



**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

REPORT NUMBER: 12I14725-2

ISSUE DATE: DECEMBER 4, 2012

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	12/4/12	Initial Issue	T. LEE

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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)

SERIAL NUMBER: FJ-312A (RADIATED), FJ-312B (LC)
FJ-312D (ANTENNA PORT)

DATE TESTED: NOVEMBER 30TH TO DECEMBER 4TH, 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
EMC SUPERVISOR
UL CCS



STEVE AGUILAR
EMC ENGINEER
UL CCS

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, 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 Bluetooth radio.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	Basic GFSK	8.27	6.71
2402 - 2480	Enhanced 8PSK	7.35	5.43

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a PIFA 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.

5.6. 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

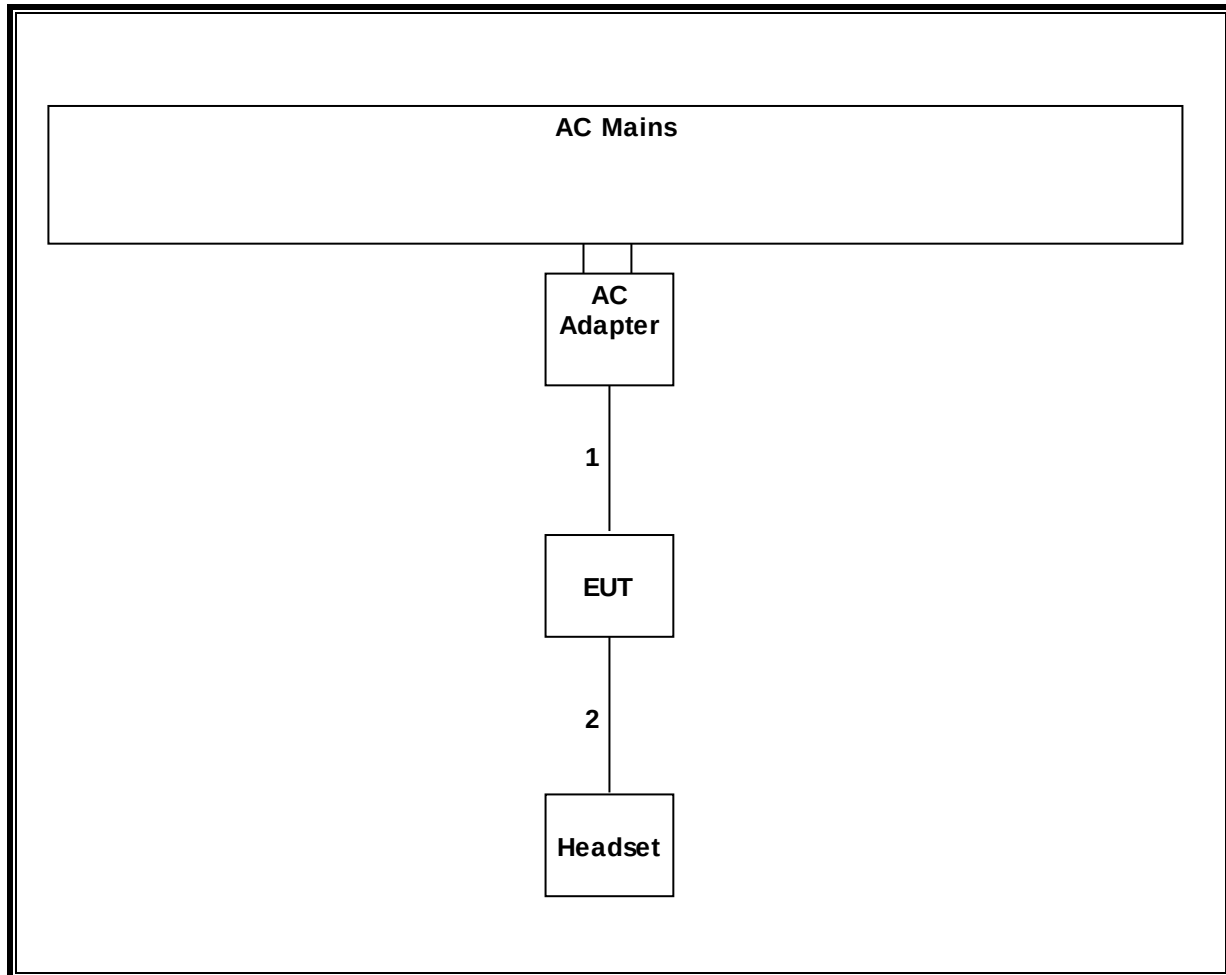
I/O CABLES

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
Power Meter	Agilent / HP	N1911A	MY45100242	7/27/2012	7/27/2013
Power Sensor	Agilent / HP	E9323A	US40411556	7/26/2012	7/26/2013
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/15/2011	12/15/2012
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01161	12/16/2011	12/16/2012
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	A012712	2/7/2012	2/7/2013
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00885	12/20/2011	12/30/2013
Antenna, Horn, 18 GHz	EMCO	3115	C00945	11/12/2012	11/12/2013
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	10/22/2012	10/22/2013
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C00986	3/22/2012	3/22/2013
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01063	10/22/2012	10/22/2013
Antenna, Horn, 18 GHz	EMCO	3115	C00783	10/25/2012	10/25/2013
Antenna, Horn, 26.5 GHz	ARA	SWH-28	C01015	4/23/2012	4/23/2013
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	12/30/2011	12/30/2012
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	C01011	3/23/2012	3/23/2013
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	8/8/2012	8/8/2013
LISN, 30 MHz	FCC	50/250-25-2	C00626	12/13/2011	12/13/2012
CBT Bluetooth Tester	R & S	CBT	10090	5/15/2012	5/15/2013

7. ANTENNA PORT TEST RESULTS

7.1. BASIC DATA RATE GFSK MODULATION

7.1.1. 20 dB AND 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

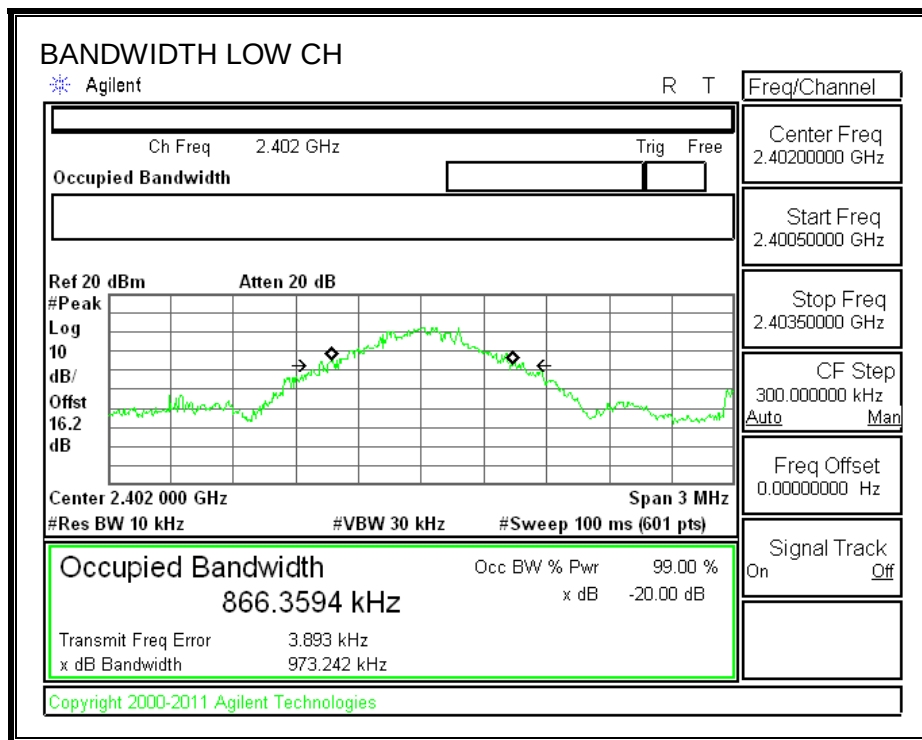
TEST PROCEDURE

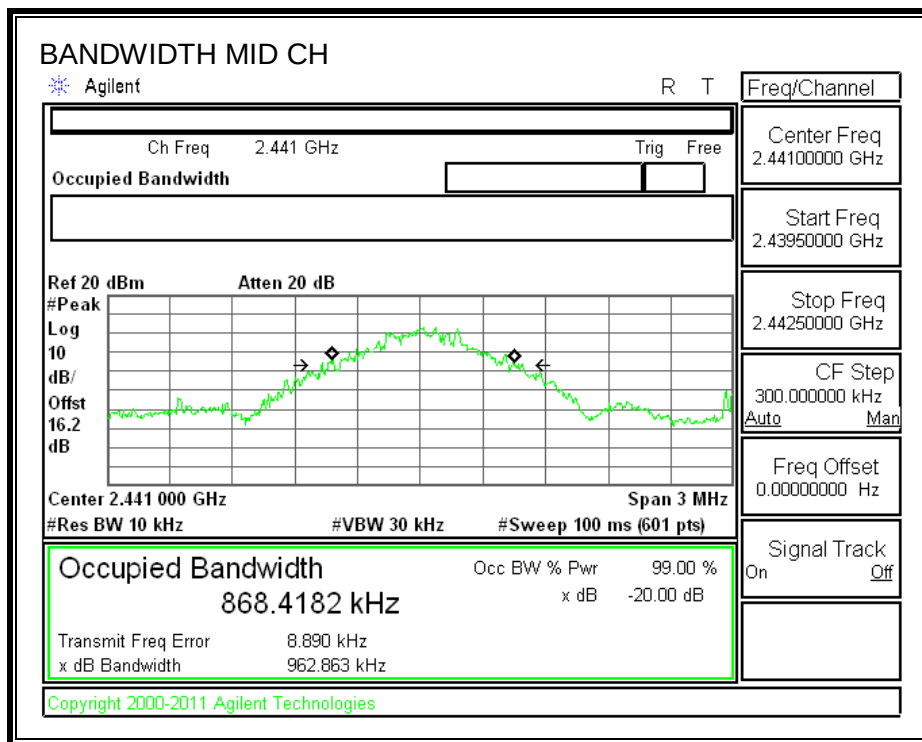
The transmitter output is connected to a spectrum analyzer. The RBW is set to $\geq 1\%$ of the 20 dB bandwidth. The VBW is set to $\geq$ RBW. The sweep time is coupled.

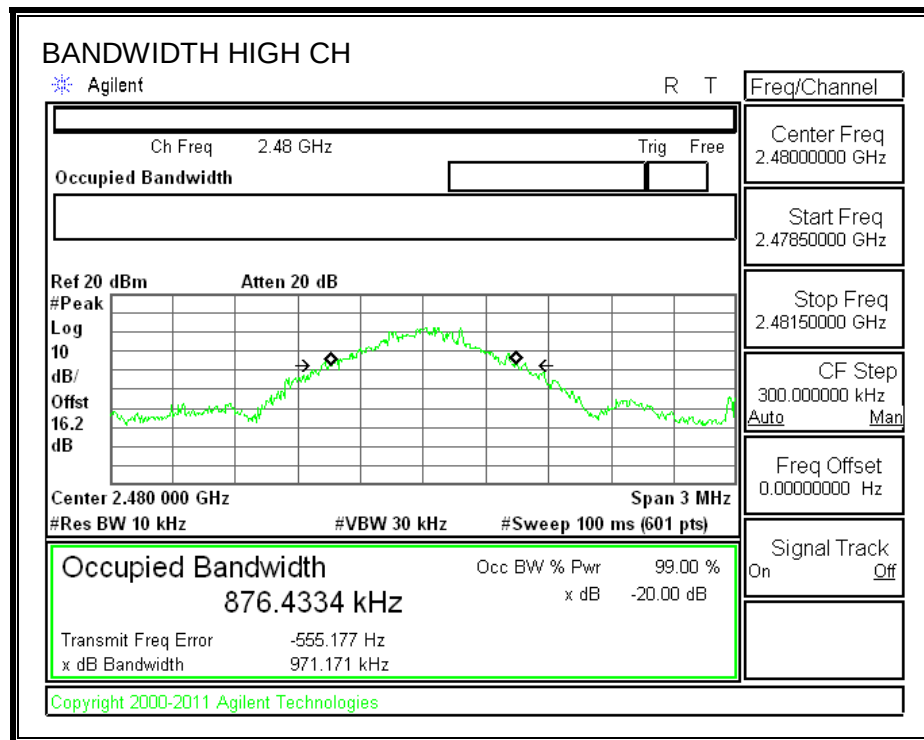
RESULTS

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	99% Bandwidth (kHz)
Low	2402	973.242	893.2408
Middle	2441	962.863	871.0056
High	2480	971.171	844.2791

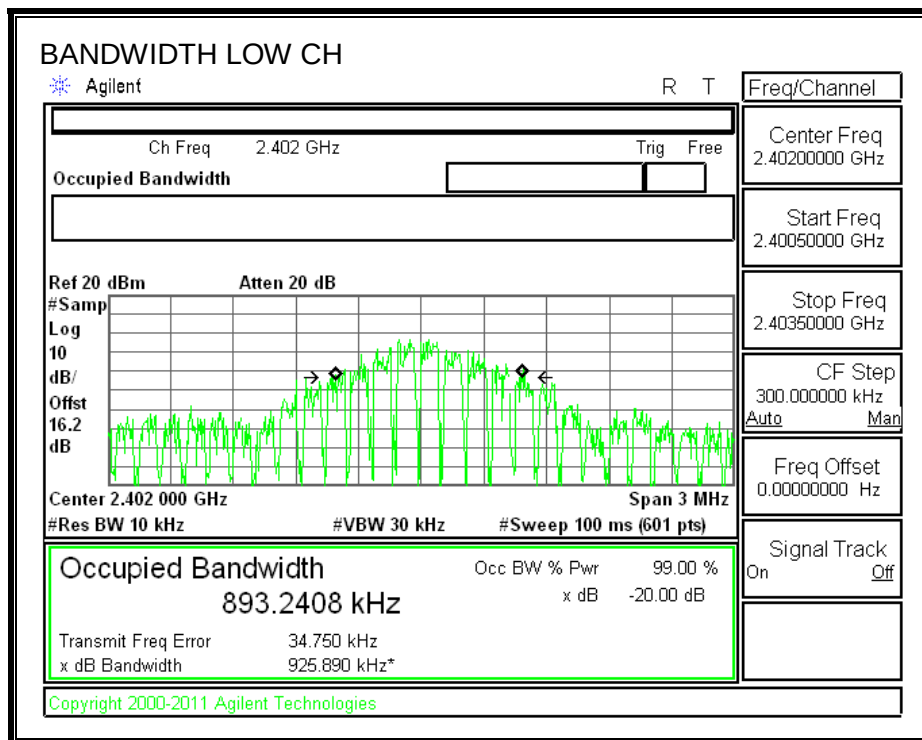
20 dB BANDWIDTH

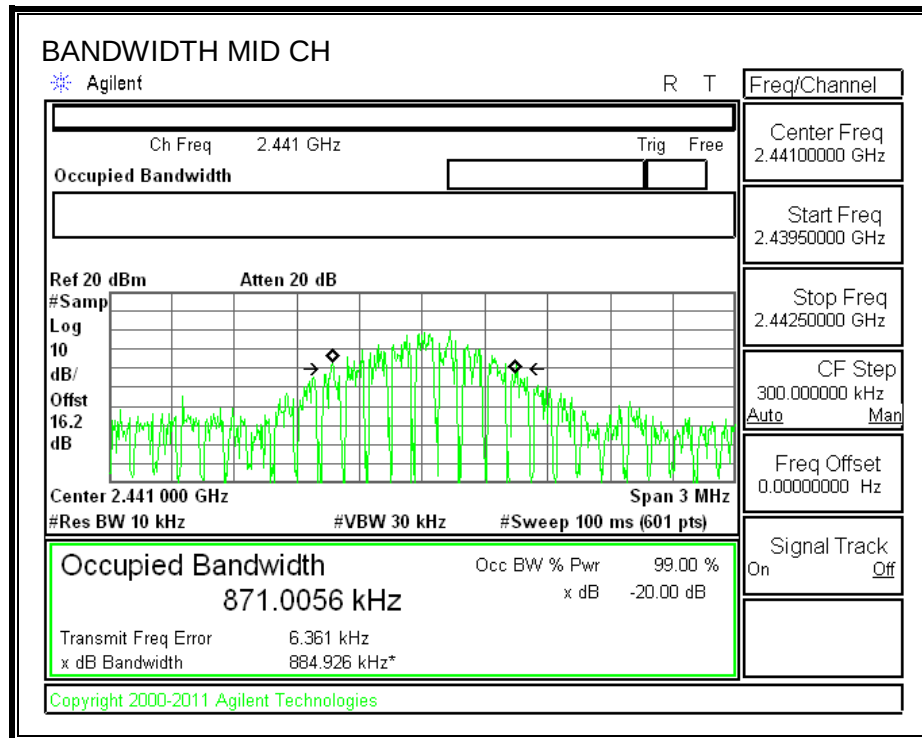


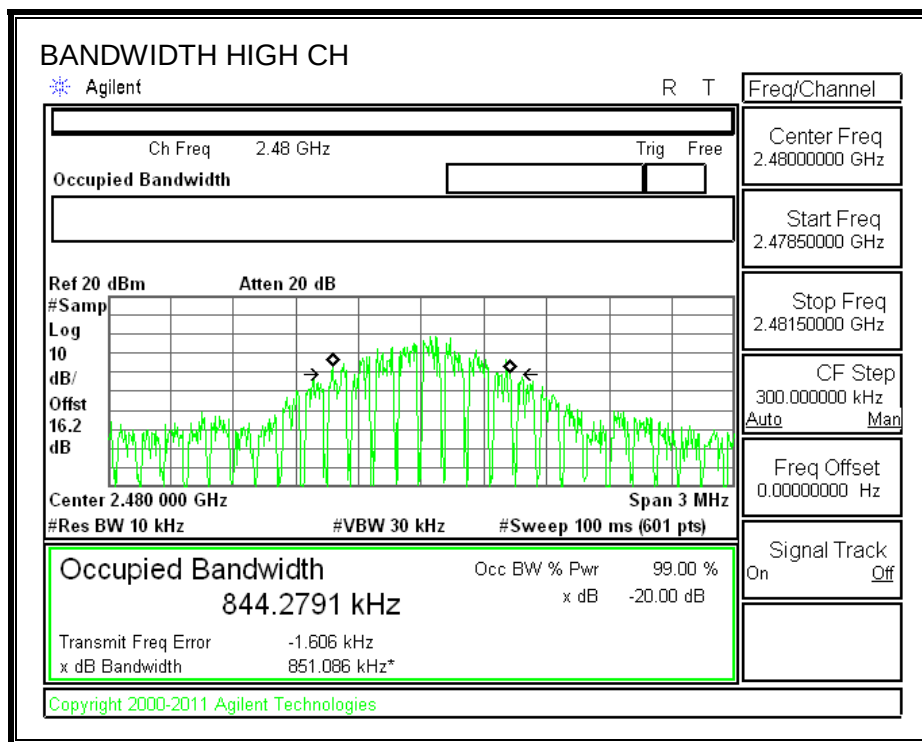




99% BANDWIDTH







7.1.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

IC RSS-210 A8.1 (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

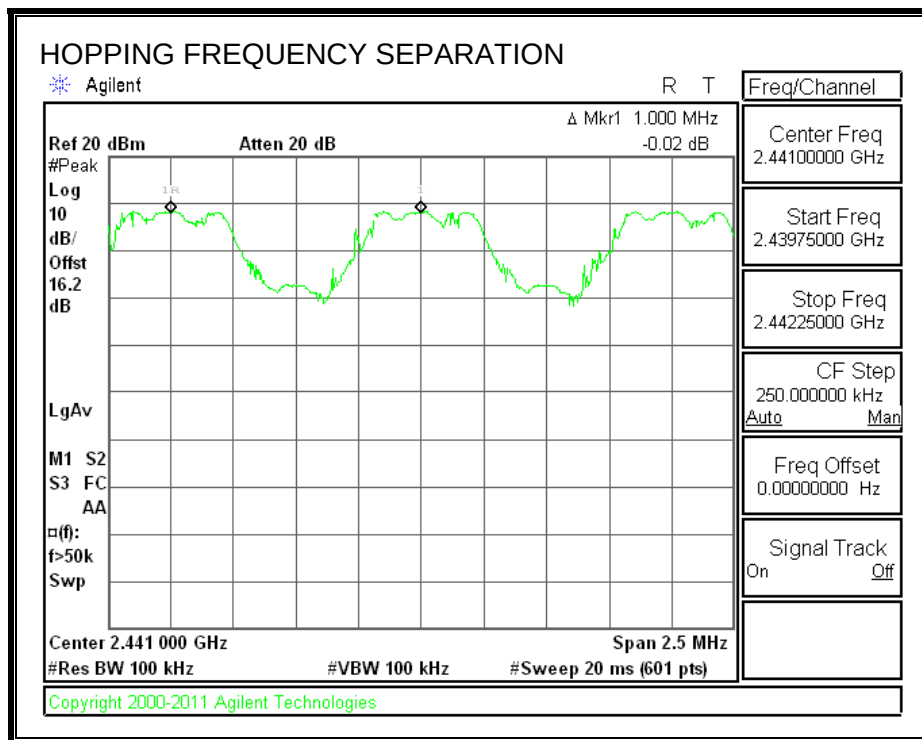
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 100 kHz. The sweep time is coupled.

