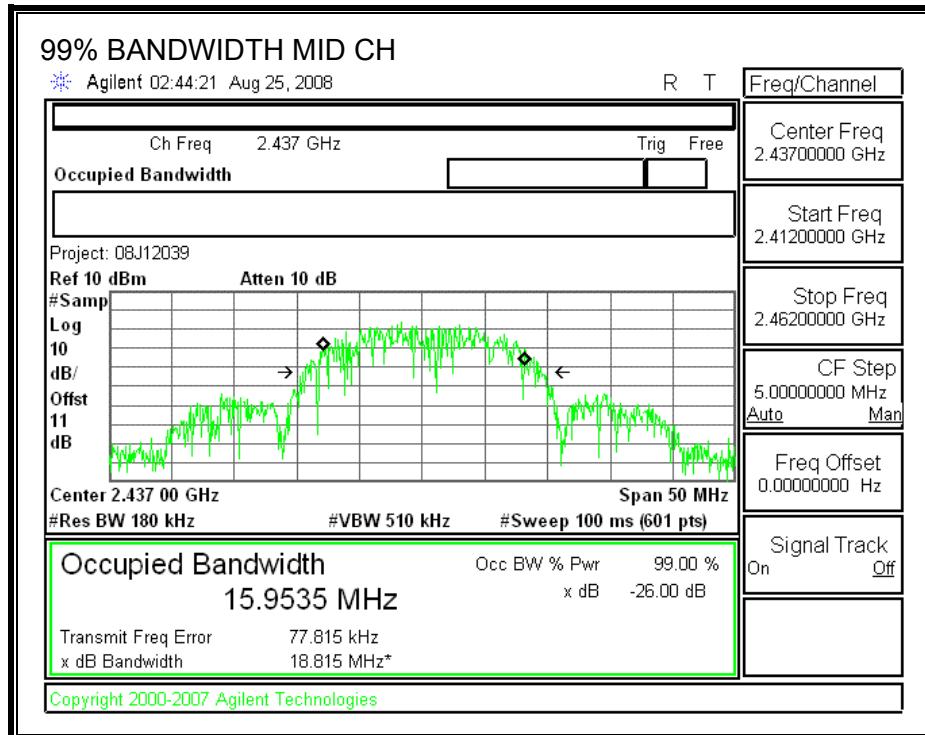
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	15.9437
Middle	2437	15.9535
High	2462	15.959

99% BANDWIDTH





7.2.3. OUTPUT POWER

LIMITS

FCC §15.247 (b), IC RSS-210 A8.4, LP0002 § 3.10.1 (2) (2.3); (3) (3.1.1)
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

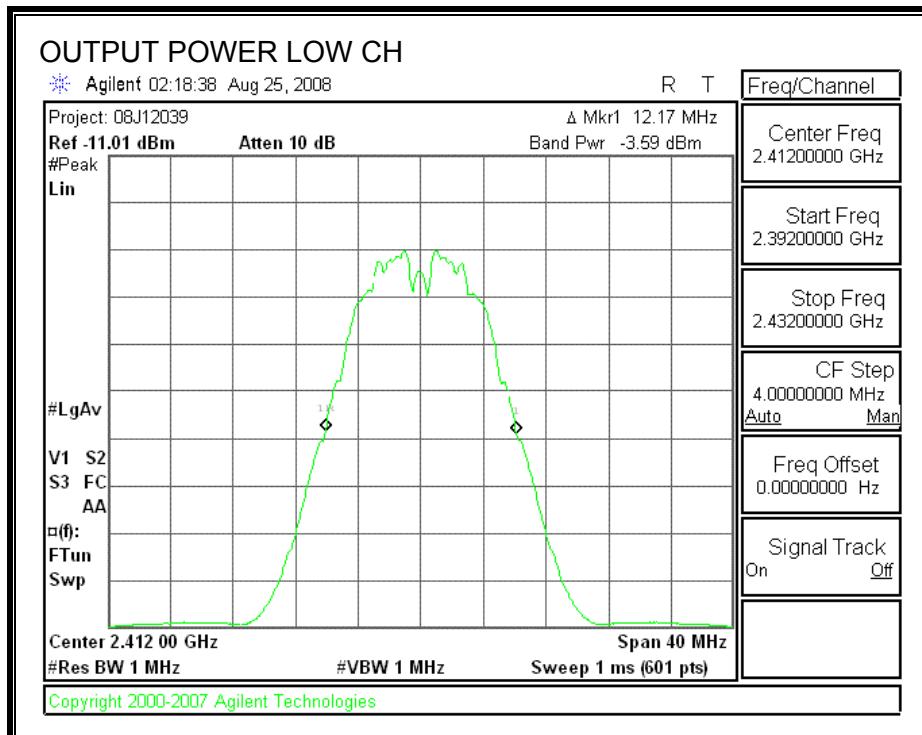
Peak power is measured using the Channel bandwidth Alternative peak output power procedure

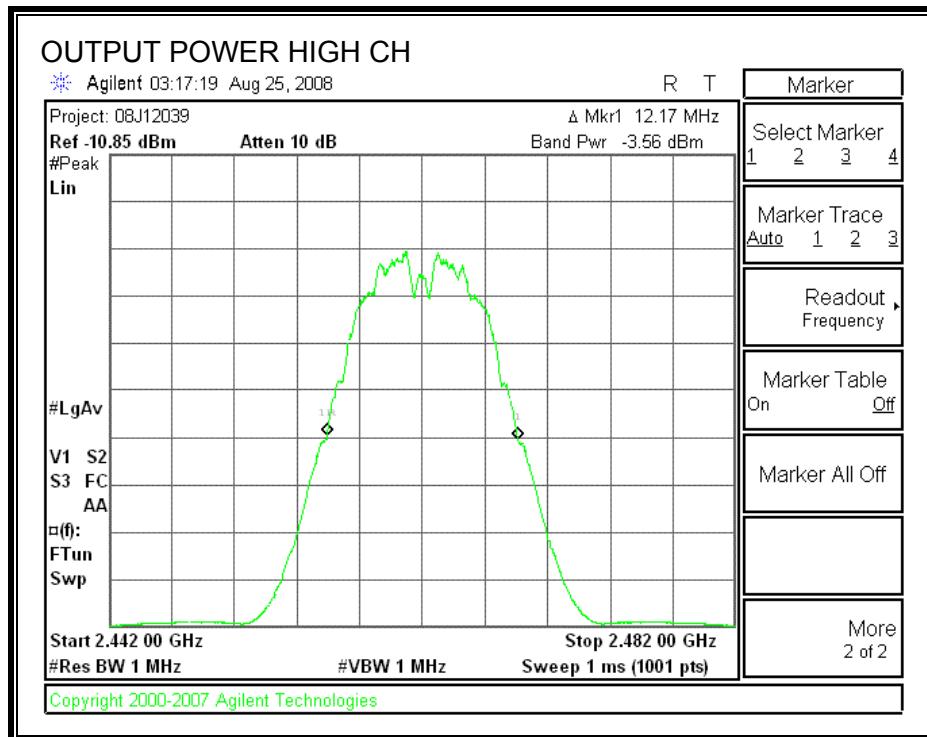
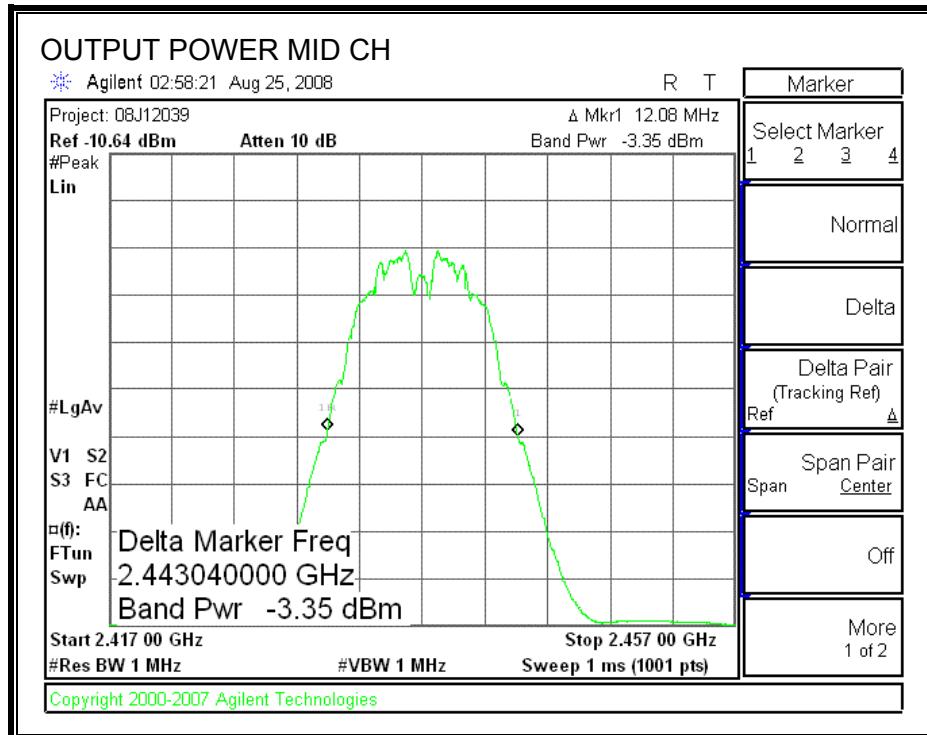
Channel	Frequency (MHz)	Spectrum Analyzer Reading (dBm)	Attenuator and Cable Offset (dB)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-3.59	11	7.41	30	-22.59
Middle	2437	-3.35	11	7.65	30	-22.35
High	2462	-3.56	11	7.44	30	-22.56

specified in "TCB Training for Devices covered under Scopes A1 - A4" by Joe Dichoso, May 2003

RESULTS

OUTPUT POWER





7.2.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e), IC RSS-210 A8.2 (b), 3.10.1 (6) (6.2.2)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

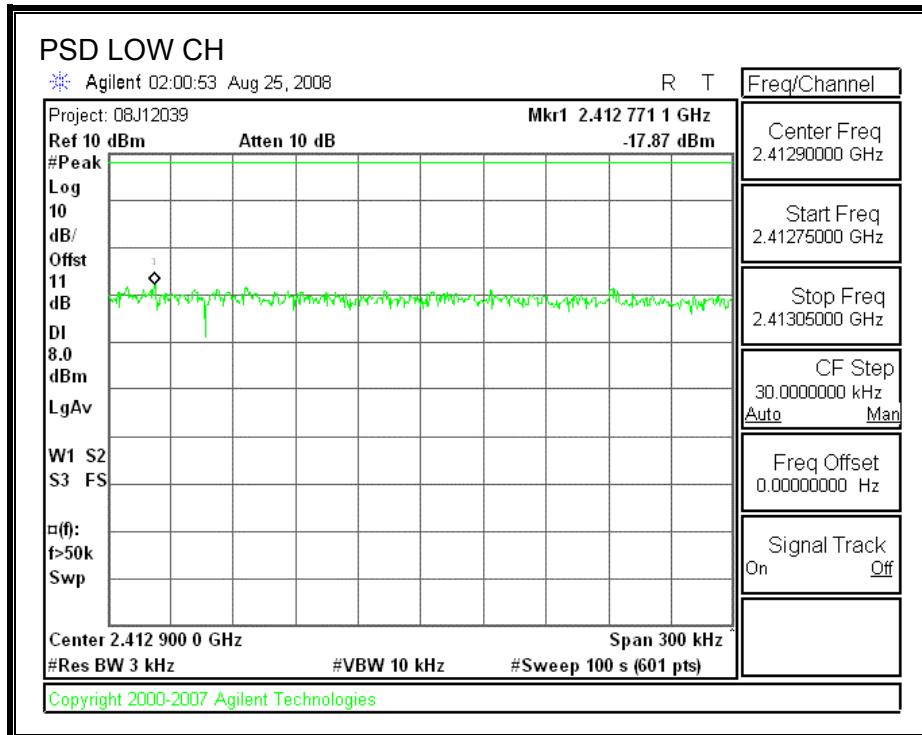
TEST PROCEDURE

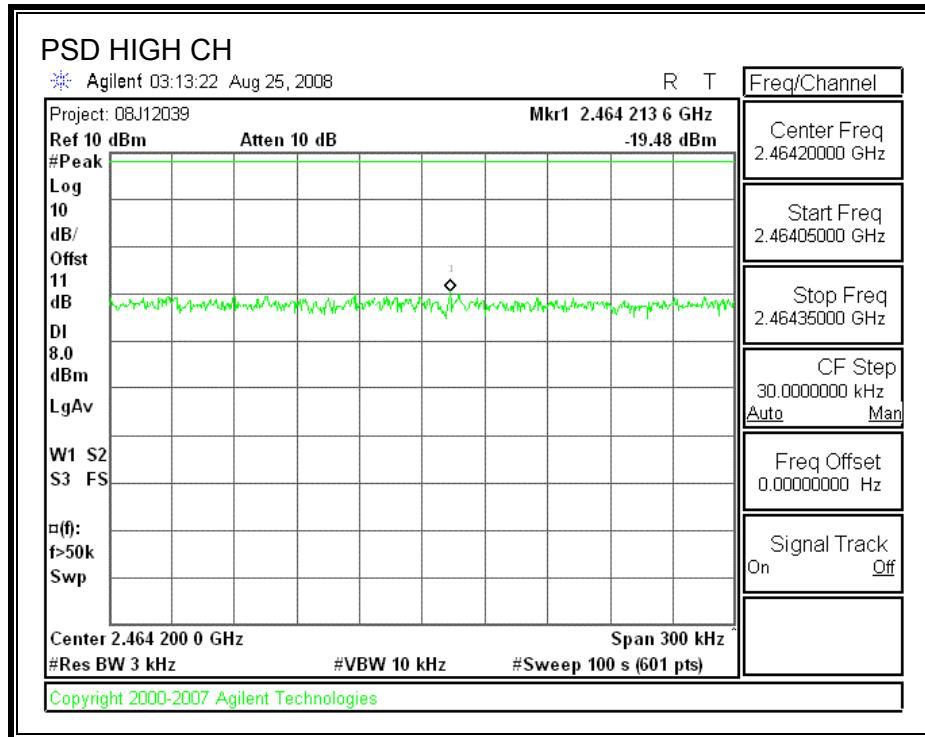
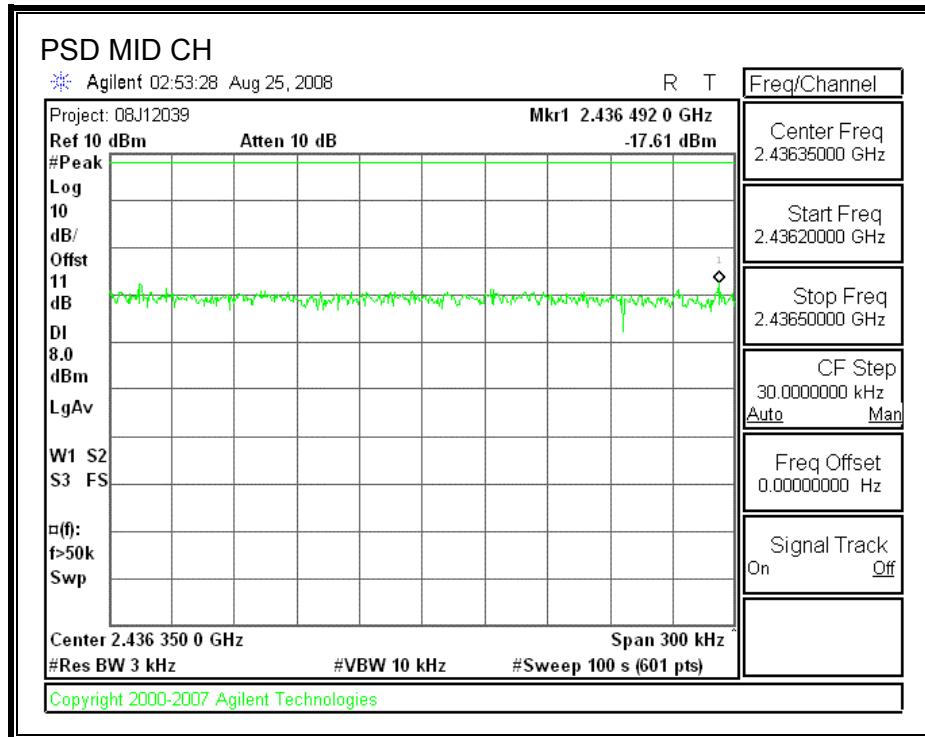
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document "Measurement of Digital Transmission Systems Operating under Section 15.247", March 23, 2005.

RESULTS

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-17.87	8	-25.87
Middle	2437	-17.61	8	-25.61
High	2462	-19.48	8	-27.48

POWER SPECTRAL DENSITY





7.2.5. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d), IC RSS-210 A8.5, LP0002 § 3.10.1 (5)
Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

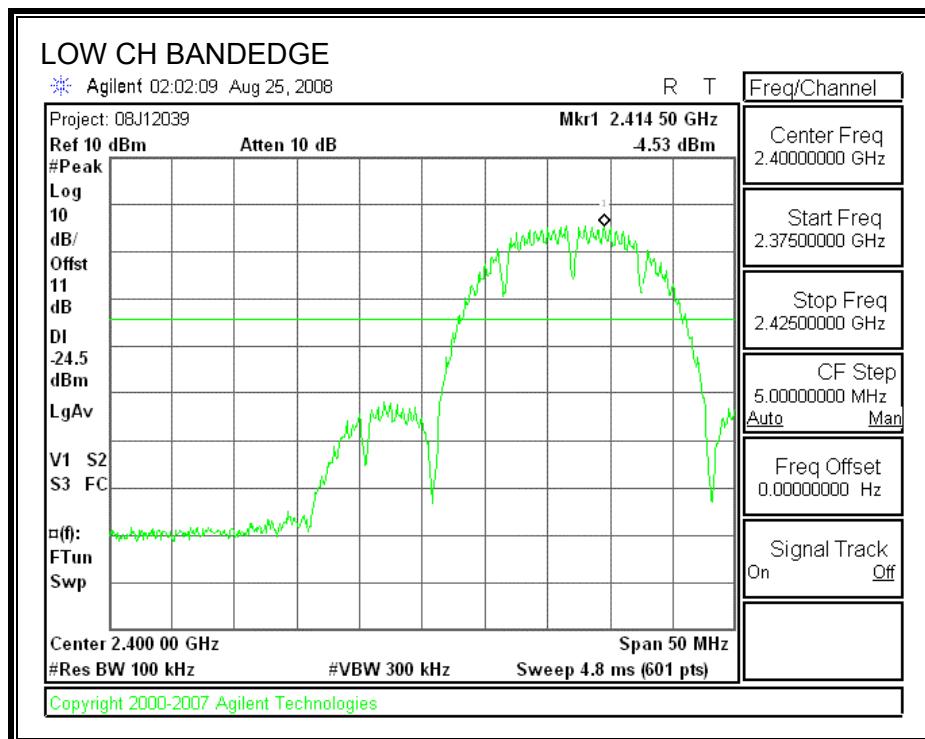
TEST PROCEDURE

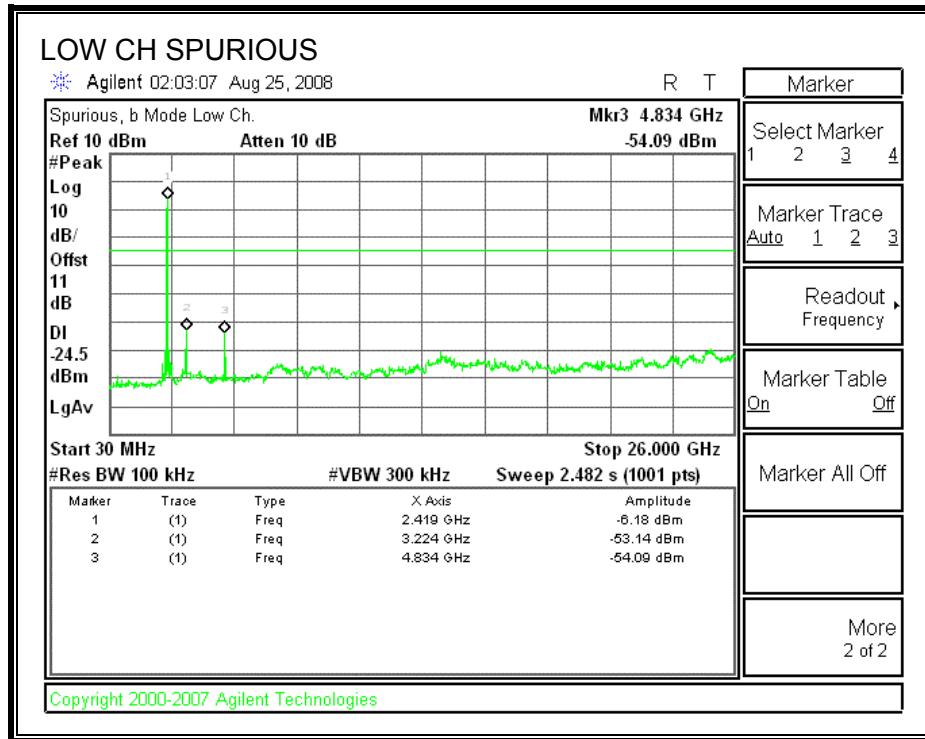
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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

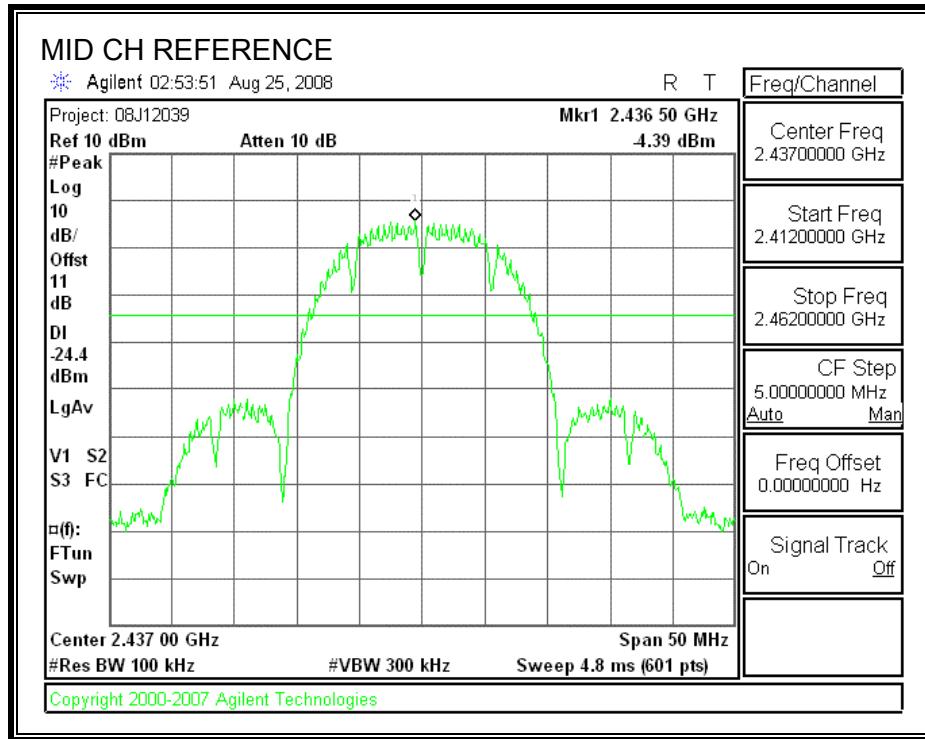
RESULTS

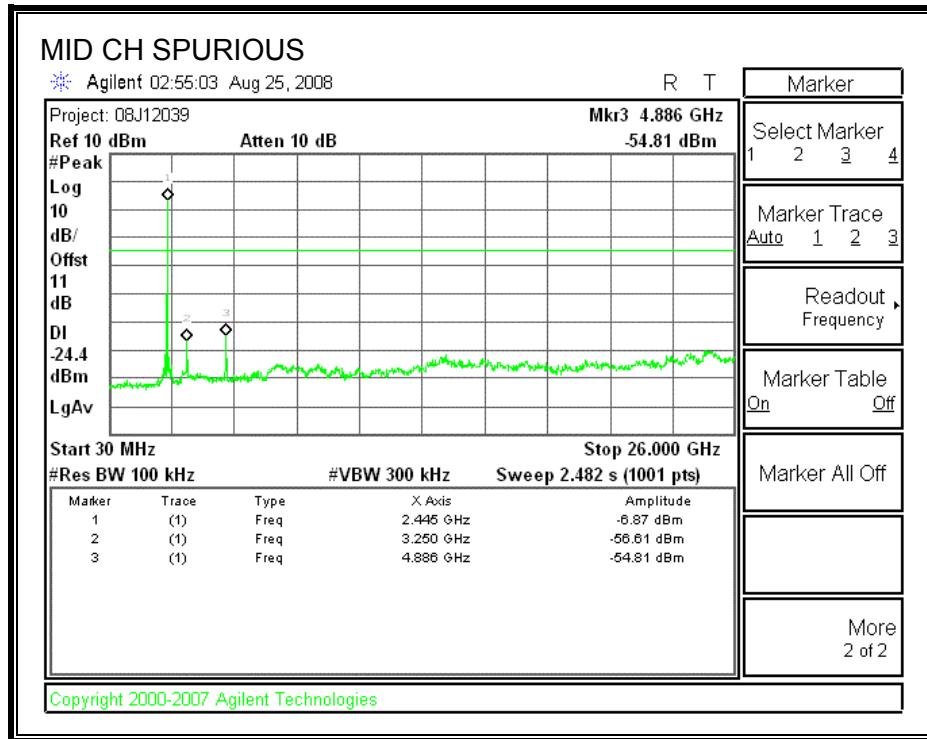
SPURIOUS EMISSIONS, LOW CHANNEL



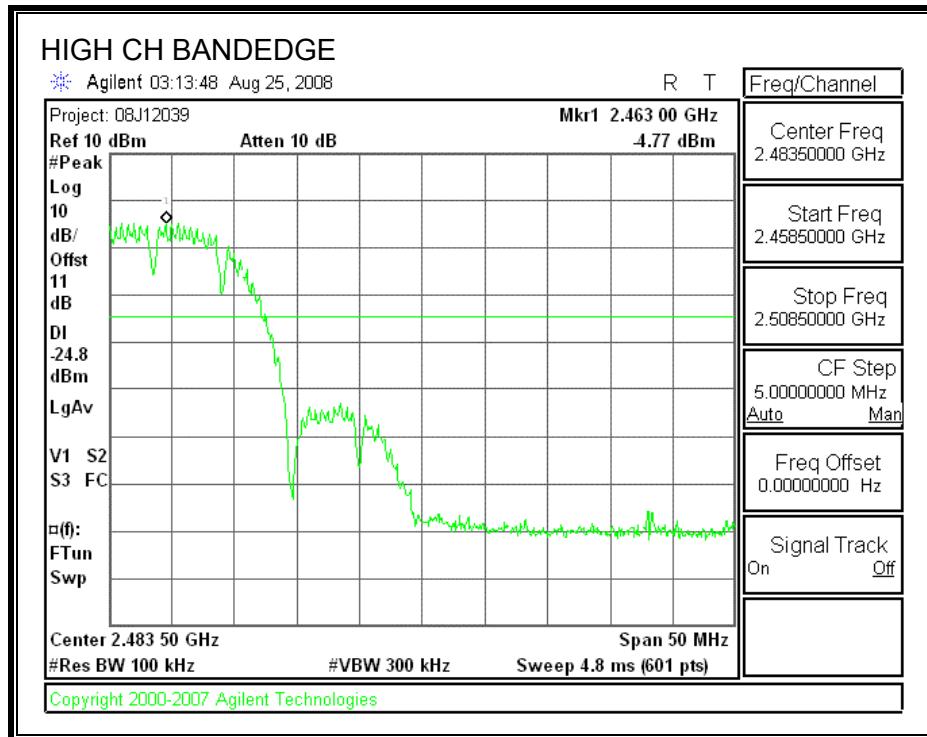


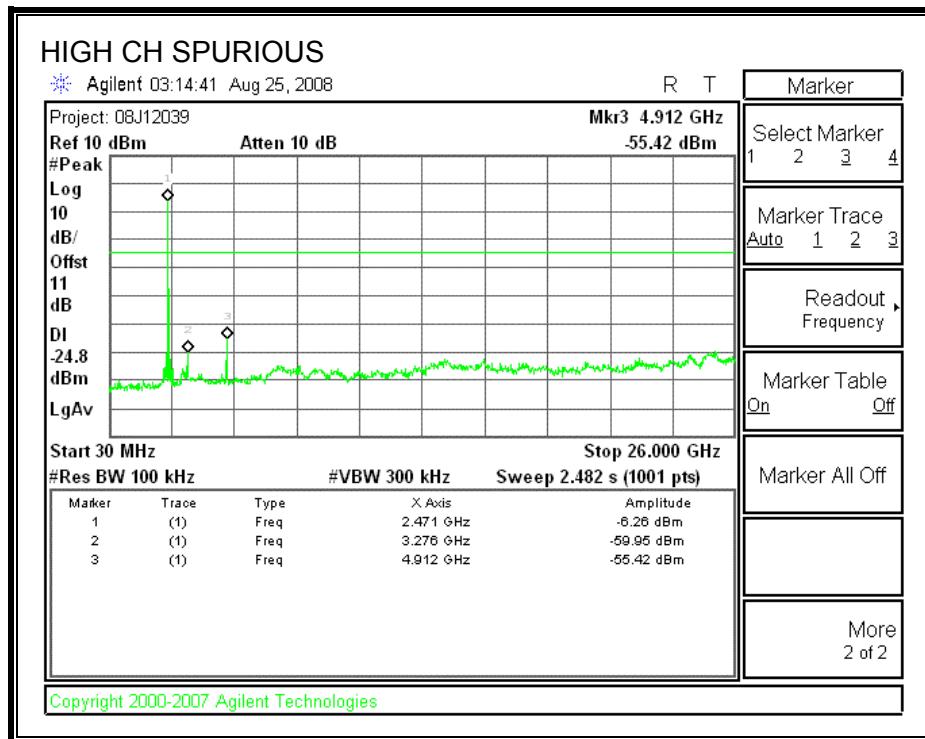
SPURIOUS EMISSIONS, MID CHANNEL





SPURIOUS EMISSIONS, HIGH CHANNEL





7.3. 802.11g MODE

7.3.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2), IC RSS-210 A8.2 (a) & LP0002 §3.10.1 (6) (6.2.1)
The minimum 6 dB bandwidth shall be at least 500 kHz.

