



**FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8**

CERTIFICATION TEST REPORT

FOR

**BAR PHONE WITH WLAN, 80.11b/g/n + Bluetooth + WWAN
(GSM/EGPRS/WCDMA 850/1900/2100 MHz; HSDPA/HSUPA WITH MOBILE
HOTSPOT)**

MODEL NUMBER: GT-I8262D

FCC ID: A3LGTI8262D

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Prepared for
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NVLAP LAB CODE 200065-0

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1. ATTESTATION OF TEST RESULTS

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

EUT DESCRIPTION: BAR PHONE WITH WLAN, 802.11b/g/n + Bluetooth + WWAN
(GSM/EGPRS/WCDMA 850/1900/2100 MHz; HSDPA/HSUPA
WITH MOBILE HOTSPOT)

MODEL: GT-I8262D

SERIAL NUMBER: FJ-312-C and FJ-312-D (RADIATED and CONDUCTED)

DATE TESTED: NOVEMBER 29 to DECEMBER 04, 2012

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

UL 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 UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL CCS By:

Tested By:



TIM LEE
WISE PROJECT LEADER
UL CCS

DOUG ANDERSON
EMC ENGINEER
UL CCS

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2003, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

4.3. MEASUREMENT UNCERTAINTY

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

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/EGPRS/WCDMA (850/1900/2100 MHz); HSDPA/HSUPA bar cell phone with 802.11b/g/n WLAN, Bluetooth v2.1 + EDR transceiver and mobile hot-spot ability.

This report covers the WLAN radio.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2412 - 2462	802.11b	19.85	96.61
2412 - 2462	802.11g	21.84	152.76
2412 - 2462	802.11n HT20	21.35	136.46

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA type antenna, with a maximum gain of -4.1 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was I8262D.004.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z. It was determined that Y-orientation without a headset was the worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y-orientation.

Worst-case data rates as provided by the client were:

Based on the baseline scan, the worst-case data rates were:

802.11b mode: 1 Mbps

802.11g mode: 6 Mbps

802.11n HT20mode: MCS0

5.1. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Samsung	ETAOU81EBE	RT1C43hS/A-E	DoC
Headset	Samsung	EHS61ASFWE (GH59-11129H)	None	N/A

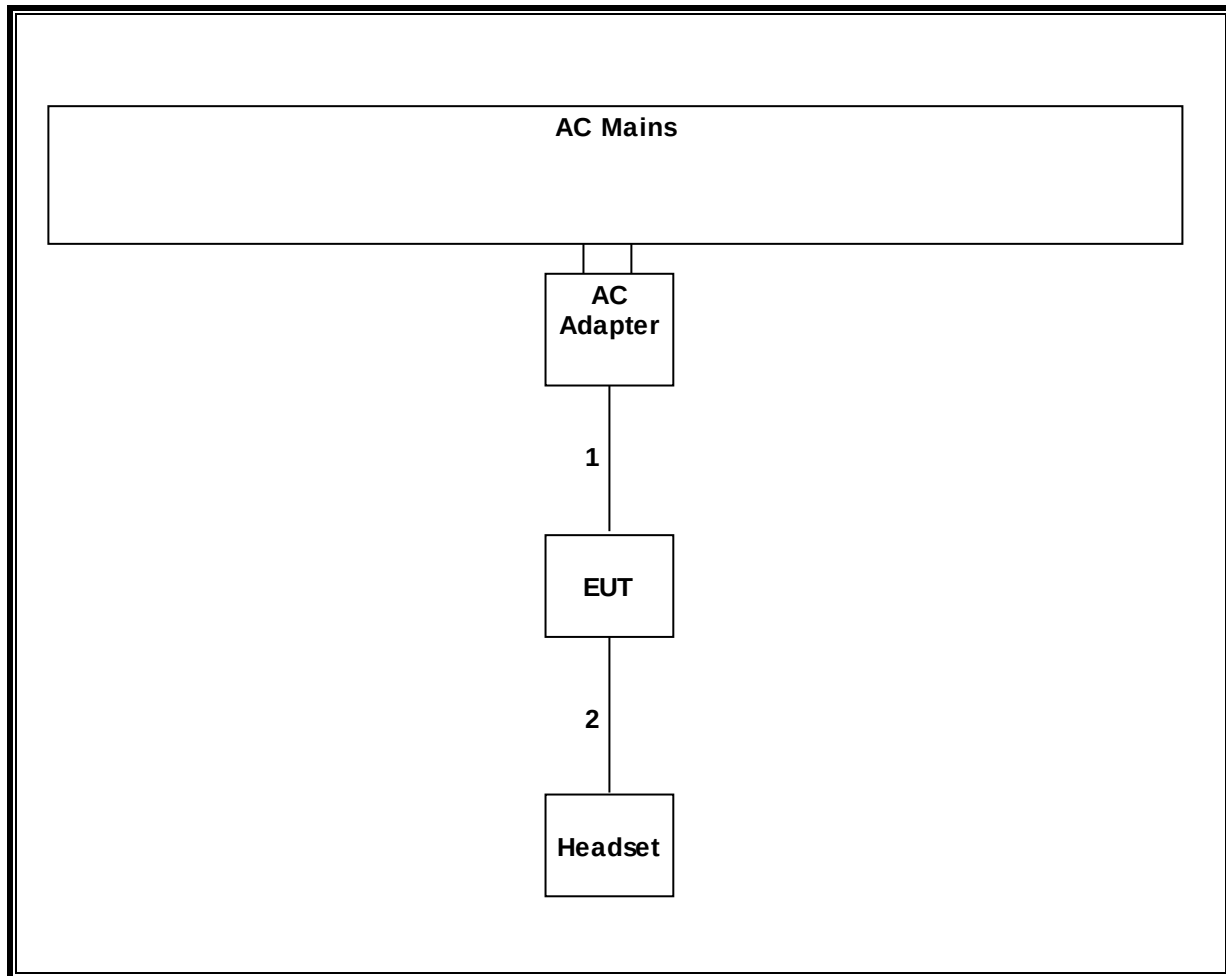
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Micro USB	Shielded	0.9	
2	Audio	1	Stereo Mini-Jack	Un-Shielded	1.55	

TEST SETUP

The EUT is stand-alone device. Internal test software and the Bluetooth Tester 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	C00986	03/22/12	03/22/13
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	C01011	03/23/12	03/23/13
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	12/30/11	12/30/12
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/12	10/25/13
Antenna, Horn, 26.5 GHz	ARA	SWH-28	C01015	04/23/12	04/23/13
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/22/12	10/22/13
Reject Filter, 2.0-2.9 GHz	Micro-Tronics	BRM50702	N02684	CNR	CNR
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01178	08/18/12	08/18/13
Power Meter	Agilent / HP	437B	N02785	09/14/11	09/14/13
Power Sensor, 18 GHz	Agilent / HP	8481A	None	09/24/12	09/24/13
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/19/11	08/19/13
LISN, 30 MHz	FCC	50/250-25-2	C00626	12/13/11	12/13/12

7. MEASUREMENT METHODS

KDB 558074 Measurement Procedure PK2 is used for power and PKPSD is used for power spectral density.

Unwanted emissions within Restricted Bands are measured using traditional radiated procedures.

7.1. DUTY CYCLE

LIMITS

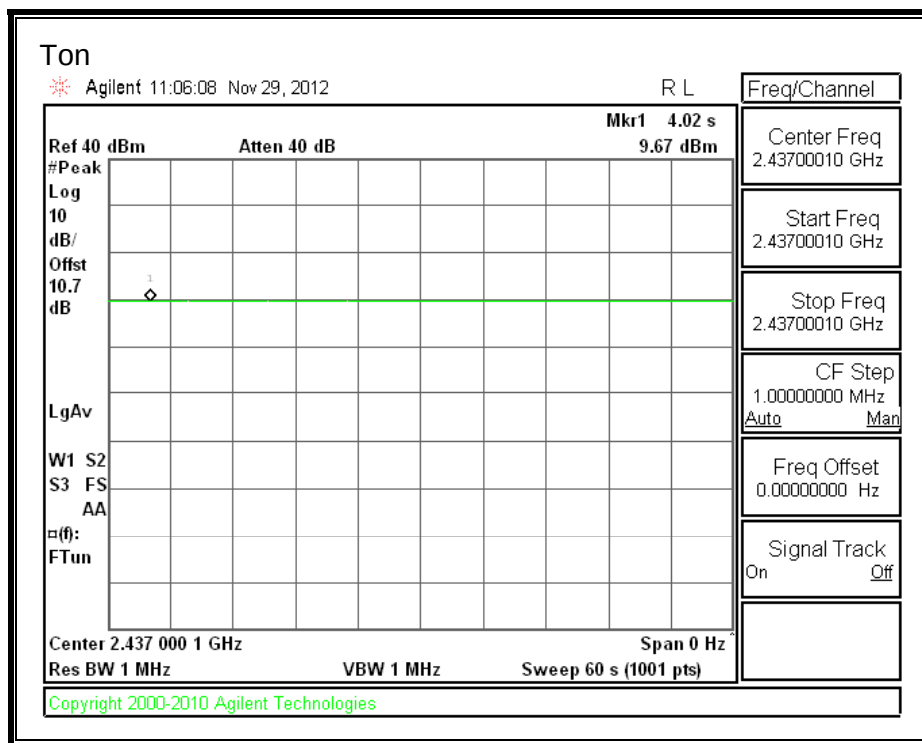
None; for reporting purposes only.

RESULTS

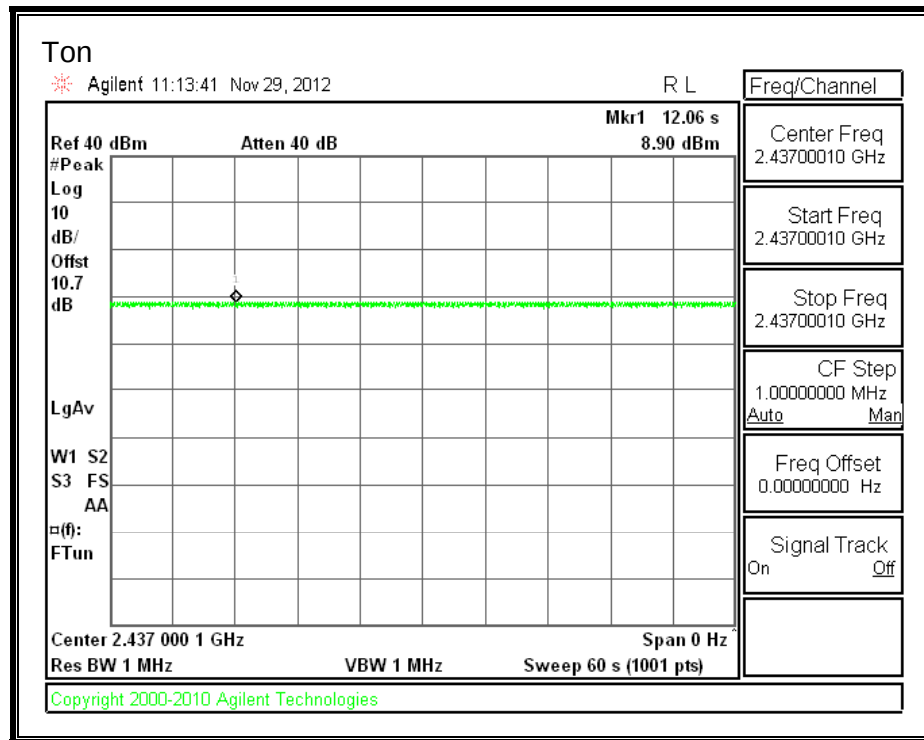
Mode	Tx on (sec)	Tx on + Tx off (sec)	Duty Cycle (%)	Correction Factor (dB)
802.11b	60	60	100.00	0.00
802.11g	60	60	100.00	0.00
802.11n	60	60	100.00	0.00

Results

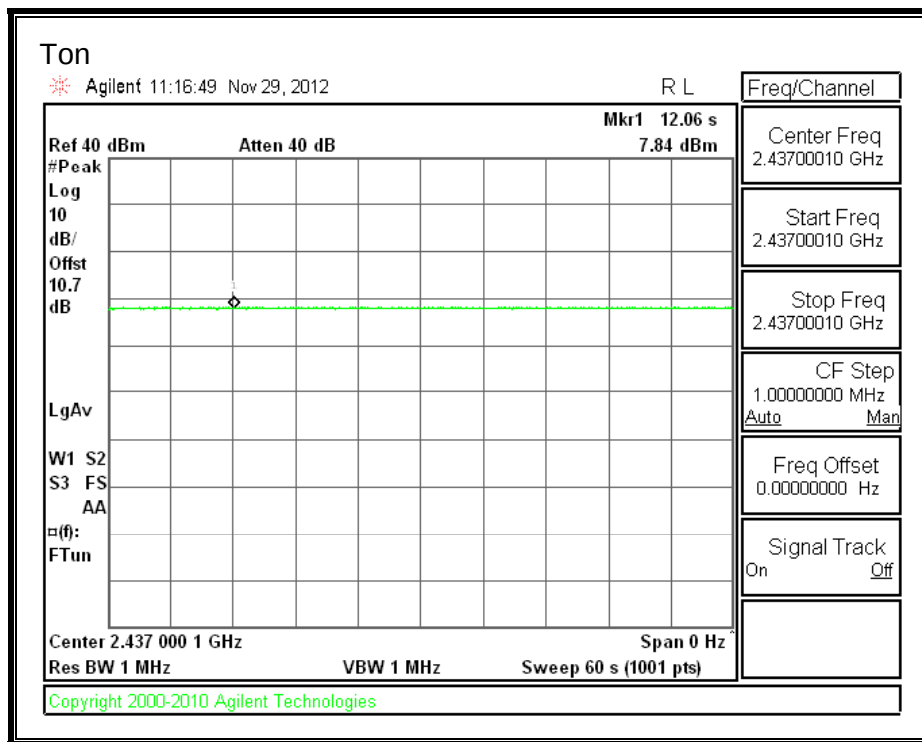
802.11b:



802.11g:



802.11n:



8. ANTENNA PORT TEST RESULTS

8.1. 802.11b MODE IN THE 2.4 GHz BAND

8.1.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

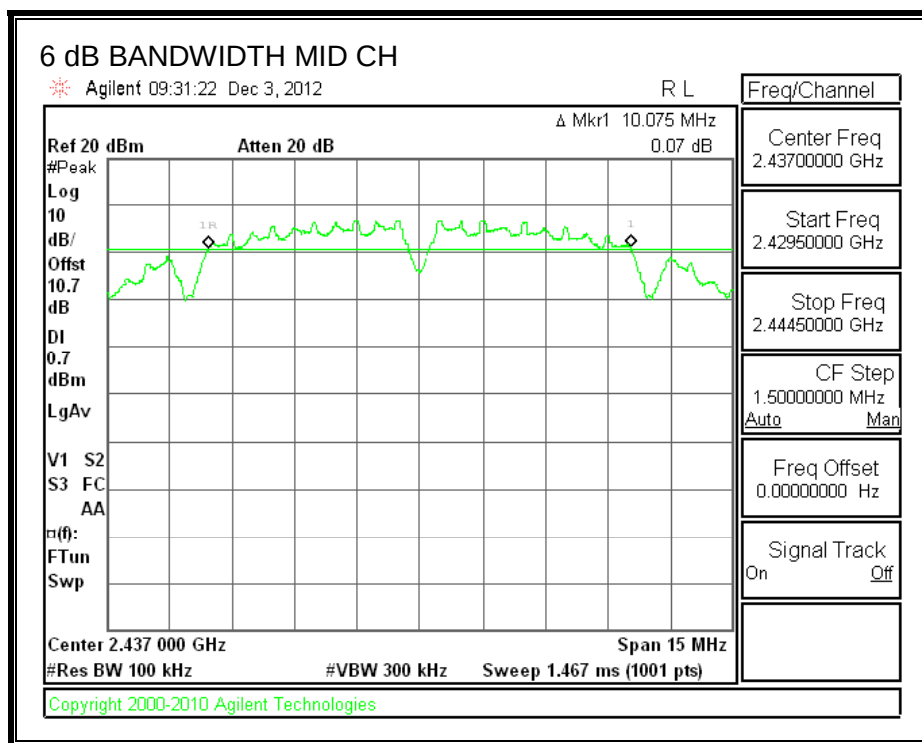
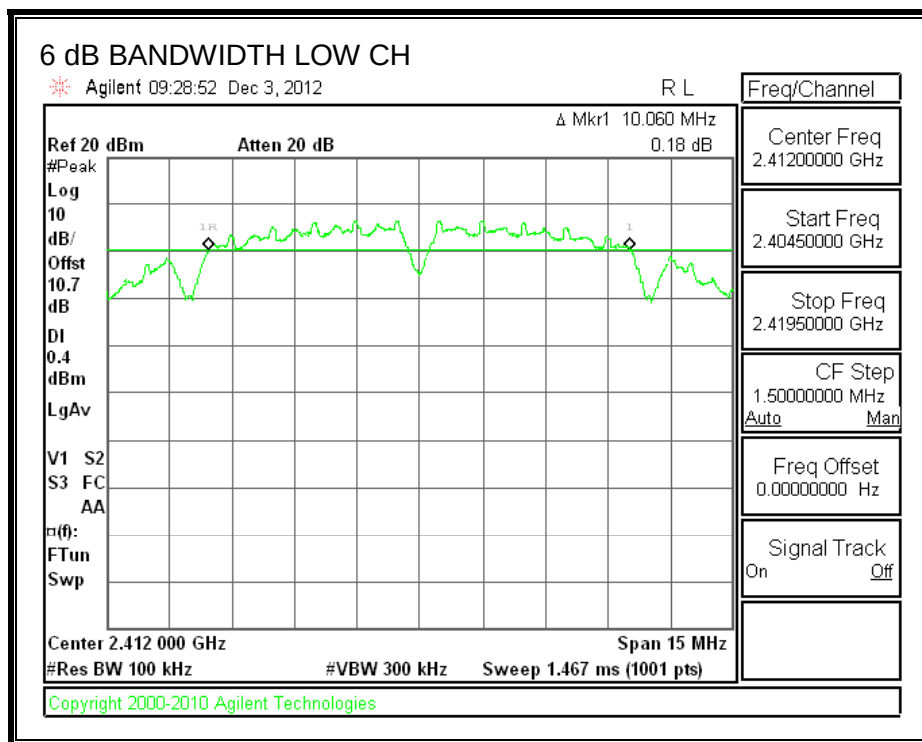
TEST PROCEDURE

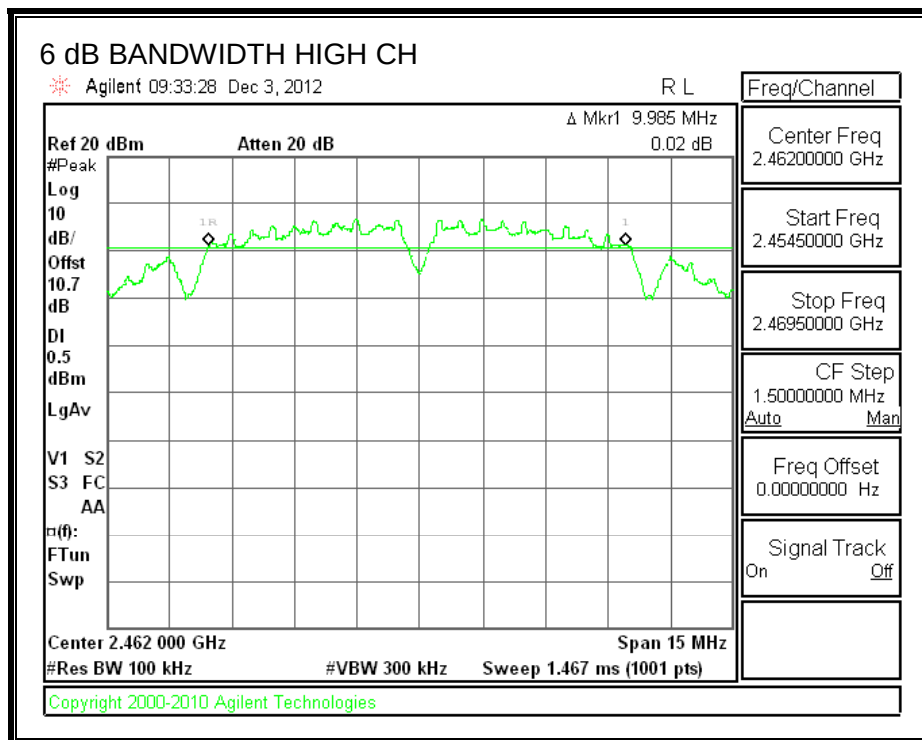
The transmitter output is connected to a spectrum analyzer with the RBW set between 1% and 5% of the EBW, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	10.060	0.5
Mid	2437	10.075	0.5
High	2462	9.985	0.5

6 dB BANDWIDTH





8.1.2. 99% BANDWIDTH

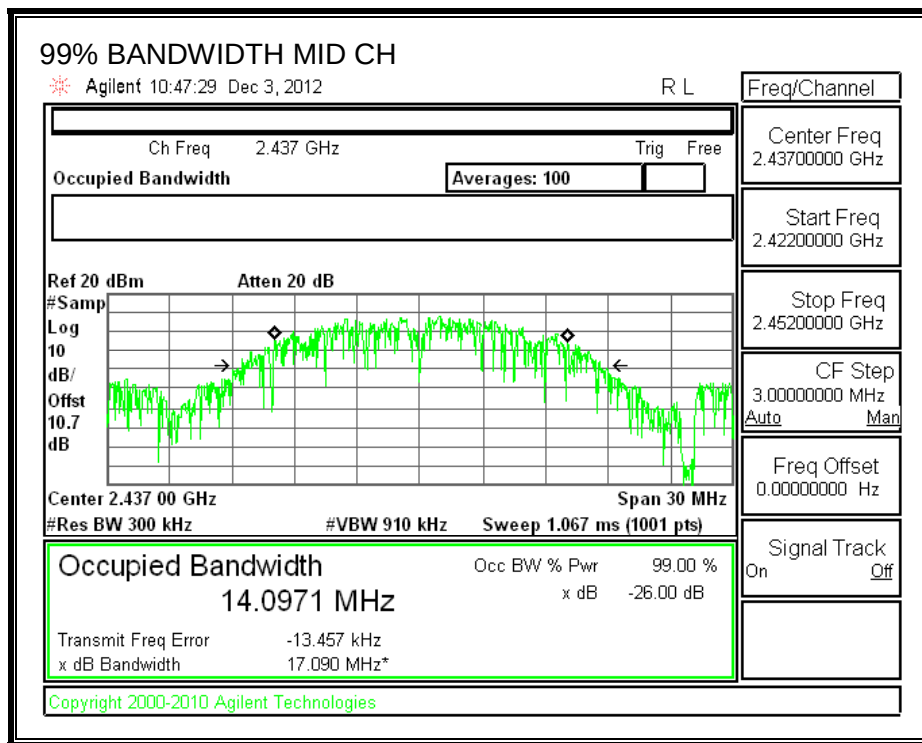
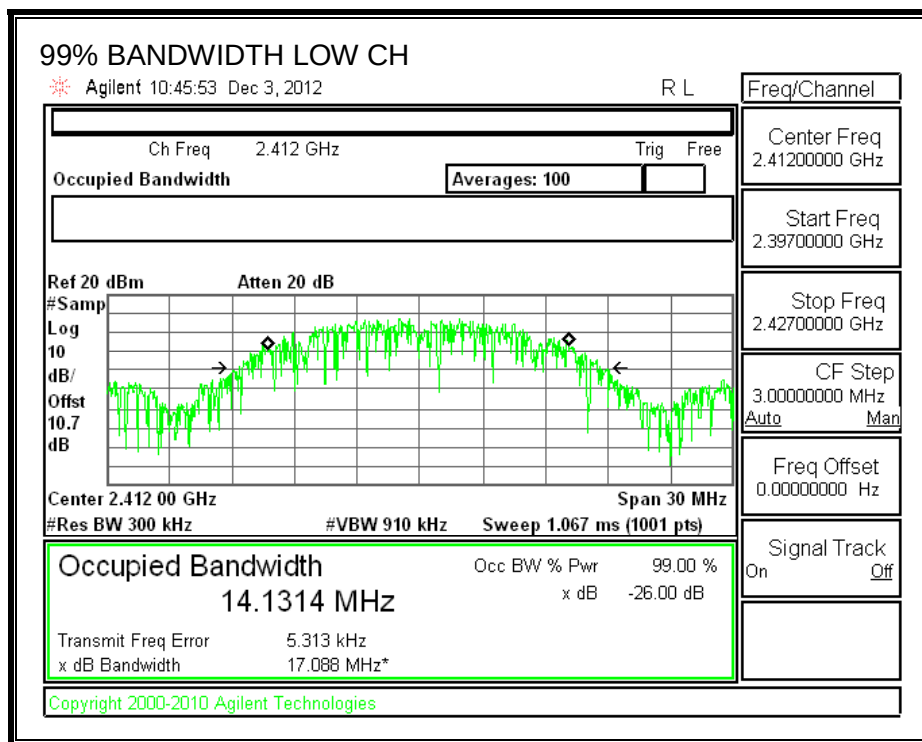
LIMITS

