



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

FOR

INTEL WIFI LINK 5300 SERIES

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

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

REPORT NUMBER: 08U11946-2A

ISSUE DATE: NOVEMBER 7, 2008

Prepared for
**INTEL CORPORATION
2111 N.E. 25th AVE
HILLSBORO, OR 97124-5961**

Prepared by
**COMPLIANCE CERTIFICATION SERVICES
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 771-1000
FAX: (510) 661-0888**

NVLAP[®]
NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	09/29/08	Initial Issue	T. Chan
A	11/07/08	Added model numbers to section 5.3	A. Zaffar

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: INTEL WIFI LINK 5300 SERIES

FCC MODEL: 533AN_MMW

IC MODEL: 533ANMU

SERIAL NUMBER: 14" LAPTOP (PK292009L0081500085);
15" LAPTOP (PK292009L0081500071)

DATE TESTED: JULY 02-14, and SEPTEMBER 27, 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.

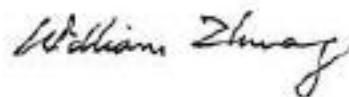
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by CCS and all revisions are duly noted in the revisions section. Any alteration of this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



WILLIAM ZHUANG
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 802.11n 3x3 Intel WiFi Link 5300 Series.
The radio module is manufactured by Intel Corporation.

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 CHANGE

The change filed under this application is added PIFA antennas with 3x3 Module inside Portable Laptop (14 inch/Lenovo 3000 G430 and 15inch/Lenovo 3000 G530).

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of 3.46 dBi for 2.4GHZ Band, 3.3 dBi for 5150-5350MHz band, 2.75 dBi for 5470-5725MHz band, and 2.31 dBi for 5.725 – 5850MHz band.

5.5. SOFTWARE AND FIRMWARE

The EUT test utility software used during testing was CRTU version 5.0.62.0

5.6. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power and less marginal from the previous table of summary results.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
14" Laptop	Lenovo	Lenovo 3000 G430	NA	DoC
15" Laptop	Lenovo	Lenovo 3000 G530	NA	DoC
AC Adapter	Lenovo	ADP-65YBB	36-001309-A01-	DoC

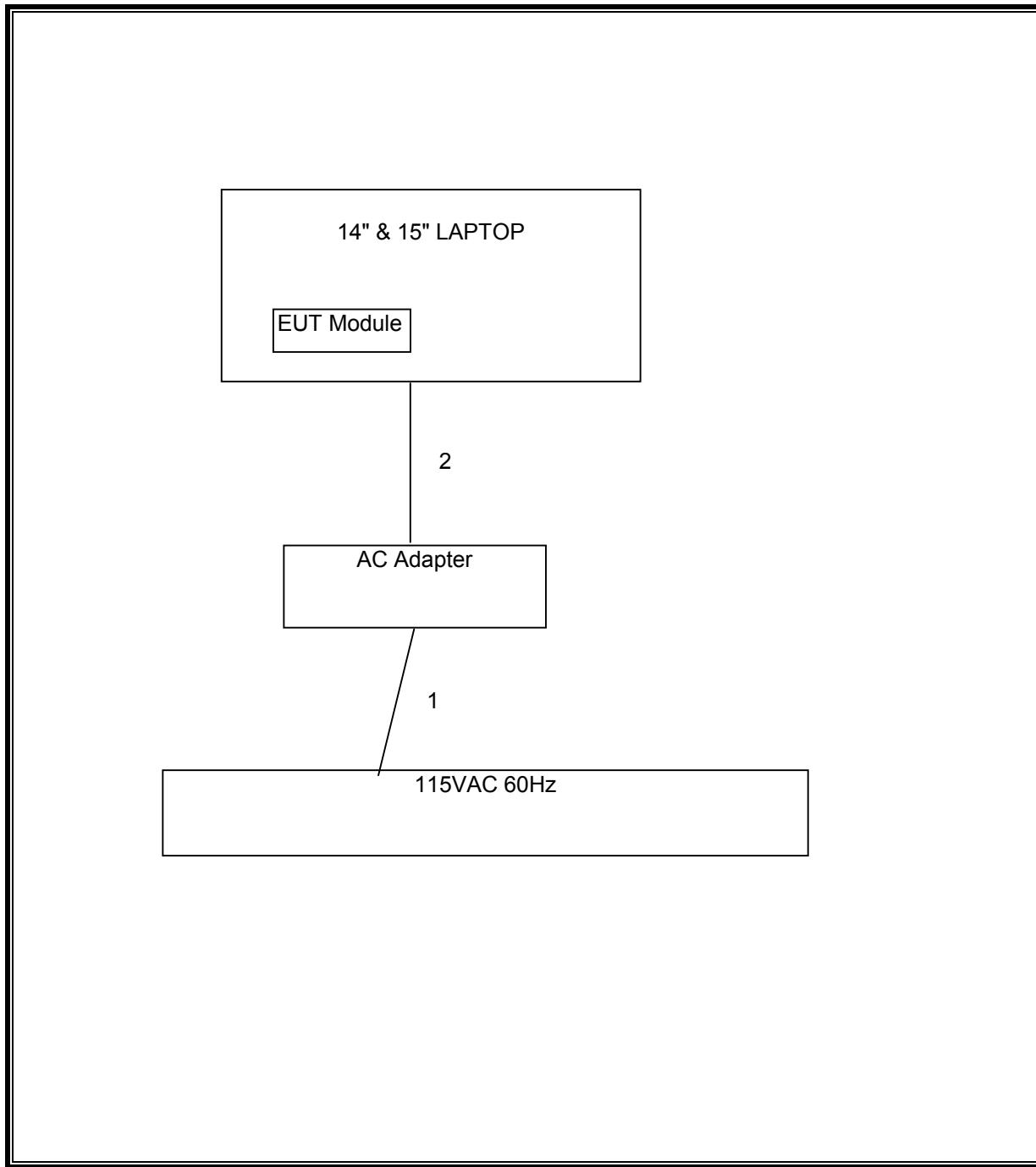
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US 115V	Un-shielded	2m	N/A
2	DC	1	DC	Un-shielded	2m	N/A

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 Date	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	5/2/2006	3/3/2009
Peak Power Meter	Agilent / HP	E4416A	C00963	2/14/2006	12/2/2008
Power Senser	Agilent	E9327A	C00964	2/14/2006	12/2/2008
Antenna, Horn, 18 GHz	EMCO	3115	C00872	4/15/2007	4/15/2009
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	8/3/2007	9/27/2008
EMI Receiver, 2.9 GHz	Agilent / HP	8542E	C00957	2/6/2007	6/12/2009
RF Filter Section, 2.9 GHz	Agilent / HP	85420E	C00958	2/6/2007	6/12/2009
Antenna, Bilog, 2 GHz	Sundt Sciences	JB1	C01011	1/0/1900	2/11/2009
Preamplifier, 1300 MHz	Agilent / HP	8447D	NA	5/9/2007	5/9/2009
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	10/16/2006	1/27/2009
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	9/15/2006	10/25/2008
7.6 GHz High Pass Filter	Micro Tronics	HPM13350	N/A	N/A	N/A
5.75 - 5.8 Reject Filter	Micro Tronics	BRC13192	N/A	N/A	N/A

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.

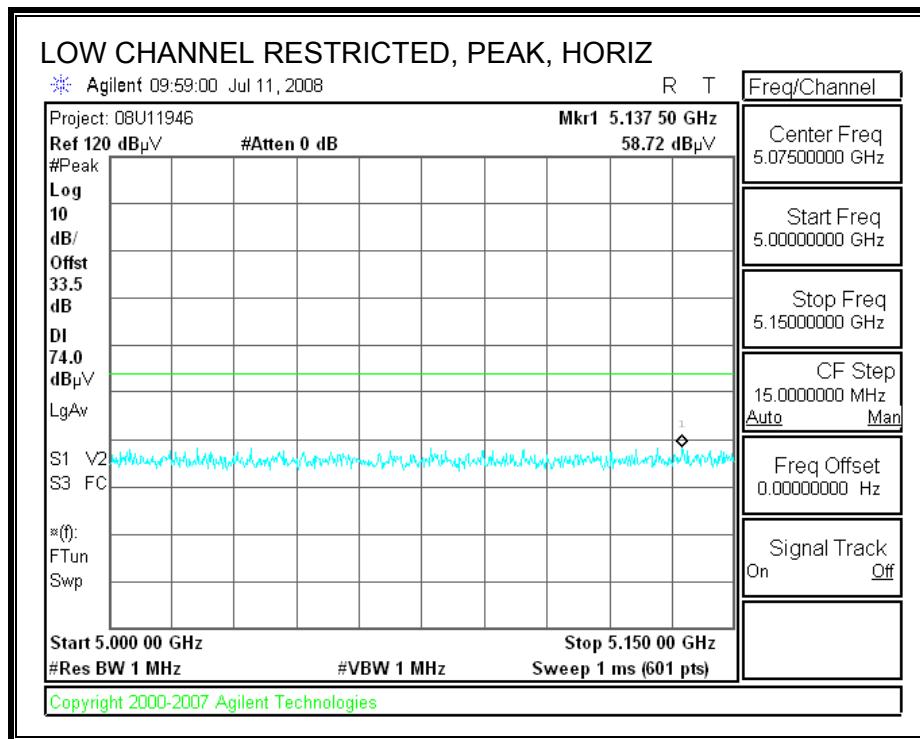
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

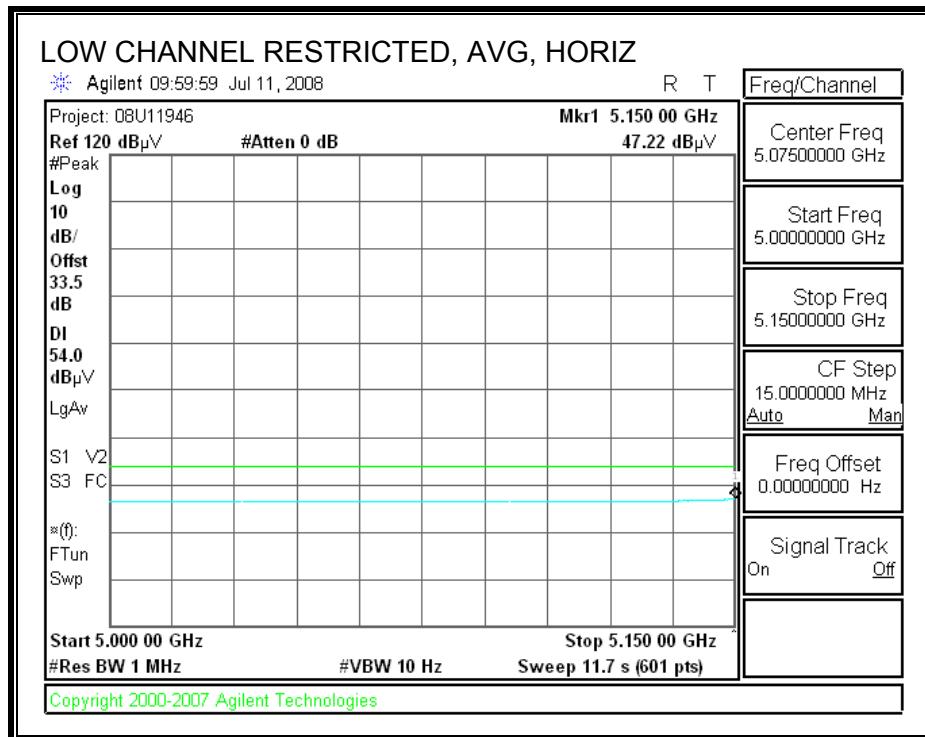
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

7.2. TRANSMITTER ABOVE 1 GHz (14 INCHES LAPTOP)

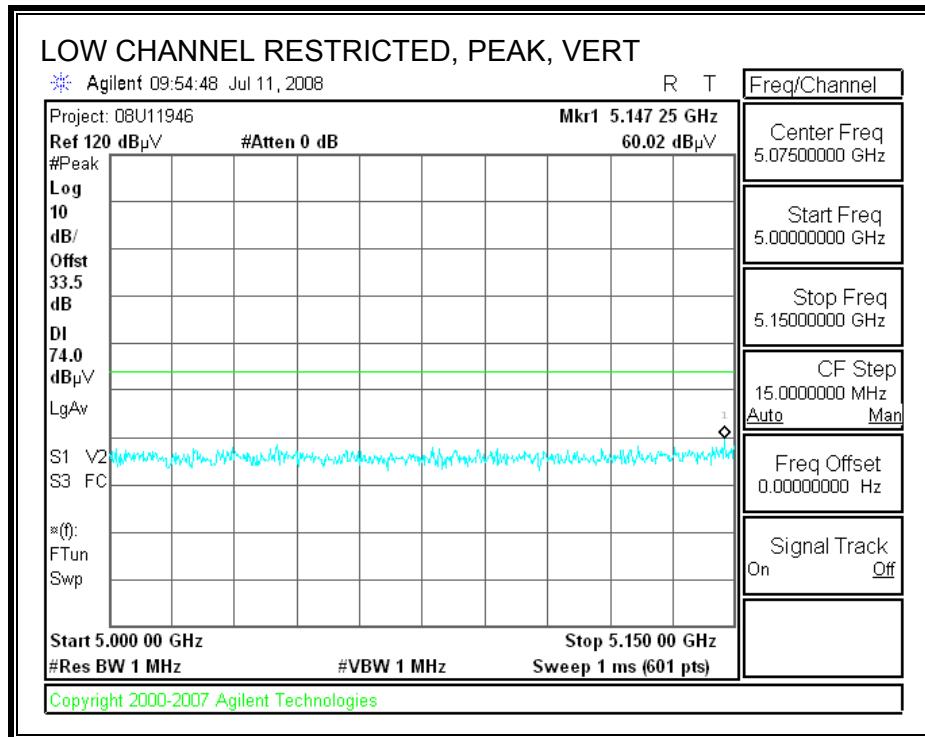
7.2.1. TRANSMITTER ABOVE 1 GHz FOR 802.11a MODE IN THE LOWER 5.2 GHz BAND