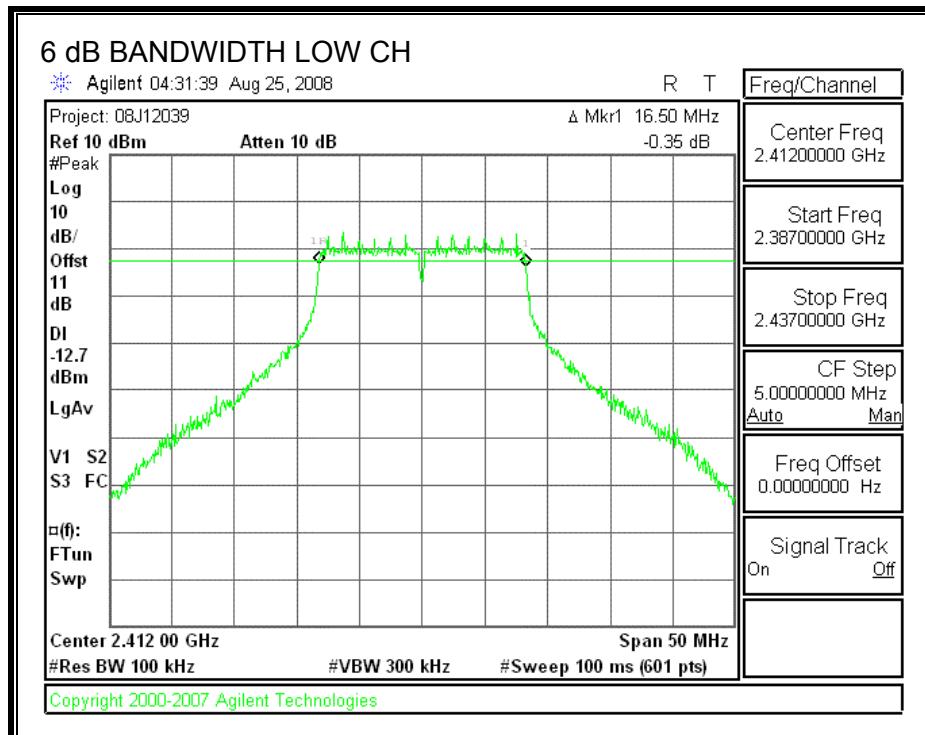
TEST PROCEDURE

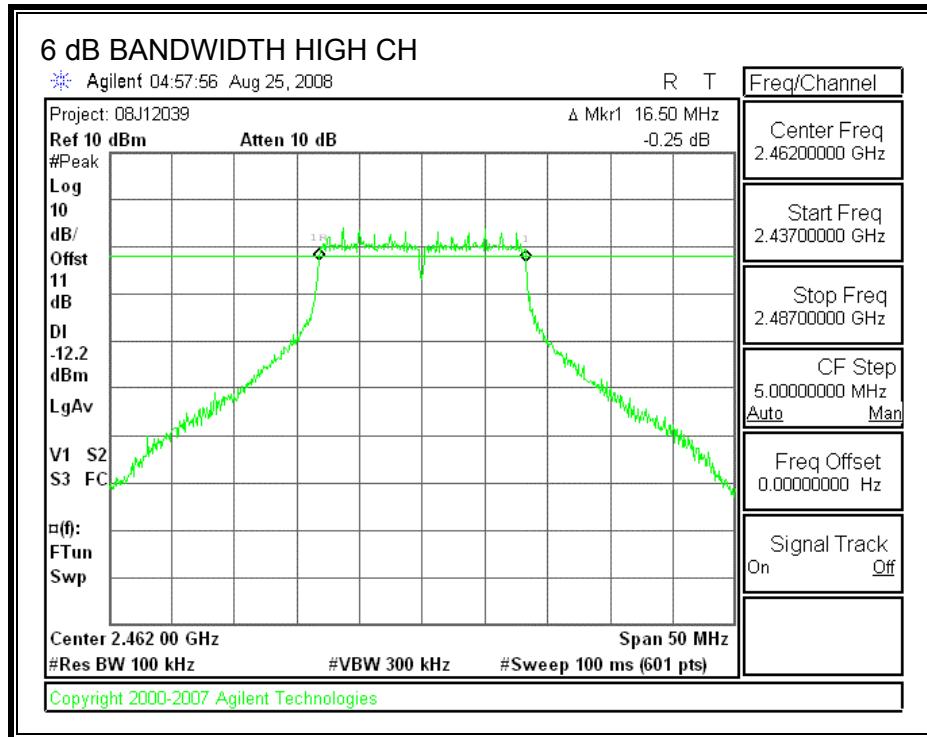
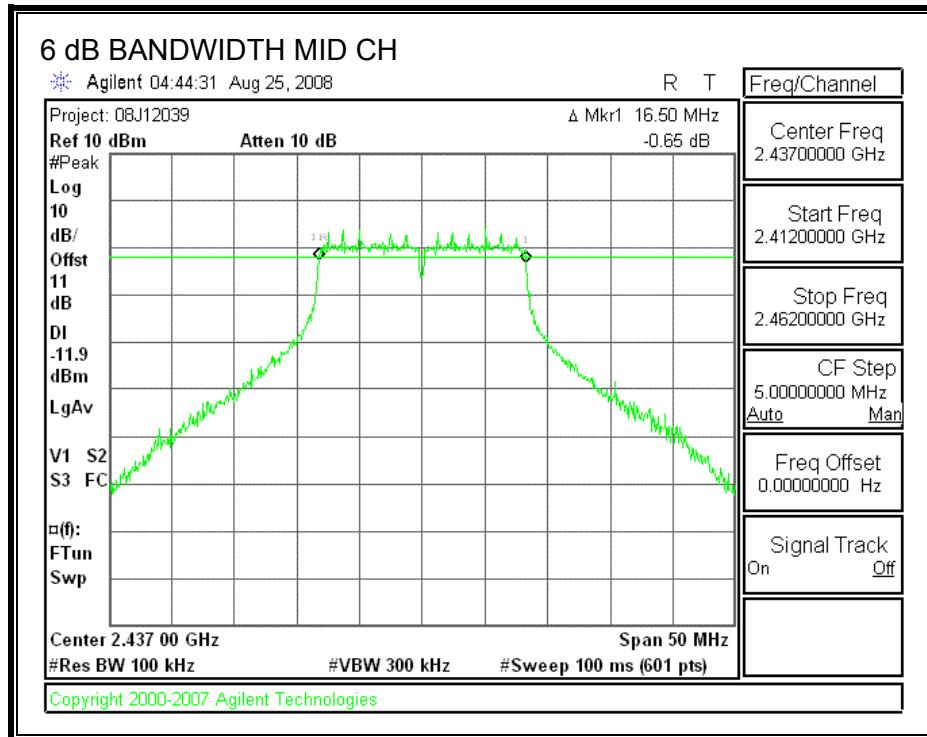
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.50	0.5
Middle	2437	16.50	0.5
High	2462	16.50	0.5

RESULTS

6 dB BANDWIDTH





7.3.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

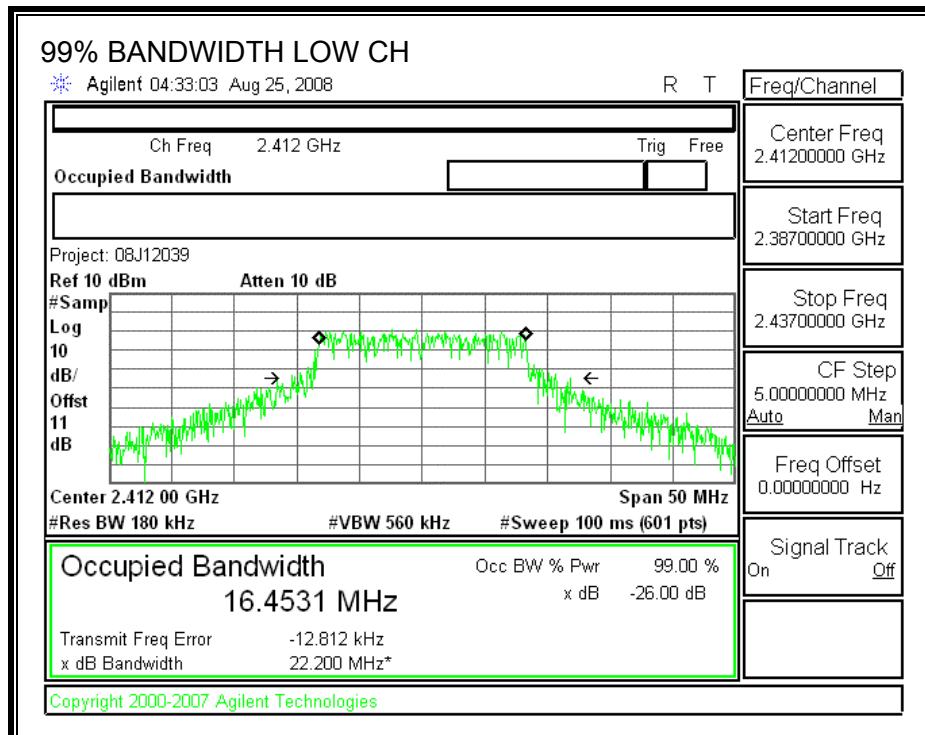
TEST PROCEDURE

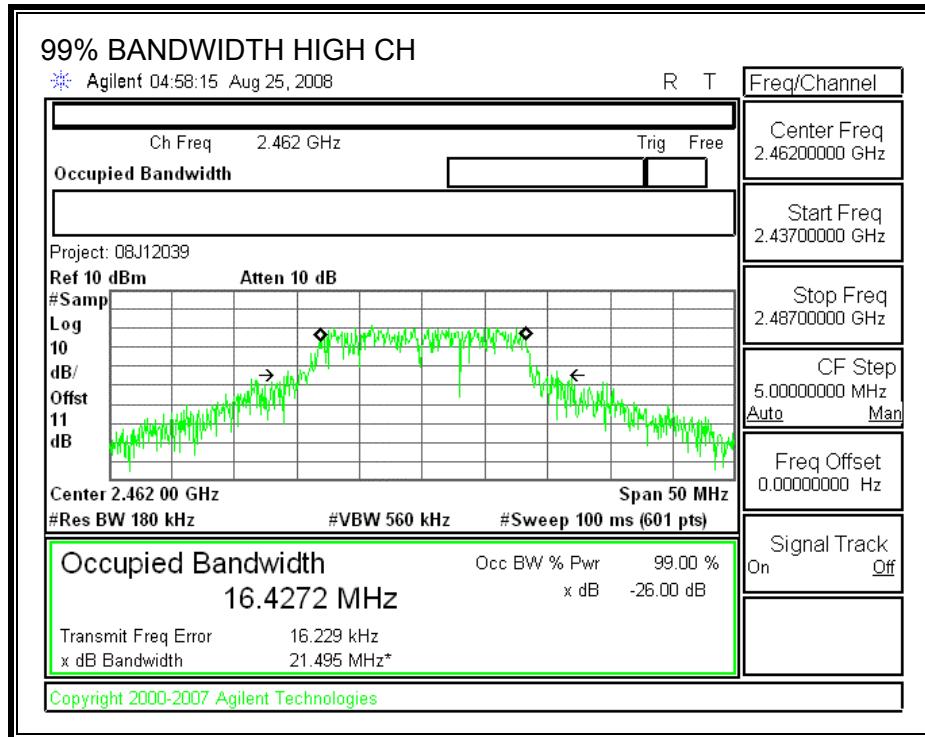
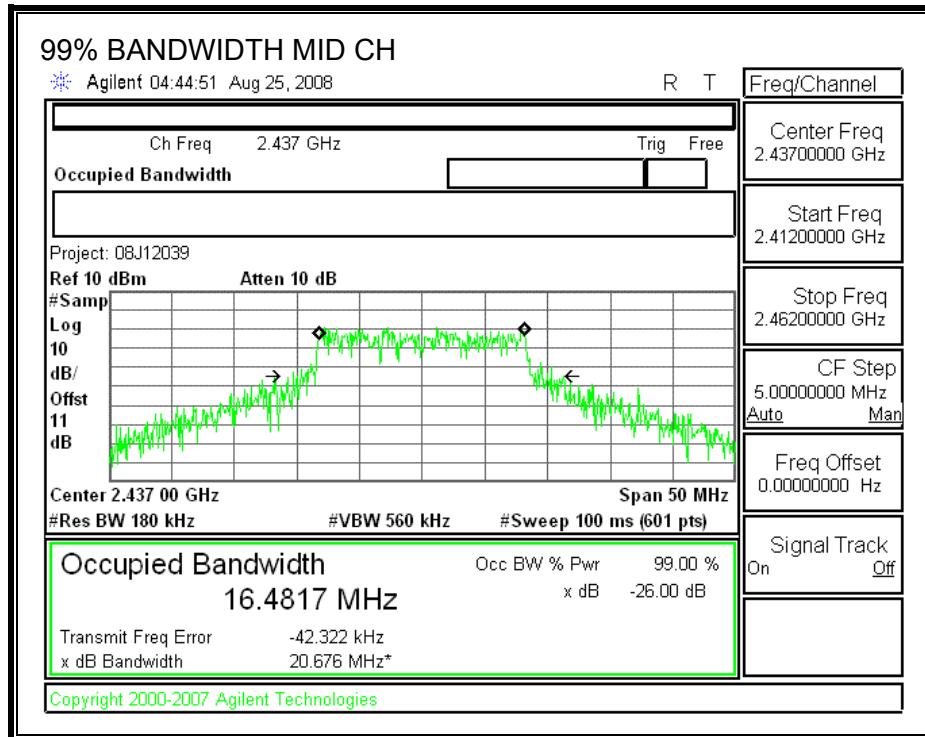
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.4531
Middle	2437	16.4817
High	2462	16.4272

99% BANDWIDTH





7.3.3. OUTPUT POWER

LIMITS

FCC §15.247 (b), IC RSS-210 A8.4, LP0002 § 3.10.1 (2) (2.3); (3) (3.1.1)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

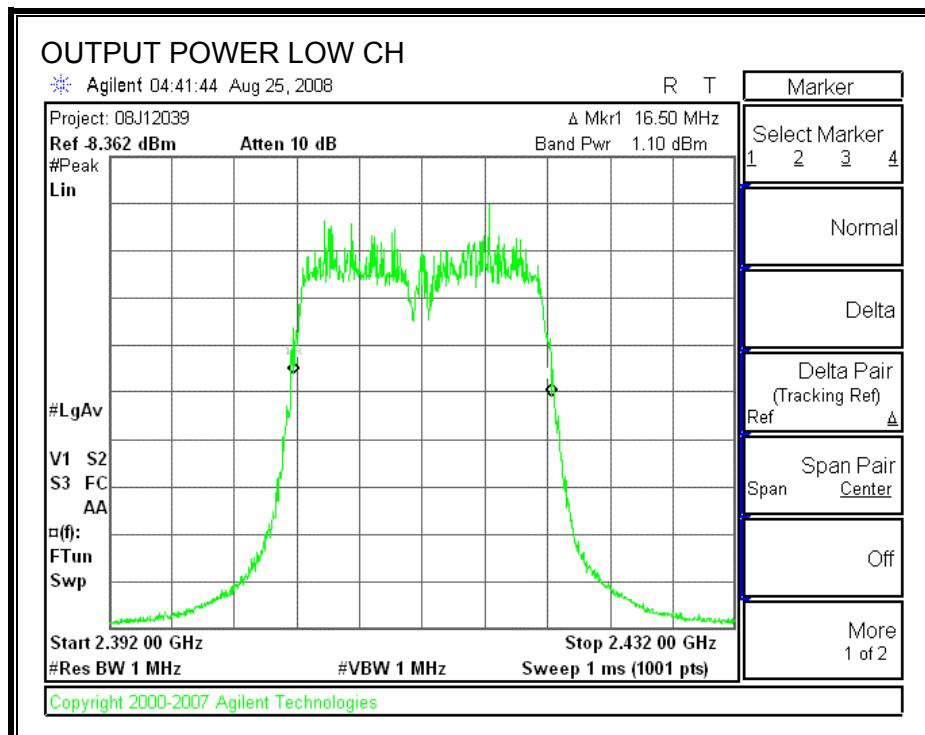
Peak power is measured using the spectrum analyzer's internal channel power integration

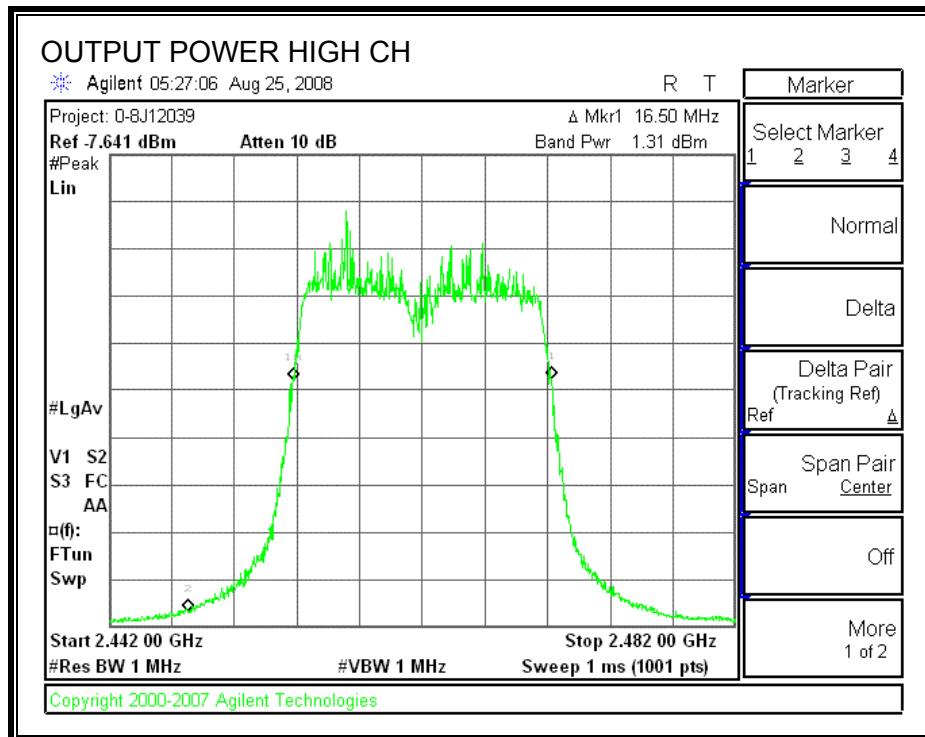
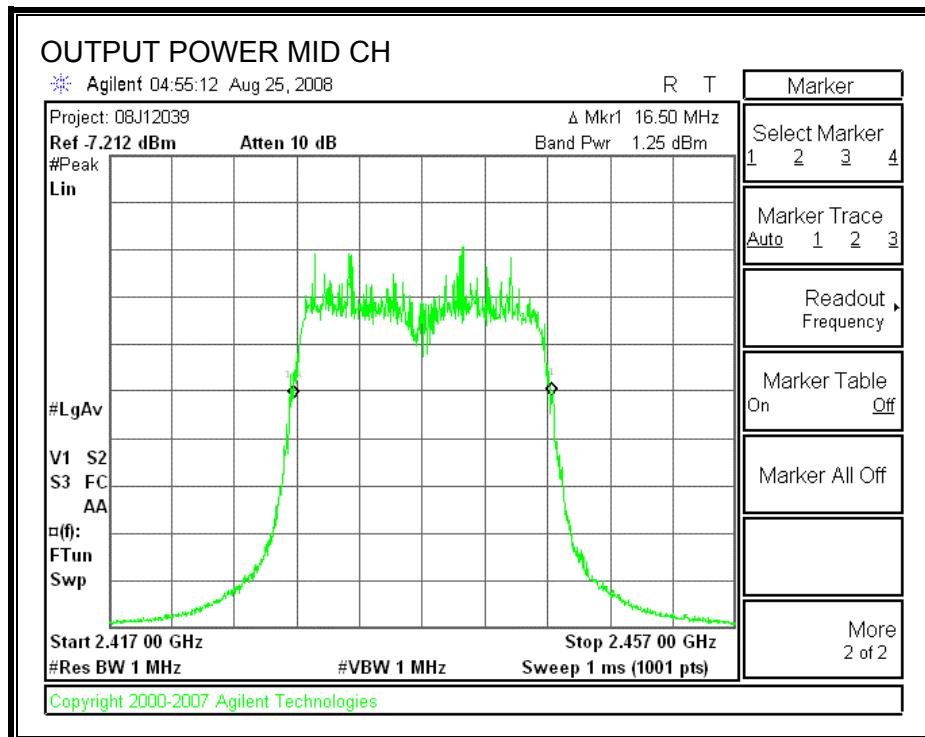
Channel	Frequency (MHz)	Spectrum Analyzer Reading (dBm)	Attenuator and Cable Offset (dB)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	1.10	11	12.10	30	-17.90
Middle	2437	1.25	11	12.25	30	-17.75
High	2462	1.31	11	12.31	30	-17.69

function. Power is integrated over a bandwidth greater than or equal to the 99% bandwidth.

RESULTS

OUTPUT POWER





7.3.4. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e), IC RSS-210 A8.2 (b), 3.10.1 (6) (6.2.2)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST PROCEDURE

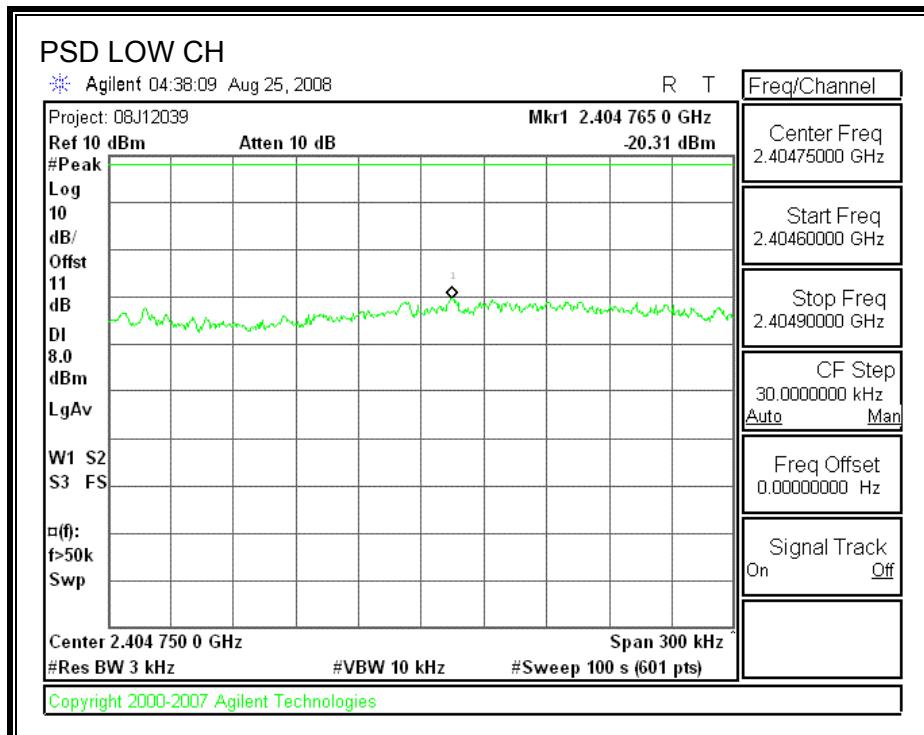
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document

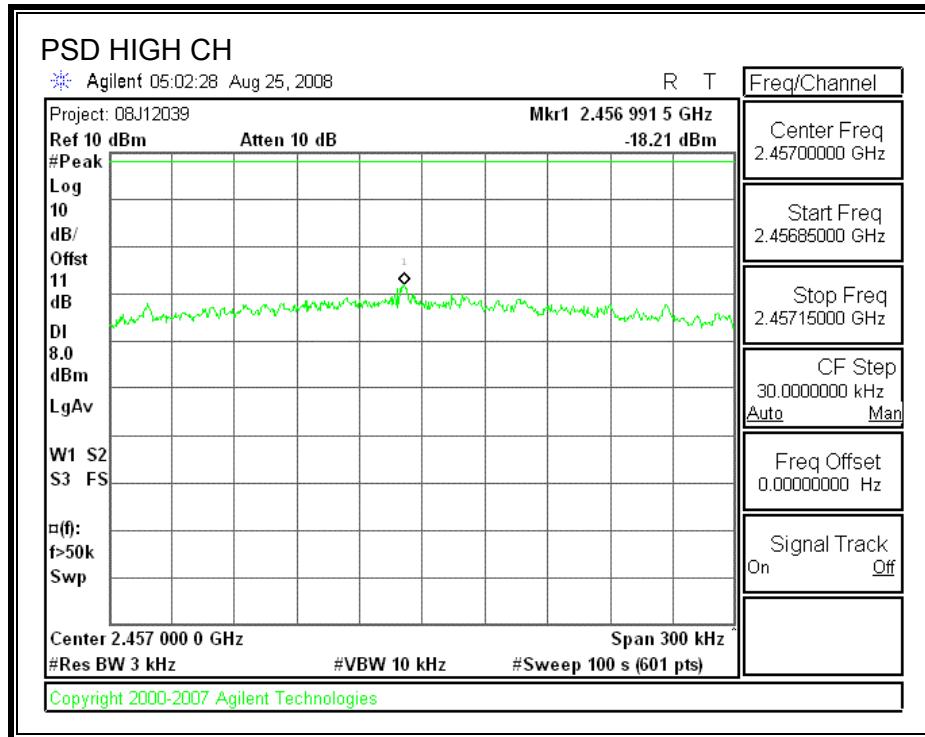
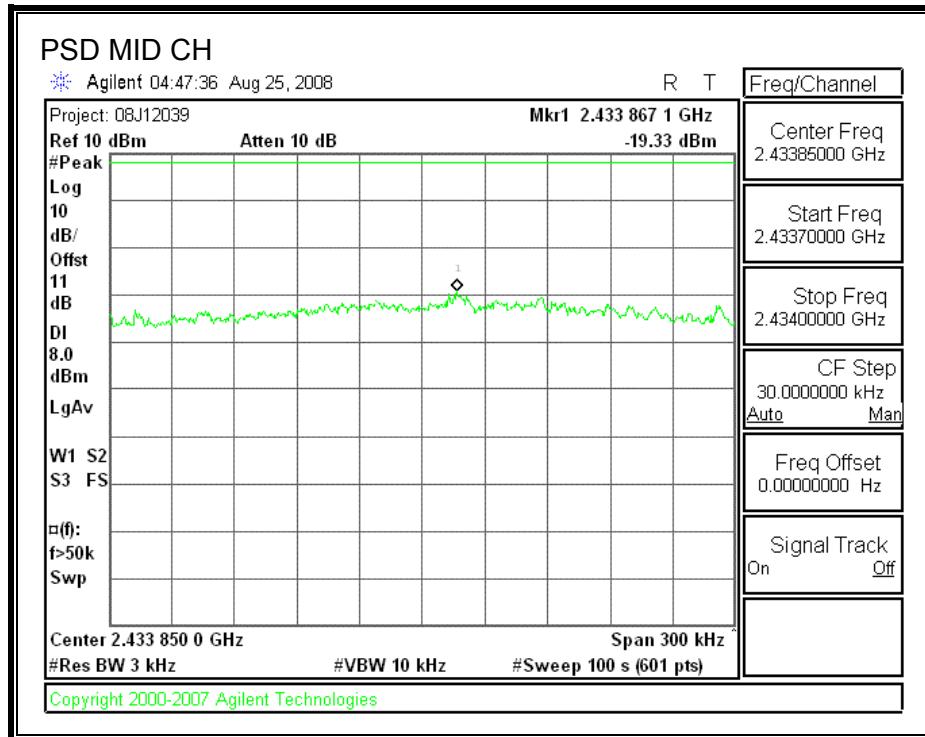
Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-20.31	8	-28.31
Middle	2437	-19.33	8	-27.33
High	2462	-18.21	8	-26.21

“Measurement of Digital Transmission Systems Operating under Section 15.247”, March 23, 2005.

