



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

FOR

**WLAN PHONE
MODEL NUMBER: IP3NA-8WV
FCC ID: UI3-8WV
IC: 140L-8WV**

**REPORT NUMBER: 07J11507-1
ISSUE DATE: March 11, 2008**

Prepared for
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: NEC INFRONTIA INC.
6365 NORTH STATE HIGHWAY 161
IRVING, TEXAS 75039-2402, USA

EUT DESCRIPTION: WLAN PHONE

MODEL: IP3NA-8WV

SERIAL NUMBER: 2B3A15THY00172

DATE TESTED: JANUARY 28 – March 5, 2008

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	No Non-Compliance Noted
RSS-210 Issue 7 Annex 8 and RSS-GEN Issue 2	No Non-Compliance Noted

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

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

Approved & Released For CCS By:



THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

Tested By:



THANH NGUYEN
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
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. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a WLAN phone manufactured by NEC Infrontia Inc.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	19.48	88.72
2412 - 2462	802.11g	22.89	194.54

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a Whip antenna, with a maximum gain of 1.7 dBi for Main and -1.3 dBi for Inverted antenna.

5.4. SOFTWARE AND FIRMWARE

The test utility software used during testing was TetraTerm, rev. UTF- 8.

5.5. WORST-CASE CONFIGURATION AND MODE

The worst case position was EUT sit on the cradle position, based on the pre-scan investigations as follow, the EUT standard alone with X/ Y/ Z position and also EUT on the cradle position has been examined and determine the worst orientation of the EUT.

The worst case is 1Mb/s @ 11b mode & 6Mb/s @ 11g mode.

The worst-case channel is determined as the channel with the highest output power.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Cradle charger	NEC	IP3NA-8WVCHG	2090	N/A
AC Adaptor	NEC	TA05-10	2105	N/A
Ear and Speaker phone	N/A	N/A	N/A	N/A

I/O CABLES

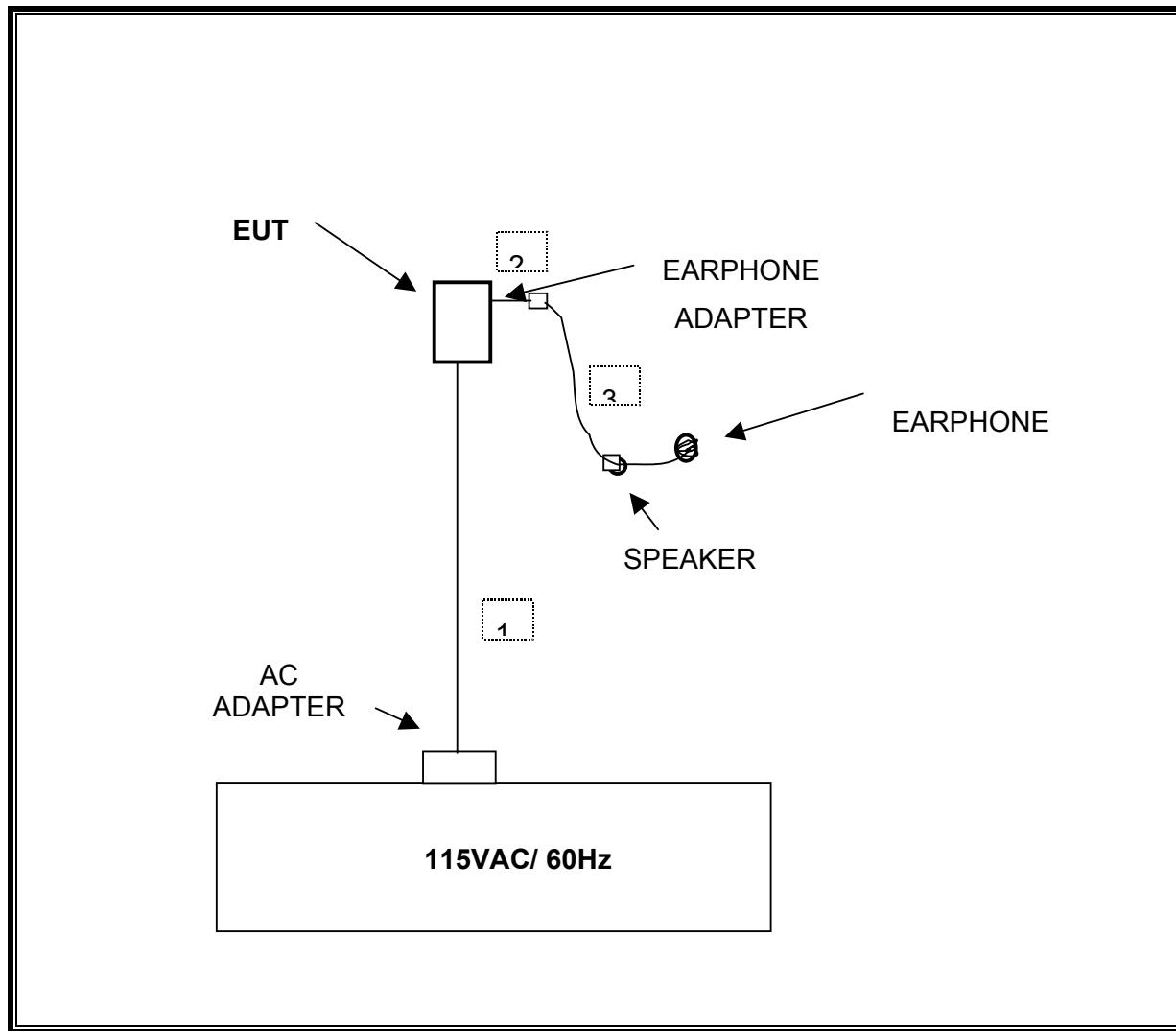
I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	DC	1	DC Plug	Un-shielded	1.5m	No
2	Audio	1	Line in	Shielded	.1m	NEC extender Adapter
3	Audio	1	Line in	Un-shielded	1m	N/A

TEST SETUP

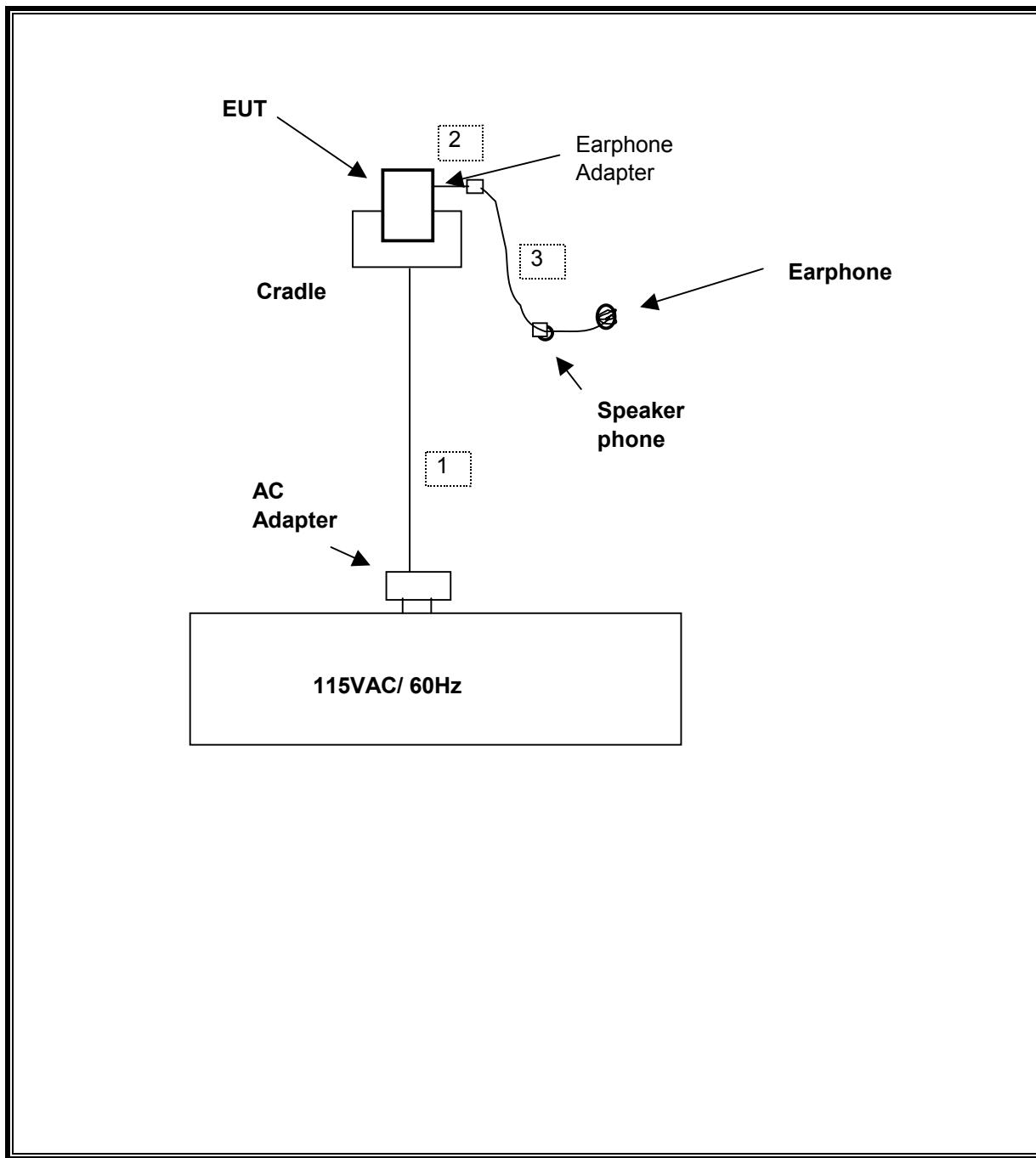
Two types of setups took place:

1. A continuous transmit mode headset attached EUT was directly connected to an AC adapter.
2. A continuous transmit mode headset attached EUT was sited on a Cradle Charger. And AC adapter was connected to the Cradle Charger.

SETUP DIAGRAM FOR TESTS - EUT WITH AC ADAPTER ONLY



SETUP DIAGRAM FOR TESTS - EUT WITH CRADLE CHARGER AND AC ADAPTER



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 Date	Cal Due
Antenna, Bilog, 2 GHz	Sund Sciences	JB1	C01011	9/28/2007	9/28/2008
Preamp, 1000MHz	Sonoma	310N	0	1/20/2007	1/20/2008
1-18GHz Ham Antenna	ETS	3117	C01005	4/15/2007	4/15/2008
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	8/3/2007	9/27/2008
Spectrum Analyzer, 40 GHz	Agilent / HP	8564E	C00951	9/5/2007	12/5/2008
EM Receiver, 29 GHz	Agilent / HP	8542E	C00957	2/6/2007	6/12/2008
RF Filter Section, 29 GHz	Agilent / HP	85420E	C00958	2/6/2007	6/12/2008
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	10/25/2007	10/25/2008
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	N02481	10/25/2007	10/25/2008
Peak Power Meter	Agilent / HP	E4416A	C00963	12/4/2007	12/4/2009
Peak / Average Power Sensor	Agilent	E9327A	C00964	12/7/2007	12/7/2009
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	12/3/2007	3/3/2009
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4407B	C01101	10/22/2007	1/22/2009

TEST EQUIPMENT LIST					
Description	Manufacturer	Model	Asset	Cal Date	Cal Due
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	9/28/2007	9/28/2008
Preamp, 1000MHz	Sonoma	310N	0	1/20/2007	1/20/2008
EMI Receiver, 2.9 GHz	Agilent / HP	8542E	C00957	2/6/2007	6/12/2008
RF Filter Section, 2.9 GHz	Agilent / HP	85420E	C00958	2/6/2007	6/12/2008
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	10/25/2007	10/25/2008
LISN, 10 kHz ~ 30 MHz	Solar	8012-50-R-24-BNC	N02481	10/25/2007	10/25/2008
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	2/6/2008	8/6/2009

7. ANTENNA PORT TEST RESULTS

7.1. 802.11b MODE IN THE 2.4 GHz BAND

7.1.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

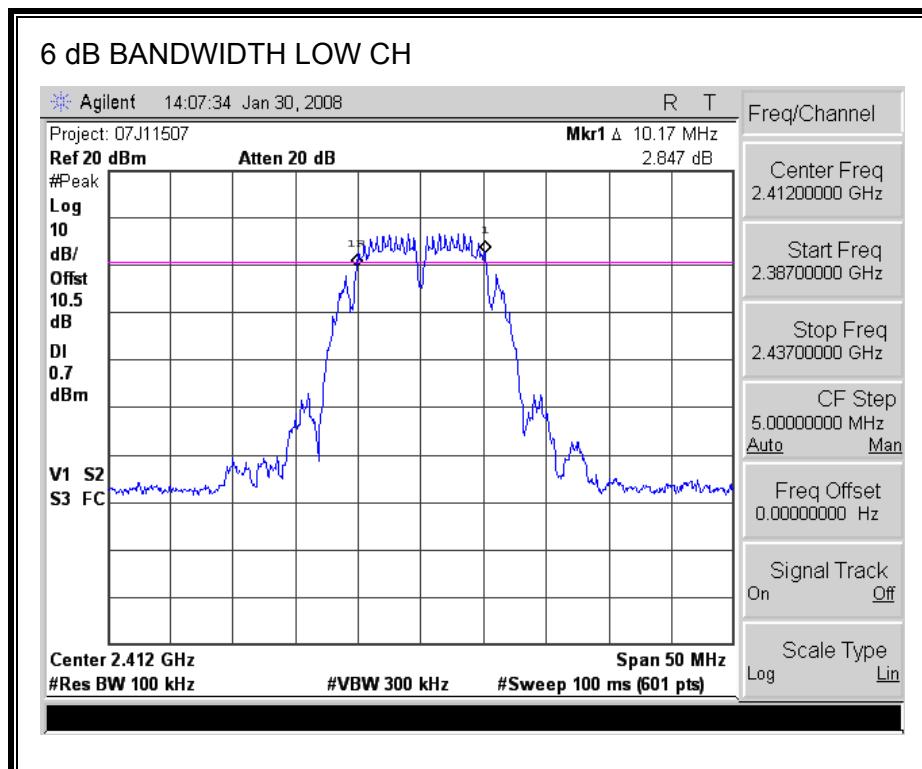
TEST PROCEDURE

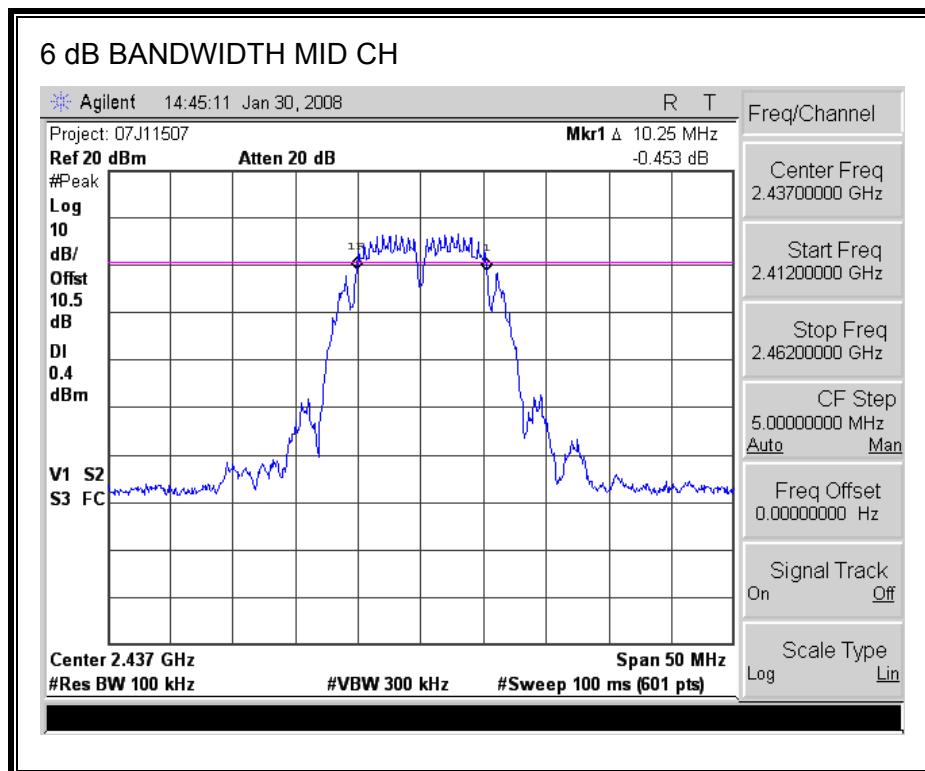
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

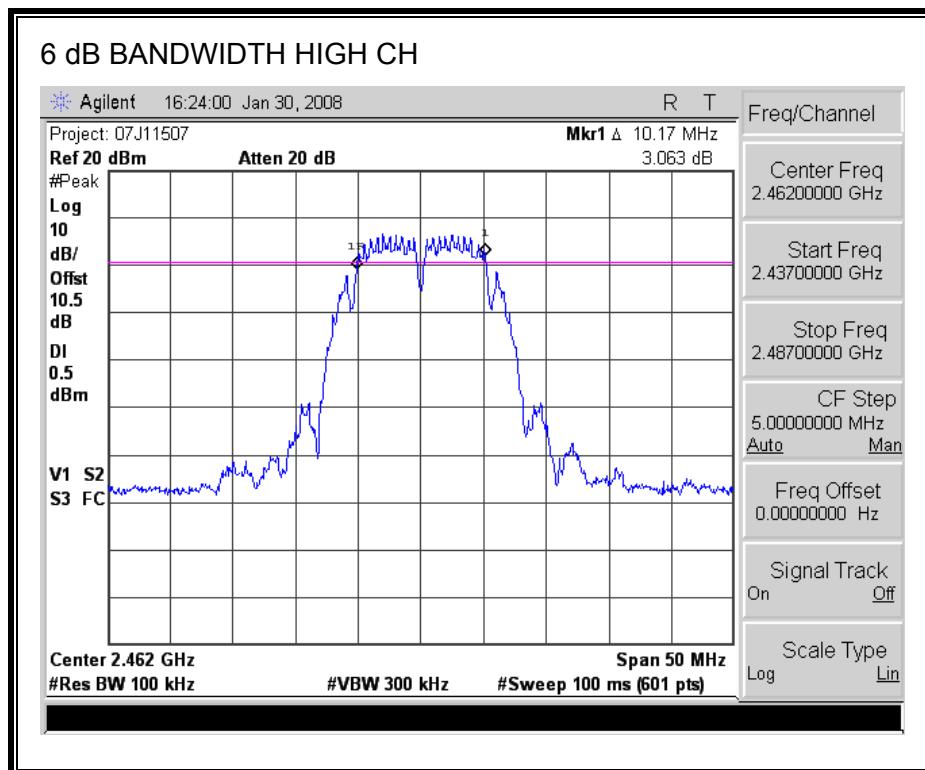
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	10.17	0.5
Middle	2437	10.25	0.5
High	2462	10.17	0.5

6 dB BANDWIDTH







7.1.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

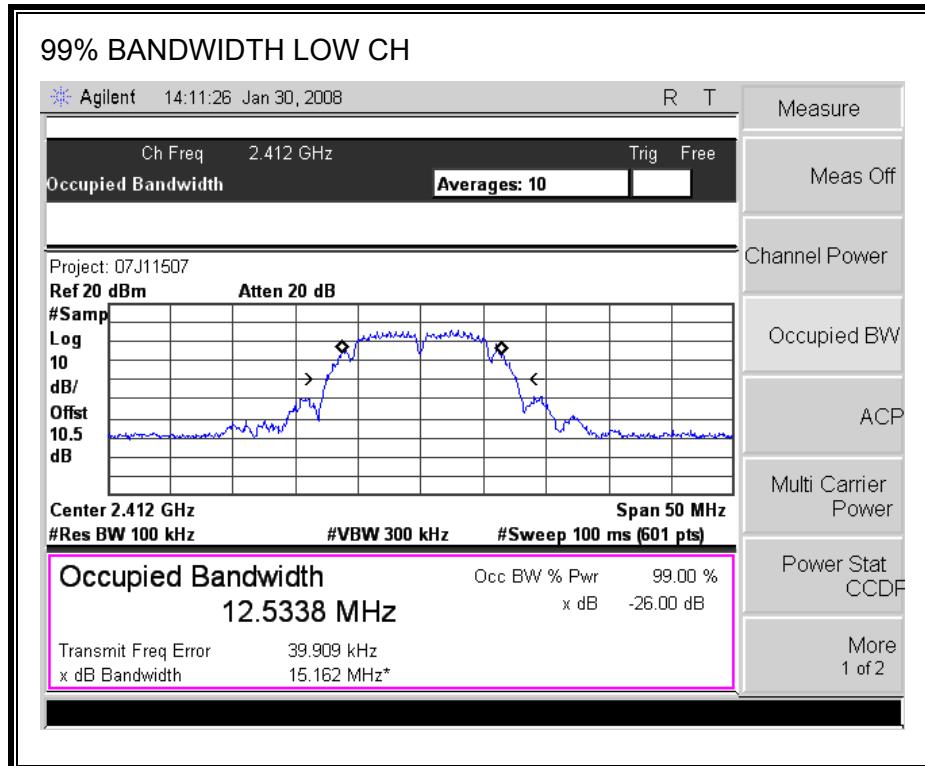
TEST PROCEDURE

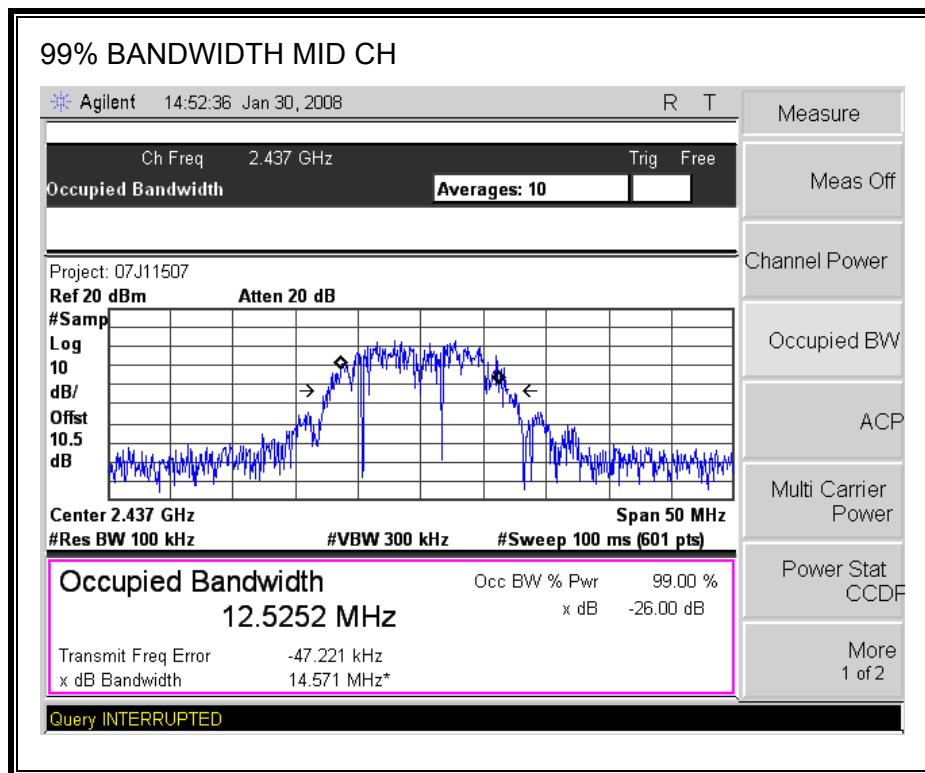
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