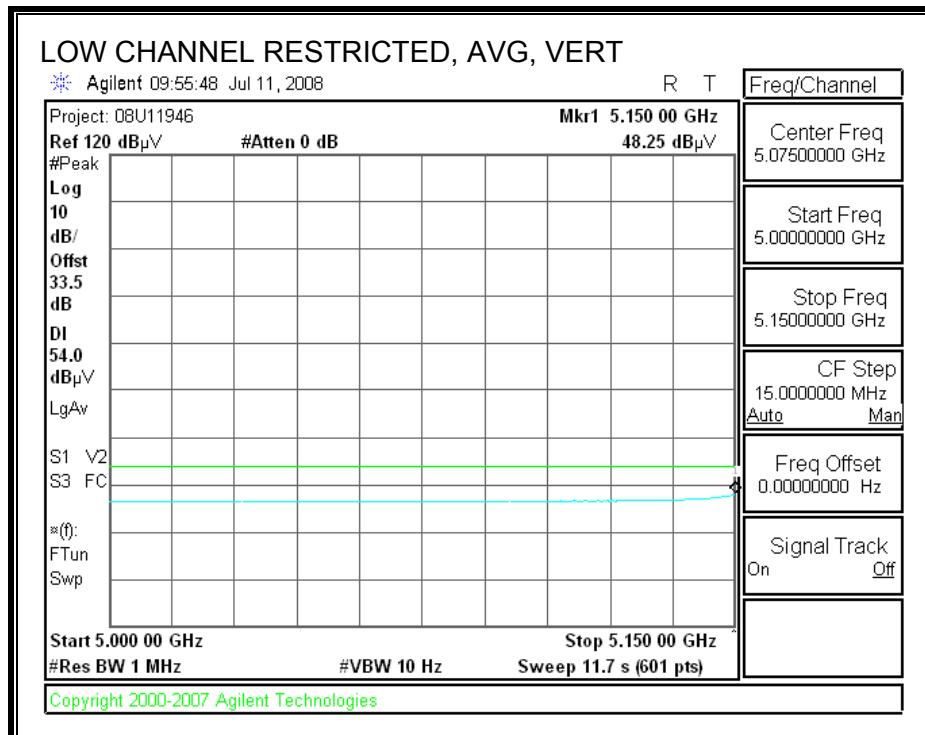
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL), CHAIN C





RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL), CHAIN C



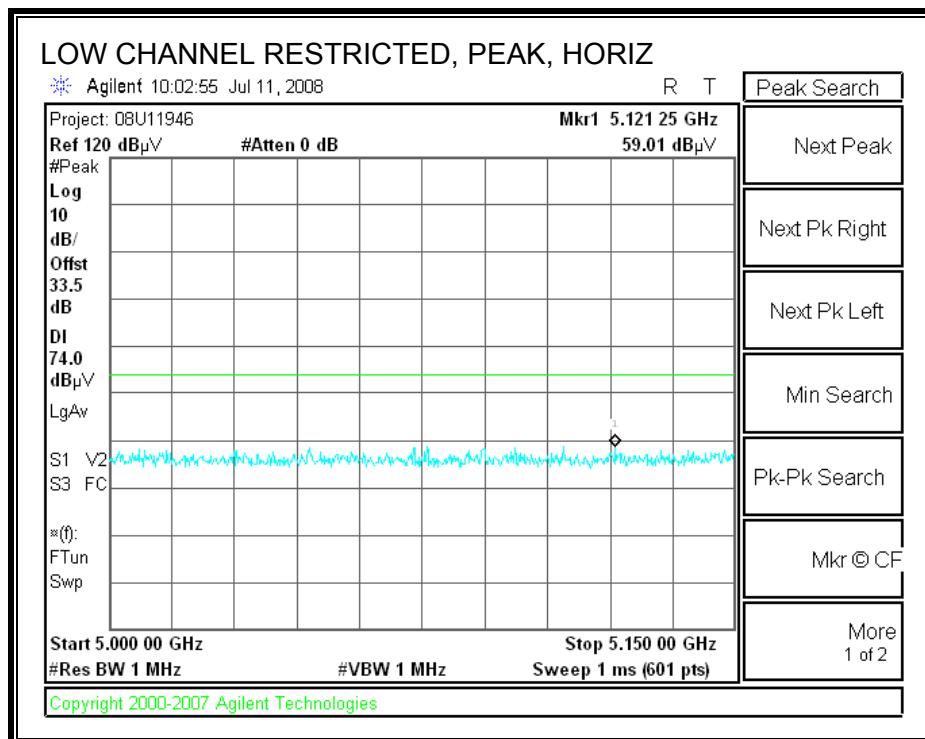


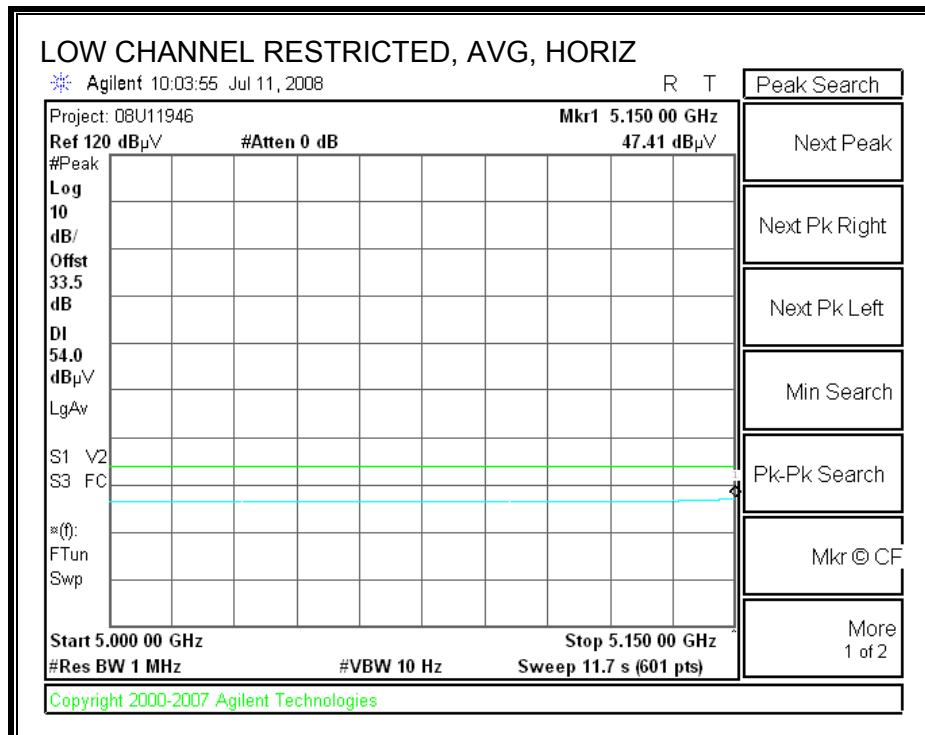
HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Company: Intel Project #: 08U11946 Date: 7/11/2008 Test Engineer: William Zhuang Configuration: Laptop stand alone Mode: 5.2GHz Tx On															
<u>Test Equipment:</u>															
Horn 1-18GHz		Pre-amplifier 1-26GHz		Pre-amplifier 26-40GHz		Horn > 18GHz		Limit							
T60; S/N: 2238 @3m		T34 HP 8449B						FCC 15.205							
Hi Frequency Cables															
2 foot cable		3 foot cable		12 foot cable		HPF		Reject Filter		Peak Measurements RBW=VBW=1MHz					
Thanh 177079008				C-5m Chamber				R_002		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)
a Mode, Low Ch. 5180MHz, Chain C															
15.540	3.0	41.7	29.5	38.0	0.8	-32.2	0.0	0.0	48.2	36.0	74	54	-25.8	-18.0	V
15.540	3.0	42.1	29.4	38.0	0.8	-32.2	0.0	0.0	48.6	35.9	74	54	-25.4	-18.1	H
Rev. 4.12.7															
f Measurement Frequency					Amp Preamp Gain					Avg Lim Average Field Strength Limit					
Dist Distance to Antenna					D Corr Distance Correct to 3 meters					Pk Lim Peak Field Strength Limit					
Read Analyzer Reading					Avg Average Field Strength @ 3 m					Avg Mar Margin vs. Average Limit					
AF Antenna Factor					Peak Calculated Peak Field Strength					Pk Mar Margin vs. Peak Limit					
CL Cable Loss					HPF High Pass Filter										

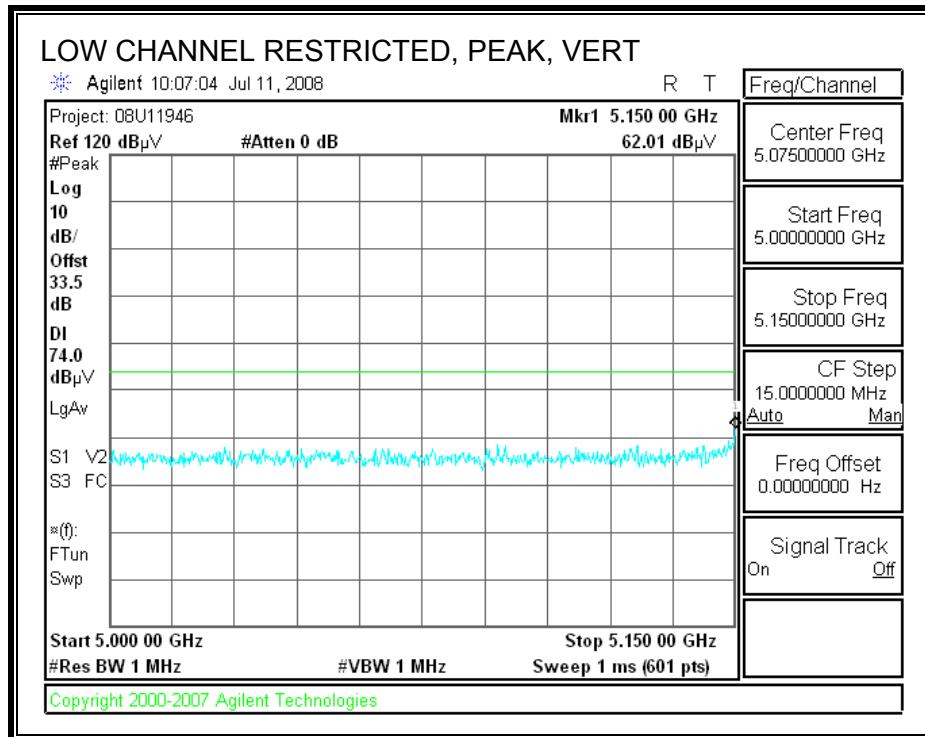
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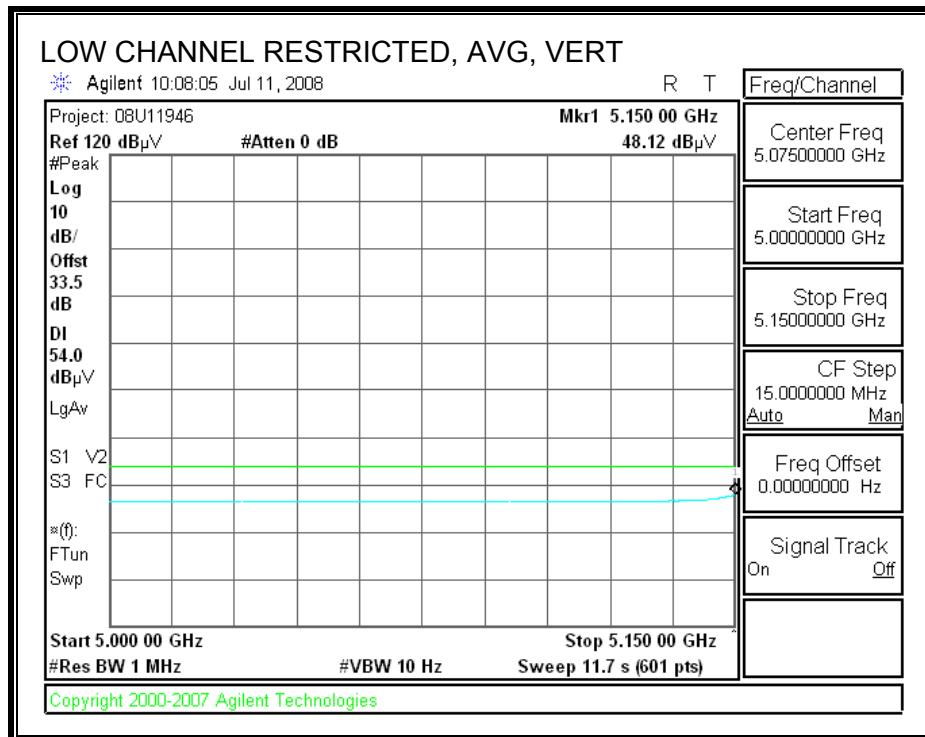
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL), CHAIN C





RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL), CHAIN C



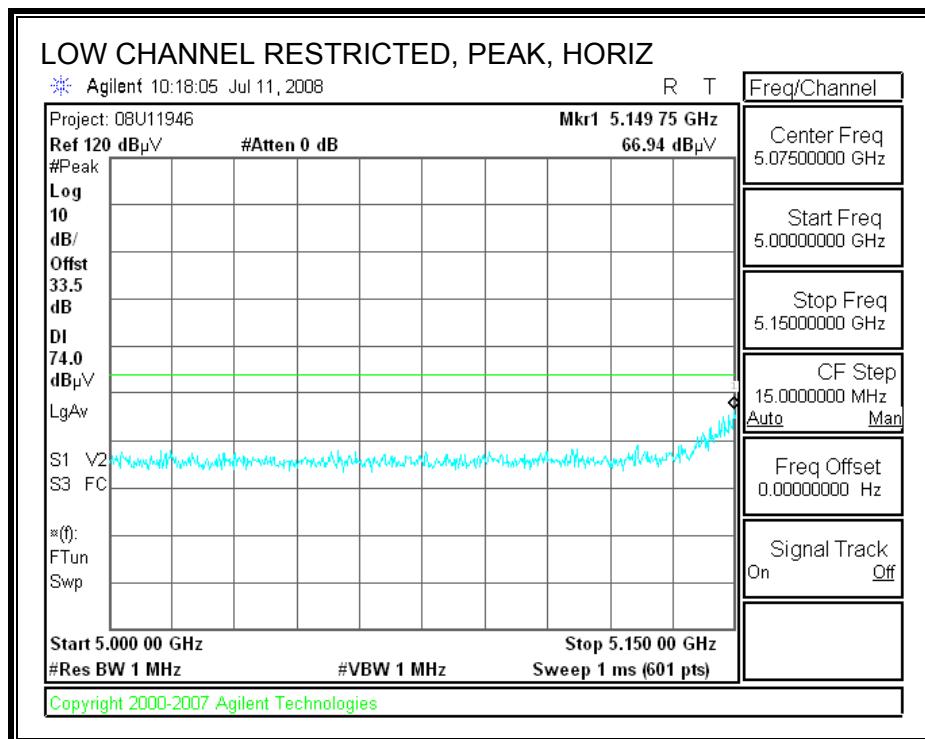


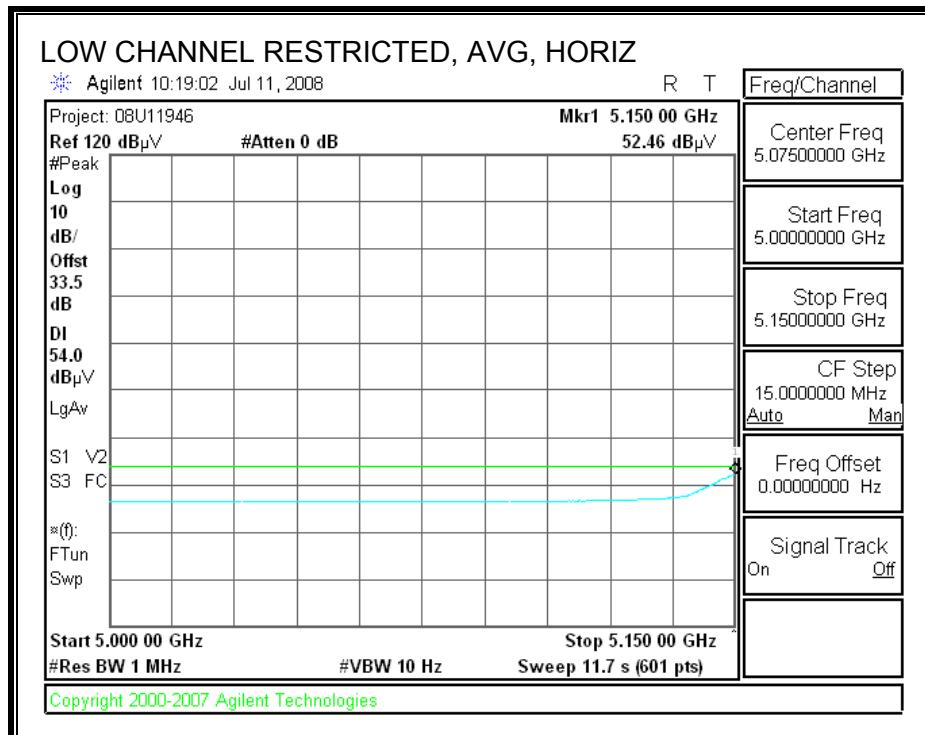
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Test Equipment:																	
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T60: S/N: 2238 @3m			T34 HP 8449B									FCC 15.205					
Hi Frequency Cables																	
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			Peak Measurements RBW=VBW=1MHz		
Thanh 177079008						C5m Chamber						R_002			Average Measurements RBW=1MHz ; VBW=10Hz		
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HT2020 Mode, Low Ch. 5180MHz, Chain C																	
15.540	3.0	41.9	29.6	38.0	0.8	-32.2	0.0	0.0	48.4	36.1	74	54	-25.6	-17.9	V		
15.540	3.0	42.2	29.5	38.0	0.8	-32.2	0.0	0.0	48.8	36.0	74	54	-25.2	-18.0	H		
Rev. 4.12.7																	
f	Measurement Frequency			Amp	Preamp Gain						Avg Lim			Average Field Strength Limit			
Dist	Distance to Antenna			D Corr	Distance Correct to 3 meters						Pk Lim			Peak Field Strength Limit			
Read	Analyzer Reading			Avg	Average Field Strength @ 3 m						Avg Mar			Margin vs. Average Limit			
AF	Antenna Factor			Peak	Calculated Peak Field Strength						Pk Mar			Margin vs. Peak Limit			
CL	Cable Loss			HPF	High Pass Filter												

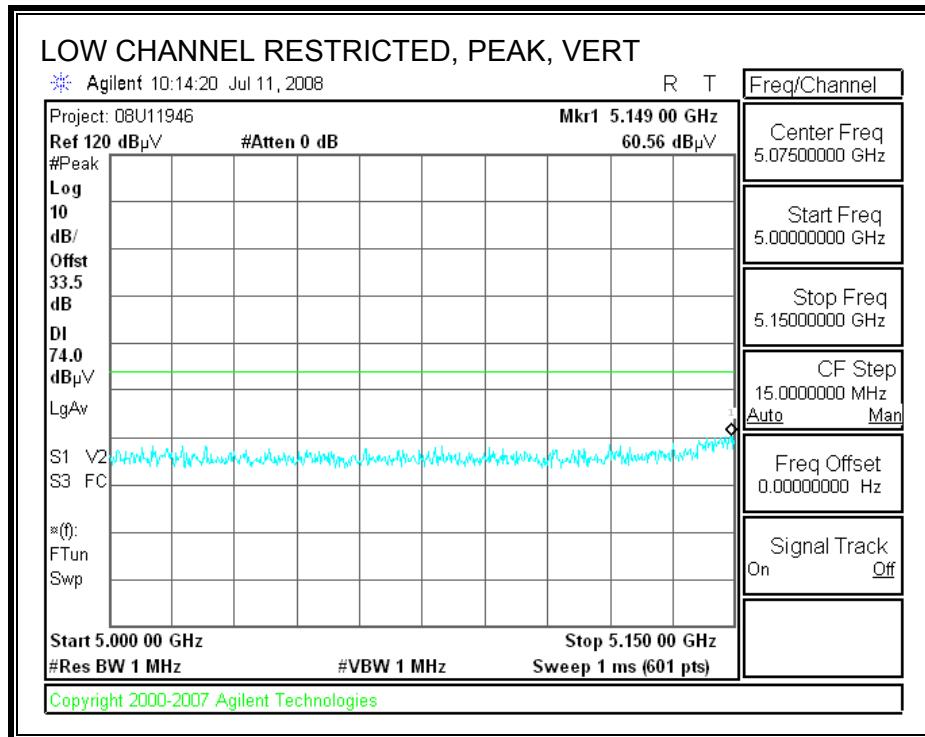
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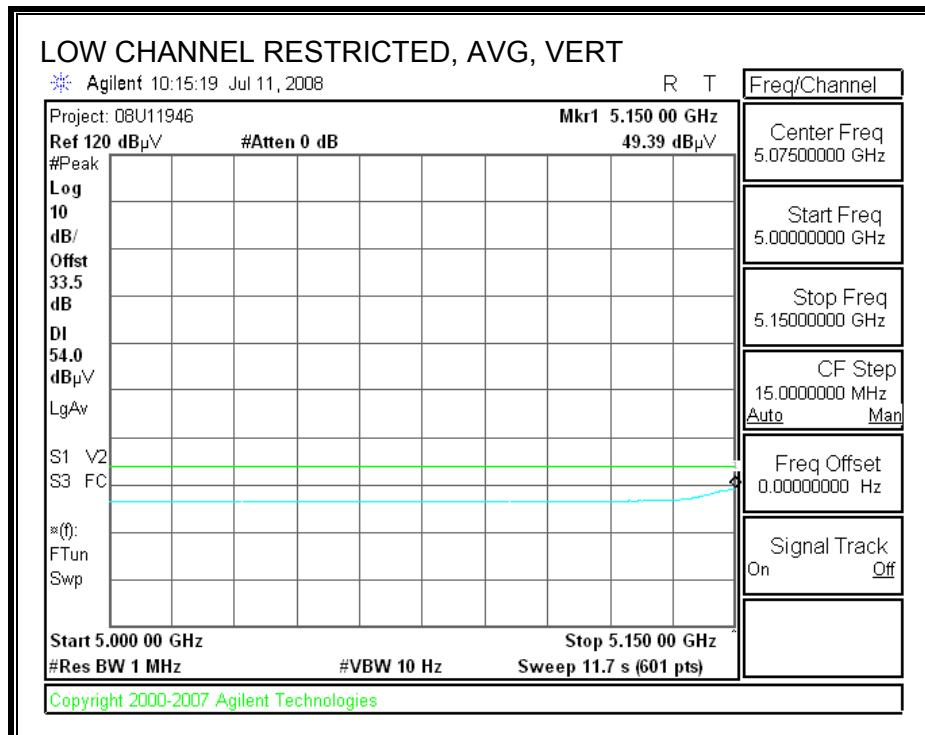
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL), CHAIN A





RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL), CHAIN A





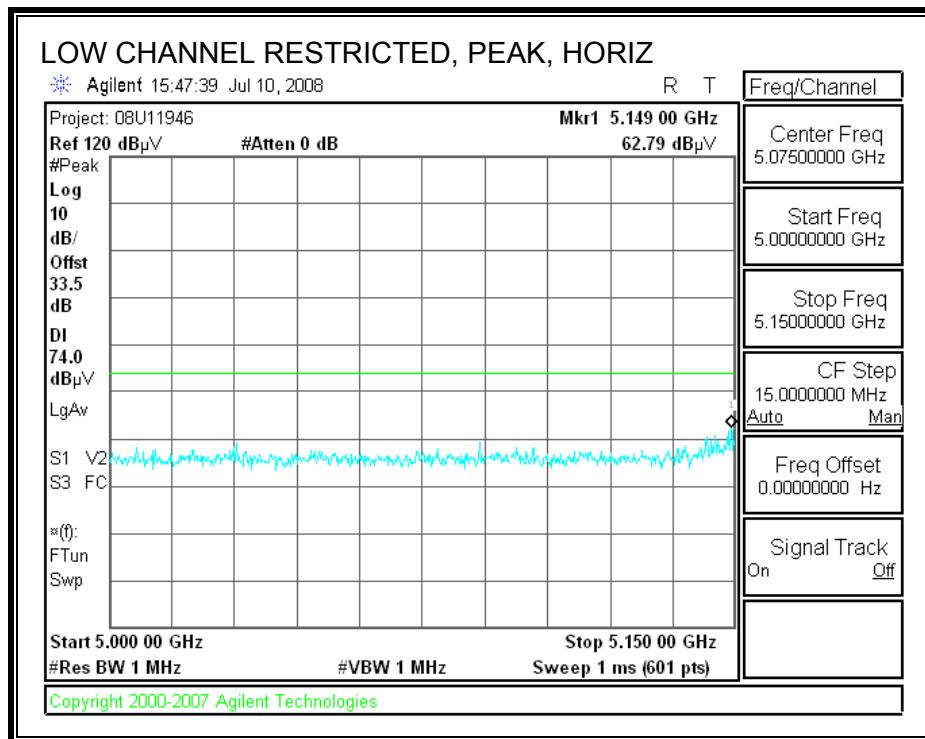
HARMONICS AND SPURIOUS EMISSIONS

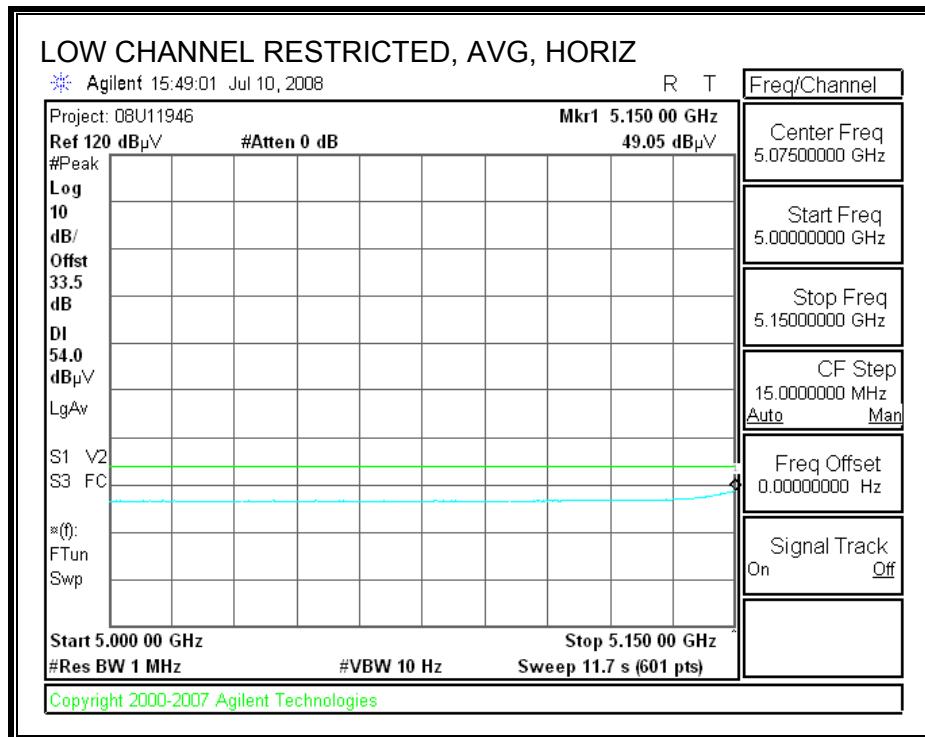
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T60; S/N: 2238 @3m	T34 HP 8449B						FCC 15.205																																																																																																																																																																																																																																																																												
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2 foot cable	3 foot cable	12 foot cable	HPF				Reject Filter				Peak Measurements																																																																																																																																																																																																																																																																								
Thanh 177079008		C-5m Chamber									R_002	RBW=VBW=1MHz																																																																																																																																																																																																																																																																							
<u>Average Measurements</u> RBW=1MHz; VBW=10Hz																																																																																																																																																																																																																																																																																			
f GHz	Dist (m)	Read Pk dBuV	Read Avg dBuV	AF	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)																																																																																																																																																																																																																																																																				
HT40 Mode, Low Ch. 5190MHz, Chain A,																																																																																																																																																																																																																																																																																			
15.570	3.0	41.2	28.8	38.0	0.8	-32.2	0.0	0.0	47.8	35.3	74	54	-26.2	-18.7	V																																																																																																																																																																																																																																																																				
15.570	3.0	41.3	28.7	38.0	0.8	-32.2	0.0	0.0	47.8	35.3	74	54	-26.2	-18.7	H																																																																																																																																																																																																																																																																				
Rev. 4.12.7																																																																																																																																																																																																																																																																																			
f	Measurement Frequency			Amp	Preamp Gain							Avg Lim	Average Field Strength Limit																																																																																																																																																																																																																																																																						
Dist	Distance to Antenna			D Corr	Distance Correct to 3 meters							Pk Lim	Peak Field Strength Limit																																																																																																																																																																																																																																																																						
Read	Analyzer Reading			Avg	Average Field Strength @ 3 m							Avg Mar	Margin vs. Average Limit																																																																																																																																																																																																																																																																						
AF	Antenna Factor			Peak	Calculated Peak Field Strength							Pk Mar	Margin vs. Peak Limit																																																																																																																																																																																																																																																																						
CL	Cable Loss			HPF	High Pass Filter																																																																																																																																																																																																																																																																														

7.3. TRANSMITTER ABOVE 1 GHz (15 INCHES LAPTOP)

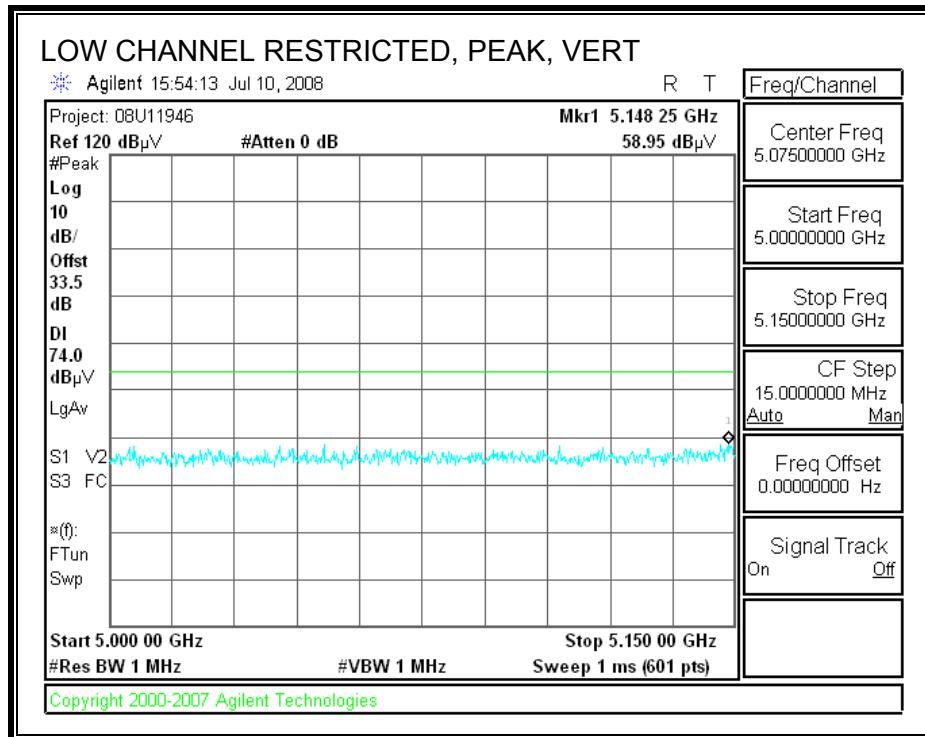
7.3.1. TRANSMITTER ABOVE 1 GHz FOR 802.11a MODE IN THE LOWER 5.2 GHz BAND

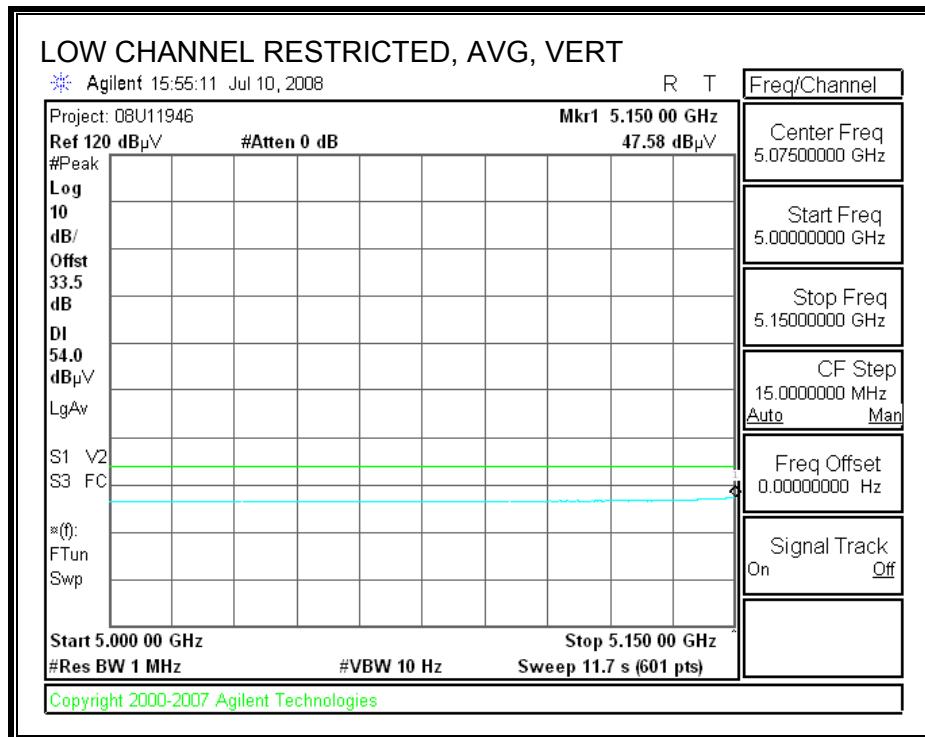
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL), CHAIN A





RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



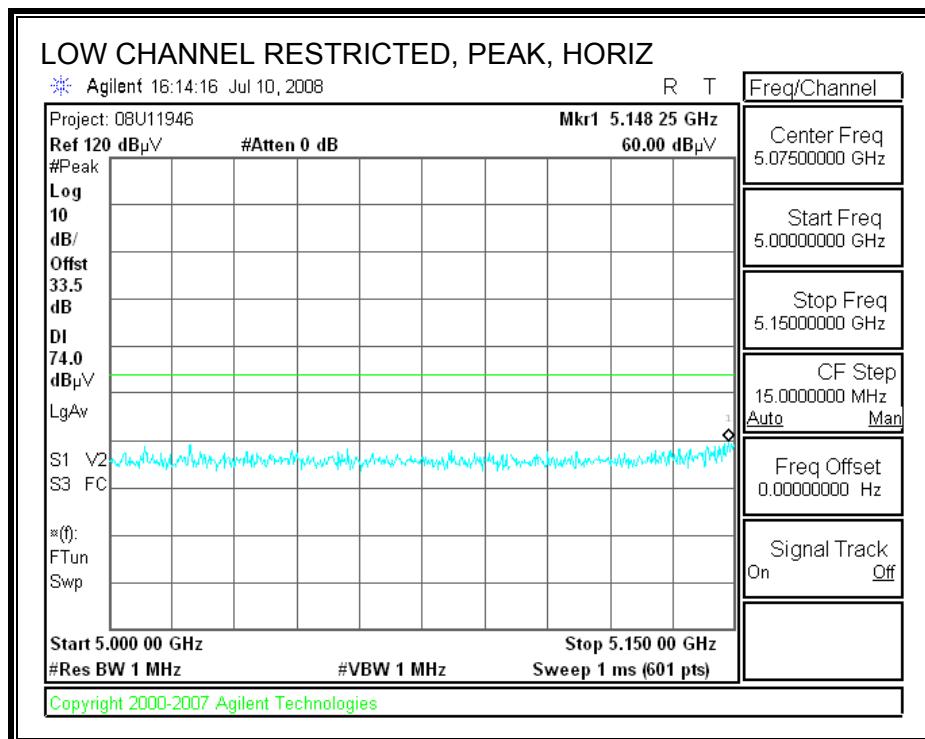


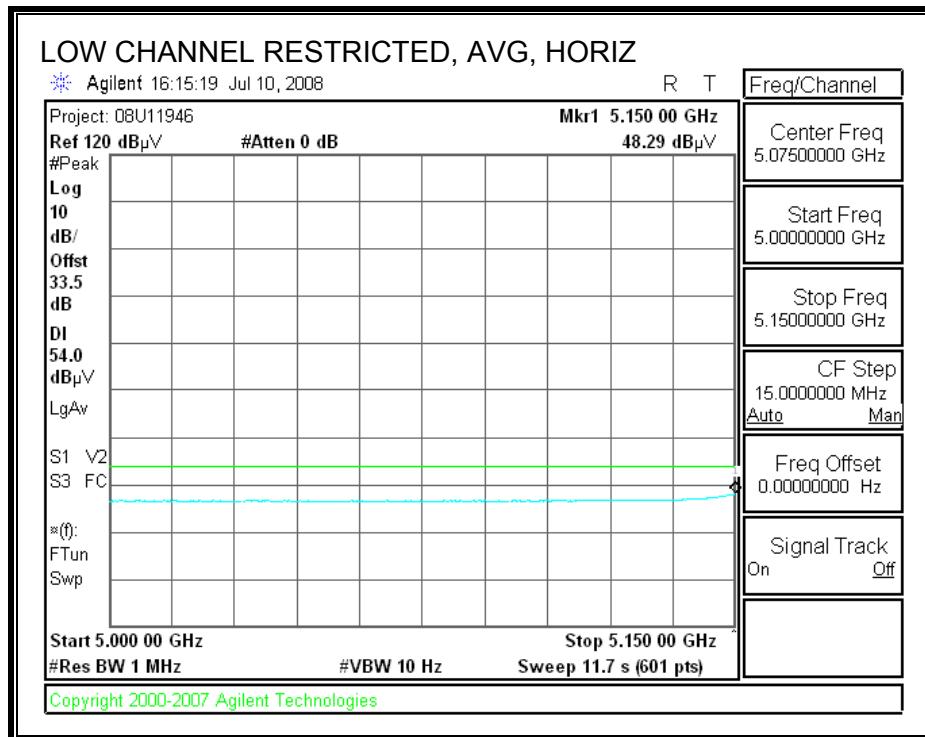
HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber																																																																																					
<p>Company: Intel Project #: 08U11946 Date: 7/14/2008 Test Engineer: William Zhuang Configuration: Laptop stand alone Mode: 5.2GHz Tx On</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>T60: S/N: 2238 @3m</td> <td>T34 HP 8449B</td> <td></td> <td colspan="4"></td> <td>FCC 15.205</td> </tr> <tr> <td colspan="18">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="9">Peak Measurements RBW=VBW=1MHz</td> </tr> <tr> <td>Thanh 177079008</td> <td></td> <td>C-5m Chamber</td> <td colspan="4"></td> <td>R_002</td> <td colspan="9">Average Measurements RBW=1MHz; VBW=10Hz</td> </tr> </table>																		Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz				Limit	T60: S/N: 2238 @3m	T34 HP 8449B						FCC 15.205	Hi Frequency Cables																		2 foot cable	3 foot cable	12 foot cable	HPF				Reject Filter	Peak Measurements RBW=VBW=1MHz									Thanh 177079008		C-5m Chamber					R_002	Average Measurements RBW=1MHz; VBW=10Hz								
Horn 1-18GHz	Pre-amplifier 1-26GHz	Pre-amplifier 26-40GHz	Horn > 18GHz				Limit																																																																														
T60: S/N: 2238 @3m	T34 HP 8449B						FCC 15.205																																																																														
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Thanh 177079008		C-5m Chamber					R_002	Average Measurements RBW=1MHz; VBW=10Hz																																																																													
f GHz	Dist (m)	Read Pk dBuV	Read Avg dBuV	AF	CL	Amp dB	D Corr dB	Fltr	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)																																																																						
a Mode, Low Ch. 5180MHz, Chain A																																																																																					
15.540	3.0	42.9	29.8	38.0	0.8	-32.2	0.0	0.0	49.4	36.3	74	54	-24.6	-17.7	V																																																																						
15.540	3.0	43.8	29.9	38.0	0.8	-32.2	0.0	0.0	50.4	36.4	74	54	-23.6	-17.6	H																																																																						
Rev. 4.12.7																																																																																					
f	Measurement Frequency			Amp	Preamp Gain							Avg Lim	Average Field Strength Limit																																																																								
Dist	Distance to Antenna			D Corr	Distance Correct to 3 meters							Pk Lim	Peak Field Strength Limit																																																																								
Read	Analyzer Reading			Avg	Average Field Strength @ 3 m							Avg Mar	Margin vs. Average Limit																																																																								
AF	Antenna Factor			Peak	Calculated Peak Field Strength							Pk Mar	Margin vs. Peak Limit																																																																								
CL	Cable Loss			HPF	High Pass Filter																																																																																