RESULTS

HOPPING FREQUENCY SEPARATION



7.1.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

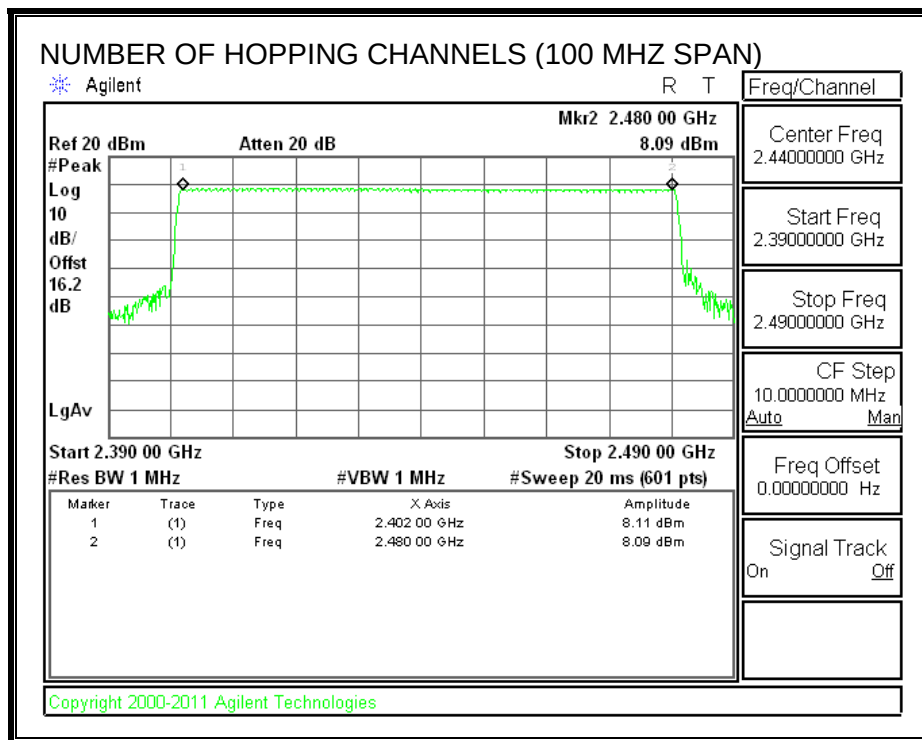
TEST PROCEDURE

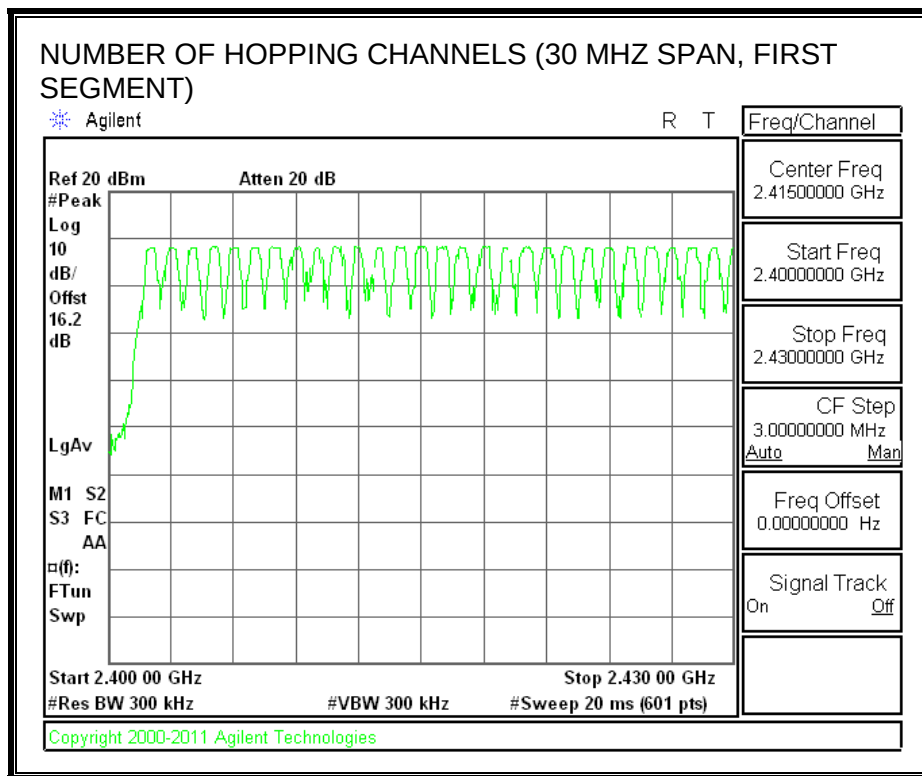
The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

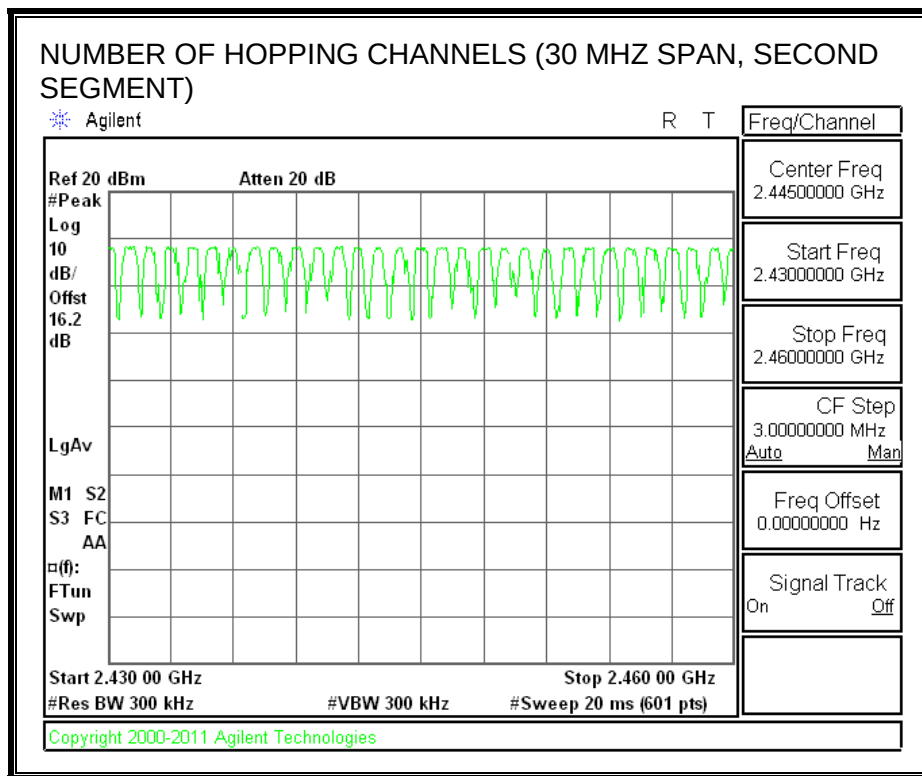
RESULTS

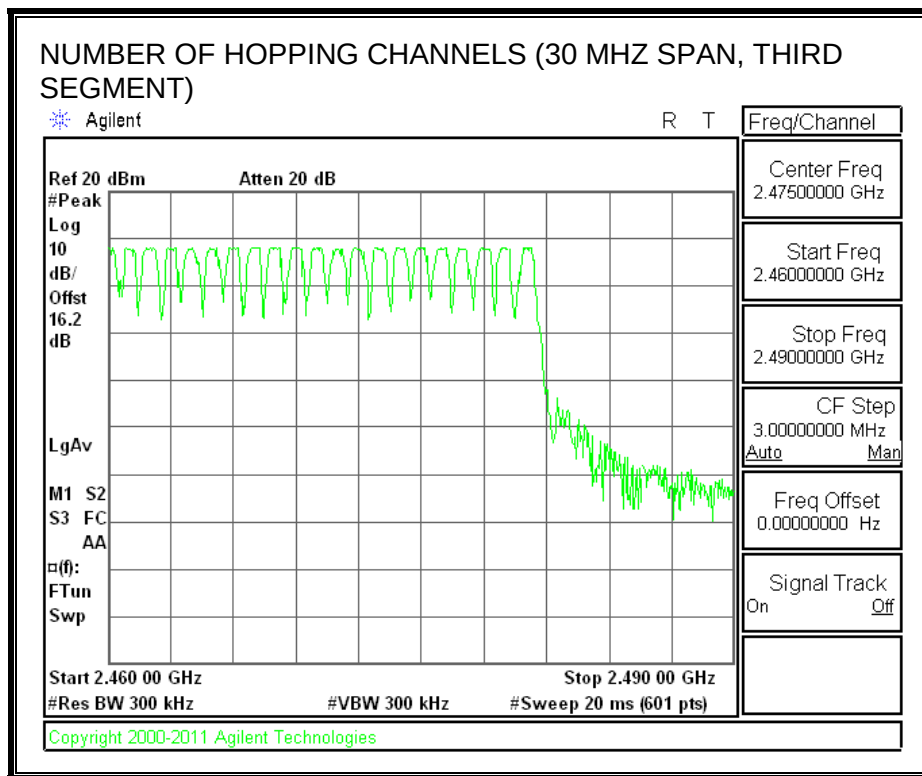
Normal Mode: 79 Channels observed.

NUMBER OF HOPPING CHANNELS









7.1.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 3.16 second scan, to enable resolution of each occurrence.

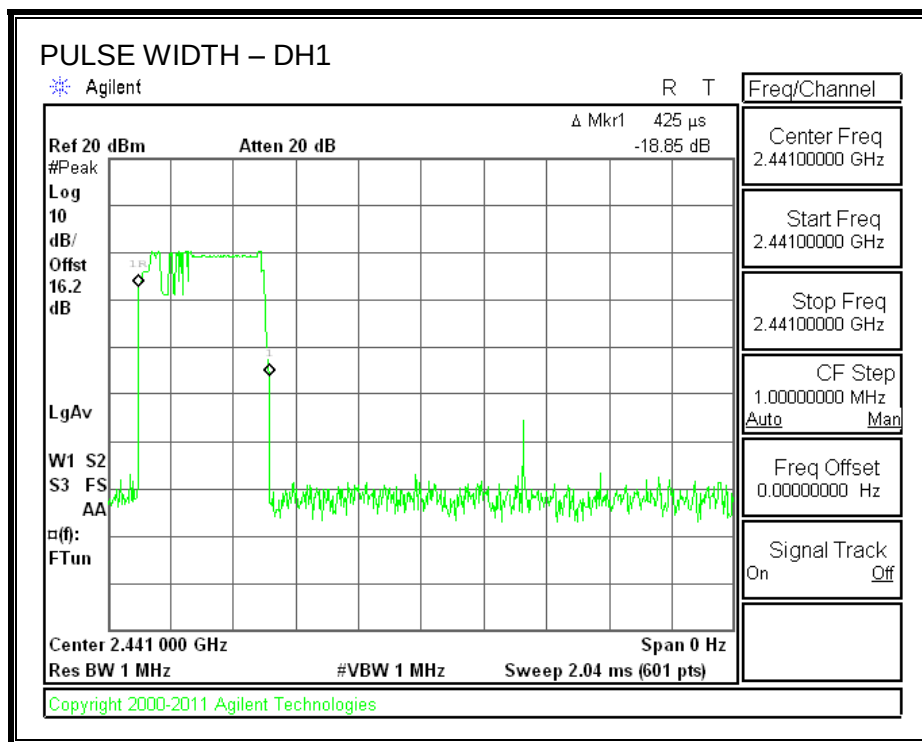
The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to $10 * (\# \text{ of pulses in } 3.16 \text{ s}) * \text{pulse width}$.

For AFH mode, the average time of occupancy in the specified 8 second period (20 channels * 0.4 seconds) is equal to $10 * (\# \text{ of pulses in } 0.8 \text{ s}) * \text{pulse width}$.

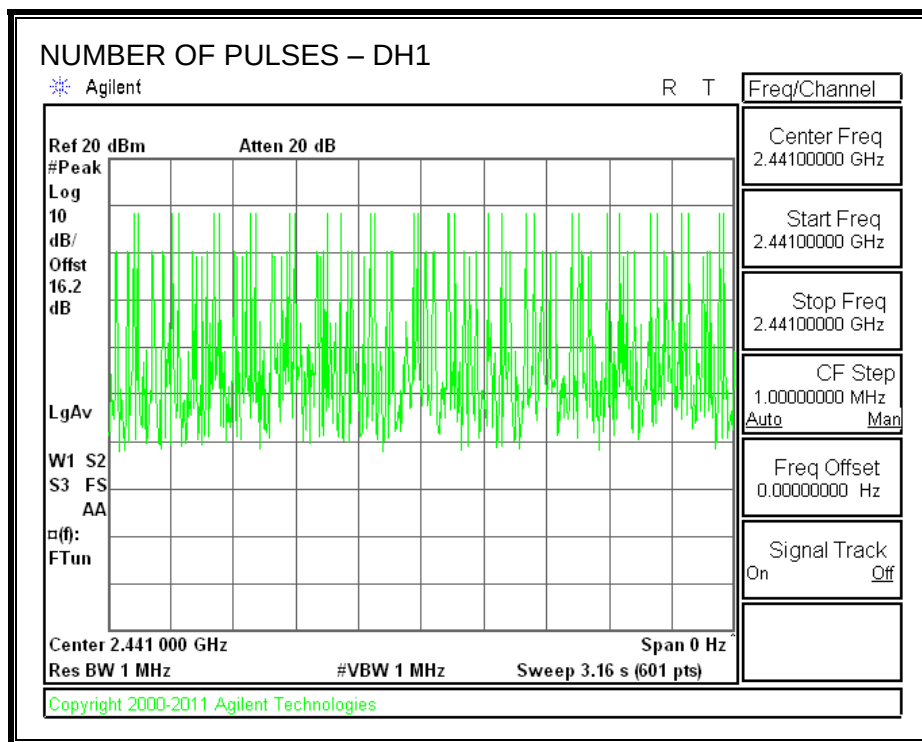
RESULTS

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	0.425	32	0.136	0.4	-0.264
DH3	1.667	17	0.283	0.4	-0.117
DH5	2.92	11	0.321	0.4	-0.079

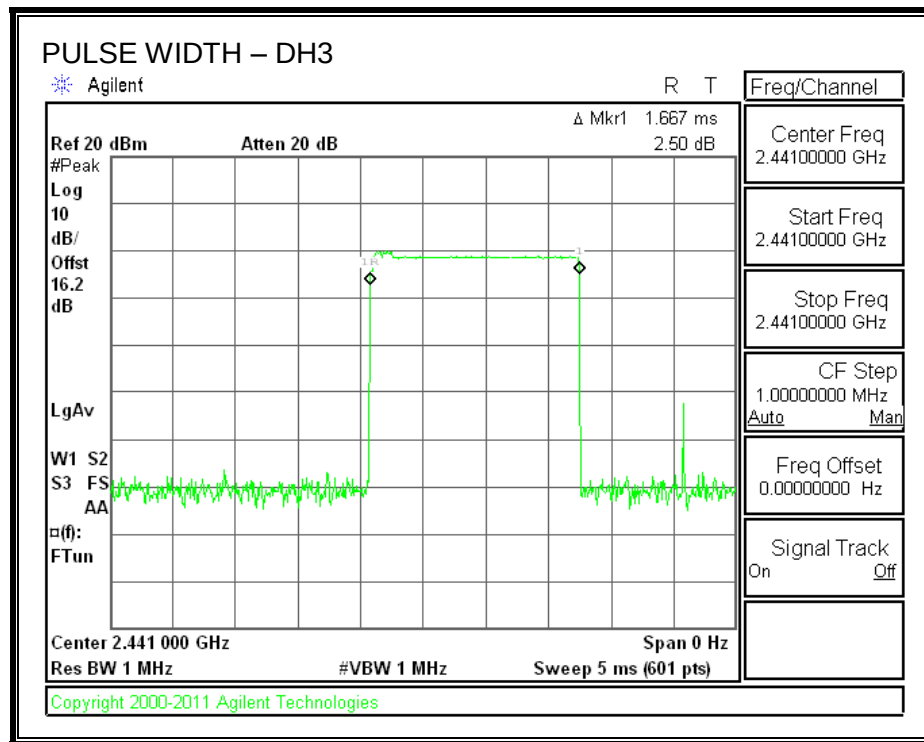
PULSE WIDTH - DH1



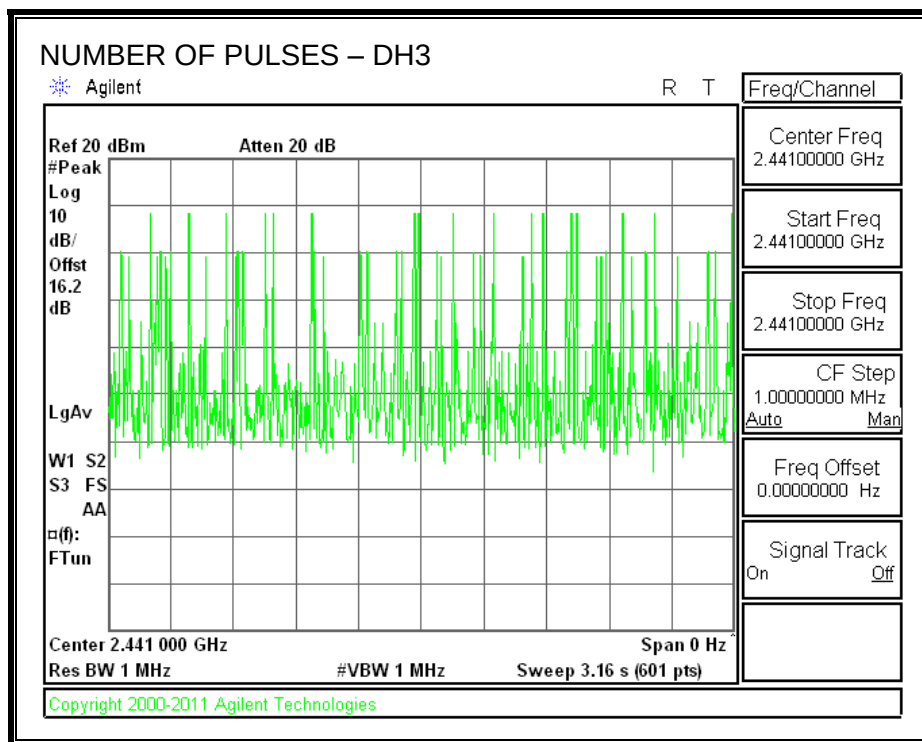
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



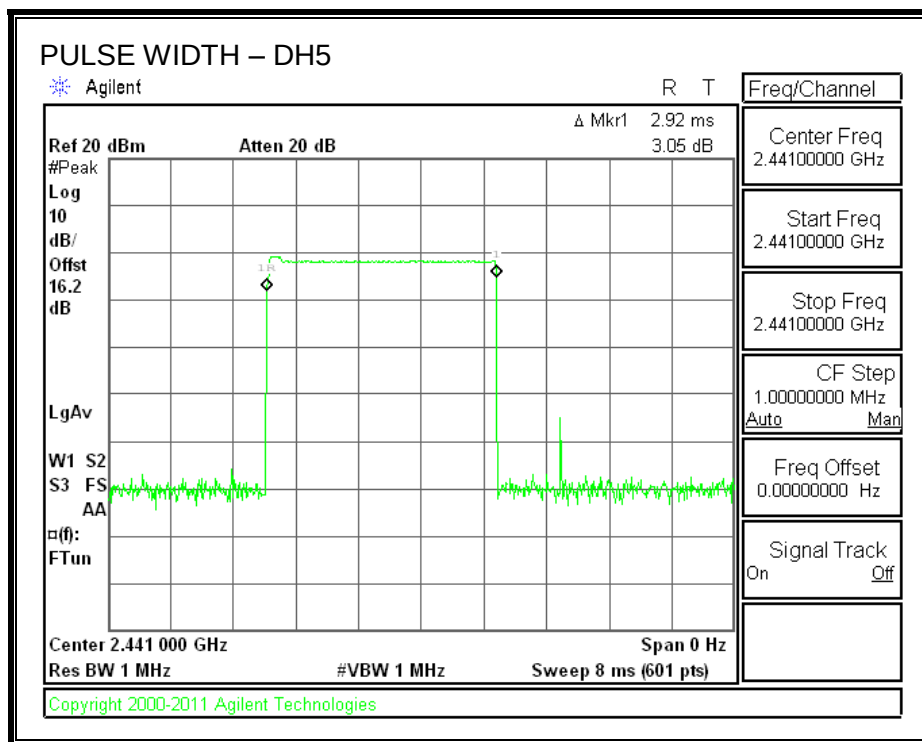
PULSE WIDTH – DH3



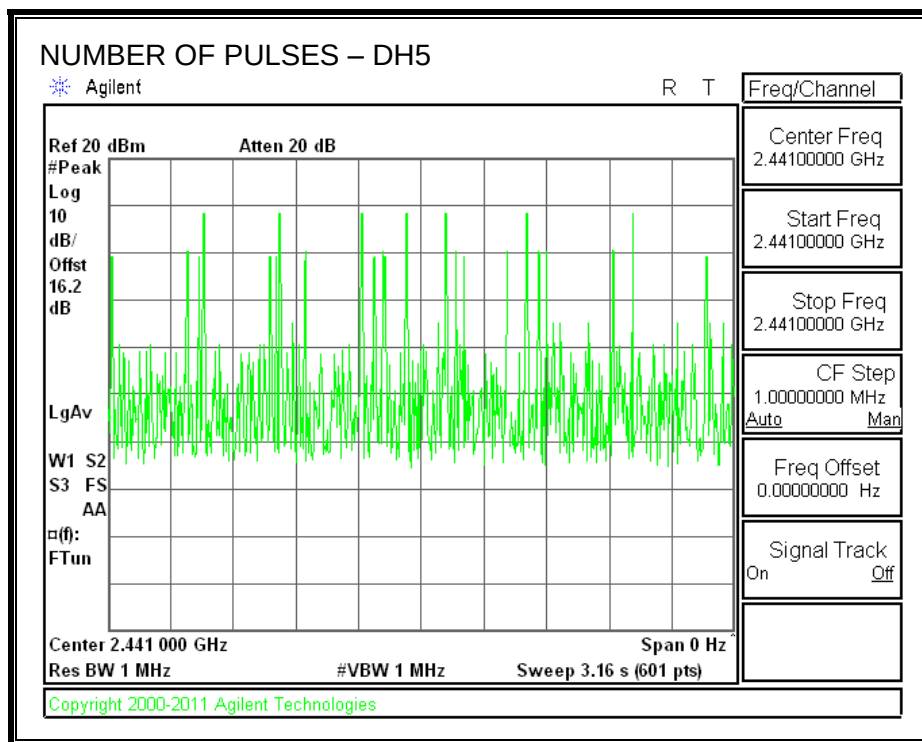
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5



7.1.5. OUTPUT POWER

LIMIT

§15.247 (b) (1)

RSS-210 Issue 7 Clause A8.4

The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm.

