



**FCC CFR47 PART 15 SUBPART C  
INDUSTRY CANADA RSS-210 ISSUE 7  
CLASS II PERMISSIVE CHANGE**

**CERTIFICATION TEST REPORT**

**FOR**

**INTEL 1000 SERIES WIFI CARD  
(TESTED INSIDE OF LENOVO S10-3T TABLET)**

**FCC MODEL NUMBER: 112BNHMW  
IC MODEL NUMBER: 112BNHU**

**FCC ID: PD9112BNHU  
IC: 1000M-112BNHU**

**REPORT NUMBER: 09U12893-1**

**ISSUE DATE: NOVEMBER 2, 2009**

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**NVLAP LAB CODE 200065-0**

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	11/02/09	Initial Issue	T. Chan

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** INTEL CORPORATION  
2111 N. E. 25TH AVENUE  
HILLSBORO, OR 97124, U.S.A.

**EUT DESCRIPTION:** INTEL 1000 SERIES WIFI CARD ((TESTED INSIDE OF LENOVO S10-3T TABLET))

**FCC MODEL:** 112BNHMW

**IC MODEL:** 112BNHU

**SERIAL NUMBER:** 001E6400A996

**DATE TESTED:** OCTOBER 27 – NOVEMBER 2, 2009

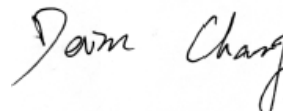
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 7 Annex 8	Pass
INDUSTRY CANADA RSS-GEN Issue 2	Pass

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. Measurement Uncertainties were not taken into account and are published for informational purposes only. 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. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For CCS By:

Tested By:



THU CHAN  
EMC MANAGER  
COMPLIANCE CERTIFICATION SERVICES

DEVIN CHANG  
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. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

### 4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 1000 MHz	4.94 dB

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

## **5. EQUIPMENT UNDER TEST**

### **5.1. DESCRIPTION OF EUT**

The EUT is an 802.11b/g/n transceiver Intel Wi-Fi card 1000 Series.

The radio module is manufactured by Intel Corporation.

### **5.2. MAXIMUM OUTPUT POWER**

The test measurement passed within  $\pm 0.5$ dBm of the original output power.

### **5.3. DESCRIPTION OF CLASS II PERMISSIVE CHANGE**

The major change filed under this application is adding portable tablet Lenovo S10-3T Tablet.

### **5.4. DESCRIPTION OF AVAILABLE ANTENNAS**

The radio utilizes a PIFA antenna, with a maximum gain of -1.4 dBi.

### **5.5. SOFTWARE AND FIRMWARE**

The test utility software used during testing was CRTU version 5.10.25.0.

### **5.6. WORST-CASE CONFIGURATION AND MODE**

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

The worst-case also investigated for X, Y, Z, and mobile orientation of the support laptop. Mobile position was turned out as worst-case orientation.

## 5.7. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
LAPTOP	LENOVO	FL2-B2	1SXXXXXXXXLR88931	DoC
AC/DC	LENOVO	ADP-40NH B	11S36001648ZZ20096K9DG	DoC

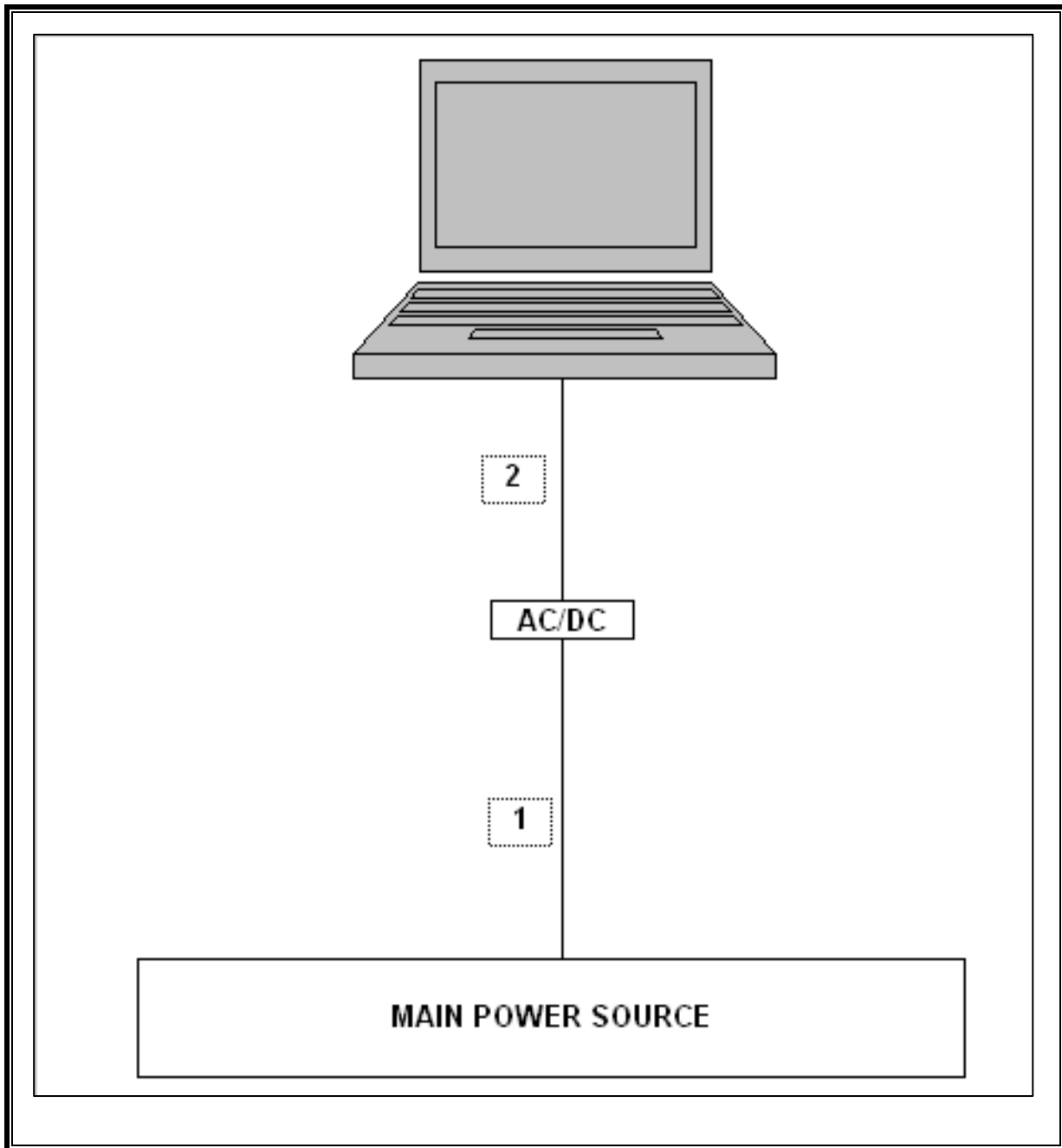
### I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	AC	Un-Shielded	1.8 m	N/A
2	DC	1	DC	Un-Shielded	1.8 m	Ferrite at one End

### TEST SETUP

The EUT is installed in a host laptop computer 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
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01179	08/24/10
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	05/06/11
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	11/06/10
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	12/16/09
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	02/04/10
Antenna, Horn, 18 GHz	EMCO	3115	C00945	01/29/10
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	01/14/10
Peak Power Meter	Boonton	4541	N/A	01/15/10
Peak / Average Power Sensor	Boonton	57318	N/A	02/02/10
Reject Filter, 2.4-2.5 GHz	Micro-Tronics	BRM50702	N02685	CNR

## 7. RADIATED TEST RESULTS

### 7.1. 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.

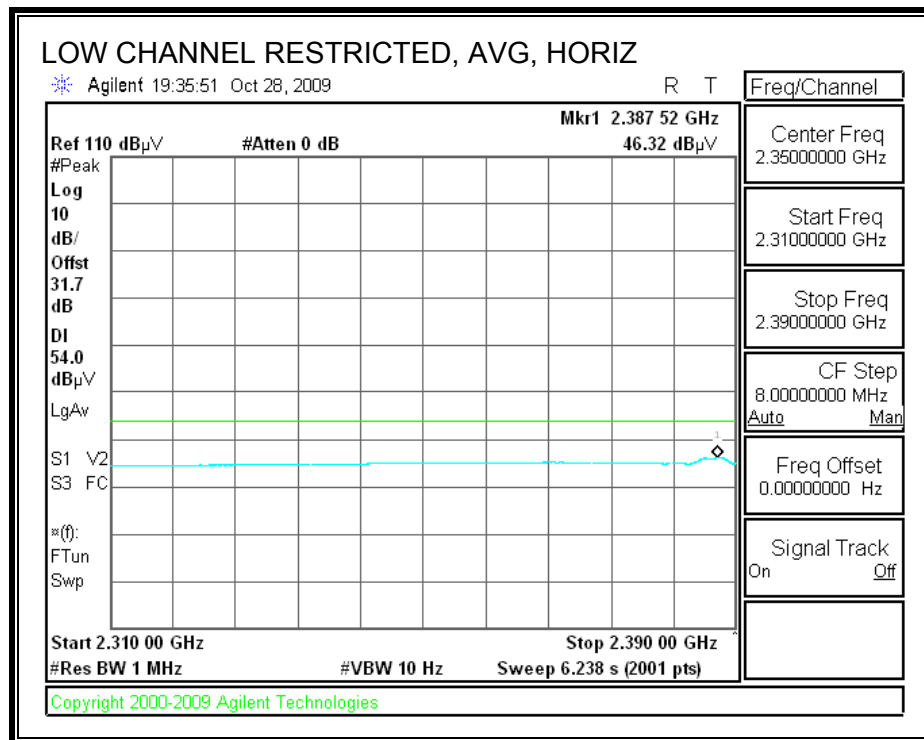
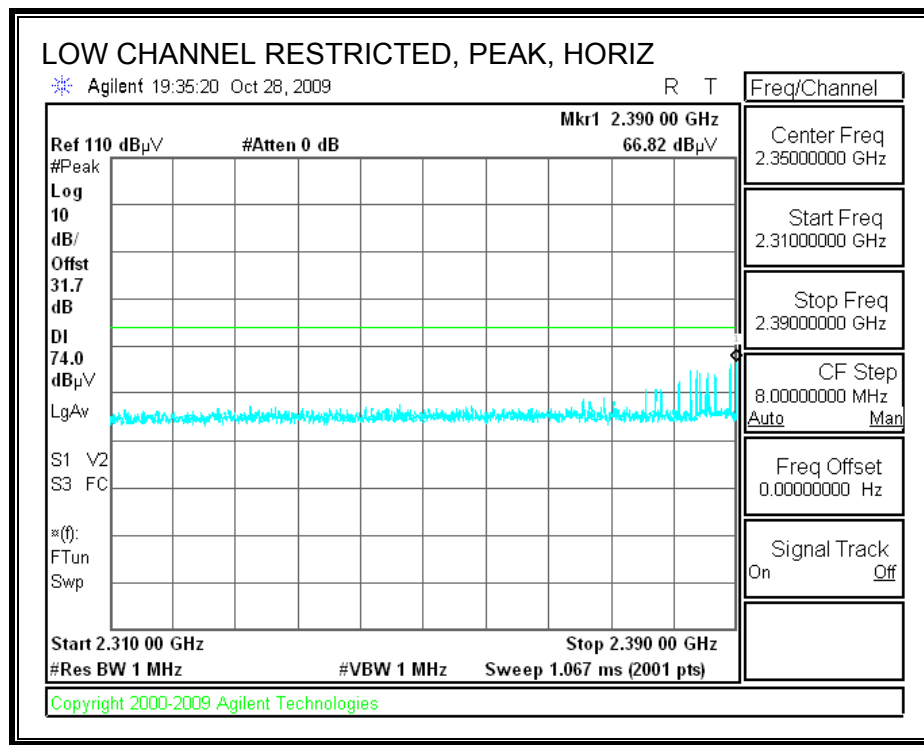
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