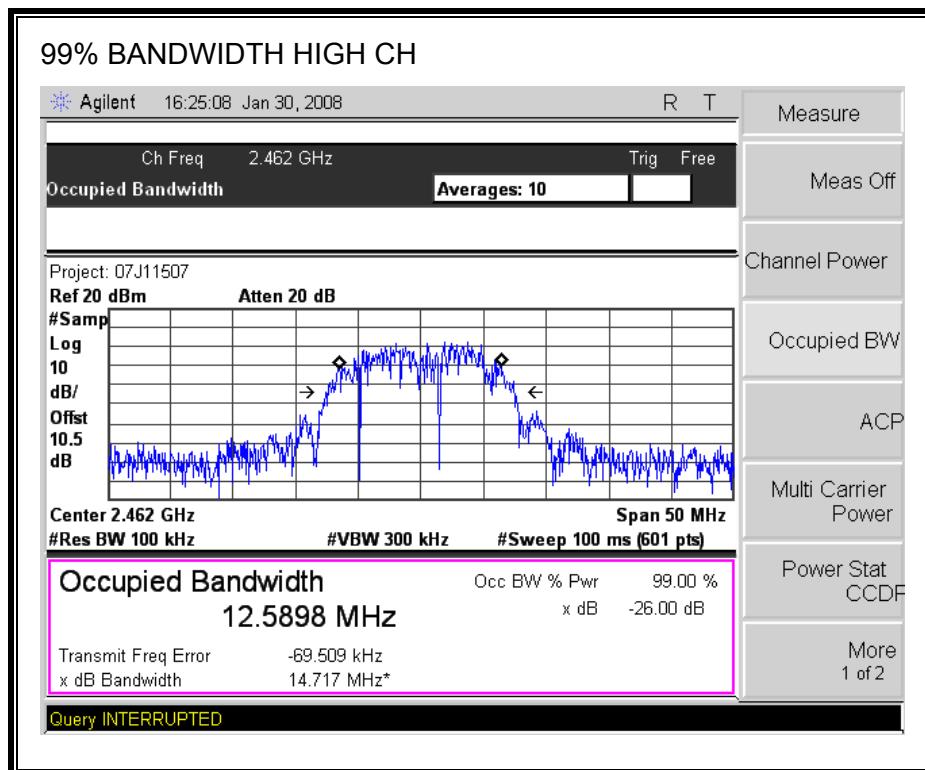
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	12.5338
Middle	2437	12.5252
High	2462	12.5898

99% BANDWIDTH







7.1.3. OUTPUT POWER

LIMITS

FCC §15.247 (b)

IC RSS-210 A8.4

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

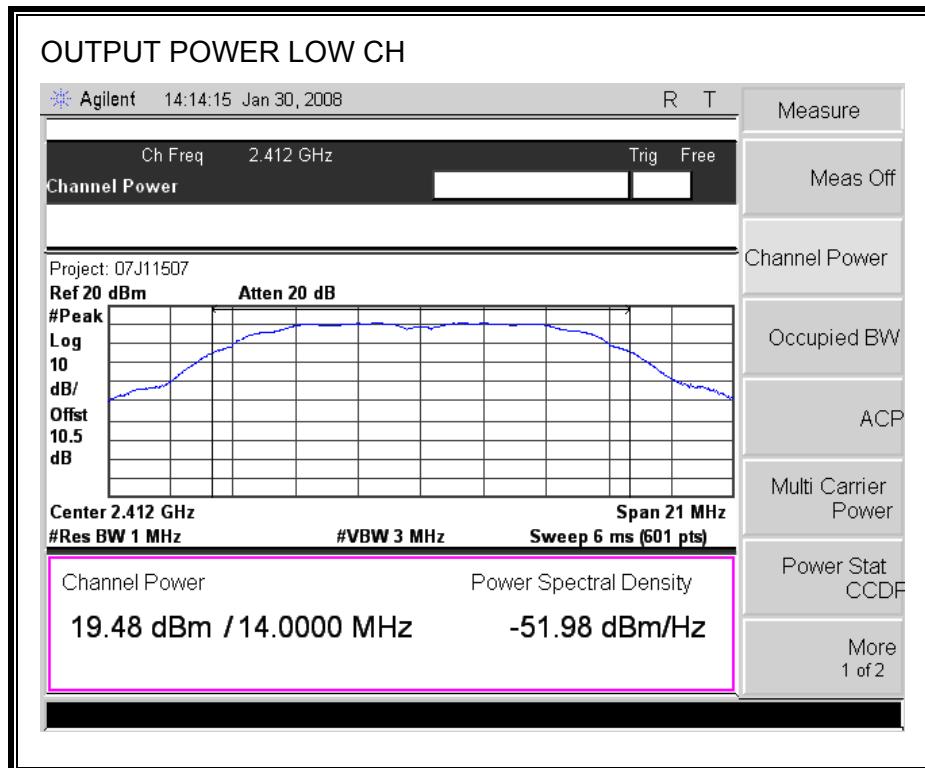
TEST PROCEDURE

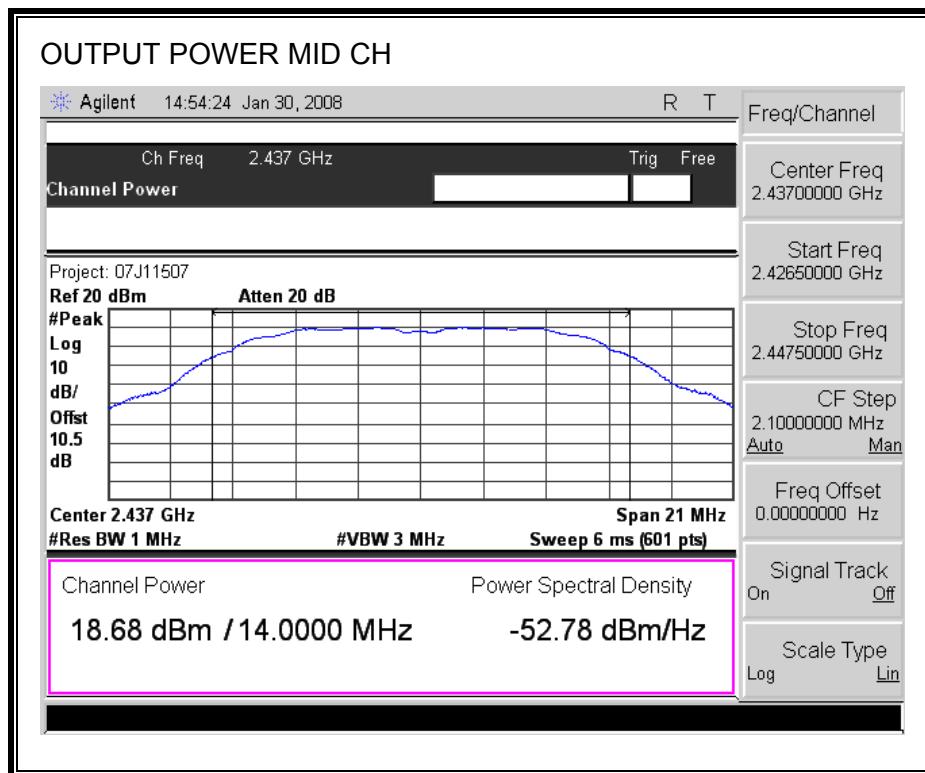
Peak power is measured using the spectrum analyzer's internal channel power integration function. Power is integrated over a bandwidth greater than or equal to the 99% bandwidth.

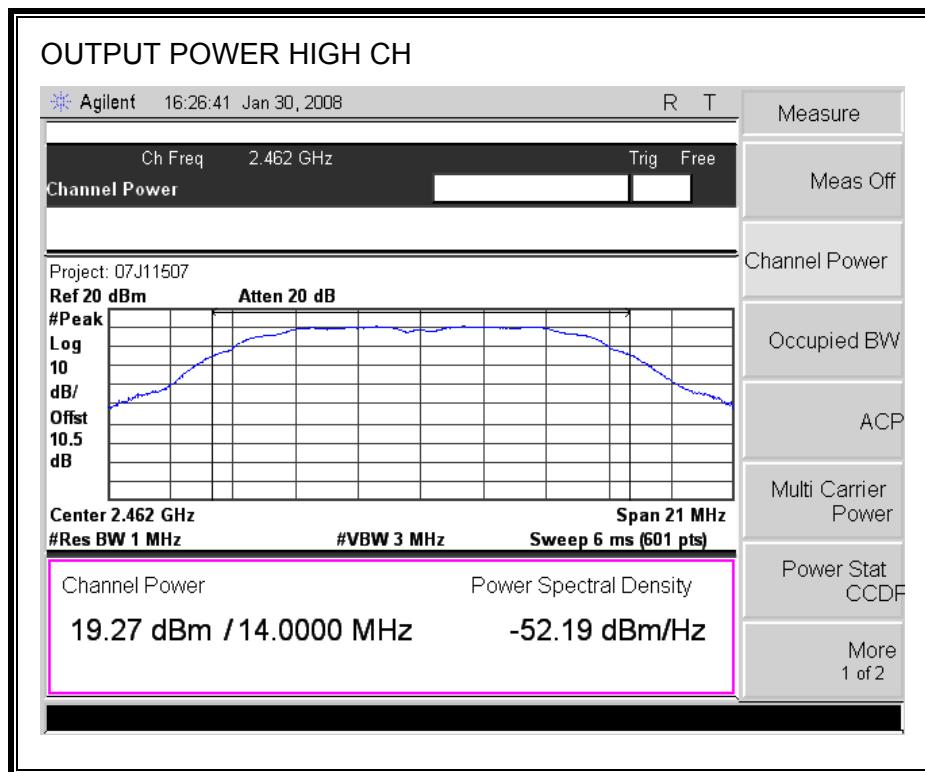
RESULTS

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	19.48	30	-10.52
Middle	2437	18.68	30	-11.32
High	2462	19.27	30	-10.73

OUTPUT POWER







7.1.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10.5 dB (including 10 dB pad and .5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Power (dBm)
Low	2412	15.01
Middle	2437	15.05
High	2462	15.00

7.1.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

IC RSS-210 A8.2 (b)

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.

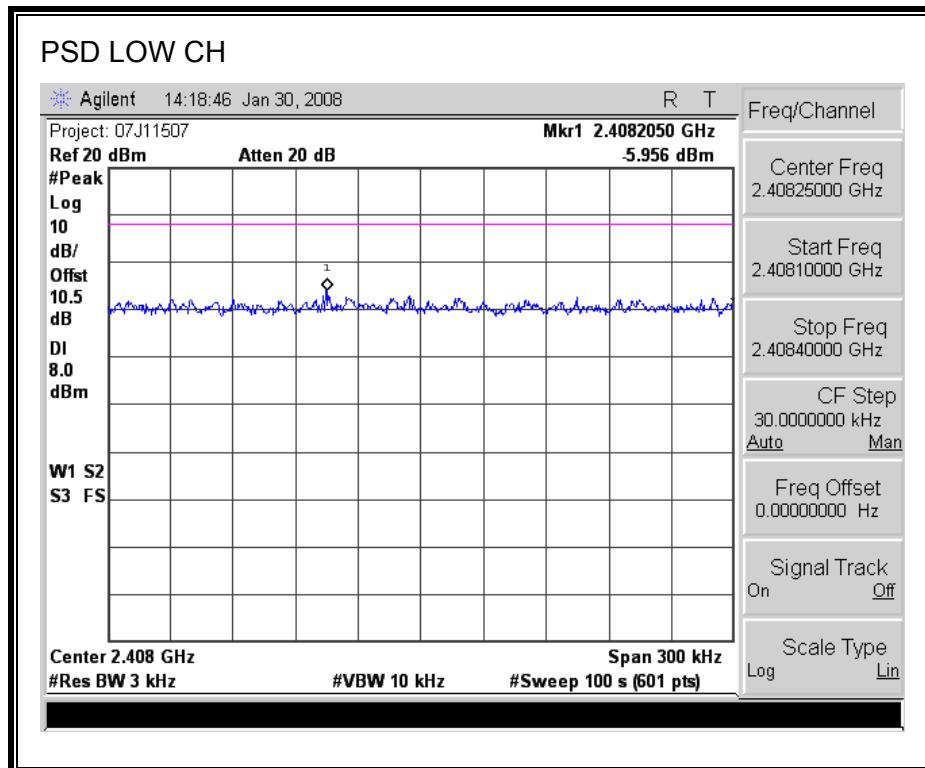
TEST PROCEDURE

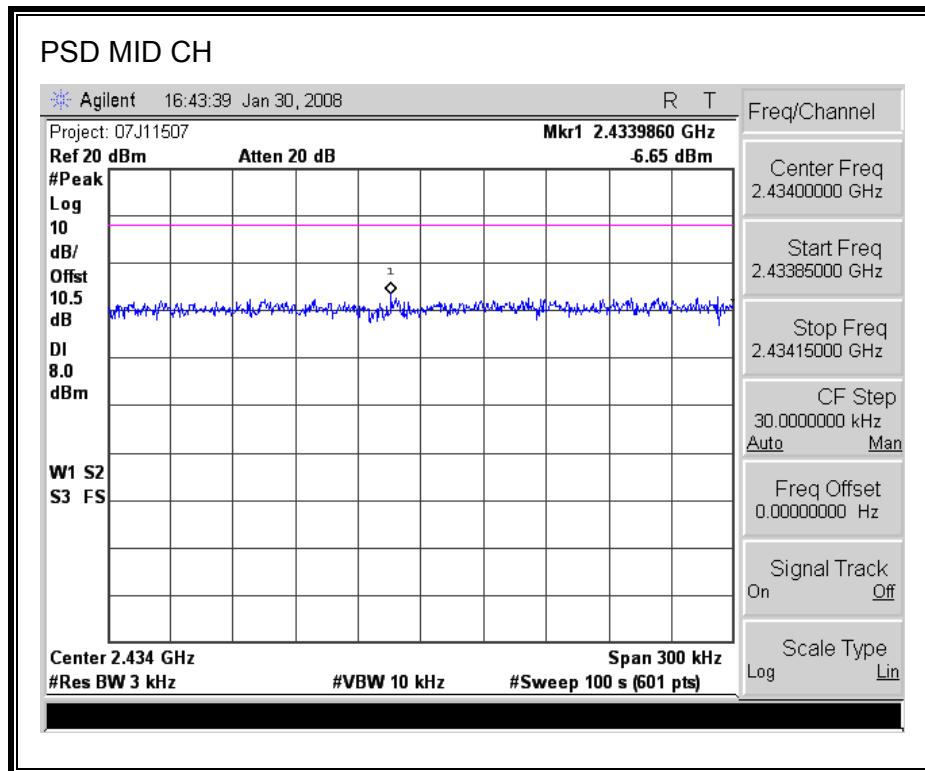
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document "Measurement of Digital Transmission Systems Operating under Section 15.247", March 23, 2005.

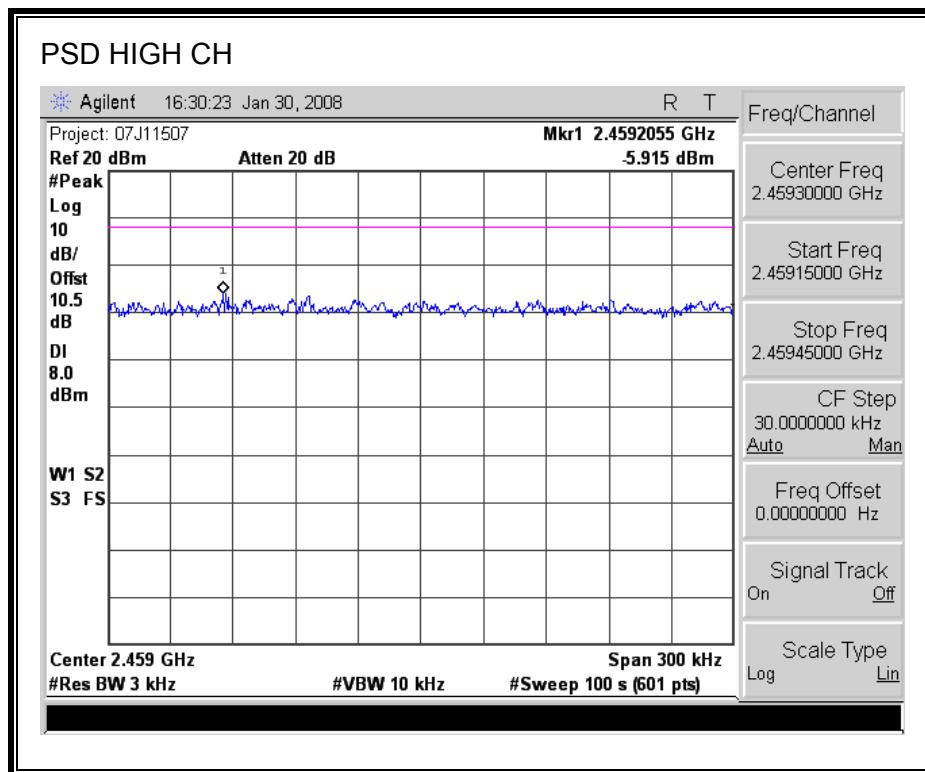
RESULTS

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-5.96	8	-13.96
Middle	2437	-6.65	8	-14.65
High	2462	-5.92	8	-13.92

POWER SPECTRAL DENSITY







7.1.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

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

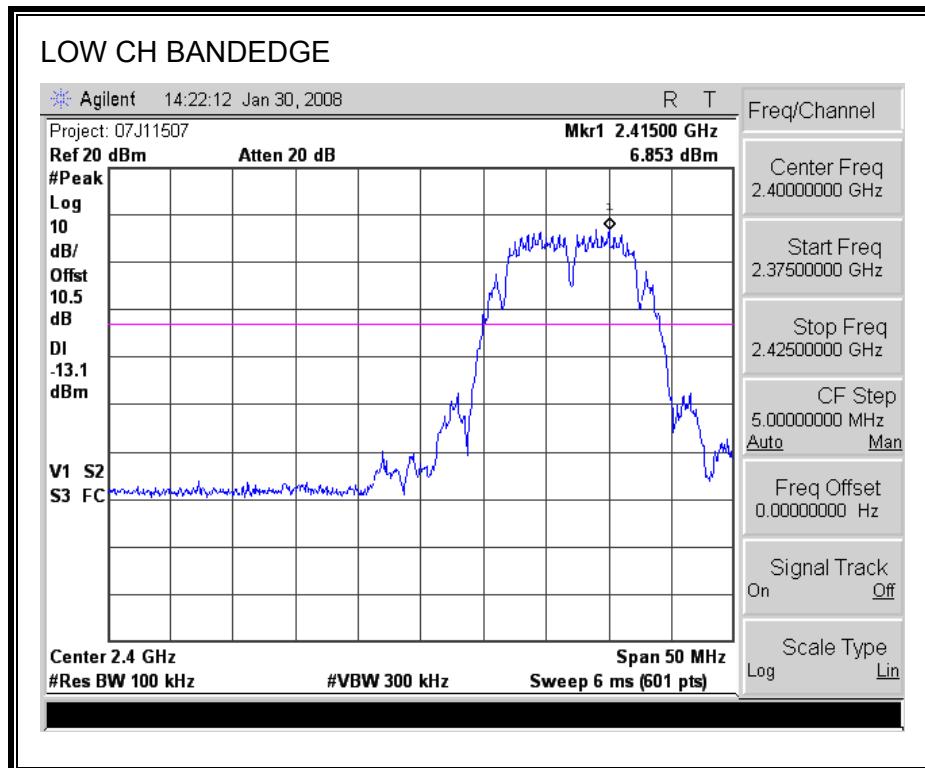
TEST PROCEDURE

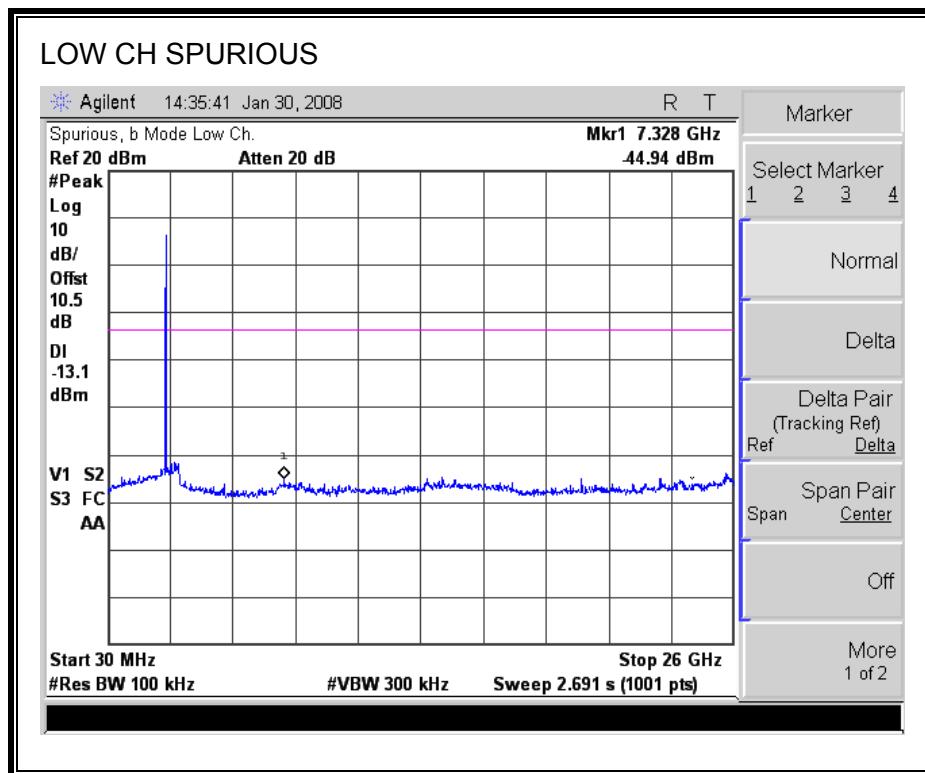
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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