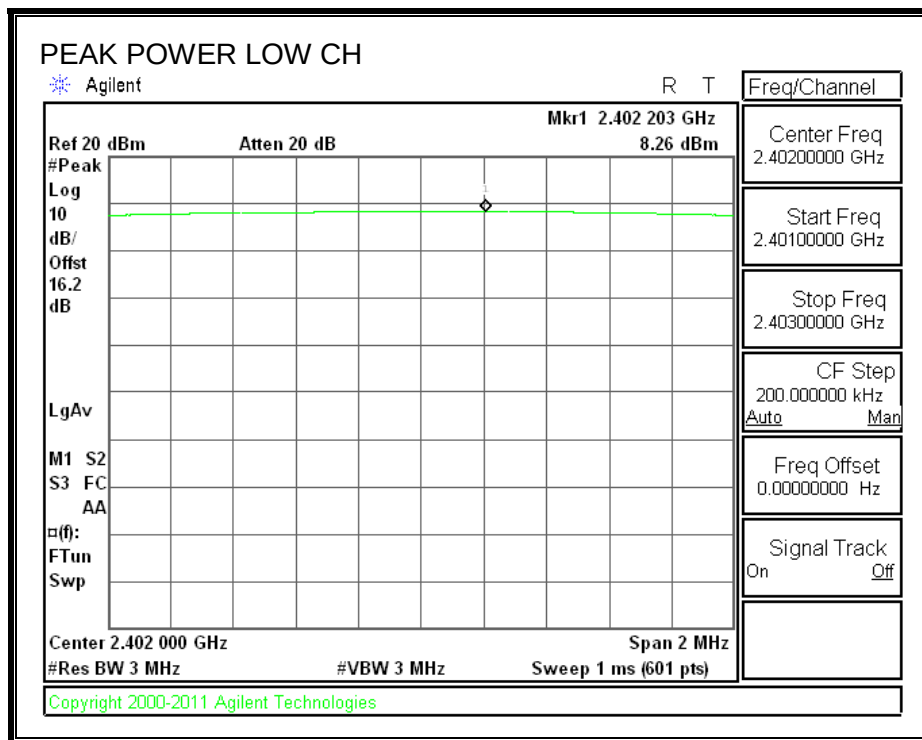
TEST PROCEDURE

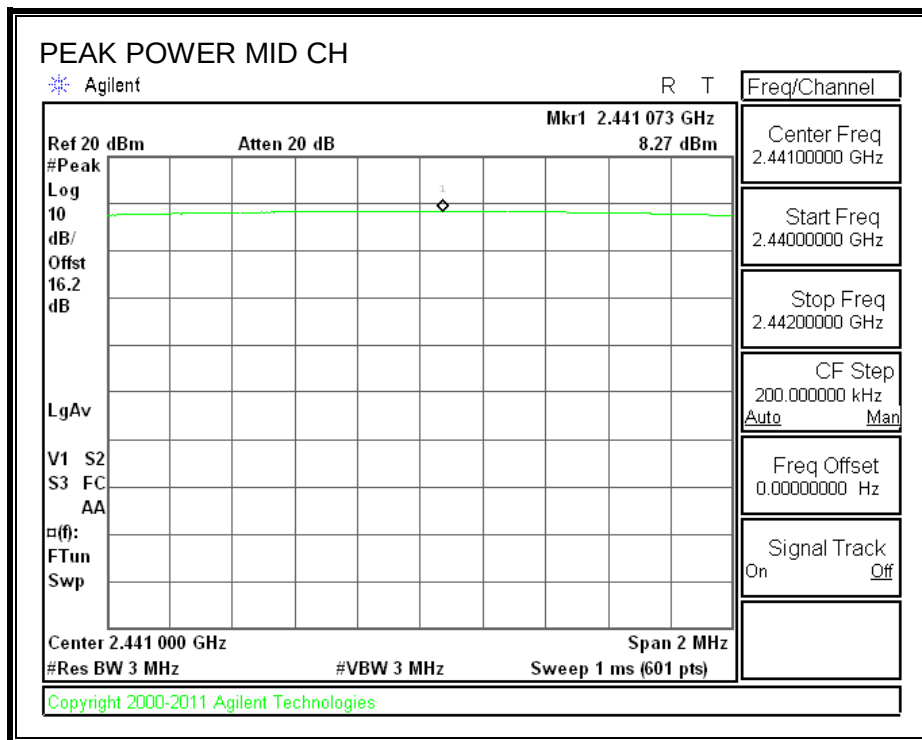
The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

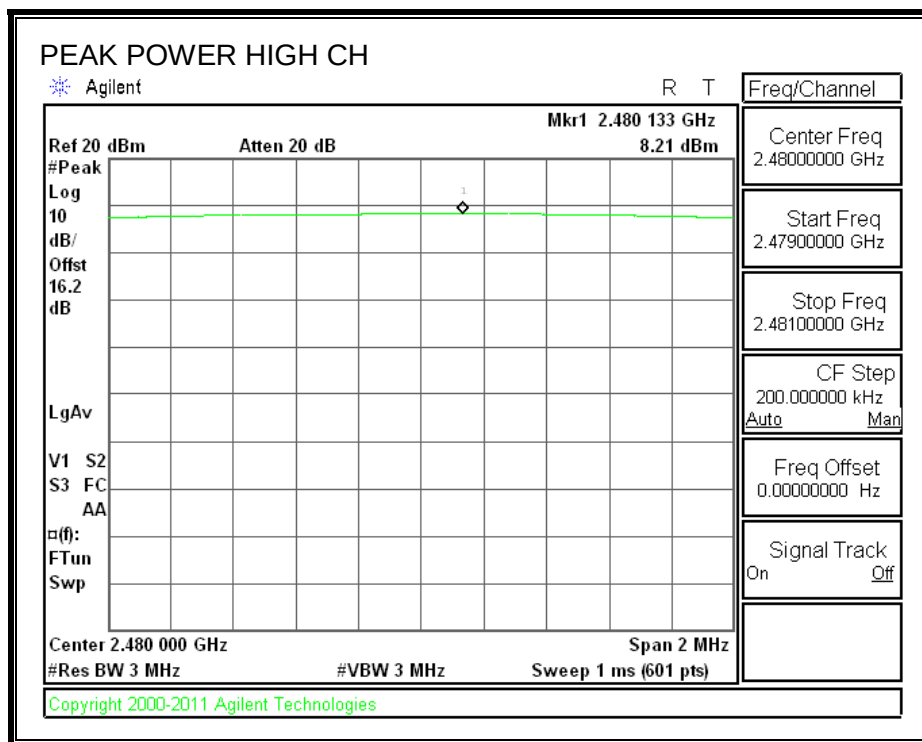
RESULTS

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	8.26	30	-21.74
Middle	2441	8.27	30	-21.73
High	2480	8.21	30	-21.79

OUTPUT POWER







7.1.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 16.2 dB (including 15.5 dB pad and 0.7dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	7.94
Middle	2441	8.04
High	2480	7.98

7.1.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

Limit = -20 dBc

TEST PROCEDURE

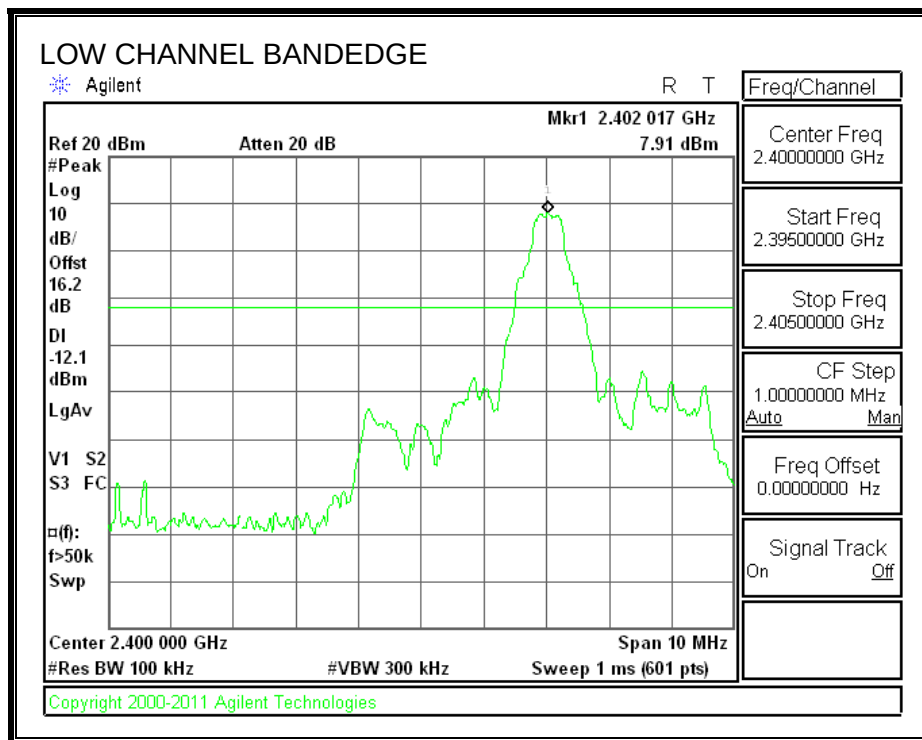
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

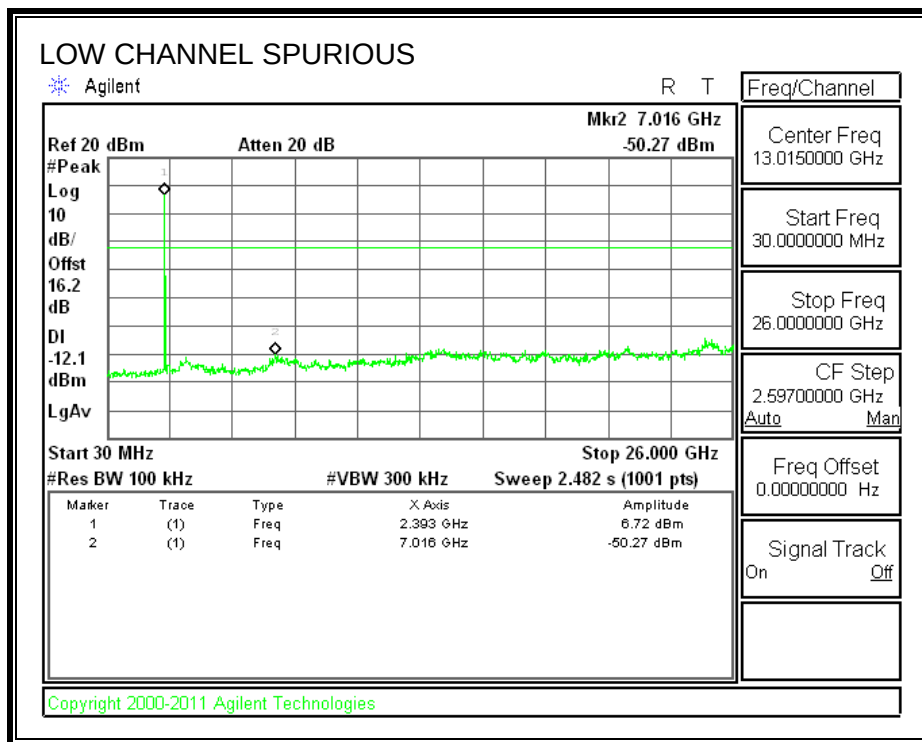
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

