



FCC 47 CFR PART 15 SUBPART C

**CERTIFICATION TEST REPORT
FOR**

GSM/WCDMA/LTE Phablet + Bluetooth, DTS/UNII a/b/g/n, ANT+ & NFC

MODEL NUMBER: SM-G7508Q

FCC ID: A3LSMG7508Q

REPORT NUMBER: 14U18167-2 REVISION A

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NVLAP LAB CODE 200065-0

Revision History

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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	5
2. TEST METHODOLOGY	6
3. FACILITIES AND ACCREDITATION	6
4. CALIBRATION AND UNCERTAINTY	6
4.1. <i>MEASURING INSTRUMENT CALIBRATION</i>	<i>6</i>
4.2. <i>SAMPLE CALCULATION</i>	<i>6</i>
4.3. <i>MEASUREMENT UNCERTAINTY.....</i>	<i>6</i>
5. EQUIPMENT UNDER TEST	7
5.1. <i>DESCRIPTION OF EUT</i>	<i>7</i>
5.2. <i>MAXIMUM OUTPUT POWER.....</i>	<i>7</i>
5.3. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i>	<i>7</i>
5.4. <i>WORST-CASE CONFIGURATION AND MODE.....</i>	<i>8</i>
5.5. <i>DESCRIPTION OF TEST SETUP.....</i>	<i>9</i>
6. TEST AND MEASUREMENT EQUIPMENT	11
7. SUMMARY TABLE	12
8. ANTENNA PORT TEST RESULTS	13
8.1. <i>20 dB AND 99% BANDWIDTH</i>	<i>13</i>
8.1.1. <i>BASIC DATA RATE GFSK MODULATION</i>	<i>13</i>
8.1.2. <i>ENHANCED DATA RATE 8PSK MODULATION</i>	<i>13</i>
20 dB AND 99% BANDWIDTH PLOTS.....	14
8.2. <i>HOPPING FREQUENCY SEPARATION</i>	<i>26</i>
8.3. <i>NUMBER OF HOPPING CHANNELS.....</i>	<i>28</i>
8.4. <i>AVERAGE TIME OF OCCUPANCY.....</i>	<i>33</i>
8.5. <i>OUTPUT POWER.....</i>	<i>40</i>
8.5.1. <i>BASIC DATA RATE GFSK MODULATION</i>	<i>40</i>
8.5.2. <i>ENHANCED DATA RATE 8PSK MODULATION</i>	<i>40</i>
8.5.3. <i>OUTPUT POWER PLOTS</i>	<i>41</i>
8.6. <i>AVERAGE POWER.....</i>	<i>47</i>
8.6.1. <i>BASIC DATA RATE GFSK MODULATION</i>	<i>47</i>
8.6.2. <i>ENHANCED DATA RATE 8PSK MODULATION</i>	<i>47</i>
8.7. <i>CONDUCTED SPURIOUS EMISSIONS.....</i>	<i>48</i>
8.7.1. <i>BASIC DATA RATE GFSK MODULATION</i>	<i>49</i>
ENHANCED DATA RATE 8PSK MODULATION	57
9. RADIATED TEST RESULTS.....	65
9.1. <i>LIMITS AND PROCEDURE</i>	<i>65</i>

9.2. TRANSMITTER ABOVE 1 GHz66
 9.2.1. BASIC DATA RATE GFSK MODULATION66
 9.2.2. ENHANCED DATA RATE 8PSK MODULATION79
9.3. WORST-CASE BELOW 1 GHz.....92
10. AC POWER LINE CONDUCTED EMISSIONS94
11. SETUP PHOTOS99

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA/LTE Phablet + Bluetooth, DTS/UNII a/b/g/n, ANT+ & NFC
MODEL: SM-G7508Q
SERIAL NUMBER: FL-244-D (Conducted), FL-244-B (Radiated)
DATE TESTED: JUNE 30- JULY 11, 2014

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

UL Verification Services Inc. 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 Verification Services Inc. 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 Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. 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.

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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.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
<input type="checkbox"/> Chamber A	<input type="checkbox"/> Chamber D
<input checked="" type="checkbox"/> Chamber B	<input type="checkbox"/> Chamber E
<input type="checkbox"/> Chamber C	<input type="checkbox"/> Chamber F

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/2000650.htm>.

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:

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

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 18000 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/WCDMA/LTE Phablet + Bluetooth, DTS/UNII a/b/g/n, ANT+ & NFC.

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	13.40	21.88
2402 - 2480	Enhanced 8PSK	13.24	21.09

Note: GFSK, Pi/4-DQPSK, 8PSK average Power are all investigated, The GFSK & 8PSK Power are the worst case. Testing is based on this mode to showing compliance. For average power data please refer to section 8.6.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of 0.14 dBi.

5.4. 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,Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

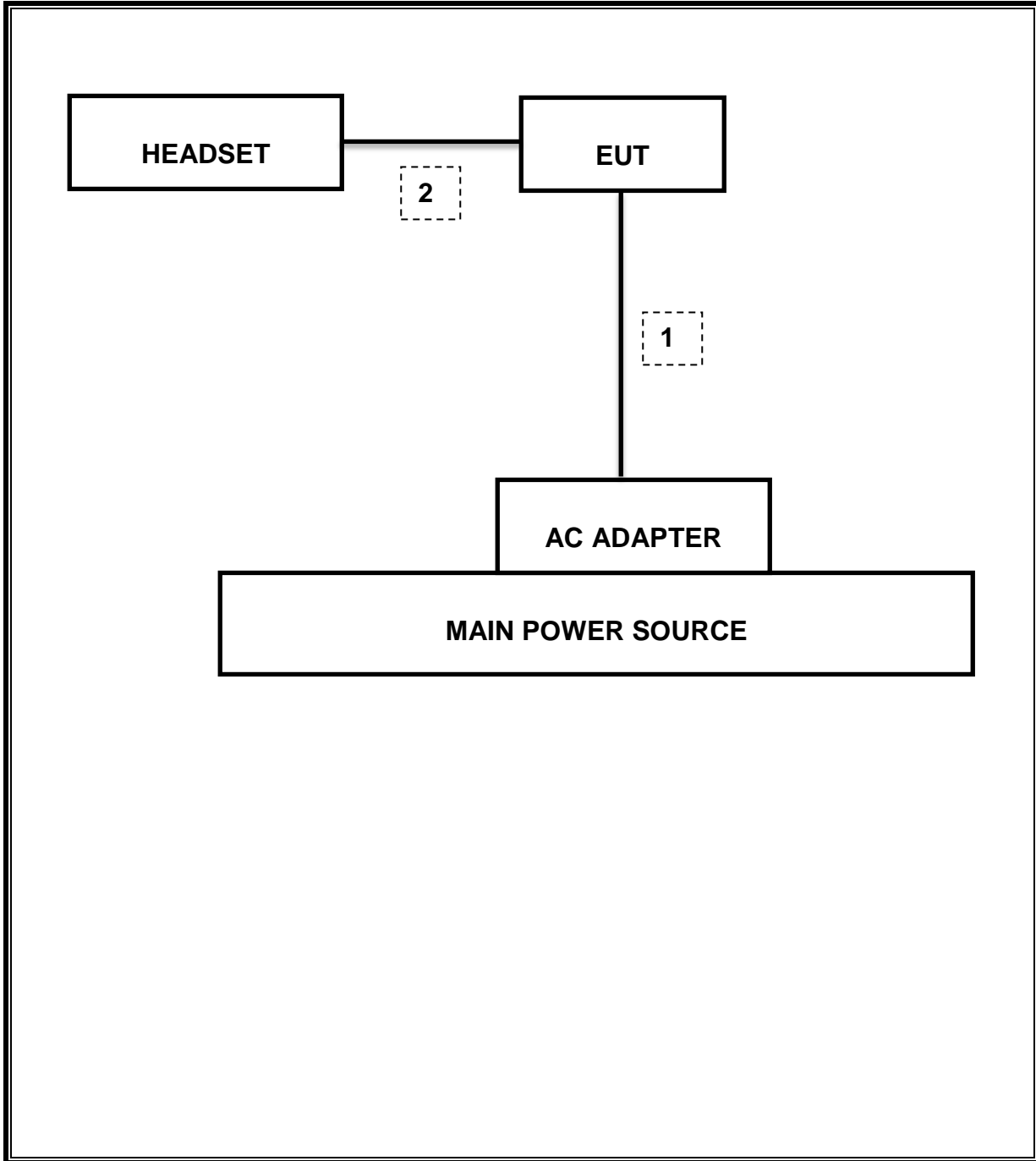
Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Samsung	SM-G7508Q	N/A	N/A
Earphone	Samsung	SM-G7508Q	N/A	N/A

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	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

TEST SETUP

The EUT is continuously communicating to the Bluetooth tester during the tests. EUT was set in the Hidden menu mode to enable BT communications.



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
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01171	02/13/15
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/14
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/14/14
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00580	01/28/15
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	10/22/14
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/14
CBT Bluetooth Tester	R & S	CBT	None	07/12/14
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/14
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/14/15
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	N02684	CNR
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/14

7. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
2.1049	RSS-GEN 4.6	Occupied Band width (99%)	N/A	Conducted	Pass	1.134 MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-41.83dBm
15.247 (b)(1)	RSS-210 A8.4	TX conducted output power	<21dBm		Pass	13.4 dBm
15.247 (a)(1)	RSS-210 A8.1(b)	Hopping frequency separation	> 25KHz		Pass	1 MHz
15.247 (a)(1)(iii)	RSS-210 A8.1(d)	Number of Hopping channels	More than 15 non-overlapping channels		Pass	79 ch
15.247 (a)(1)(iii)	RSS-210 A8.1(d)	Avg Time of Occupancy	< 0.4sec		Pass	0.29 s
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	36.7 dBuV
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	40.12dBuV/m

8. ANTENNA PORT TEST RESULTS

8.1. 20 dB AND 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

DA 00-705: 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

8.1.1. BASIC DATA RATE GFSK MODULATION

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	0.565	0.872
Middle	2441	0.570	0.899
High	2480	0.571	1.005
Worst		0.571	1.005

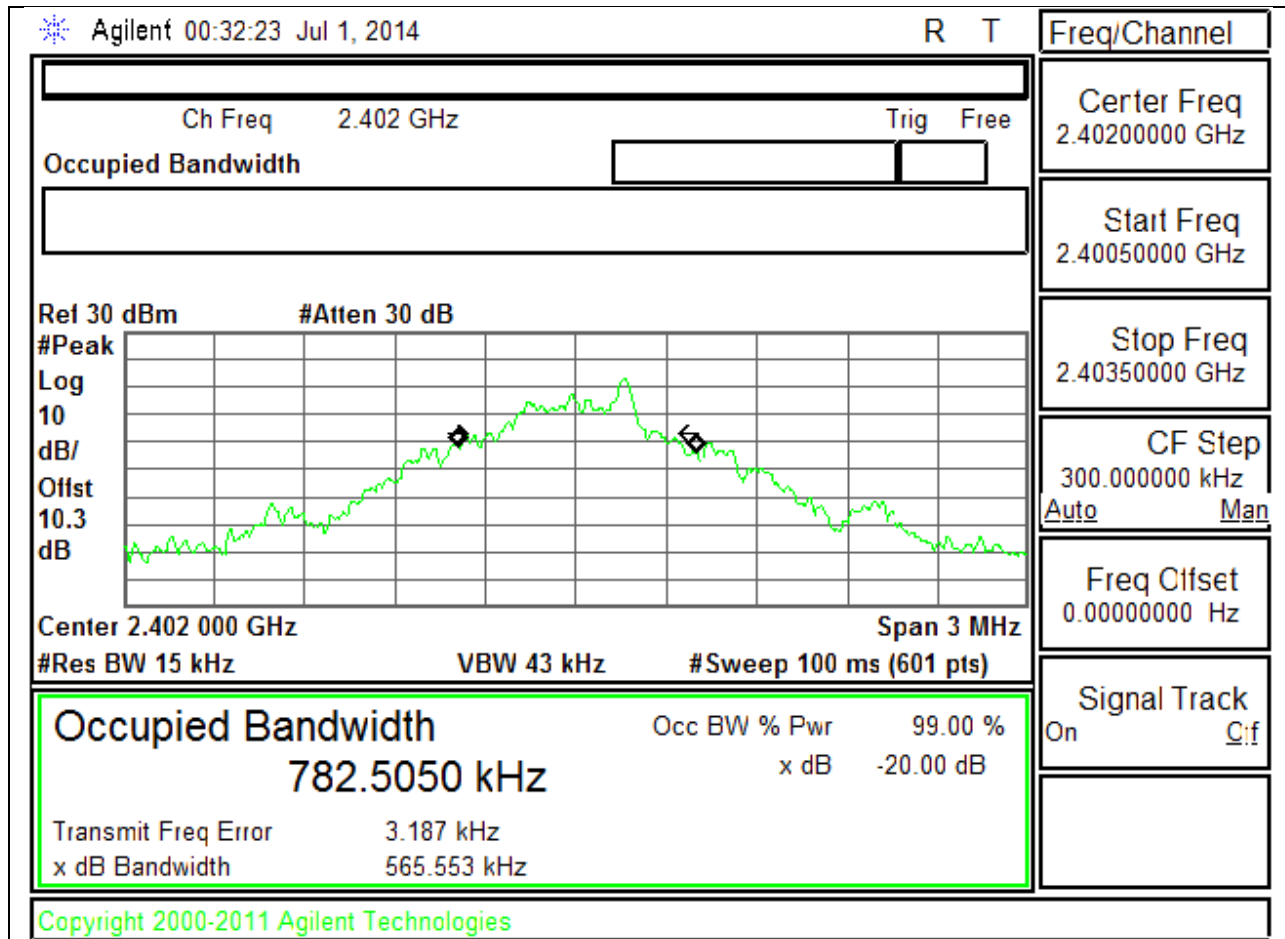
8.1.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.196	1.031
Middle	2441	1.193	1.093
High	2480	1.201	1.134
Worst		1.201	1.134

20 dB AND 99% BANDWIDTH PLOTS

GFSK 20 dB BANDWIDTH

LOW CHANNEL



MID CHANNEL

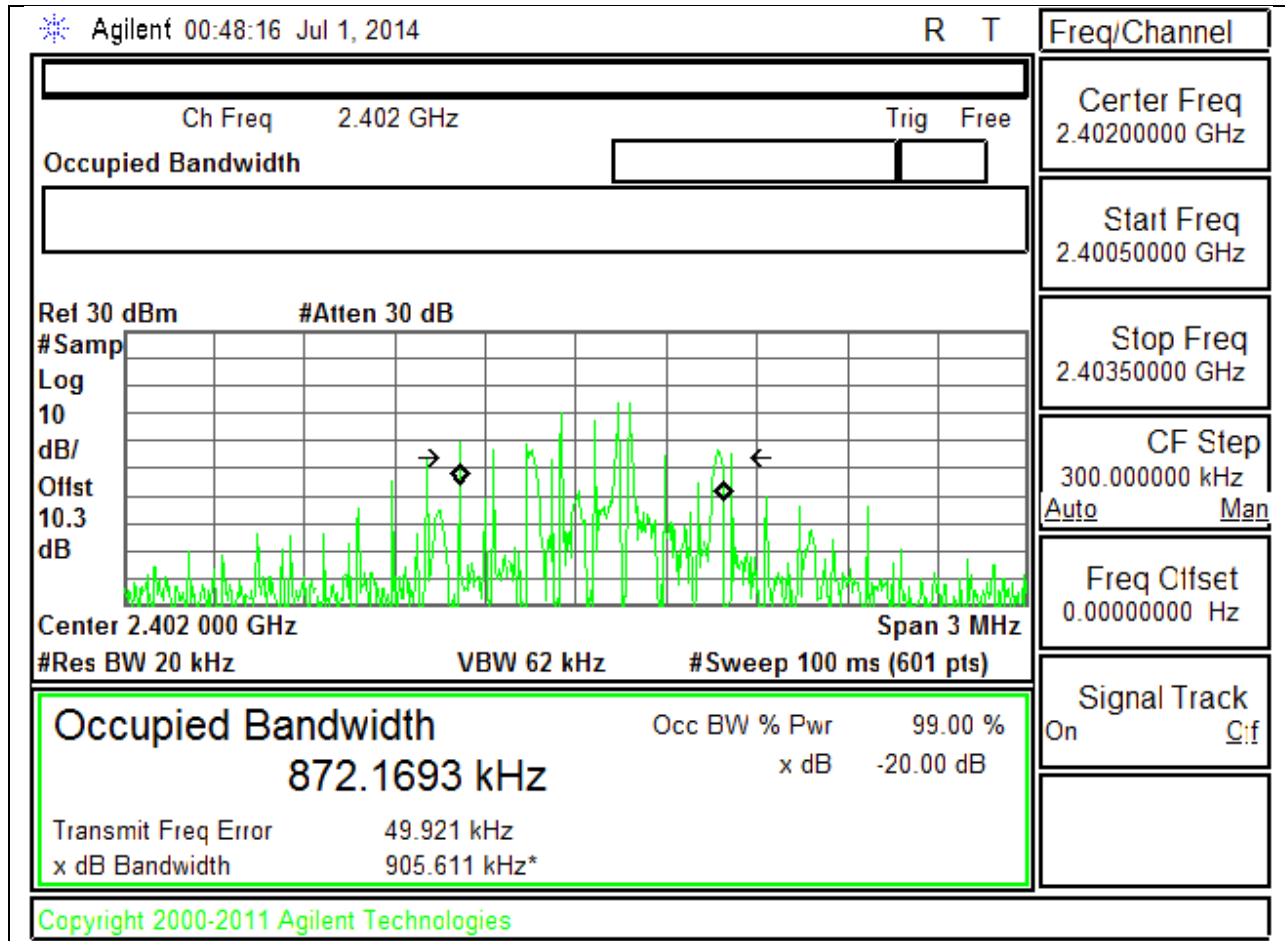
Agilent 00:40:17 Jul 1, 2014		R T	Freq/Channel
Ch Freq 2.441 GHz		Trig Free	
Occupied Bandwidth		Center Freq 2.44100000 GHz	
Ref 30 dBm #Atten 30 dB		Start Freq 2.43950000 GHz	
#Peak Log 10 dB/ Offst 10.3 dB		Stop Freq 2.44250000 GHz	
		CF Step 300.000000 kHz Auto Man	
Center 2.441 000 GHz		Span 3 MHz	
#Res BW 15 kHz		VBW 43 kHz #Sweep 100 ms (601 pts)	
Occupied Bandwidth 807.5172 kHz		Occ BW % Pwr 99.00 % x dB -20.00 dB	
Transmit Freq Error 17.469 kHz		Signal Track On C:f	
x dB Bandwidth 570.736 kHz			
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HIGH CHANNEL

* Agilent 00:41:17 Jul 1, 2014		R T	Freq/Channel
Ch Freq 2.48 GHz		Trig Free	
Occupied Bandwidth		Center Freq 2.48000000 GHz	
Ref 30 dBm #Atten 30 dB		Start Freq 2.47850000 GHz	
#Peak Log 10 dB/ Offst 10.3 dB		Stop Freq 2.48150000 GHz	
		CF Step 300.000000 kHz Auto Man	
Center 2.480 000 GHz		Span 3 MHz	
#Res BW 15 kHz		VBW 43 kHz #Sweep 100 ms (601 pts)	
Occupied Bandwidth 796.0861 kHz		Occ BW % Pwr 99.00 % x dB -20.00 dB	
Transmit Freq Error 7.758 kHz		Signal Track On C:f	
x dB Bandwidth 571.955 kHz			
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GFSK 99% BANDWIDTH

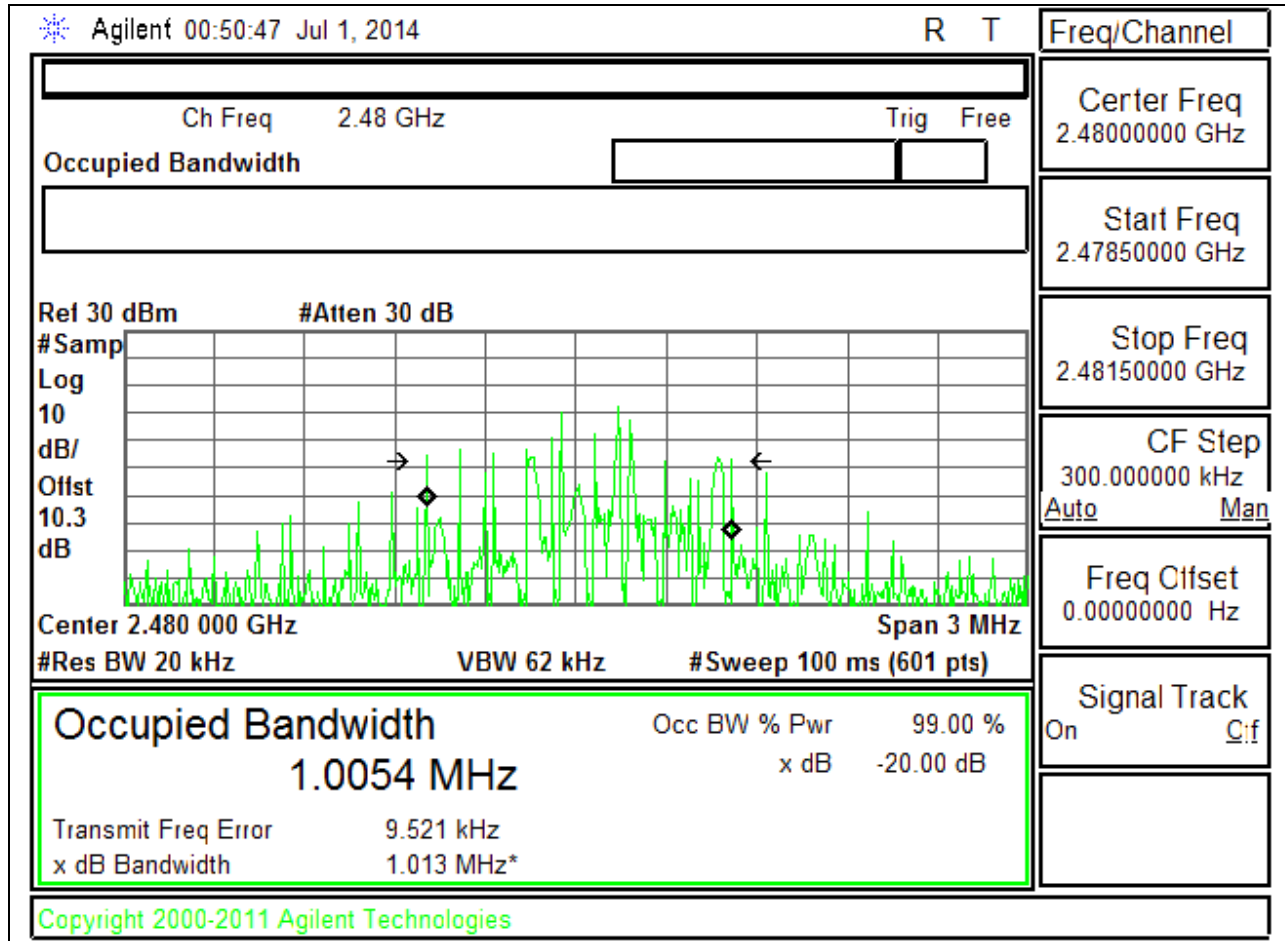
LOW CHANNEL



MID CHANNEL

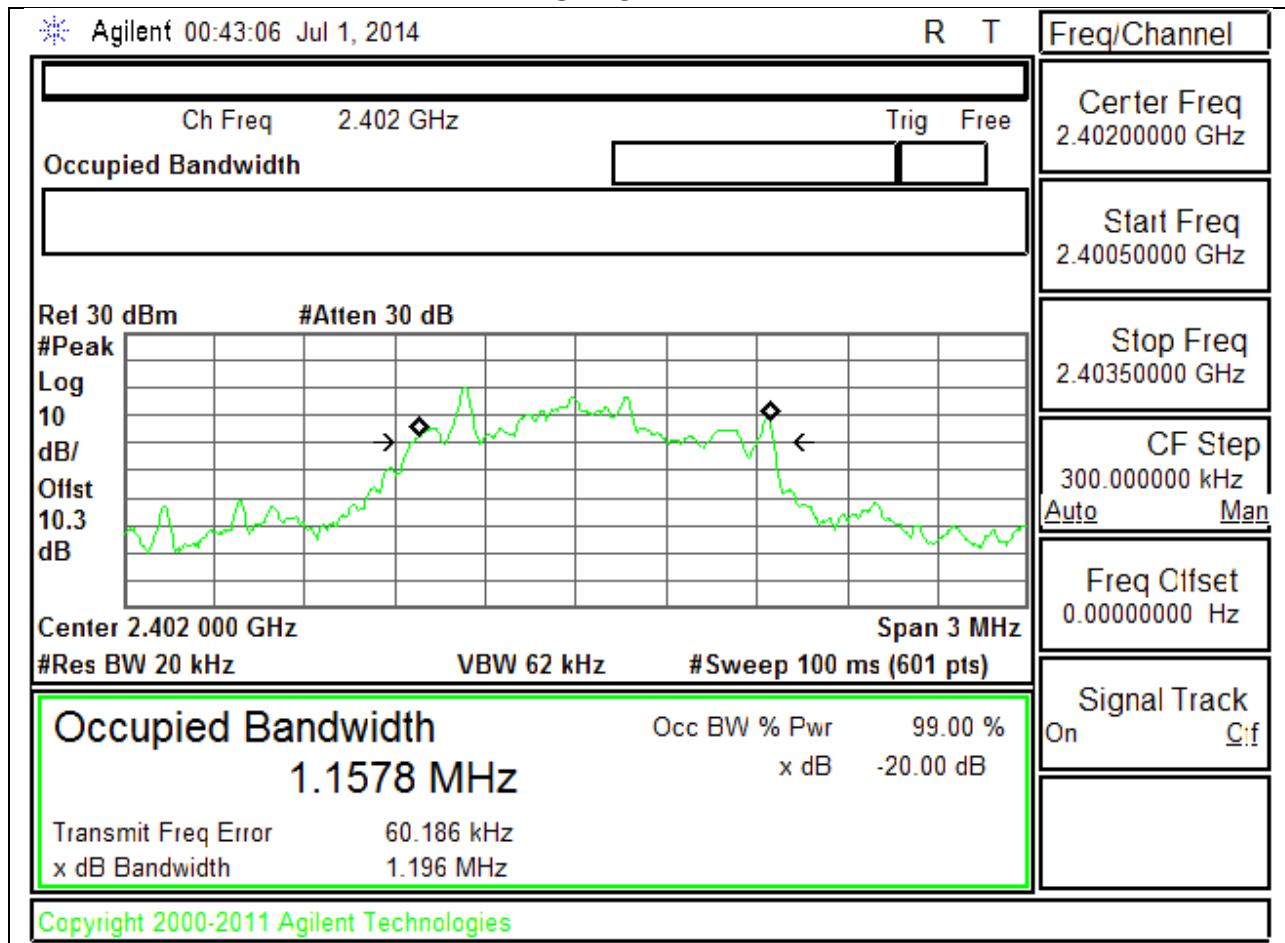
Agilent 00:49:45 Jul 1, 2014		R T	Freq/Channel
Ch Freq 2.441 GHz		Trig Free	
Occupied Bandwidth		Center Freq 2.44100000 GHz	
Start Freq 2.43950000 GHz		Stop Freq 2.44250000 GHz	
CF Step 300.000000 kHz <small>Auto Man</small>		Freq Offset 0.00000000 Hz	
Signal Track <small>On Off</small>			
Ref 30 dBm #Atten 30 dB			
Center 2.441 000 GHz		Span 3 MHz	
#Res BW 20 kHz		#Sweep 100 ms (601 pts)	
Occupied Bandwidth 899.6411 kHz		Occ BW % Pwr 99.00 % x dB -20.00 dB	
Transmit Freq Error 63.281 kHz			
x dB Bandwidth 1.012 MHz*			
Copyright 2000-2011 Agilent Technologies			

HIGH CHANNEL



8PSK 20 dB BANDWIDTH

LOW CHANNEL



MID CHANNEL

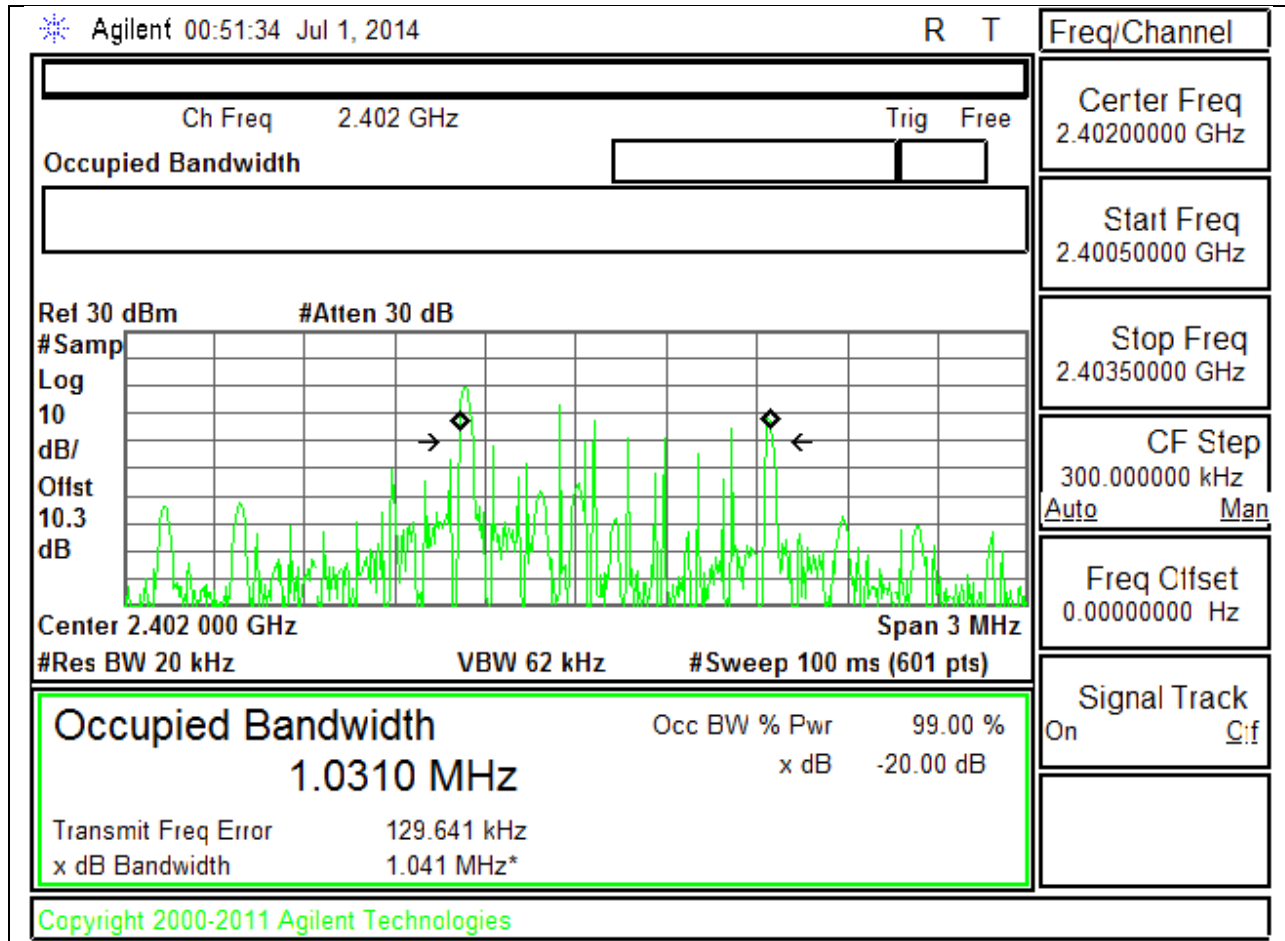
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Ch Freq 2.441 GHz		Trig Free	
Occupied Bandwidth		Center Freq 2.44100000 GHz	
Ref 30 dBm #Atten 30 dB		Start Freq 2.43950000 GHz	
#Peak Log 10 dB/ Offst 10.3 dB		Stop Freq 2.44250000 GHz	
		CF Step 300.000000 kHz Auto Man	
Center 2.441 000 GHz		Span 3 MHz	
#Res BW 20 kHz		VBW 62 kHz #Sweep 100 ms (601 pts)	
Occupied Bandwidth 1.1584 MHz		Occ BW % Pwr 99.00 % x dB -20.00 dB	
Transmit Freq Error 59.875 kHz		Signal Track On C:f	
x dB Bandwidth 1.193 MHz			
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HIGH CHANNEL

