



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

**BLUETOOTH LOW ENERGY  
CERTIFICATION TEST REPORT  
FOR**

**Tablet with Bluetooth, DTS/UNII a/b/g/n and ANT+**

**MODEL NUMBER: SM-T550**

**FCC ID: A3LSMT550**

**IC ID: 649E-SMT550**

**REPORT NUMBER: 15I19879-E2**

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**NVLAP LAB CODE 200065-0**

Revision History

Rev.	Date	Revisions	Revised By
--	2/3/15	Initial Issue	P. Zhang

## TABLE OF CONTENTS

<b>1. ATTESTATION OF TEST RESULTS</b> .....	<b>4</b>
<b>2. TEST METHODOLOGY</b> .....	<b>5</b>
<b>3. FACILITIES AND ACCREDITATION</b> .....	<b>5</b>
<b>4. CALIBRATION AND UNCERTAINTY</b> .....	<b>6</b>
4.1. <i>MEASURING INSTRUMENT CALIBRATION</i> .....	6
4.2. <i>SAMPLE CALCULATION</i> .....	6
4.3. <i>MEASUREMENT UNCERTAINTY</i> .....	6
<b>5. EQUIPMENT UNDER TEST</b> .....	<b>7</b>
5.1. <i>DESCRIPTION OF EUT</i> .....	7
5.2. <i>MAXIMUM OUTPUT POWER</i> .....	7
5.3. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i> .....	7
5.4. <i>WORST-CASE CONFIGURATION AND MODE</i> .....	8
5.5. <i>DESCRIPTION OF TEST SETUP</i> .....	9
<b>6. TEST AND MEASUREMENT EQUIPMENT</b> .....	<b>11</b>
<b>7. SUMMARY</b> .....	<b>12</b>
<b>8. ANTENNA PORT TEST RESULTS</b> .....	<b>12</b>
8.1. <i>6 dB BANDWIDTH</i> .....	13
8.2. <i>99% BANDWIDTH</i> .....	17
8.3. <i>OUTPUT POWER</i> .....	21
8.4. <i>AVERAGE POWER</i> .....	25
8.5. <i>POWER SPECTRAL DENSITY</i> .....	26
8.6. <i>CONDUCTED SPURIOUS EMISSIONS</i> .....	30
<b>9. RADIATED TEST RESULTS</b> .....	<b>37</b>
9.1. <i>LIMITS AND PROCEDURE</i> .....	37
9.2. <i>TRANSMITTER ABOVE 1 GHz</i> .....	39
9.3. <i>WORST-CASE BELOW 1 GHz</i> .....	52
<b>10. AC POWER LINE CONDUCTED EMISSIONS</b> .....	<b>55</b>
<b>11. SETUP PHOTOS</b> .....	<b>60</b>

# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** SAMSUNG ELECTRONICS CO., LTD.  
**EUT DESCRIPTION:** Tablet with Bluetooth, WLAN DTS/UNII a/b/g/n and ANT+  
**MODEL:** SM-T550  
**SERIAL NUMBER:** R32G1032KGK (Conducted), R32G1032KDZ (Radiated)  
**DATE TESTED:** JANUARY 23 - 26, 2015

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 ISSUE 8	Pass
INDUSTRY CANADA RSS-GEN ISSUE 4	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.

Approved & Released For

UL Verification Services Inc. By:

Tested By:



Peng Zhang  
PROJECT LEAD  
UL Verification Services Inc.

Charles Vergonio  
LAB ENGINEER  
UL Verification Services Inc.

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-210 Issue 8.

## 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(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 2324B-4)
<input type="checkbox"/> Chamber B(IC: 2324B-2)	<input type="checkbox"/> Chamber E(IC: 2324B-5)
<input checked="" type="checkbox"/> Chamber C(IC: 2324B-3)	<input type="checkbox"/> Chamber F(IC: 2324B-6)
	<input type="checkbox"/> Chamber G(IC: 2324B-7)
	<input type="checkbox"/> Chamber H(IC: 2324B-8)

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:

$$\text{Field Strength (dBuV/m)} = \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} - \text{Preamp Gain (dB)}$$

$$36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} = 28.9 \text{ dBuV/m}$$

### 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 26000 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 Tablet with Bluetooth, DTS/UNII a/b/g/n and ANT+.