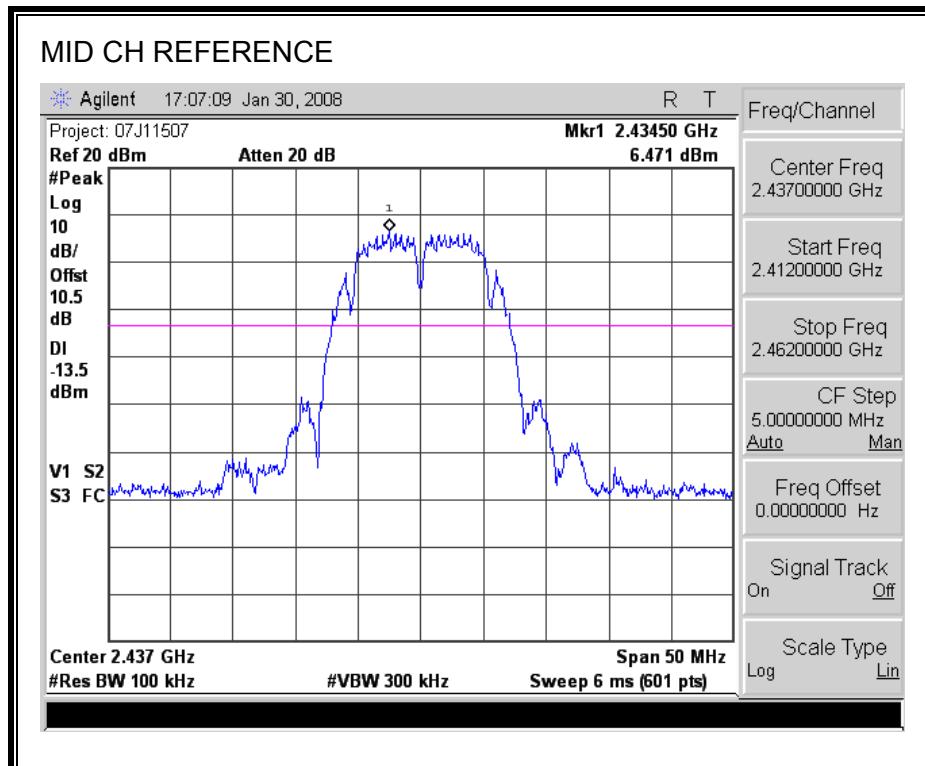
RESULTS

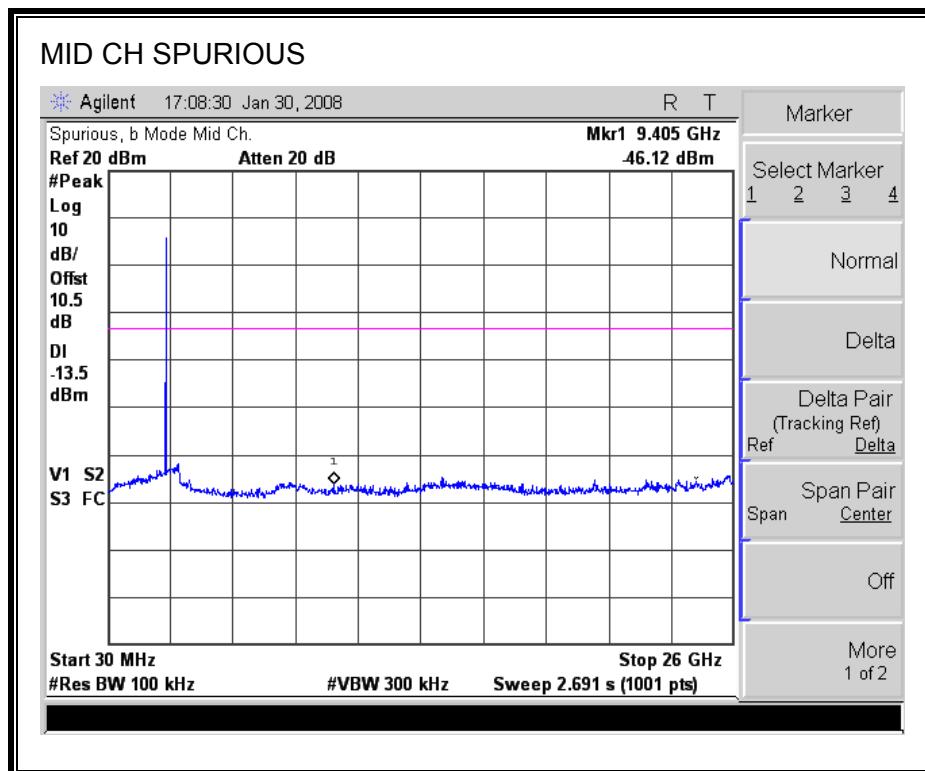
SPURIOUS EMISSIONS, LOW CHANNEL



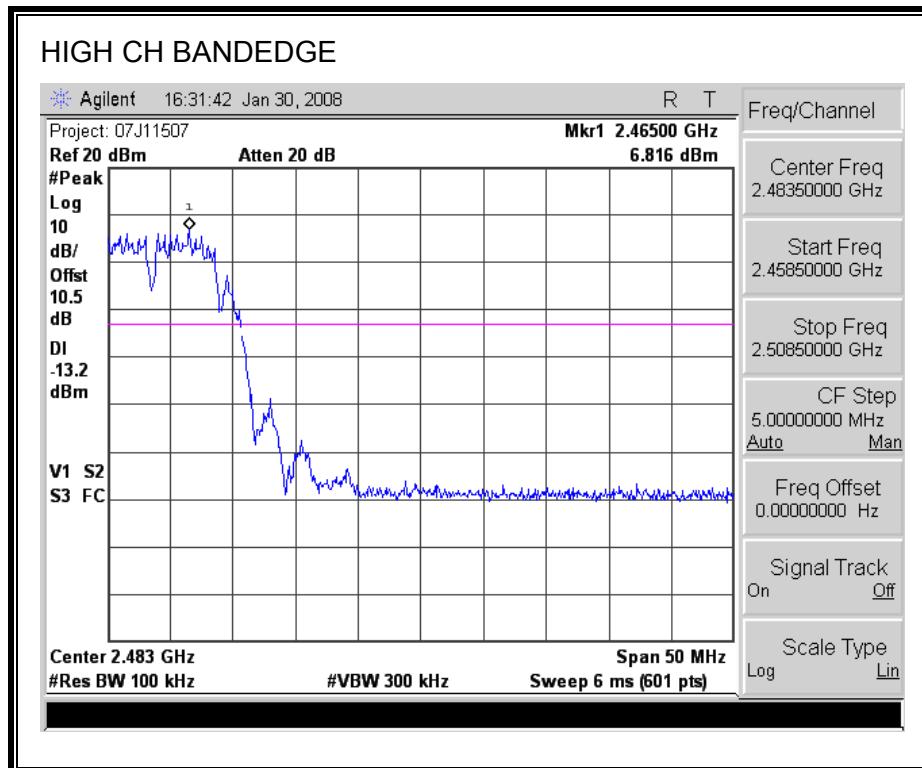


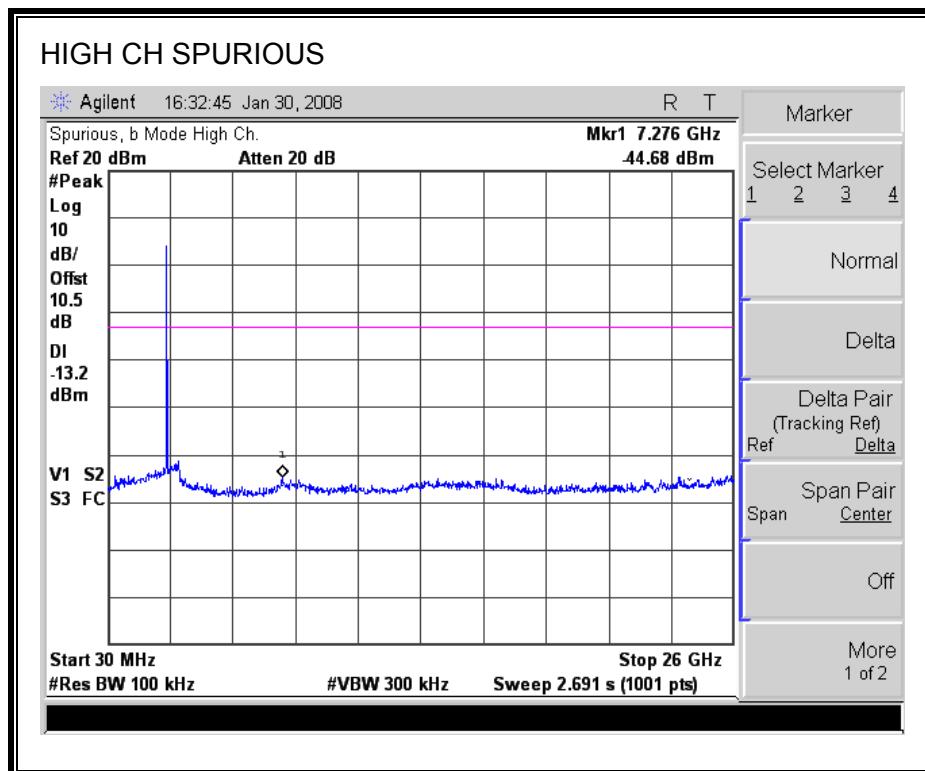
SPURIOUS EMISSIONS, MID CHANNEL





SPURIOUS EMISSIONS, HIGH CHANNEL





7.2. 802.11g MODE IN THE 2.4 GHz BAND

7.2.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

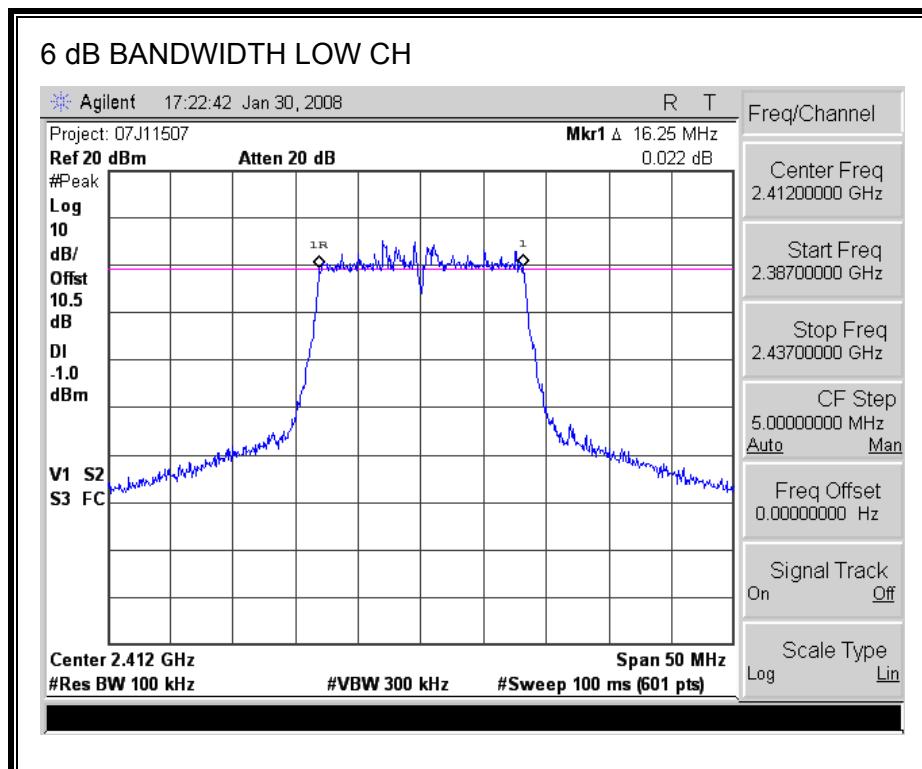
TEST PROCEDURE

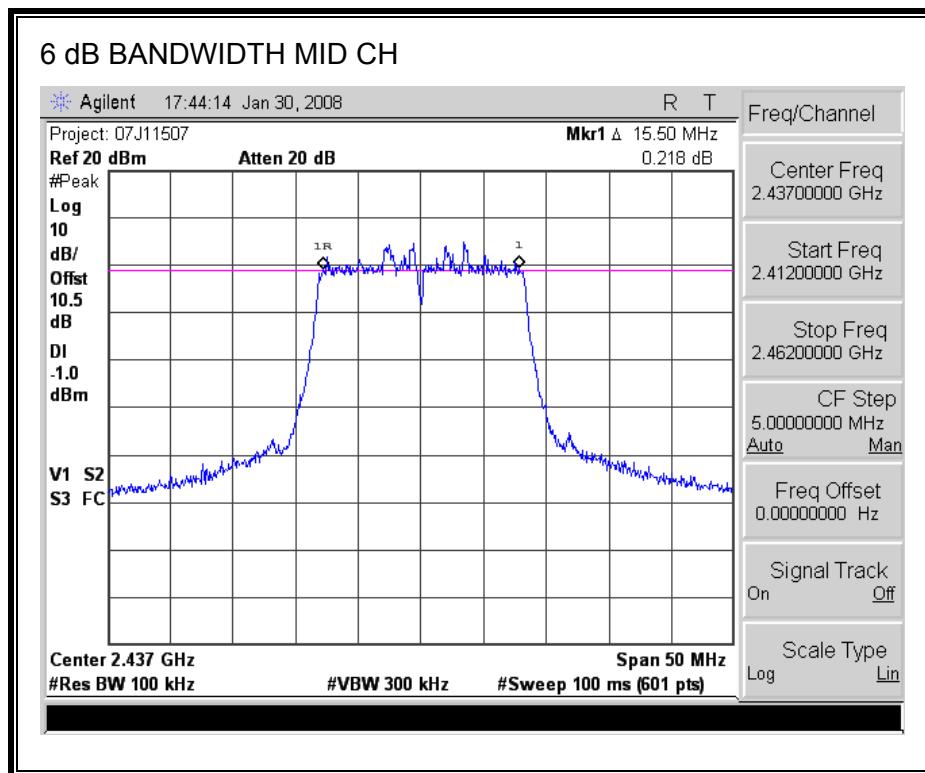
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

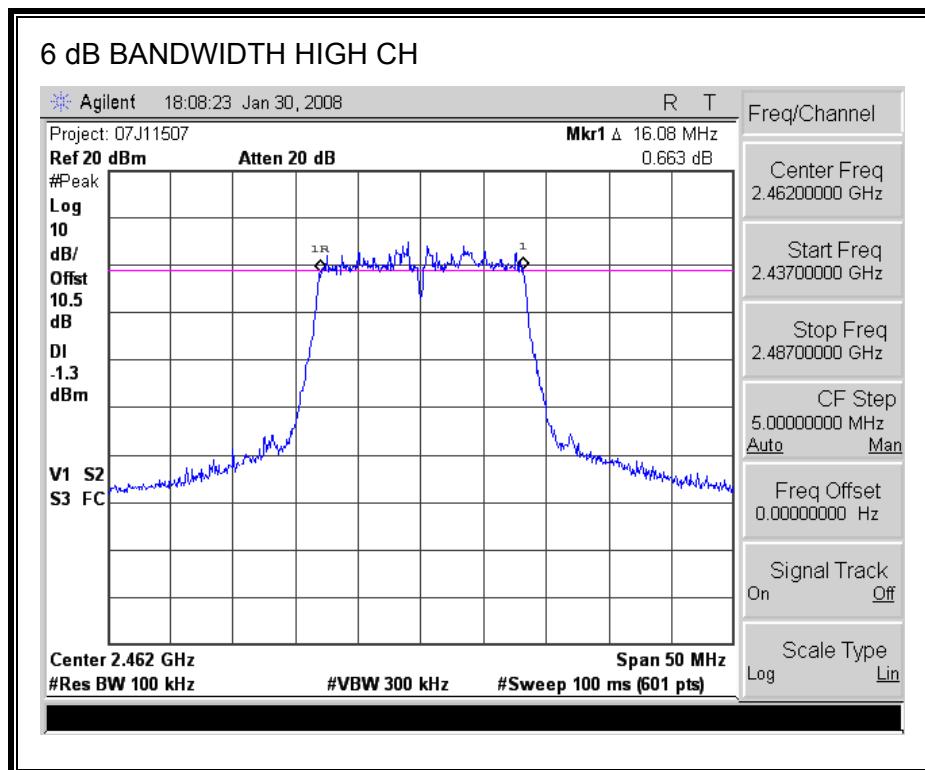
RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	16.25	0.5
Middle	2437	15.5	0.5
High	2462	16.08	0.5

6 dB BANDWIDTH







7.2.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

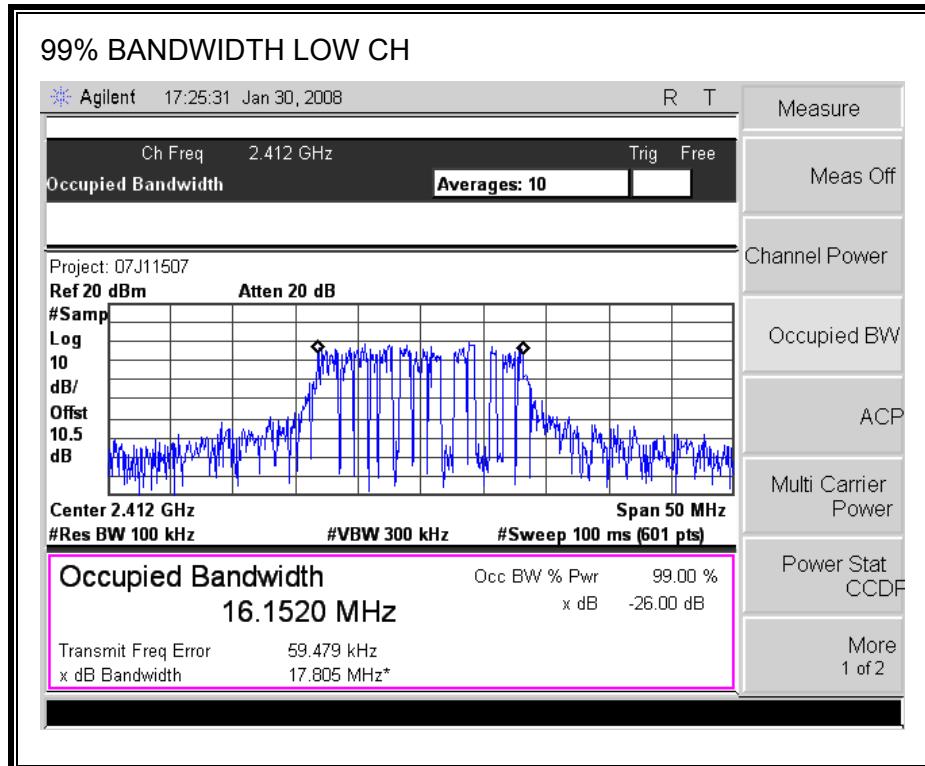
TEST PROCEDURE

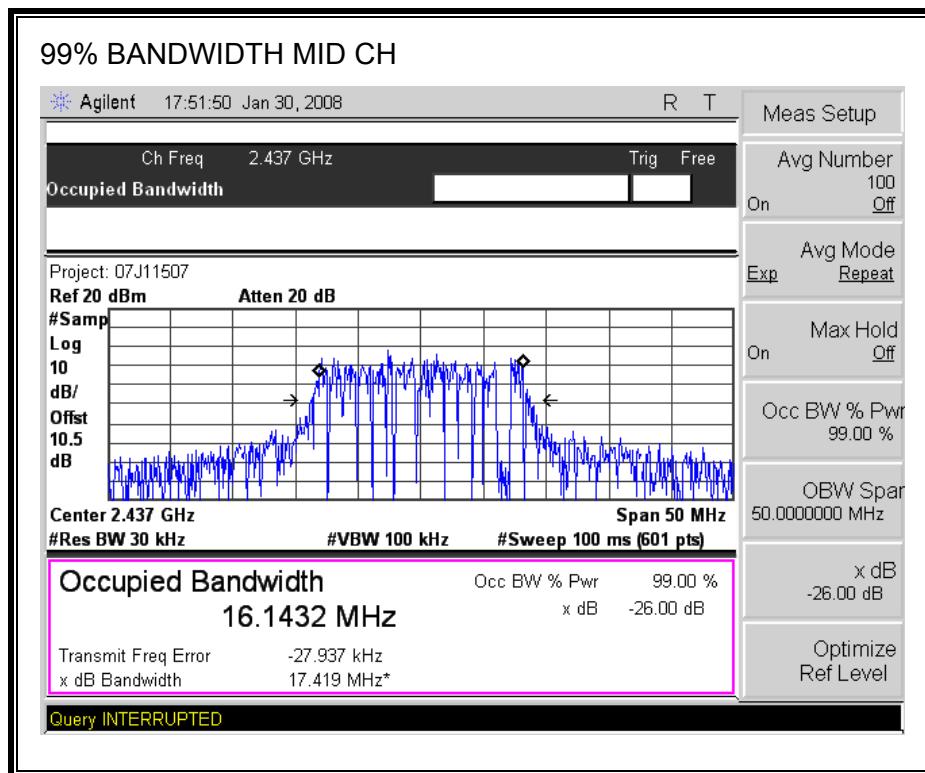
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

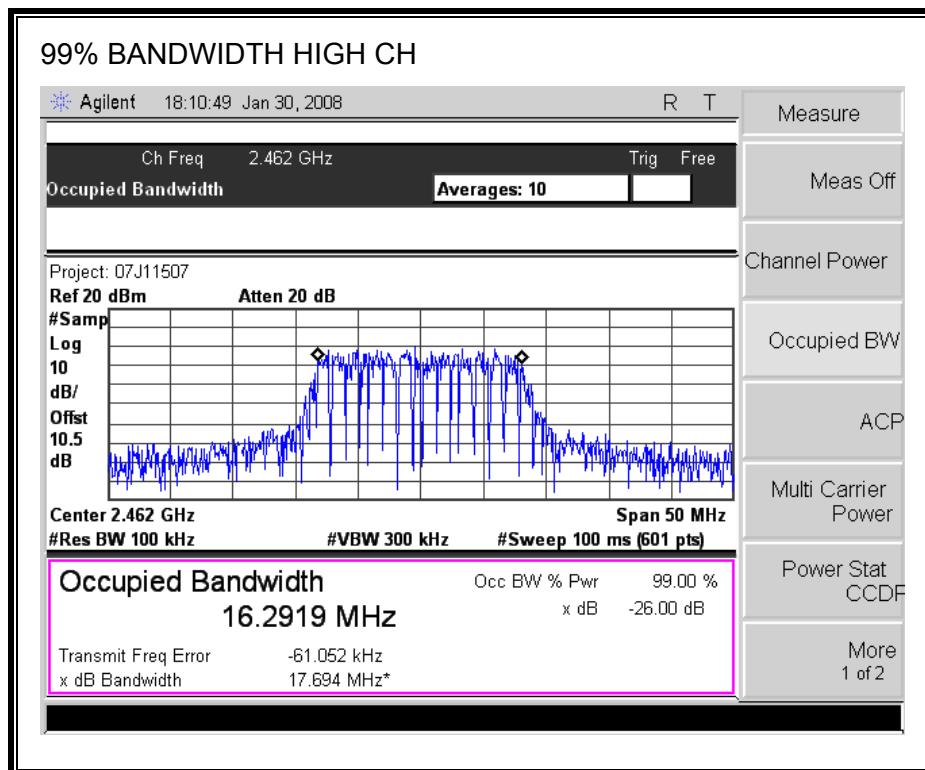
RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.152
Middle	2437	16.1432
High	2462	16.2919