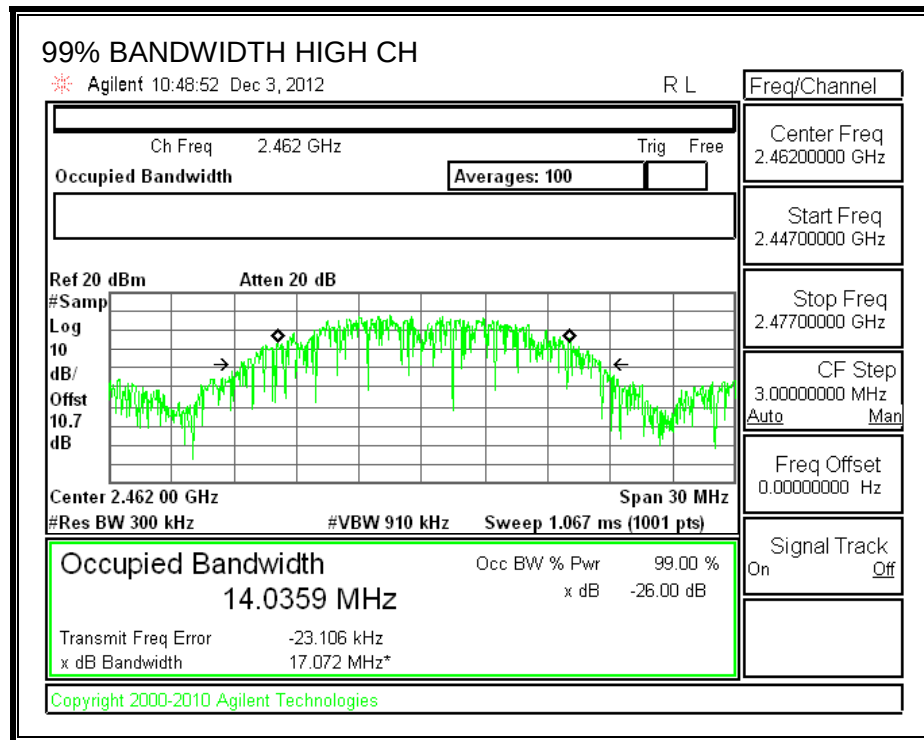
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	14.1314
Mid	2437	14.0971
High	2462	14.0359

99% BANDWIDTH





8.1.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.69 dB (including 9.7 dB pad and 0.99 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	2412	16.86
Mid	2437	16.99
High	2462	17.11

8.1.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

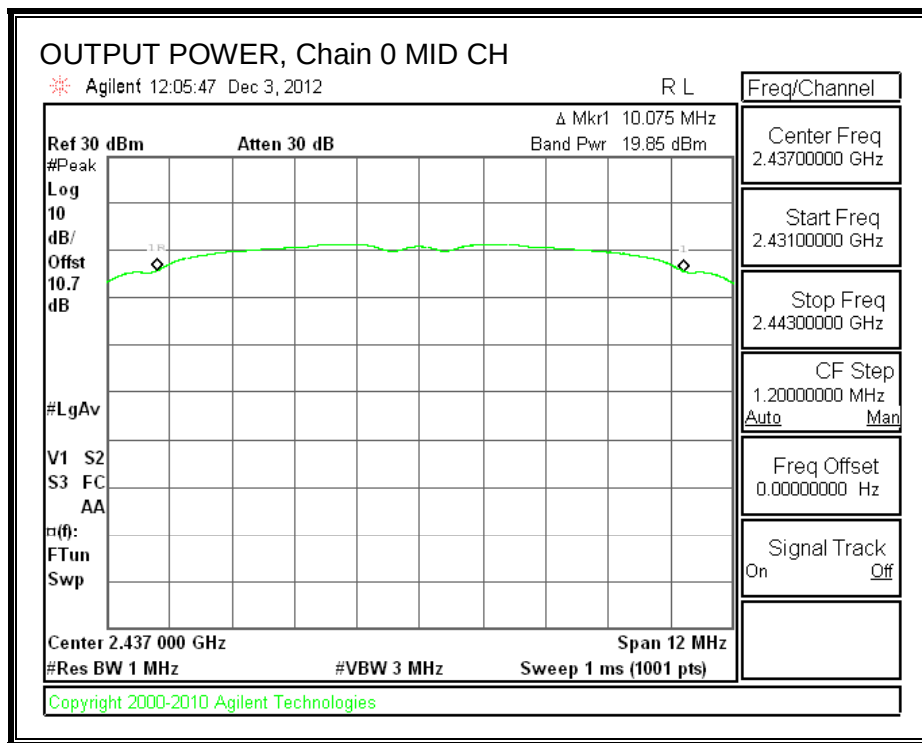
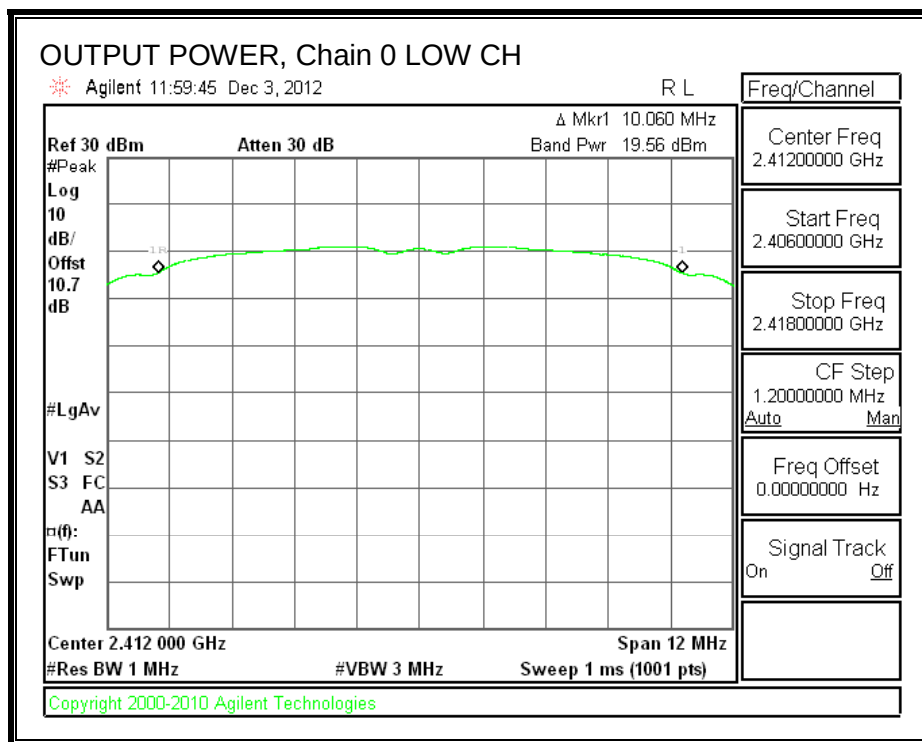
DIRECTIONAL ANTENNA GAIN

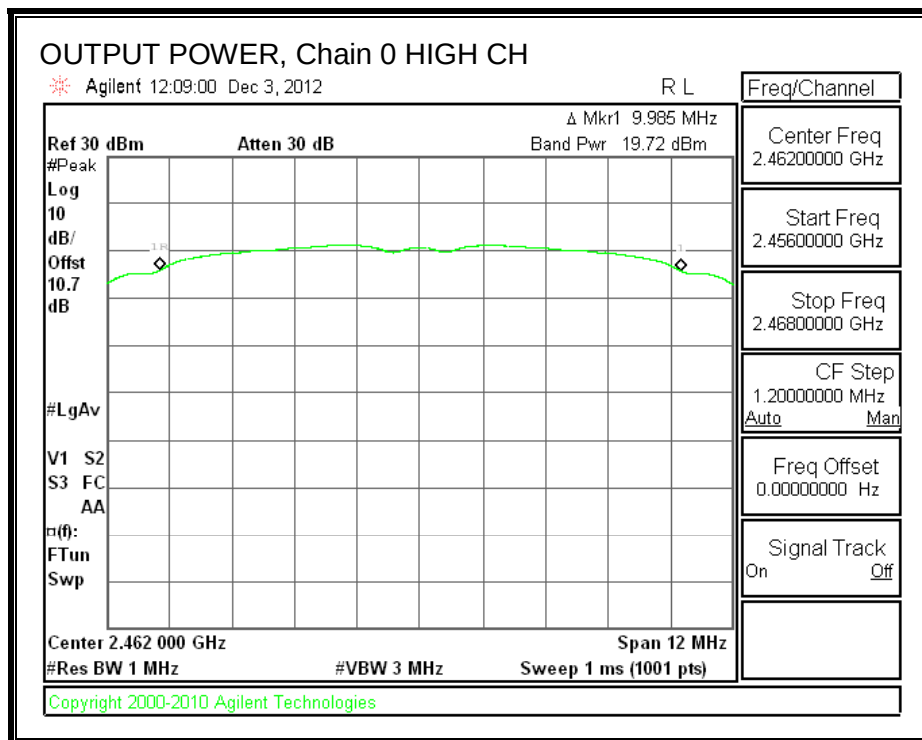
There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	19.56	19.56	30.00	-10.44
Mid	2437	19.85	19.85	30.00	-10.15
High	2462	19.72	19.72	30.00	-10.28

OUTPUT POWER, Chain 0





8.1.5. PSD

LIMITS

FCC §15.247

IC RSS-210 A8.2

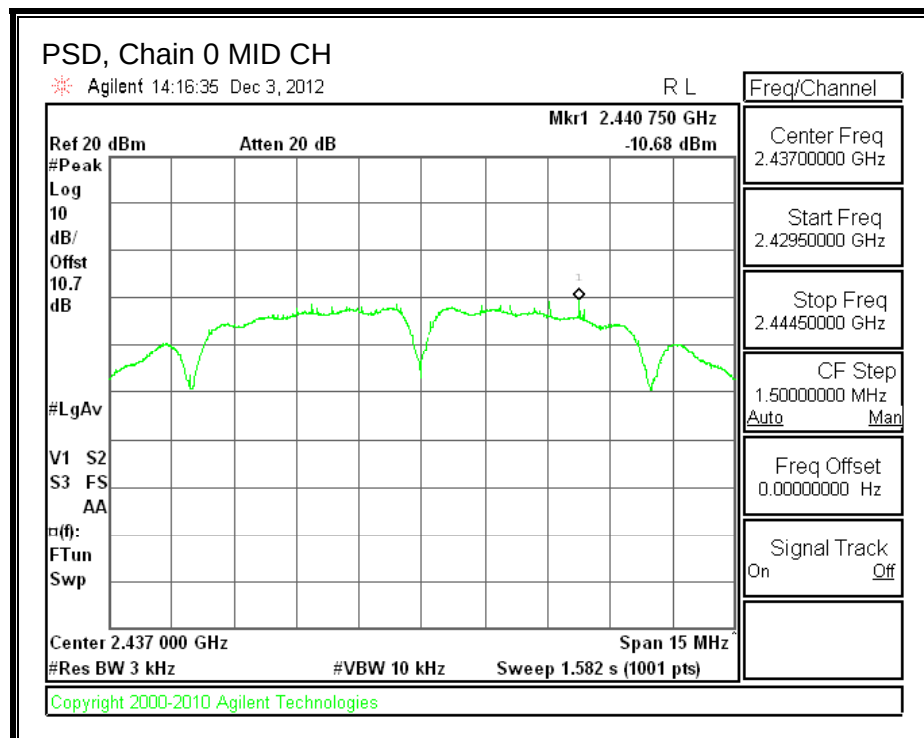
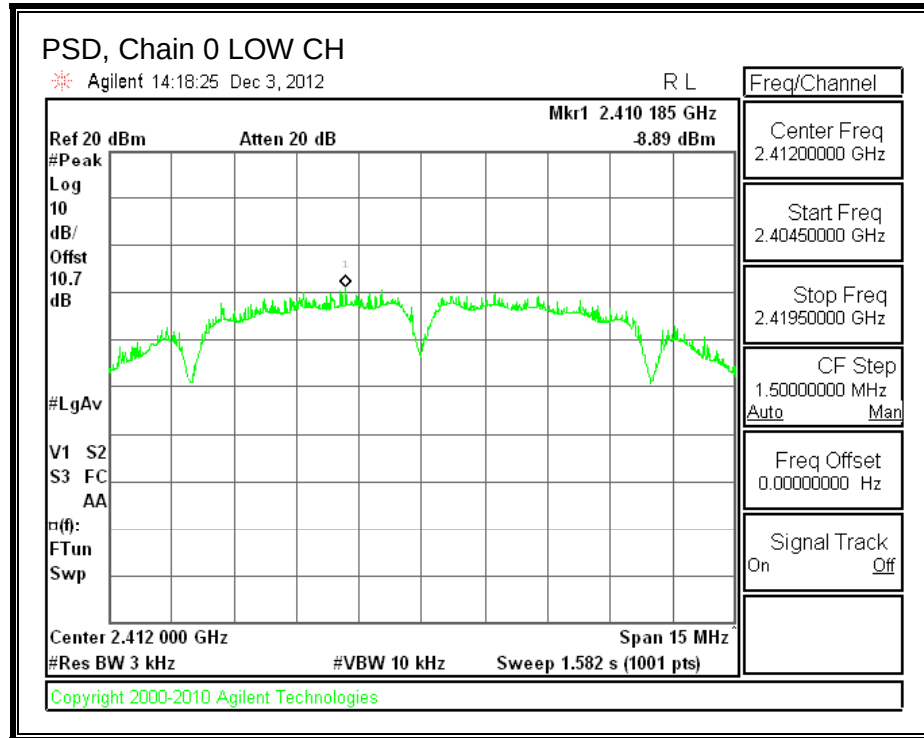
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

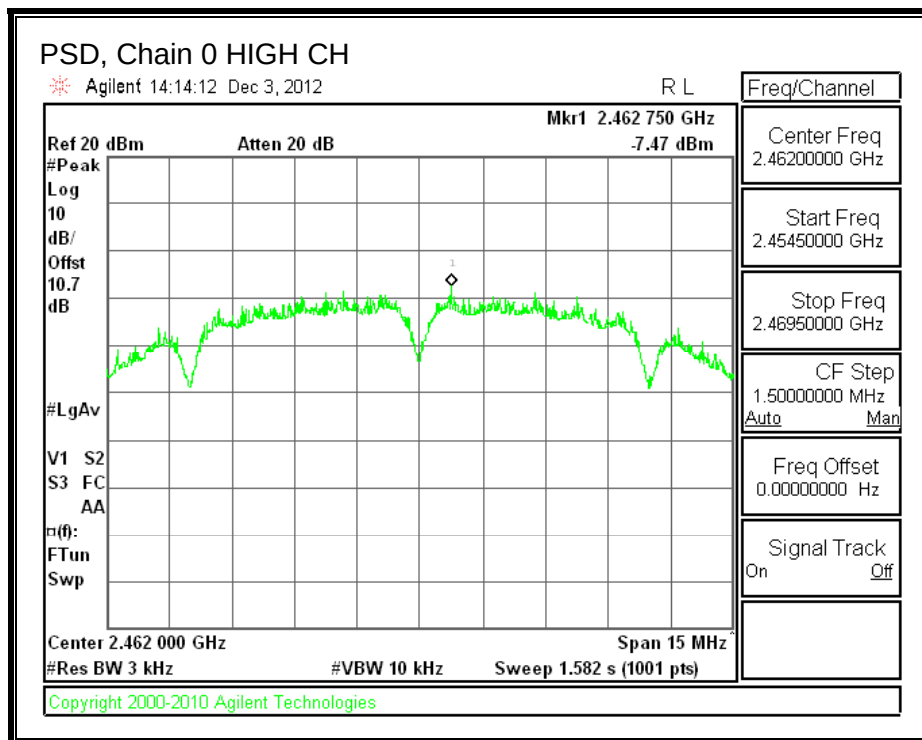
RESULTS

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-8.89	8.0	-16.9
Mid	2437	-10.68	8.0	-18.7
High	2462	-7.47	8.0	-15.5

PSD, Chain 0





8.1.6. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

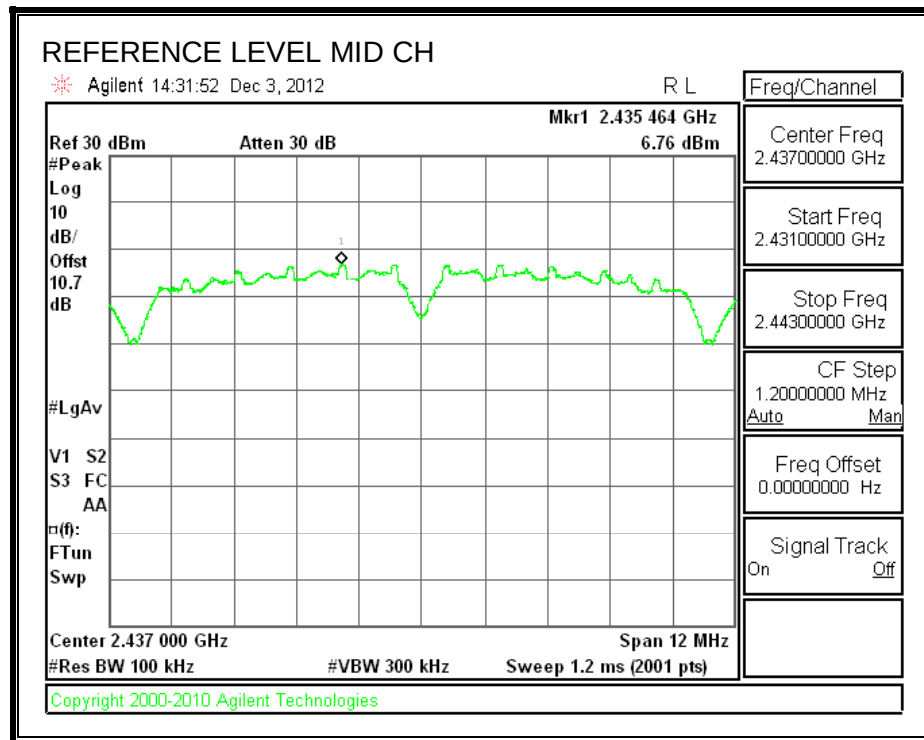
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

TEST PROCEDURE

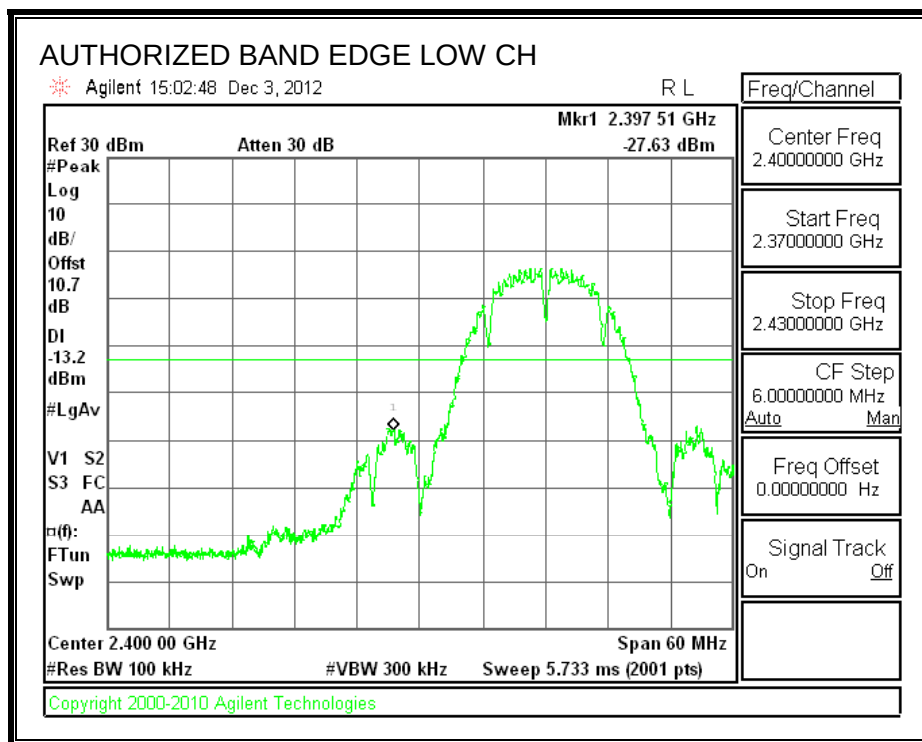
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

RESULTS

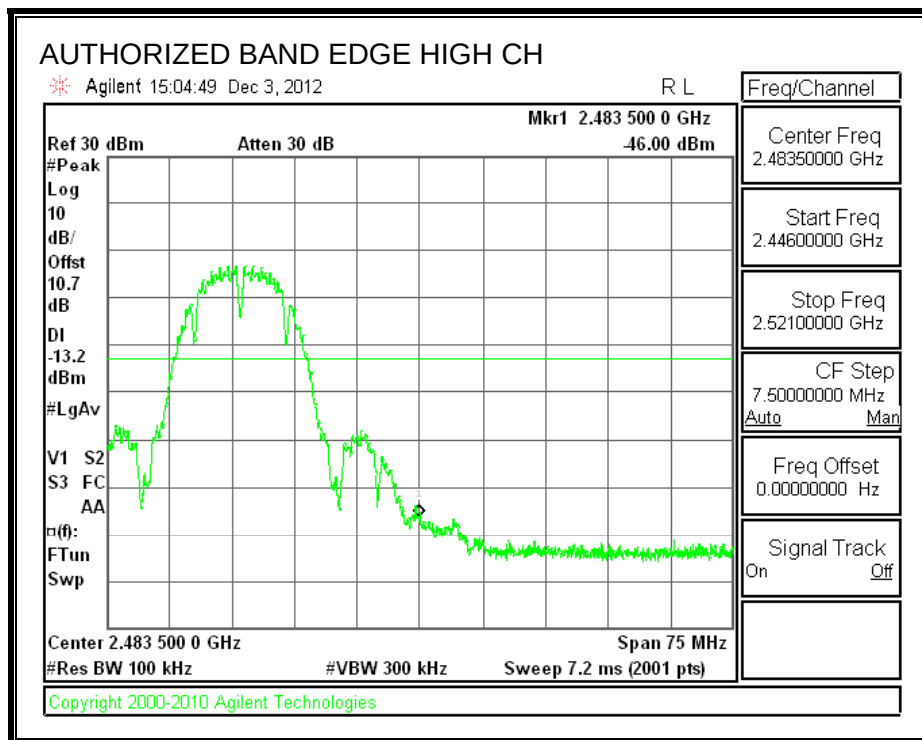
IN-BAND REFERENCE LEVEL



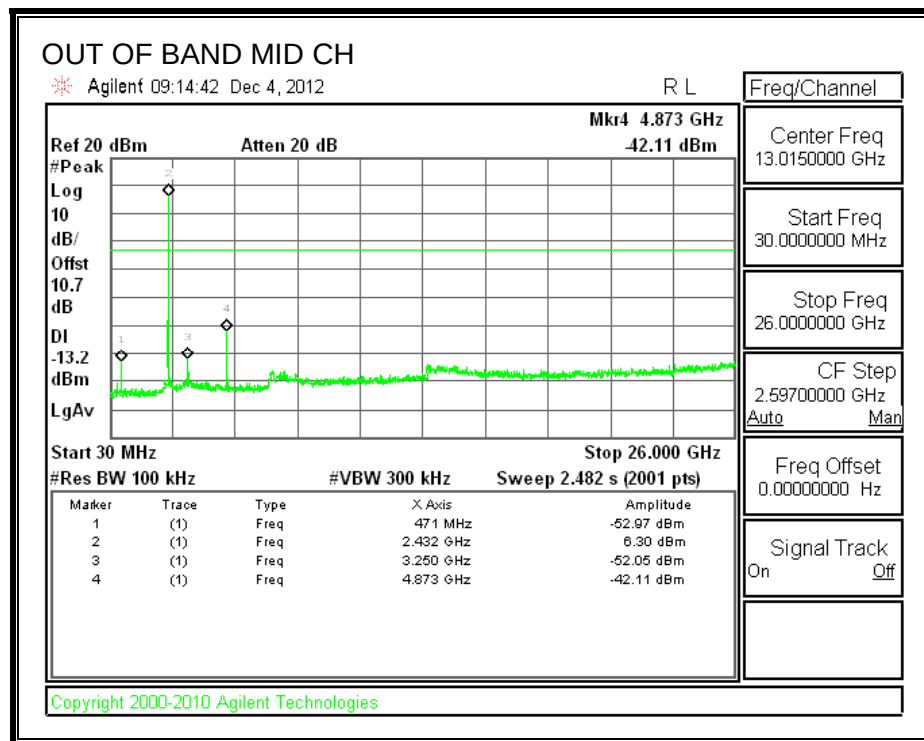
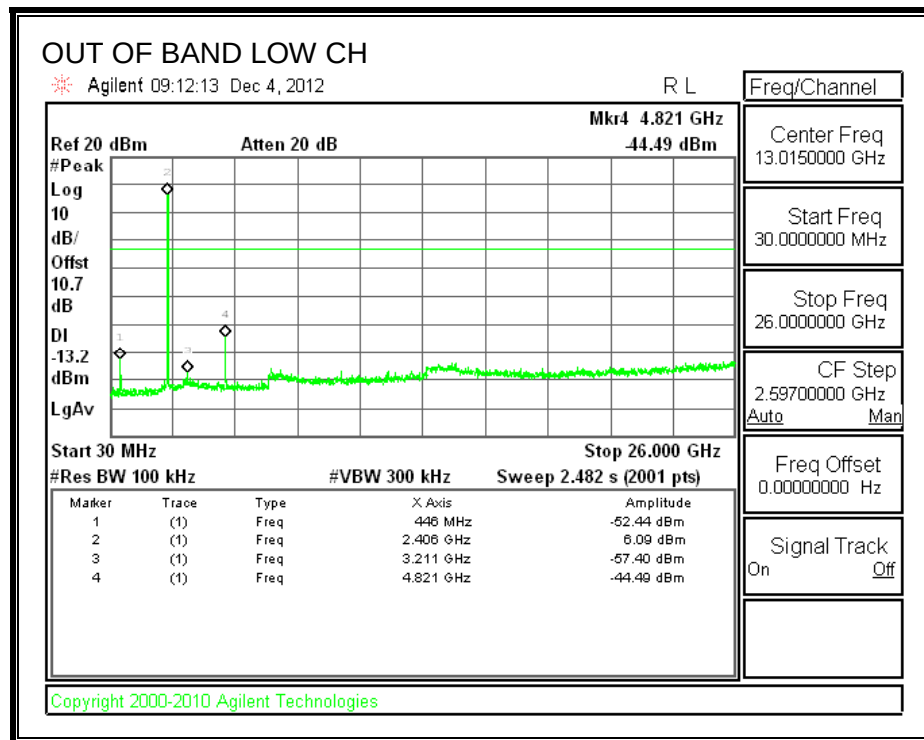
LOW CHANNEL BANDEDGE