RESULTS

POWER SPECTRAL DENSITY





7.3.5. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d), IC RSS-210 A8.5, LP0002 § 3.10.1 (5)

Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

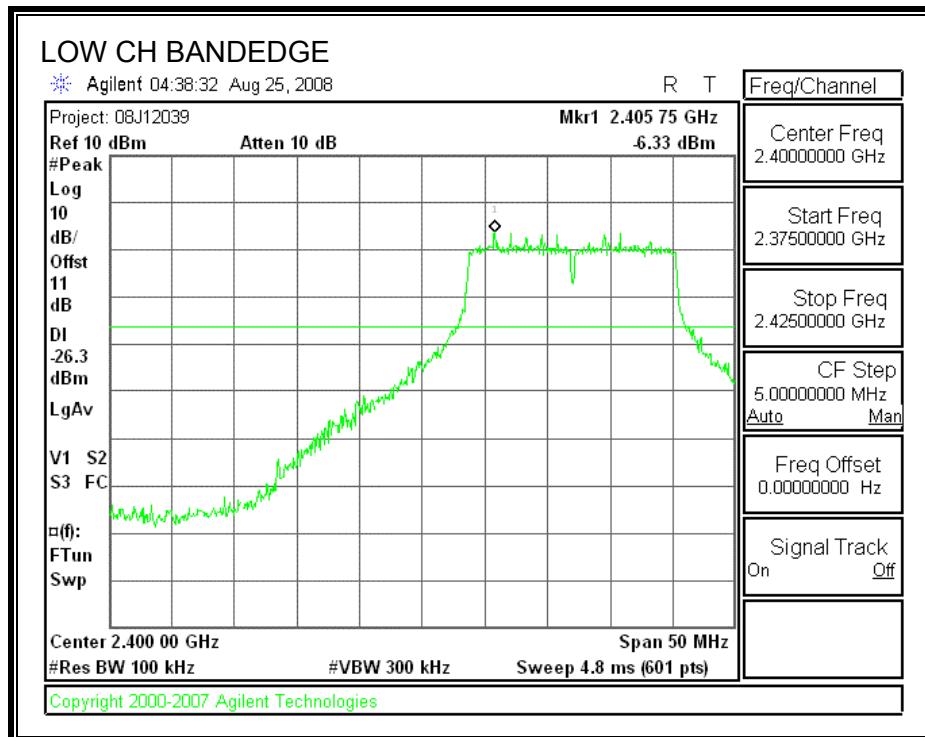
TEST PROCEDURE

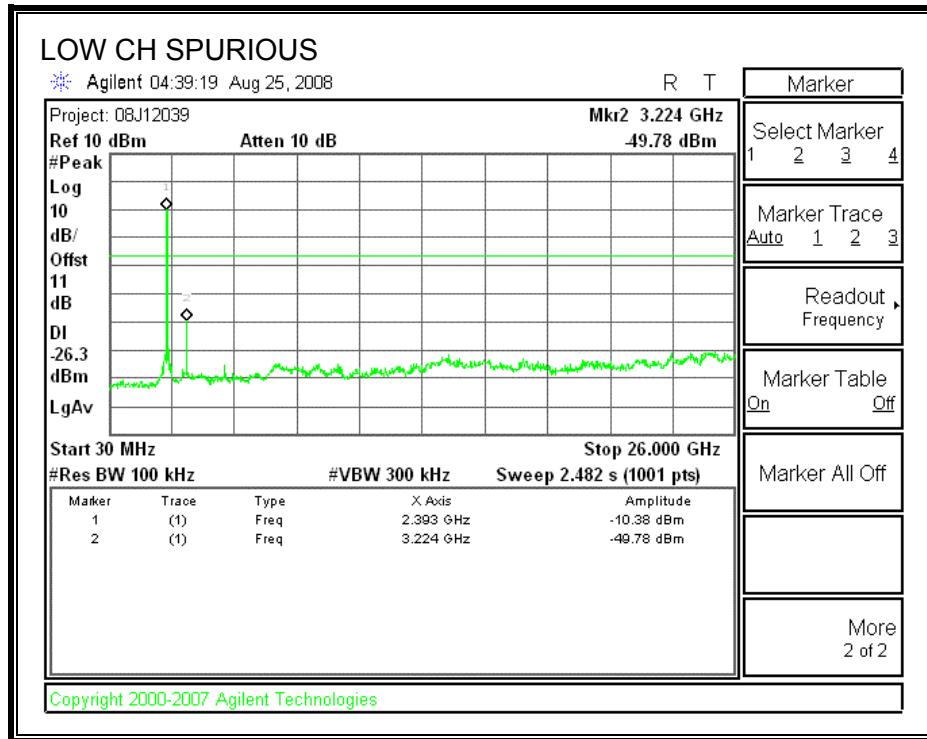
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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

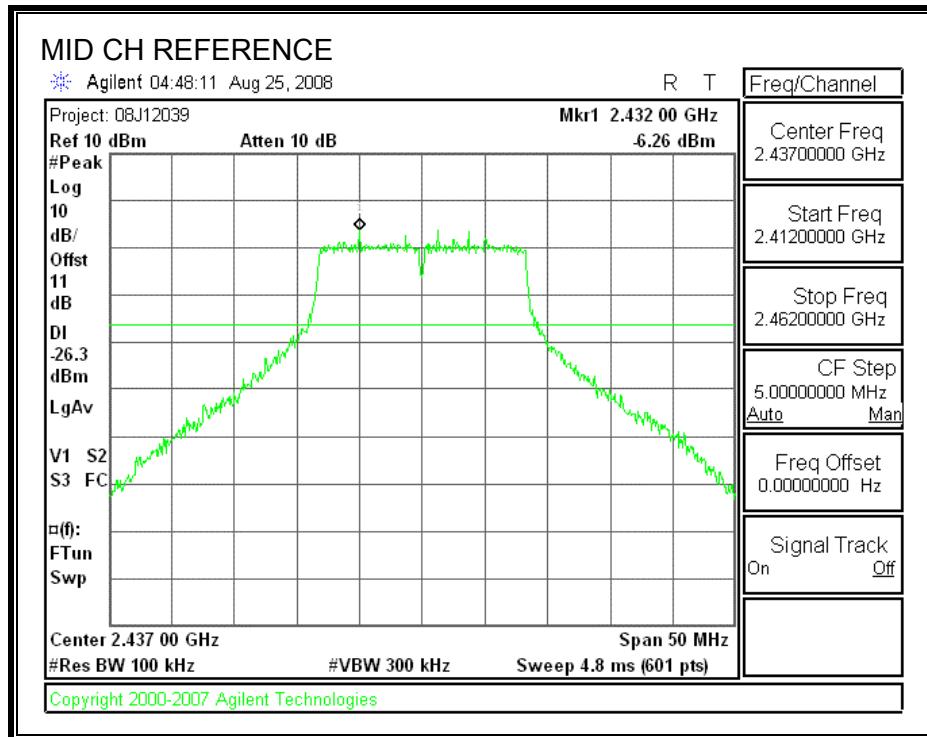
RESULTS

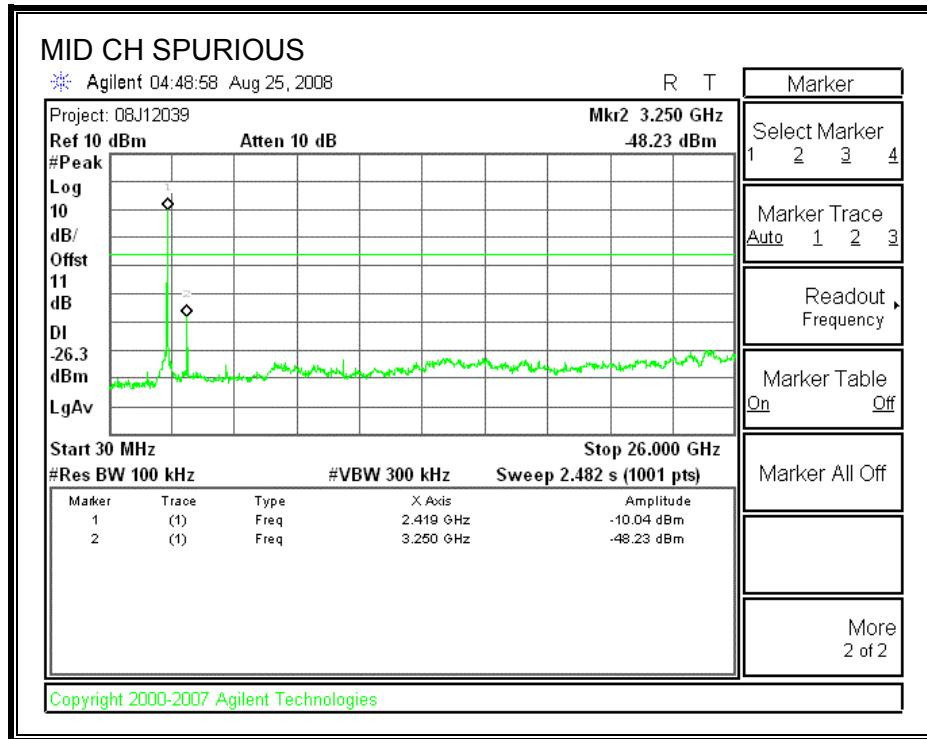
SPURIOUS EMISSIONS, LOW CHANNEL



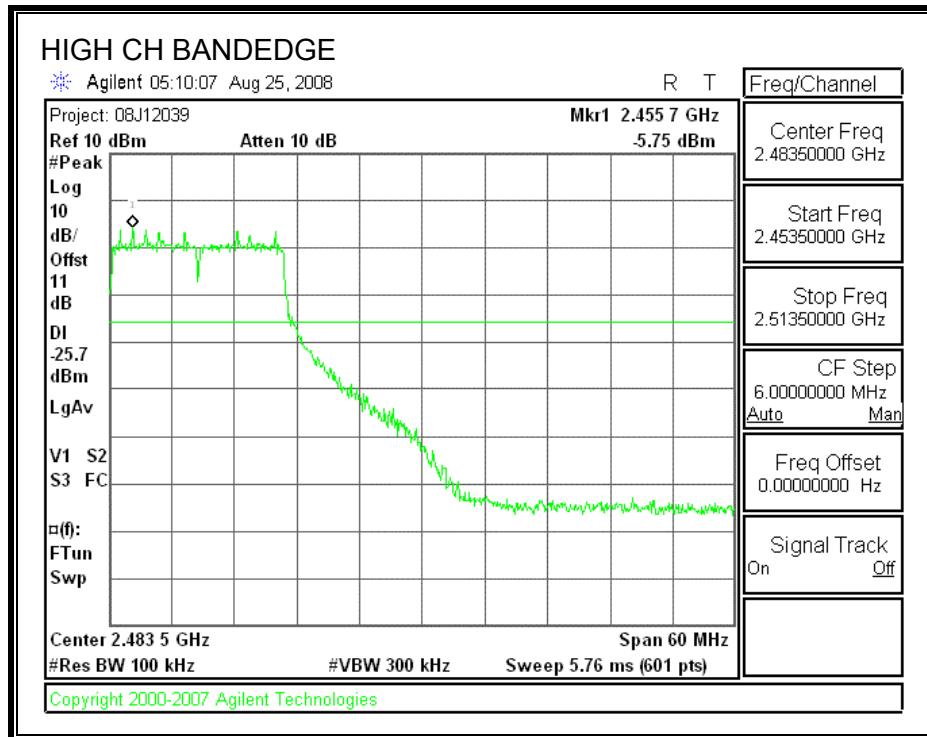


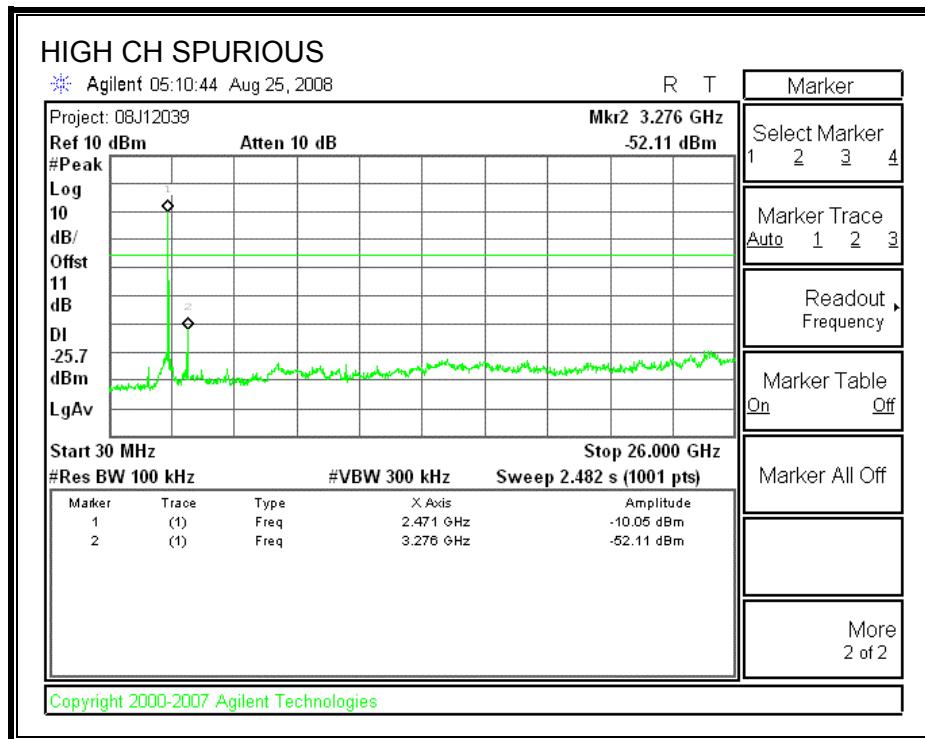
SPURIOUS EMISSIONS, MID CHANNEL





SPURIOUS EMISSIONS, HIGH CHANNEL





8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

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

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

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

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

The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

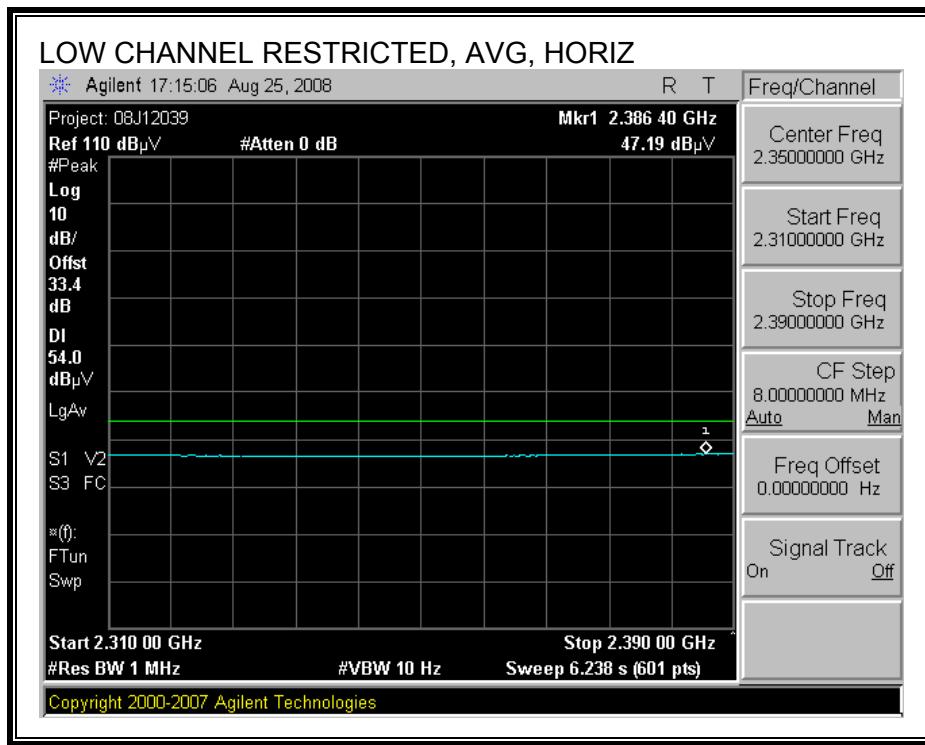
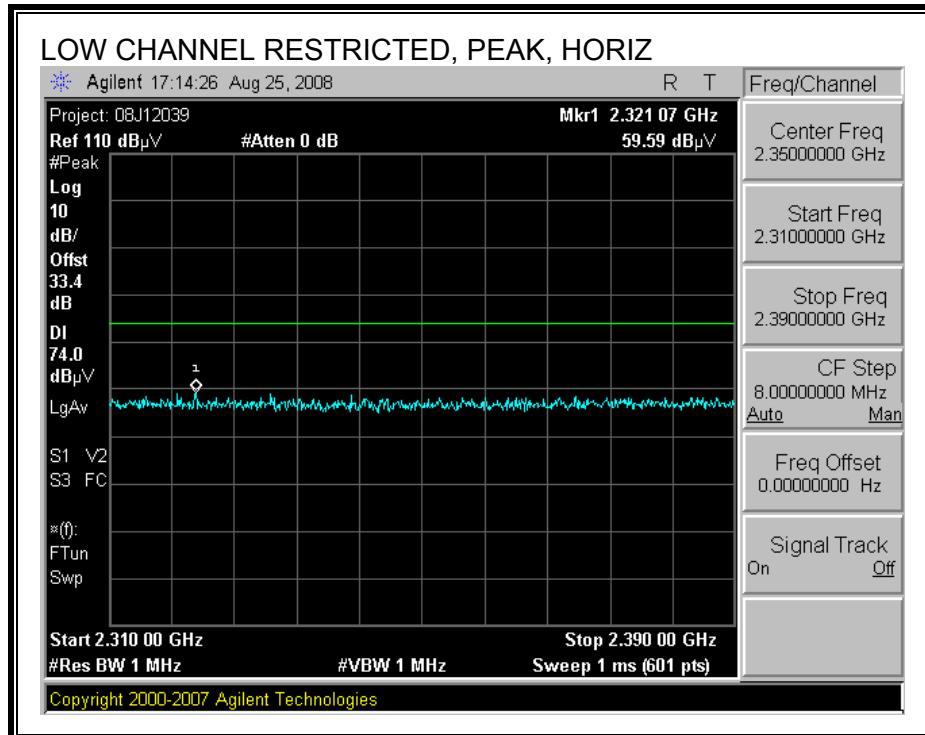
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

8.2. TRANSMITTER ABOVE 1 GHz

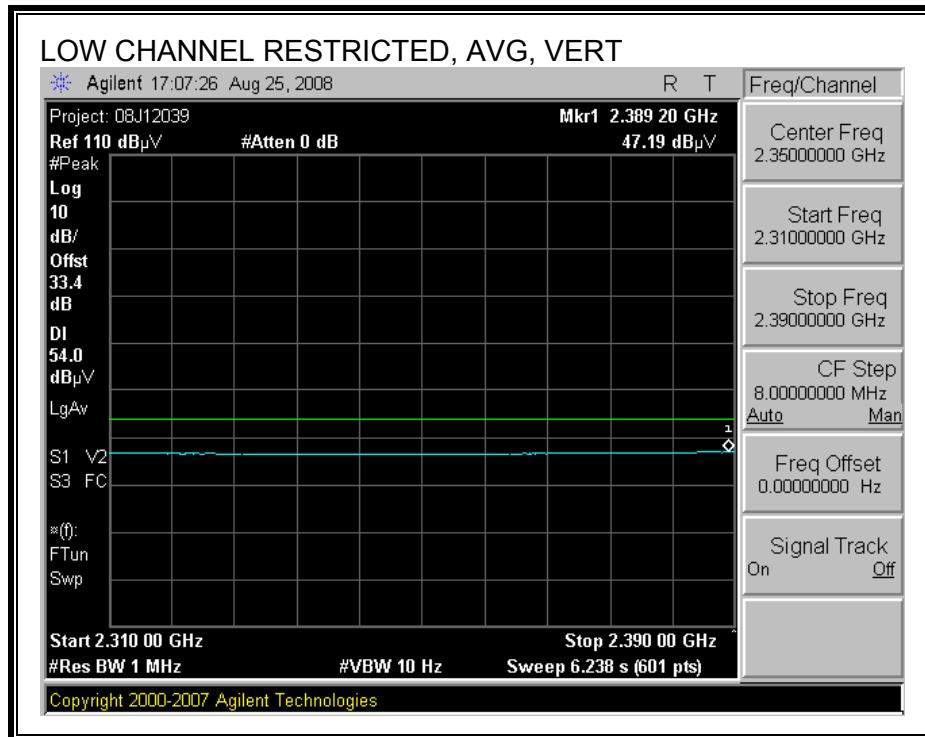
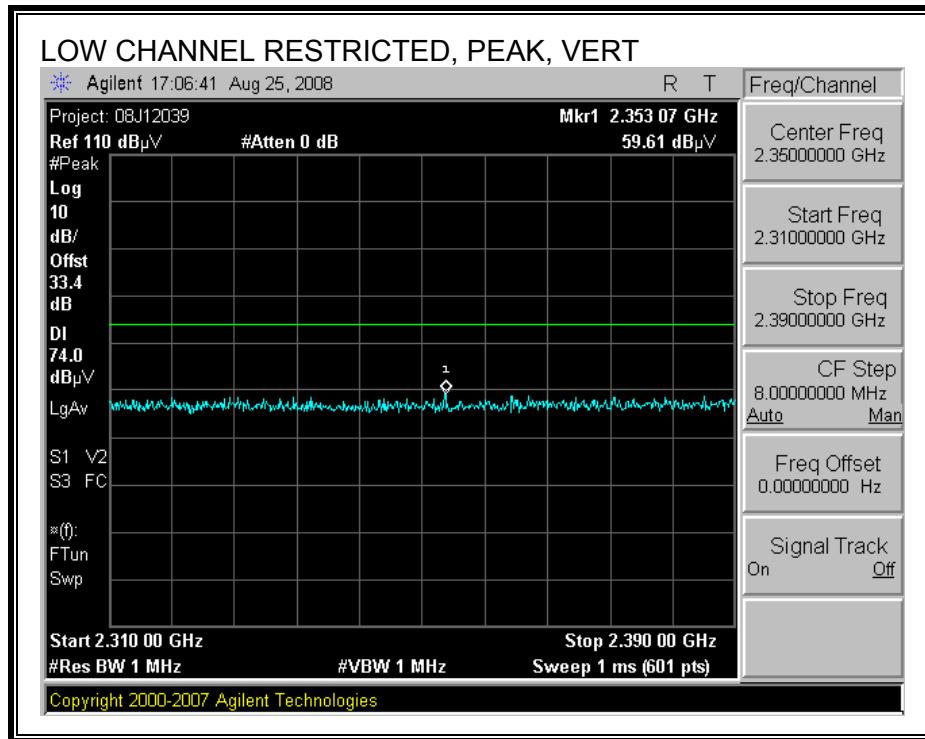
8.2.1. 802.11 MODE

FOXCONN ANTENNA

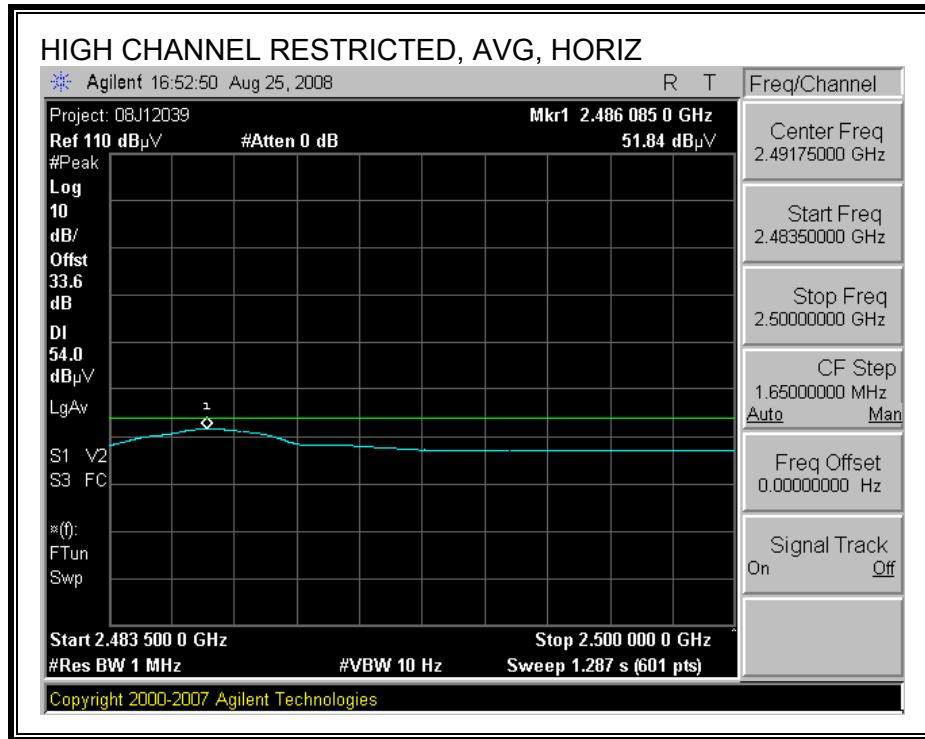
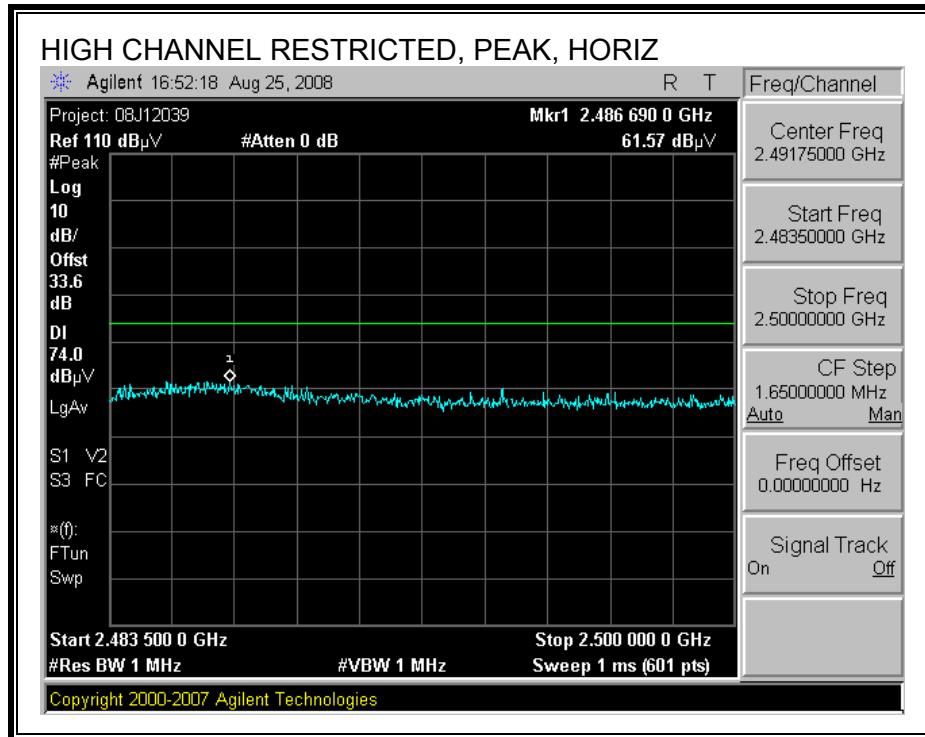
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



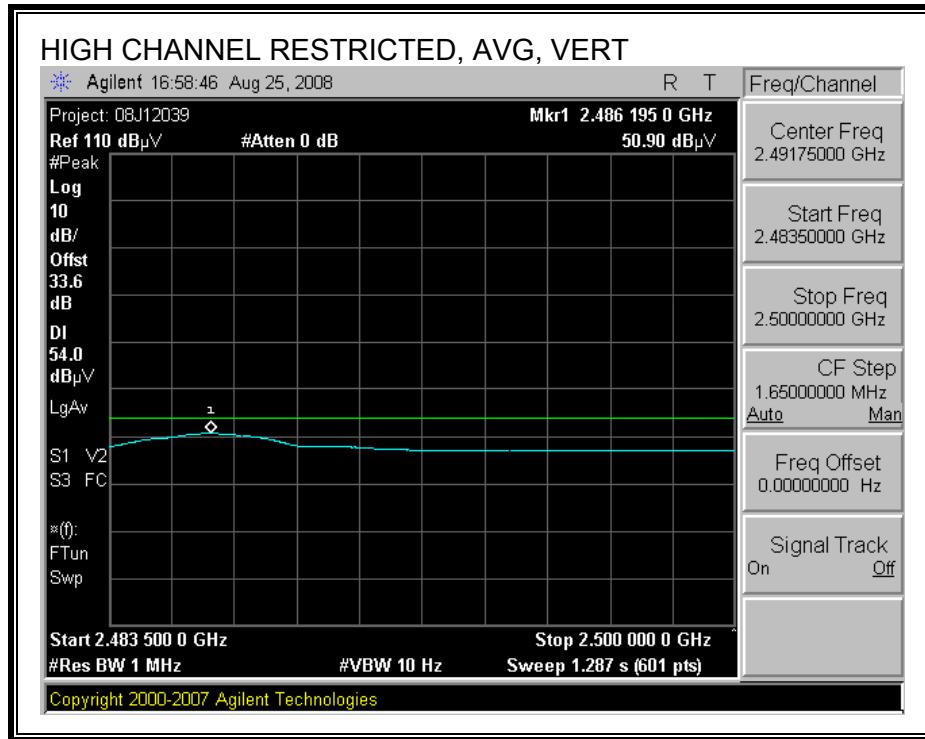
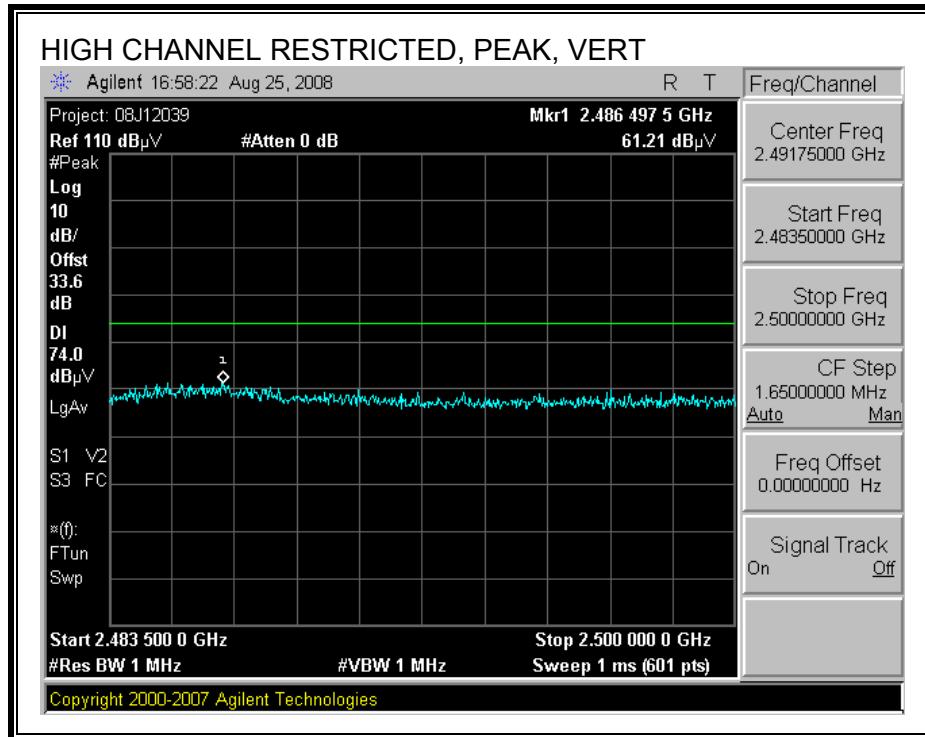
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