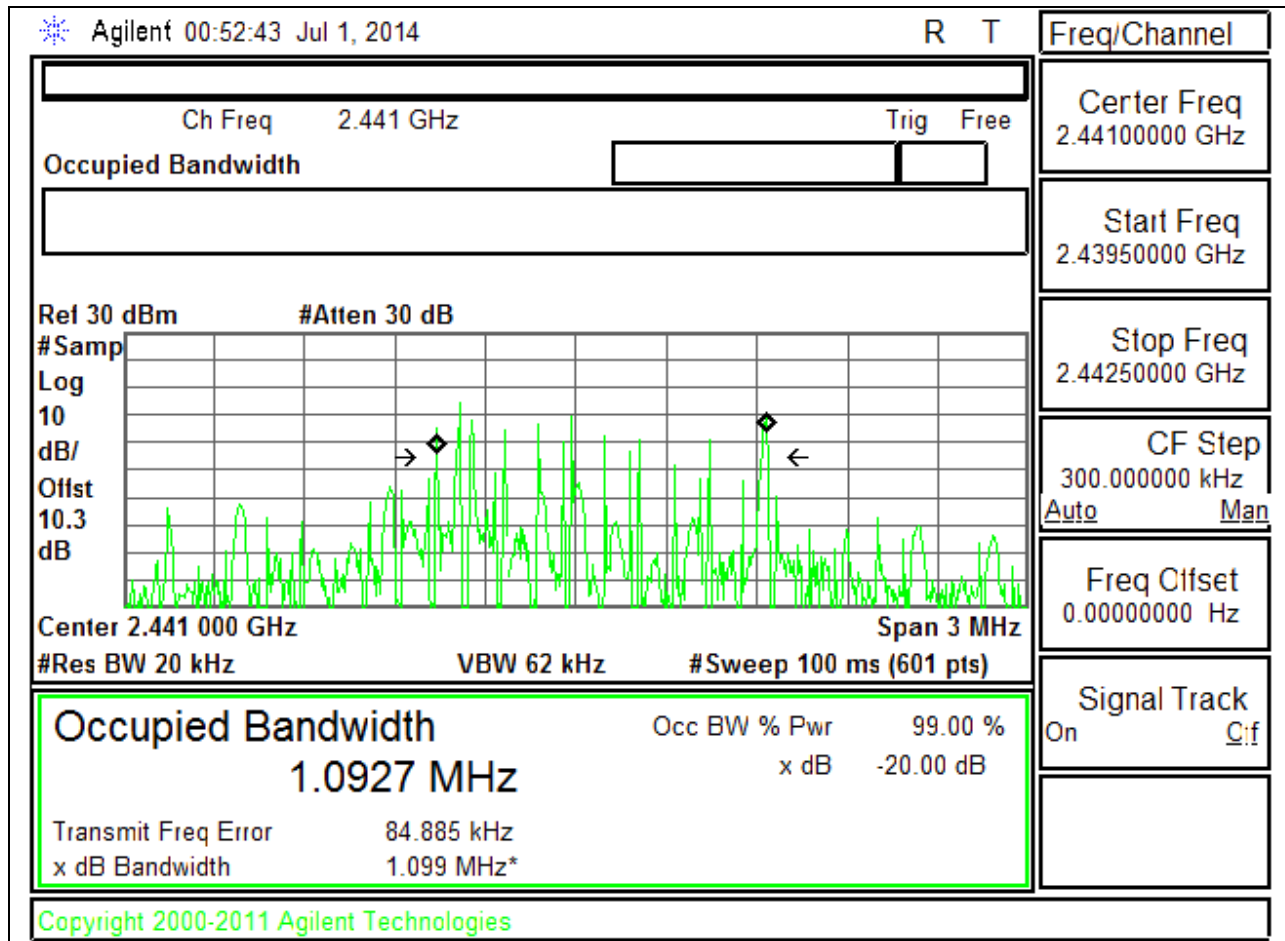
Agilent 00:45:46 Jul 1, 2014		R T	Freq/Channel
Ch Freq 2.48 GHz		Trig Free	
Occupied Bandwidth		Center Freq 2.48000000 GHz	
Ref 30 dBm #Atten 30 dB		Start Freq 2.47850000 GHz	
#Peak Log 10 dB/ Offst 10.3 dB		Stop Freq 2.48150000 GHz	
		CF Step 300.000000 kHz Auto Man	
Center 2.480 000 GHz		Span 3 MHz	
#Res BW 20 kHz		VBW 62 kHz #Sweep 100 ms (601 pts)	
Occupied Bandwidth 1.1624 MHz		Occ BW % Pwr 99.00 % x dB -20.00 dB	
Transmit Freq Error 57.261 kHz		Signal Track On C:f	
x dB Bandwidth 1.201 MHz			
Copyright 2000-2011 Agilent Technologies			

8PSK 99% BANDWIDTH

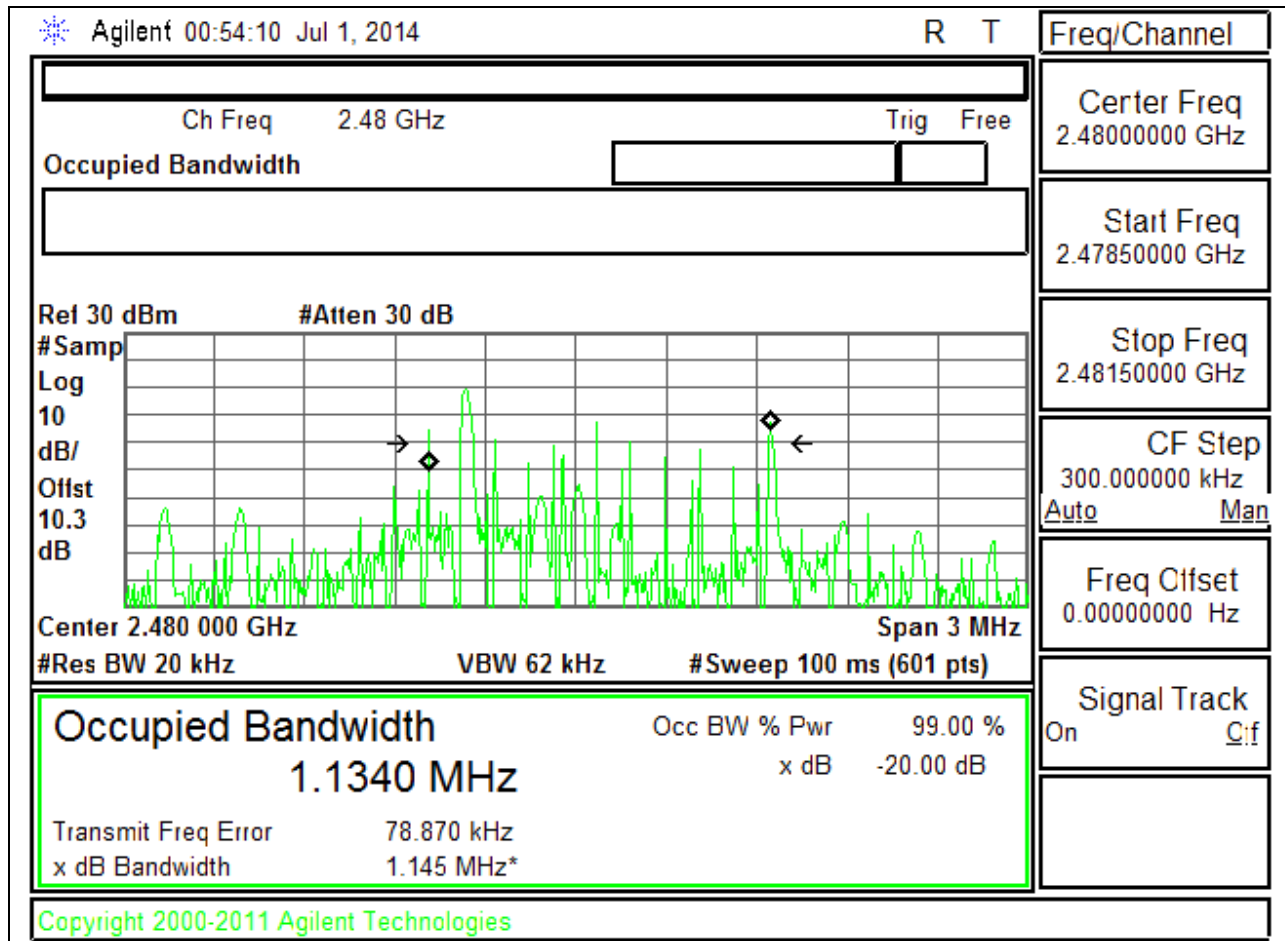
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.2. 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.

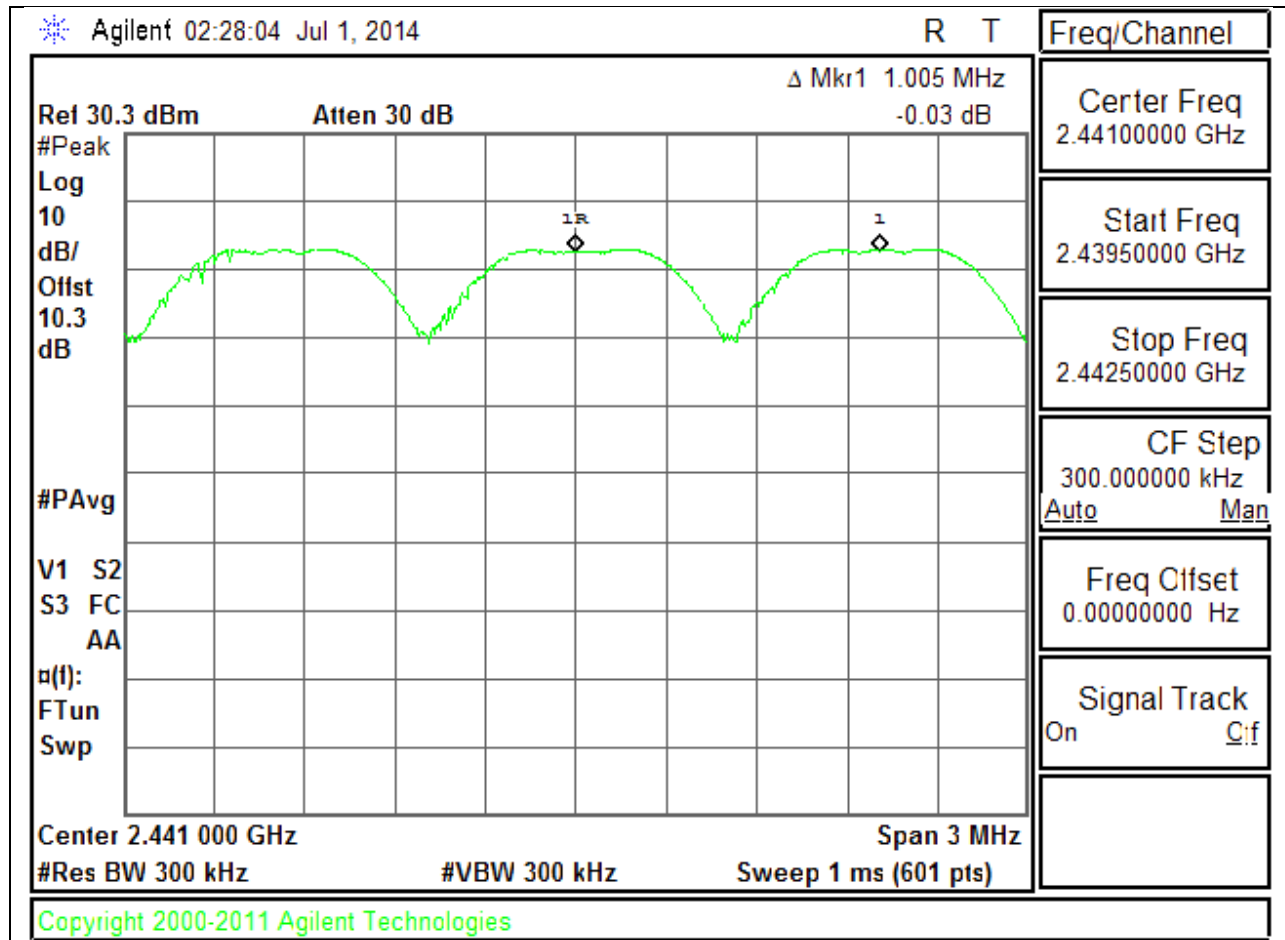
TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer. The RBW is set to 300 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

RESULTS

Note: EDR data has been verified to display the worst case set of data in this report.

HOPPING FREQUENCY SEPARATION PLOT



8.3. 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

DA 00-705: 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.

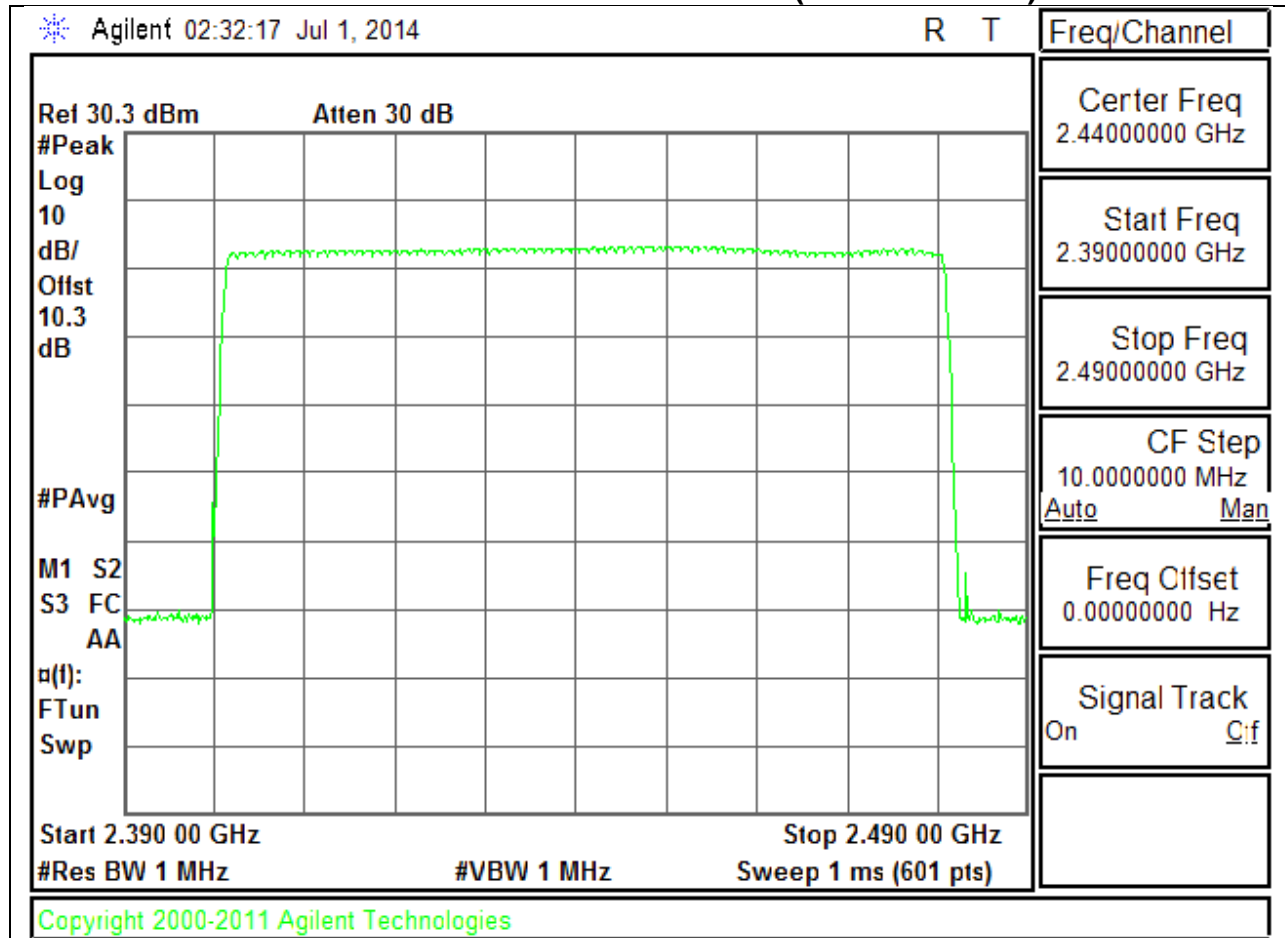
RESULTS

Normal Mode: 79 Channels observed.

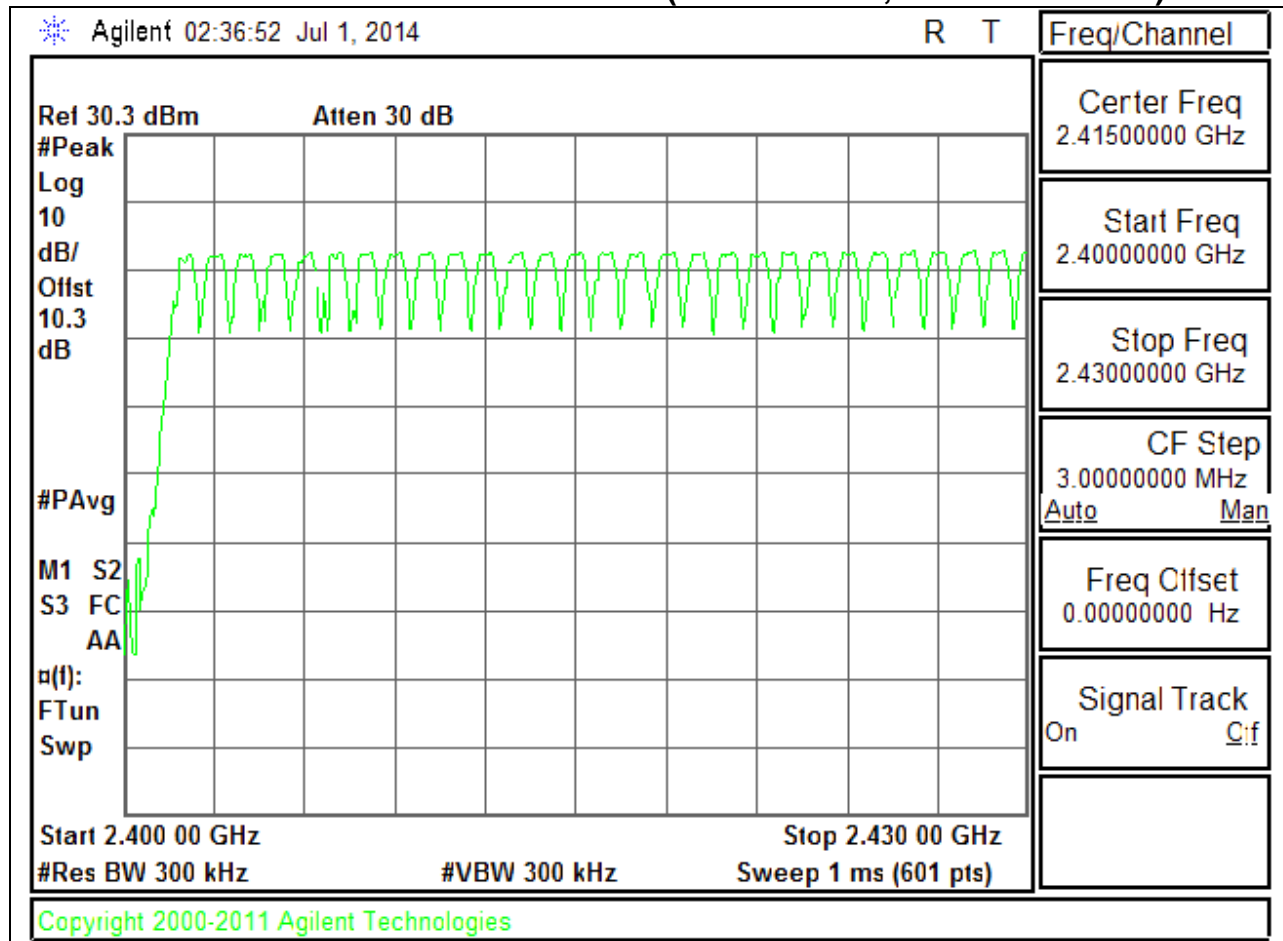
Note: EDR data has been verified to display the worst case set of data in this report.

NUMBER OF HOPPING CHANNELS PLOTS

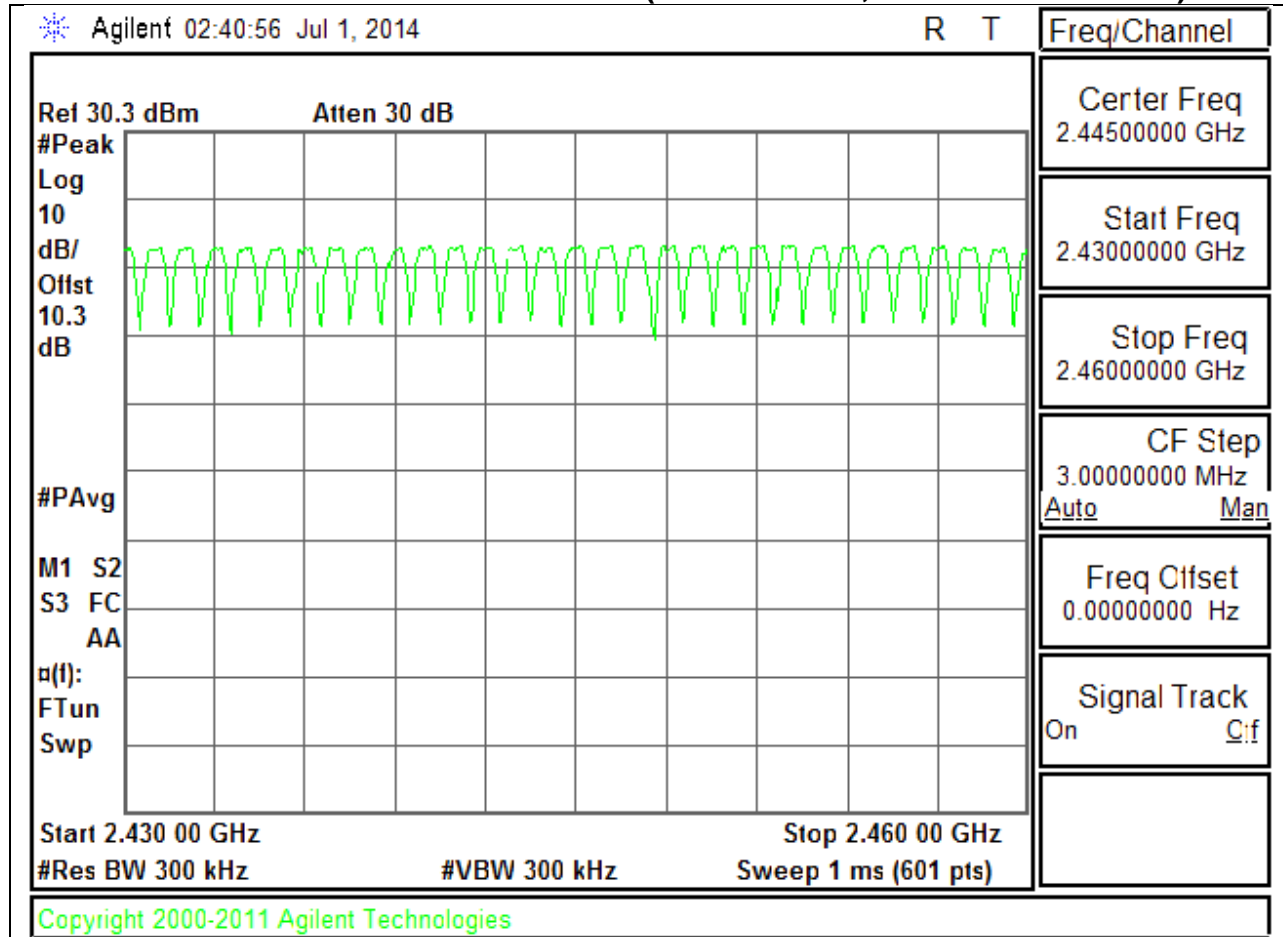
NUMBER OF HOPPING CHANNELS (100 MHZ SPAN)



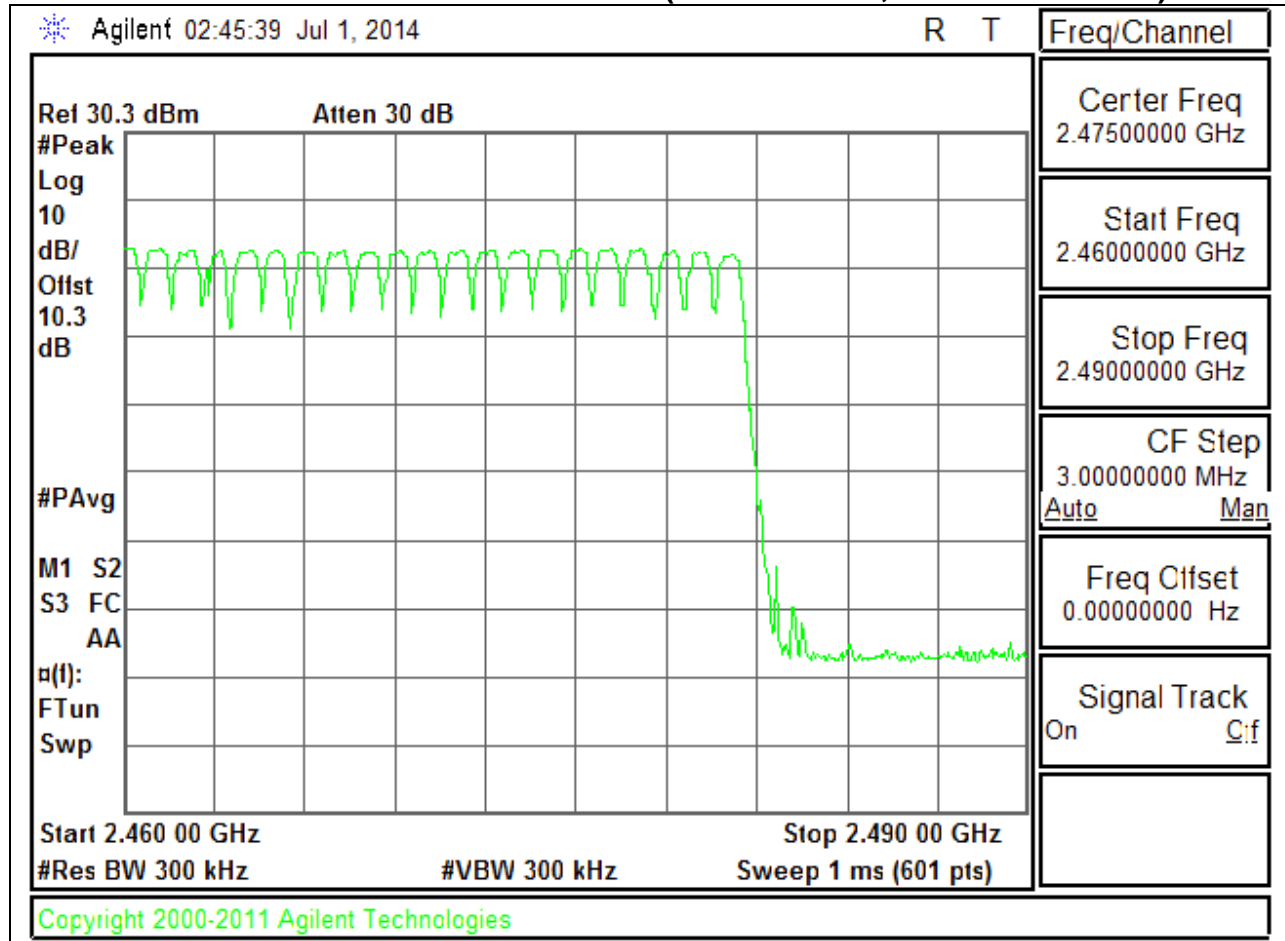
NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, FIRST SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, SECOND SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, THIRD SEGMENT)



8.4. 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 $10 * (\# \text{ of pulses in } 3.16 \text{ s}) * \text{ pulse width}$.