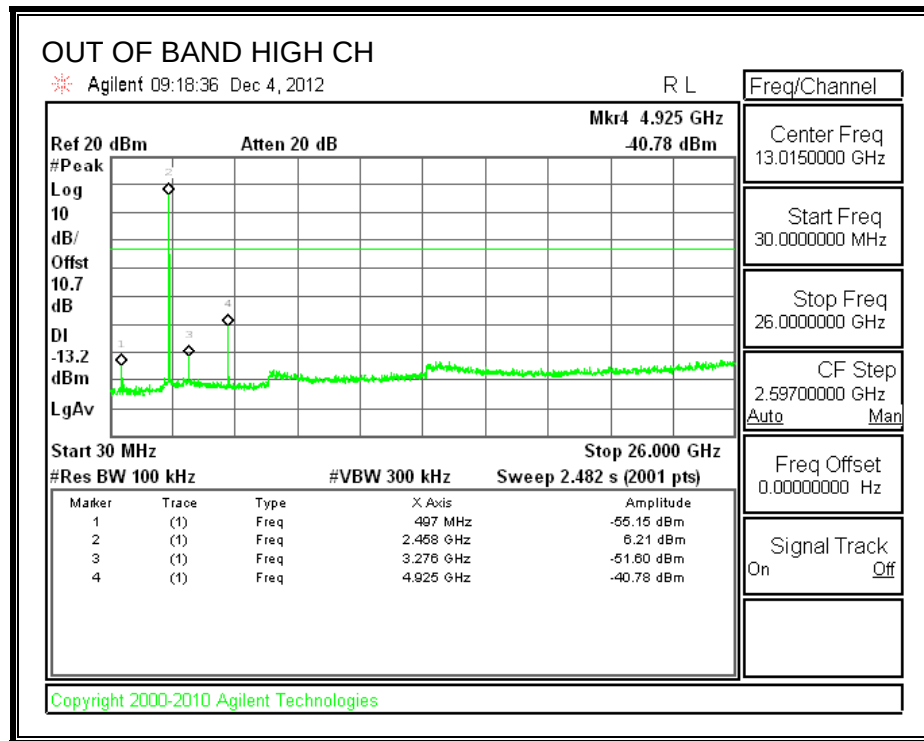


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS





8.2. 802.11g MODE IN THE 2.4 GHz BAND

8.2.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

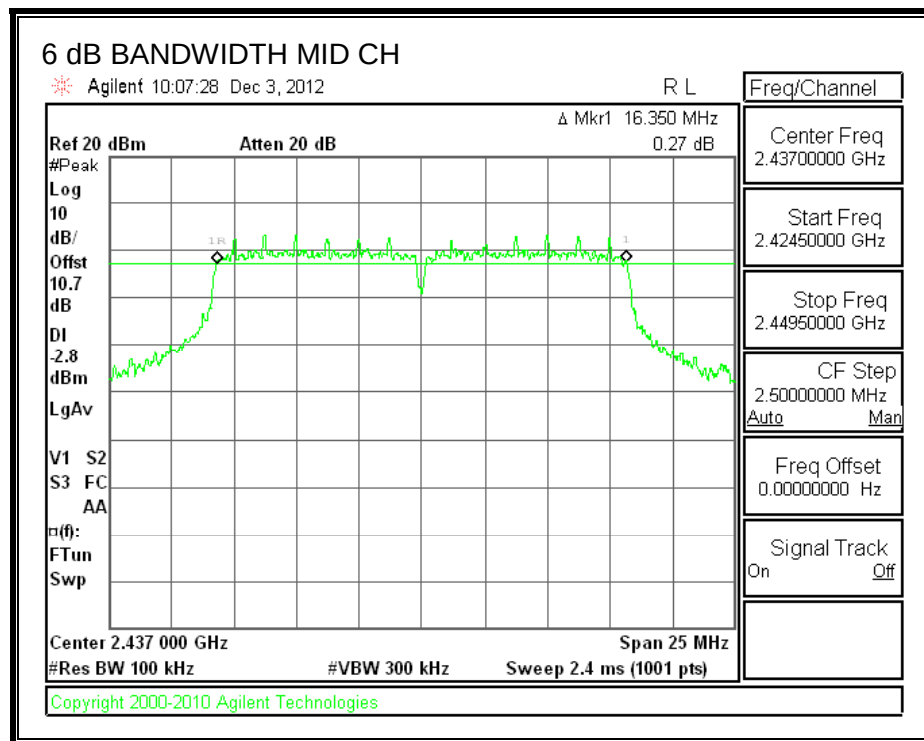
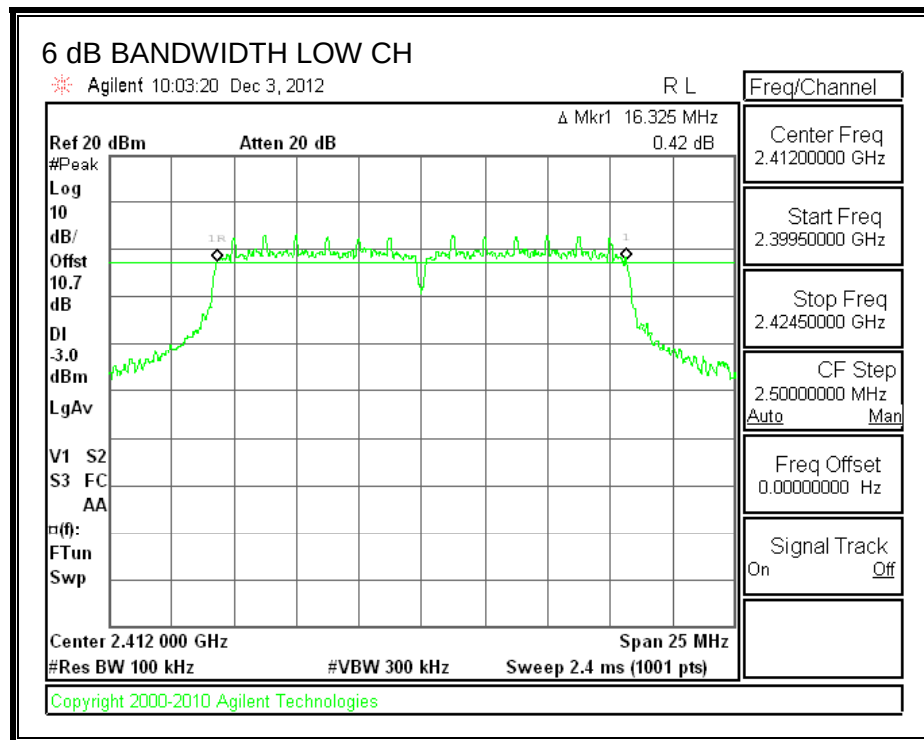
TEST PROCEDURE

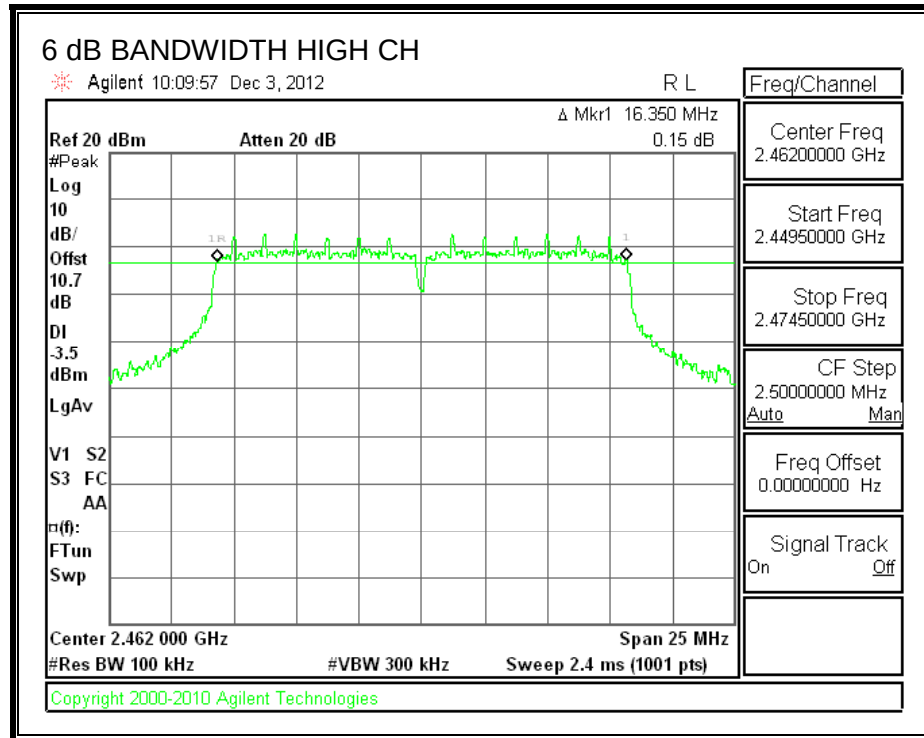
The transmitter output is connected to a spectrum analyzer with the RBW set between 1% and 5% of the EBW, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	10.325	0.5
Mid	2437	10.350	0.5
High	2462	10.350	0.5

6 dB BANDWIDTH





8.2.2. 99% BANDWIDTH

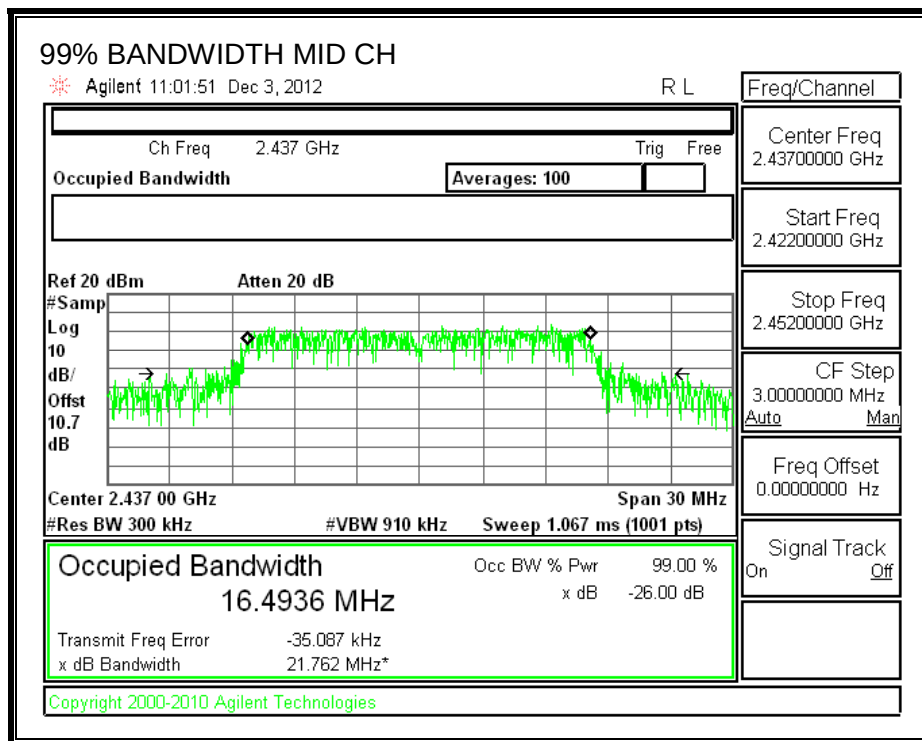
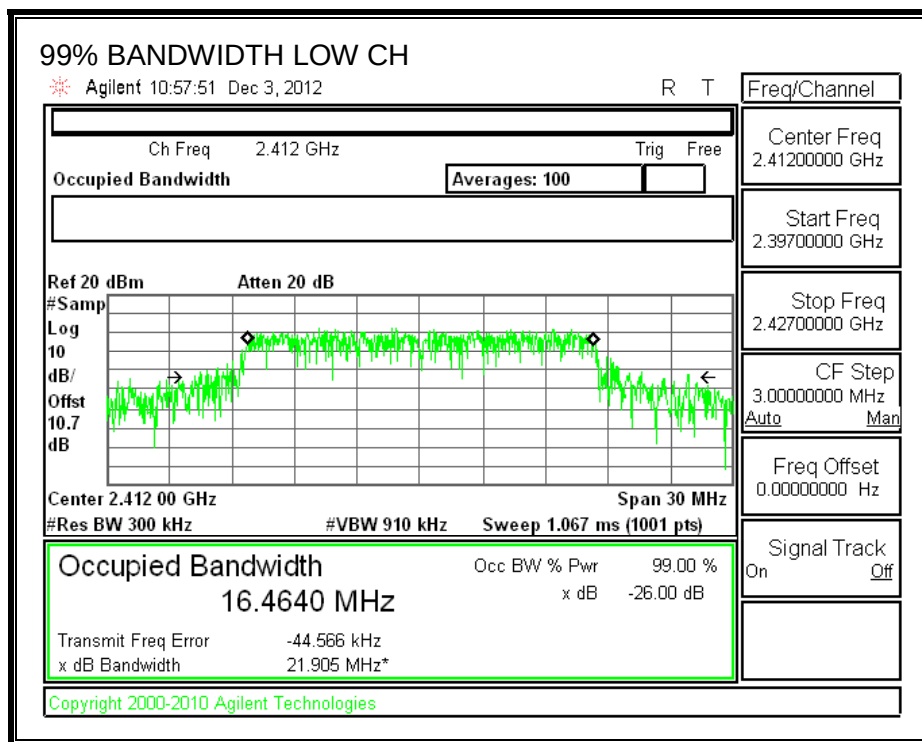
LIMITS

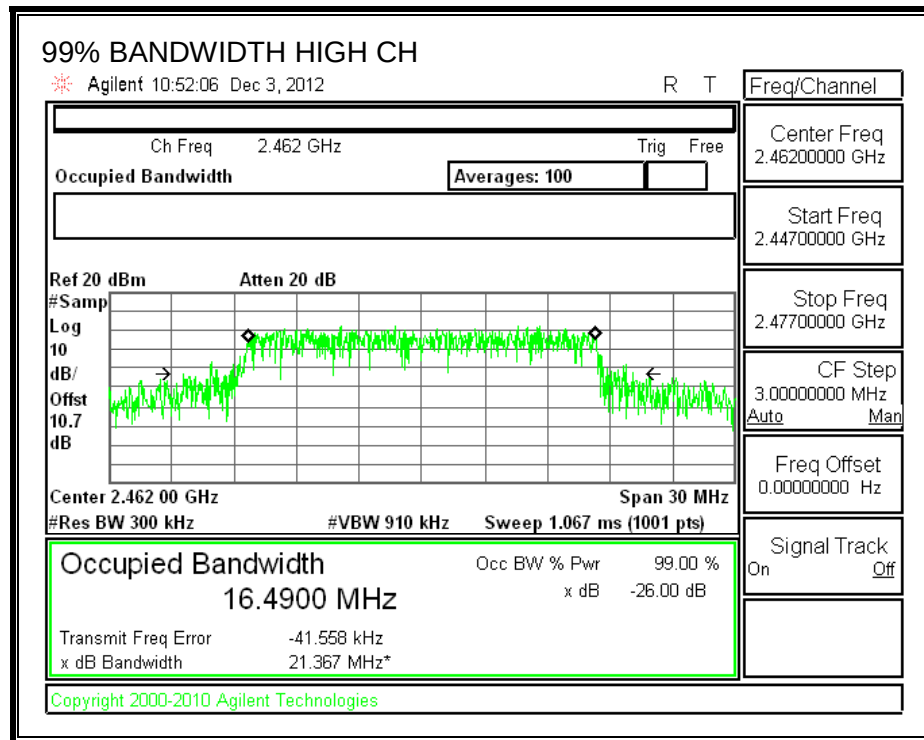
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	16.4640
Mid	2437	16.4936
High	2462	16.4900

99% BANDWIDTH





8.2.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.69 dB (including 9.7 dB pad and 0.99 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	2412	13.74
Mid	2437	14.06
High	2462	13.48

8.2.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

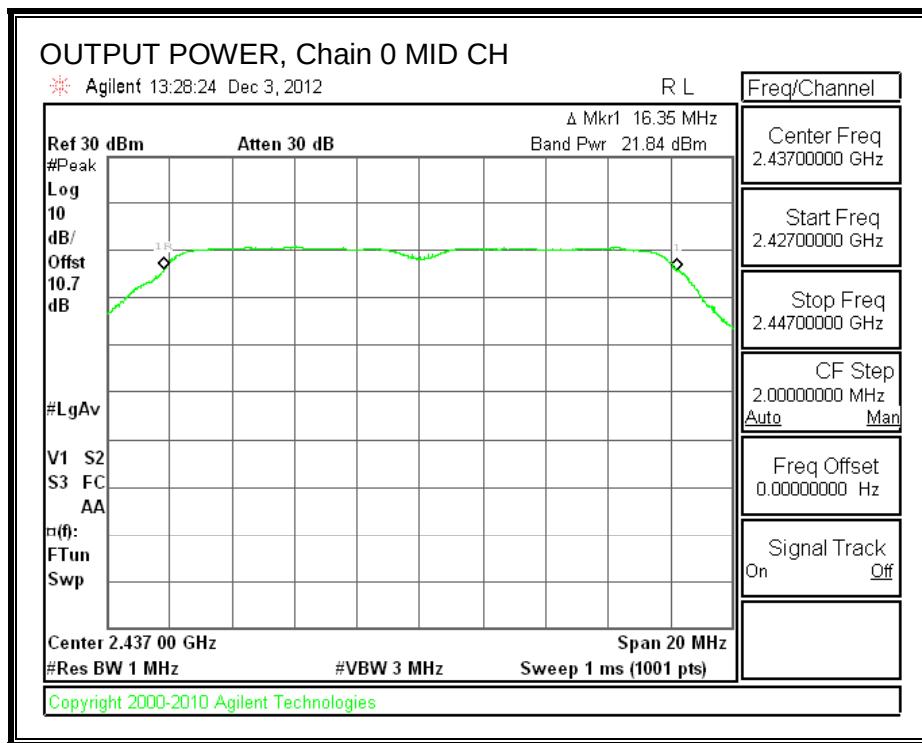
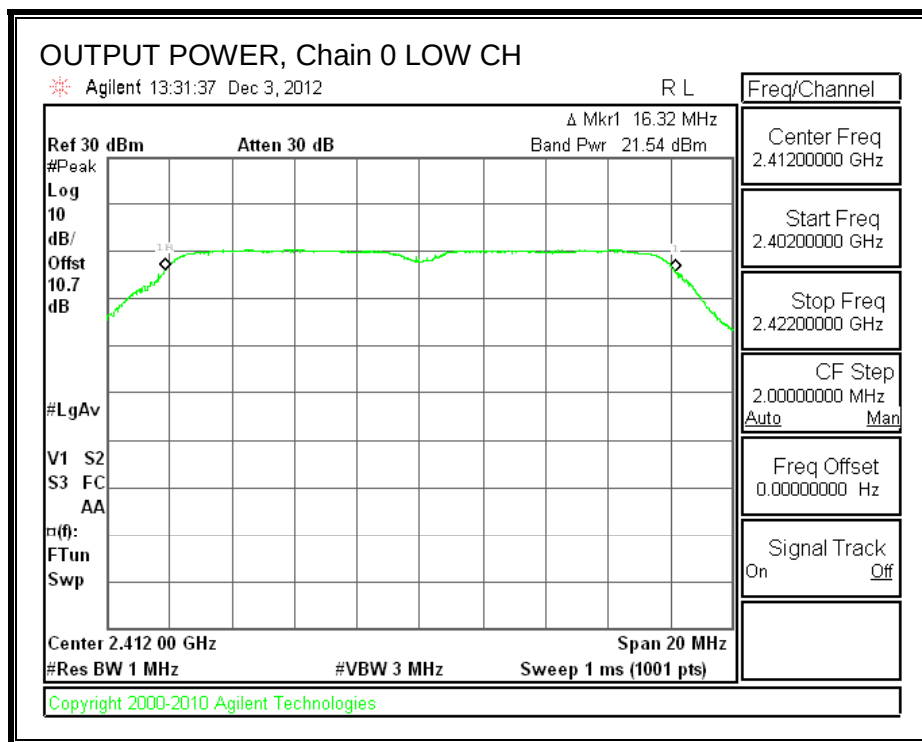
DIRECTIONAL ANTENNA GAIN

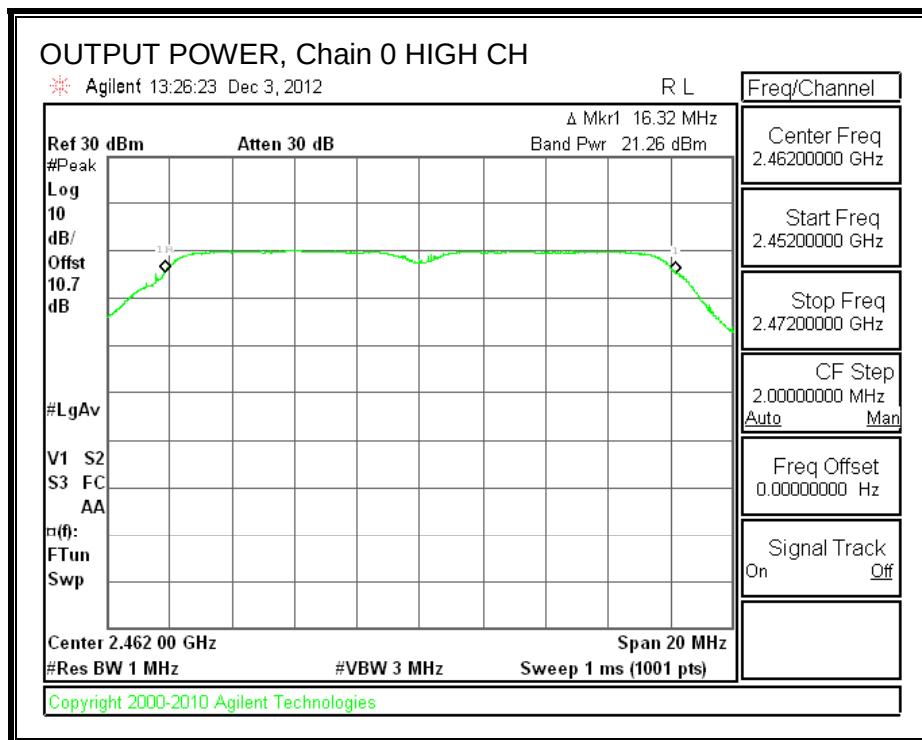
There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	21.54	21.54	30.00	-8.46
Mid	2437	21.84	21.84	30.00	-8.16
High	2462	21.26	21.26	30.00	-8.74

OUTPUT POWER, Chain 0





8.2.5. PSD

LIMITS

FCC §15.247

IC RSS-210 A8.2

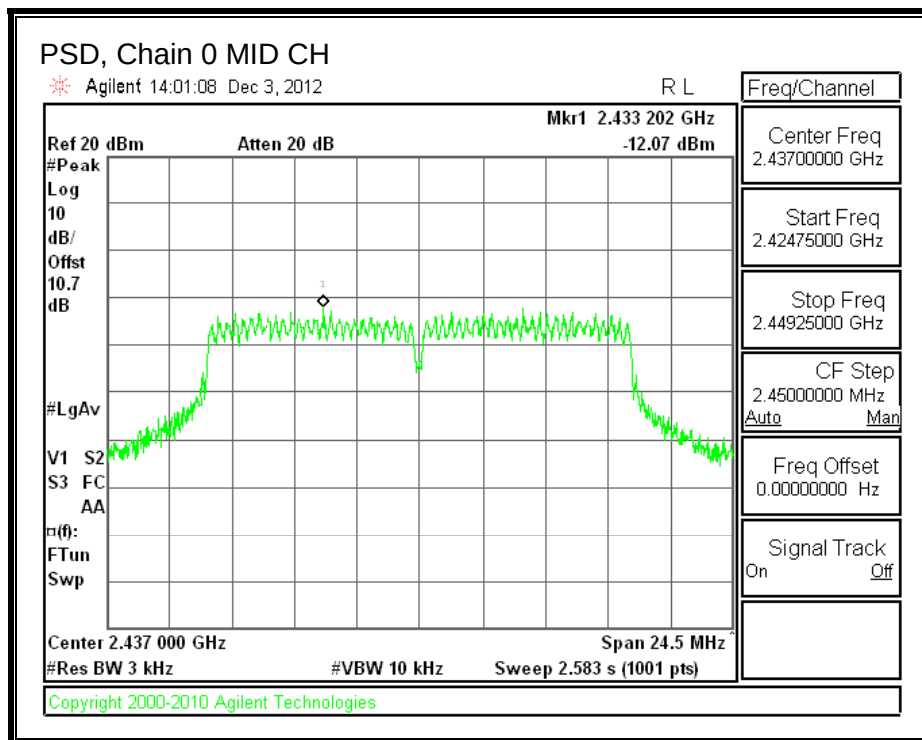
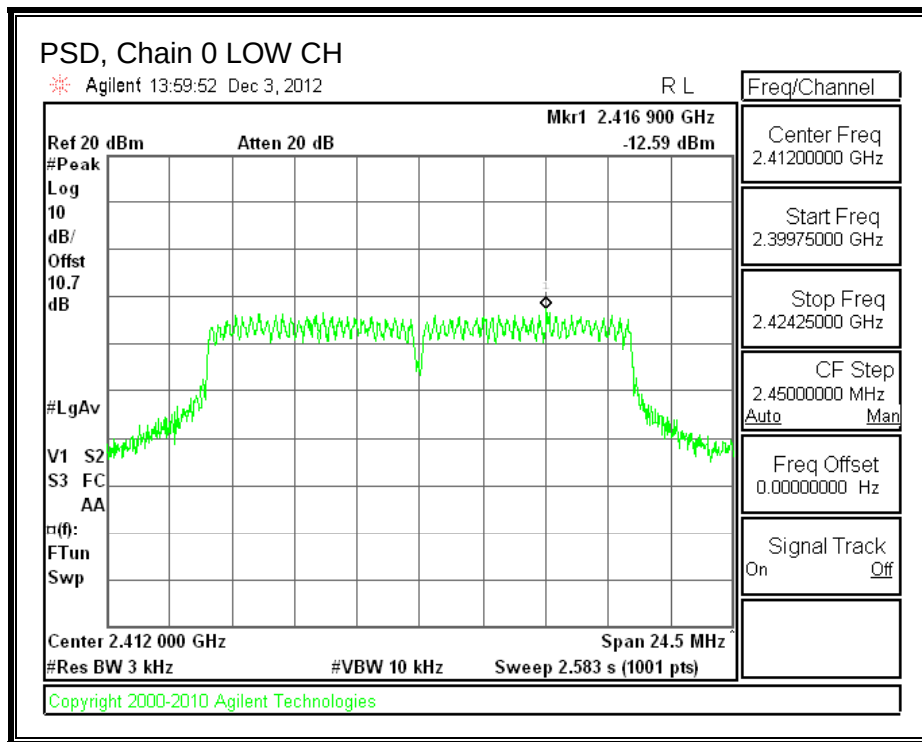
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