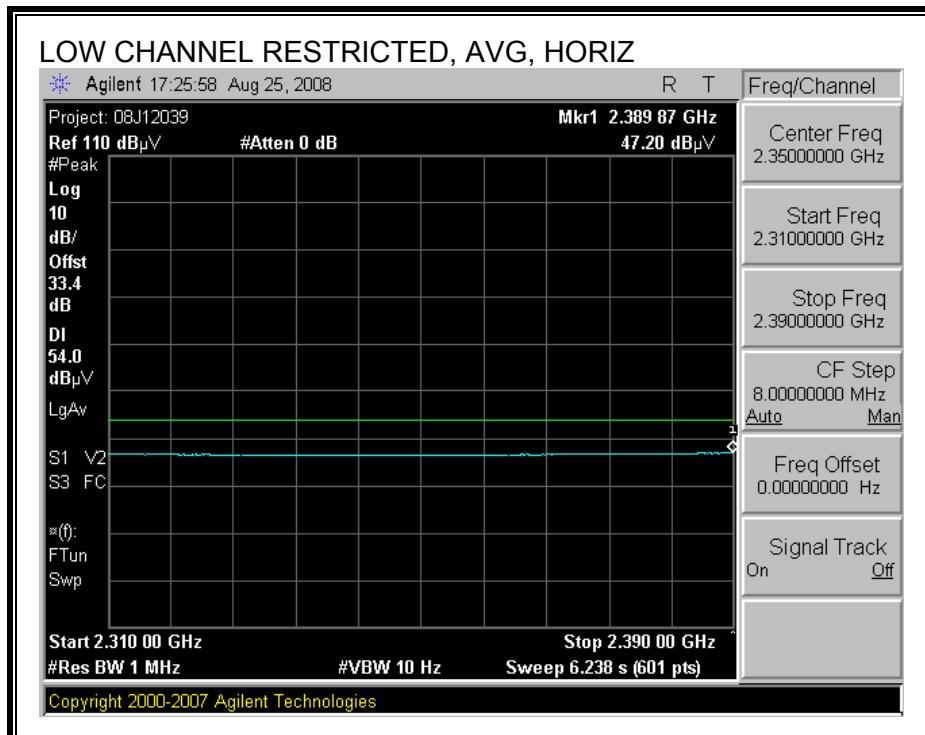
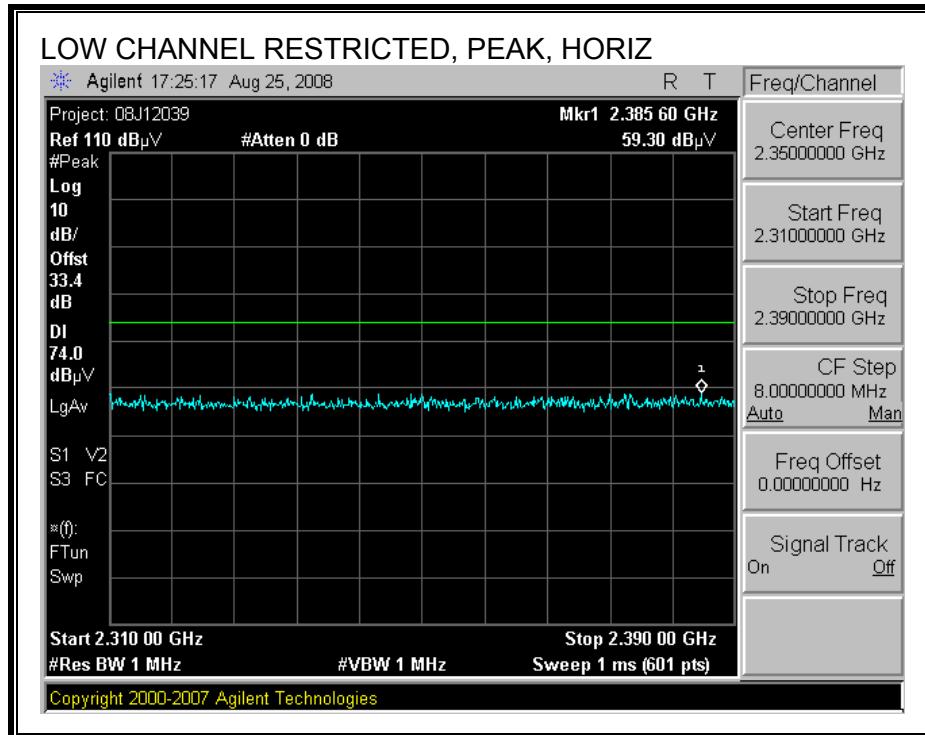


HARMONICS AND SPURIOUS EMISSIONS

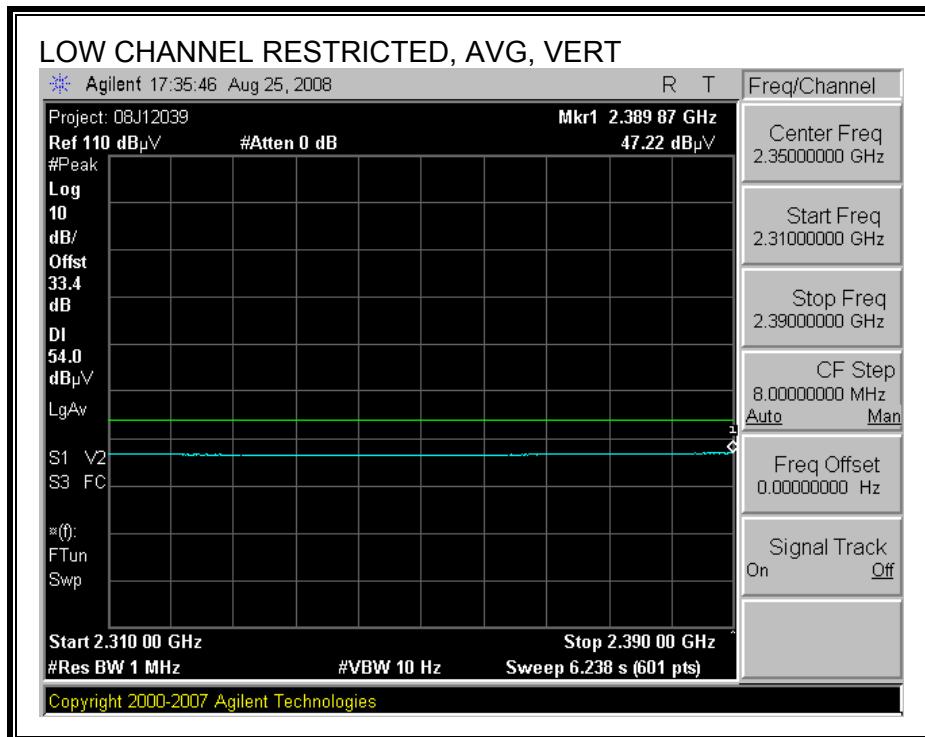
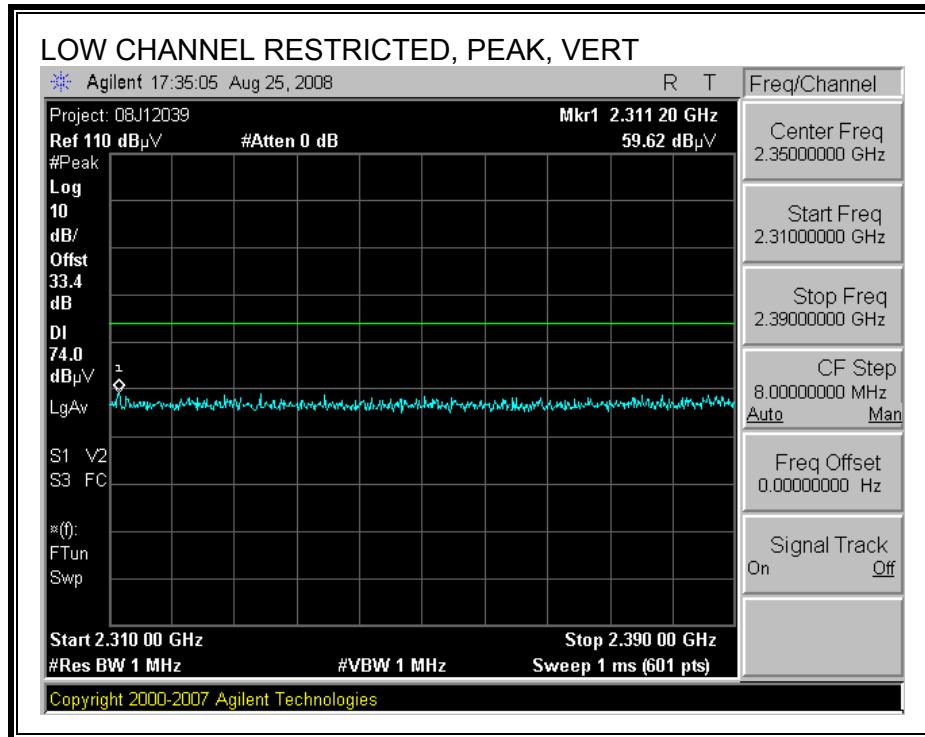
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Company: NINTENDO Project #: 08J12039 Date: 8/27/2008 Test Engineer: William Zhuang Configuration: EUT only Mode: Tx On, 802.11 Mode															
Test Equipment:															
Horn 1-18GHz		Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz		Horn > 18GHz		Limit							
T120; S/N: 29310 @3m		T34 HP 8449B						FCC 15.205							
Hi Frequency Cables															
2 foot cable		3 foot cable		12 foot cable		HPF		Reject Filter		Peak Measurements RBW=VBW=1MHz					
Thanh 177079008				C5m Chamber		HPF_4.0GHz				Average Measurements RBW=1MHz ; VBW=10Hz					
f GHz	Dist (m)	Read Pk dBuV	Read Avg dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Ch. 2412 MHz															
4.824	3.0	47.8	39.9	32.3	2.8	-34.8	0.0	0.6	48.6	40.7	74	54	-25.4	-13.3	V
4.824	3.0	44.8	35.7	32.3	2.8	-34.8	0.0	0.6	45.6	36.5	74	54	-28.4	-17.5	H
Mid Ch. 2442 MHz															
4.884	3.0	43.8	33.3	32.3	2.8	-34.8	0.0	0.6	44.8	34.2	74	54	-29.2	-19.8	H
4.884	3.0	45.5	37.2	32.3	2.8	-34.8	0.0	0.6	46.4	38.1	74	54	-27.6	-15.9	V
High Ch. 2472 MHz															
4.944	3.0	45.3	36.3	32.4	2.8	-34.8	0.0	0.6	46.4	37.3	74	54	-27.6	-16.7	V
4.944	3.0	42.8	32.4	32.4	2.8	-34.8	0.0	0.6	43.8	33.5	74	54	-30.2	-20.5	H
No more signal found															

TYCO ANTENNA

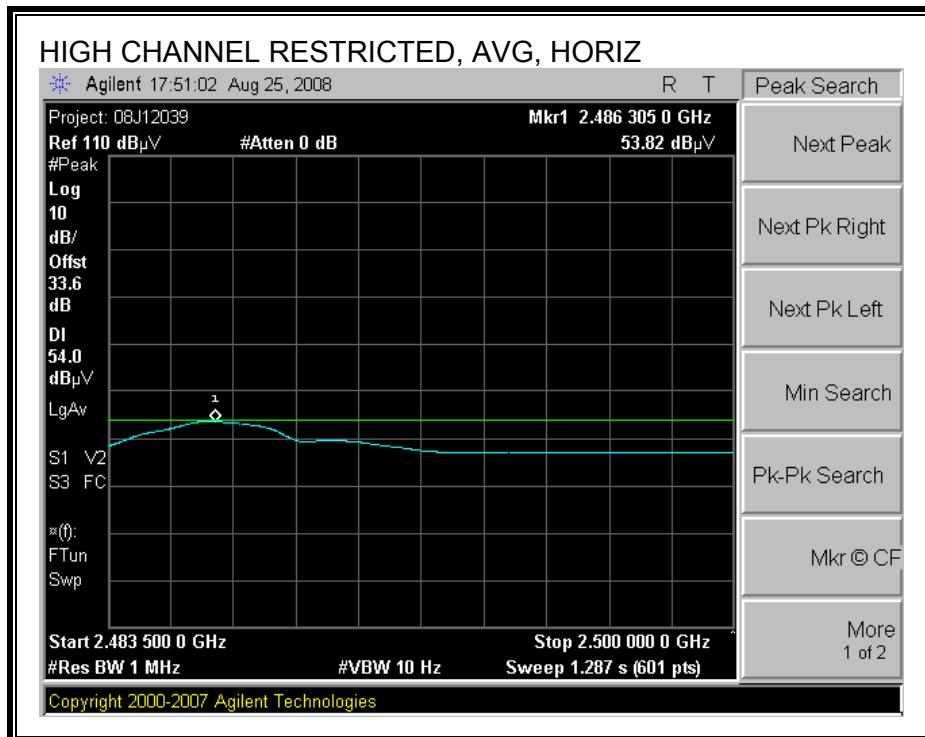
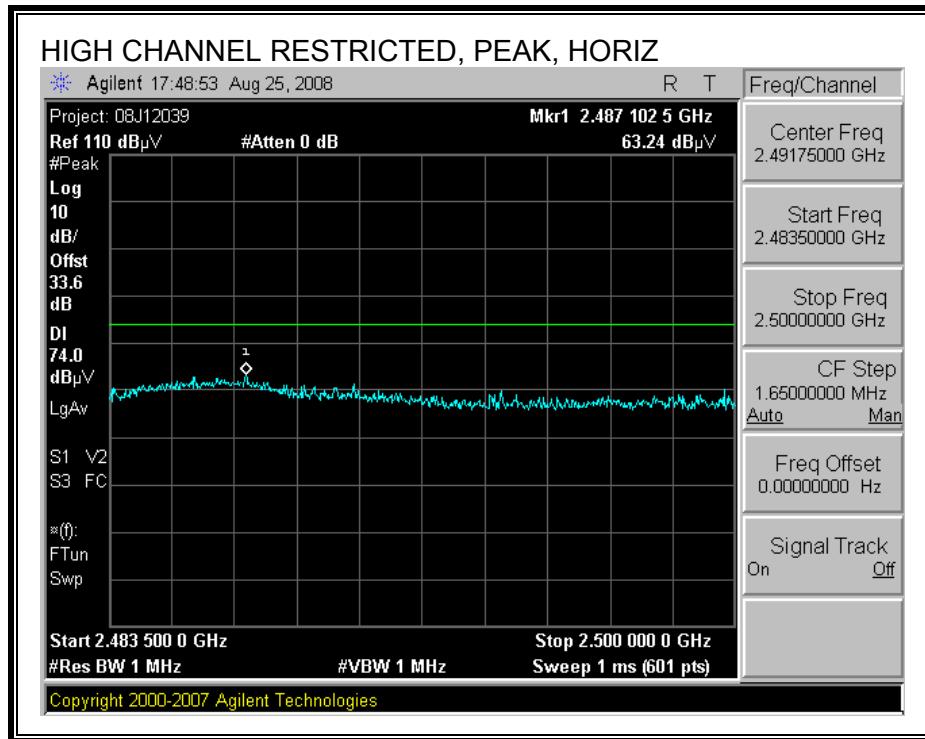
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



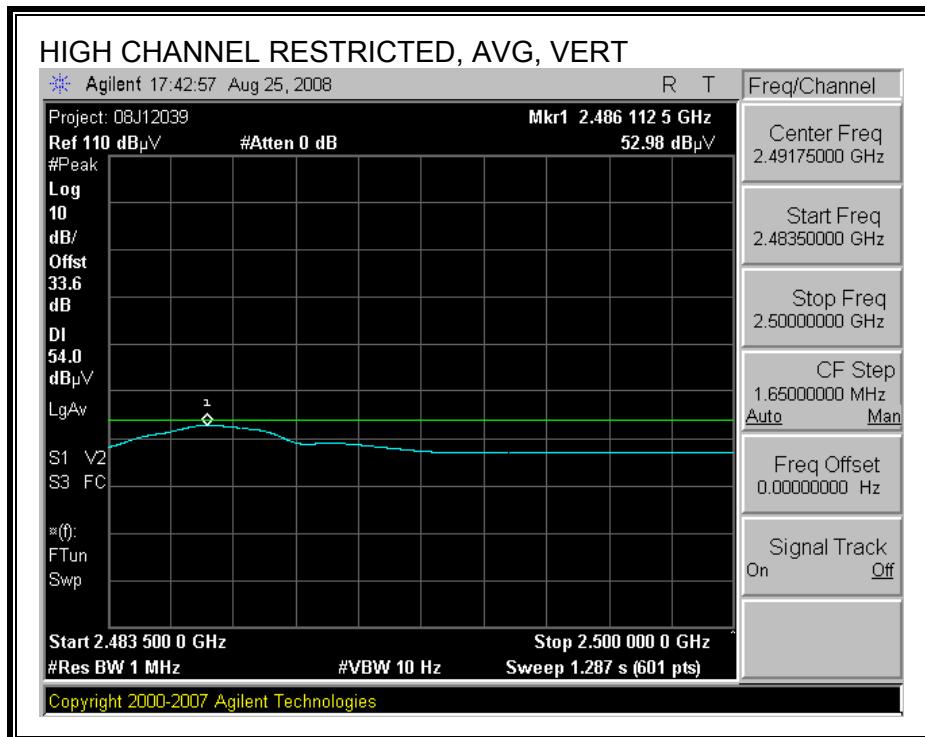
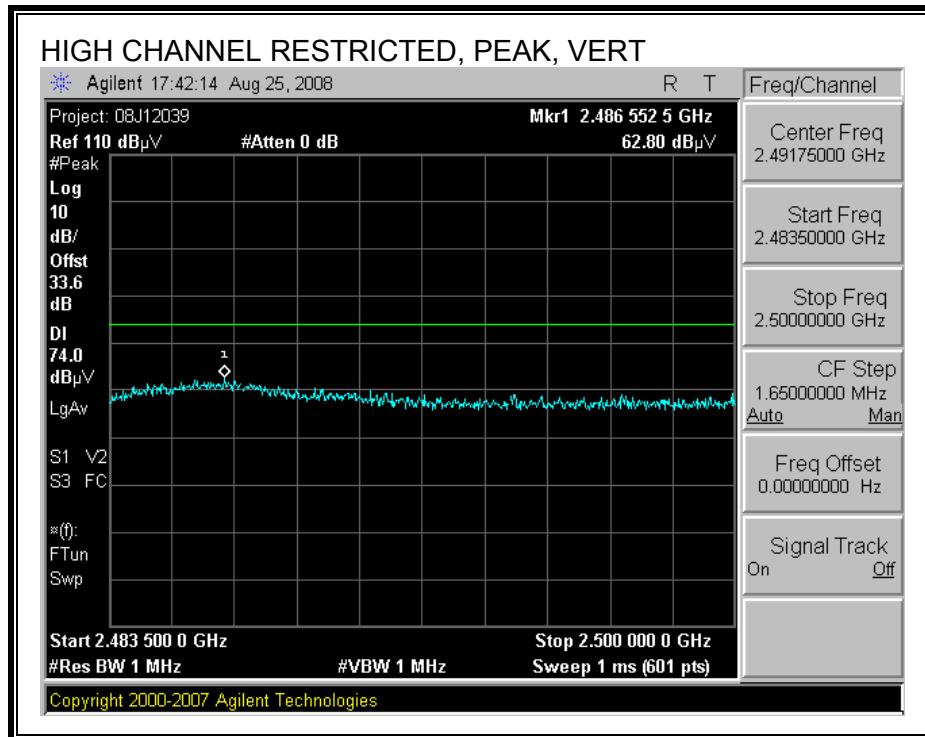
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: NINTENDO
Project #: 08J12039
Date: 8/27/2008
Test Engineer: William Zhuang
Configuration: FUT only
Mode: Tx On, 802.11 Mode

Test Equipment:

Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz	Limit
T120; S/N: 29310 @3m	T34 HP 8449B			FCC 15.205

Hi Frequency Cables

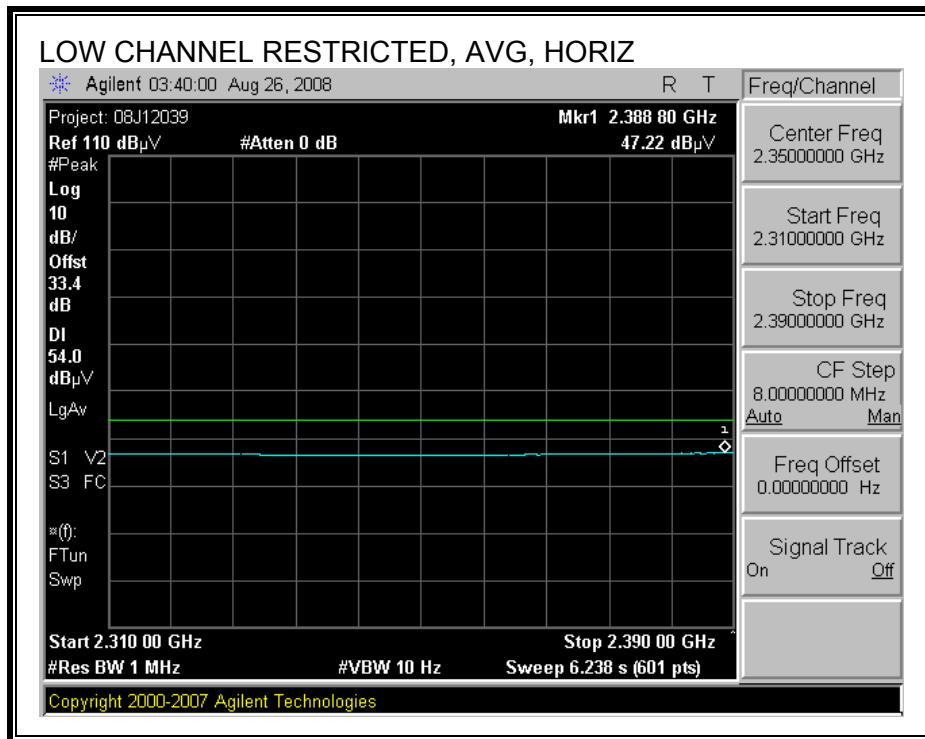
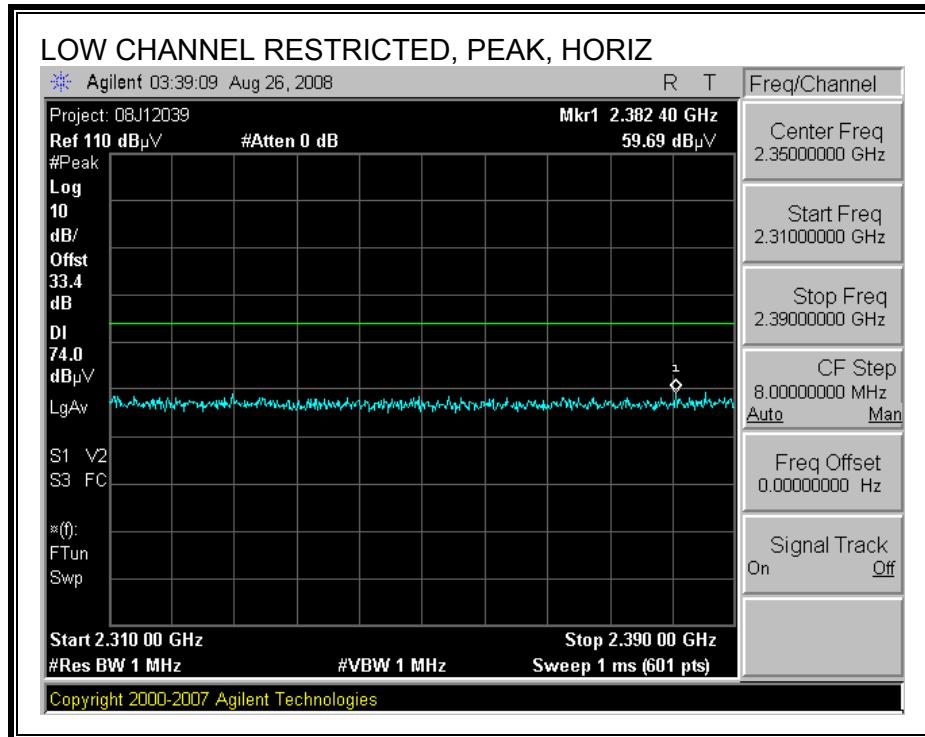
2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz
Thanh 177079008		C-5m Chamber	HPF_4.0GHz		Average Measurements RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Ch. 2412 MHz															
4.824	3.0	44.2	33.9	32.3	2.8	-34.8	0.0	0.6	45.0	34.7	74	54	-29.0	-19.3	V
4.824	3.0	44.5	38.6	32.3	2.8	-34.8	0.0	0.6	45.3	39.4	74	54	-28.7	-14.6	H
Mid Ch. 2442 MHz															
4.884	3.0	44.6	39.8	32.3	2.8	-34.8	0.0	0.6	45.5	40.7	74	54	-28.5	-13.3	H
4.884	3.0	42.9	37.7	32.3	2.8	-34.8	0.0	0.6	43.8	38.6	74	54	-30.2	-15.4	V
High Ch. 2472 MHz															
4.944	3.0	44.5	37.1	32.4	2.8	-34.8	0.0	0.6	45.5	38.1	74	54	-28.5	-15.9	V
4.944	3.0	44.2	36.8	32.4	2.8	-34.8	0.0	0.6	45.2	37.8	74	54	-28.8	-16.2	H
No more signal found															