99% BANDWIDTH







7.2.3. OUTPUT POWER

LIMITS

FCC §15.247 (b)

IC RSS-210 A8.4

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

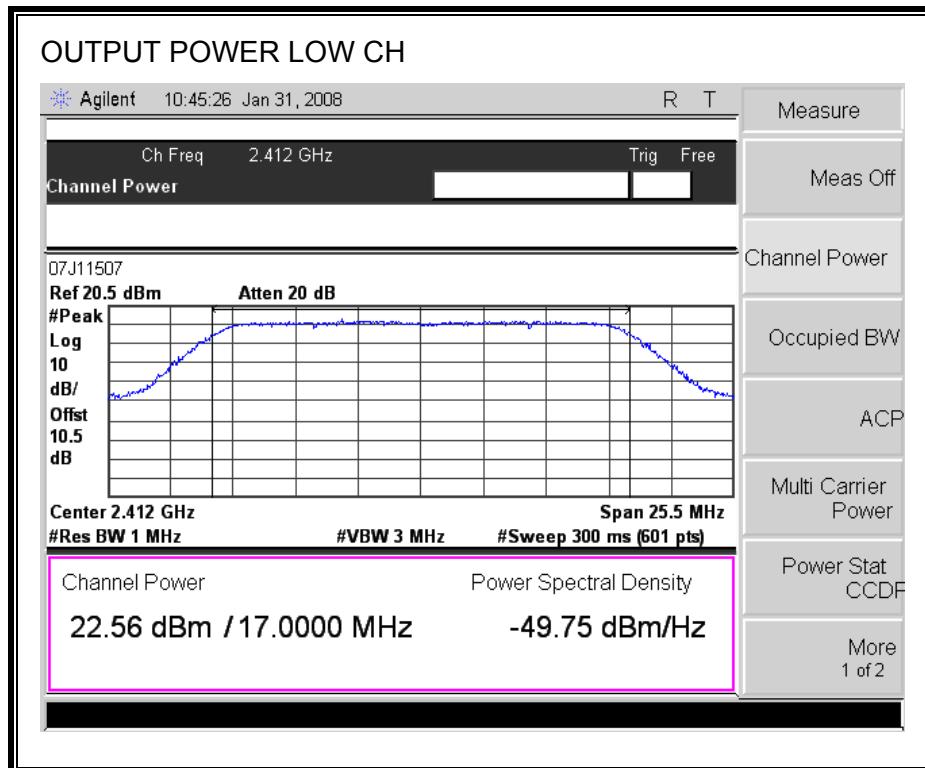
TEST PROCEDURE

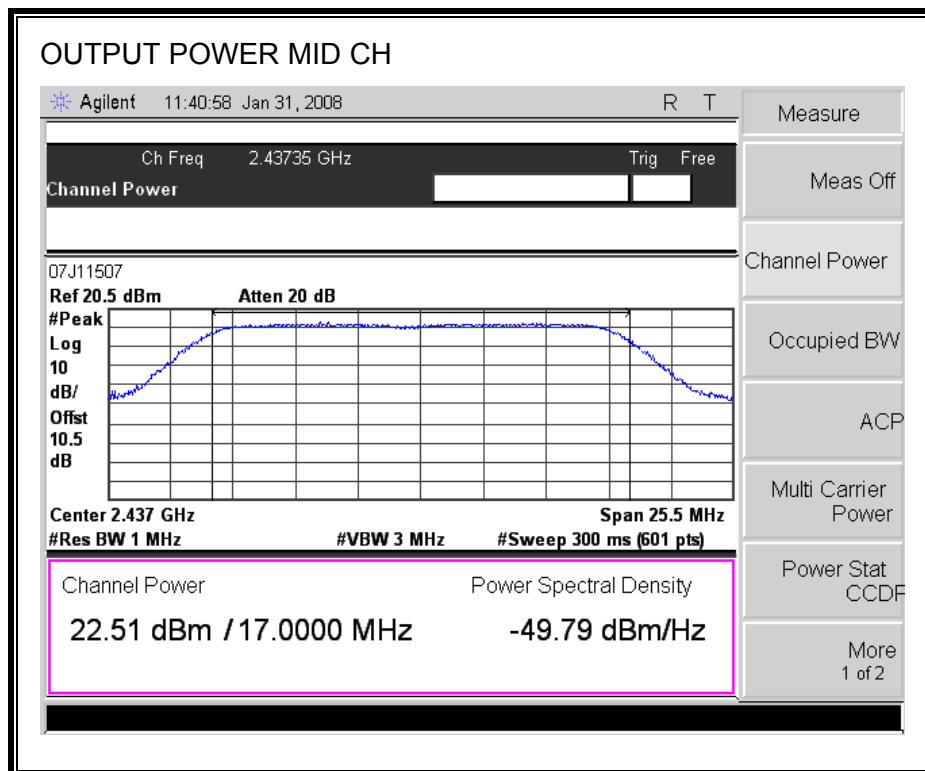
Peak power is measured using the spectrum analyzer's internal channel power integration function. Power is integrated over a bandwidth greater than or equal to the 99% bandwidth.

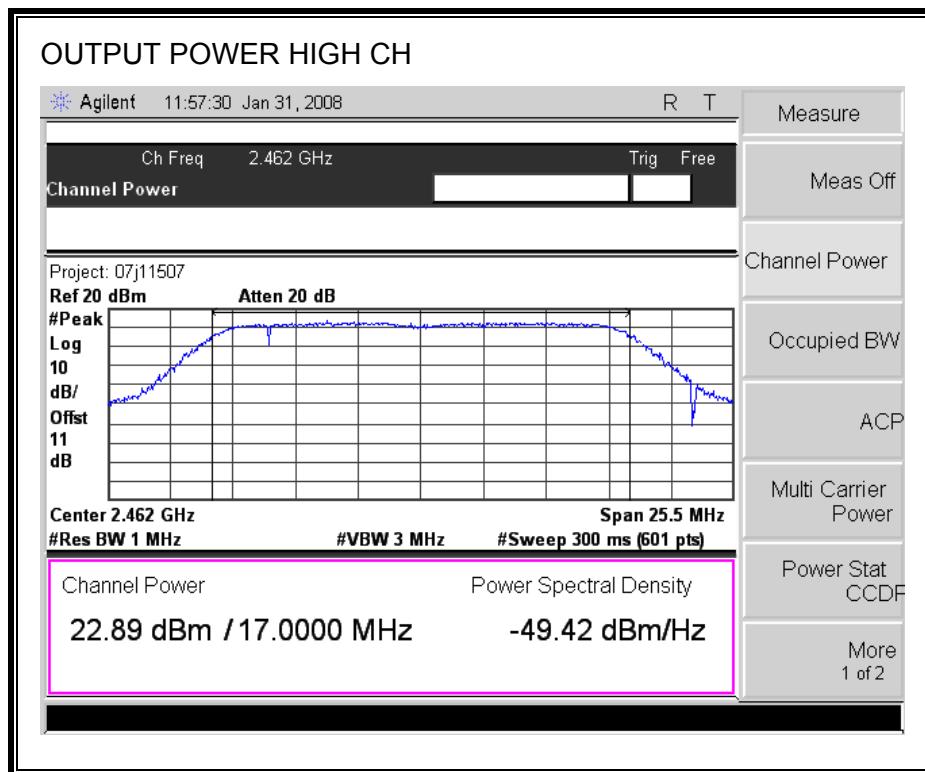
RESULTS

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2412	22.56	30	-7.44
Middle	2437	22.51	30	-7.49
High	2462	22.89	30	-7.11

OUTPUT POWER







7.2.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10.5 dB (including 10 dB pad and .5 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Power (dBm)
Low	2412	13.50
Middle	2437	13.19
High	2462	13.16

7.2.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

IC RSS-210 A8.2 (b)

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.

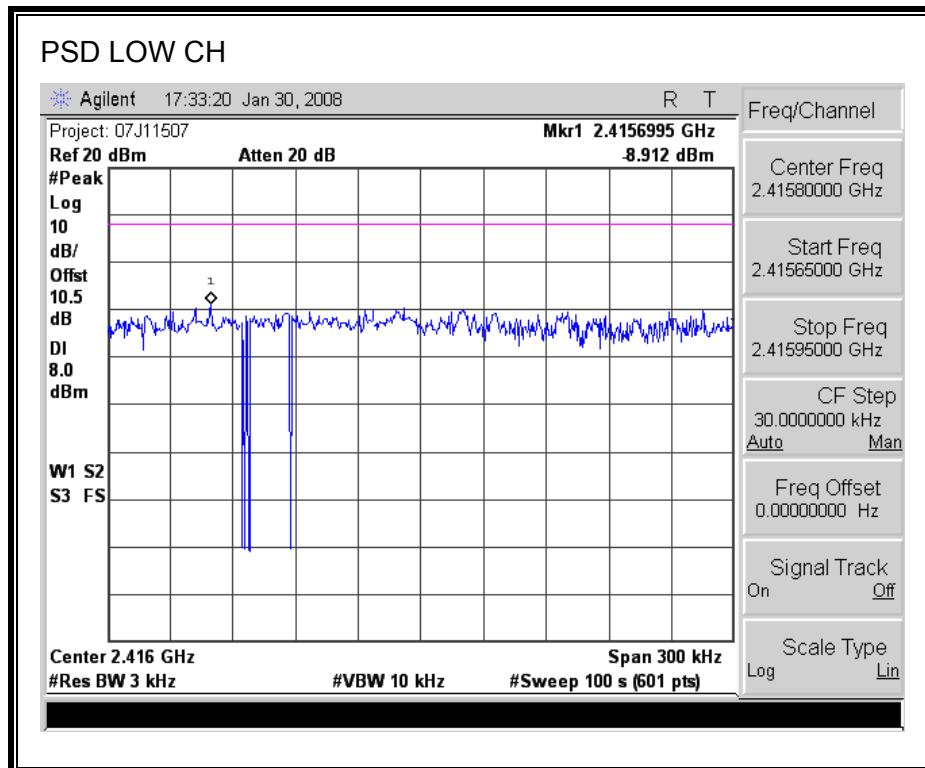
TEST PROCEDURE

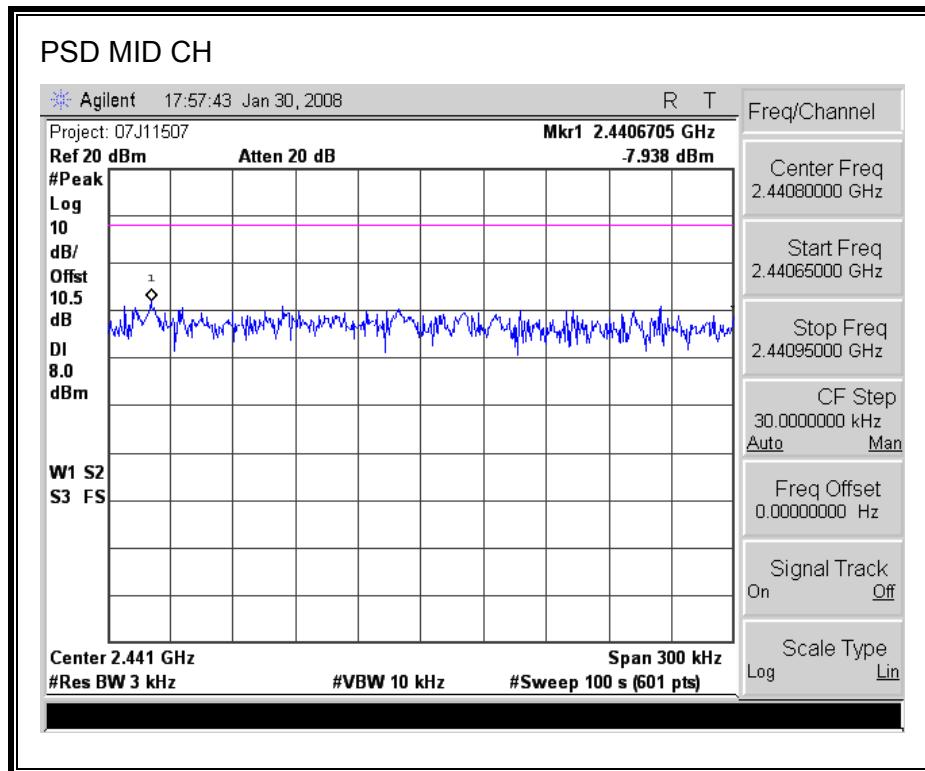
Output power was measured based on the use of a peak measurement, therefore the power spectral density was measured using PSD Option 1 in accordance with FCC document "Measurement of Digital Transmission Systems Operating under Section 15.247", March 23, 2005.

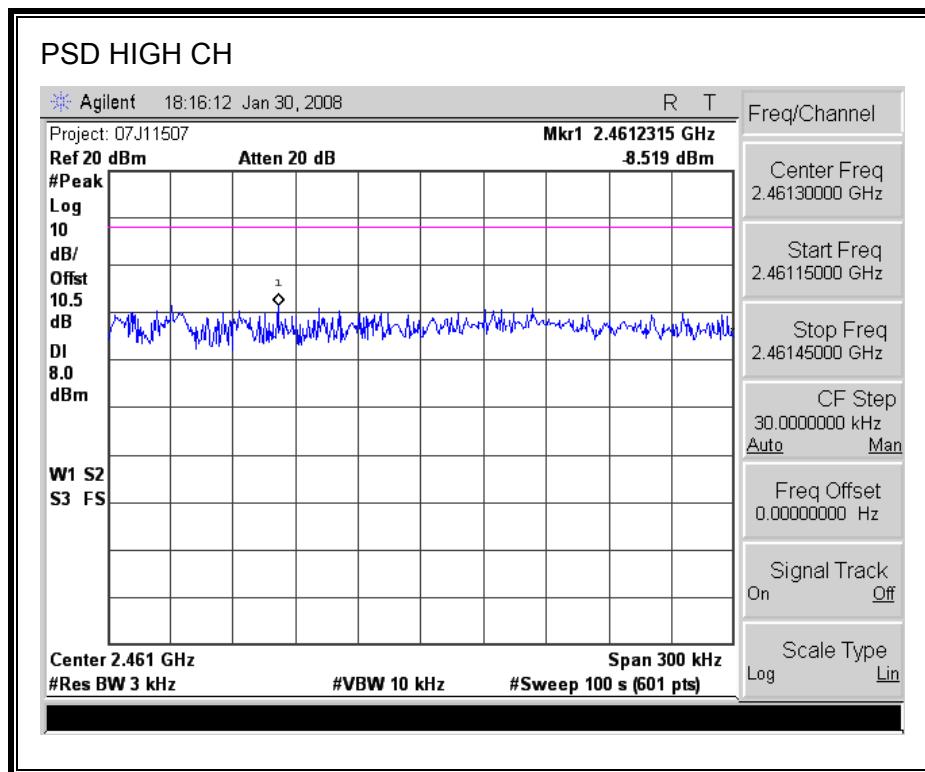
RESULTS

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-8.91	8	-16.91
Middle	2437	-7.94	8	-15.94
High	2462	-8.52	8	-16.52

POWER SPECTRAL DENSITY







7.2.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

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

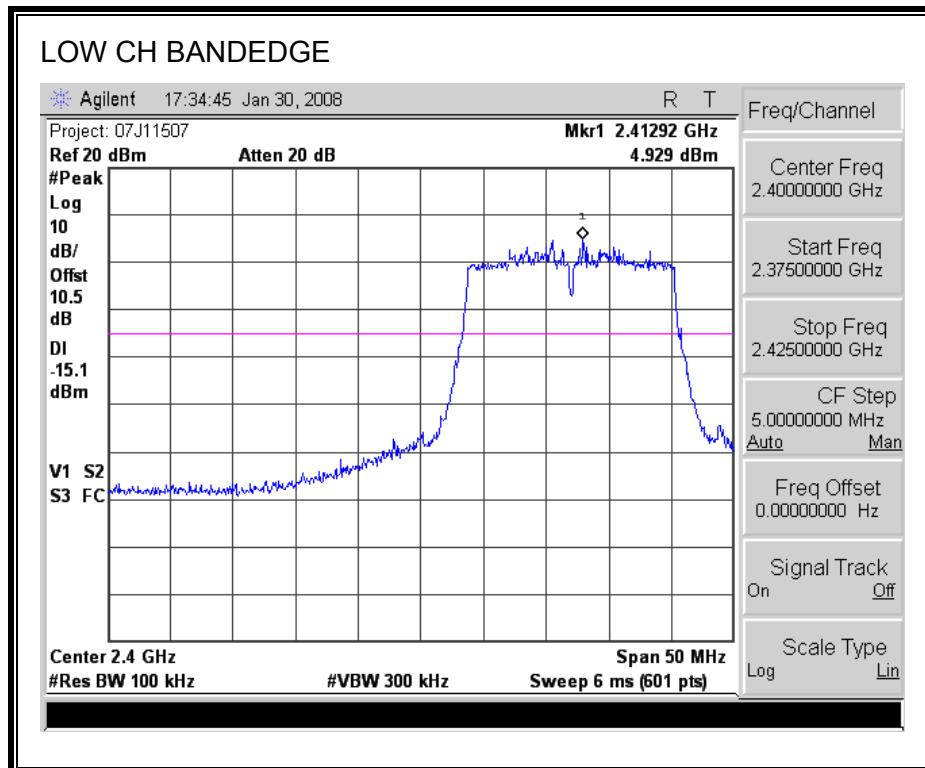
TEST PROCEDURE

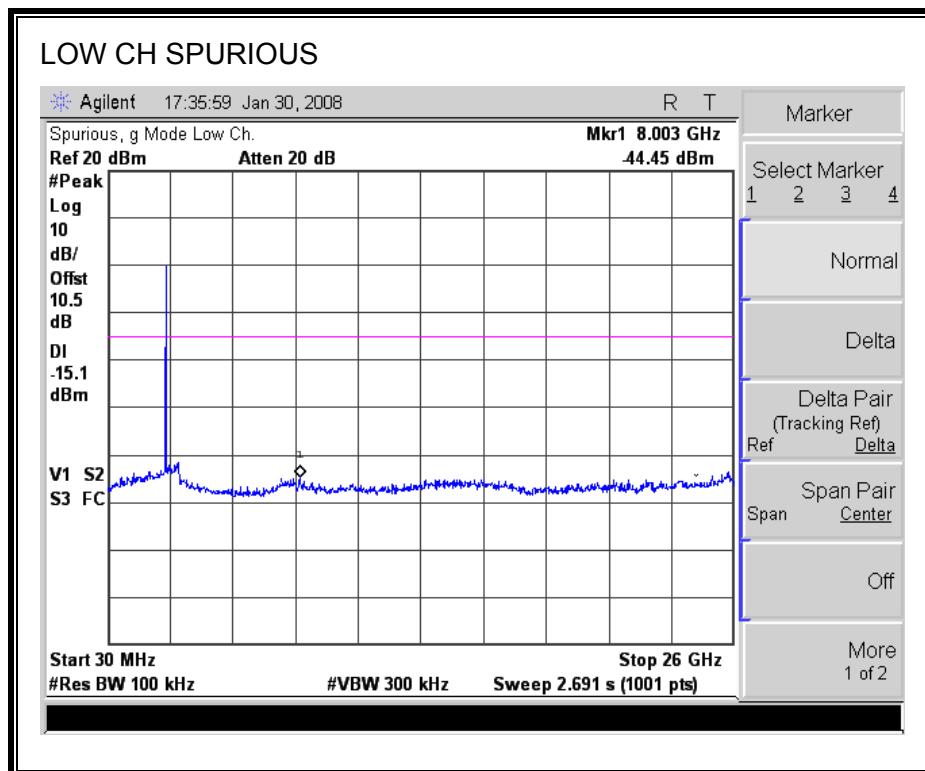
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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