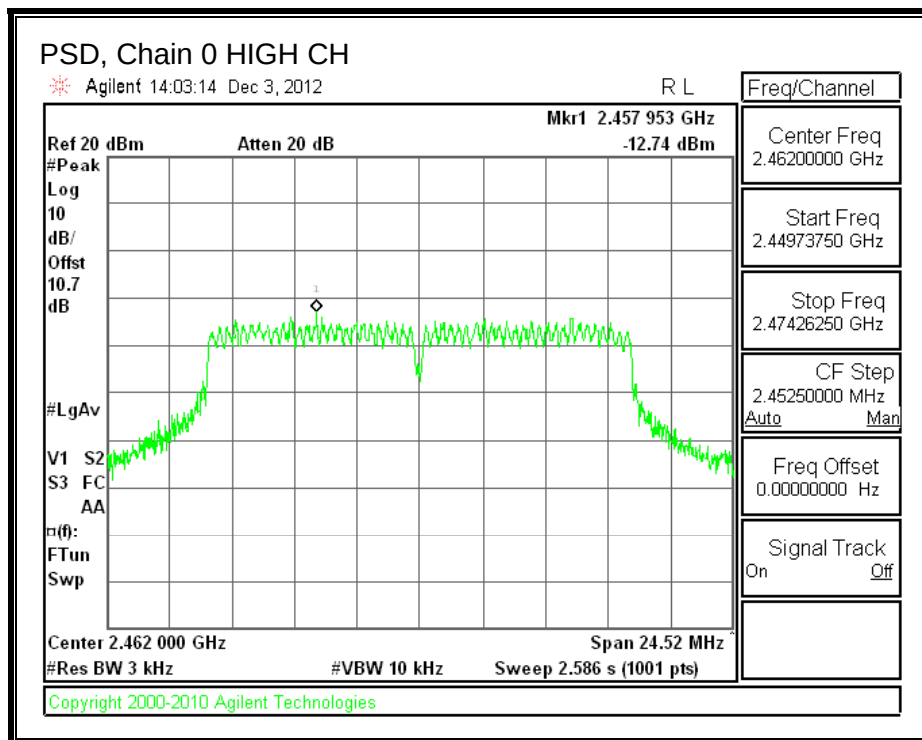
RESULTS

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-12.59	8.0	-20.6
Mid	2437	-12.07	8.0	-20.1
High	2462	-12.74	8.0	-20.7

PSD, Chain 0





8.2.6. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

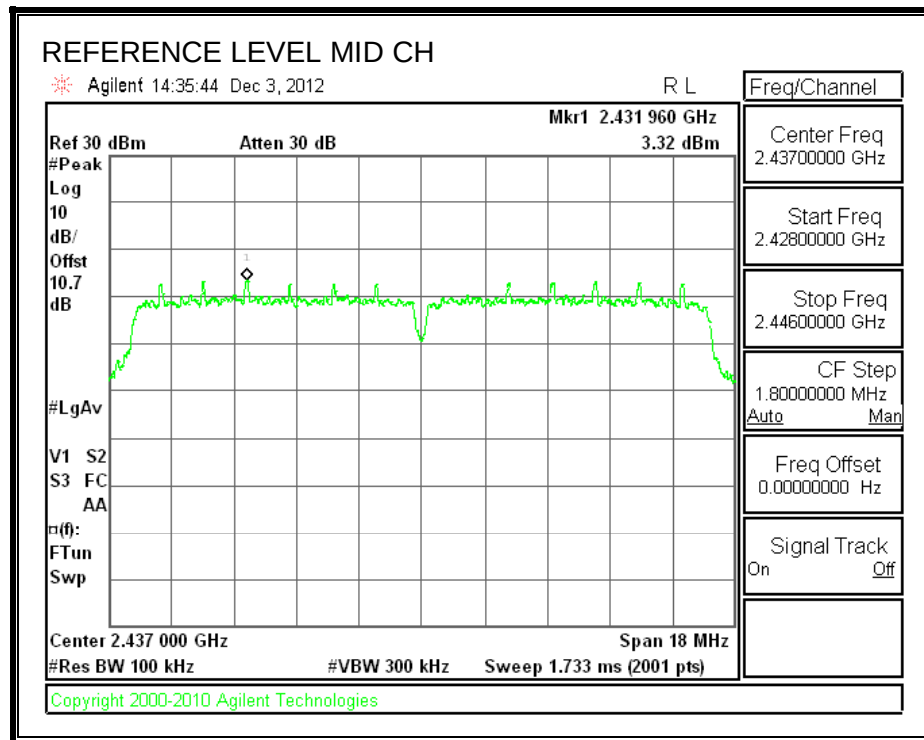
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

TEST PROCEDURE

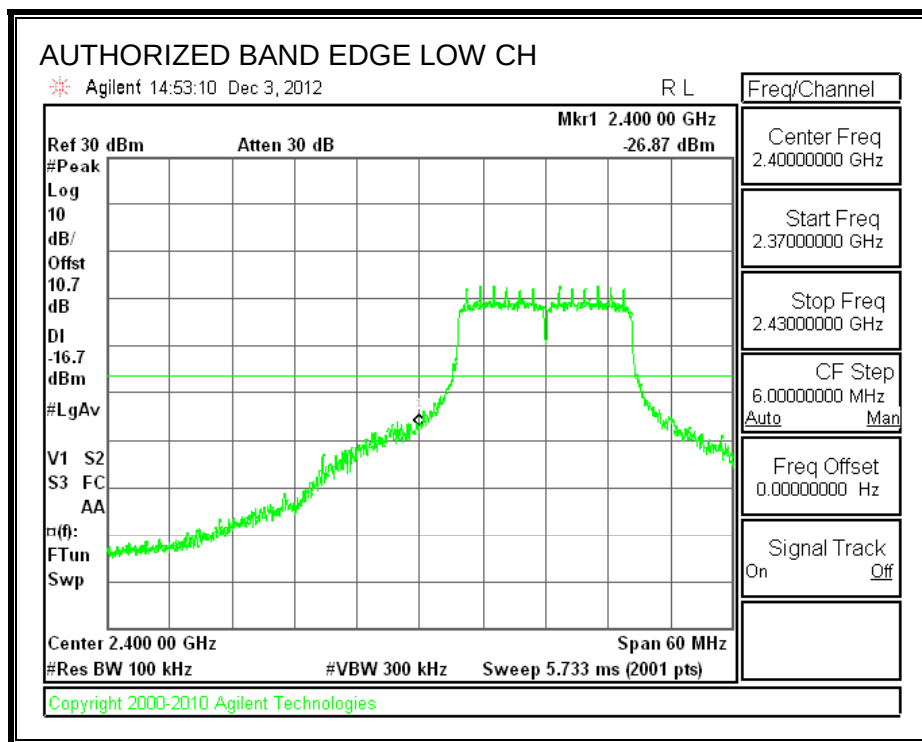
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

RESULTS

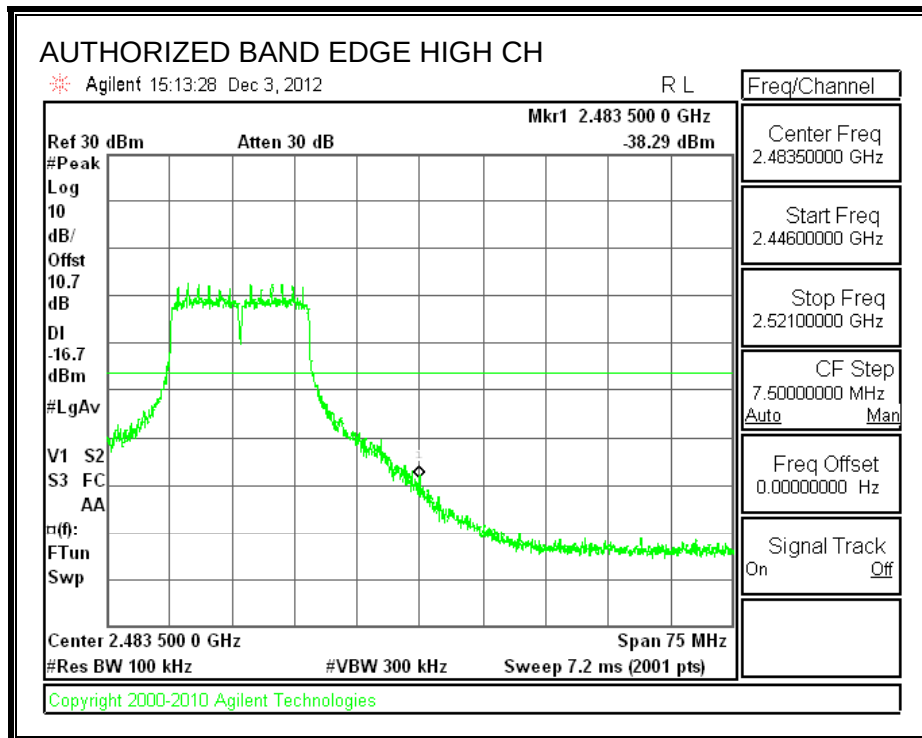
IN-BAND REFERENCE LEVEL



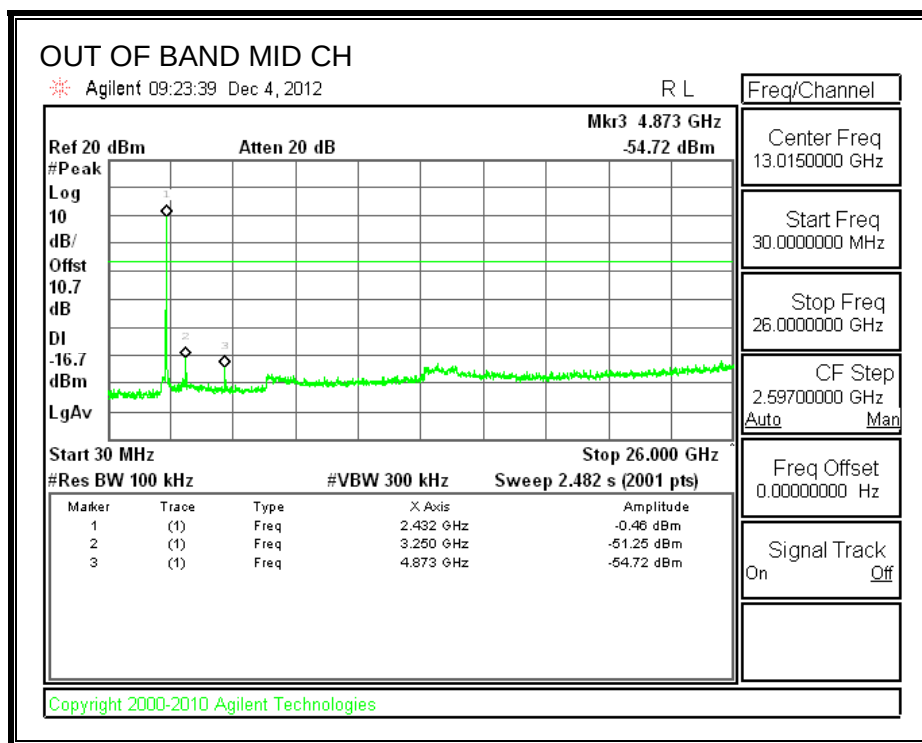
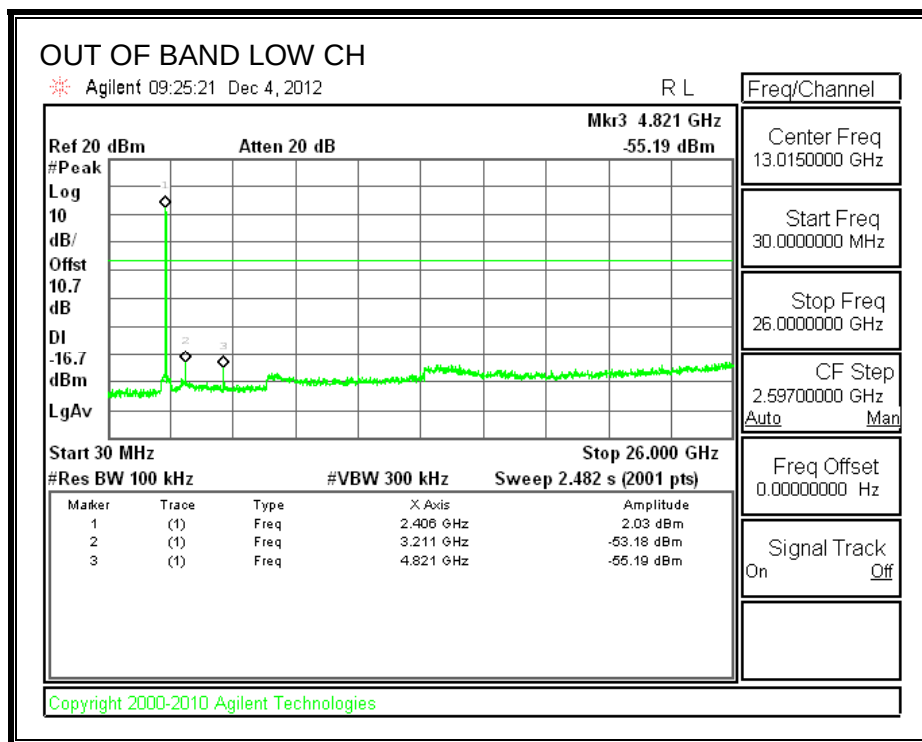
LOW CHANNEL BANDEDGE

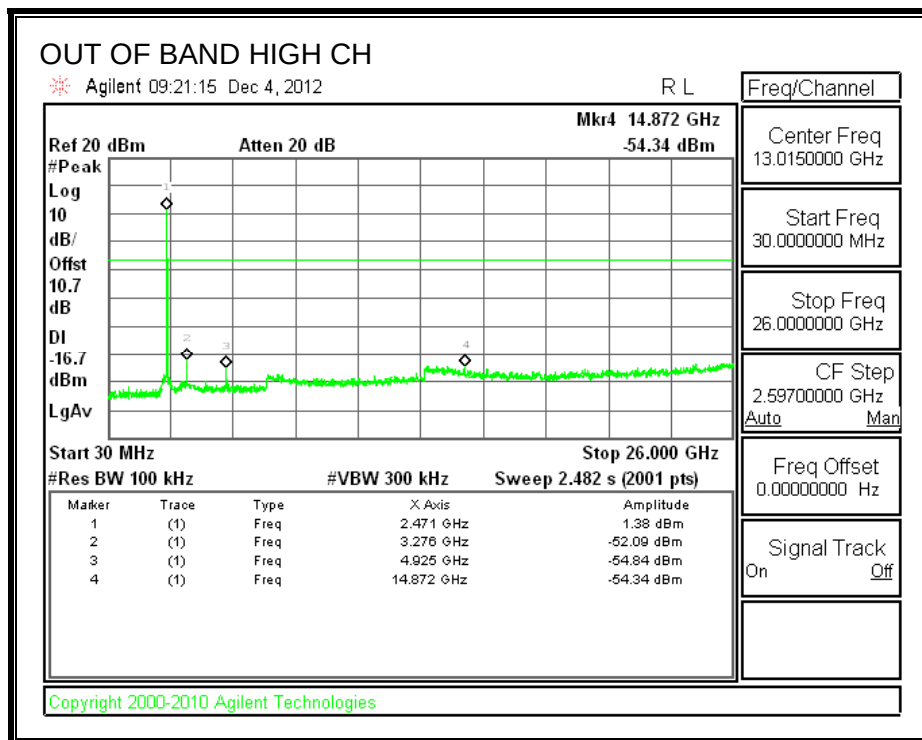


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS





8.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

8.3.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

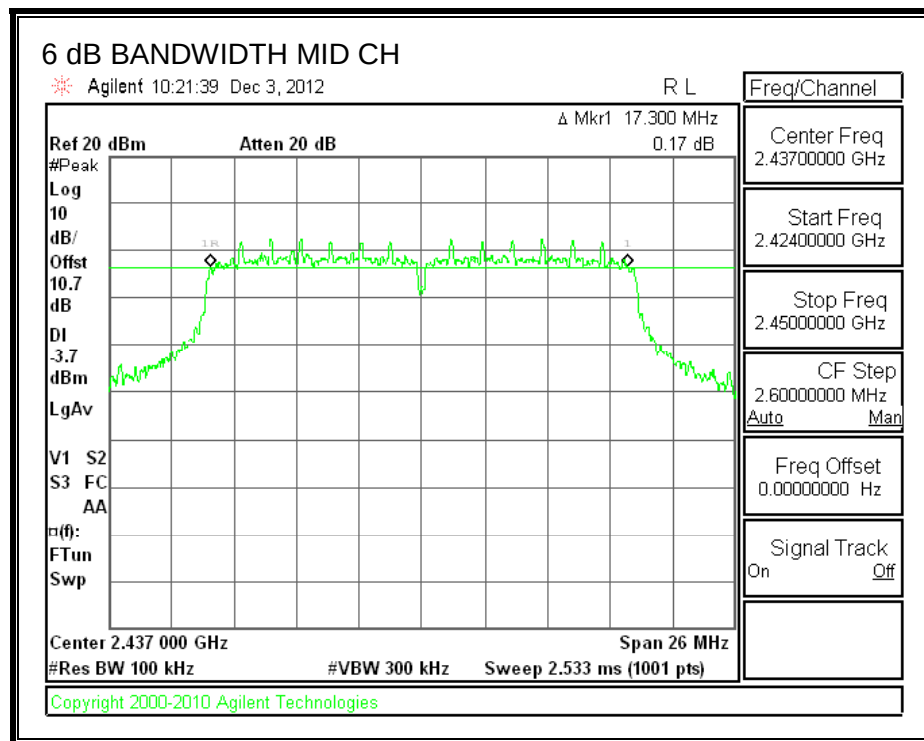
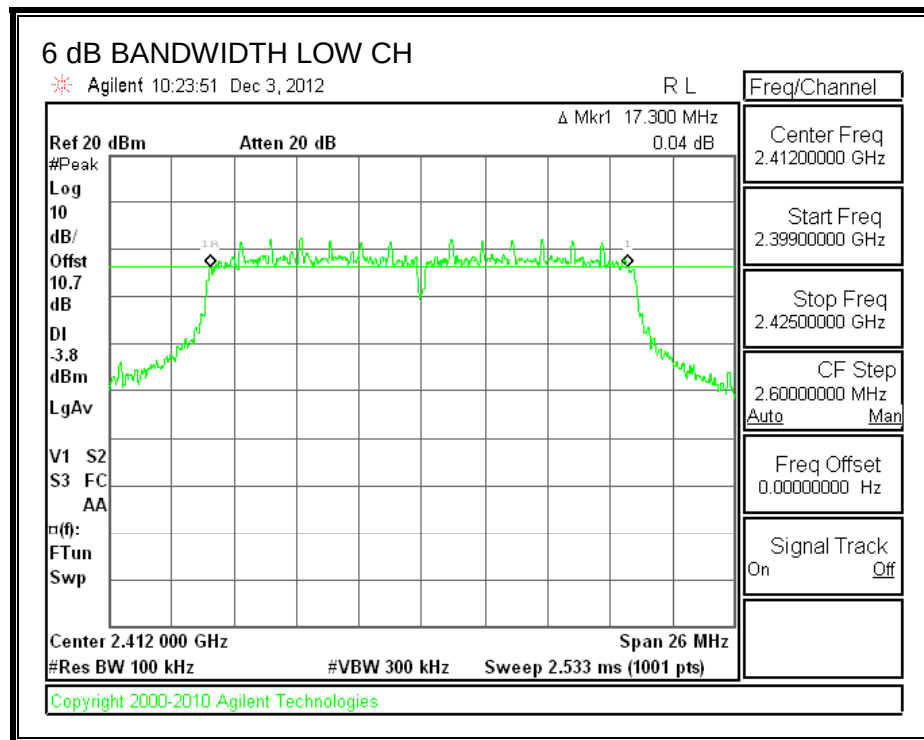
TEST PROCEDURE

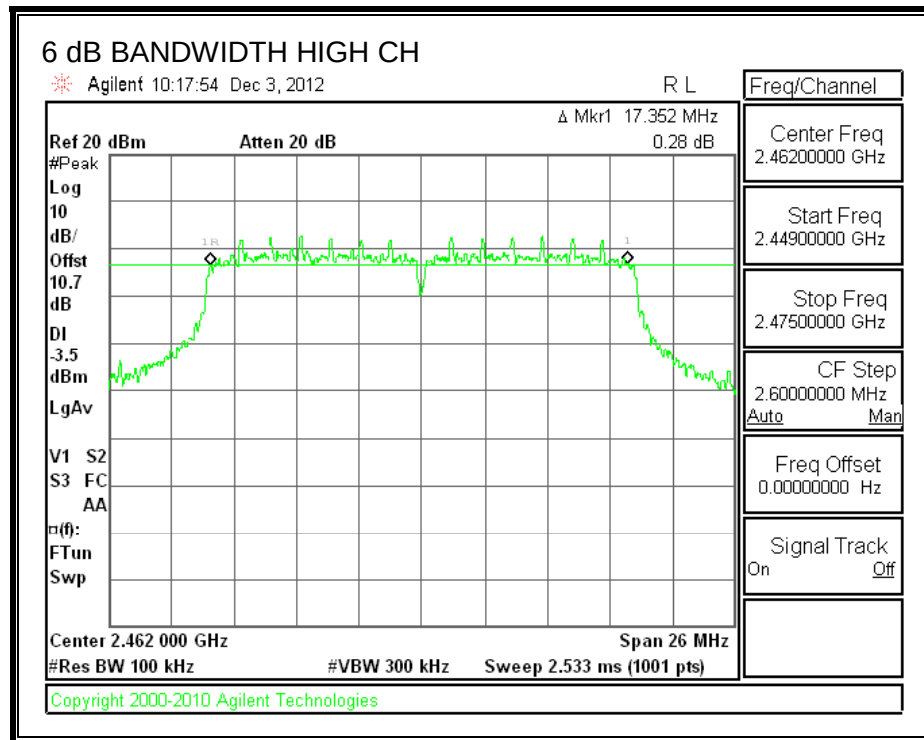
The transmitter output is connected to a spectrum analyzer with the RBW set between 1% and 5% of the EBW, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

RESULTS

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2412	17.300	0.5
Mid	2437	17.300	0.5
High	2462	17.352	0.5

6 dB BANDWIDTH





8.3.2. 99% BANDWIDTH

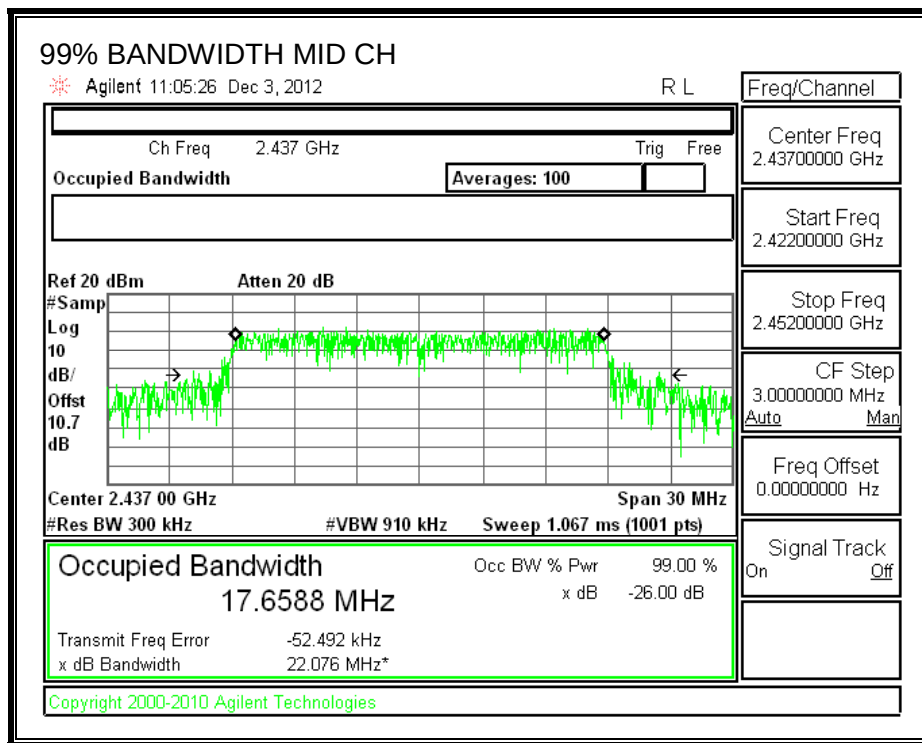
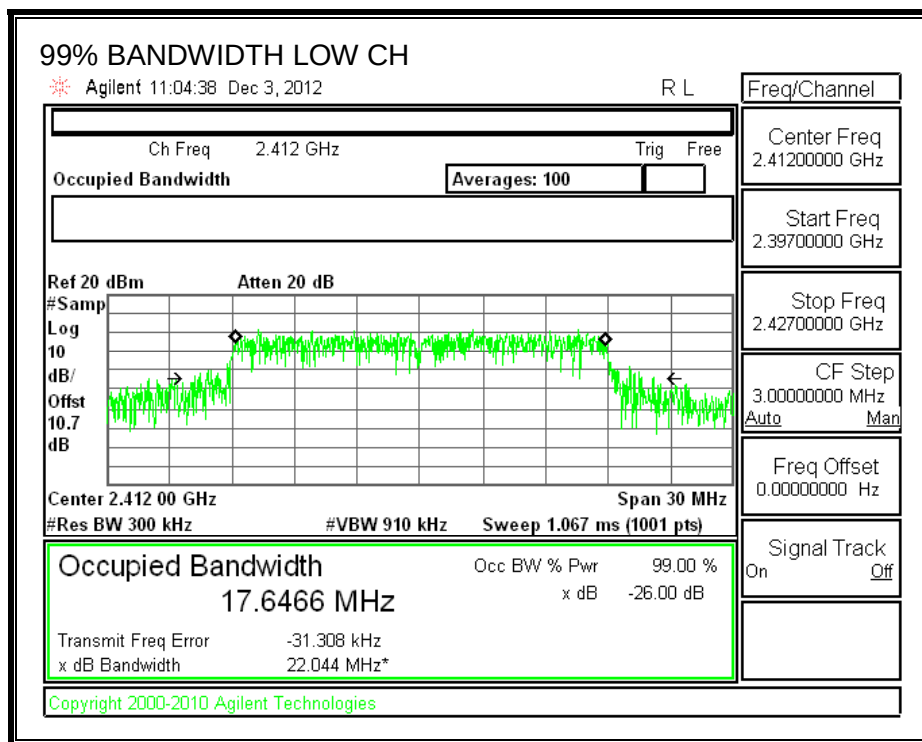
LIMITS

