



FCC CFR47 PART 15 SUBPART E

CERTIFICATION TEST REPORT

FOR

NOTEBOOK PC - INTEL WIMAX-WLAN

FCC MODEL: NP-NC10 - SYSTEM APPROVAL

FCC ID: A3LNC10-512ANXM

REPORT NUMBER: 09I12437-2

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Prepared for

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SUWON-CITY, GYE 443-742, SOUTH KOREA**

Prepared by

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	04/08/09	Initial Issue	T. Chan

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD
416, MAETAN 3-DONG, YEONGTONG-GU
SUWON-CITY, GYE 443-742, SOUTH KOREA

EUT DESCRIPTION: NOTEBOOK PC - INTEL WIMAX-WLAN

FCC MODEL: NP-NC10 - SYSTEM APPROVAL

SERIAL NUMBER: 001D729200B2

DATE TESTED: MARCH 09-19, 2009

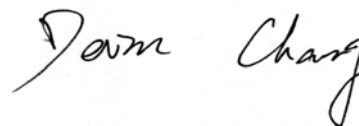
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart E	Pass

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:

Tested By:



THU CHAN
EMC SUPERVISOR
COMPLIANCE CERTIFICATION SERVICES

DEVIN CHANG
EMC ENGINEER
COMPLIANCE CERTIFICATION SERVICES

2. TEST METHODOLOGY

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

3. FACILITIES AND ACCREDITATION

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. 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 Notebook PC - Intel WiMax-WLAN
The radio module is manufactured by Intel.

5.2. MAXIMUM OUTPUT POWER

The measured target power of this device is within $\pm 0.5\text{dB}$ of the original output power. For 5.3GHz band HT40 low channel and 5.5GHz band HT40 high channel, in order to pass the band edge, both average output powers are reduced to $\sim 15\text{dBm}$, no change on other channel or other UNII bands. The manufacturer states that this change will be incorporated in the EEPROM.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA antenna, with a maximum gain of -1.16 dBi for 2.4GHZ Band, 1.16 dBi for 5150-5350MHz band, 0.26 dBi for 5470-5725MHz band, and -0.76 dBi for 5.725 – 5850MHz band.

5.4. SOFTWARE AND FIRMWARE

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

5.5. WORST-CASE CONFIGURATION AND MODE

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

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Samsung	NT-WINCHST-PS2	ES4893GQ900069R	DoC
AC/DC Adapter	Delta	ADP-40MH AB	BA44-00262A	DoC

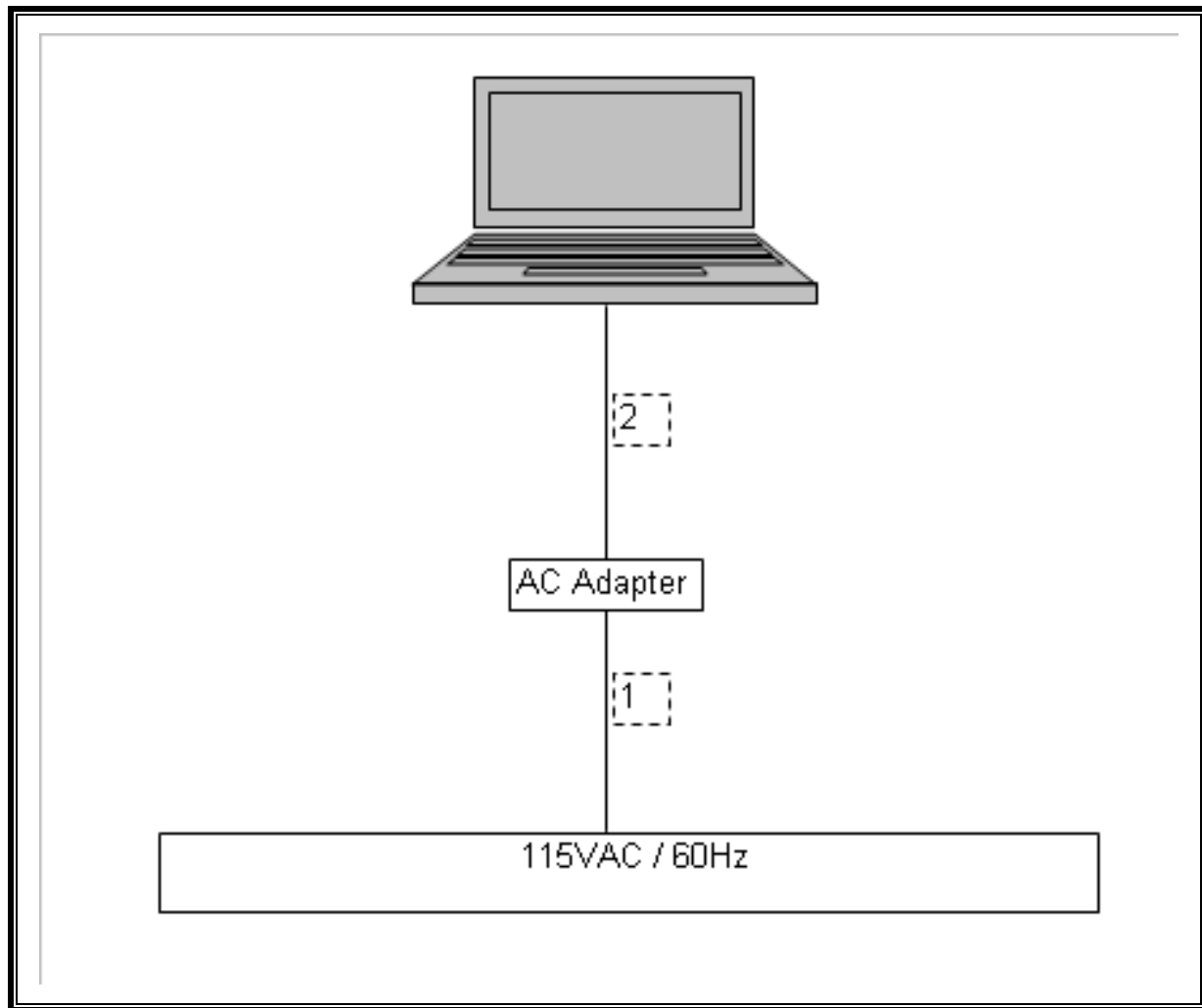
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	US 115V	Un-shielded	1.8m	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	12/27/09
Antenna, Horn, 18 GHz	EMCO	3115	C00872	04/22/09
Preamp, 1000MHz	Sonoma	310N	N02891	03/31/10
Antenna, Bilog, 2 GHz	Sunol Sciences	JB1	C01011	02/11/10
EMI Receiver, 2.9 GHz	Agilent / HP	8542E	C00957	09/19/09
RF Filter Section, 2.9 GHz	Agilent / HP	85420E	C00958	09/19/09
LISN, 30 MHz	FCC	LISN-50/250-25-2	N02625	10/25/09
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/06/09
Antenna, Horn, 26.5 GHz	ARA	SWH-28	C01015	12/28/09
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01012	03/03/10
Highpass Filter, 4.0 GHz	Micro-Tronics	HPM13351	N02709	CNR
Preamplifier, 40 GHz	Miteq	NSP4000-SP2	C00990	12/11/09
Antenna, Horn, 40 GHz	ARA	MWH-2640/B	C00981	04/29/09
ESG VECTOR SIGNAL GENERATOR	Agilent / HP	E4438C	US44271909	09/17/10

7. ANTENNA PORT TEST RESULTS

7.1. 802.11a MODE IN THE 5.2 GHz BAND

7.1.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (1 & 2)

IC RSS-210 A9.2 (1 & 2)

For the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz.

For the 5.25-5.35 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz.

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

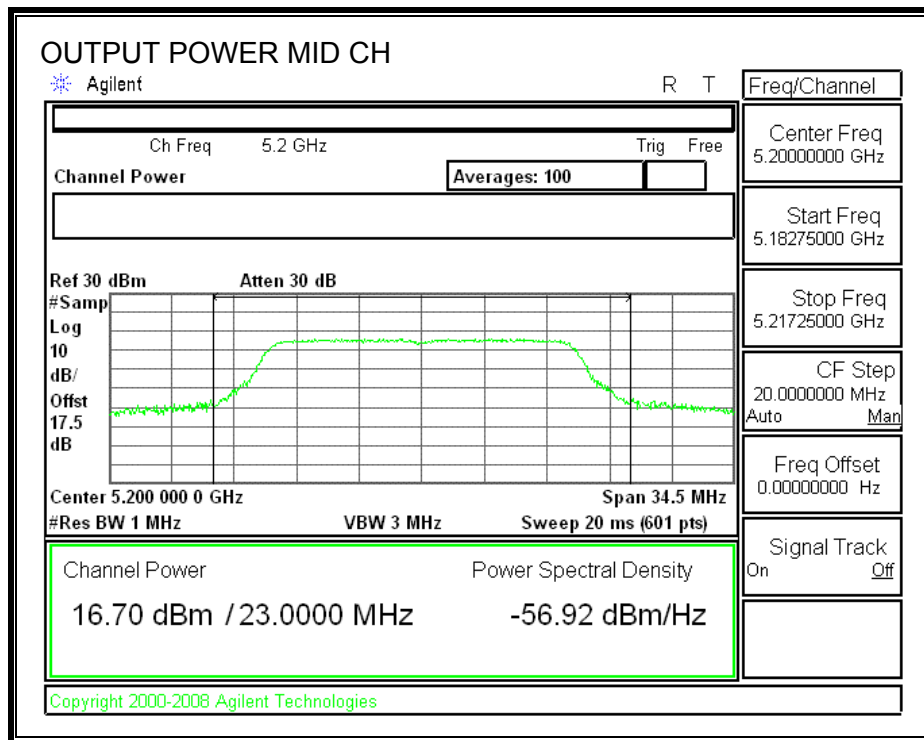
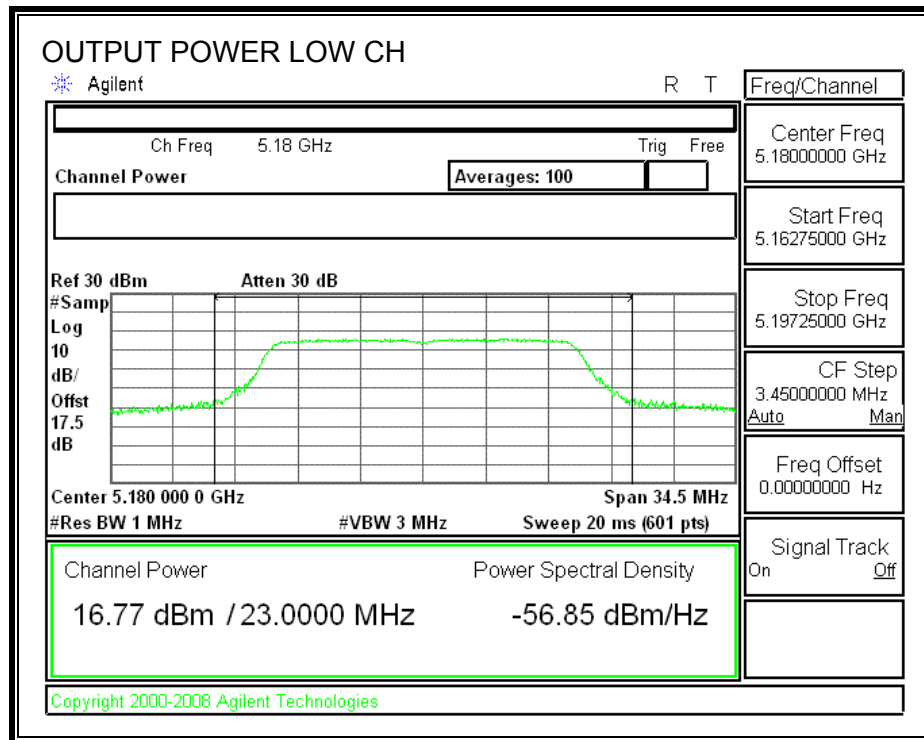
The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

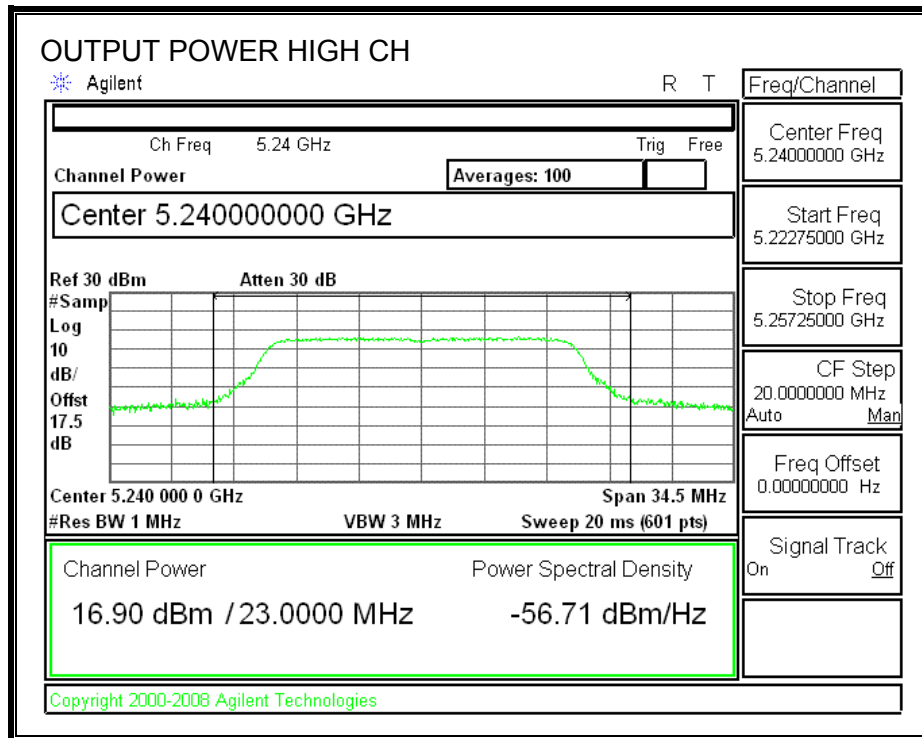
The transmitter output operates continuously therefore Method # 1 is used.

RESULTS

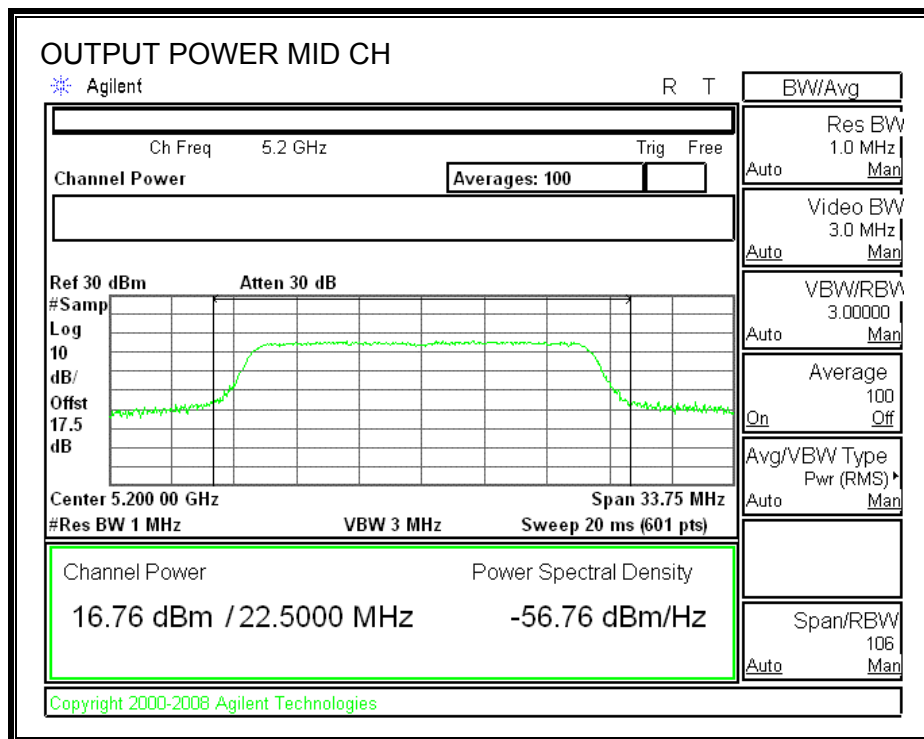
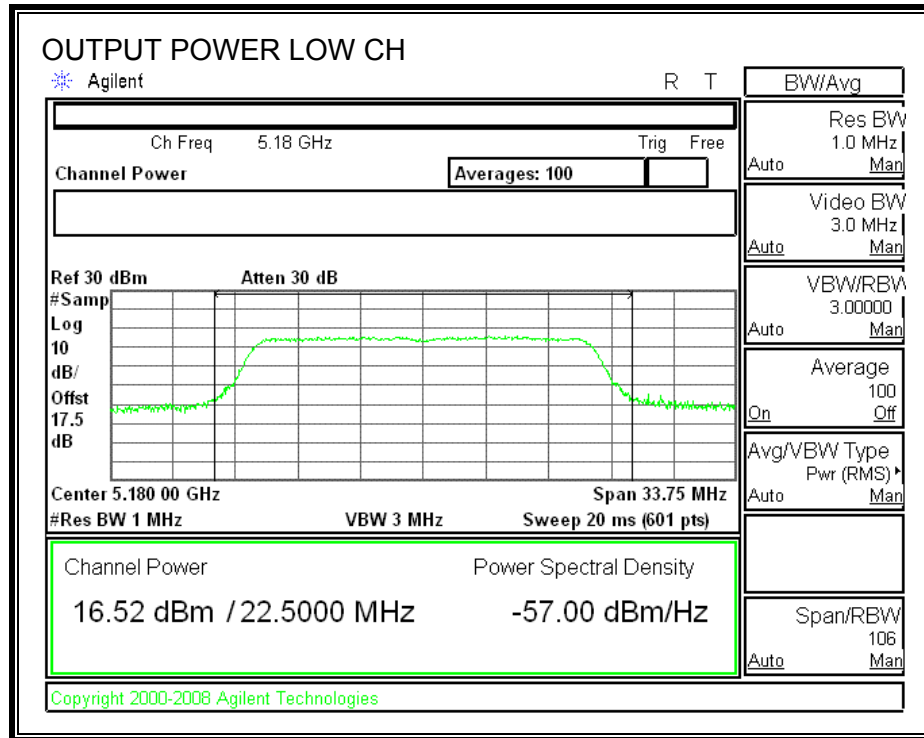
Band	Mode	Channel	Frequency (MHz)	Power (dBm)	Limit (dBm)	Margin (dB)
5.2GHz	a mode	Low	5180	16.77	17.00	-0.23
		Mid	5200	16.70	17.00	-0.30
		High	5240	16.90	17.00	-0.10
5.2GHz	HT20	Low	5180	16.52	17.00	-0.48
		Mid	5200	16.76	17.00	-0.24
		High	5240	16.49	17.00	-0.51
5.2GHz	HT40	Low	5190	16.53	17.00	-0.47
		High	5230	16.74	17.00	-0.26

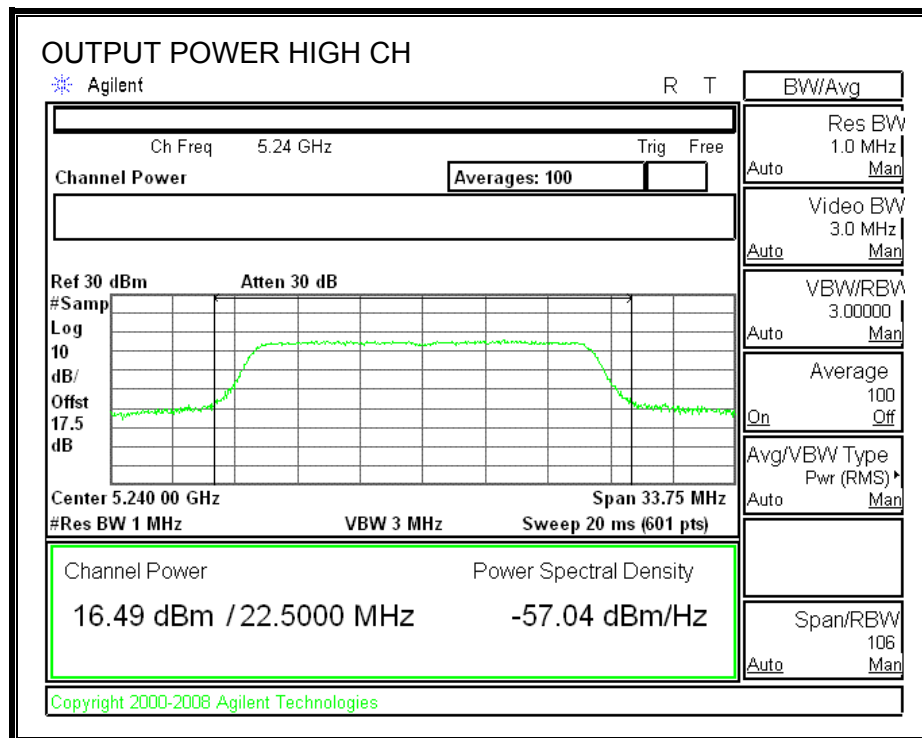
OUTPUT POWER (a mode)



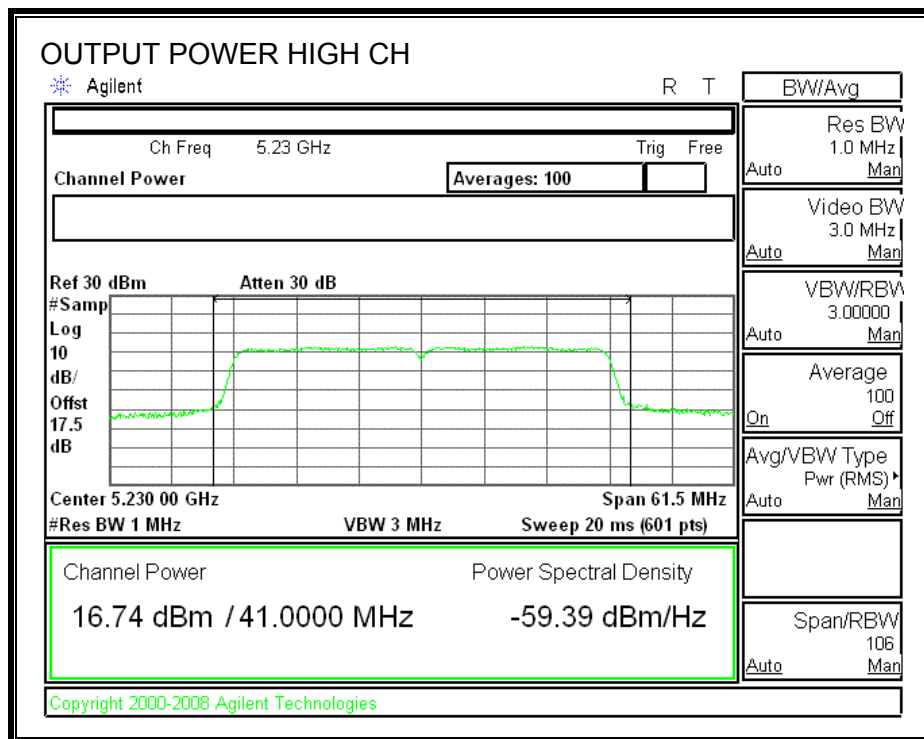
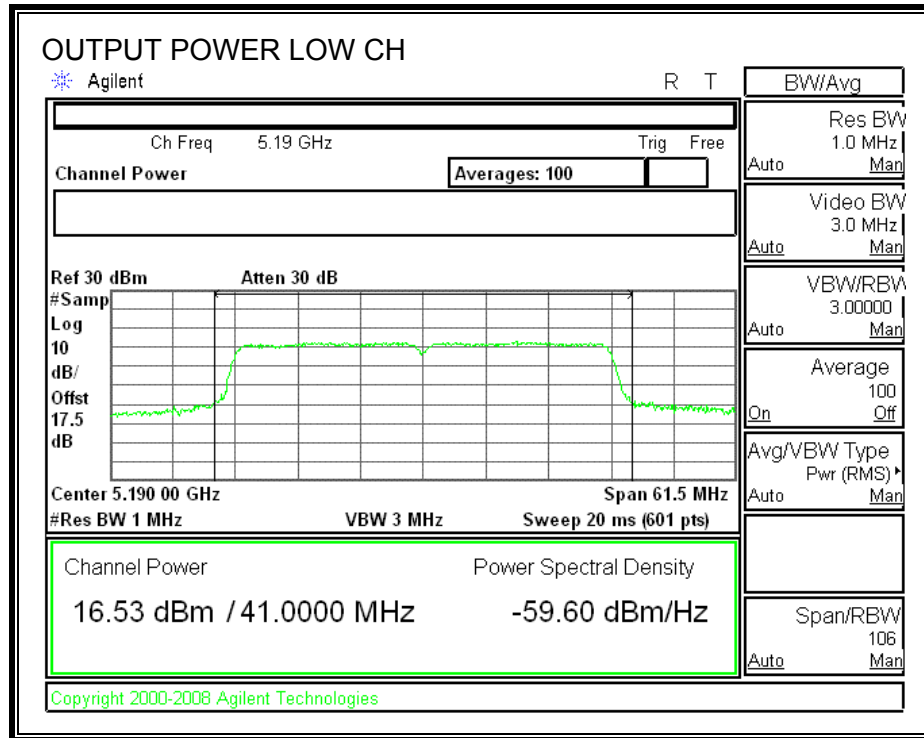


OUTPUT POWER (HT20)





OUTPUT POWER (HT40)



7.2. 802.11a MODE IN THE 5.3 GHz BAND

7.2.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (1 & 2)

IC RSS-210 A9.2 (1 & 2)

For the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz.

For the 5.25-5.35 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz.