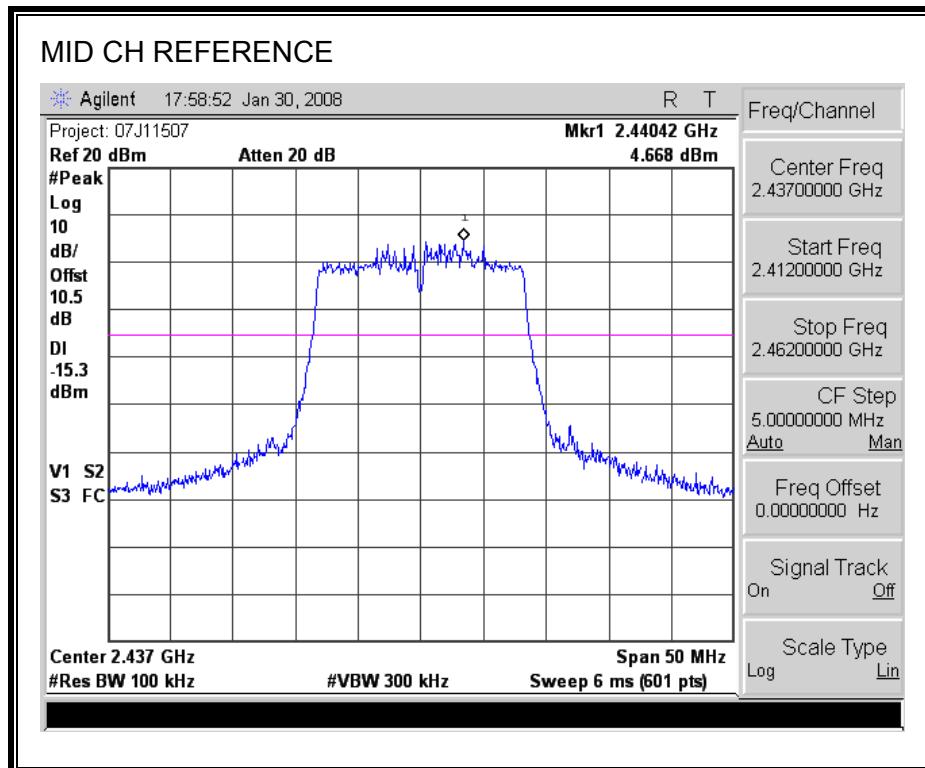
RESULTS

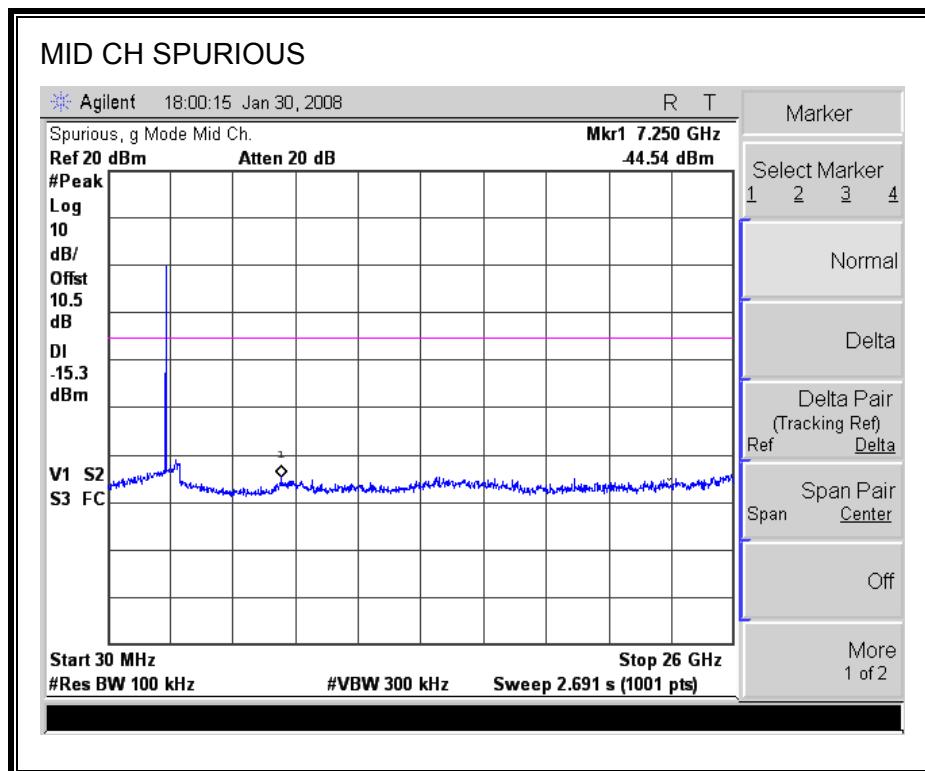
SPURIOUS EMISSIONS, LOW CHANNEL



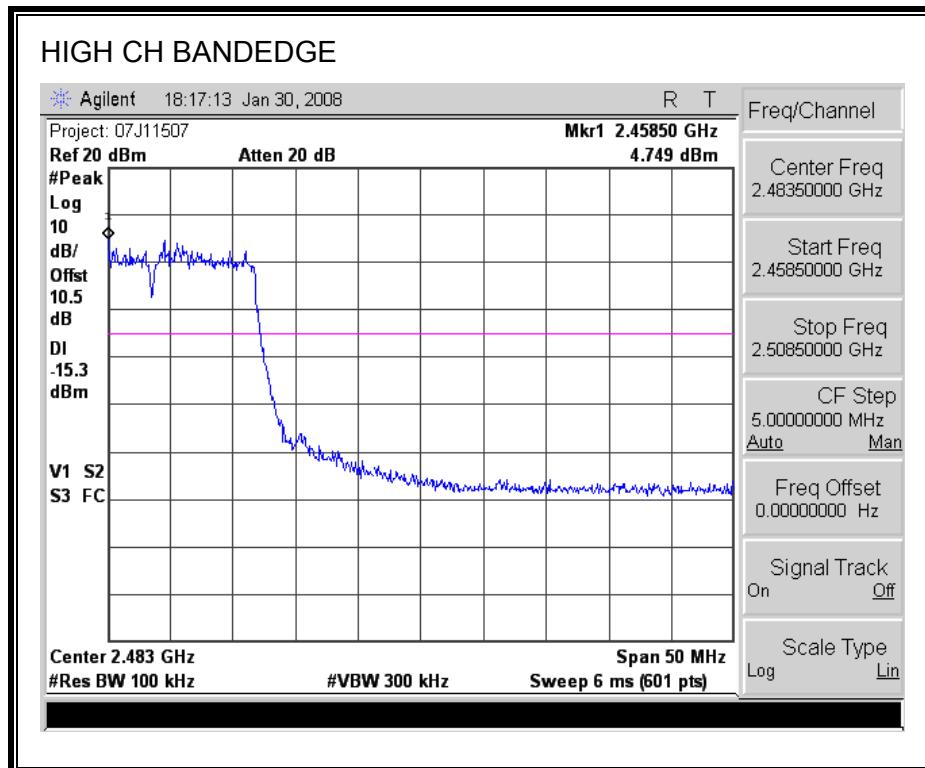


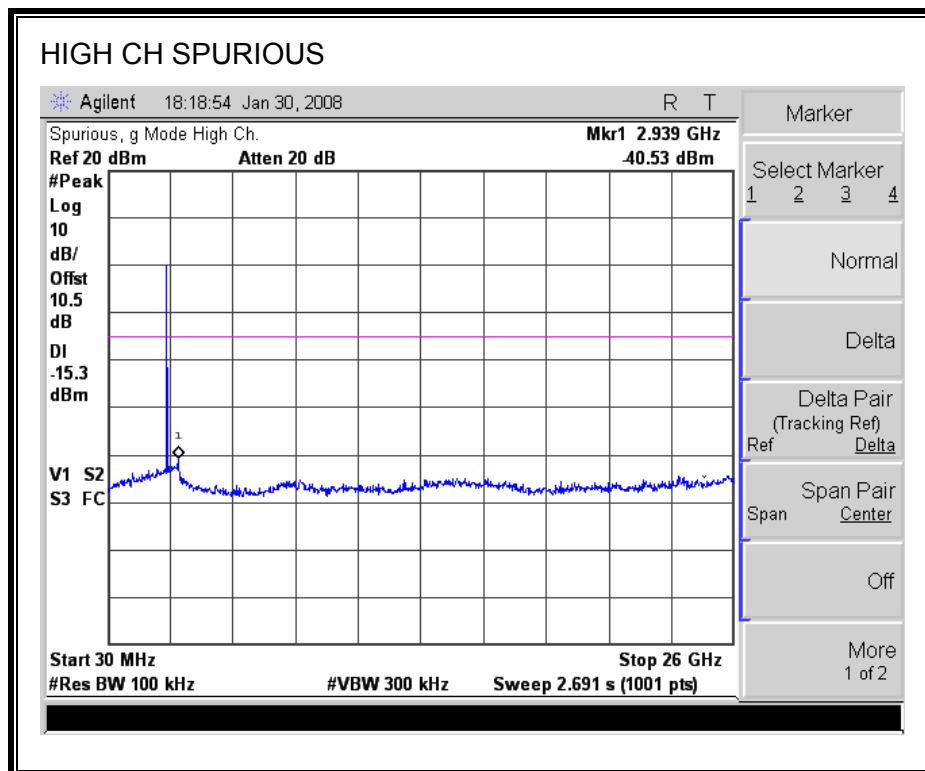
SPURIOUS EMISSIONS, MID CHANNEL





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.

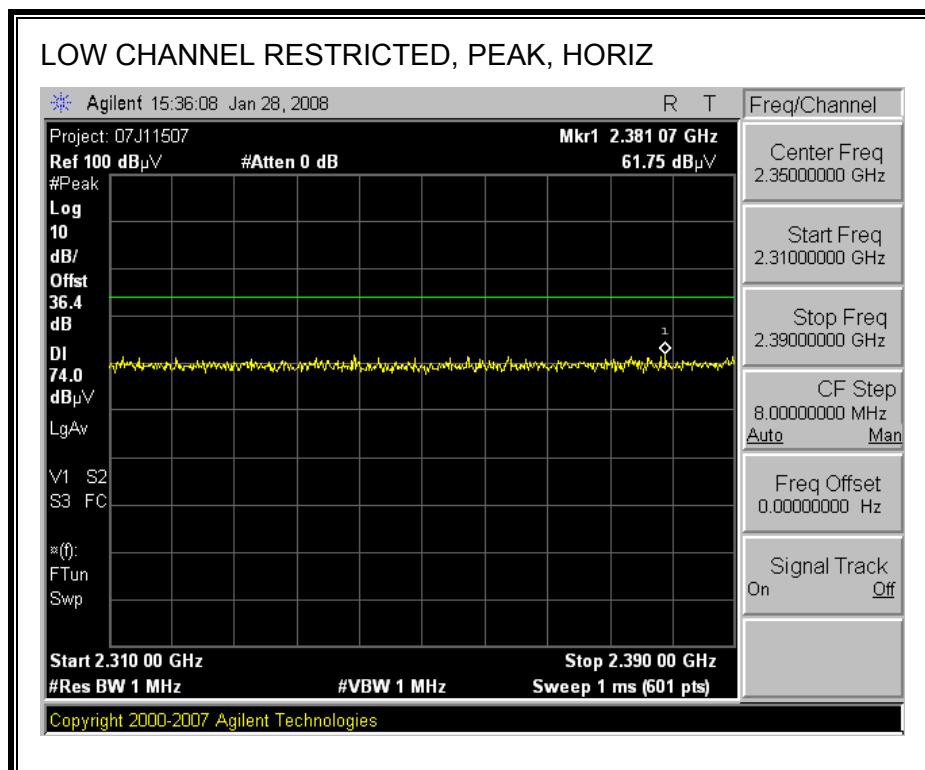
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

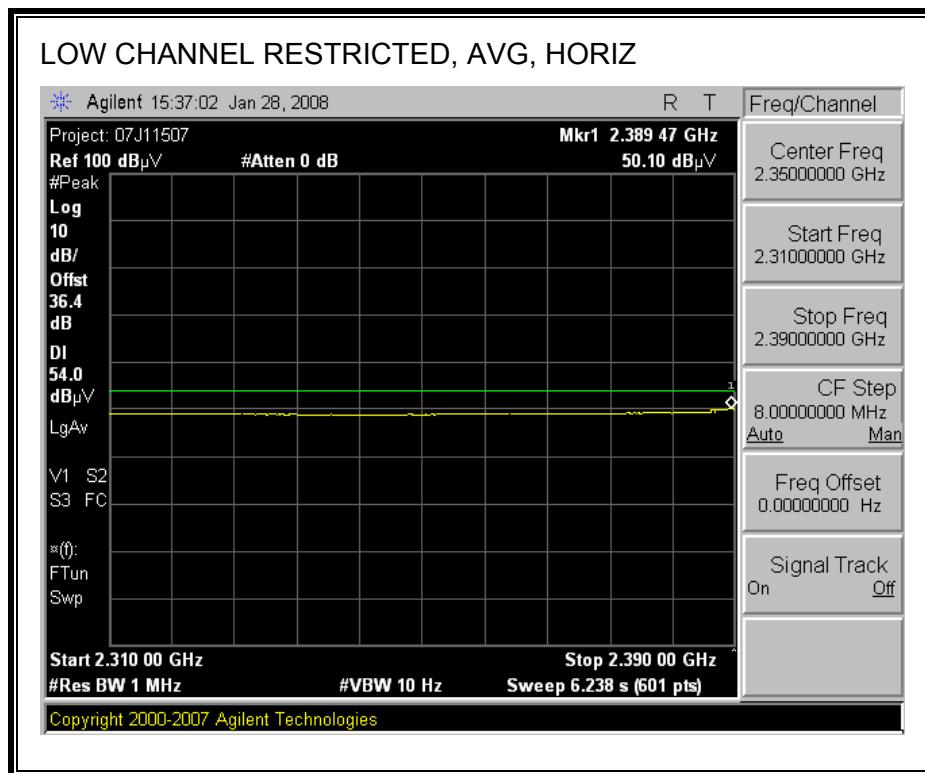
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

8.2. TRANSMITTER ABOVE 1 GHz

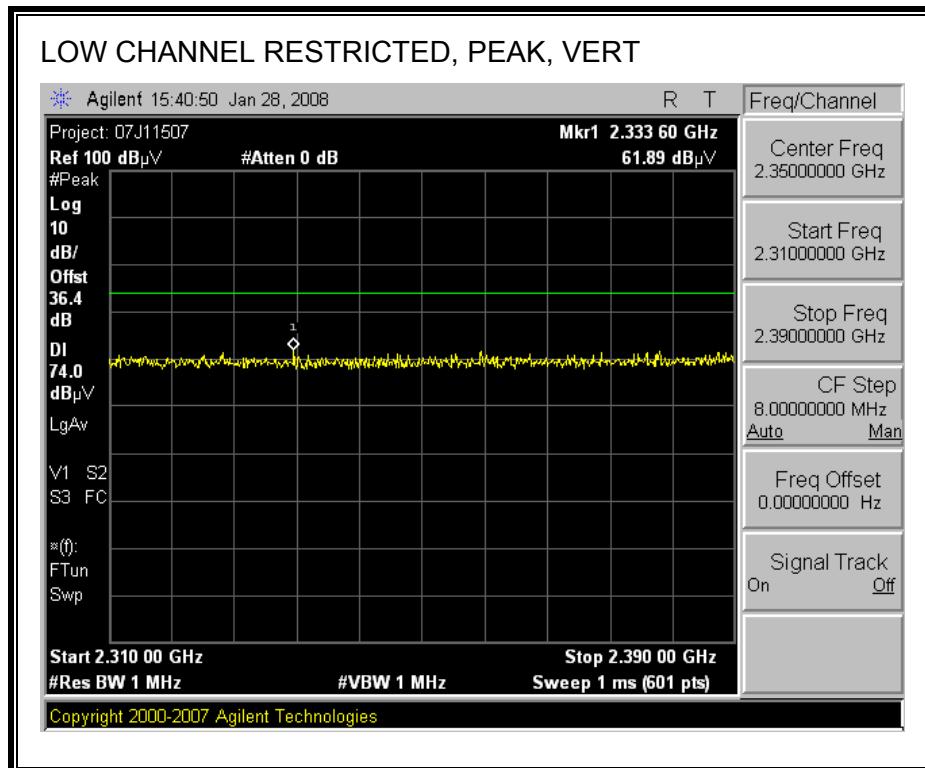
8.2.1. TRANSMITTER ABOVE 1 GHz FOR 802.11b MODE IN THE 2.4 GHz BAND

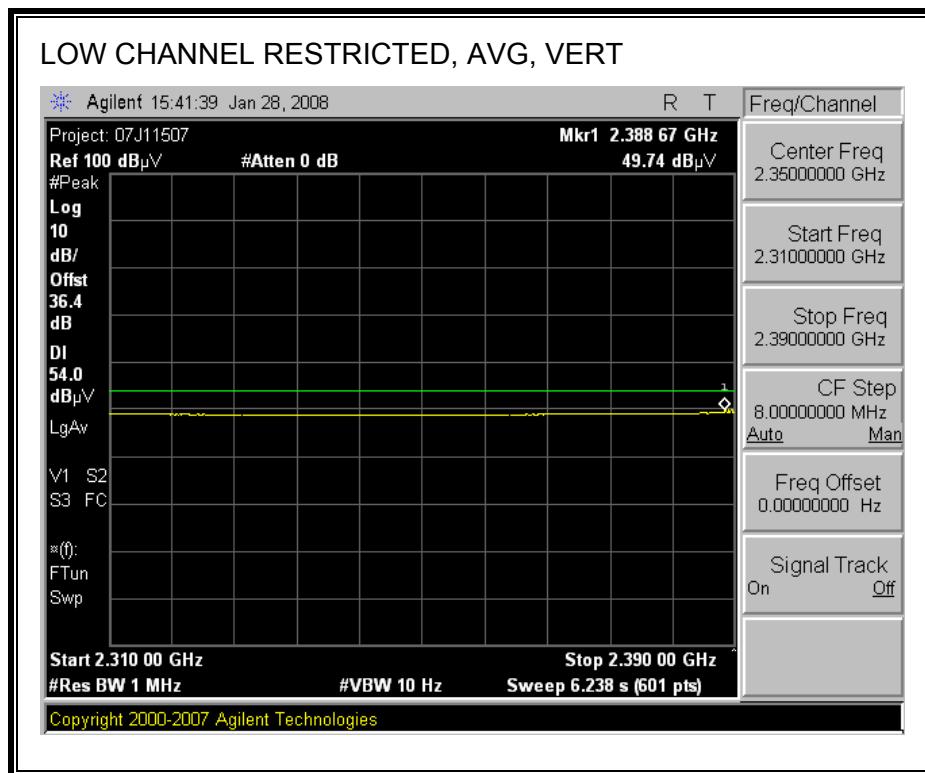
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



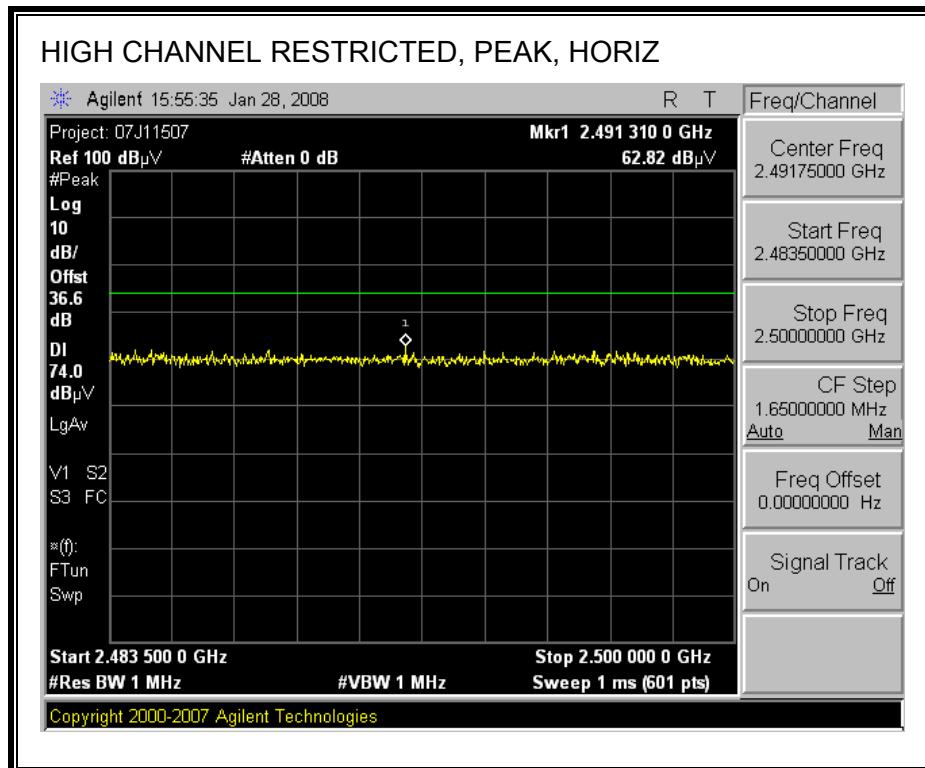


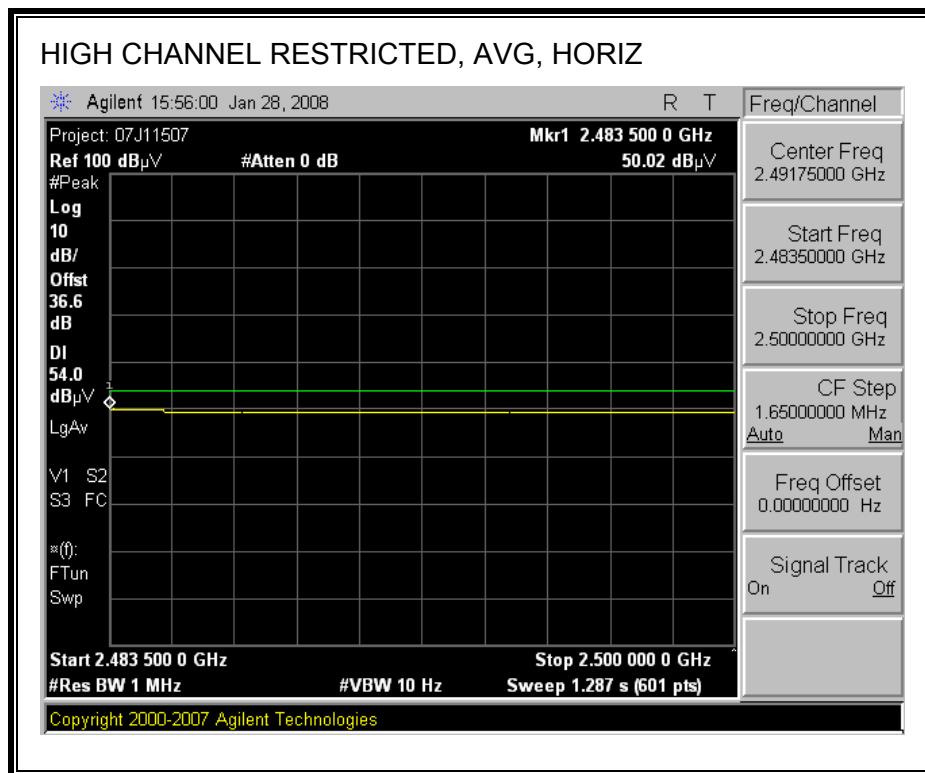
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