#### RESULT

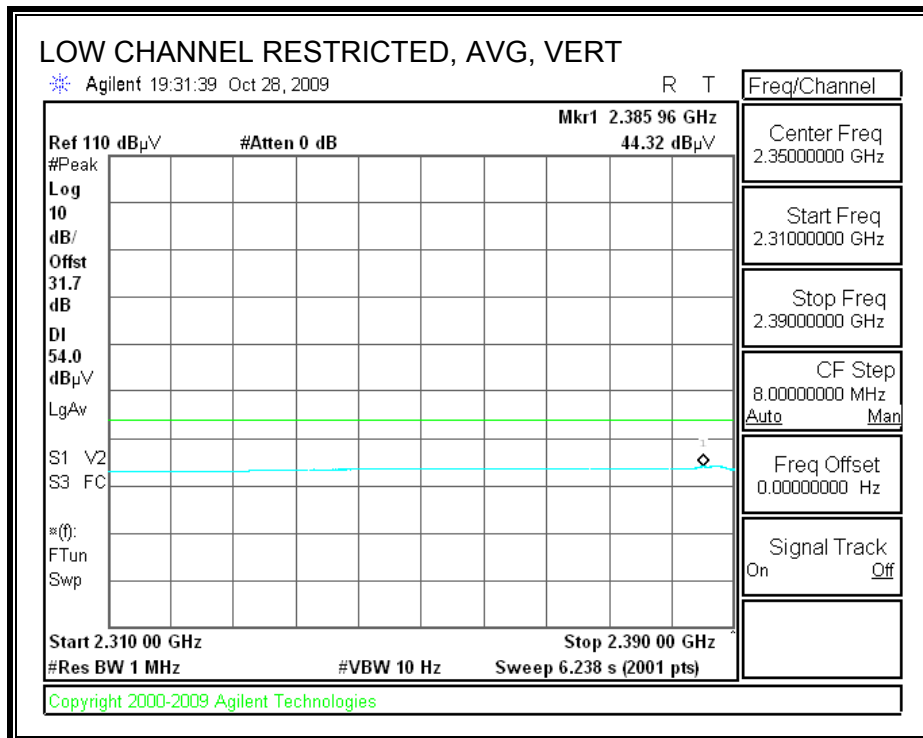
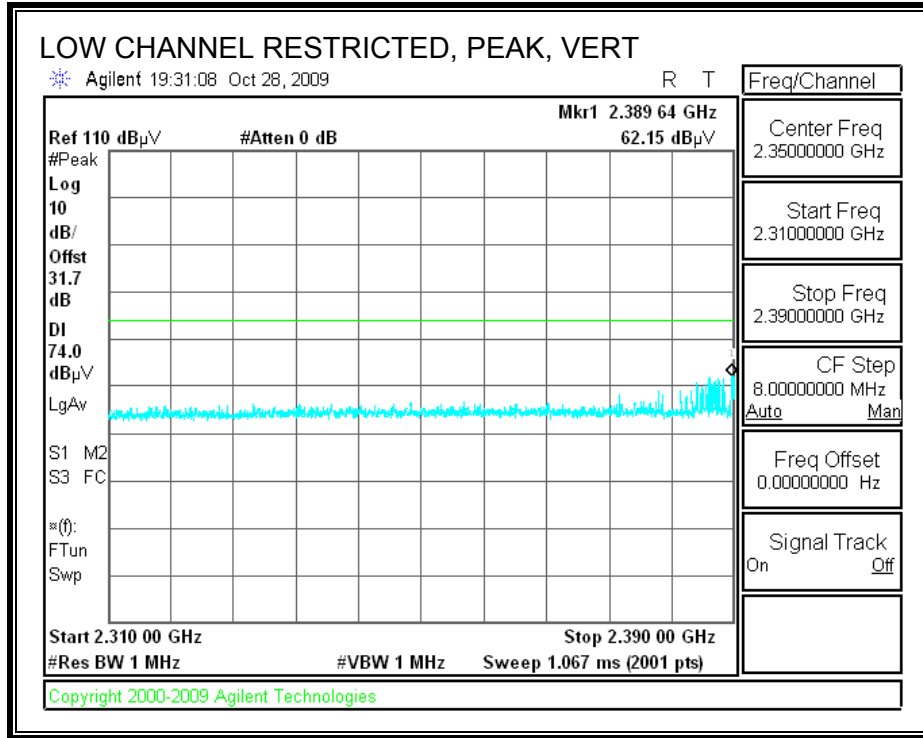
## 7.2. TRANSMITTER ABOVE 1 GHz (WISTRON ANTENNA)

### 7.2.1. 802.11b MODE IN THE 2.4 GHz BAND

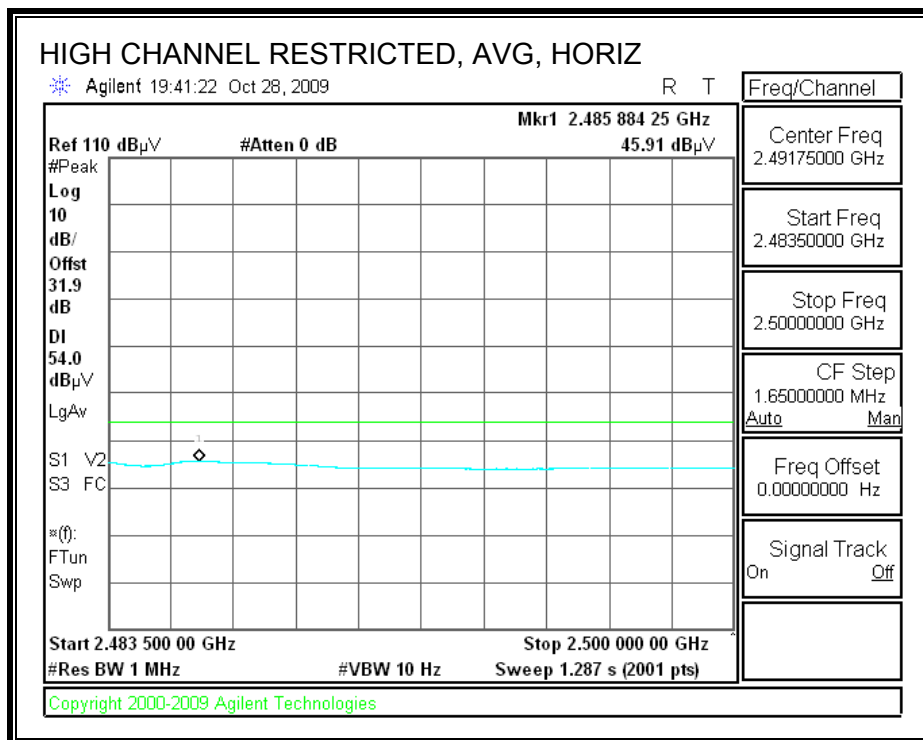
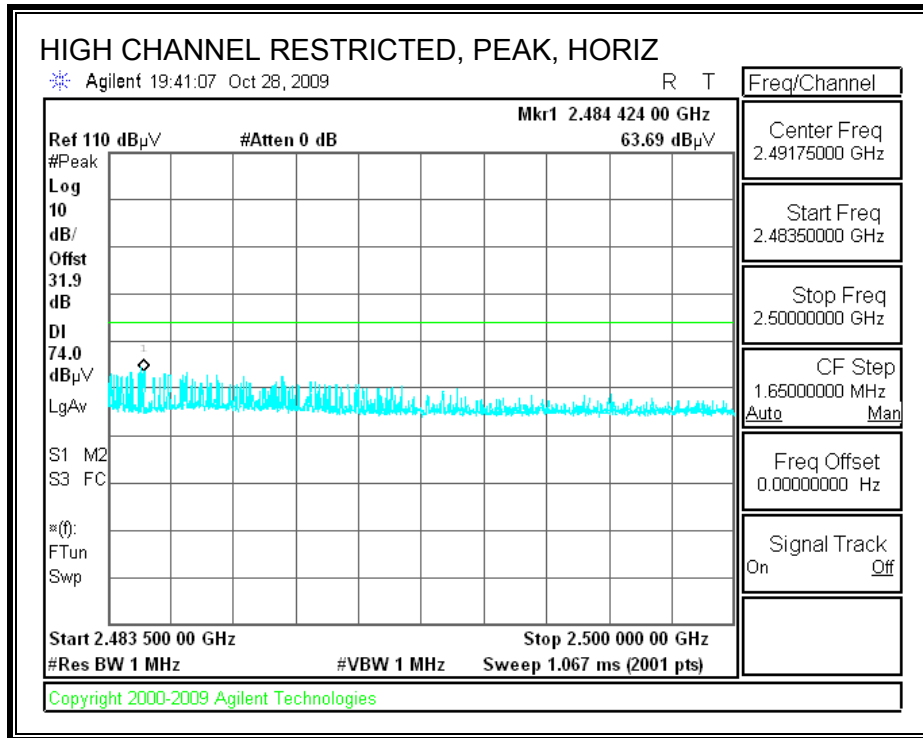
#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



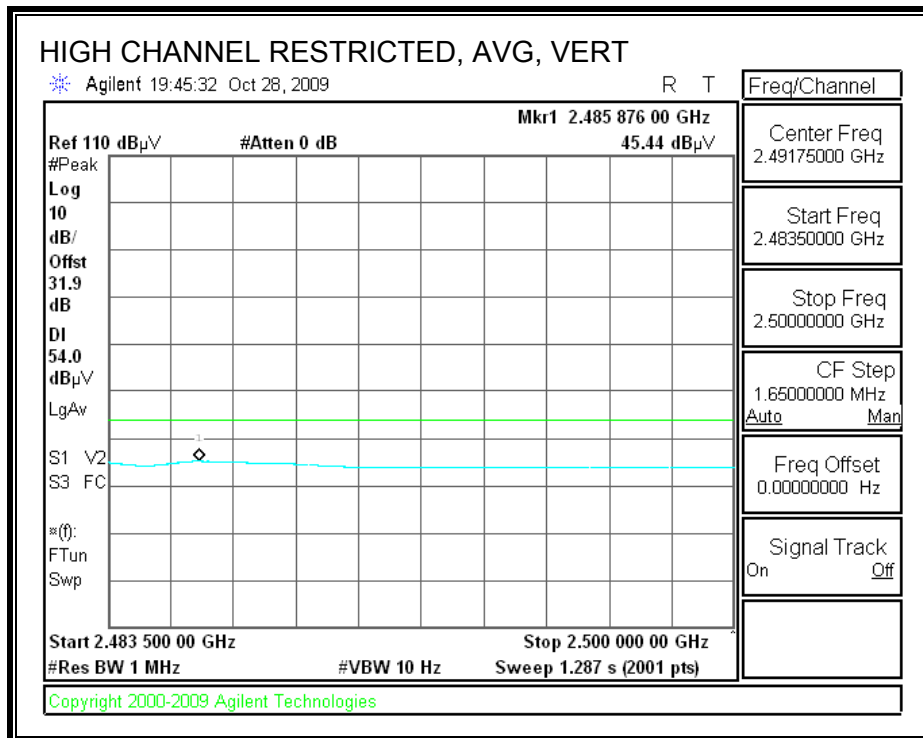
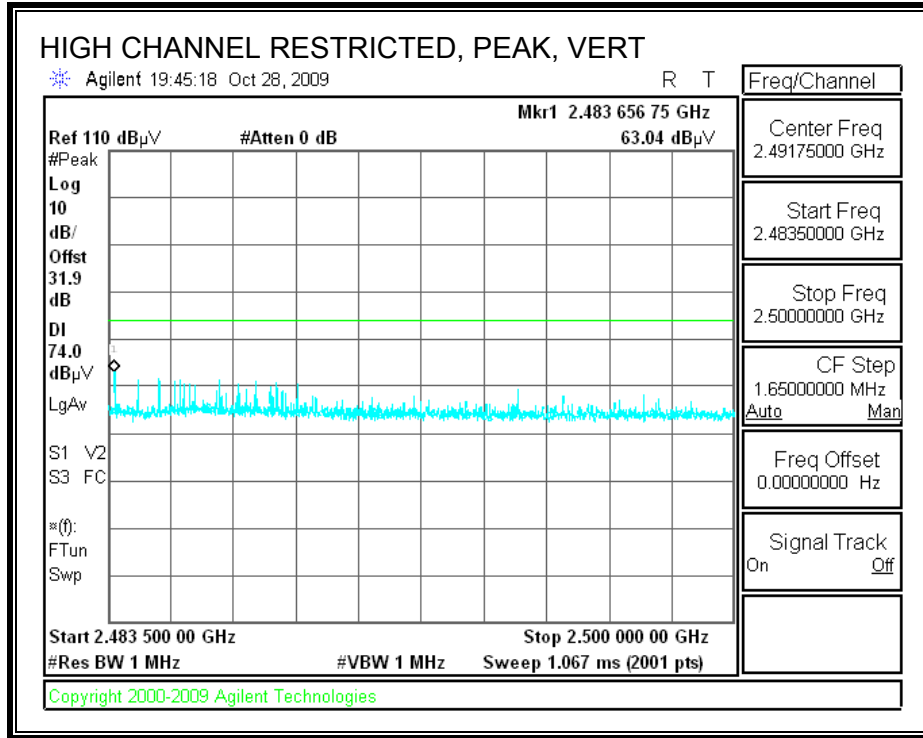
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