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

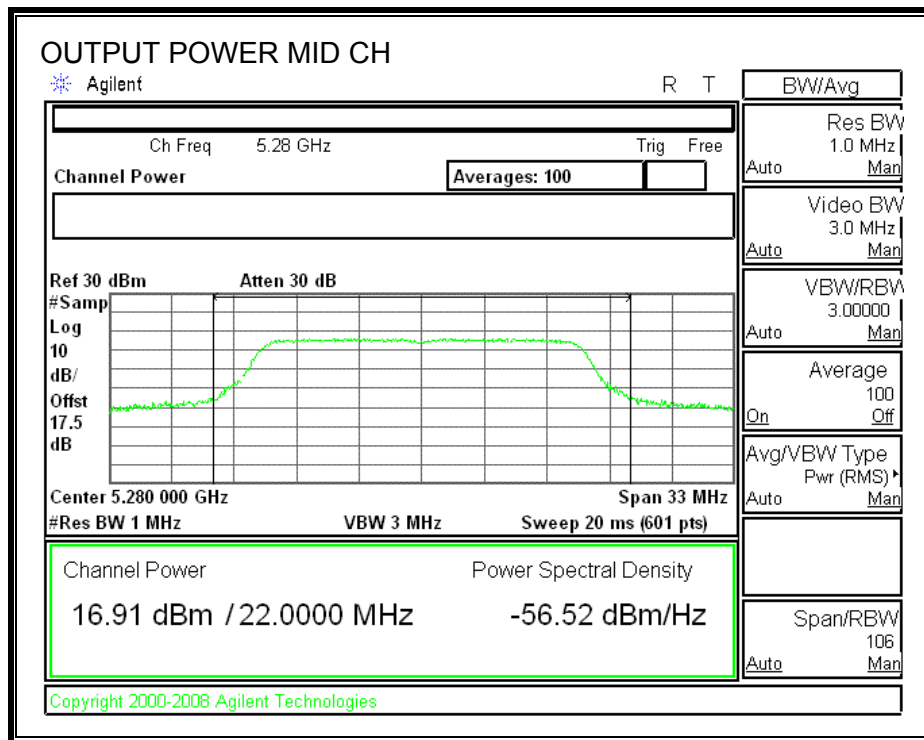
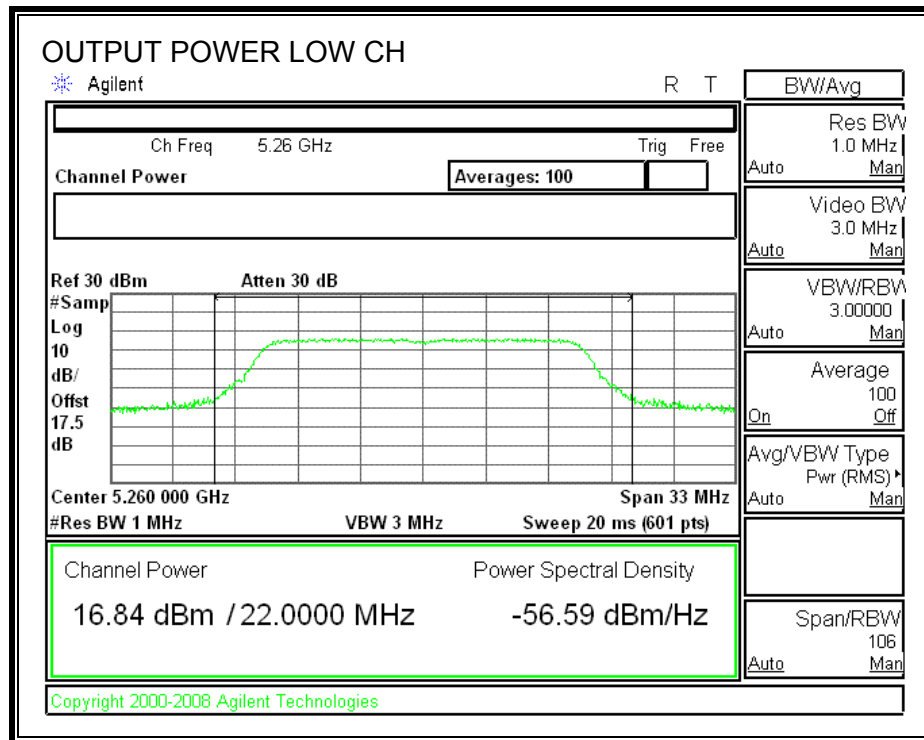
The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

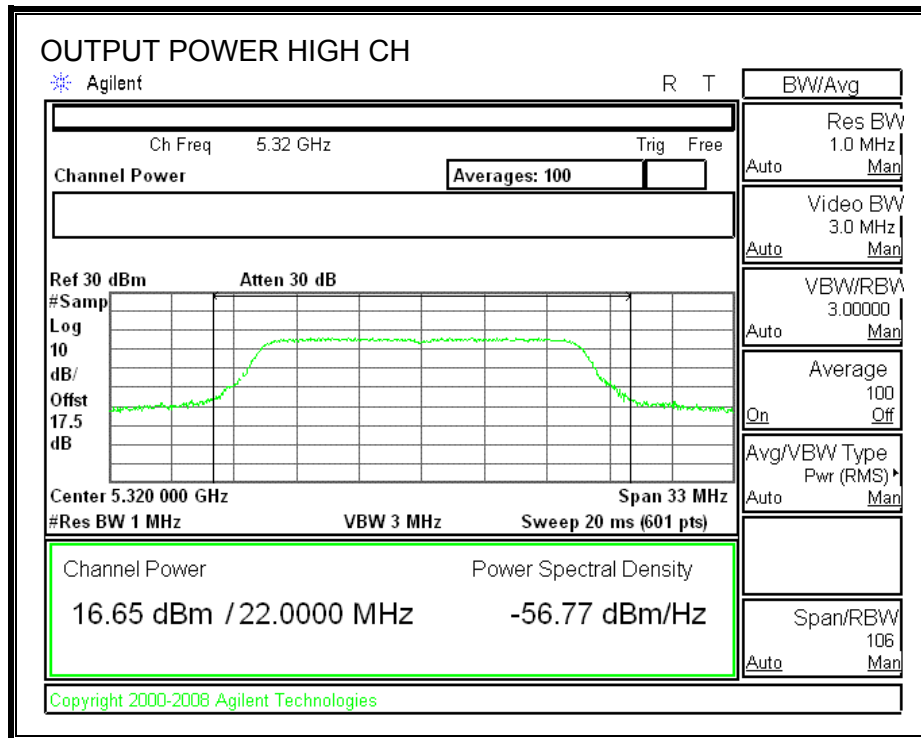
The transmitter output operates continuously therefore Method # 1 is used.

RESULTS

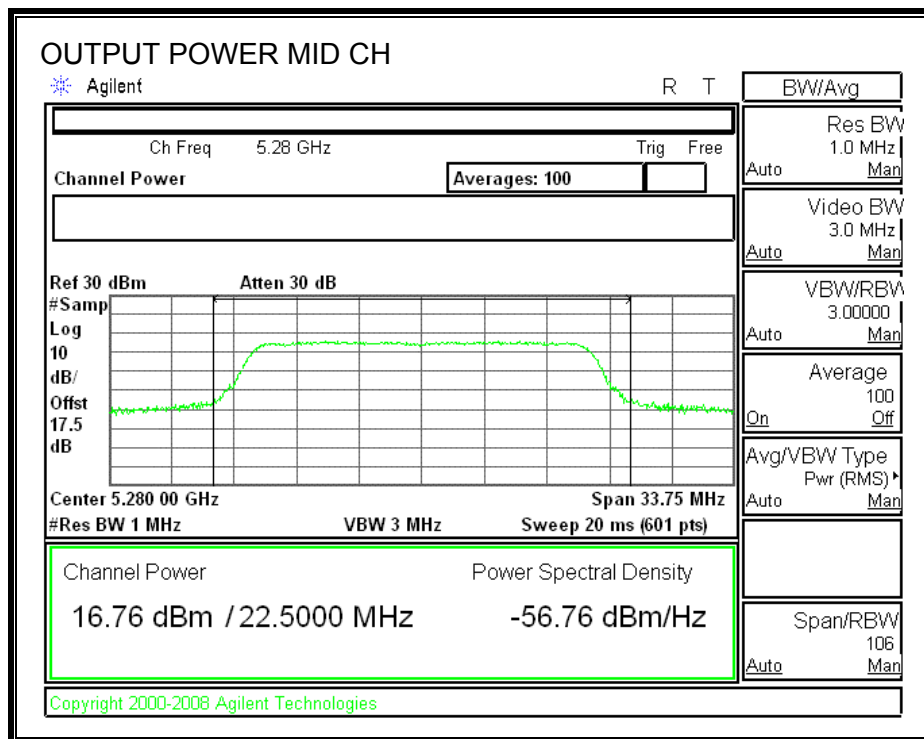
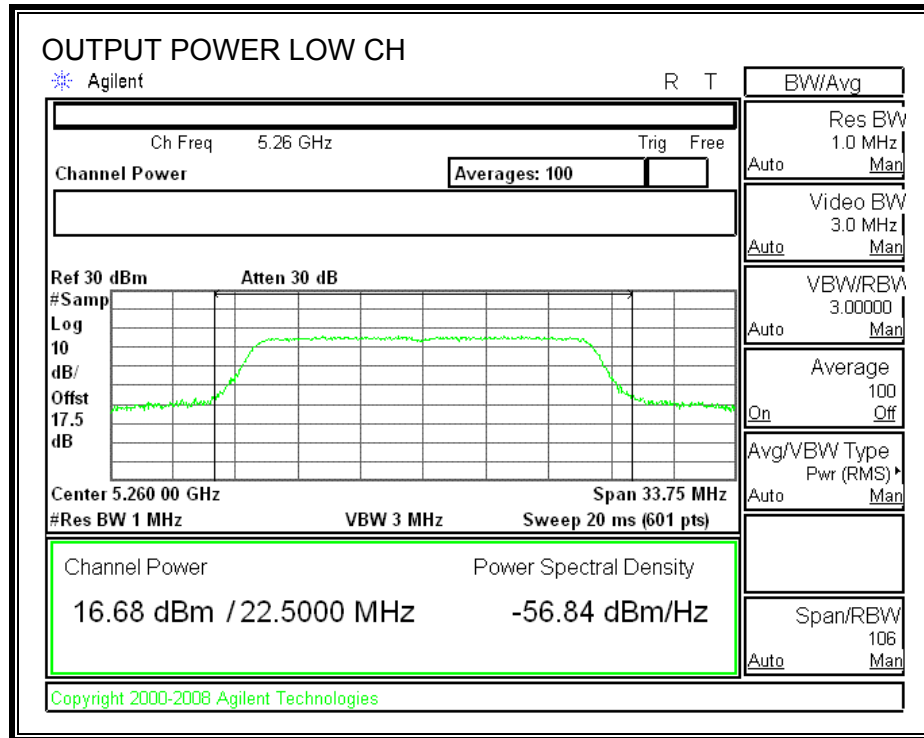
Band	Mode	Channel	Frequency (MHz)	Power (dBm)	Limit (dBm)	Margin (dB)
5.3GHz	a mode	Low	5260	16.84	24.00	-7.16
		Mid	5280	16.91	24.00	-7.09
		High	5320	16.65	24.00	-7.35
5.3GHz	HT20	Low	5260	16.68	24.00	-7.32
		Mid	5280	16.76	24.00	-7.24
		High	5320	16.91	24.00	-7.09
5.3GHz	HT40	Low	5270	16.55	24.00	-7.45
		High	5310	15.04	24.00	-8.96

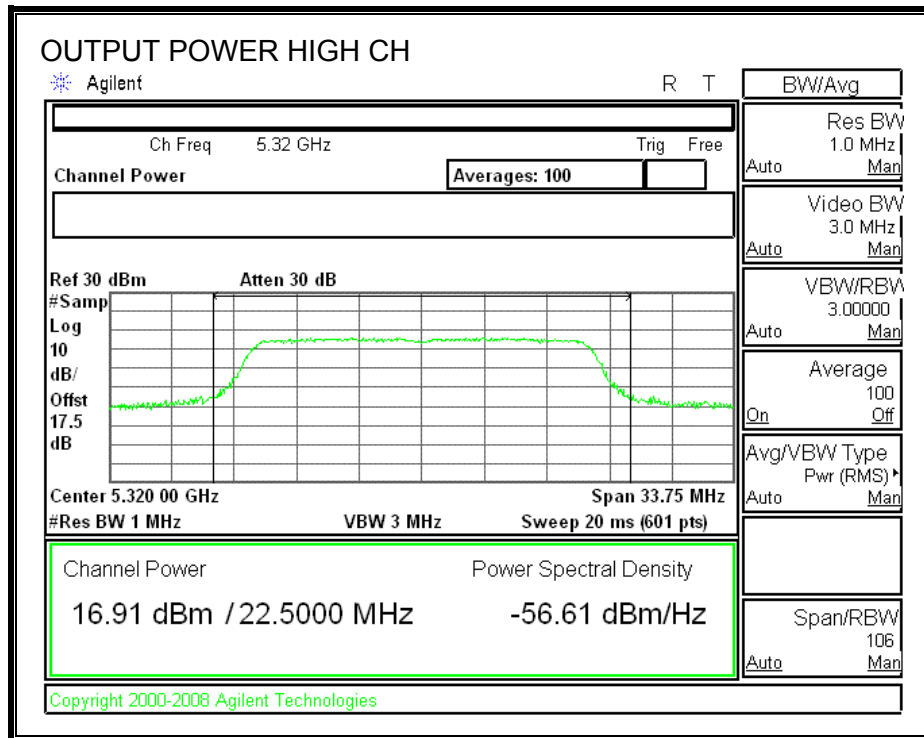
OUTPUT POWER (a mode)



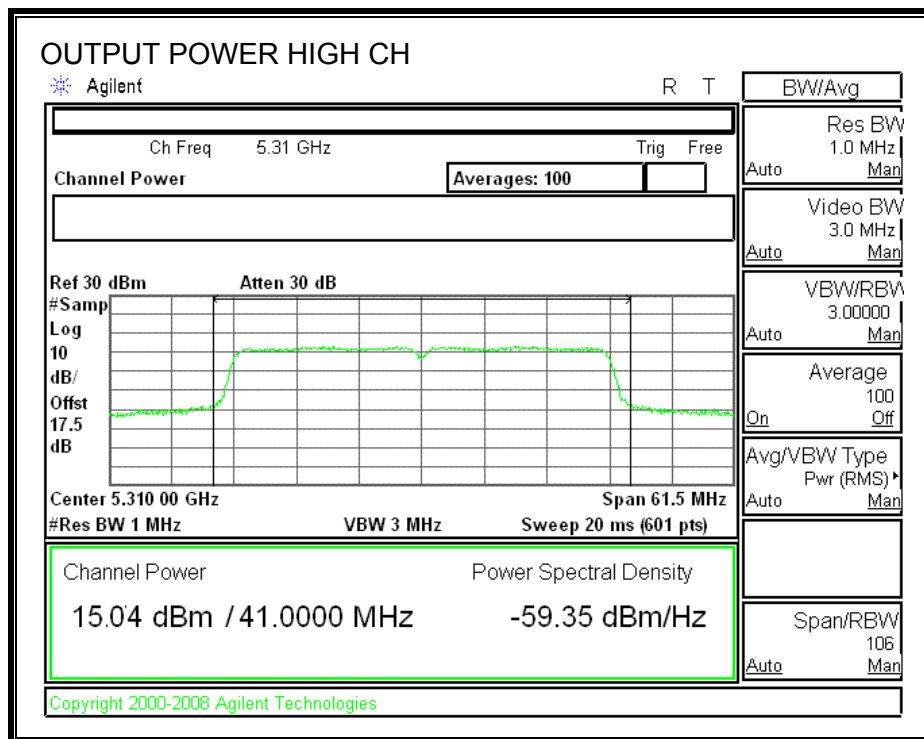
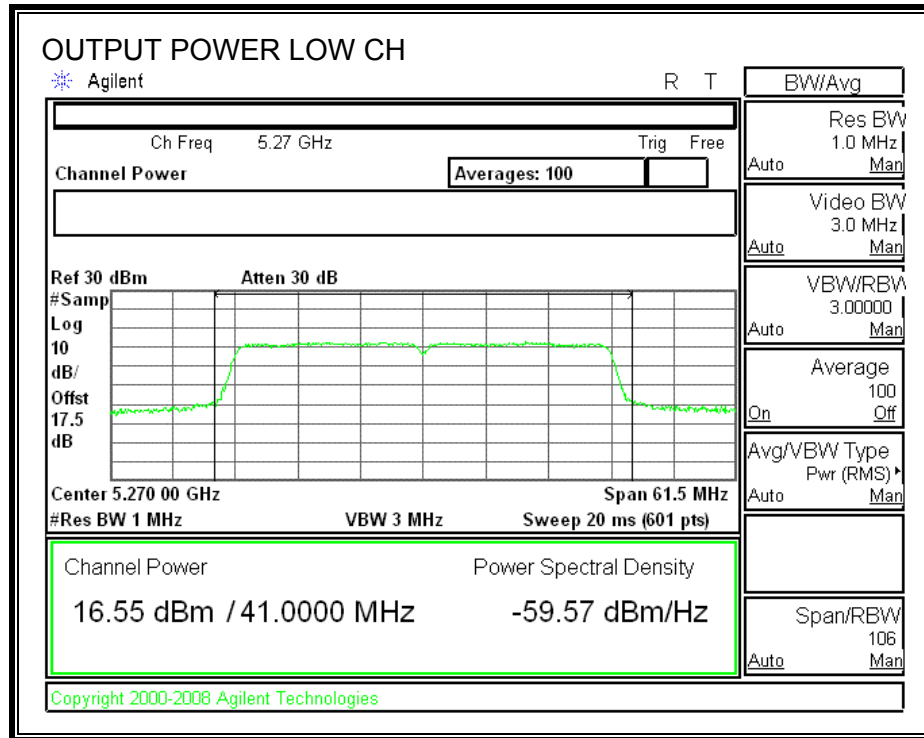


OUTPUT POWER (HT20)





OUTPUT POWER (HT40)



7.3. 802.11a MODE IN THE 5.6 GHz BAND

7.3.1. OUTPUT POWER

LIMITS

FCC §15.407 (a) (2)

IC RSS-210 A9.2 (2)

For the 5.47-5.725 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST PROCEDURE

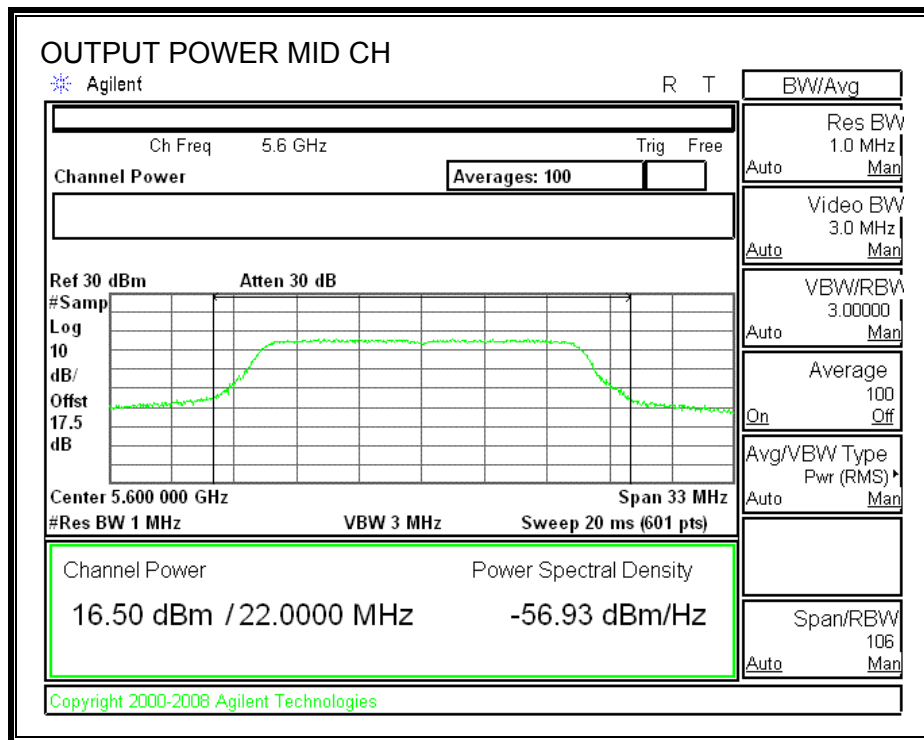
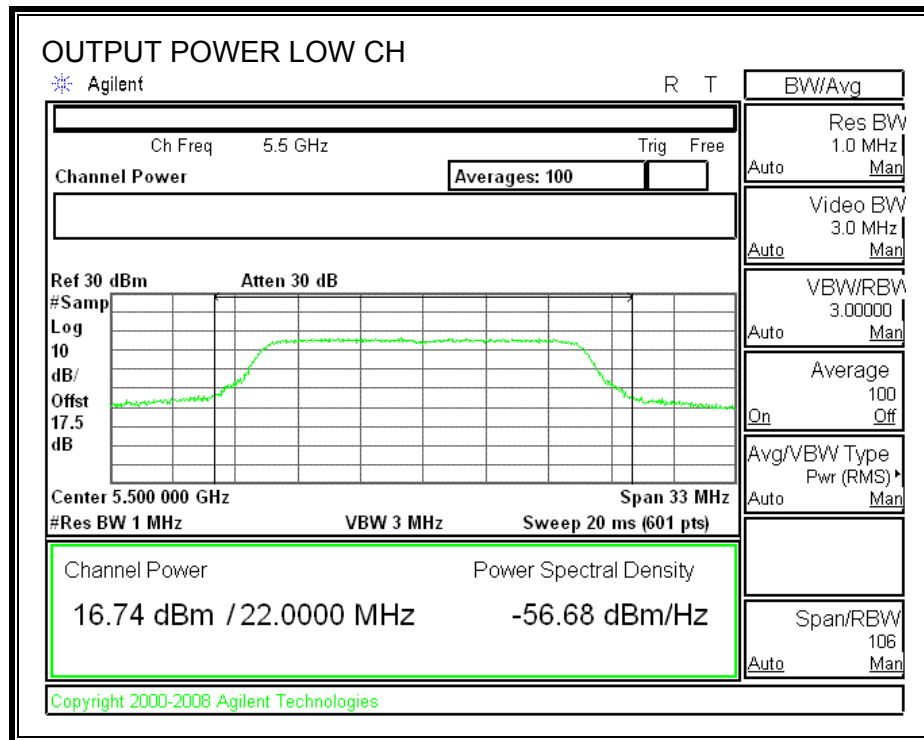
The test is performed in accordance with FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices – Part 15, Subpart E, August 2002.

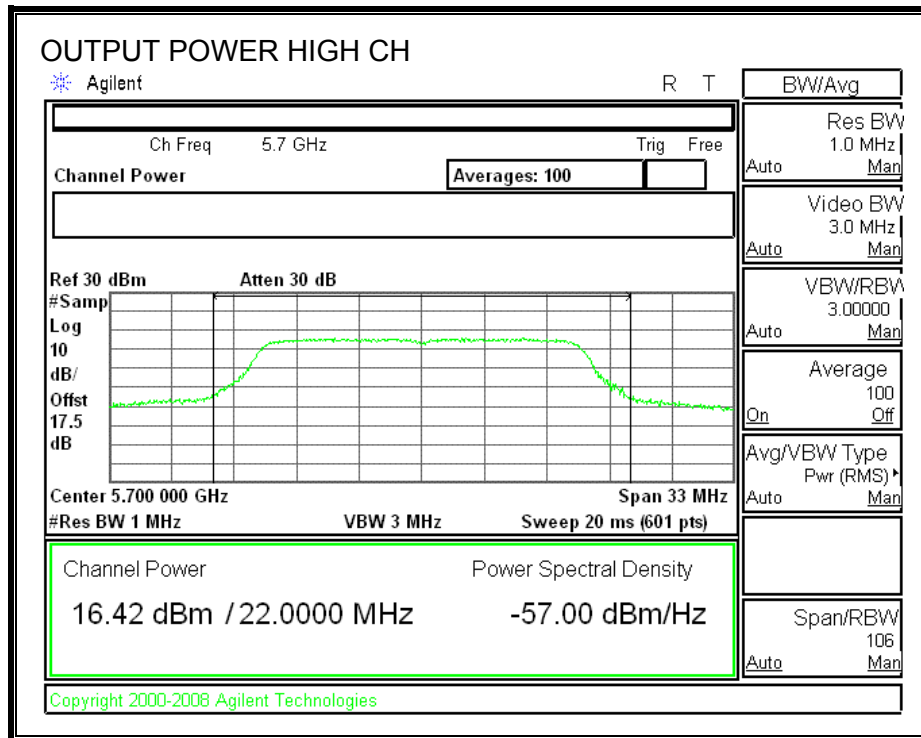
The transmitter output operates continuously therefore Method # 1 is used.