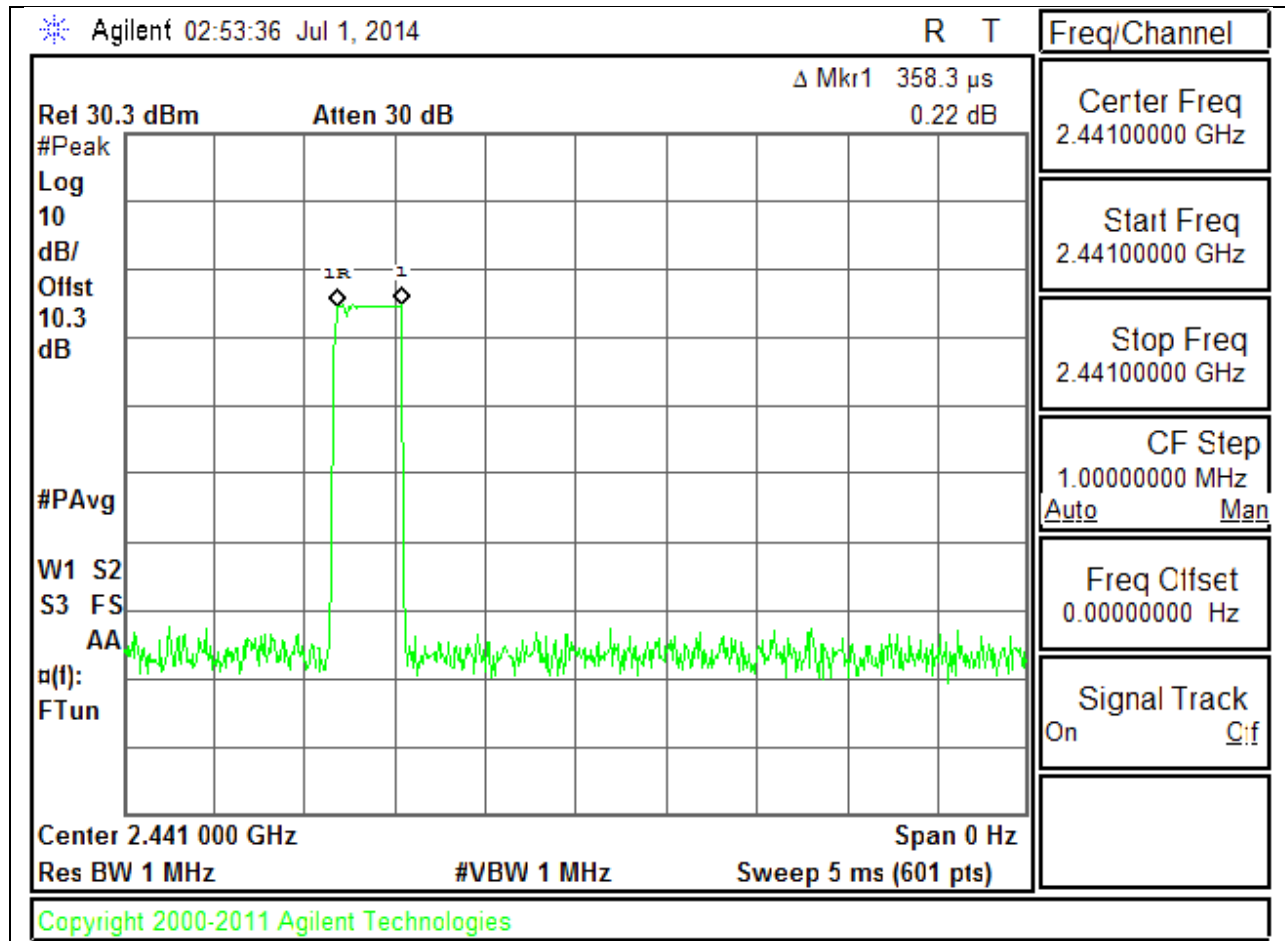
For AFH mode, the average time of occupancy in the specified 8 second period (20 channels * 0.4 seconds) is equal to $10 * (\# \text{ of pulses in } 0.8 \text{ s}) * \text{ pulse width}$.

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	0.3583	30	0.10749	0.4	-0.29251
DH3	1.608	18	0.28944	0.4	-0.11056
DH5	2.883	6	0.17298	0.4	-0.22702
GFSK AFH Mode					
DH Packet	Pulse Width (msec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
DH1	0.3583	8	0.028664	0.4	-0.37134
DH3	1.608	5	0.0804	0.4	-0.3196
DH5	2.883	2	0.05766	0.4	-0.34234

Note: Both BDR & EDR data has been verified to display the worst case set of data in this report.

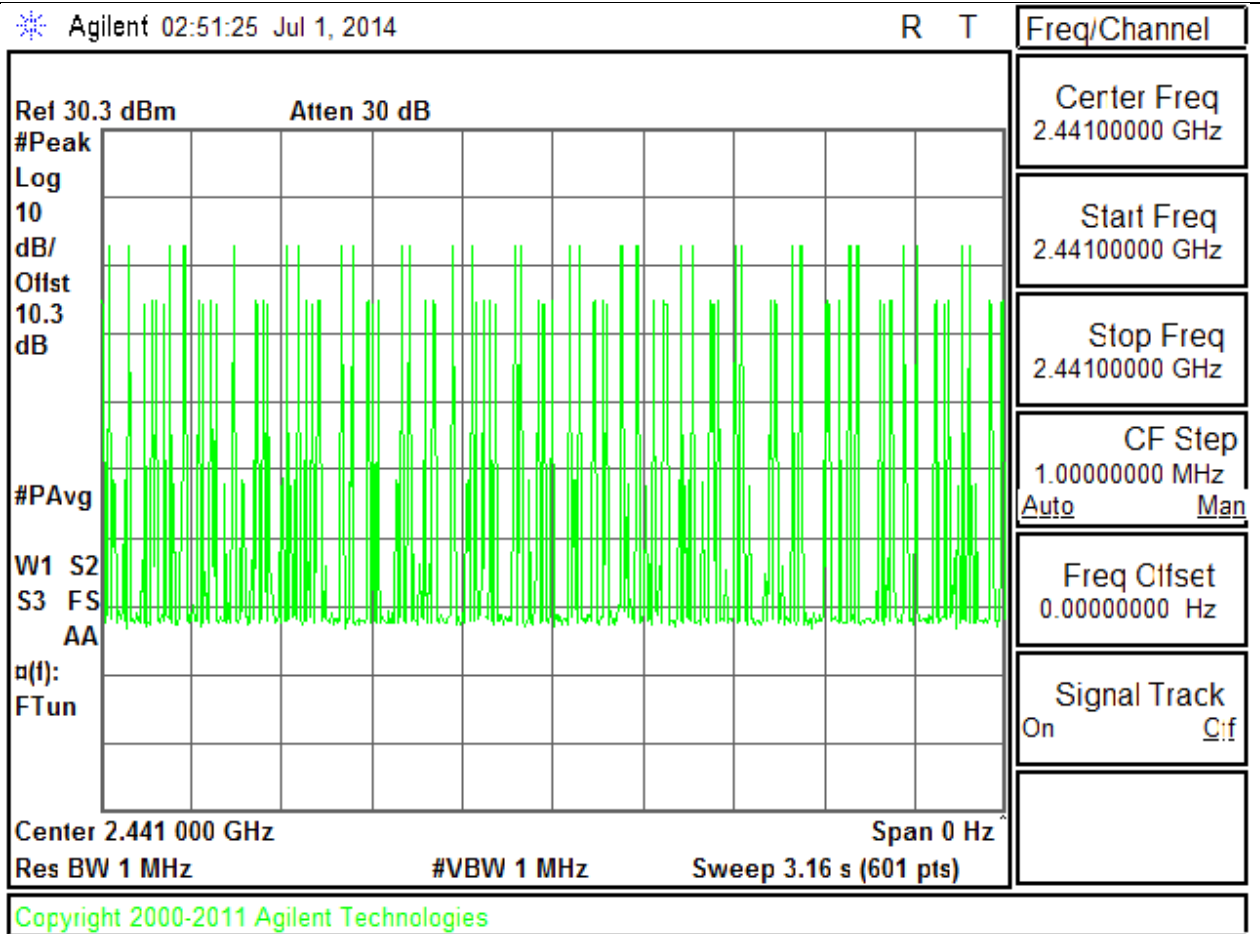
PULSE WIDTH - DH1



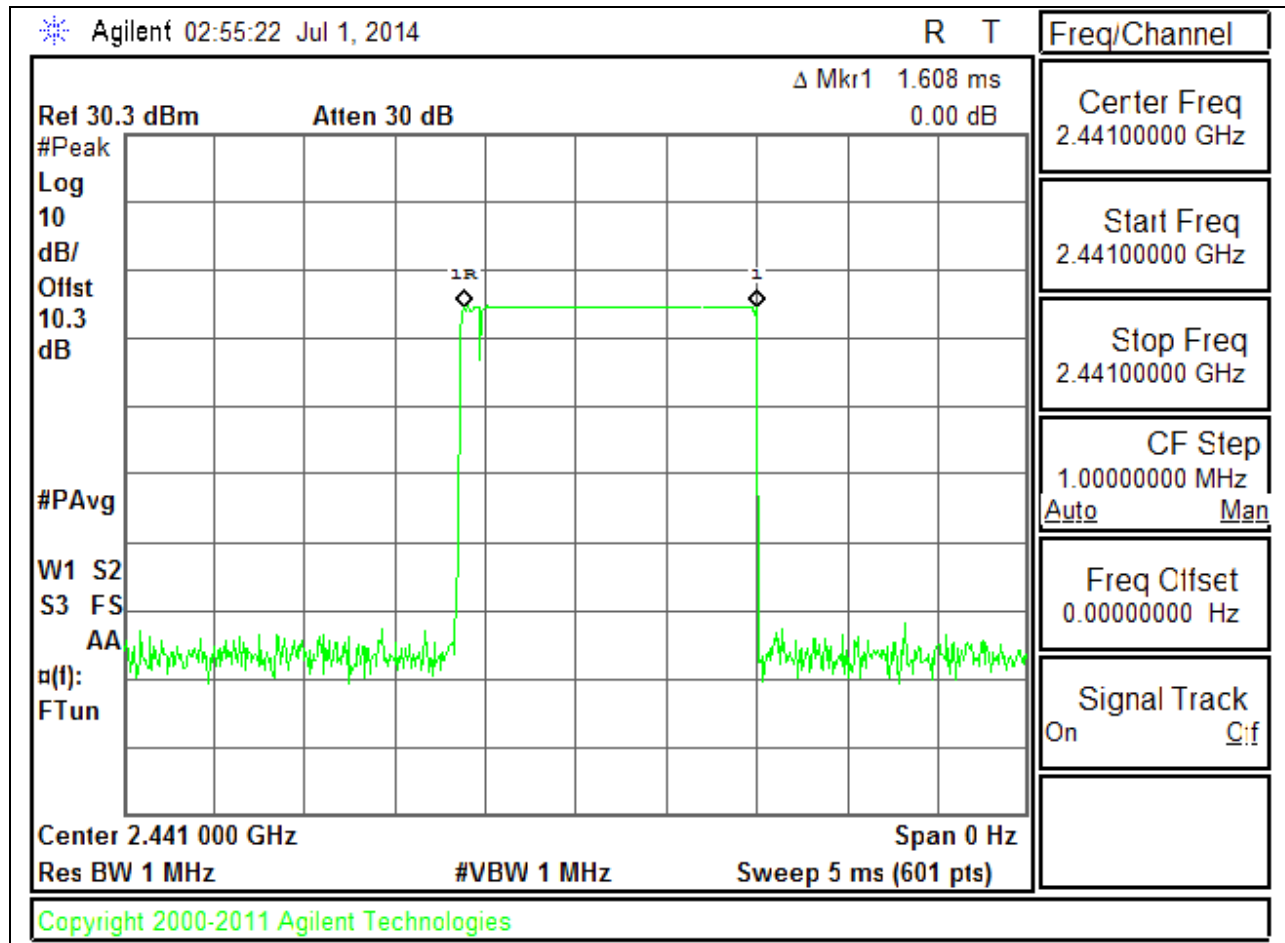
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH1

Agilent 02:51:25 Jul 1, 2014

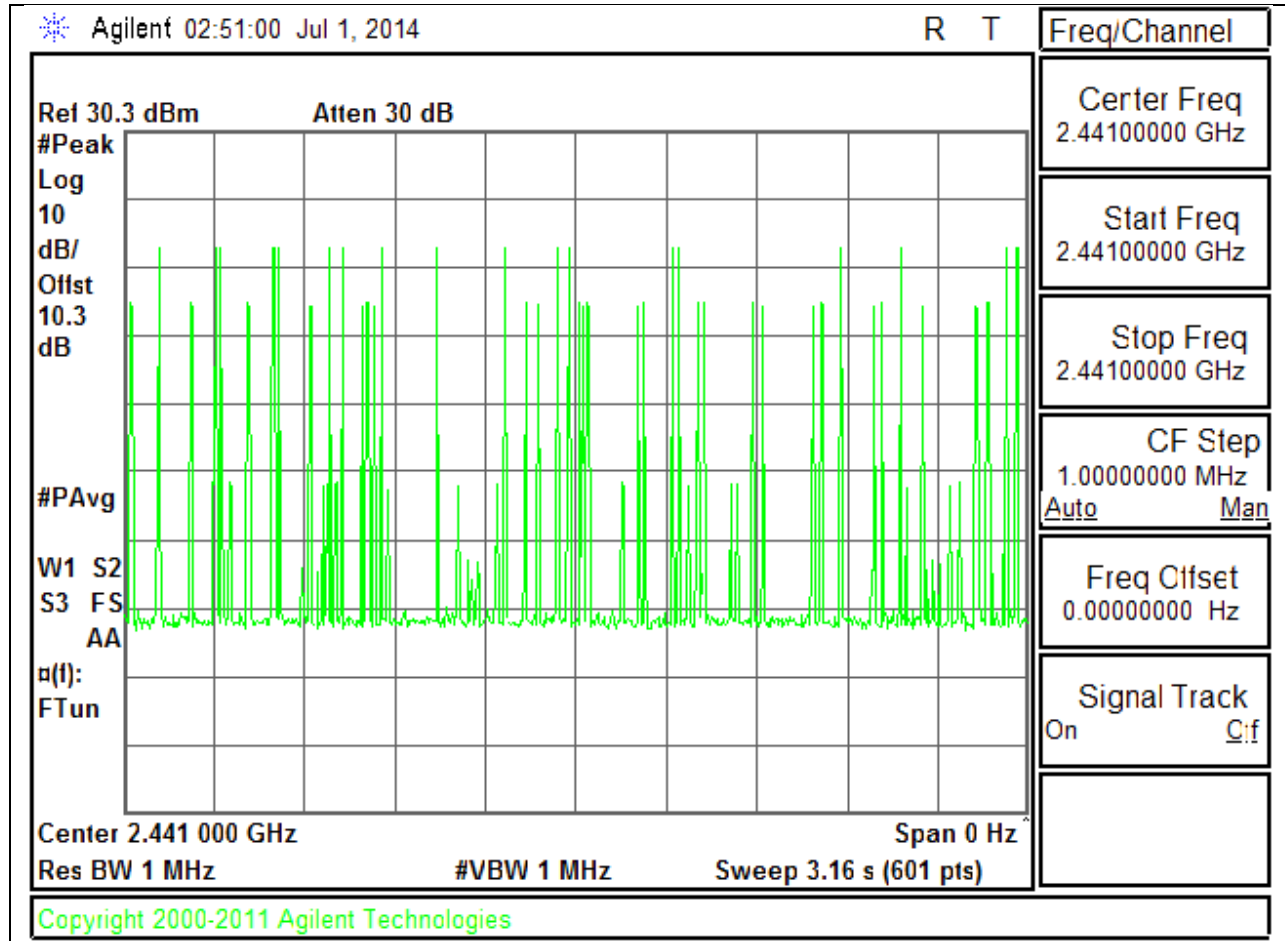
R T



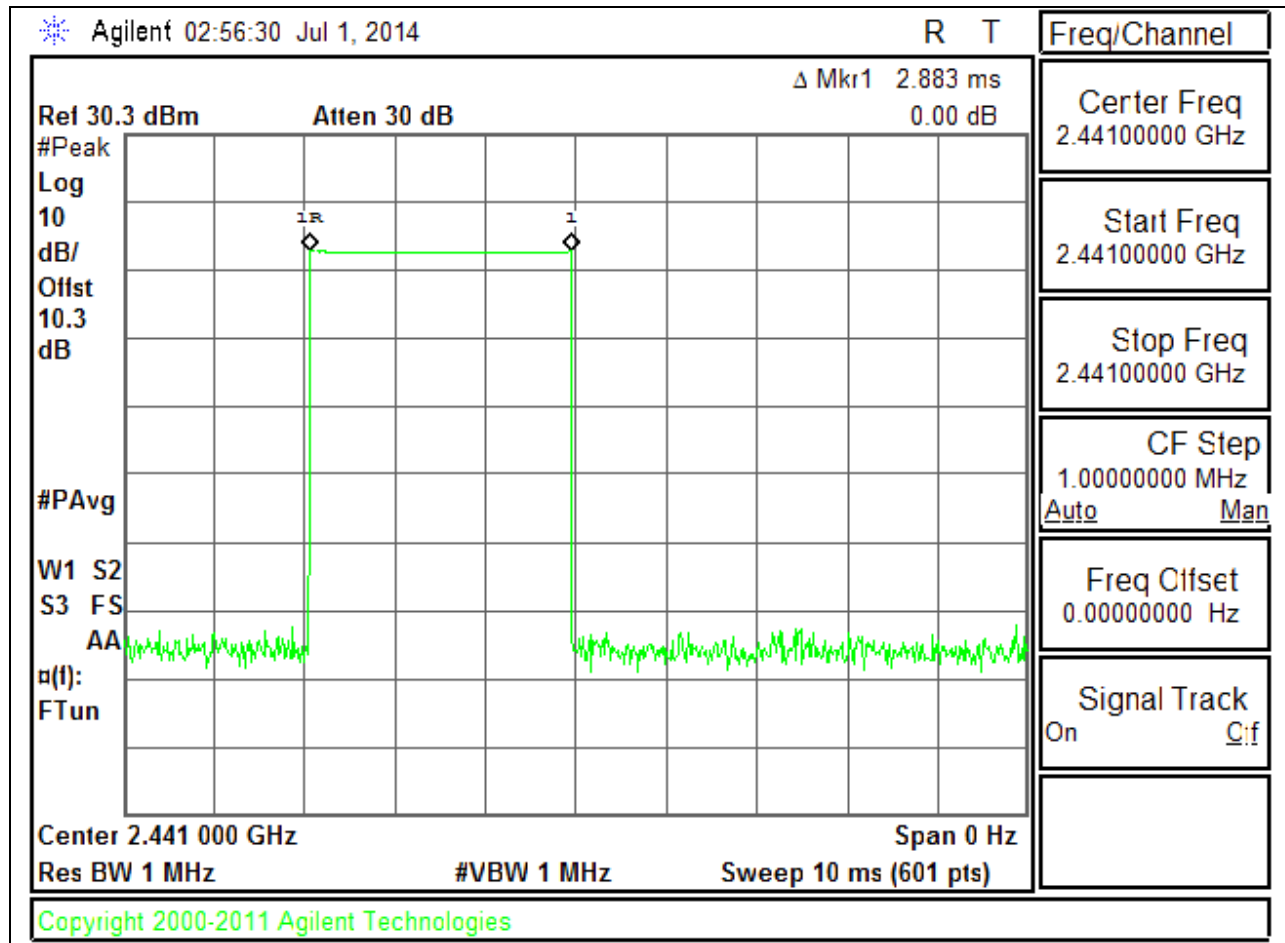
PULSE WIDTH - DH3



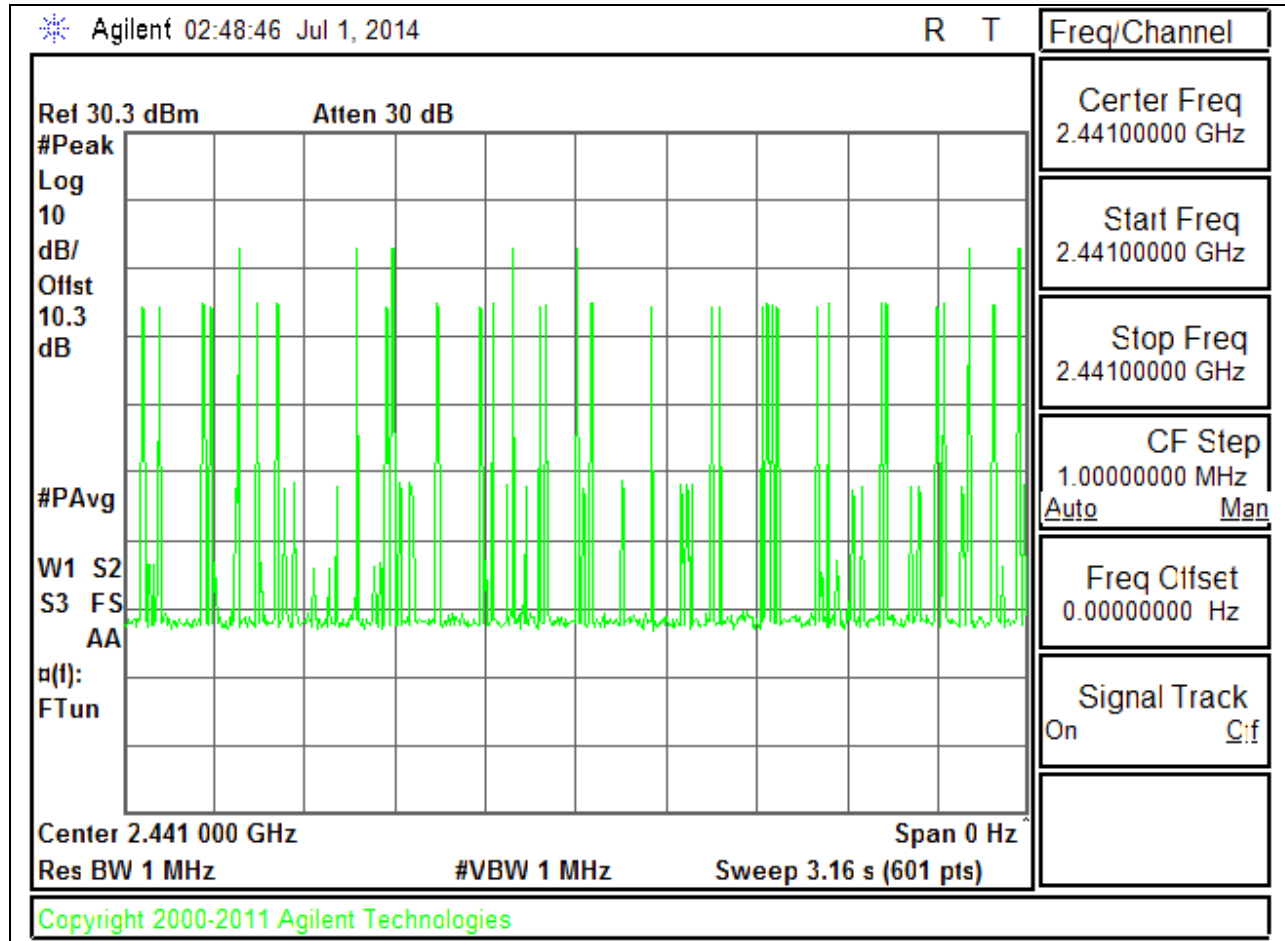
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH3



PULSE WIDTH - DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH5



8.5. 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 21 dBm.

TEST PROCEDURE

DA 00-705: 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

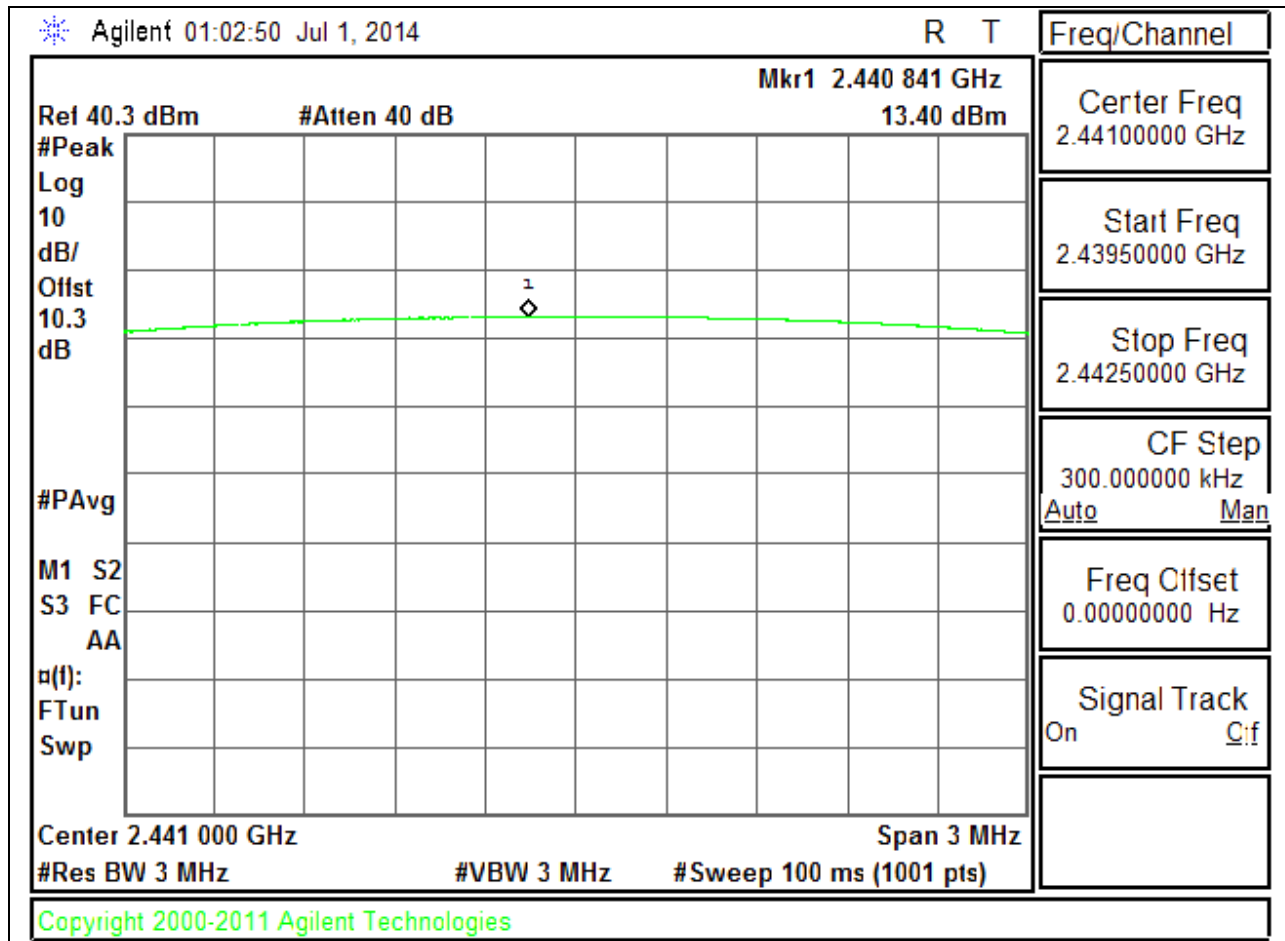
8.5.1. BASIC DATA RATE GFSK MODULATION

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	12.71	21	-8.29
Middle	2441	13.40	21	-7.6
High	2480	12.57	21	-8.43
Worst		13.40		-7.6

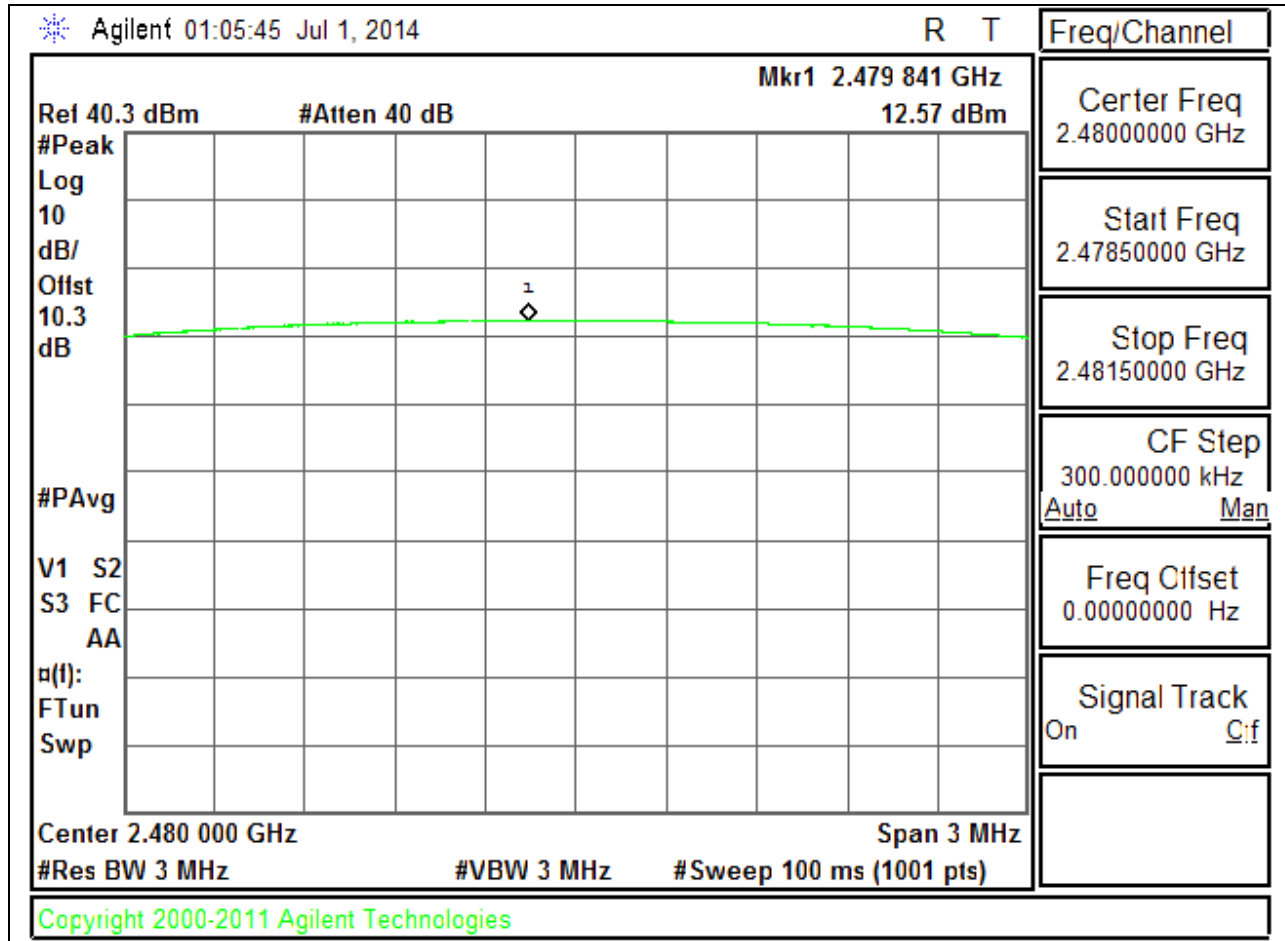
8.5.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	12.38	21	-8.62
Middle	2441	13.24	21	-7.76
High	2480	12.29	21	-8.71
Worst		13.24		-7.76