### 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	BLE	3.05	2.02

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.6 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	EP-TA12EWE	N/A	N/A
Earphone	SAMSUNG	N/A	N/A	N/A

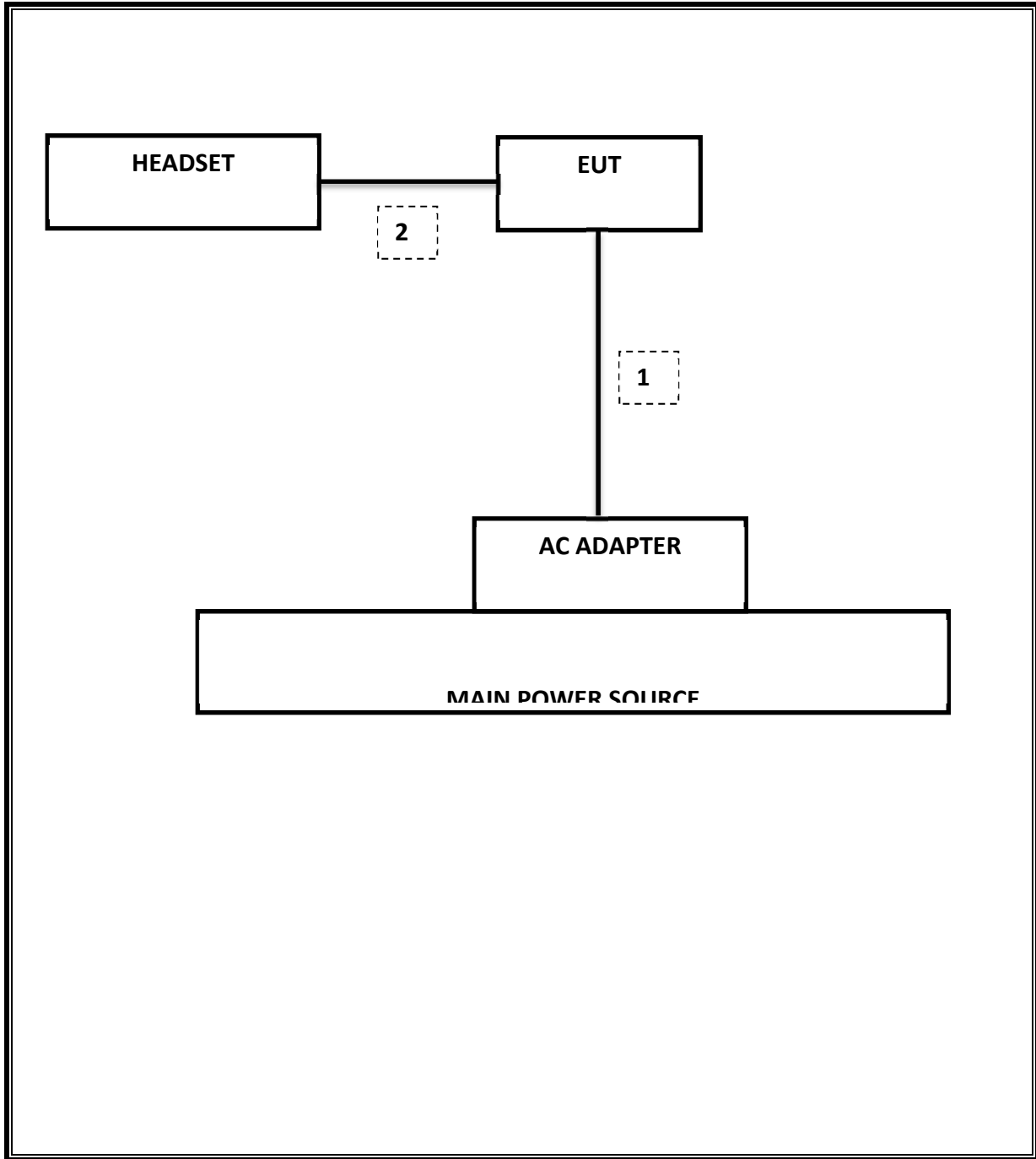
### I/O CABLES

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	80cm	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

### TEST SETUP

EUT was set in the Hidden menu mode to enable BLE communications.