RESULTS

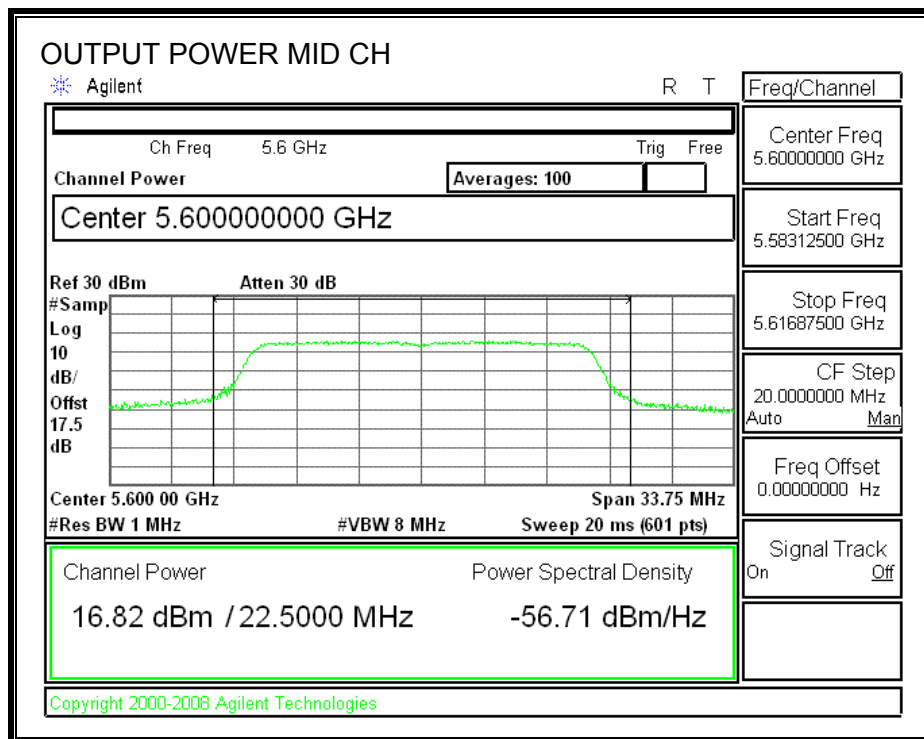
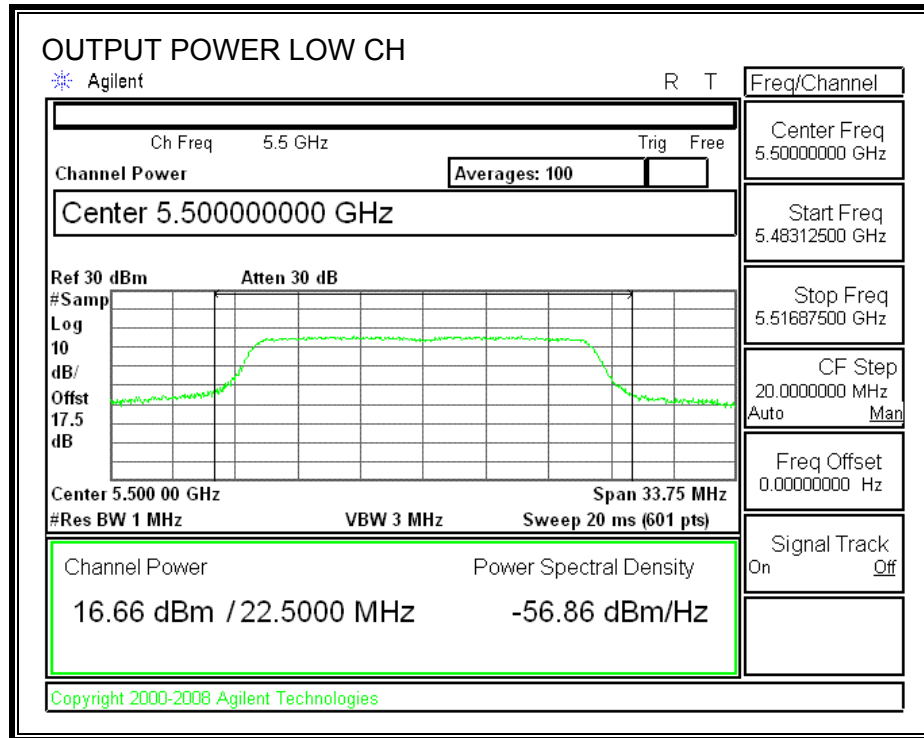
Band	Mode	Channel	Frequency (MHz)	Power (dBm)	Limit (dBm)	Margin (dB)
5.6GHz	a mode	Low	5500	16.74	24.00	-7.26
		Mid	5600	16.50	24.00	-7.50
		High	5700	16.42	24.00	-7.58
5.6GHz	HT20	Low	5500	16.66	24.00	-7.34
		Mid	5600	16.82	24.00	-7.18
		High	5700	16.47	24.00	-7.53
5.6GHz	HT40	Low	5510	15.04	24.00	-8.96
		Mid	5590	16.56	24.00	-7.44
		High	5670	16.59	24.00	-7.41

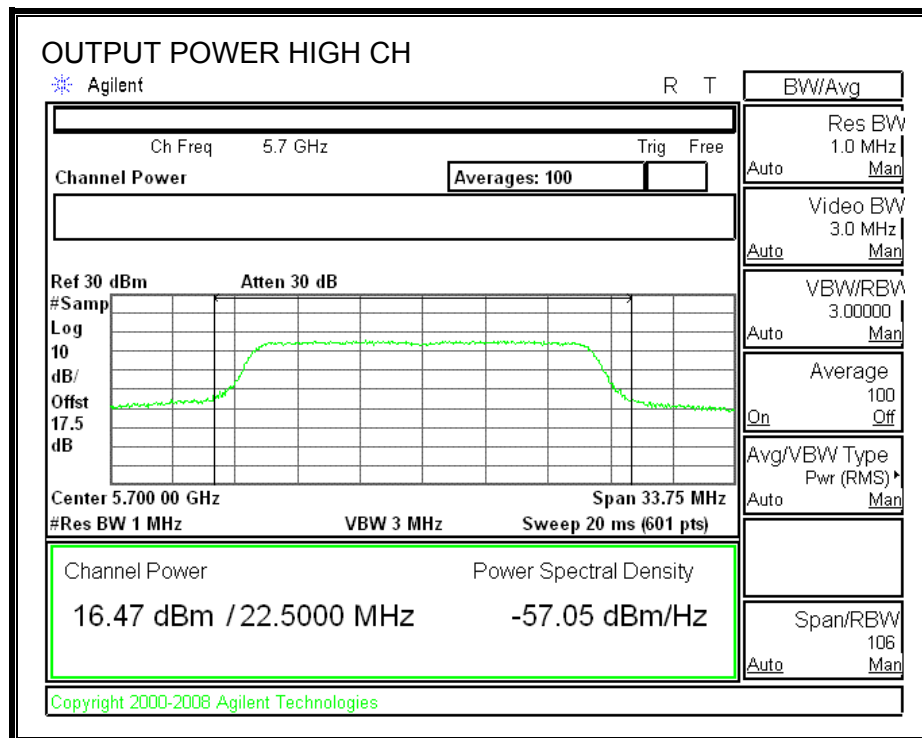
OUTPUT POWER (a mode)



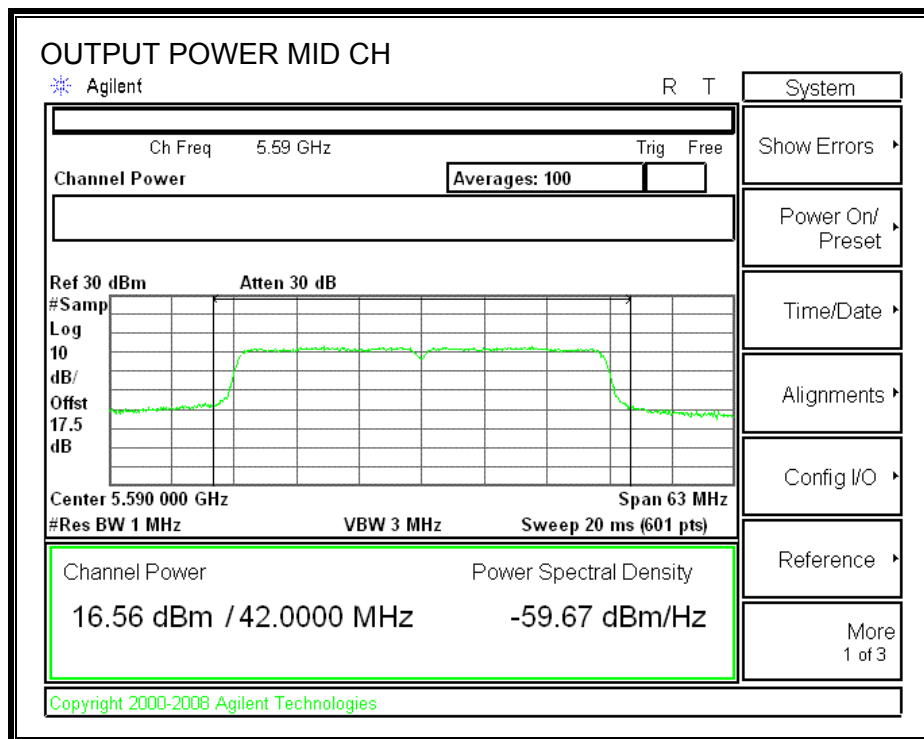
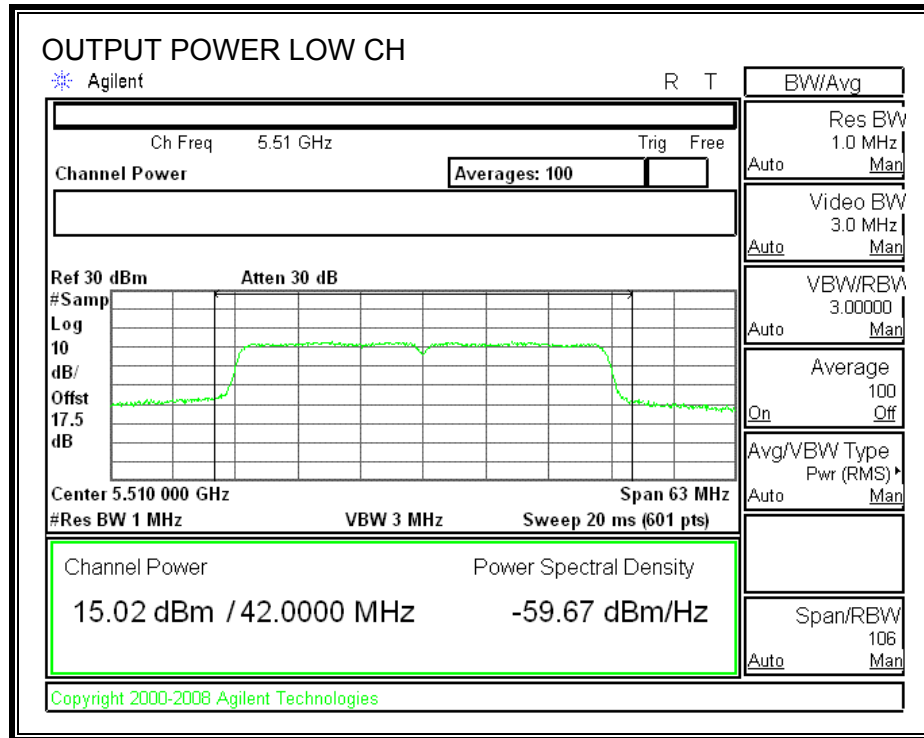


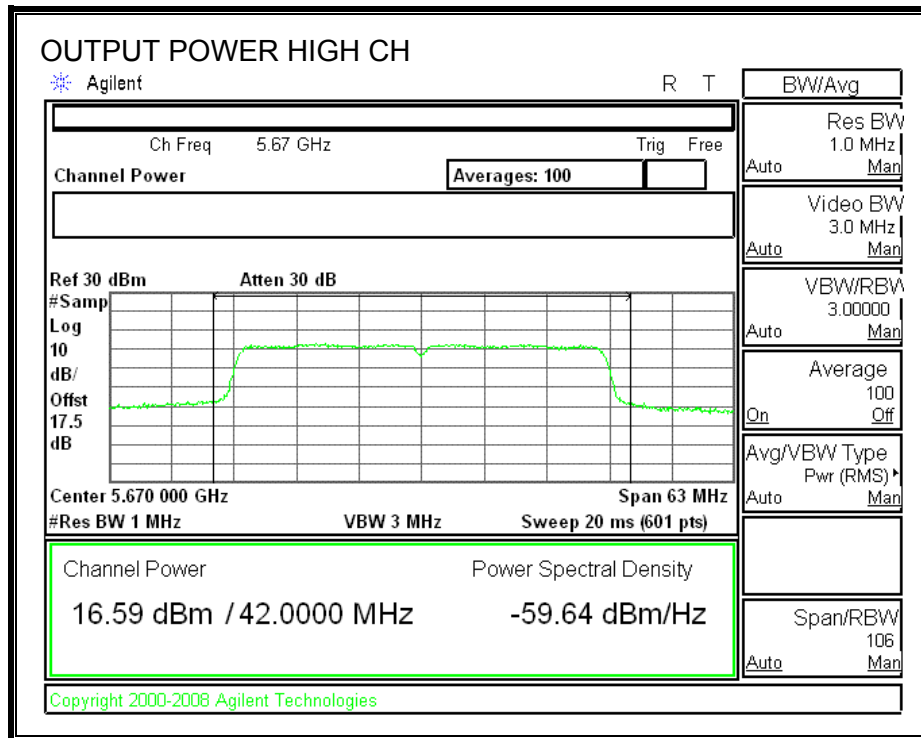
OUTPUT POWER (HT20)





OUTPUT POWER (HT40)





8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

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

TEST PROCEDURE

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

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

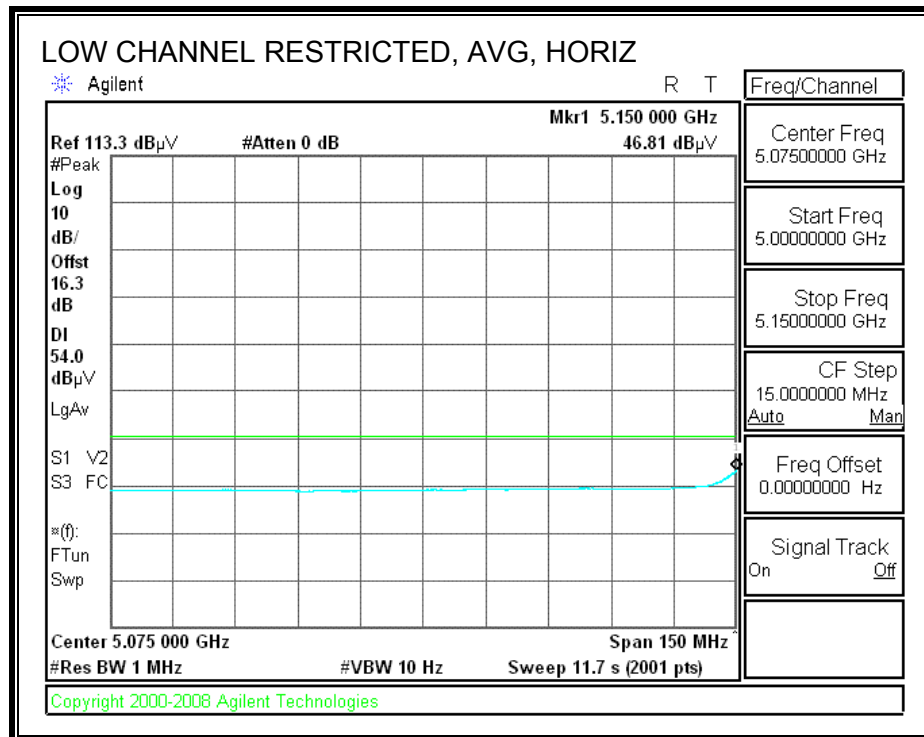
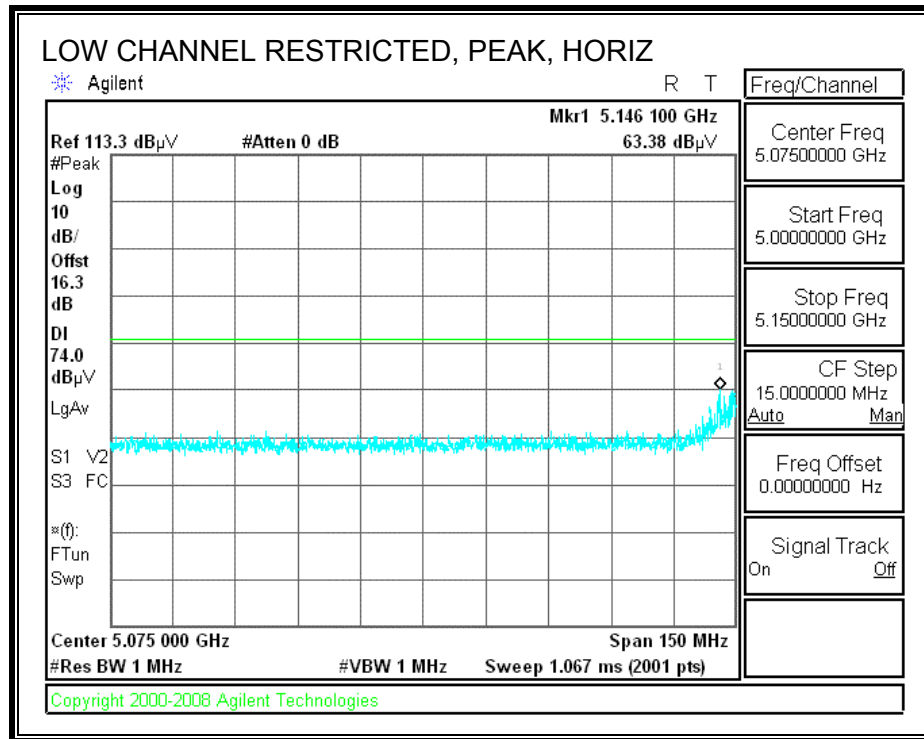
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

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

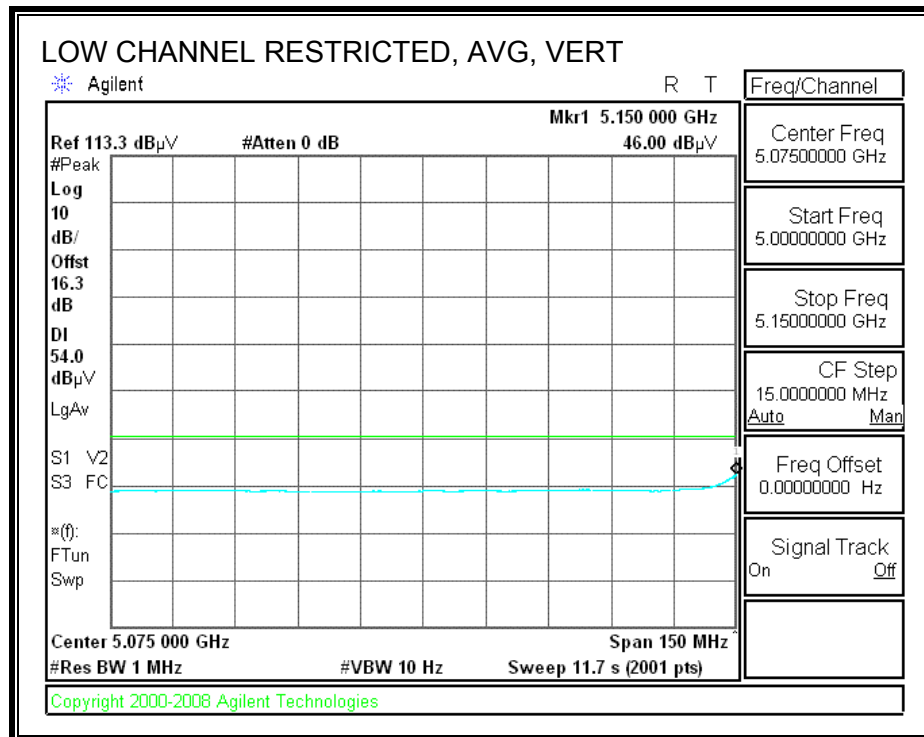
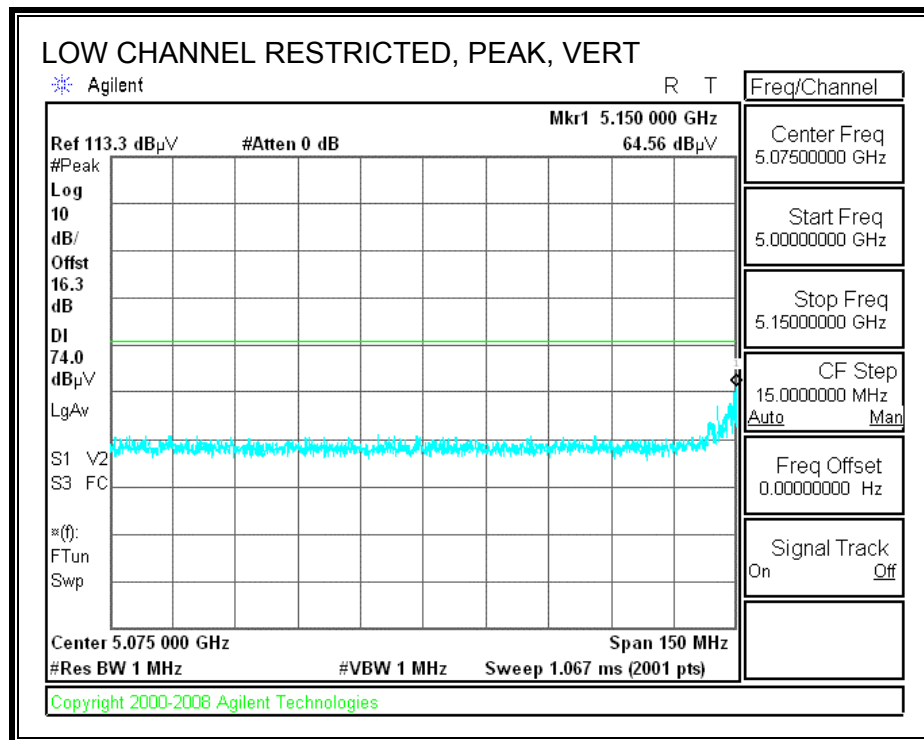
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

8.2. TRANSMITTER ABOVE 1 GHz

8.2.1. 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

Test Engr: Devin Chang
Date: 03/17/09
Project #: 09112437
Company: Samsung
EUT Description: EUT only
Mode Oper: 5.2GHz_a mode

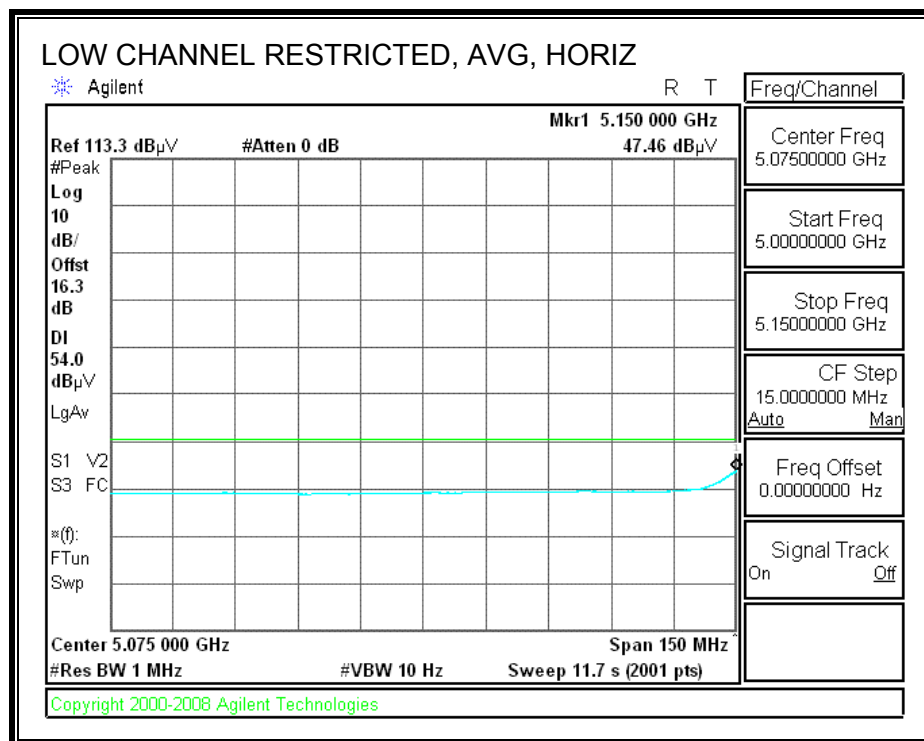
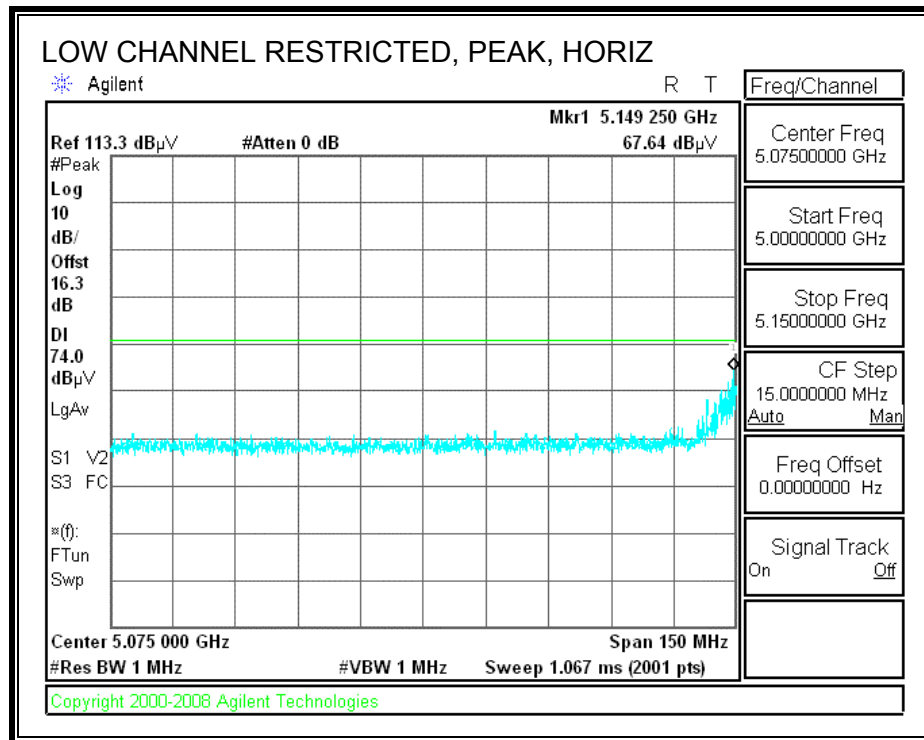
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fitr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5180MHz															
15.540	3.0	35.3	38.9	11.3	-32.3	0.0	0.7	54.0	74.0	-20.0	V	P	190.3	92.7	
15.540	3.0	23.3	38.9	11.3	-32.3	0.0	0.7	41.9	54.0	-12.1	V	A	190.3	92.7	
15.540	3.0	35.8	38.9	11.3	-32.3	0.0	0.7	54.4	74.0	-19.6	H	P	101.1	145.7	
15.540	3.0	23.1	38.9	11.3	-32.3	0.0	0.7	41.8	54.0	-12.2	H	A	101.1	145.7	
5200MHz															
15.600	3.0	35.5	38.7	11.4	-32.3	0.0	0.7	54.0	74.0	-20.0	V	P	110.8	337.6	
15.600	3.0	23.5	38.7	11.4	-32.3	0.0	0.7	42.0	54.0	-12.0	V	A	110.8	337.6	
15.600	3.0	36.1	38.7	11.4	-32.3	0.0	0.7	54.6	74.0	-19.4	H	P	100.5	106.2	
15.600	3.0	23.5	38.7	11.4	-32.3	0.0	0.7	42.0	54.0	-12.0	H	A	100.5	106.2	
5240MHz															
15.720	3.0	35.8	38.4	11.4	-32.3	0.0	0.7	54.1	74.0	-19.9	V	P	128.9	153.7	
15.720	3.0	23.4	38.4	11.4	-32.3	0.0	0.7	41.7	54.0	-12.3	V	A	128.9	153.7	
15.720	3.0	36.6	38.4	11.4	-32.3	0.0	0.7	54.9	74.0	-19.1	H	P	200.0	143.9	
15.720	3.0	23.4	38.4	11.4	-32.3	0.0	0.7	41.7	54.0	-12.3	H	A	200.0	143.9	