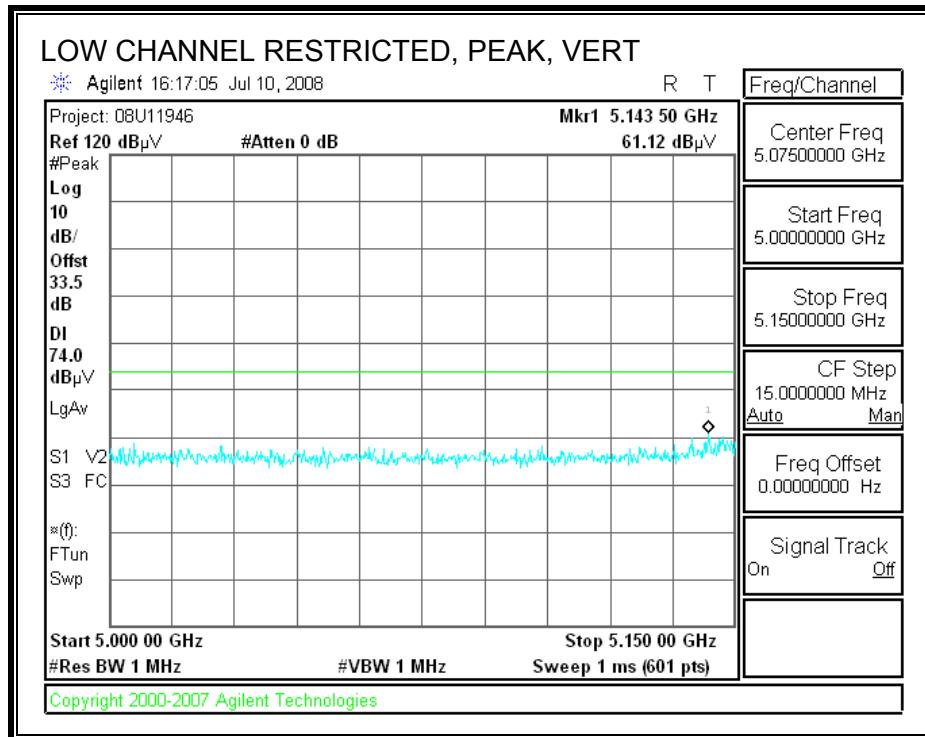
7.3.2. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT20 MODE IN THE LOWER 5.2 GHz BAND

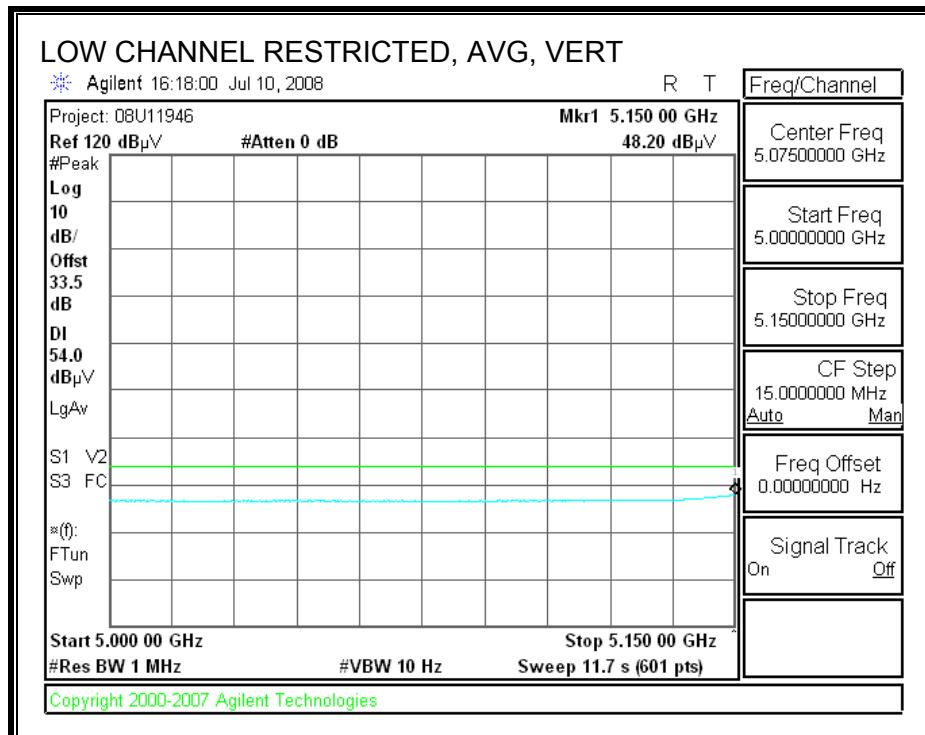
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL), CHAIN C





RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



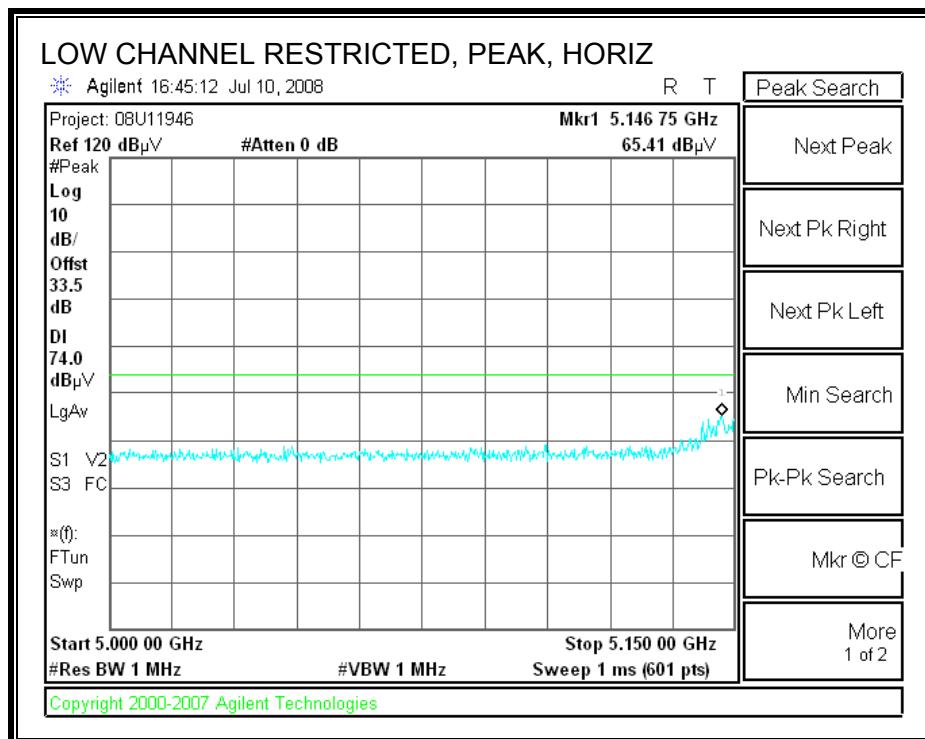


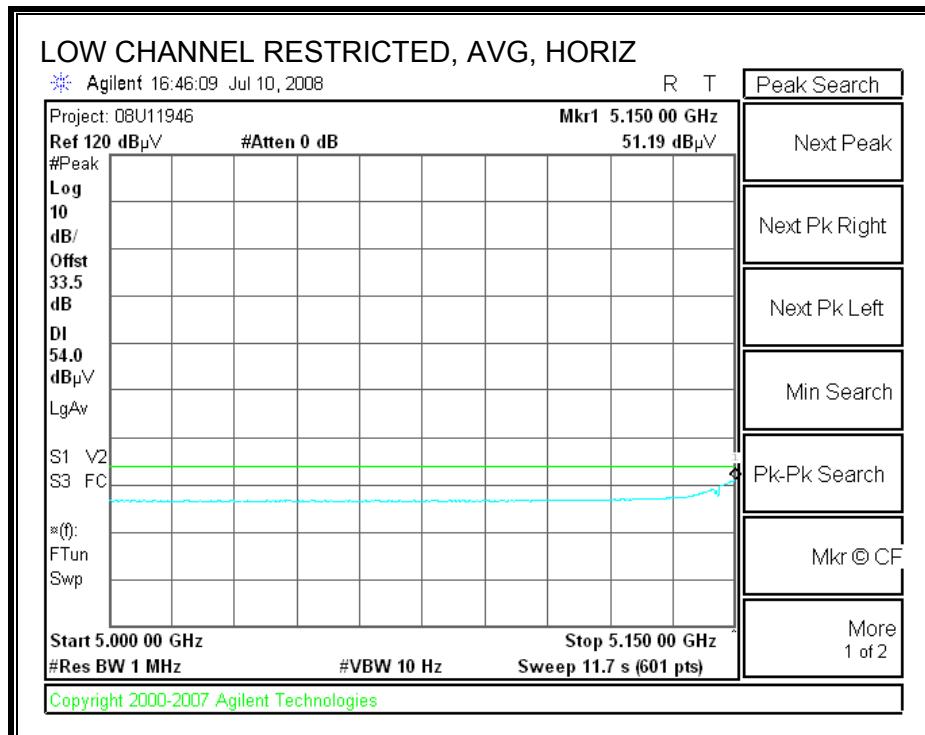
HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Company: Intel Project #: 08U11946 Date: 7/14/2008 Test Engineer: William Zhuang Configuration: Laptop stand alone Mode: 5.2GHz Tx On															
<u>Test Equipment:</u>															
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit			
T60; S/N: 2238 @3m			T34 HP 8449B									FCC 15.205			
Hi Frequency Cables															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			
Thanh 177079008						C-5m Chamber						R_002			
<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)
HT20 Mode, Low Ch 5180MHz, Chain C															
15.540	3.0	42.1	29.8	38.0	0.8	-32.2	0.0	0.0	48.6	36.3	74	54	-25.4	-17.7	V
15.540	3.0	42.4	29.6	38.0	0.8	-32.2	0.0	0.0	48.9	36.1	74	54	-25.1	-17.9	H
Rev. 4.12.7															
f	Measurement Frequency				Amp	Preamp Gain				Avg Lim	Average Field Strength Limit				
Dist	Distance to Antenna				D Corr	Distance Correct to 3 meters				Pk Lim	Peak Field Strength Limit				
Read	Analyzer Reading				Avg	Average Field Strength @ 3 m				Avg Mar	Margin vs. Average Limit				
AF	Antenna Factor				Peak	Calculated Peak Field Strength				Pk Mar	Margin vs. Peak Limit				
CL	Cable Loss				HPF	High Pass Filter									

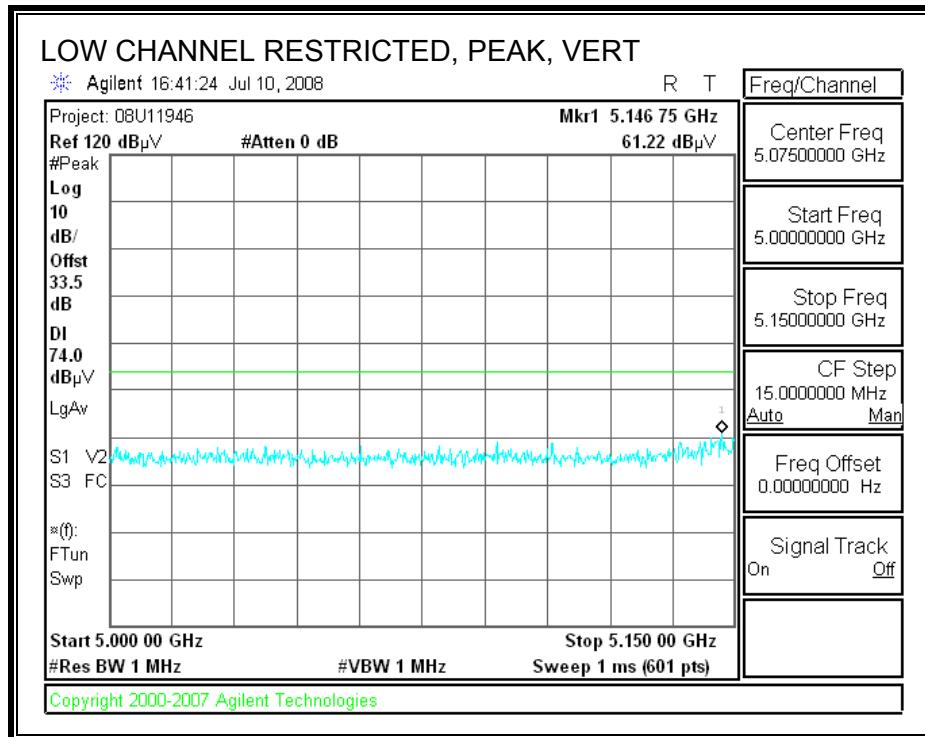
7.3.3. TRANSMITTER ABOVE 1 GHz FOR 802.11n HT40 MODE IN THE LOWER 5.2 GHz BAND