**HARMONICS AND SPURIOUS EMISSIONS**

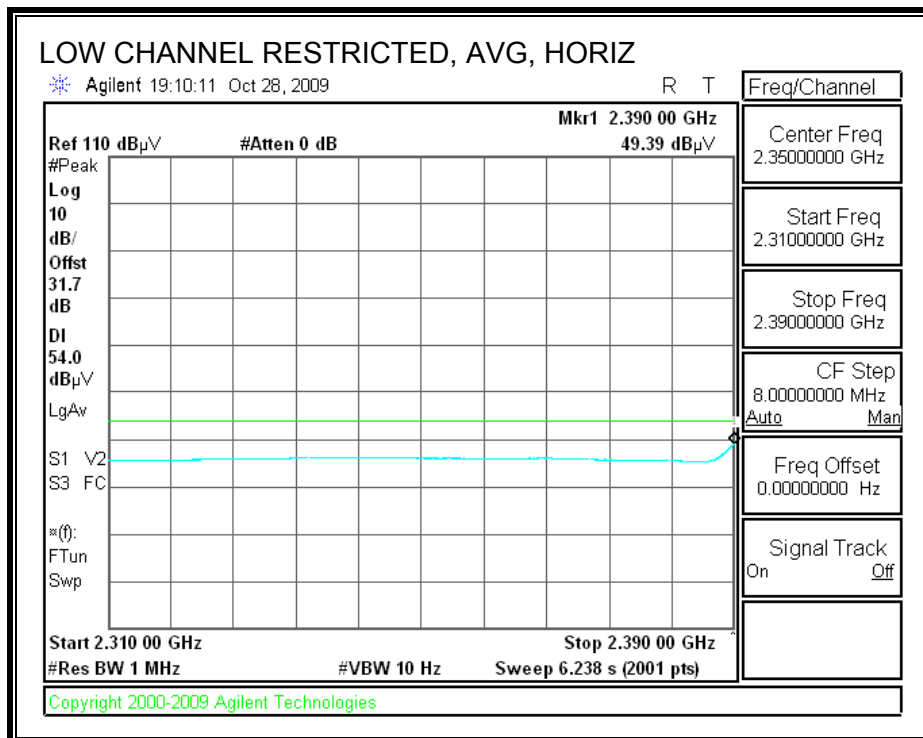
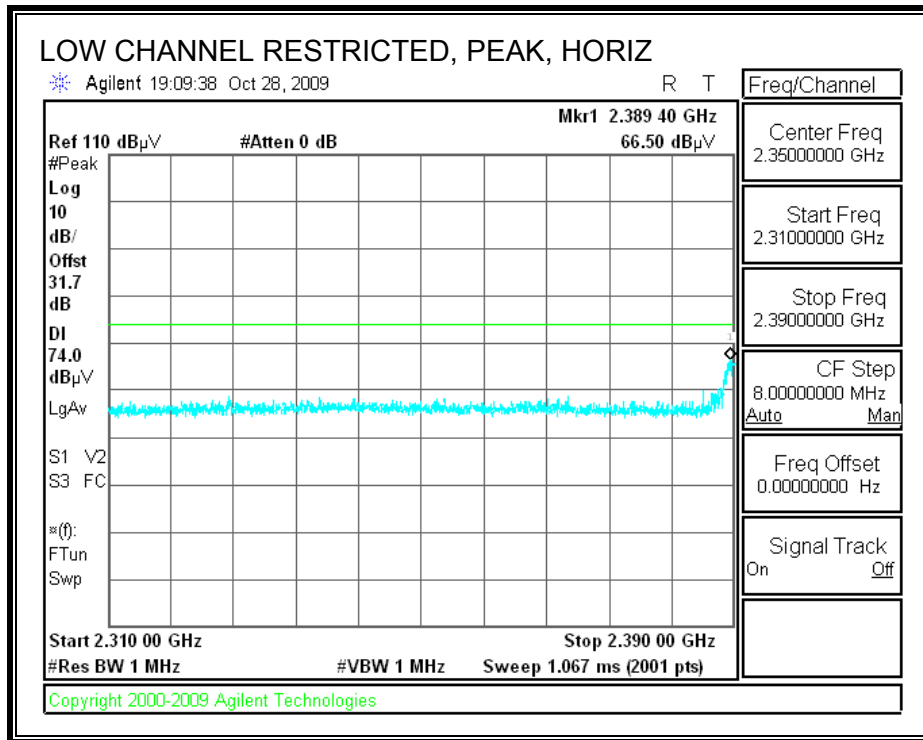
High Frequency Measurement													
Compliance Certification Services, Fremont 5m Chamber													
Test Engr:		Devin Chang											
Date:		10/29/09											
Project #:		09U12893											
Company:		Intel											
EUT Description:		EUT only											
Mode Oper:		2.4GHz_b mode											
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit									
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit									
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit									
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit									
CL	Cable Loss	HPF	High Pass Filter										
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Corr. dB	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
<b>2412MHz</b>													
4.824	3.0	43.7	32.8	5.8	-36.5	0.0	0.0	45.7	74.0	-28.3	V	P	
4.824	3.0	38.2	32.8	5.8	-36.5	0.0	0.0	40.3	54.0	-13.7	V	A	
4.824	3.0	40.0	32.8	5.8	-36.5	0.0	0.0	42.0	74.0	-32.0	H	P	
4.824	3.0	30.6	32.8	5.8	-36.5	0.0	0.0	32.7	54.0	-21.3	H	A	
<b>2437MHz</b>													
4.874	3.0	41.4	32.8	5.8	-36.5	0.0	0.0	43.6	74.0	-30.4	V	P	
4.874	3.0	35.5	32.8	5.8	-36.5	0.0	0.0	37.7	54.0	-16.3	V	A	
7.311	3.0	38.2	35.2	7.3	-36.2	0.0	0.0	44.4	74.0	-29.6	V	P	
7.311	3.0	25.6	35.2	7.3	-36.2	0.0	0.0	31.9	54.0	-22.1	V	A	
4.874	3.0	40.2	32.8	5.8	-36.5	0.0	0.0	42.3	74.0	-31.7	H	P	
4.874	3.0	29.6	32.8	5.8	-36.5	0.0	0.0	31.8	54.0	-22.2	H	A	
7.311	3.0	37.4	35.2	7.3	-36.2	0.0	0.0	43.6	74.0	-30.4	H	P	
7.311	3.0	25.4	35.2	7.3	-36.2	0.0	0.0	31.6	54.0	-22.4	H	A	
<b>2462MHz</b>													
4.924	3.0	42.6	32.8	5.9	-36.5	0.0	0.0	44.9	74.0	-29.1	V	P	
4.924	3.0	35.1	32.8	5.9	-36.5	0.0	0.0	37.3	54.0	-16.7	V	A	
7.386	3.0	37.5	35.3	7.3	-36.2	0.0	0.0	43.8	74.0	-30.2	V	P	
7.386	3.0	25.1	35.3	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	V	A	
4.924	3.0	40.2	32.8	5.9	-36.5	0.0	0.0	42.5	74.0	-31.5	H	P	
4.924	3.0	30.0	32.8	5.9	-36.5	0.0	0.0	32.2	54.0	-21.8	H	A	
7.386	3.0	37.6	35.3	7.3	-36.2	0.0	0.0	44.0	74.0	-30.0	H	P	
7.386	3.0	25.1	35.3	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	H	A	

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Note: No other emissions were detected above the system noise floor.

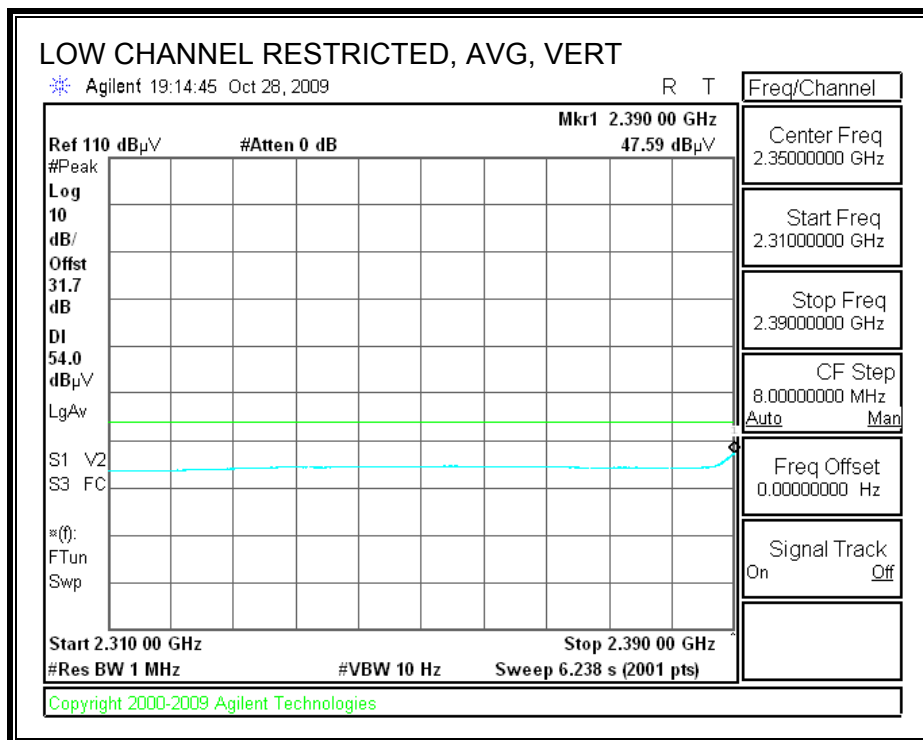
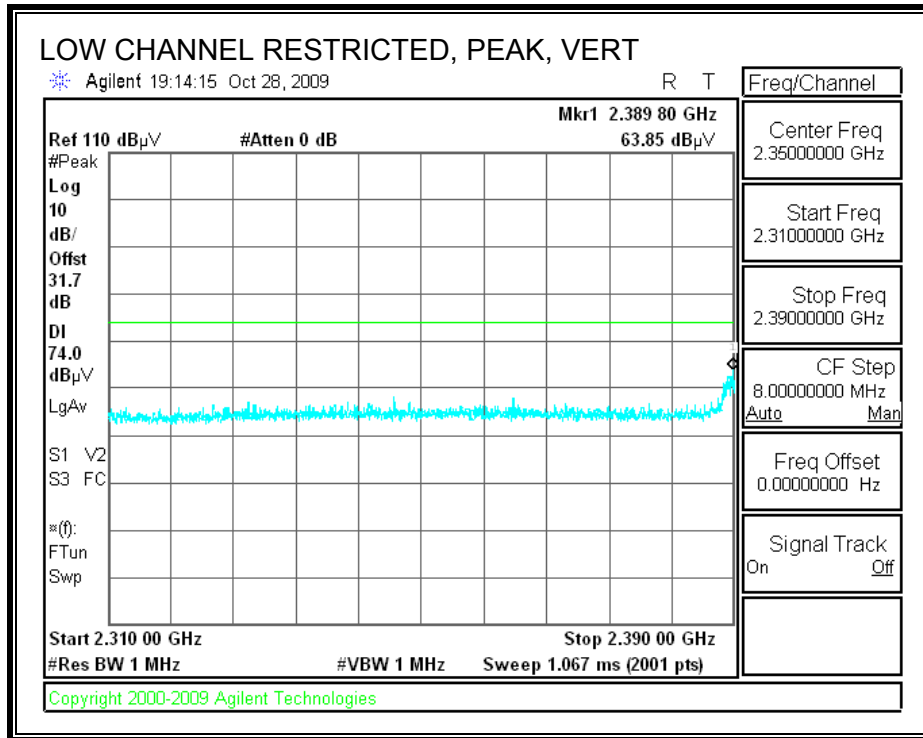
### 7.2.2. 802.11g MODE IN THE 2.4 GHz BAND

#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)