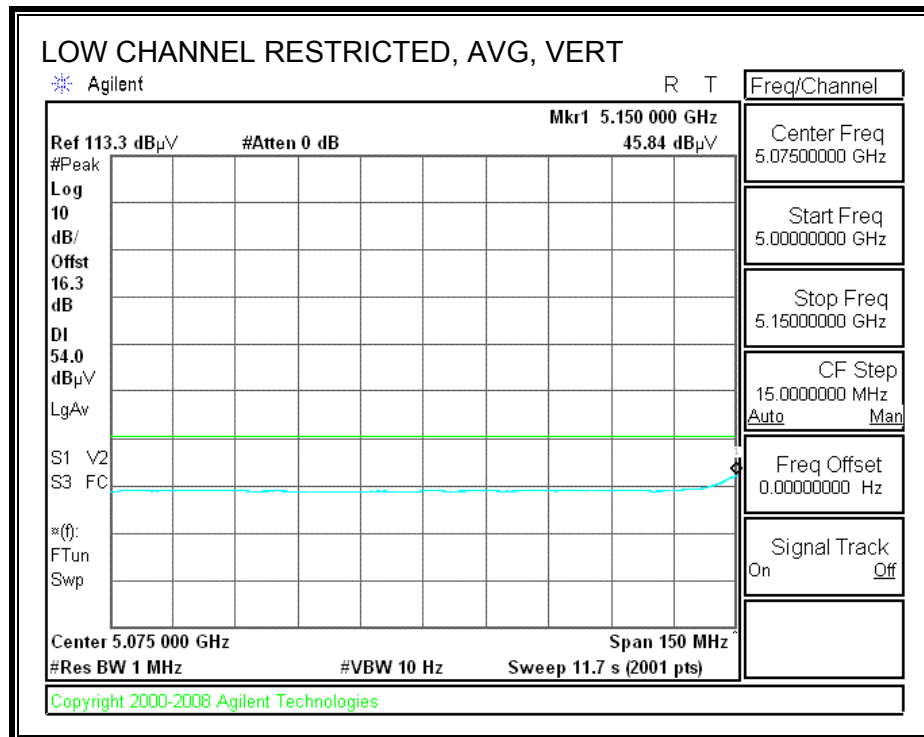
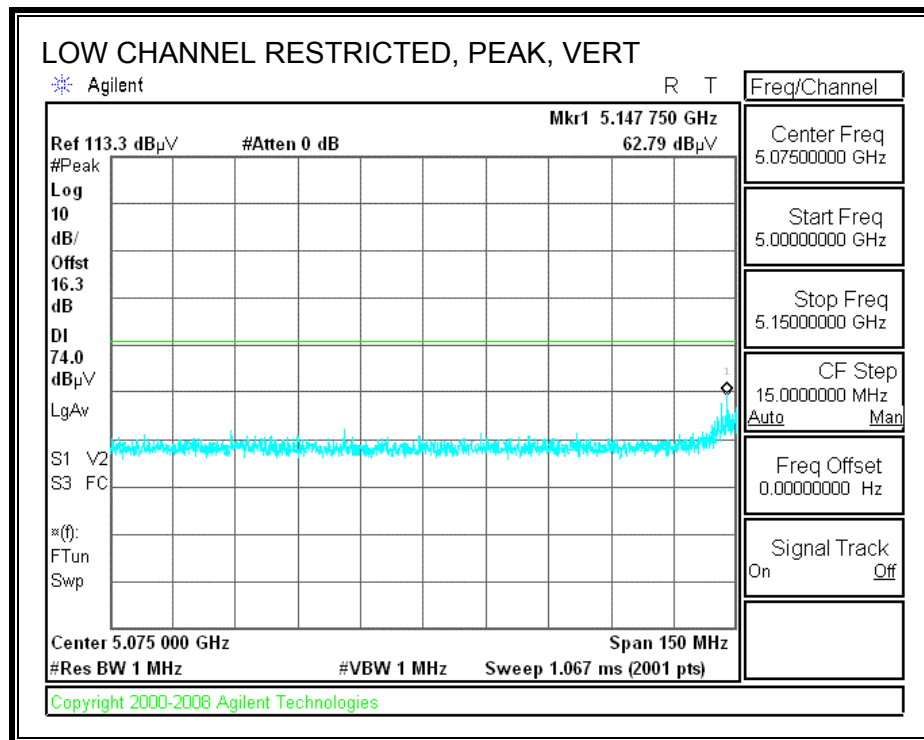
Rev. 4.1.2.7

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

**8.2.2. 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

Test Engr: Devin Chang

Date: 03/17/09

Project #: 09112437

Company: Samsung

EUT Description: EUT only

Mode Oper: 5.2GHz_HT20

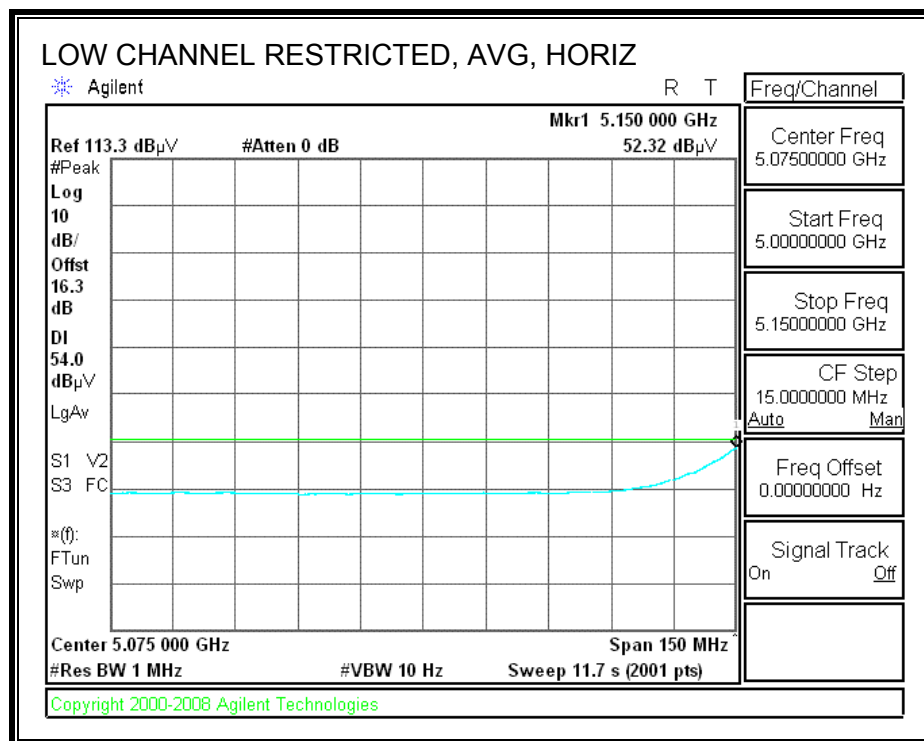
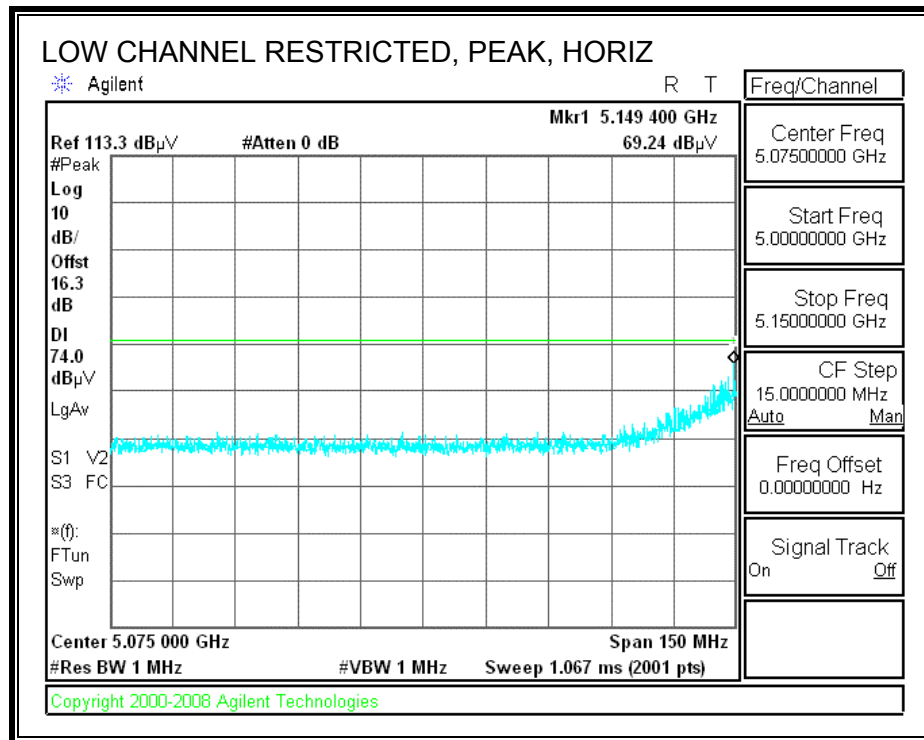
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fitr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5180MHz															
15.540	3.0	36.0	38.9	11.3	-32.3	0.0	0.7	54.7	74.0	-19.3	V	P	140.9	101.8	
15.540	3.0	23.0	38.9	11.3	-32.3	0.0	0.7	41.7	54.0	-12.3	V	A	140.9	101.8	
15.540	3.0	35.1	38.9	11.3	-32.3	0.0	0.7	53.8	74.0	-20.2	H	P	110.3	88.6	
15.540	3.0	23.1	38.9	11.3	-32.3	0.0	0.7	41.7	54.0	-12.3	H	A	110.3	88.6	
5200MHz															
15.600	3.0	36.1	38.7	11.4	-32.3	0.0	0.7	54.7	74.0	-19.3	V	P	155.1	263.7	
15.600	3.0	23.5	38.7	11.4	-32.3	0.0	0.7	42.0	54.0	-12.0	V	A	155.1	263.7	
15.600	3.0	35.3	38.7	11.4	-32.3	0.0	0.7	53.8	74.0	-20.2	H	P	199.3	282.0	
15.600	3.0	23.4	38.7	11.4	-32.3	0.0	0.7	41.9	54.0	-12.1	H	A	199.3	282.0	
5240MHz															
15.720	3.0	36.2	38.4	11.4	-32.3	0.0	0.7	54.5	74.0	-19.5	V	P	114.8	66.9	
15.720	3.0	23.4	38.4	11.4	-32.3	0.0	0.7	41.7	54.0	-12.3	V	A	114.8	66.9	
15.720	3.0	35.5	38.4	11.4	-32.3	0.0	0.7	53.8	74.0	-20.2	H	P	100.3	107.2	
15.720	3.0	23.4	38.4	11.4	-32.3	0.0	0.7	41.7	54.0	-12.3	H	A	100.3	107.2	

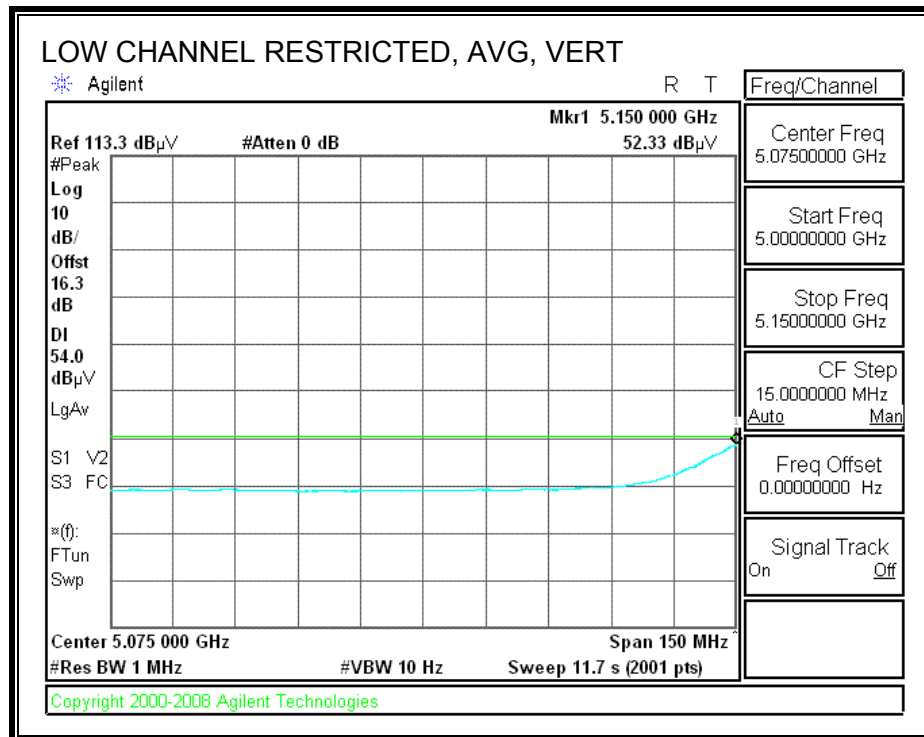
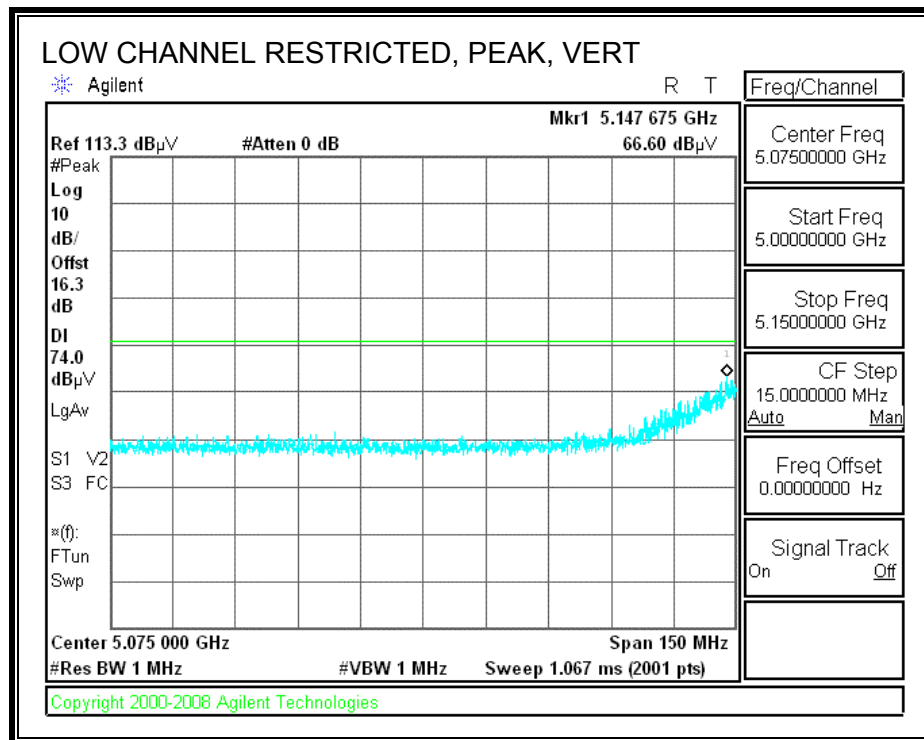
Rev. 4.1.2.7

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

**8.2.3. FOR 802.11n HT40 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

Test Engr: Devin Chang

Date: 03/17/09

Project #: 09112437

Company: Samsung

EUT Description: EUT only

Mode Oper: 5.2GHz_HT40

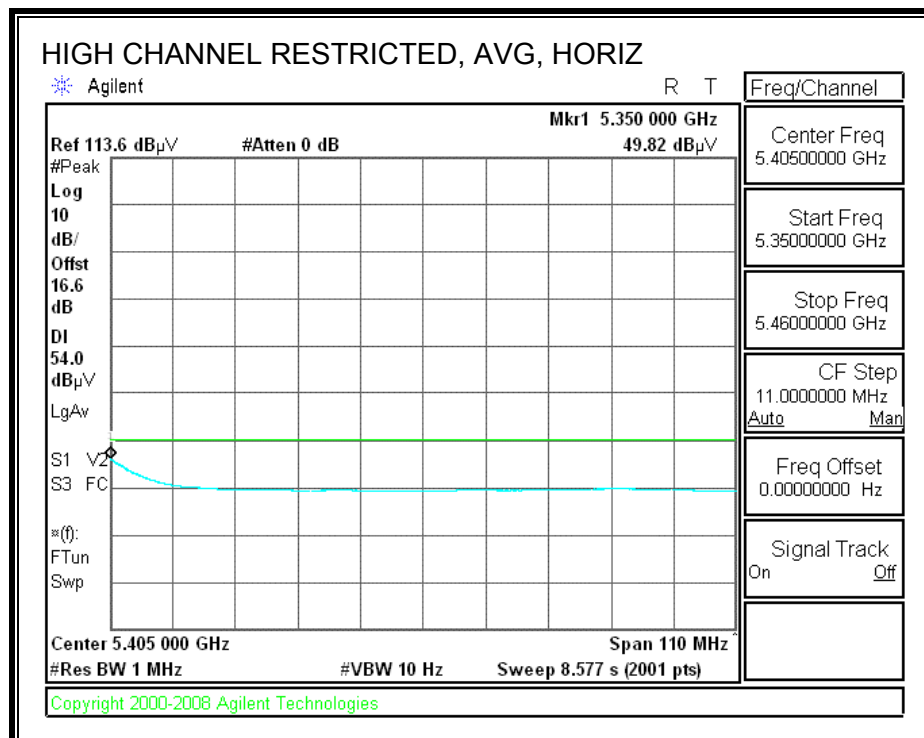
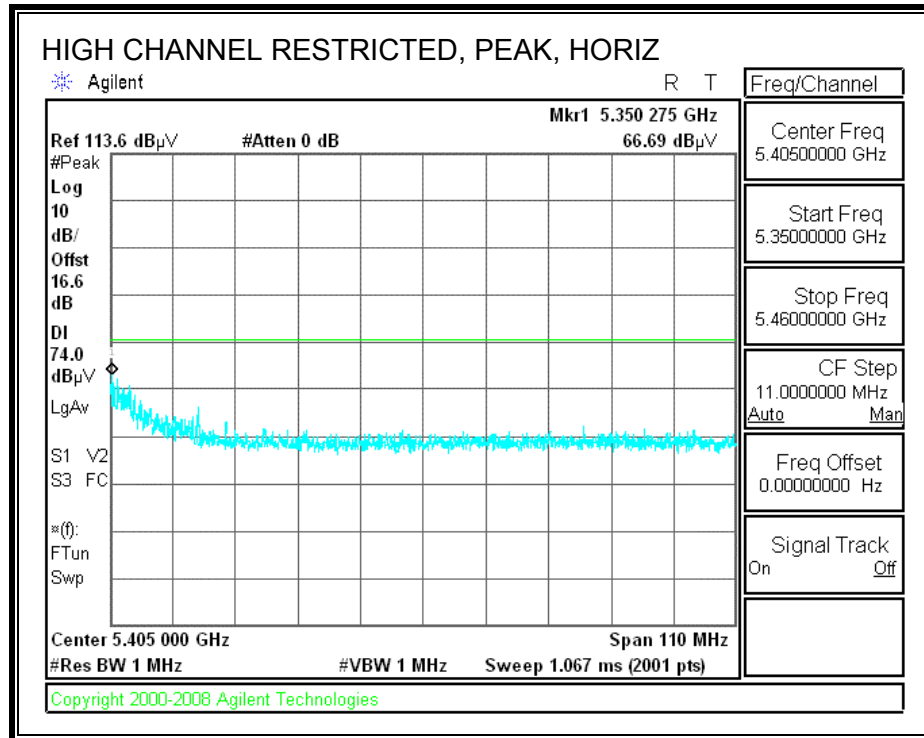
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fitr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5190MHz															
15.570	3.0	35.8	38.8	11.4	-32.3	0.0	0.7	54.4	74.0	-19.6	V	P	108.5	359.5	
15.570	3.0	23.4	38.8	11.4	-32.3	0.0	0.7	42.0	54.0	-12.0	V	A	108.5	359.5	
15.570	3.0	35.9	38.8	11.4	-32.3	0.0	0.7	54.6	74.0	-19.4	H	P	124.2	57.7	
15.570	3.0	23.4	38.8	11.4	-32.3	0.0	0.7	42.0	54.0	-12.0	H	A	124.2	57.7	
5230MHz															
15.690	3.0	36.5	38.5	11.4	-32.3	0.0	0.7	54.9	74.0	-19.1	V	P	153.6	355.0	
15.690	3.0	23.4	38.5	11.4	-32.3	0.0	0.7	41.8	54.0	-12.2	V	A	153.6	355.0	
15.690	3.0	35.1	38.5	11.4	-32.3	0.0	0.7	53.5	74.0	-20.5	H	P	199.1	338.8	
15.690	3.0	23.4	38.5	11.4	-32.3	0.0	0.7	41.7	54.0	-12.3	H	A	199.1	338.8	

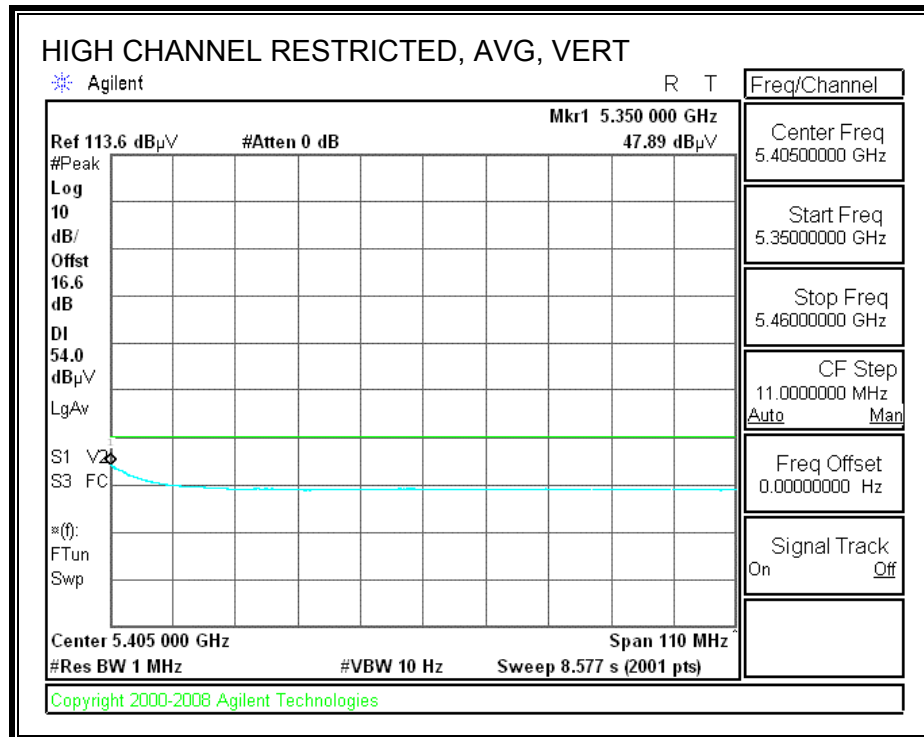
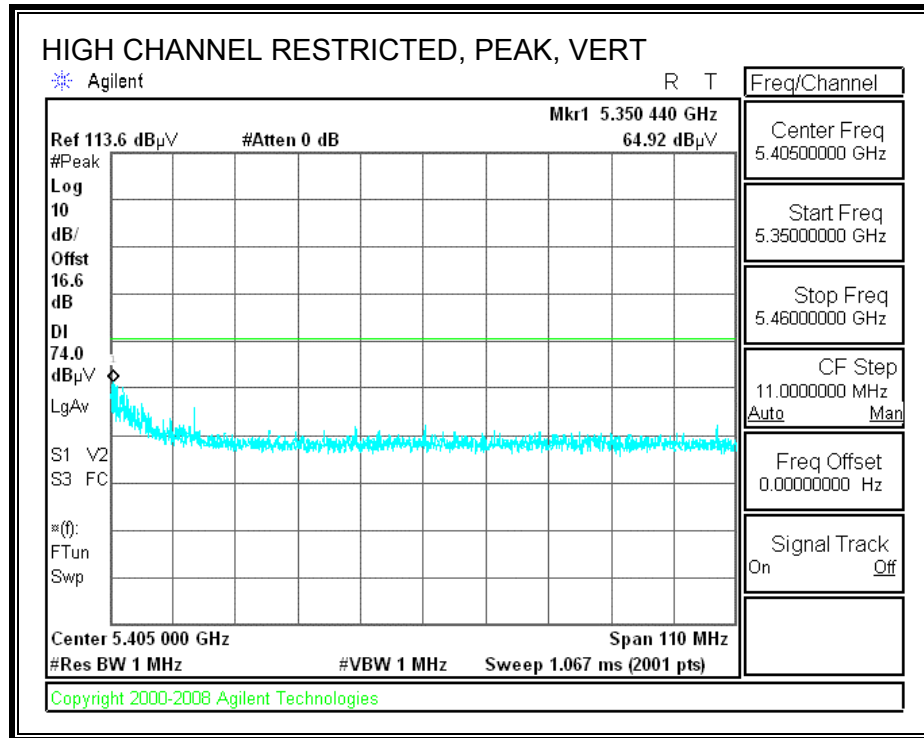
Rev. 4.1.2.7