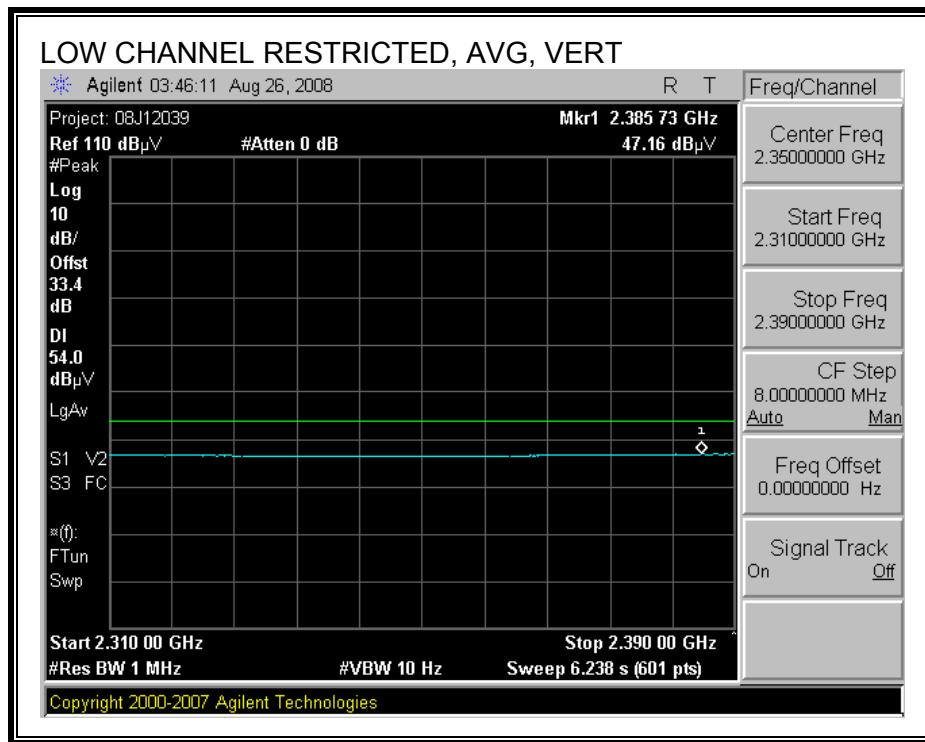
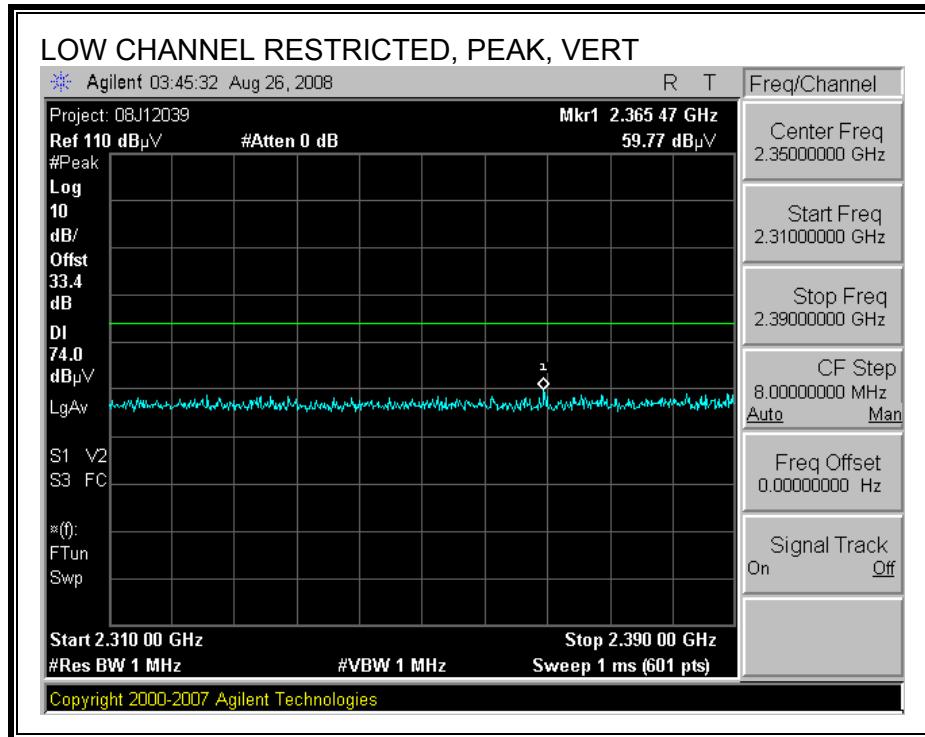
8.2.2. 802.11b MODE

FOXCONN ANTENNA

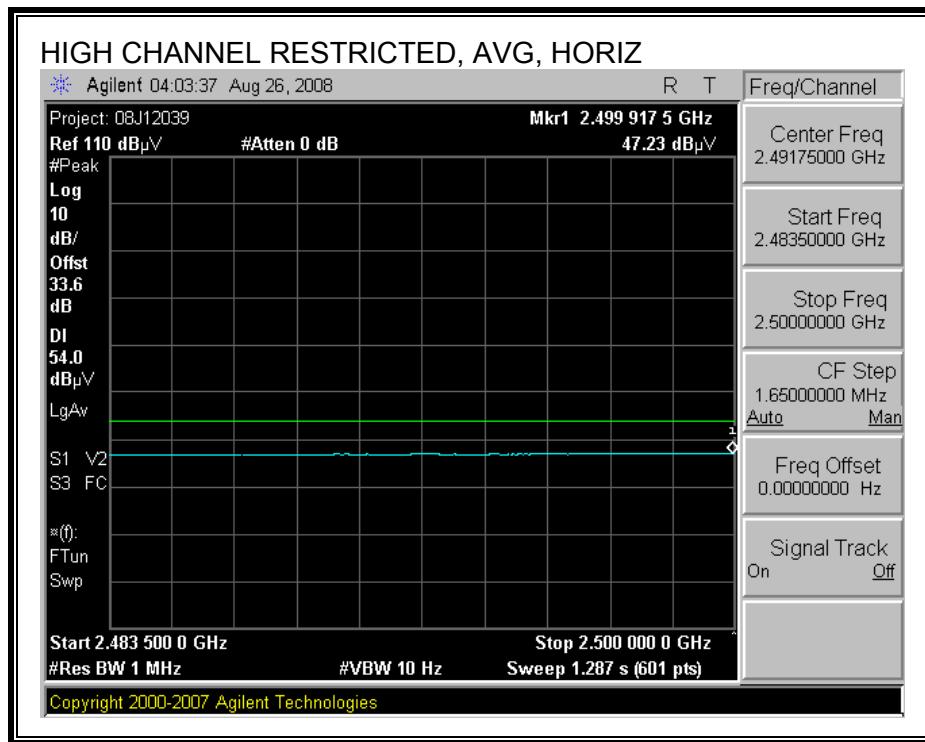
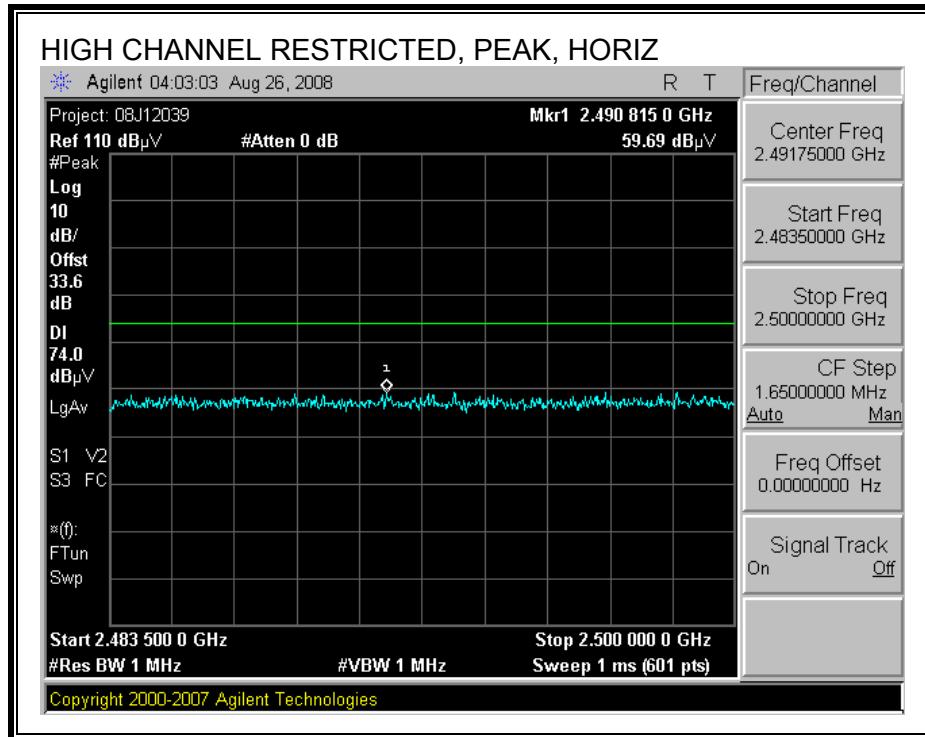
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



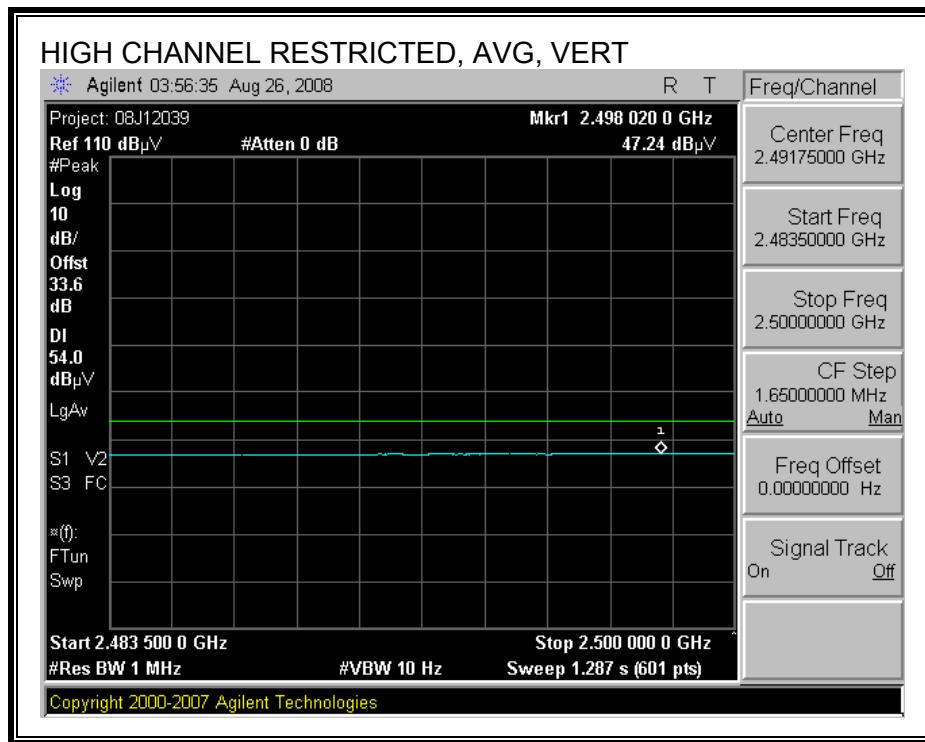
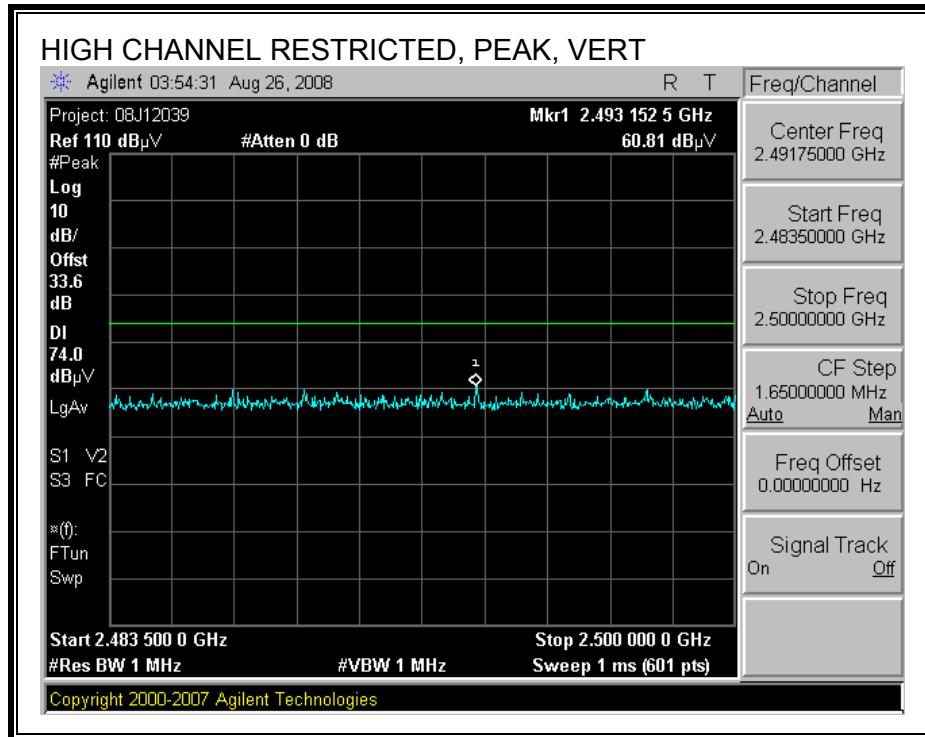
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: NINTENDO
Project #: 08J12039
Date: 8/26/2008
Test Engineer: William Zhuang
Configuration: EUT with support equipment
Mode: Tx On, b Mode

Test Equipment:

Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz	Limit
T120; S/N: 29310 @3m	T34 HP 8449B			FCC 15.205

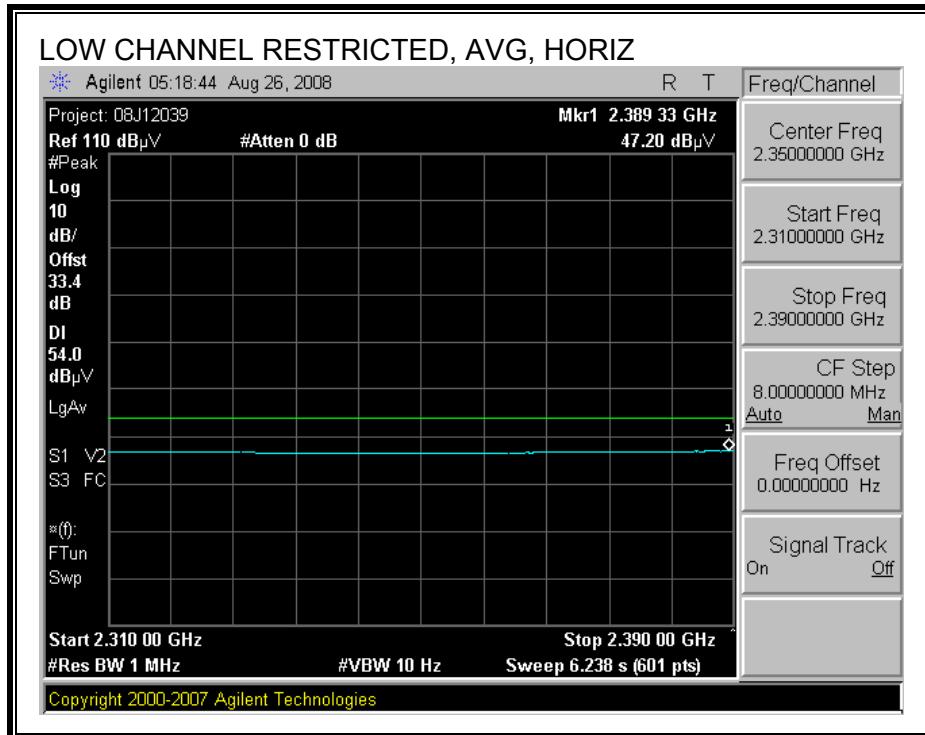
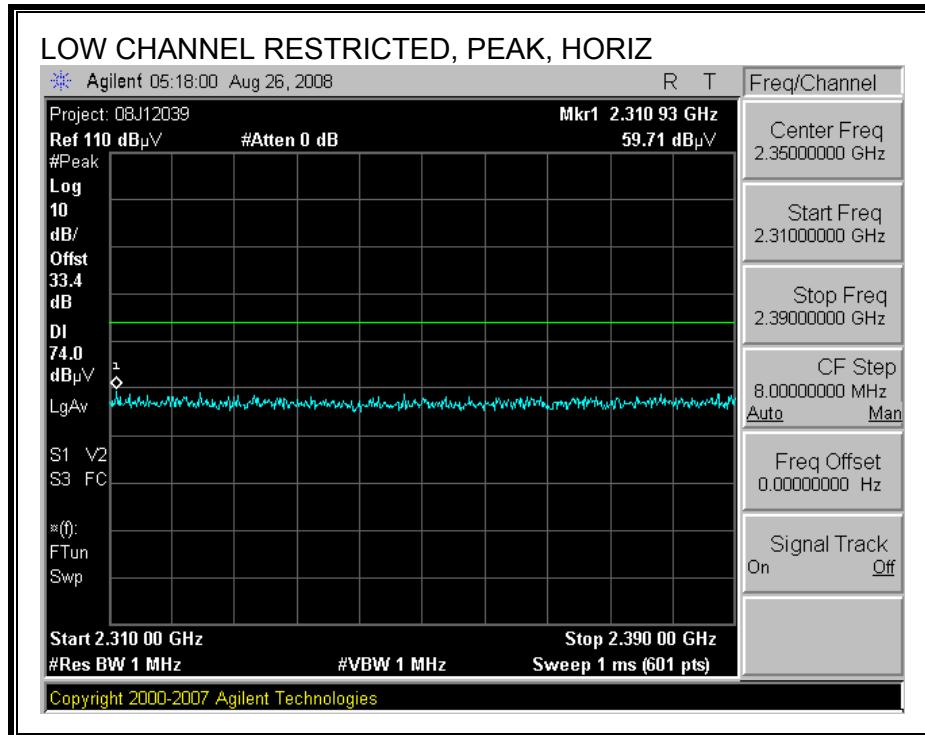
Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz
Thanh 177079008		C-5m Chamber	HPF_4.0GHz		Average Measurements RBW=1MHz ; VBW=10Hz

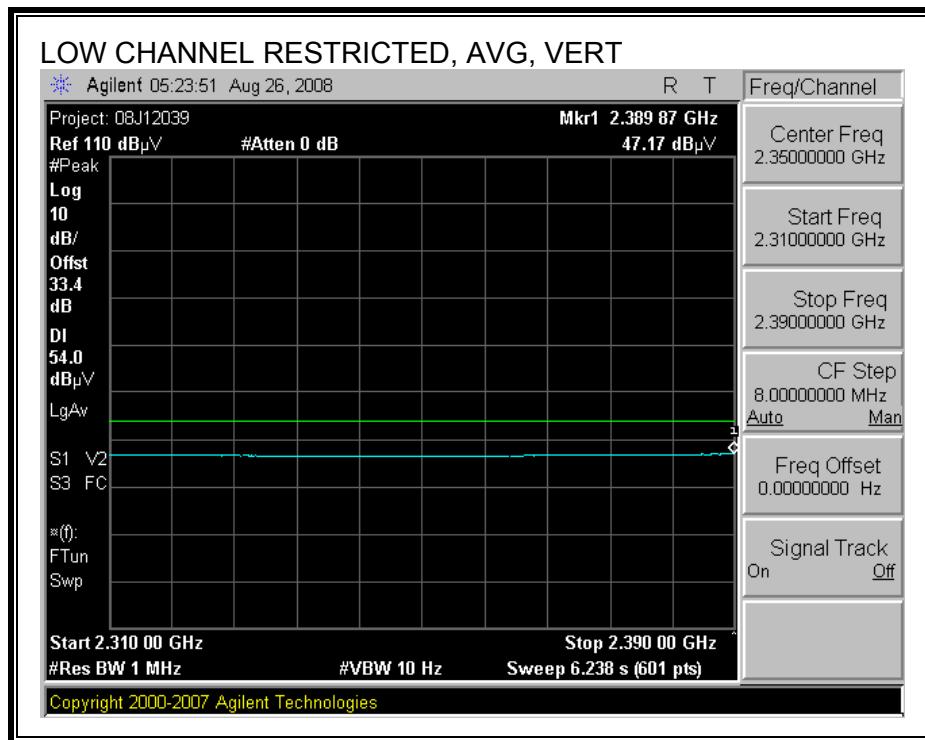
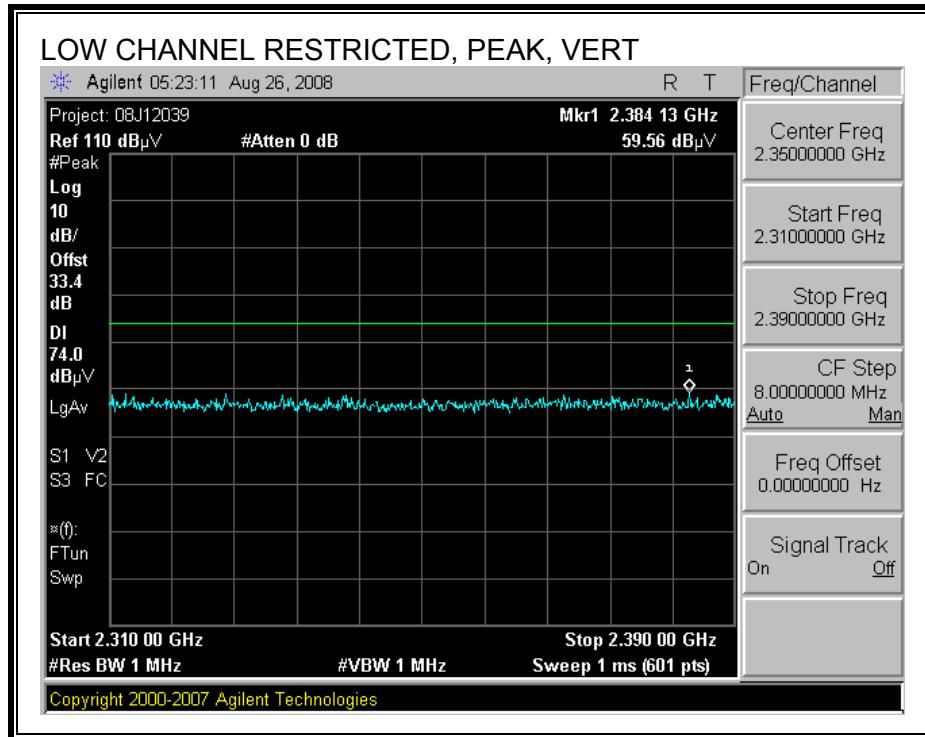
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Ch. 2412 MHz															
4.824	3.0	45.1	39.7	32.3	2.8	-34.8	0.0	0.6	45.9	40.5	74	54	-28.1	-13.5	V
4.824	3.0	44.4	38.2	32.3	2.8	-34.8	0.0	0.6	45.3	39.0	74	54	-28.7	-15.0	H
Mid Ch. 2437 MHz															
4.874	3.0	42.9	32.9	32.3	2.8	-34.8	0.0	0.6	43.8	33.8	74	54	-30.2	-20.2	H
4.874	3.0	45.8	37.4	32.3	2.8	-34.8	0.0	0.6	46.7	38.3	74	54	-27.3	-15.7	V
High Ch. 2462 MHz															
4.924	3.0	46.0	40.7	32.4	2.8	-34.8	0.0	0.6	47.0	41.7	74	54	-27.0	-12.3	V
4.924	3.0	43.6	35.0	32.4	2.8	-34.8	0.0	0.6	44.5	36.0	74	54	-29.5	-18.0	H
No more signal found															

TYCO ANTENNA

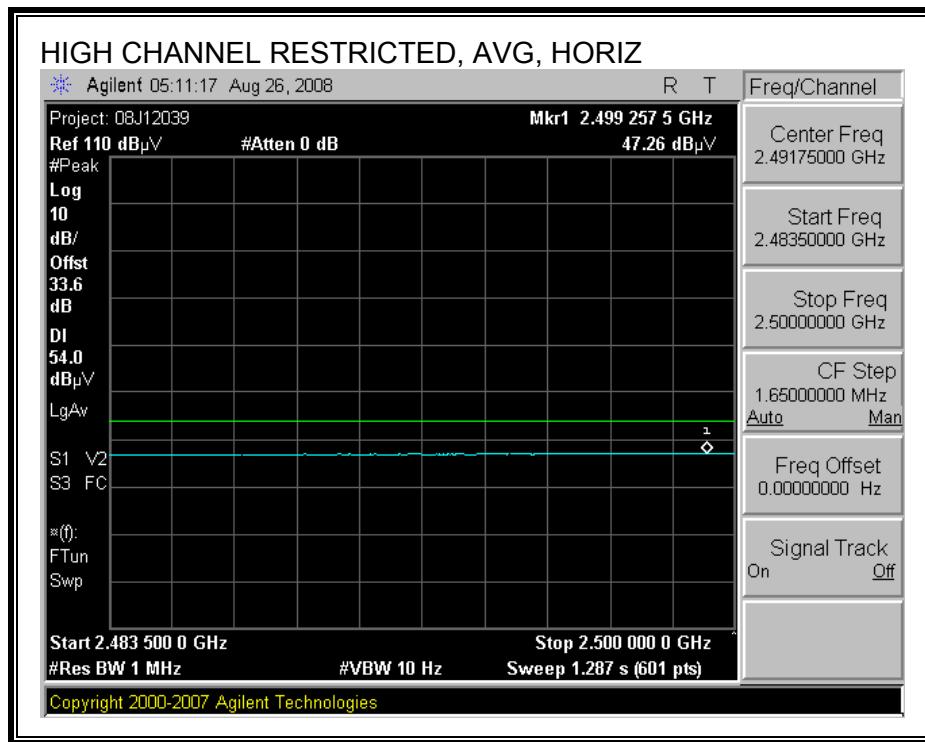
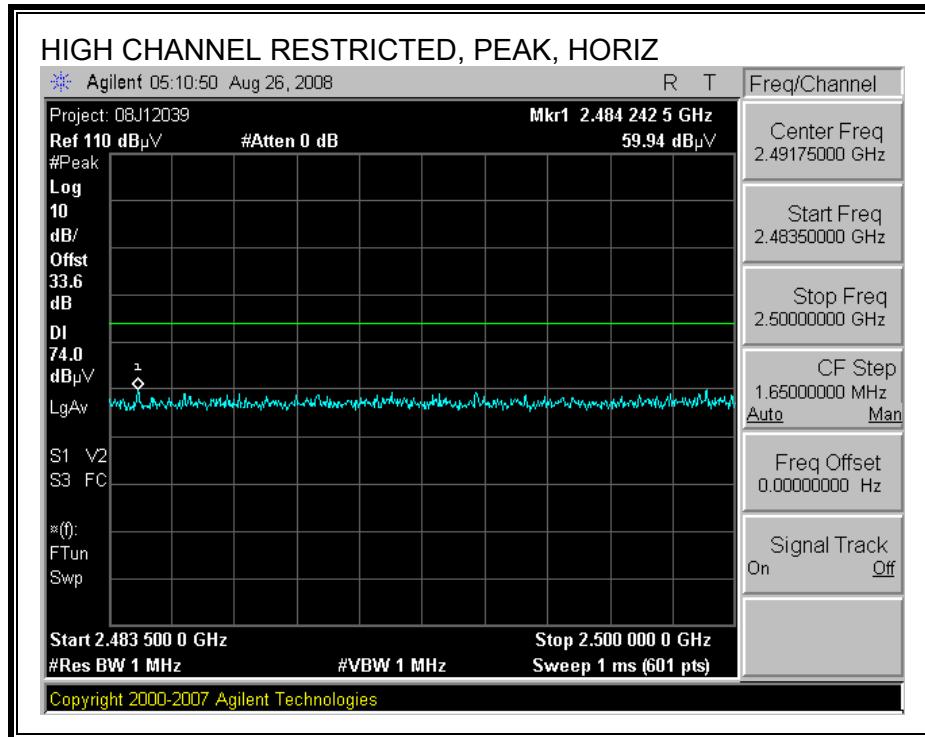
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



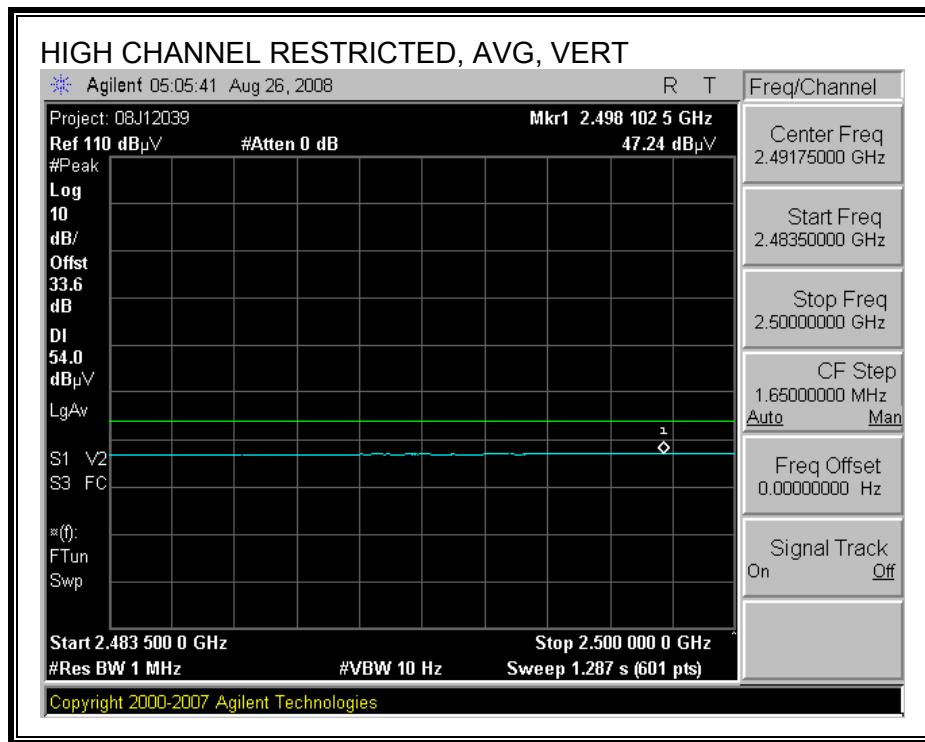
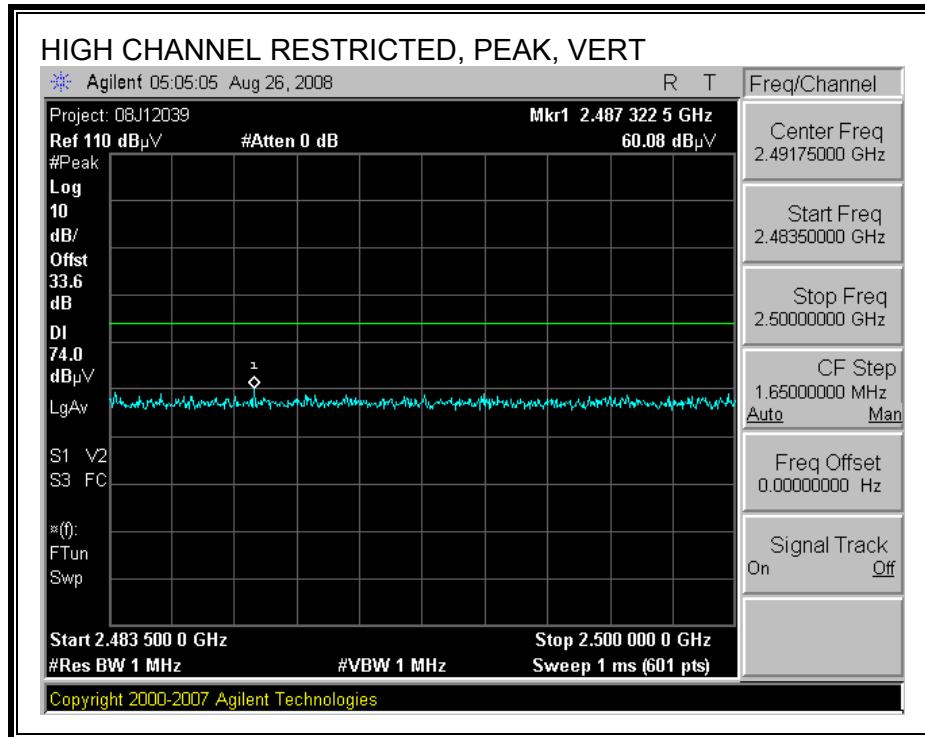
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: NINTENDO
Project #: 08J12039
Date: 8/26/2008
Test Engineer: William Zhuang
Configuration: EUT with support equipment
Mode: Tx On, b Mode