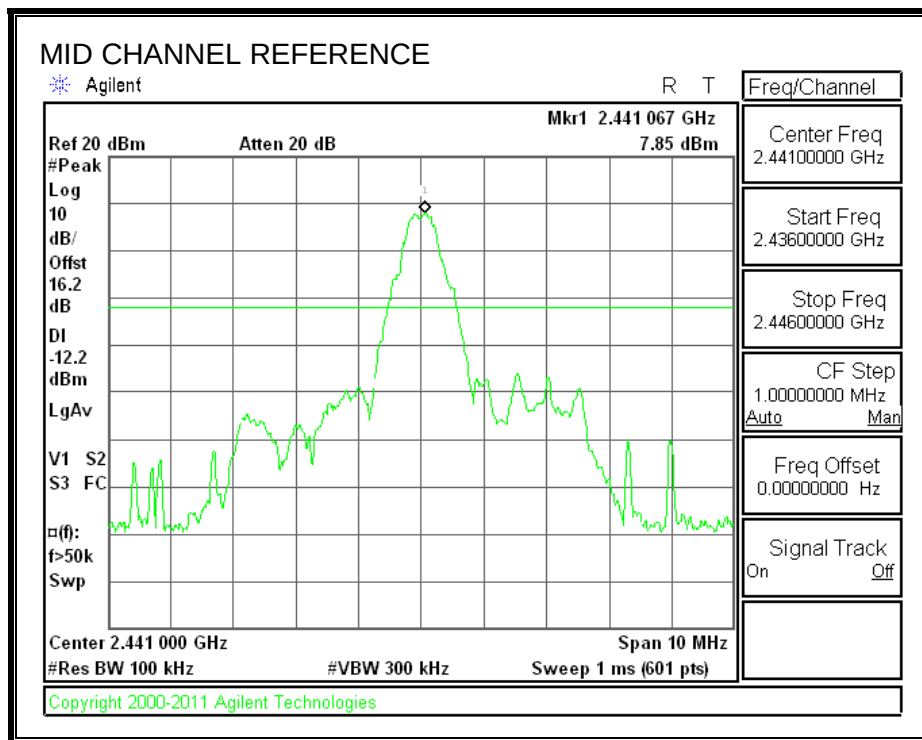
RESULTS

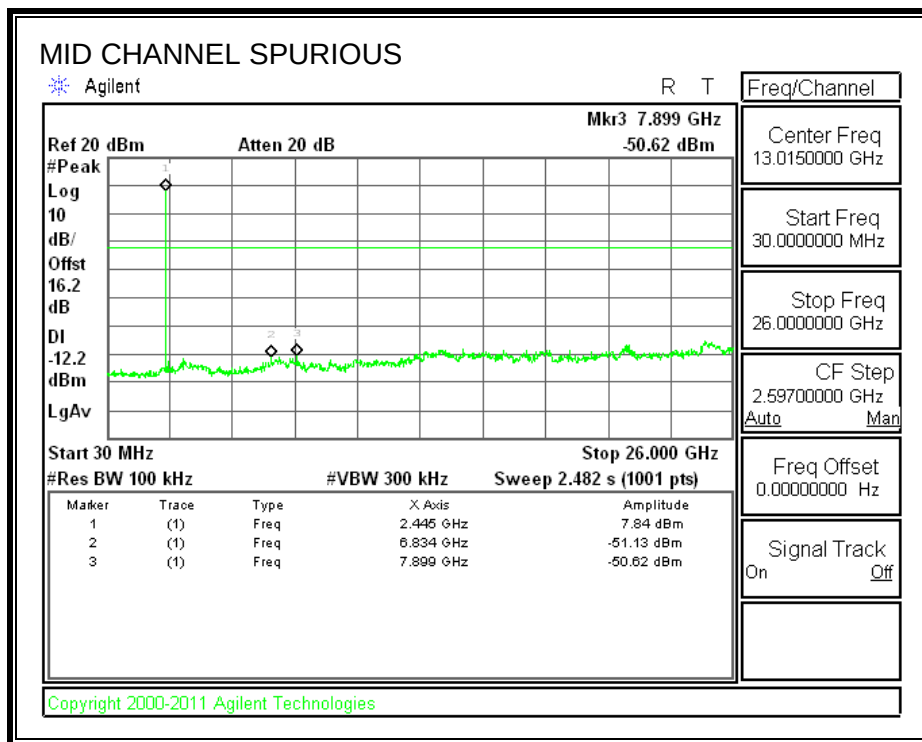
SPURIOUS EMISSIONS, LOW CHANNEL



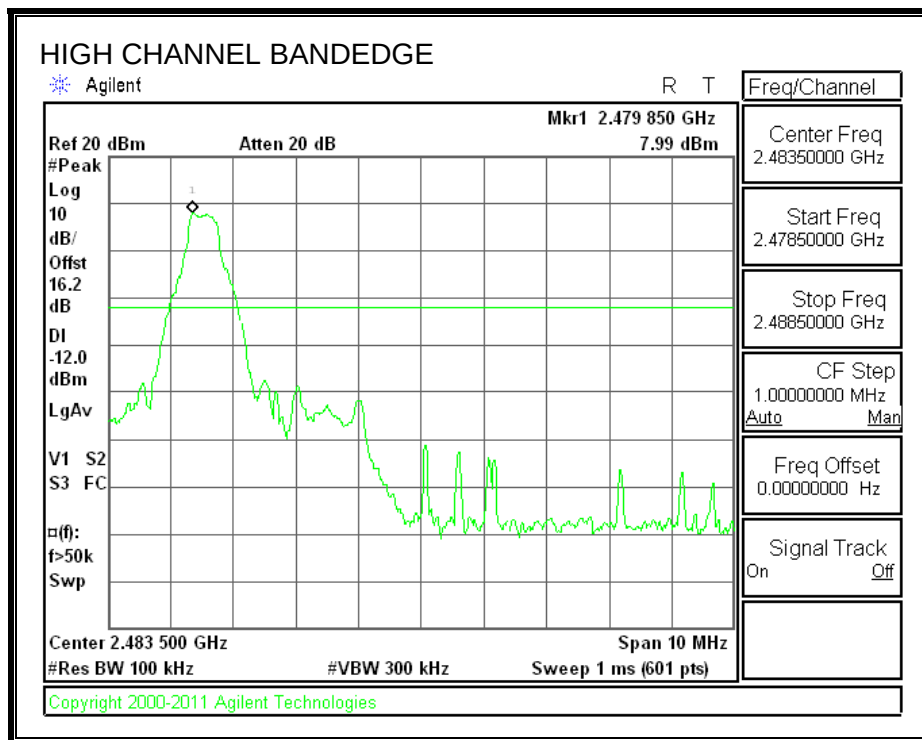


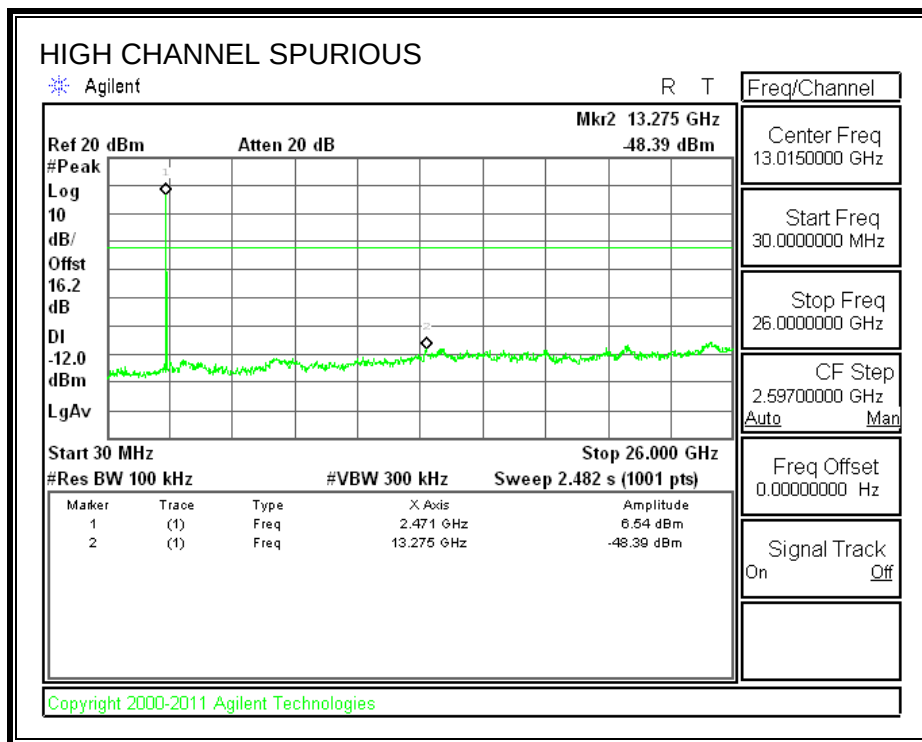
SPURIOUS EMISSIONS, MID CHANNEL



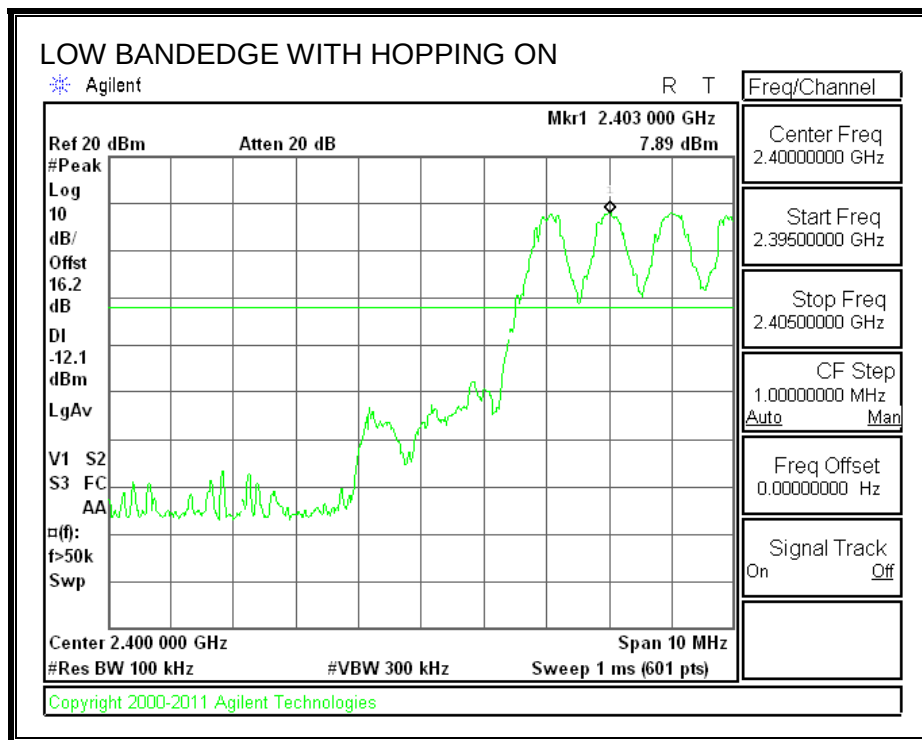


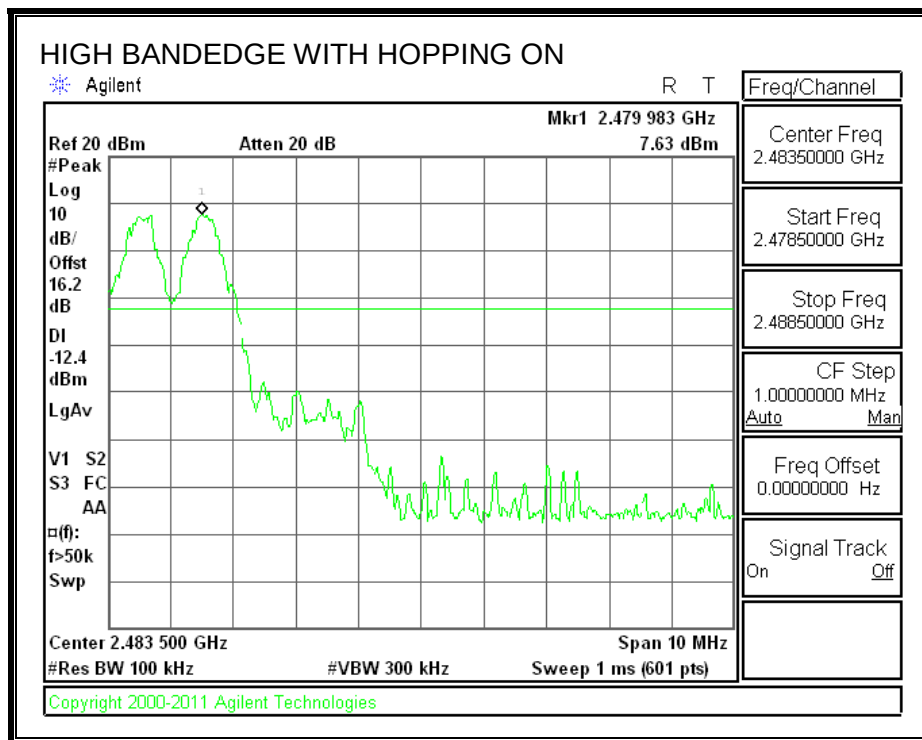
SPURIOUS EMISSIONS, HIGH CHANNEL





SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON





7.2. ENHANCED DATA RATE 8PSK MODULATION

7.2.1. 20 dB AND 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

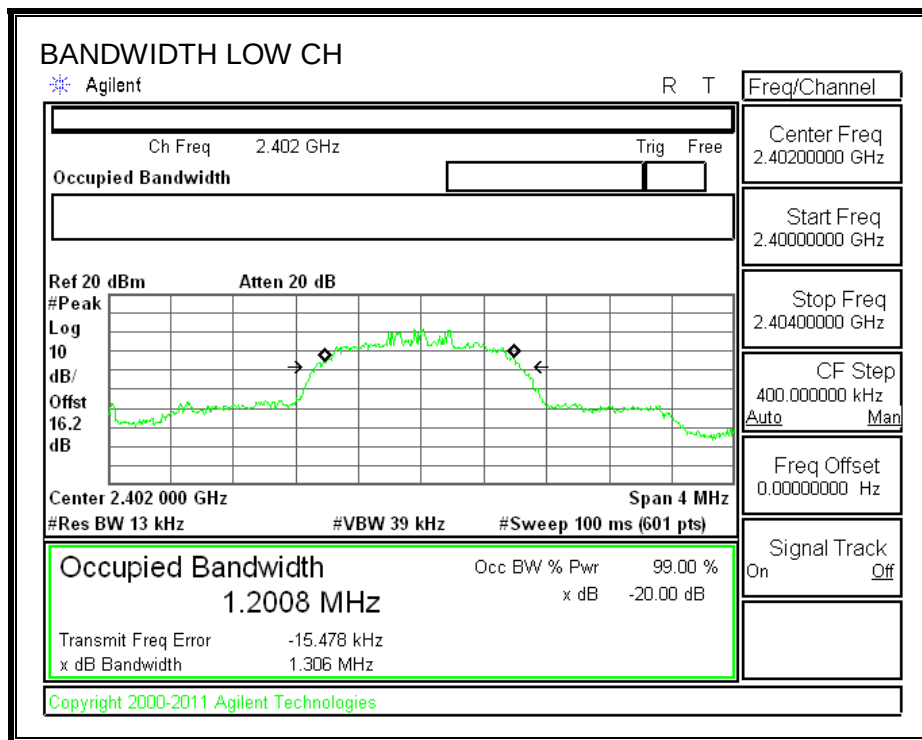
TEST PROCEDURE

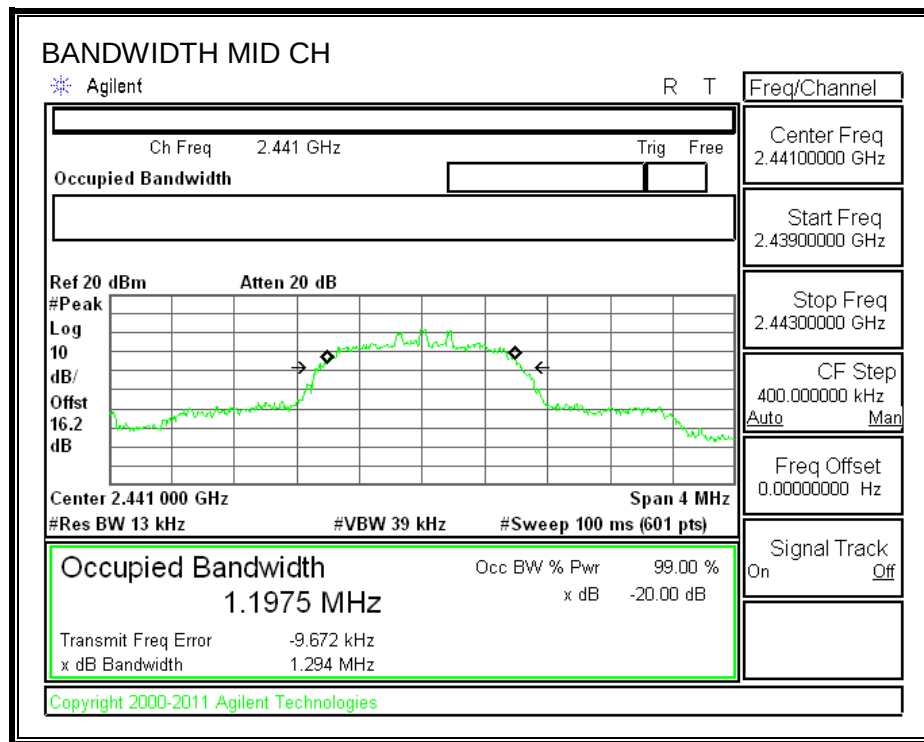
The transmitter output is connected to a spectrum analyzer. The RBW is set to $\geq 1\%$ of the 20 dB bandwidth. The VBW is set to $\geq$ RBW. The sweep time is coupled.

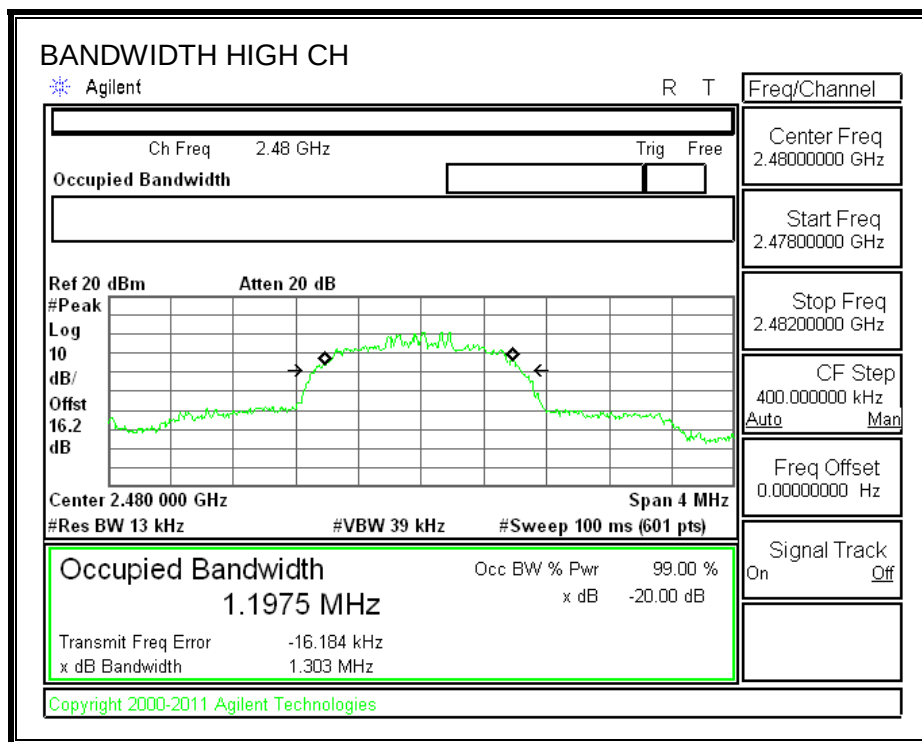
RESULTS

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	99% Bandwidth (kHz)
Low	2402	1306.0	1222.2
Middle	2441	1294.0	1250.1
High	2480	1303.0	1153.1

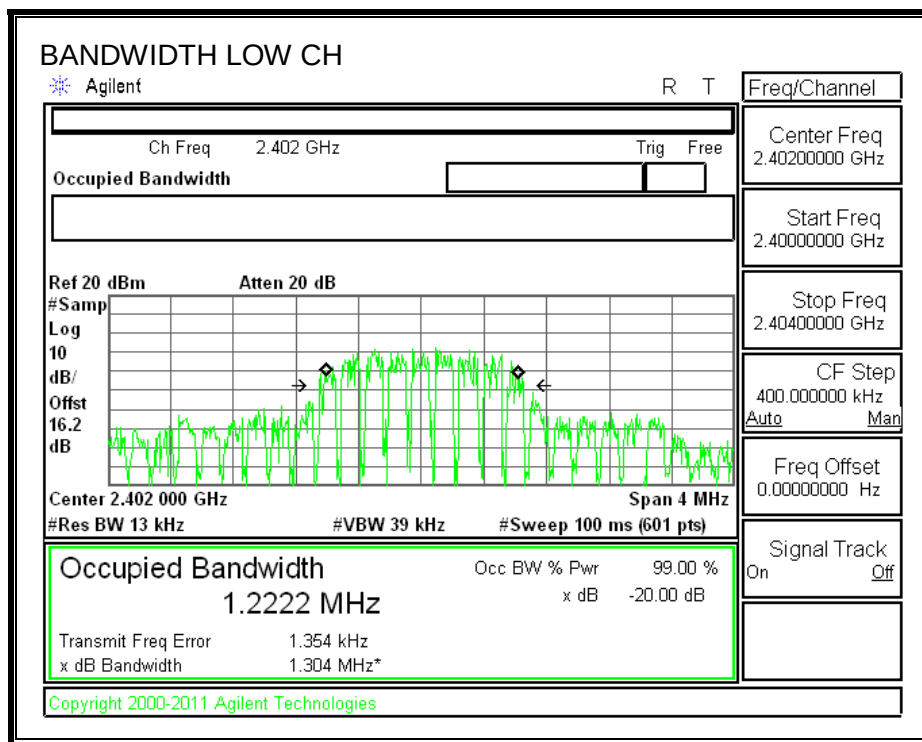
20 dB BANDWIDTH

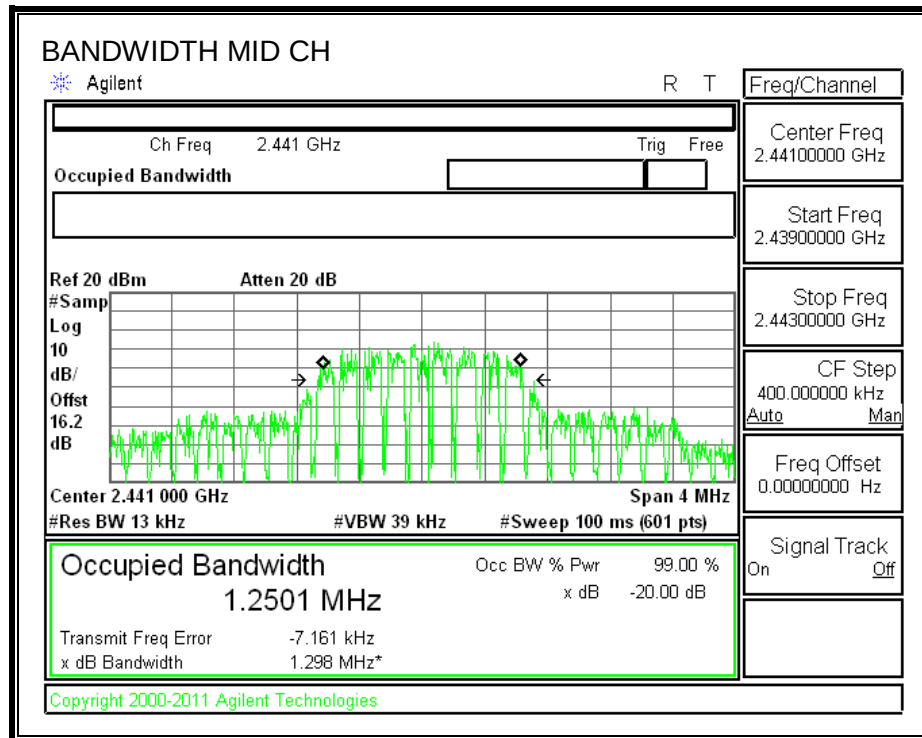


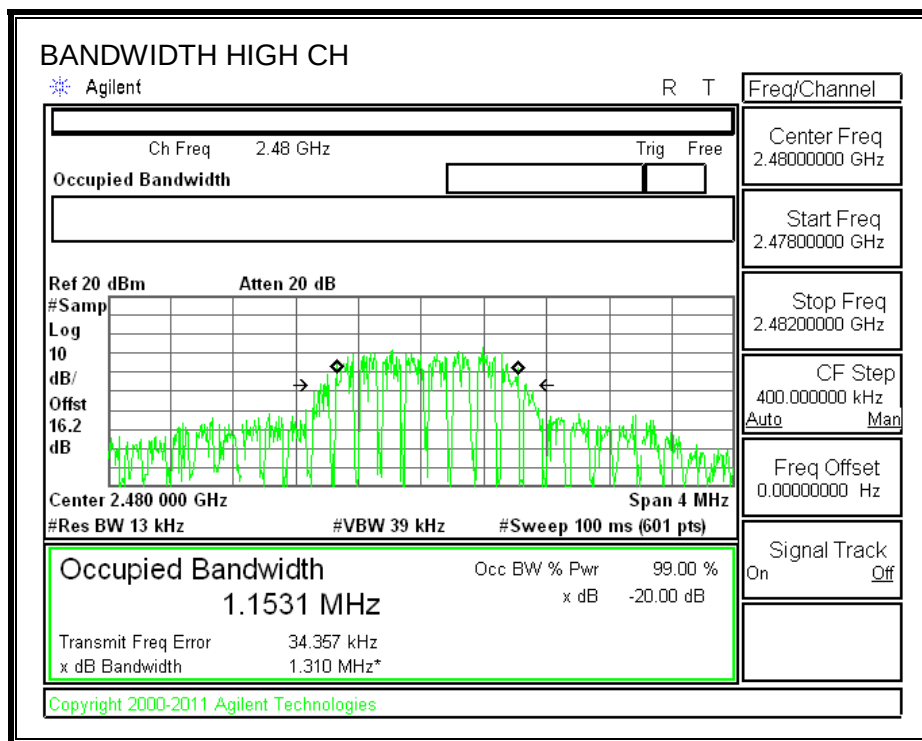




99% BANDWIDTH







7.2.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

IC RSS-210 A8.1 (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

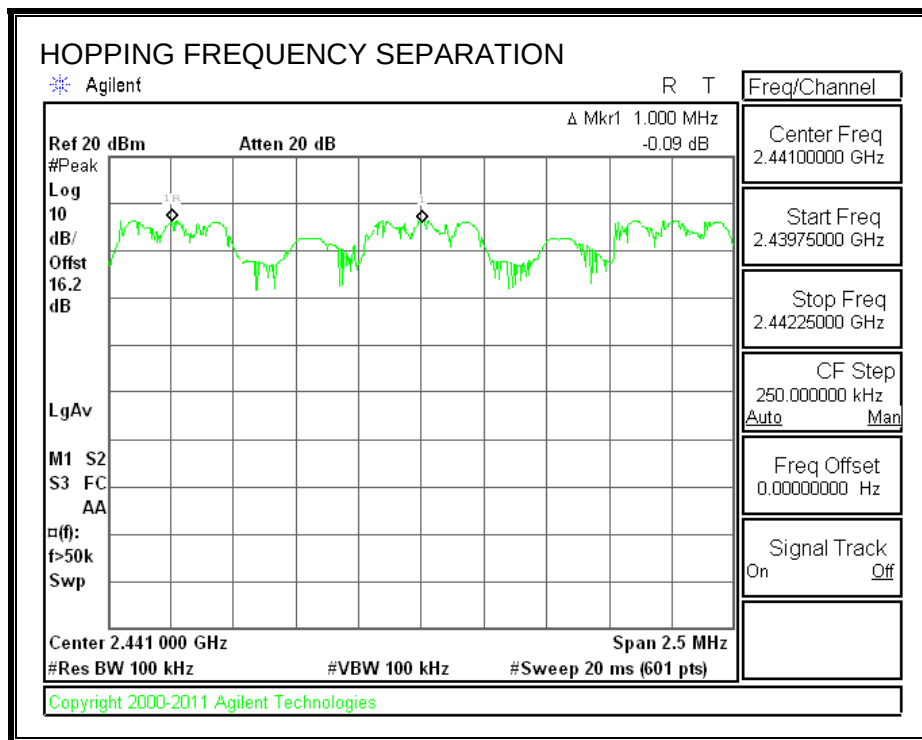
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 100 kHz. The sweep time is coupled.

RESULTS

HOPPING FREQUENCY SEPARATION



7.2.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

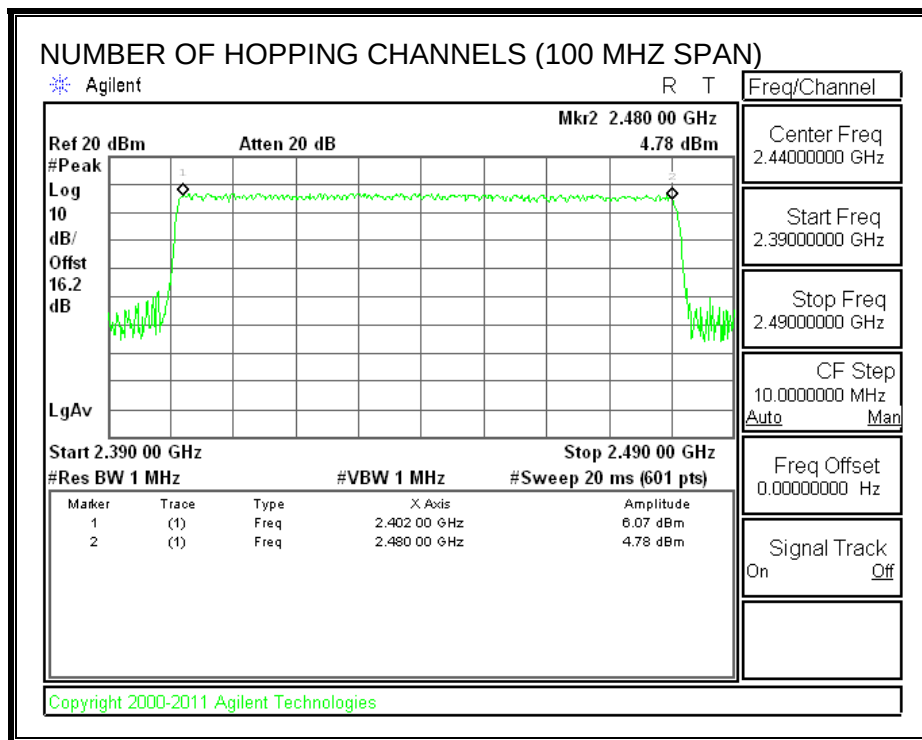
TEST PROCEDURE

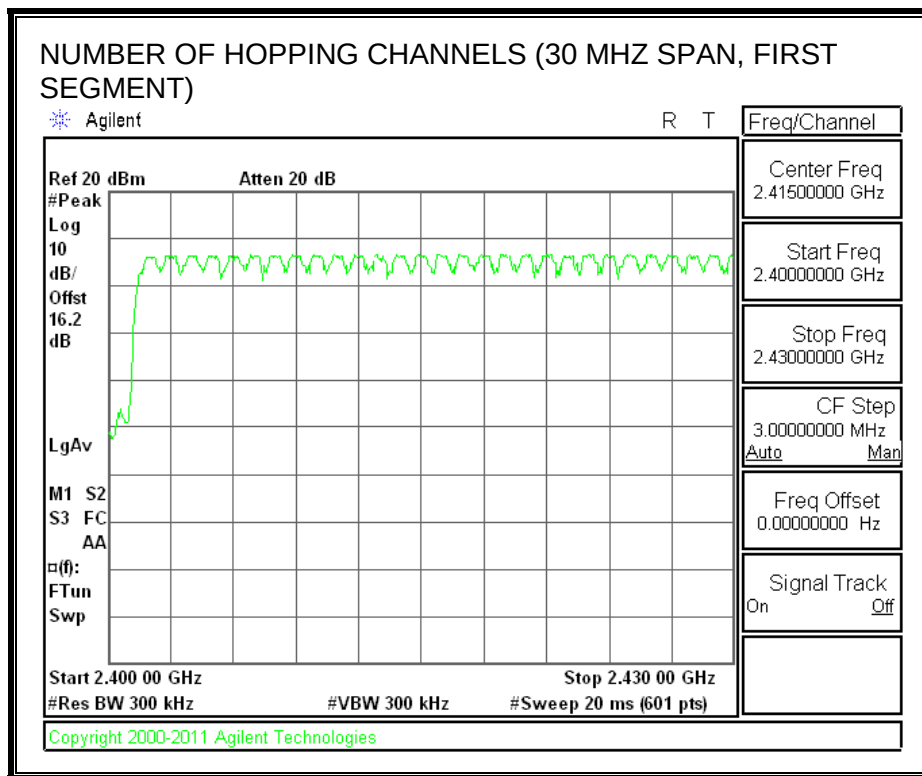
The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

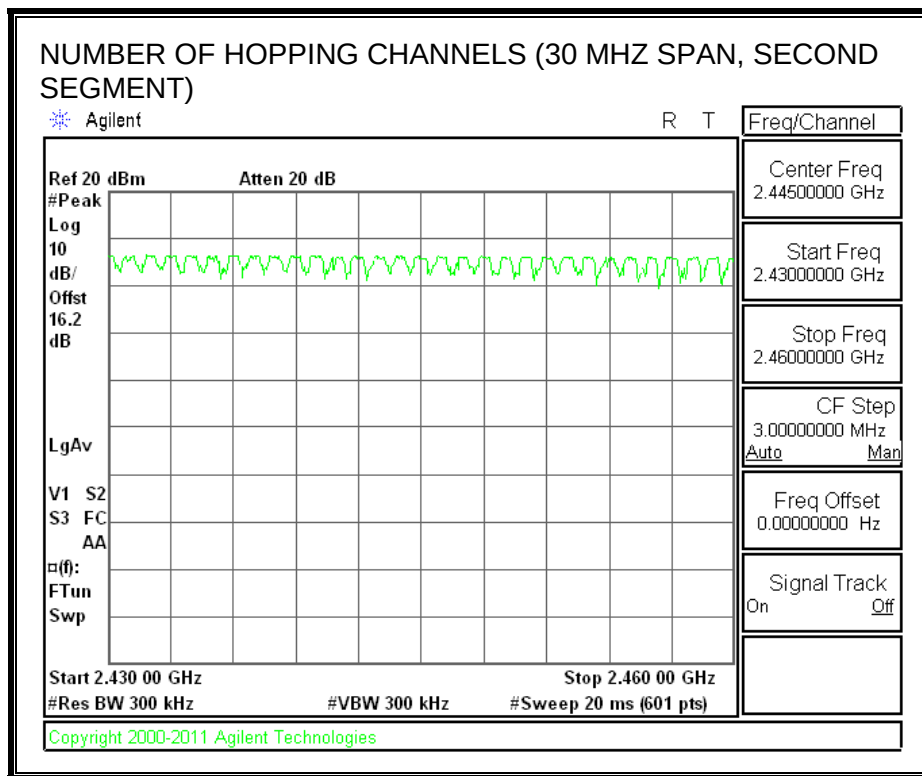
RESULTS

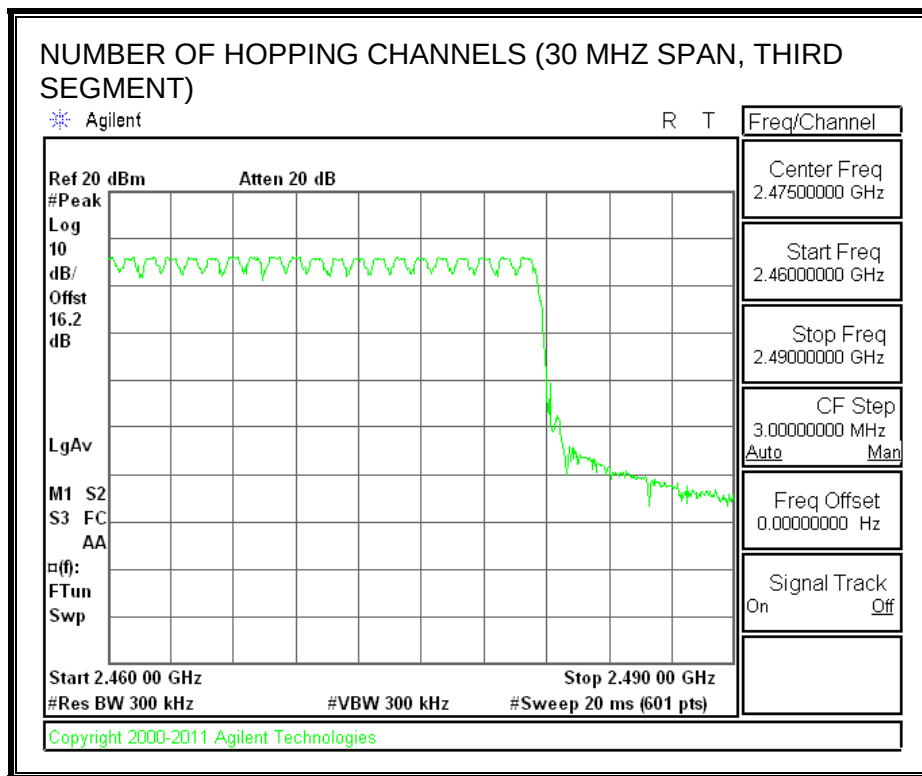
Normal Mode: 79 Channels observed.