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

**8.2.4. 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

Test Engr: Devin Chang

Date: 03/17/09

Project #: 09112437

Company: Samsung

EUT Description: EUT only

Mode Oper: 5.3GHz_a mode

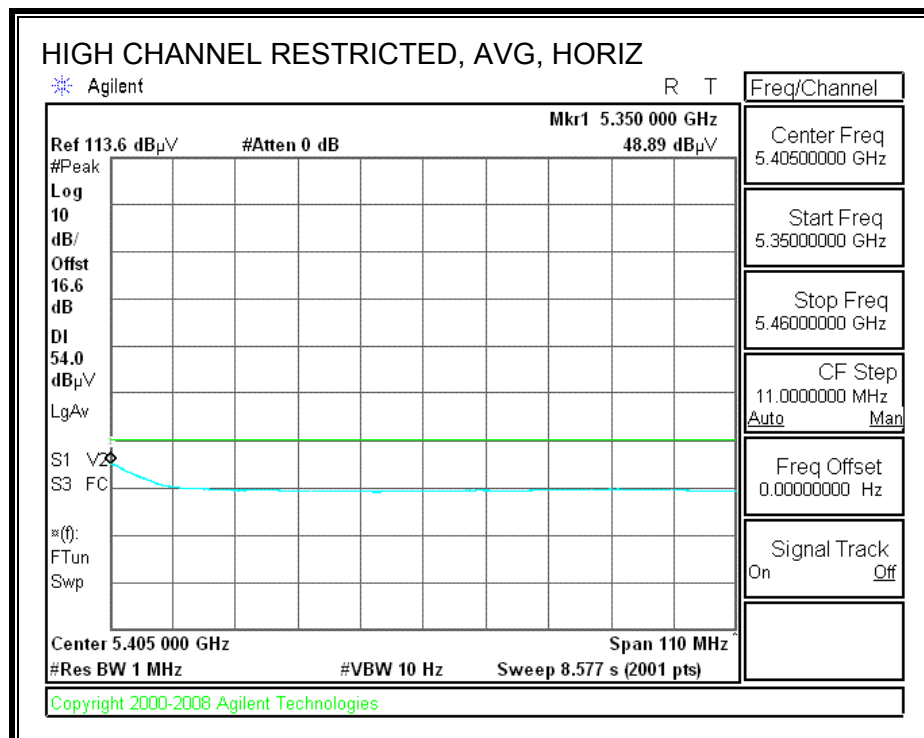
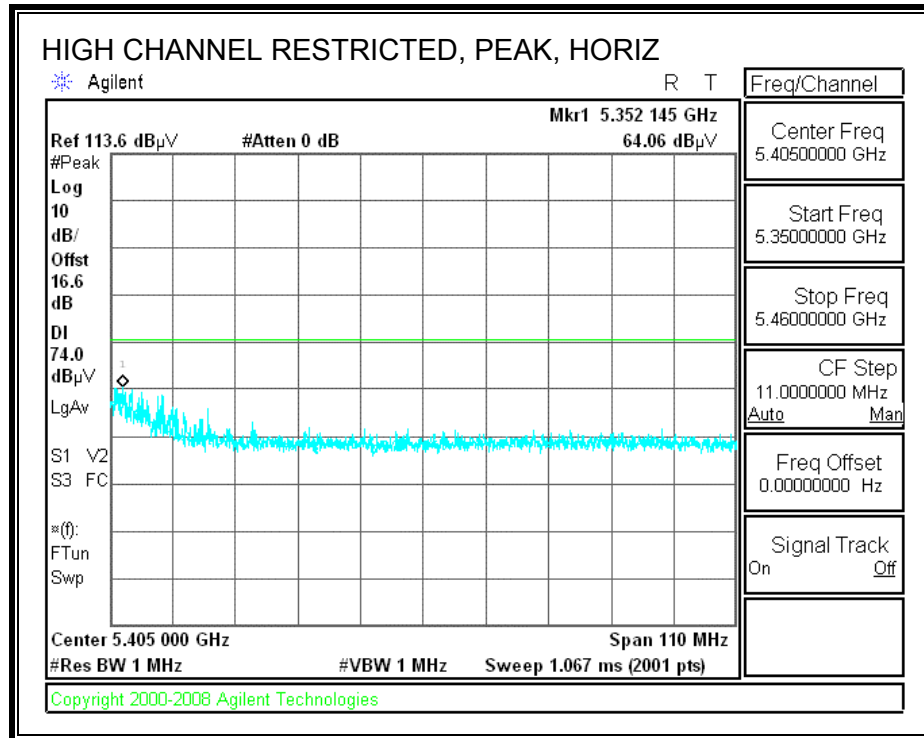
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fitr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5260MHz															
15.780	3.0	36.4	38.2	11.5	-32.2	0.0	0.7	54.6	74.0	-19.4	V	P	104.7	42.7	
15.780	3.0	23.3	38.2	11.5	-32.2	0.0	0.7	41.5	54.0	-12.5	V	A	104.7	42.7	
15.780	3.0	36.2	38.2	11.5	-32.2	0.0	0.7	54.3	74.0	-19.7	H	P	101.6	308.5	
15.780	3.0	23.3	38.2	11.5	-32.2	0.0	0.7	41.4	54.0	-12.6	H	A	101.6	308.5	
5280MHz															
15.840	3.0	35.7	38.1	11.5	-32.2	0.0	0.7	53.8	74.0	-20.2	V	P	165.8	334.2	
15.840	3.0	23.2	38.1	11.5	-32.2	0.0	0.7	41.2	54.0	-12.8	V	A	165.8	334.2	
15.840	3.0	35.5	38.1	11.5	-32.2	0.0	0.7	53.5	74.0	-20.5	H	P	100.8	133.9	
15.840	3.0	23.2	38.1	11.5	-32.2	0.0	0.7	41.2	54.0	-12.8	H	A	100.8	133.9	
5320MHz															
10.640	3.0	37.6	37.6	9.1	-34.2	0.0	0.8	50.8	74.0	-23.2	V	P	193.1	285.7	
10.640	3.0	24.3	37.6	9.1	-34.2	0.0	0.8	37.5	54.0	-16.5	V	A	193.1	285.7	
15.960	3.0	35.1	37.7	11.5	-32.2	0.0	0.7	52.9	74.0	-21.1	V	P	195.4	25.2	
15.960	3.0	22.8	37.7	11.5	-32.2	0.0	0.7	40.6	54.0	-13.4	V	A	195.4	25.2	
10.640	3.0	35.9	37.6	9.1	-34.2	0.0	0.8	49.1	74.0	-24.9	H	P	143.9	125.1	
10.640	3.0	23.6	37.6	9.1	-34.2	0.0	0.8	36.8	54.0	-17.2	H	A	143.9	125.1	
15.960	3.0	35.7	37.7	11.5	-32.2	0.0	0.7	53.5	74.0	-20.5	H	P	119.7	126.0	
15.960	3.0	22.8	37.7	11.5	-32.2	0.0	0.7	40.6	54.0	-13.4	H	A	119.7	126.0	

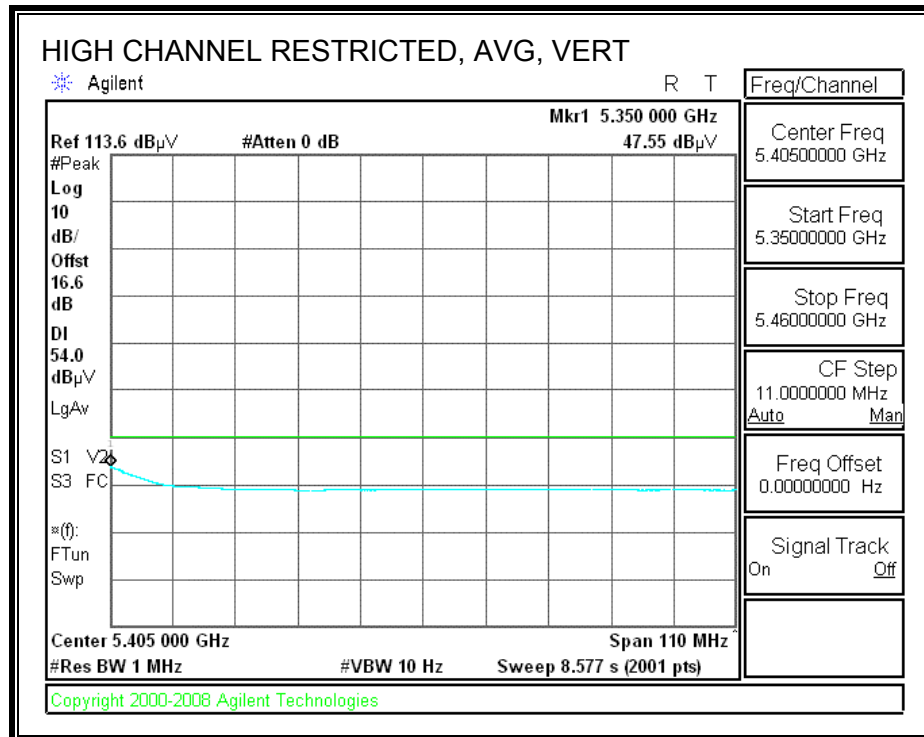
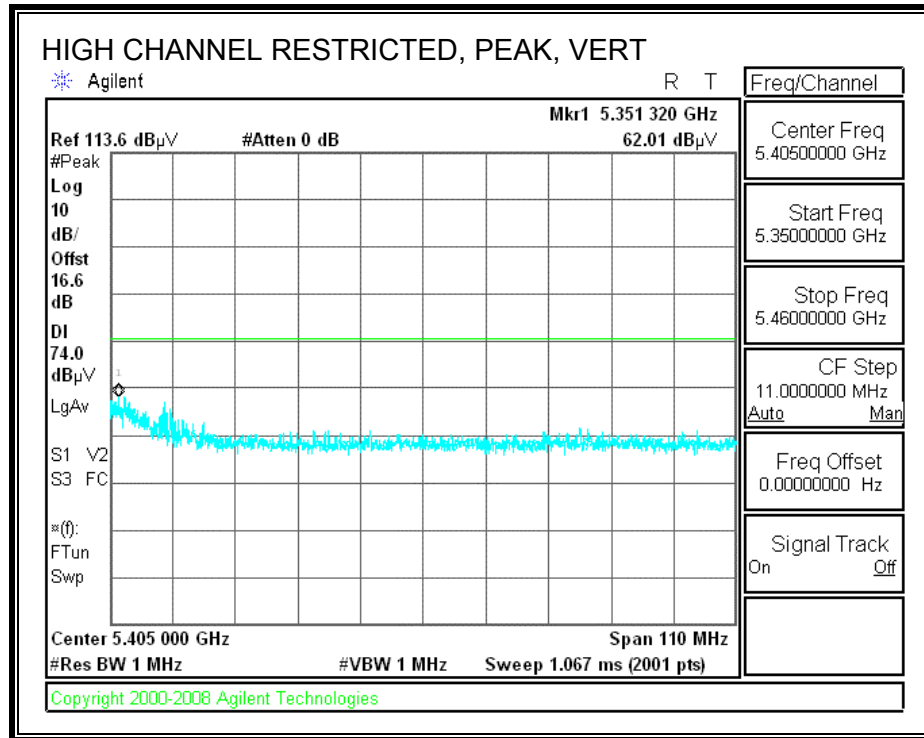
Rev. 4.1.2.7

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

8.2.5. 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

Test Engr: Devin Chang
Date: 03/17/09
Project #: 09112437
Company: Samsung
EUT Description: EUT only
Mode Oper: 5.3GHz_HT20

f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5260MHz															
15.780	3.0	35.7	38.2	11.5	-32.2	0.0	0.7	53.9	74.0	-20.1	V	P	122.8	234.1	
15.780	3.0	23.2	38.2	11.5	-32.2	0.0	0.7	41.4	54.0	-12.6	V	A	122.8	234.1	
15.780	3.0	35.3	38.2	11.5	-32.2	0.0	0.7	53.4	74.0	-20.6	H	P	110.6	200.1	
15.780	3.0	23.2	38.2	11.5	-32.2	0.0	0.7	41.4	54.0	-12.6	H	A	110.6	200.1	
5300MHz															
15.840	3.0	35.9	38.1	11.5	-32.2	0.0	0.7	53.9	74.0	-20.1	V	P	101.2	13.8	
15.840	3.0	23.1	38.1	11.5	-32.2	0.0	0.7	41.1	54.0	-12.9	V	A	101.2	13.8	
15.840	3.0	36.3	38.1	11.5	-32.2	0.0	0.7	54.3	74.0	-19.7	H	P	183.5	261.4	
15.840	3.0	23.1	38.1	11.5	-32.2	0.0	0.7	41.2	54.0	-12.8	H	A	183.5	261.4	
5320MHz															
10.640	3.0	38.2	37.6	9.1	-34.2	0.0	0.8	51.3	74.0	-22.7	V	P	100.0	357.6	
10.640	3.0	24.2	37.6	9.1	-34.2	0.0	0.8	37.3	54.0	-16.7	V	A	100.0	357.6	
15.960	3.0	35.1	37.7	11.5	-32.2	0.0	0.7	52.8	74.0	-21.2	V	P	138.6	170.3	
15.960	3.0	22.8	37.7	11.5	-32.2	0.0	0.7	40.6	54.0	-13.4	V	A	138.6	170.3	
10.640	3.0	35.8	37.6	9.1	-34.2	0.0	0.8	48.9	74.0	-25.1	H	P	117.1	222.9	
10.640	3.0	23.4	37.6	9.1	-34.2	0.0	0.8	36.5	54.0	-17.5	H	A	117.1	222.9	
15.960	3.0	36.4	37.7	11.5	-32.2	0.0	0.7	54.2	74.0	-19.8	H	P	199.6	346.7	
15.960	3.0	22.8	37.7	11.5	-32.2	0.0	0.7	40.6	54.0	-13.4	H	A	199.6	346.7	

Rev. 4.1.2.7

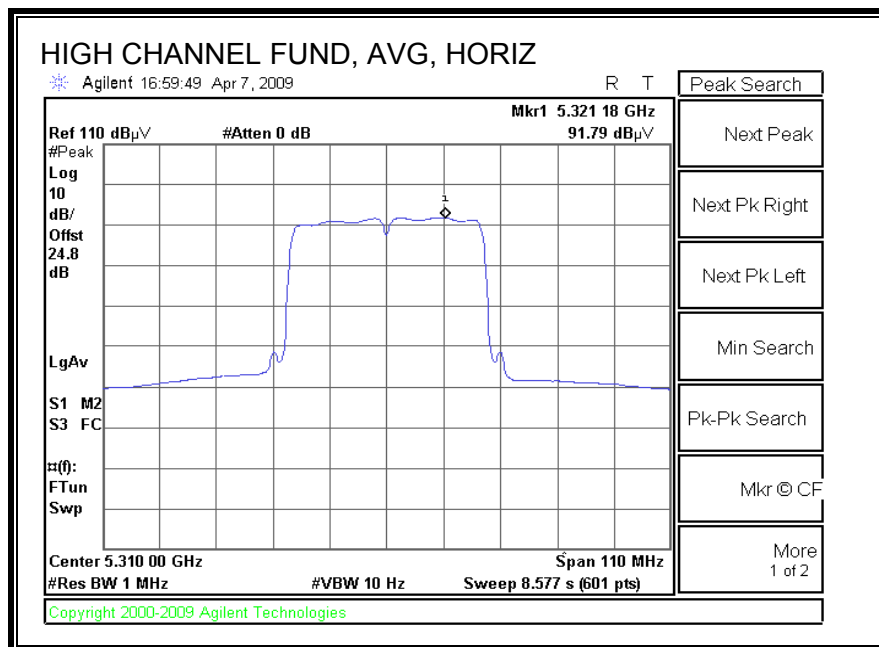
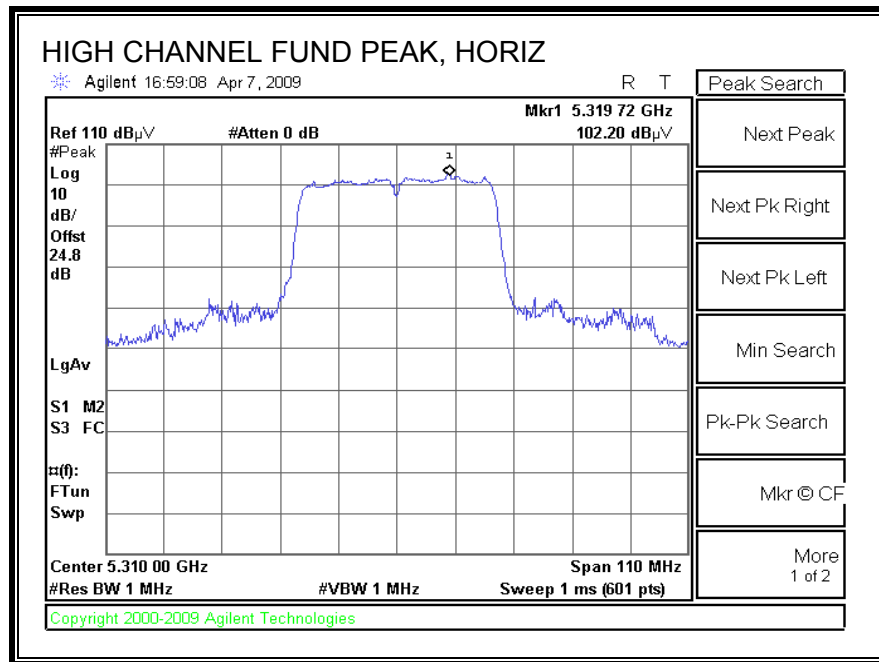
Note: No other emissions were detected above the system noise floor.

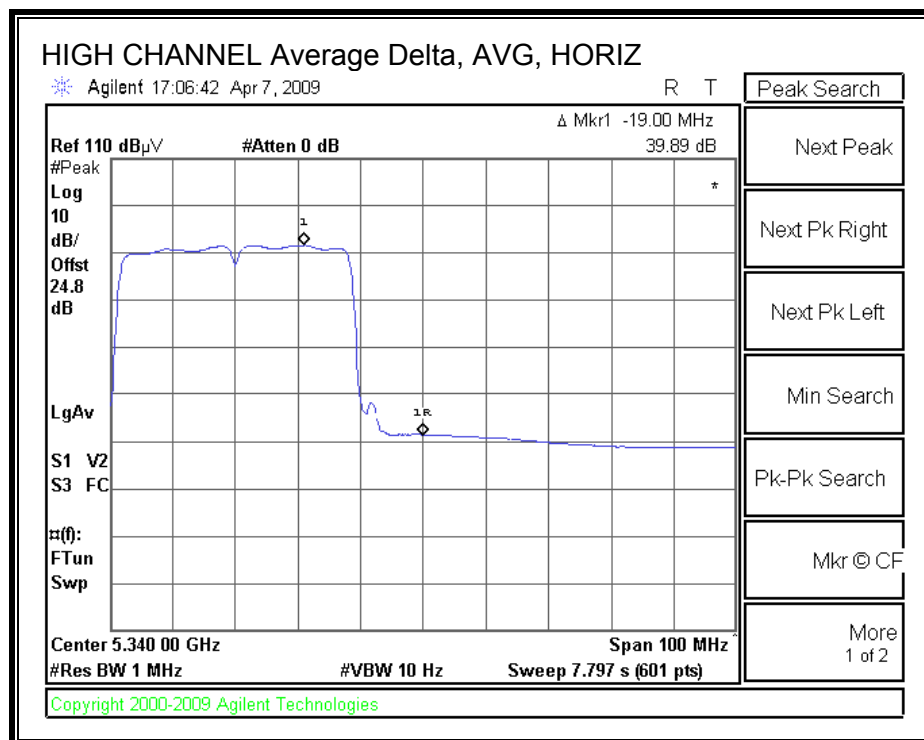
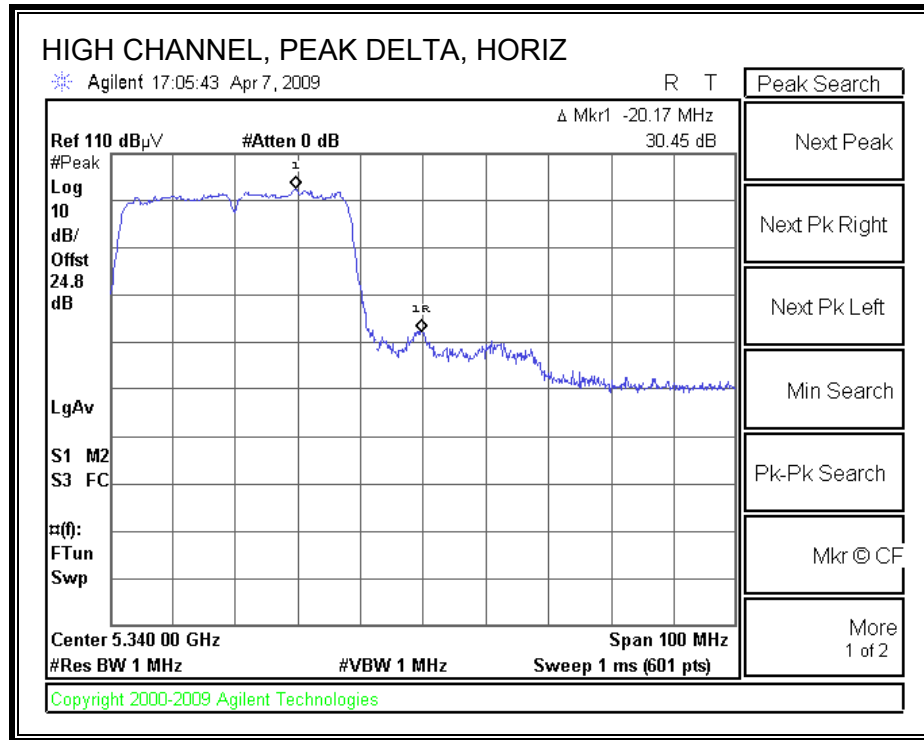
8.2.6. FOR 802.11n HT40 MODE IN THE 5.3 GHz

DELTA METHOD FOR HT40 MODE HIGH CHANNEL

HT40 Horizontal HighChannel		Fundamental (dBuV/m)		Reading (dBuV/m)	
Peak Delta (dBc)	Average Delta (dBc)	Peak	Average	Peak	Average
30.45	39.89	102.2	91.79	71.75	51.9

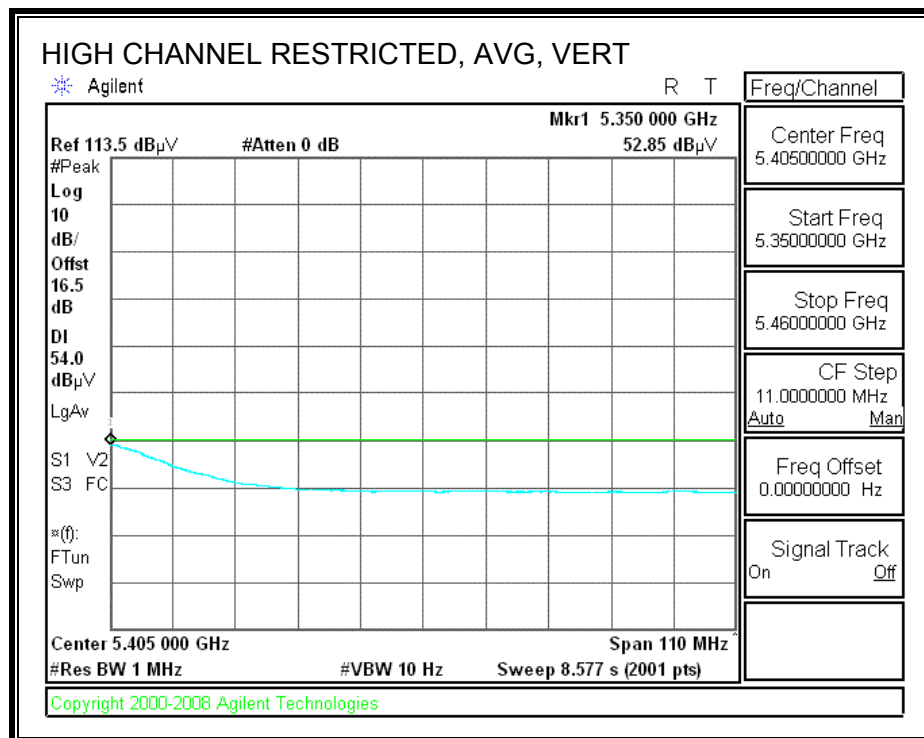
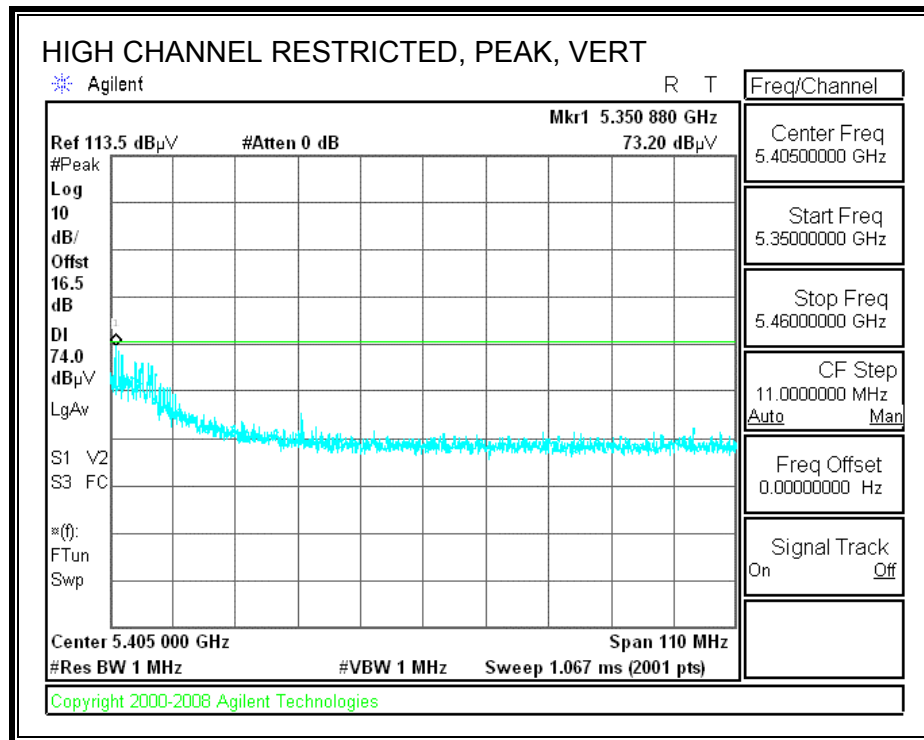
HIGH CHANNEL, HORIZONTAL FUNDAMENTAL





