



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

CERTIFICATION TEST REPORT

FOR

INTEL WI-FI LINK 5300 SERIES

**FCC MODEL NUMBER: 533AN_MMW
IC MODEL NUMBER: 533ANMU**

**FCC ID: PD9533ANMU
IC: 1000M-533ANMU**

REPORT NUMBER: 08U12063-2A

ISSUE DATE: SEPTEMBER 12, 2008

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	09/12/08	Initial Issue	T. Chan
A	09/15/08	Revised report to remove all instances of Caramel and replace with LENOVO THINKPAD X200 TABLET SERIES	A. Zaffar

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS.....	5
2. TEST METHODOLOGY	6
3. FACILITIES AND ACCREDITATION.....	6
4. CALIBRATION AND UNCERTAINTY	6
4.1. <i>MEASURING INSTRUMENT CALIBRATION.....</i>	<i>6</i>
4.2. <i>MEASUREMENT UNCERTAINTY.....</i>	<i>6</i>
5. EQUIPMENT UNDER TEST	7
5.1. <i>DESCRIPTION OF EUT.....</i>	<i>7</i>
5.2. <i>MAXIMUM OUTPUT POWER.....</i>	<i>7</i>
5.3. <i>DESCRIPTION OF CLASS II PERMISSIVE CHANGE.....</i>	<i>7</i>
5.4. <i>DESCRIPTION OF AVAILABLE ANTENNAS.....</i>	<i>7</i>
5.5. <i>SOFTWARE AND FIRMWARE.....</i>	<i>7</i>
5.6. <i>WORST-CASE CONFIGURATION AND MODE</i>	<i>8</i>
5.7. <i>DESCRIPTION OF TEST SETUP.....</i>	<i>8</i>
6. TEST AND MEASUREMENT EQUIPMENT	10
7. RADIATED TEST RESULTS	11
7.1. <i>LIMITS AND PROCEDURE</i>	<i>11</i>
7.2. <i>TRANSMITTER ABOVE 1 GHz</i>	<i>12</i>
7.2.1. TRANSMITTER ABOVE 1 GHz FOR 802.11a MODE IN THE 5.2 GHz	12
7.2.2. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.2 GHz ...	15
7.2.3. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz ...	18
7.2.4. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.2 GHz-3TX	
21	
7.2.5. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz-2TX	
24	
7.2.6. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz-3TX	
27	
7.2.7. TRANSMITTER ABOVE 1 GHz FOR 802.11a MODE IN THE 5.3 GHz	29
7.2.8. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.3 GHz ...	32
7.2.9. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz ...	35
7.2.10. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.2 GHz-3TX	
38	
7.2.11. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz-2TX	
41	
7.2.12. TRANSMITTER ABOVE 1 GHz FOR 802.11a MODE IN THE 5.6 GHz	44
7.2.13. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.6 GHz-3TX	
47	
7.2.14. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.6 GHz ...	50
7.2.15. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.6 GHz-2TX	
53	

7.2.16. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.6 GHz-3TX	56
7.3. RECEIVER ABOVE 1 GHz	59
7.3.1. RECEIVER ABOVE 1 GHz FOR THE 5.2 GHz BAND (WORST CASE)	59
7.3.2. RECEIVER ABOVE 1 GHz FOR THE 5.6 GHz BAND (WORST CASE)	60
7.4. WORST-CASE BELOW 1 GHz.....	61
8. AC POWER LINE CONDUCTED EMISSIONS	65
9. SETUP PHOTOS.....	68

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: INTEL CORPORATION
2111 NE 25TH AVENUE
HILLSBORO, OREGON 97124, USA

EUT DESCRIPTION: INTEL WI-FI LINK 5300

FCC MODEL NUMBER: 533AN_MMW

IC MODEL NUMBER: 533ANMU

SERIAL NUMBER: 001D72920092

DATE TESTED: SEPTEMBER 04 - 10, 2008

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Pass
INDUSTRY CANADA RSS-210 Issue 7 Annex 9	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.

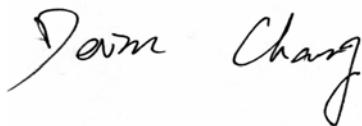
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by CCS and all revisions are duly noted in the revisions section. Any alteration of this 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:



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. 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 802.11a/b/g/n transceiver Intel Wi-Fi Link 5300 Series.
The radio module is manufactured by Intel.

5.2. MAXIMUM OUTPUT POWER

The test measurement passed within $\pm 0.5\text{dBm}$ 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 THINKPAD X200 TABLET SERIES.

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes PIFA antennas, with maximum gain as below:

Band	Ant Main	Ant Aux	Ant MIMO
Acon			
2.4GHz	-0.39	0.64	-0.50
5.15-5.25GHz	1.45	-2.38	-0.61
5.25-5.35GHz	1.45	-0.88	0.27
5.4-5.725GHz	1.47	-1.30	0.97
5.725-5.850GHz	0.92	0.22	1.13
Winstron			
2.4GHz	-1.53	1.32	-0.84
5.15-5.25GHz	0.45	-2.17	-0.44
5.25-5.35GHz	0.92	-1.41	0.25
5.4-5.725GHz	0.03	0.69	-0.21
5.725-5.850GHz	-0.76	0.14	-0.21

5.5. SOFTWARE AND FIRMWARE

The EUT driver software installed in the host support equipment during testing was CRTU, version 5.0.69.0

5.6. WORST-CASE CONFIGURATION AND MODE

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

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

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	LCM-1 SIT	1S814Y12GLV002MY	DoC
AC Adapter	Lenovo	92P1211	11S92P1211Z1ZDDY83S2C6	DoC

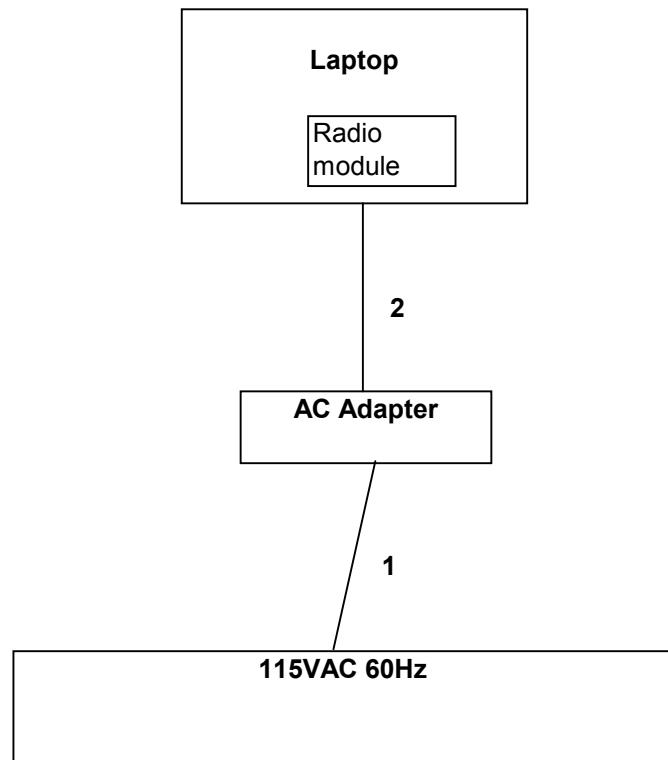
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US 115V	Un-shielded	0.8m	NA
2	DC	1	DC	Un-shielded	1.8m	Ferrite at laptop's 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
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	09/27/08
Antenna, Horn, 18 GHz	EMCO	3115	C00872	04/22/09
Preamp, 1000MHz	Sonoma	310N	N02891	03/31/09
Antenna, Bilog, 2 GHz	Sund Sciences	JB1	C01011	09/28/08
EM Receiver, 29 GHz	Agilent / HP	8542E	C00957	09/19/09
RF Filter Section, 29 GHz	Agilent / HP	85420E	C00958	09/19/09
LISN, 30 MHz	FOC	LISN-50/250-25-2	N02625	10/25/08
EM Test Receiver, 30 MHz	R&S	ESHS20	N02396	08/06/09
Antenna, Horn, 26.5 GHz	ARA	SWH-28	C01015	09/28/08
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	03/03/09
Highpass Filter, 7.6 GHz	Macro-Tronics	HPM13195	N02681	ONR
Preamplifier, 40 GHz	Mteq	NSP4000-SP2	C00990	10/11/08
Antenna, Horn, 40 GHz	ARA	MWH-2640/B	C00981	04/29/09

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.

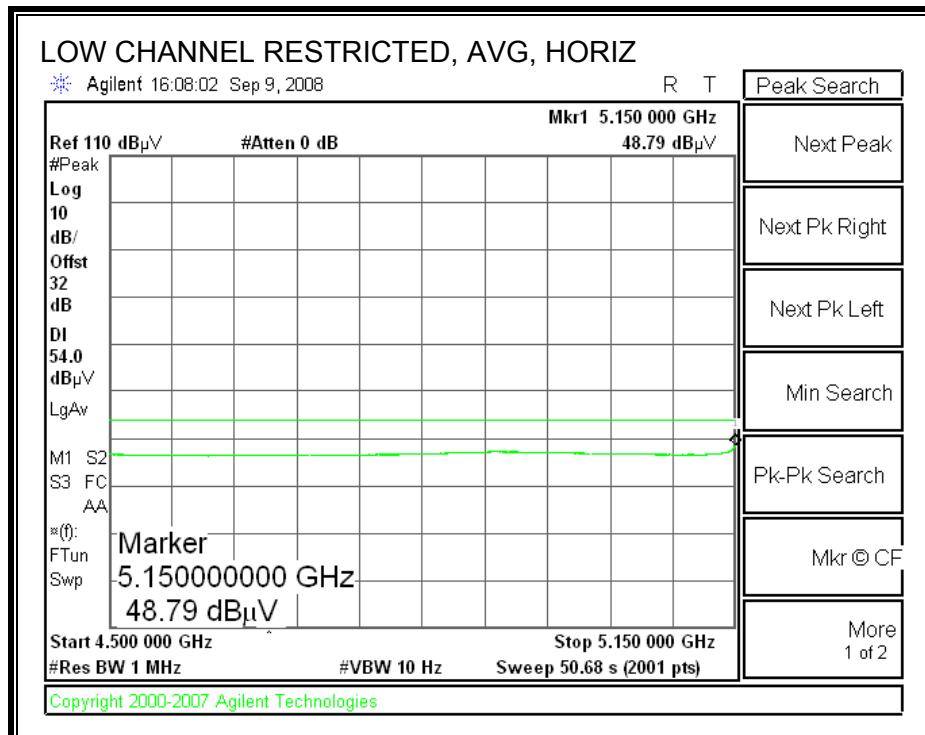
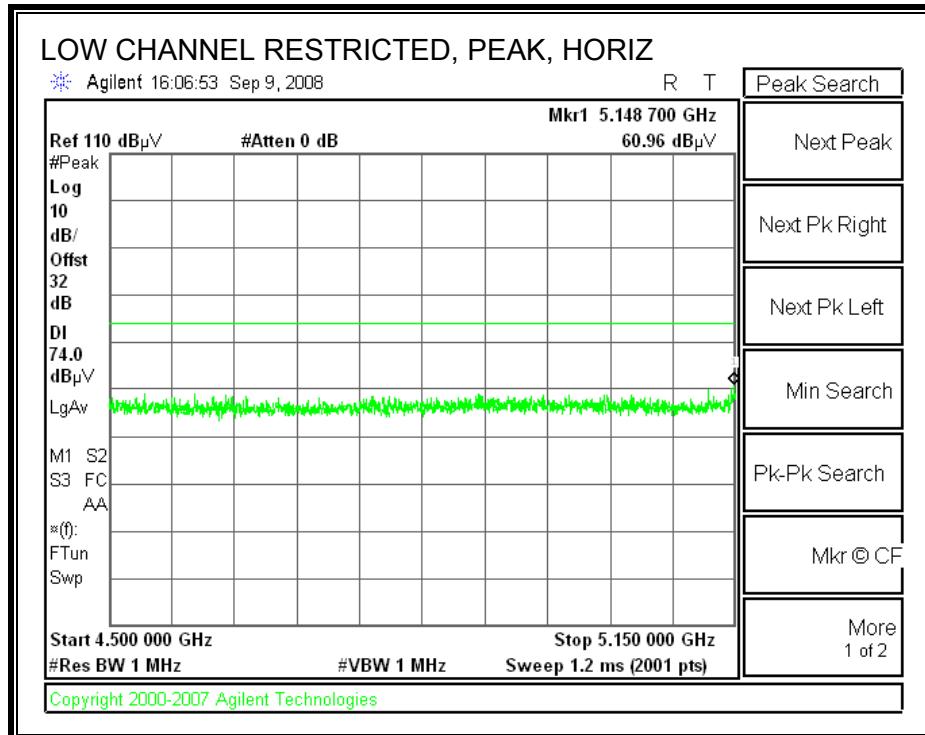
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

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

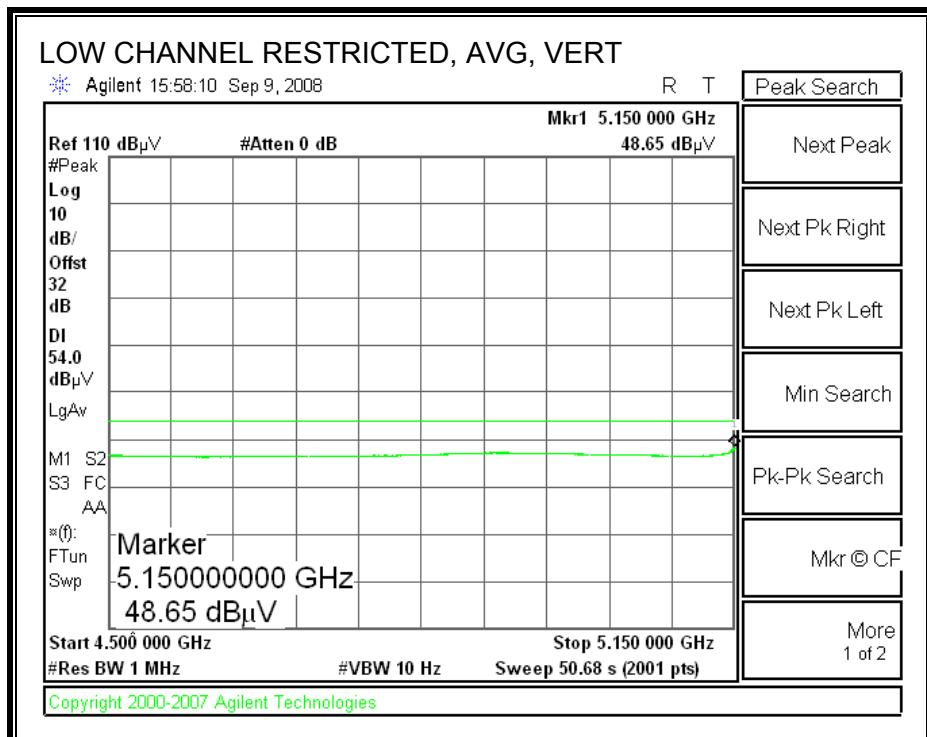
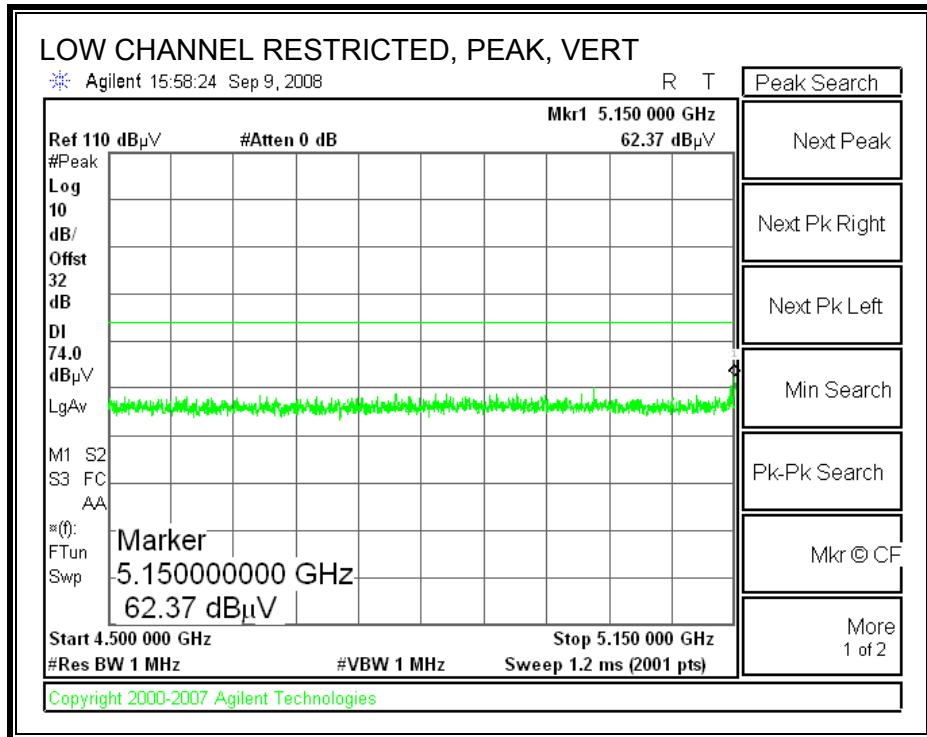
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

7.2. TRANSMITTER ABOVE 1 GHz

7.2.1. TRANSMITTER ABOVE 1 GHz FOR 802.11a MODE IN THE 5.2 GHz RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

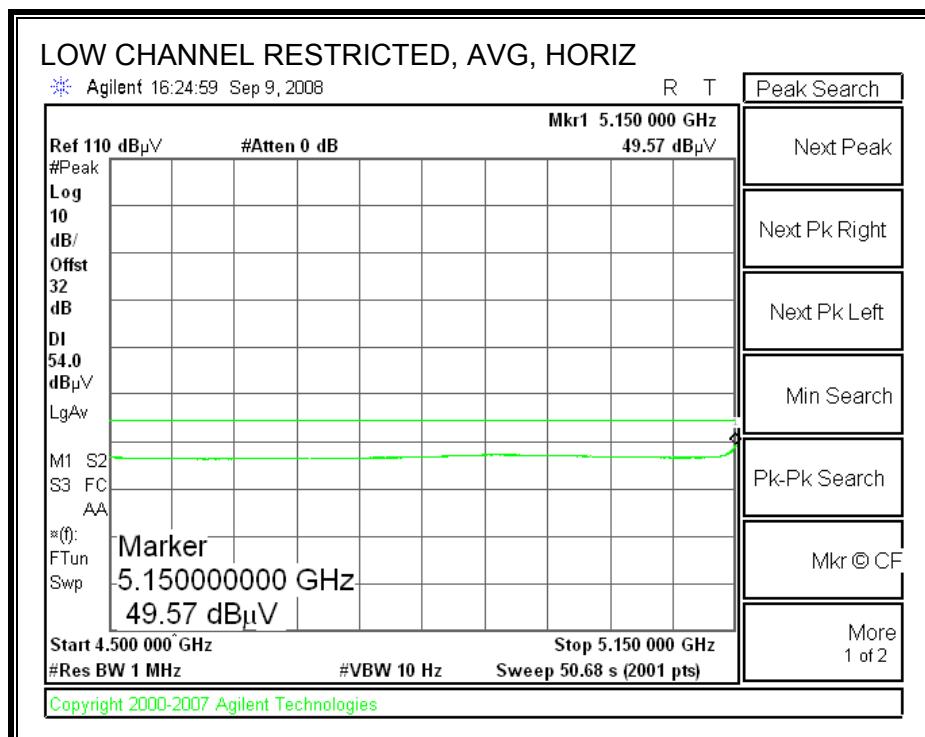
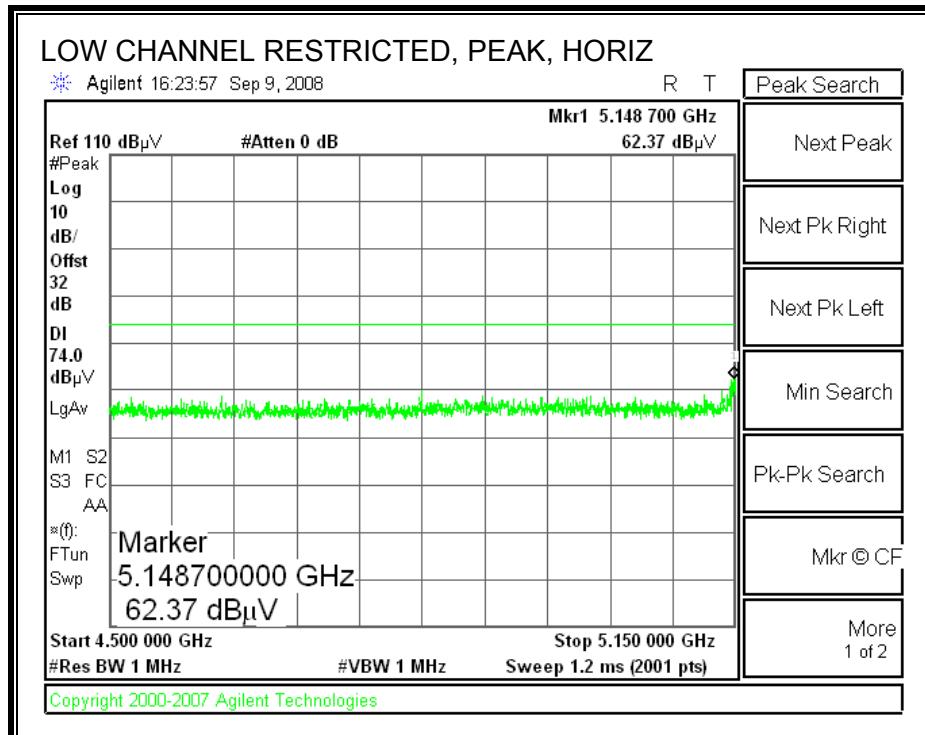