MID CHANNEL

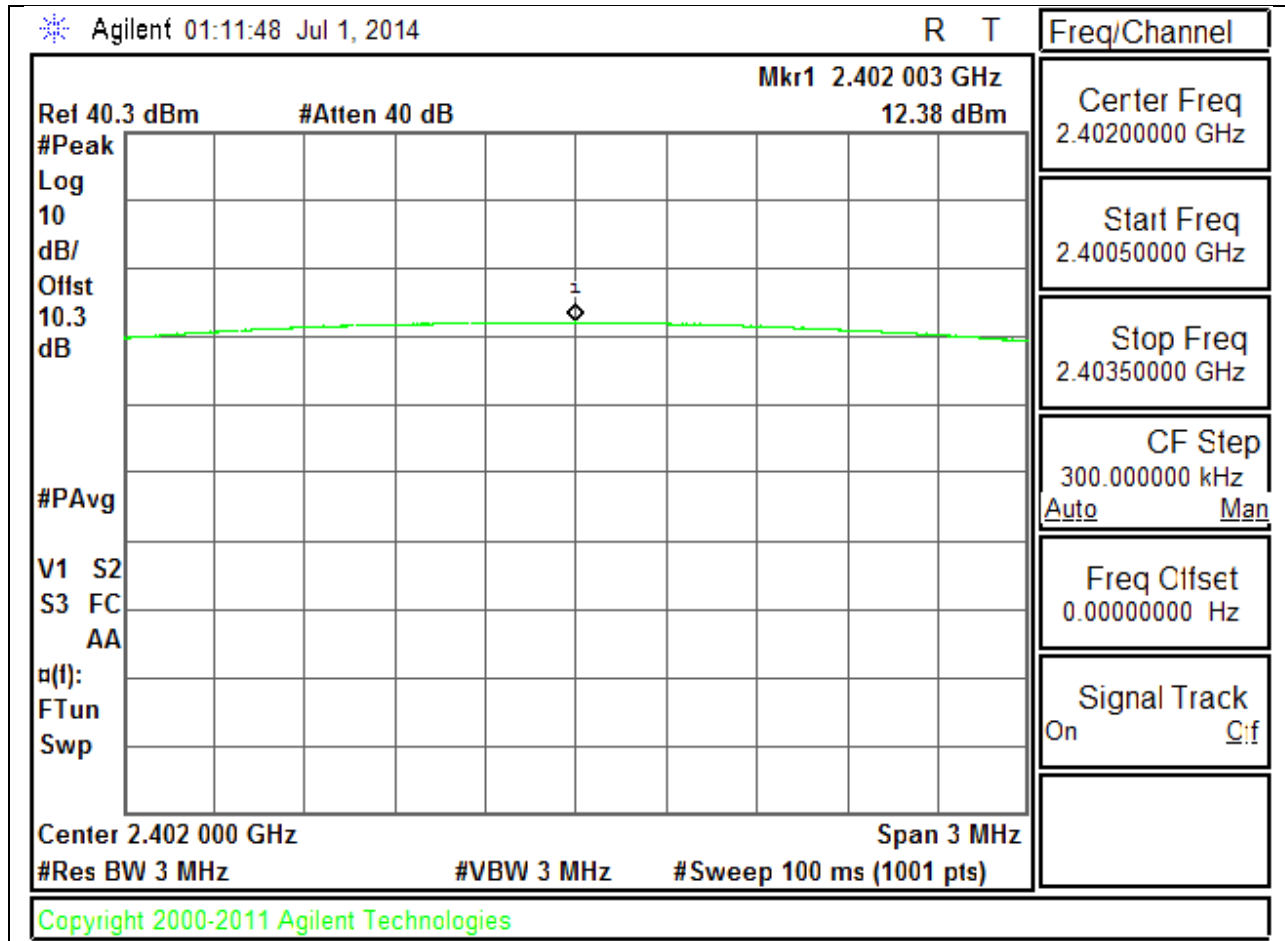


HIGH CHANNEL

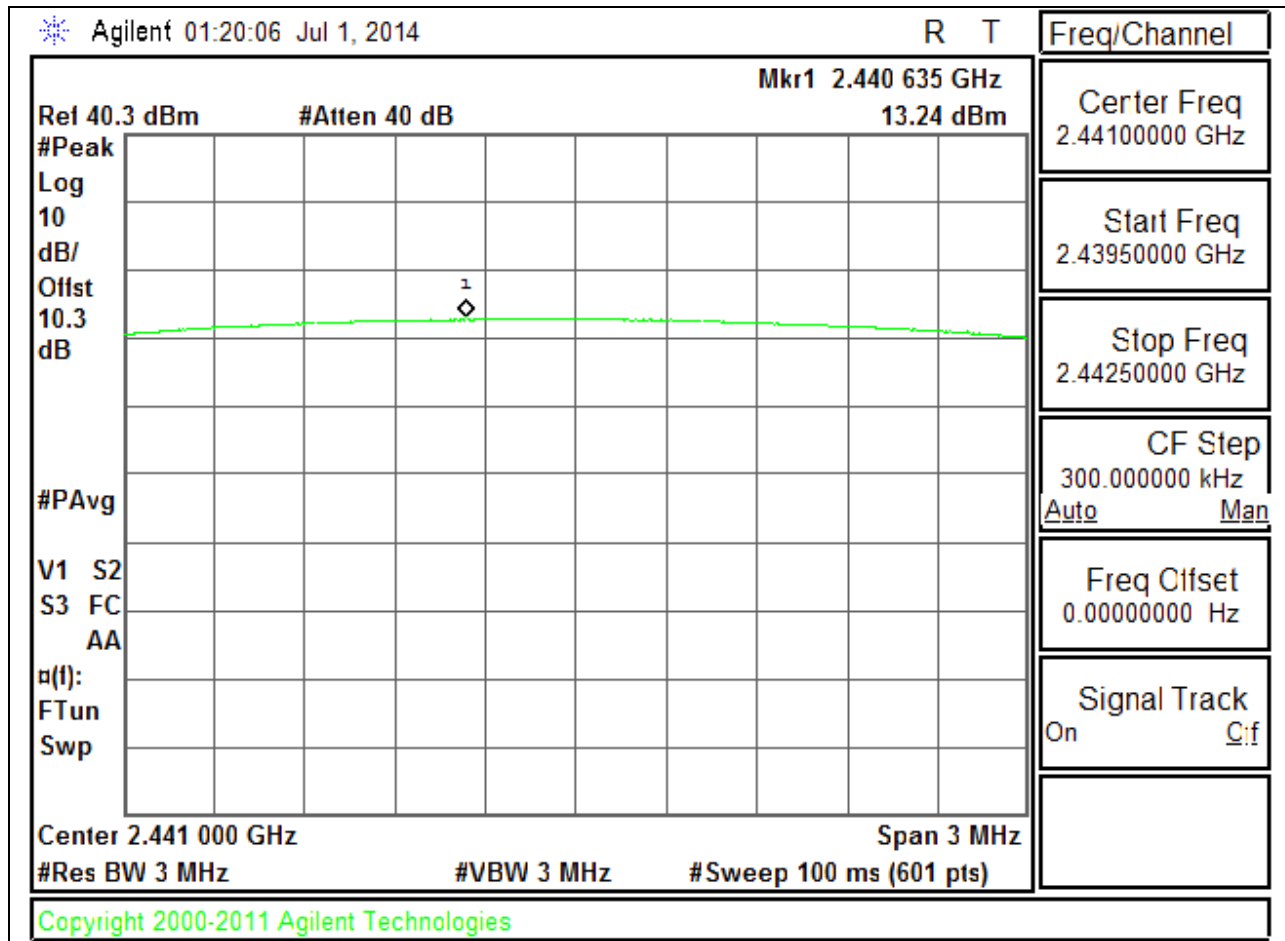


8PSK OUTPUT POWER

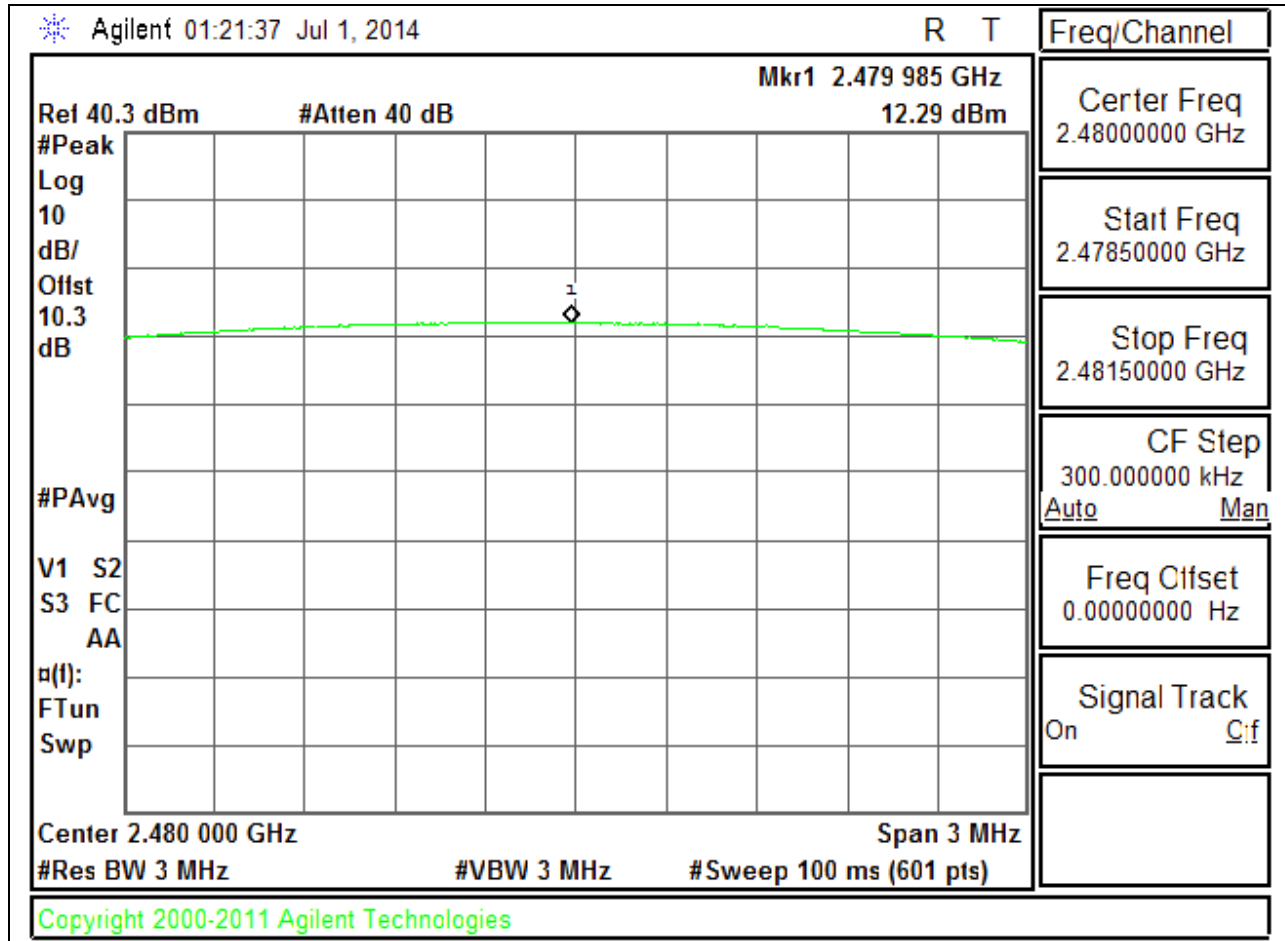
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10.7 dB (including 10 dB pad and 0.7 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

8.6.1. BASIC DATA RATE GFSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	12.3
Middle	2441	13.1
High	2480	11.9
Worst		13.1

8.6.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	10
Middle	2441	10.9
High	2480	9.6
Worst		10.9

8.7. 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.

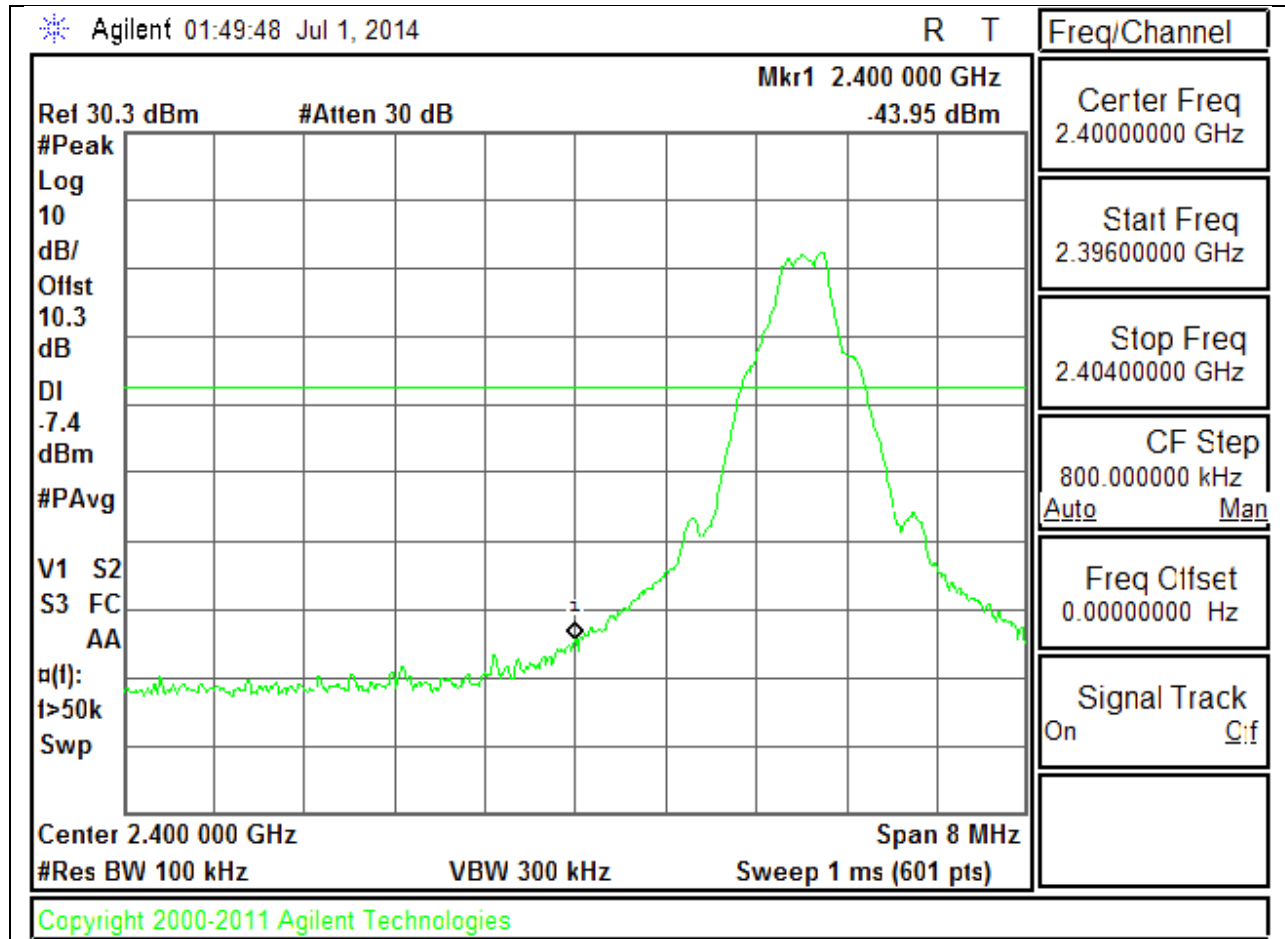
RESULTS

Note: Band Edge has been verified with Hopping to display the worst case set of data in this report.