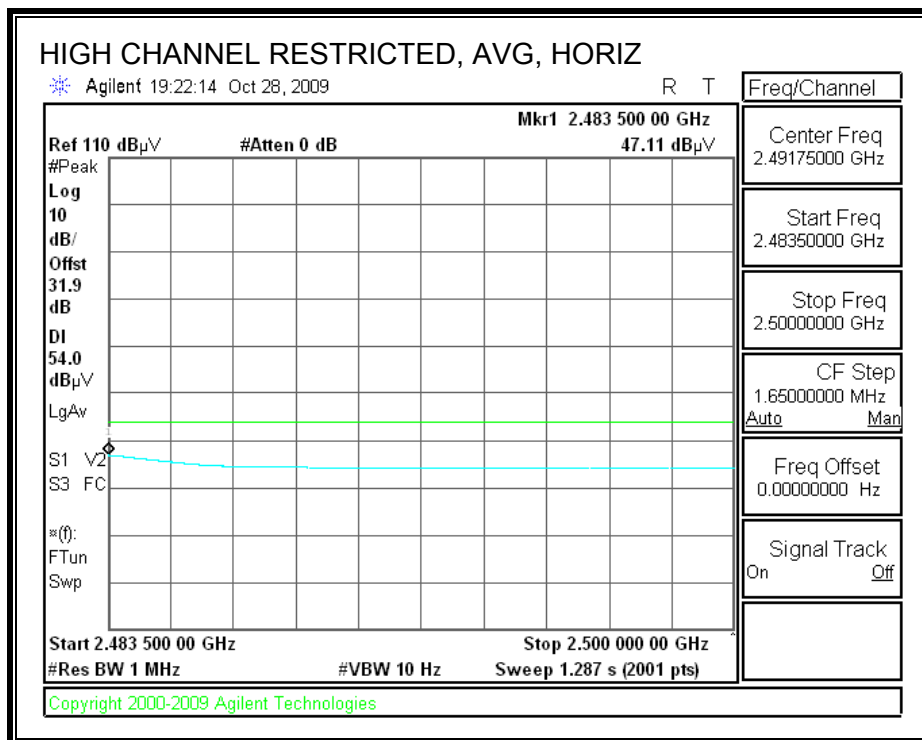
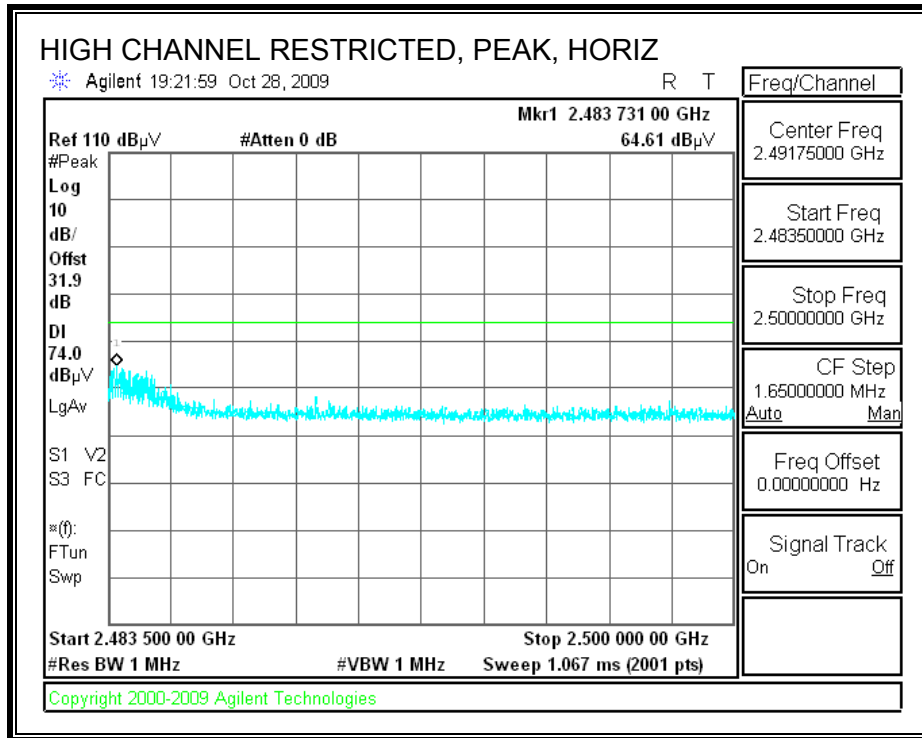




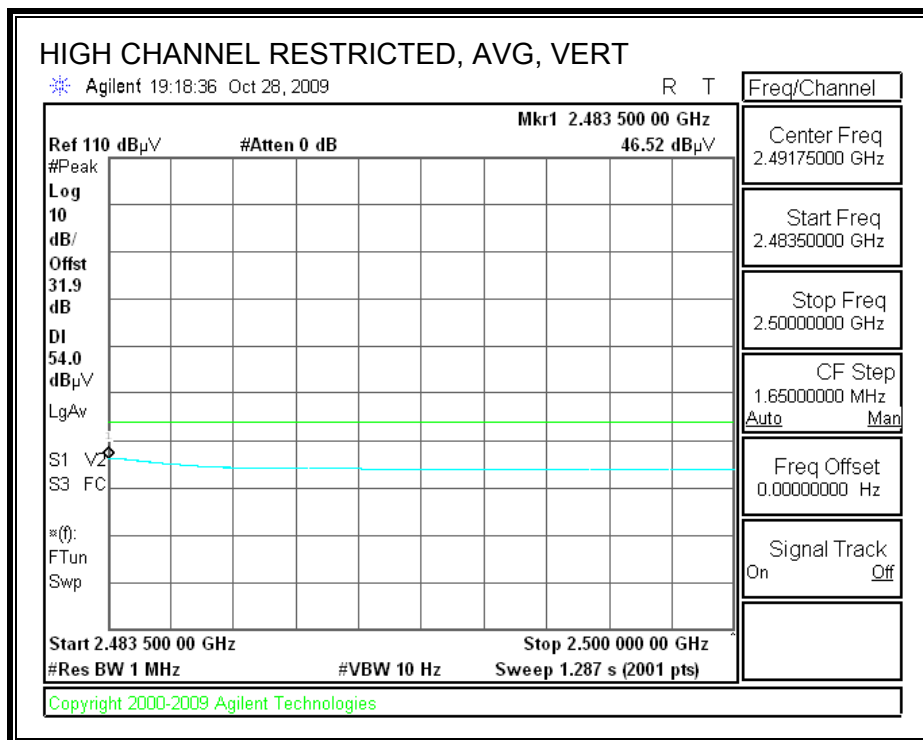
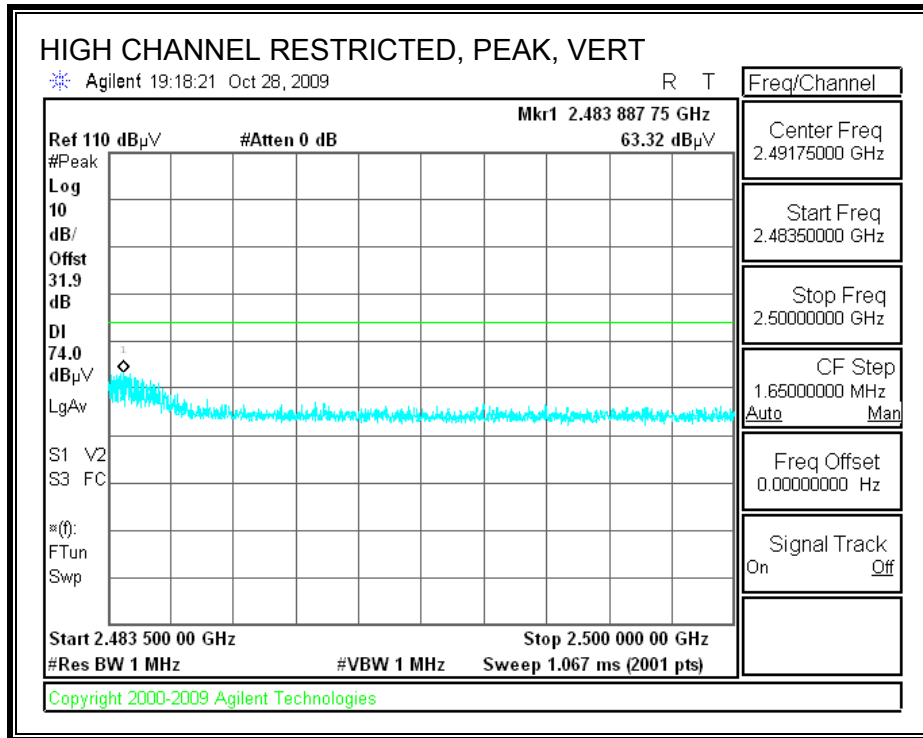
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



**HARMONICS AND SPURIOUS EMISSIONS**

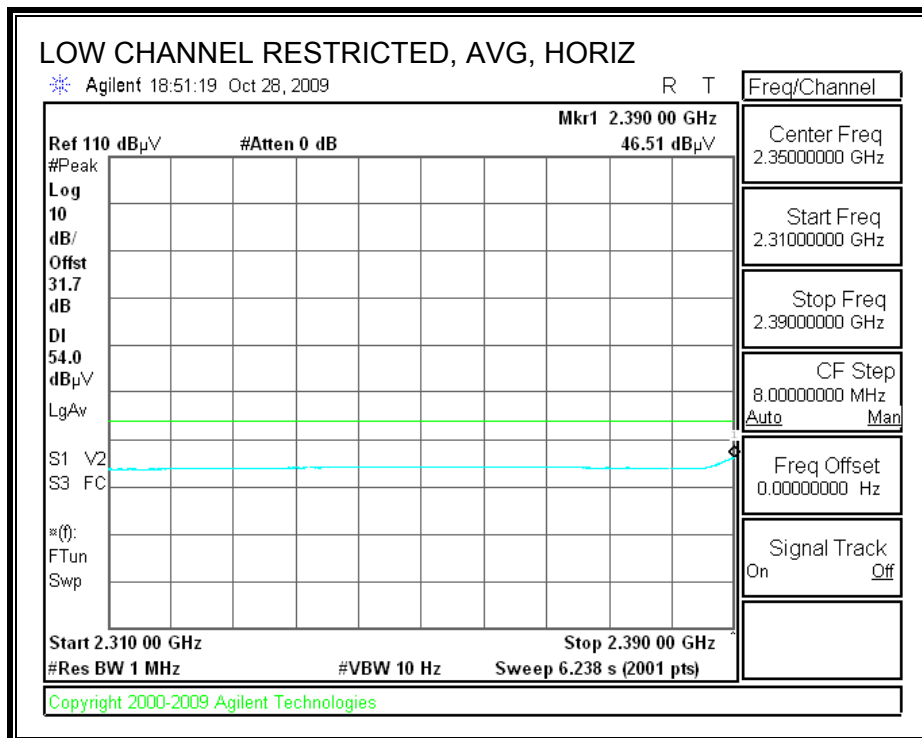
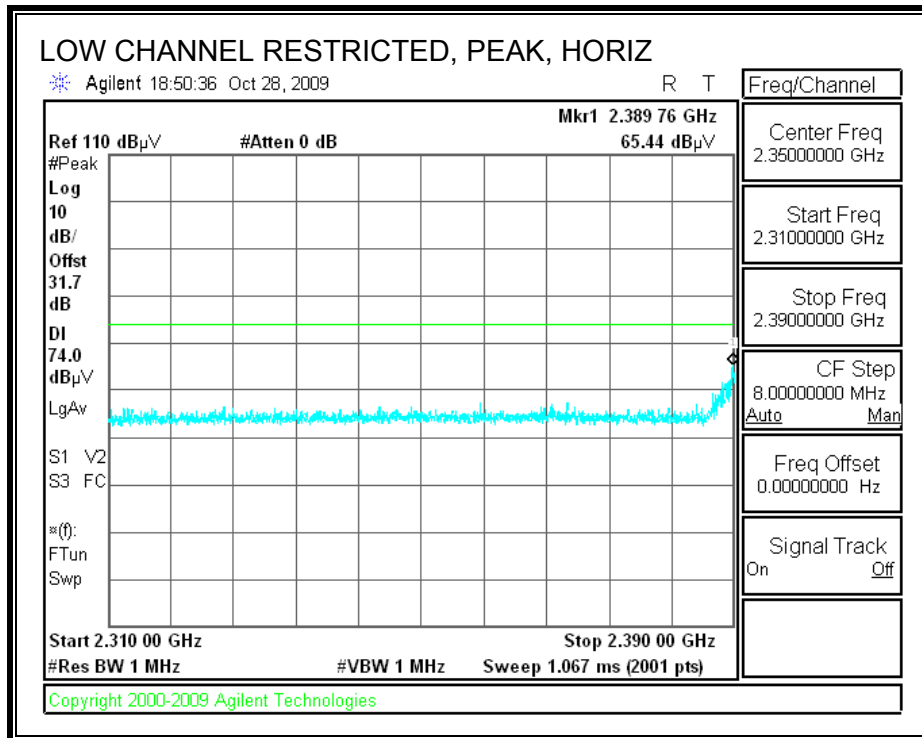
High Frequency Measurement													
Compliance Certification Services, Fremont 5m Chamber													
Test Engr:		Devin Chang											
Date:		10/29/09											
Project #:		09U12893											
Company:		Intel											
EUT Description:		EUT only											
Mode Oper:		2.4GHz _g mode											
f	Measurement	Frequency	Amp	Preamp	Gain								Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters								Peak Field Strength Limit		
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m								Margin vs. Average Limit		
AF	Antenna Factor	Peak	Calculated Peak Field Strength								Margin vs. Peak Limit		
CL	Cable Loss	HPF	High Pass Filter										
f	Dist	Read	AF	CL	Amp	D Corr	Filtr	Corr.	Limit	Margin	Ant. Pol.	Det.	Notes
GHz	(m)	dBuV	dB/m	dB	dB	dB	dB	dBuV/m	dBuV/m	dB	V/H	P/A/QP	
<b>2412MHz</b>													
4.824	3.0	38.9	32.8	5.8	-36.5	0.0	0.0	41.0	74.0	-33.0	V	P	
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7.311	3.0	25.3	35.2	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	V	A	
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7.386	3.0	25.1	35.3	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	V	A	
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7.386	3.0	37.8	35.3	7.3	-36.2	0.0	0.0	44.2	74.0	-29.8	H	P	
7.386	3.0	25.0	35.3	7.3	-36.2	0.0	0.0	31.4	54.0	-22.6	H	A	