HARMONICS AND SPURIOUS EMISSIONS

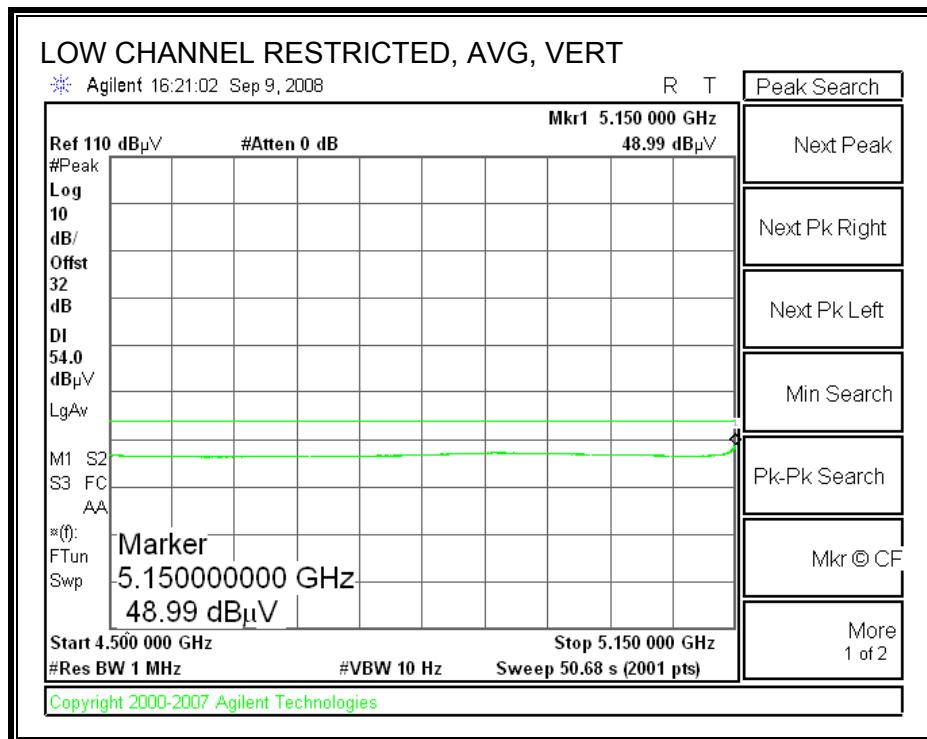
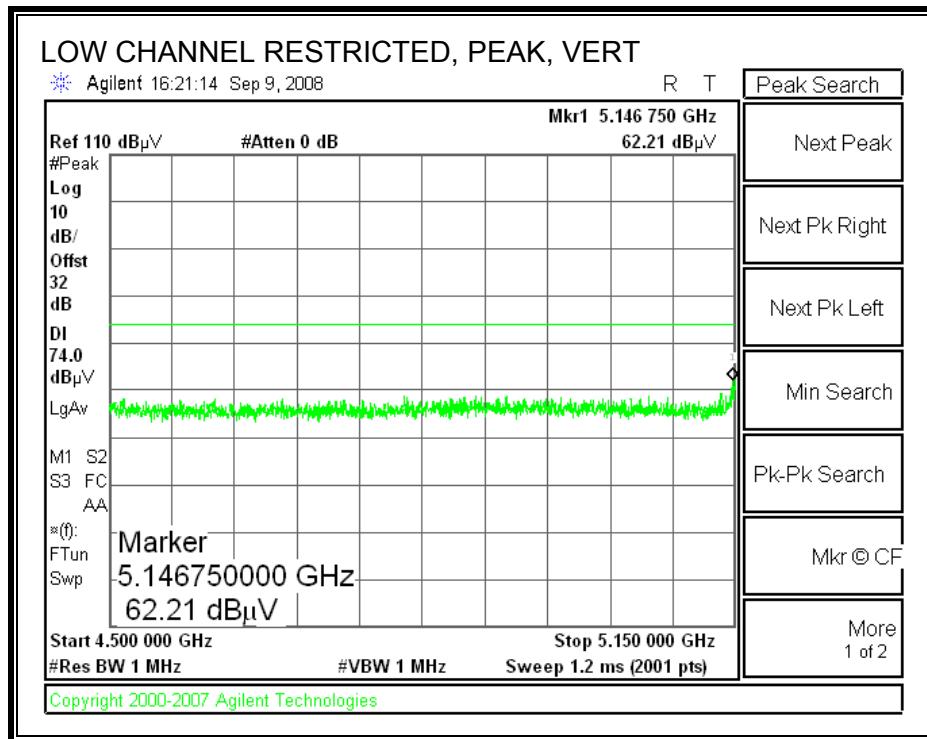
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																
Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.2GHz_TX_A mode, Antenna A																
Test Equipment:																
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit				
T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205				
Hi Frequency Cables																
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			Peak Measurements RBW=VBW=1MHz	
Can 187215004			C-5m Chamber									R_001			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)	
5240MHz																
15.720	1.0	42.8	30.8	42.9	5.6	-32.2	-9.5	0.0	49.5	37.5	74	54	-24.5	-16.5	V	
15.720	1.0	43.0	31.1	42.9	5.6	-32.2	-9.5	0.0	49.7	37.8	74	54	-24.3	-16.2	H	
Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.																
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											

7.2.2. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.2 GHz

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

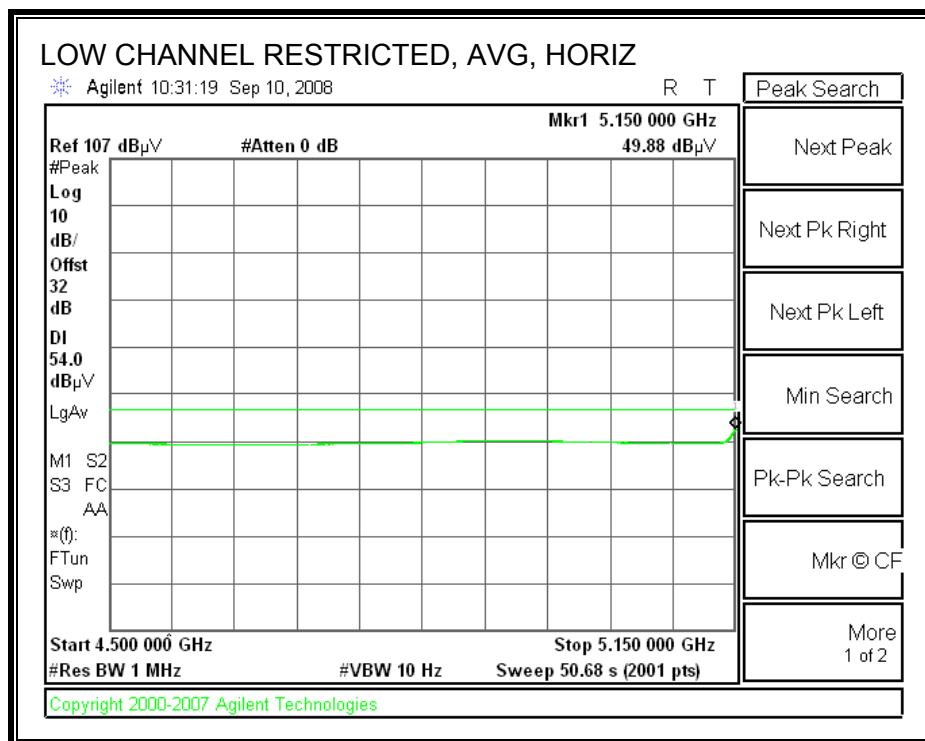
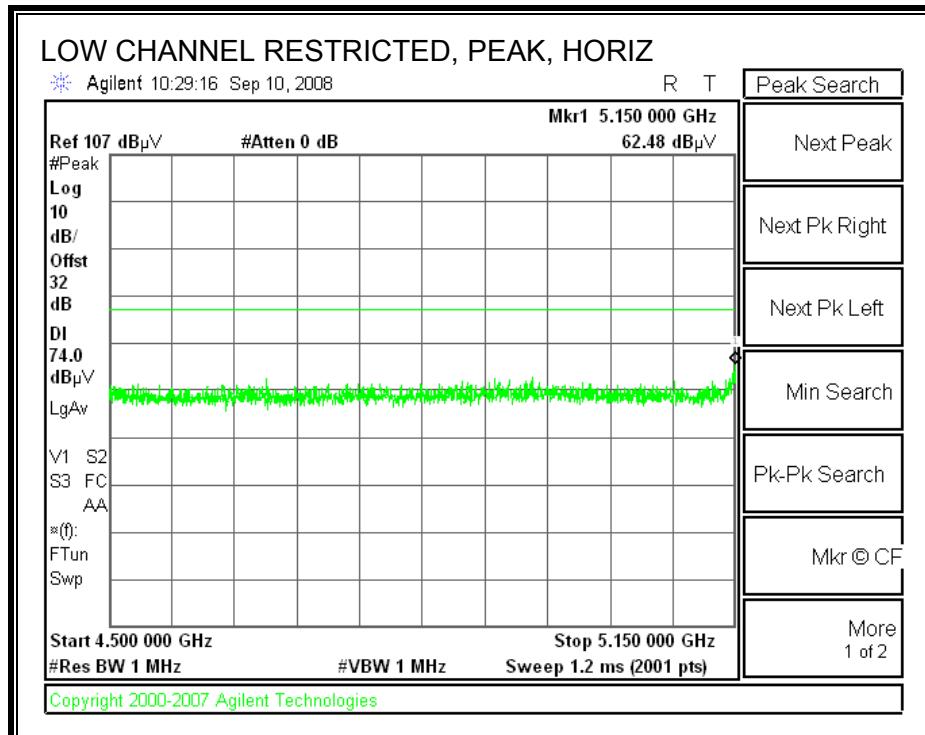


HARMONICS AND SPURIOUS EMISSIONS

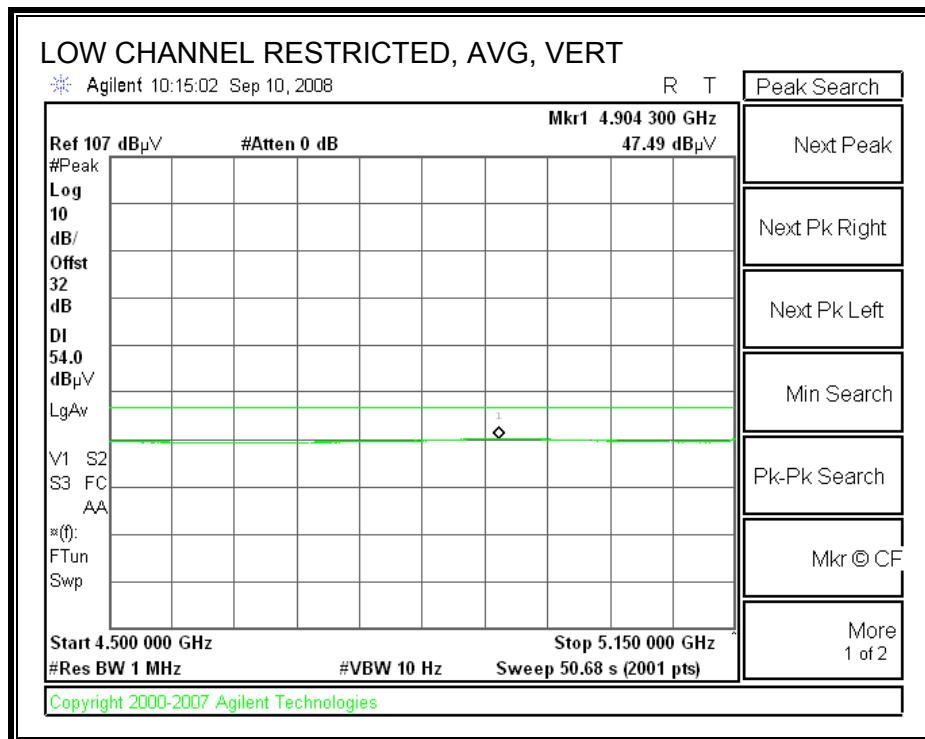
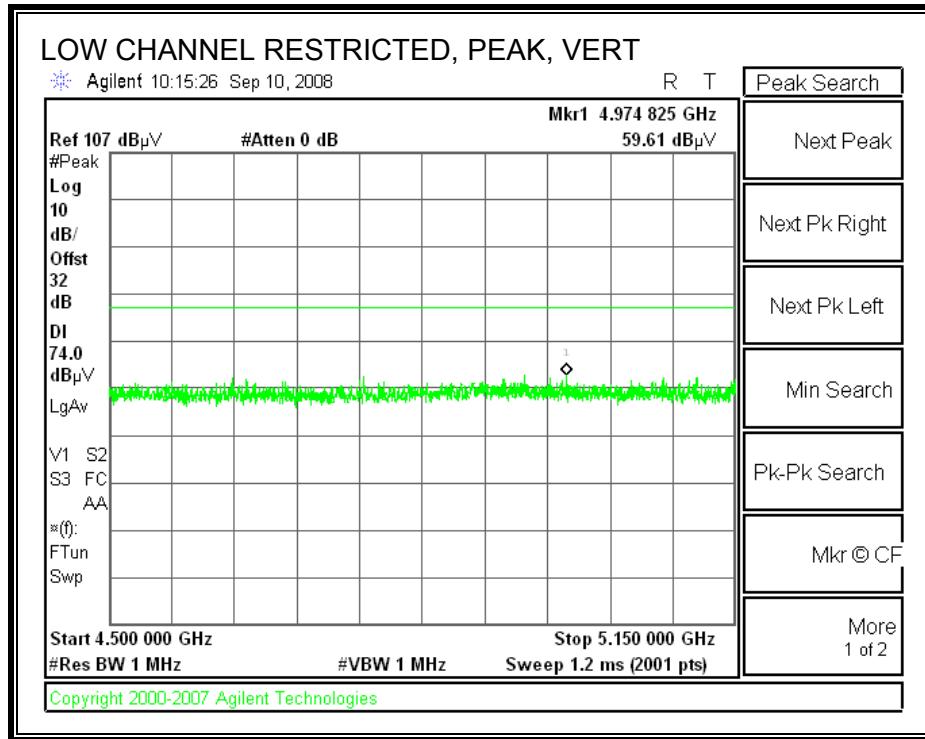
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.2GHz_TX_HT20 mode, Antenna C															
<u>Test Equipment:</u>															
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit			
T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205			
Hi Frequency Cables															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			
Can 187215004			C-5m Chamber									R_001			
<u>Peak Measurements</u> RBW=VBW=1MHz															
<u>Average Measurements</u> 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)
5180MHz															
15.540	1.0	42.3	30.7	42.4	5.5	-32.2	-9.5	0.0	48.5	36.9	74	54	-25.5	-17.1	V
15.540	1.0	42.3	30.6	42.4	5.5	-32.2	-9.5	0.0	48.4	36.8	74	54	-25.6	-17.2	H
Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.															
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												

7.2.3. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

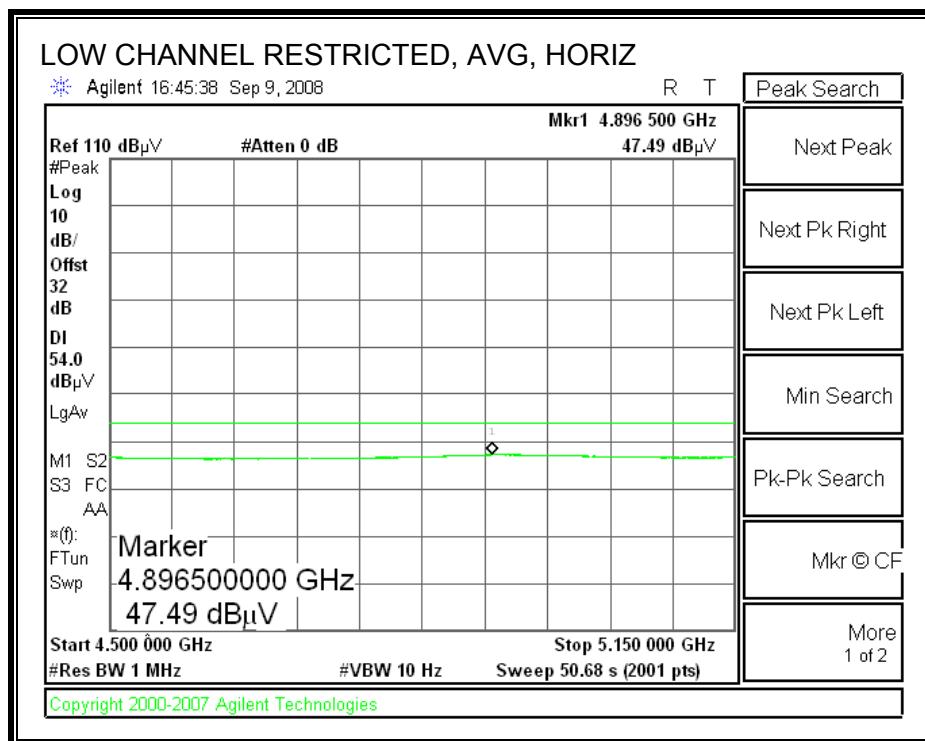
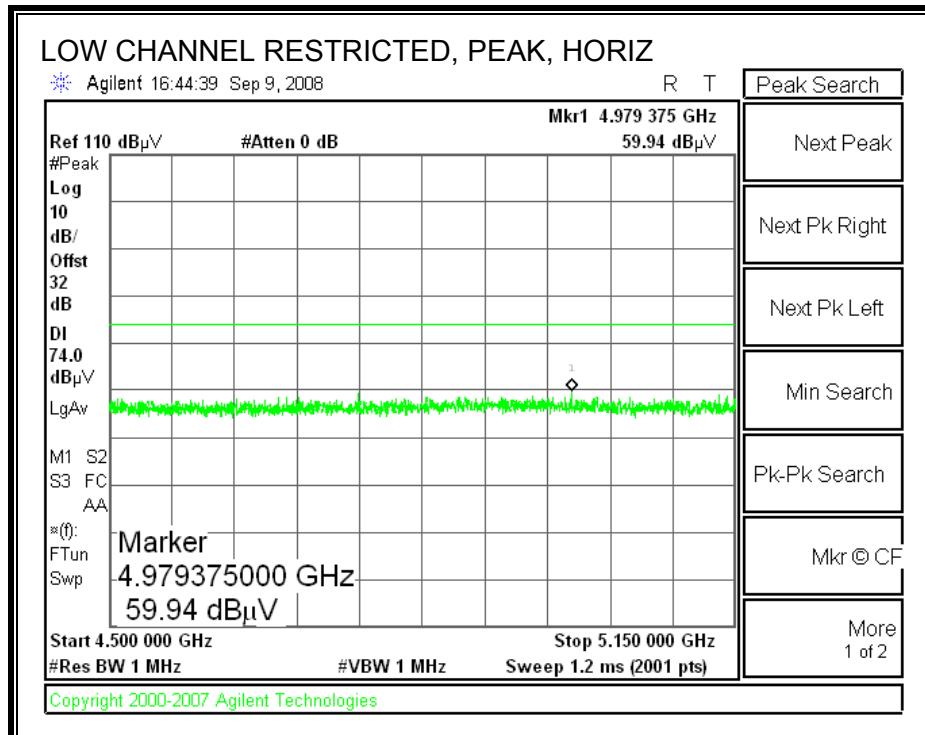


HARMONICS AND SPURIOUS EMISSIONS

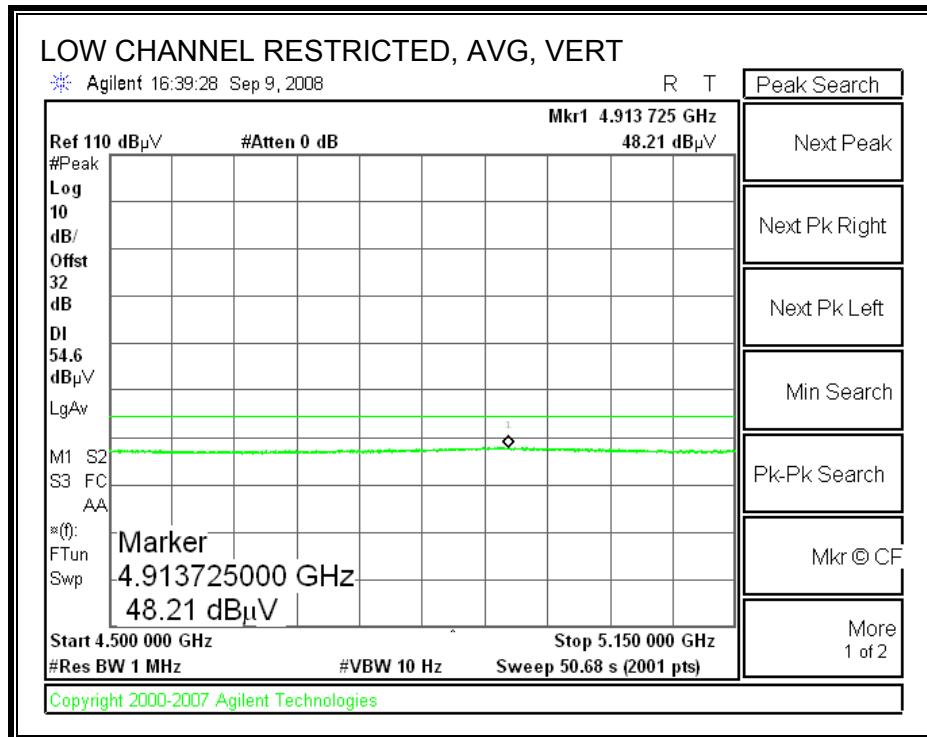
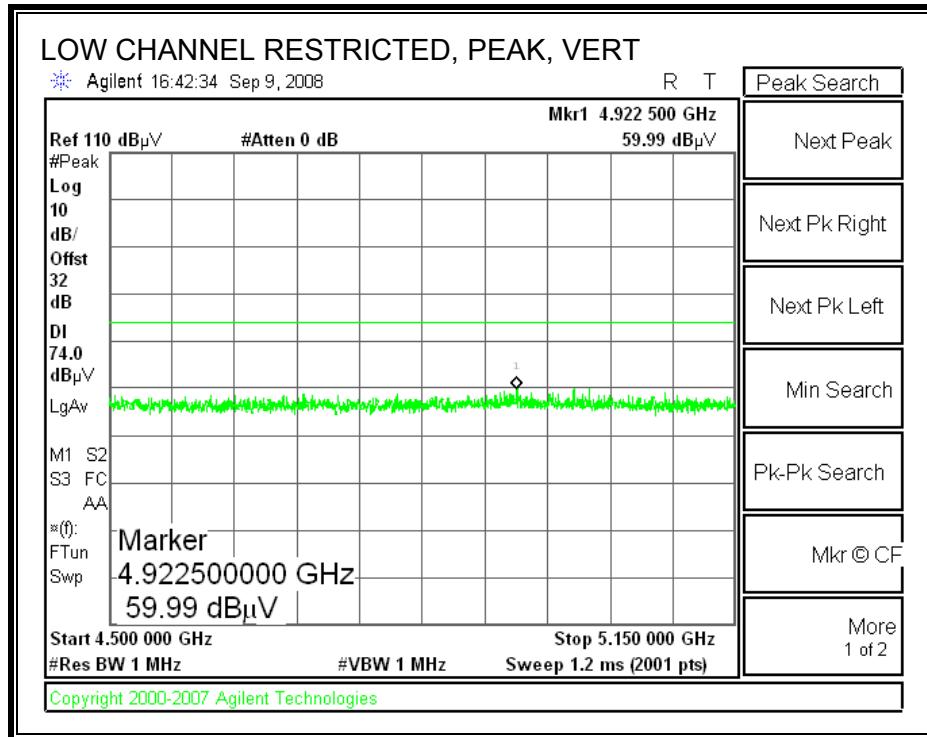
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<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.2GHz_TX_HT40 mode, Antenna B</p> <p><u>Test Equipment:</u></p> <table border="1"><tr><td>Horn 1-18GHz</td><td>Pre-amplifier 1-26GHz</td><td>Pre-amplifier 26-40GHz</td><td colspan="4">Horn > 18GHz</td><td>Limit</td></tr><tr><td>T73; S/N: 6717 @3m</td><td>T34 HP 8449B</td><td>T88 Miteq 26-40GHz</td><td colspan="4">T39-T88 ARA 18-40GHz & Mixer > 40GHz</td><td>FCC 15.205</td></tr><tr><td colspan="15">Hi Frequency Cables</td></tr><tr><td colspan="3">2 foot cable</td><td colspan="3">3 foot cable</td><td colspan="3">12 foot cable</td><td colspan="2">HPF</td><td colspan="2">Reject Filter</td><td colspan="2">Peak Measurements RBW=VBW=1MHz</td></tr><tr><td colspan="3">Can 187215004</td><td colspan="3">C-5m Chamber</td><td colspan="2"></td><td colspan="2"></td><td colspan="2">R_001</td><td colspan="2">Average Measurements RBW=1MHz ; VBW=10Hz</td></tr><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><tr><td>5230MHz</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>15.690</td><td>1.0</td><td>41.3</td><td>30.6</td><td>42.8</td><td>5.5</td><td>-32.2</td><td>-9.5</td><td>0.0</td><td>47.9</td><td>37.2</td><td>74</td><td>54</td><td>-26.1</td><td>-16.8</td><td>V</td></tr><tr><td>15.690</td><td>1.0</td><td>42.7</td><td>31.2</td><td>42.8</td><td>5.5</td><td>-32.2</td><td>-9.5</td><td>0.0</td><td>49.3</td><td>37.8</td><td>74</td><td>54</td><td>-24.7</td><td>-16.2</td><td>H</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="15">Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.</td></tr><tr><td>f</td><td colspan="3">Measurement Frequency</td><td>Amp</td><td colspan="3">Preamp Gain</td><td colspan="3"></td><td>Avg Lim</td><td colspan="3">Average Field Strength Limit</td></tr><tr><td>Dist</td><td colspan="3">Distance to Antenna</td><td>D Corr</td><td colspan="3">Distance Correct to 3 meters</td><td colspan="3"></td><td>Pk Lim</td><td colspan="3">Peak Field Strength Limit</td></tr><tr><td>Read</td><td colspan="3">Analyzer Reading</td><td>Avg</td><td colspan="3">Average Field Strength @ 3 m</td><td colspan="3"></td><td>Avg Mar</td><td colspan="3">Margin vs. Average Limit</td></tr><tr><td>AF</td><td colspan="3">Antenna Factor</td><td>Peak</td><td colspan="3">Calculated Peak Field Strength</td><td colspan="3"></td><td>Pk Mar</td><td colspan="3">Margin vs. Peak Limit</td></tr><tr><td>CL</td><td colspan="3">Cable Loss</td><td>HPF</td><td colspan="3"></td><td colspan="3"></td><td></td><td colspan="3"></td></tr></table>															Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz				Limit	T73; S/N: 6717 @3m	T34 HP 8449B	T88 Miteq 26-40GHz	T39-T88 ARA 18-40GHz & Mixer > 40GHz				FCC 15.205	Hi Frequency Cables															2 foot cable			3 foot cable			12 foot cable			HPF		Reject Filter		Peak Measurements RBW=VBW=1MHz		Can 187215004			C-5m Chamber							R_001		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)	5230MHz																15.690	1.0	41.3	30.6	42.8	5.5	-32.2	-9.5	0.0	47.9	37.2	74	54	-26.1	-16.8	V	15.690	1.0	42.7	31.2	42.8	5.5	-32.2	-9.5	0.0	49.3	37.8	74	54	-24.7	-16.2	H																	Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.															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										
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7.2.4. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.2 GHz-3TX