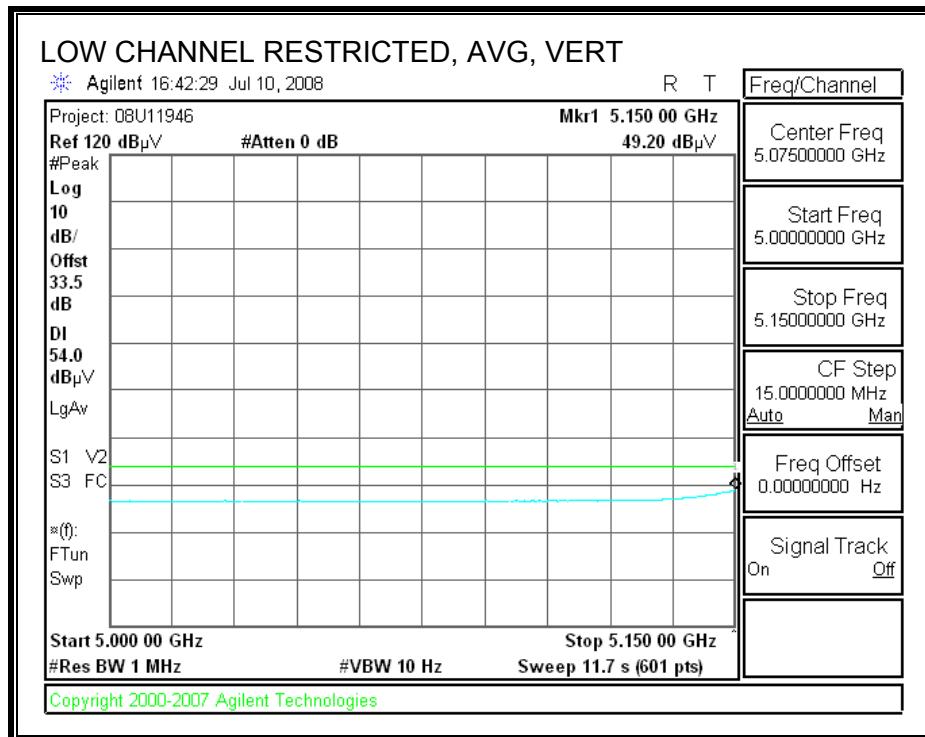
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL), CHAIN A





RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)





HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber															
Company: Intel Project #: 08U11946 Date: 7/14/2008 Test Engineer: William Zhuang Configuration: Laptop stand alone Mode: 5.2GHz Tx On															
<u>Test Equipment:</u>															
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit			
T60; S/N: 2238 @3m			T34 HP 8449B									FCC 15.205			
Hi Frequency Cables															
2 foot cable			3 foot cable			12 foot cable			HPF			Reject Filter			
Thanh 177079008						C-5m Chamber						R_002			
<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)
HT40 Mode, Low Ch. 5190MHz, Chain A															
15.570	3.0	41.4	29.2	38.0	0.8	-32.2	0.0	0.0	48.0	35.7	74	54	-26.0	-18.3	V
15.570	3.0	41.5	29.2	38.0	0.8	-32.2	0.0	0.0	48.0	35.8	74	54	-26.0	-18.2	H
Rev. 4.12.7															
f	Measurement Frequency			Amp	Preamp Gain						Avg Lim	Average Field Strength Limit			
Dist	Distance to Antenna			D Corr	Distance Correct to 3 meters						Pk Lim	Peak Field Strength Limit			
Read	Analyzer Reading			Avg	Average Field Strength @ 3 m						Avg Mar	Margin vs. Average Limit			
AF	Antenna Factor			Peak	Calculated Peak Field Strength						Pk Mar	Margin vs. Peak Limit			
CL	Cable Loss			HPF											

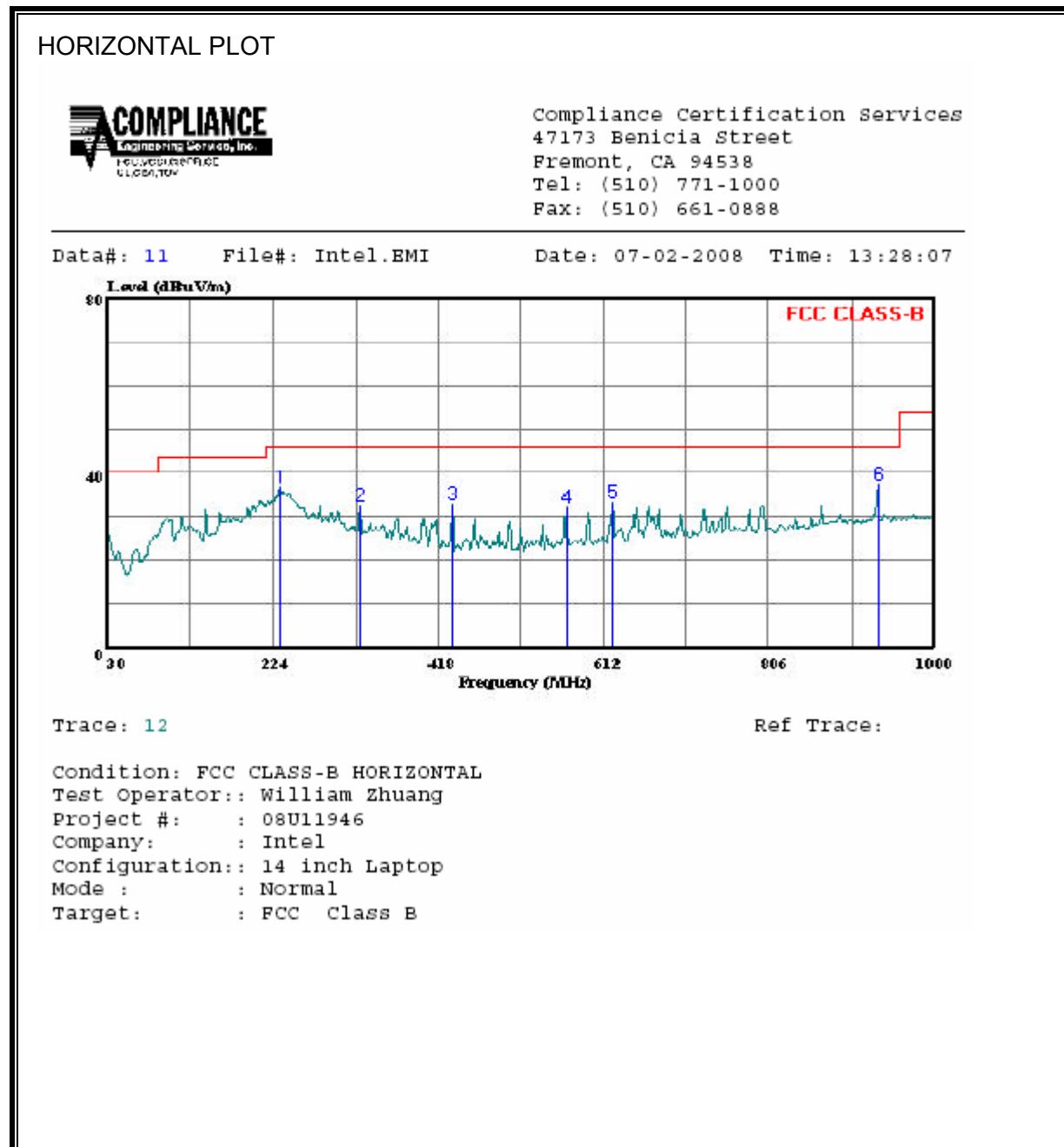
7.4. RECEIVER ABOVE 1 GHz

Note: No emissions were found within above 1GHz of 20dB below the system noise.

7.5. WORST-CASE BELOW 1 GHz

14 NCNES LAPTOP

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



HORIZONTAL DATA

		Read		Limit	Over	
	Freq	Level	Factor	Level	Line	Limit
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	232.730	49.89	-13.22	36.67	46.00	-9.33 Peak
2	324.880	42.64	-9.97	32.67	46.00	-13.33 Peak
3	434.490	41.19	-8.27	32.92	46.00	-13.08 Peak
4	567.380	38.29	-6.16	32.13	46.00	-13.87 Peak
5	623.640	38.60	-5.35	33.25	46.00	-12.75 Peak
6	934.040	37.80	-0.40	37.40	46.00	-8.60 Peak

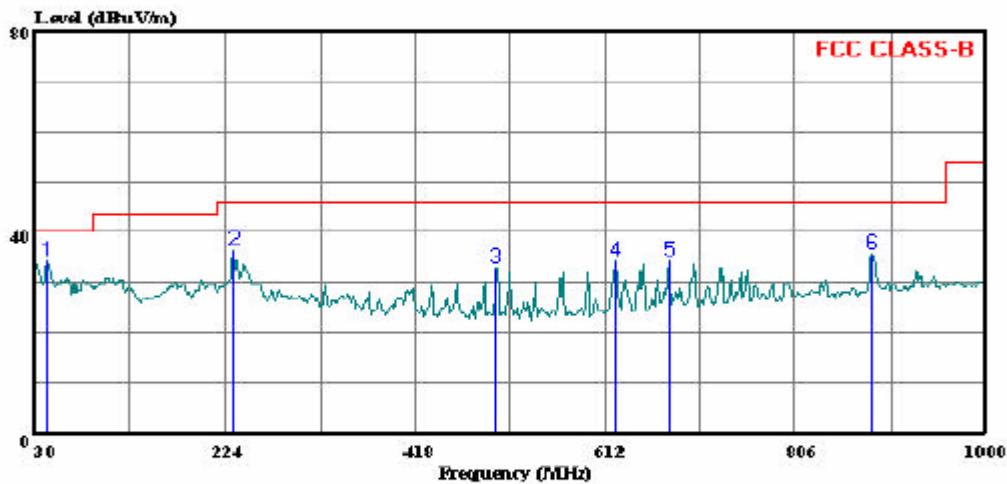
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



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

Data#: 14 File#: Intel.EMI Date: 07-18-2008 Time: 20:34:03



Trace: 13

Ref Trace:

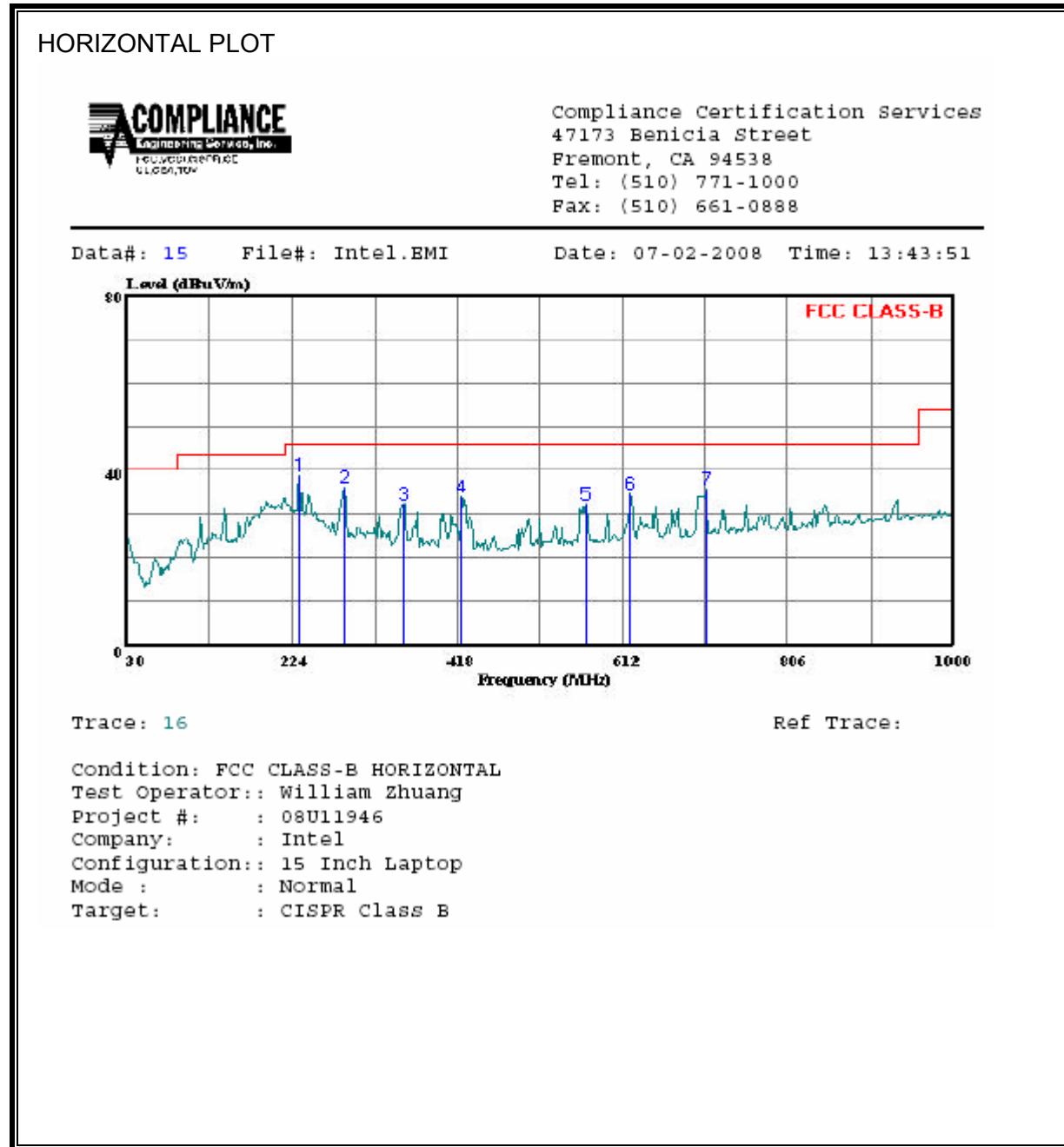
Condition: FCC CLASS-B VERTICAL
Test Operator:: William Zhuang
Project #: 08U11946
Company: Intel
Configuration:: 14 Inch Laptop
Mode : Normal
Target: FCC Class B