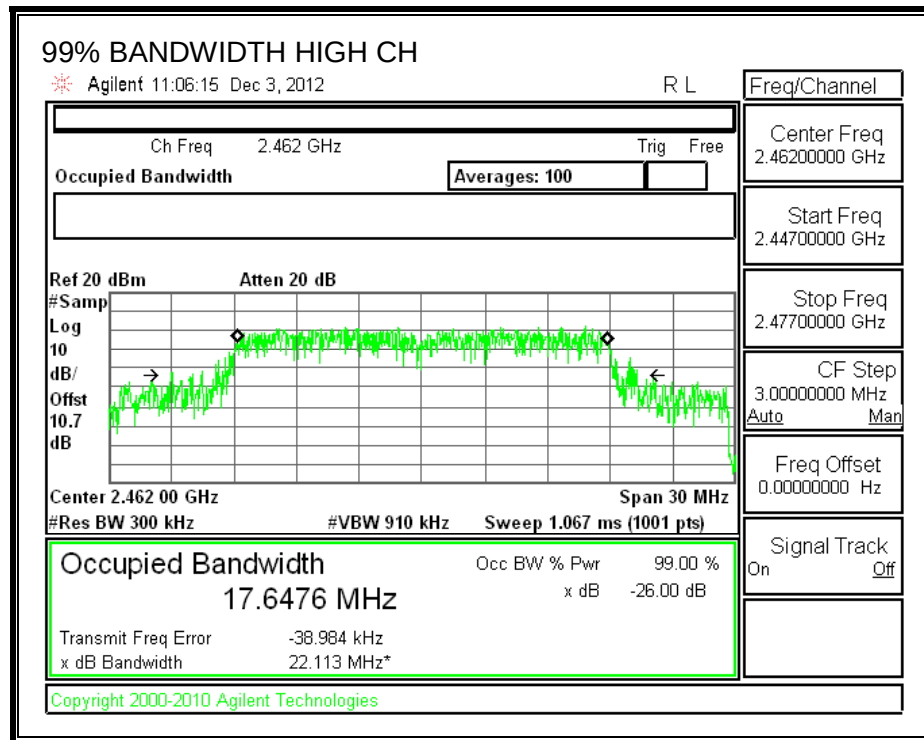
None; for reporting purposes only.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2412	17.6466
Mid	2437	17.6588
High	2462	17.6476

99% BANDWIDTH





8.3.3. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.69 dB (including 9.7 dB pad and 0.99 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

RESULTS

Channel	Frequency (MHz)	Power (dBm)
Low	2412	12.89
Mid	2437	13.09
High	2462	13.26

8.3.4. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

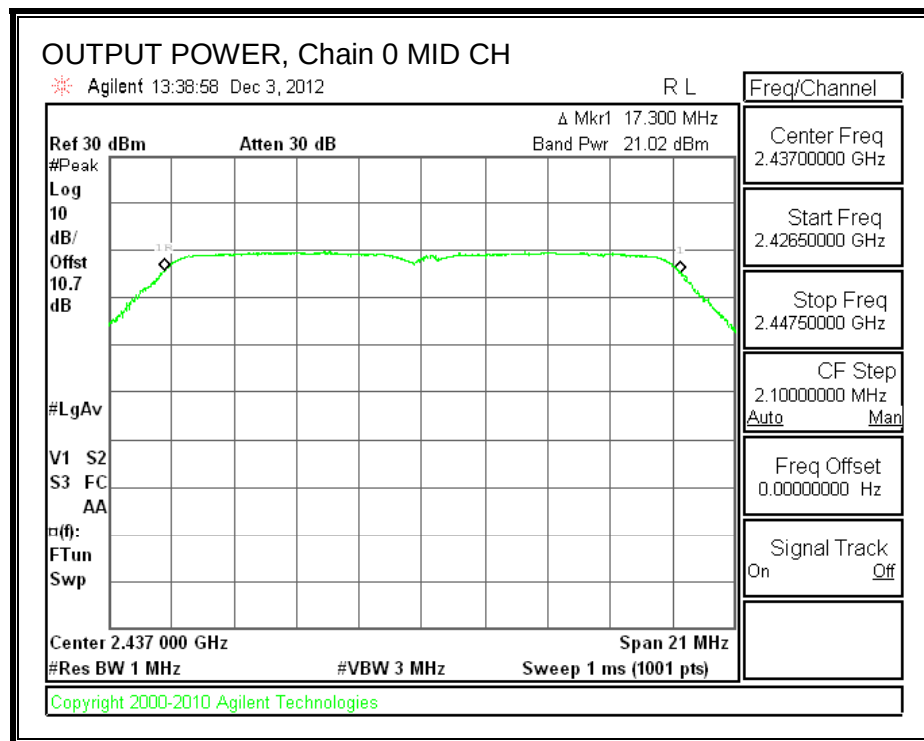
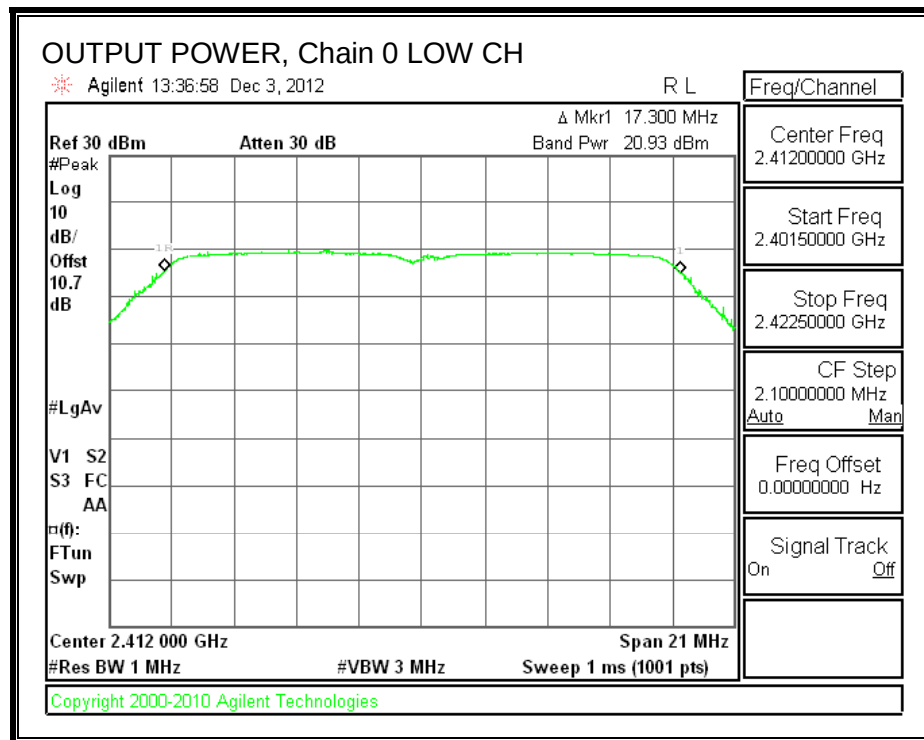
DIRECTIONAL ANTENNA GAIN

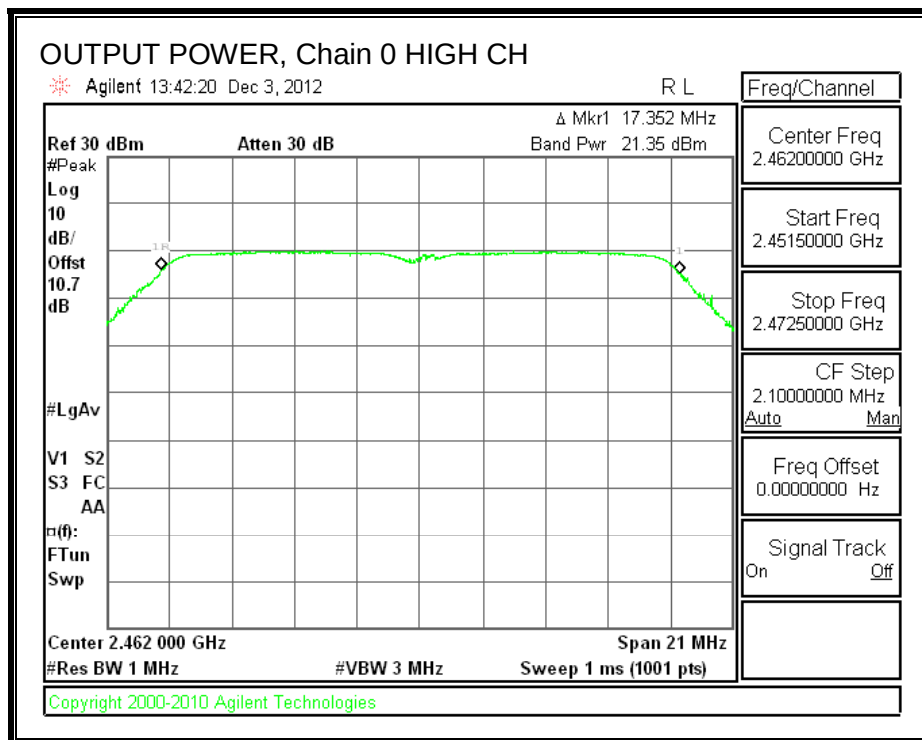
There is only one transmitter output therefore the directional gain is equal to the antenna gain.

RESULTS

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	2412	20.93	20.93	30.00	-9.07
Mid	2437	21.02	21.02	30.00	-8.98
High	2462	21.35	21.35	30.00	-8.65

OUTPUT POWER, Chain 0





8.3.5. PSD

LIMITS

FCC §15.247

IC RSS-210 A8.2

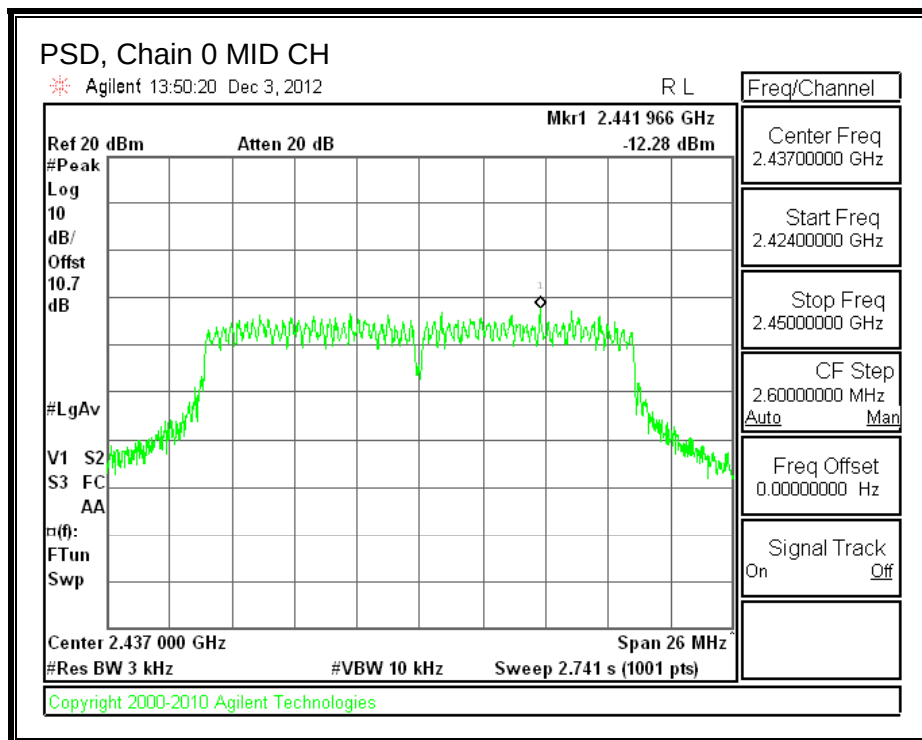
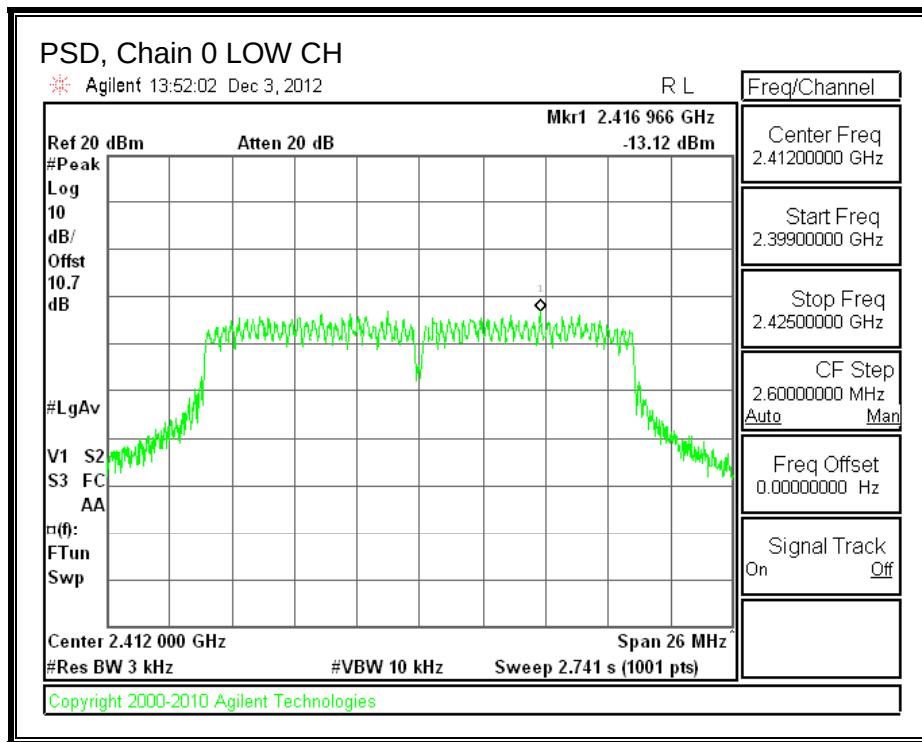
The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

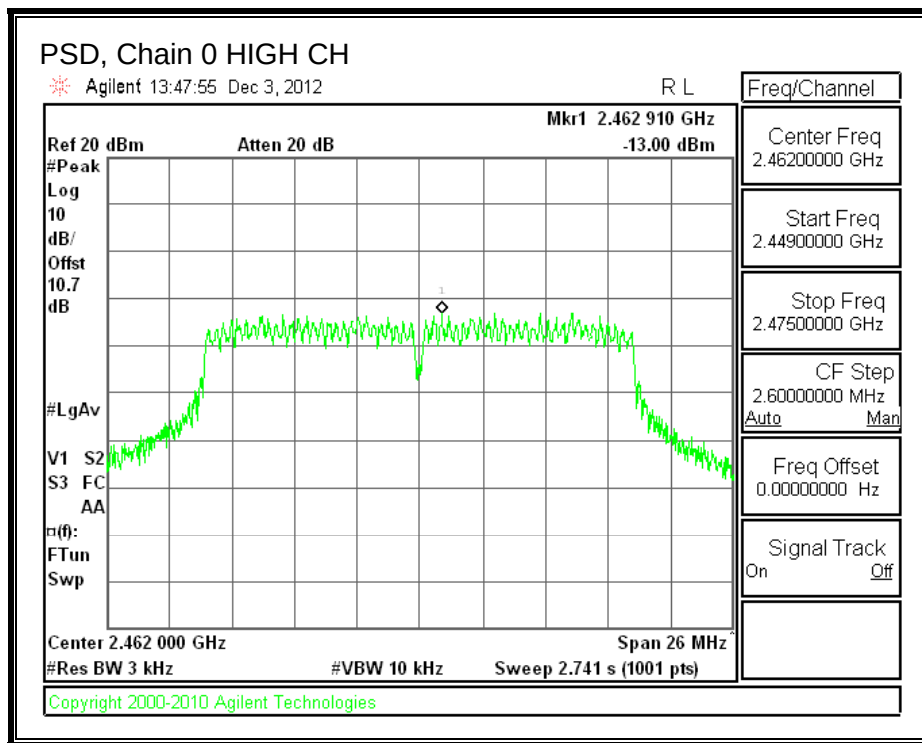
RESULTS

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-13.12	8.0	-21.1
Mid	2437	-12.28	8.0	-20.3
High	2462	-13.00	8.0	-21.0

PSD, Chain 0





8.3.6. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

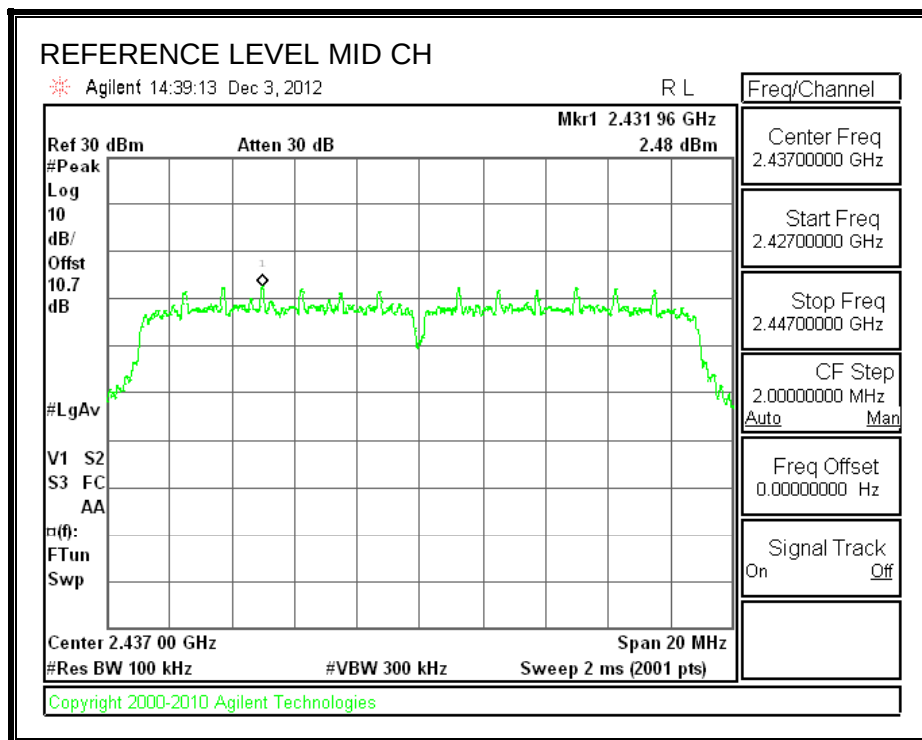
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

TEST PROCEDURE

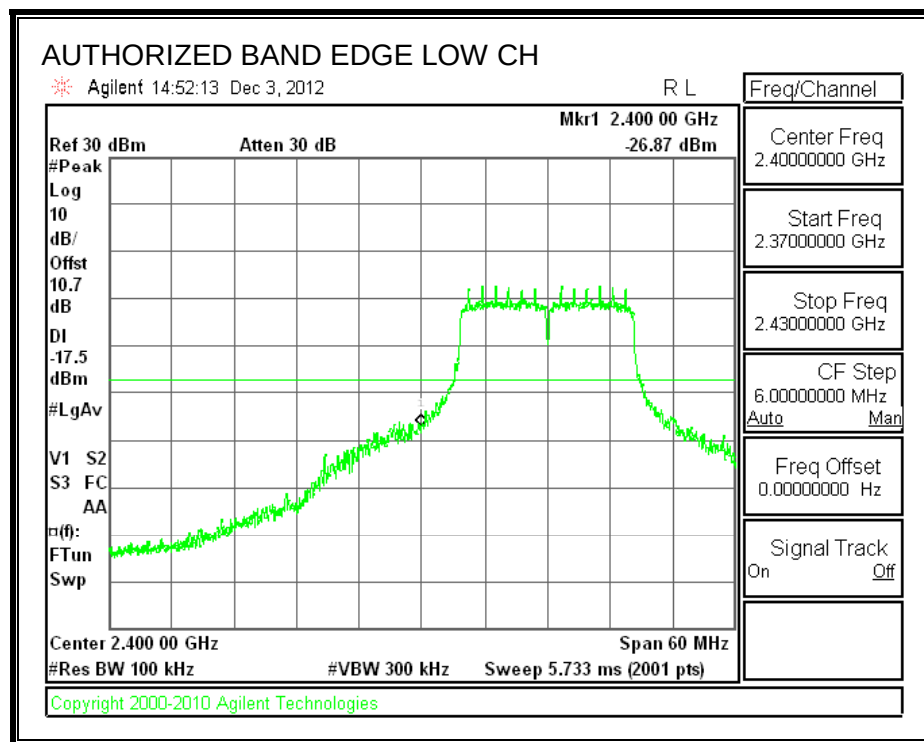
The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

RESULTS

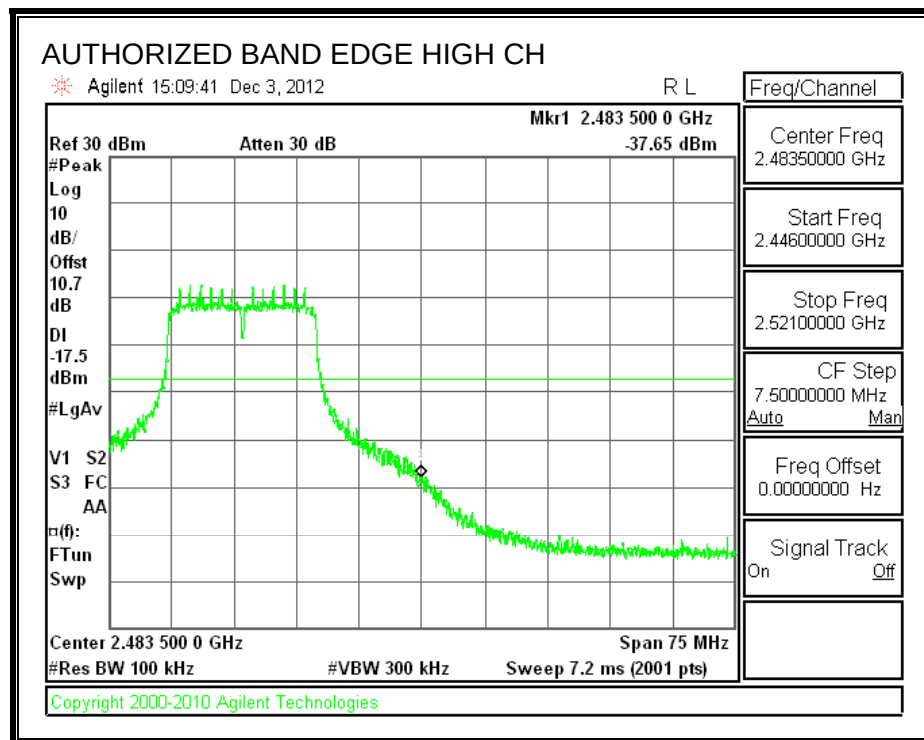
IN-BAND REFERENCE LEVEL



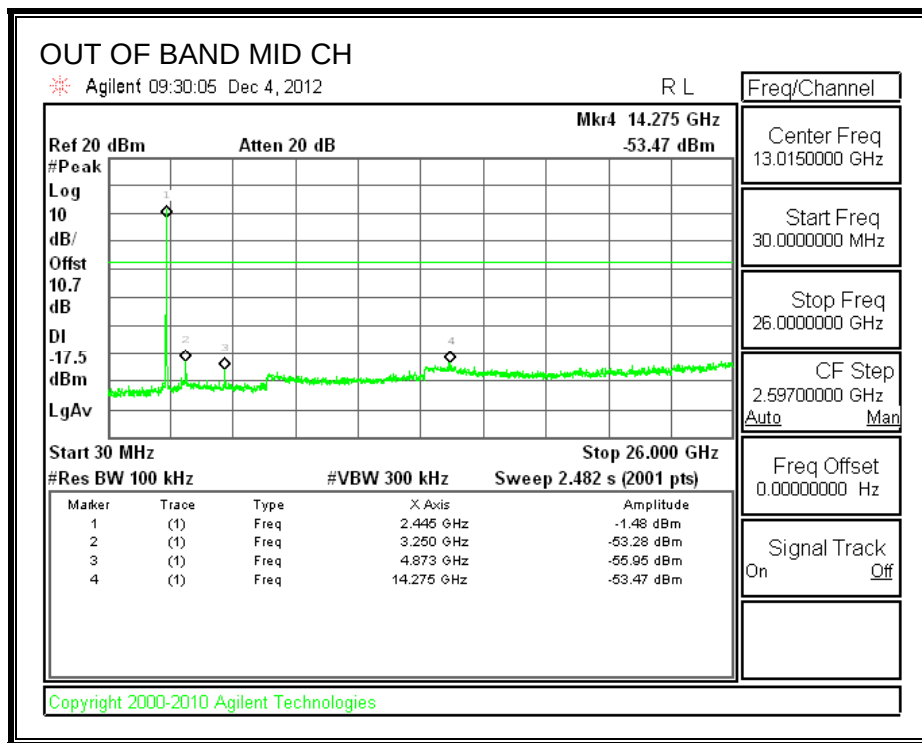
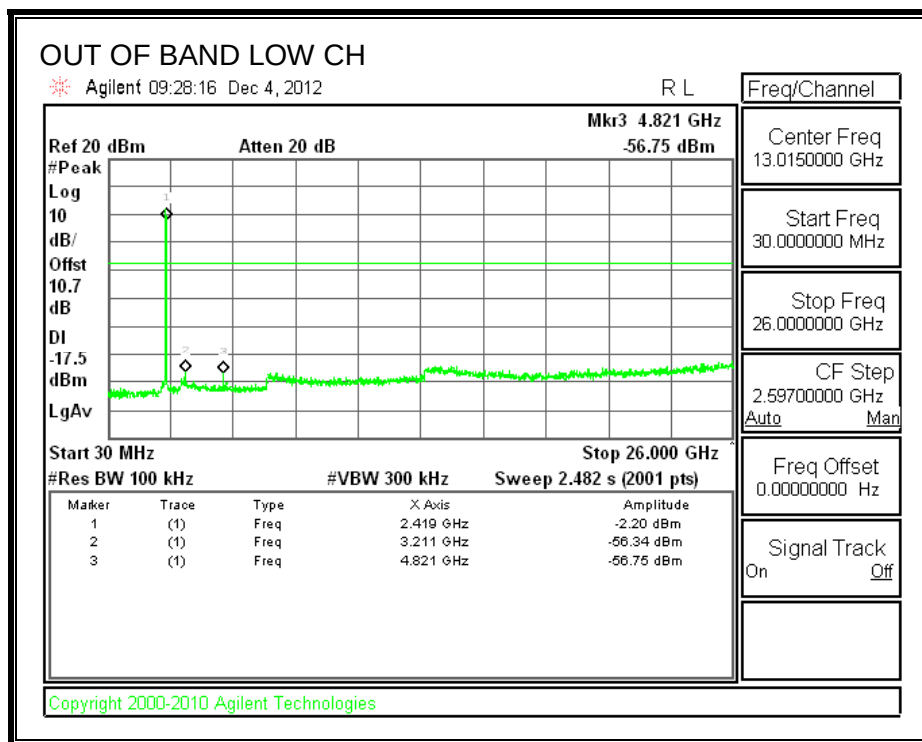
LOW CHANNEL BANDEDGE