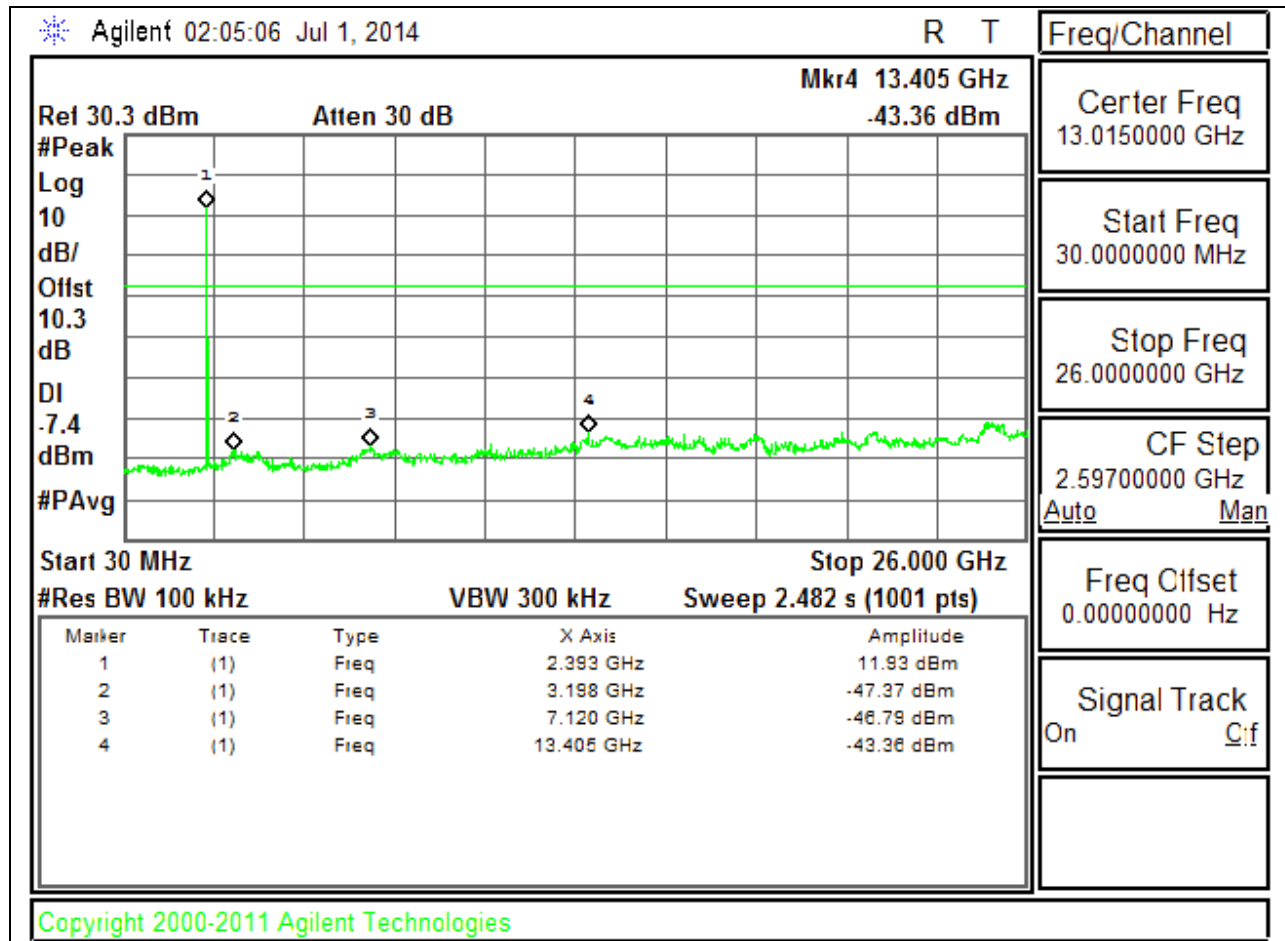
8.7.1. BASIC DATA RATE GFSK MODULATION

SPURIOUS EMISSIONS, LOW CHANNEL

LOW CHANNEL BANDEDGE

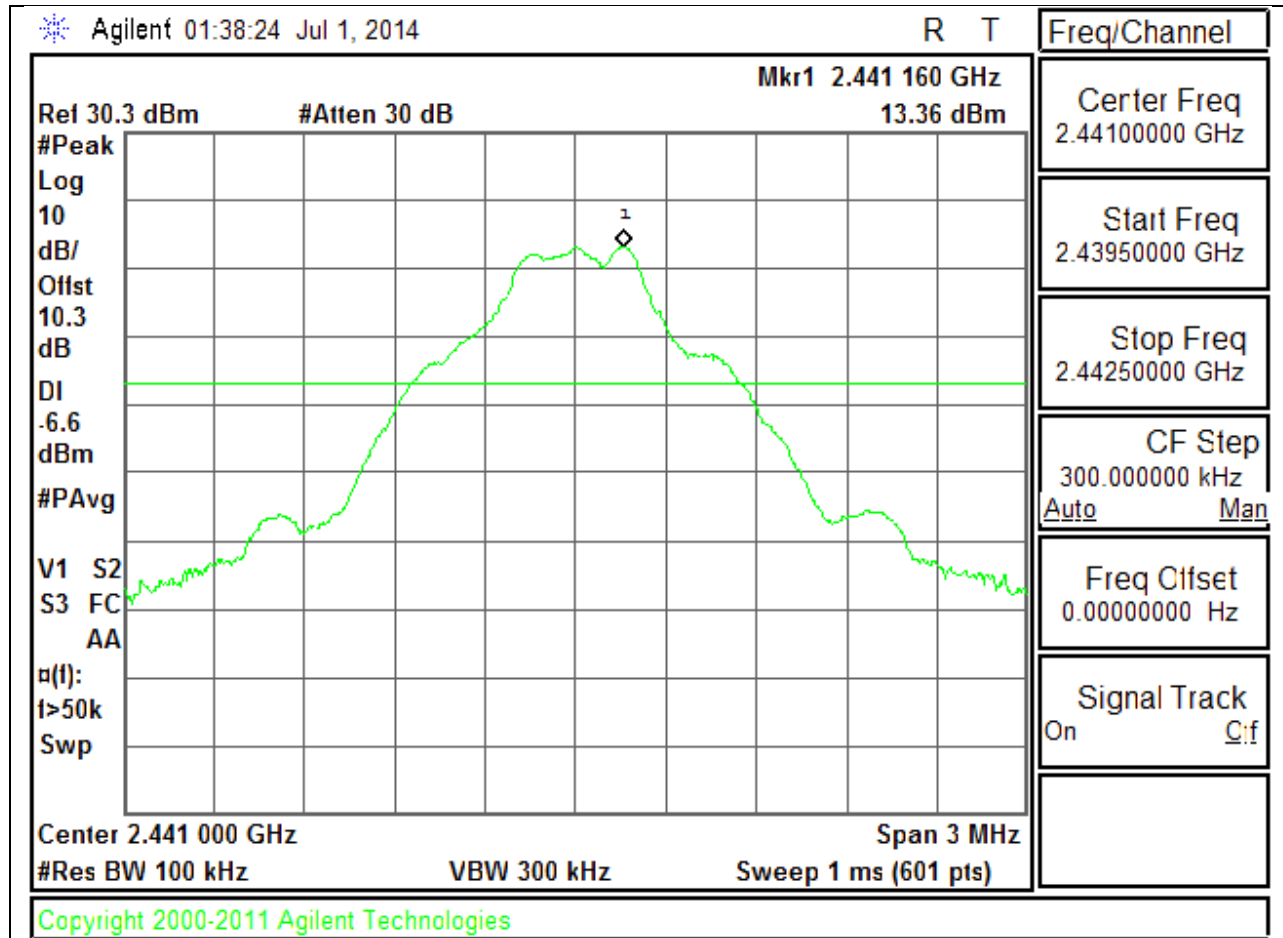


LOW CHANNEL SPURIOUS

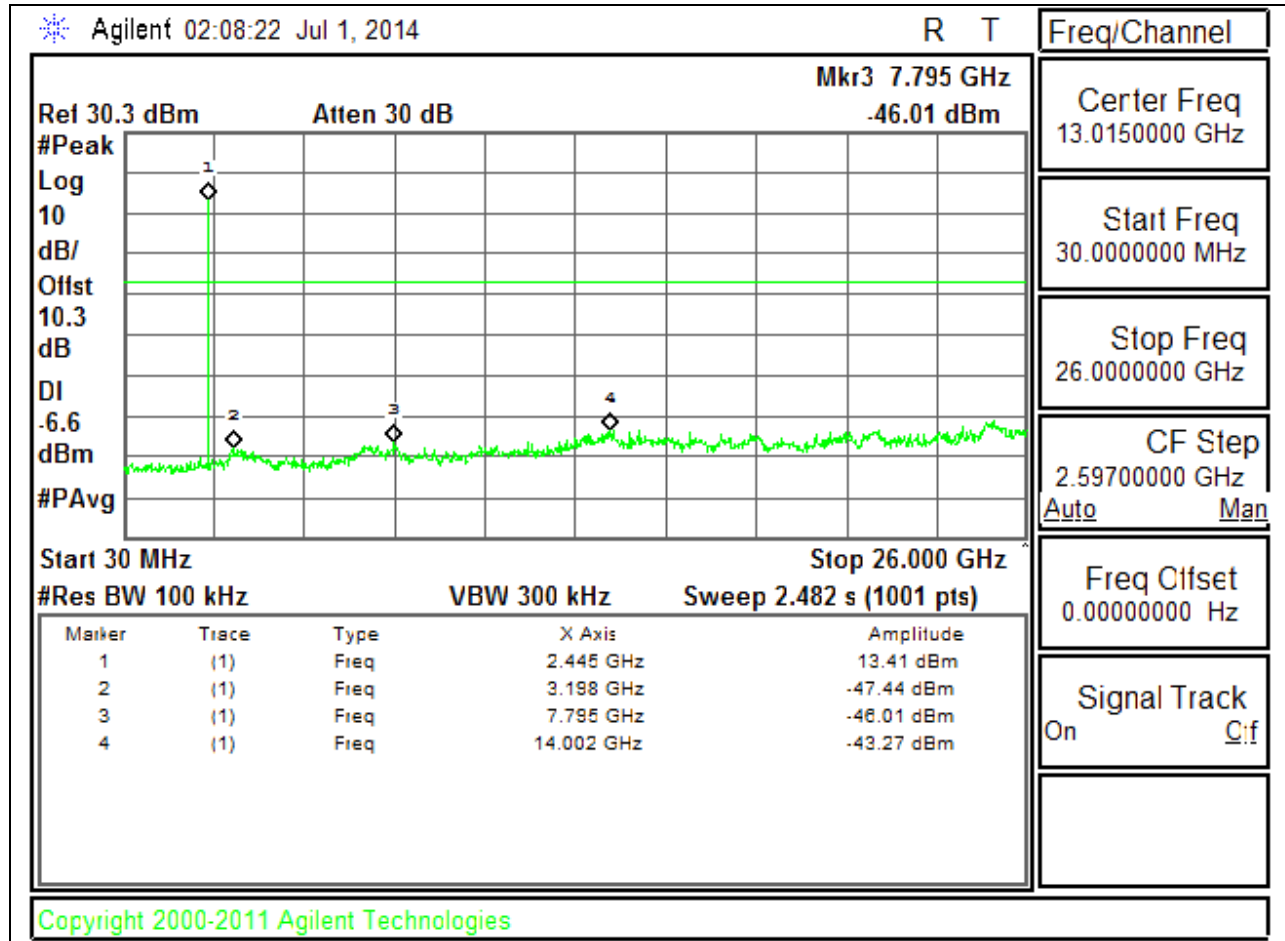


SPURIOUS EMISSIONS, MID CHANNEL

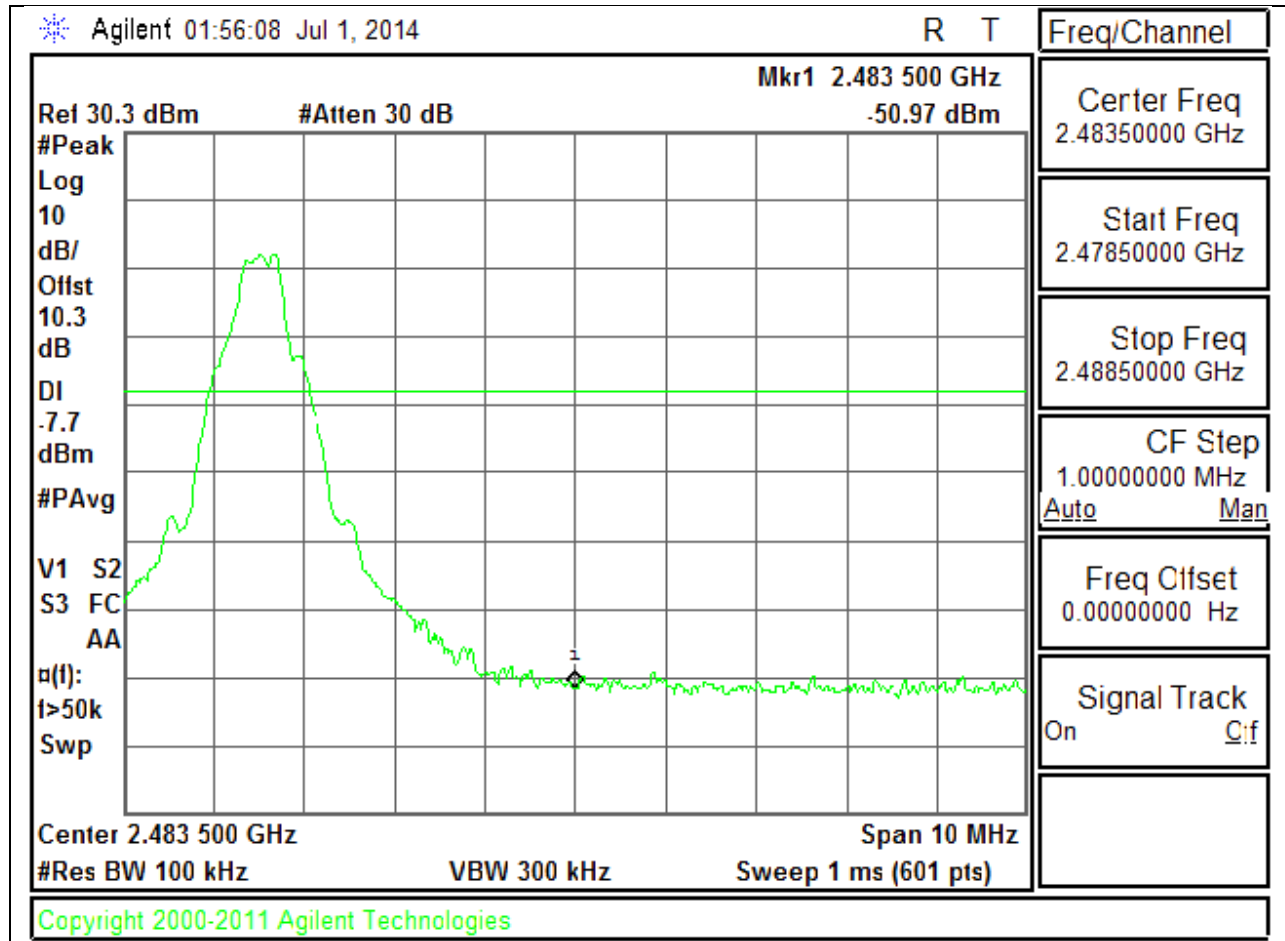
MID CHANNEL BANDEDGE



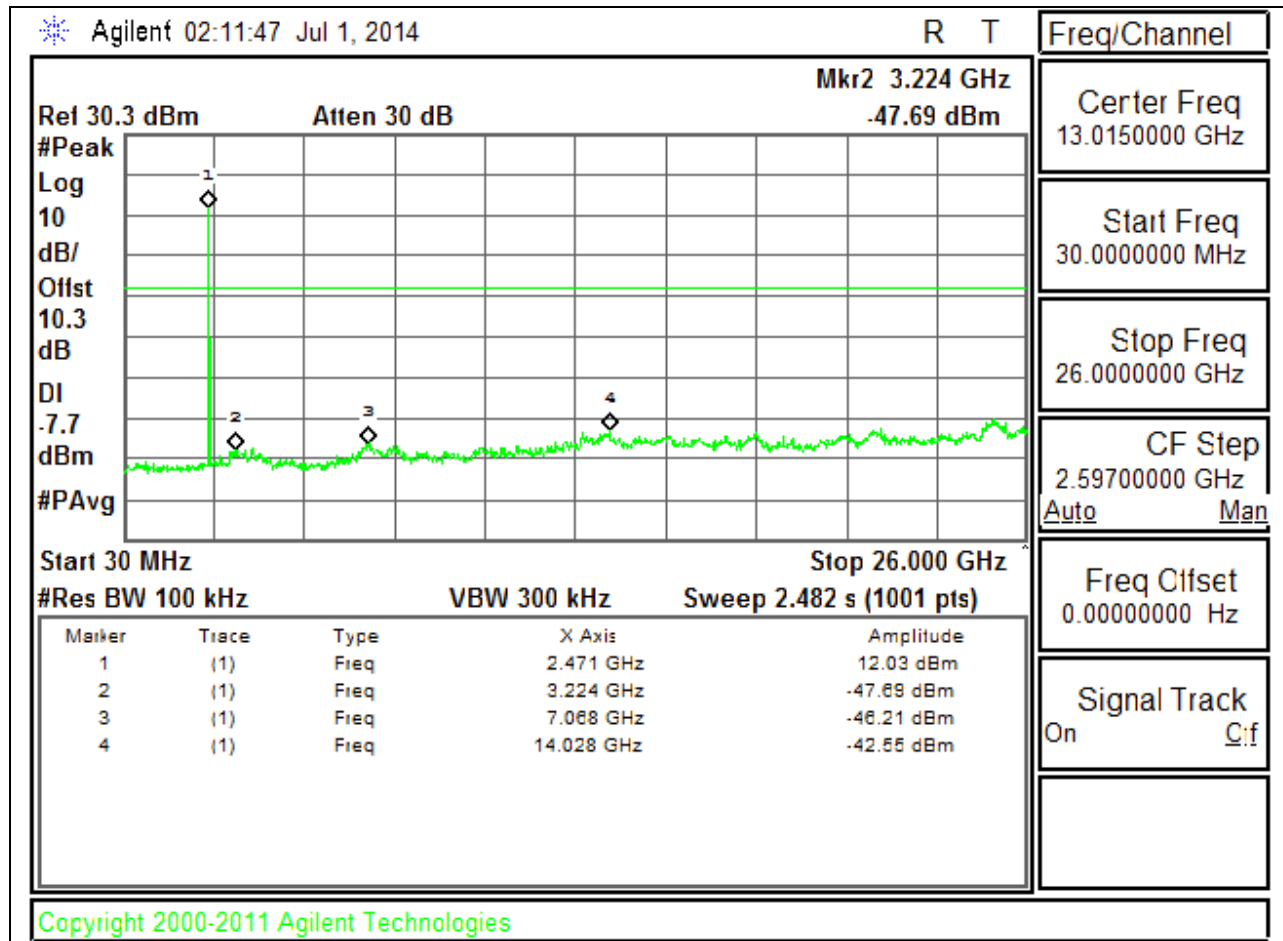
MID CHANNEL SPURIOUS



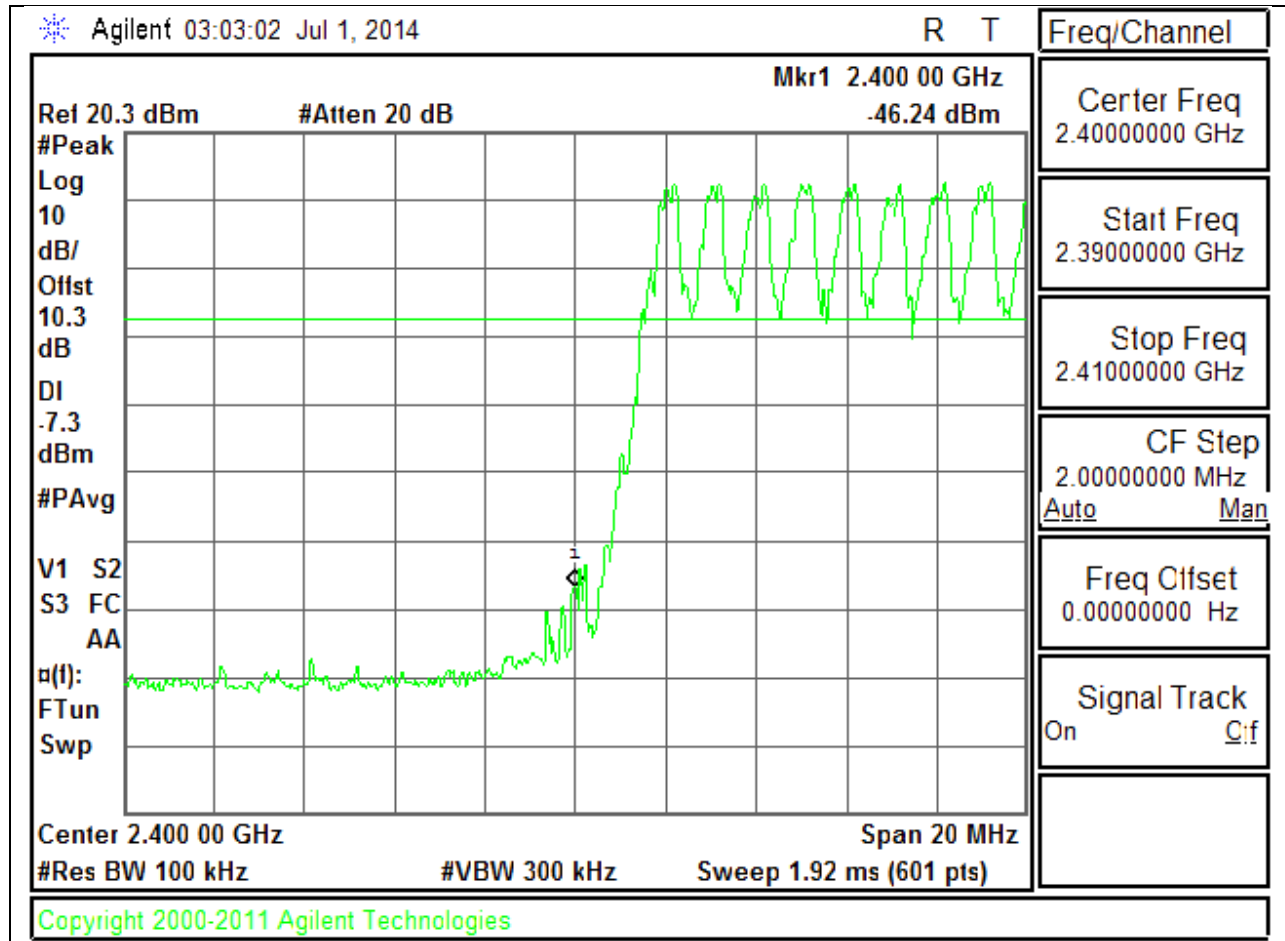
HIGH CHANNEL BANDEDGE



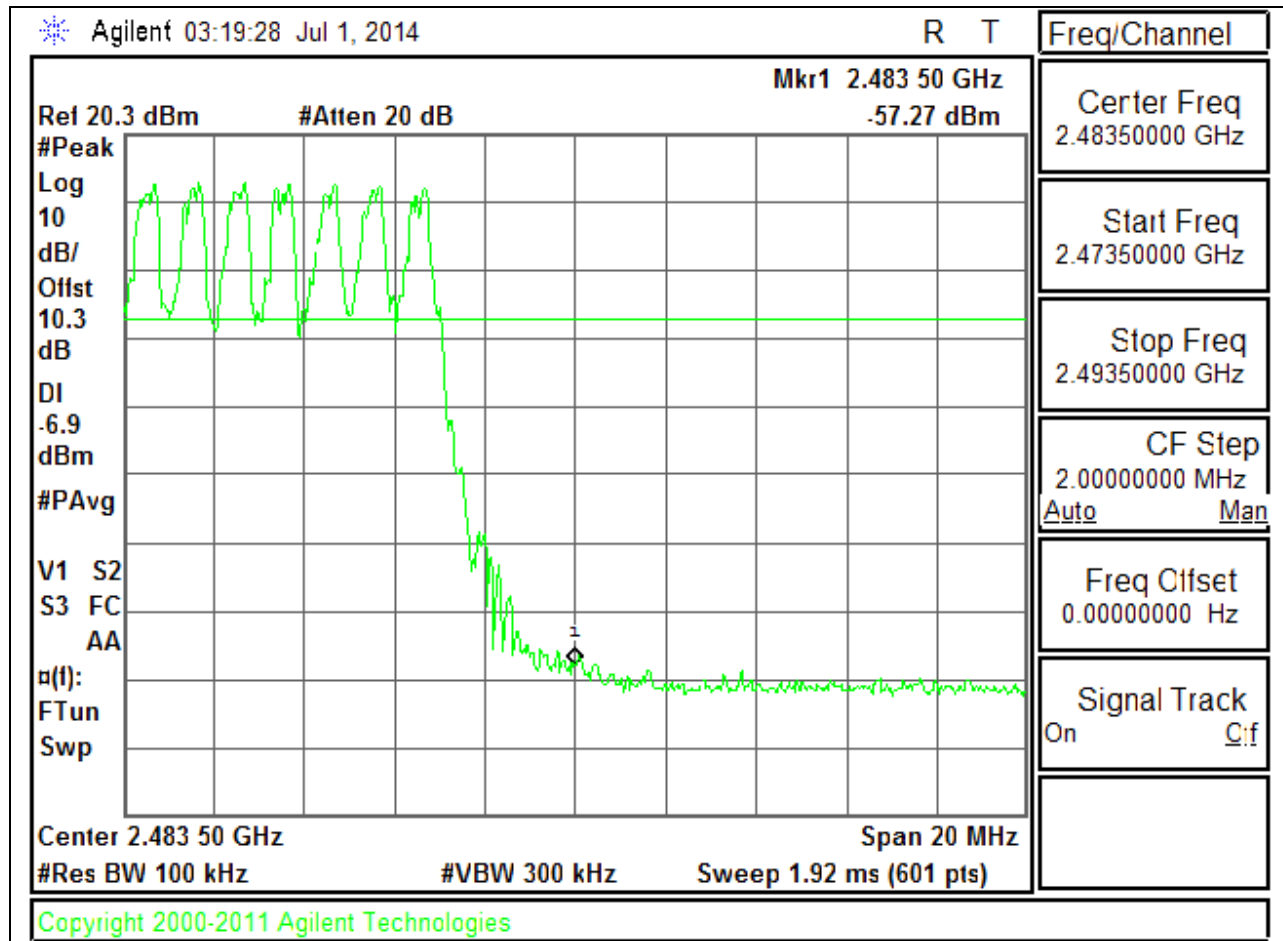
HIGH CHANNEL SPURIOUS



LOW BANDEGE WITH HOPPING ON



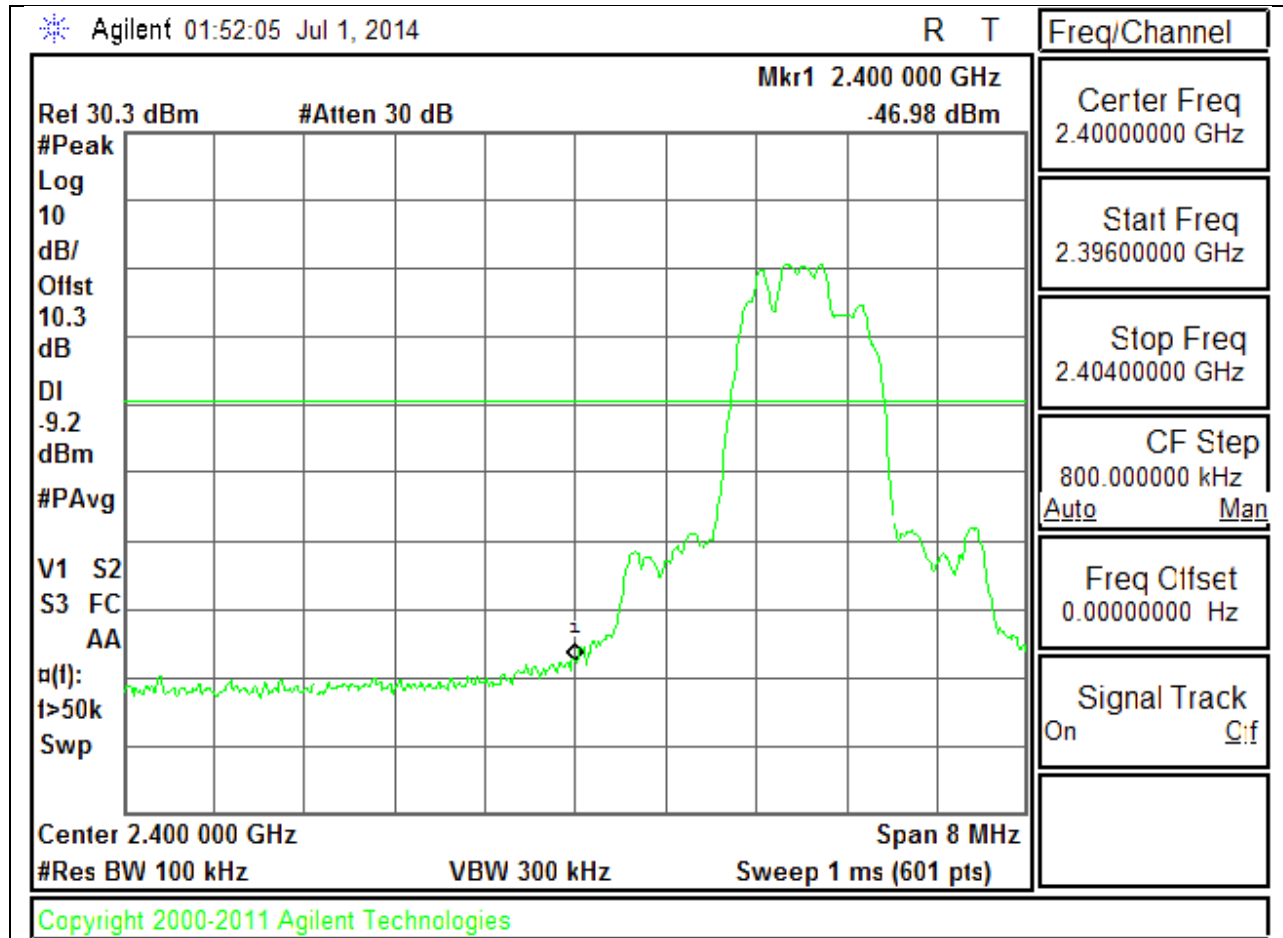
HIGH BANDEGE WITH HOPPING ON



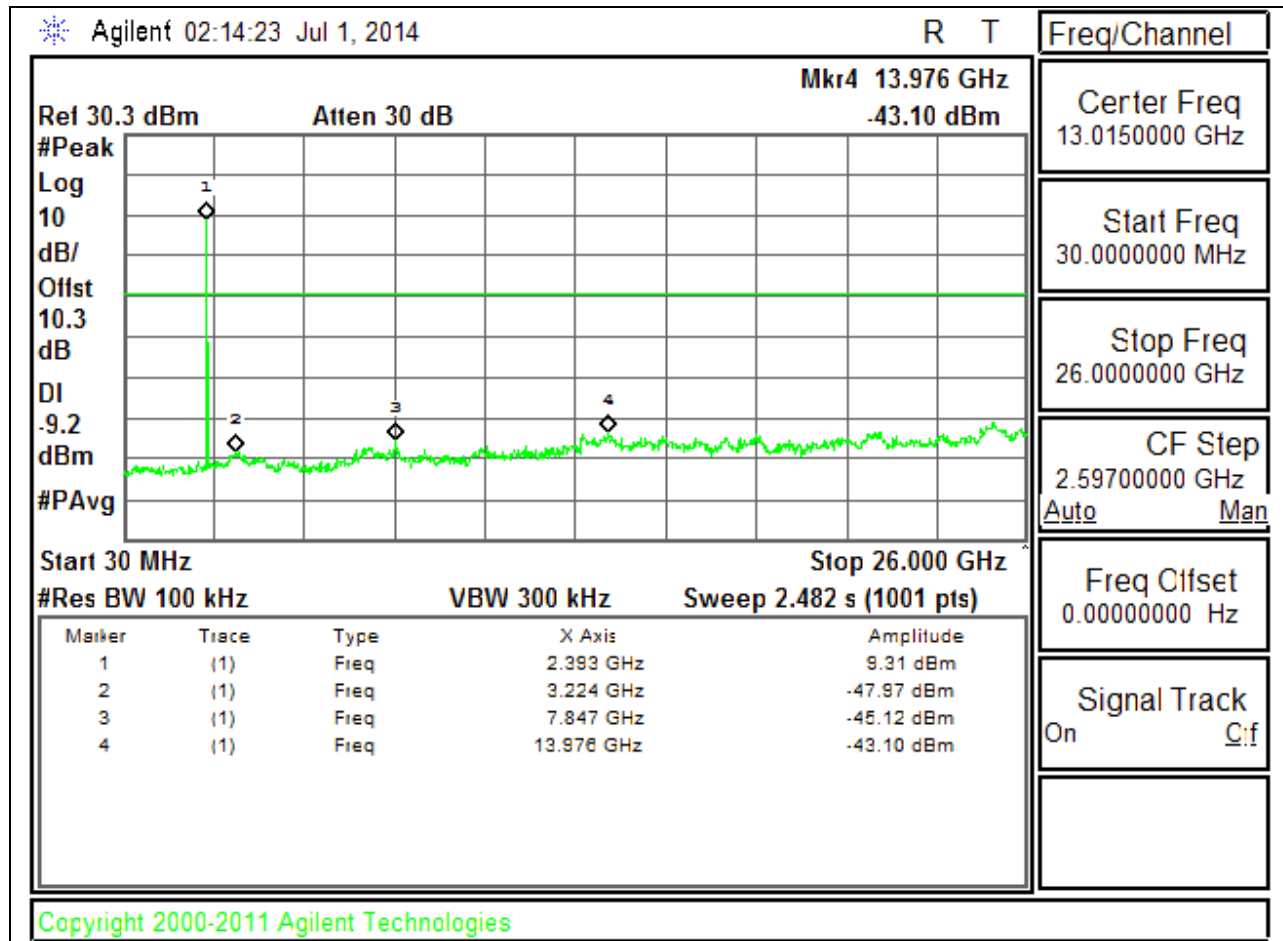
ENHANCED DATA RATE 8PSK MODULATION

SPURIOUS EMISSIONS, LOW CHANNEL

LOW CHANNEL BANDEDGE

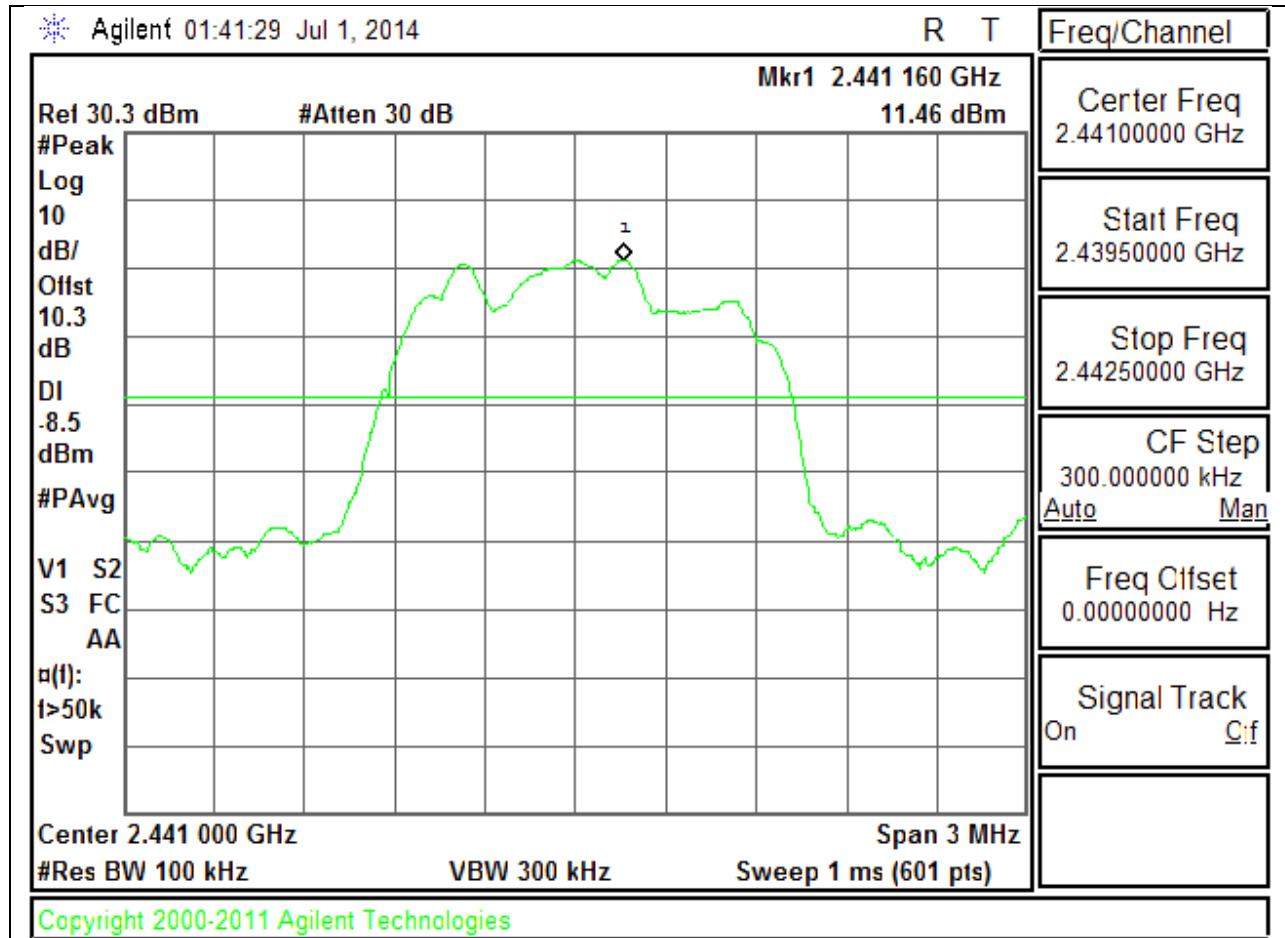


LOW CHANNEL SPURIOUS

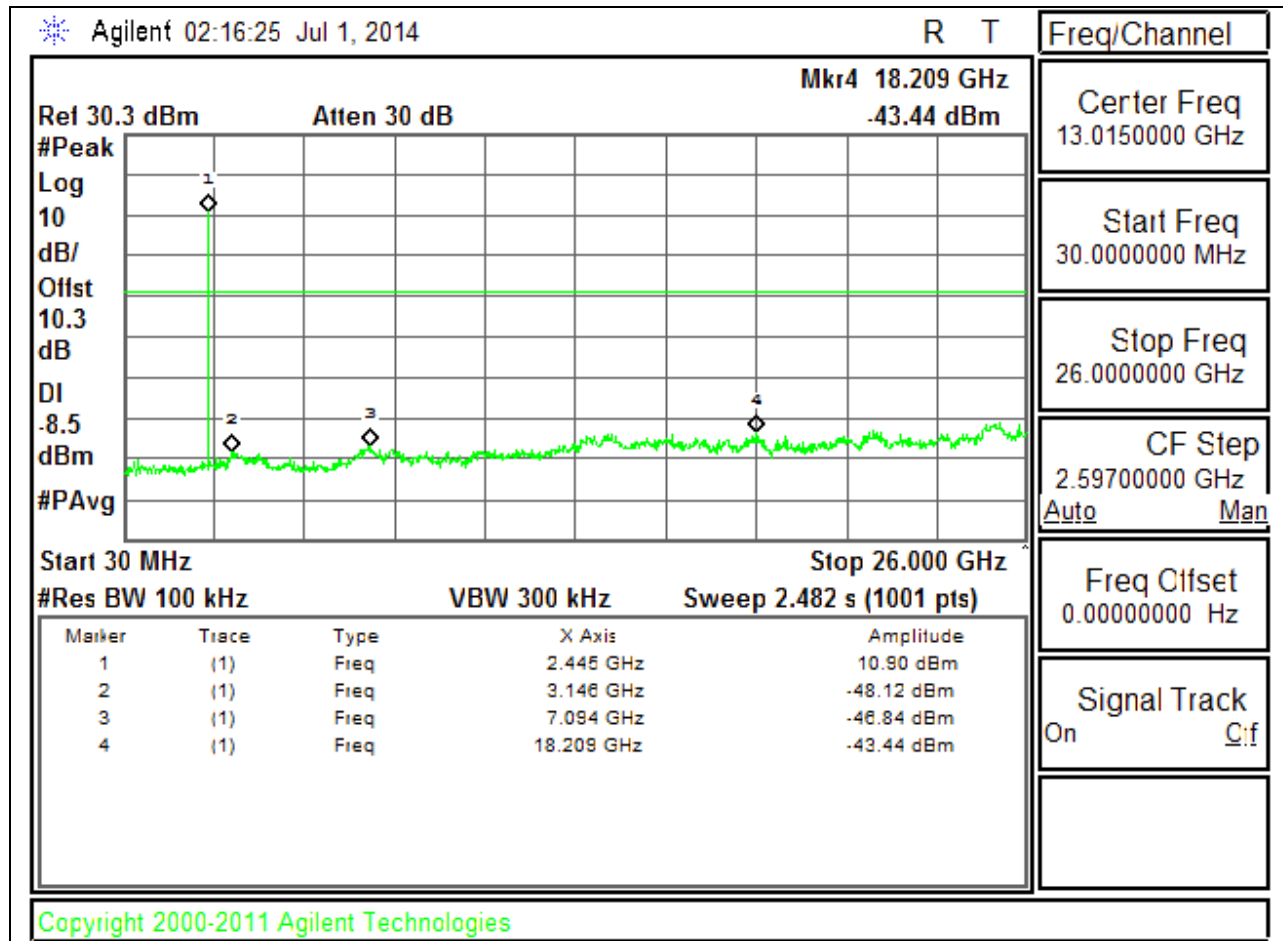


SPURIOUS EMISSIONS, MID CHANNEL

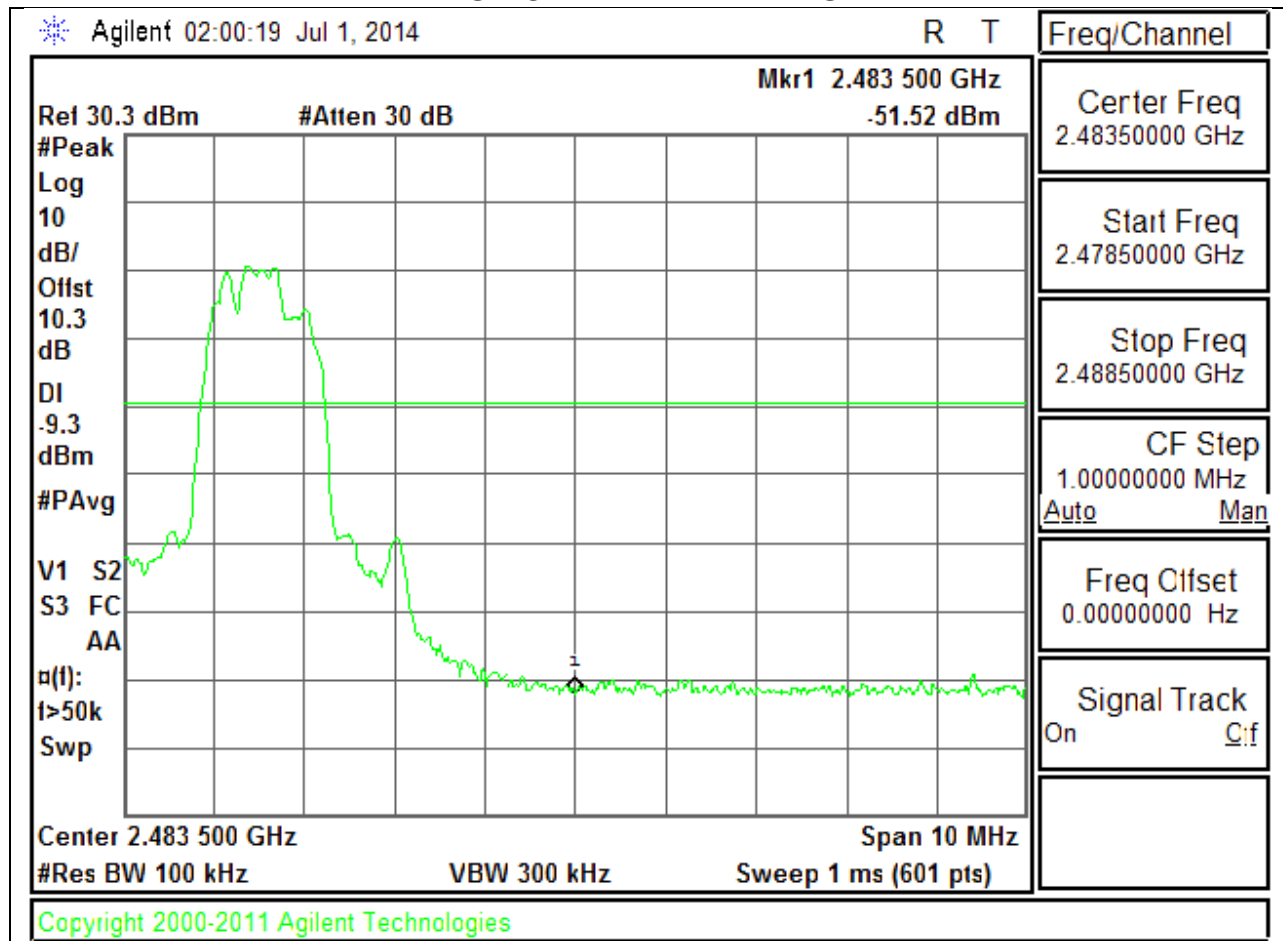
MID CHANNEL BANDEDGE



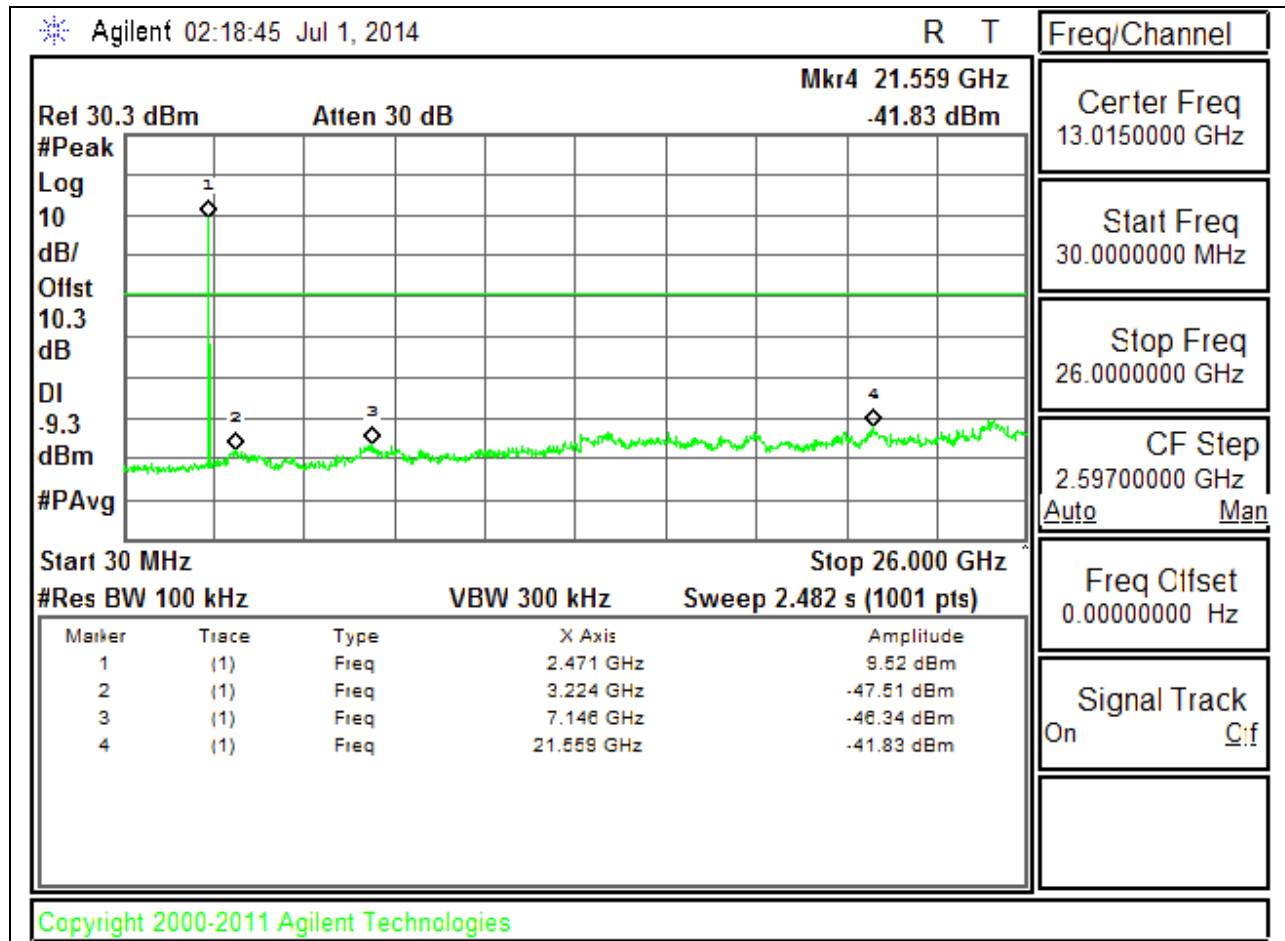
MID CHANNEL SPURIOUS



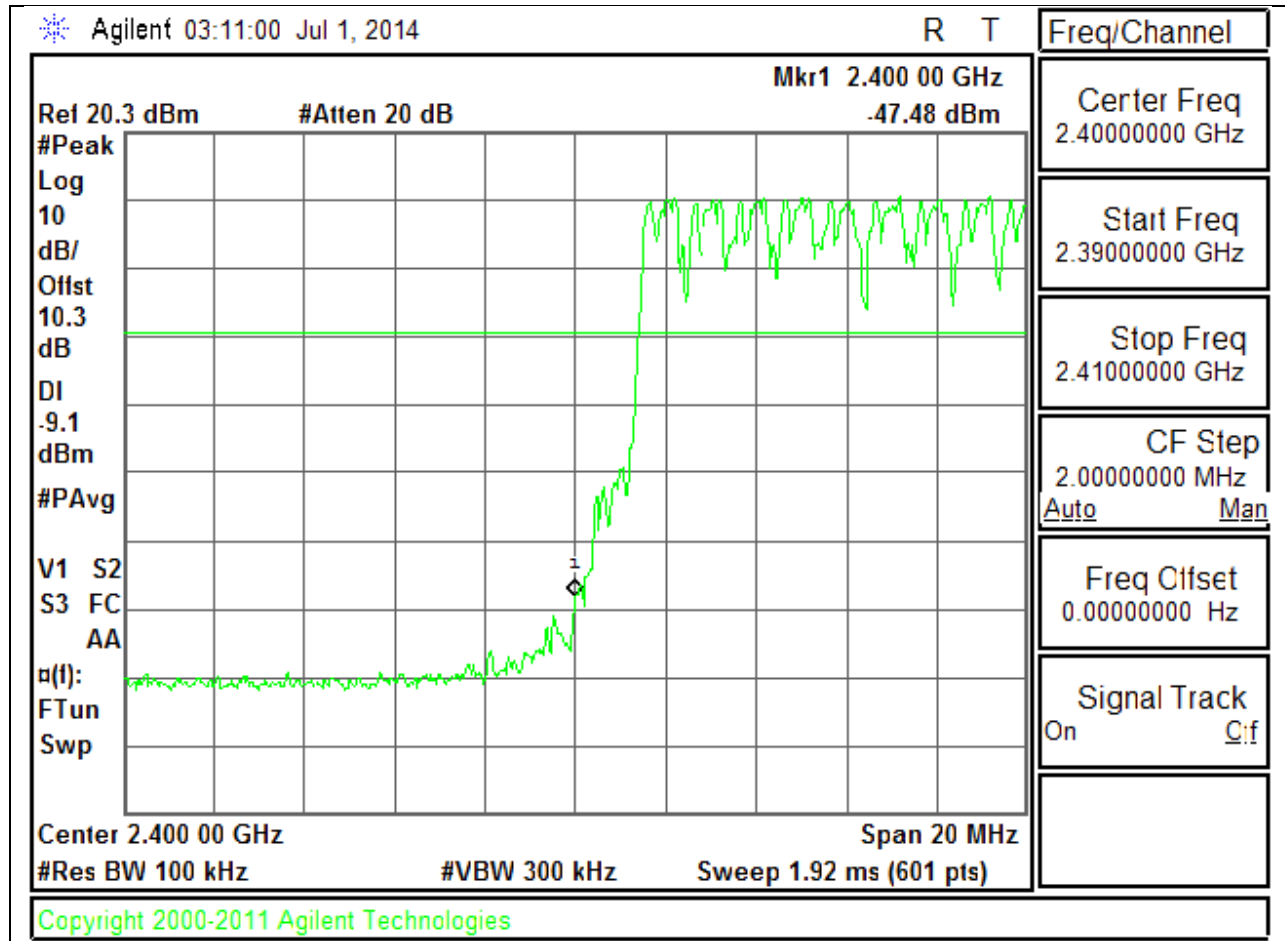
HIGH CHANNEL BANDEDGE



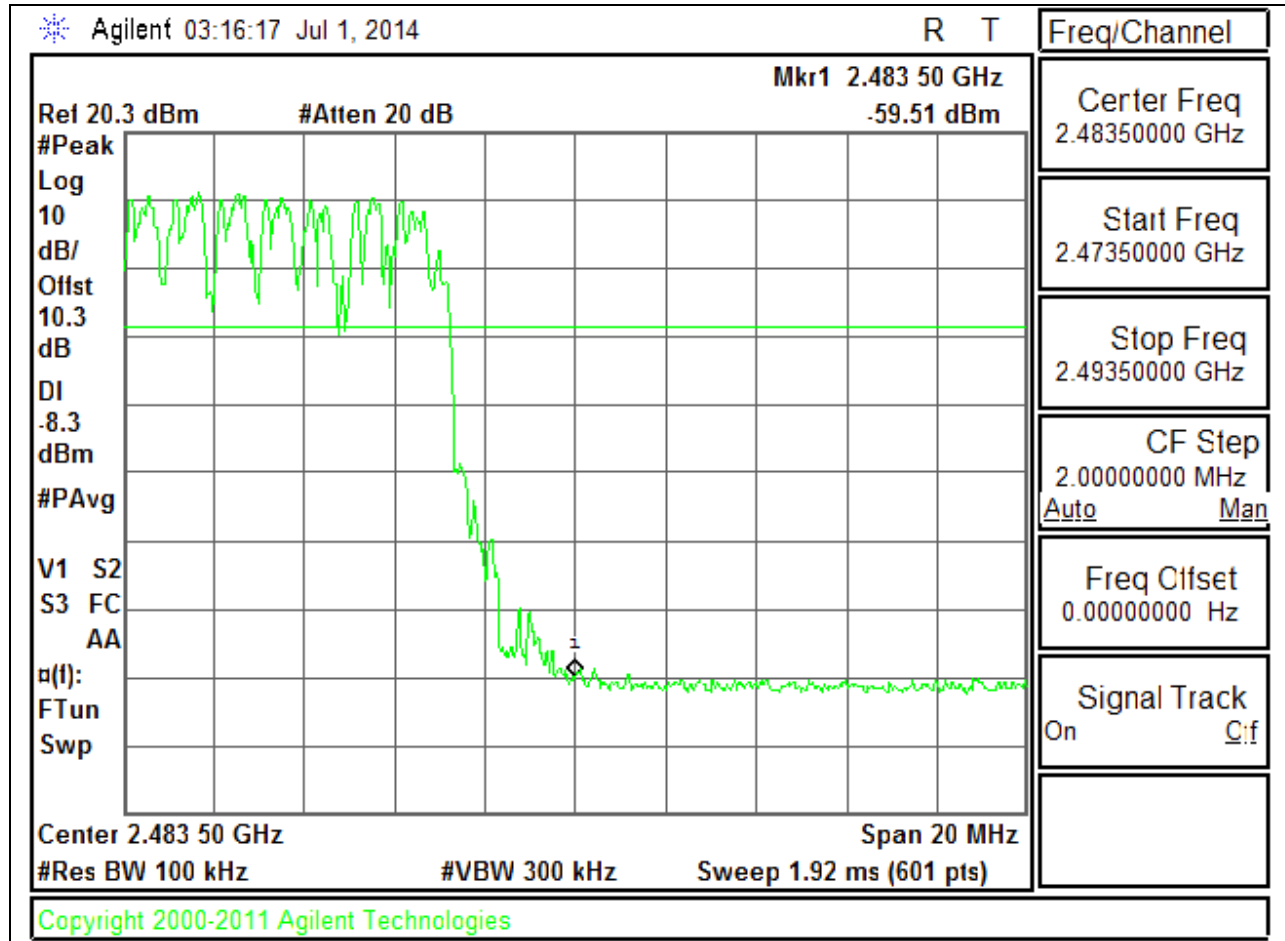
HIGH CHANNEL SPURIOUS



LOW BANDEGE WITH HOPPING ON



HIGH BANDEGE WITH HOPPING ON



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. 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 1/T (on time) for average measurement. $GFSK = 1/T = 1 / 0.0038S = 360Hz$.

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.

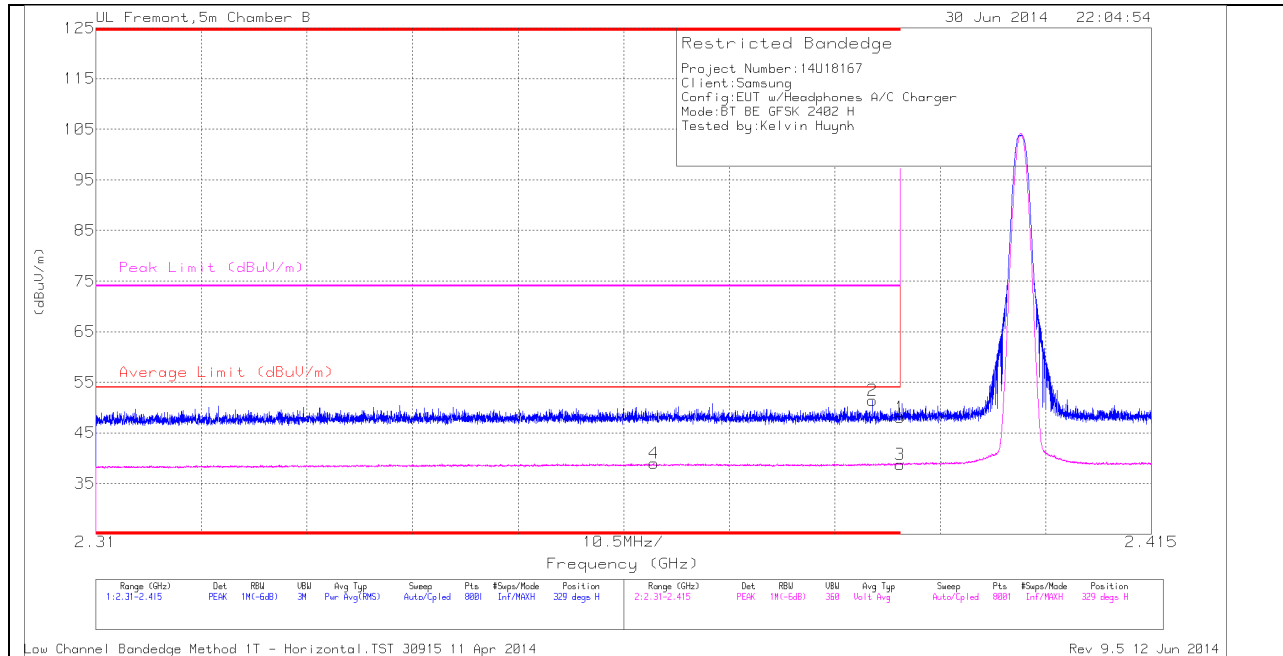
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

9.2. TRANSMITTER ABOVE 1 GHz

9.2.1. BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

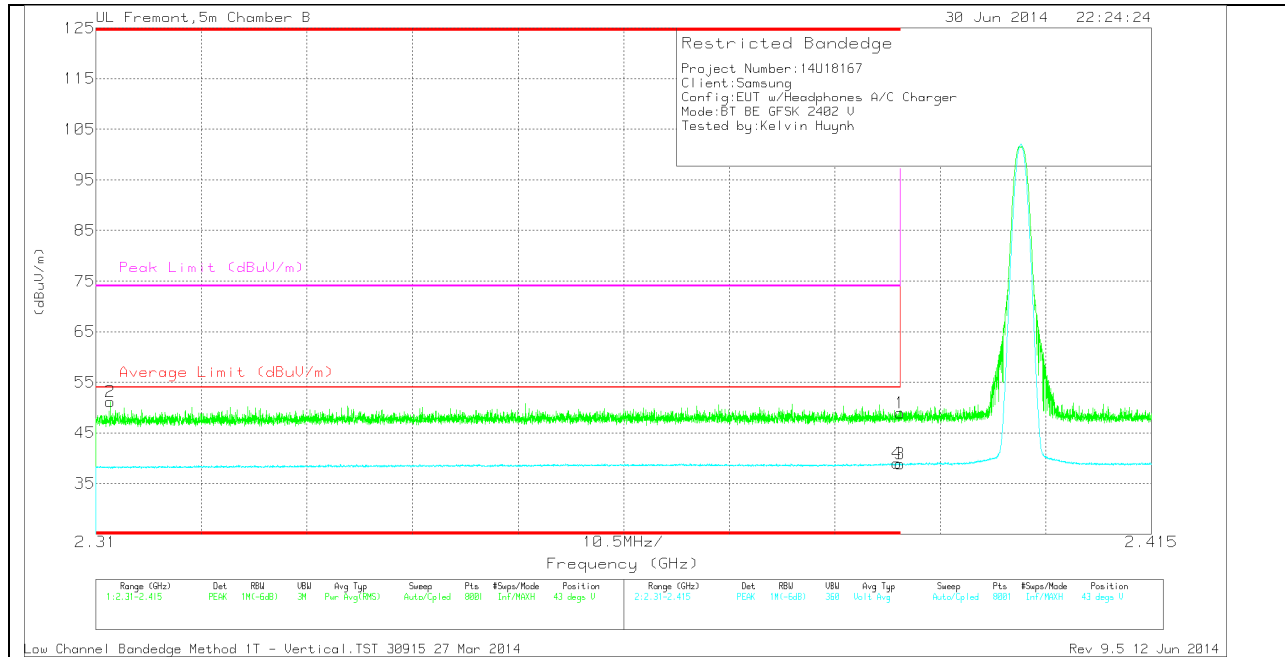
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/FI tr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.76	PK	32.1	-22.8	0	48.06	-	-	74	-25.94	329	294	H