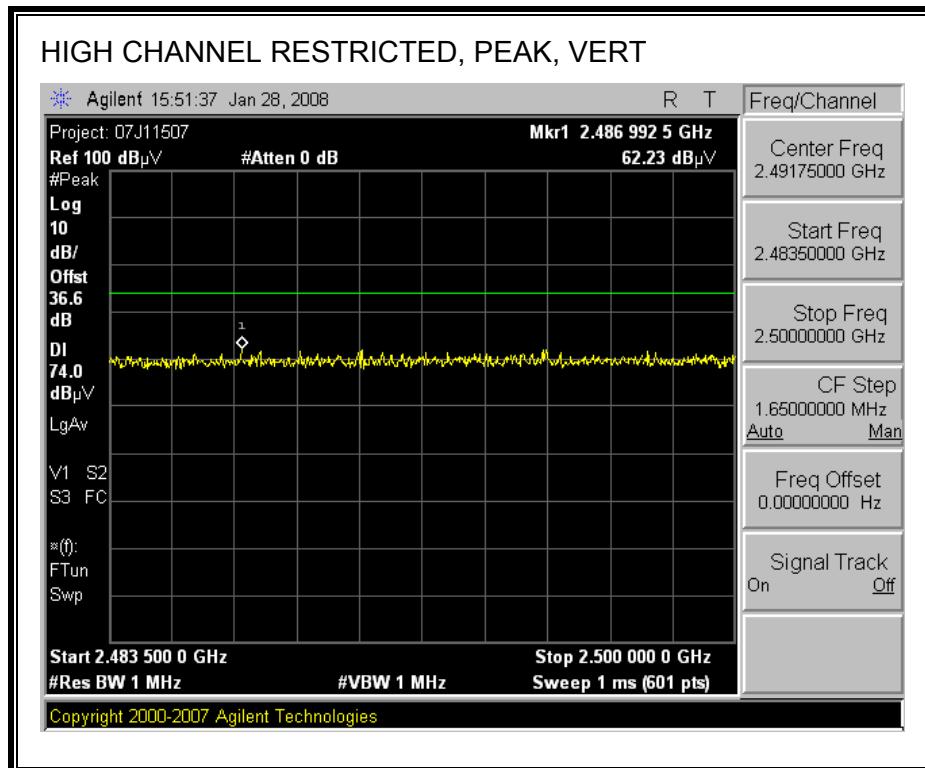


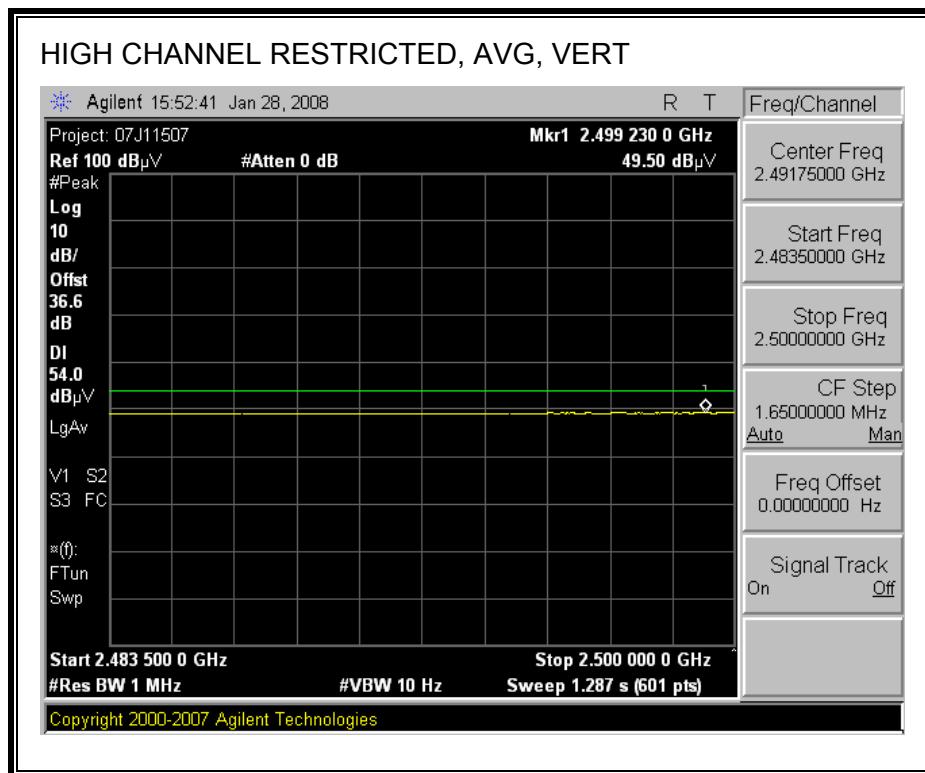
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)





HARMONICS AND SPURIOUS EMISSIONS

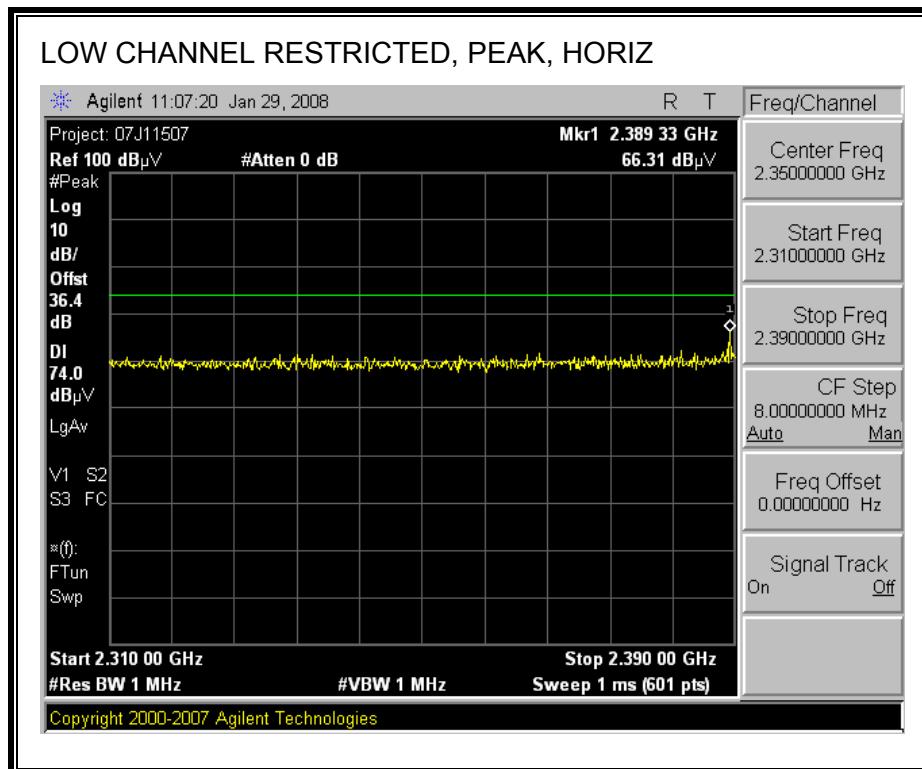
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Company: NEC Infrontia Corp Project #: 07J11507 Date: 1/29/08 Test Engineer: Thanh Nguyen Configuration: EUT on charger and laptop Mode: Transmit b Mode															
<u>Test Equipment:</u>															
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit			
T120; S/N: 29310 @3m			T34 HP 8449B									FCC 15.209			
Hi Frequency Cables															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			
						A-5m Chamber						R_001			
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)
Harmonics Spurious															
Low Ch, 2412 MHz															
4.924	3.0	40.1	30.4	33.8	7.0	-34.8	0.0	0.0	46.1	36.4	74	54	-27.9	-17.6	V
7.386	3.0	41.3	35.1	35.2	8.4	-34.1	0.0	0.0	50.8	44.6	74	54	-23.2	-9.4	V
9.648	3.0	39.1	28.5	36.9	9.7	-33.6	0.0	0.0	52.1	41.4	74	54	-21.9	-12.6	V
4.924	3.0	42.0	33.9	33.8	7.0	-34.8	0.0	0.0	47.9	39.9	74	54	-26.1	-14.1	H
7.386	3.0	42.5	33.2	35.2	8.4	-34.1	0.0	0.0	52.1	42.7	74	54	-21.9	-11.3	H
9.648	3.0	40.3	30.2	36.9	9.7	-33.6	0.0	0.0	53.2	43.2	74	54	-20.8	-10.8	H
Mid Ch, 2437 MHz															
4.874	3.0	42.2	34.5	33.7	6.9	-34.8	0.0	0.0	48.0	40.3	74	54	-26.0	-13.7	V
7.311	3.0	42.8	31.0	35.2	8.4	-34.1	0.0	0.0	52.3	40.5	74	54	-21.7	-13.5	V
9.748	3.0	40.0	30.2	37.1	9.8	-33.3	0.0	0.0	53.5	43.7	74	54	-20.5	-10.3	V
4.874	3.0	43.6	36.1	33.7	6.9	-34.8	0.0	0.0	49.5	42.0	74	54	-24.5	-12.0	H
7.311	3.0	43.1	31.5	35.2	8.4	-34.1	0.0	0.0	52.6	41.0	74	54	-21.4	-13.0	H
9.748	3.0	41.6	31.4	37.1	9.8	-33.3	0.0	0.0	55.1	44.9	74	54	-18.9	-9.1	H
High Ch, 2462 MHz															
4.924	3.0	39.0	25.3	33.8	7.0	-34.8	0.0	0.0	45.0	31.3	74	54	-29.0	-22.7	V
7.386	3.0	38.4	28.5	35.2	8.4	-34.1	0.0	0.0	48.0	38.1	74	54	-26.0	-15.9	V
9.848	3.0	37.5	25.6	37.2	9.9	-33.1	0.0	0.0	51.6	39.6	74	54	-22.4	-14.4	V
4.924	3.0	40.9	34.6	33.8	7.0	-34.8	0.0	0.0	46.9	40.6	74	54	-27.1	-13.4	H
7.386	3.0	39.3	27.4	35.2	8.4	-34.1	0.0	0.0	48.8	37.0	74	54	-25.2	-17.0	H
9.848	3.0	40.7	34.1	37.2	9.9	-33.1	0.0	0.0	54.7	48.2	74	54	-19.3	-5.8	H
Spurious Emissions															
1.598	3.0	54.6	33.7	30.1	3.8	-37.4	0.0	0.0	51.0	30.1	74	54	-23.0	-23.9	H
1.195	3.0	50.9	32.6	28.6	3.3	-38.0	0.0	0.0	44.7	26.4	74	54	-29.3	-27.6	V
1.600	3.0	51.5	32.5	30.1	3.8	-37.4	0.0	0.0	47.9	28.9	74	54	-26.1	-25.1	V
1.886	3.0	54.6	33.6	31.2	4.2	-37.0	0.0	0.0	52.9	31.9	74	54	-21.1	-22.1	V

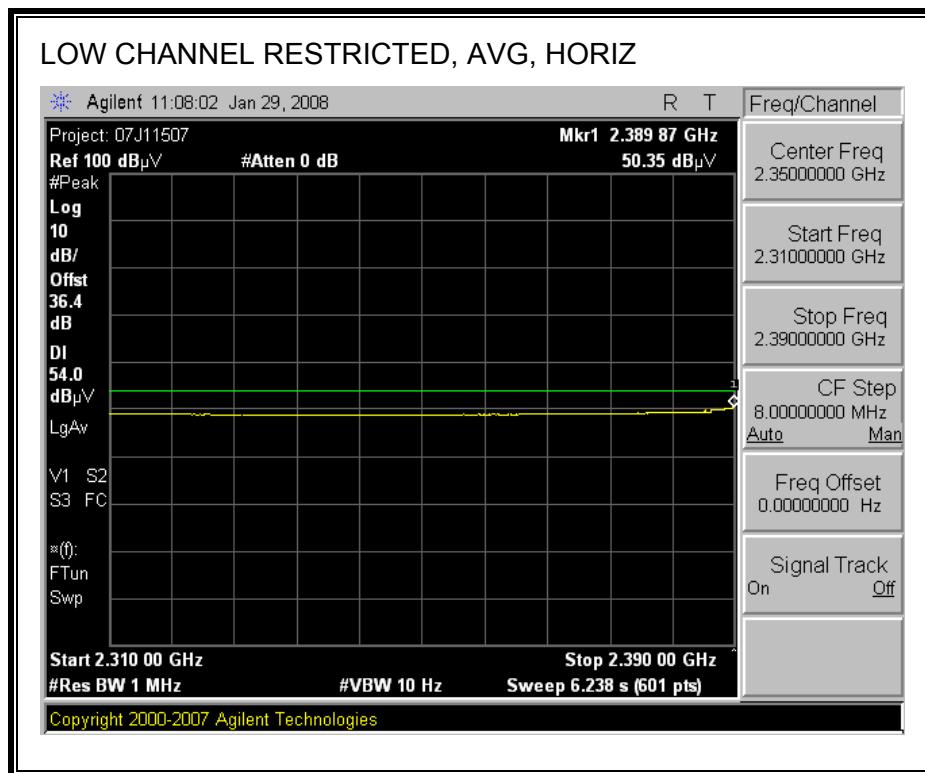
Rev. 4.12.7

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		

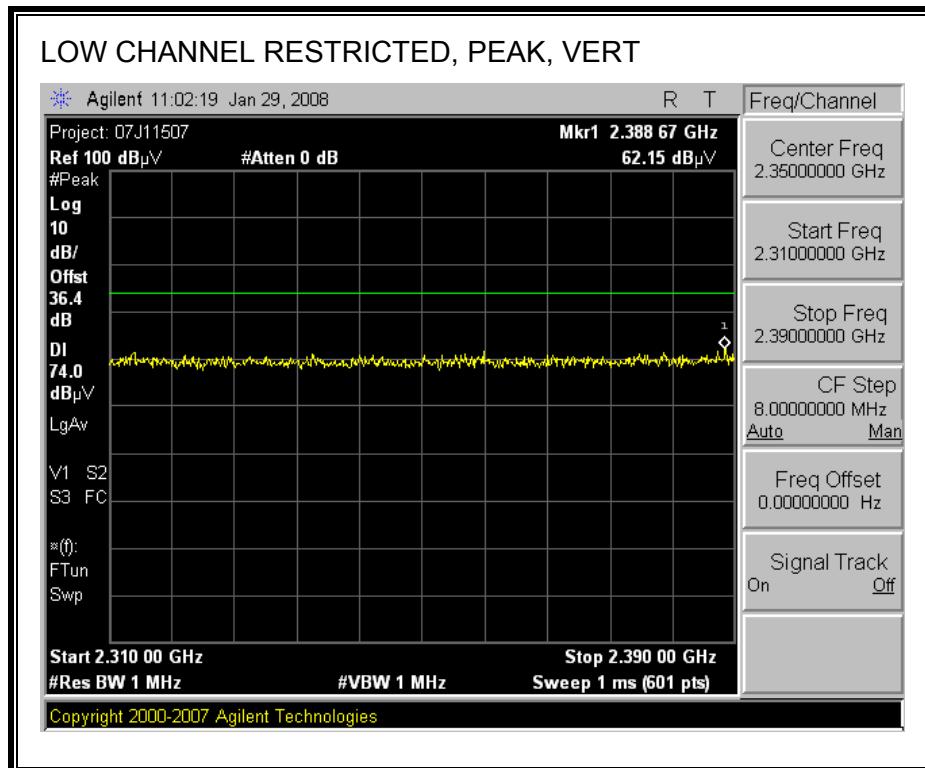
8.2.2. TRANSMITTER ABOVE 1 GHz FOR 802.11g MODE IN THE 2.4 GHz BAND

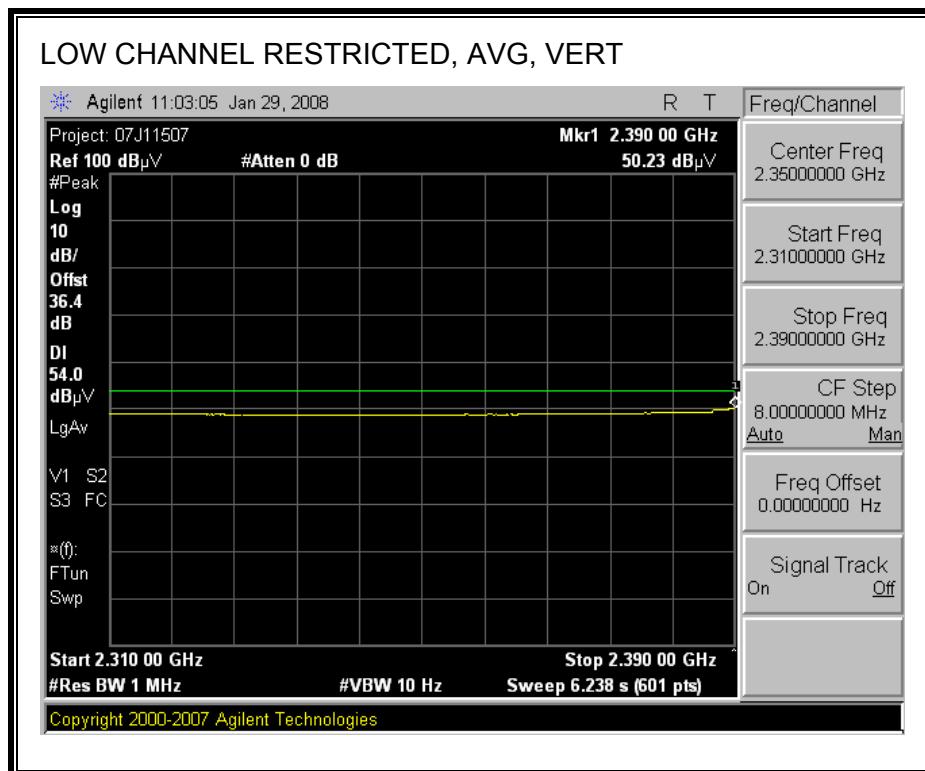
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



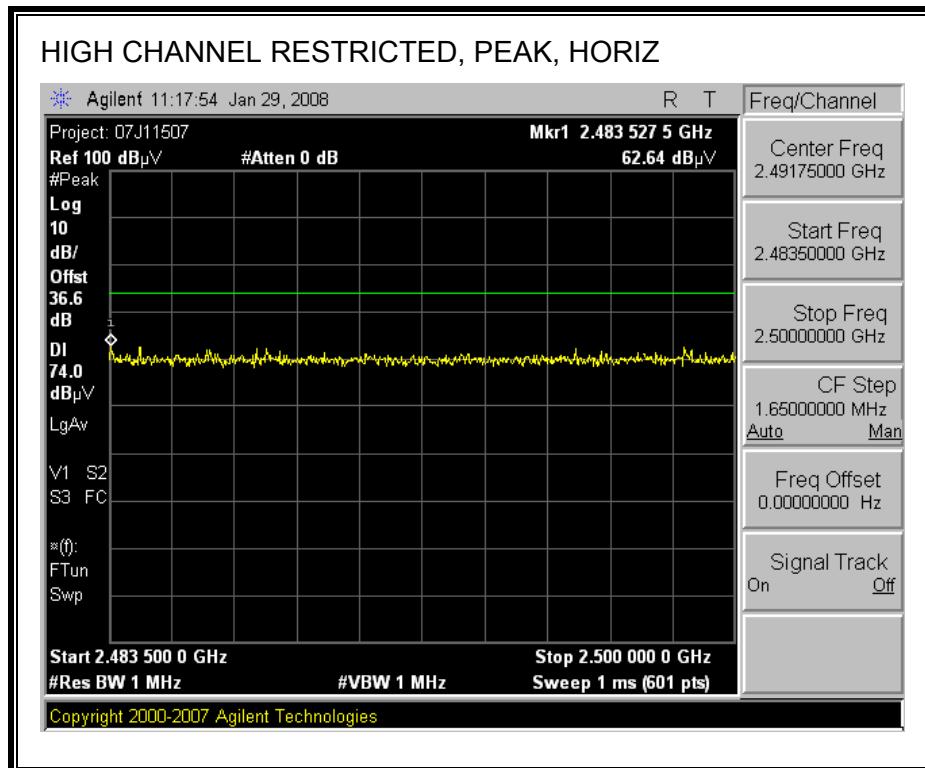


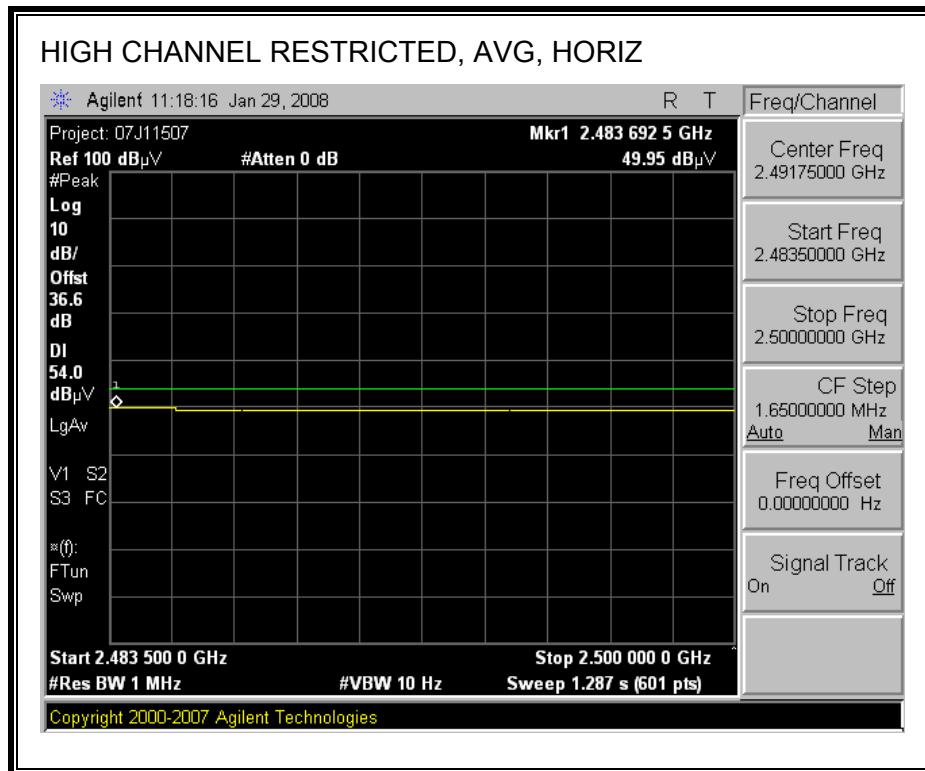
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