NUMBER OF HOPPING CHANNELS









7.2.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 3.16 second scan, to enable resolution of each occurrence.

The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to $10 * (\# \text{ of pulses in } 3.16 \text{ s}) * \text{pulse width}$.

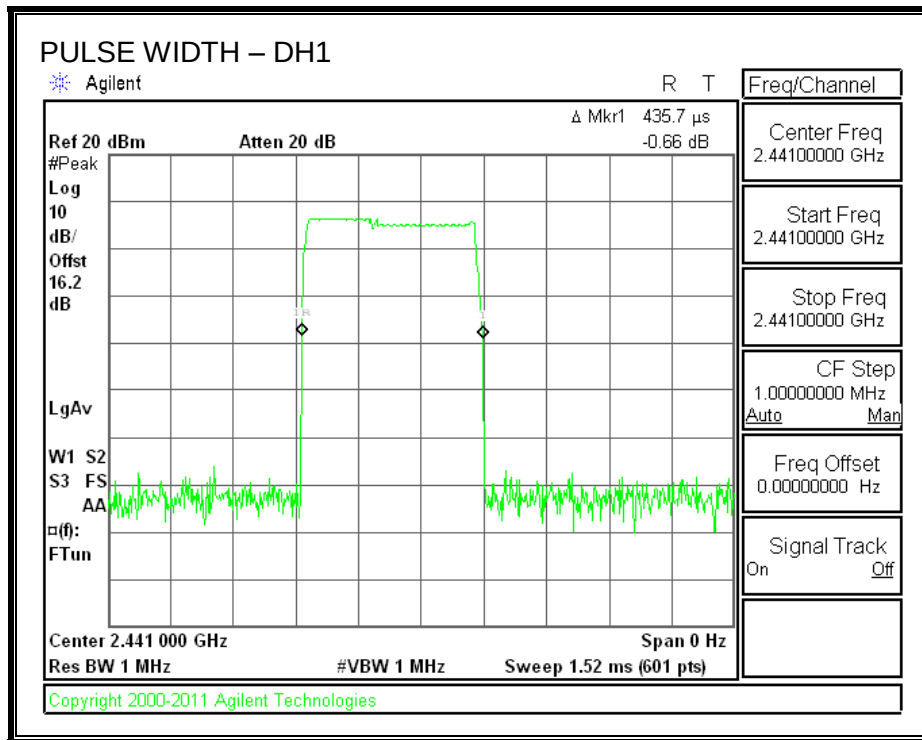
RESULTS

Time Of Occupancy = $10 * xx \text{ pulses} * yy \text{ msec} = zz \text{ msec}$

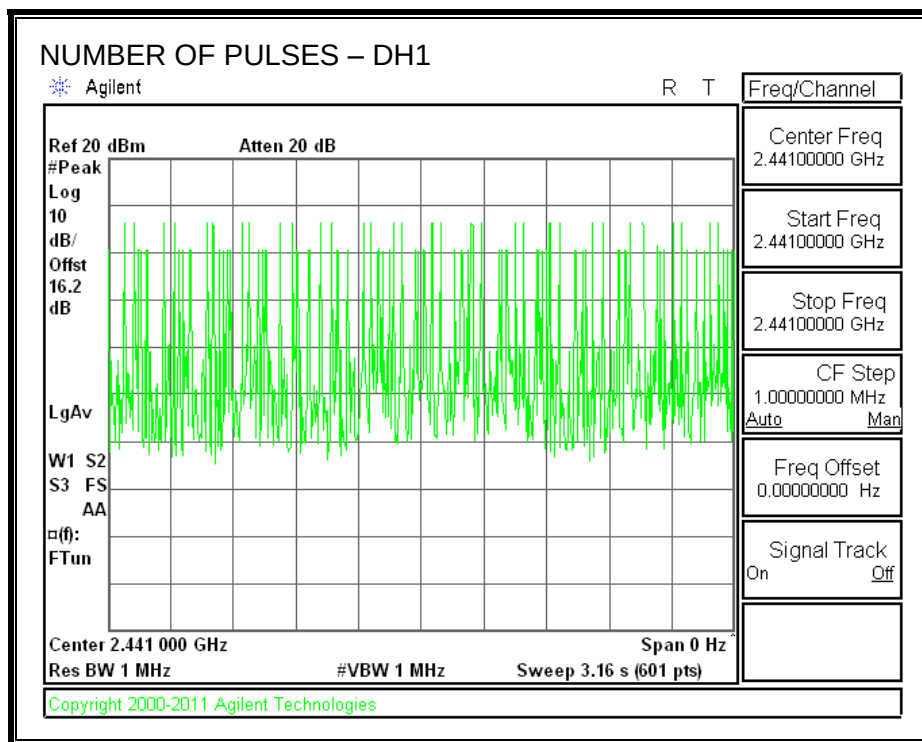
8PSK (EDR) Mode

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of (sec)	Limit (sec)	Margin (sec)
DH1	0.435	32	0.139	0.4	-0.261
DH3	1.68	16	0.269	0.4	-0.131
DH5	2.933	10	0.293	0.4	-0.107

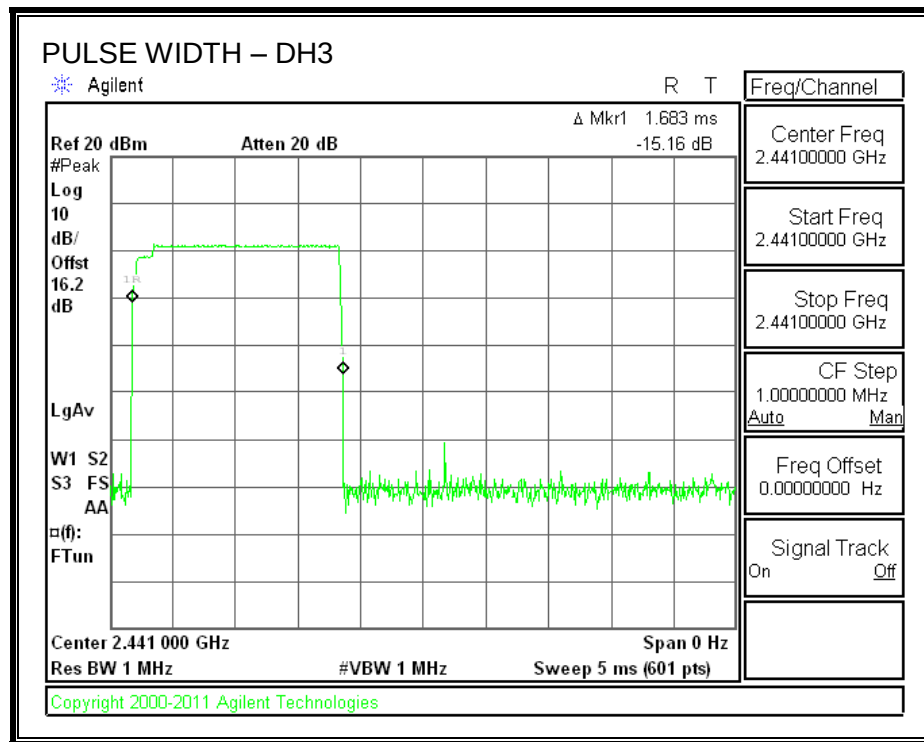
PULSE WIDTH - DH1



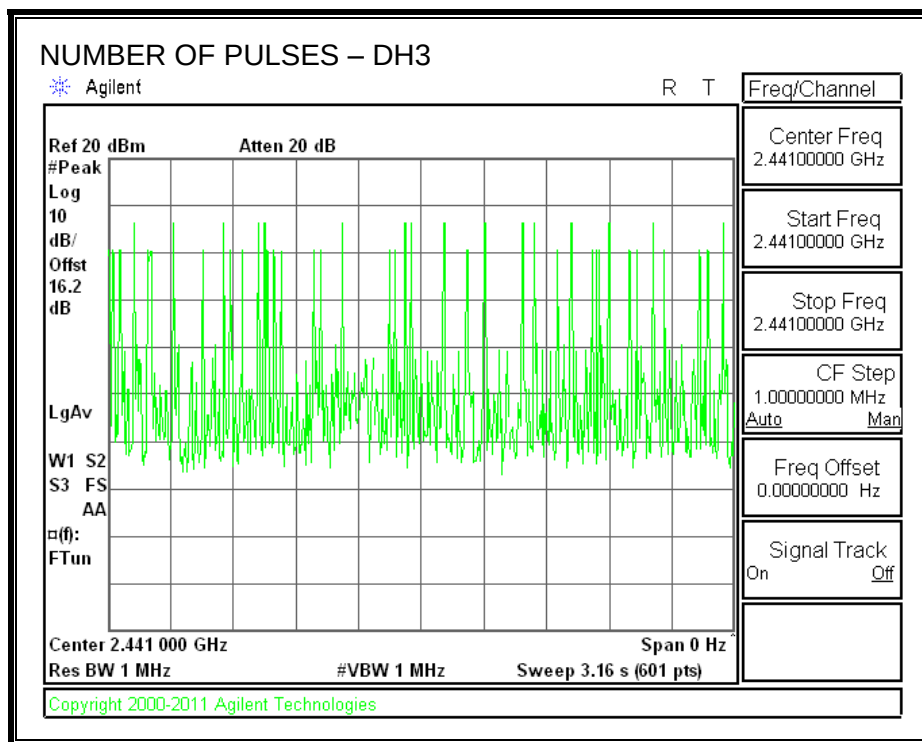
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



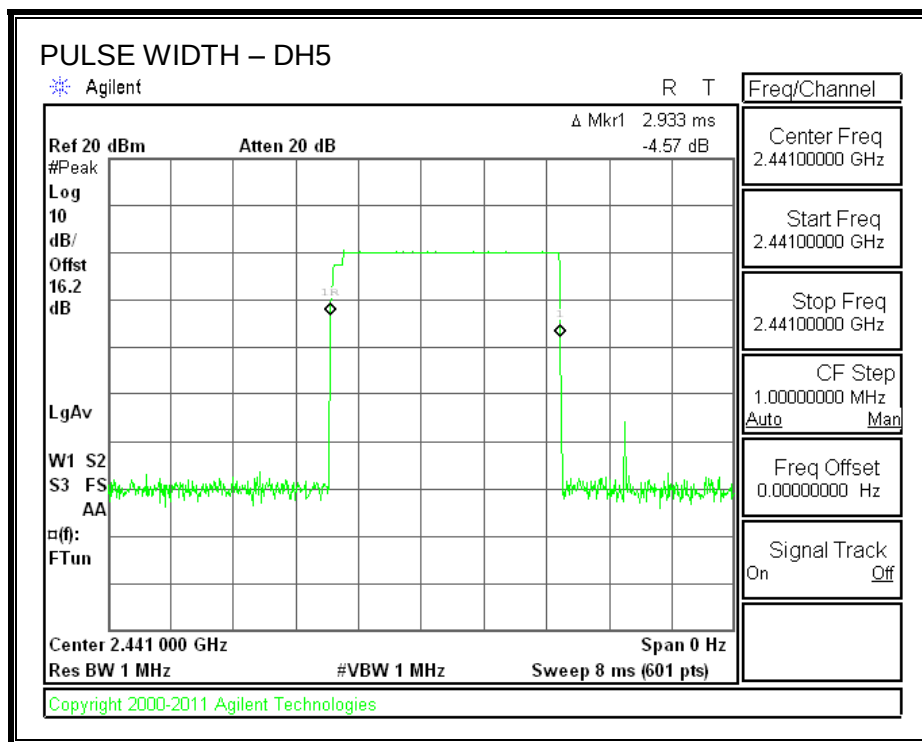
PULSE WIDTH – DH3



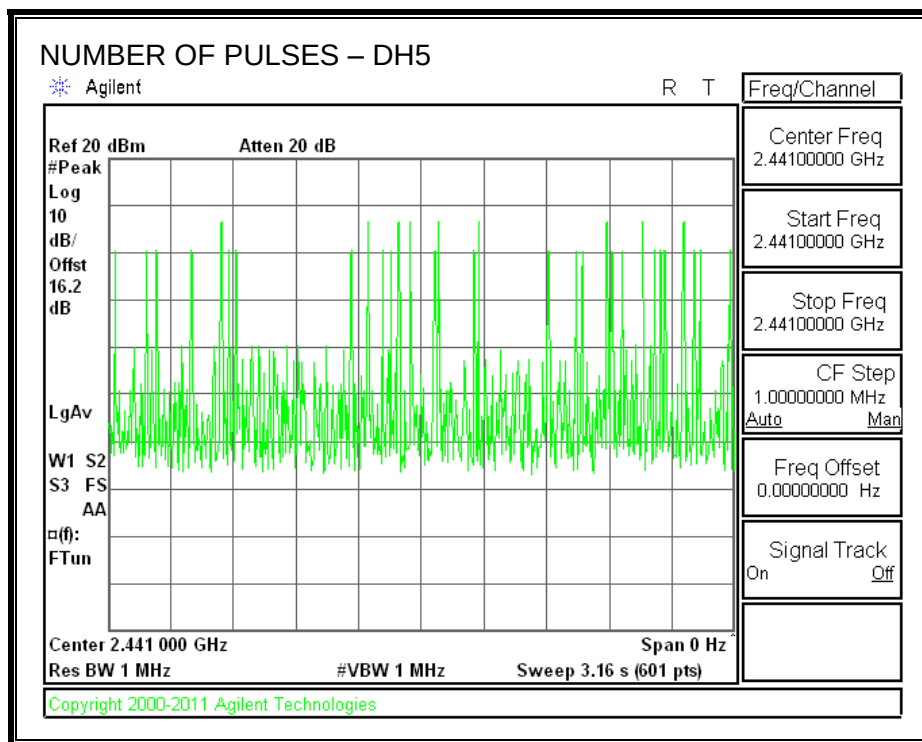
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5



7.2.5. OUTPUT POWER

LIMIT

§15.247 (b) (1)

RSS-210 Issue 7 Clause A8.4

The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm.

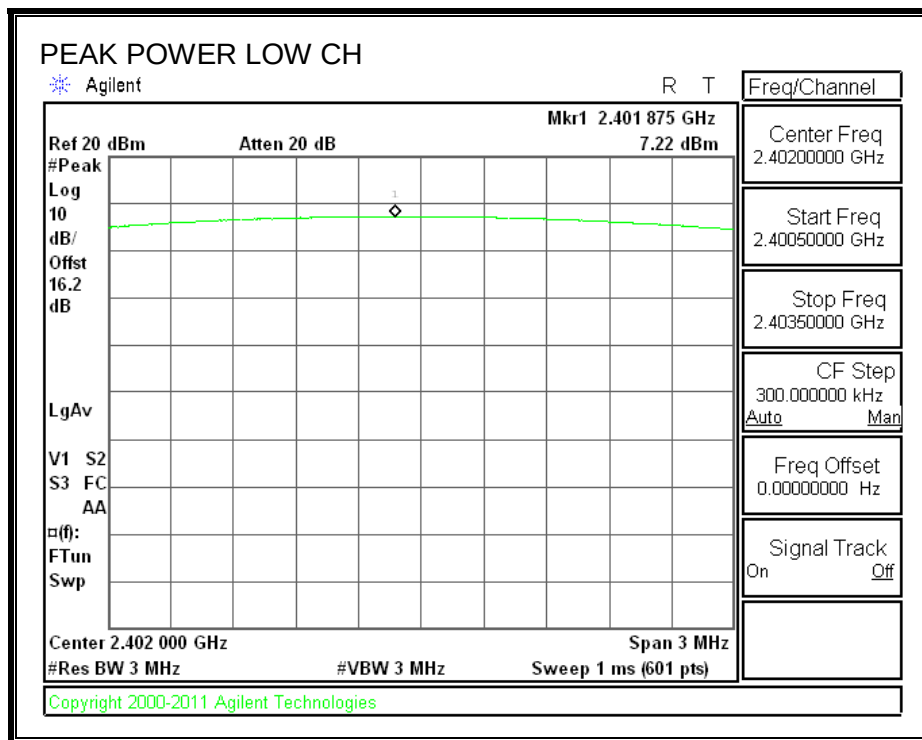
TEST PROCEDURE

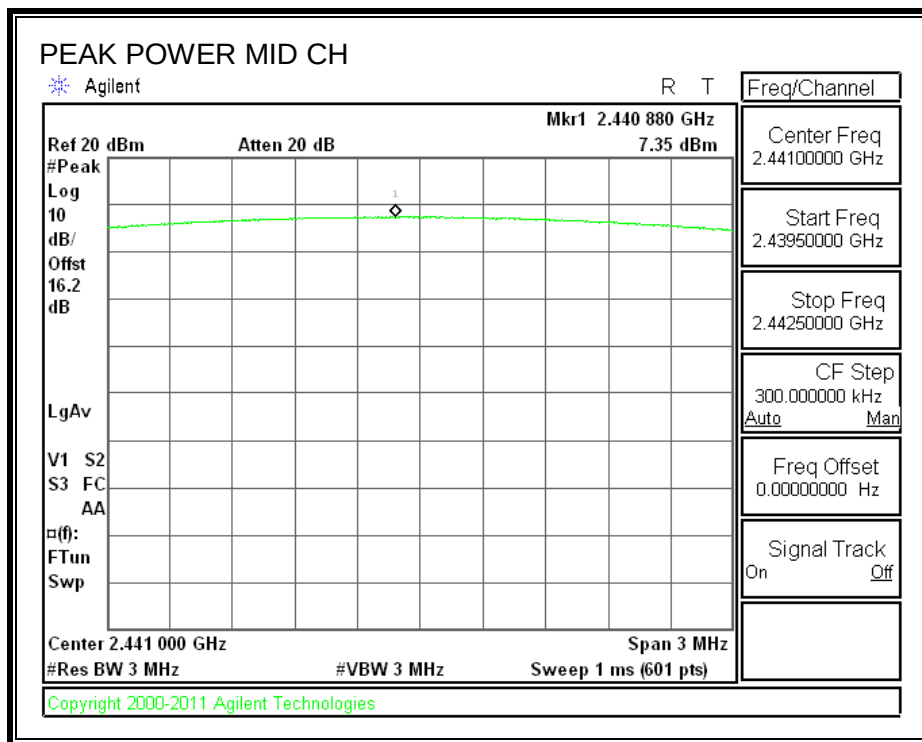
The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

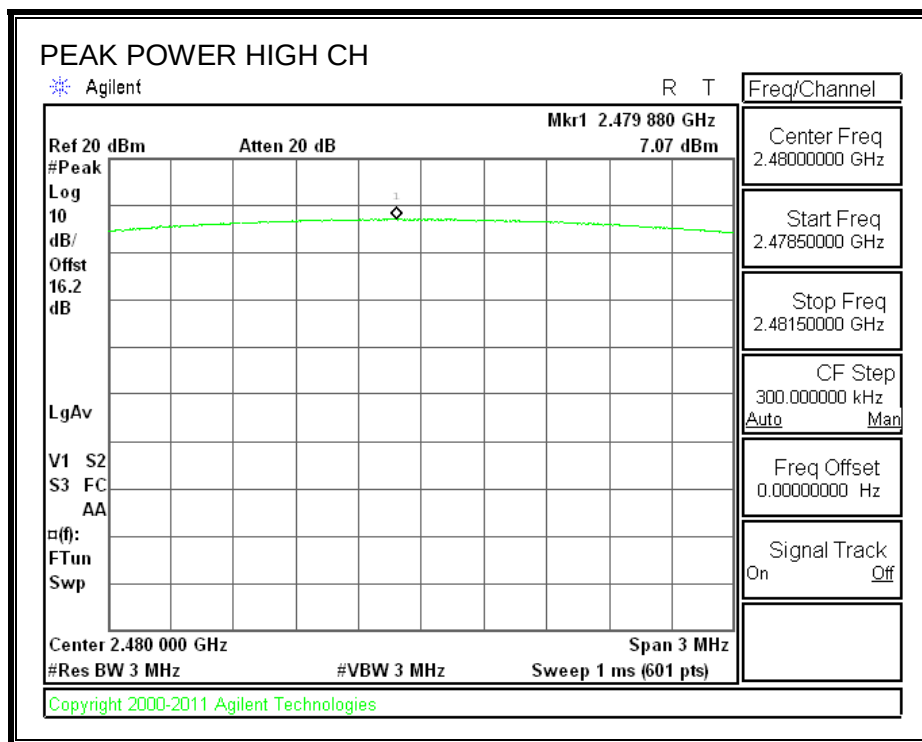
RESULTS

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	7.22	30	-22.78
Middle	2441	7.35	30	-22.65
High	2480	7.07	30	-22.93

OUTPUT POWER







7.2.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 16.2 dB (including 15.5 dB pad and 0.7dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	4.78
Middle	2441	4.99
High	2480	4.72

7.2.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

Limit = -20 dBc

TEST PROCEDURE

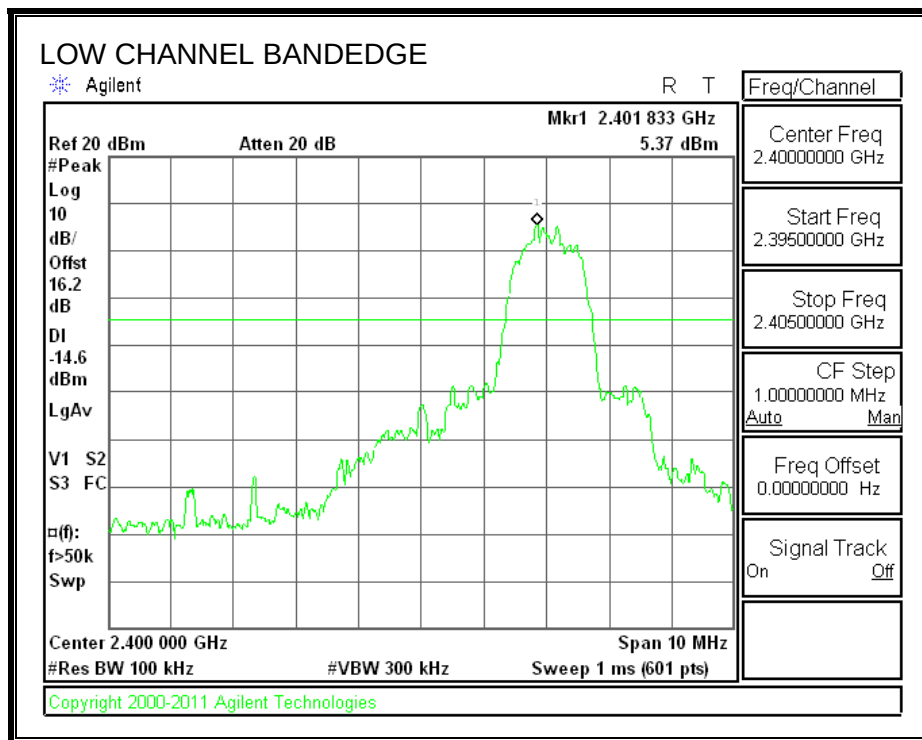
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