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

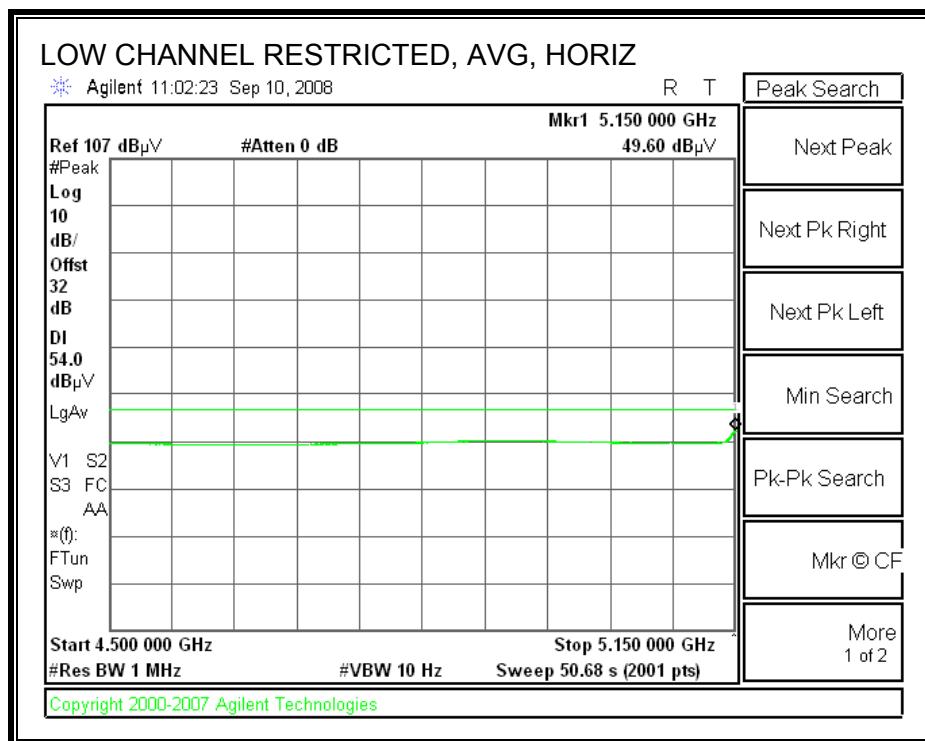
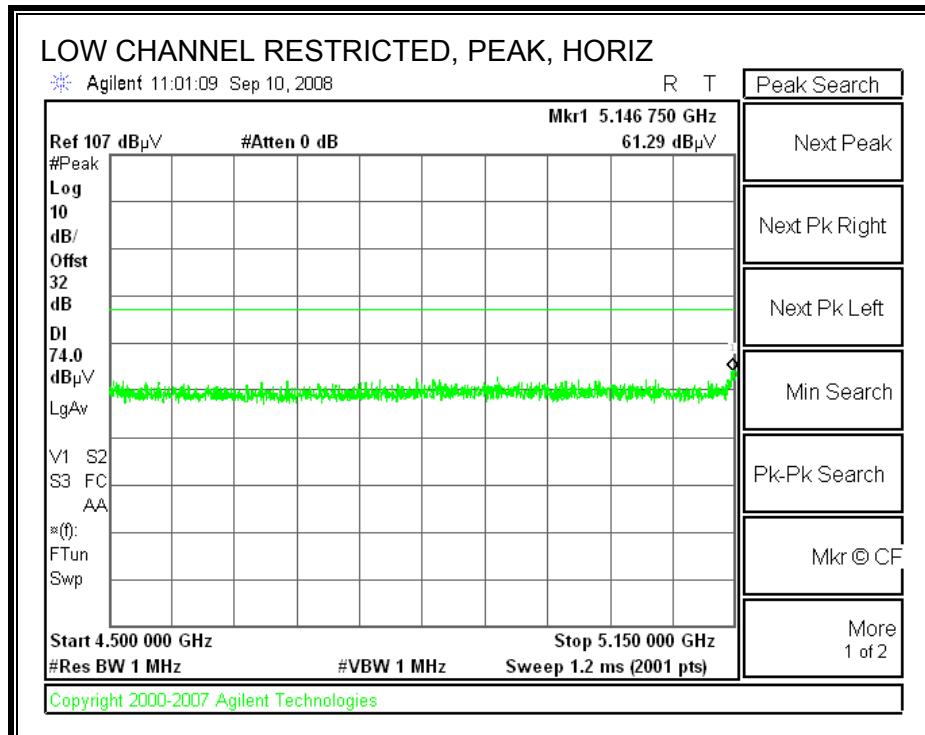


HARMONICS AND SPURIOUS EMISSIONS

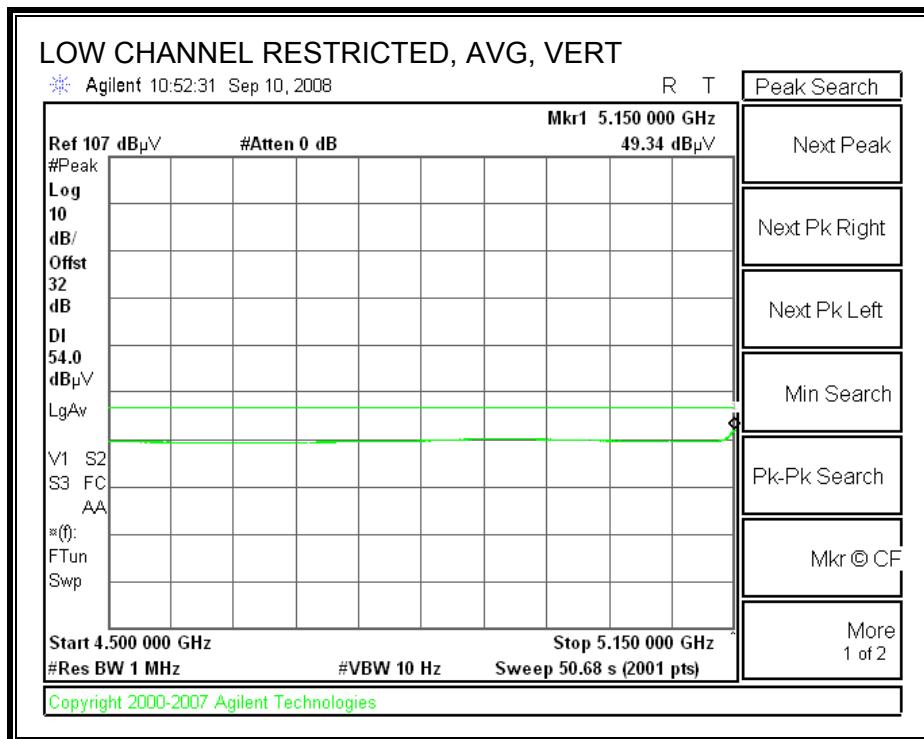
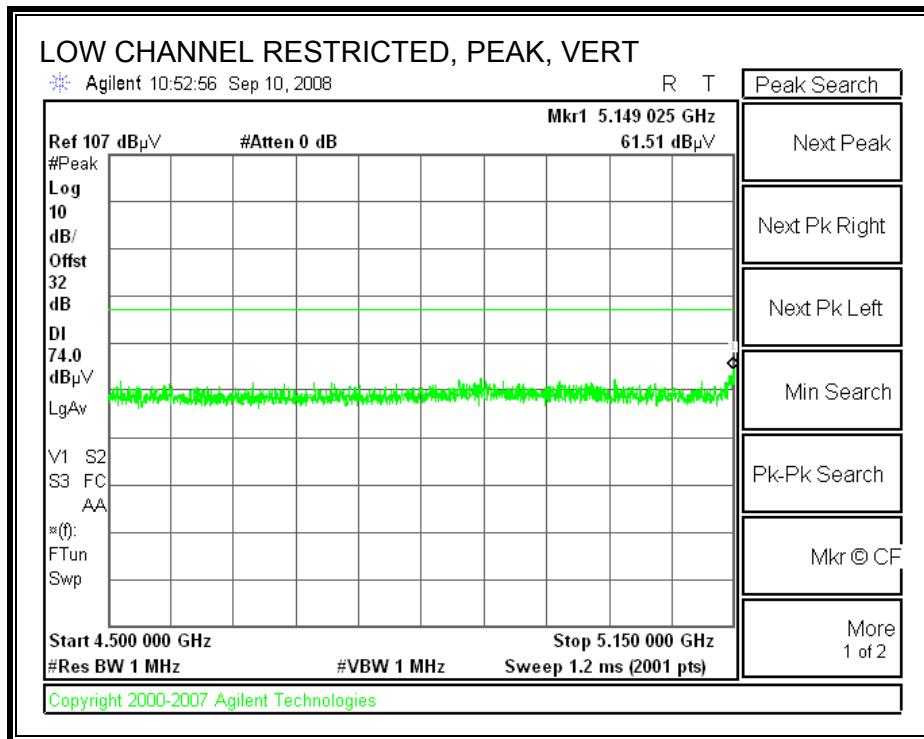
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7.2.5. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz-2TX

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

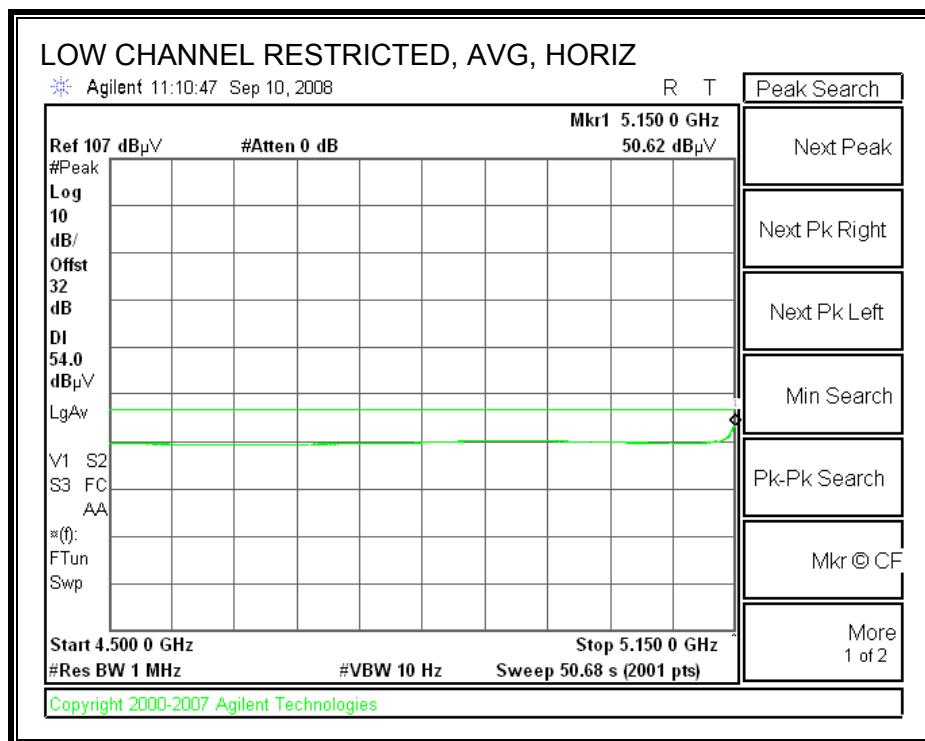
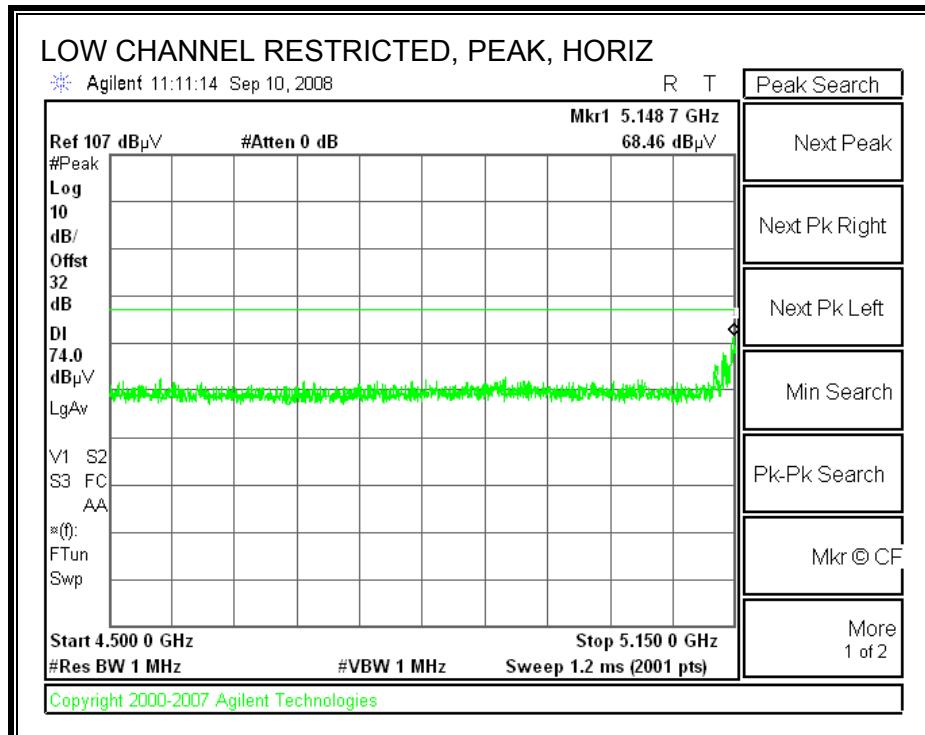


HARMONICS AND SPURIOUS EMISSIONS

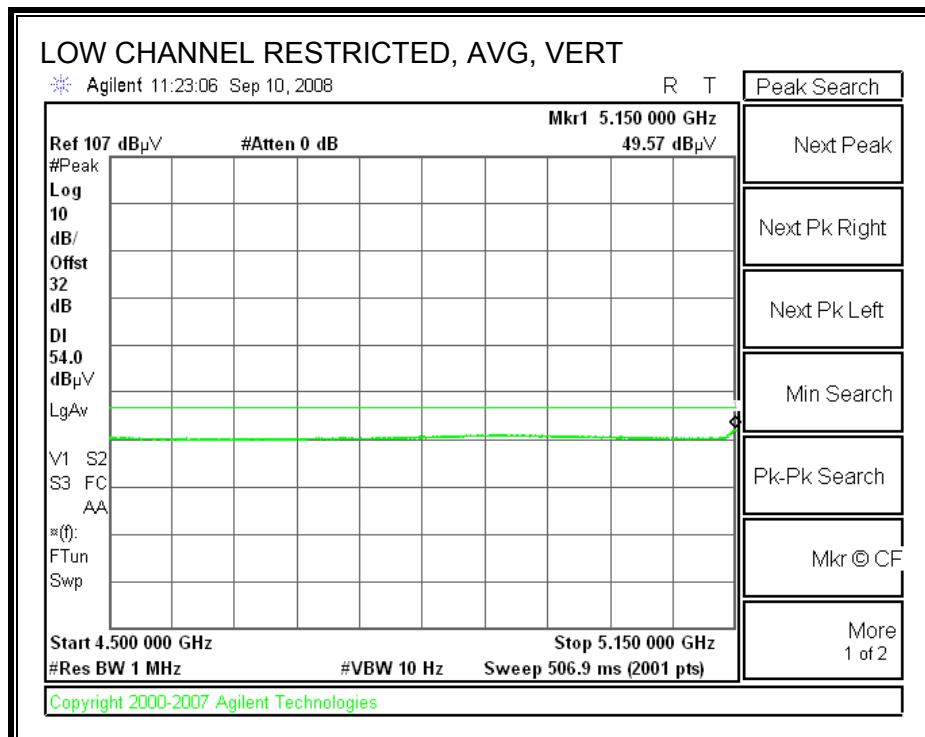
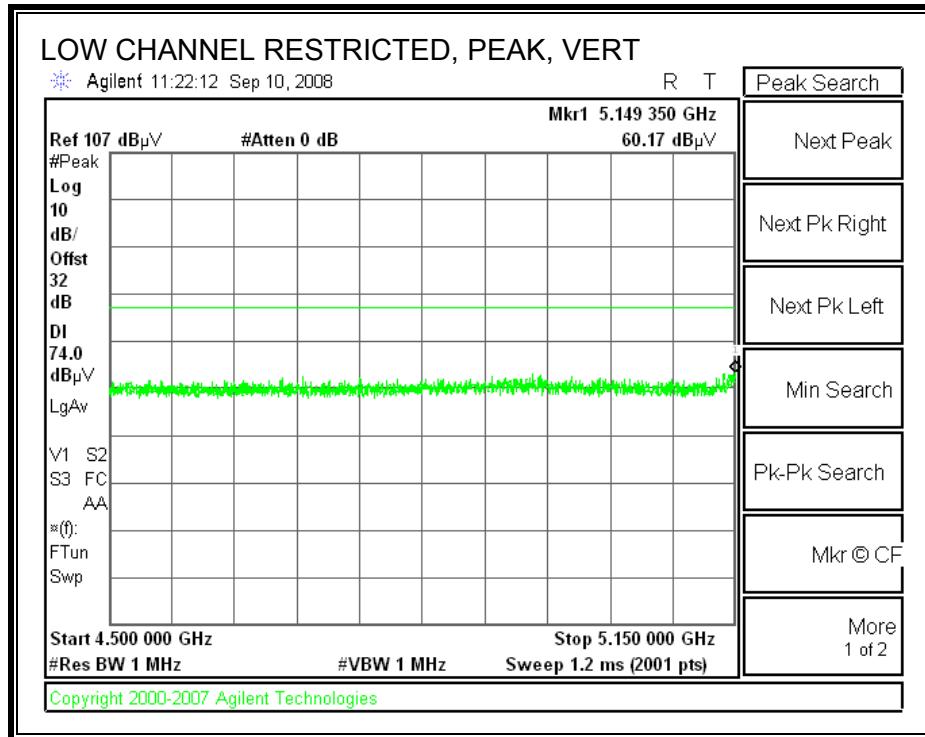
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<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.2GHz_2x TX_HT40 mode, Antenna A, C</p> <p><u>Test Equipment:</u></p> <table border="1"><tr><td>Horn 1-18GHz</td><td>Pre-amplifier 1-26GHz</td><td>Pre-amplifier 26-40GHz</td><td colspan="4">Horn > 18GHz</td><td>Limit</td></tr><tr><td>T73; S/N: 6717 @3m</td><td>T34 HP 8449B</td><td>T88 Miteq 26-40GHz</td><td colspan="4">T39-T88 ARA 18-40GHz & Mixer > 40GHz</td><td>FCC 15.205</td></tr><tr><td colspan="15">Hi Frequency Cables</td></tr><tr><td>2 foot cable</td><td>3 foot cable</td><td>12 foot cable</td><td colspan="4">HPF</td><td>Reject Filter</td><td colspan="7"><p>Peak Measurements RBW=VBW=1MHz</p><p>Average Measurements RBW=1MHz ; VBW=10Hz</p></td></tr><tr><td>f GHz</td><td>Dist (m)</td><td>Read Pk dBuV</td><td>Read Avg. dBuV</td><td>AF dB/m</td><td>CL dB</td><td>Amp dB</td><td>D Corr dB</td><td>Fltr dB</td><td>Peak dBuV/m</td><td>Avg dBuV/m</td><td>Pk Lim dBuV/m</td><td>Avg Lim dBuV/m</td><td>Pk Mar dB</td><td>Avg Mar dB</td><td>Notes (V/H)</td></tr><tr><td>5.230MHz</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>15.690</td><td>1.0</td><td>41.9</td><td>30.6</td><td>42.8</td><td>5.5</td><td>-32.2</td><td>-9.5</td><td>0.0</td><td>48.5</td><td>37.2</td><td>74</td><td>54</td><td>-25.5</td><td>-16.8</td><td>V</td></tr><tr><td>15.690</td><td>1.0</td><td>41.2</td><td>30.3</td><td>42.8</td><td>5.5</td><td>-32.2</td><td>-9.5</td><td>0.0</td><td>47.8</td><td>36.9</td><td>74</td><td>54</td><td>-26.2</td><td>-17.1</td><td>H</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td colspan="15">Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.</td></tr><tr><td>f</td><td>Measurement Frequency</td><td>Amp</td><td>Preamp Gain</td><td>Avg Lim</td><td>Average Field Strength Limit</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Dist</td><td>Distance to Antenna</td><td>D Corr</td><td>Distance Correct to 3 meters</td><td>Pk Lim</td><td>Peak Field Strength Limit</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Read</td><td>Analyzer Reading</td><td>Avg</td><td>Average Field Strength @ 3 m</td><td>Avg Mar</td><td>Margin vs. Average Limit</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>AF</td><td>Antenna Factor</td><td>Peak</td><td>Calculated Peak Field Strength</td><td>Pk Mar</td><td>Margin vs. Peak Limit</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CL</td><td>Cable Loss</td><td>HPF</td><td>High Pass Filter</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>															Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz				Limit	T73; S/N: 6717 @3m	T34 HP 8449B	T88 Miteq 26-40GHz	T39-T88 ARA 18-40GHz & Mixer > 40GHz				FCC 15.205	Hi Frequency Cables															2 foot cable	3 foot cable	12 foot cable	HPF				Reject Filter	<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)	5.230MHz																15.690	1.0	41.9	30.6	42.8	5.5	-32.2	-9.5	0.0	48.5	37.2	74	54	-25.5	-16.8	V	15.690	1.0	41.2	30.3	42.8	5.5	-32.2	-9.5	0.0	47.8	36.9	74	54	-26.2	-17.1	H																	Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.															f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit											Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit											Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit											AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit											CL	Cable Loss	HPF	High Pass Filter												
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7.2.6. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz-3TX