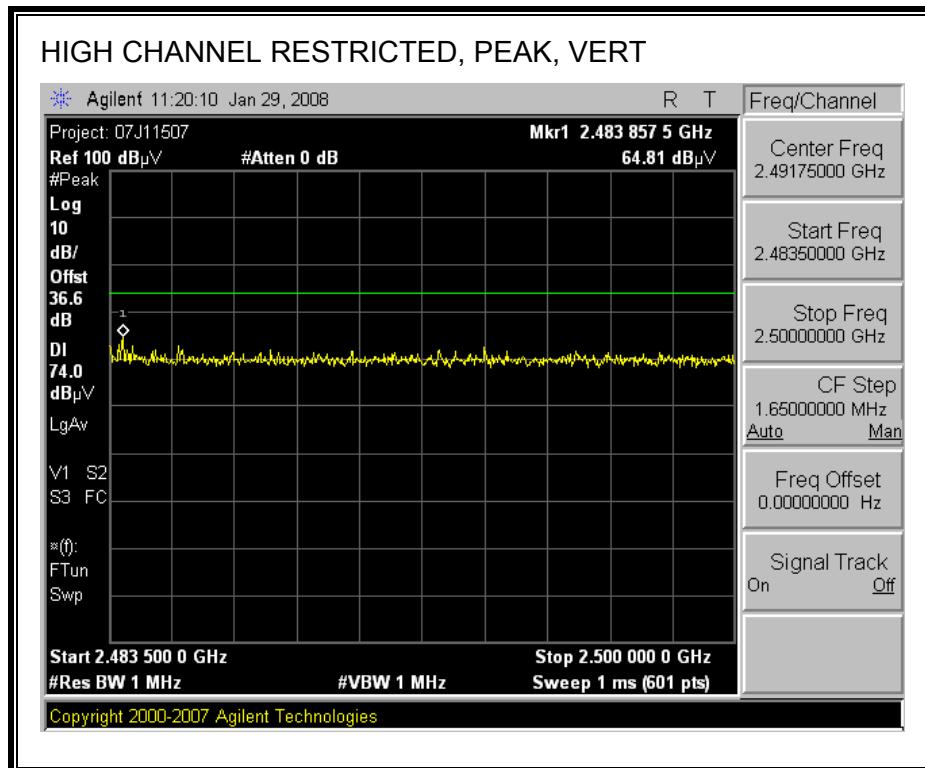


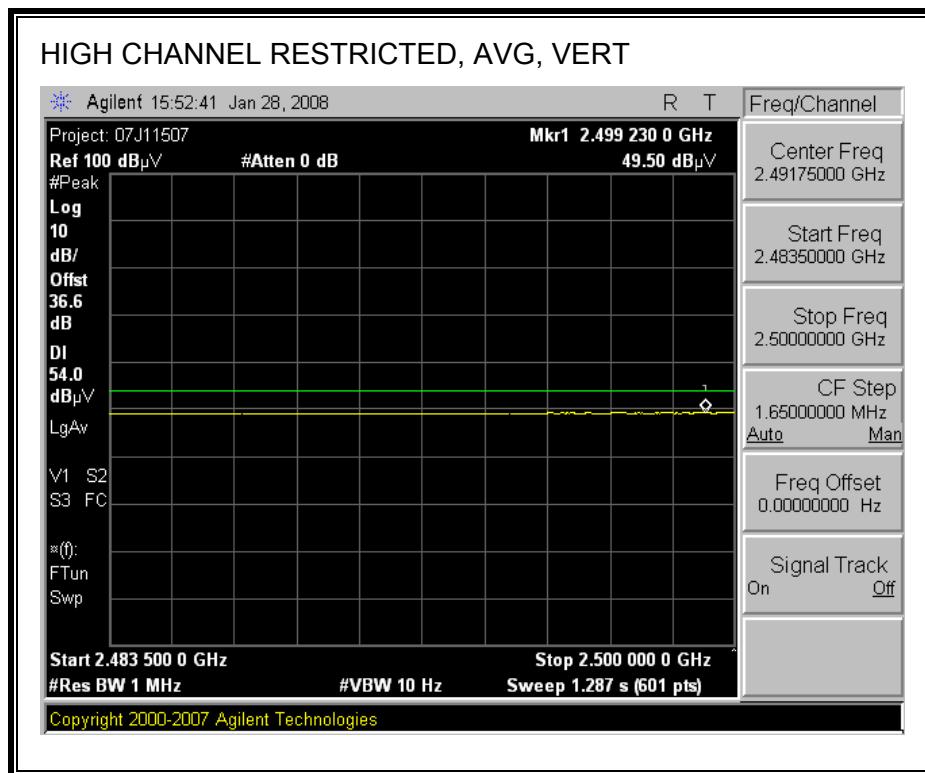
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)





HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Company: NEC Infrontia Corp Project #: 07J11507 Date: 1/29/08 Test Engineer: Thanh Nguyen Configuration: EUT on charger and laptop Mode: Transmit 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 15.209			
Hi Frequency Cables															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			
						A.5m Chamber						R_001			
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)
Harmonics Spurious															
Low Ch, 2412 MHz															
4.924	3.0	40.4	30.3	33.8	7.0	-34.8	0.0	0.0	46.3	36.2	74	54	-27.7	-17.8	V
7.386	3.0	40.9	34.9	35.2	8.4	-34.1	0.0	0.0	50.4	44.5	74	54	-23.6	-9.5	V
9.648	3.0	39.3	28.5	36.9	9.7	-33.6	0.0	0.0	52.3	41.5	74	54	-21.7	-12.5	V
4.924	3.0	42.3	33.5	33.8	7.0	-34.8	0.0	0.0	48.3	39.4	74	54	-25.7	-14.6	H
7.386	3.0	42.4	35.4	35.2	8.4	-34.1	0.0	0.0	51.9	43.0	74	54	-22.1	-11.0	H
9.648	3.0	40.4	30.5	36.9	9.7	-33.6	0.0	0.0	53.4	43.5	74	54	-20.6	-10.5	H
Mid Ch, 2437 MHz															
4.874	3.0	41.9	34.5	33.7	6.9	-34.8	0.0	0.0	47.7	40.3	74	54	-26.3	-13.7	V
7.311	3.0	42.4	30.8	35.2	8.4	-34.1	0.0	0.0	51.8	40.3	74	54	-22.2	-13.7	V
9.748	3.0	39.5	30.5	37.1	9.8	-33.3	0.0	0.0	53.1	44.0	74	54	-20.9	-10.0	V
4.874	3.0	43.3	36.1	33.7	6.9	-34.8	0.0	0.0	49.1	41.9	74	54	-24.9	-12.1	H
7.311	3.0	42.8	31.4	35.2	8.4	-34.1	0.0	0.0	52.3	40.9	74	54	-21.7	-13.1	H
9.748	3.0	41.5	31.6	37.1	9.8	-33.3	0.0	0.0	55.0	45.1	74	54	-19.0	-8.9	H
High Ch, 2462 MHz															
4.924	3.0	37.9	24.5	33.8	7.0	-34.8	0.0	0.0	43.8	30.4	74	54	-30.2	-23.6	V
7.386	3.0	36.8	23.8	35.2	8.4	-34.1	0.0	0.0	46.3	33.4	74	54	-27.7	-20.6	V
9.848	3.0	36.2	23.5	37.2	9.9	-33.1	0.0	0.0	50.2	37.6	74	54	-23.8	-16.4	V
4.924	3.0	38.6	35.1	33.8	7.0	-34.8	0.0	0.0	44.5	41.1	74	54	-29.5	-12.9	H
7.386	3.0	39.6	25.5	35.2	8.4	-34.1	0.0	0.0	49.1	35.0	74	54	-24.9	-19.0	H
9.848	3.0	40.3	27.4	37.2	9.9	-33.1	0.0	0.0	54.3	41.5	74	54	-19.7	-12.5	H
Spurious Emissions															
1.595	3.0	53.6	33.4	30.1	3.8	-37.4	0.0	0.0	50.0	29.8	74	54	-24.0	-24.2	H
1.201	3.0	48.7	30.2	28.6	3.3	-38.0	0.0	0.0	42.6	24.1	74	54	-31.4	-29.9	V
1.595	3.0	53.3	34.3	30.1	3.8	-37.4	0.0	0.0	49.7	30.7	74	54	-24.3	-23.3	V

Rev. 4.12.7

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		

8.3. RECEIVER ABOVE 1 GHz

8.3.1. RECEIVER ABOVE 1 GHz

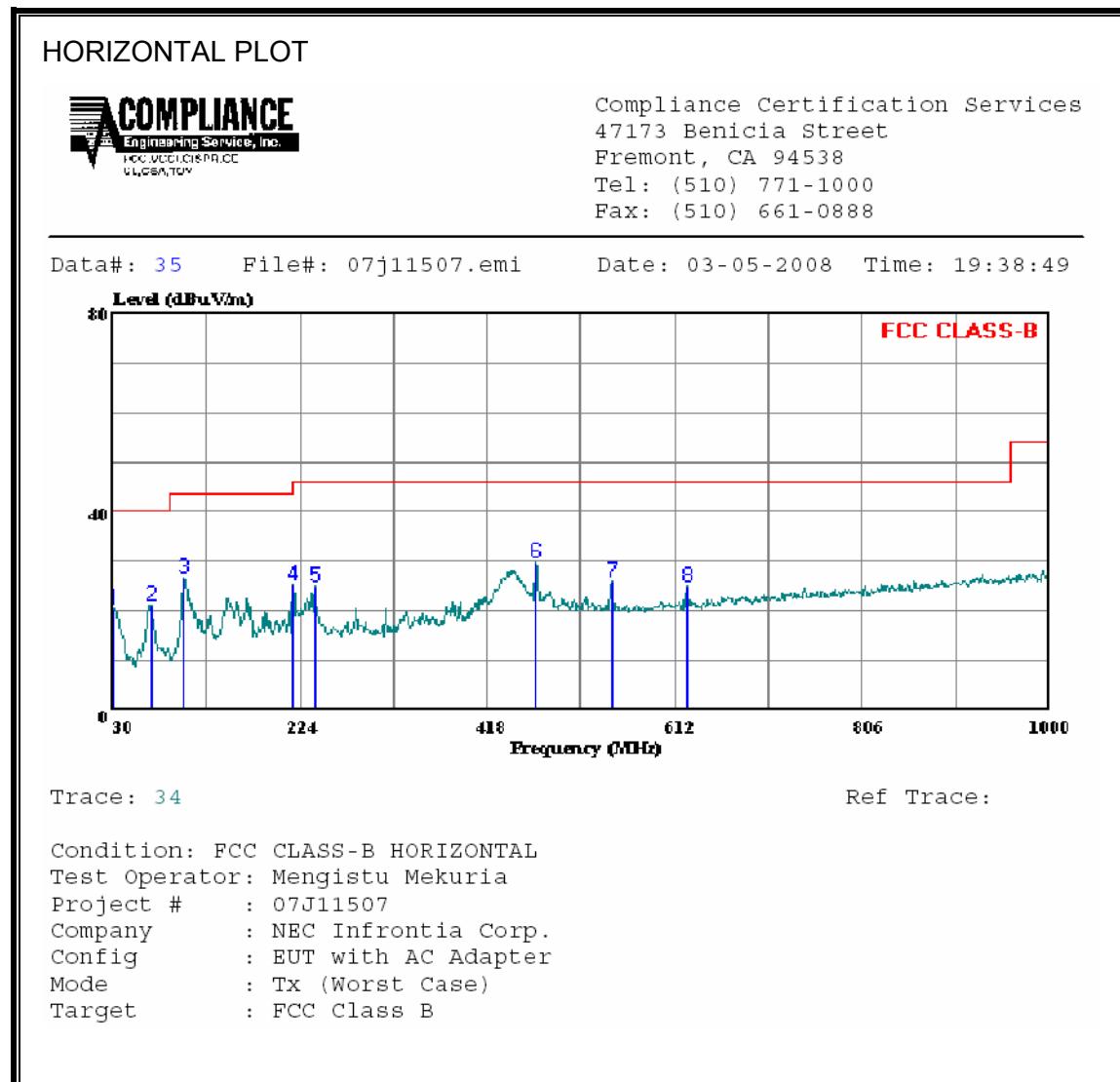
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																							
Company: NEC Infrontia Corp Project #: 07J11507 Date: 1/29/08 Test Engineer: Thanh Nguyen Configuration: EUT on charger and laptop Mode: Receive b Mode																							
Test Equipment:																							
Horn 1-18GHz		Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz		Horn > 18GHz		Limit															
T120; S/N: 29310 @3m		T34 HP 8449B						RX RSS 210															
Hi Frequency Cables																							
2 foot cable		3 foot cable		12 foot cable		HPF		Reject Filter		Peak Measurements RBW=VBW=1MHz Average Measurements RBW=1MHz ; VBW=10Hz													
A-5m Chamber																							
f GHz	Dist (m)	Read Pk dBuV	Read Avg dBuV	AF	CL	Amp	D Corr	Fltr	Peak	Avg	Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes (V/H)								
1.594	3.0	53.4	32.9	30.1	3.8	-37.4	0.0	0.0	49.8	29.3	74.0	54	-24.2	-24.7	H								
1.195	3.0	49.6	36.1	28.6	3.3	-38.0	0.0	0.0	43.4	30.0	74	54	-30.6	-24.0	V								
1.596	3.0	53.3	32.0	30.1	3.8	-37.4	0.0	0.0	49.7	28.4	74	54	-24.3	-25.6	V								
1.994	3.0	45.2	35.4	31.6	4.3	-36.9	0.0	0.0	44.1	34.4	74	54	-29.9	-19.6	V								
Rev. 4.12.7																							
f Measurement Frequency Dist Distance to Antenna Read Analyzer Reading AF Antenna Factor CL Cable Loss								Amp Preamp Gain D Corr Distance Correct to 3 meters Avg Average Field Strength @ 3 m Peak Calculated Peak Field Strength HPF High Pass Filter								Avg Lim Average Field Strength Limit		Pk Lim Peak Field Strength Limit		Avg Mar Margin vs. Average Limit		Pk Mar Margin vs. Peak Limit	

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Company: NEC Infrontia Corp Project #: 07J11507 Date: 1/29/08 Test Engineer: Thanh Nguyen Configuration: EUT on charger and laptop Mode: Receive g Mode															
<u>Test Equipment:</u>															
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 A-5m Chamber															
HPF		Reject Filter		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)
1.108	3.0	47.8	34.2	28.3	3.1	-38.1	0.0	0.0	41.1	27.4	74.0	54	-32.9	-26.6	H
1.195	3.0	47.4	34.1	28.6	3.3	-38.0	0.0	0.0	41.2	28.0	74	54	-32.8	-26.0	H
1.599	3.0	53.6	32.4	30.1	3.8	-37.4	0.0	0.0	50.0	28.9	74	54	-24.0	-25.1	H
1.106	3.0	47.9	34.4	28.3	3.1	-38.1	0.0	0.0	41.1	27.6	74.0	54	-32.9	-26.4	V
1.195	3.0	49.4	35.2	28.6	3.3	-38.0	0.0	0.0	43.3	29.1	74	54	-30.7	-24.9	V
1.595	3.0	53.7	32.6	30.1	3.8	-37.4	0.0	0.0	50.1	29.0	74	54	-23.9	-25.0	V
Rev. 4.12.7															
f Measurement Frequency Dist Distance to Antenna Read Analyzer Reading AF Antenna Factor CL Cable Loss					Amp Preamp Gain D Corr Distance Correct to 3 meters Avg Average Field Strength @ 3 m Peak Calculated Peak Field Strength HPF High Pass Filter					Avg Lim Average Field Strength Limit Pk Lim Peak Field Strength Limit Avg Mar Margin vs. Average Limit Pk Mar Margin vs. Peak Limit					

8.4. WORST-CASE BELOW 1 GHz

8.4.1. EUT WITH AC ADAPTER ONLY

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	30.970	30.23	-9.67	20.56	40.00	-19.44 Peak
2	68.800	44.33	-23.12	21.21	40.00	-18.79 Peak
3	103.720	47.00	-20.27	26.73	43.50	-16.77 Peak
4	217.210	44.50	-19.37	25.13	46.00	-20.87 Peak
5	238.550	43.50	-18.63	24.87	46.00	-21.13 Peak
6	467.470	42.50	-12.65	29.85	46.00	-16.15 Peak
7	547.010	37.33	-11.34	26.00	46.00	-20.00 Peak
8	624.610	35.17	-10.35	24.82	46.00	-21.18 Peak

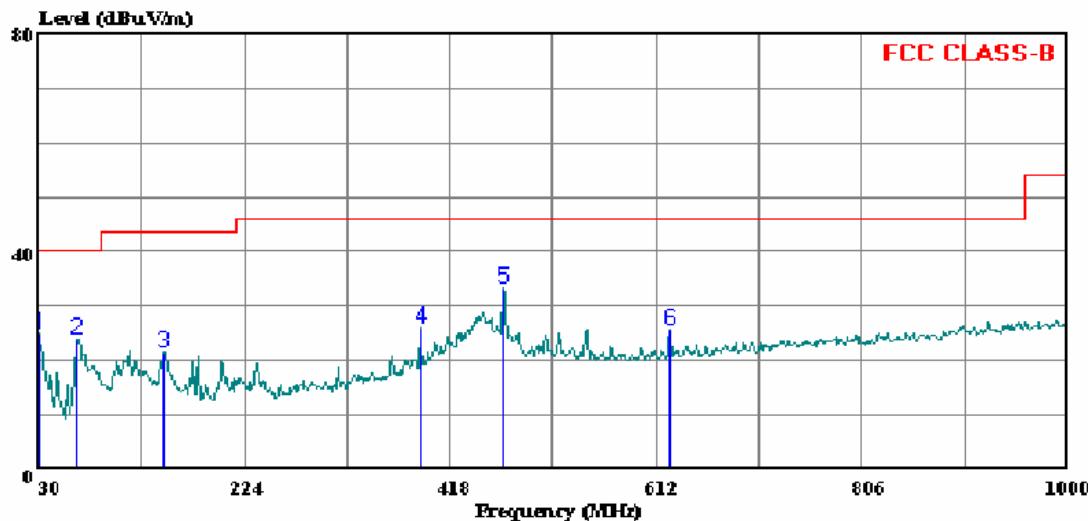
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



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

Data#: 33 File#: 07J11507.emi Date: 03-05-2008 Time: 19:30:11



Trace: 32

Ref Trace:

Condition: FCC CLASS-B VERTICAL
Test Operator: Mengistu Mekuria
Project #: 07J11507
Company: NEC Infrontia Corp.
Config: EUT with AC Adapter
Mode: Tx (Worst Case)
Target: FCC Class B

VERTICAL DATA

	Read Freq	Level MHz	Factor dB	Level dBuV	Limit dBuV/m	Line dBuV/m	Over Limit dB	Over Limit Remark
1	30.000	34.50	-9.67	24.83	40.00	-15.17	Peak	
2	64.920	47.17	-23.33	23.84	40.00	-16.16	Peak	
3	148.340	39.24	-17.67	21.57	43.50	-21.93	Peak	
4	389.870	40.33	-14.28	26.06	46.00	-19.94	Peak	
5	467.470	45.83	-12.65	33.18	46.00	-12.82	Peak	
6	624.610	35.83	-10.35	25.49	46.00	-20.51	Peak	

8.4.2. EUT WITH CRADLE CHARGER AND AC ADAPTER

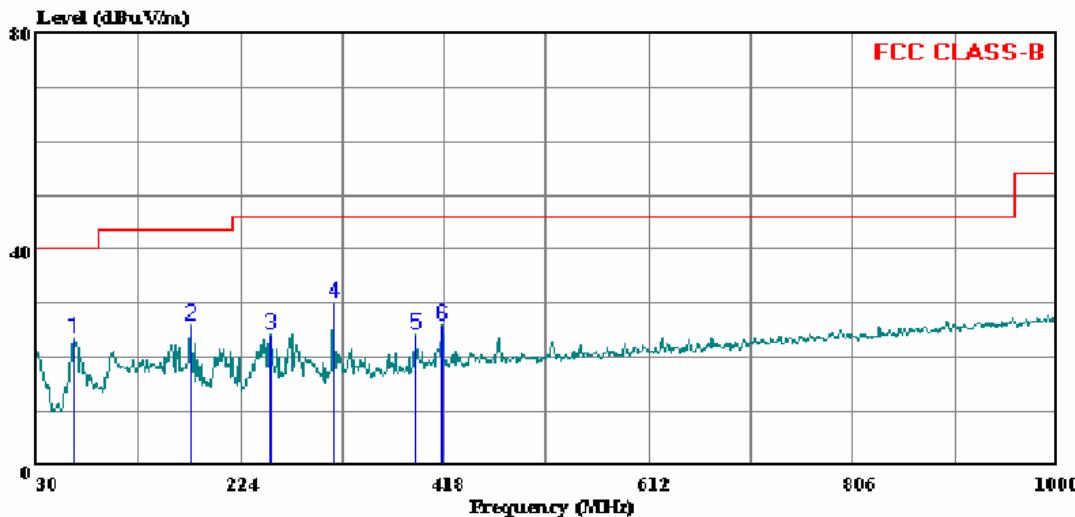
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



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

Data#: 37 File#: 07J11507.emi Date: 03-05-2008 Time: 19:54:32



Trace: 36

Ref Trace:

Condition: FCC CLASS-B HORIZONTAL
Test Operator: Mengistu Mekuria
Project #: 07J11507
Company : NEC Infrontia Corp.
Config : EUT with Cradle Charger and AC Adapter
Mode : Tx (Worst Case)
Target : FCC Class B

HORIZONTAL DATA

Freq	Read		Level	Limit	Over	Over	Remark
	Level	Factor					
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	64.920	47.00	-23.33	23.67	40.00	-16.33	Peak
2	176.470	45.00	-18.91	26.10	43.50	-17.41	Peak
3	251.160	42.33	-18.21	24.13	46.00	-21.87	Peak
4	312.270	46.17	-16.08	30.08	46.00	-15.92	Peak
5	389.870	38.67	-14.28	24.39	46.00	-21.61	Peak
6	416.060	39.67	-13.60	26.07	46.00	-19.93	Peak

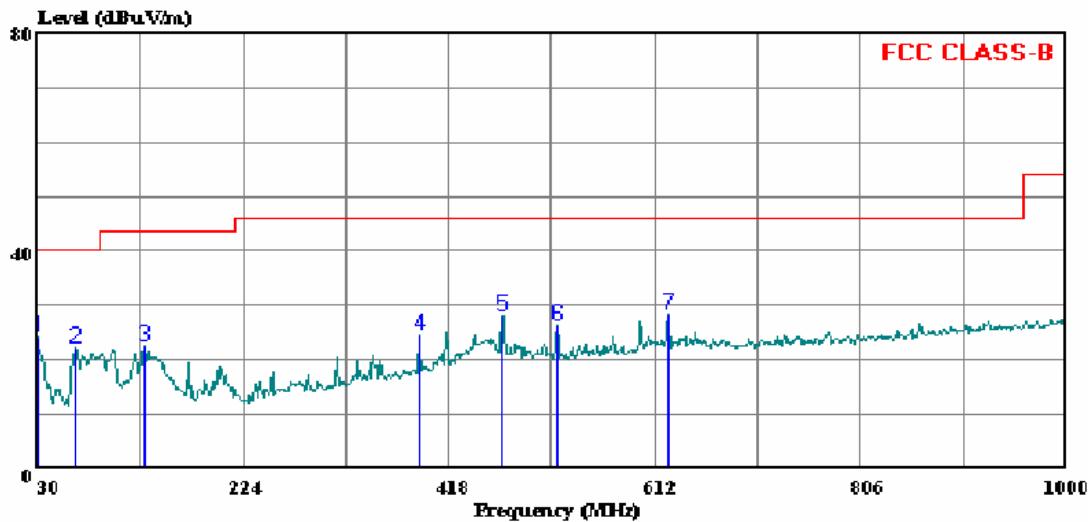
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



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

Data#: 39 File#: 07j11507.emi Date: 03-05-2008 Time: 20:02:38



Trace: 38

Ref Trace:

Condition: FCC CLASS-B VERTICAL
Test Operator: Mengistu Mekuria
Project #: 07J11507
Company : NEC Infrontia Corp.
Config : EUT with Cradle Charger and AC Adapter
Mode : Tx (Worst Case)
Target : FCC Class B

VERTICAL DATA

Freq	Read			Level	Limit	Over	Remark
	Level	Factor	dB				
	MHz	dBuV					
1	30.000	34.00	-9.67	24.33	40.00	-15.67	Peak
2	64.920	45.33	-23.33	22.01	40.00	-17.99	Peak
3	129.910	39.50	-17.05	22.45	43.50	-21.05	Peak
4	389.870	39.00	-14.28	24.72	46.00	-21.28	Peak
5	467.470	40.83	-12.65	28.18	46.00	-17.82	Peak
6	519.850	37.83	-11.65	26.19	46.00	-19.81	Peak
7	624.610	38.83	-10.35	28.49	46.00	-17.51	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

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 receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