Test Equipment:

Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz	Limit
T120; S/N: 29310 @3m	T34 HP 8449B			FCC 15.205

Hi Frequency Cables

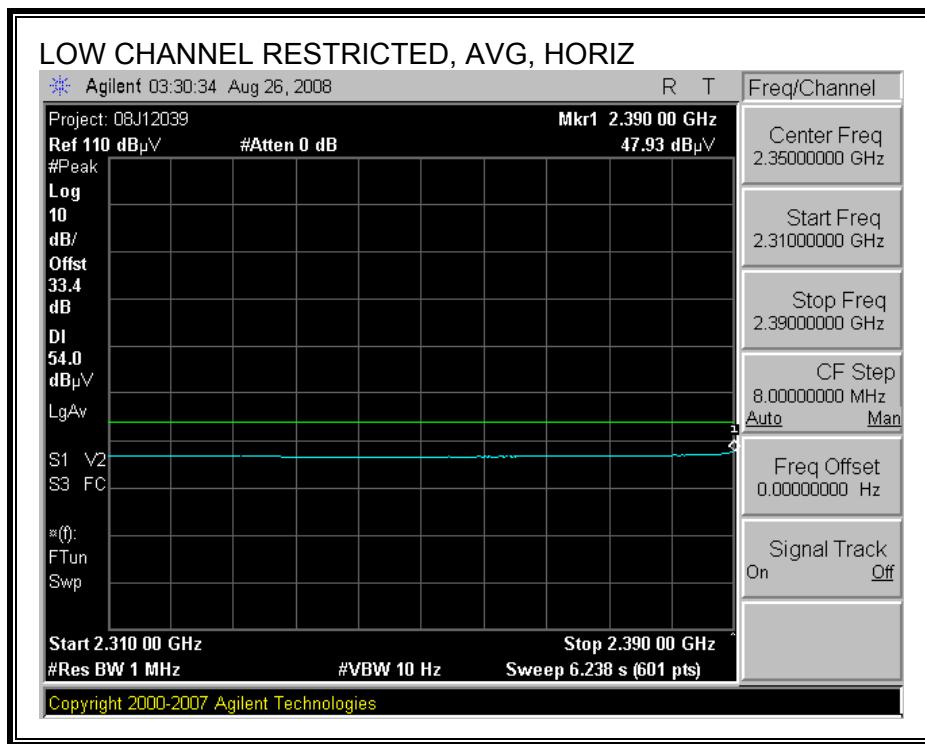
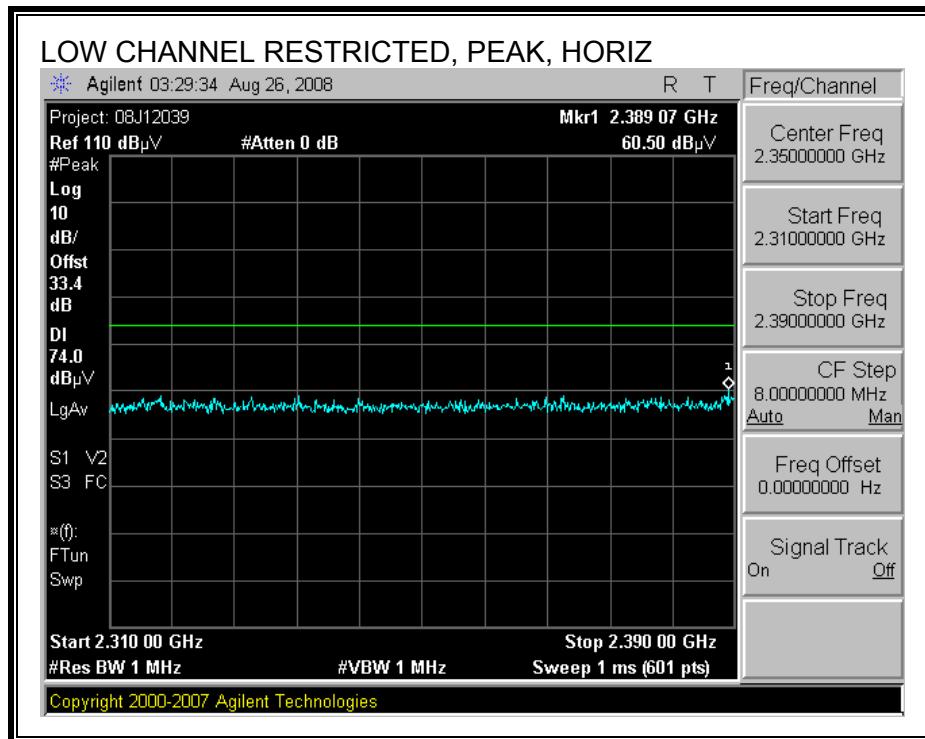
2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz
Thanh 177079008		C-5m Chamber	HPF_4.0GHz		Average Measurements RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Ch. 2412 MHz															
4.824	3.0	44.3	35.6	32.3	2.8	-34.8	0.0	0.6	45.1	36.4	74	54	-28.9	-17.6	V
4.824	3.0	42.0	29.6	32.3	2.8	-34.8	0.0	0.6	42.8	30.5	74	54	-31.2	-23.5	H
Mid Ch. 2437 MHz															
4.874	3.0	43.3	34.5	32.3	2.8	-34.8	0.0	0.6	44.2	35.4	74	54	-29.8	-18.6	H
4.874	3.0	43.1	32.3	32.3	2.8	-34.8	0.0	0.6	44.0	33.2	74	54	-30.0	-20.8	V
High Ch. 2462 MHz															
4.924	3.0	43.5	31.6	32.4	2.8	-34.8	0.0	0.6	44.5	32.6	74	54	-29.5	-21.4	V
4.924	3.0	42.9	32.7	32.4	2.8	-34.8	0.0	0.6	43.9	33.6	74	54	-30.1	-20.4	H
no more signal found															

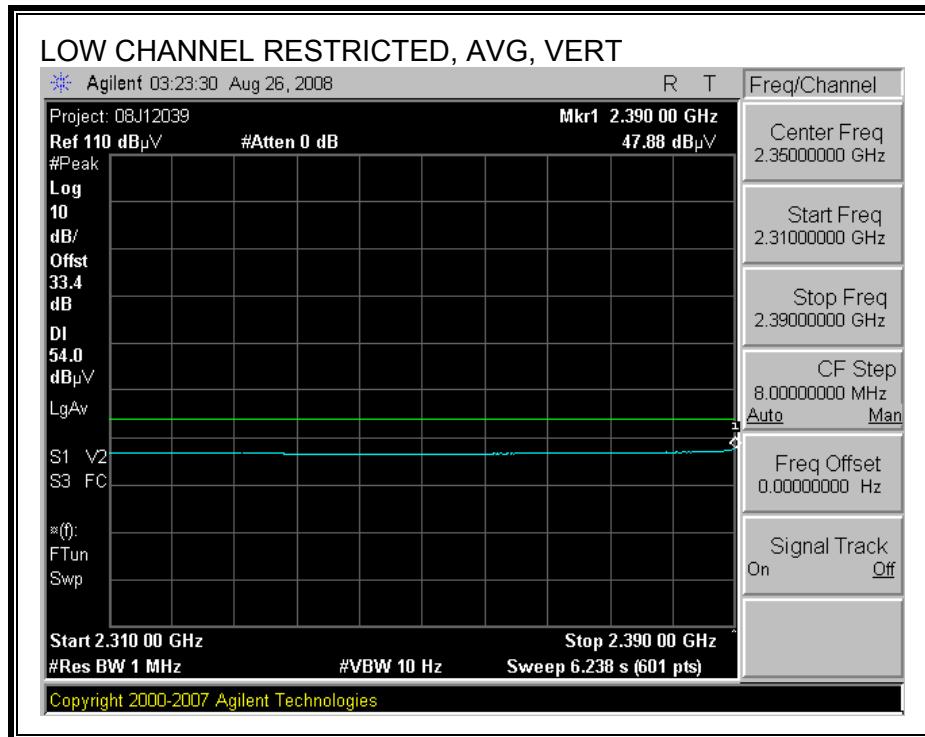
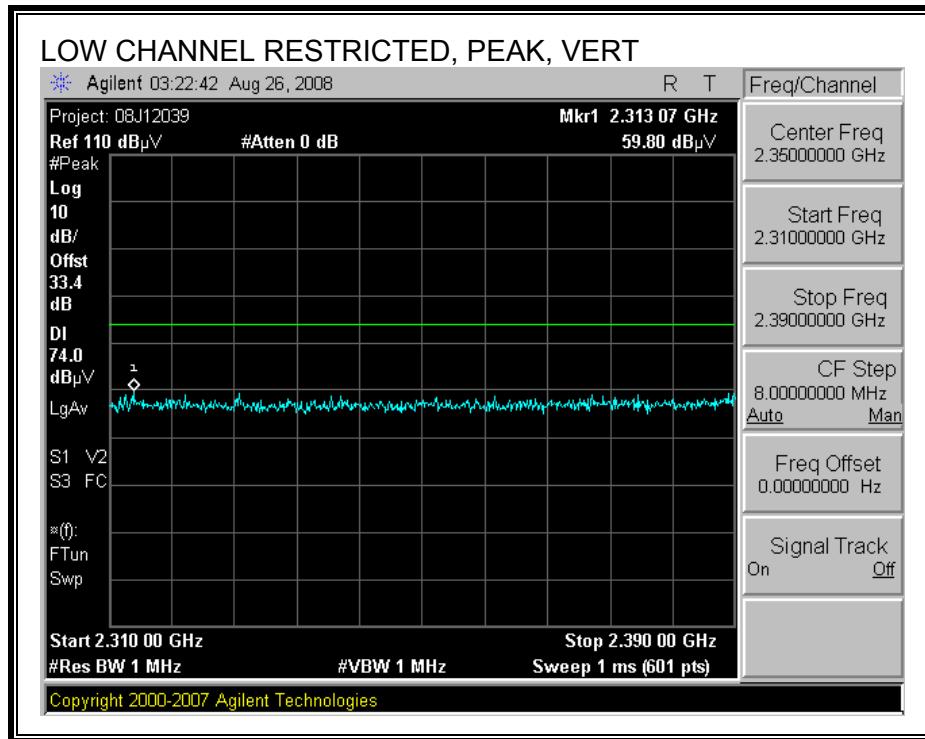
8.2.3. 802.11g MODE

FOXCONN ANTENNA

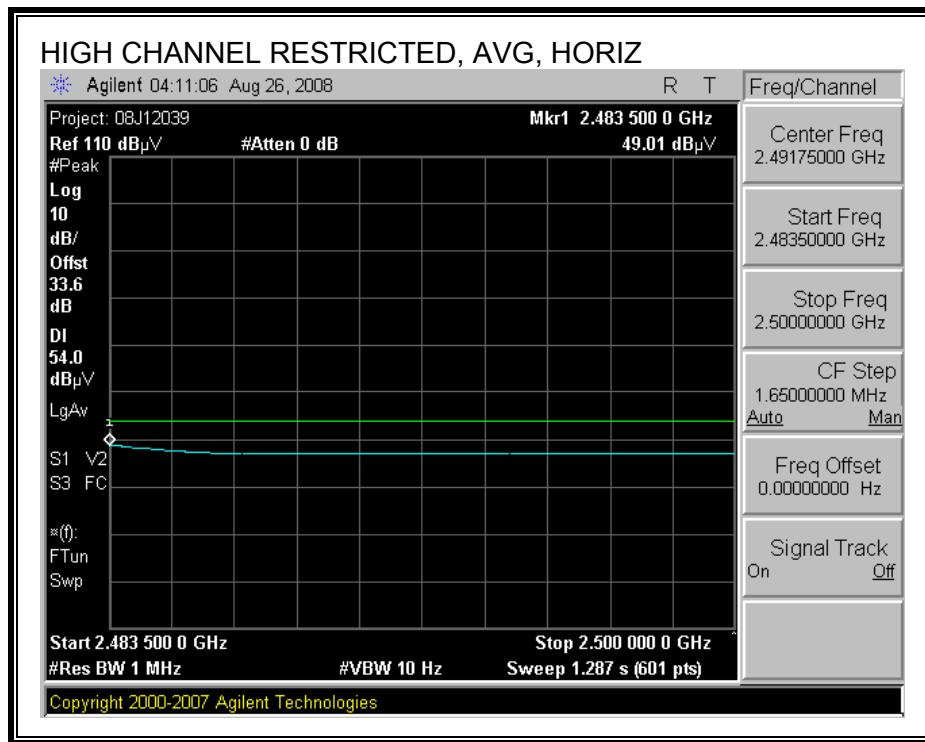
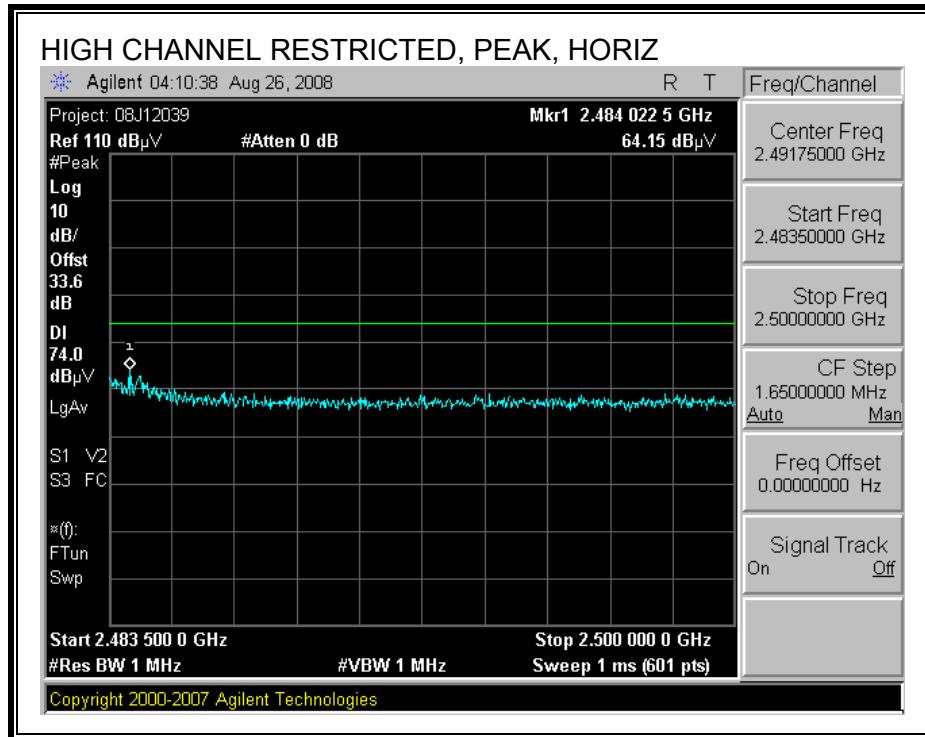
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



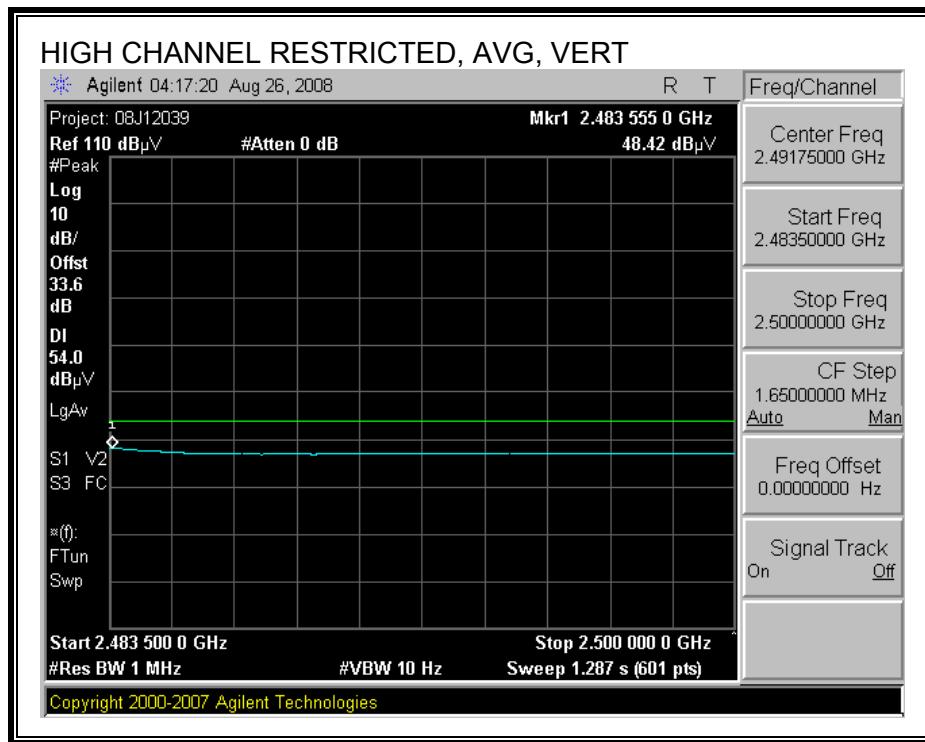
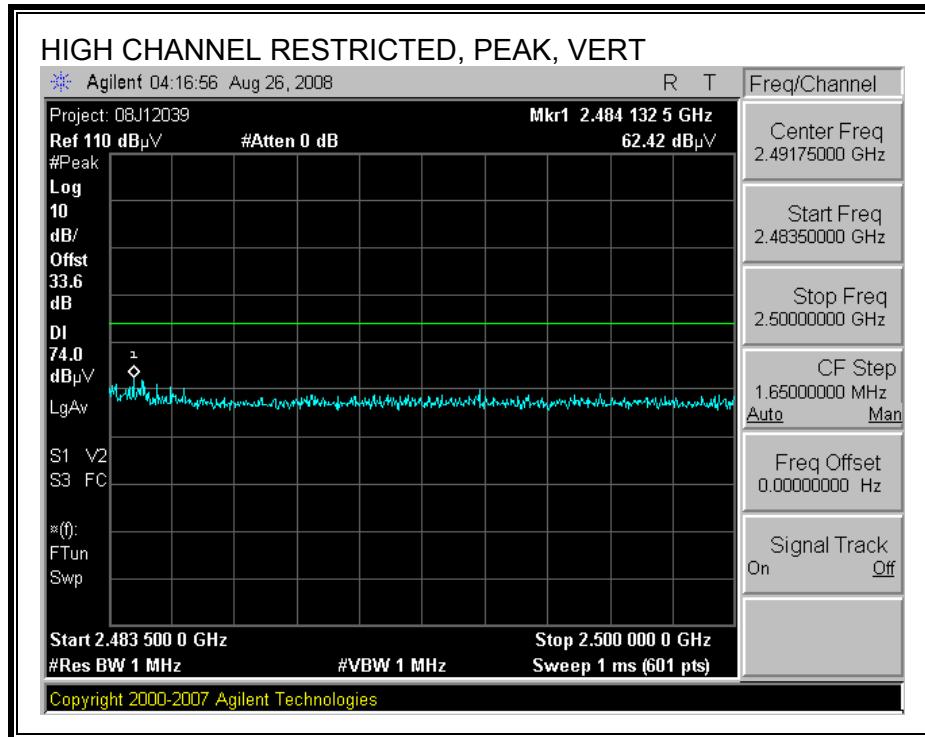
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: NINTENDO
Project #: 08J12039
Date: 8/26/2008
Test Engineer: William Zhuang
Configuration: EUT with support equipment
Mode: Tx On, g Mode

Test Equipment:

Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz	Limit
T120; S/N: 29310 @3m	T34 HP 8449B			FCC 15.205

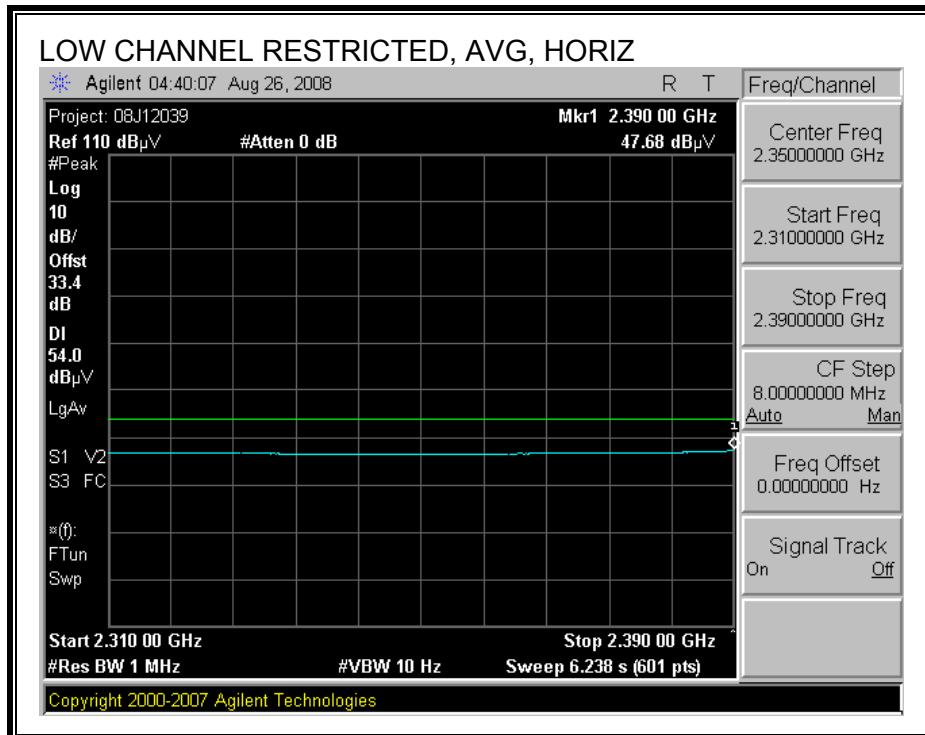
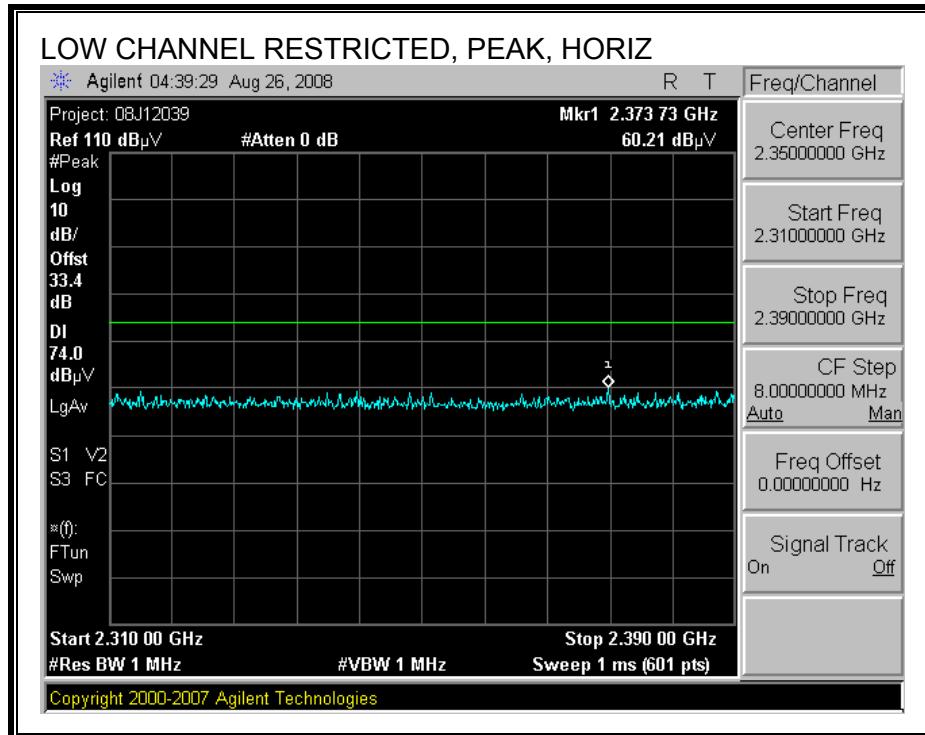
Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz
Thanh 177079008		C-5m Chamber	HPF_4.0GHz		Average Measurements RBW=1MHz ; VBW=10Hz

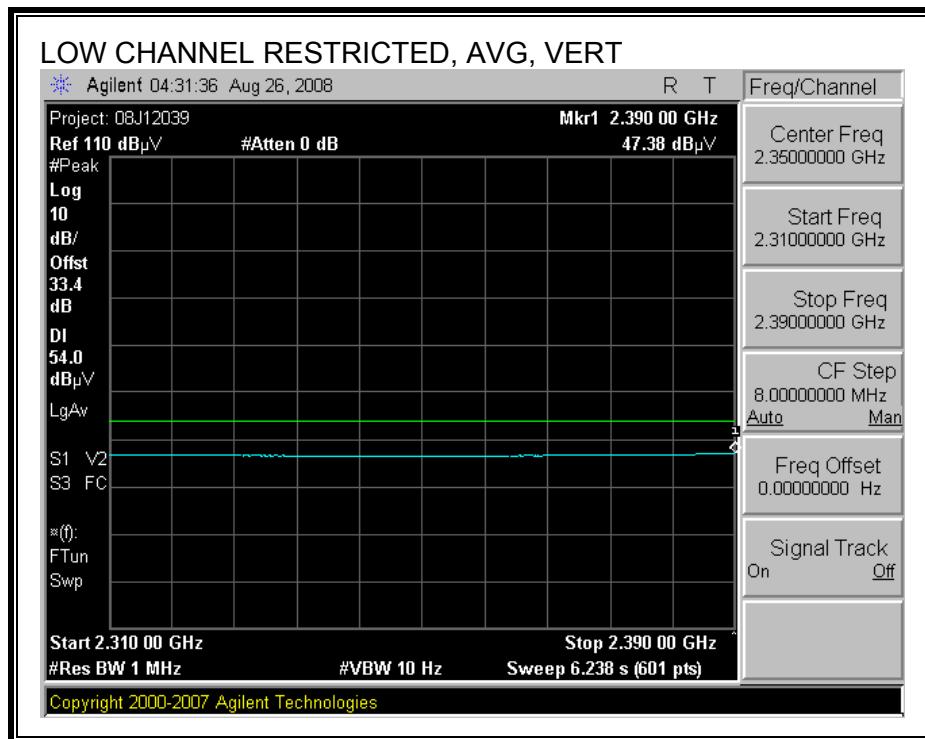
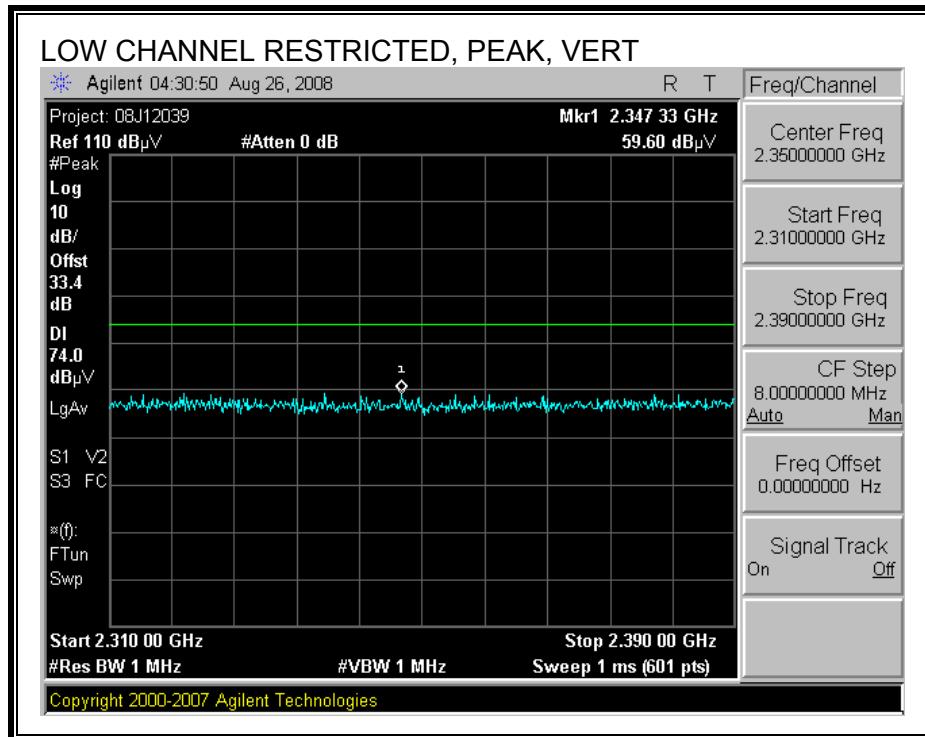
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Ch. 2412 MHz															
4.824	3.0	43.9	29.4	32.3	2.8	-34.8	0.0	0.6	44.7	30.2	74	54	-29.3	-23.8	V
4.824	3.0	42.5	29.6	32.3	2.8	-34.8	0.0	0.6	43.3	30.4	74	54	-30.7	-23.6	H
Mid Ch. 2437 MHz															
4.874	3.0	43.5	29.9	32.3	2.8	-34.8	0.0	0.6	44.4	30.8	74	54	-29.6	-23.2	H
4.874	3.0	42.5	29.5	32.3	2.8	-34.8	0.0	0.6	43.4	30.4	74	54	-30.6	-23.6	V
High Ch. 2462 MHz															
4.924	3.0	42.9	30.6	32.4	2.8	-34.8	0.0	0.6	43.9	31.6	74	54	-30.1	-22.4	V
4.924	3.0	42.5	29.5	32.4	2.8	-34.8	0.0	0.6	43.4	30.4	74	54	-30.6	-23.6	H
no more signal found															