2	* 2.387	42.06	PK	32.1	-22.8	0	51.36	-	-	74	-22.64	329	294	H
3	* 2.39	29.48	VB1T	32.1	-22.8	0	38.78	54	-15.22	-	-	329	294	H
4	* 2.365	29.82	VB1T	32	-22.8	0	39.02	54	-14.98	-	-	329	294	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

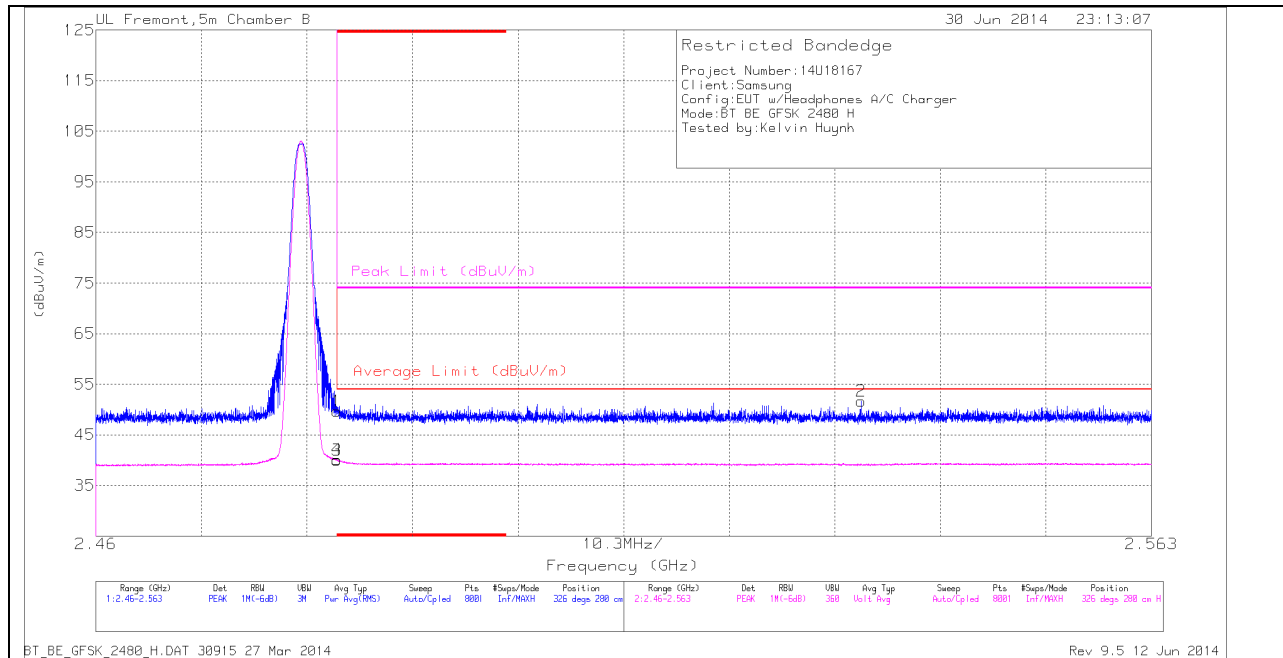
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.65	PK	32.1	-22.8	0	48.95	-	-	74	-25.05	43	310	V
2	* 2.311	42.42	PK	31.7	-23	0	51.12	-	-	74	-22.88	43	310	V
3	* 2.39	29.52	VB1T	32.1	-22.8	0	38.82	54	-15.18	-	-	43	310	V
4	* 2.39	29.64	VB1T	32.1	-22.8	0	38.94	54	-15.06	-	-	43	310	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

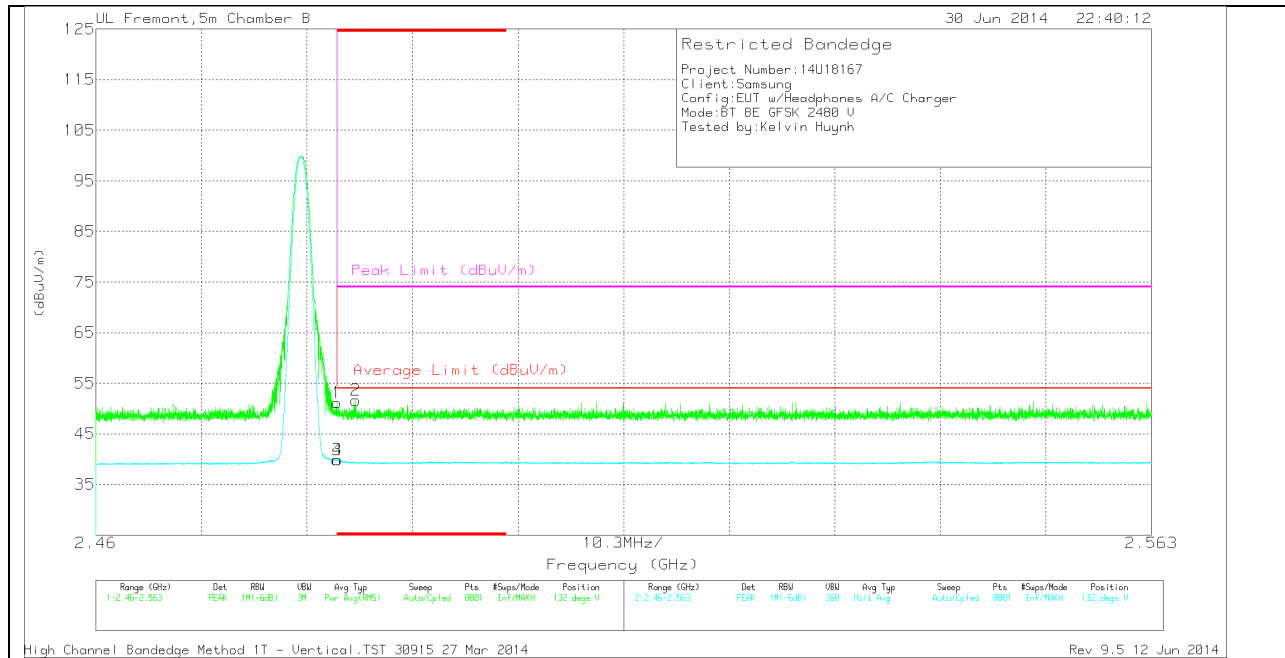
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.01	PK	32.4	-22.7	0	49.71	-	-	74	-24.29	326	280	H
3	* 2.484	30.34	VB1T	32.4	-22.7	0	40.04	54	-13.96	-	-	326	280	H
4	* 2.484	30.42	VB1T	32.4	-22.7	0	40.12	54	-13.88	-	-	326	280	H
2	2.535	41.72	PK	32.5	-22.6	0	51.62	-	-	74	-22.38	326	280	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.47	PK	32.4	-22.7	0	51.17	-	-	74	-22.83	132	328	V
2	* 2.485	41.9	PK	32.4	-22.7	0	51.6	-	-	74	-22.4	132	328	V
3	* 2.484	30.19	VB1T	32.4	-22.7	0	39.89	54	-14.11	-	-	132	328	V
4	* 2.484	30.19	VB1T	32.4	-22.7	0	39.89	54	-14.11	-	-	132	328	V

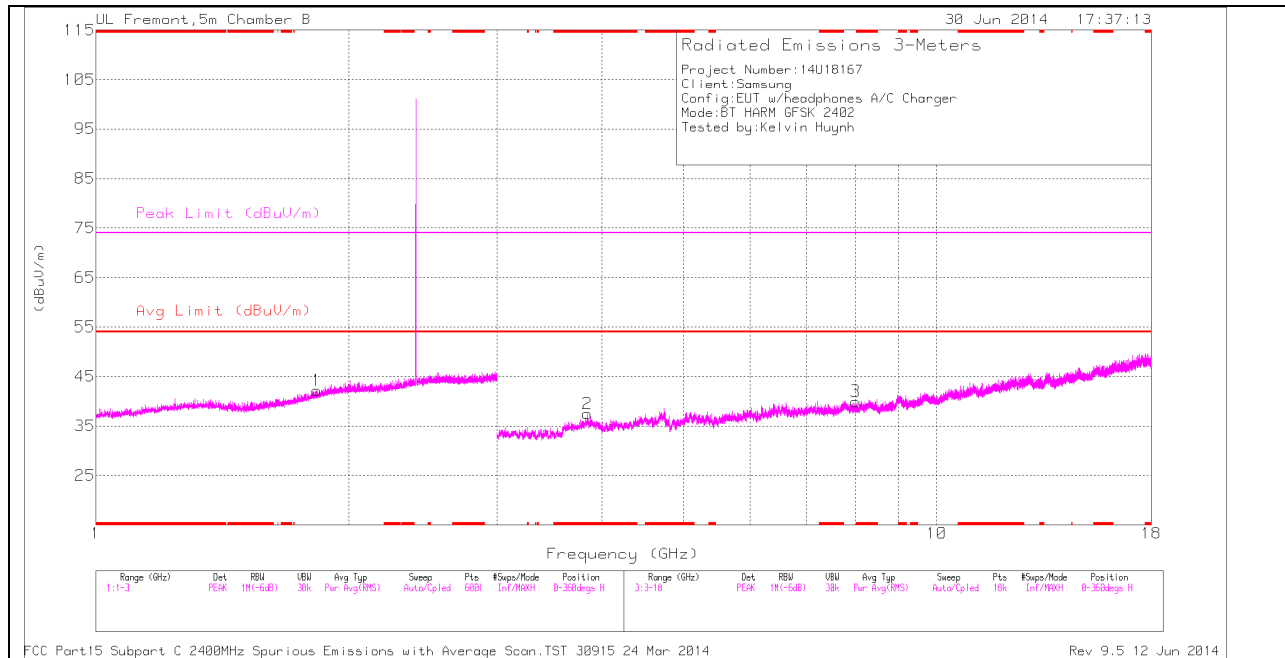
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

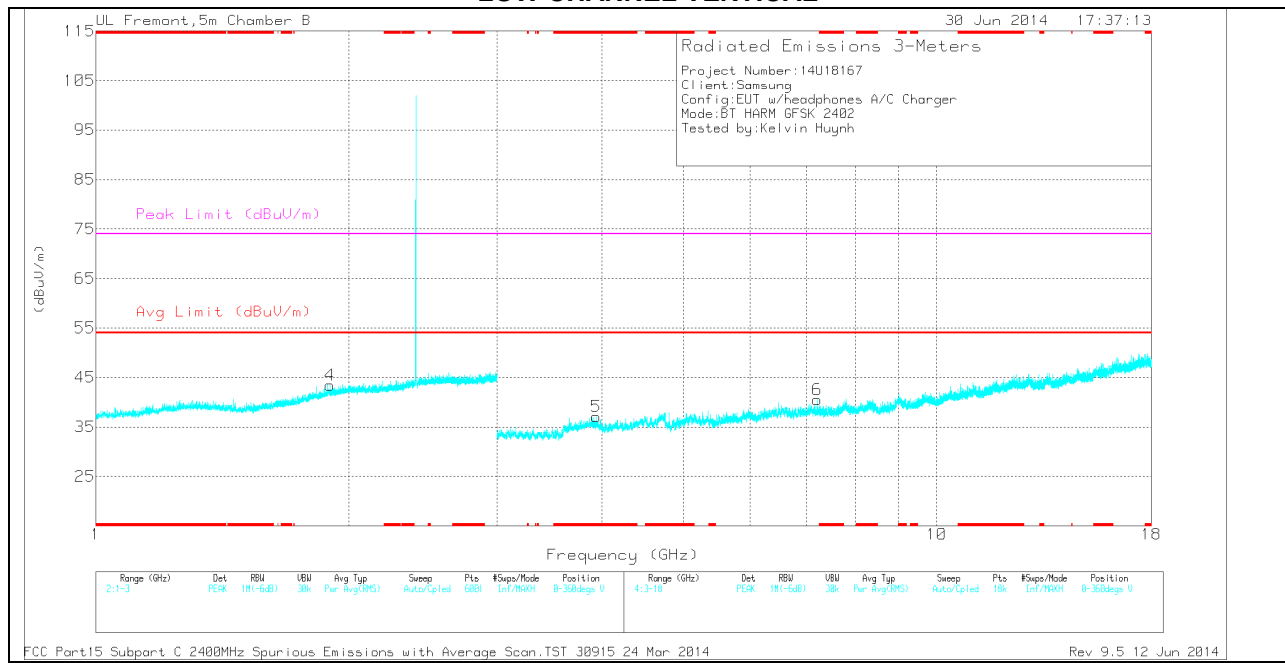
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 3.843	34.1	PK	33.7	-30.3	0	37.5	-	-	74	-36.5	0-360	206	H
5	* 3.934	33.89	PK	33.7	-30.5	0	37.09	-	-	74	-36.91	0-360	193	V
1	1.831	35.43	PK	30.4	-23.6	0	42.23	-	-	-	-	0-360	207	H
4	1.899	35.79	PK	31.1	-23.5	0	43.39	-	-	-	-	0-360	99	V
6	7.206	32.05	PK	35.5	-27	0	40.55	-	-	-	-	0-360	193	V
3	8.008	30.65	PK	35.7	-26.4	0	39.95	-	-	-	-	0-360	206	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