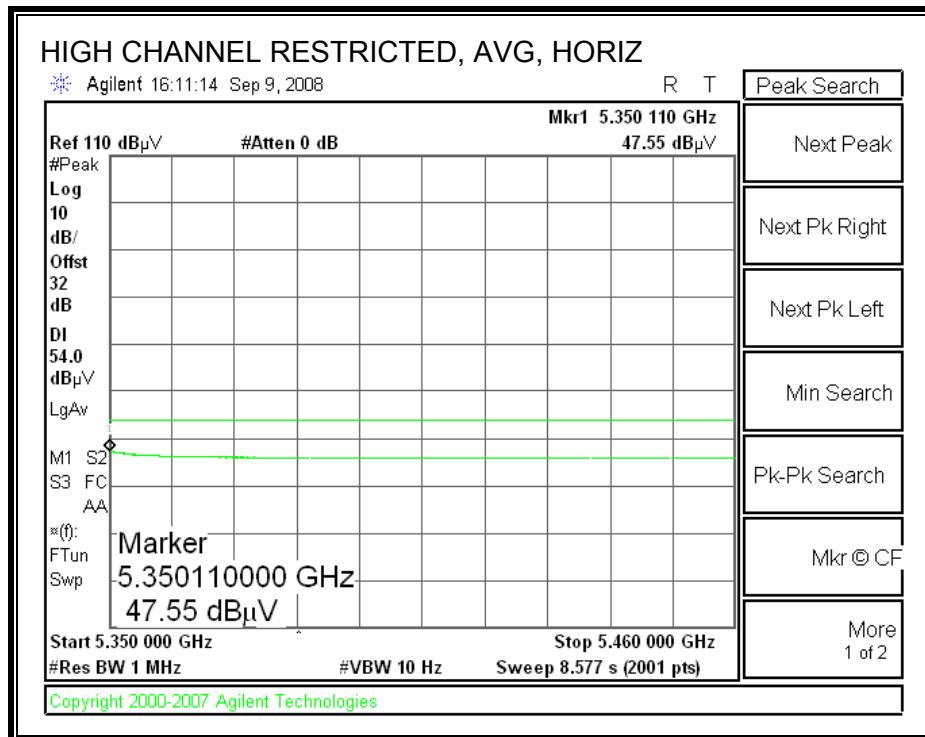
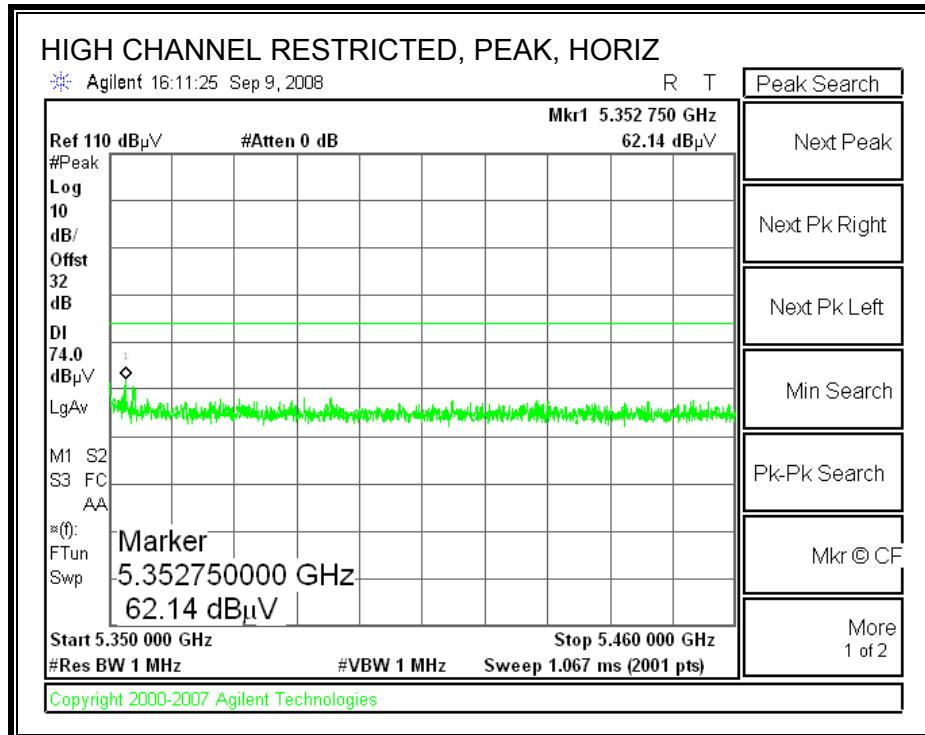
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



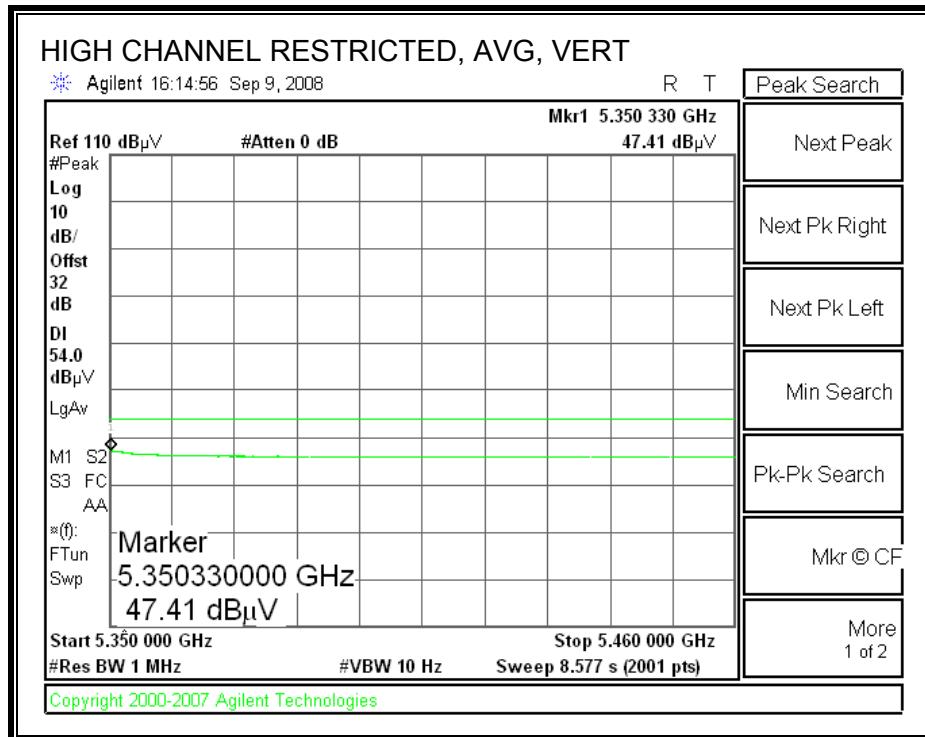
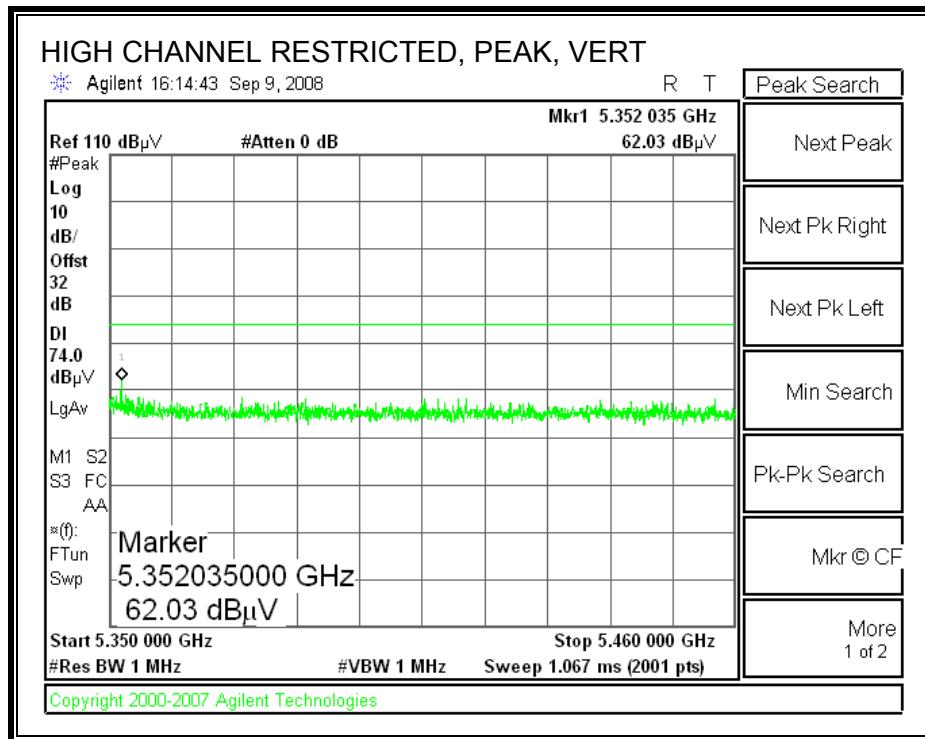
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



**7.2.7. TRANSMITTER ABOVE 1 GHz FOR 802.11a MODE IN THE 5.3 GHz
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)**



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

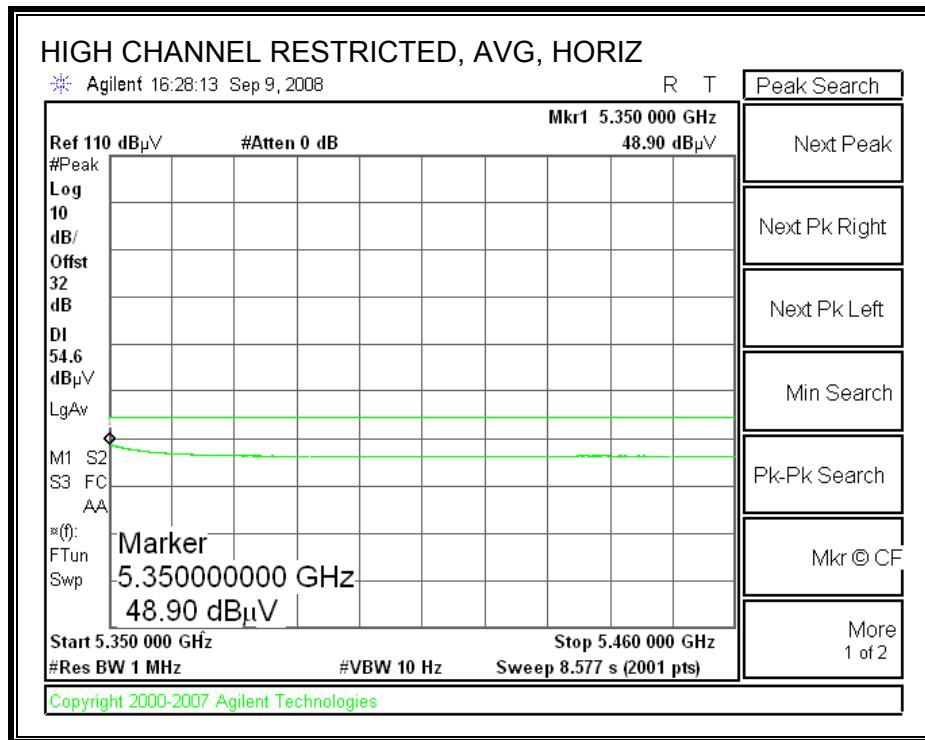
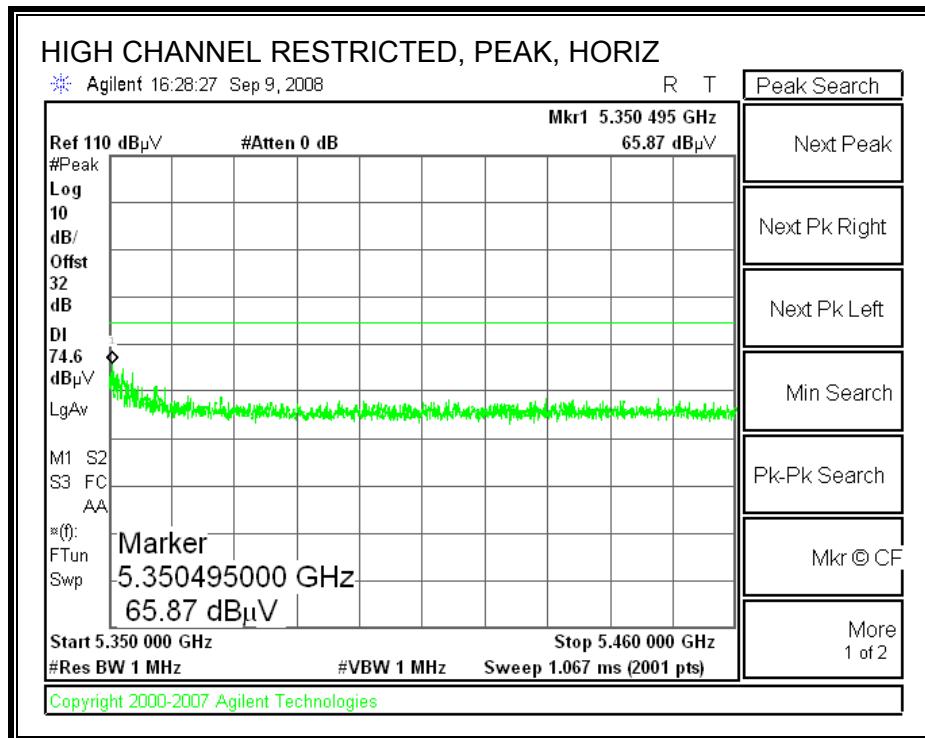


HARMONICS AND SPURIOUS EMISSIONS

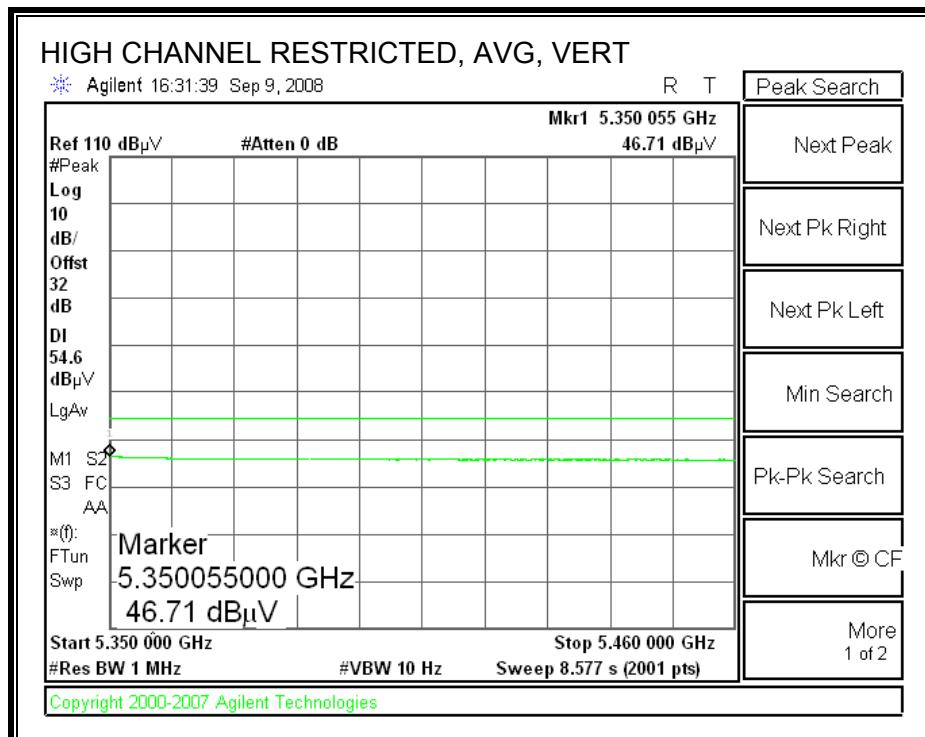
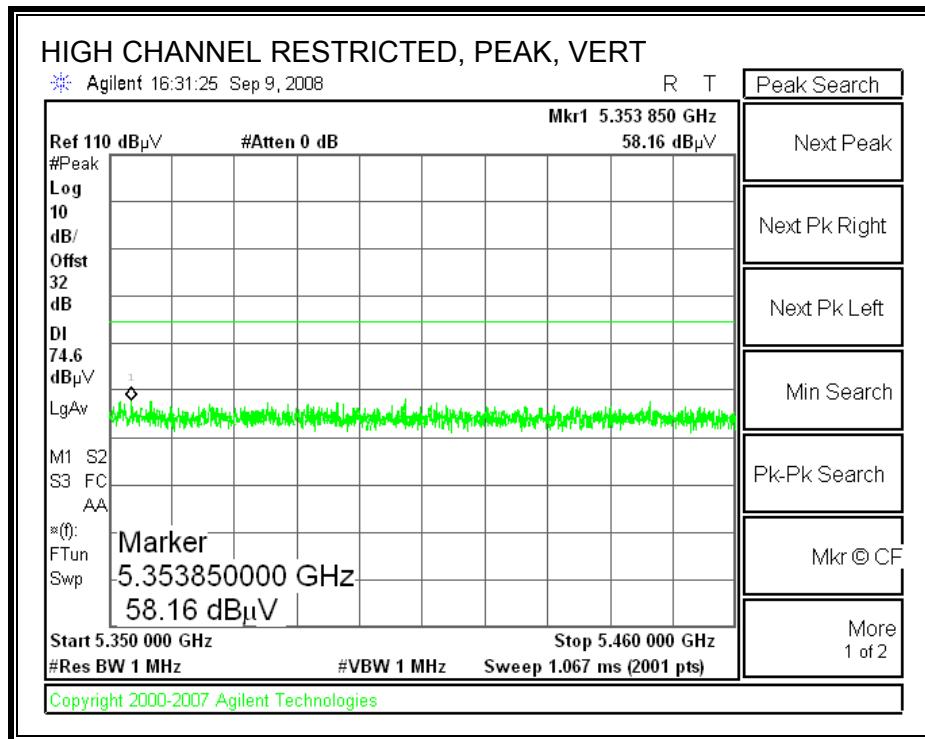
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																												
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.3GHz_TX_A mode, Antenna C</p>																																												
<p><u>Test Equipment:</u></p>																																												
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit																																
T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205																																
<p>Hi Frequency Cables</p>																																												
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			<u>Peak Measurements</u> RBW=VBW=1MHz																													
Can 187215004			C-5m Chamber									R_001			<u>Average Measurements</u> 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)																													
5260MHz																																												
15.780	1.0	42.7	31.3	43.0	5.6	-32.2	-9.5	0.0	49.5	38.2	74	54	-24.5	-15.8	V																													
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<p>Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.</p>																																												
<table><tr><td>f</td><td>Measurement Frequency</td><td>Amp</td><td>Preamp Gain</td><td>Avg Lim</td><td>Average Field Strength Limit</td></tr><tr><td>Dist</td><td>Distance to Antenna</td><td>D Corr</td><td>Distance Correct to 3 meters</td><td>Pk Lim</td><td>Peak Field Strength Limit</td></tr><tr><td>Read</td><td>Analyzer Reading</td><td>Avg</td><td>Average Field Strength @ 3 m</td><td>Avg Mar</td><td>Margin vs. Average Limit</td></tr><tr><td>AF</td><td>Antenna Factor</td><td>Peak</td><td>Calculated Peak Field Strength</td><td>Pk Mar</td><td>Margin vs. Peak Limit</td></tr><tr><td>CL</td><td>Cable Loss</td><td>HPF</td><td>High Pass Filter</td><td></td><td></td></tr></table>															f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit	Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit	Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit	AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit	CL	Cable Loss	HPF	High Pass Filter		
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AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit																																							
CL	Cable Loss	HPF	High Pass Filter																																									

7.2.8. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.3 GHz

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

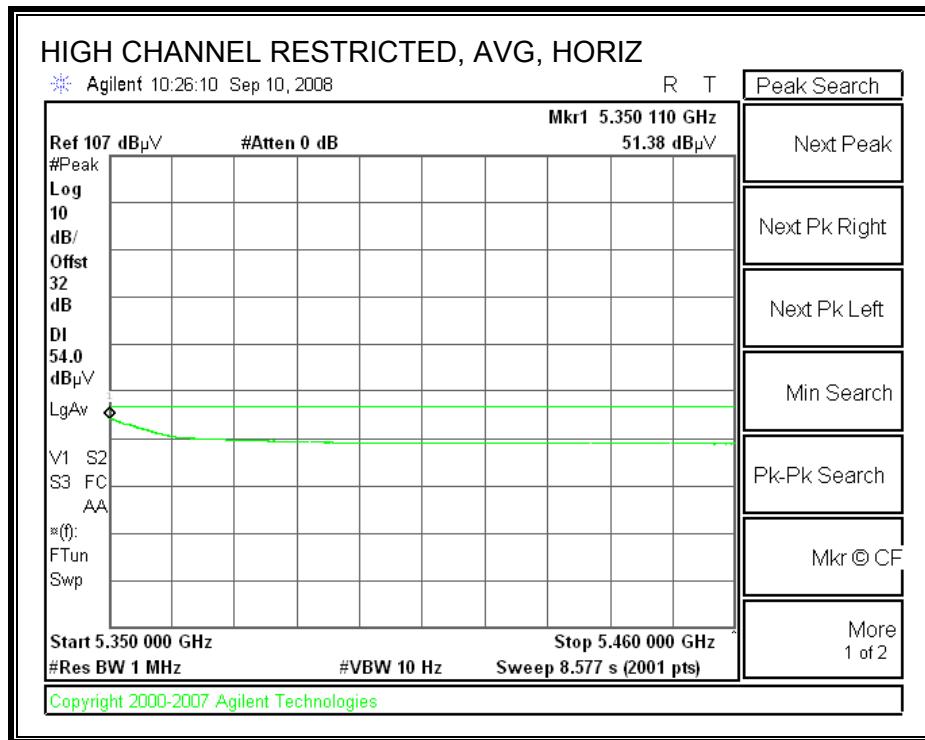
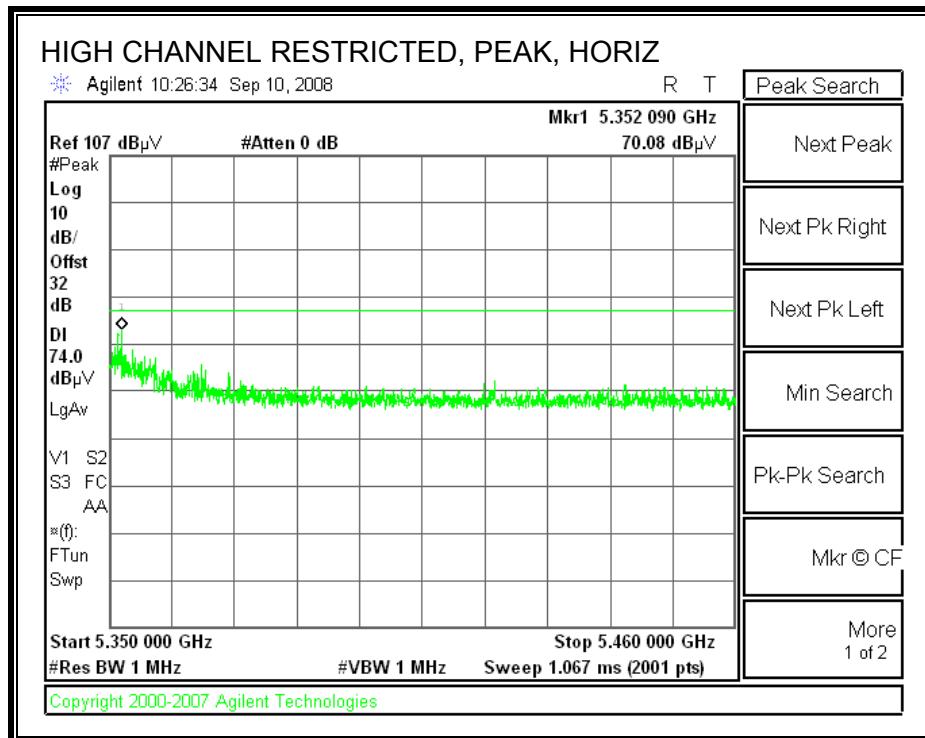