Rev. 4.1.2.7

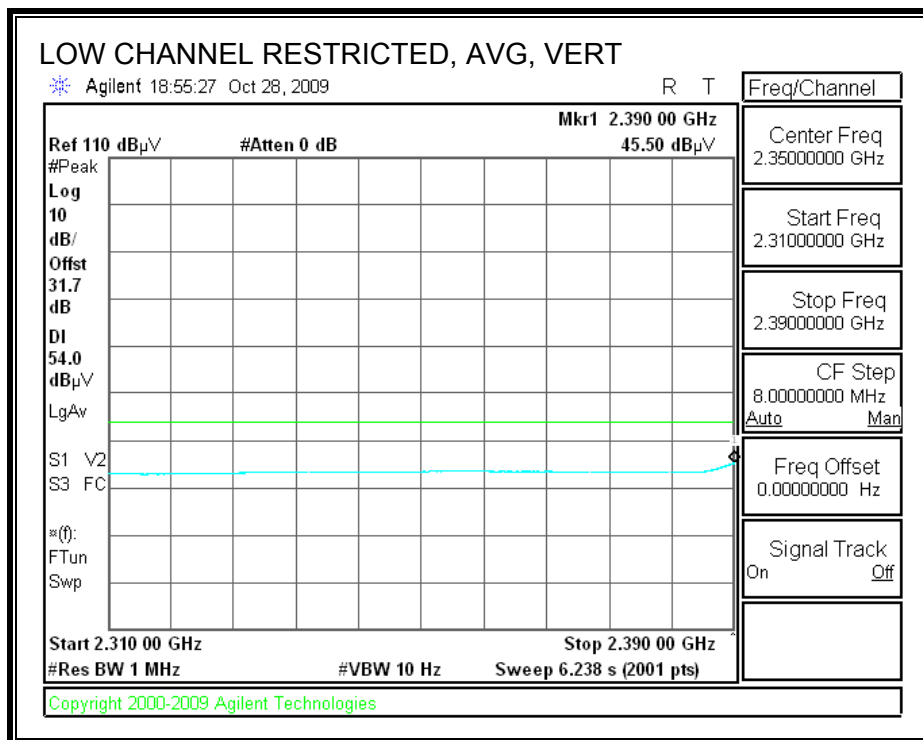
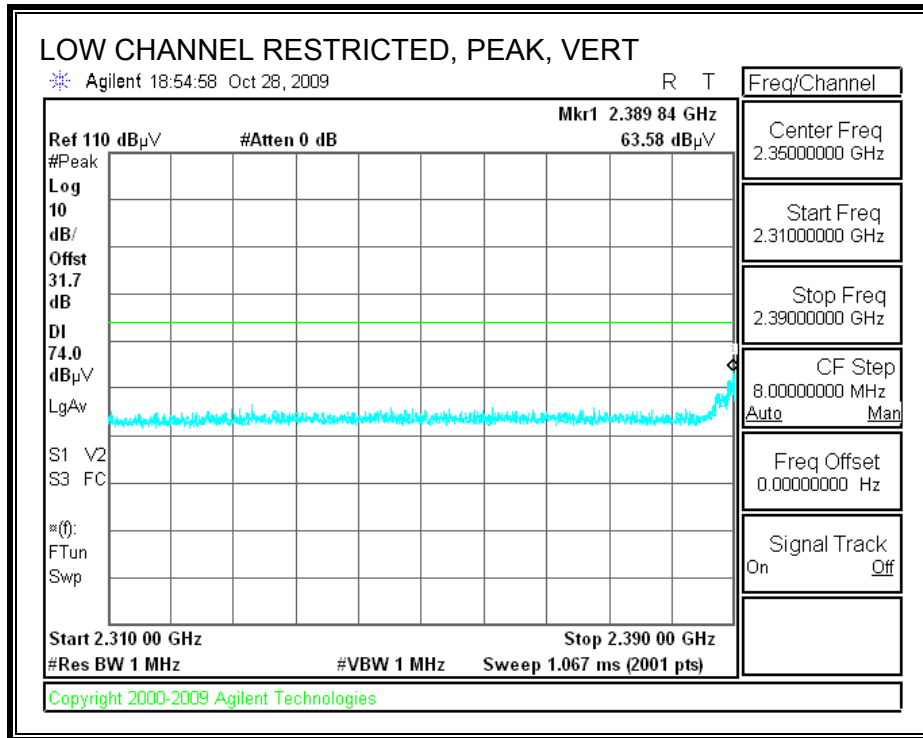
Note: No other emissions were detected above the system noise floor.

### 7.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

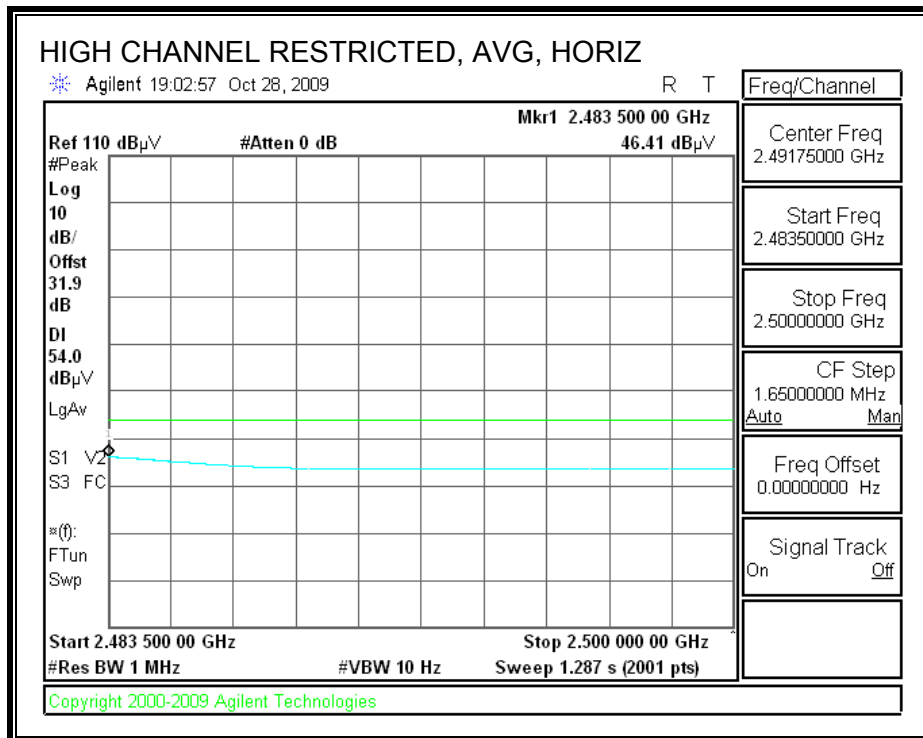
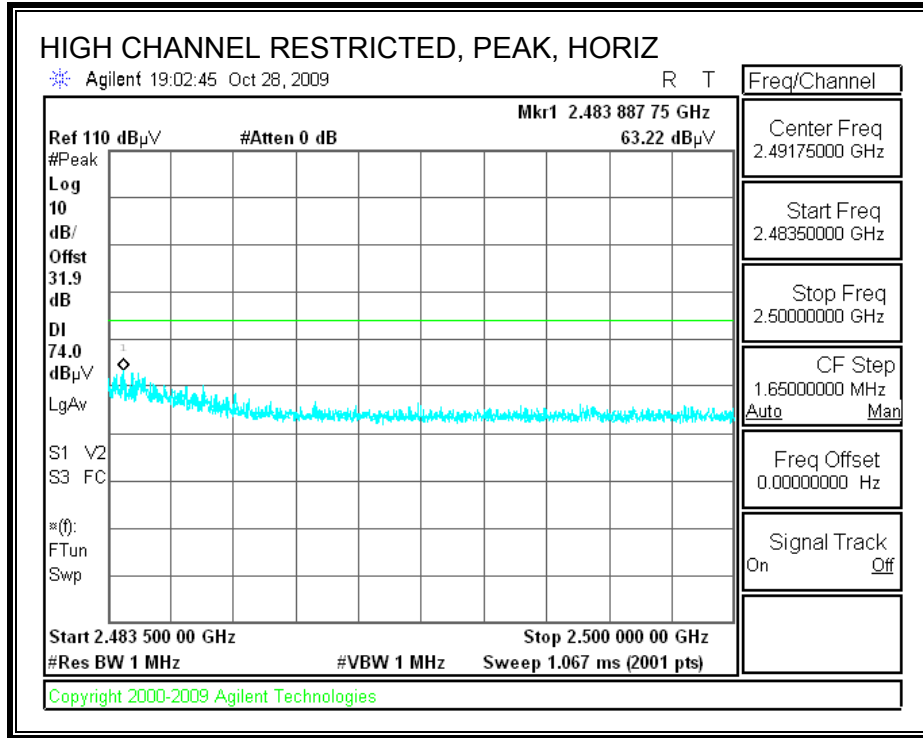
#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



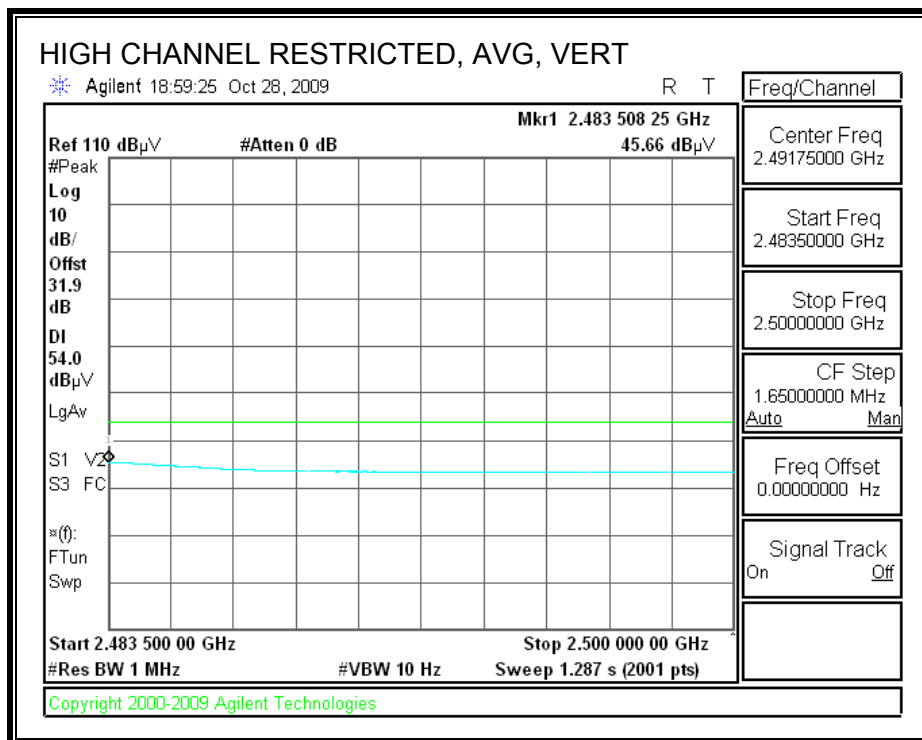
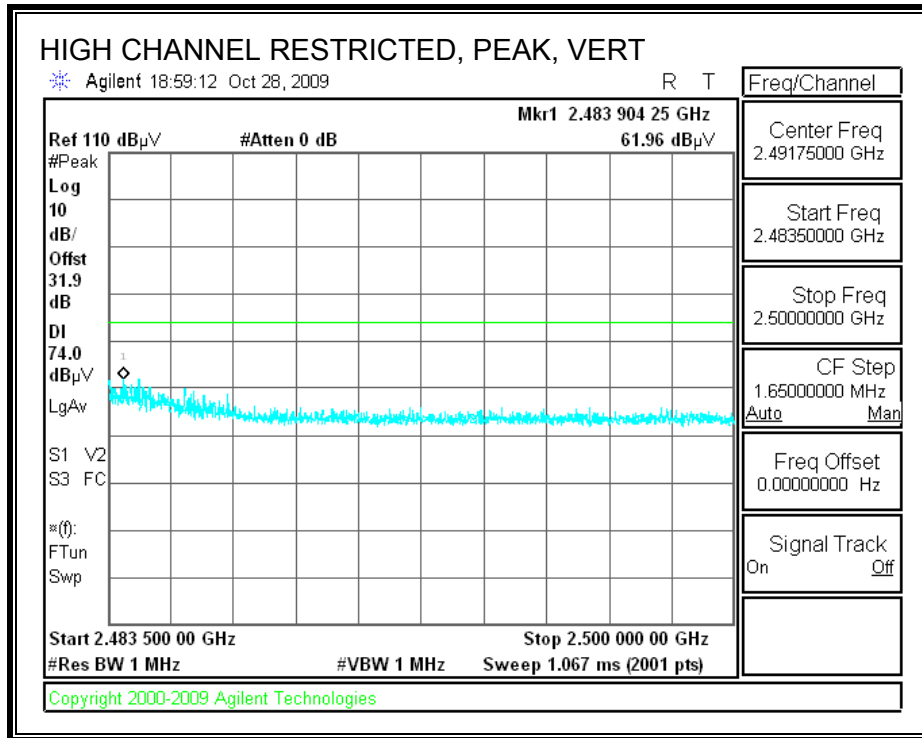
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