VERTICAL DATA

		Read			Limit	Over	
Freq	Level	Factor	Level	Line	Limit	Remark	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	
1	42.610	47.27	-13.12	34.15	40.00	-5.85	Peak
2	232.730	49.47	-13.22	36.25	46.00	-9.75	Peak
3	499.480	40.12	-7.19	32.93	46.00	-13.07	Peak
4	623.640	39.55	-5.35	34.20	46.00	-11.80	Peak
5	676.990	38.63	-4.42	34.21	46.00	-11.79	Peak
6	885.540	36.81	-1.18	35.63	46.00	-10.37	Peak

15 INCHES LAPTOP

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



HORIZONTAL DATA

Freq	Read		Limit		Over	
	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB
1	232.730	51.91	-13.22	38.69	46.00	-7.31 Peak
2	286.080	47.22	-11.14	36.08	46.00	-9.92 Peak
3	353.980	41.71	-9.53	32.18	46.00	-13.82 Peak
4	421.880	42.27	-8.45	33.82	46.00	-12.18 Peak
5	567.380	38.45	-6.16	32.29	46.00	-13.71 Peak
6	620.730	39.81	-5.35	34.46	46.00	-11.54 Peak
7	710.940	39.63	-3.83	35.80	46.00	-10.20 Peak

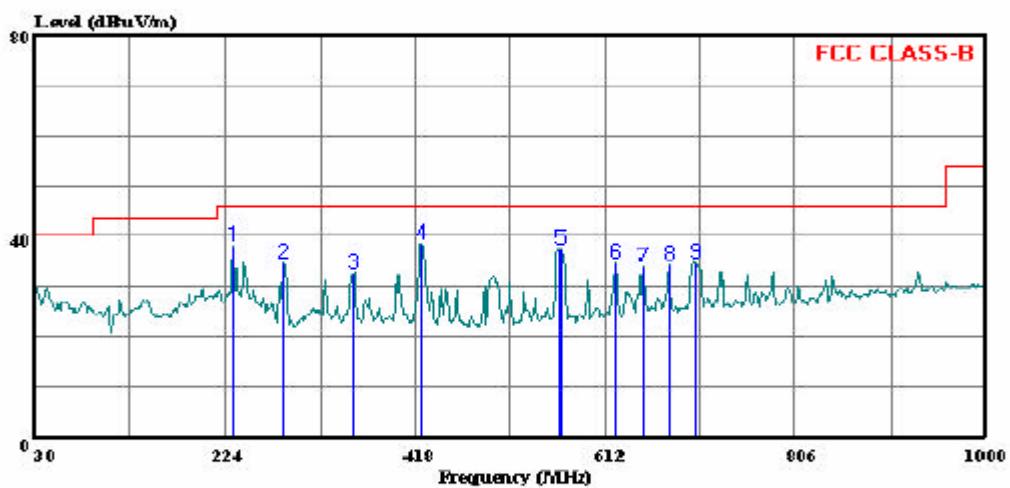
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, VERTICAL)

VERTICAL PLOT



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

Data#: 17 File#: Intel.EMI Date: 07-02-2008 Time: 13:52:10



Trace: 18

Ref Trace:

Condition: FCC CLASS-B VERTICAL
Test Operator:: William Zhuang
Project #: : 08U11946
Company: : Intel
Configuration:: 15 Inch Laptop
Mode : : Normal
Target: : FCC Class B

VERTICAL DATA

		Read			Limit	Over	
	Freq	Level	Factor	Level	Line	Limit	Remark
	MHz	dBuV		dB	dBuV/m	dBuV/m	dB
1	232.730	51.15	-13.22	37.93	46.00	-8.07	Peak
2	284.140	45.87	-11.23	34.64	46.00	-11.36	Peak
3	353.980	42.08	-9.53	32.55	46.00	-13.45	Peak
4	424.790	47.00	-8.41	38.59	46.00	-7.41	Peak
5	565.440	43.67	-6.16	37.51	46.00	-8.49	Peak
6	623.640	39.85	-5.35	34.50	46.00	-11.50	Peak
7	649.830	38.88	-4.97	33.91	46.00	-12.09	Peak
8	676.990	38.68	-4.42	34.26	46.00	-11.74	Peak
9	704.150	38.62	-3.89	34.73	46.00	-11.27	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

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4.

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

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

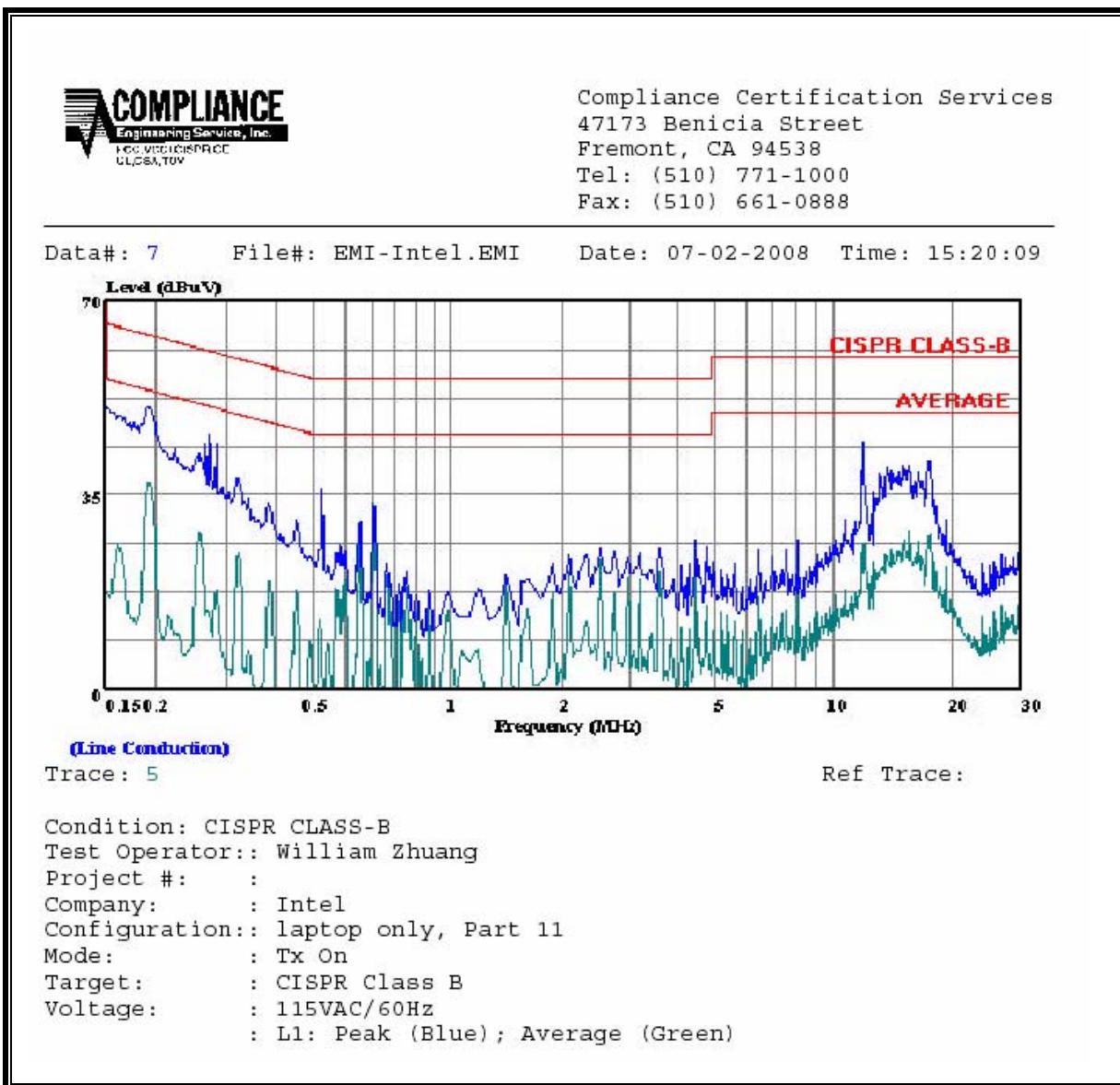
RESULTS

14 INCHES LAPTOP

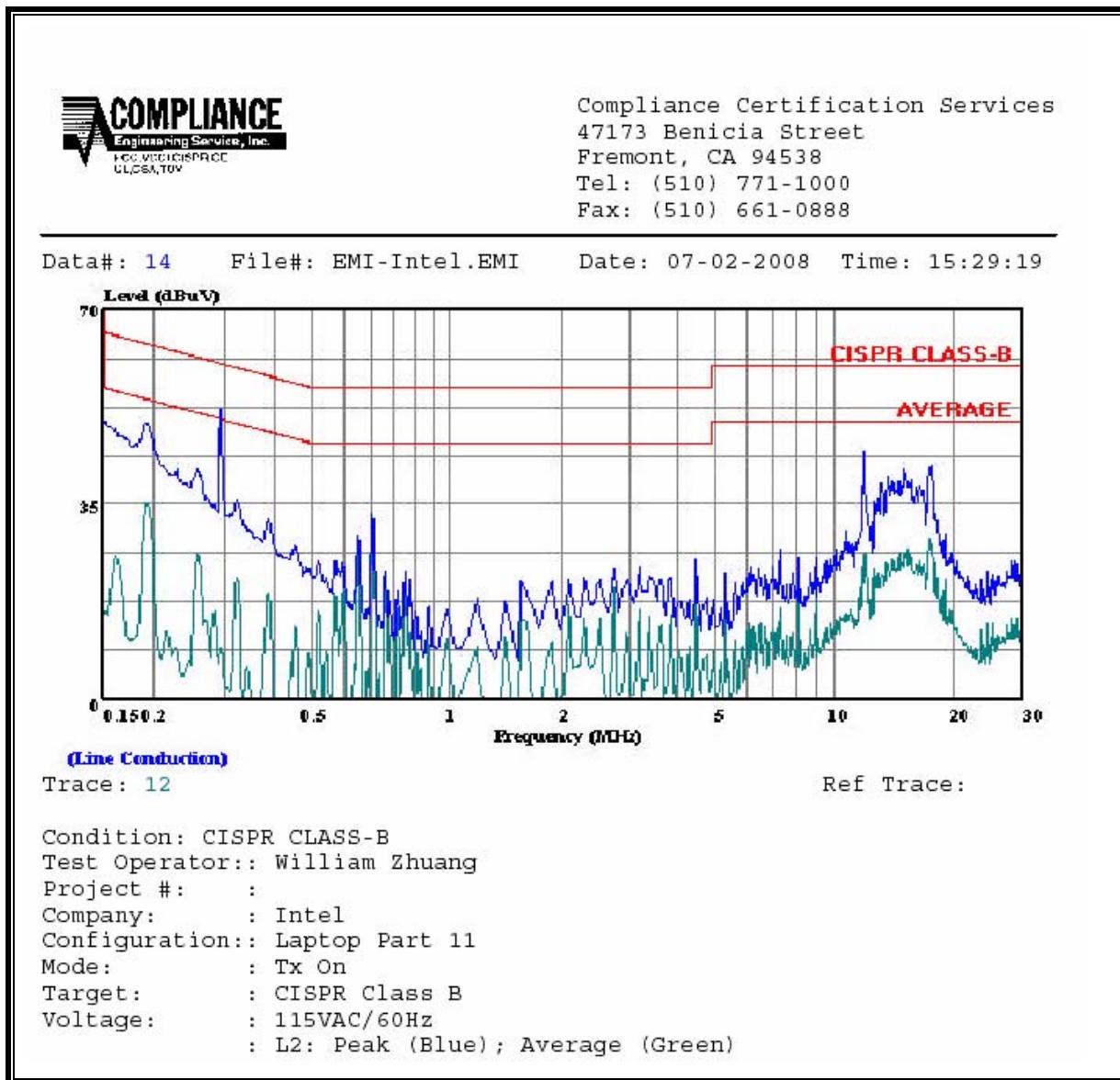
6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)										
Freq. (MHz)	Reading			Class	Limit	FCC B		Margin		Remark
	PK (dBuV)	QP (dBuV)	AV (dBuV)			(dB)	QP	AV	QP (dB)	
0.19	50.81	--	37.15	0.00	63.95	53.95	-13.14	-16.80		L1
12.00	44.50	--	26.40	0.00	60.00	50.00	-15.50	-23.60		L1
17.66	41.28	--	28.54	0.00	60.00	50.00	-18.72	-21.46		L1
0.29	52.16	--	21.76	0.00	60.41	50.41	-8.25	-28.65		L2
12.00	44.60	--	26.16	0.00	60.00	50.00	-15.40	-23.84		L2
17.66	42.26	--	27.76	0.00	60.00	50.00	-17.74	-22.24		L2
6 Worst Data										