HIGH CHANNEL Peak Delta, HORIZ

RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



High Frequency Measurement
Compliance Certification Services, Fremont 5m Chamber

Test Engr: Devin Chang
Date: 03/17/09
Project #: 09112437
Company: Samsung
EUT Description: EUT only
Mode Oper: 5.3GHz HT40

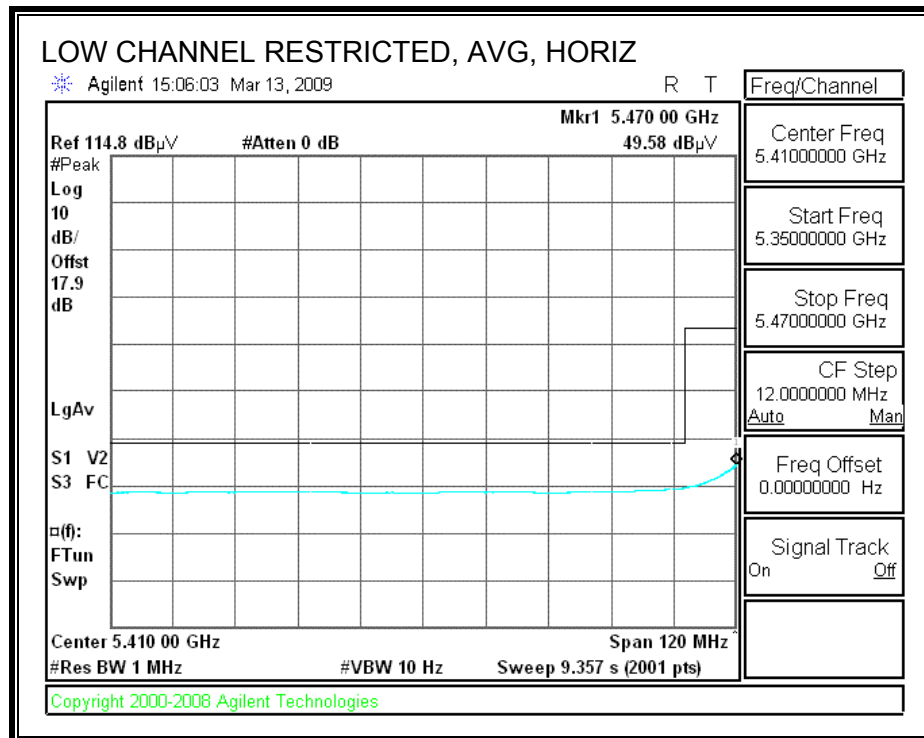
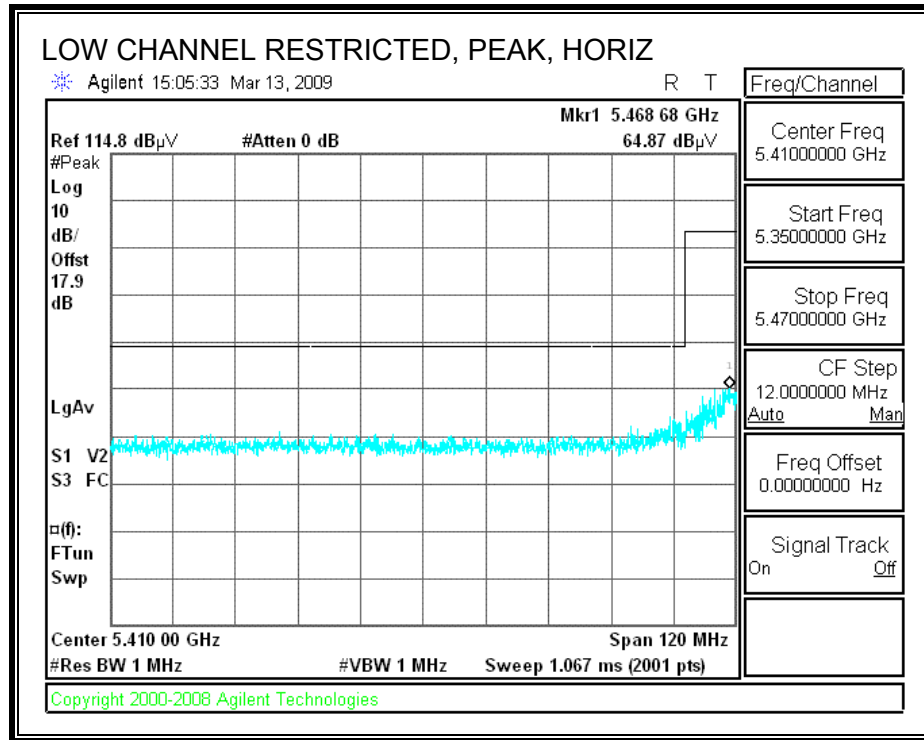
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Fldr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5270MHz															
15.810	3.0	35.1	38.2	11.5	-32.2	0.0	0.7	53.2	74.0	-20.8	V	P	141.0	107.2	
15.810	3.0	23.1	38.2	11.5	-32.2	0.0	0.7	41.2	54.0	-12.8	V	A	141.0	107.2	
15.810	3.0	35.5	38.2	11.5	-32.2	0.0	0.7	53.6	74.0	-20.4	H	P	188.5	65.1	
15.810	3.0	23.1	38.2	11.5	-32.2	0.0	0.7	41.2	54.0	-12.8	H	A	188.5	65.1	
5310MHz															
10.620	3.0	37.1	37.5	9.1	-34.3	0.0	0.8	50.2	74.0	-23.8	V	P	153.5	213.4	
10.620	3.0	23.5	37.5	9.1	-34.3	0.0	0.8	36.6	54.0	-17.4	V	A	153.5	213.4	
15.930	3.0	35.9	37.8	11.5	-32.2	0.0	0.7	53.8	74.0	-20.2	V	P	162.9	253.0	
15.930	3.0	22.9	37.8	11.5	-32.2	0.0	0.7	40.7	54.0	-13.3	V	A	162.9	253.0	
10.620	3.0	35.7	37.5	9.1	-34.3	0.0	0.8	48.8	74.0	-25.2	H	P	104.2	228.8	
10.620	3.0	23.3	37.5	9.1	-34.3	0.0	0.8	36.4	54.0	-17.6	H	A	104.2	228.8	
15.930	3.0	34.6	37.8	11.5	-32.2	0.0	0.7	52.5	74.0	-21.5	H	P	135.4	295.9	
15.930	3.0	22.9	37.8	11.5	-32.2	0.0	0.7	40.7	54.0	-13.3	H	A	135.4	295.9	

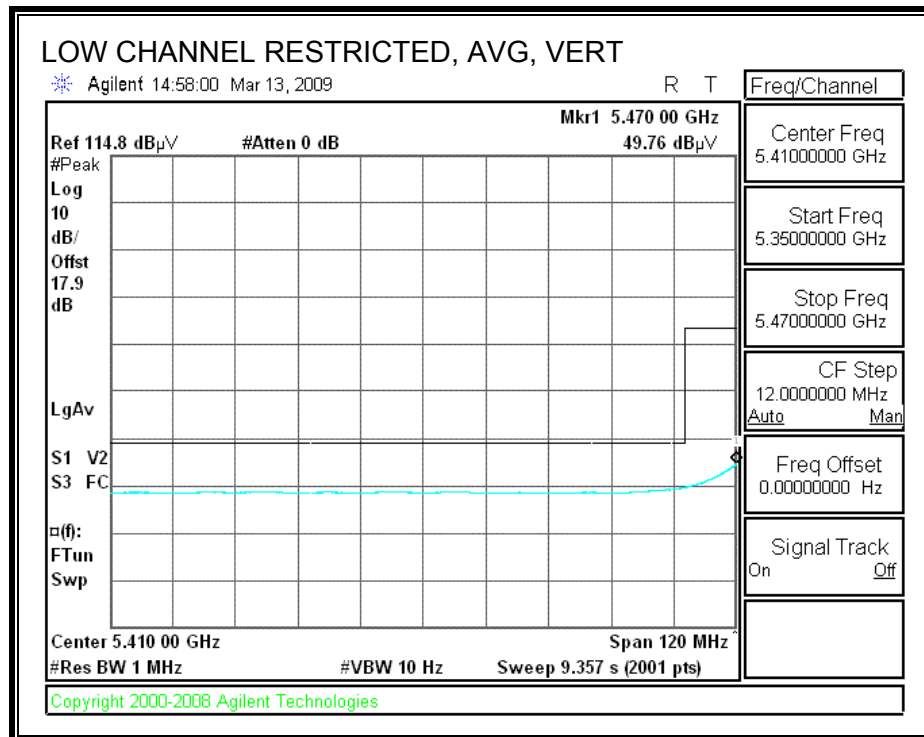
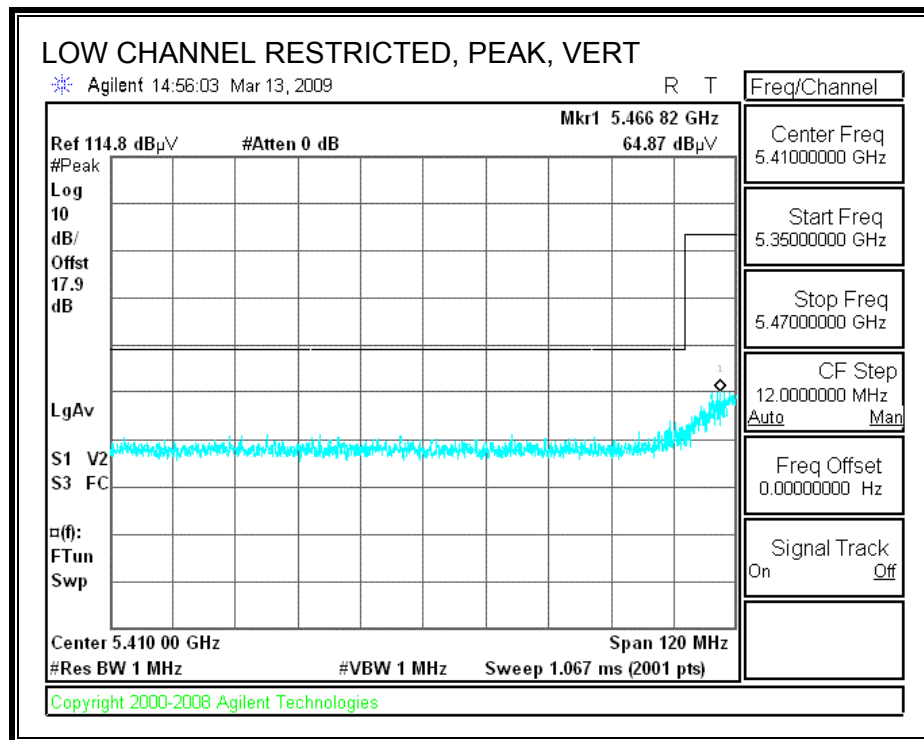
Rev. 4.1.2.7

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

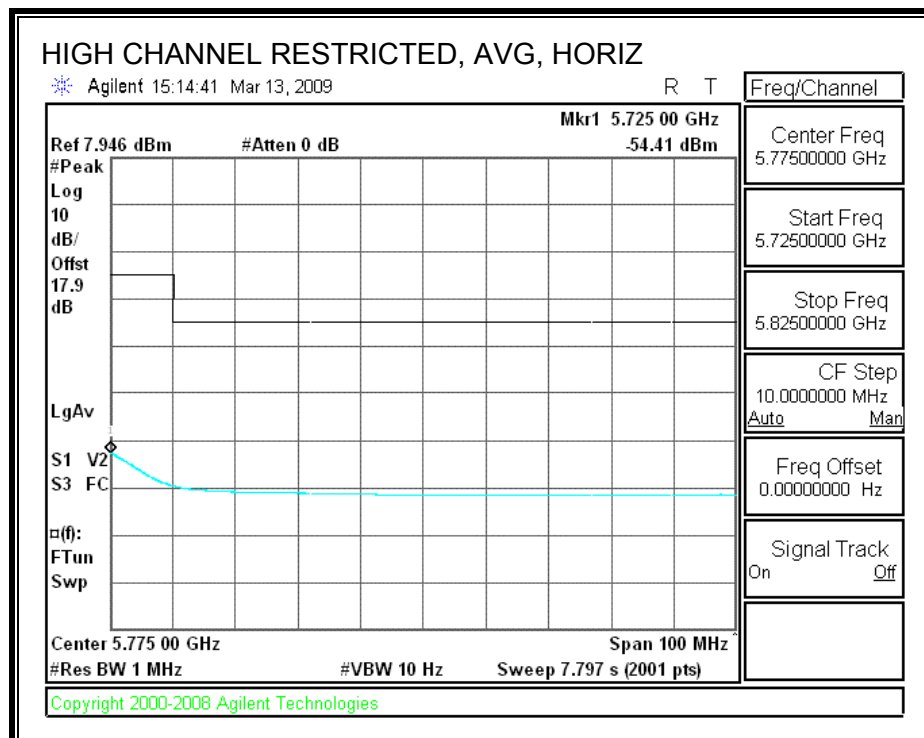
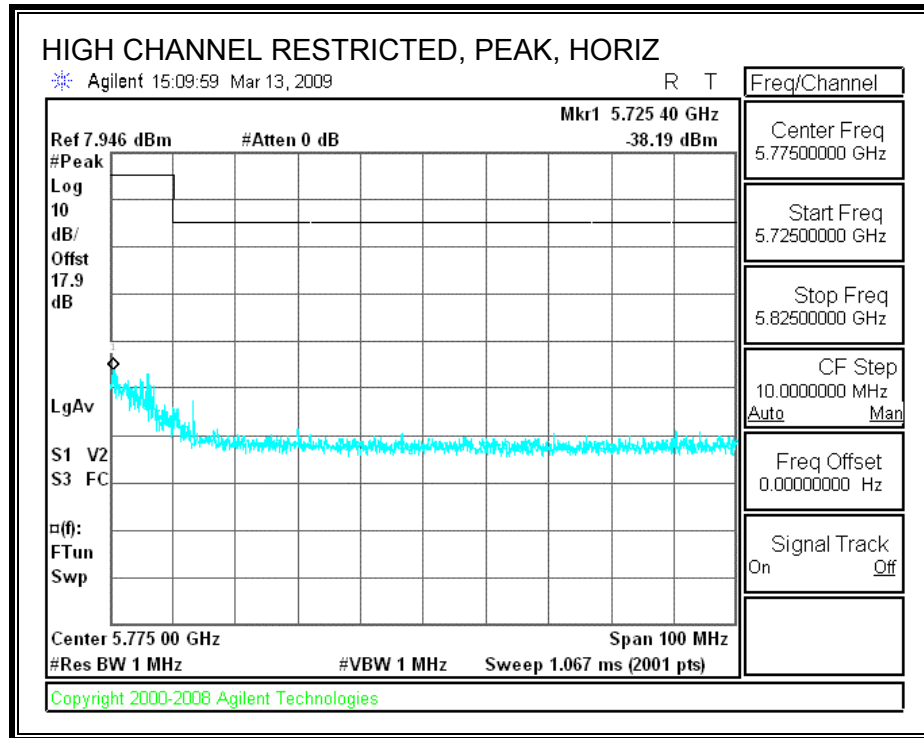
8.2.7. FOR 802.11a MODE IN THE 5.6 GHz RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



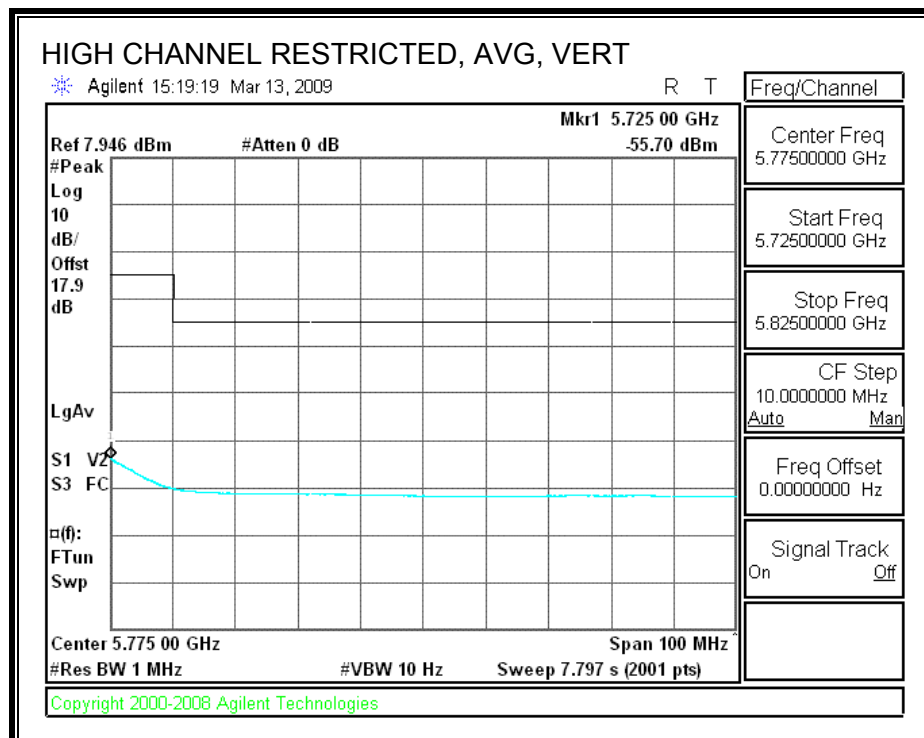
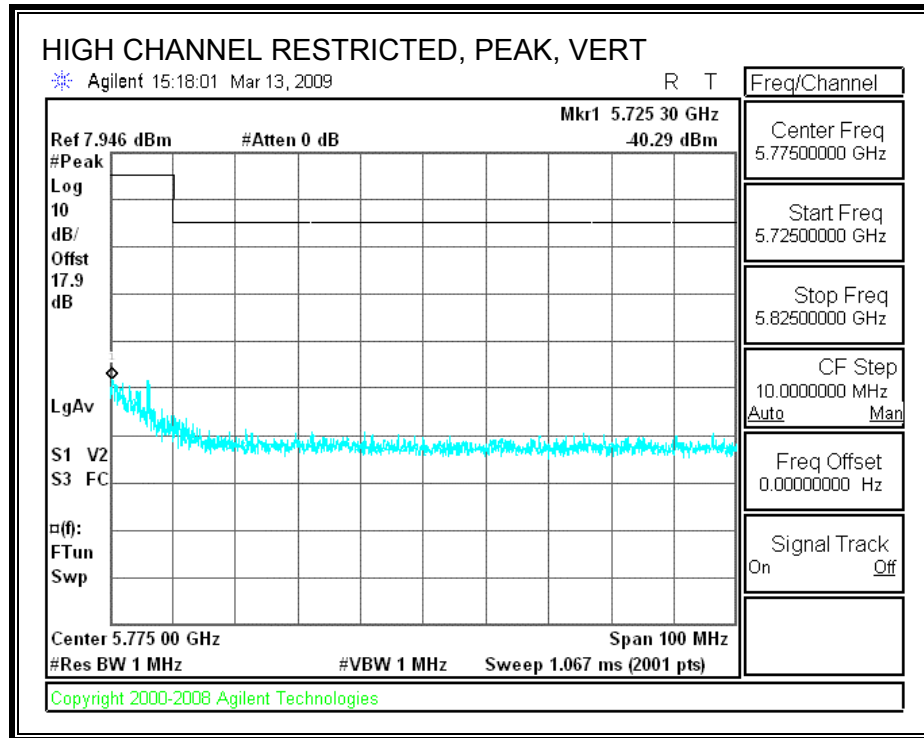
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber

Test Engr: Devin Chang
Date: 03/17/09
Project #: 09112437
Company: Samsung
EUT Description: EUT only
Mode Oper: 5.6GHz_a mode

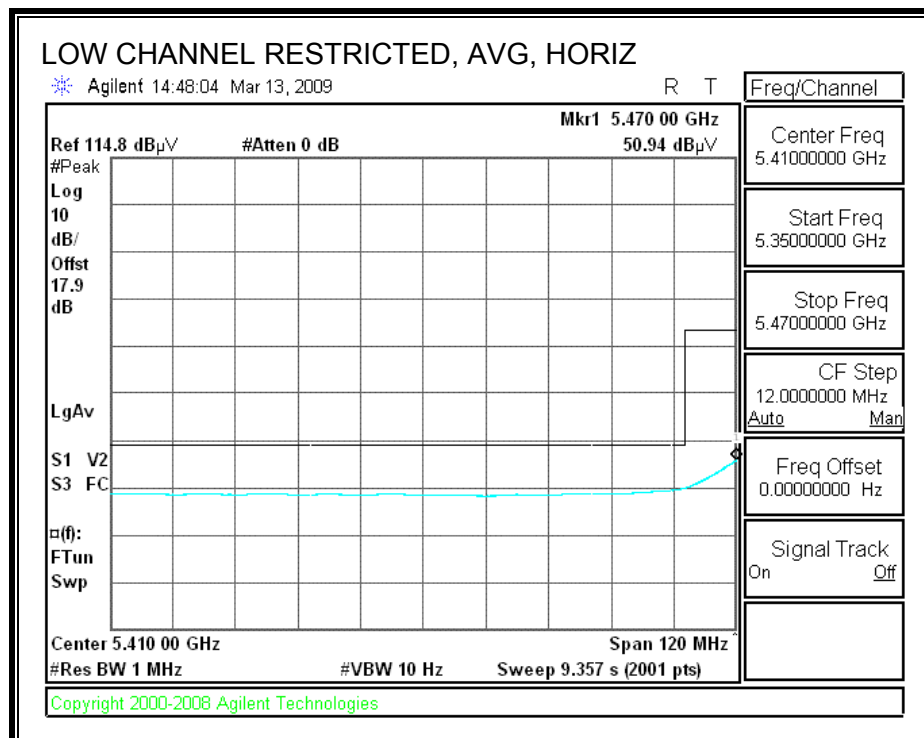
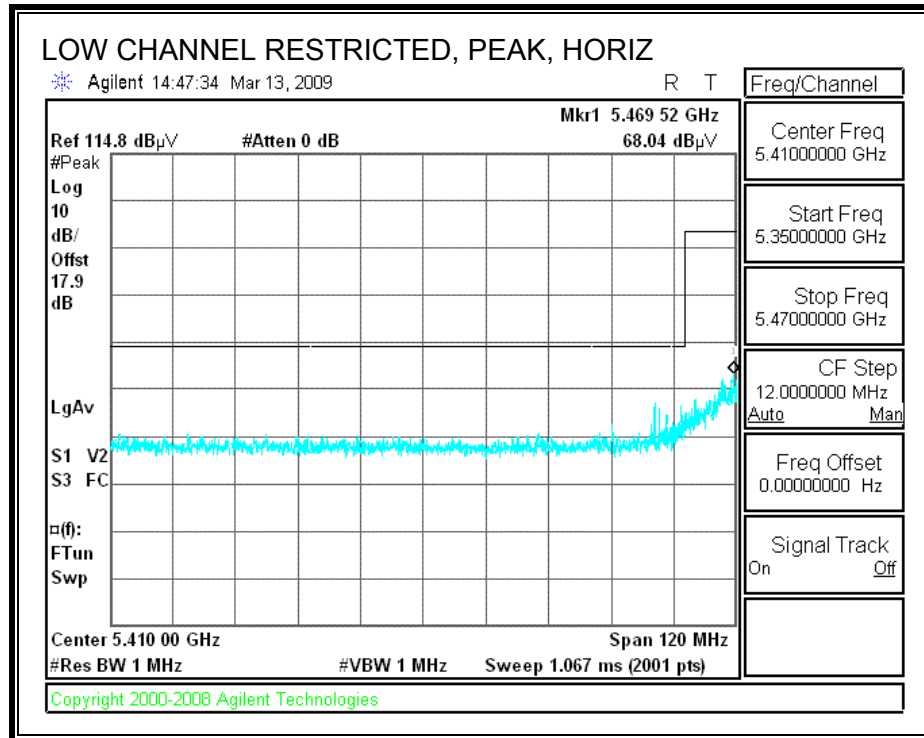
f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5500MHz															
11.000	3.0	37.9	37.7	9.2	-33.8	0.0	0.7	51.9	74.0	-22.1	V	P	102.0	106.3	
11.000	3.0	24.8	37.7	9.2	-33.8	0.0	0.7	38.8	54.0	-15.2	V	A	102.0	106.3	
11.000	3.0	35.5	37.7	9.2	-33.8	0.0	0.7	49.4	74.0	-24.6	H	P	192.8	143.0	
11.000	3.0	23.3	37.7	9.2	-33.8	0.0	0.7	37.2	54.0	-16.8	H	A	192.8	143.0	
5600MHz															
11.200	3.0	42.6	37.9	9.3	-33.5	0.0	0.7	57.0	74.0	-17.0	V	P	142.1	109.5	
11.200	3.0	29.7	37.9	9.3	-33.5	0.0	0.7	44.1	54.0	-9.9	V	A	142.1	109.5	
11.200	3.0	37.1	37.9	9.3	-33.5	0.0	0.7	51.5	74.0	-22.5	H	P	100.2	123.1	
11.200	3.0	24.2	37.9	9.3	-33.5	0.0	0.7	38.6	54.0	-15.4	H	A	100.2	123.1	
5700MHz															
11.400	3.0	41.6	38.0	9.4	-33.2	0.0	0.7	56.6	74.0	-17.4	V	P	139.2	113.5	
11.400	3.0	28.9	38.0	9.4	-33.2	0.0	0.7	43.9	54.0	-10.1	V	A	139.2	113.5	
11.400	3.0	34.6	38.0	9.4	-33.2	0.0	0.7	49.5	74.0	-24.5	H	P	100.9	169.7	
11.400	3.0	22.8	38.0	9.4	-33.2	0.0	0.7	37.7	54.0	-16.3	H	A	100.9	169.7	