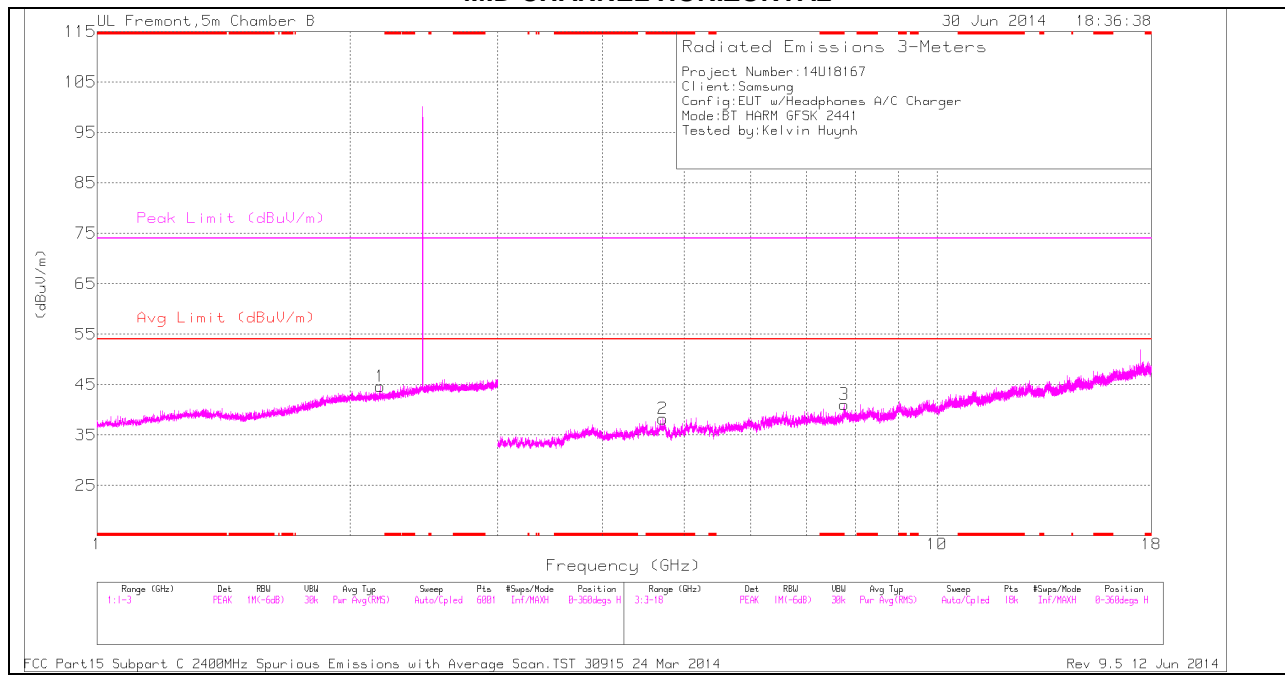
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.845	41.95	PK3	33.7	-30.3	0	45.35	-	-	74	-28.65	1	213	H
* 3.845	27.51	Avg	33.7	-30.3	0	32.06	54	-21.94	-	-	1	189	V

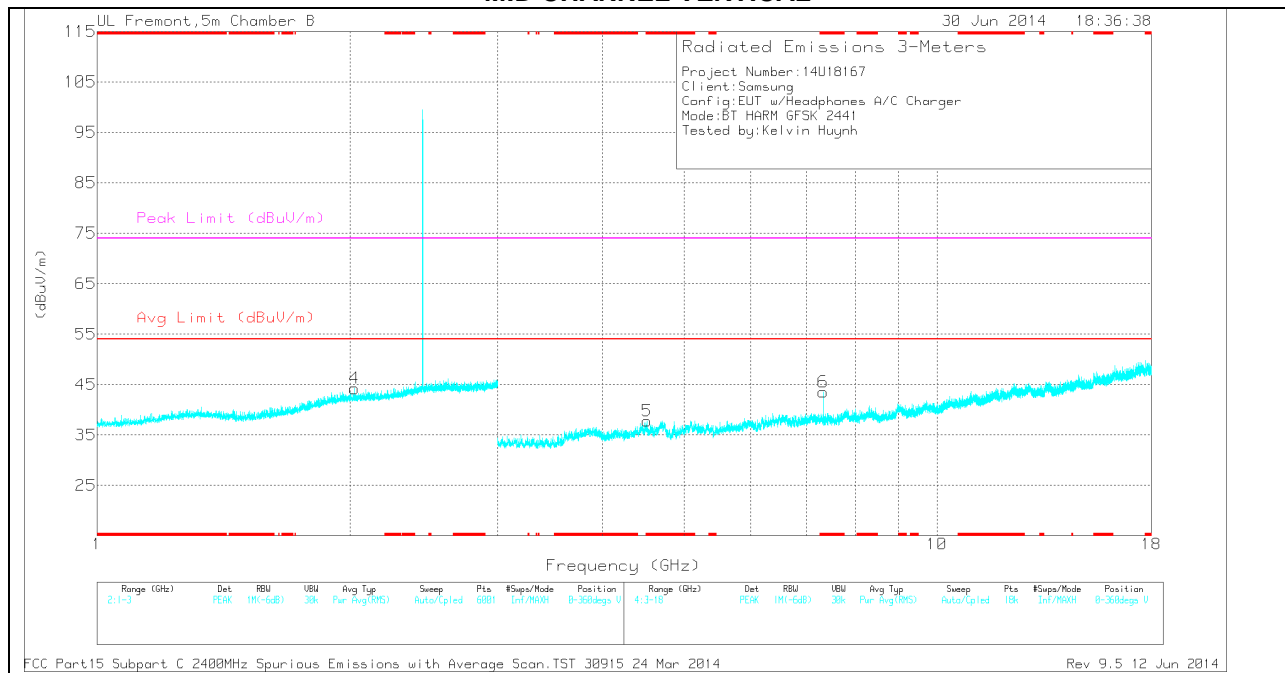
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4.717	33.43	PK	34.2	-29.4	0	38.23	-	-	74	-35.77	0-360	99	H
5	* 4.515	33.39	PK	34	-29.6	0	37.79	-	-	74	-36.21	0-360	99	V
6	* 7.322	36.01	PK	35.6	-28.1	0	43.51	-	-	74	-30.49	0-360	99	V
4	2.026	36.33	PK	31.3	-23.4	0	44.23	-	-	-	-	0-360	99	V
1	2.175	36.53	PK	31.3	-23.2	0	44.63	-	-	-	-	0-360	206	H
3	7.757	31.05	PK	35.7	-25.7	0	41.05	-	-	-	-	0-360	206	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

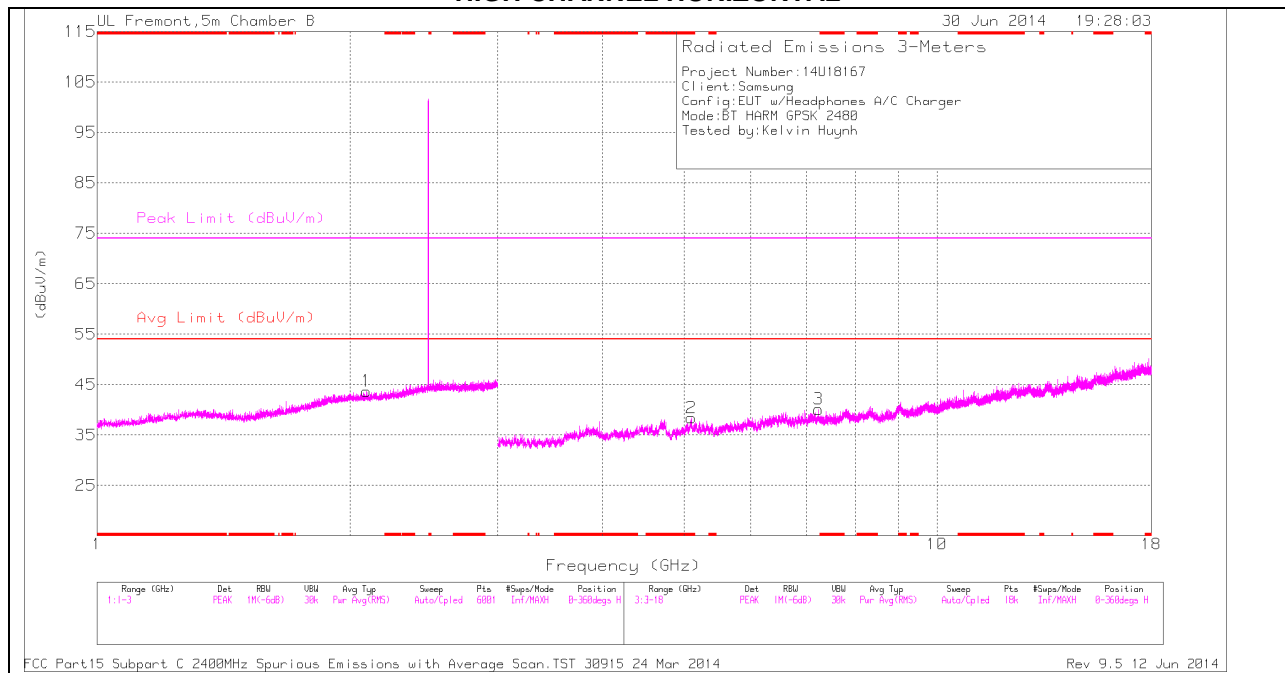
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.715	40.33	PK3	34.2	-29.4	0	45.13	-	-	74	-28.87	360	100	H
* 4.517	40.03	PK3	34	-29.6	0	44.43	-	-	74	-29.57	360	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

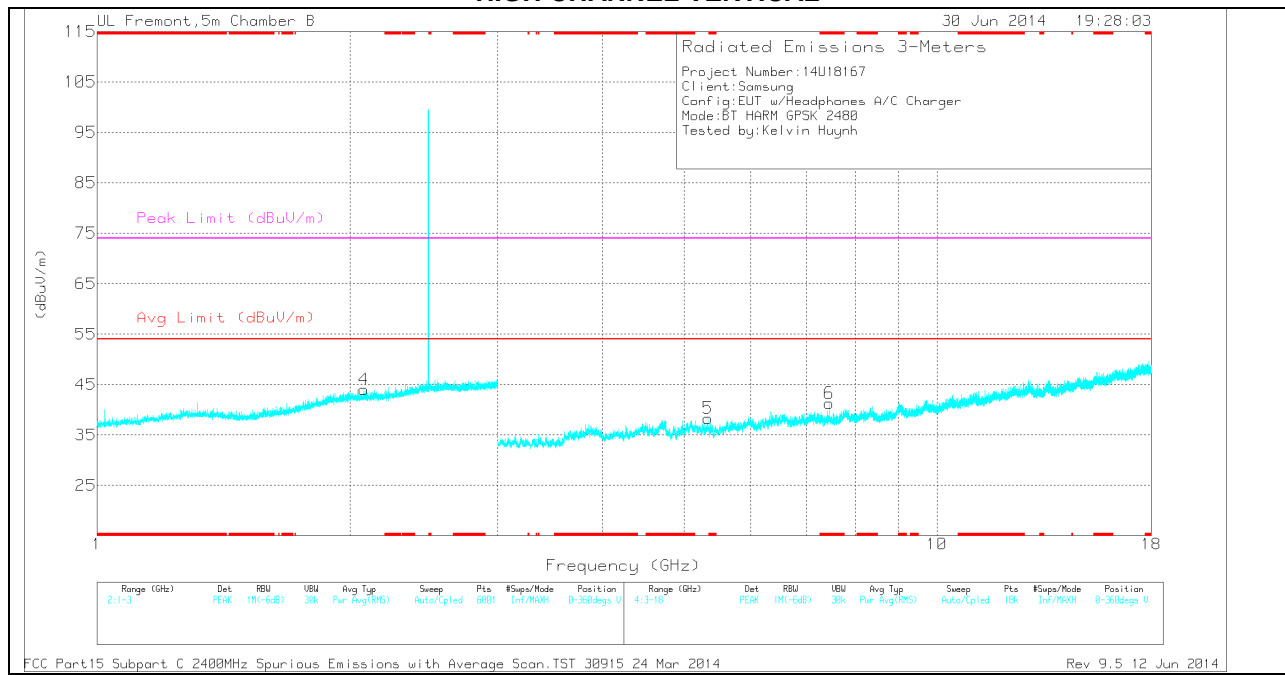
PK3 - FHSS Method: Maximum Peak

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 5.101	32.78	PK	34.2	-28.6	0	38.38	-	-	74	-35.62	0-360	99	H
6	* 7.44	32	PK	35.6	-26.3	0	41.3	-	-	74	-32.7	0-360	206	V
4	2.078	36.01	PK	31.3	-23.3	0	44.01	-	-	-	-	0-360	206	V
1	2.092	35.7	PK	31.3	-23.3	0	43.7	-	-	-	-	0-360	207	H
5	5.34	32.61	PK	34.5	-28.8	0	38.31	-	-	-	-	0-360	206	V
3	7.228	31.5	PK	35.5	-26.9	0	40.1	-	-	-	-	0-360	196	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

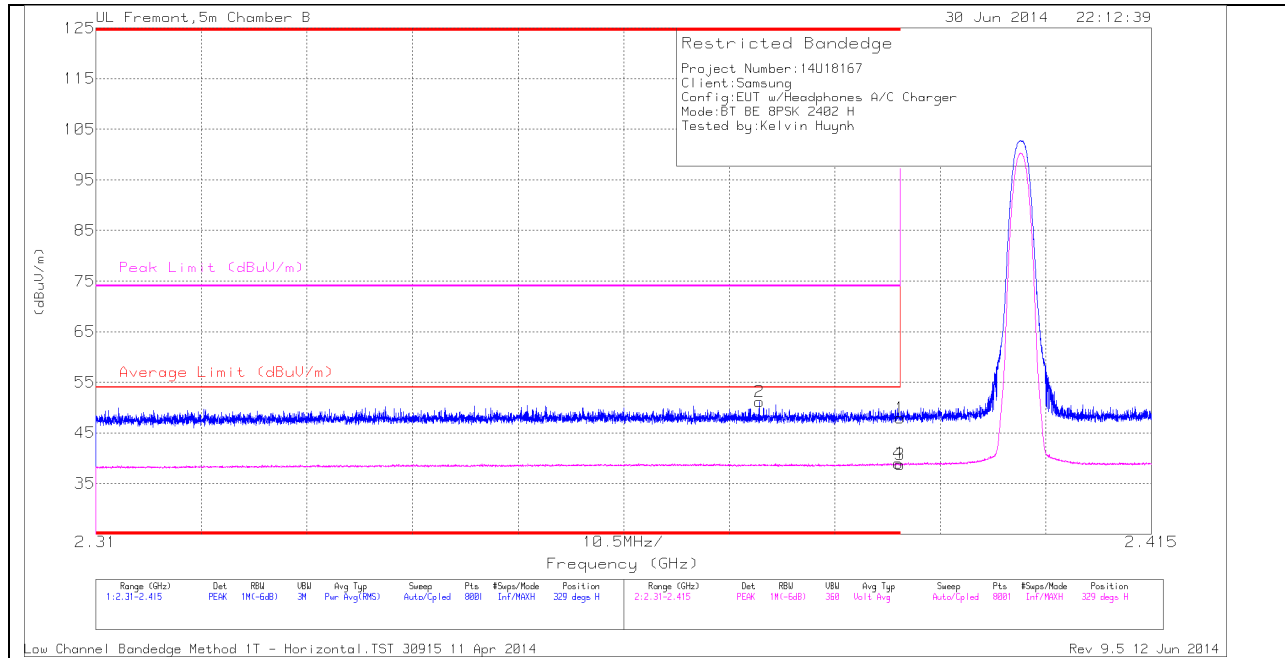
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 5.101	24.61	Avg	34.2	-28.6	0	31.37	54	-22.63	-	-	360	100	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

**9.2.2. ENHANCED DATA RATE 8PSK MODULATION
 RESTRICTED BANDEDGE (LOW CHANNEL)**

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

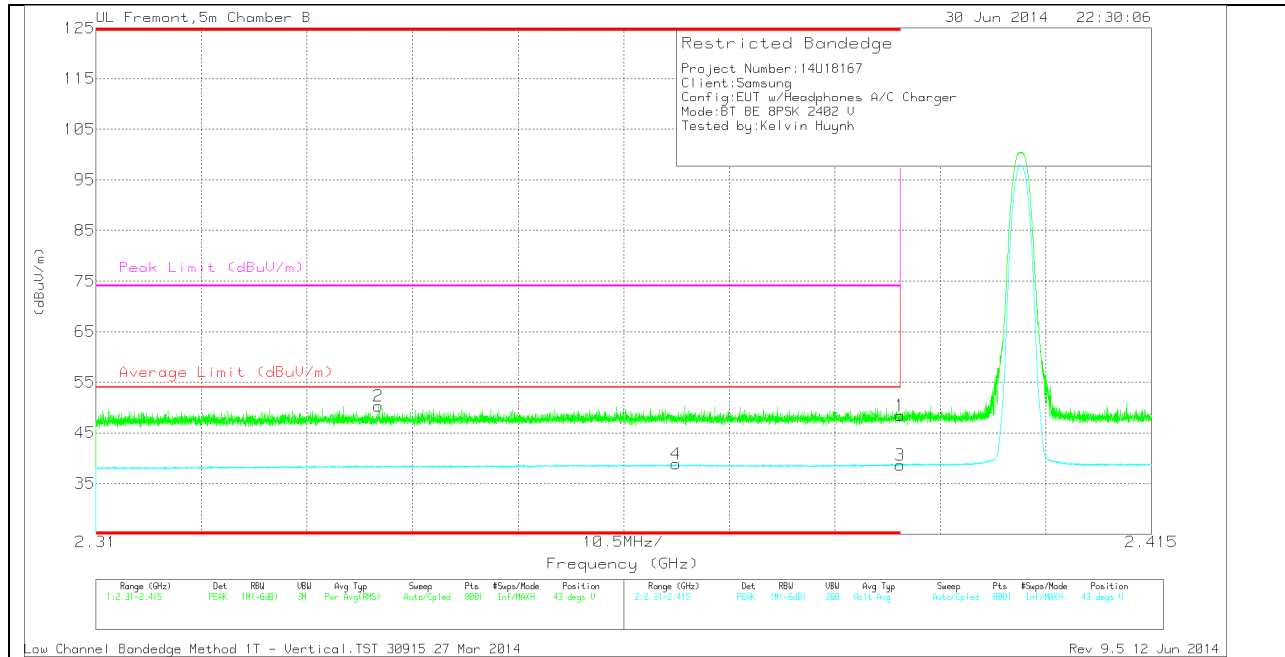
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.66	PK	32.1	-22.8	0	47.96	-	-	74	-26.04	329	294	H
2	* 2.376	42.1	PK	32	-22.9	0	51.2	-	-	74	-22.8	329	294	H
3	* 2.39	29.41	VB1T	32.1	-22.8	0	38.71	54	-15.29	-	-	329	294	H
4	* 2.39	29.71	VB1T	32.1	-22.8	0	39.01	54	-14.99	-	-	329	294	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

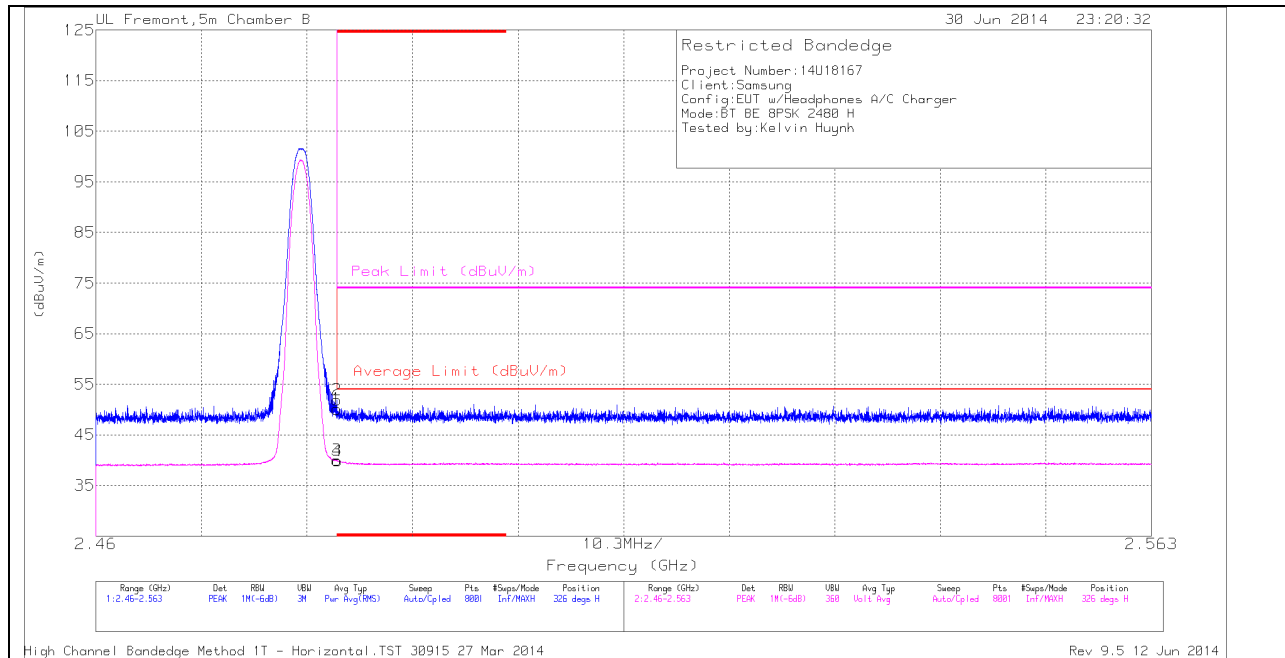
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.1	PK	32.1	-22.8	0	48.4	-	-	74	-25.6	43	310	V
2	* 2.338	41.4	PK	31.8	-22.9	0	50.3	-	-	74	-23.7	43	310	V
3	* 2.39	29.34	VB1T	32.1	-22.8	0	38.64	54	-15.36	-	-	43	310	V
4	* 2.368	29.65	VB1T	32	-22.8	0	38.85	54	-15.15	-	-	43	310	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

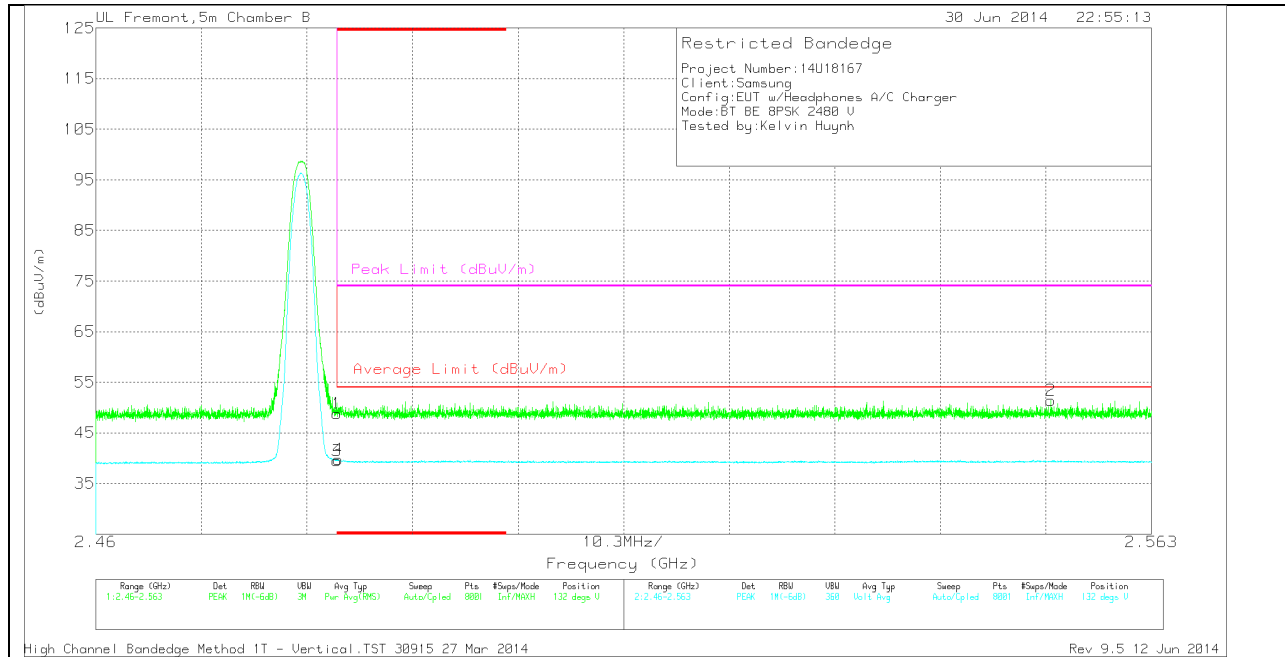
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.41	PK	32.4	-22.7	0	50.11	-	-	74	-23.89	326	280	H
2	* 2.484	42.21	PK	32.4	-22.7	0	51.91	-	-	74	-22.09	326	280	H
3	* 2.484	30.25	VB1T	32.4	-22.7	0	39.95	54	-14.05	-	-	326	280	H
4	* 2.484	30.17	VB1T	32.4	-22.7	0	39.87	54	-14.13	-	-	326	280	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Filt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.07	PK	32.4	-22.7	0	48.77	-	-	74	-25.23	132	328	V
3	* 2.484	29.83	VB1T	32.4	-22.7	0	39.53	54	-14.47	-	-	132	328	V
4	* 2.484	29.99	VB1T	32.4	-22.7	0	39.69	54	-14.31	-	-	132	328	V
2	2.553	41.5	PK	32.5	-22.6	0	51.4	-	-	74	-22.6	132	328	V

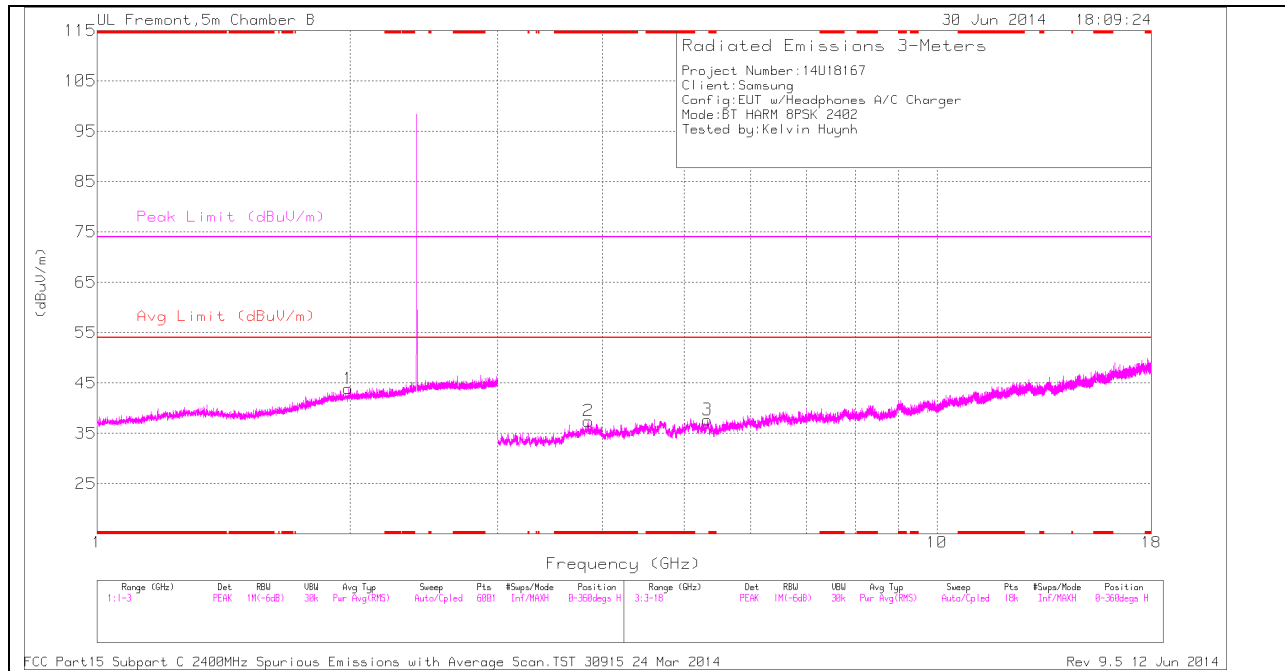
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

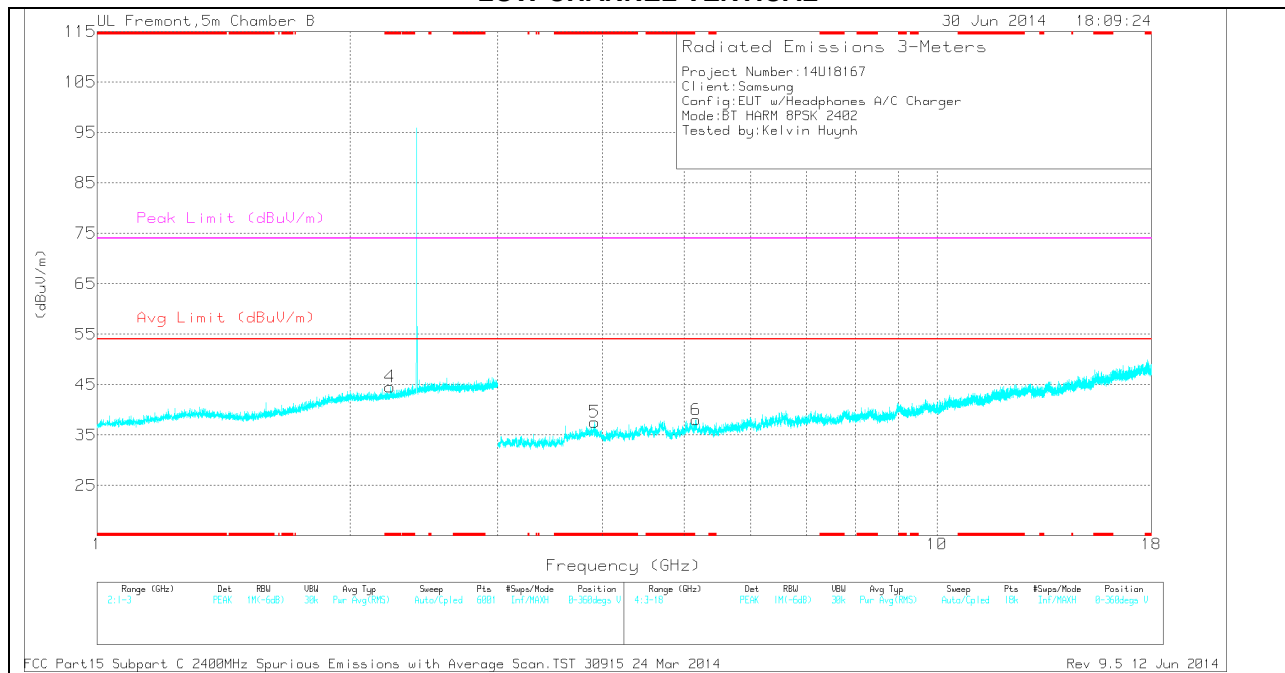
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 2.233	36.25	PK	31.4	-23.1	0	44.55	-	-	74	-29.45	0-360	99	V
2	* 3.847	34.07	PK	33.7	-30.3	0	37.47	-	-	74	-36.53	0-360	99	H
5	* 3.912	34.18	PK	33.8	-30.4	0	37.58	-	-	74	-36.42	0-360	99	V
1	1.99	36	PK	31.3	-23.4	0	43.9	-	-	-	-	0-360	207	H
6	5.168	33.84	PK	34.3	-30.1	0	38.04	-	-	-	-	0-360	206	V
3	5.329	31.91	PK	34.5	-28.7	0	37.71	-	-	-	-	0-360	99	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Radiated Emissions