HARMONICS AND SPURIOUS EMISSIONS

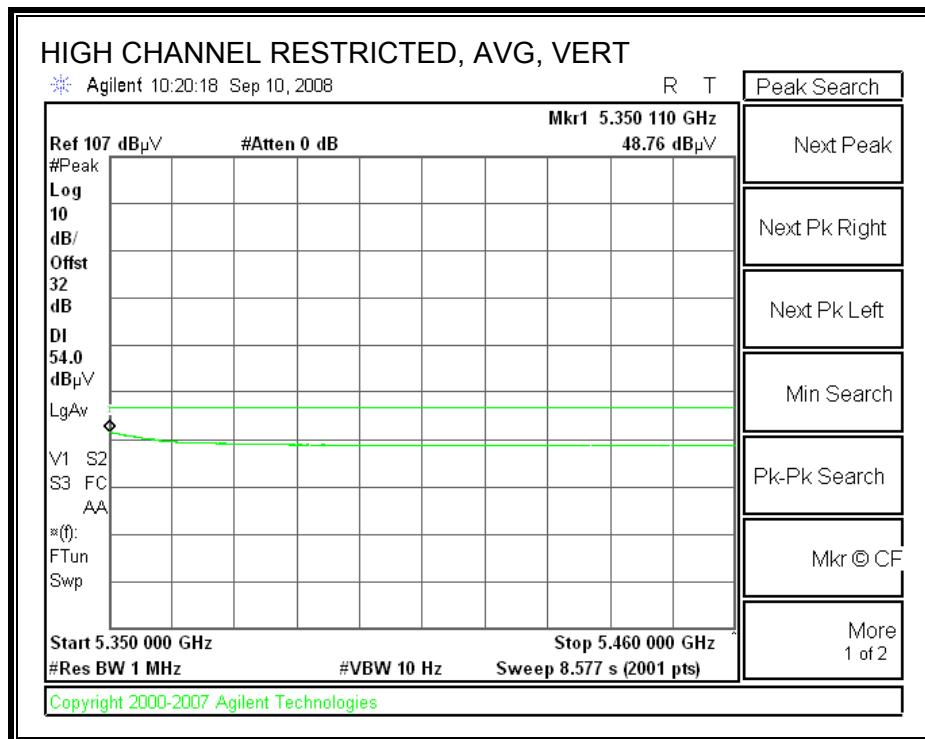
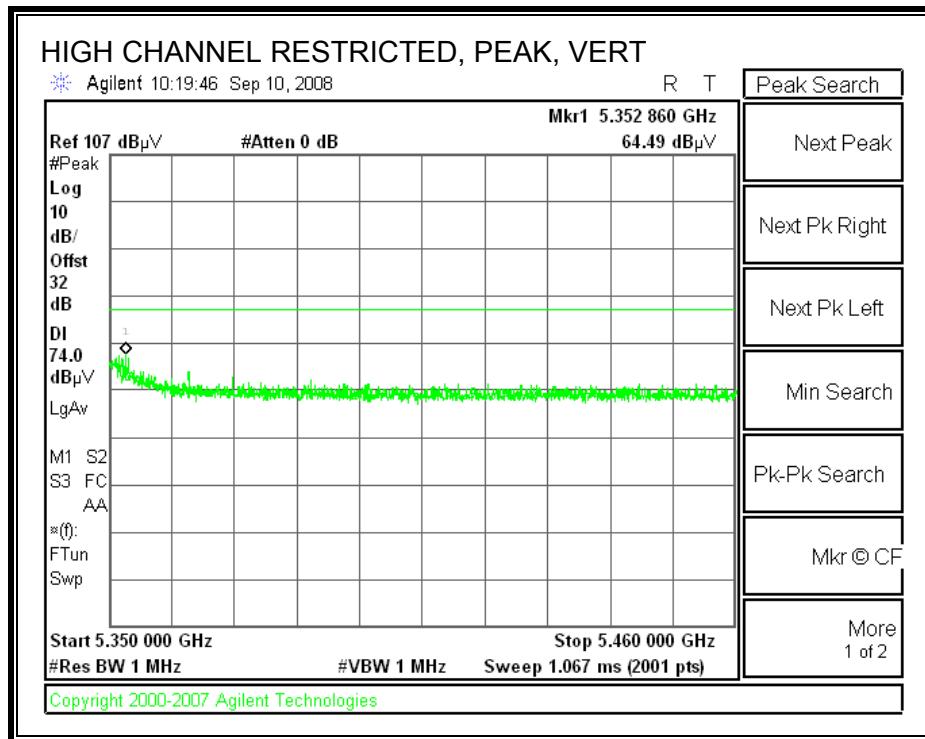
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.3GHz_TX_HT20 mode, Antenna C</p>															
<p><u>Test Equipment:</u></p>															
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit			
T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205			
<p>Hi Frequency Cables</p>															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			<u>Peak Measurements</u> RBW=VBW=1MHz
Can 187215004			C-5m Chamber									R_001			<u>Average Measurements</u> 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)
5260MHz															
15.780	1.0	42.6	30.8	43.0	5.6	-32.2	-9.5	0.0	49.5	37.7	74	54	-24.5	-16.3	V
15.780	1.0	43.4	31.3	43.0	5.6	-32.2	-9.5	0.0	50.3	38.1	74	54	-23.7	-15.9	H
<p>Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.</p>															
<p>f Measurement Frequency Dist Distance to Antenna Read Analyzer Reading AF Antenna Factor CL Cable Loss</p>					<p>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</p>					<p>Avg Lim Average Field Strength Limit Pk Lim Peak Field Strength Limit Avg Mar Margin vs. Average Limit Pk Mar Margin vs. Peak Limit</p>					

7.2.9. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

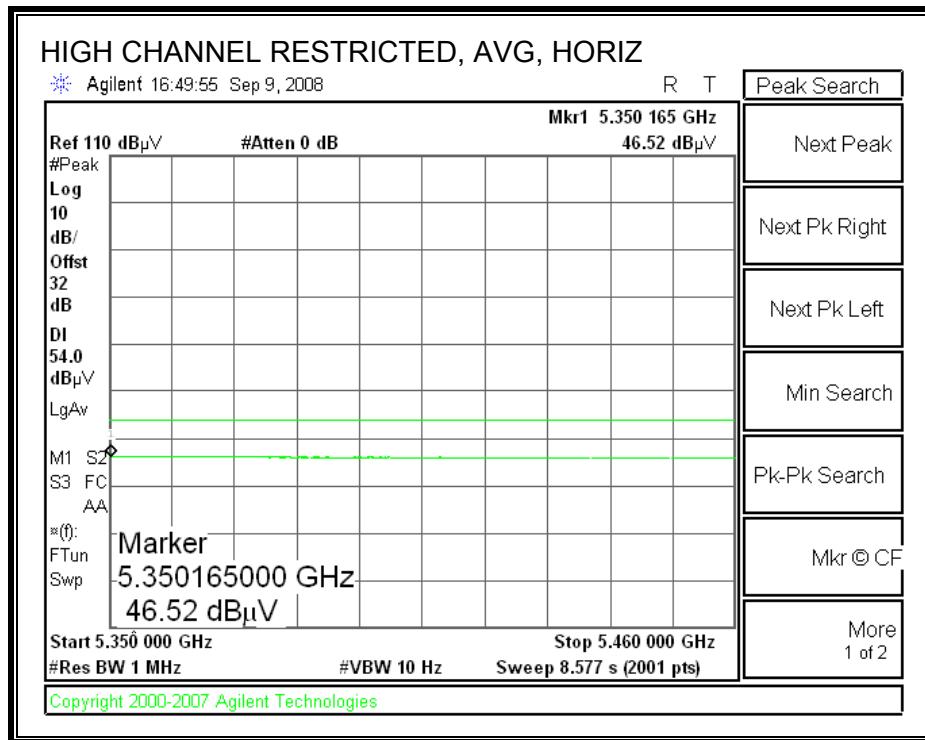
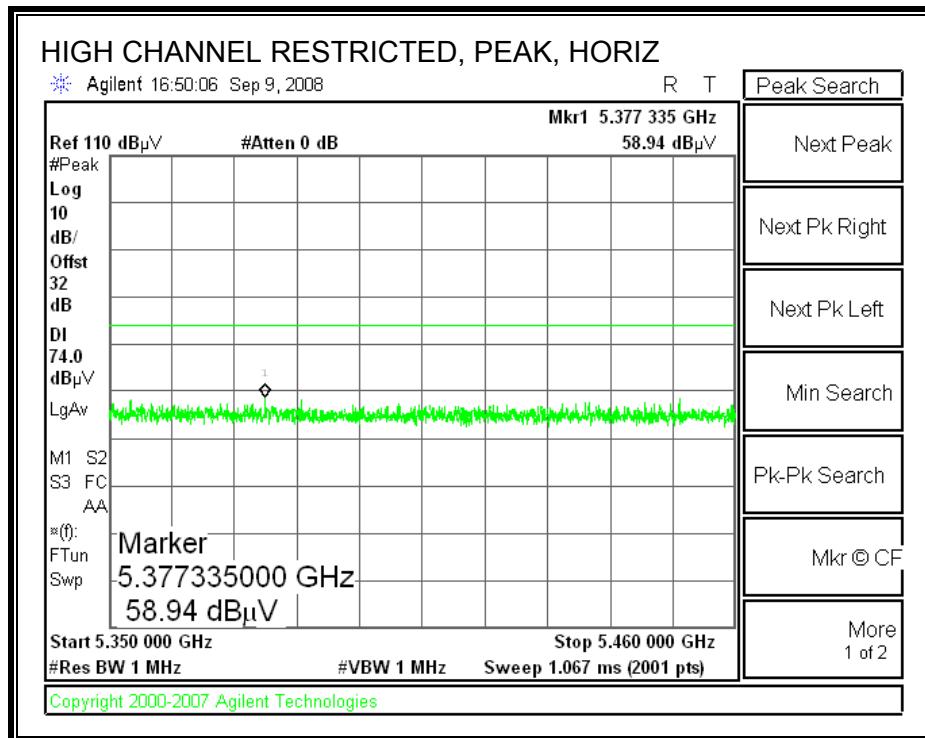


HARMONICS AND SPURIOUS EMISSIONS

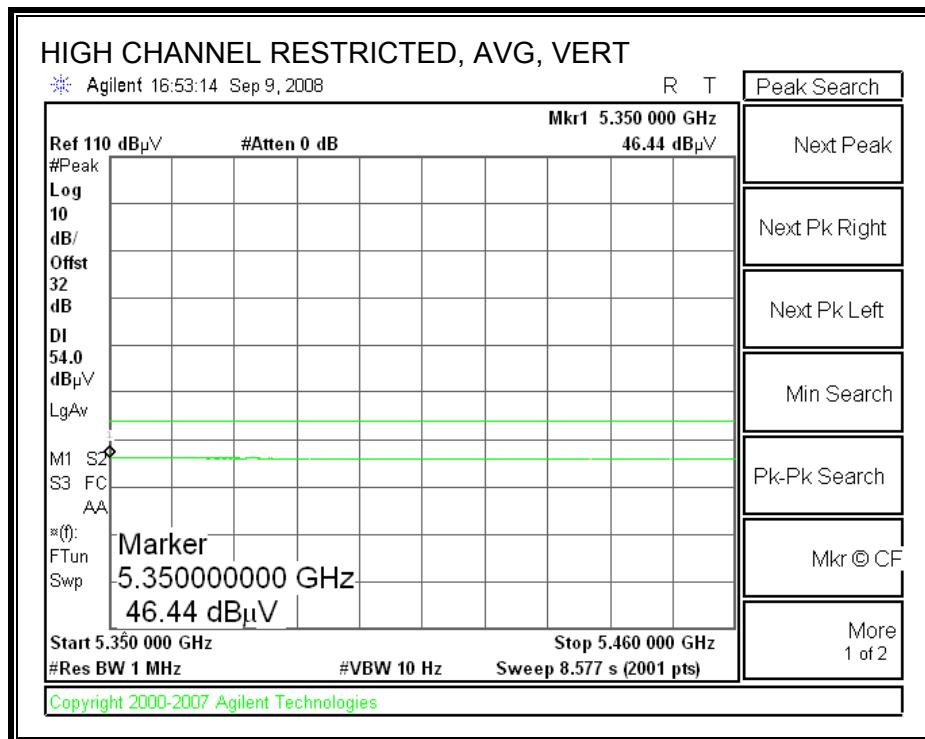
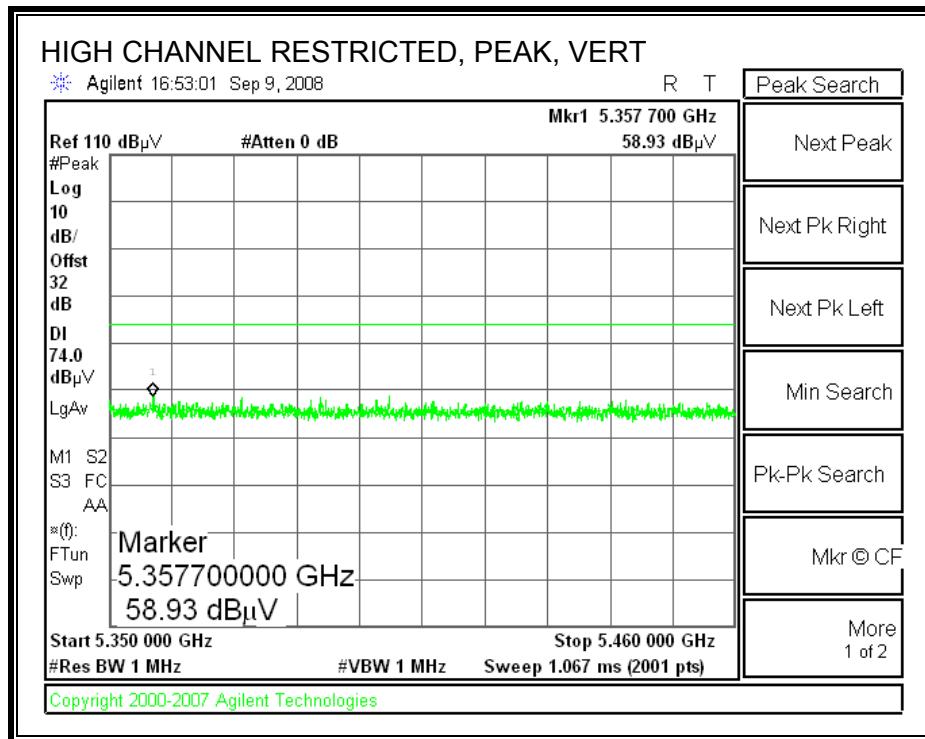
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																												
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.3GHz_TX_HT40 mode, Antenna B</p>																																												
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T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205																																
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2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			<u>Peak Measurements</u> RBW=VBW=1MHz																													
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5270MHz																																												
15.810	1.0	42.8	30.7	43.1	5.6	-32.2	-9.5	0.0	49.7	37.7	74	54	-24.3	-16.3	V																													
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CL	Cable Loss	HPF	High Pass Filter																																									

7.2.10. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.2 GHz-3TX

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

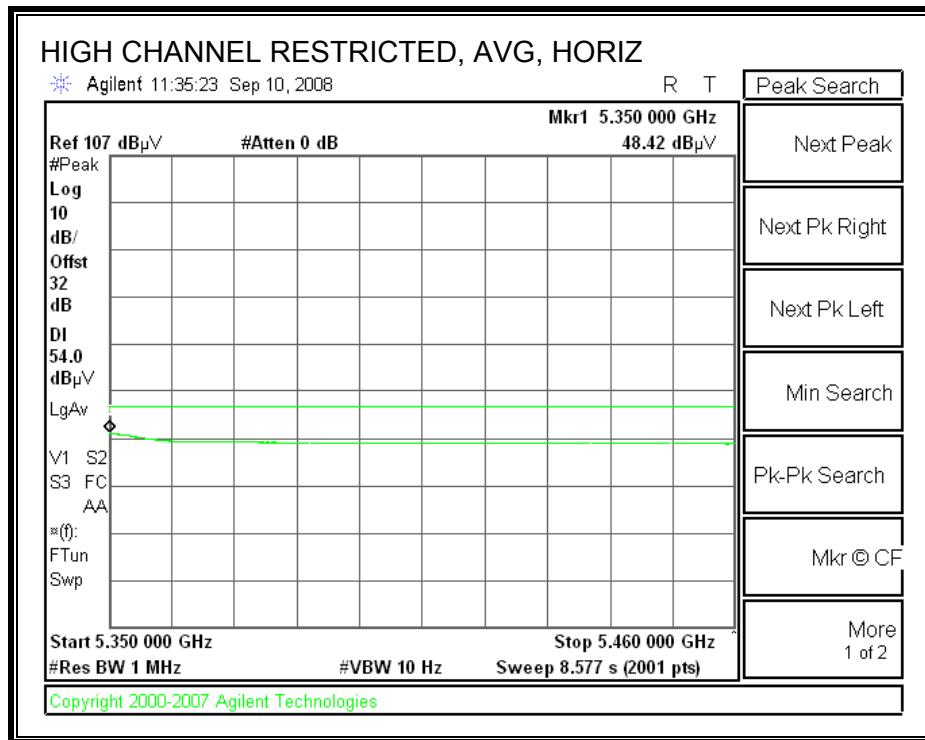
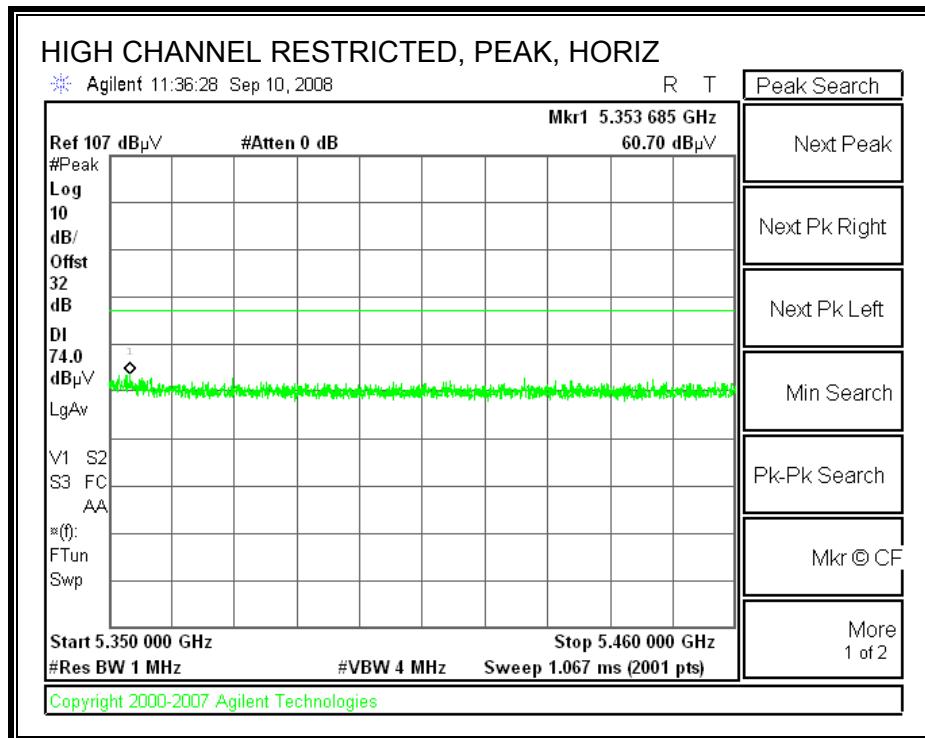