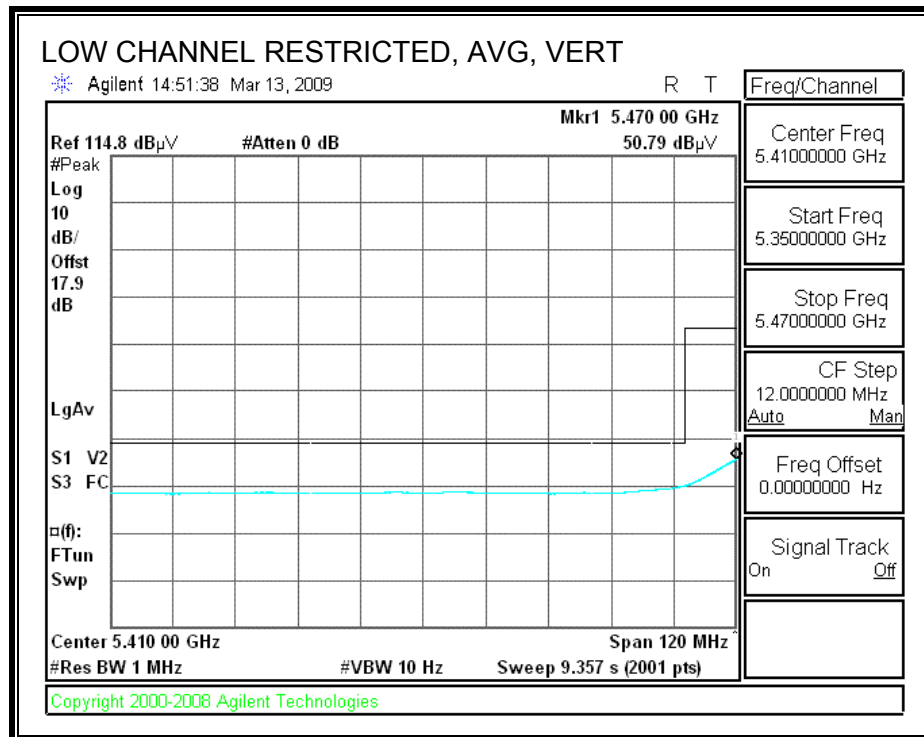
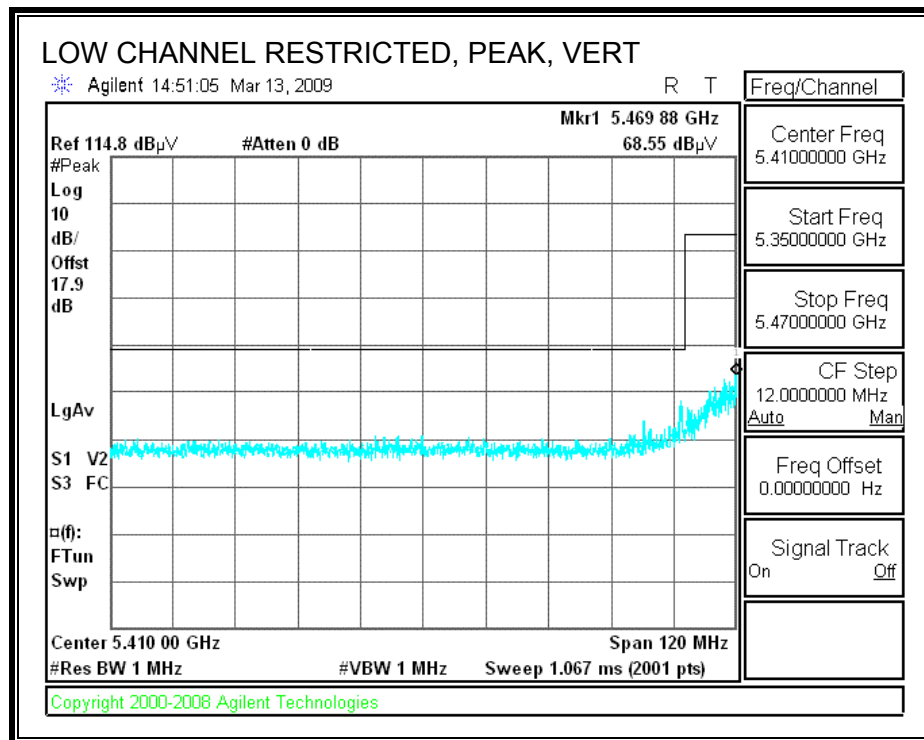
Rev. 4.1.2.7

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

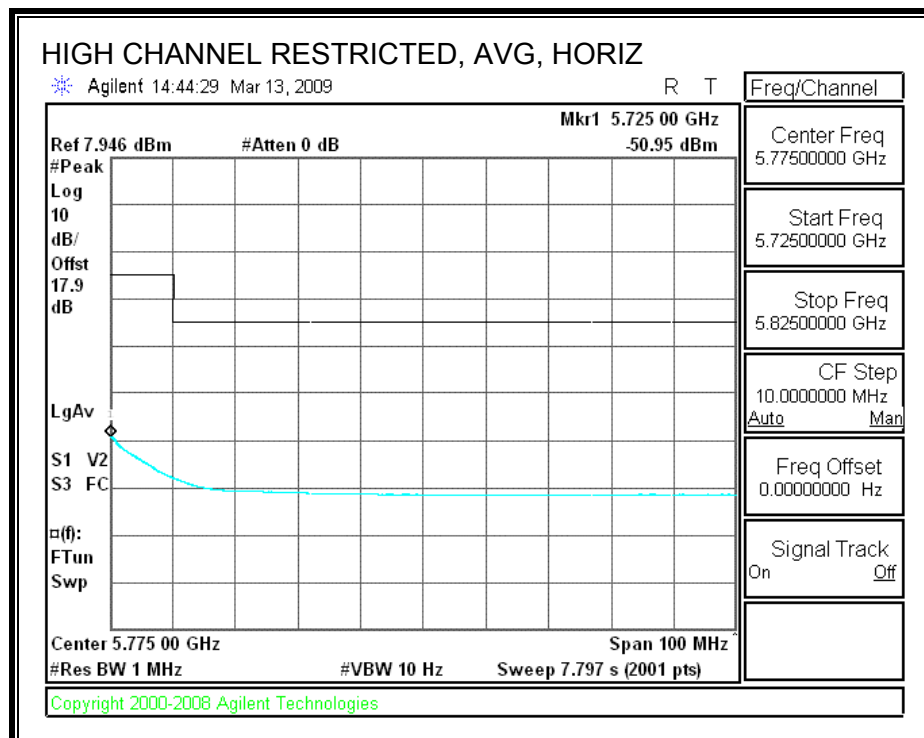
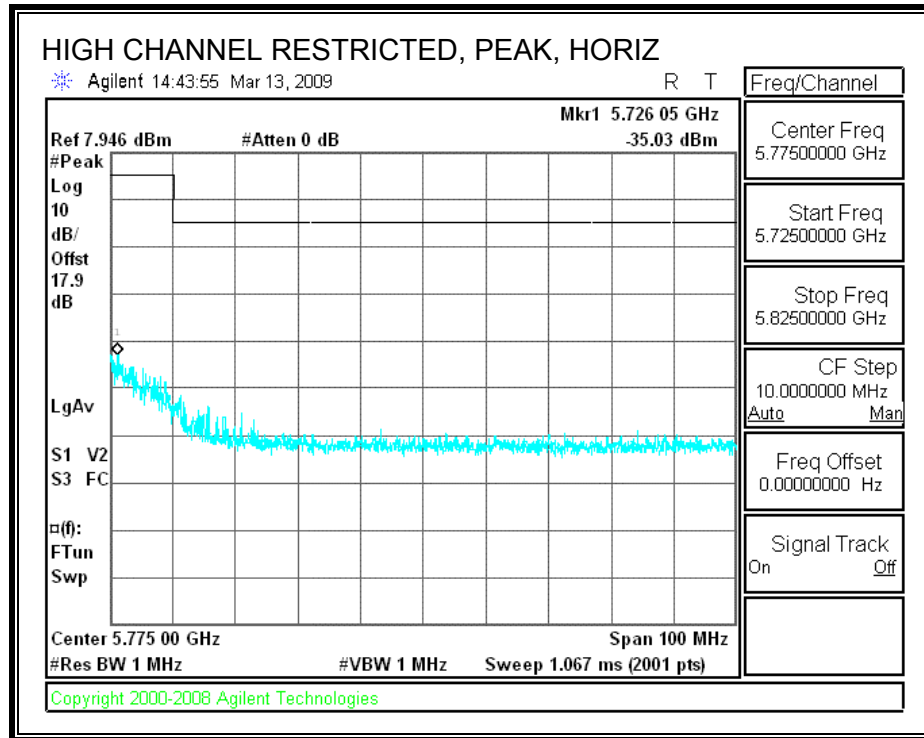
**8.2.8. FOR 802.11n HT20 MODE IN THE 5.6 GHz
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)**



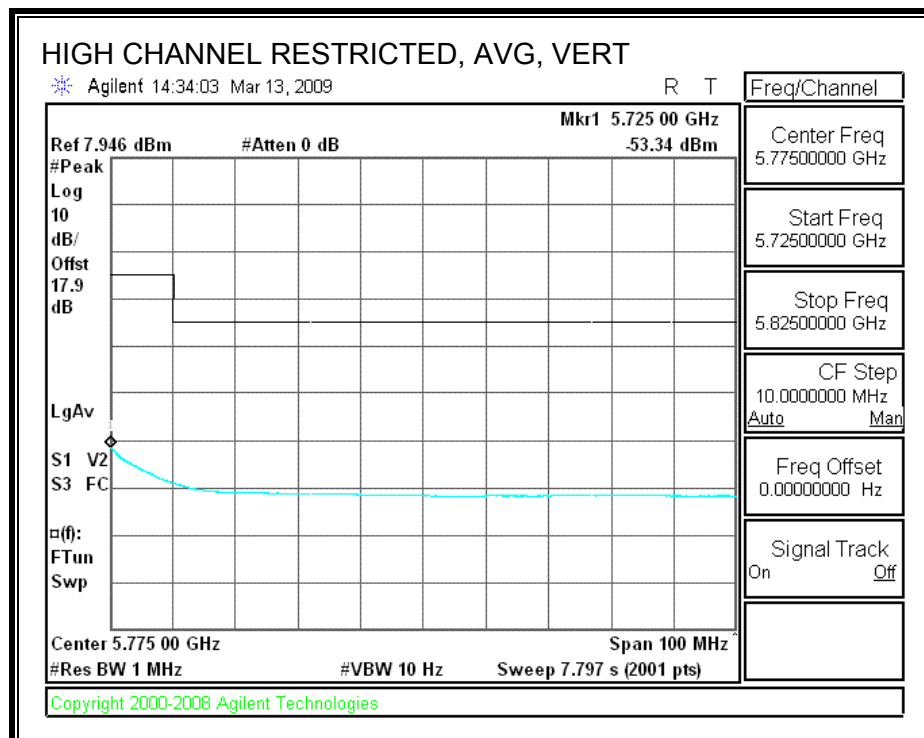
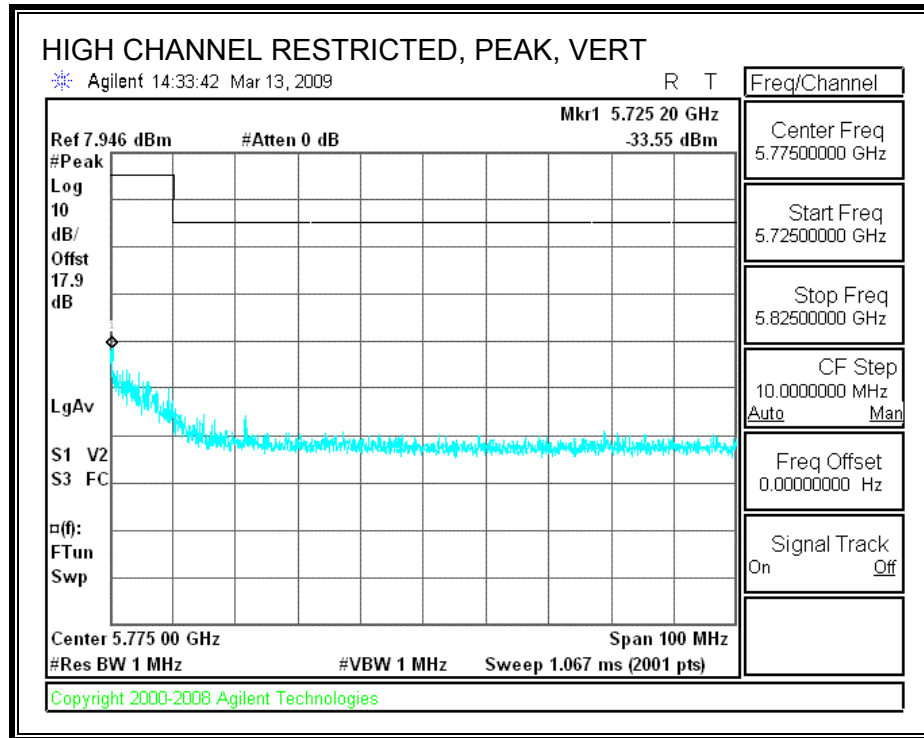
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber

Test Engr: Devin Chang
Date: 03/17/09
Project #: 09112437
Company: Samsung
EUT Description: EUT only
Mode Oper: 5.6GHz_HT20

f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5500MHz															
11.000	3.0	37.0	37.7	9.2	-33.8	0.0	0.7	50.9	74.0	-23.1	V	P	102.7	124.0	
11.000	3.0	24.3	37.7	9.2	-33.8	0.0	0.7	38.2	54.0	-15.8	V	A	102.7	124.0	
11.000	3.0	35.7	37.7	9.2	-33.8	0.0	0.7	49.6	74.0	-24.4	H	P	119.5	104.4	
11.000	3.0	23.3	37.7	9.2	-33.8	0.0	0.7	37.2	54.0	-16.8	H	A	119.5	104.4	
5600MHz															
11.200	3.0	43.0	37.9	9.3	-33.5	0.0	0.7	57.4	74.0	-16.6	V	P	135.6	111.0	
11.200	3.0	29.9	37.9	9.3	-33.5	0.0	0.7	44.4	54.0	-9.6	V	A	135.6	111.0	
11.200	3.0	35.5	37.9	9.3	-33.5	0.0	0.7	50.0	74.0	-24.1	H	P	100.3	357.0	
11.200	3.0	22.8	37.9	9.3	-33.5	0.0	0.7	37.2	54.0	-16.8	H	A	100.3	357.0	
5700MHz															
11.400	3.0	41.2	38.0	9.4	-33.2	0.0	0.7	56.2	74.0	-17.8	V	P	146.4	111.8	
11.400	3.0	27.8	38.0	9.4	-33.2	0.0	0.7	42.8	54.0	-11.2	V	A	146.4	111.8	
11.400	3.0	35.5	38.0	9.4	-33.2	0.0	0.7	50.4	74.0	-23.6	H	P	199.2	182.2	
11.400	3.0	22.9	38.0	9.4	-33.2	0.0	0.7	37.8	54.0	-16.2	H	A	199.2	182.2	

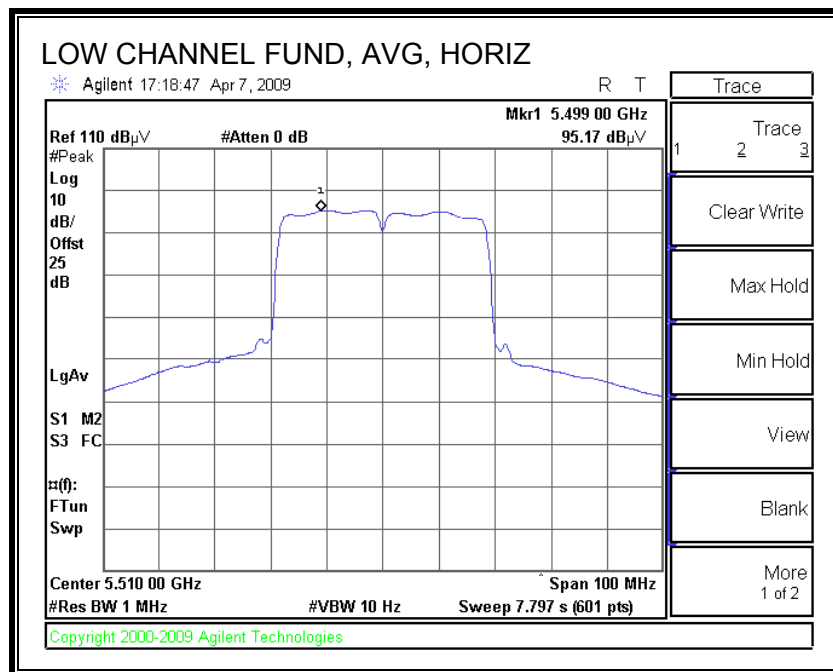
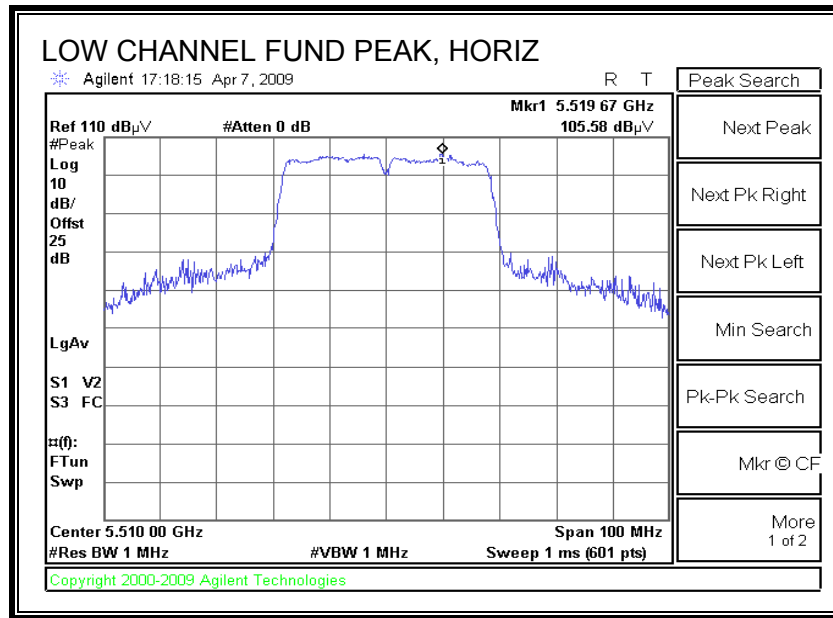
Rev. 4.1.2.7

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

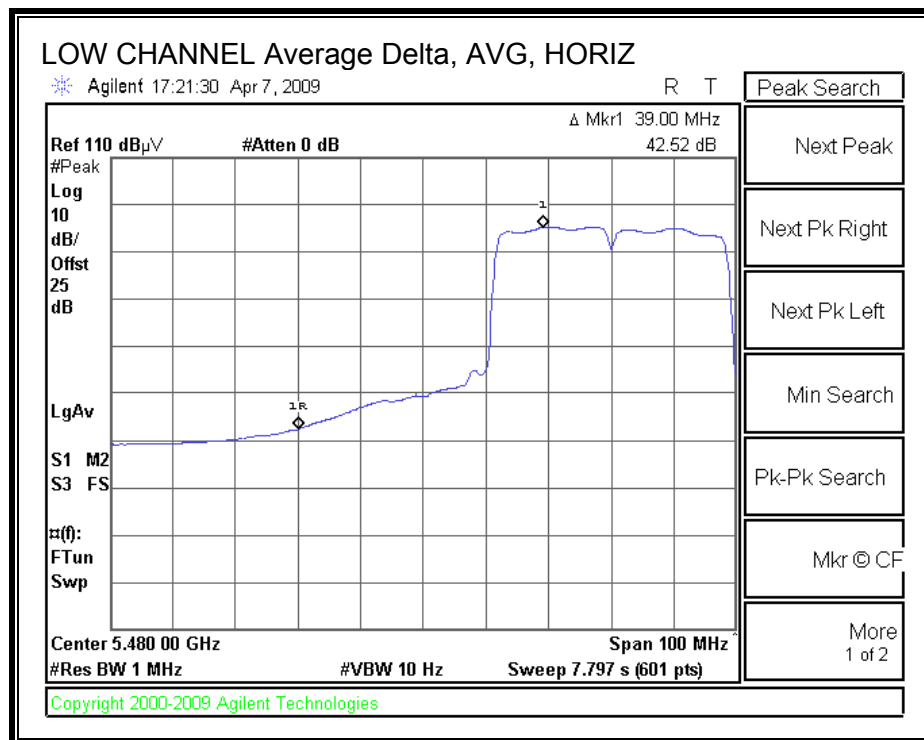
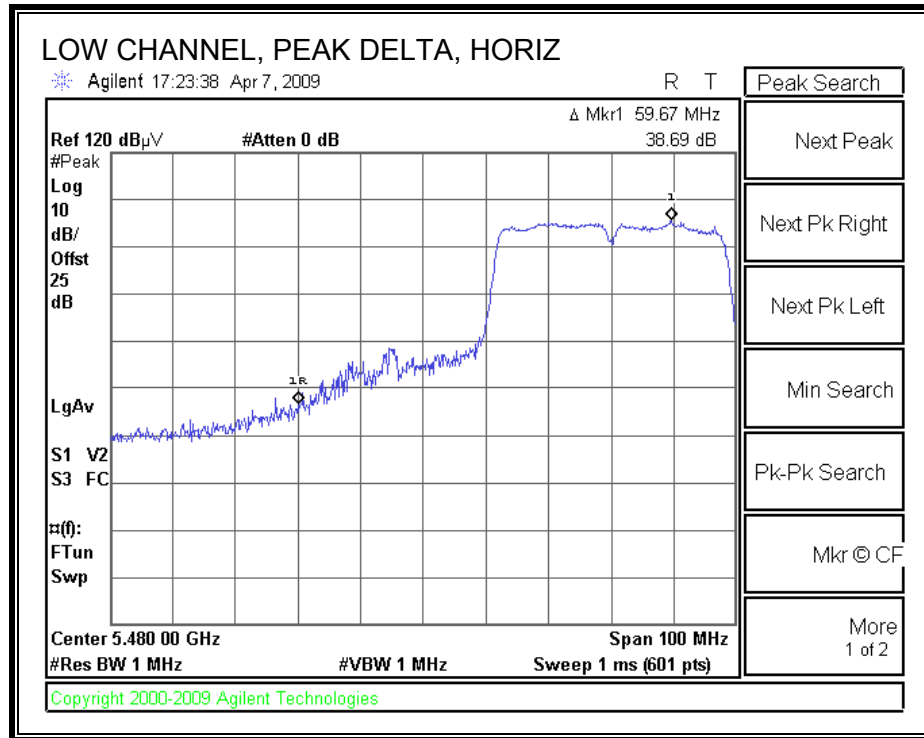
8.2.9. FOR 802.11n HT40 MODE IN THE 5.6 GHz

HT40 Horizontal Low Channel		Fundamental (dBuV/m)		Reading (dBuV/m)	
Peak Delta (dBc)	Average Delta (dBc)	Peak	Average	Peak	Average
38.69	42.52	105.58	95.17	66.89	52.65

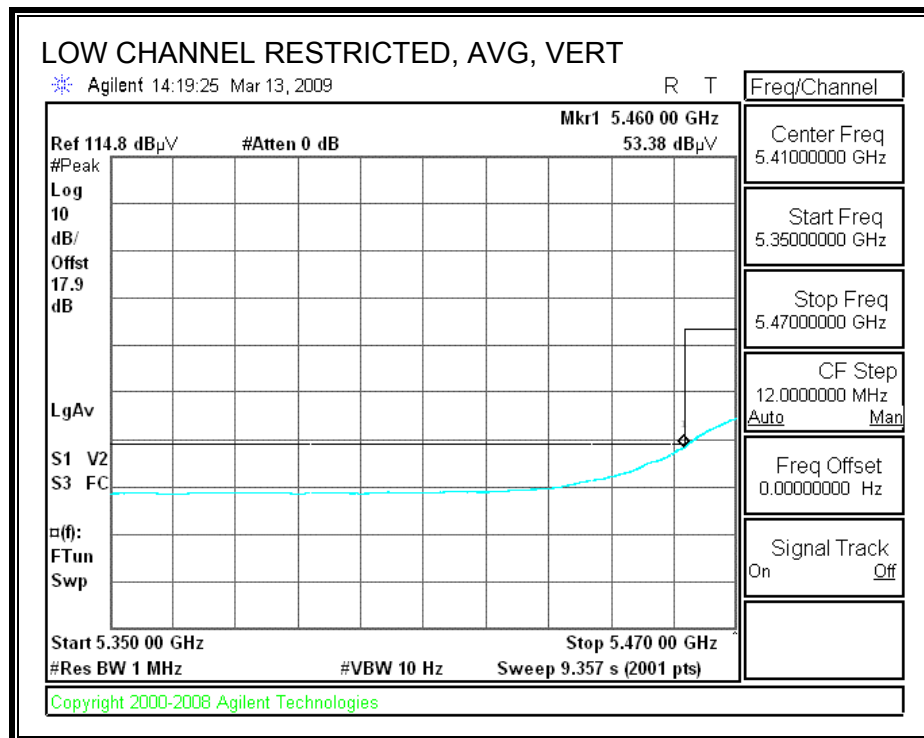
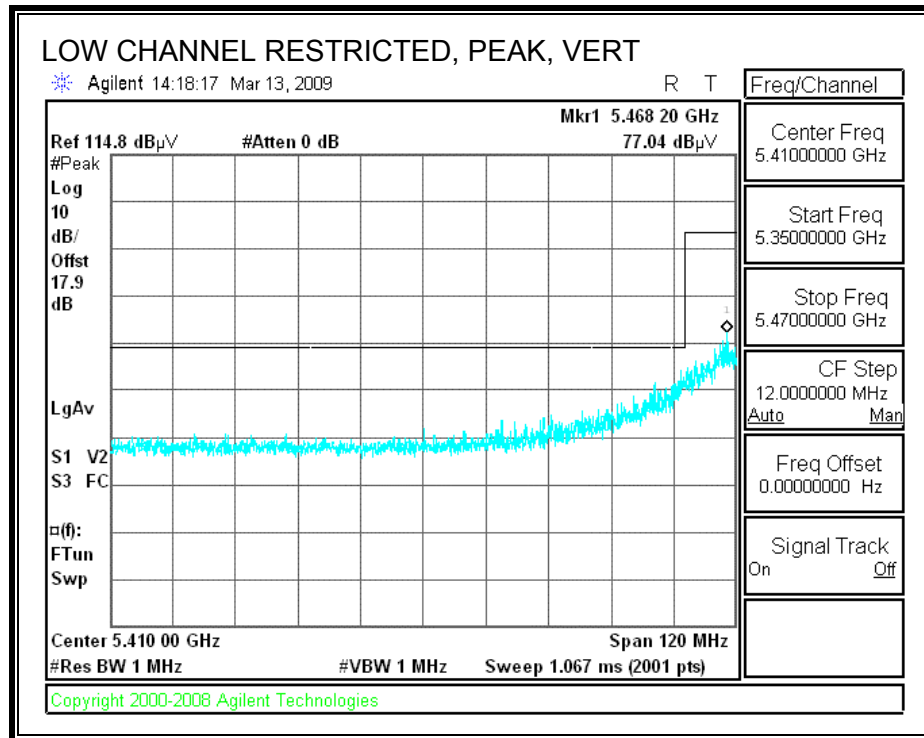
HIGH CHANNEL, HORIZONTAL FUNDAMENTAL