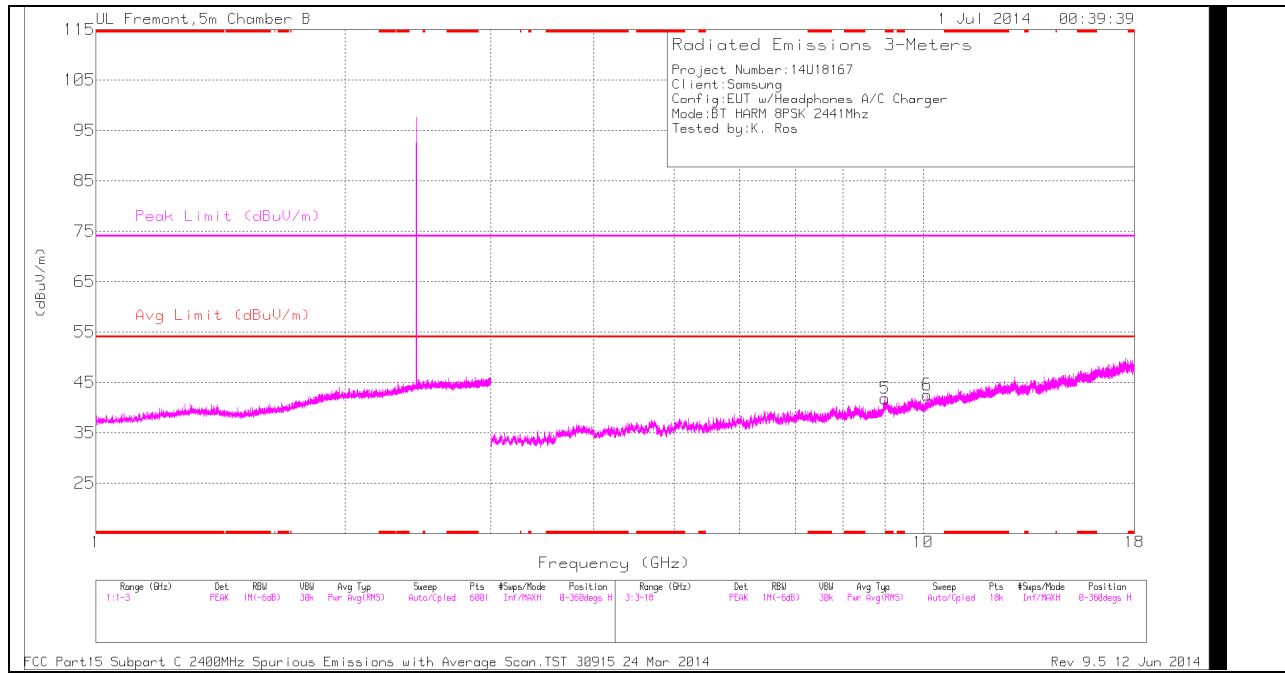
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.848	41.24	PK3	33.7	-30.3	0	44.64	-	-	74	-29.36	0	100	H
* 3.913	41.11	PK3	33.8	-30.4	0	44.51	-	-	74	-29.49	0	100	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK3 - FHSS Method: Maximum Peak

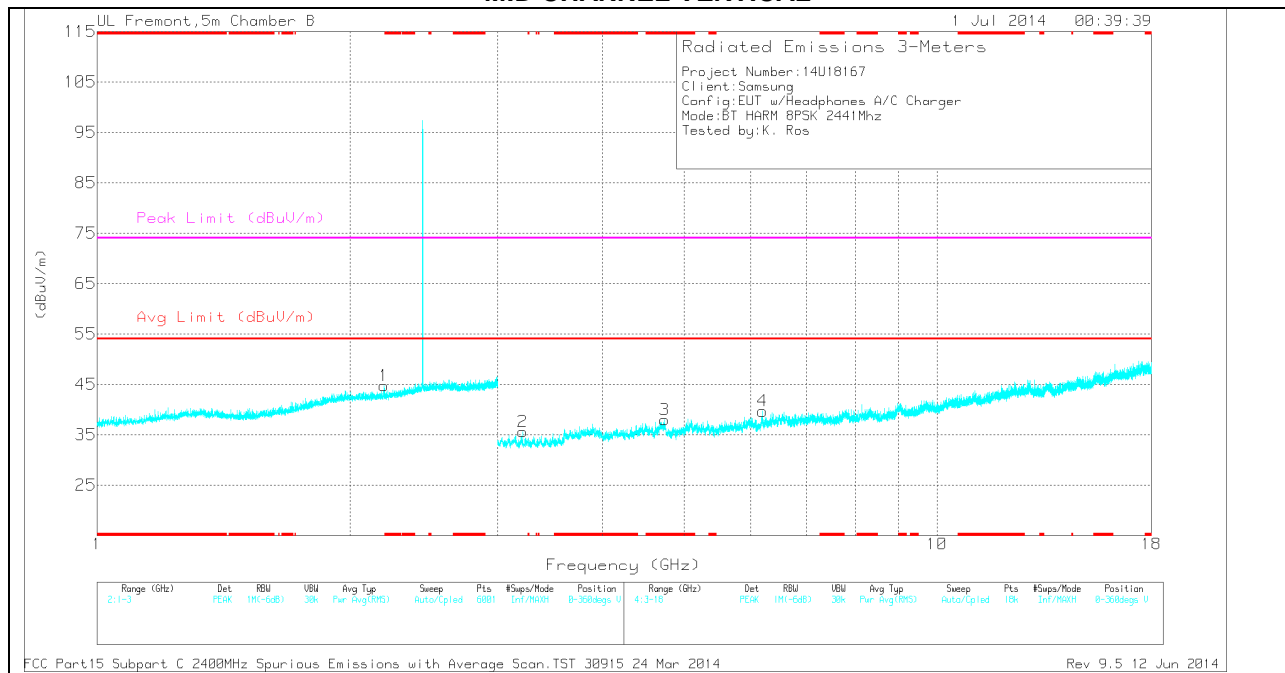
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 9.001	29.7	PK	36.2	-24.1	41.8	-	-	74	-32.2	0-360	99	H
3	* 4.741	33.17	PK	34.2	-29.4	37.97	-	-	74	-36.03	0-360	196	V
1	2.195	36.59	PK	31.3	-23.2	44.69	-	-	-	-	0-360	193	V
2	3.214	33.9	PK	32.8	-31.1	35.6	-	-	-	-	0-360	99	V
4	6.201	32.77	PK	35.4	-28.5	39.67	-	-	-	-	0-360	99	V
6	10.105	28.79	PK	37.1	-23.4	42.49	-	-	-	-	0-360	99	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

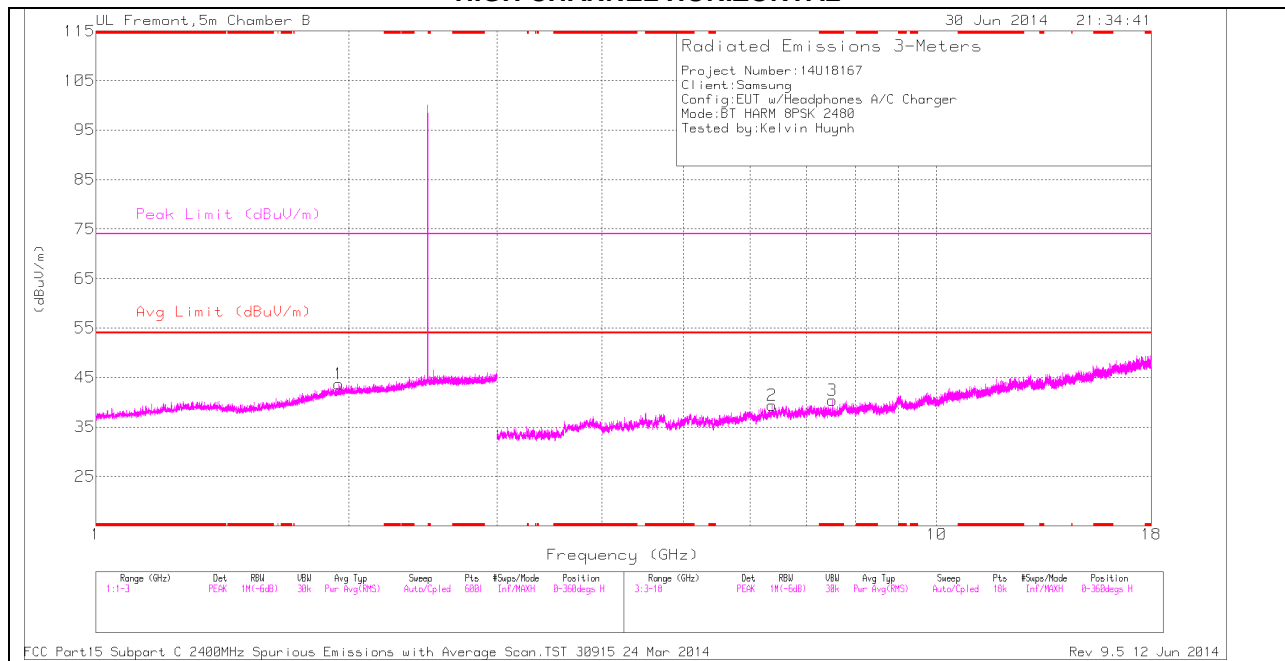
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 9	36.75	PK3	36.2	-24.1	48.85	-	-	74	-25.15	1	100	H
* 4.74	41.34	PK3	34.2	-29.4	46.14	-	-	74	-27.86	1	203	V
2.197	42.87	PK3	31.3	-23.2	50.97	-	-	-	-	1	199	V
3.214	40.85	PK3	32.8	-31.1	42.55	-	-	-	-	1	100	V
6.202	39.15	PK3	35.4	-28.5	46.05	-	-	-	-	1	100	V
10.105	35.06	PK3	37.1	-23.3	48.86	-	-	-	-	1	100	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

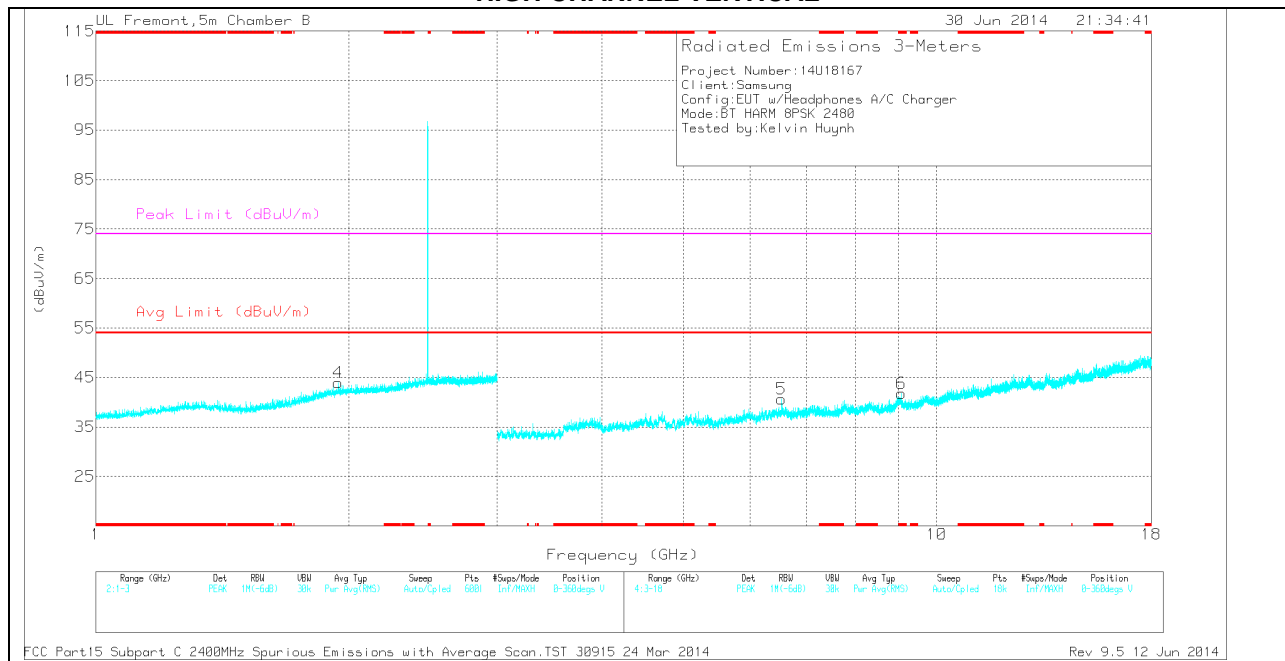
PK3 - FHSS Method: Maximum Peak

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 7.518	31.52	PK	35.6	-26.7	0	40.42	-	-	74	-33.58	0-360	196	H
6	* 9.074	29.76	PK	36.3	-24.3	0	41.76	-	-	74	-32.24	0-360	99	V
4	1.941	36.17	PK	31.2	-23.4	0	43.97	-	-	-	-	0-360	99	V
1	1.945	35.91	PK	31.2	-23.4	0	43.71	-	-	-	-	0-360	203	H
2	6.371	32.73	PK	35.6	-28.9	0	39.43	-	-	-	-	0-360	99	H
5	6.538	32.67	PK	35.7	-27.7	0	40.67	-	-	-	-	0-360	99	V

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.518	28.31	PK3	35.6	-26.7	0	37.21	-	-	74	-36.79	359	203	H
* 9.073	35.91	PK3	36.3	-24.3	0	47.91	-	-	74	-26.09	359	100	H

* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

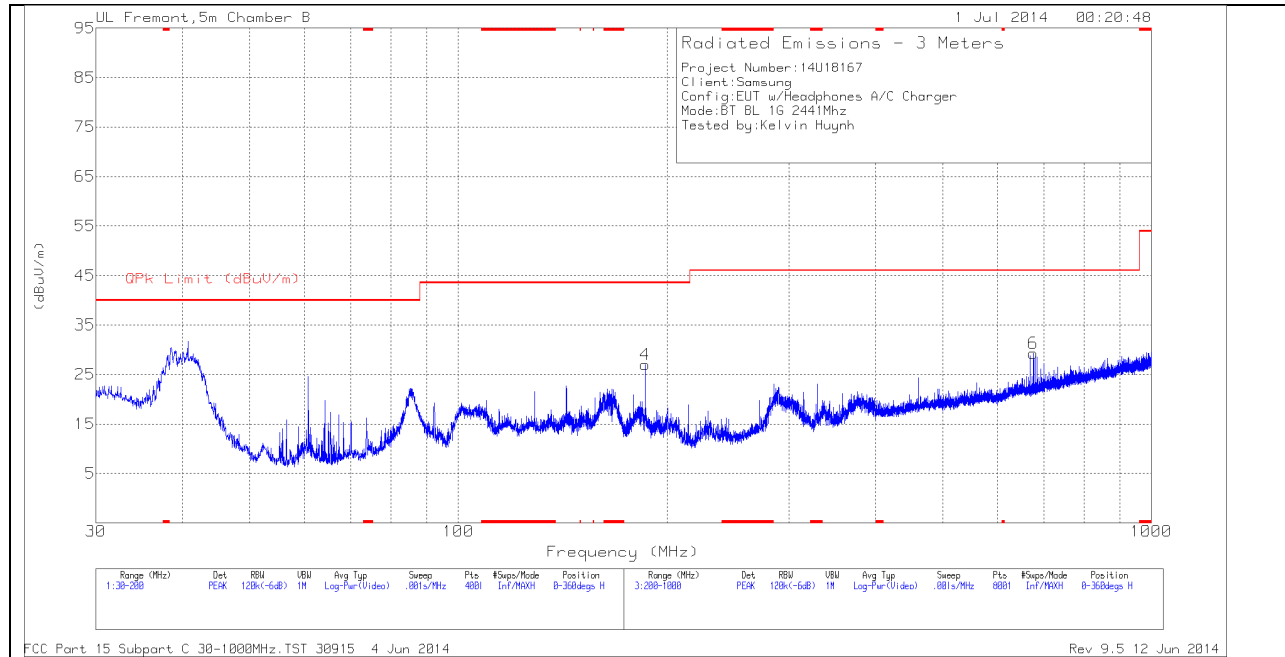
PK3 - FHSS Method: Maximum Peak

FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

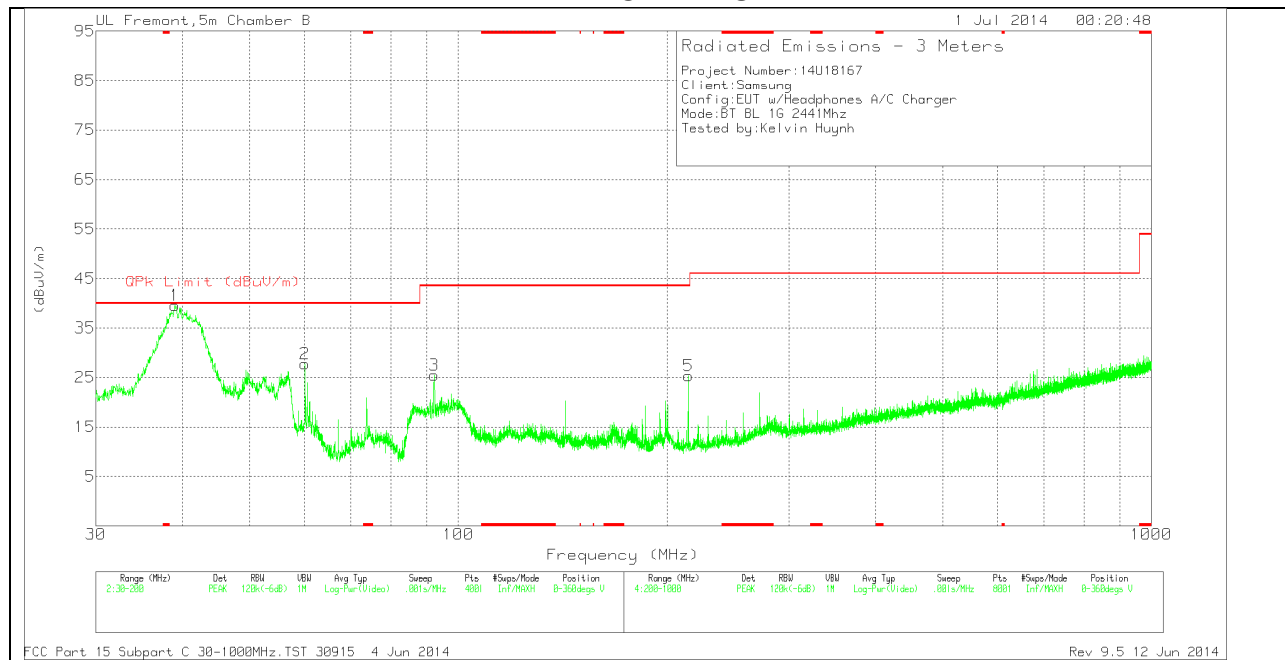
9.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



BELOW 1 GHz TABLE

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	39.01	53.54	PK	14.7	-28.7	39.54	40	-.46	0-360	100	V
2	60.09	48.74	PK	7.4	-28.4	27.74	40	-12.26	0-360	100	V
3	92.3475	45.41	PK	8.2	-28.1	25.51	43.52	-18.01	0-360	100	V
4	186.145	43.04	PK	10.9	-27	26.94	43.52	-16.58	0-360	100	H
5	214.8	41.55	PK	10.6	-26.8	25.35	43.52	-18.17	0-360	200	V
6	676	34.48	PK	19.6	-24.8	29.28	46.02	-16.74	0-360	300	H

PK - 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.

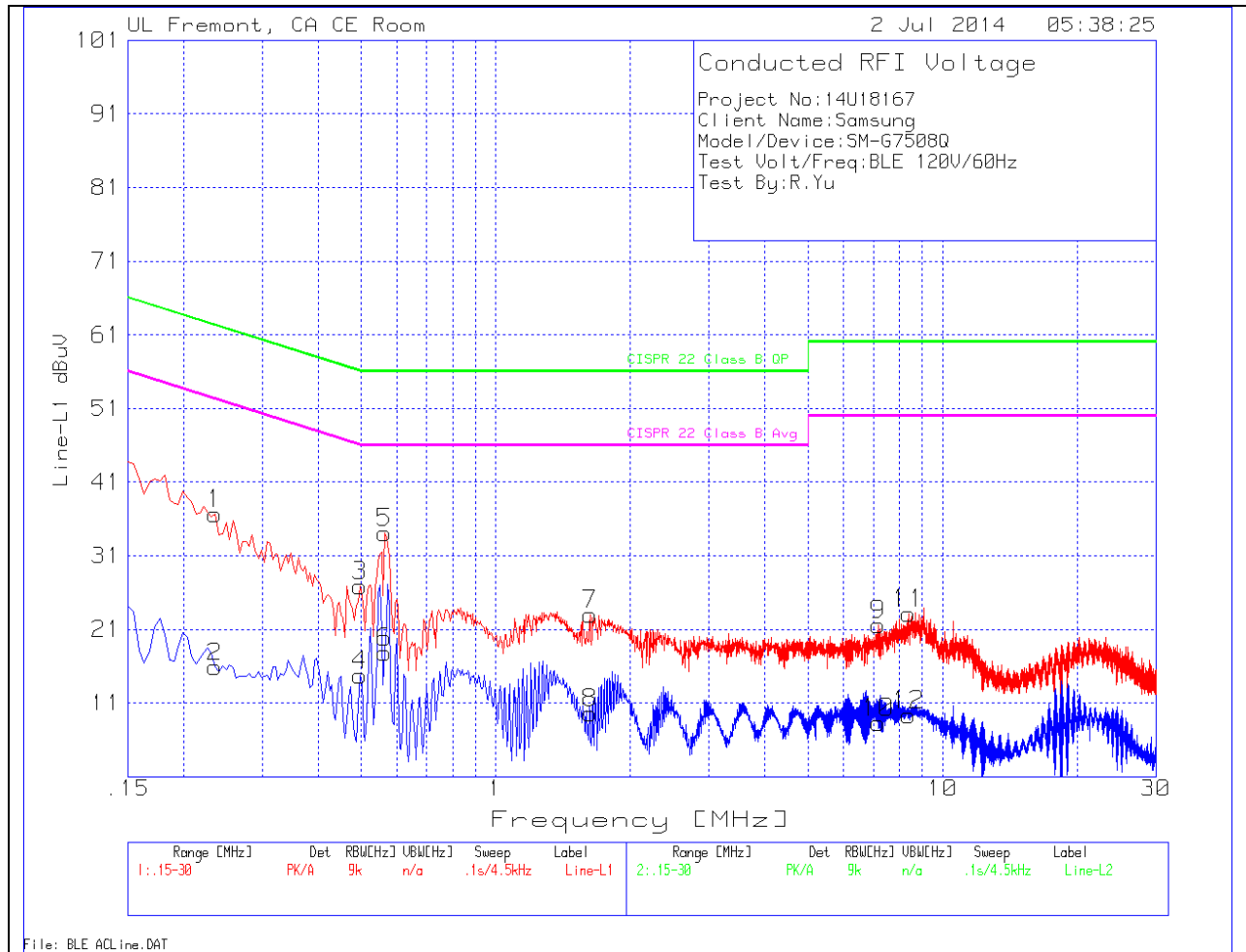
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



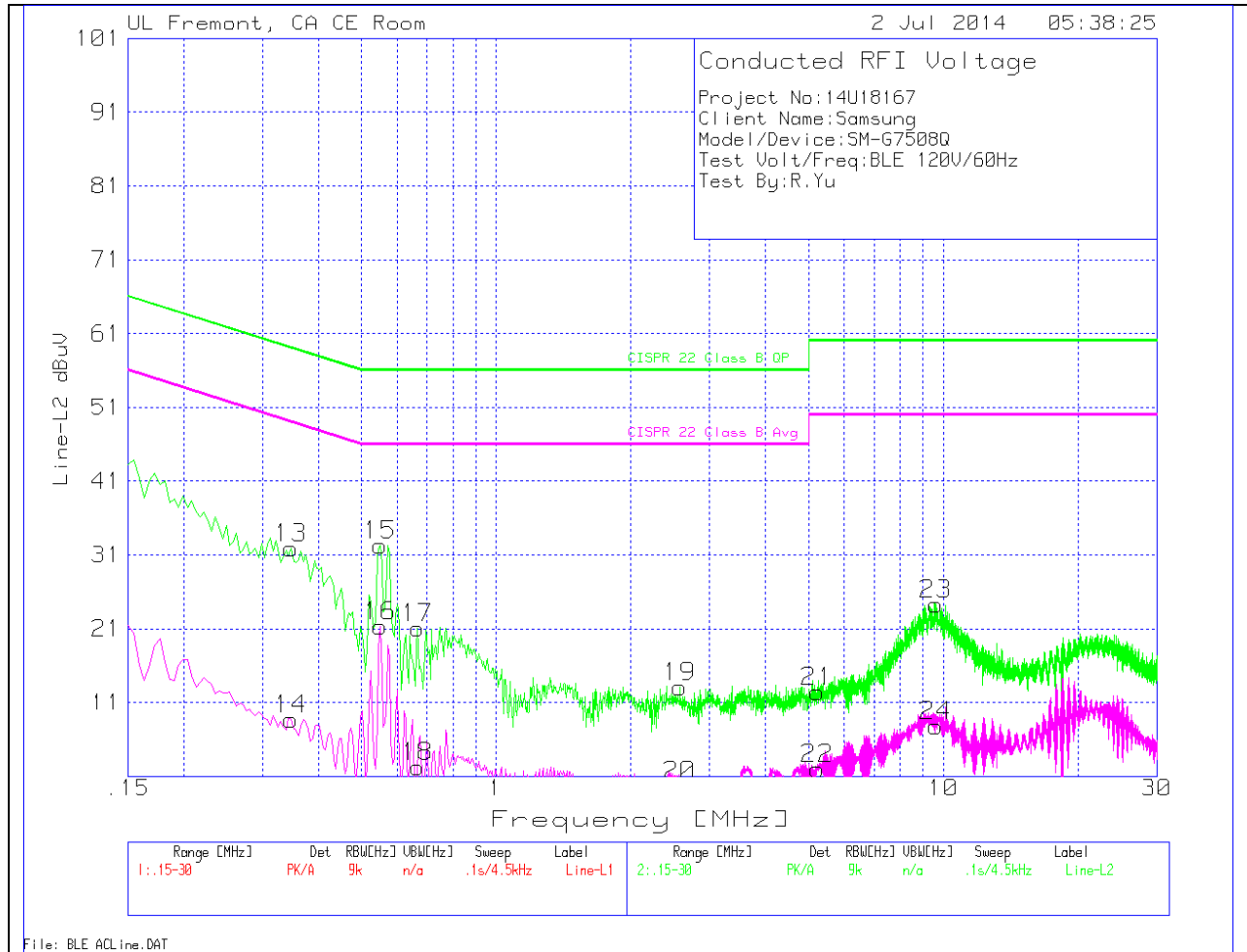
LINE 1 RESULTS

Line-L1 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
1	.2355	35.9	PK	.8	0	36.7	62.3	-25.6	-	-
2	.2355	15.05	Av	.8	0	15.85	-	-	52.3	-36.45
3	.4965	26.48	PK	.4	0	26.88	56.1	-29.22	-	-
4	.4965	14.39	Av	.4	0	14.79	-	-	46.1	-31.31
5	.564	33.74	PK	.3	0	34.04	56	-21.96	-	-
6	.564	17.51	Av	.3	0	17.81	-	-	46	-28.19
7	1.626	22.7	PK	.2	.1	23	56	-33	-	-
8	1.626	9.34	Av	.2	.1	9.64	-	-	46	-36.36
9	7.1925	21.25	PK	.2	.1	21.55	60	-38.45	-	-
10	7.1925	7.97	Av	.2	.1	8.27	-	-	50	-41.73
11	8.385	22.88	PK	.2	.1	23.18	60	-36.82	-	-
12	8.385	9	Av	.2	.1	9.3	-	-	50	-40.7

LINE 2 PLOT



LINE 2 RESULTS

Line-L2 .15 - 30MHz

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dBuV	CISPR 22 Class B QP	Margin to Limit (dB)	CISPR 22 Class B Avg	Margin to Limit (dB)
13	.348	31.43	PK	.5	0	31.93	59	-27.07	-	-
14	.348	8.19	Av	.5	0	8.69	-	-	49	-40.31
15	.5505	32.01	PK	.3	0	32.31	56	-23.69	-	-
16	.5505	20.99	Av	.3	0	21.29	-	-	46	-24.71
17	.6675	20.77	PK	.3	0	21.07	56	-34.93	-	-
18	.6675	2	Av	.3	0	2.3	-	-	46	-43.7
19	2.5755	12.78	PK	.2	.1	13.08	56	-42.92	-	-
20	2.5755	-.65	Av	.2	.1	-.35	-	-	46	-46.35
21	5.2305	12.08	PK	.2	.1	12.38	60	-47.62	-	-
22	5.2305	1.64	Av	.2	.1	1.94	-	-	50	-48.06
23	9.627	23.92	PK	.2	.2	24.32	60	-35.68	-	-
24	9.627	7.37	Av	.2	.2	7.77	-	-	50	-42.23

PK - Peak detector

Av - average detection