HARMONICS AND SPURIOUS EMISSIONS

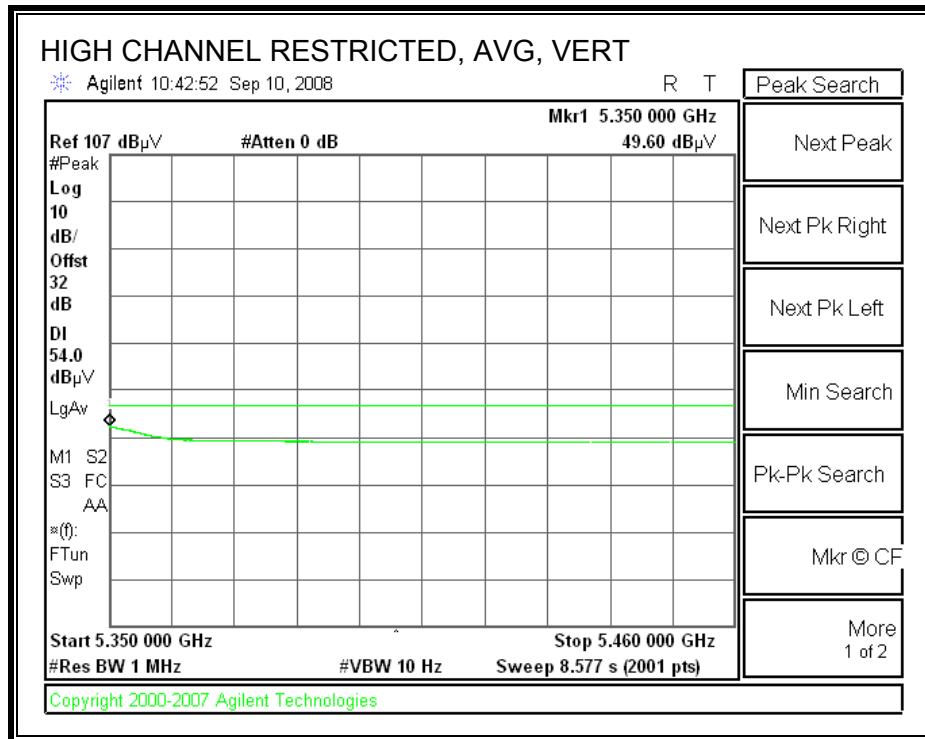
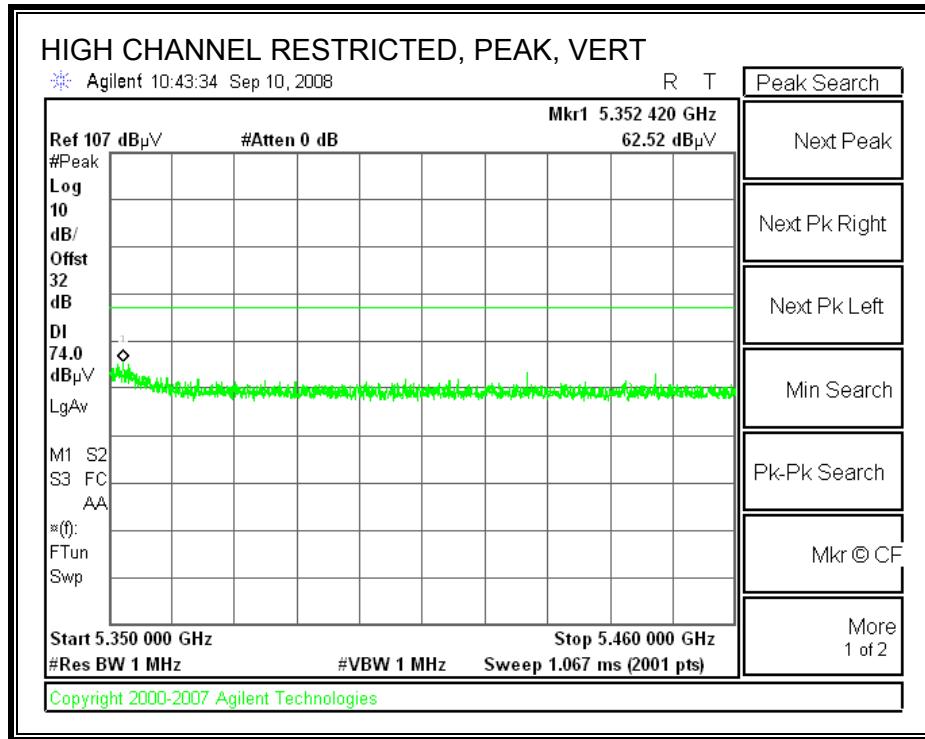
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																												
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.3GHz_3x TX_HT20 mode, Antenna A, B, C</p>																																												
<p><u>Test Equipment:</u></p>																																												
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit																																
T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205																																
<p>Hi Frequency Cables</p>																																												
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			<p><u>Peak Measurements</u> RBW=VBW=1MHz</p> <p><u>Average Measurements</u> RBW=1MHz ; VBW=10Hz</p>																													
Can 187215004			C-5m Chamber									R_001																																
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)																													
5260MHz																																												
15.780	1.0	41.8	31.4	43.0	5.6	-32.2	-9.5	0.0	48.7	38.3	74	54	-25.3	-15.7	V																													
15.780	1.0	42.0	31.4	43.0	5.6	-32.2	-9.5	0.0	48.8	38.3	74	54	-25.2	-15.7	H																													
<p>Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.</p>																																												
<table><tr><td>f</td><td>Measurement Frequency</td><td>Amp</td><td>Preamp Gain</td><td>Avg Lim</td><td>Average Field Strength Limit</td></tr><tr><td>Dist</td><td>Distance to Antenna</td><td>D Corr</td><td>Distance Correct to 3 meters</td><td>Pk Lim</td><td>Peak Field Strength Limit</td></tr><tr><td>Read</td><td>Analyzer Reading</td><td>Avg</td><td>Average Field Strength @ 3 m</td><td>Avg Mar</td><td>Margin vs. Average Limit</td></tr><tr><td>AF</td><td>Antenna Factor</td><td>Peak</td><td>Calculated Peak Field Strength</td><td>Pk Mar</td><td>Margin vs. Peak Limit</td></tr><tr><td>CL</td><td>Cable Loss</td><td>HPF</td><td>High Pass Filter</td><td></td><td></td></tr></table>															f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit	Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit	Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit	AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit	CL	Cable Loss	HPF	High Pass Filter		
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																																									

7.2.11. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.2 GHz-2TX

RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)

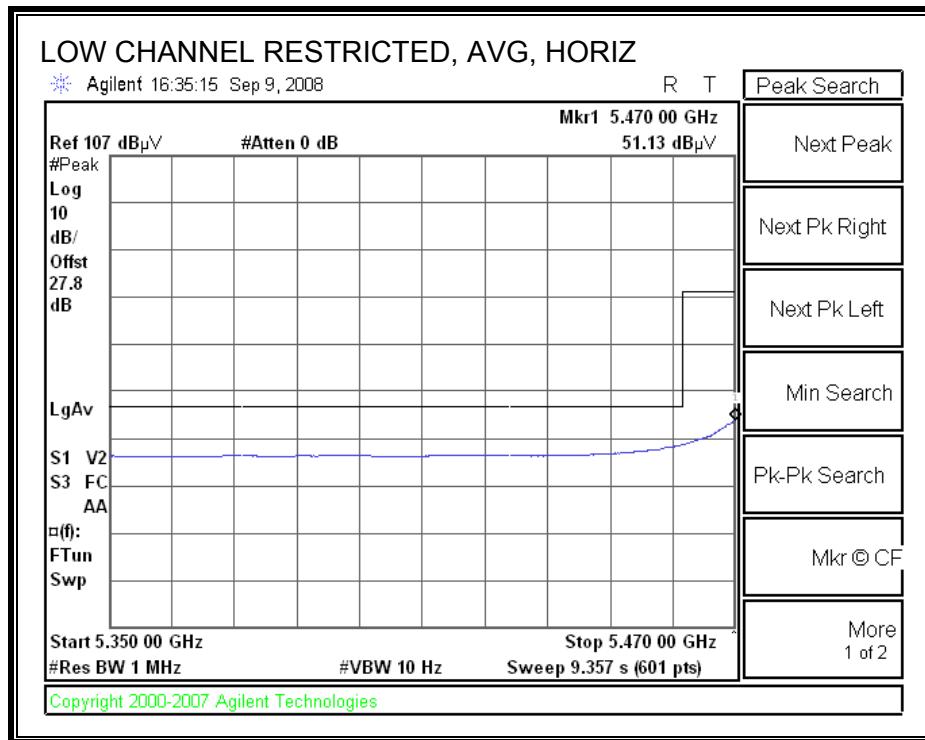
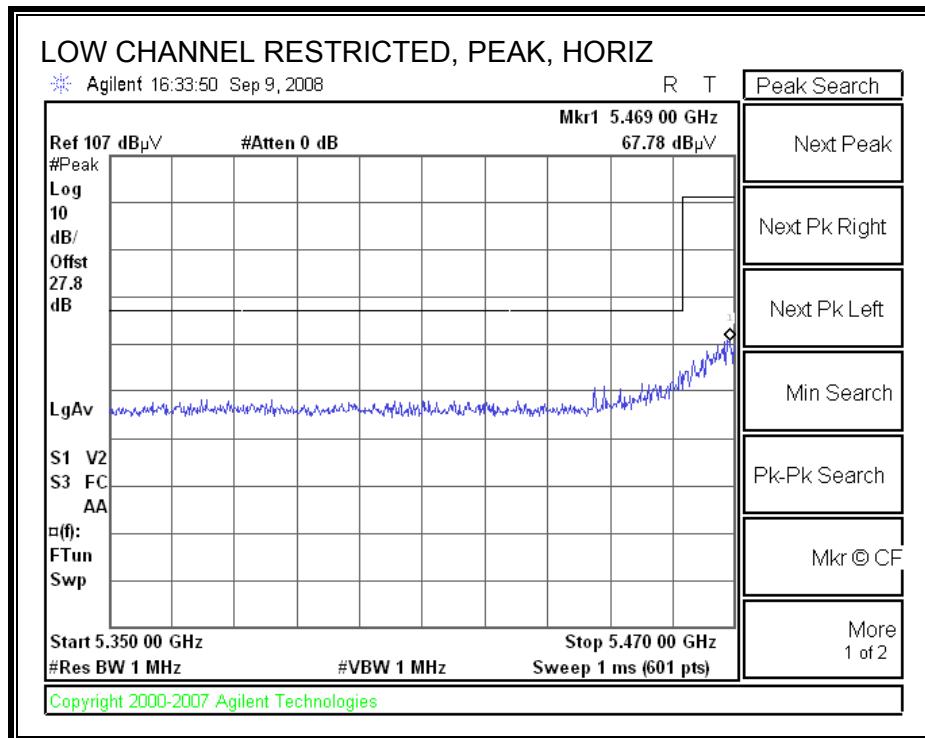


HARMONICS AND SPURIOUS EMISSIONS

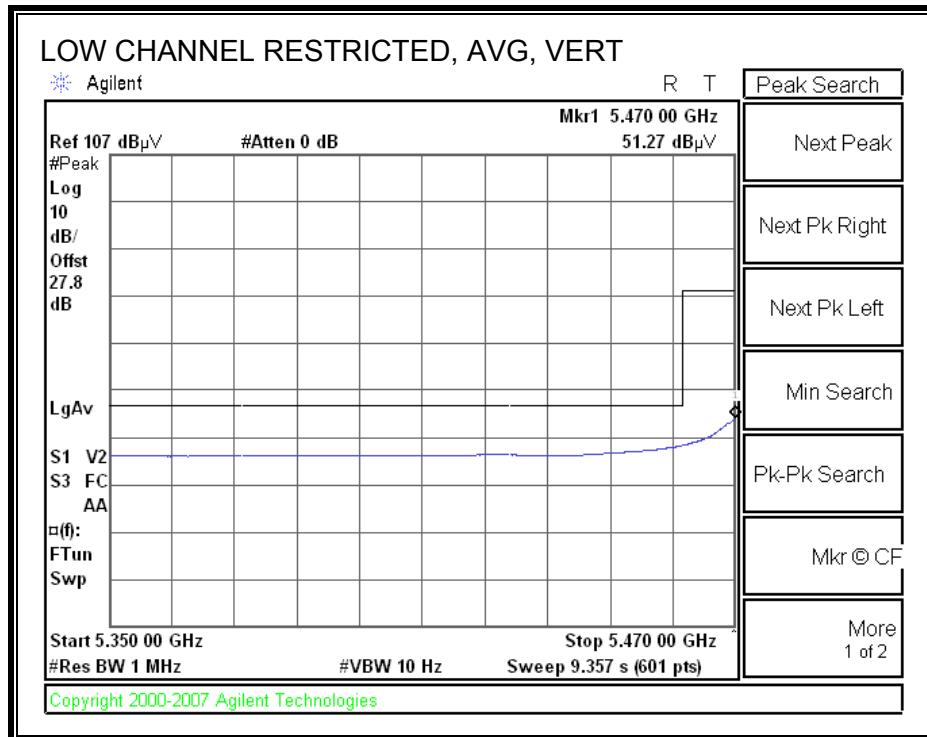
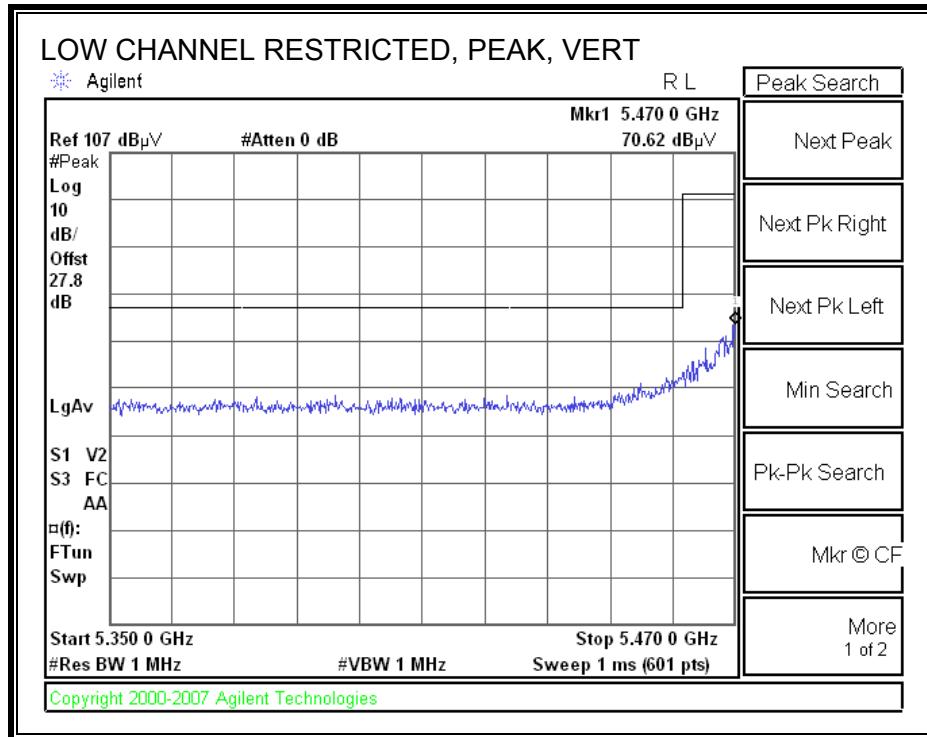
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																												
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.3GHz_2x TX_HT40 mode, Antenna A, C</p>																																												
<p><u>Test Equipment:</u></p>																																												
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit																																
T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205																																
<p>Hi Frequency Cables</p>																																												
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			<p><u>Peak Measurements</u> RBW=VBW=1MHz</p> <p><u>Average Measurements</u> RBW=1MHz ; VBW=10Hz</p>																													
Can 187215004			C-5m Chamber									R_001																																
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)																													
5270MHz																																												
15.810	1.0	42.4	31.8	43.1	5.6	-32.2	-9.5	0.0	49.3	38.8	74	54	-24.7	-15.2	V																													
15.810	1.0	41.8	30.9	43.1	5.6	-32.2	-9.5	0.0	48.8	37.9	74	54	-25.2	-16.1	H																													
<p>Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.</p>																																												
<table><tr><td>f</td><td>Measurement Frequency</td><td>Amp</td><td>Preamp Gain</td><td>Avg Lim</td><td>Average Field Strength Limit</td></tr><tr><td>Dist</td><td>Distance to Antenna</td><td>D Corr</td><td>Distance Correct to 3 meters</td><td>Pk Lim</td><td>Peak Field Strength Limit</td></tr><tr><td>Read</td><td>Analyzer Reading</td><td>Avg</td><td>Average Field Strength @ 3 m</td><td>Avg Mar</td><td>Margin vs. Average Limit</td></tr><tr><td>AF</td><td>Antenna Factor</td><td>Peak</td><td>Calculated Peak Field Strength</td><td>Pk Mar</td><td>Margin vs. Peak Limit</td></tr><tr><td>CL</td><td>Cable Loss</td><td>HPF</td><td>High Pass Filter</td><td></td><td></td></tr></table>															f	Measurement Frequency	Amp	Preamp Gain	Avg Lim	Average Field Strength Limit	Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Pk Lim	Peak Field Strength Limit	Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Avg Mar	Margin vs. Average Limit	AF	Antenna Factor	Peak	Calculated Peak Field Strength	Pk Mar	Margin vs. Peak Limit	CL	Cable Loss	HPF	High Pass Filter		
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																																									

7.2.12. TRANSMITTER ABOVE 1 GHz FOR 802.11a MODE IN THE 5.6 GHz

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

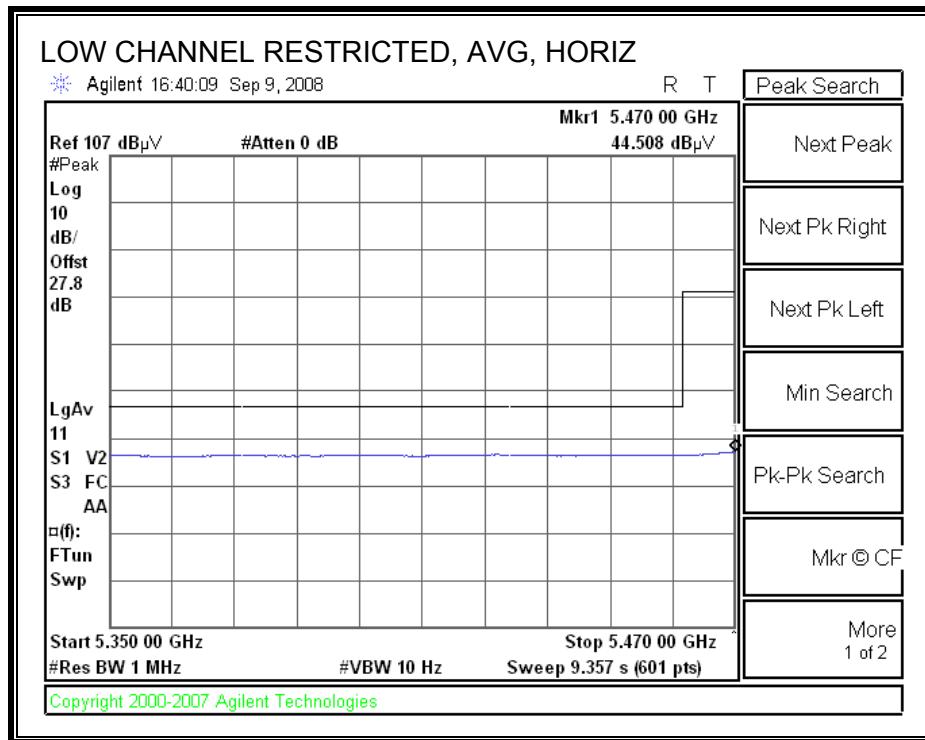
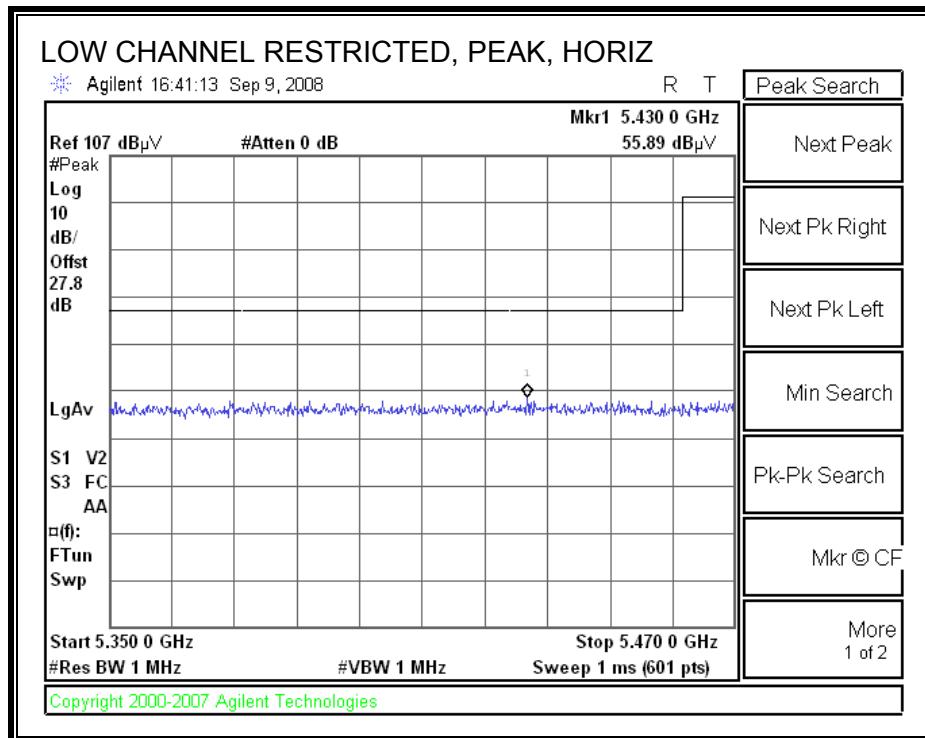


HARMONICS AND SPURIOUS EMISSIONS

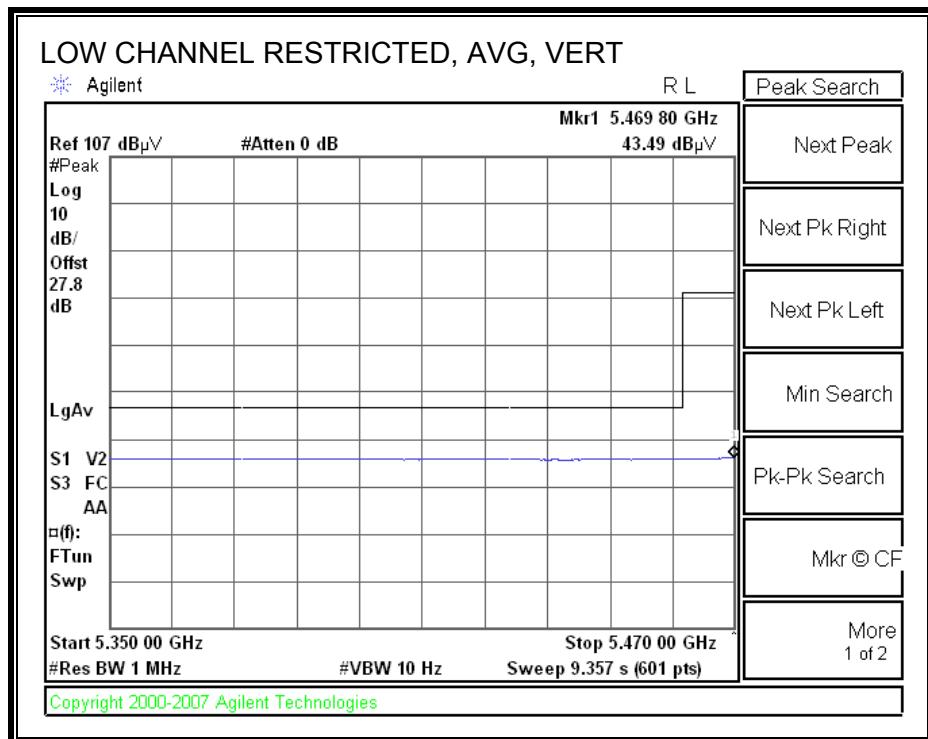
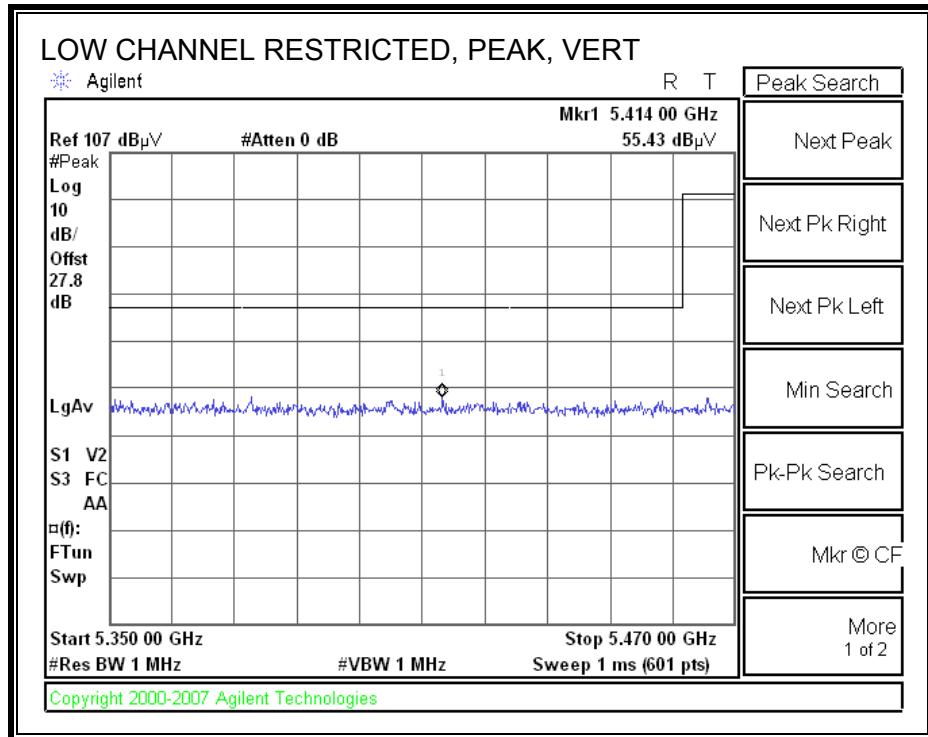
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.6GHz_TX_A mode, Antenna A</p>															
<p><u>Test Equipment:</u></p>															
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit			
T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205			
<p>Hi Frequency Cables</p>															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			<u>Peak Measurements</u> RBW=VBW=1MHz
Can 187215004			C-5m Chamber									R_001			<u>Average Measurements</u> 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)
5600MHz															
7.467	1.0	45.7	40.8	36.3	3.8	-34.0	-9.5	0.0	42.3	37.3	74	54	-31.7	-16.7	V
11.200	1.0	54.4	44.2	38.4	4.7	-32.6	-9.5	0.0	55.4	45.2	74	54	-18.6	-8.8	V
7.467	1.0	46.7	42.6	36.3	3.8	-34.0	-9.5	0.0	43.3	39.1	74	54	-30.7	-14.9	H
11.200	1.0	62.3	50.7	38.4	4.7	-32.6	-9.5	0.0	63.3	51.7	74	54	-10.7	-2.3	H
<p>Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.</p>															
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												