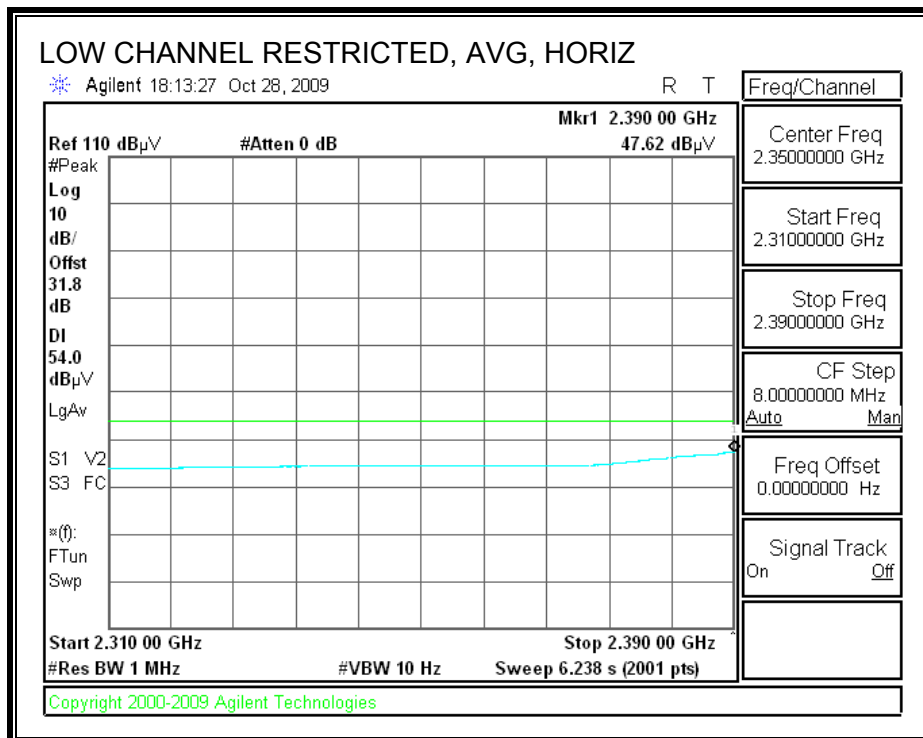
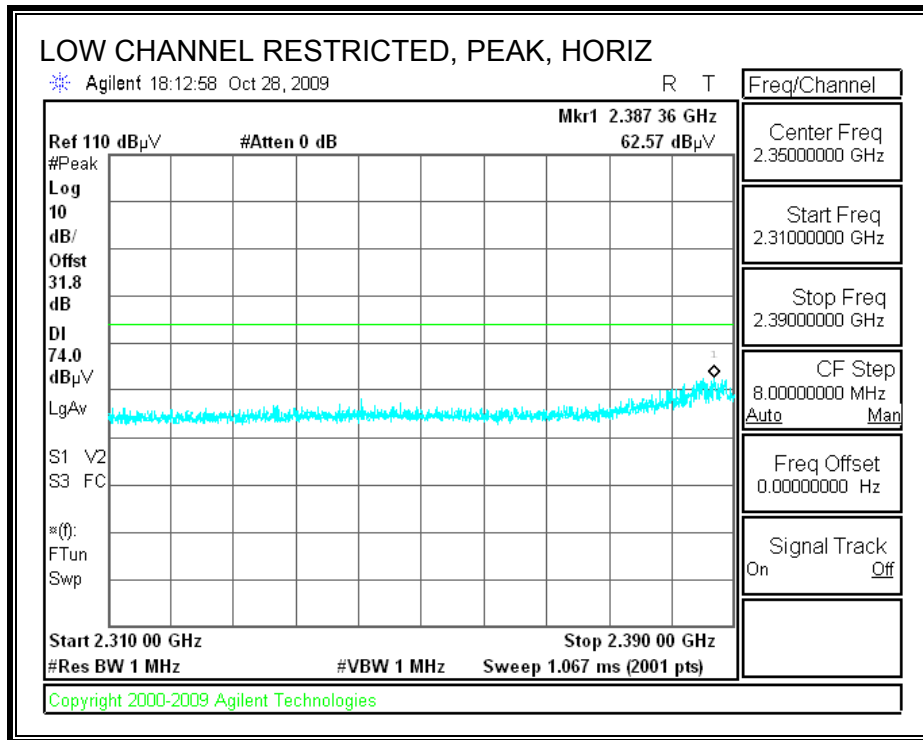


**HARMONICS AND SPURIOUS EMISSIONS**

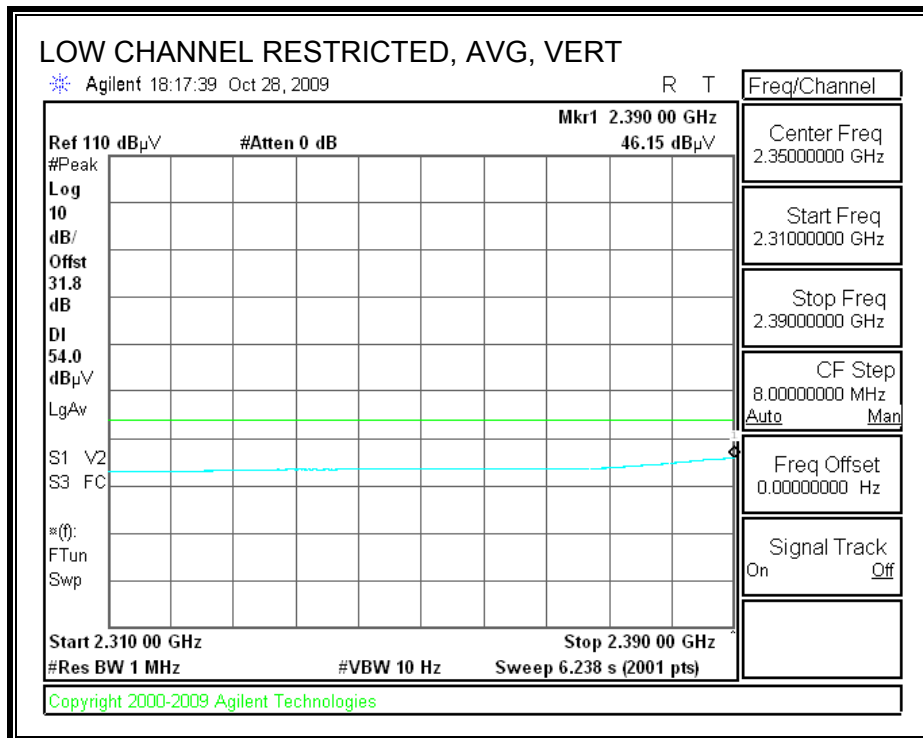
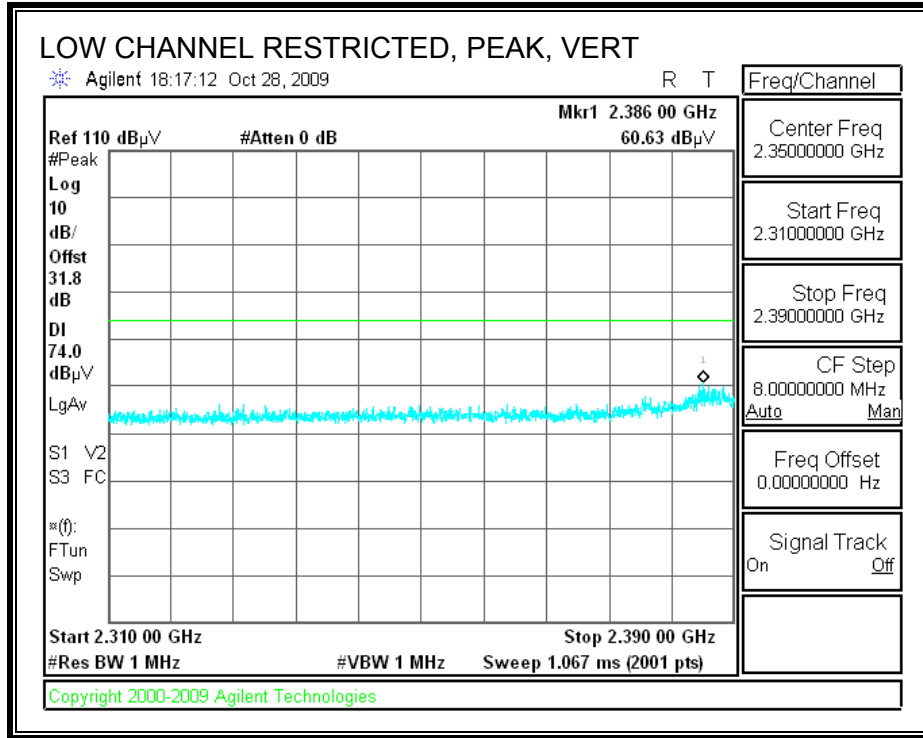
High Frequency Measurement													
Compliance Certification Services, Fremont 5m Chamber													
Test Engr:		Devin Chang											
Date:		10/29/09											
Project #:		09U12893											
Company:		Intel											
EUT Description:		EUT only											
Mode Oper:		2.4GHz_HT20											
f	Measurement	Frequency	Amp	Preamp	Average Field Strength Limit								
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters		Peak Field Strength Limit								
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m		Margin vs. Average Limit								
AF	Antenna Factor	Peak	Calculated Peak Field Strength		Margin vs. Peak Limit								
CL	Cable Loss	HPF	High Pass Filter										
f	Dist	Read	AF	CL	Amp	D Corr	Filtr	Corr.	Limit	Margin	Ant. Pol.	Det.	Notes
GHz	(m)	dBuV	dB/m	dB	dB	dB	dB	dBuV/m	dBuV/m	dB	V/H	P/A/QP	
<b>2412MHz</b>													
4.824	3.0	39.1	32.8	5.8	-36.5	0.0	0.0	41.1	74.0	-32.9	V	P	
4.824	3.0	26.3	32.8	5.8	-36.5	0.0	0.0	28.4	54.0	-25.6	V	A	
4.824	3.0	38.8	32.8	5.8	-36.5	0.0	0.0	40.9	74.0	-33.1	H	P	
4.824	3.0	26.3	32.8	5.8	-36.5	0.0	0.0	28.4	54.0	-25.6	H	A	
<b>2437MHz</b>													
4.874	3.0	38.3	32.8	5.8	-36.5	0.0	0.0	40.5	74.0	-33.5	V	P	
4.874	3.0	26.2	32.8	5.8	-36.5	0.0	0.0	28.4	54.0	-25.6	V	A	
7.311	3.0	37.7	35.2	7.3	-36.2	0.0	0.0	43.9	74.0	-30.1	V	P	
7.311	3.0	25.5	35.2	7.3	-36.2	0.0	0.0	31.7	54.0	-22.3	V	A	
4.874	3.0	38.4	32.8	5.8	-36.5	0.0	0.0	40.5	74.0	-33.5	H	P	
4.874	3.0	25.8	32.8	5.8	-36.5	0.0	0.0	27.9	54.0	-26.1	H	A	
7.311	3.0	38.1	35.2	7.3	-36.2	0.0	0.0	44.4	74.0	-29.6	H	P	
7.311	3.0	25.3	35.2	7.3	-36.2	0.0	0.0	31.6	54.0	-22.4	H	A	
<b>2462MHz</b>													
4.924	3.0	38.8	32.8	5.9	-36.5	0.0	0.0	41.1	74.0	-32.9	V	P	
4.924	3.0	26.2	32.8	5.9	-36.5	0.0	0.0	28.4	54.0	-25.6	V	A	
7.386	3.0	37.6	35.3	7.3	-36.2	0.0	0.0	44.0	74.0	-30.0	V	P	
7.386	3.0	25.1	35.3	7.3	-36.2	0.0	0.0	31.4	54.0	-22.6	V	A	
4.924	3.0	38.6	32.8	5.9	-36.5	0.0	0.0	40.9	74.0	-33.1	H	P	
4.924	3.0	26.2	32.8	5.9	-36.5	0.0	0.0	28.4	54.0	-25.6	H	A	
7.386	3.0	37.8	35.3	7.3	-36.2	0.0	0.0	44.2	74.0	-29.8	H	P	
7.386	3.0	25.1	35.3	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	H	A	
Rev. 4.1.2.7													
Note: No other emissions were detected above the system noise floor.													