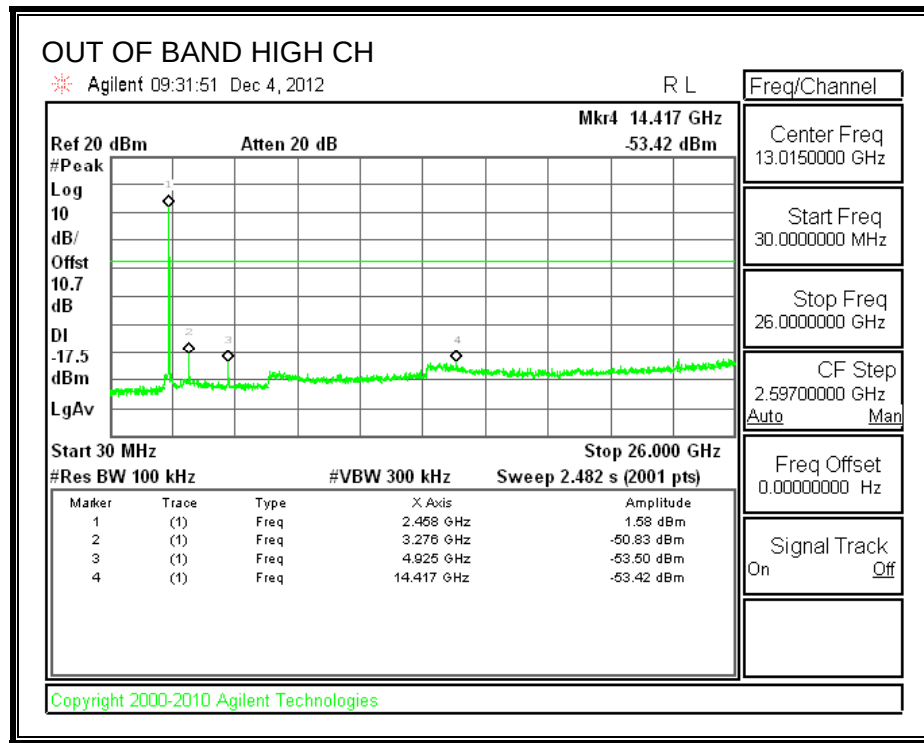


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS





9. RADIATED TEST RESULTS

9.1. 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.

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; the video bandwidth is set to 1 MHz for peak measurements and as applicable for average measurements.

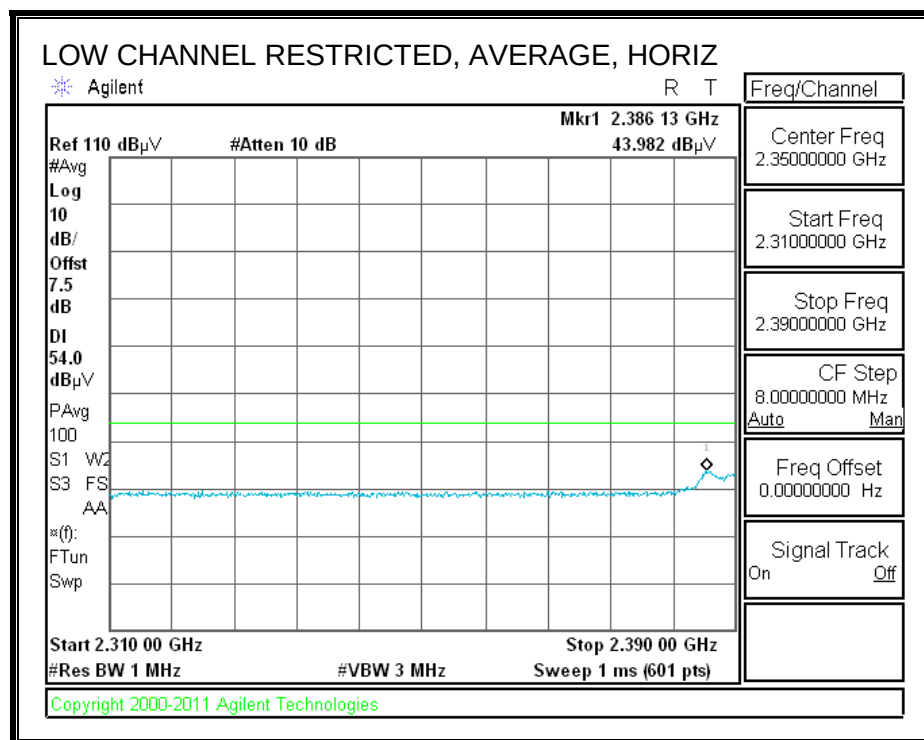
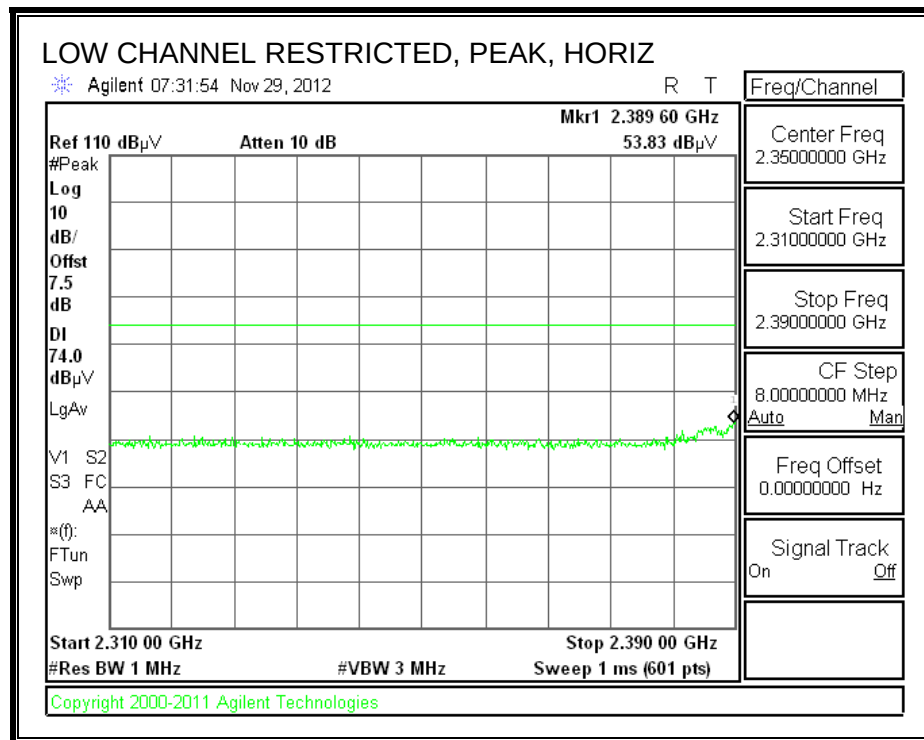
The spectrum from 30 MHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

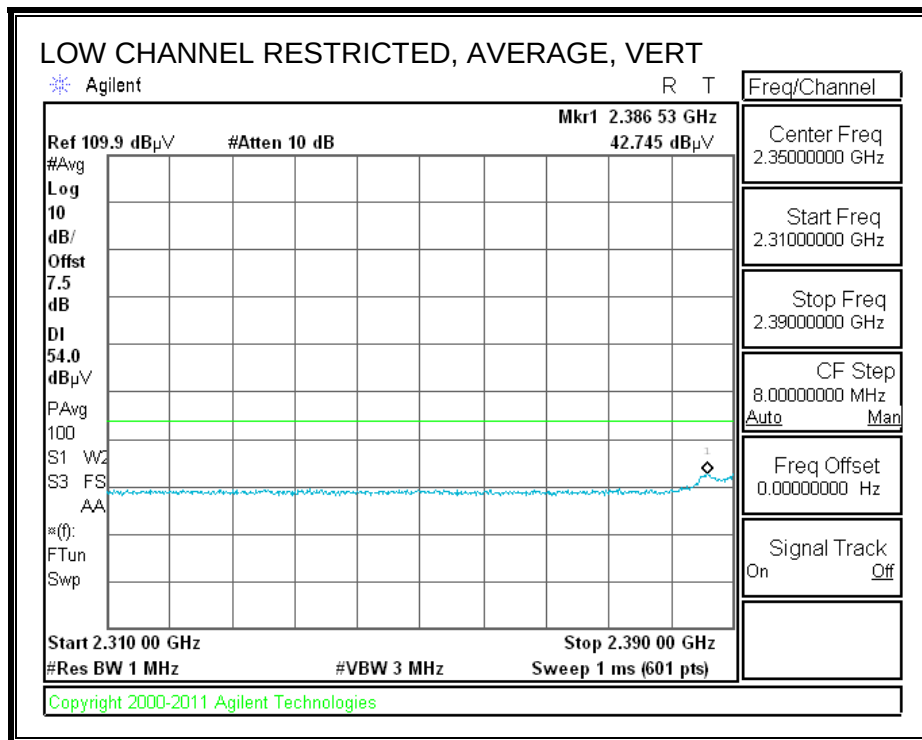
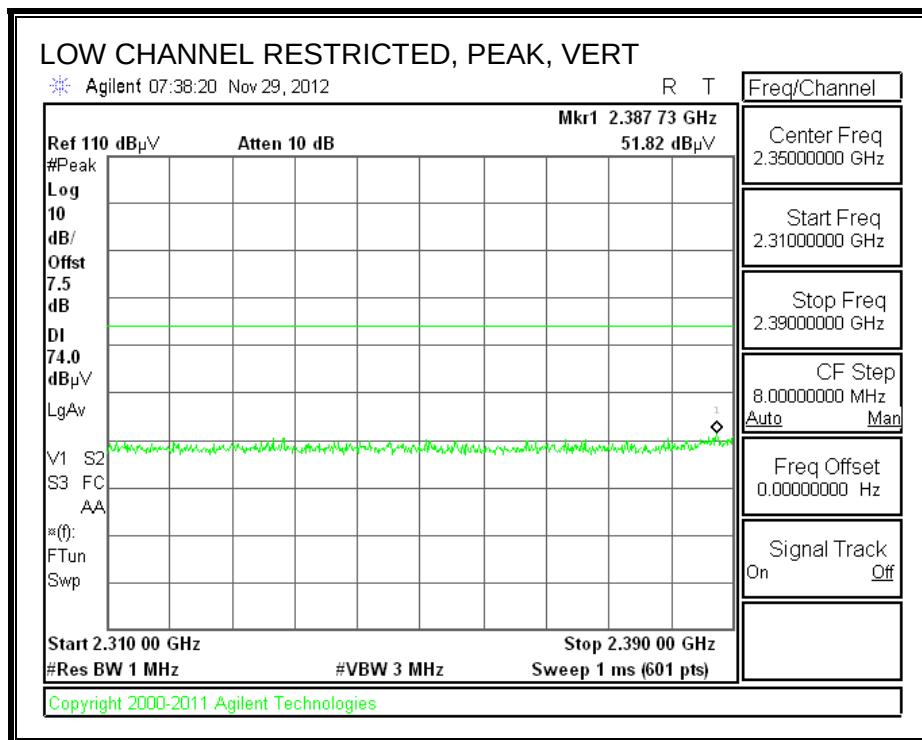
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

9.2. TRANSMITTER ABOVE 1 GHz

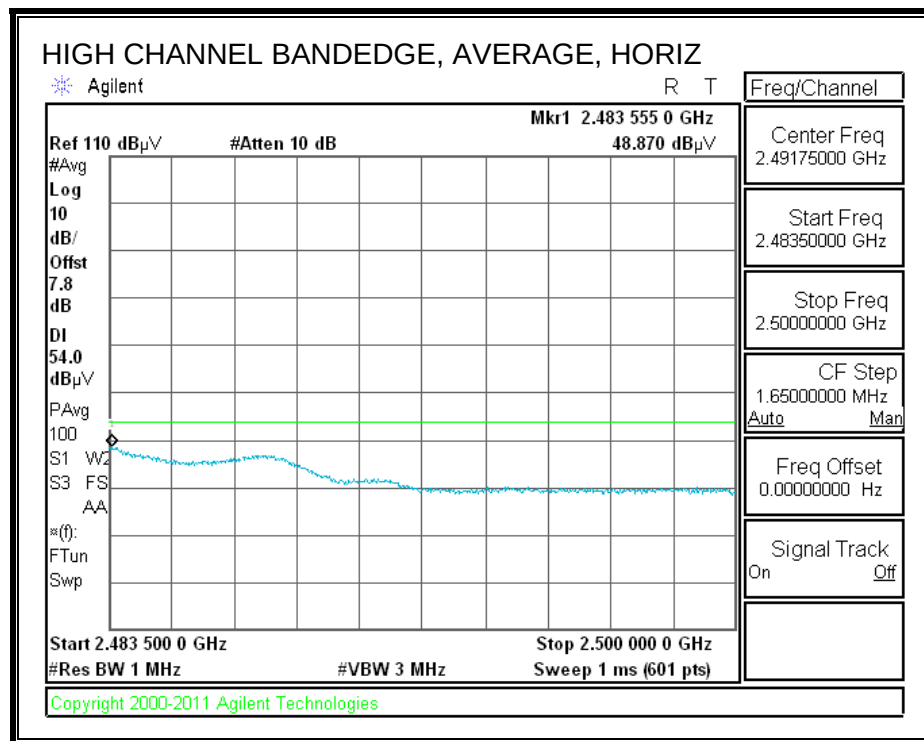
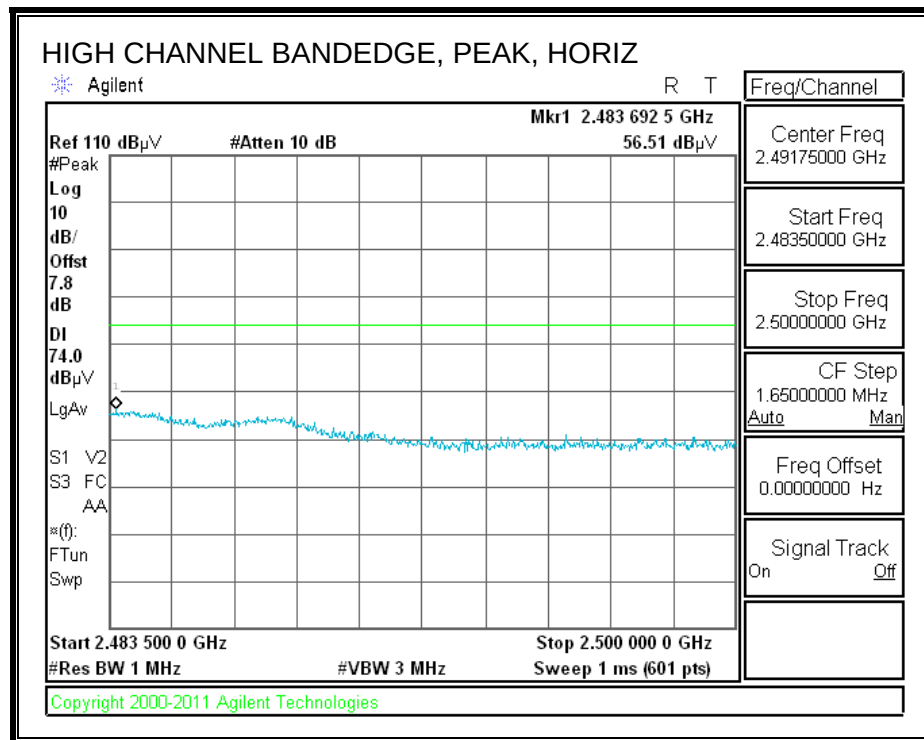
9.3. TX ABOVE 1 GHz 802.11b MODE IN THE 2.4 GHz BAND

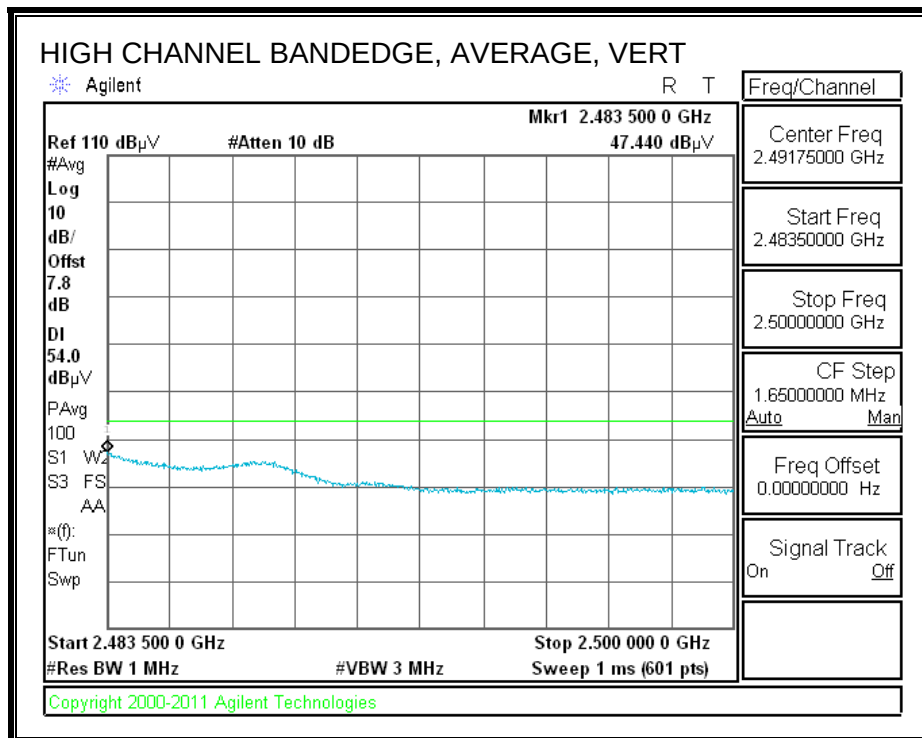
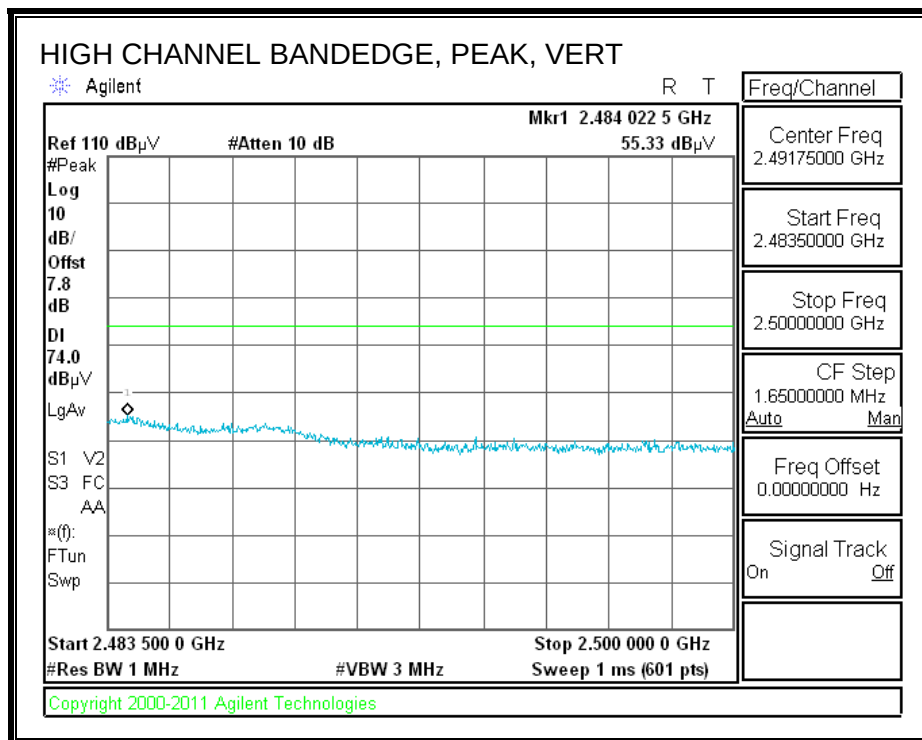
RESTRICTED BANDEDGE (LOW CHANNEL)





AUTHORIZED BANDEDGE (HIGH CHANNEL)



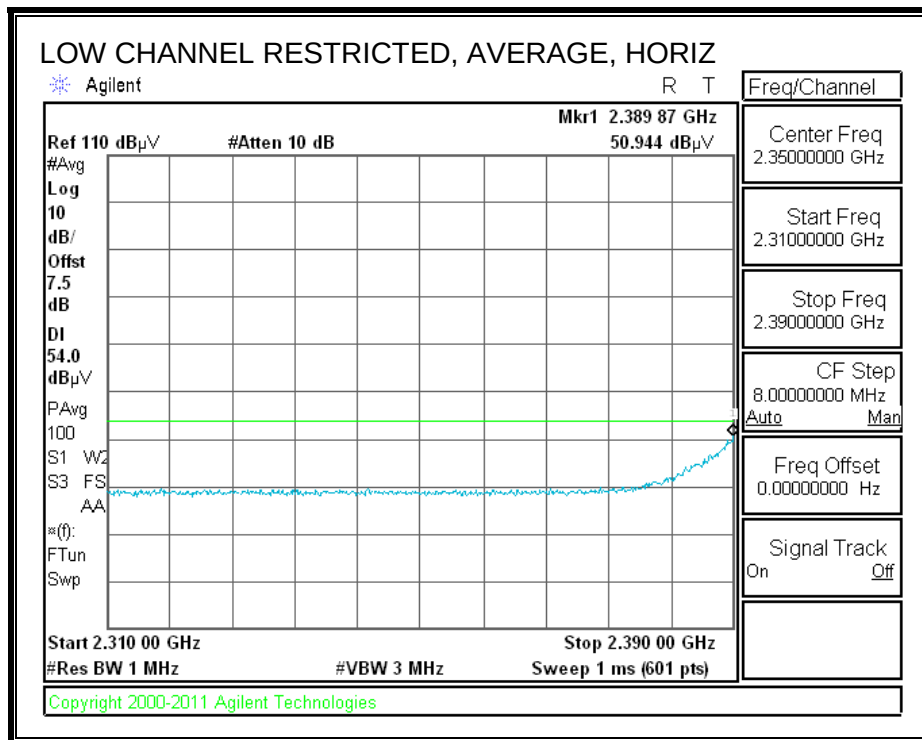
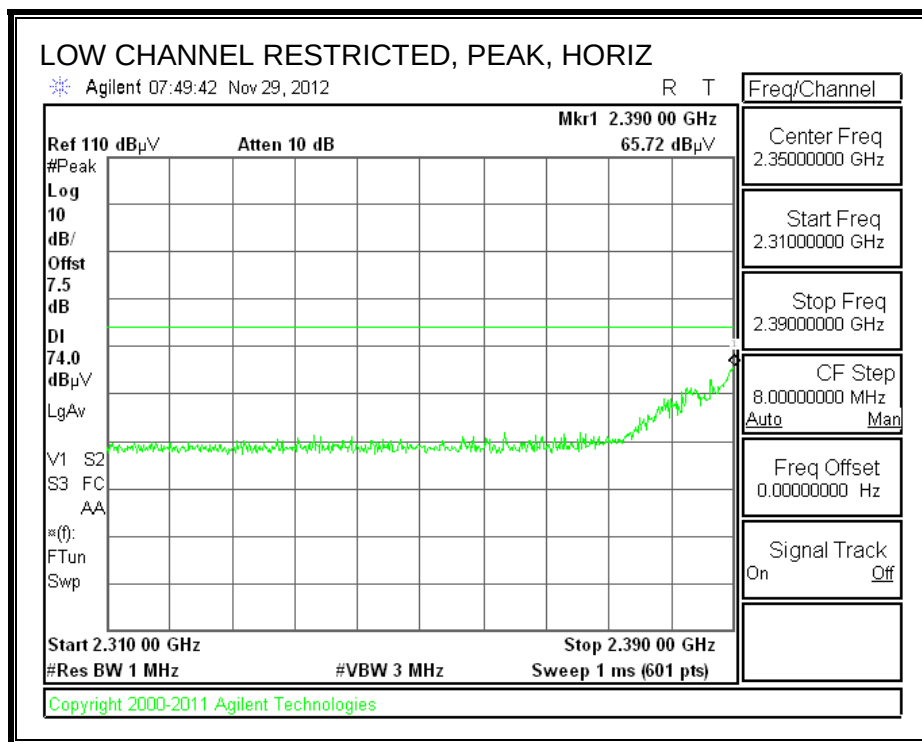