**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	Manufacturer	Model	Asset	Cal Due
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01171	02/13/15
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/14/15
RF Preampfier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preampfier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preampfier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/15
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
CBT Bluetooth Tester	R & S	CBT	None	07/12/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/14/16

## 7. SUMMARY

### 8.

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	RSS-210 A8.2(a)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	0.682MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-32.34dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	3.05dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-12.37dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	45.0dBuV(PK)
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	42.84dBuV/m

## ANTENNA PORT TEST RESULTS

### 8.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

#### TEST PROCEDURE

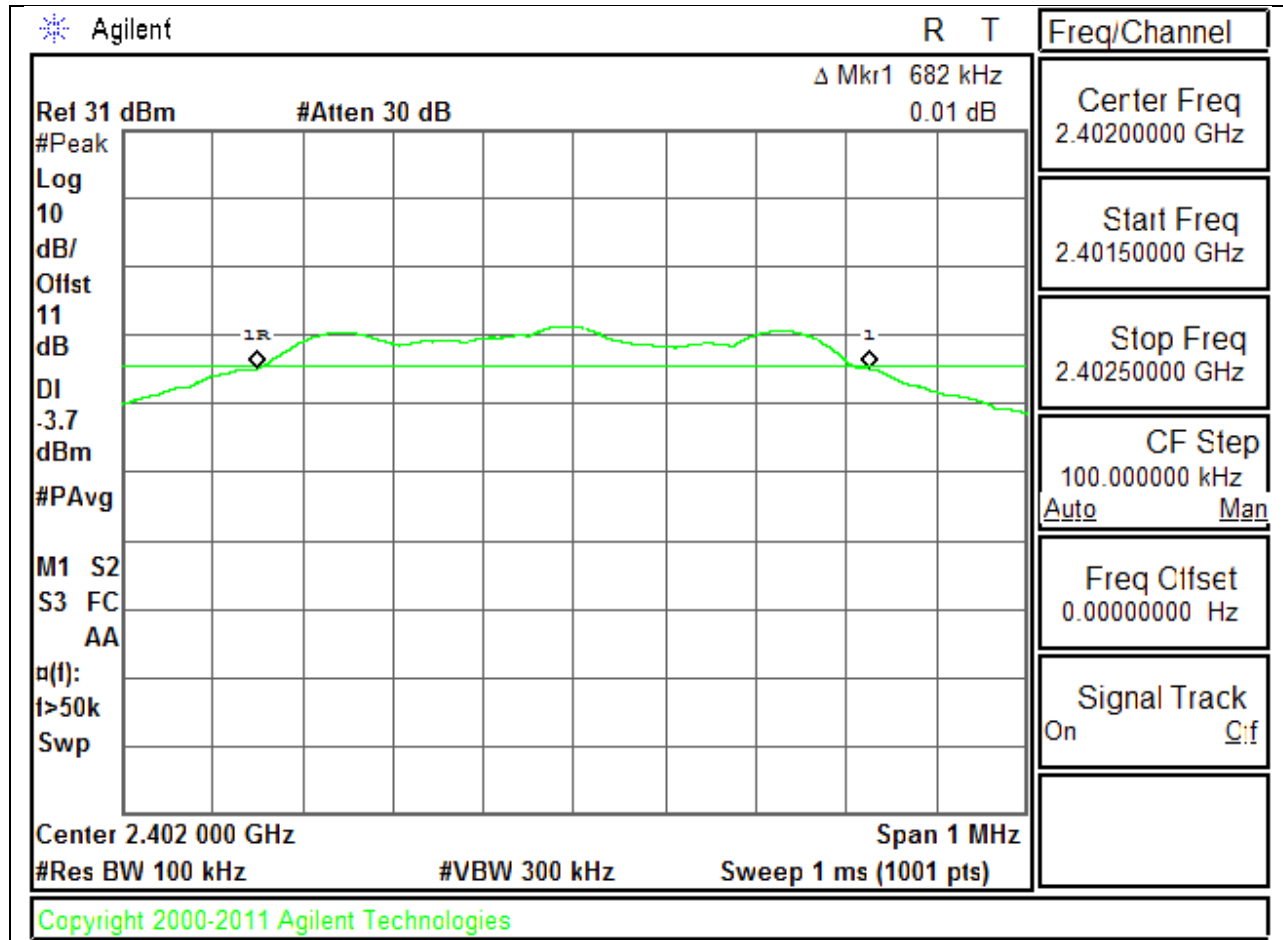
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