7.2.13. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.6 GHz-3TX

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

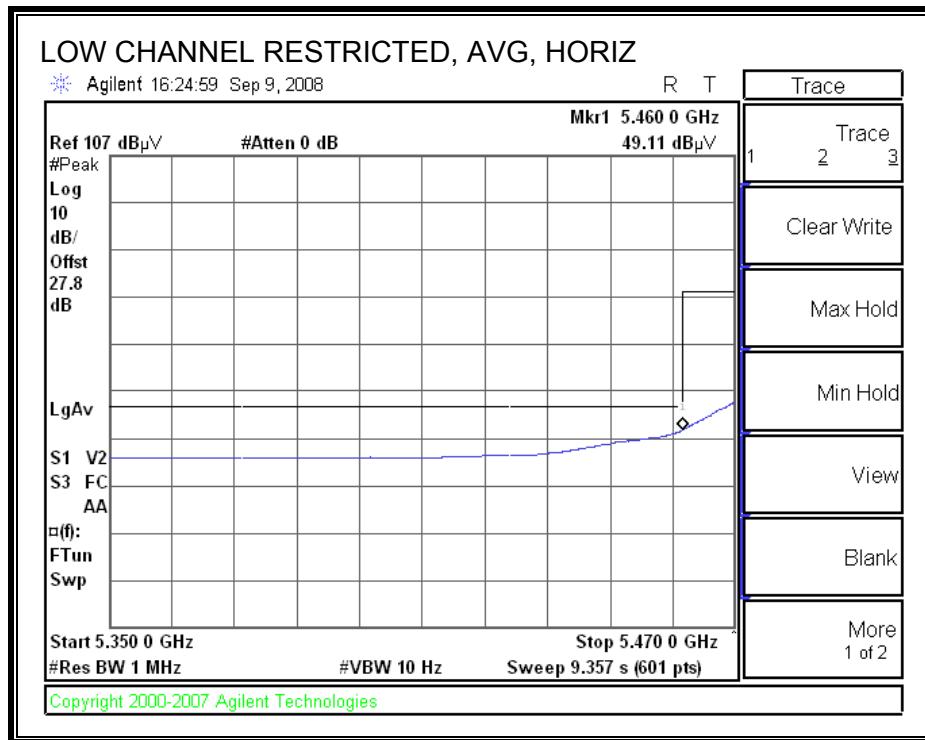
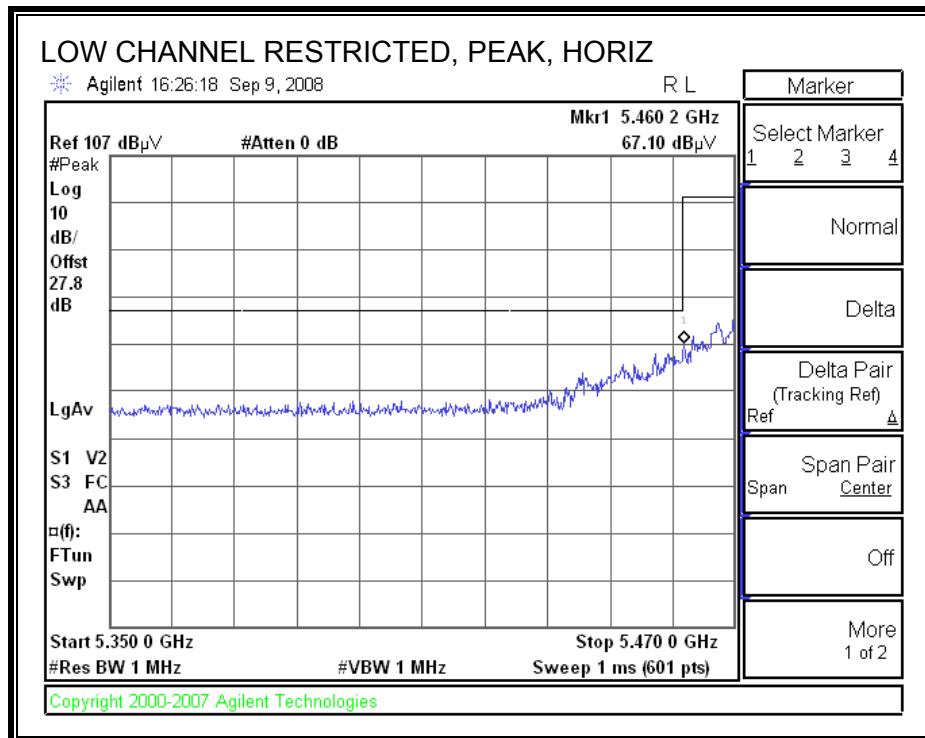


HARMONICS AND SPURIOUS EMISSIONS

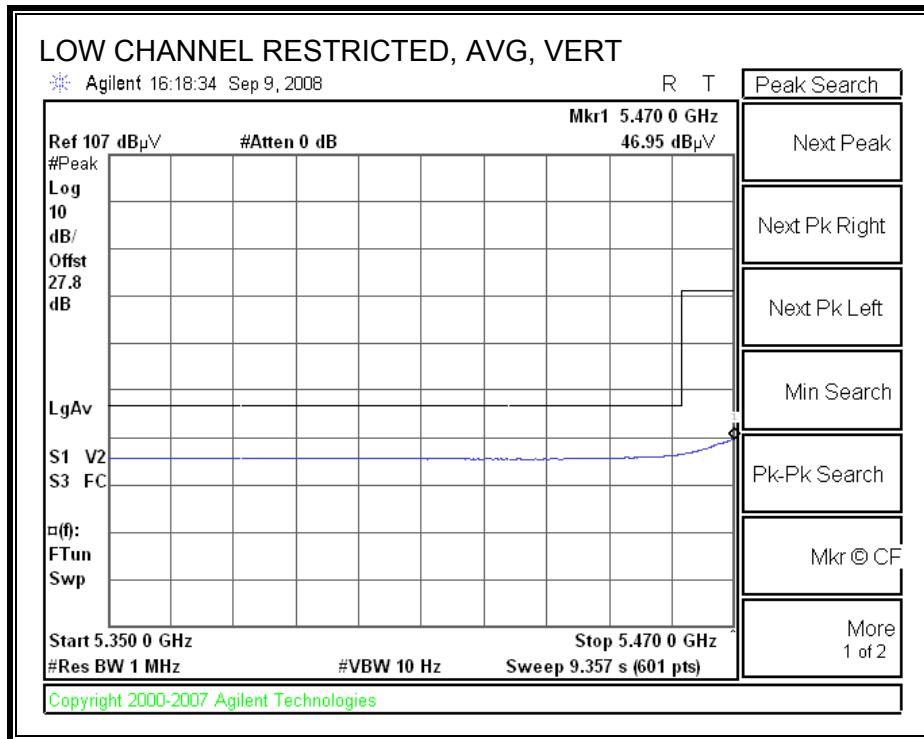
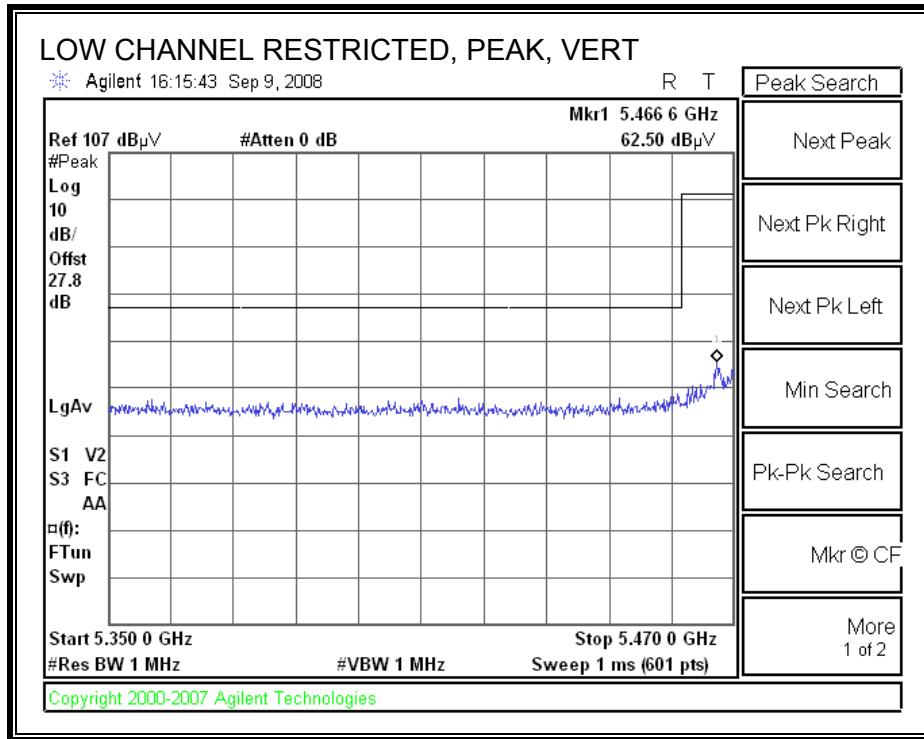
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.6GHz_TX_HT20 mode, Antenna B</p>															
<p><u>Test Equipment:</u></p>															
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit			
T73; S/N: 6717 @3m			T34 HP 8449B			T88 Miteq 26-40GHz			T39-T88 ARA 18-40GHz & Mixer > 40GHz			FCC 15.205			
<p>Hi Frequency Cables</p>															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			<u>Peak Measurements</u> RBW=VBW=1MHz
Can 187215004			C-5m Chamber									R_001			<u>Average Measurements</u> 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)
5700MHz															
7.600	1.0	49.3	47.0	36.4	3.9	-34.0	-9.5	0.0	46.0	43.7	74	54	-28.0	-10.3	V
11.400	1.0	56.0	43.3	38.6	4.7	-32.5	-9.5	0.0	57.2	44.5	74	54	-16.8	-9.5	V
7.600	1.0	44.7	39.9	36.4	3.9	-34.0	-9.5	0.0	41.4	36.6	74	54	-32.6	-17.4	H
11.400	1.0	51.9	40.6	38.6	4.7	-32.5	-9.5	0.0	53.1	41.8	74	54	-20.9	-12.2	H
<p>Rev. 4.12.7 Note: No other emissions were detected above the system noise floor.</p>															
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												

7.2.14. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.6 GHz

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

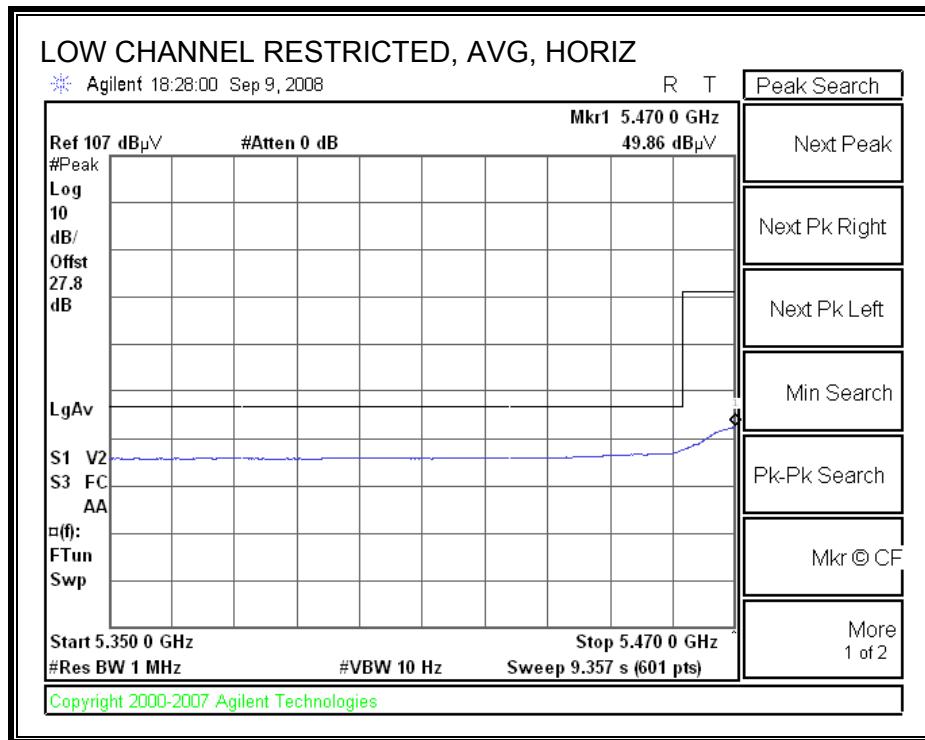
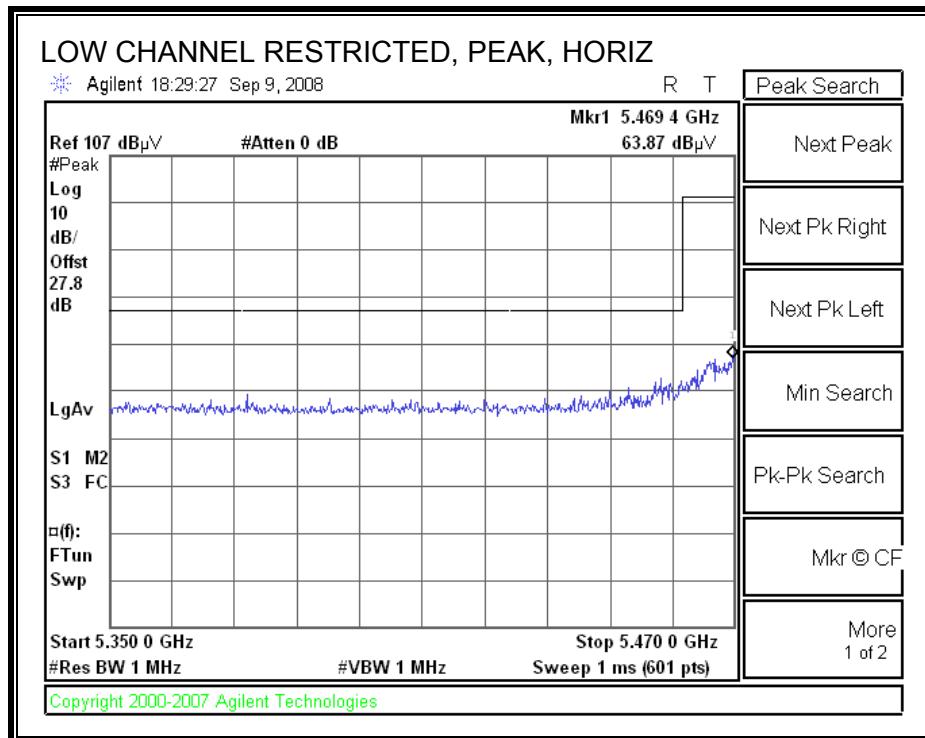


HARMONICS AND SPURIOUS EMISSIONS

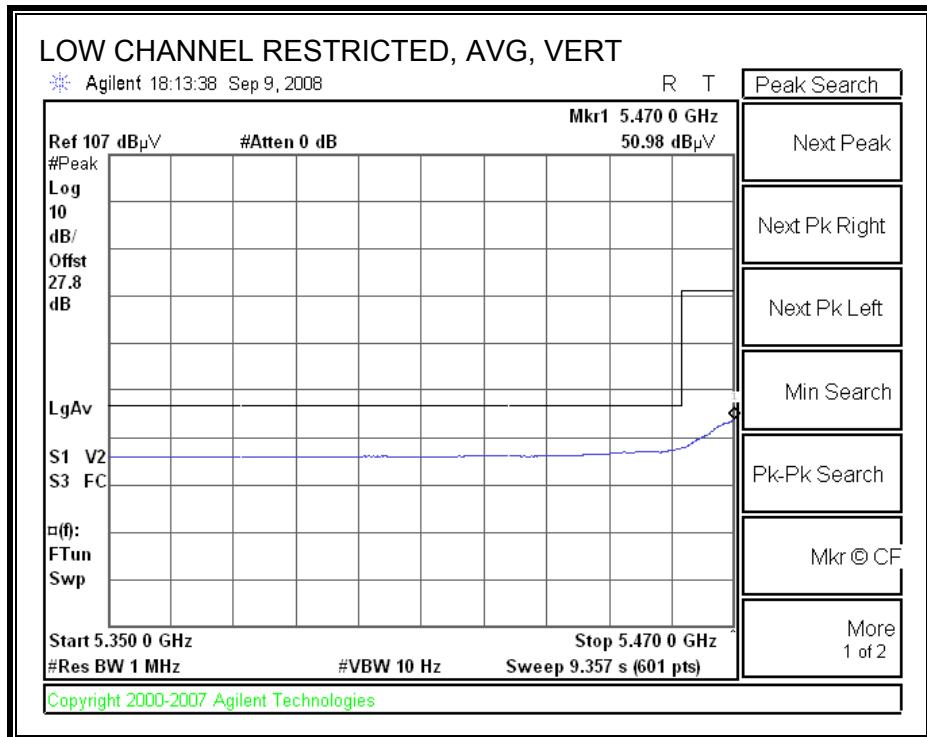
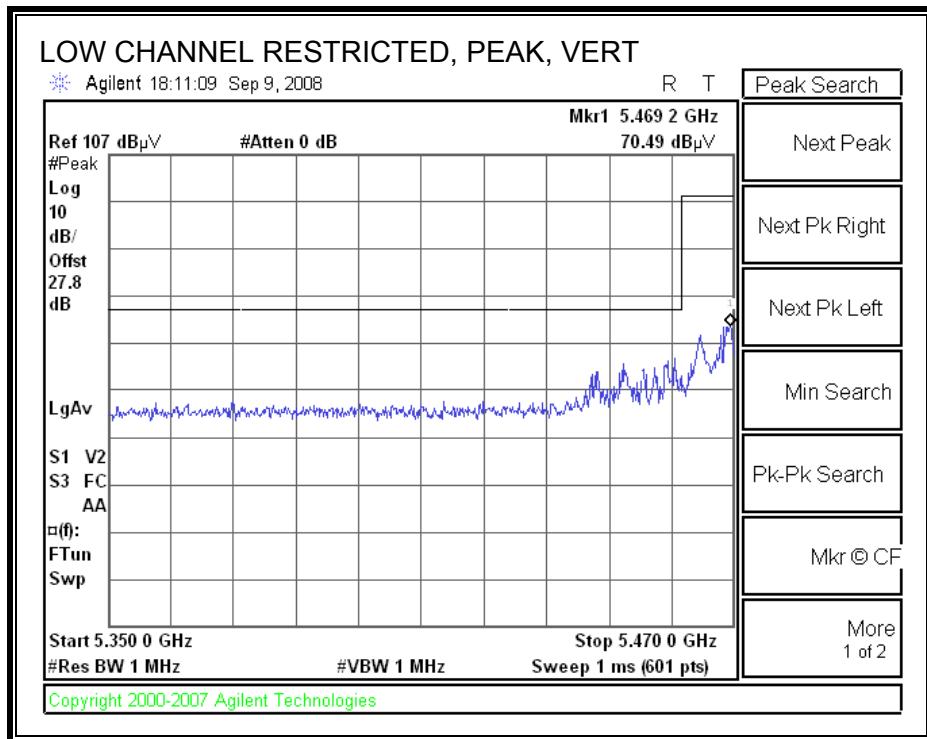
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																																																																																														
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.6GHz_TX_HT40 mode, Antenna B</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="4">Horn > 18GHz</td><td>Limit</td></tr><tr><td>T73; S/N: 6717 @3m</td><td>T34 HP 8449B</td><td>T88 Miteq 26-40GHz</td><td colspan="4">T39-T88 ARA 18-40GHz & Mixer > 40GHz</td><td>FCC 15.205</td></tr><tr><td colspan="15">Hi Frequency Cables</td></tr><tr><td>2 foot cable</td><td>3 foot cable</td><td>12 foot cable</td><td colspan="2">HPF</td><td>Reject Filter</td><td colspan="9"><p><u>Peak Measurements</u> RBW=VBW=1MHz <u>Average Measurements</u> RBW=1MHz ; VBW=10Hz</p></td></tr><tr><td>Can 187215004</td><td>C-5m Chamber</td><td></td><td colspan="2"></td><td>R_001</td><td colspan="9"></td></tr></table>															Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz				Limit	T73; S/N: 6717 @3m	T34 HP 8449B	T88 Miteq 26-40GHz	T39-T88 ARA 18-40GHz & Mixer > 40GHz				FCC 15.205	Hi Frequency Cables															2 foot cable	3 foot cable	12 foot cable	HPF		Reject Filter	<p><u>Peak Measurements</u> RBW=VBW=1MHz <u>Average Measurements</u> RBW=1MHz ; VBW=10Hz</p>									Can 187215004	C-5m Chamber				R_001																																												
Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz				Limit																																																																																																							
T73; S/N: 6717 @3m	T34 HP 8449B	T88 Miteq 26-40GHz	T39-T88 ARA 18-40GHz & Mixer > 40GHz				FCC 15.205																																																																																																							
Hi Frequency Cables																																																																																																														
2 foot cable	3 foot cable	12 foot cable	HPF		Reject Filter	<p><u>Peak Measurements</u> RBW=VBW=1MHz <u>Average Measurements</u> RBW=1MHz ; VBW=10Hz</p>																																																																																																								
Can 187215004	C-5m Chamber				R_001																																																																																																									
<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>5670MHz</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>7.560</td><td>1.0</td><td>50.3</td><td>47.9</td><td>36.4</td><td>3.8</td><td>-34.0</td><td>-9.5</td><td>0.0</td><td>47.0</td><td>44.5</td><td>74</td><td>54</td><td>-27.0</td><td>-9.5</td><td>V</td></tr><tr><td>11.340</td><td>1.0</td><td>53.3</td><td>43.0</td><td>38.5</td><td>4.7</td><td>-32.6</td><td>-9.5</td><td>0.0</td><td>54.4</td><td>44.1</td><td>74</td><td>54</td><td>-19.6</td><td>-9.9</td><td>V</td></tr><tr><td>7.560</td><td>1.0</td><td>47.4</td><td>42.7</td><td>36.4</td><td>3.8</td><td>-34.0</td><td>-9.5</td><td>0.0</td><td>44.1</td><td>39.3</td><td>74</td><td>54</td><td>-29.9</td><td>-14.7</td><td>H</td></tr><tr><td>11.340</td><td>1.0</td><td>49.6</td><td>40.1</td><td>38.5</td><td>4.7</td><td>-32.6</td><td>-9.5</td><td>0.0</td><td>50.8</td><td>41.3</td><td>74</td><td>54</td><td>-23.2</td><td>-12.7</td><td>H</td></tr></tbody></table>															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)	5670MHz																7.560	1.0	50.3	47.9	36.4	3.8	-34.0	-9.5	0.0	47.0	44.5	74	54	-27.0	-9.5	V	11.340	1.0	53.3	43.0	38.5	4.7	-32.6	-9.5	0.0	54.4	44.1	74	54	-19.6	-9.9	V	7.560	1.0	47.4	42.7	36.4	3.8	-34.0	-9.5	0.0	44.1	39.3	74	54	-29.9	-14.7	H	11.340	1.0	49.6	40.1	38.5	4.7	-32.6	-9.5	0.0	50.8	41.3	74	54	-23.2	-12.7	H
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)																																																																																															
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11.340	1.0	53.3	43.0	38.5	4.7	-32.6	-9.5	0.0	54.4	44.1	74	54	-19.6	-9.9	V																																																																																															
7.560	1.0	47.4	42.7	36.4	3.8	-34.0	-9.5	0.0	44.1	39.3	74	54	-29.9	-14.7	H																																																																																															
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7.2.15. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE 5.6 GHz-2TX