### 7.2.4. 802.11n HT40 MODE IN THE 2.4 GHz BAND

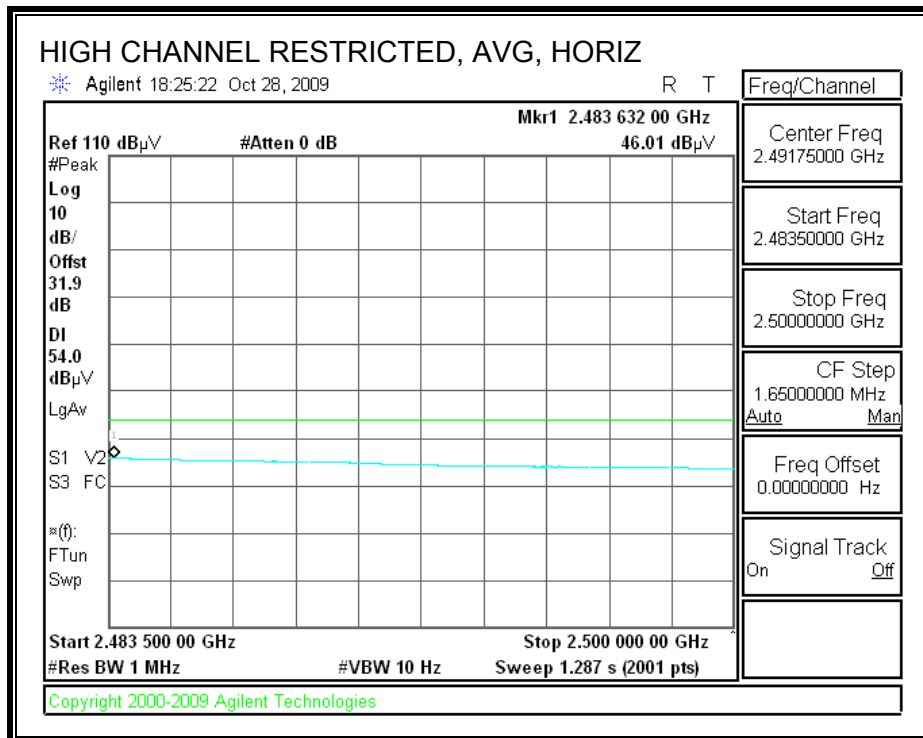
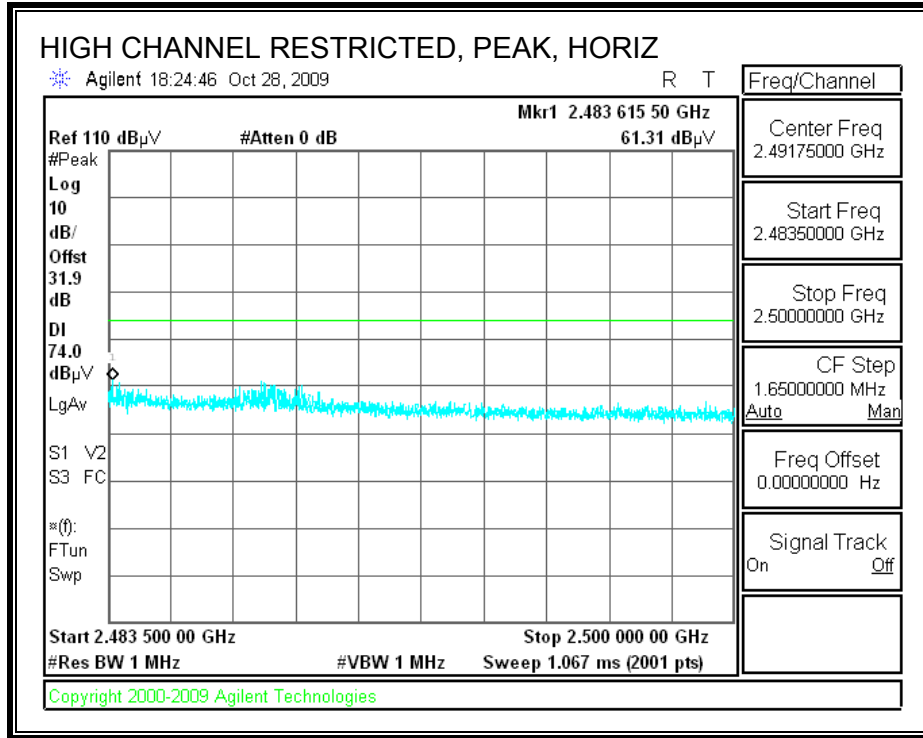
#### RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



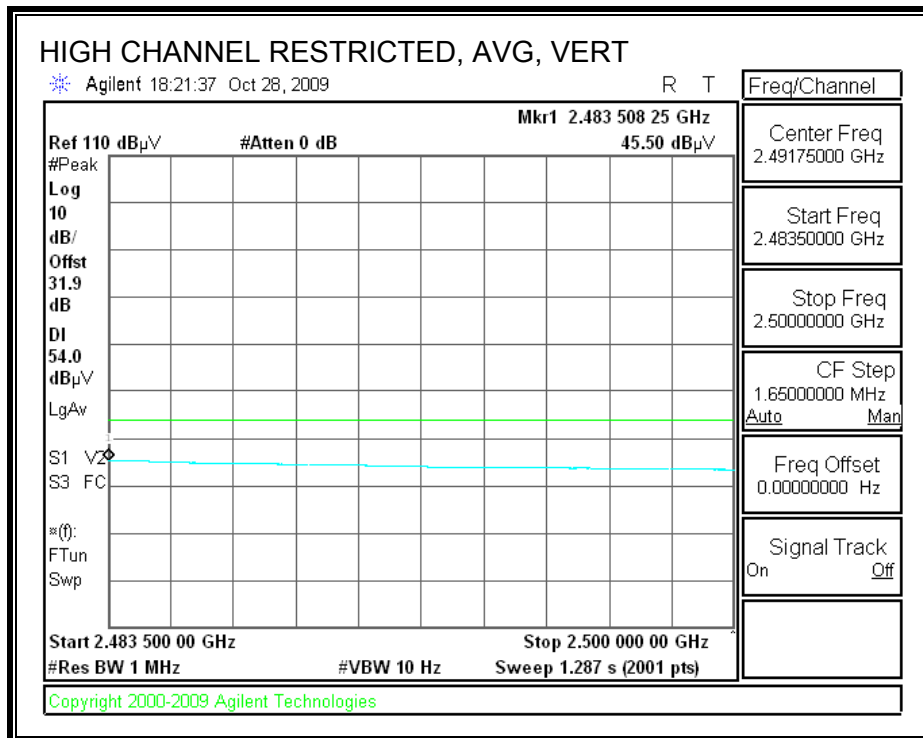
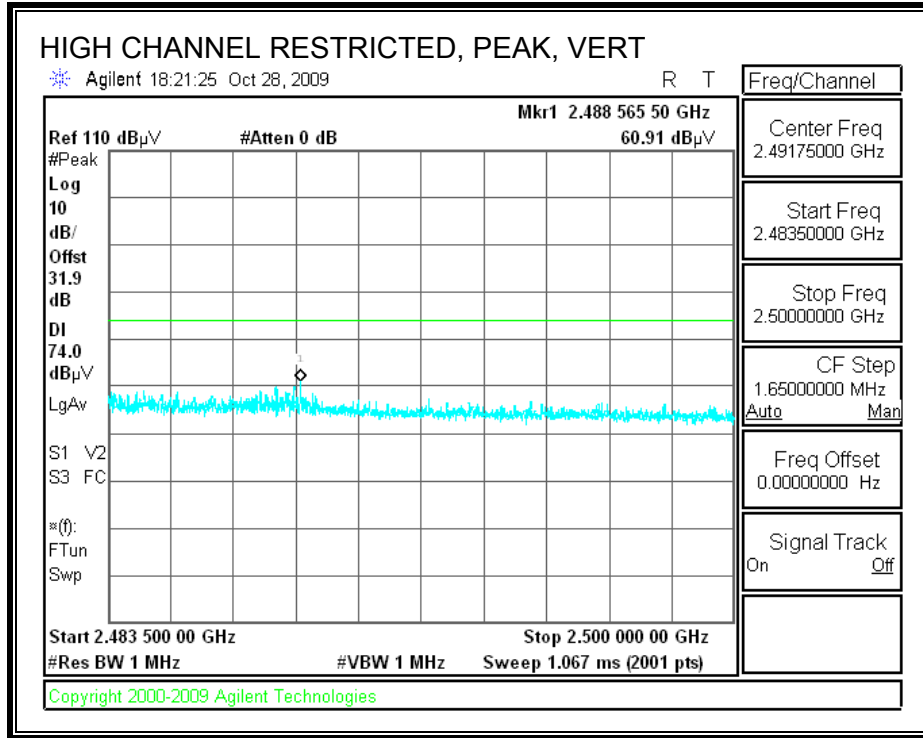
**RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



**RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)**



**HARMONICS AND SPURIOUS EMISSIONS**

High Frequency Measurement													
Compliance Certification Services, Fremont 5m Chamber													
Test Engr:		Devin Chang											
Date:		10/29/09											
Project #:		09U12893											
Company:		Intel											
EUT Description:		EUT only											
Mode Oper:		2.4GHz_HT40											
f	Measurement	Frequency	Amp	Preamp	Gain								Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters								Peak Field Strength Limit		
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m								Margin vs. Average Limit		
AF	Antenna Factor	Peak	Calculated Peak Field Strength								Margin vs. Peak Limit		
CL	Cable Loss	HPF	High Pass Filter										
f	Dist	Read	AF	CL	Amp	D Corr	Filtr	Corr.	Limit	Margin	Ant. Pol.	Det.	Notes
GHz	(m)	dBuV	dB/m	dB	dB	dB	dB	dB	dBuV/m	dBuV/m	dB	V/H	P/A/QP
<b>2422MHz</b>													
4.844	3.0	39.2	32.8	5.8	-36.5	0.0	0.0	41.3	74.0	-32.7	V	P	
4.844	3.0	26.1	32.8	5.8	-36.5	0.0	0.0	28.2	54.0	-25.8	V	A	
4.844	3.0	39.0	32.8	5.8	-36.5	0.0	0.0	41.1	74.0	-32.9	H	P	
4.844	3.0	26.1	32.8	5.8	-36.5	0.0	0.0	28.2	54.0	-25.8	H	A	
<b>2437MHz</b>													
4.874	3.0	38.4	32.8	5.8	-36.5	0.0	0.0	40.6	74.0	-33.4	V	P	
4.874	3.0	25.8	32.8	5.8	-36.5	0.0	0.0	28.0	54.0	-26.0	V	A	
7.311	3.0	38.0	35.2	7.3	-36.2	0.0	0.0	44.2	74.0	-29.8	V	P	
7.311	3.0	25.2	35.2	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	V	A	
4.874	3.0	38.8	32.8	5.8	-36.5	0.0	0.0	40.9	74.0	-33.1	H	P	
4.874	3.0	25.8	32.8	5.8	-36.5	0.0	0.0	27.9	54.0	-26.1	H	A	
7.311	3.0	38.3	35.2	7.3	-36.2	0.0	0.0	44.6	74.0	-29.4	H	P	
7.311	3.0	25.2	35.2	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	H	A	
<b>2452MHz</b>													
4.904	3.0	38.5	32.8	5.9	-36.5	0.0	0.0	40.7	74.0	-33.3	V	P	
4.904	3.0	25.9	32.8	5.9	-36.5	0.0	0.0	28.2	54.0	-25.8	V	A	
7.356	3.0	37.9	35.3	7.3	-36.2	0.0	0.0	44.2	74.0	-29.8	V	P	
7.356	3.0	25.2	35.3	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	V	A	
4.904	3.0	38.7	32.8	5.9	-36.5	0.0	0.0	40.9	74.0	-33.1	H	P	
4.904	3.0	25.9	32.8	5.9	-36.5	0.0	0.0	28.2	54.0	-25.8	H	A	
7.356	3.0	37.6	35.3	7.3	-36.2	0.0	0.0	43.9	74.0	-30.1	H	P	
7.356	3.0	25.1	35.3	7.3	-36.2	0.0	0.0	31.5	54.0	-22.5	H	A	

Rev. 4.1.2.7

Note: No other emissions were detected above the system noise floor.