#### RESULTS

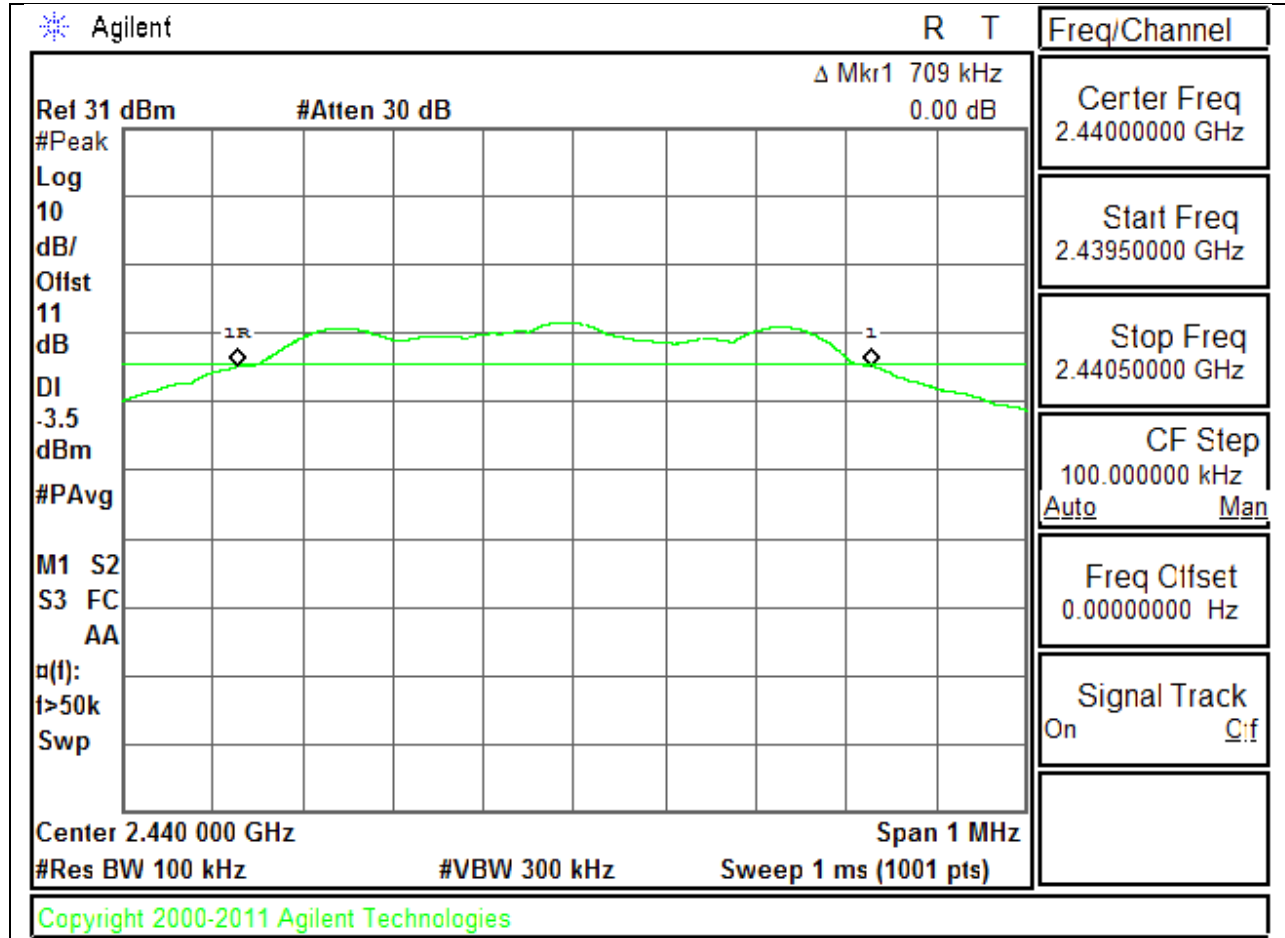
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.6820	0.5
Middle	2440	0.7090	0.5
High	2480	0.6900	0.5