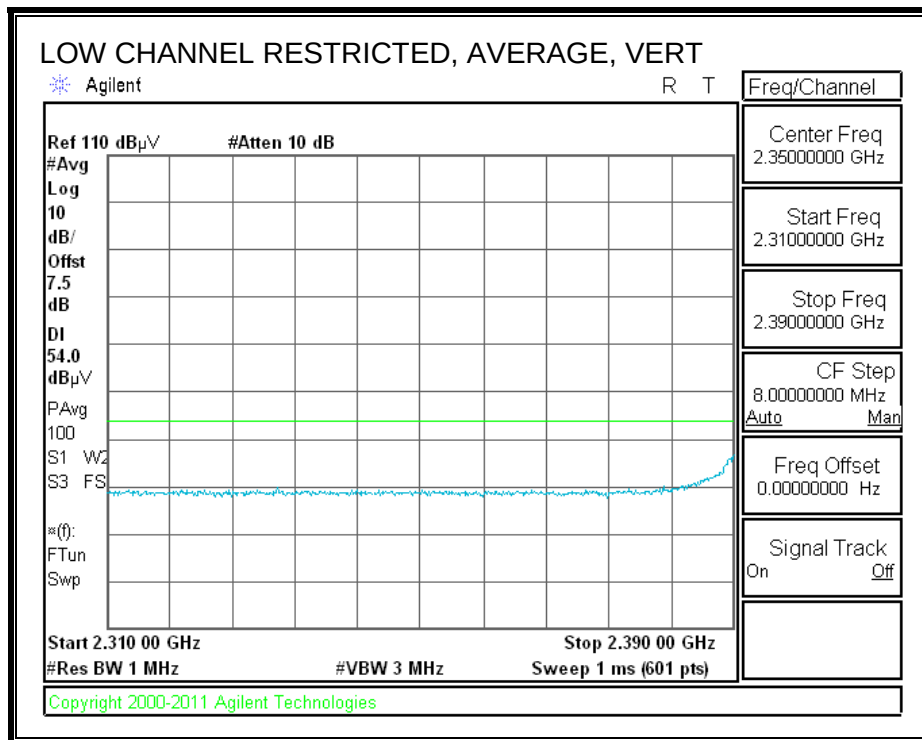
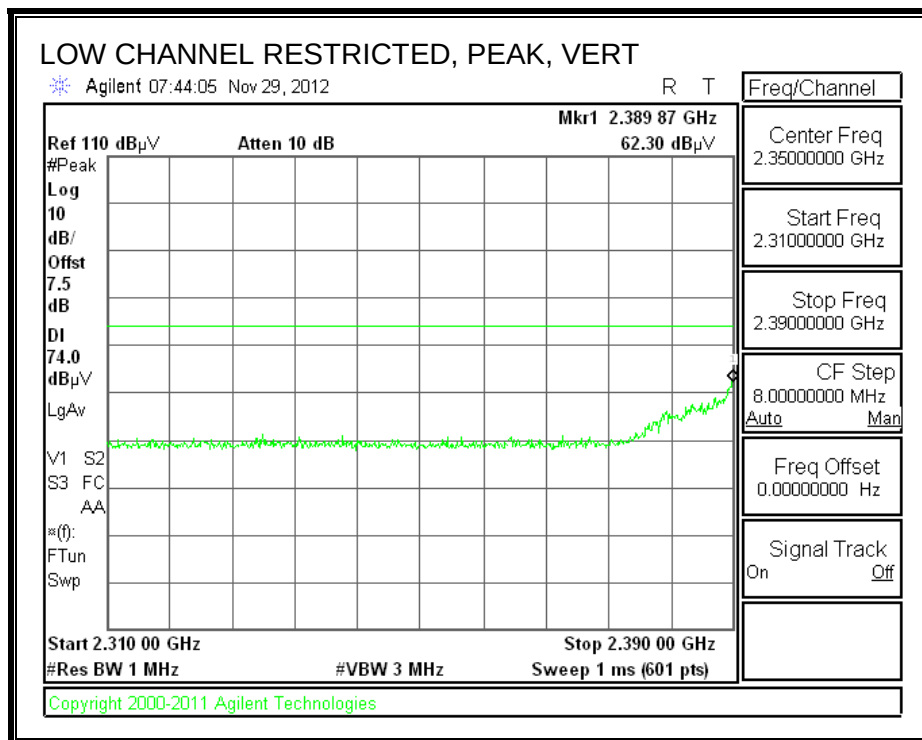
HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement																
Compliance Certification Services, Fremont 5m Chamber-B																
Company:		Samsung														
Project #:		12I14725														
Date:		11/29/2012														
Test Engineer:		S. Aguilar														
Configuration:		EUT + Adapter														
Mode:		TX, 11B														
Test Equipment:																
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit				
T59; S/N: 3245 @3m			T145 Agilent 3008A0056						T125; ARA 18-26GHz; S/N:1007			FCC 15.209				
Hi Frequency Cables																
3' cable 22807700			12' cable 22807600			20' cable 22807500			HPF			Reject Filter			Peak Measurements RBW=VBW=3MHz	
3' cable 22807700			12' cable 22807600			20' cable 22807500						R_001			Average Measurements RBW=1MHz ; VBW=> 3MHz	
Avg. Det.																
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)	
Low Channel (2412MHz)																
4.824	3.0	40.70	34.45	33.1	6.3	-34.8	0.0	0.0	45.3	39.0	74	54	-28.7	-15.0	H	
4.824	3.0	38.11	30.81	33.1	6.3	-34.8	0.0	0.0	42.7	35.4	74	54	-31.3	-18.6	V	
Mid Channel (2437MHz)																
4.874	3.0	40.73	35.37	33.1	6.3	-34.8	0.0	0.0	45.4	40.0	74	54	-28.6	-14.0	H	
4.874	3.0	39.05	32.23	33.1	6.3	-34.8	0.0	0.0	43.7	36.9	74	54	-30.3	-17.1	V	
7.311	3.0	36.48	25.87	35.8	8.5	-34.9	0.0	0.0	45.9	35.3	74	54	-28.1	-18.7	H	
7.311	3.0	35.97	25.94	35.8	8.5	-34.9	0.0	0.0	45.4	35.3	74	54	-28.6	-18.7	V	
High Channel (2462MHz)																
4.924	3.0	41.07	36.37	33.2	6.3	-34.8	0.0	0.0	45.8	41.1	74	54	-28.2	-12.9	H	
4.924	3.0	39.99	33.65	33.2	6.3	-34.8	0.0	0.0	44.7	38.4	74	54	-29.3	-15.6	V	
Rev. 11.10.11																
Note: No other emissions were detected above the system noise floor up to 25 GHz.																
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												

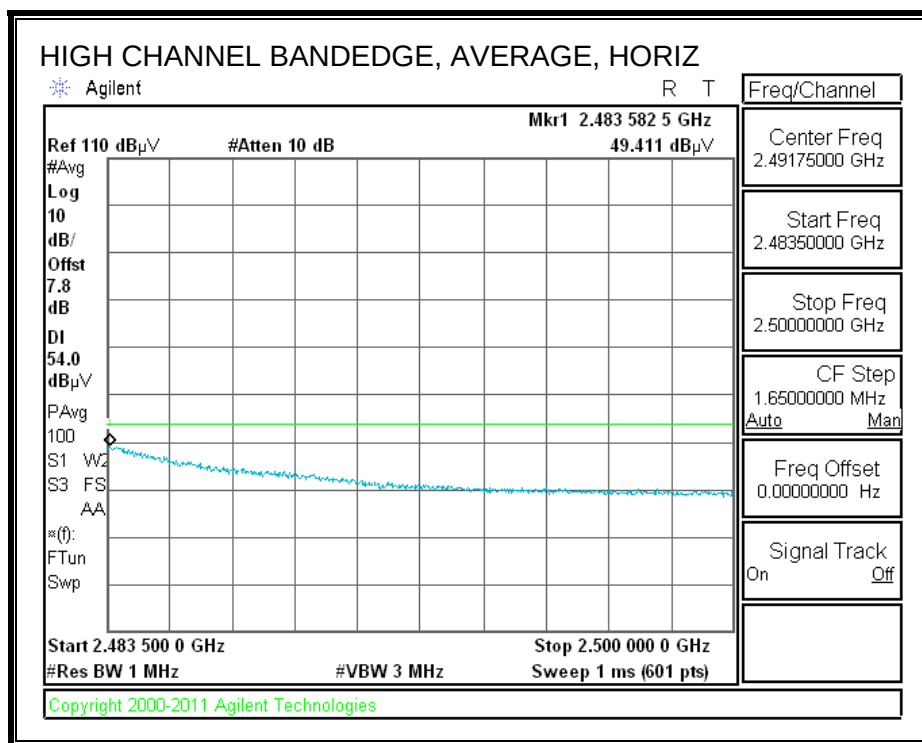
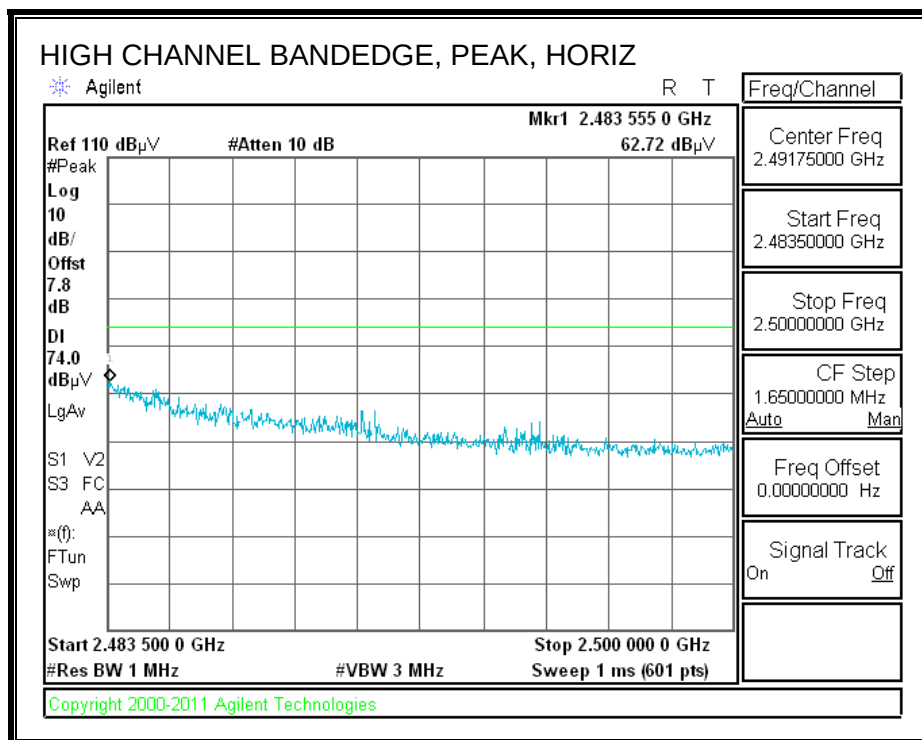
9.4. TX ABOVE 1 GHz 802.11g MODE IN THE 2.4 GHz BAND

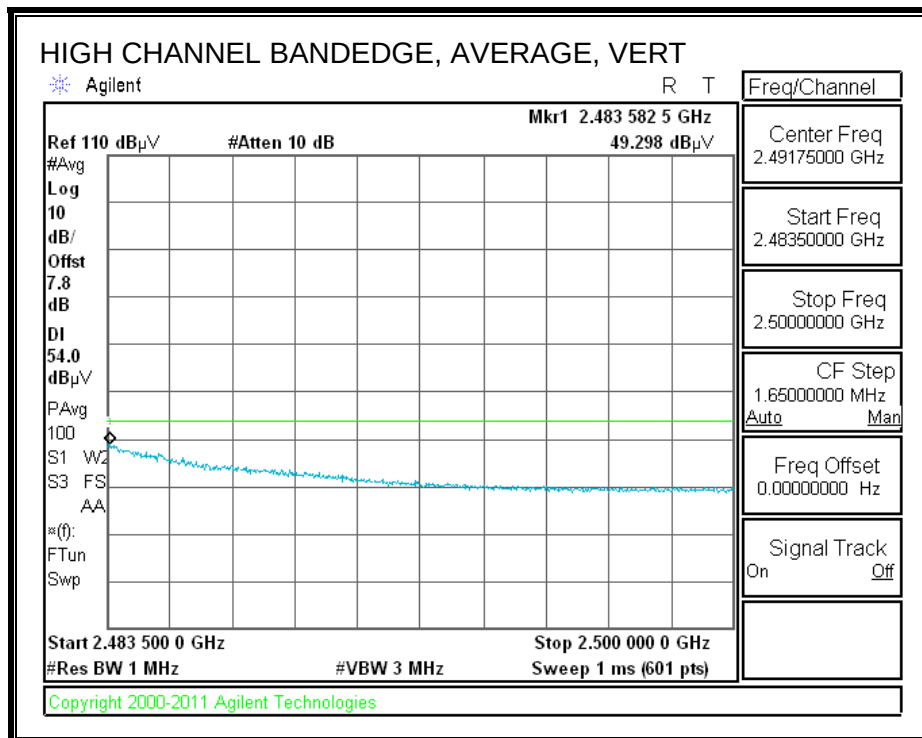
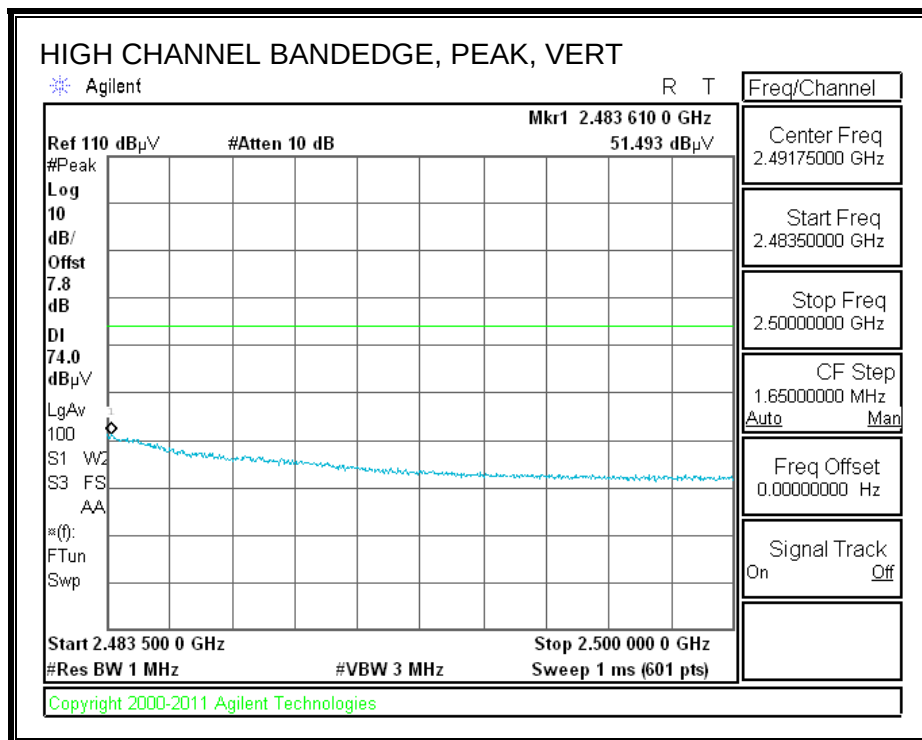
RESTRICTED BANDEDGE (LOW CHANNEL)





AUTHORIZED BANDEDGE (HIGH CHANNEL)



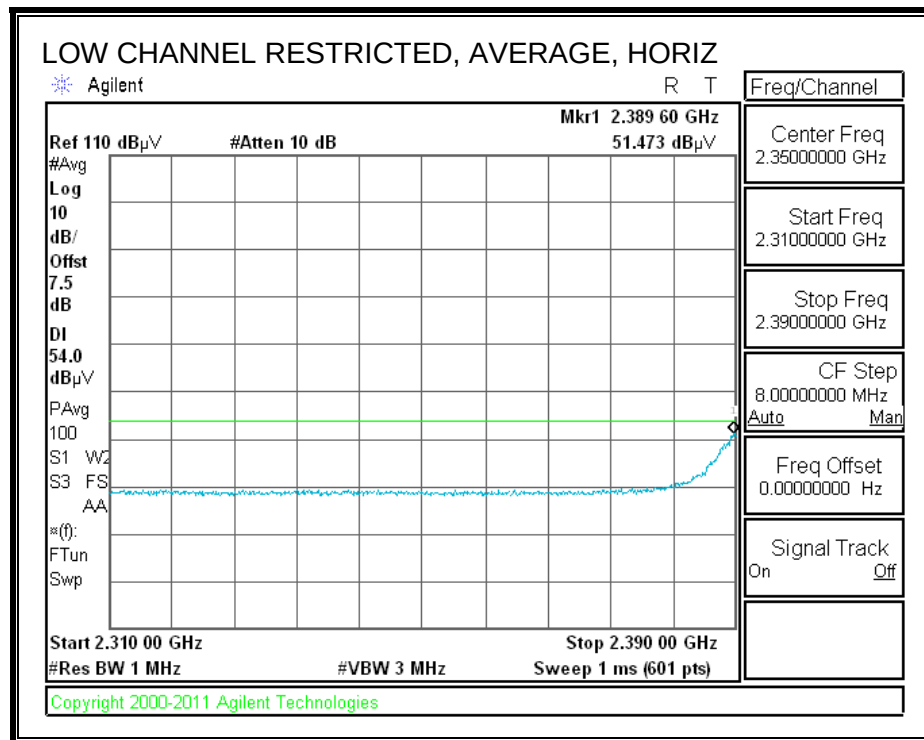
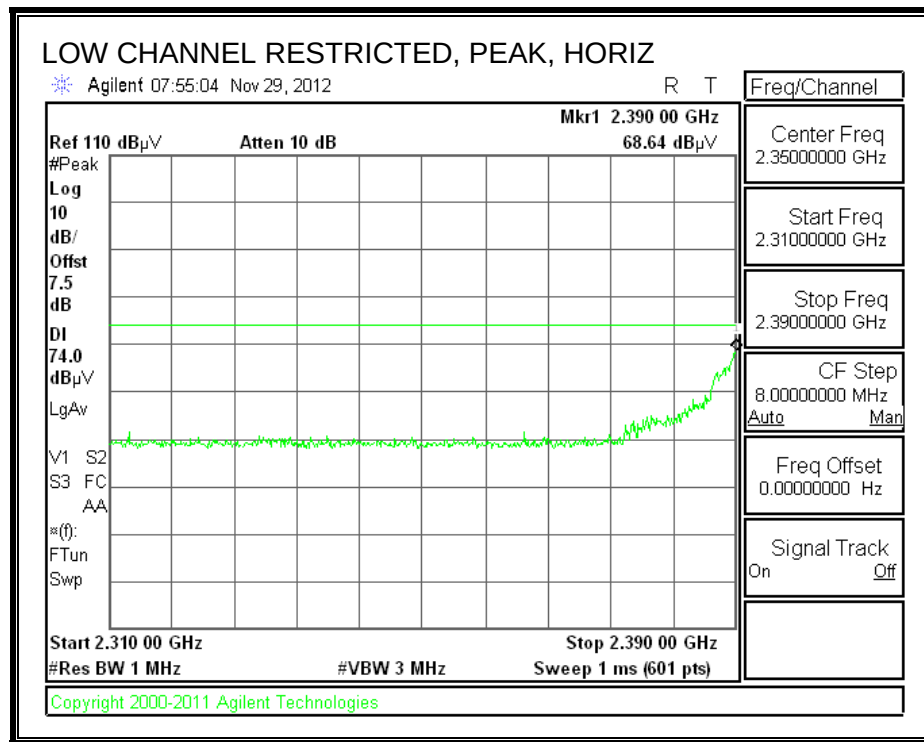


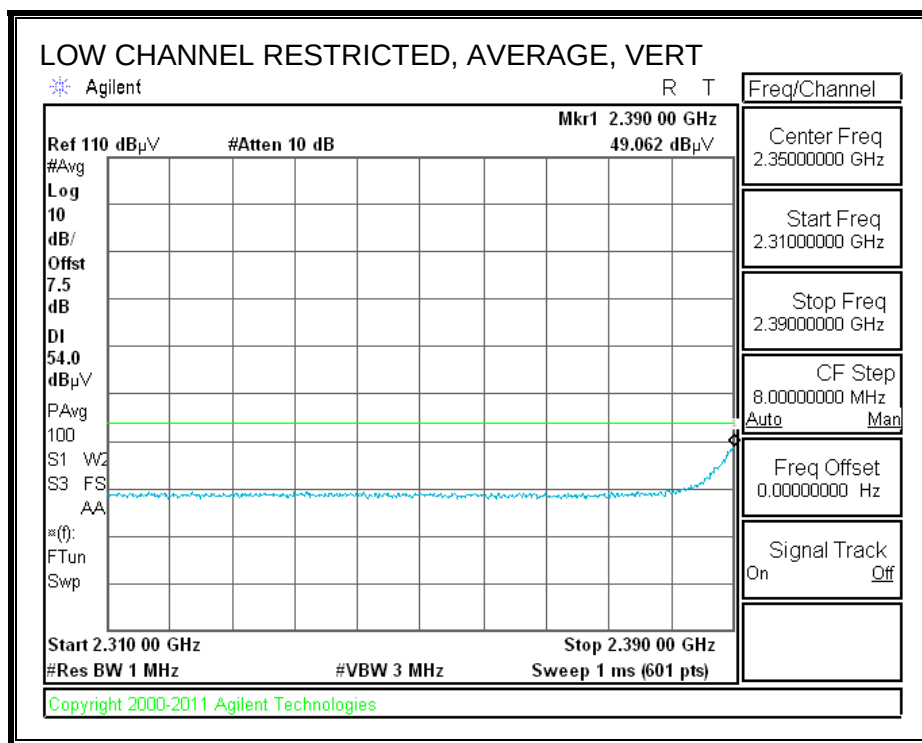
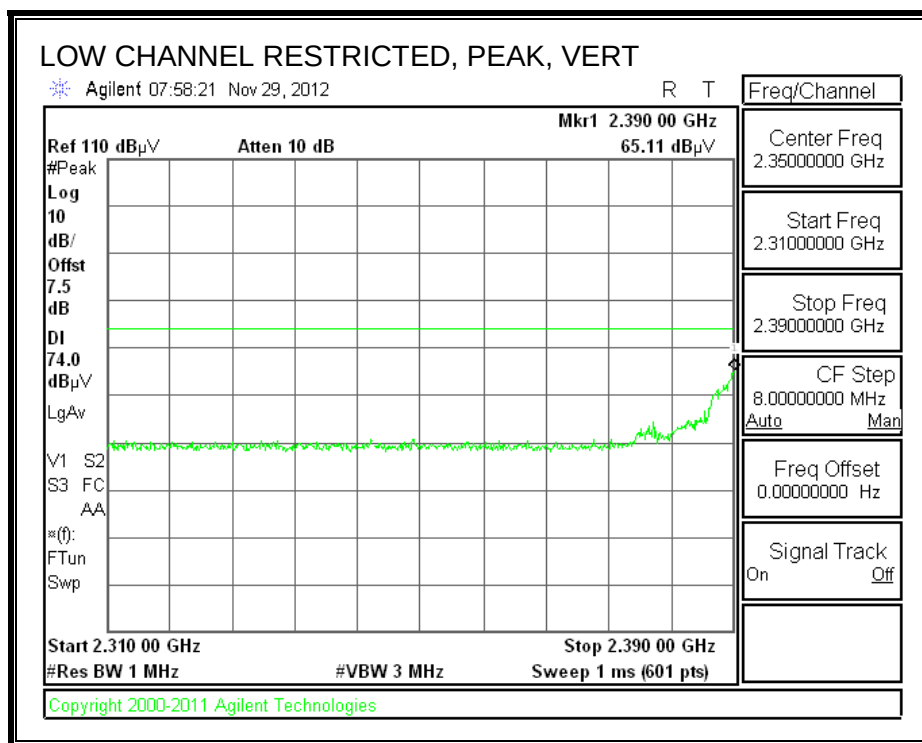
HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement																
Compliance Certification Services, Fremont 5m Chamber-B																
Company:		Samsung														
Project #:		12I14725														
Date:		11/29/2012														
Test Engineer:		S. Aguilar														
Configuration:		EUT + Adapter														
Mode:		TX, 11G														
Test Equipment:																
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit				
T59; S/N: 3245 @3m			T145 Agilent 3008A0056						T125; ARA 18-26GHz; S/N:1007			FCC 15.209				
Hi Frequency Cables																
3' cable 22807700			12' cable 22807600			20' cable 22807500			HPF			Reject Filter			Peak Measurements	
3' cable 22807700			12' cable 22807600			20' cable 22807500						R_001			RBW=VBW=3MHz	
Average Measurements																
RBW=1MHz; VBW=> 3MHz																
Avg. Det.																
f	Dist	Read Pk	Read Avg.	AF	CL	Amp	D Corr	Filtr	Peak	Avg	Pk Lim	Avg Lim	Pk Mar	Avg Mar	Notes	
GHz	(m)	dBuV	dBuV	dB/m	dB	dB	dB	dB	dBuV/m	dBuV/m	dBuV/m	dBuV/m	dB	dB	(V/H)	
Low Channel (2412MHz)																
4.824	3.0	37.80	27.45	33.1	6.3	-34.8	0.0	0.0	42.4	32.0	74	54	-31.6	-22.0	H	
4.824	3.0	37.73	26.64	33.1	6.3	-34.8	0.0	0.0	42.3	31.2	74	54	-31.7	-22.8	V	
Mid Channel (2437MHz)																
4.874	3.0	37.56	26.51	33.1	6.3	-34.8	0.0	0.0	42.2	31.1	74	54	-31.8	-22.9	H	
4.874	3.0	36.87	26.39	33.1	6.3	-34.8	0.0	0.0	41.5	31.0	74	54	-32.5	-23.0	V	
High Channel (2462MHz)																
4.924	3.0	37.76	27.39	33.2	6.3	-34.8	0.0	0.0	42.5	32.1	74	54	-31.5	-21.9	H	
4.924	3.0	37.48	26.79	33.2	6.3	-34.8	0.0	0.0	42.2	31.5	74	54	-31.8	-22.5	V	
Rev. 11.10.11																
Note: No other emissions were detected above the system noise floor up to 25 GHz.																
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												