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)

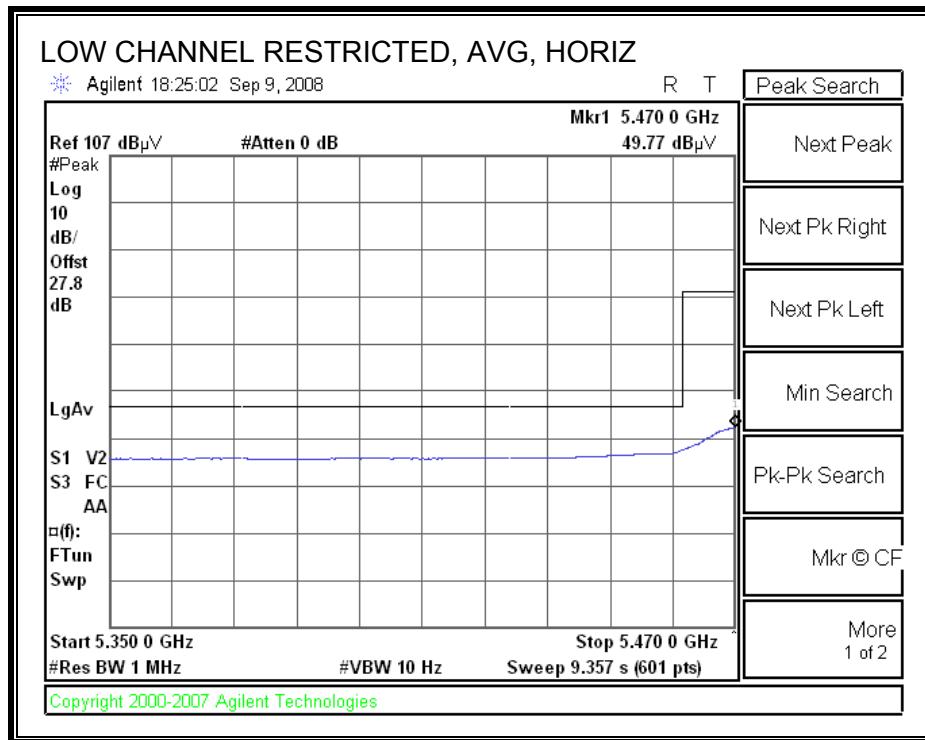
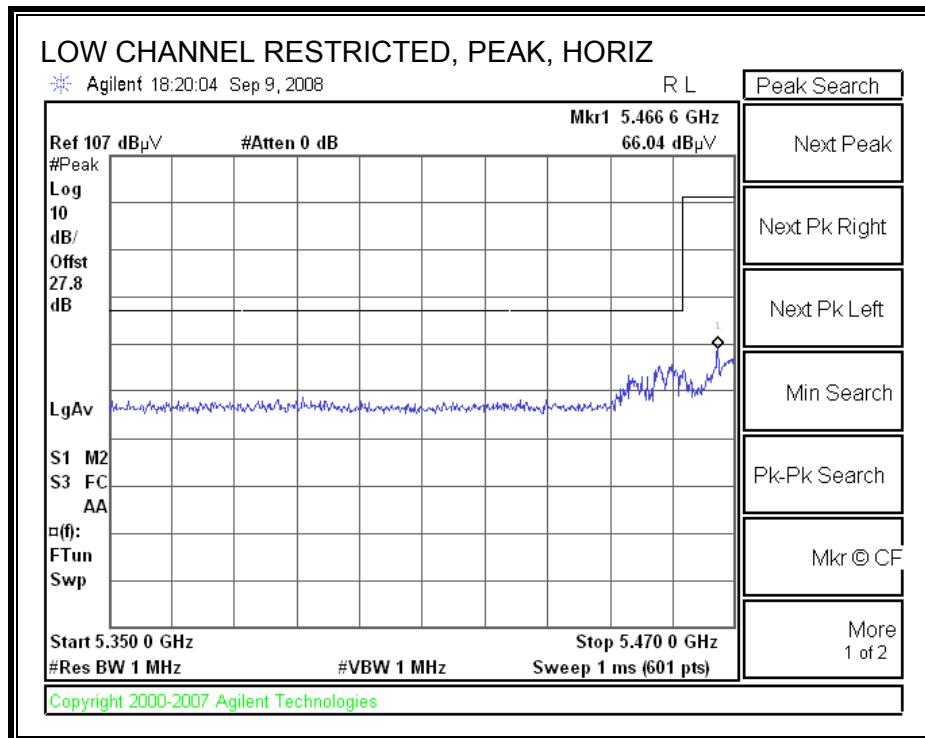


HARMONICS AND SPURIOUS EMISSIONS

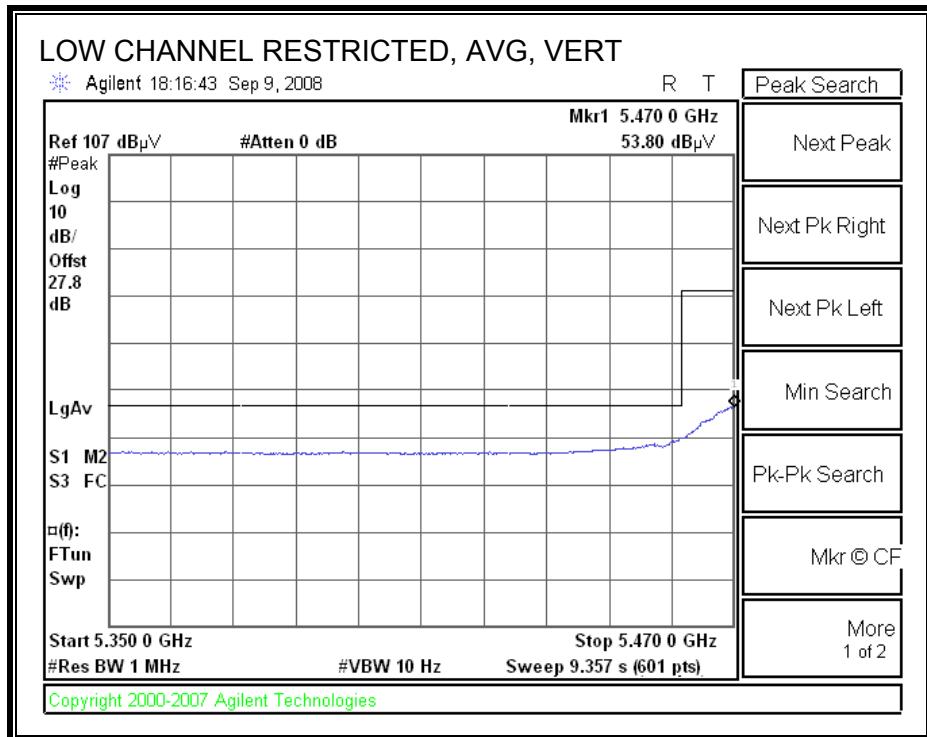
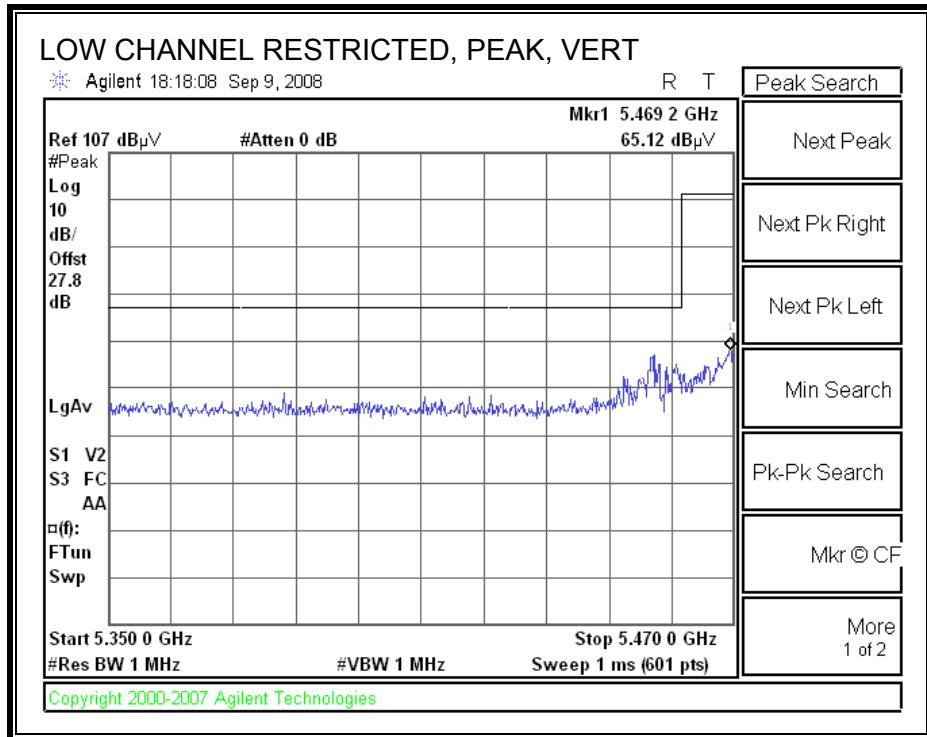
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																																																																																													
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.6GHz_3x TX_HT20 mode, Antenna A, B, C</p>																																																																																																													
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7.2.16. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE 5.6 GHz-3TX

RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																																																																																													
<p>Company: Intel Project #: 08U12063 Date: 9/8/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: 5.6GHz_2x TX_HT40 mode, Antenna A, C</p>																																																																																																													
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7.3. RECEIVER ABOVE 1 GHz

7.3.1. RECEIVER ABOVE 1 GHz FOR THE 5.2 GHz BAND (WORST CASE)

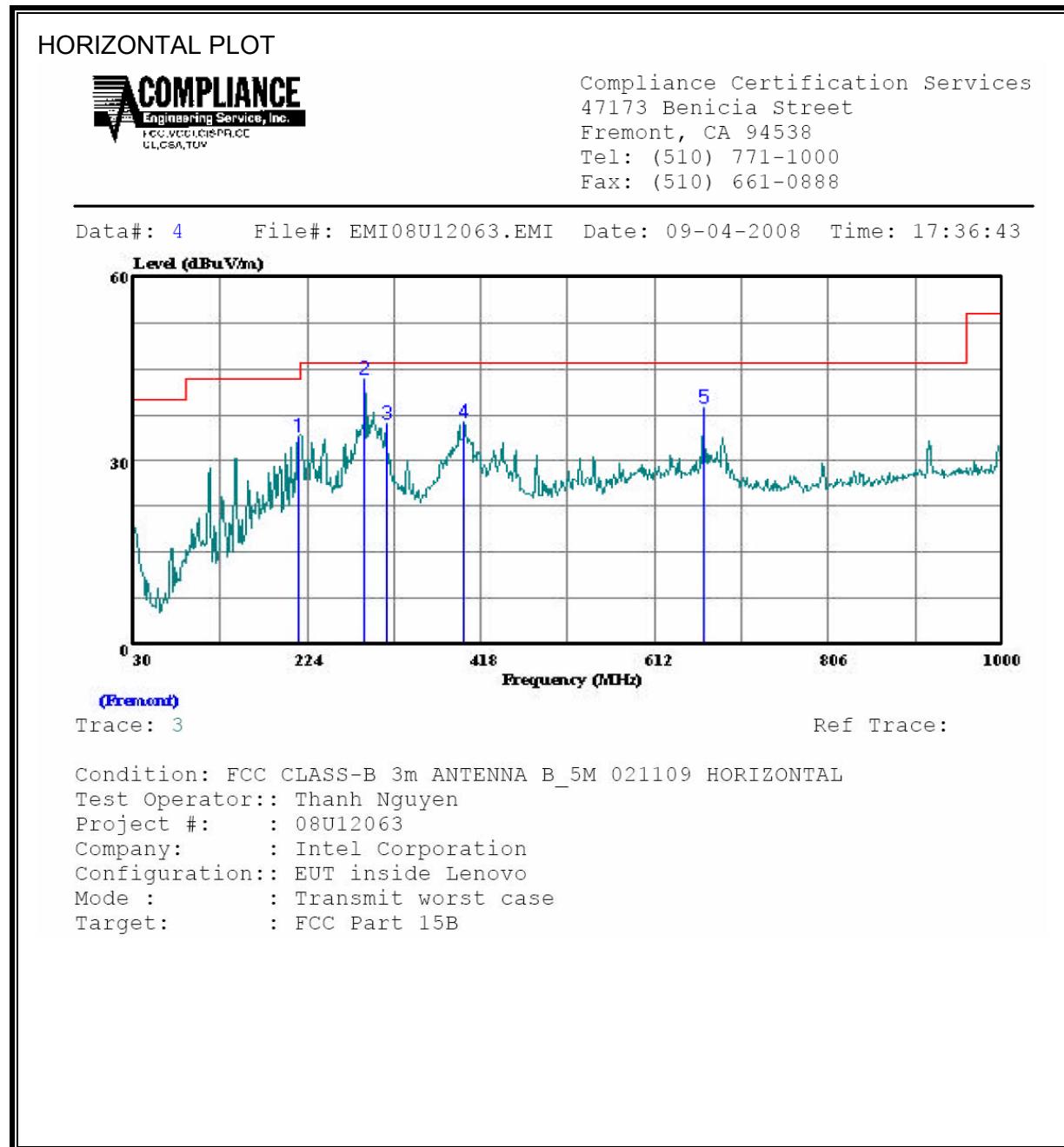
High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																																																																																																																																																																																																						
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7.3.2. RECEIVER ABOVE 1 GHz FOR THE 5.6 GHz BAND (WORST CASE)

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																																																																																																																														
Company: Intel Project #: 08U12063 Date: 9/5/2008 Test Engineer: Devin Chang Configuration: EUT Only Mode: RX (Worst Case), 5.5GHz Band																																																																																																																																														
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7.4. WORST-CASE BELOW 1 GHz

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	215.270	51.50	-17.47	34.03	43.50	-9.47	Peak
2	288.020	59.33	-16.05	43.28	46.00	-2.72	Peak
3	312.270	51.17	-15.18	35.99	46.00	-10.01	Peak
4	399.570	49.00	-12.69	36.31	46.00	-9.69	Peak
5	666.320	45.67	-7.08	38.59	46.00	-7.41	Peak

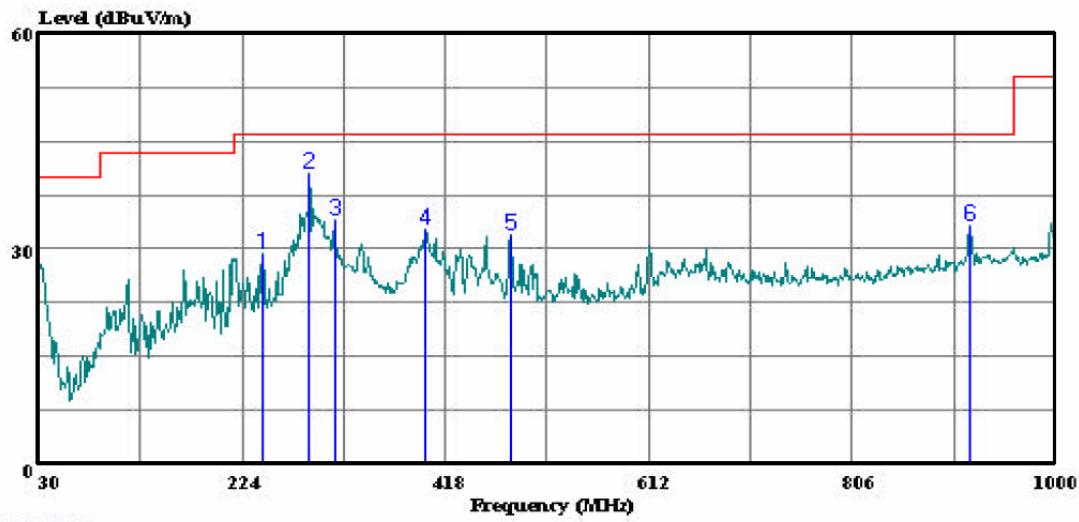
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



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

Data#: 2 File#: EMI08U12063.EMI Date: 09-04-2008 Time: 17:20:08



(Fremont)
Trace: 1

Ref Trace:

Condition: FCC CLASS-B 3m ANTENNA B_5M 021109 VERTICAL
Test Operator: Thanh Nguyen
Project #: 08U12063
Company: Intel Corporation
Configuration: EUT inside Lenovo
Mode : Transmit worst case
Target: FCC Part 15B

VERTICAL DATA

Freq	MHz	Read		Level	Limit	Line	Over	Limit	Remark
		Level	Factor						
1	243.400	47.17	-17.75	29.42	46.00	-16.58	Peak		
2	288.020	56.67	-16.05	40.62	46.00	-5.38	Peak		
3	312.270	49.33	-15.18	34.15	46.00	-11.85	Peak		
4	399.570	45.50	-12.69	32.81	46.00	-13.19	Peak		
5	481.050	42.17	-10.34	31.83	46.00	-14.17	Peak		
6	917.550	35.17	-1.93	33.23	46.00	-12.77	Peak		

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

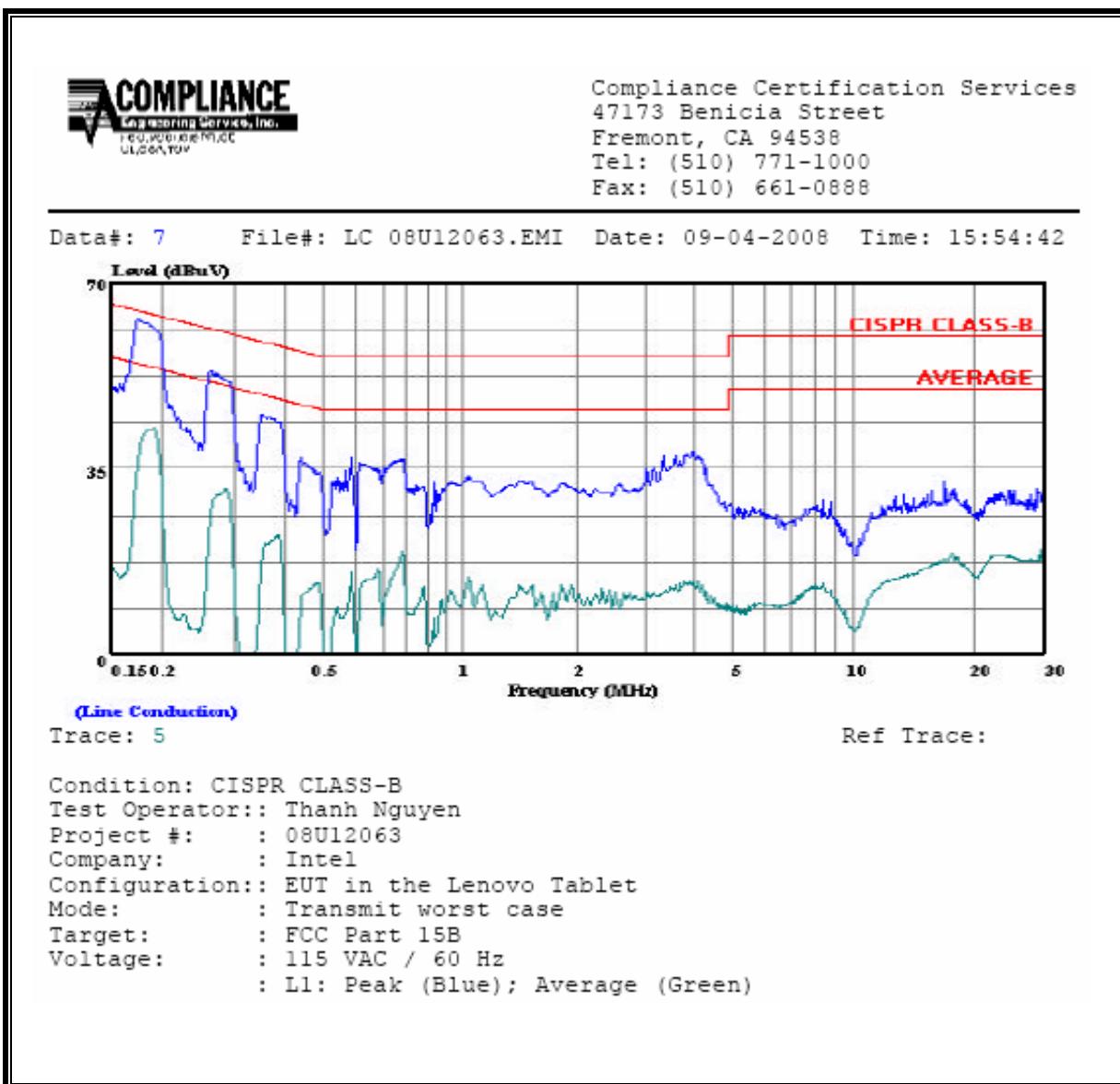
ANSI C63.4

RESULTS

6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq. (MHz)	Reading			Closs (dB)	Limit QP	EN_B AV	Margin		Remark
	PK (dBuV)	QP (dBuV)	AV (dBuV)				QP (dB)	AV (dB)	
0.17	63.37	—	42.63	0.00	64.77	54.77	-1.40	-12.14	L1
0.26	53.44	—	31.28	0.00	61.34	51.34	-7.90	-20.06	L1
4.09	38.20	—	13.60	0.00	56.00	46.00	-17.80	-32.40	L1
0.18	63.91	—	43.48	0.00	64.67	54.67	-0.76	-11.19	L2
0.26	52.77	—	31.96	0.00	61.34	51.34	-8.57	-19.38	L2
3.33	37.88	—	13.93	0.00	56.00	46.00	-18.12	-32.07	L2
6 Worst Data									

LINE 1 RESULTS



LINE 2 RESULTS