**6 dB BANDWIDTH PLOTS**

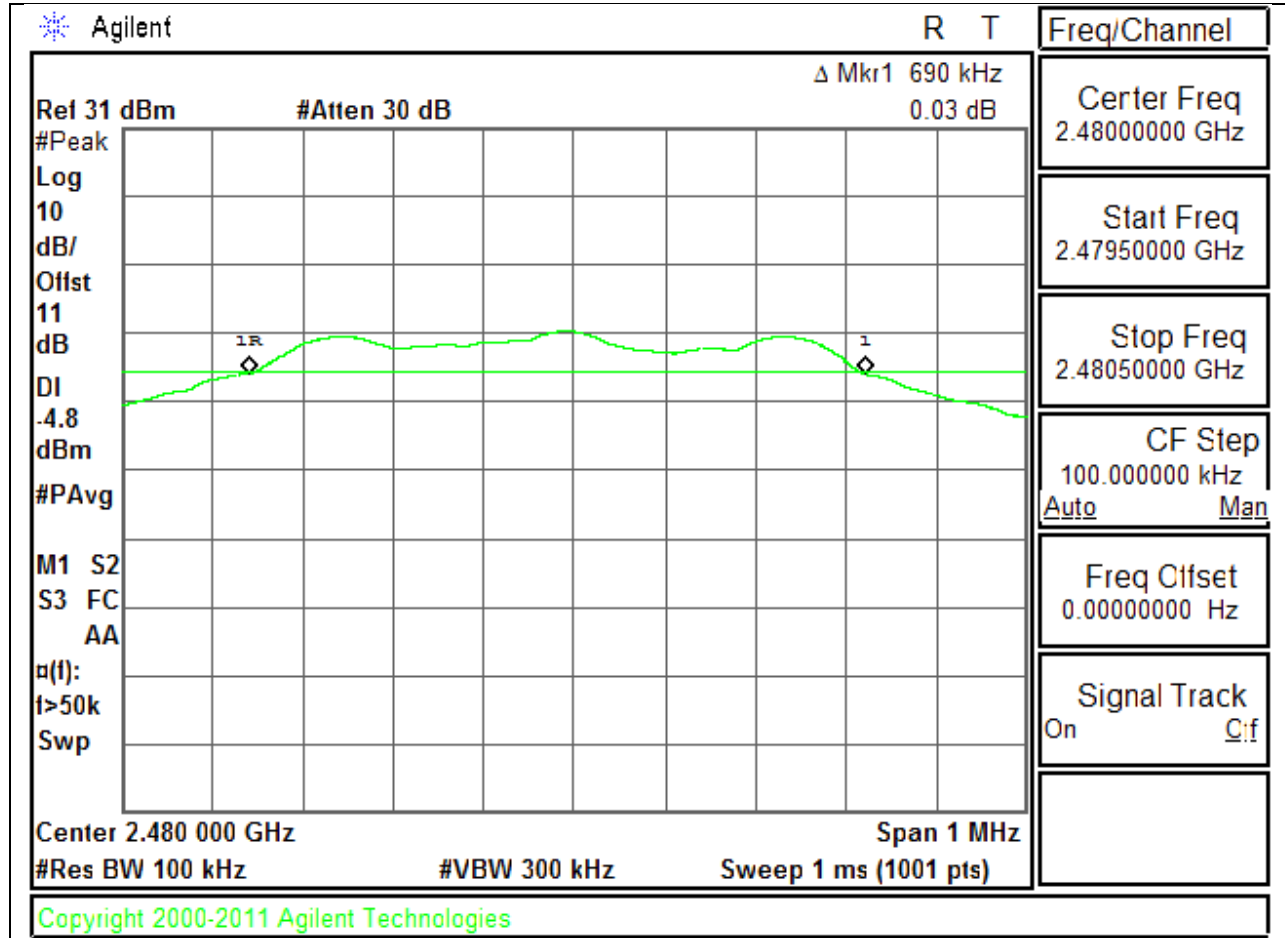
**LOW CHANNEL**



**MID CHANNEL**



**HIGH CHANNEL**



## 8.2. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