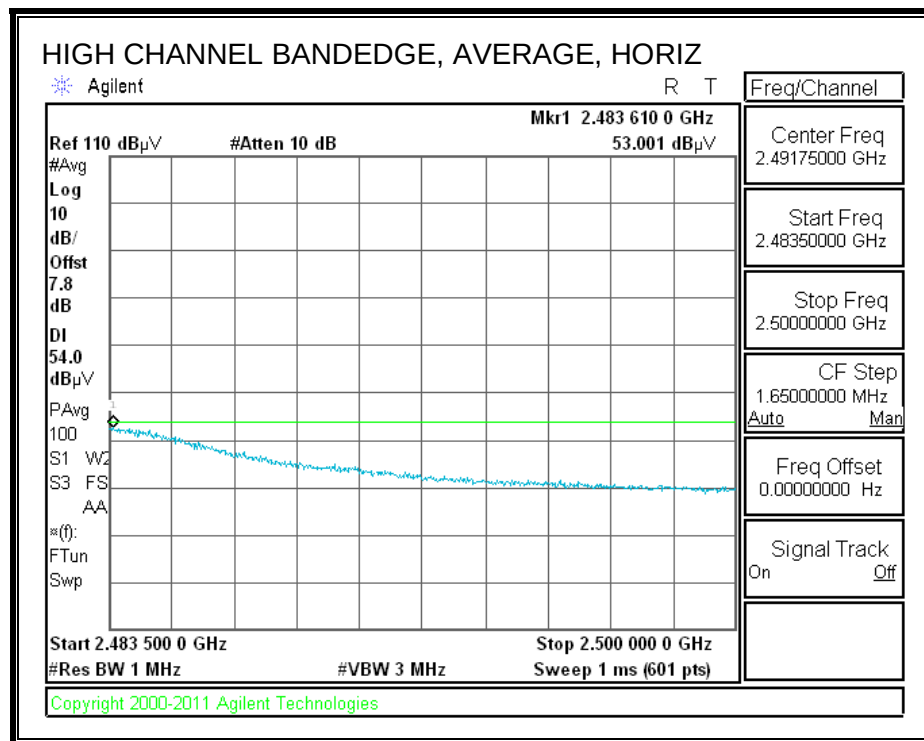
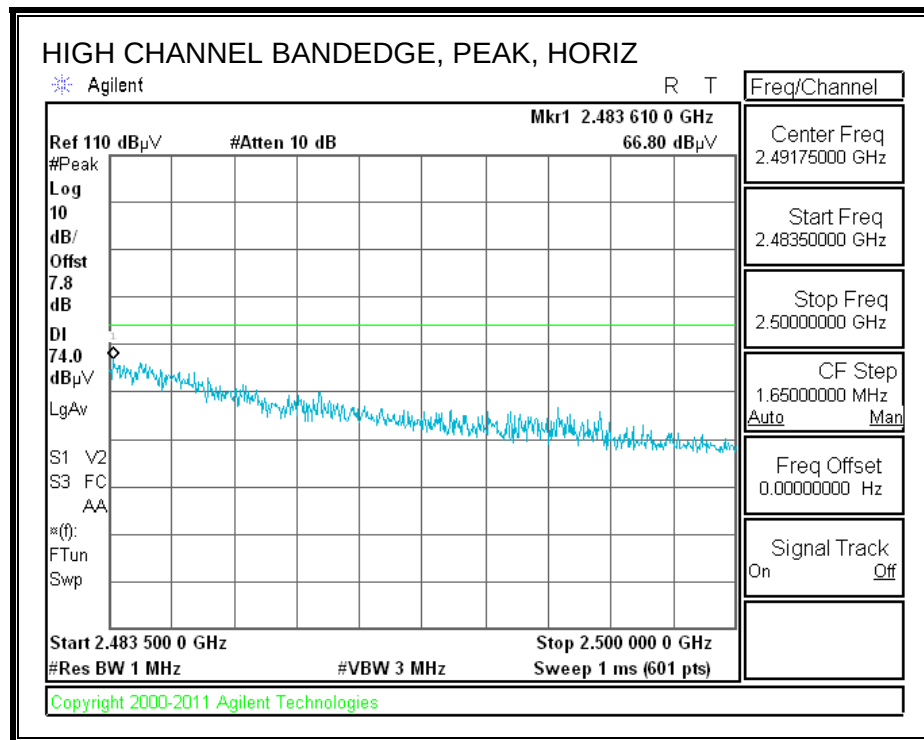
9.5. TX ABOVE 1 GHz 802.11n HT20 MODE IN THE 2.4 GHz BAND

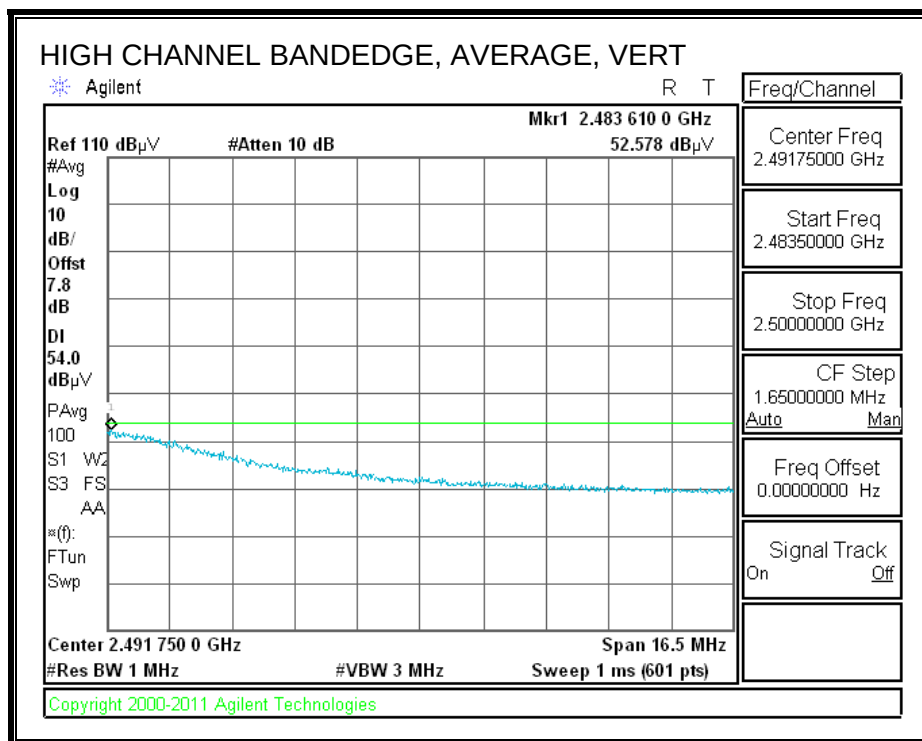
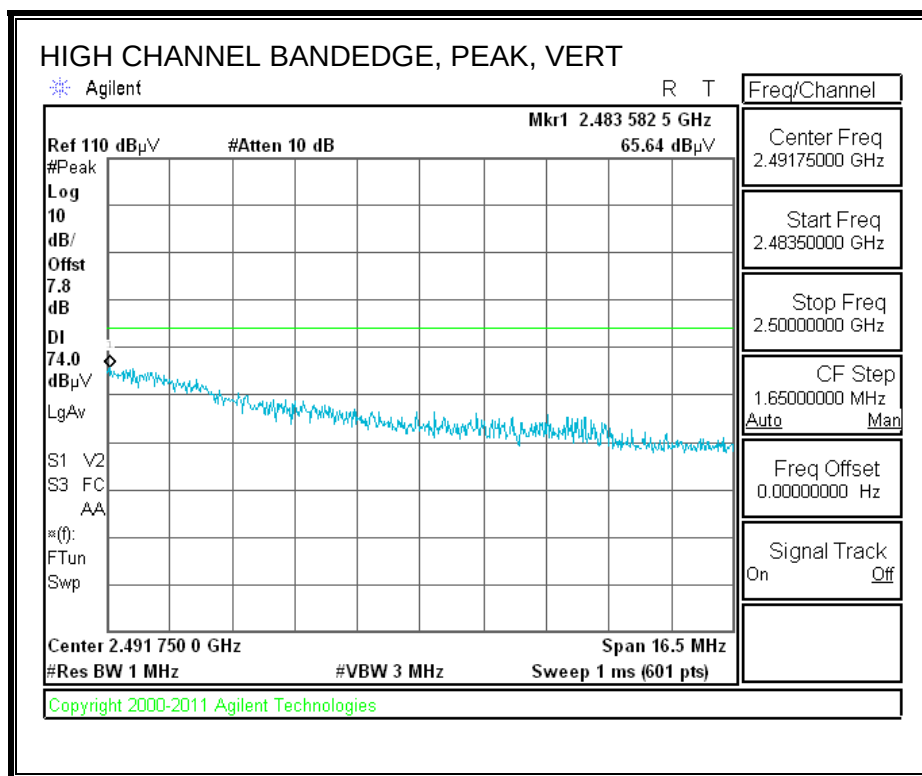
RESTRICTED BANDEDGE (LOW CHANNEL)





AUTHORIZED BANDEDGE (HIGH CHANNEL)



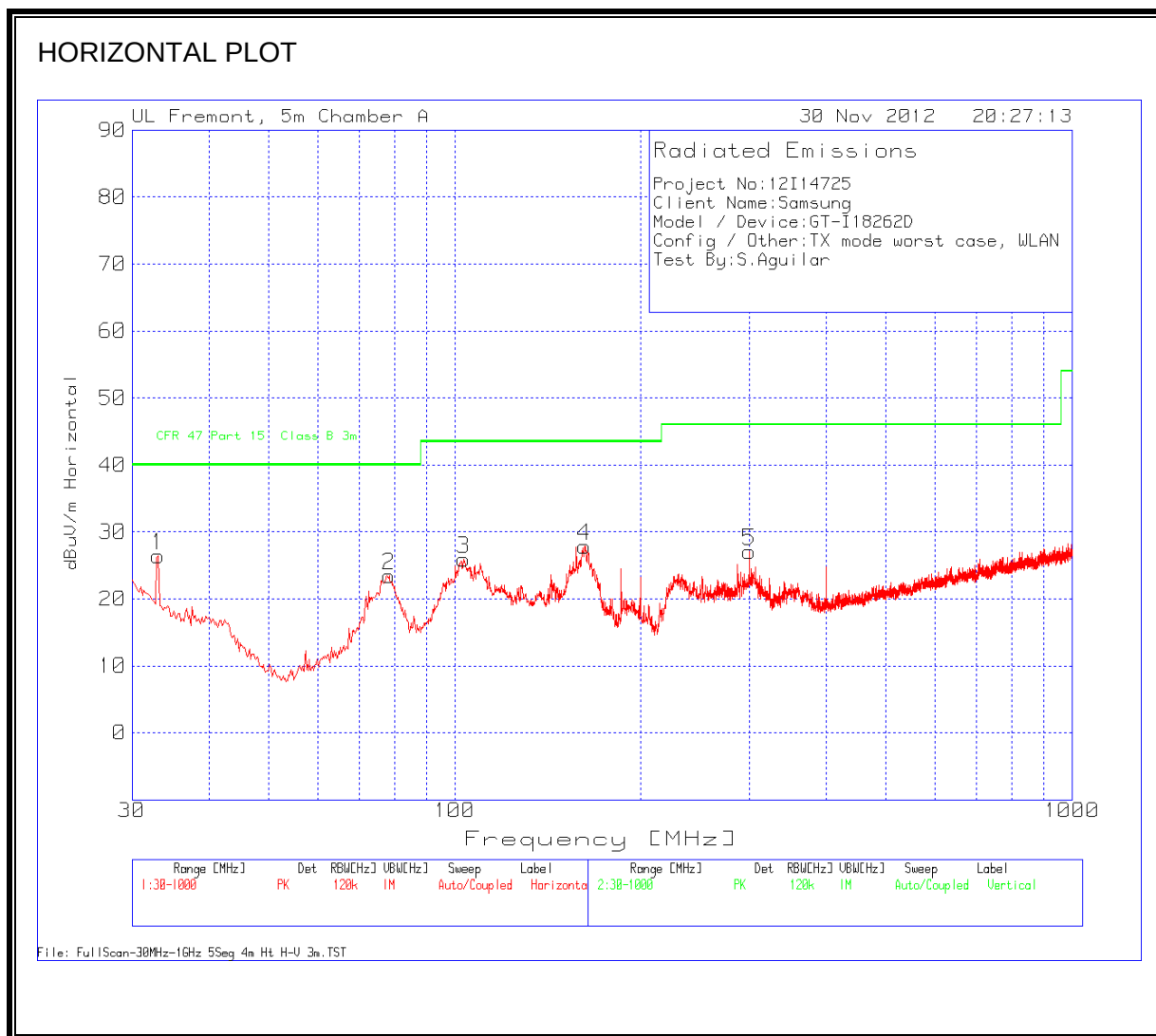


HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement																
Compliance Certification Services, Fremont 5m Chamber-B																
Company:		Samsung														
Project #:		12I14725														
Date:		11/30/2012														
Test Engineer:		S. Aguilar														
Configuration:		EUT + Adapter														
Mode:		TX, 11N														
Test Equipment:																
Horn 1-18GHz			Pre-amplifier 1-26GHz			Pre-amplifier 26-40GHz			Horn > 18GHz			Limit				
T59; S/N: 3245 @3m			T145 Agilent 3008A0056						T125; ARA 18-26GHz; S/N:1007			FCC 15.209				
Hi Frequency Cables																
3' cable 22807700			12' cable 22807600			20' cable 22807500			HPF			Reject Filter			Peak Measurements RBW=VBW=3MHz	
3' cable 22807700			12' cable 22807600			20' cable 22807500						R_001			Average Measurements RBW=1MHz; VBW=> 3MHz	
Avg. Det.																
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	Filtr dB	Peak dBuV/m	Avg dBuV/m	Pk Lim dBuV/m	Avg Lim dBuV/m	Pk Mar dB	Avg Mar dB	Notes (V/H)	
Low Channel (2412MHz)																
4.824	3.0	37.46	26.75	33.1	6.3	-34.8	0.0	0.0	42.0	31.3	74	54	-32.0	-22.7	H	
4.824	3.0	37.57	26.64	33.1	6.3	-34.8	0.0	0.0	42.1	31.2	74	54	-31.9	-22.8	V	
Mid Channel (2437MHz)																
4.874	3.0	37.56	26.73	33.1	6.3	-34.8	0.0	0.0	42.2	31.4	74	54	-31.8	-22.6	H	
4.874	3.0	36.85	26.12	33.1	6.3	-34.8	0.0	0.0	41.5	30.8	74	54	-32.5	-23.2	V	
High Channel (2462MHz)																
4.924	3.0	39.27	27.57	33.2	6.3	-34.8	0.0	0.0	44.0	32.3	74	54	-30.0	-21.7	H	
4.924	3.0	37.42	26.97	33.2	6.3	-34.8	0.0	0.0	42.1	31.7	74	54	-31.9	-22.3	V	
Rev. 11.10.11																
Note: No other emissions were detected above the system noise floor up to 25 GHz.																
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												

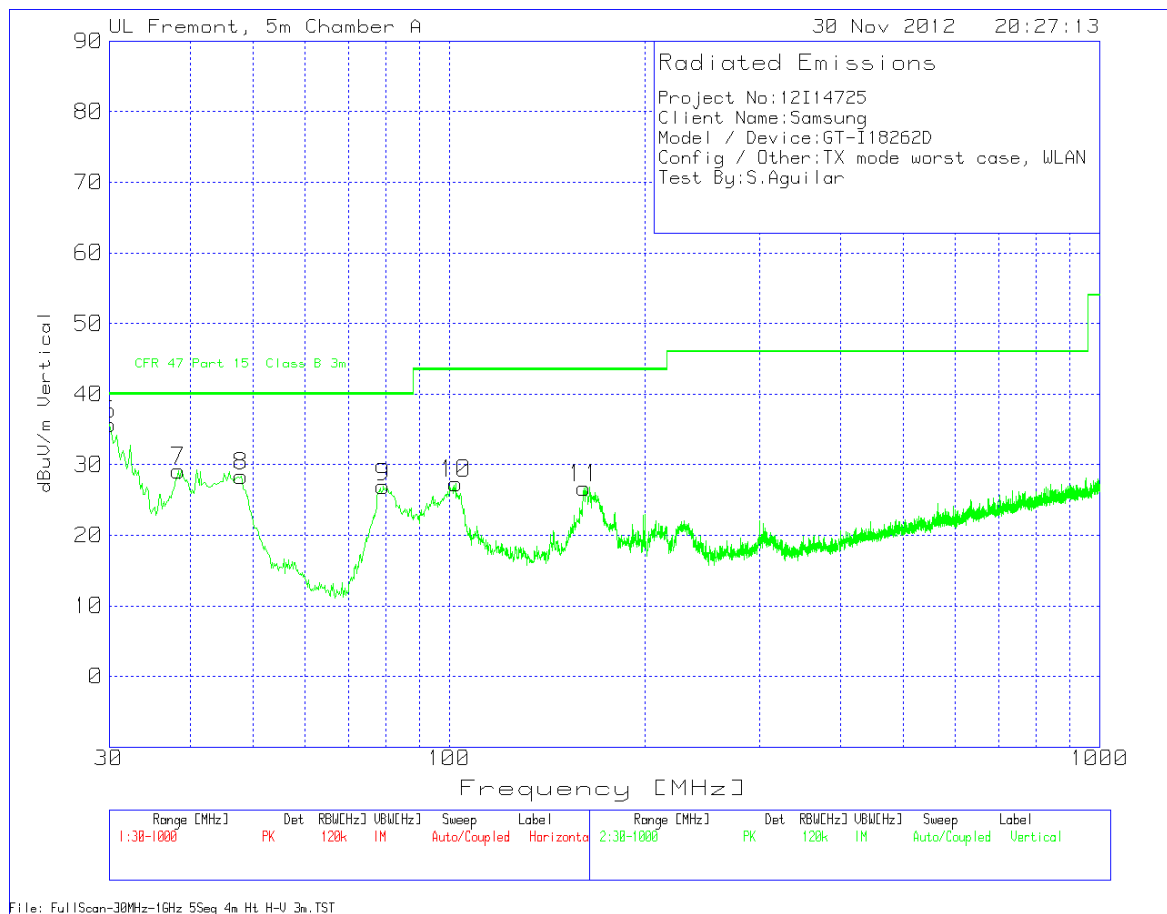
9.6. WORST-CASE BELOW 1 GHz

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



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

VERTICAL PLOT



HORIZONTAL AND VERTICAL DATA

Project No:12I14725									
Client Name:Samsung									
Model / Device:GT-I18262D									
Config / Other:TX mode worst case, WLAN									
Test By:S.Aguilar									
Test Frequency [MHz]	Meter Reading [dB(μV)]	Detector	Pre Amp Factor [dB]	Antenna Factor [dB/m]	Corrected [dB(μV/m)]	Class B limit [dB(μV/m)]	Margin [dB]	Height [cm]	Polarity
Range 1 30 - 1000MHz									
33.1015	35.14	PK	-27.6	18.9	26.44	40	-13.56	200	Horz
78.2674	42.79	PK	-27.1	7.8	23.49	40	-16.51	200	Horz
103.2734	41.71	PK	-26.9	11.1	25.91	43.5	-17.59	300	Horz
162.3961	42.4	PK	-26.5	12	27.9	43.5	-15.6	200	Horz
300.026	39.72	PK	-25.8	13.2	27.12	46	-18.88	100	Horz
Range 2 30 - 1000MHz									
30	41.93	PK	-27.5	21.3	35.73	40	-4.27	100	Vert
38.3353	41.49	PK	-27.4	15.1	29.19	40	-10.81	100	Vert
47.8337	46.72	PK	-27.3	9	28.42	40	-11.58	100	Vert
79.2366	46.29	PK	-27.1	7.7	26.89	40	-13.11	200	Vert
102.3042	43.35	PK	-26.9	10.9	27.35	43.5	-16.15	100	Vert
161.0392	41.21	PK	-26.5	12	26.71	43.5	-16.79	100	Vert

PK - Peak detector

QP - Quasi-peak detector

10. 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

6 WORST EMISSIONS

Company Name: Samsung
Project: 12I14725
Model/Device: GT-I8262D
Date: 11/30/2012
Configuraiton: EUT + Adaper + Headset : TX WLAN worst case
Test Voltage/Frequency: 120VAC / 60 Hz
Tested by: Steve Aguilar

Line-L1 .15 - 30MHz

Test Frequency [MHz]	Meter Reading [dBuV]	Detector Type	LISN [dB]	Cables [dB]	Corrected [dB(uV)]	Class B QP Limit	QP Margin	Class B Av Limit [dB(uV)]	Av Margin [dB]
0.4245	46.86	PK	0.1	0	46.96	57.4	-10.44	-	-
0.4245	34.15	Av	0.1	0	34.25	-	-	47.4	-13.15
1.7745	48.76	PK	0.1	0.1	48.96	56	-7.04	-	-
1.7745	29.99	Av	0.1	0.1	30.19	-	-	46	-15.81
3.2865	52.78	PK	0.1	0.1	52.98	56	-3.02	-	-
3.2865	35.38	Av	0.1	0.1	35.58	-	-	46	-10.42

Line-L2 .15 - 30MHz

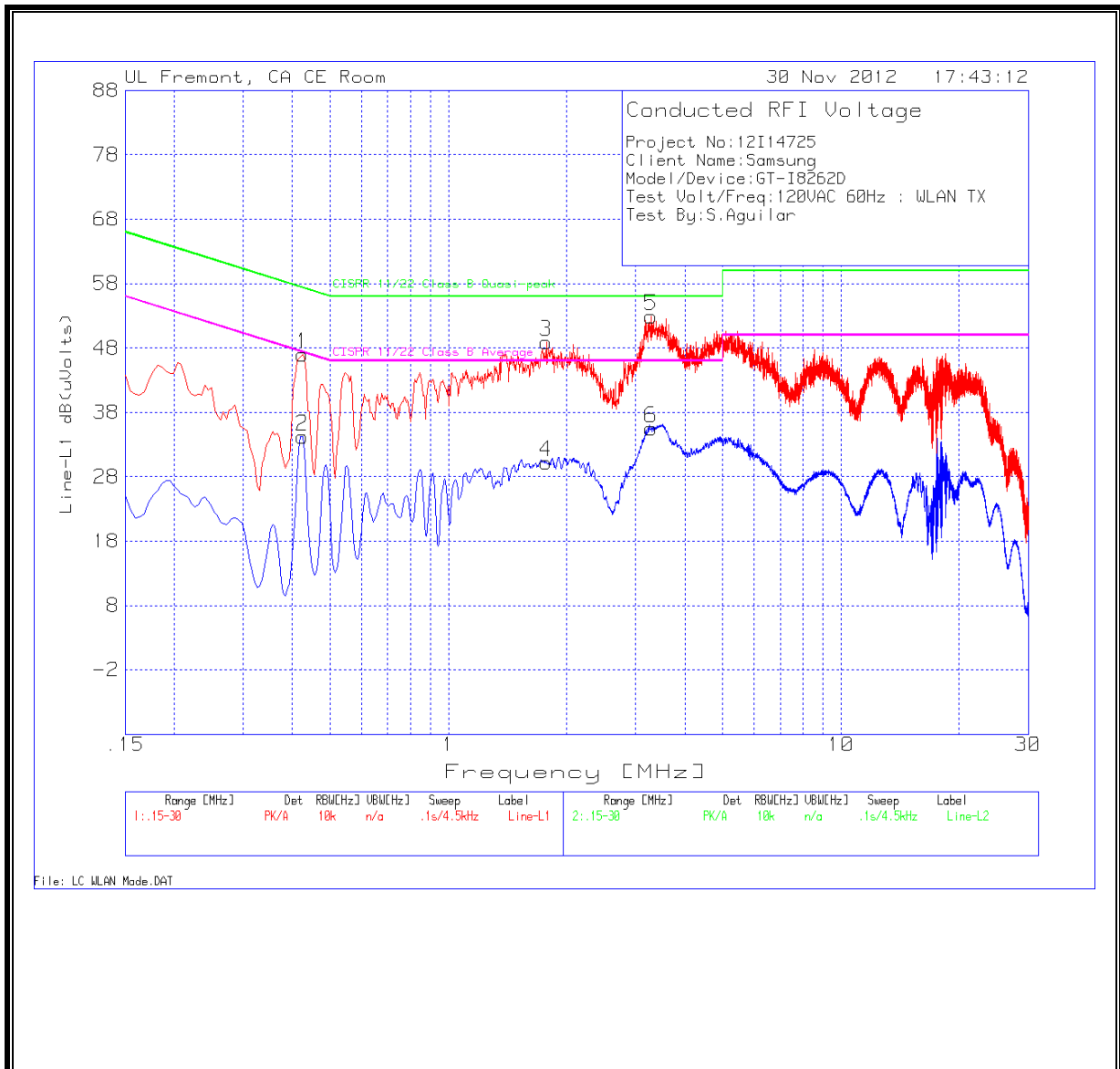
Test Frequency [MHz]	Meter Reading [dBuV]	Detector Type	LISN [dB]	Cables [dB]	Corrected [dB(uV)]	Class B QP Limit	QP Margin	Class B Av Limit [dB(uV)]	Av Margin [dB]
0.429	43.81	PK	0.1	0	43.91	57.3	-13.39	-	-
0.429	28.59	Av	0.1	0	28.69	-	-	47.3	-18.61
3.2505	50.94	PK	0.1	0.1	51.14	56	-4.86	-	-
3.2505	33.5	Av	0.1	0.1	33.7	-	-	46	-12.3
18.9915	50	PK	0.3	0.2	50.5	60	-9.5	-	-
18.9915	27.65	Av	0.3	0.2	28.15	-	-	50	-21.85

PK - Peak detector

QP - Quasi-Peak detector

Av - Average detector

LINE 1 RESULTS



LINE 2 RESULTS