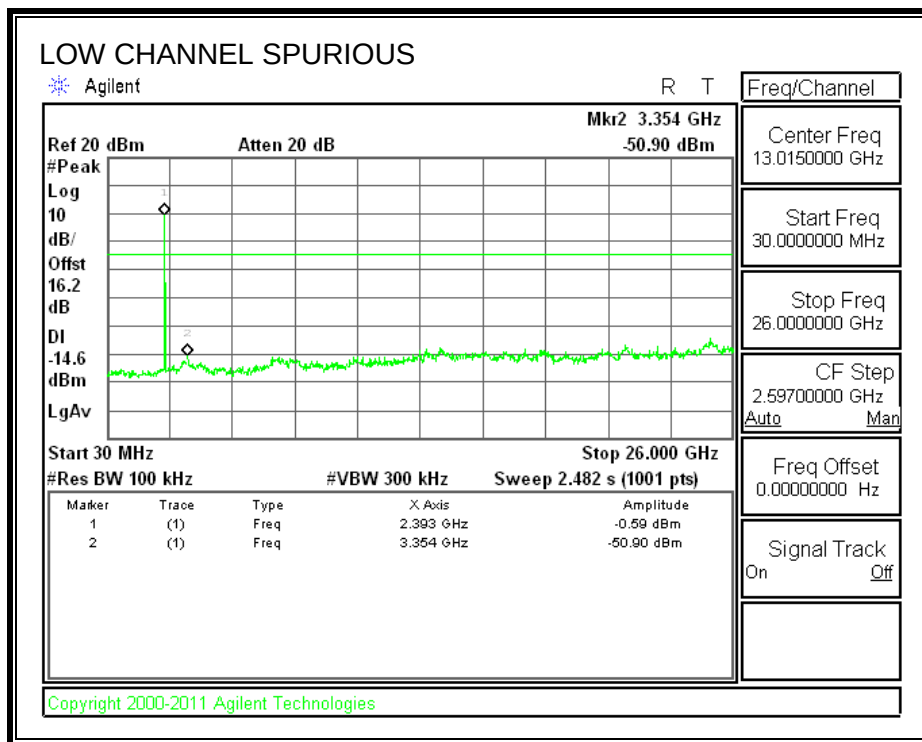
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

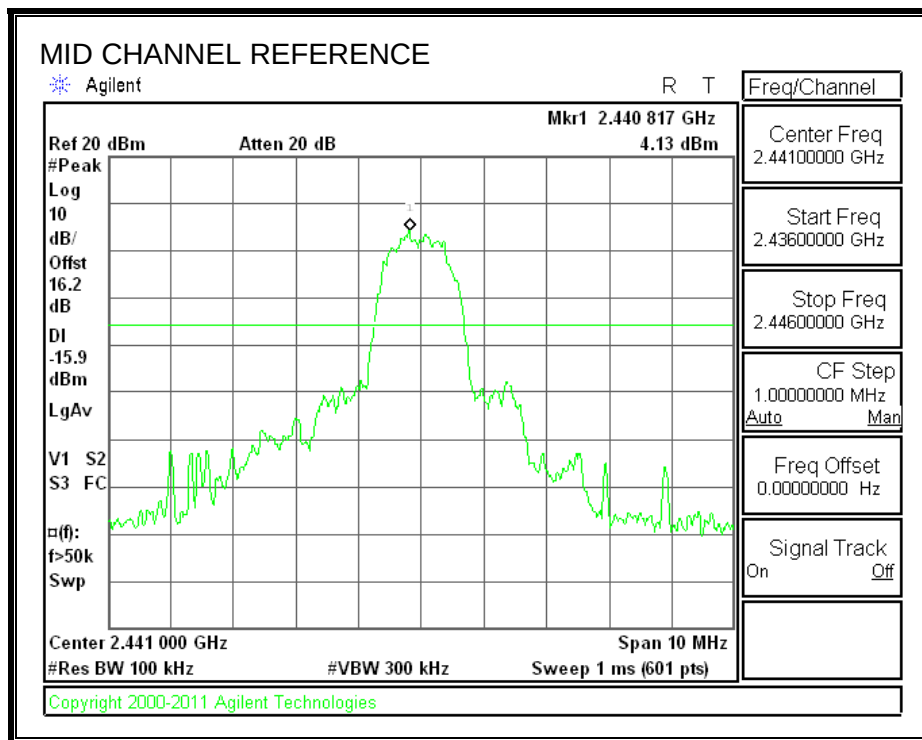
RESULTS

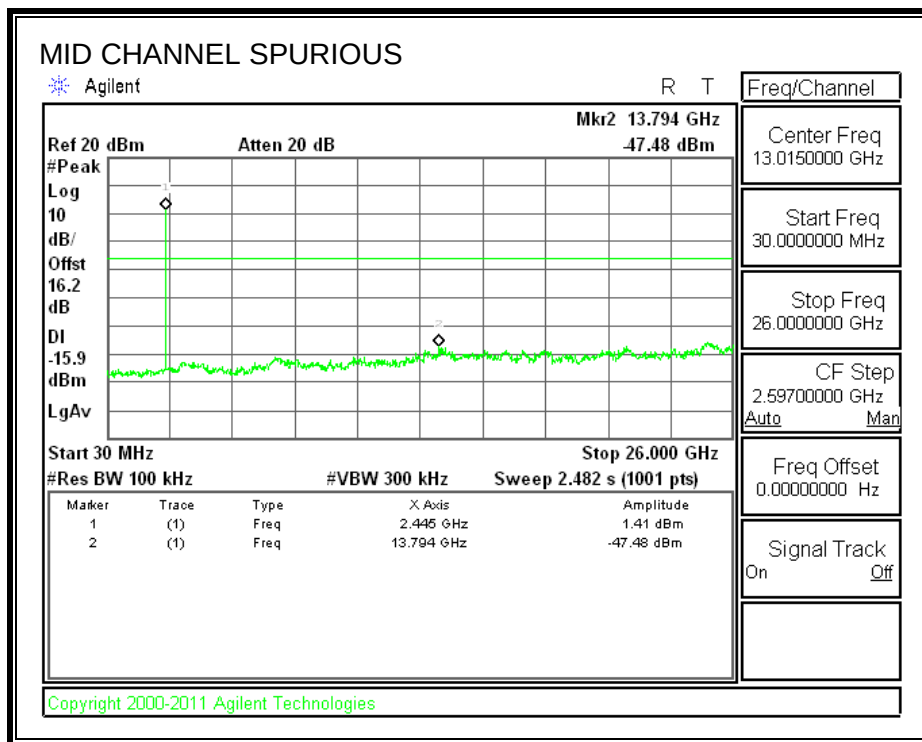
SPURIOUS EMISSIONS, LOW CHANNEL



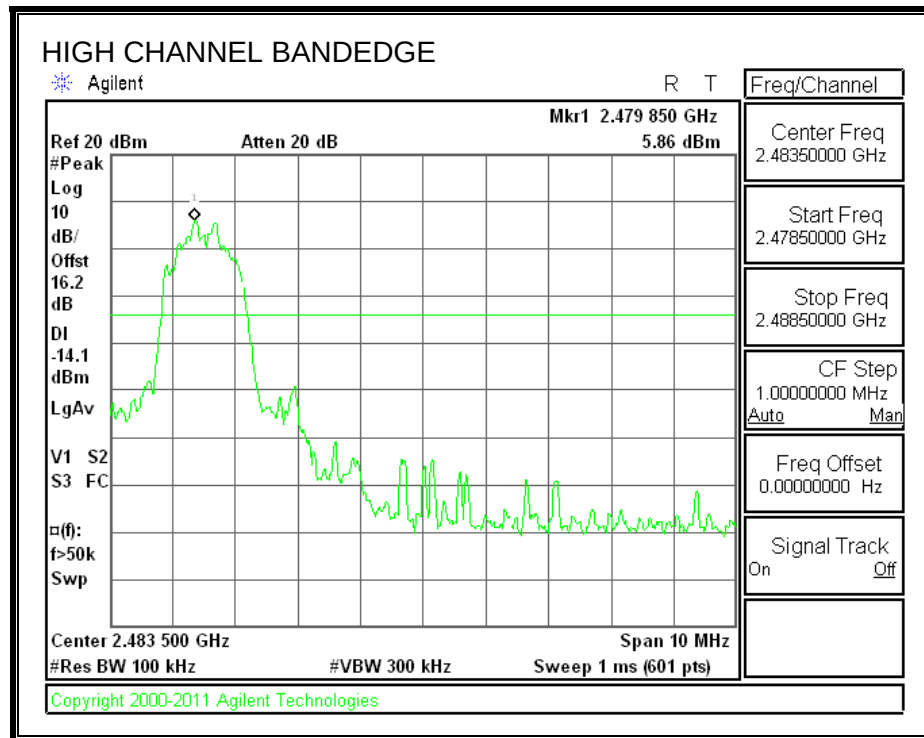


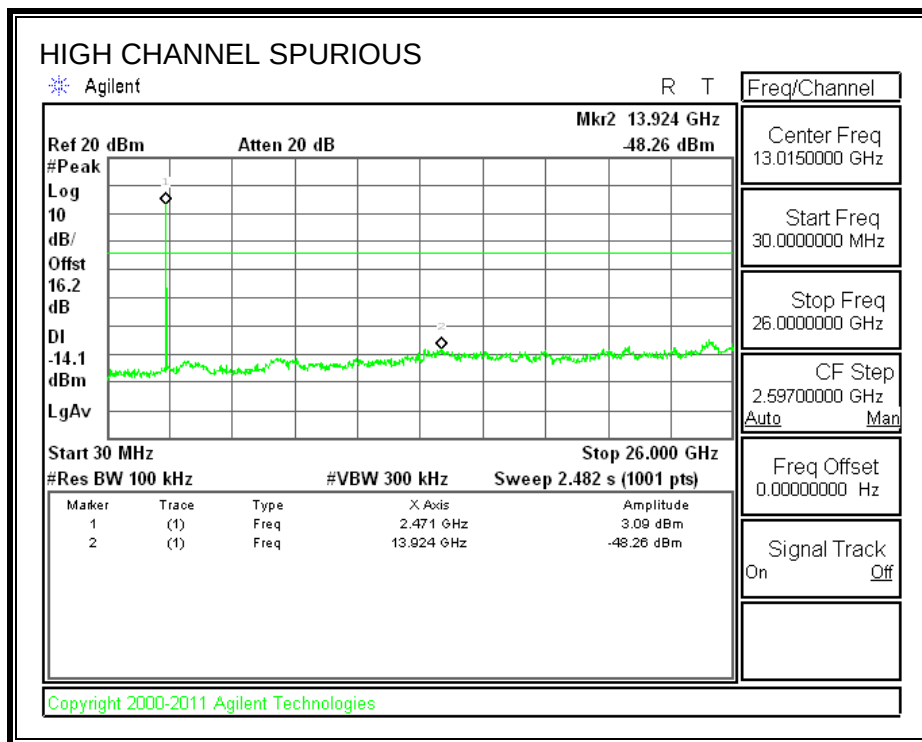
SPURIOUS EMISSIONS, MID CHANNEL



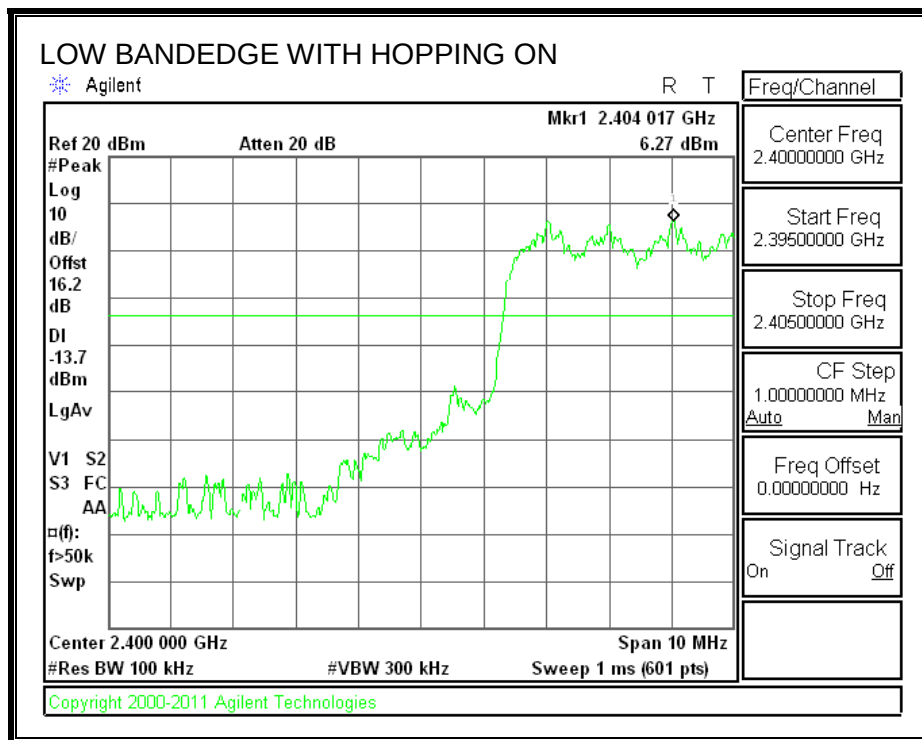


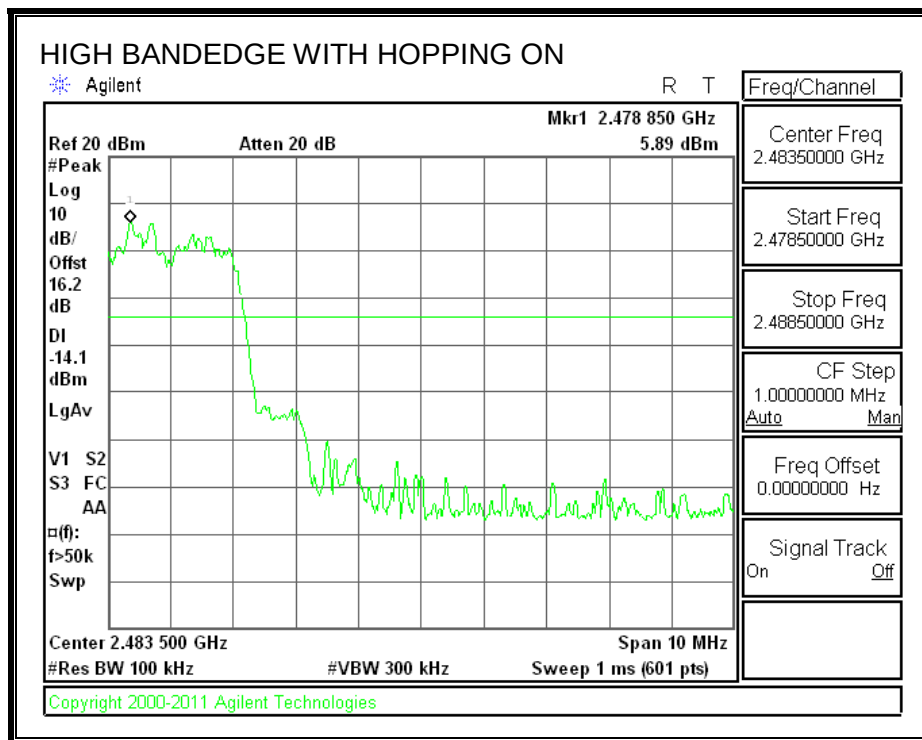
SPURIOUS EMISSIONS, HIGH CHANNEL





SPURIOUS BANEDGE EMISSIONS WITH HOPPING ON





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.

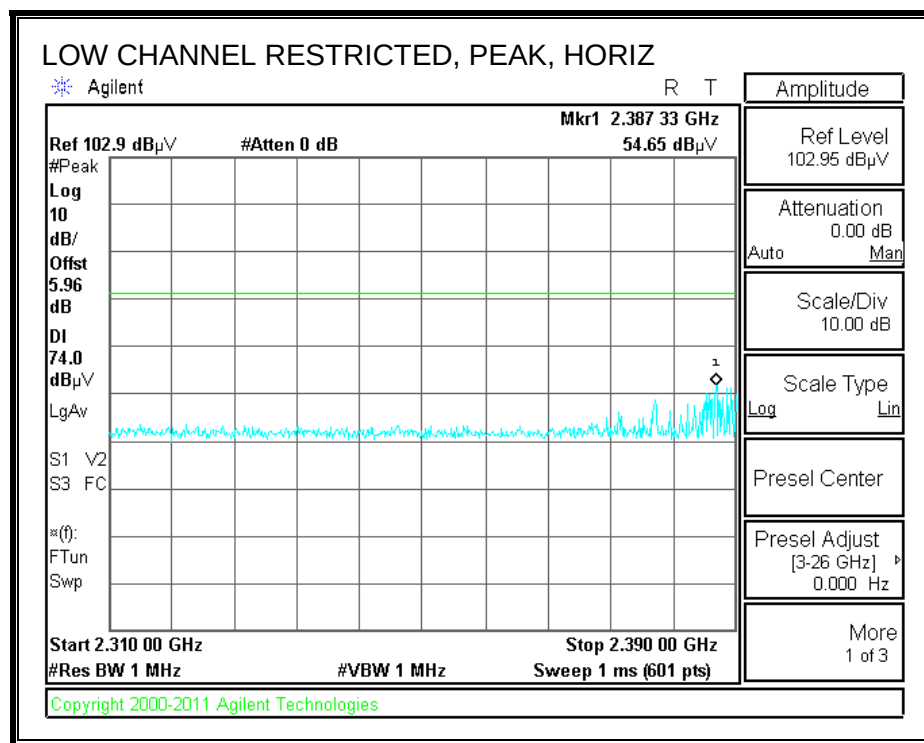
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

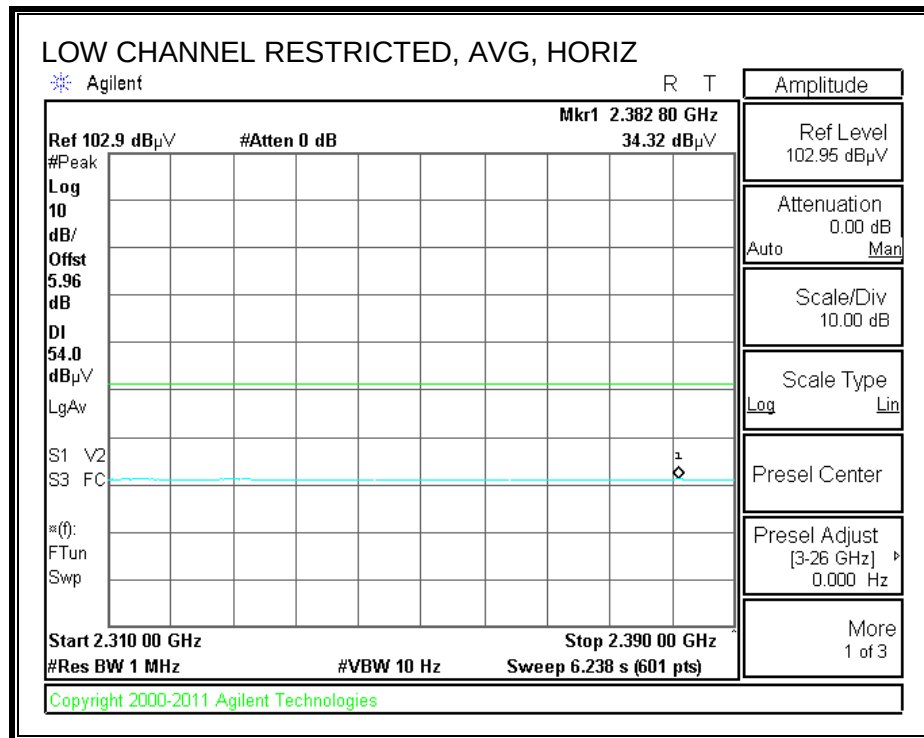
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

8.2. TRANSMITTER ABOVE 1 GHz

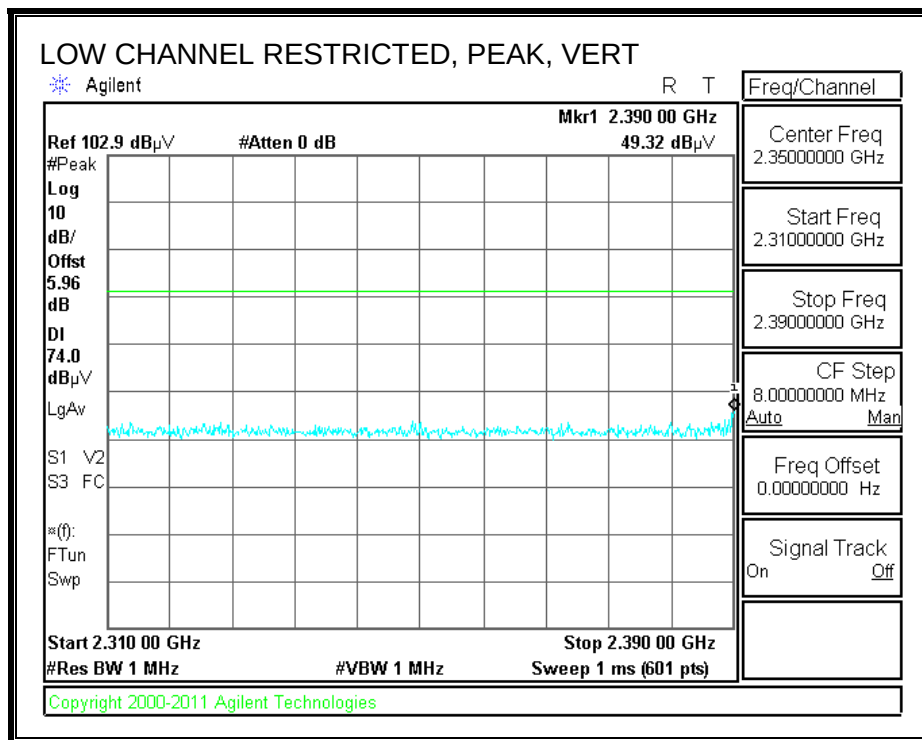
8.2.1. BASIC DATA RATE GFSK MODULATION

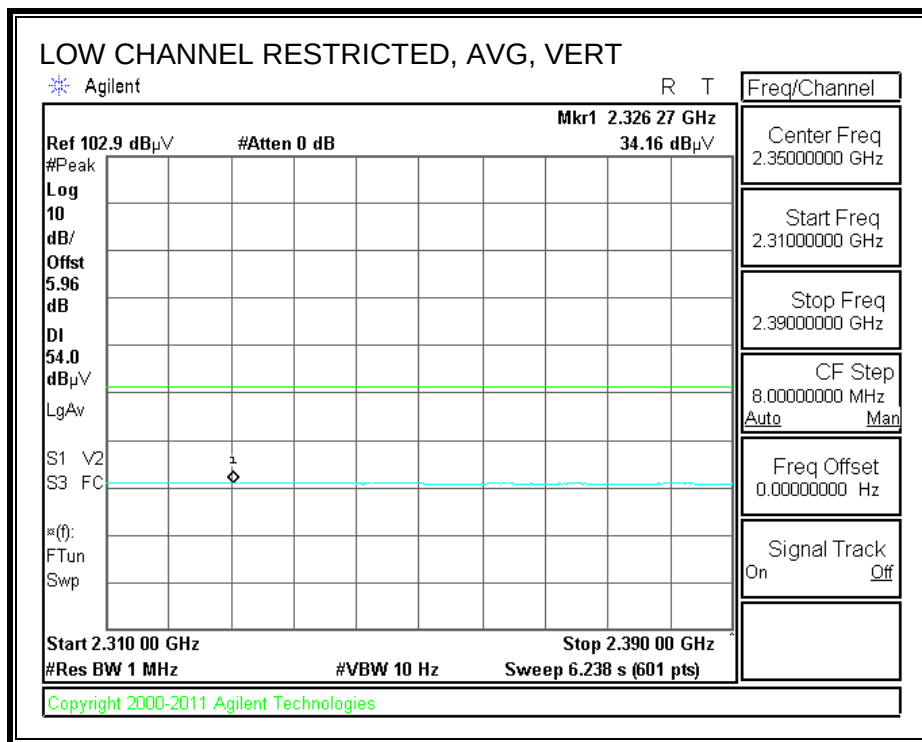
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