TYCO ANTENNA

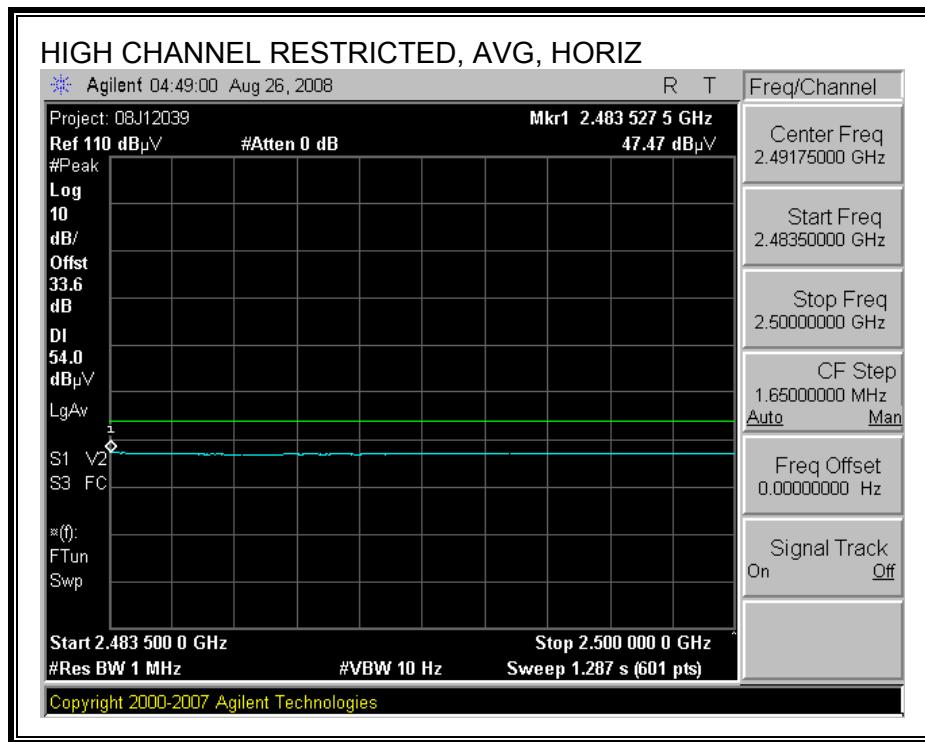
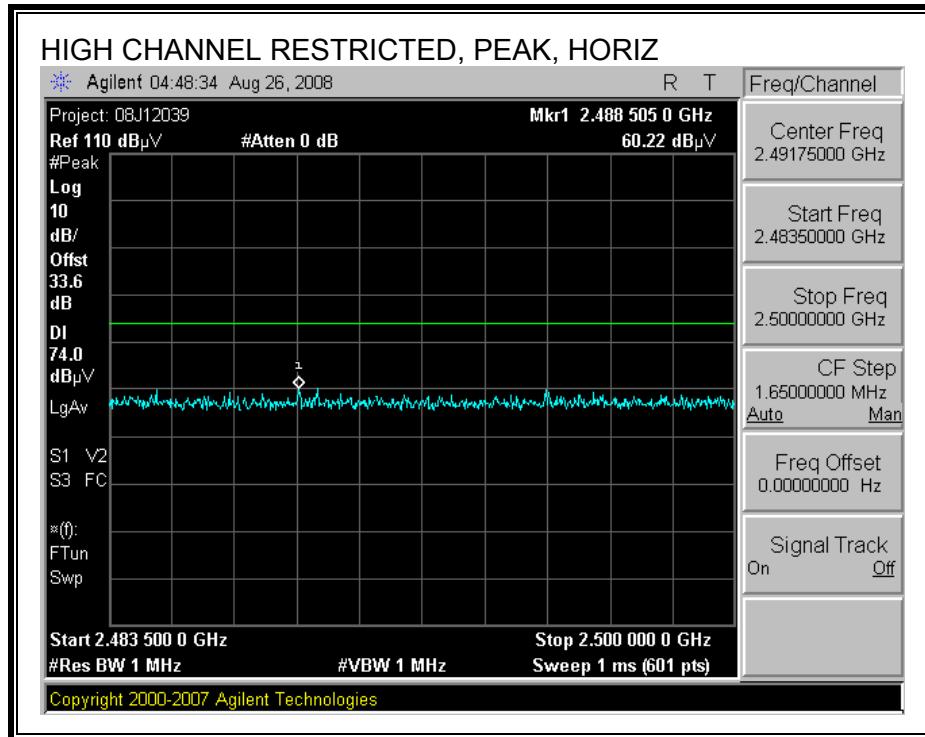
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



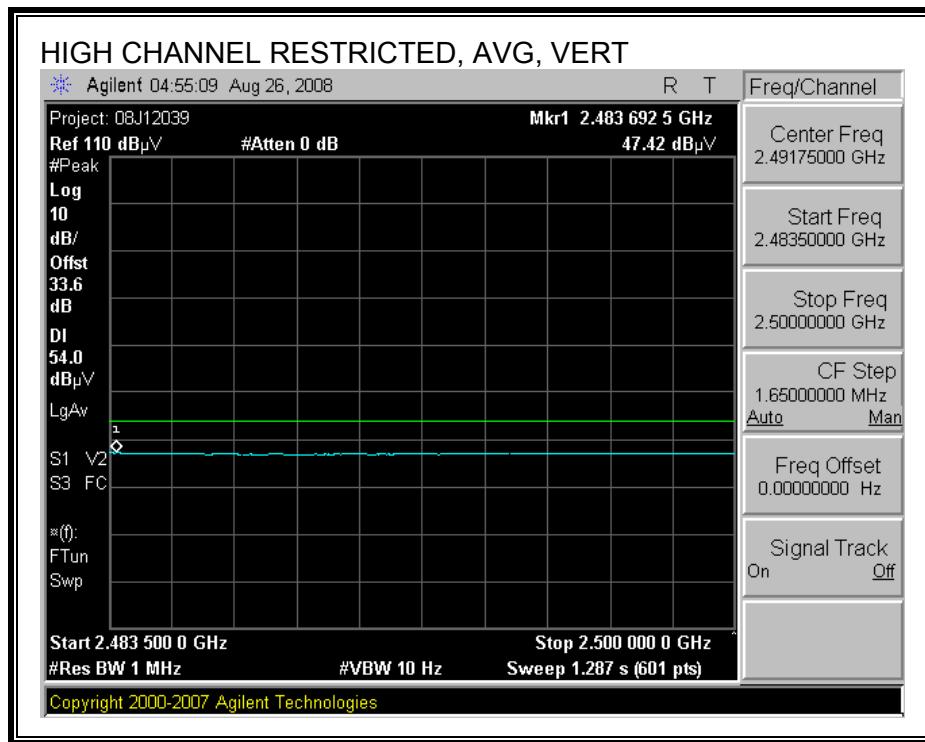
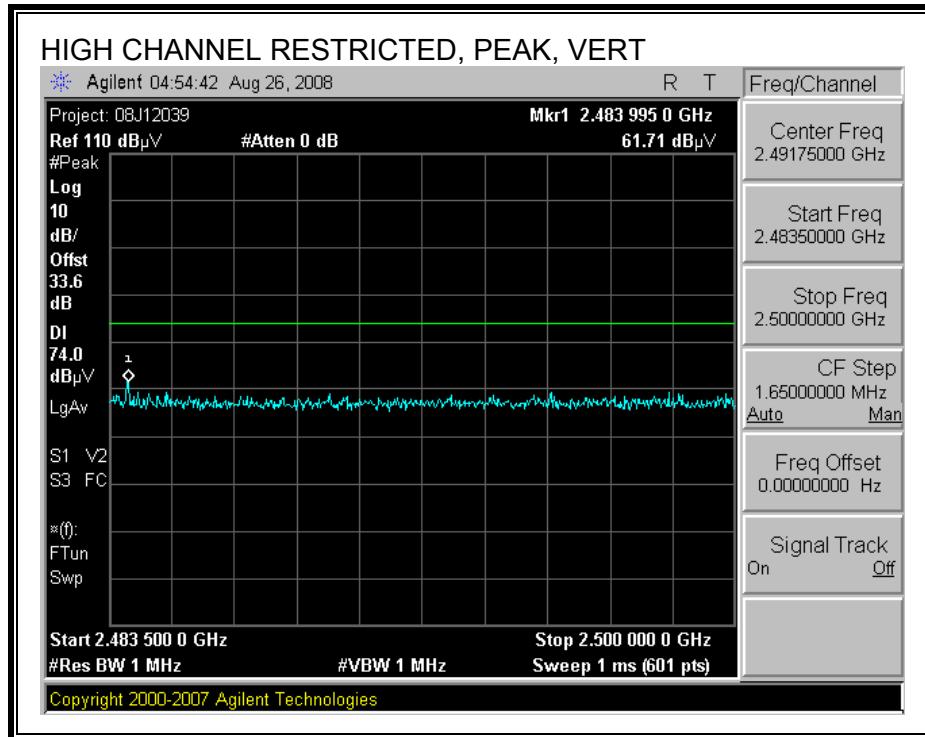
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: NINTENDO
Project #: 08J12039
Date: 8/26/2008
Test Engineer: William Zhuang
Configuration: EUT with support equipment
Mode: Tx On, g Mode

Test Equipment:

Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz	Limit
T120; S/N: 29310 @3m	T34 HP 8449B			FCC 15.205

Hi Frequency Cables

2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz
Thanh 177079008		C-5m Chamber	HPF_4.0GHz		Average Measurements RBW=1MHz ; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
Low Ch. 2412 MHz															
4.824	3.0	41.7	29.8	32.3	2.8	-34.8	0.0	0.6	42.5	30.6	74	54	-31.5	-23.4	V
4.824	3.0	42.3	29.5	32.3	2.8	-34.8	0.0	0.6	43.2	30.3	74	54	-30.8	-23.7	H
Mid Ch. 2437 MHz															
4.874	3.0	43.3	30.1	32.3	2.8	-34.8	0.0	0.6	44.2	31.0	74	54	-29.8	-23.0	H
4.874	3.0	42.2	29.5	32.3	2.8	-34.8	0.0	0.6	43.1	30.4	74	54	-30.9	-23.6	V
High Ch. 2462 MHz															
4.924	3.0	42.7	30.8	32.4	2.8	-34.8	0.0	0.6	43.7	31.8	74	54	-30.3	-22.2	V
4.924	3.0	42.4	29.3	32.4	2.8	-34.8	0.0	0.6	43.4	30.3	74	54	-30.6	-23.7	H
no more signal found															

8.3. RECEIVER ABOVE 1 GHZ

802.11 MODE

FOXCONN ANTENNA

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: NINTENDO
Project #: 08JL2039
Date: 8/27/2008
Test Engineer: William Zhuang
Configuration: EUT only
Mode: Rx On, 802.11 Mode, worst case

Test Equipment:

Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz	Limit
T120; S/N: 29310 @3m	T34 HP 8449B			RX RSS 210
Hi Frequency Cables				
2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
Thanh 177079008		C-5m Chamber		
Peak Measurements RBW=VBW=1MHz				
Average Measurements RBW=1MHz; VBW=10Hz				

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
1.042	3.0	46.9	33.5	25.9	1.3	-38.2	0.0	0.0	35.9	22.5	74	54	-38.1	-31.5	V
1.180	3.0	49.3	38.3	26.4	1.4	-38.0	0.0	0.0	39.1	28.1	74	54	-34.9	-25.9	V
1.200	3.0	53.3	36.3	26.5	1.4	-38.0	0.0	0.0	43.2	26.2	74	54	-30.8	-27.8	V
1.042	3.0	49.1	40.6	25.9	1.3	-38.2	0.0	0.0	38.1	29.6	74	54	-35.9	-24.4	H
1.180	3.0	51.2	43.6	26.4	1.4	-38.0	0.0	0.0	41.0	33.4	74	54	-33.0	-20.6	H
1.200	3.0	50.5	42.2	26.5	1.4	-38.0	0.0	0.0	40.4	32.0	74	54	-33.6	-22.0	H

No more signal found

TYCO ANTENNA

<p>High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber</p>															
<p>Company: NINTENDO Project #: 08J12039 Date: 8/27/2008 Test Engineer: William Zhuang Configuration: EUT only Mode: Rx On, 802.11 Mode, worst case</p>															
<p>Test Equipment:</p>															
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit			
T120; S/N: 29310 @3m			T34 HP 8449B									RX RSS 210			
<p>Hi Frequency Cables</p>															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			
Thanh 177079008						C-5m Chamber									
<p>Peak Measurements RBW=VBW=1MHz</p>															
<p>Average Measurements RBW=1MHz ; VBW=10Hz</p>															
f GHz	Dist (m)	Read Pk dBuV	Read Avg dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
1.040	3.0	50.7	35.4	25.9	1.3	-38.2	0.0	0.0	39.7	24.4	74	54	-34.3	-29.6	V
1.180	3.0	50.1	39.0	26.4	1.4	-38.0	0.0	0.0	39.8	28.8	74	54	-34.2	-25.2	V
1.200	3.0	48.8	35.8	26.5	1.4	-38.0	0.0	0.0	38.7	25.7	74	54	-35.3	-28.3	V
1.040	3.0	49.1	40.6	25.9	1.3	-38.2	0.0	0.0	38.1	29.6	74	54	-35.9	-24.4	H
1.180	3.0	49.4	41.8	26.4	1.4	-38.0	0.0	0.0	39.2	31.6	74	54	-34.8	-22.4	H
1.200	3.0	48.7	40.9	26.5	1.4	-38.0	0.0	0.0	38.6	30.8	74	54	-35.4	-23.2	H
<p>No more signal found</p>															

802.11bg MODE

FOXCONN ANTENNA

High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Company: NINTENDO
Project #: 08J12039
Date: 8/27/2008
Test Engineer: William Zhuang
Configuration: EUT with support equipment
Mode: Rx On, 802.11 b/g Mode, worst case

Test Equipment:

Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz	Limit
T120; S/N: 29310 @3m	T34 HP 8449B			RX RSS 210
Hi Frequency Cables				
2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter
Thanh 177079008		C-5m Chamber		

Peak Measurements
RBW=VBW=1MHz

Average Measurements
RBW=1MHz; VBW=10Hz

f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)
1.062	3.0	64.0	44.5	26.0	1.3	-38.2	0.0	0.0	53.1	33.6	74	54	-20.9	-20.4	V
1.273	3.0	52.3	37.3	26.7	1.4	-37.9	0.0	0.0	42.6	27.6	74	54	-31.4	-26.4	V
1.330	3.0	54.7	40.4	27.0	1.4	-37.8	0.0	0.0	45.3	31.0	74	54	-28.7	-23.0	V
1.865	3.0	53.8	37.1	28.9	1.7	-37.1	0.0	0.0	47.4	30.7	74	54	-26.6	-23.3	V
1.062	3.0	63.0	42.8	26.0	1.3	-38.2	0.0	0.0	52.1	31.9	74	54	-21.9	-22.1	H
1.273	3.0	49.6	36.1	26.7	1.4	-37.9	0.0	0.0	39.9	26.3	74	54	-34.1	-27.7	H
1.330	3.0	54.8	39.0	27.0	1.4	-37.8	0.0	0.0	45.4	29.6	74	54	-28.6	-24.4	H
1.865	3.0	50.3	35.9	28.9	1.7	-37.1	0.0	0.0	43.9	29.5	74	54	-30.1	-24.5	H

No more signal found

TYCO ANTENNA

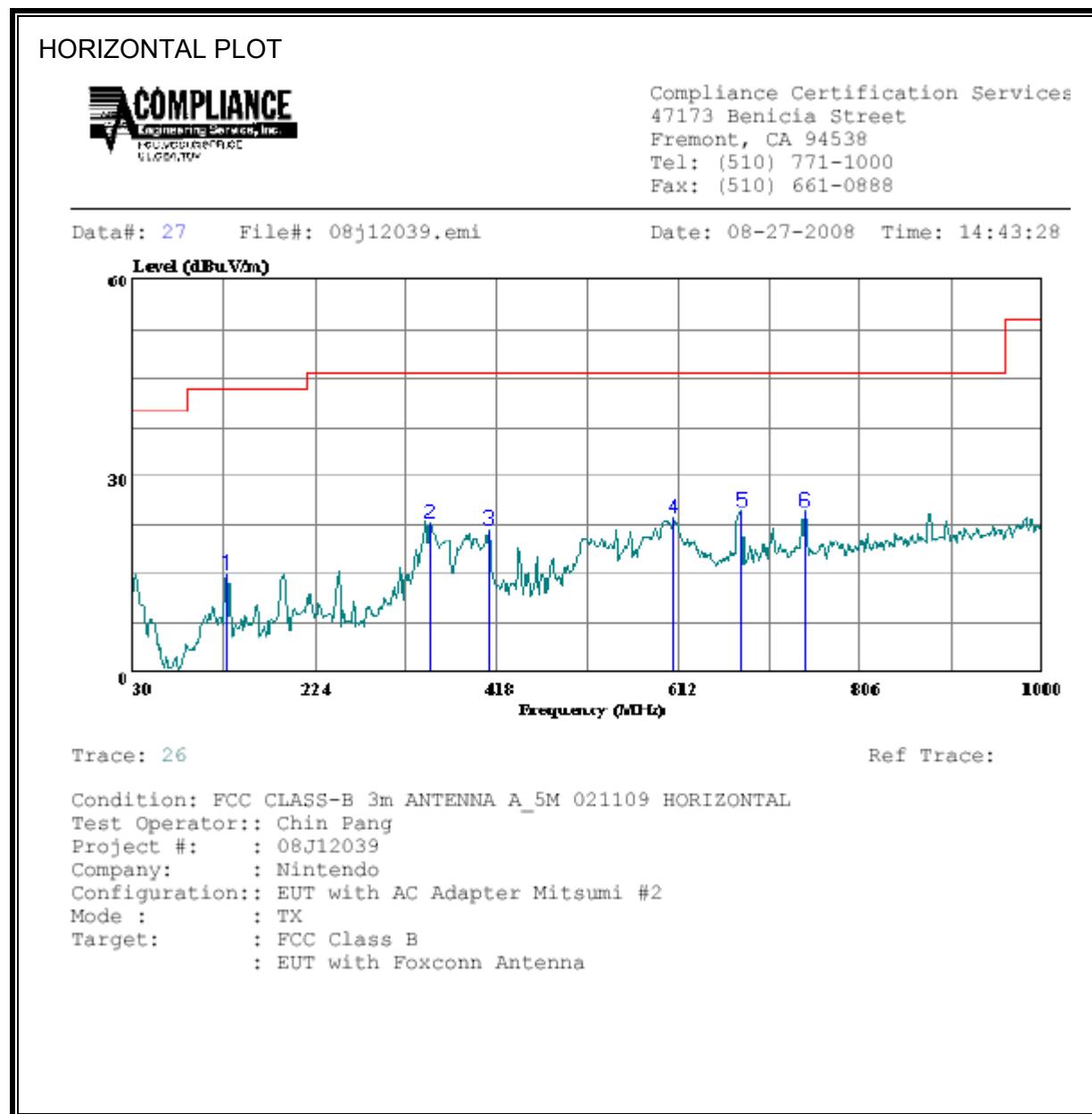
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																																																																																																																																																																																																
<p>Company: NINTENDO Project #: 08J12039 Date: 8/27/2008 Test Engineer: William Zhuang Configuration: EUT with support equipment Mode: Rx On, 802.11 b/g Mode, worst case</p> <p><u>Test Equipment:</u></p> <table border="1"> <tr> <td>Horn 1-18GHz</td> <td>Pre-amplifier 1-26GHz</td> <td>Pre-amplifier 26-40GHz</td> <td colspan="3">Horn > 18GHz</td> <td>Limit</td> </tr> <tr> <td>T120; S/N: 29310 @3m</td> <td>T34 HP 8449B</td> <td></td> <td></td> <td></td> <td></td> <td>RX RSS 210</td> </tr> <tr> <td colspan="7">Hi Frequency Cables</td> </tr> <tr> <td>2 foot cable</td> <td>3 foot cable</td> <td>12 foot cable</td> <td>HPF</td> <td>Reject Filter</td> <td colspan="2">Peak Measurements RBW=VBW=1MHz</td> </tr> <tr> <td>Thanh 177079008</td> <td></td> <td>C-5m Chamber</td> <td></td> <td></td> <td colspan="2">Average Measurements RBW=1MHz ; VBW=10Hz</td> </tr> </table> <table border="1"> <thead> <tr> <th>f GHz</th> <th>Dist (m)</th> <th>Read Pk dBuV</th> <th>Read Avg dBuV</th> <th>AF dB/m</th> <th>CL dB</th> <th>Amp dB</th> <th>D Corr dB</th> <th>Fltr dB</th> <th>Peak dBuV/m</th> <th>Avg dBuV/m</th> <th>Pk Lim dBuV/m</th> <th>Avg Lim dBuV/m</th> <th>Pk Mar dB</th> <th>Avg Mar dB</th> <th>Notes (V/H)</th> </tr> </thead> <tbody> <tr><td>1.063</td><td>3.0</td><td>60.8</td><td>42.7</td><td>26.0</td><td>1.3</td><td>-38.2</td><td>0.0</td><td>0.0</td><td>49.9</td><td>31.8</td><td>74</td><td>54</td><td>-24.1</td><td>-22.2</td><td>V</td></tr> <tr><td>1.330</td><td>3.0</td><td>52.8</td><td>37.5</td><td>27.0</td><td>1.4</td><td>-37.8</td><td>0.0</td><td>0.0</td><td>43.4</td><td>28.1</td><td>74</td><td>54</td><td>-30.6</td><td>-25.9</td><td>V</td></tr> <tr><td>1.457</td><td>3.0</td><td>51.9</td><td>38.4</td><td>27.4</td><td>1.5</td><td>-37.6</td><td>0.0</td><td>0.0</td><td>43.2</td><td>29.7</td><td>74</td><td>54</td><td>-30.8</td><td>-24.3</td><td>V</td></tr> <tr><td>1.865</td><td>3.0</td><td>51.2</td><td>36.7</td><td>28.9</td><td>1.7</td><td>-37.1</td><td>0.0</td><td>0.0</td><td>44.8</td><td>30.3</td><td>74</td><td>54</td><td>-29.2</td><td>-23.7</td><td>V</td></tr> <tr><td>1.063</td><td>3.0</td><td>65.1</td><td>44.5</td><td>26.0</td><td>1.3</td><td>-38.2</td><td>0.0</td><td>0.0</td><td>54.2</td><td>33.6</td><td>74</td><td>54</td><td>-19.8</td><td>-20.4</td><td>H</td></tr> <tr><td>1.330</td><td>3.0</td><td>62.1</td><td>38.1</td><td>27.0</td><td>1.4</td><td>-37.8</td><td>0.0</td><td>0.0</td><td>52.7</td><td>28.7</td><td>74</td><td>54</td><td>-21.3</td><td>-25.3</td><td>H</td></tr> <tr><td>1.457</td><td>3.0</td><td>49.8</td><td>36.2</td><td>27.4</td><td>1.5</td><td>-37.6</td><td>0.0</td><td>0.0</td><td>41.1</td><td>27.5</td><td>74</td><td>54</td><td>-32.9</td><td>-26.5</td><td>H</td></tr> <tr><td>1.865</td><td>3.0</td><td>48.5</td><td>35.2</td><td>28.9</td><td>1.7</td><td>-37.1</td><td>0.0</td><td>0.0</td><td>42.0</td><td>28.8</td><td>74</td><td>54</td><td>-32.0</td><td>-25.2</td><td>H</td></tr> <tr><td colspan="15">No more signal found</td></tr> </tbody> </table>															Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz			Limit	T120; S/N: 29310 @3m	T34 HP 8449B					RX RSS 210	Hi Frequency Cables							2 foot cable	3 foot cable	12 foot cable	HPF	Reject Filter	Peak Measurements RBW=VBW=1MHz		Thanh 177079008		C-5m Chamber			Average Measurements RBW=1MHz ; VBW=10Hz		f GHz	Dist (m)	Read Pk dBuV	Read Avg dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)	1.063	3.0	60.8	42.7	26.0	1.3	-38.2	0.0	0.0	49.9	31.8	74	54	-24.1	-22.2	V	1.330	3.0	52.8	37.5	27.0	1.4	-37.8	0.0	0.0	43.4	28.1	74	54	-30.6	-25.9	V	1.457	3.0	51.9	38.4	27.4	1.5	-37.6	0.0	0.0	43.2	29.7	74	54	-30.8	-24.3	V	1.865	3.0	51.2	36.7	28.9	1.7	-37.1	0.0	0.0	44.8	30.3	74	54	-29.2	-23.7	V	1.063	3.0	65.1	44.5	26.0	1.3	-38.2	0.0	0.0	54.2	33.6	74	54	-19.8	-20.4	H	1.330	3.0	62.1	38.1	27.0	1.4	-37.8	0.0	0.0	52.7	28.7	74	54	-21.3	-25.3	H	1.457	3.0	49.8	36.2	27.4	1.5	-37.6	0.0	0.0	41.1	27.5	74	54	-32.9	-26.5	H	1.865	3.0	48.5	35.2	28.9	1.7	-37.1	0.0	0.0	42.0	28.8	74	54	-32.0	-25.2	H	No more signal found														
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8.4. WORST-CASE BELOW 1 GHz

802.11 MODE

EUT WITH FOXCONN ANTENNA AND MITSUMI AC ADAPTER

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



HORIZONTAL DATA

		Read		Limit	Over	
Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	130.880	32.81	-17.84	14.97	43.50	-28.53 Peak
2	347.190	36.94	-14.12	22.82	46.00	-23.18 Peak
3	410.240	34.24	-12.35	21.89	46.00	-24.11 Peak
4	606.180	31.96	-8.39	23.57	46.00	-22.43 Peak
5	678.930	31.41	-6.76	24.65	46.00	-21.35 Peak
6	746.830	30.19	-5.43	24.76	46.00	-21.24 Peak

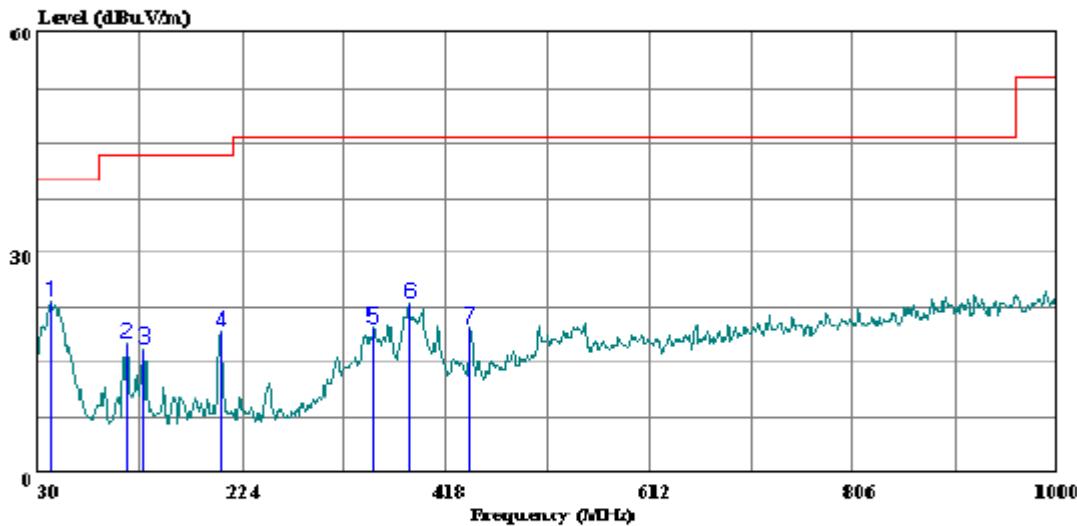
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



Compliance Certification Service:
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 25 File#: 08J12039.emi Date: 08-27-2008 Time: 14:37:04



Trace: 24

Ref Trace:

Condition: FCC CLASS-B 3m ANTENNA A 5M 021109 VERTICAL
Test Operator:: Chin Pang
Project #: : 08J12039
Company: : Nintendo
Configuration:: EUT with AC Adapter Mitsumi #2
Mode : : TX
Target: : FCC Class B
: EUT with Foxconn Antenna