LINE 1 RESULTS



LINE 2 RESULTS

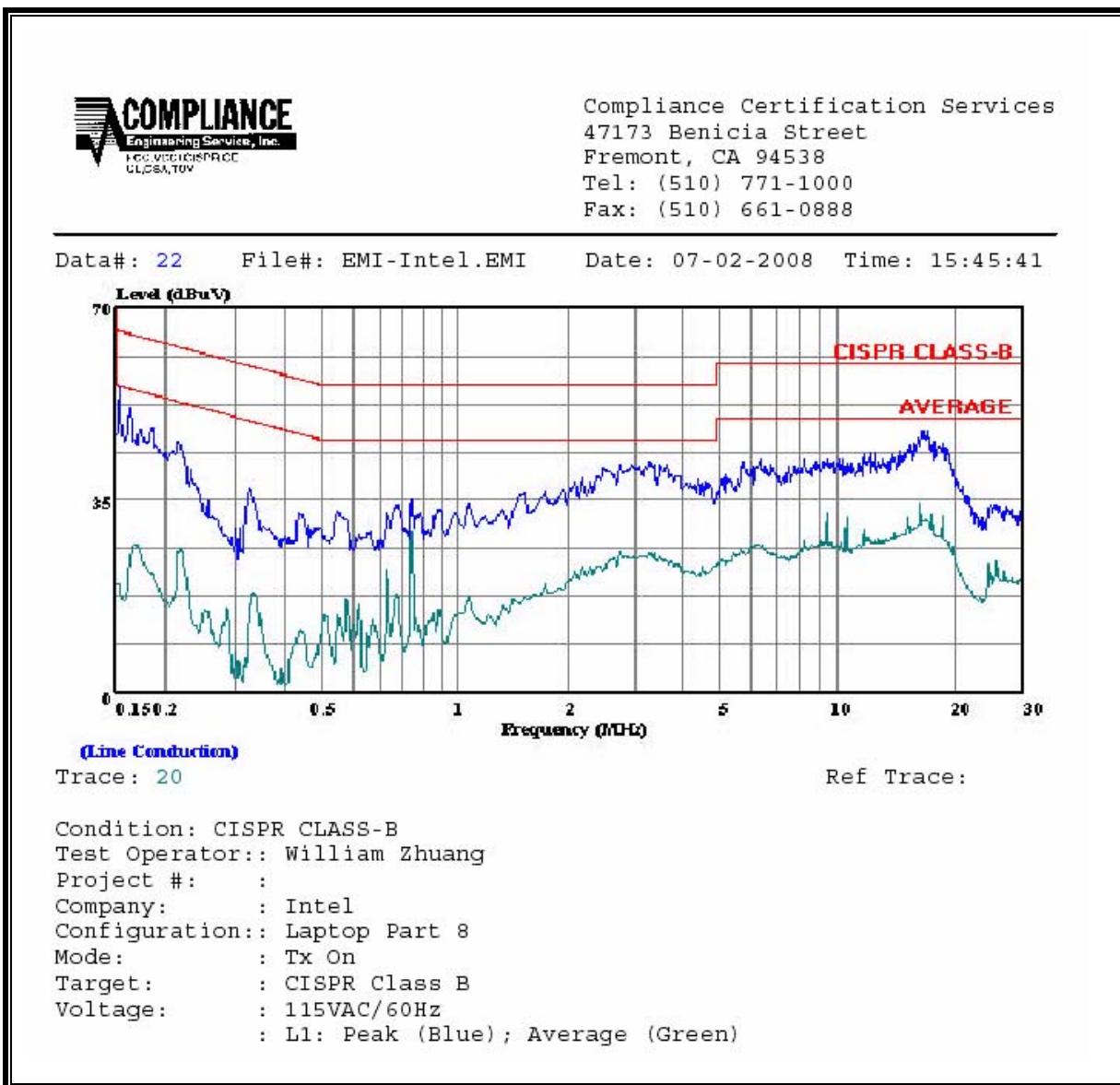


15 INCHES LAPTOP

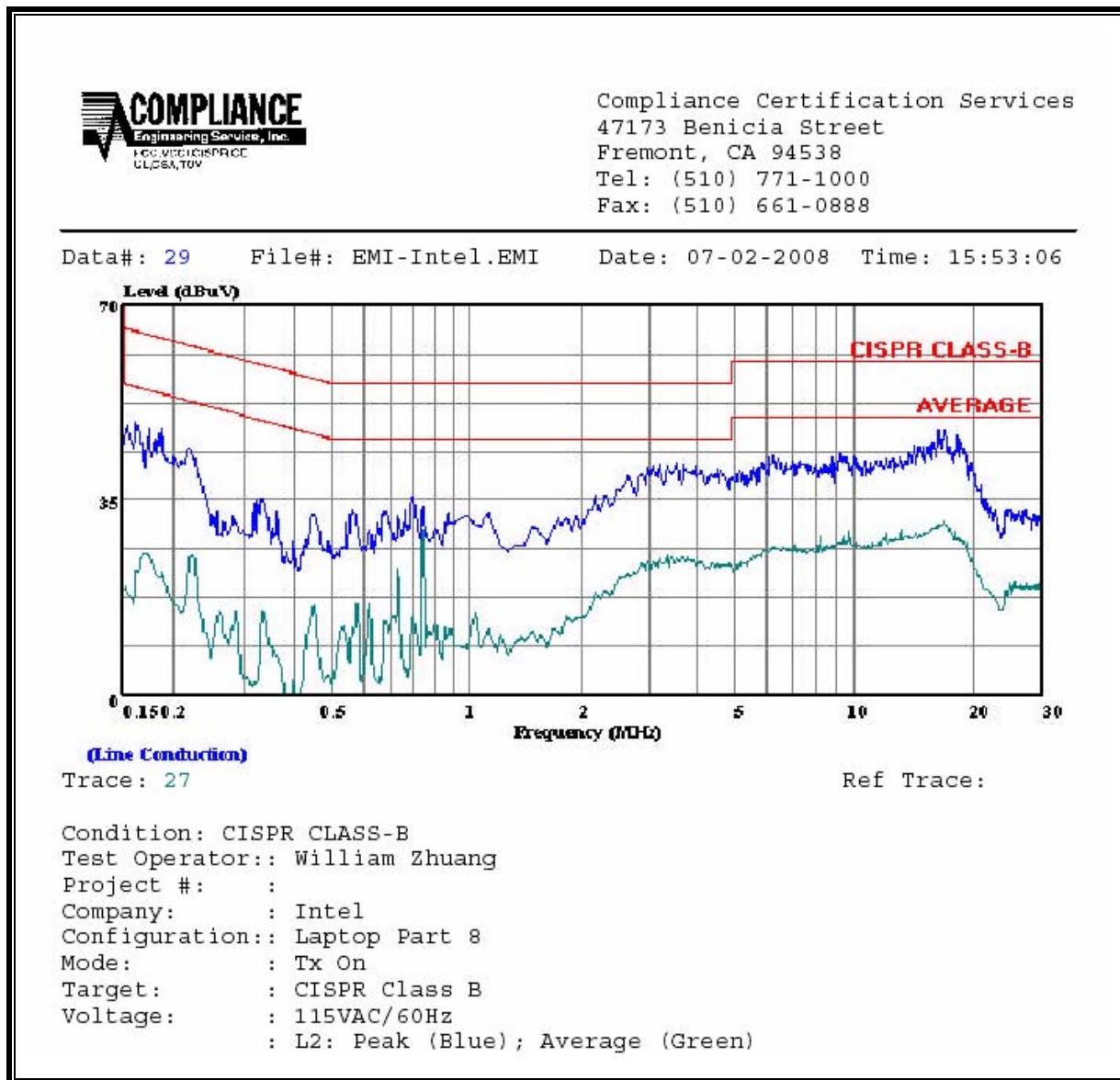
6 WORST EMISSIONS

CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq. (MHz)	Reading			Closs (dB)	Limit	FCC_B	Margin		Remark
	PK (dBuV)	QP (dBuV)	AV (dBuV)				QP (dB)	AV (dB)	
0.15	55.67	--	26.97	0.00	65.94	55.94	-10.27	-28.97	L1
0.16	51.88	--	29.42	0.00	65.31	55.31	-13.43	-25.89	L1
16.75	47.50	--	34.50	0.00	60.00	50.00	-12.50	-15.50	L1
0.16	49.07	--	25.49	0.00	65.41	55.41	-16.34	-29.92	L2
16.40	47.60	--	31.21	0.00	60.00	50.00	-12.40	-18.79	L2
18.43	46.63	--	29.38	0.00	60.00	50.00	-13.37	-20.62	L2
6 Worst Data									

LINE 1 RESULTS

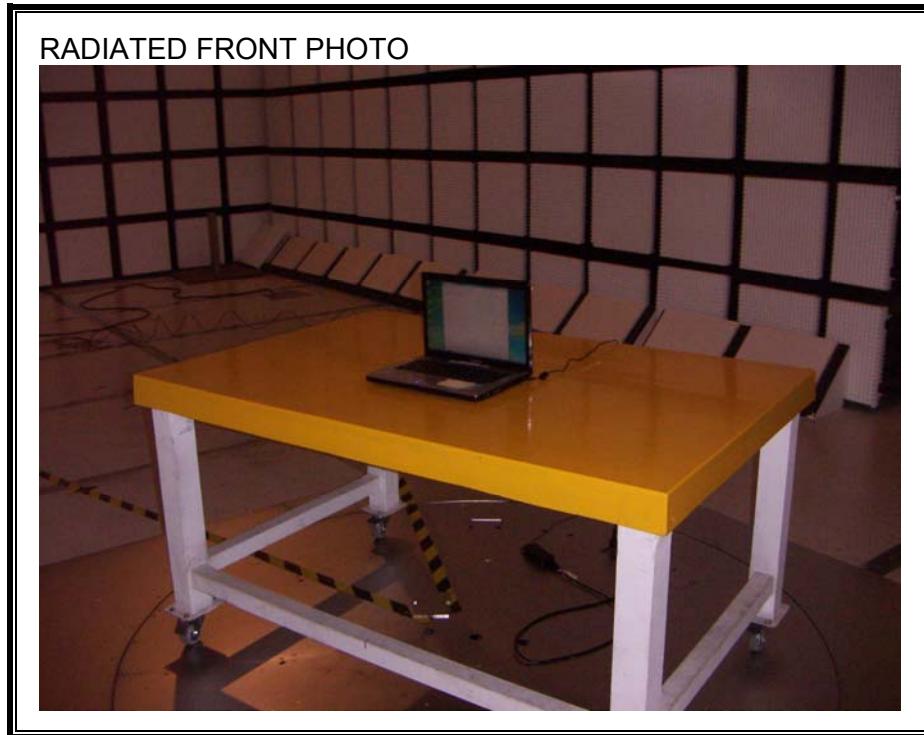


LINE 2 RESULTS



9. SETUP PHOTOS

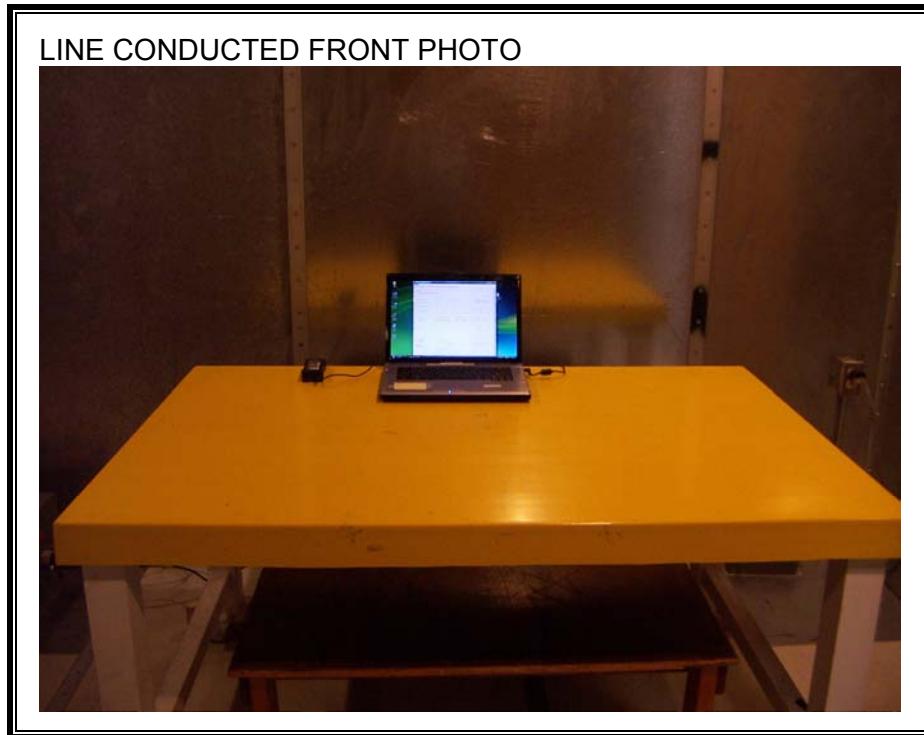
RADIATED RF MEASUREMENT SETUP



RADIATED BACK PHOTO



POWERLINE CONDUCTED EMISSIONS MEASUREMENT SETUP



LINE CONDUCTED BACK PHOTO



END OF REPORT