### TEST PROCEDURE

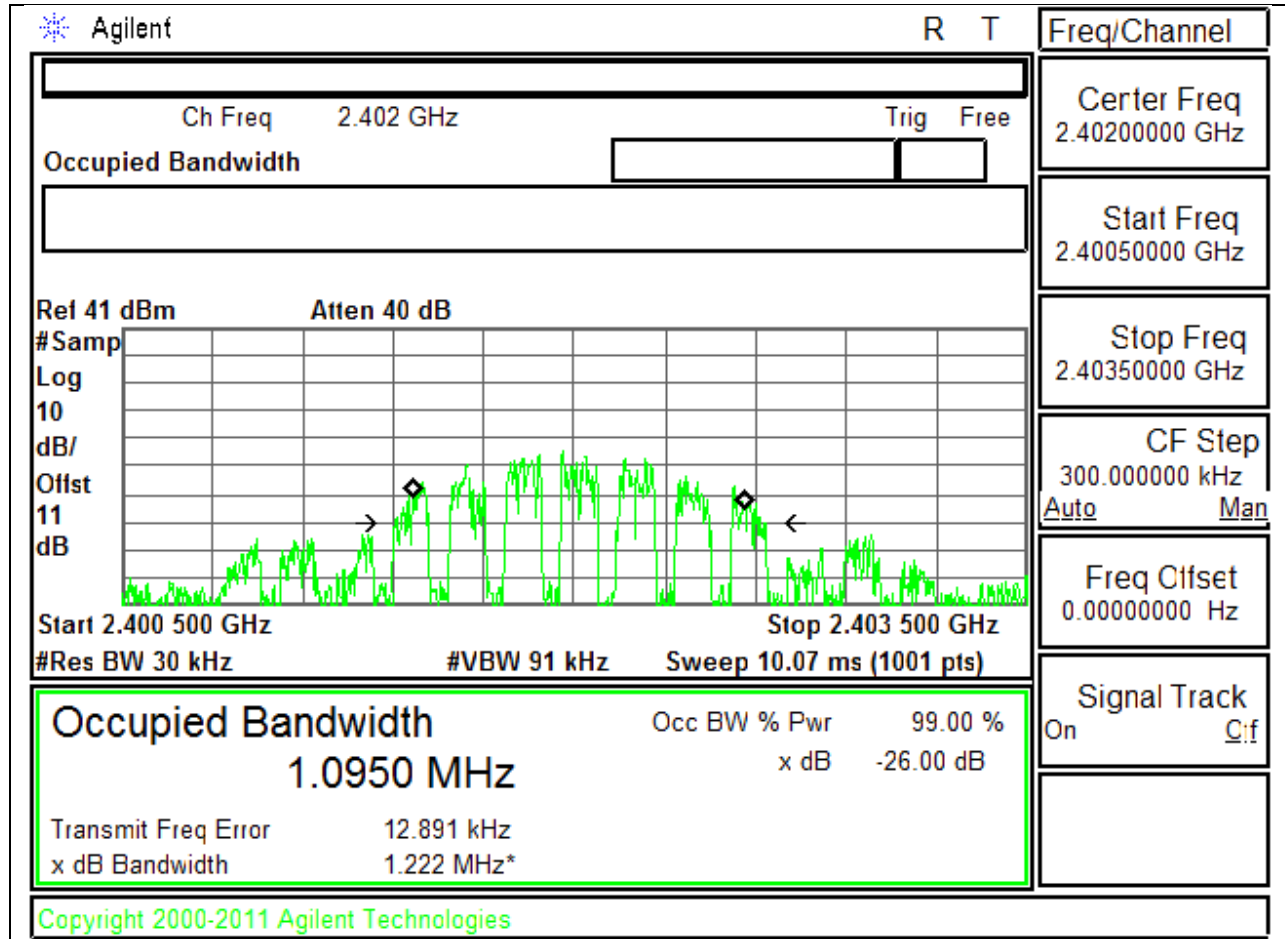
Reference to KDB558074 D01 DTS Meas Guidance v03r02: The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