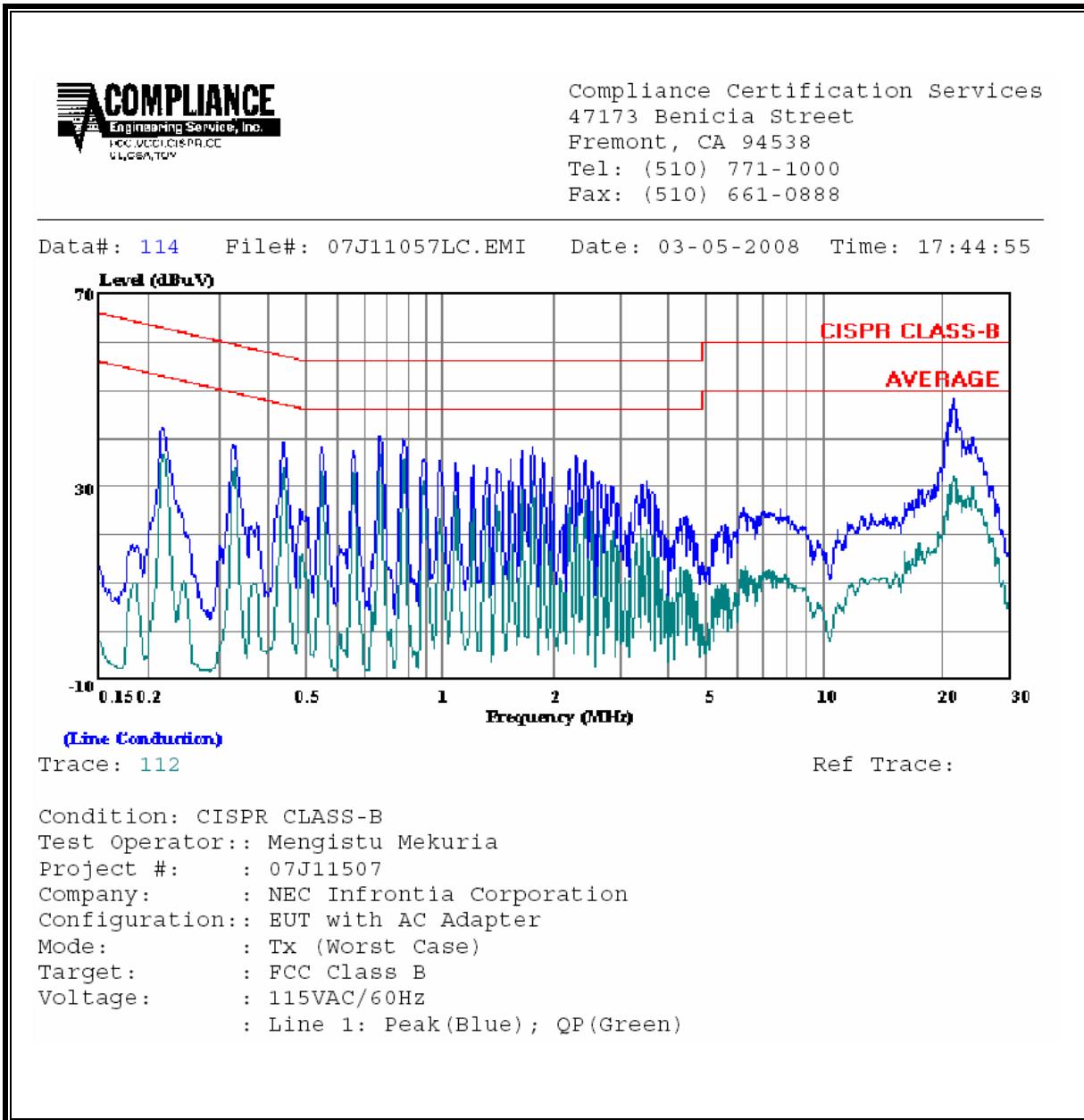
9.1.1. EUT WITH AC ADAPTER ONLY

6 WORST EMISSIONS

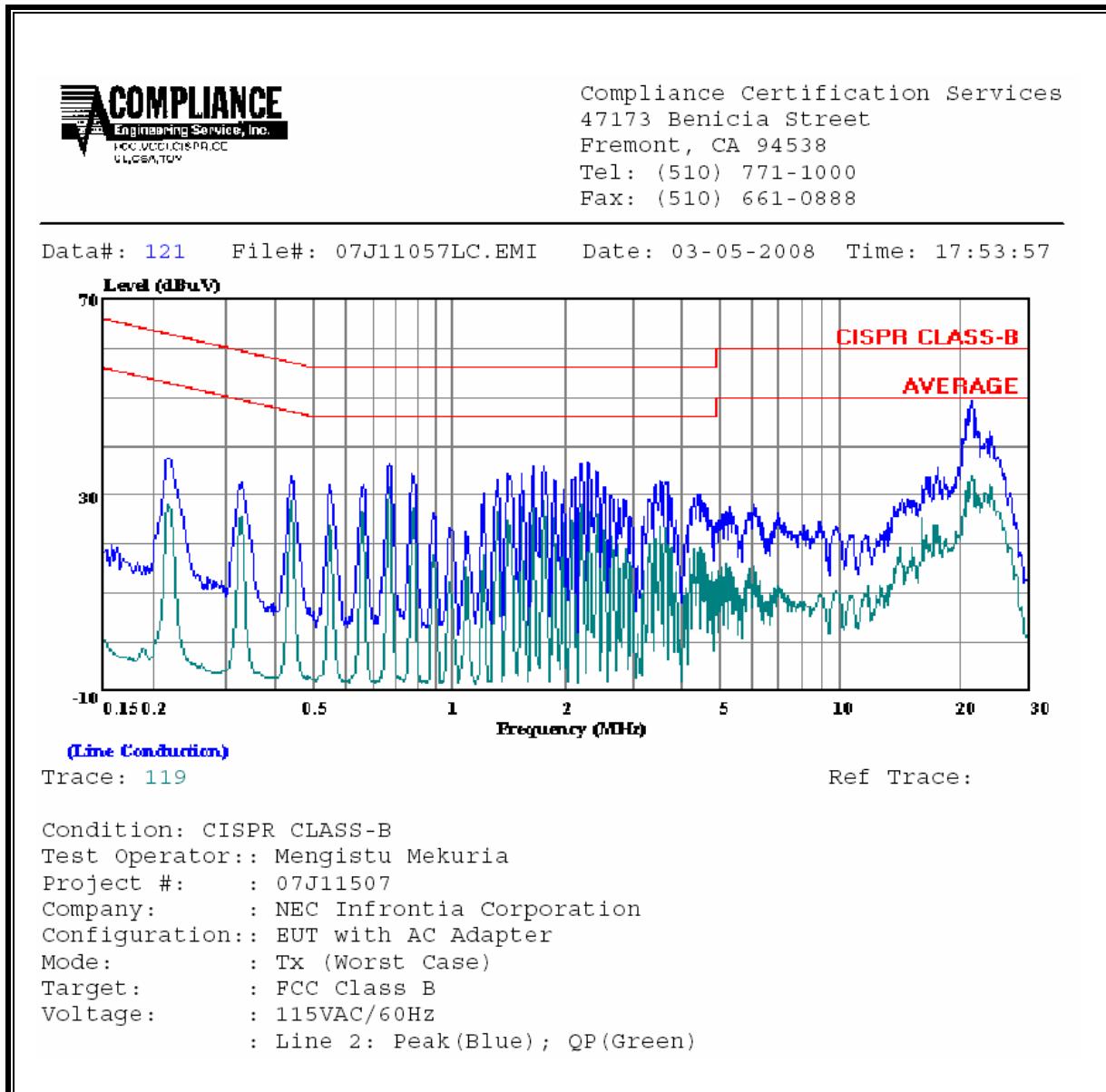
CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq. (MHz)	Reading			Closs (dB)	Limit QP	EN_B AV	Margin		Remark L1 / L2
	PK (dBuV)	QP (dBuV)	AV (dBuV)				QP (dB)	AV (dB)	
0.22	42.19	--	36.73	0.00	62.93	52.93	-20.74	-16.20	L1
0.77	40.71	--	36.68	0.00	56.00	46.00	-15.29	-9.32	L1
21.49	48.20	--	32.26	0.00	60.00	50.00	-11.80	-17.74	L1
0.77	38.12	--	31.48	0.00	56.00	46.00	-17.88	-14.52	L2
2.40	36.65	--	28.25	0.00	56.00	46.00	-19.35	-17.75	L2
21.49	49.05	--	34.03	0.00	60.00	50.00	-10.95	-15.97	L2
6 Worst Data									

EUT WITH AC ADAPTER ONLY

LINE 1 RESULTS



LINE 2 RESULTS

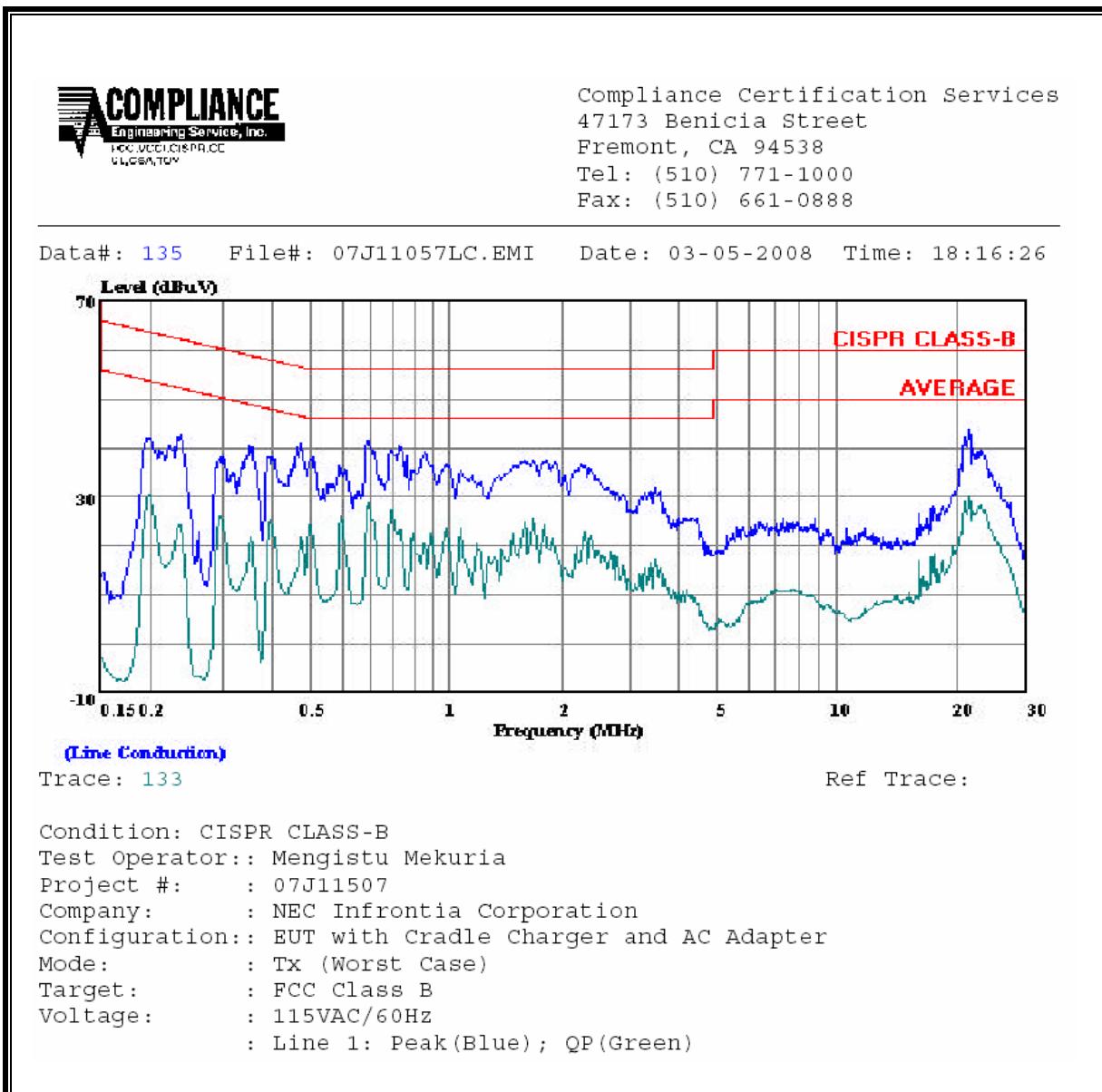


9.1.2. EUT WITH CRADLE CHARGER AND AC ADAPTER

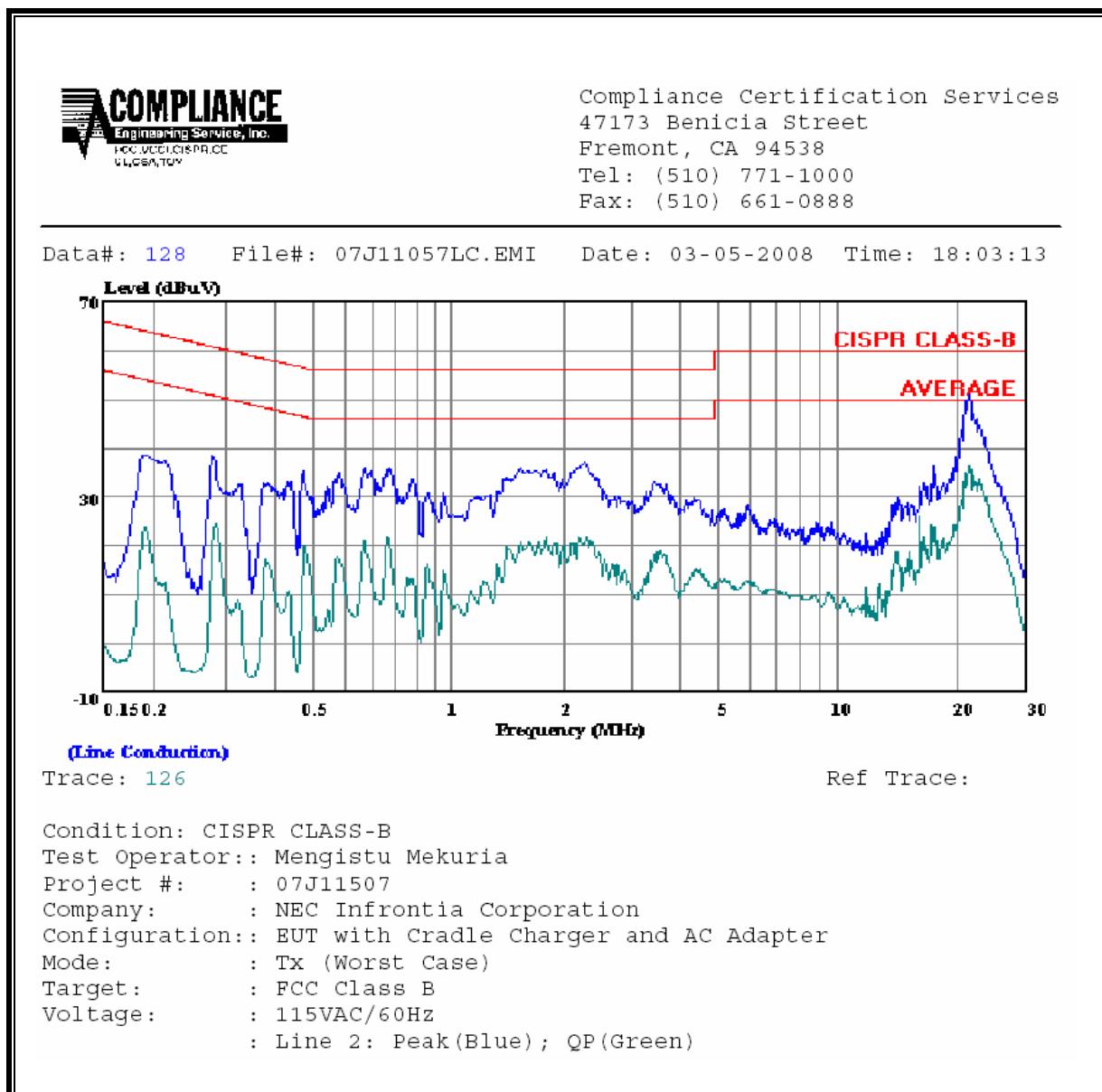
6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq. (MHz)	Reading			Closs (dB)	Limit	EN_B	Margin		Remark
	PK (dBuV)	QP (dBuV)	AV (dBuV)				QP	AV	
0.47	40.99	--	21.32	0.00	56.50	46.50	-15.51	-25.18	L1
0.69	41.57	--	28.71	0.00	56.00	46.00	-14.43	-17.29	L1
21.49	43.72	--	30.14	0.00	60.00	50.00	-16.28	-19.86	L1
0.28	38.39	--	24.51	0.00	60.85	50.85	-22.46	-26.34	L2
2.37	37.10	--	21.99	0.00	56.00	46.00	-18.90	-24.01	L2
21.49	50.84	--	36.32	0.00	60.00	50.00	-9.16	-13.68	L2
6 Worst Data									

LINE 1 RESULTS



LINE 2 RESULTS



10. SETUP PHOTOS

ANTENNA PORT CONDUCTED RF MEASUREMENT SETUP

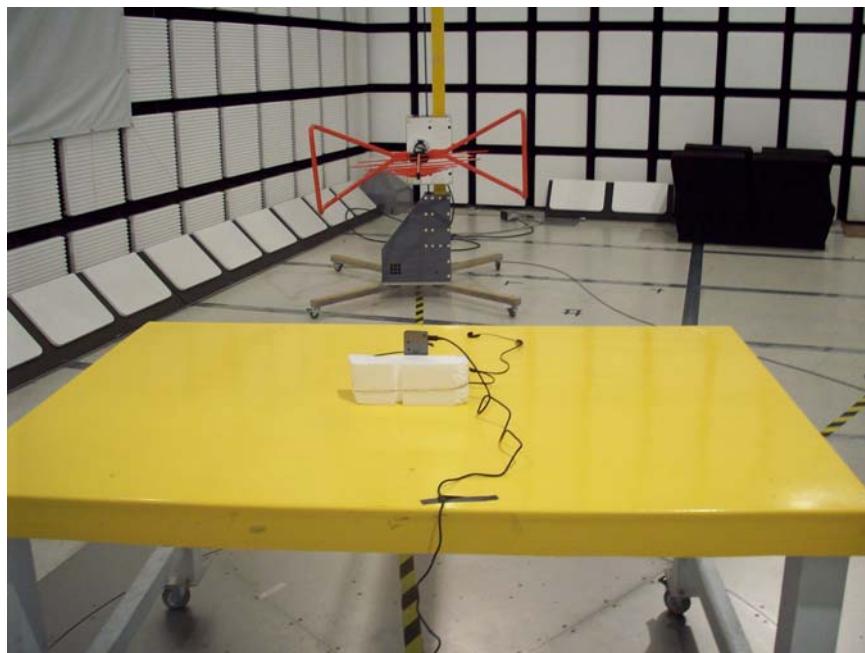


RADIATED RF MEASUREMENT SETUP - EUT WITH AC ADAPTER ONLY

Front

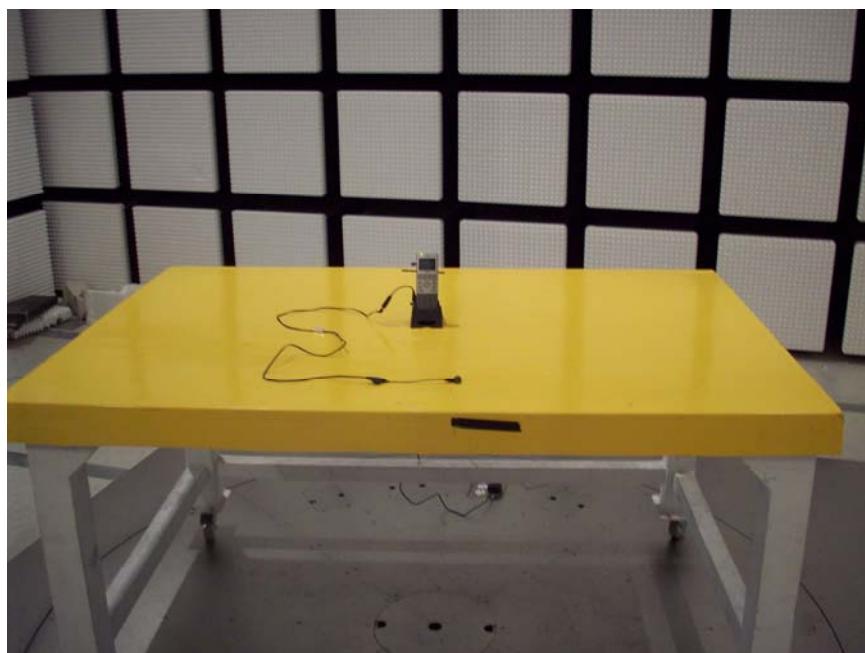


Back

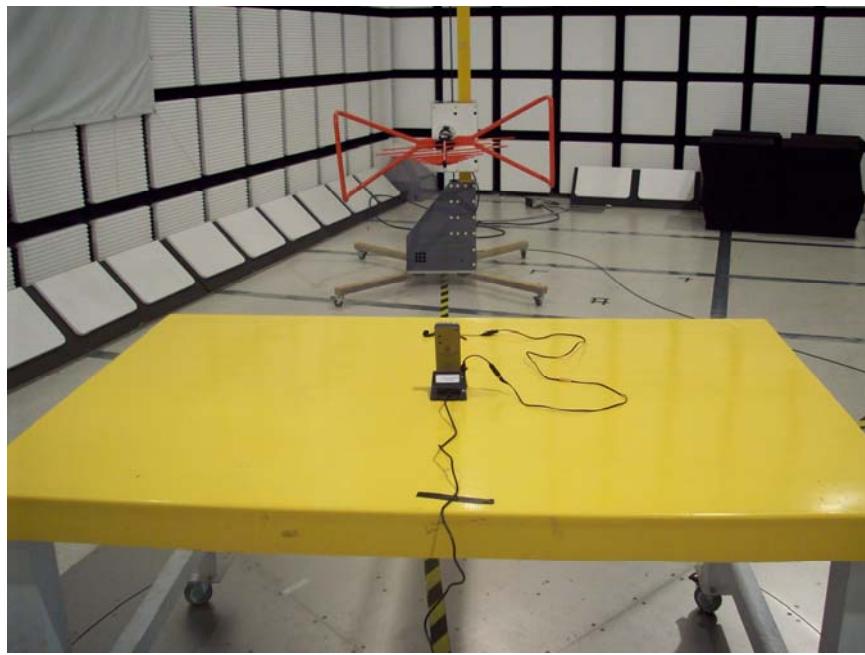


RADIATED RF MEASUREMENT SETUP - EUT WITH CRADLE CHARGER AND AC ADAPTER

Front



Back



POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP

EUT WITH AC ADAPTER ONLY

Front



EUT WITH CRADLE CHARGER AND AC ADAPTER



END OF REPORT