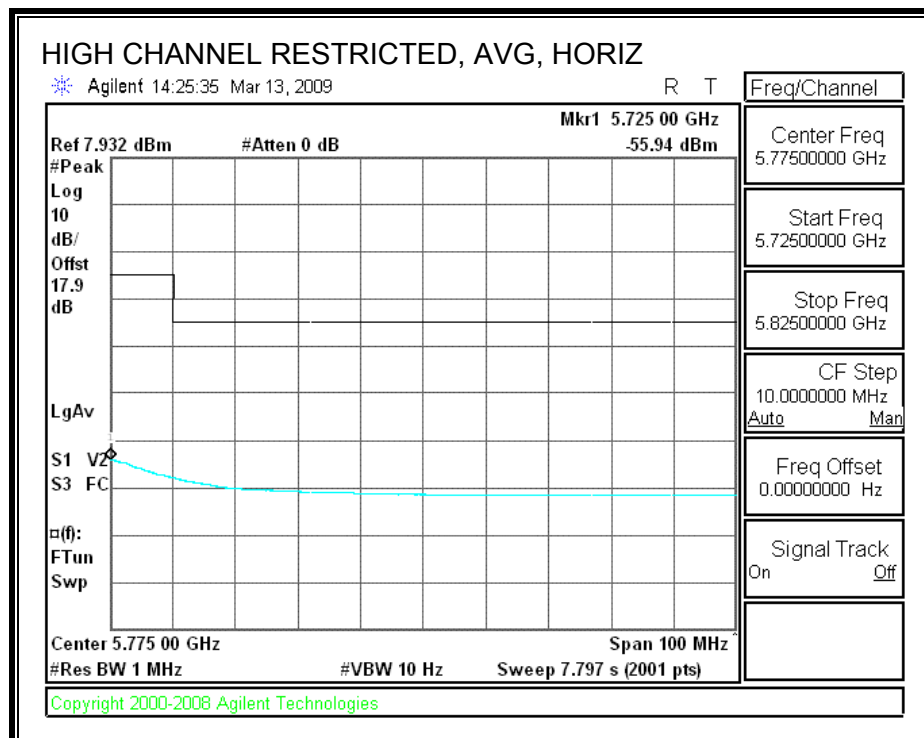
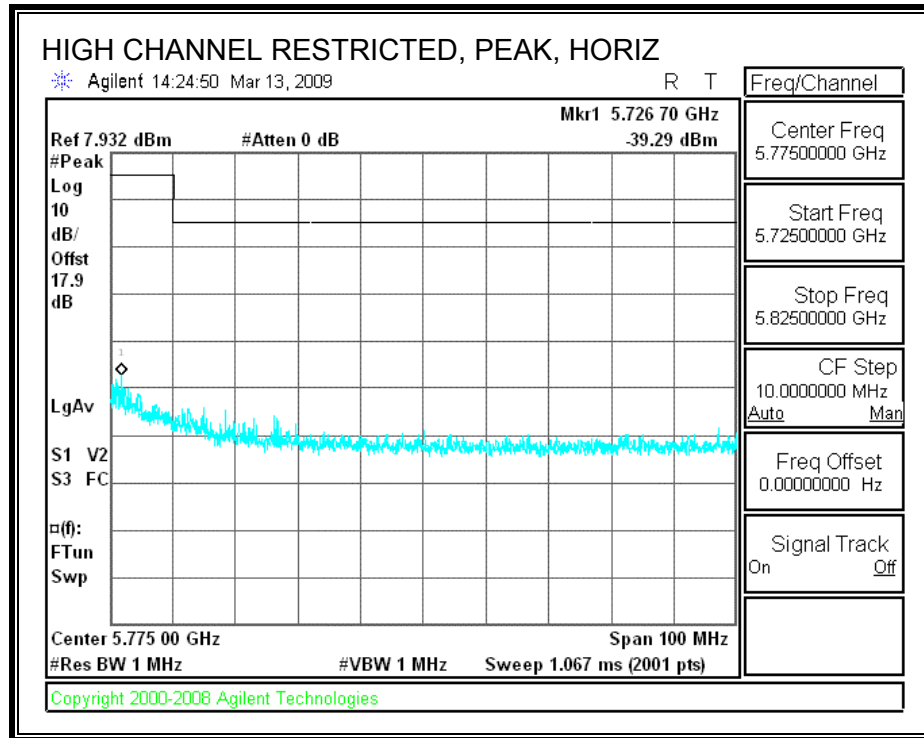
HIGH CHANNEL, HORIZONTAL DELTA



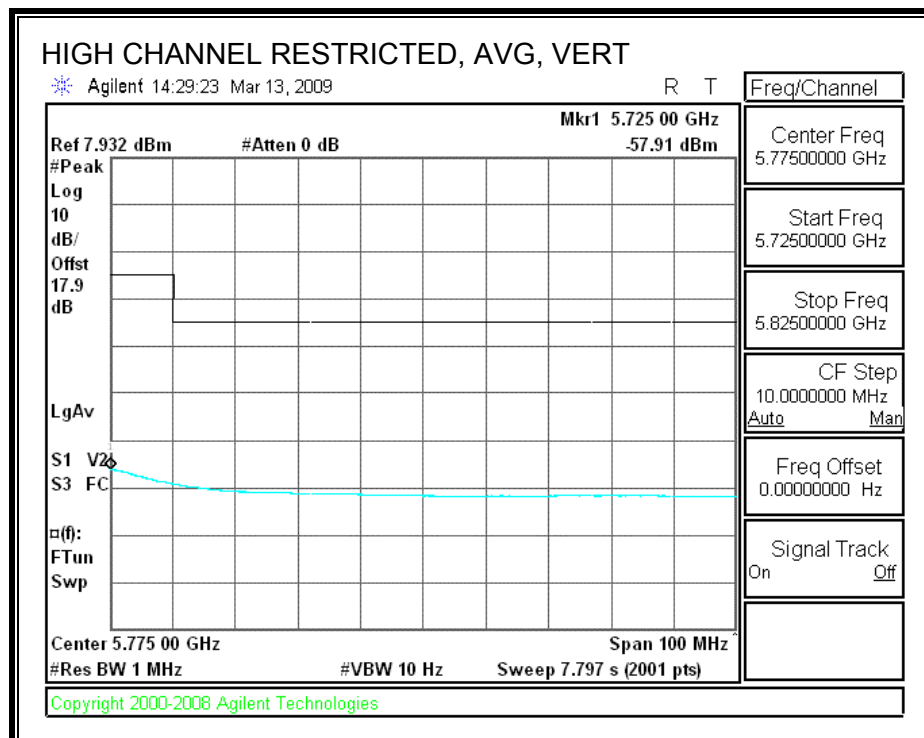
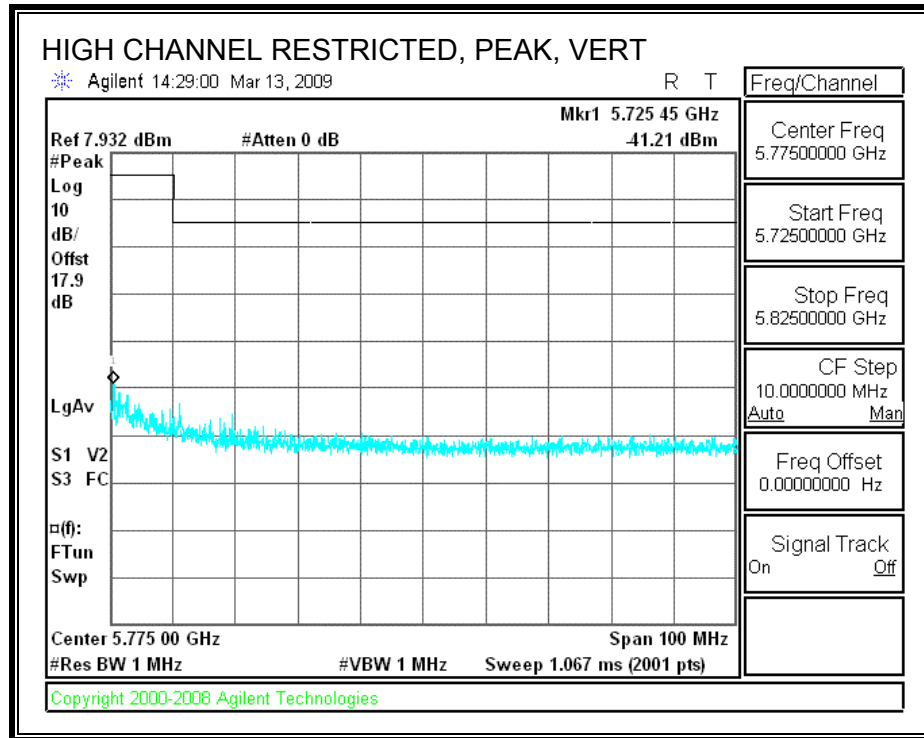
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)



RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement Compliance Certification Services, Fremont 5m Chamber

Test Engr: Devin Chang
Date: 03/17/09
Project #: 09112437
Company: Samsung
EUT Description: EUT only
Mode Oper: 5.6GHz_HT40

f	Measurement Frequency	Amp	Preamp Gain	Average Field Strength Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters	Peak Field Strength Limit
Read	Analyzer Reading	Avg	Average Field Strength @ 3 m	Margin vs. Average Limit
AF	Antenna Factor	Peak	Calculated Peak Field Strength	Margin vs. Peak Limit
CL	Cable Loss	HPF	High Pass Filter	

f GHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Ant.High cm	Table Angle Degree	Notes
5510MHz															
11.020	3.0	35.9	37.7	9.2	-33.7	0.0	0.7	49.9	74.0	-24.1	V	P	174.7	130.0	
11.020	3.0	23.8	37.7	9.2	-33.7	0.0	0.7	37.8	54.0	-16.2	V	A	174.7	130.0	
11.020	3.0	36.0	37.7	9.2	-33.7	0.0	0.7	50.0	74.0	-24.0	H	P	100.8	221.5	
11.020	3.0	23.1	37.7	9.2	-33.7	0.0	0.7	37.1	54.0	-16.9	H	A	100.8	221.5	
5590MHz															
11.180	3.0	39.0	37.8	9.3	-33.5	0.0	0.7	53.4	74.0	-20.6	V	P	142.5	109.2	
11.180	3.0	27.2	37.8	9.3	-33.5	0.0	0.7	41.6	54.0	-12.4	V	A	142.5	109.2	
11.180	3.0	35.0	37.8	9.3	-33.5	0.0	0.7	49.4	74.0	-24.6	H	P	190.6	132.1	
11.180	3.0	22.6	37.8	9.3	-33.5	0.0	0.7	37.0	54.0	-17.0	H	A	190.6	132.1	
5670MHz															
11.340	3.0	35.2	38.0	9.4	-33.3	0.0	0.7	50.0	74.0	-24.0	V	P	198.7	260.0	
11.340	3.0	22.8	38.0	9.4	-33.3	0.0	0.7	37.6	54.0	-16.4	V	A	198.7	260.0	
11.340	3.0	35.7	38.0	9.4	-33.3	0.0	0.7	50.5	74.0	-23.5	H	P	192.5	125.6	
11.340	3.0	22.6	38.0	9.4	-33.3	0.0	0.7	37.4	54.0	-16.6	H	A	192.5	125.6	

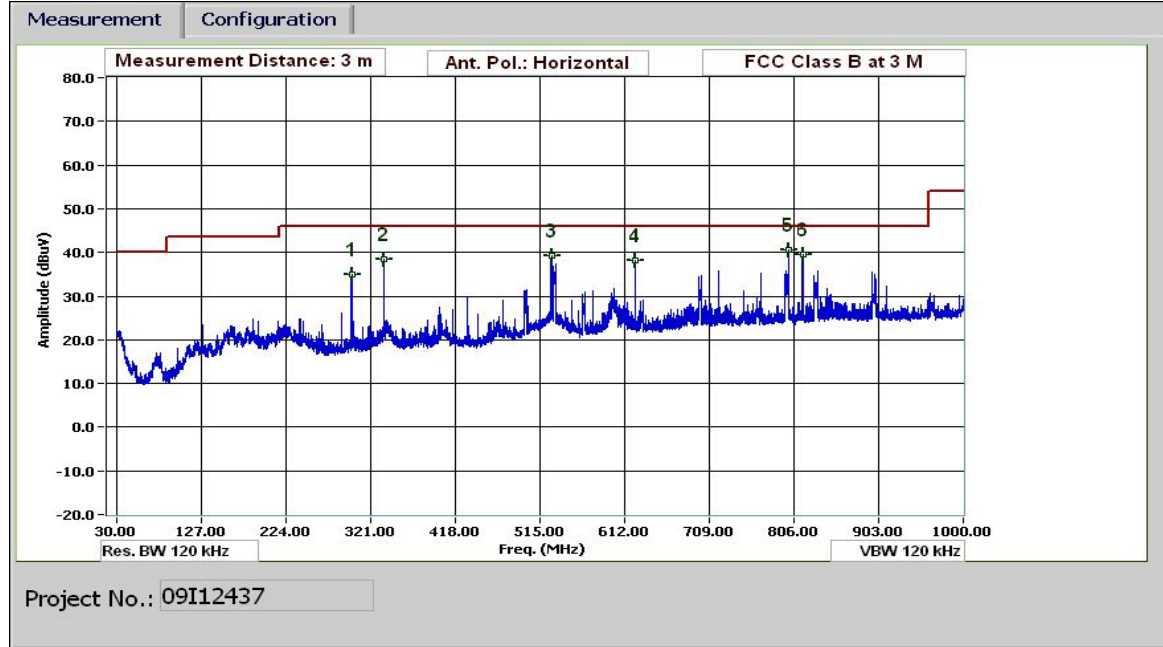
Rev. 4.1.2.7

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

8.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT AND DATA



30-1000MHz Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Chin Pang

Date: 3/24/2009

Project #: 09I12437

Company: Samsung

EUT Description: Notebook PC -- Intel Wimax WLAN

EUT M/N: NP-NC10

Test Target: FCC Class B

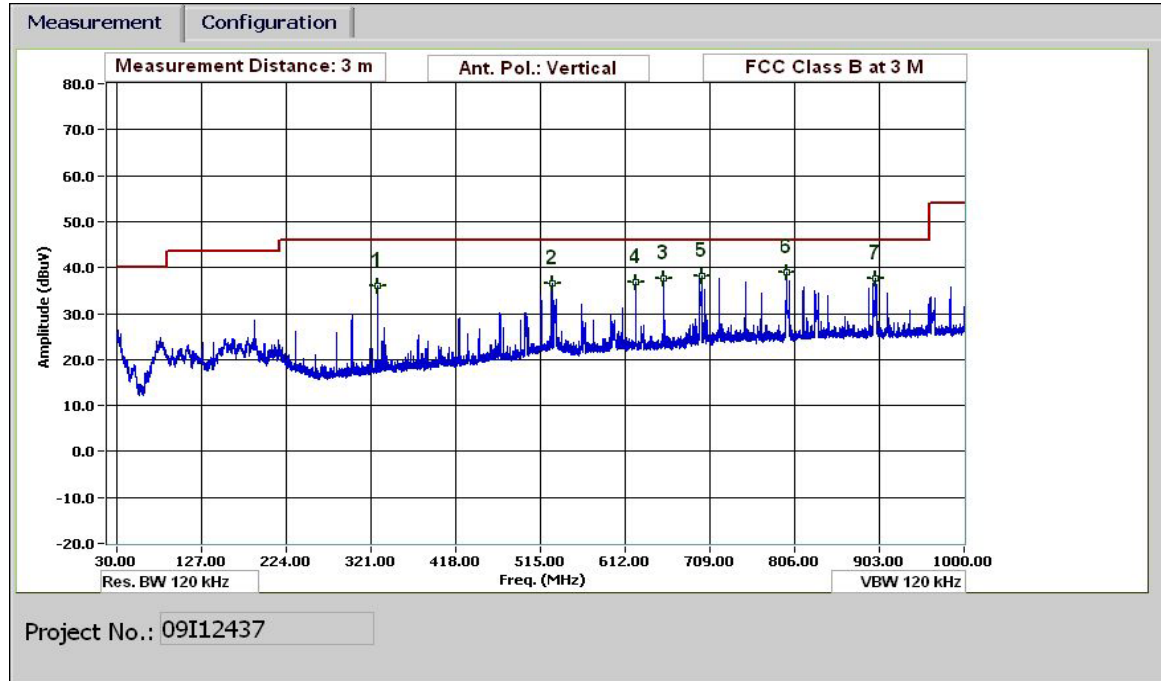
Mode Oper: UNII Band

f	Measurement Frequency	Amp	Preamplifier Gain	Margin	Margin vs. Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters		
Read	Analyzer Reading	Filter	Filter Insert Loss		
AF	Antenna Factor	Corr.	Calculated Field Strength		
CL	Cable Loss	Limit	Field Strength Limit		

f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol. V/H	Det. P/A/QP	Notes
299.891	3.0	48.2	13.4	1.5	28.1	0.0	0.0	35.0	46.0	-11.0	H	P	
336.013	3.0	50.8	14.0	1.6	28.1	0.0	0.0	38.3	46.0	-7.7	H	P	
528.021	3.0	47.7	17.2	2.1	27.7	0.0	0.0	39.2	46.0	-6.8	H	P	
624.024	3.0	44.6	18.7	2.3	27.4	0.0	0.0	38.2	46.0	-7.8	H	P	
799.952	3.0	44.5	21.0	2.6	27.4	0.0	0.0	40.6	46.0	-5.4	H	P	
816.032	3.0	43.2	21.1	2.7	27.5	0.0	0.0	39.5	46.0	-6.5	H	P	

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

VERTICAL PLOT AND DATA



30-1000MHz Frequency Measurement

Compliance Certification Services, Fremont 5m Chamber

Test Engr: Chin Pang

Date: 3/24/2009

Project #: 09I12437

Company: Samsung

EUT Description: Notebook PC --Intel Wimax WLAN

EUT M/N: NP-NC10

Test Target: FCC Class B

Mode Oper: UNII Band

f	Measurement Frequency	Amp	Preamplifier Gain	Margin	Margin vs. Limit
Dist	Distance to Antenna	D Corr	Distance Correct to 3 meters		
Read	Analyzer Reading	Filter	Filter Insert Loss		
AF	Antenna Factor	Corr.	Calculated Field Strength		
CL	Cable Loss	Limit	Field Strength Limit		

f MHz	Dist (m)	Read dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filter dB	Corr. dBuV/m	Limit dBuV/m	Margin dB	Ant. Pol V/H	Det. P/A/QP	Notes
328.092	3.0	48.7	13.8	1.6	28.1	0.0	0.0	36.0	46.0	-10.0	V	P	
528.021	3.0	45.1	17.2	2.1	27.7	0.0	0.0	36.6	46.0	-9.4	V	P	
624.024	3.0	43.3	18.7	2.3	27.4	0.0	0.0	36.9	46.0	-9.1	V	P	
656.306	3.0	43.6	19.1	2.4	27.3	0.0	0.0	37.7	46.0	-8.3	V	P	
699.628	3.0	43.5	19.6	2.4	27.2	0.0	0.0	38.3	46.0	-7.7	V	P	
796.952	3.0	42.8	20.9	2.6	27.4	0.0	0.0	38.9	46.0	-7.1	V	P	
898.356	3.0	40.7	21.9	2.8	27.8	0.0	0.0	37.6	46.0	-8.4	V	P	

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

ANSI C63.4

RESULTS

6 WORST EMISSIONS

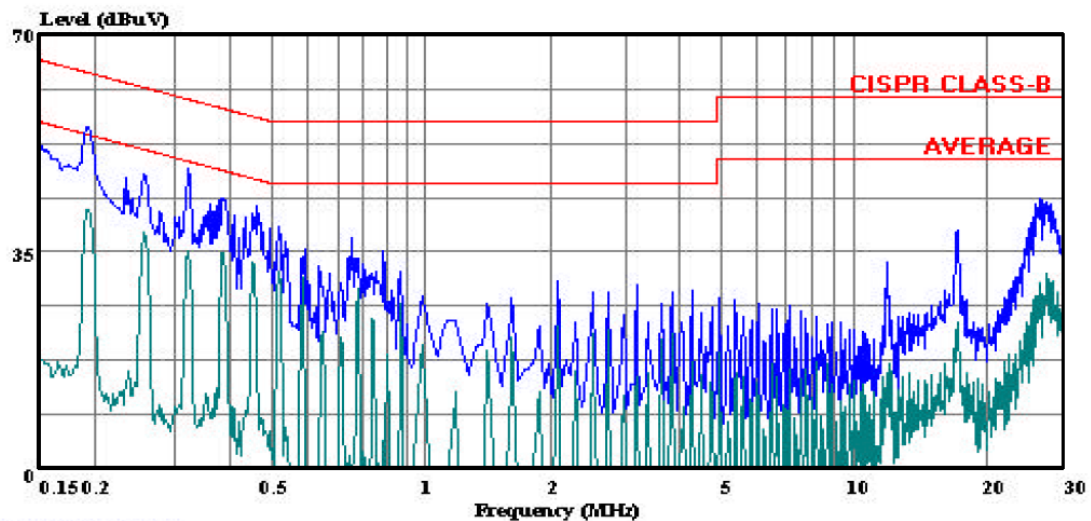
CONDUCTED EMISSIONS DATA (115VAC 60Hz)									
Freq.	Reading			Closs	Limit	FCC B	Margin		Remark
(MHz)	PK (dBuV)	QP (dBuV)	AV (dBuV)	(dB)	QP	AV	QP (dB)	AV (dB)	L1 / L2
0.19	55.16	--	41.92	0.00	63.95	53.95	-8.79	-12.03	L1
0.26	47.67	--	38.05	0.00	61.50	51.50	-13.83	-13.45	L1
27.27	43.63	--	31.38	0.00	60.00	50.00	-16.37	-18.62	L1
0.19	56.86	--	38.69	0.00	63.95	53.95	-7.09	-15.26	L2
0.45	46.30	--	38.71	0.00	56.84	46.84	-10.54	-8.13	L2
26.84	39.54	--	28.28	0.00	60.00	50.00	-20.46	-21.72	L2
6 Worst Data									

LINE 1 RESULTS



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

Data#: 14 File#: 09i12437.emi Date: 03-11-2009 Time: 14:02:33



(Line Conduction)

Trace: 12

Ref Trace:

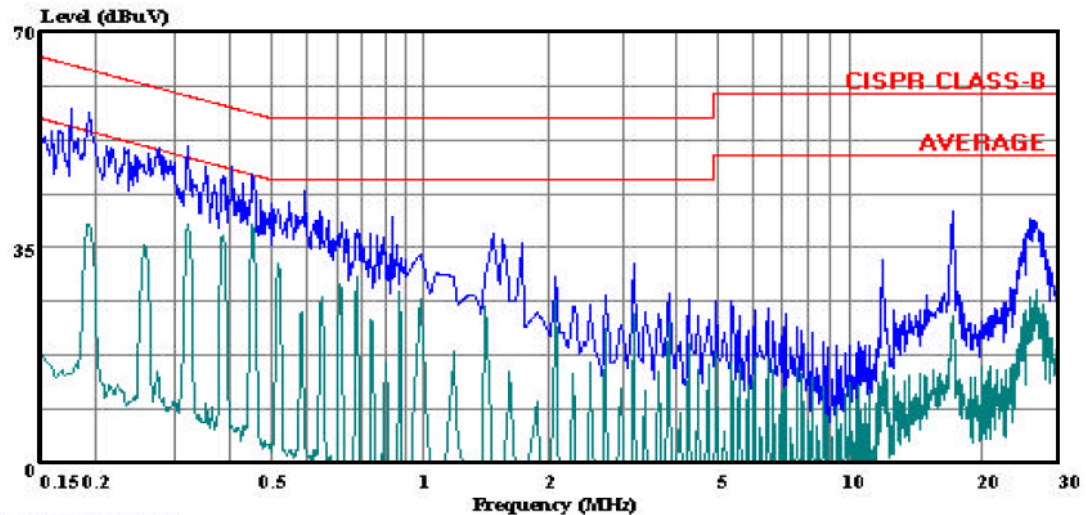
Condition: CISPR CLASS-B
Test Operator:: Devin Chang
Project #: : 09I12437
Company: : Samsung
Configuration:: EUT only
Mode: : Tx mode
Target: : FCC Class B
Voltage: : 115VAC / 60Hz
: L1: Peak (Blue), Average (Green)

LINE 2 RESULTS



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

Data#: 21 File#: 09i12437.emi Date: 03-11-2009 Time: 14:17:25



(Line Conduction)

Trace: 19

Ref Trace:

Condition: CISPR CLASS-B
Test Operator:: Devin Chang
Project #: 09I12437
Company: Samsung
Configuration:: EUT only
Mode: Tx mode
Target: FCC Class B
Voltage: 115VAC / 60Hz
L2: Peak (Blue), Average (Green)