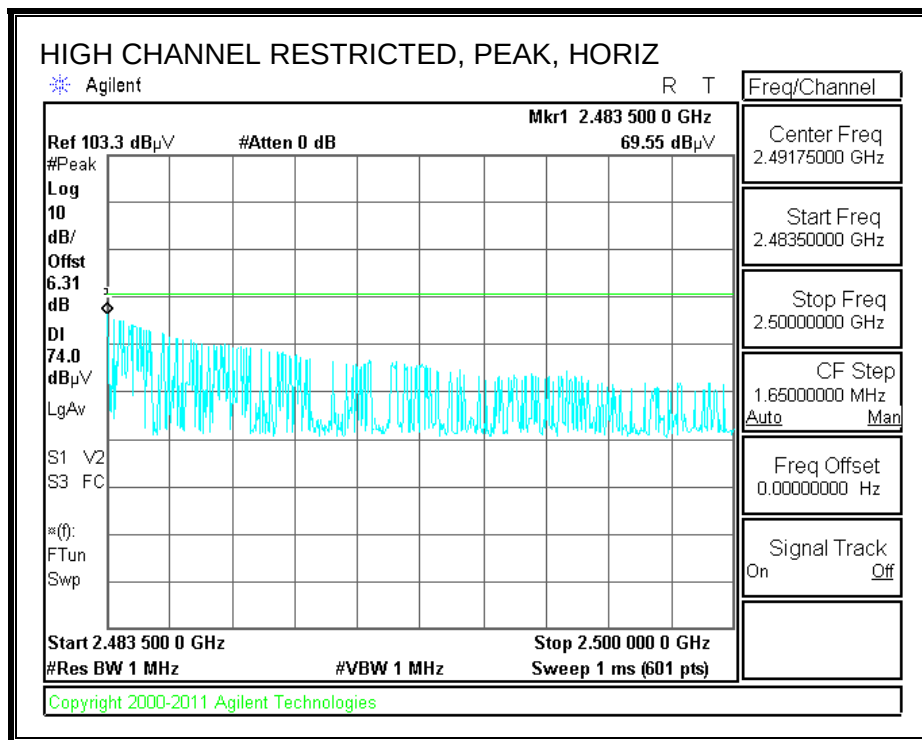


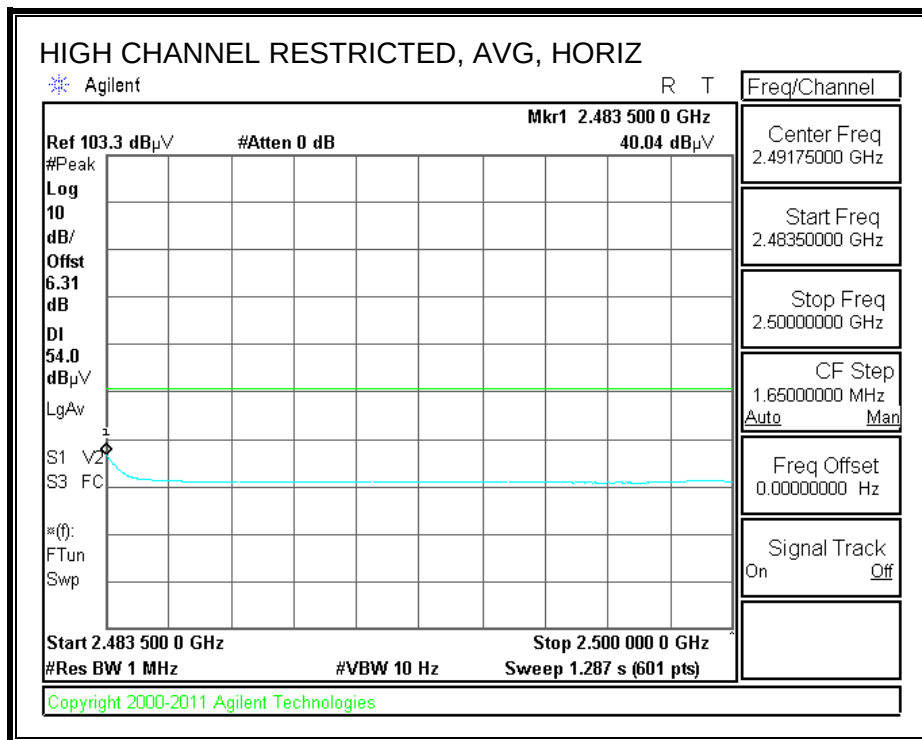
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



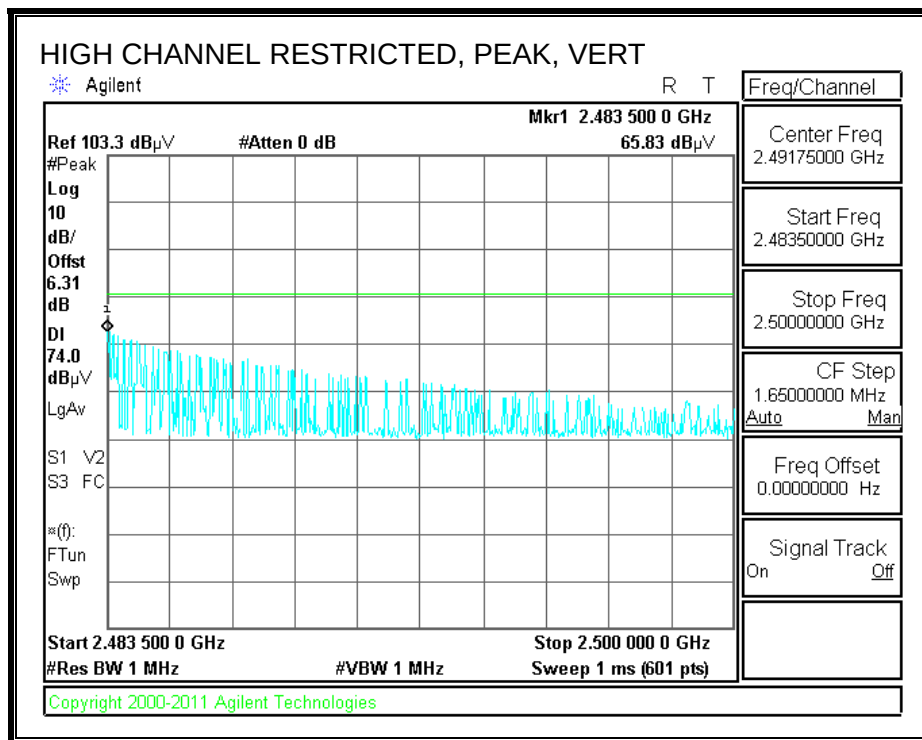


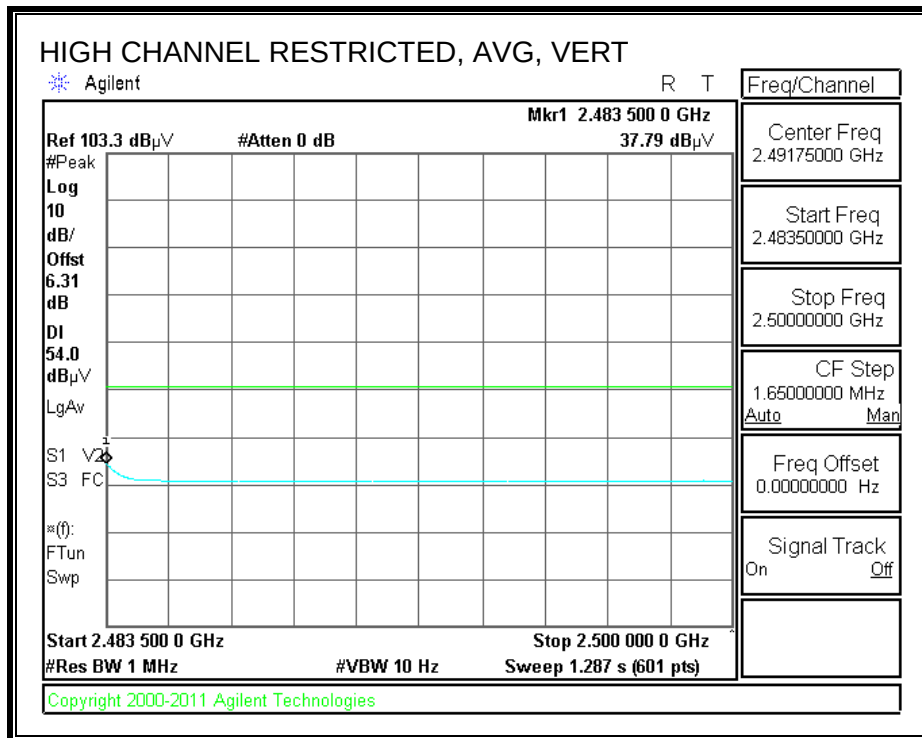
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



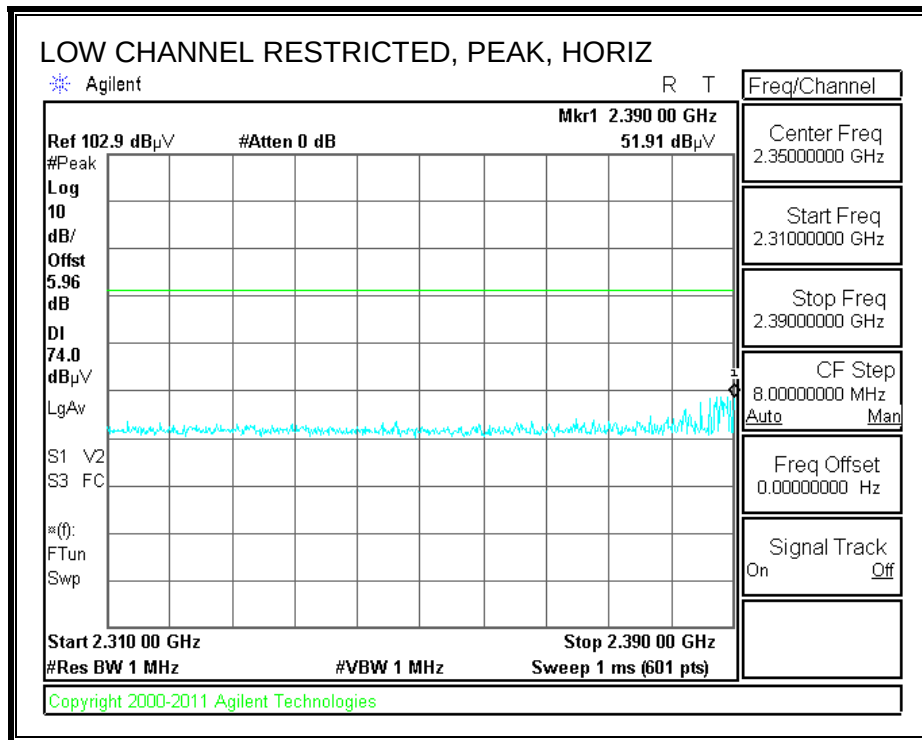


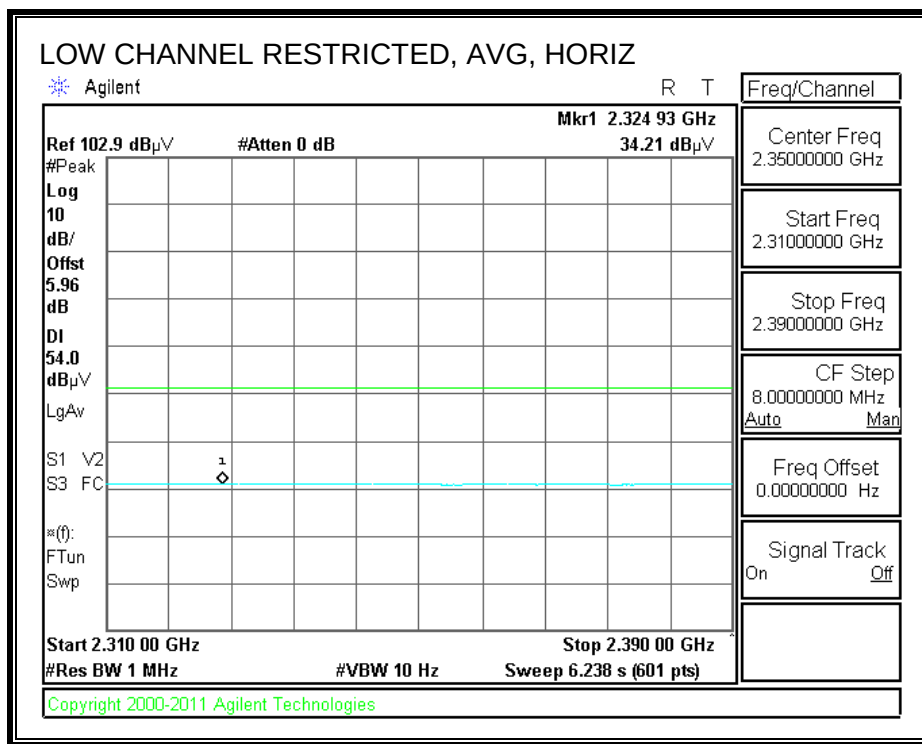
HARMONICS AND SPURIOUS EMISSIONS

High Frequency Measurement																	
Compliance Certification Services, Fremont 5m Chamber-A																	
Company:		Samsung															
Project #:		12I14725															
Date:		12/1/2012															
Test Engineer:		S. Aguilar															
Configuration:		Worst case															
Mode:		BT GFSK TX Mode															
Test Equipment:																	
Horn 1-18GHz				Pre-amplifier 1-26GHz				Pre-amplifier 26-40GHz				Horn > 18GHz				Limit	
T73; S/N: 6717 @3m				T144 Miteq 3008A00931								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=1MHz	
3' cable 22807700				12' cable 22807600				20' cable 22807500						R_001		Average Measurements RBW=1MHz ; VBW=10Hz	
f GHz	Dist (m)	Read Pk dBuV	Read Avg. dBuV	AF dB/m	CL dB	Amp dB	D Corr dB	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)		
2402 MHz (GFSK)																	
4.804	3.0	36.88	24.47	33.4	6.3	-35.5	0.0	0.0	41.0	28.6	74	54	-33.0	-25.4	H		
4.804	3.0	36.80	24.41	33.4	6.3	-35.5	0.0	0.0	41.0	28.6	74	54	-33.0	-25.4	V		
2441 MHz (GFSK)																	
4.822	3.0	35.83	23.92	33.4	6.3	-35.5	0.0	0.0	40.0	28.1	74	54	-34.0	-25.9	H		
4.822	3.0	36.16	23.86	33.4	6.3	-35.5	0.0	0.0	40.4	28.1	74	54	-33.6	-25.9	V		
2480 MHz (GFSK)																	
4.960	3.0	35.85	23.39	33.6	6.4	-35.5	0.0	0.0	40.3	27.9	74	54	-33.7	-26.1	H		
4.960	3.0	36.01	23.72	33.6	6.4	-35.5	0.0	0.0	40.5	28.2	74	54	-33.5	-25.8	V		
Rev. 11.10.11																	
Note: No other emissions were detected above the system noise floor																	
f	Measurement Frequency					Amp	Preamp Gain					Avg Lim	Average Field Strength Limit				
Dist	Distance to Antenna					D Corr	Distance Correct to 3 meters					Pk Lim	Peak Field Strength Limit				
Read	Analyzer Reading					Avg	Average Field Strength @ 3 m					Avg Mar	Margin vs. Average Limit				
AF	Antenna Factor					Peak	Calculated Peak Field Strength					Pk Mar	Margin vs. Peak Limit				
CL	Cable Loss					HPF	High Pass Filter										

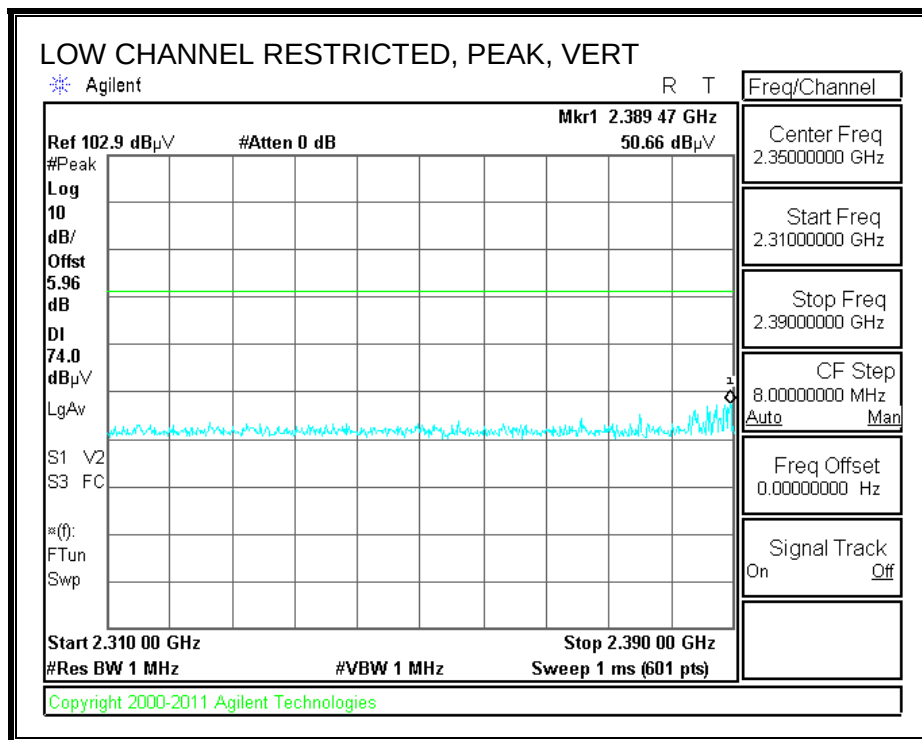
8.2.2. ENHANCED DATA RATE 8PSK MODULATION

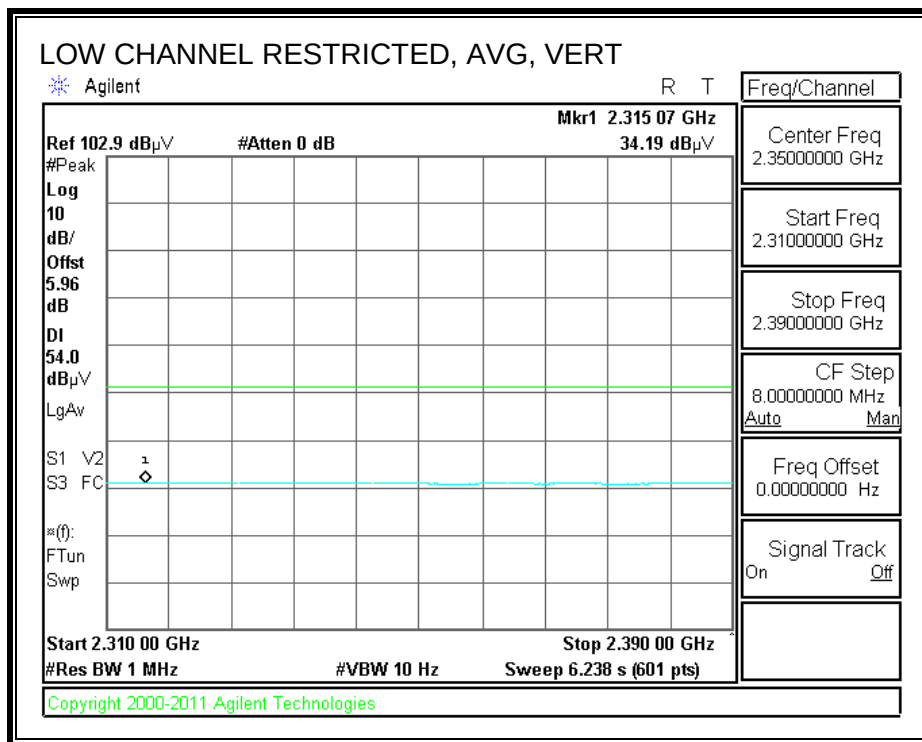
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