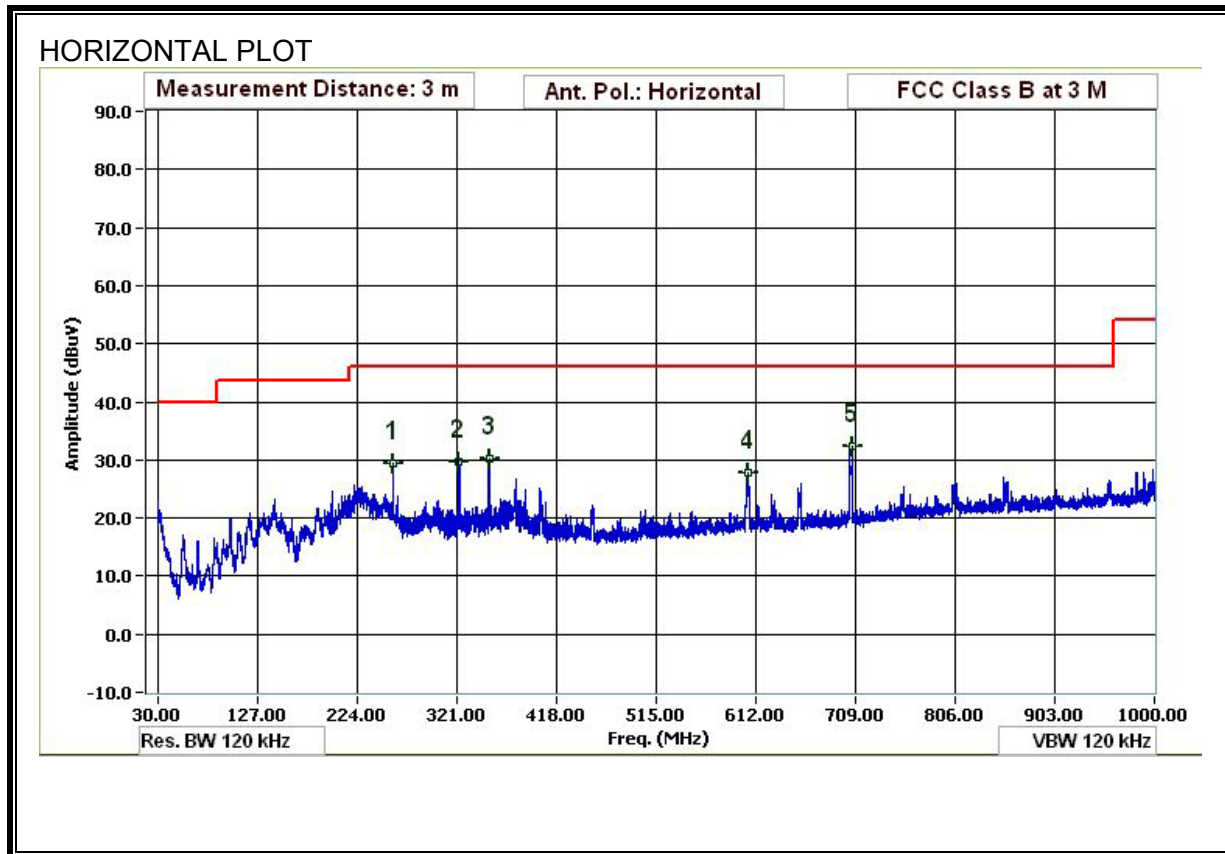
### 7.3. WORST CASE RECEIVER ABOVE 1 GHz

High Frequency Measurement													
Compliance Certification Services, Fremont 5m Chamber													
Test Engr:		Devin Chang											
Date:		10/30/09											
Project #:		09U12893											
Company:		Intel											
EUT Description:		EUT only											
Mode Oper:		2.4GHz _Rx mode											
f	Measurement Frequency	Amp	Preamp Gain					Average Field Strength Limit					
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters					Peak Field Strength Limit					
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m					Margin vs. Average Limit					
AF	Antenna Factor	Peak	Calculated Peak Field Strength					Margin vs. Peak Limit					
CL	Cable Loss	HPF	High Pass Filter										
f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fltr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
1.056	3.0	56.6	24.1	2.4	-36.1	0.0	0.0	47.1	74.0	-26.9	V	P	
1.056	3.0	38.3	24.1	2.4	-36.1	0.0	0.0	28.7	54.0	-25.3	V	A	
1.663	3.0	61.8	26.4	3.1	-35.6	0.0	0.0	55.6	74.0	-18.4	V	P	
1.663	3.0	39.1	26.4	3.1	-35.6	0.0	0.0	32.9	54.0	-21.1	V	A	
2.992	3.0	46.7	30.0	4.3	-35.2	0.0	0.0	45.8	74.0	-28.2	V	P	
2.992	3.0	30.1	30.0	4.3	-35.2	0.0	0.0	29.2	54.0	-24.8	V	A	
1.056	3.0	52.8	24.1	2.4	-36.1	0.0	0.0	43.3	74.0	-30.7	H	P	
1.056	3.0	35.6	24.1	2.4	-36.1	0.0	0.0	26.1	54.0	-27.9	H	A	
1.663	3.0	58.9	26.4	3.1	-35.6	0.0	0.0	52.8	74.0	-21.2	H	P	
1.663	3.0	37.6	26.4	3.1	-35.6	0.0	0.0	31.4	54.0	-22.6	H	A	
2.992	3.0	44.9	30.0	4.3	-35.2	0.0	0.0	44.0	74.0	-30.0	H	P	
2.992	3.0	29.4	30.0	4.3	-35.2	0.0	0.0	28.5	54.0	-25.5	H	A	

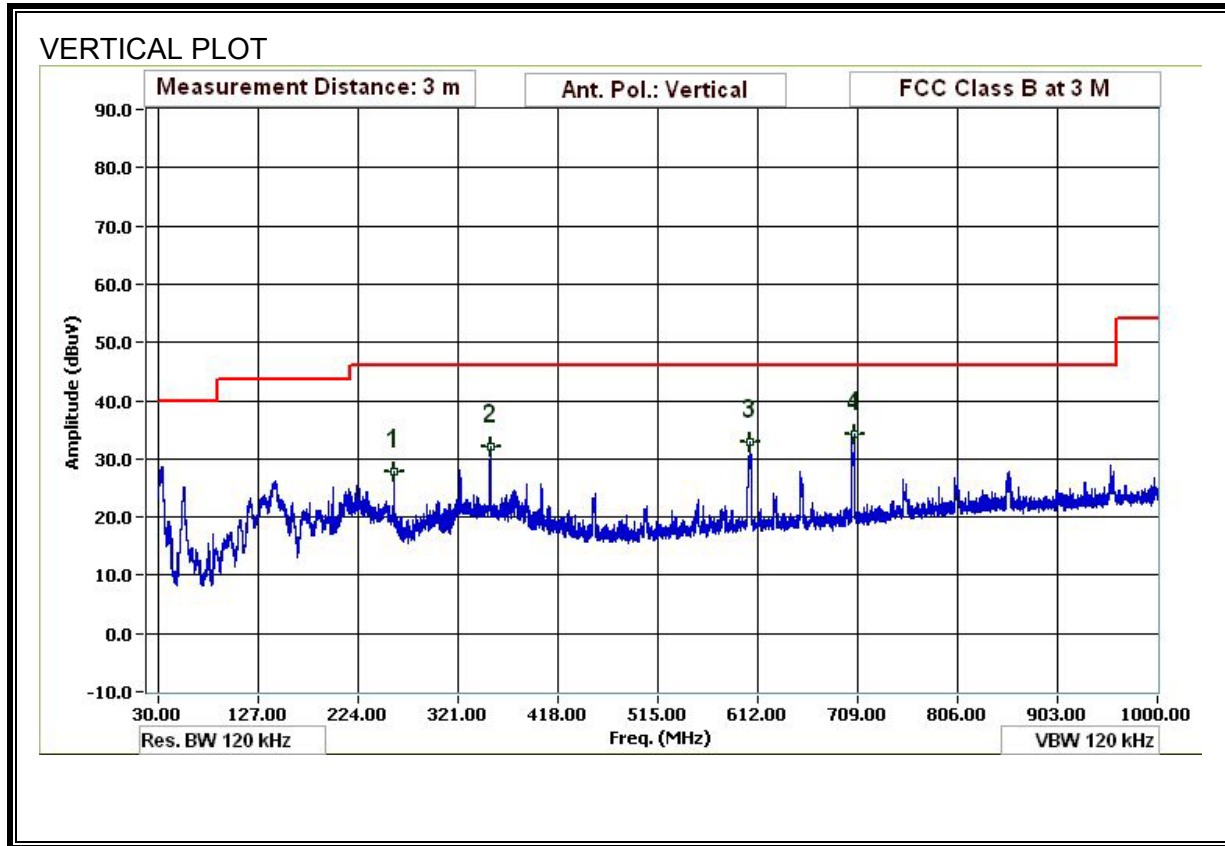
Rev. 4.1.2.7  
 Note: No other emissions were detected above the system noise floor.

### 7.4. WORST CASE BELOW 1 GHz

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







**HORIZONTAL AND VERTICAL DATA**

30-1000MHz Frequency Measurement													
Compliance Certification Services, Fremont 5m Chamber													
Test Engr:		Devin Chang											
Date:		10/29/09											
Project #:		09U12893											
Company:		Intel											
EUT Description:		EUT only											
Mode Oper:		2.4GHz_b mode											
f	Measurement Frequency	Amp	Preamp Gain	Margin	Margin vs. Limit								
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters										
Read	Analyzer Reading	Filter	Filter Insert Loss										
AF	Antenna Factor	Corr.	Calculated Field Strength										
CL	Cable Loss	Limit	Field Strength Limit										
f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
258.489	3.0	43.0	12.1	1.5	28.8	0.0	0.0	27.8	46.0	-18.2	V	P	
352.933	3.0	45.1	14.2	1.8	29.1	0.0	0.0	32.0	46.0	-14.0	V	P	
605.064	3.0	41.9	18.3	2.4	29.6	0.0	0.0	32.9	46.0	-13.1	V	P	
705.868	3.0	41.9	19.3	2.6	29.5	0.0	0.0	34.3	46.0	-11.7	V	P	
258.489	3.0	44.8	12.1	1.5	28.8	0.0	0.0	29.5	46.0	-16.5	H	P	
323.052	3.0	43.3	13.7	1.7	28.9	0.0	0.0	29.8	46.0	-16.2	H	P	
352.933	3.0	43.2	14.2	1.8	29.1	0.0	0.0	30.2	46.0	-15.8	H	P	
604.824	3.0	36.7	18.3	2.4	29.6	0.0	0.0	27.7	46.0	-18.3	H	P	
705.868	3.0	40.0	19.3	2.6	29.5	0.0	0.0	32.4	46.0	-13.6	H	P	
Rev. 1.27.09													
Note: No other emissions were detected above the system noise floor.													

## 8. 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

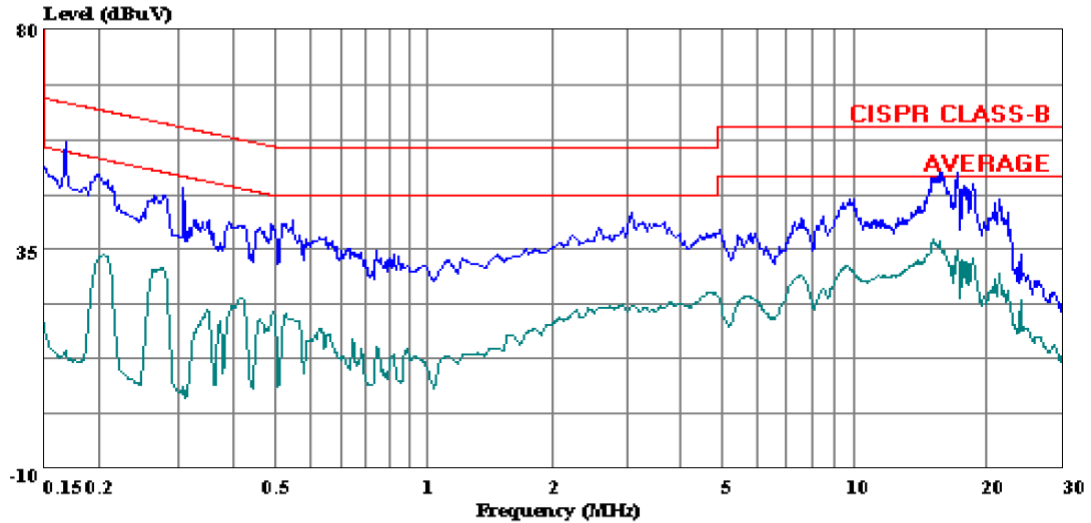
CONDUCTED EMISSIONS DATA (115VAC 60Hz)										
Freq. (MHz)	Reading			Class (dB)	Limit QP	FCC B		Margin		Remark L1 / L2
	PK (dBuV)	QP (dBuV)	AV (dBuV)			AV	QP (dB)	AV (dB)		
0.20	50.28	--	33.95	0.00	63.45	53.45	-13.17	-19.50	L1	
9.81	45.19	--	31.52	0.00	60.00	50.00	-14.81	-18.48	L1	
15.31	50.65	--	37.63	0.00	60.00	50.00	-9.35	-12.37	L1	
0.20	48.67	--	32.52	0.00	63.45	53.45	-14.78	-20.93	L2	
9.65	45.31	--	32.57	0.00	60.00	50.00	-14.69	-17.43	L2	
15.15	51.17	--	36.65	0.00	60.00	50.00	-8.83	-13.35	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#: 7 File#: 09U12893.EMI Date: 10-28-2009 Time: 09:02:13



(Line Conduction)

Trace: 5

Ref Trace:

Condition: CISPR CLASS-B  
Test Operator: : Devin Chang  
Project #: : 09U12893  
Company: : Intel  
EUT Description: Intel 1000 Series WiFi Card  
Configuration: : EUT with AC Adapter  
Mode: : Normal  
Target: : FCC Class B  
Voltage: : 115VAC / 60Hz  
: L1: Peak (Blue), Aveager (Green)

**LINE 2 RESULTS**