VERTICAL DATA

		Read		Limit	Over	
Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	41.640	41.45	-18.06	23.39	40.00	-16.61 Peak
2	114.390	35.92	-18.33	17.59	43.50	-25.91 Peak
3	130.880	34.65	-17.84	16.81	43.50	-26.69 Peak
4	203.630	36.82	-17.55	19.27	43.50	-24.23 Peak
5	349.130	33.91	-14.07	19.84	46.00	-26.16 Peak
6	383.080	36.22	-13.09	23.13	46.00	-22.87 Peak
7	441.280	31.31	-11.46	19.85	46.00	-26.15 Peak

EUT WITH TYCO ANTENNA AND MITSUMI AC ADAPTER

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

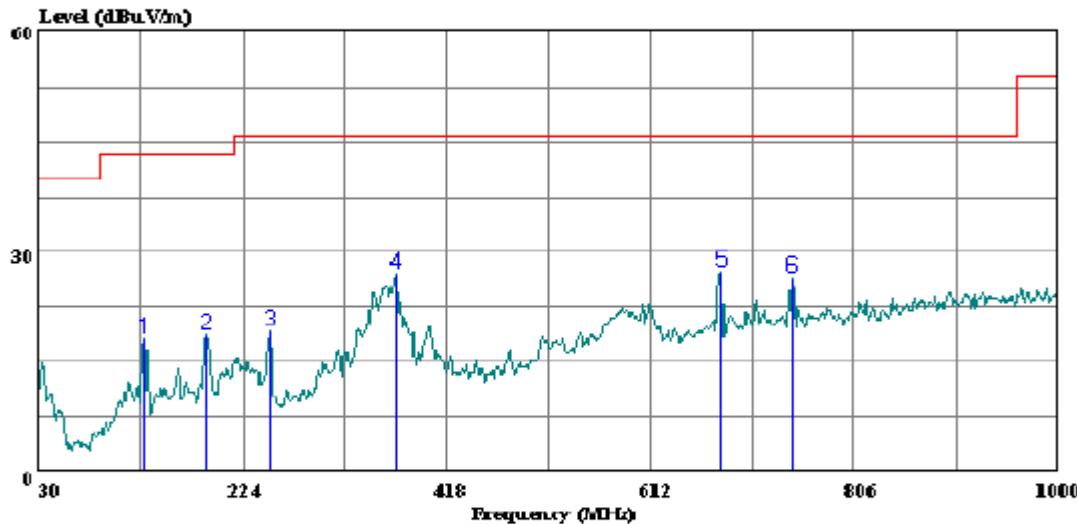
HORIZONTAL PLOT



Compliance Certification Service:
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 19 File#: 08j12039.emi

Date: 08-27-2008 Time: 13:39:00



Trace: 18

Ref Trace:

Condition: FCC CLASS-B 3m ANTENNA A_5M 021109 HORIZONTAL
Test Operator:: Chin Pang
Project #: : 08J12039
Company: : Nintendo
Configuration:: EUT with AC Adapter Mitsumi #2
Mode : : TX
Target: : FCC Class B
: EUT with Tyco Antenna

HORIZONTAL DATA

		Read		Limit	Over	
Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	130.880	36.13	-17.84	18.29	43.50	-25.21 Peak
2	189.080	37.11	-18.39	18.72	43.50	-24.78 Peak
3	250.190	36.88	-17.76	19.12	46.00	-26.88 Peak
4	368.530	40.67	-13.53	27.14	46.00	-18.86 Peak
5	678.930	34.05	-6.76	27.29	46.00	-18.71 Peak
6	746.830	31.81	-5.43	26.38	46.00	-19.62 Peak

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

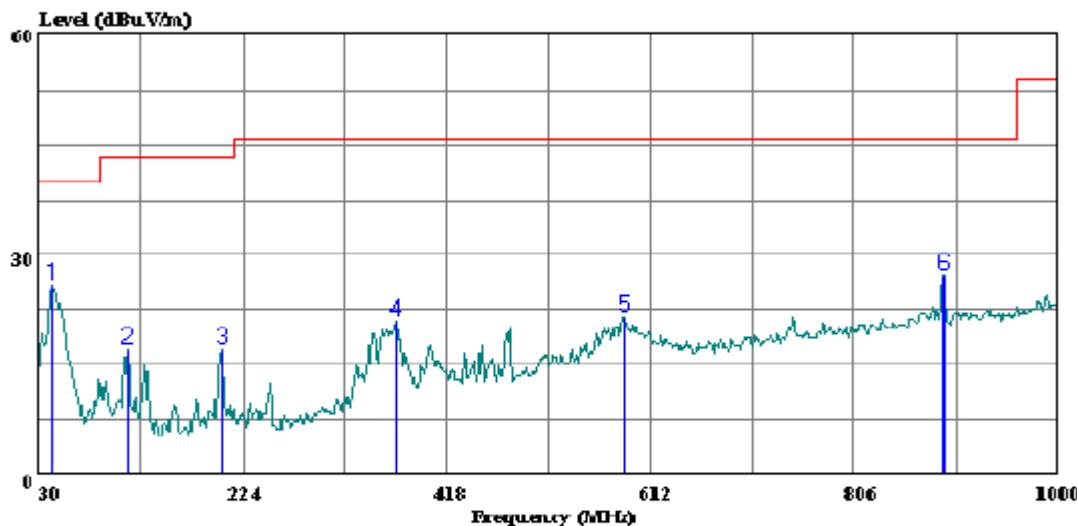
VERTICAL PLOT



Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 17 File#: 08j12039.emi

Date: 08-27-2008 Time: 13:35:01



Trace: 16

Ref Trace:

Condition: FCC CLASS-B 3m ANTENNA A_5M 021109 VERTICAL
Test Operator:: Chin Pang
Project #: 08J12039
Company: Nintendo
Configuration:: EUT with AC Adapter Mitsumi #2
Mode : TX
Target: FCC Class B
: EUT with Tyco Antenna

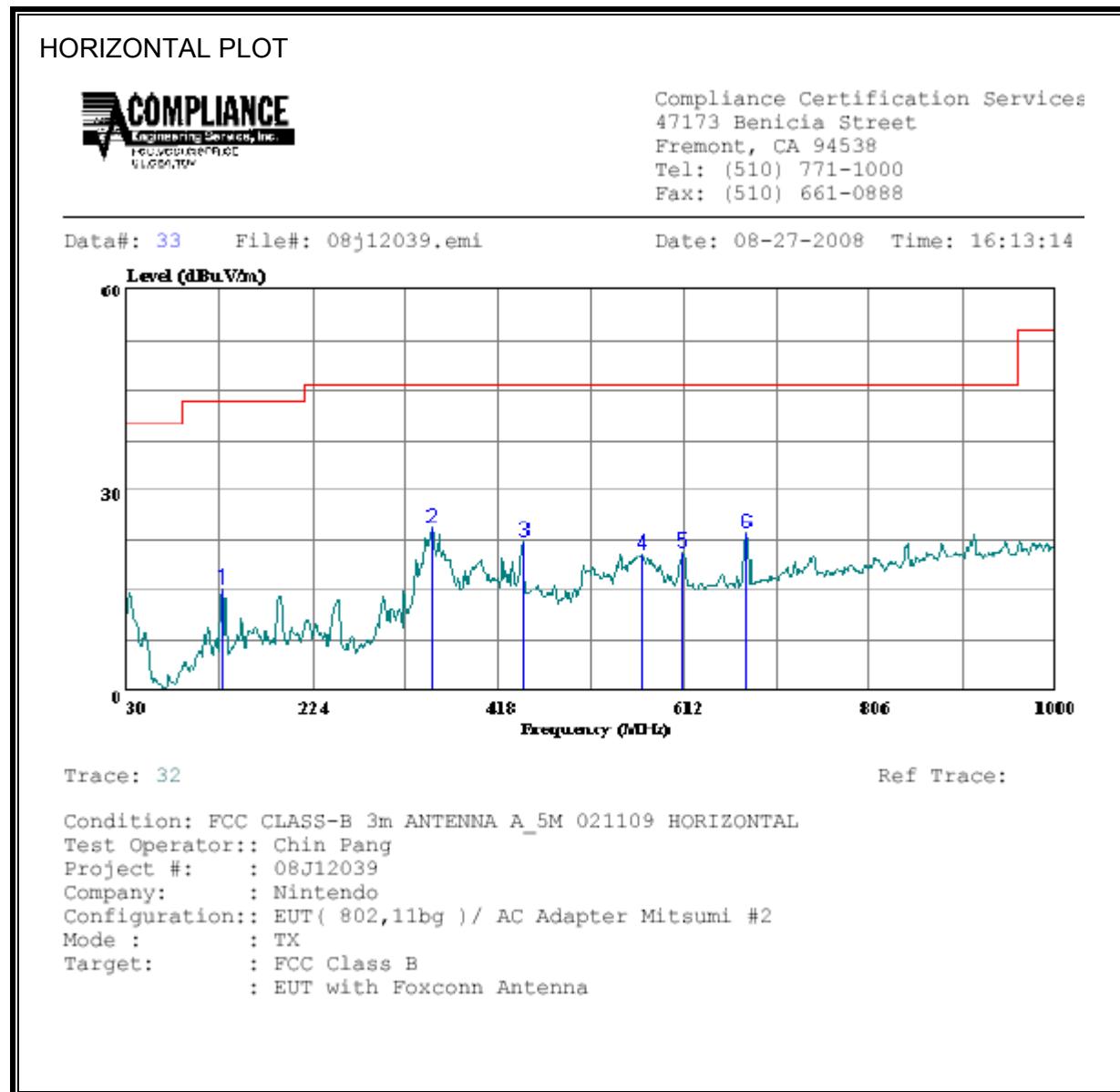
VERTICAL DATA

		Read			Limit	Over	
Freq	Level	Factor	Level	Line	Line	Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	41.640	44.01	-18.06	25.95	40.00	-14.05	Peak
2	114.390	35.60	-18.33	17.27	43.50	-26.23	Peak
3	203.630	34.80	-17.55	17.25	43.50	-26.25	Peak
4	368.530	34.62	-13.53	21.09	46.00	-24.91	Peak
5	586.780	30.33	-8.72	21.61	46.00	-24.39	Peak
6	890.390	29.82	-2.52	27.30	46.00	-18.70	Peak

802.11bg MODE

EUT WITH FOXCONN ANTENNA AND MITSUMI AC ADAPTER

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



HORIZONTAL DATA

Freq	Read		Level	Limit	Over	Remark
	Level	Factor					Line	Limit
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	130.880	33.07	-17.84	15.23	43.50	-28.27 Peak
2	349.130	38.58	-14.07	24.51	46.00	-21.49 Peak
3	444.190	33.78	-11.39	22.39	46.00	-23.61 Peak
4	567.380	29.58	-8.98	20.60	46.00	-25.40 Peak
5	611.030	28.97	-8.27	20.70	46.00	-25.30 Peak
6	676.990	30.52	-6.80	23.72	46.00	-22.28 Peak

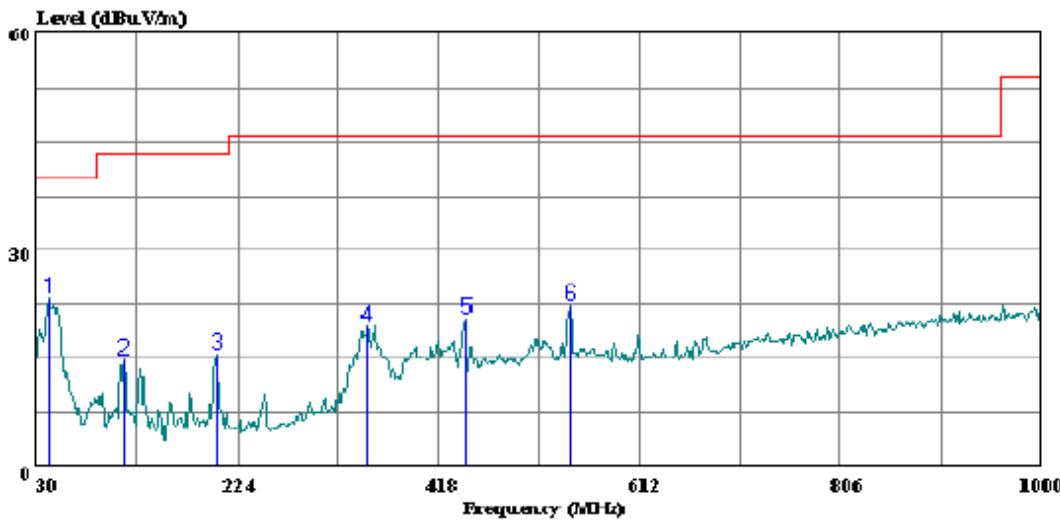
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 35 File#: 08j12039.emi Date: 08-27-2008 Time: 16:17:34



Trace: 34

Ref Trace:

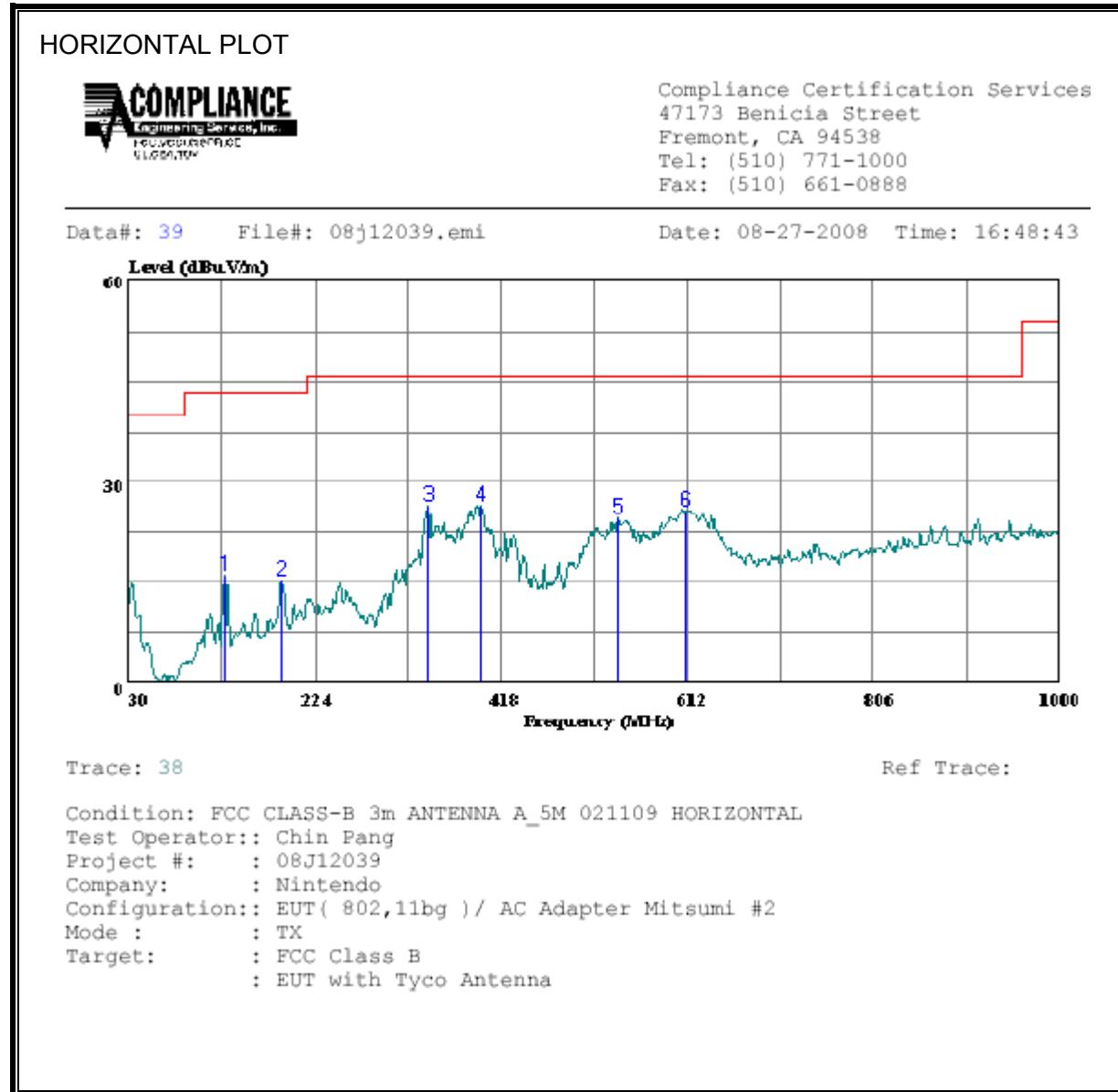
Condition: FCC CLASS-B 3m ANTENNA A_5M 021109 VERTICAL
Test Operator:: Chin Pang
Project #: 08J12039
Company: Nintendo
Configuration:: EUT(802,11bg) / AC Adapter Mitsumi #2
Mode : TX
Target: FCC Class B
: EUT with Foxconn Antenna

VERTICAL DATA

	Read		Limit	Over		
Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	41.640	41.52	-18.06	23.46	40.00	-16.54 Peak
2	114.390	33.02	-18.33	14.69	43.50	-28.81 Peak
3	203.630	33.17	-17.55	15.62	43.50	-27.88 Peak
4	349.130	33.52	-14.07	19.45	46.00	-26.55 Peak
5	444.190	32.01	-11.39	20.62	46.00	-25.38 Peak
6	546.040	31.53	-9.24	22.29	46.00	-23.71 Peak

EUT WITH TYCO ANTENNA AND MITSUMI AC ADAPTER

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



HORIZONTAL DATA

		Read		Limit	Over	
Freq	Level	Factor	Level	Line	Limit	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	130.880	33.91	-17.84	16.07	43.50	-27.43 Peak
2	189.080	33.69	-18.39	15.30	43.50	-28.20 Peak
3	342.340	40.72	-14.28	26.44	46.00	-19.56 Peak
4	397.630	39.10	-12.69	26.41	46.00	-19.59 Peak
5	538.280	34.06	-9.39	24.67	46.00	-21.33 Peak
6	611.030	34.09	-8.27	25.82	46.00	-20.18 Peak

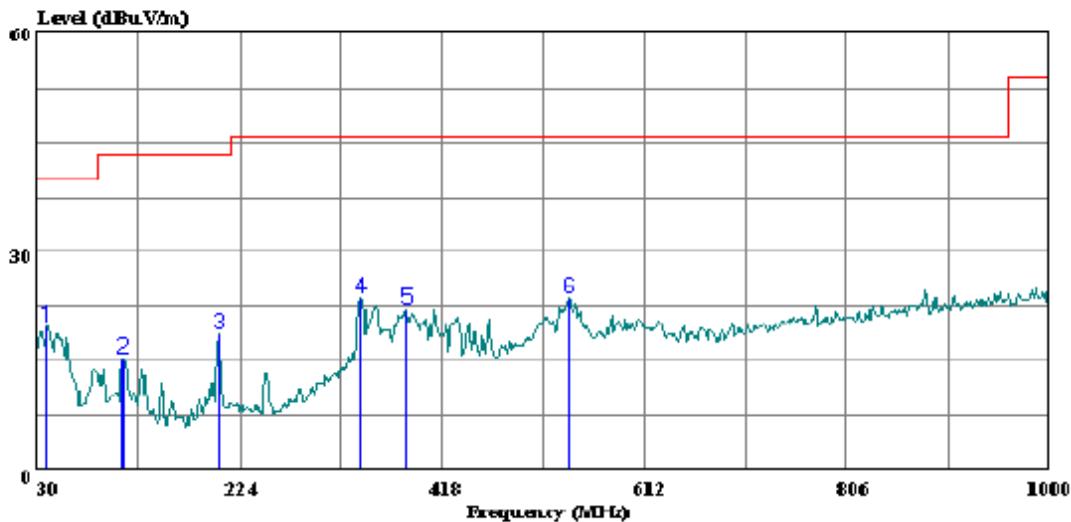
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



Compliance Certification Service:
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 37 File#: 08j12039.emi Date: 08-27-2008 Time: 16:32:19



Trace: 36

Ref Trace:

Condition: FCC CLASS-B 3m ANTENNA A_5M 021109 VERTICAL
Test Operator:: Chin Pang
Project #: : 08J12039
Company: : Nintendo
Configuration:: EUT(802,11bg) / AC Adapter Mitsumi #2
Mode : : TX
Target: : FCC Class B
: EUT with Tyco Antenna

VERTICAL DATA

		Read		Limit	Over	
Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	38.730	36.37	-16.61	19.76	40.00	-20.24 Peak
2	111.480	34.21	-18.88	15.33	43.50	-28.17 Peak
3	203.630	36.15	-17.55	18.60	43.50	-24.90 Peak
4	339.430	37.97	-14.38	23.59	46.00	-22.41 Peak
5	383.080	35.15	-13.09	22.06	46.00	-23.94 Peak
6	538.280	33.04	-9.39	23.65	46.00	-22.35 Peak

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

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

ANSI C63.4

RESULTS

6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq. (MHz)	Reading			Closs (dB)	Limit QP	EN_B AV	Margin		Remark
	PK (dBuV)	QP (dBuV)	AV (dBuV)				QP (dB)	AV (dB)	
0.26	48.13	--	41.33	0.00	61.43	51.43	-13.30	-10.10	L1
0.54	44.68	--	39.41	0.00	56.00	46.00	-11.32	-6.59	L1
2.69	45.21	--	30.37	0.00	56.00	46.00	-10.79	-15.63	L1
0.27	52.38	--	43.26	0.00	61.21	51.21	-8.83	-7.95	L2
0.54	50.10	--	41.81	0.00	56.00	46.00	-5.90	-4.19	L2
1.08	51.70	--	40.76	0.00	56.00	46.00	-4.30	-5.24	L2
6 Worst Data									

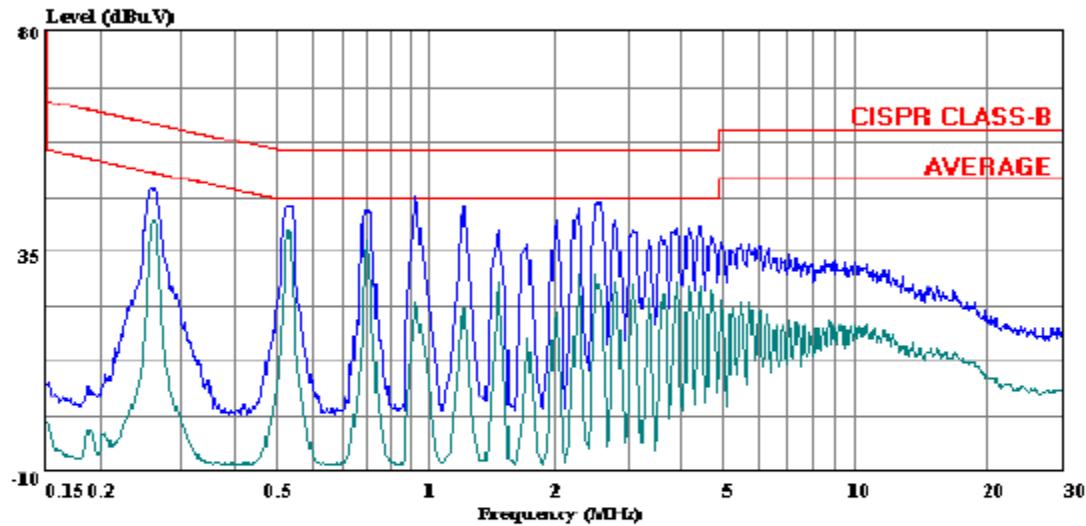
LINE 1 RESULTS



Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Tel: (510) 771-1000
Fax: (510) 661-0888

Data#: 35 File#: 08j12039.emi

Date: 08-25-2008 Time: 10:04:18



(Line Conduction)

Trace: 33

Ref Trace:

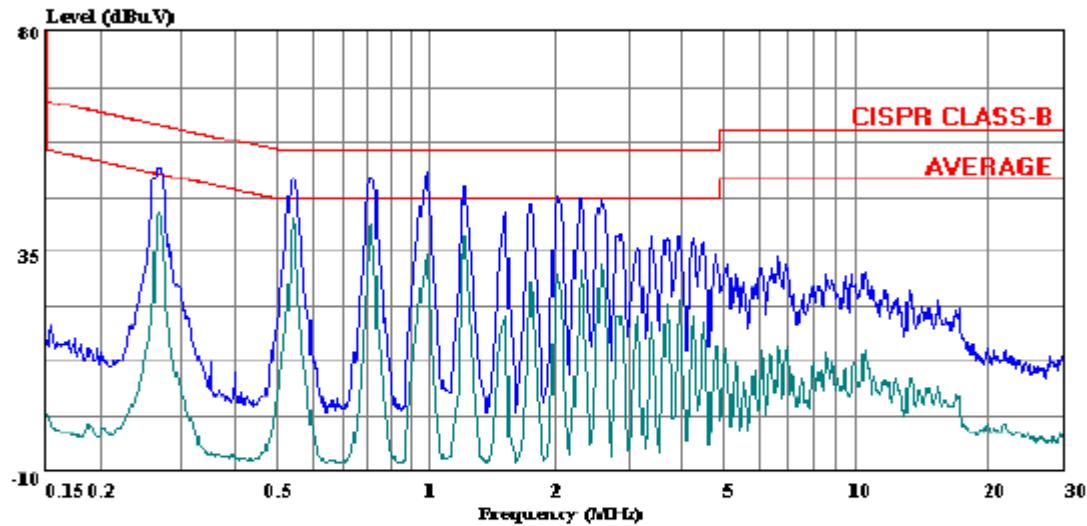
Condition: CISPR CLASS-B
Test Operator:: Chin Pang
Project #: : 08J12039
Company: : Nintendo/Mitsumi
Configuration:: EUT (802.11) With AC Adapter
Mode: : Pinging
Target: : FCC Class B
Voltage: : 115VAC / 60 Hz
: L1: Peak (Blue), Average (Green)
: AC Adapter: Mitsumi #2, Model: WAP-002

LINE 2 RESULTS



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Data#: 42 File#: 08J12039.emi Date: 08-25-2008 Time: 10:18:12



(Line Conduction)

Trace: 40

Ref Trace:

Condition: CISPR CLASS-B
Test Operator:: Chin Pang
Project #: : 08J12039
Company: : Nintendo/Mitsumi
Configuration:: EUT (802.11) With AC Adapter
Mode: : Pinging
Target: : FCC Class B
Voltage: : 115VAC / 60 Hz
: L2: Peak (Blue), Average (Green)
: AC Adapter: Mitsumi #2, Model: WAP-002

10. MAXIMUM PERMISSIBLE EXPOSURE

FCC RULES

§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.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30

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/cm ²)	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 occupational/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 exposed, 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.

IC RULES

IC Safety Code 6, Section 2.2.1 (a) A person other than an RF and microwave exposed worker shall not be exposed to electromagnetic radiation in a frequency band listed in Column 1 of Table 5, if the field strength exceeds the value given in Column 2 or 3 of Table 5, when averaged spatially and over time, or if the power density exceeds the value given in Column 4 of Table 5, when averaged spatially and over time.

Table 5
Exposure Limits for Persons Not Classed As RF and Microwave Exposed Workers (Including the General Public)

1 Frequency (MHz)	2 Electric Field Strength; rms (V/m)	3 Magnetic Field Strength; rms (A/m)	4 Power Density (W/m ²)	5 Averaging Time (min)
0.003–1	280	2.19		6
1–10	280/f	2.19/f		6
10–30	28	2.19/f		6
30–300	28	0.073	2*	6
300–1 500	$1.585f^{0.5}$	$0.0042f^{0.5}$	$f/150$	6
1 500–15 000	61.4	0.163	10	6
15 000–150 000	61.4	0.163	10	$616\,000/f^{1.2}$
150 000–300 000	$0.158f^{0.5}$	$4.21 \times 10^{-4}f^{0.5}$	$6.67 \times 10^{-5}f$	$616\,000/f^{1.2}$

* Power density limit is applicable at frequencies greater than 100 MHz.

Notes: 1. Frequency, f , is in MHz.
2. A power density of 10 W/m² is equivalent to 1 mW/cm².
3. A magnetic field strength of 1 A/m corresponds to 1.257 microtesla (μ T) or 12.57 milligauss (mG).

CALCULATIONS

Given

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

and

$$S = E^2 / 3770$$

where

E = Field Strength in Volts/meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power Density in milliwatts/square centimeter

Combining equations, rearranging the terms to express the distance as a function of the remaining variables, changing to units of Power to mW and Distance to cm, and substituting the logarithmic form of power and gain yields:

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

where

d = MPE distance in cm

P = Power in dBm

G = Antenna Gain in dBi

S = Power Density Limit in mW/cm²

Rearranging terms to calculate the power density at a specific distance yields

$$S = 0.0795 * 10^{((P + G) / 10) / (d^2)}$$

The power density in units of mW/cm² is converted to units of W/m² by multiplying by a factor of 10.

LIMITS

From FCC §1.1310 Table 1 (B), the maximum value of S = 1.0 mW/cm²

From IC Safety Code 6, Section 2.2 Table 5 Column 4, S = 10 W/m²

RESULTS

(MPE distance equals 20 cm)

Mode	Band	MPE Distance (cm)	Output Power (dBm)	Antenna Gain (dBi)	FCC Power Density (mW/cm ²)	IC Power Density (W/m ²)
WLAN	802.11	20.0	2.93	0.88	0.00	0.00
WLAN	802.11b/g	20.0	12.31	0.88	0.00	0.04