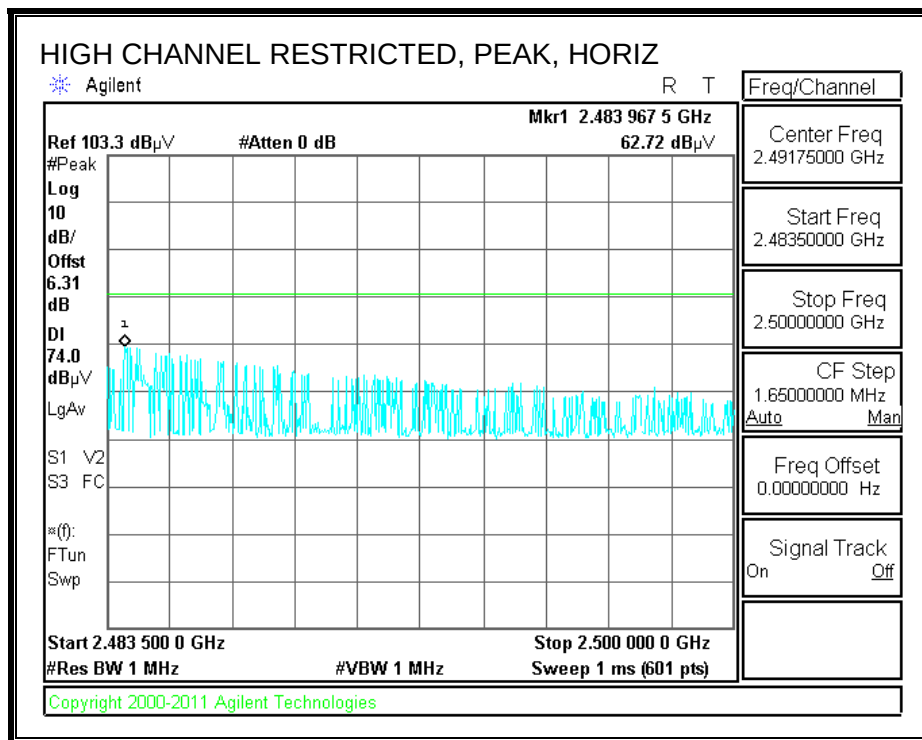


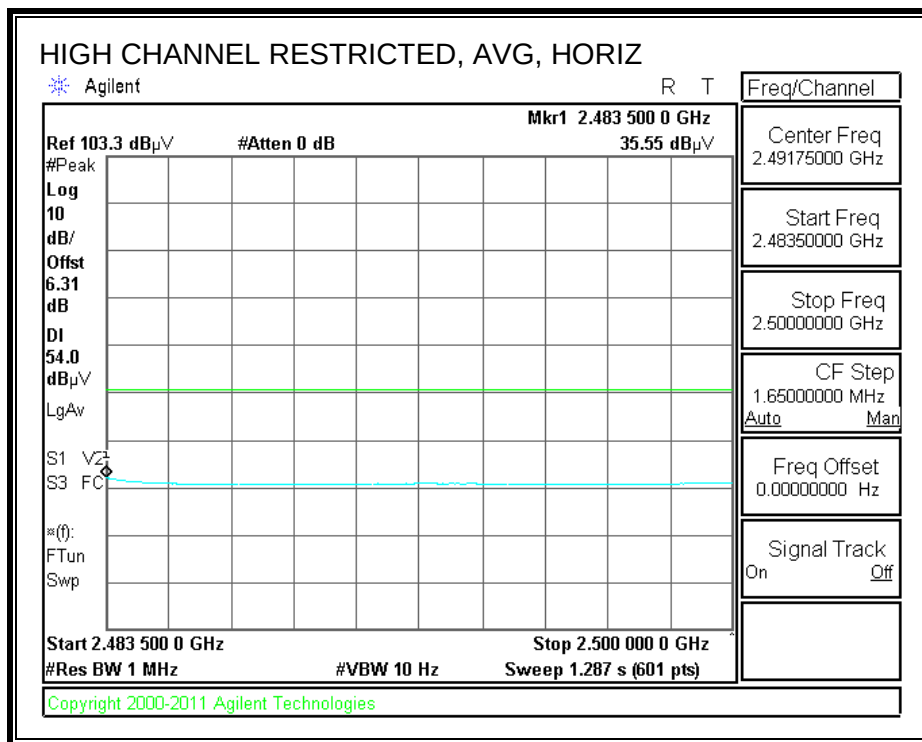
RESTRICTED BANEDGE (LOW CHANNEL, VERTICAL)



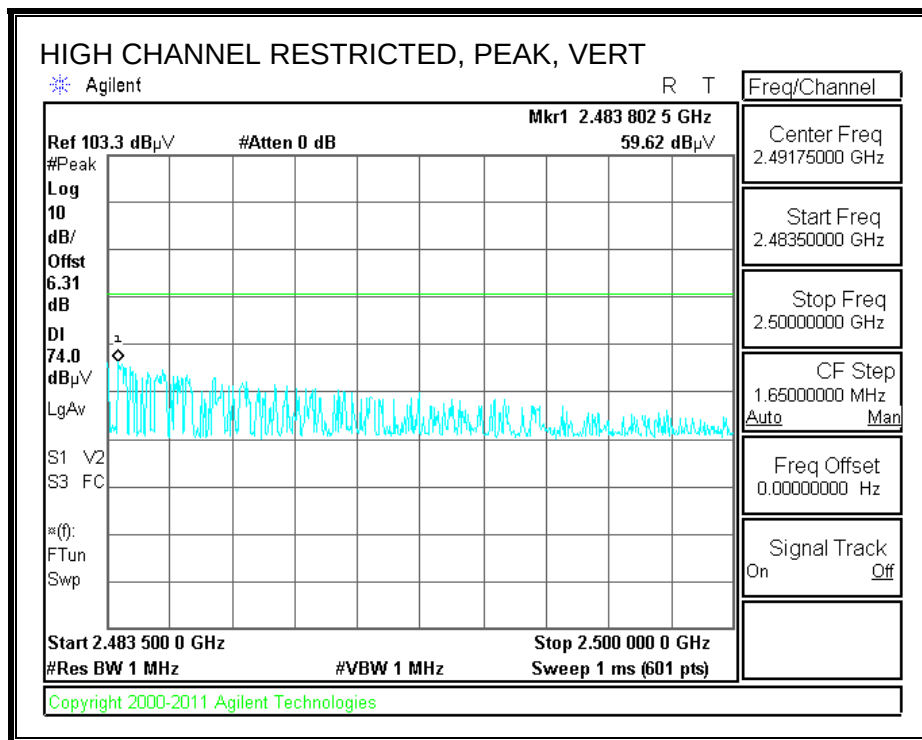


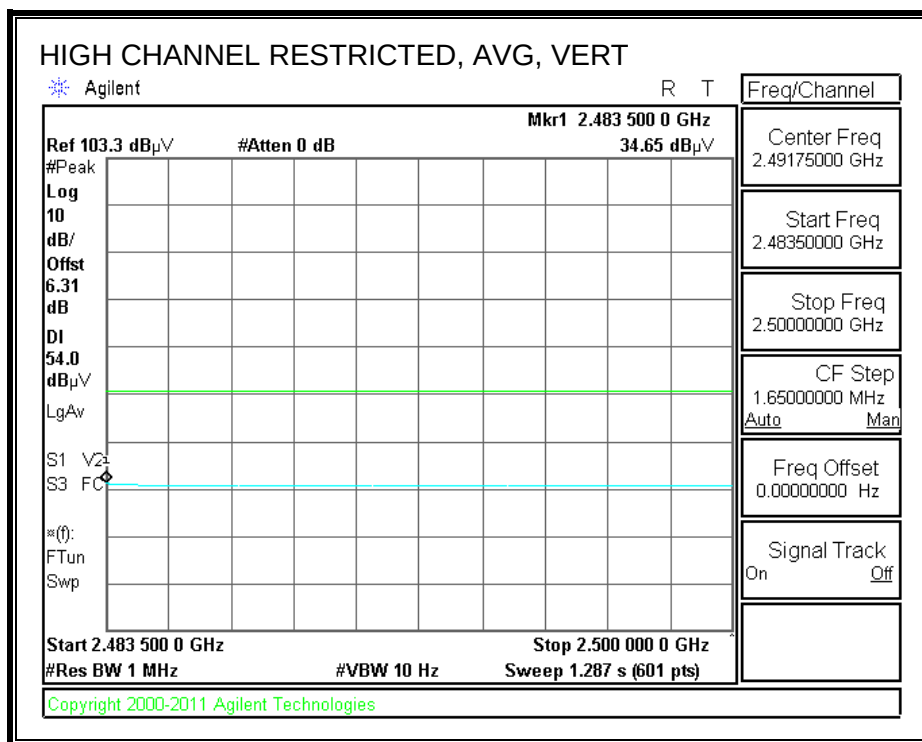
RESTRICTED BANEDGE (HIGH CHANNEL, HORIZONTAL)





RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



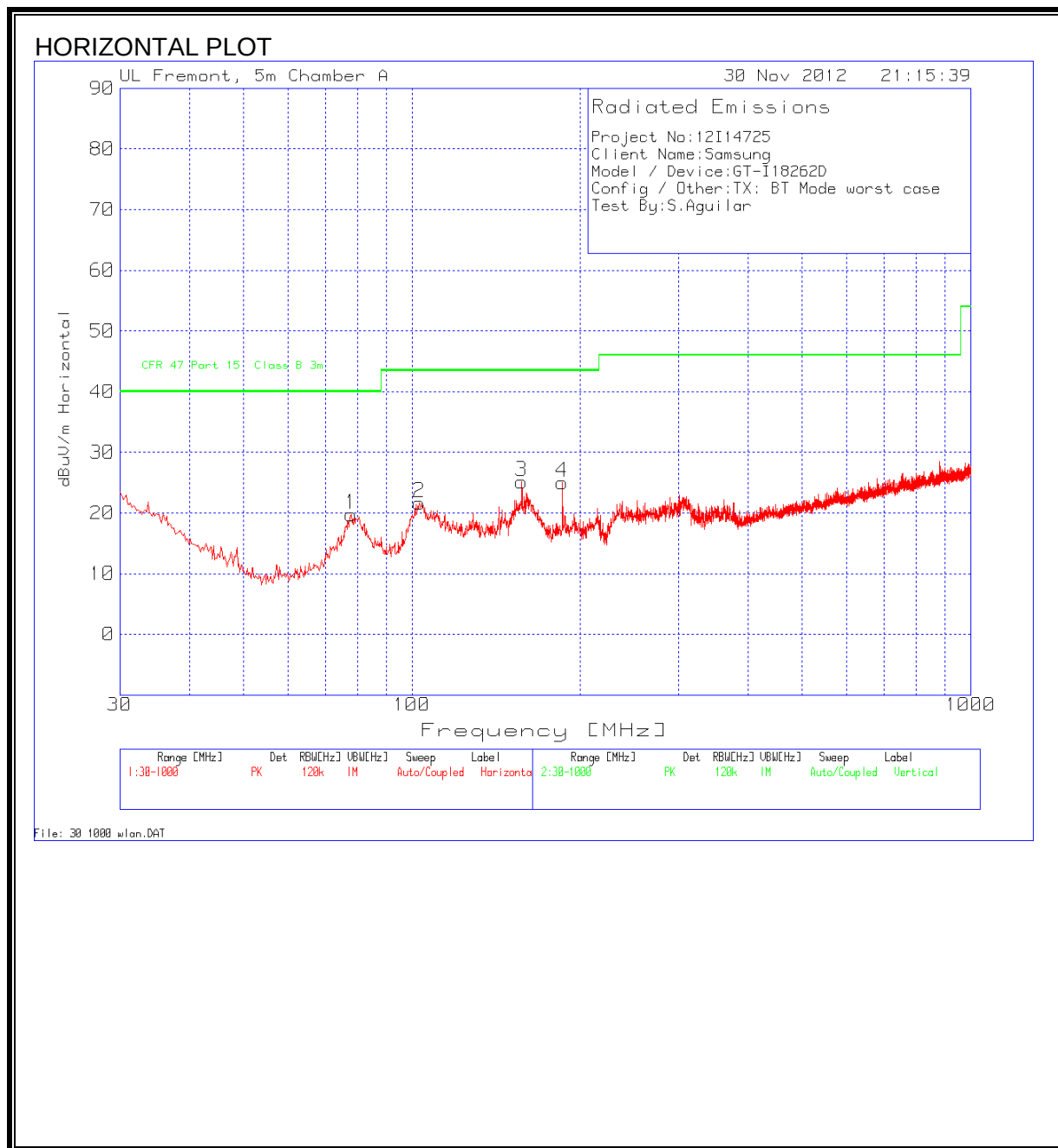


HARMONICS AND SPURIOUS EMISSIONS

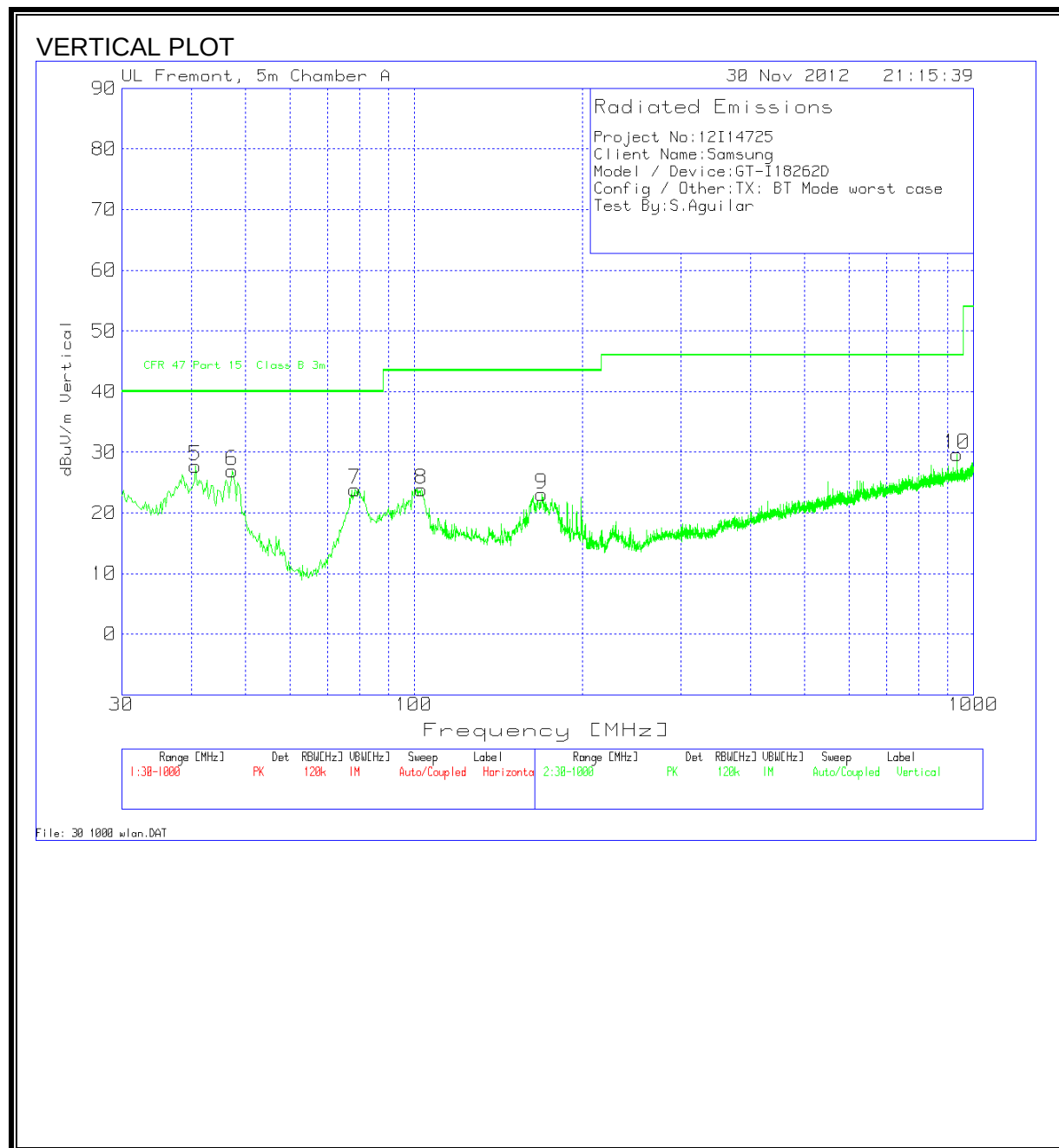
High Frequency Measurement																	
Compliance Certification Services, Fremont 5m Chamber-A																	
Company:		Samsung															
Project #:		12114725															
Date:		12/1/2012															
Test Engineer:		S. Aguilar															
Configuration:		Worst case															
Mode:		BT GFSK TX Mode															
Test Equipment:																	
Horn 1-18GHz				Pre-amplifier 1-26GHz				Pre-amplifier 26-40GHz				Horn > 18GHz				Limit	
T73; S/N: 6717 @3m				T144 Miteq 3008A00931								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	
3' cable 22807700				12' cable 22807600				20' cable 22807500								R_001	
Peak Measurements RBW=VBW=1MHz 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	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)		
2402 MHz (8PSK)																	
4.804	3.0	37.63	25.25	33.4	6.3	-35.5	0.0	0.0	41.8	29.4	74	54	-32.2	-24.6	H		
4.804	3.0	37.57	24.61	33.4	6.3	-35.5	0.0	0.0	41.7	28.8	74	54	-32.3	-25.2	V		
2441 MHz (8PSK)																	
4.822	3.0	36.48	24.19	33.4	6.3	-35.5	0.0	0.0	40.7	28.4	74	54	-33.3	-25.6	H		
4.822	3.0	36.24	24.33	33.4	6.3	-35.5	0.0	0.0	40.4	28.5	74	54	-33.6	-25.5	V		
2480 MHz (8PSK)																	
4.960	3.0	36.09	23.63	33.6	6.4	-35.5	0.0	0.0	40.6	28.1	74	54	-33.4	-25.9	H		
4.960	3.0	36.05	23.70	33.6	6.4	-35.5	0.0	0.0	40.5	28.2	74	54	-33.5	-25.8	V		
Rev. 11.10.11																	
Note: No other emissions were detected above the system noise floor																	
f	Measurement Frequency			Amp	Preamp Gain			Avg Lim	Average Field Strength Limit								
Dist	Distance to Antenna			D Corr	Distance Correct to 3 meters			Pk Lim	Peak Field Strength Limit								
Read	Analyzer Reading			Avg	Average Field Strength @ 3 m			Avg Mar	Margin vs. Average Limit								
AF	Antenna Factor			Peak	Calculated Peak Field Strength			Pk Mar	Margin vs. Peak Limit								
CL	Cable Loss			HPF	High Pass Filter												

8.3. 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)



HORIZONTAL AND VERTICAL DATA

Company Name: Samsung
Project: 12I14725
Model/Device: GT-I18262D
Date: 11/30/2012
Configuraiton: EUT + Adapter + Headset
Tested by: Steve 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									
77.8797	39.09	PK	-27.1	7.8	19.79	40	-20.21	100	Horz
103.0795	37.55	PK	-26.9	11	21.65	43.5	-21.85	100	Horz
157.3561	39.64	PK	-26.5	12	25.14	43.5	-18.36	100	Horz
186.0452	40.23	PK	-26.4	11.2	25.03	43.5	-18.47	100	Horz
Range 2 30 - 1000MHz									
40.6615	41.49	PK	-27.3	13.5	27.69	40	-12.31	100	Vert
47.2522	45.1	PK	-27.4	9.3	27	40	-13	100	Vert
78.4612	43.18	PK	-27.1	7.8	23.88	40	-16.12	100	Vert
103.0795	39.81	PK	-26.9	11	23.91	43.5	-19.59	100	Vert
169.3745	37.78	PK	-26.4	11.7	23.08	43.5	-20.42	100	Vert
936.0312	30.5	PK	-23.2	22.4	29.7	46	-16.3	200	Vert

PK - Peak detector

QP - Quasi-peak detector

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

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 + Adapter + Headset : TX BT 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]
1.383	47.12	PK	0.1	0.1	47.32	56	-8.68	-	-
1.383	28.63	Av	0.1	0.1	28.83	-	-	46	-17.17
3.354	53.02	PK	0.1	0.1	53.22	56	-2.78	-	-
3.354	35.52	Av	0.1	0.1	35.72	-	-	46	-10.28
5.181	50.84	PK	0.1	0.1	51.04	60	-8.96	-	-
5.181	33.88	Av	0.1	0.1	34.08	-	-	50	-15.92

Line-L2 .15 - 30MHz

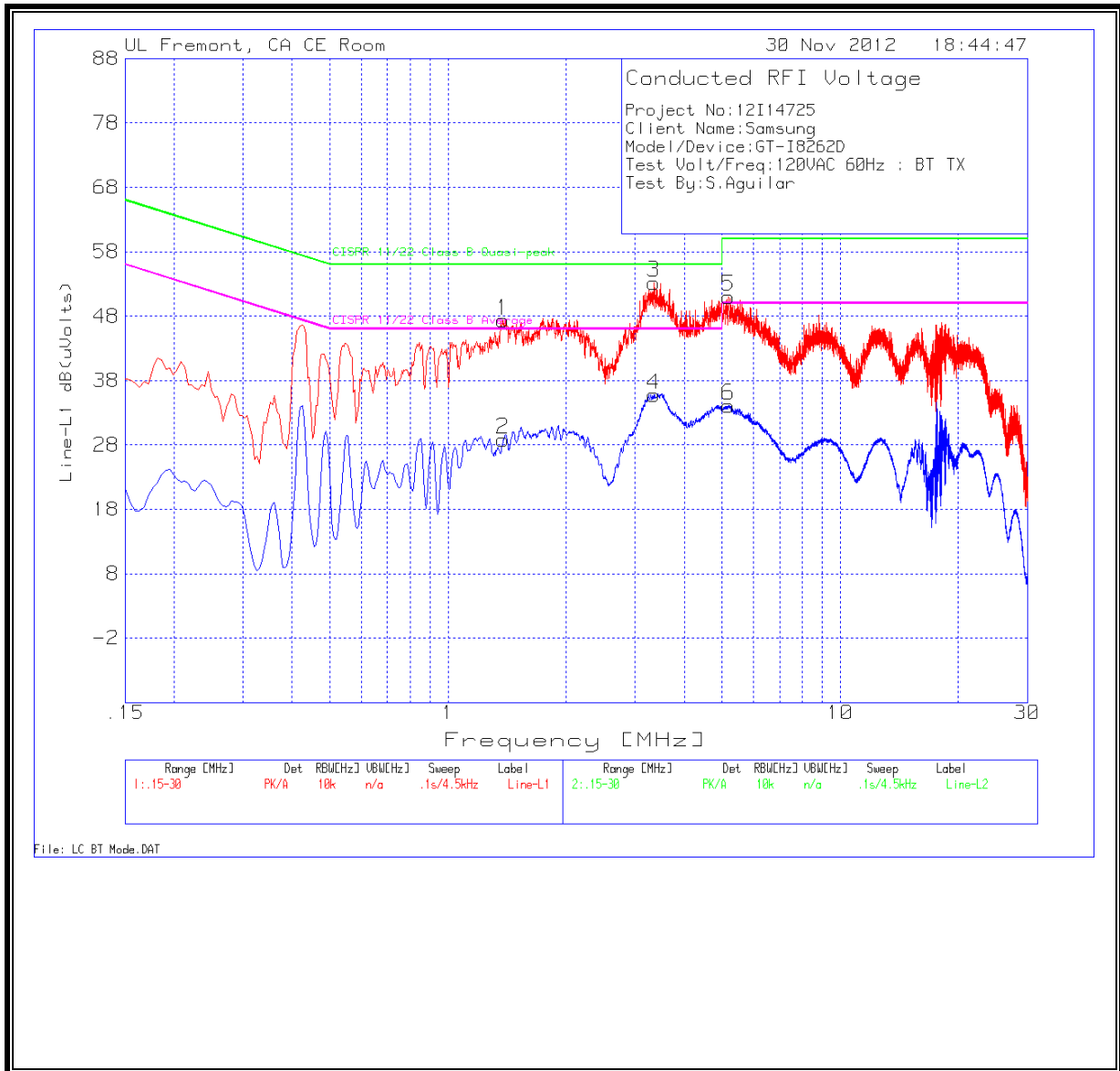
Test Frequency [MHz]	Meter Reading [dBuV]	Detector Type	LISN [dB]	Cables [dB]	Corrected [dB(uV)]	Class B QP Limit	QP Margin	Class B Av Limit [dB(uV)]	Av Margin [dB]
1.842	45.08	PK	0.1	0.1	45.28	56	-10.72	-	-
1.842	27.41	Av	0.1	0.1	27.61	-	-	46	-18.39
3.3405	50.27	PK	0.1	0.1	50.47	56	-5.53	-	-
3.3405	32.95	Av	0.1	0.1	33.15	-	-	46	-12.85
5.487	49.73	PK	0.1	0.1	49.93	60	-10.07	-	-
5.487	30.7	Av	0.1	0.1	30.9	-	-	50	-19.1

PK - Peak detector

QP - Quasi-Peak detector

Av - Average detector

LINE 1 RESULTS



LINE 2 RESULTS