### RESULTS

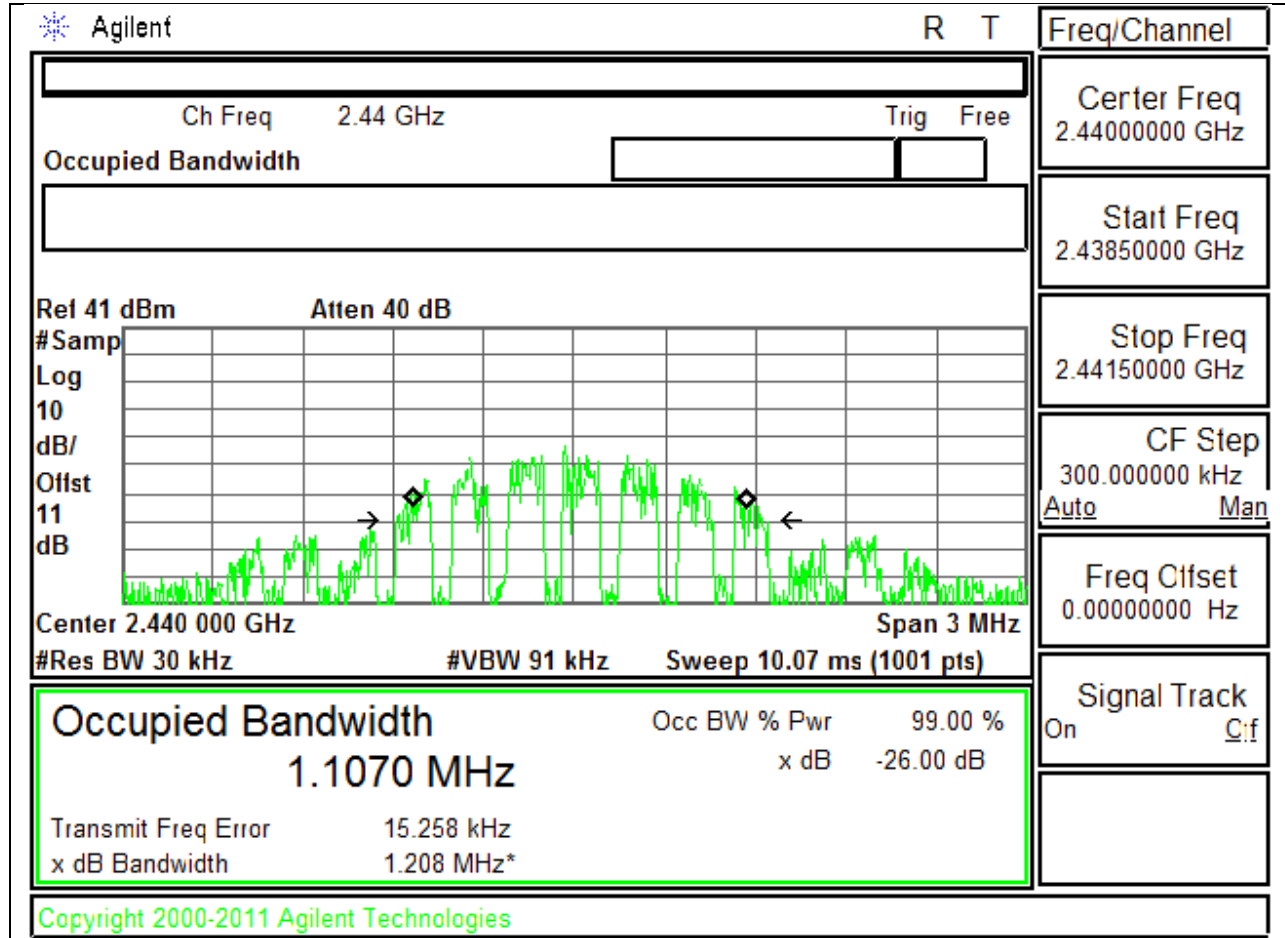
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0950
Middle	2440	1.1070
High	2480	1.0950

**99% BANDWIDTH PLOTS**

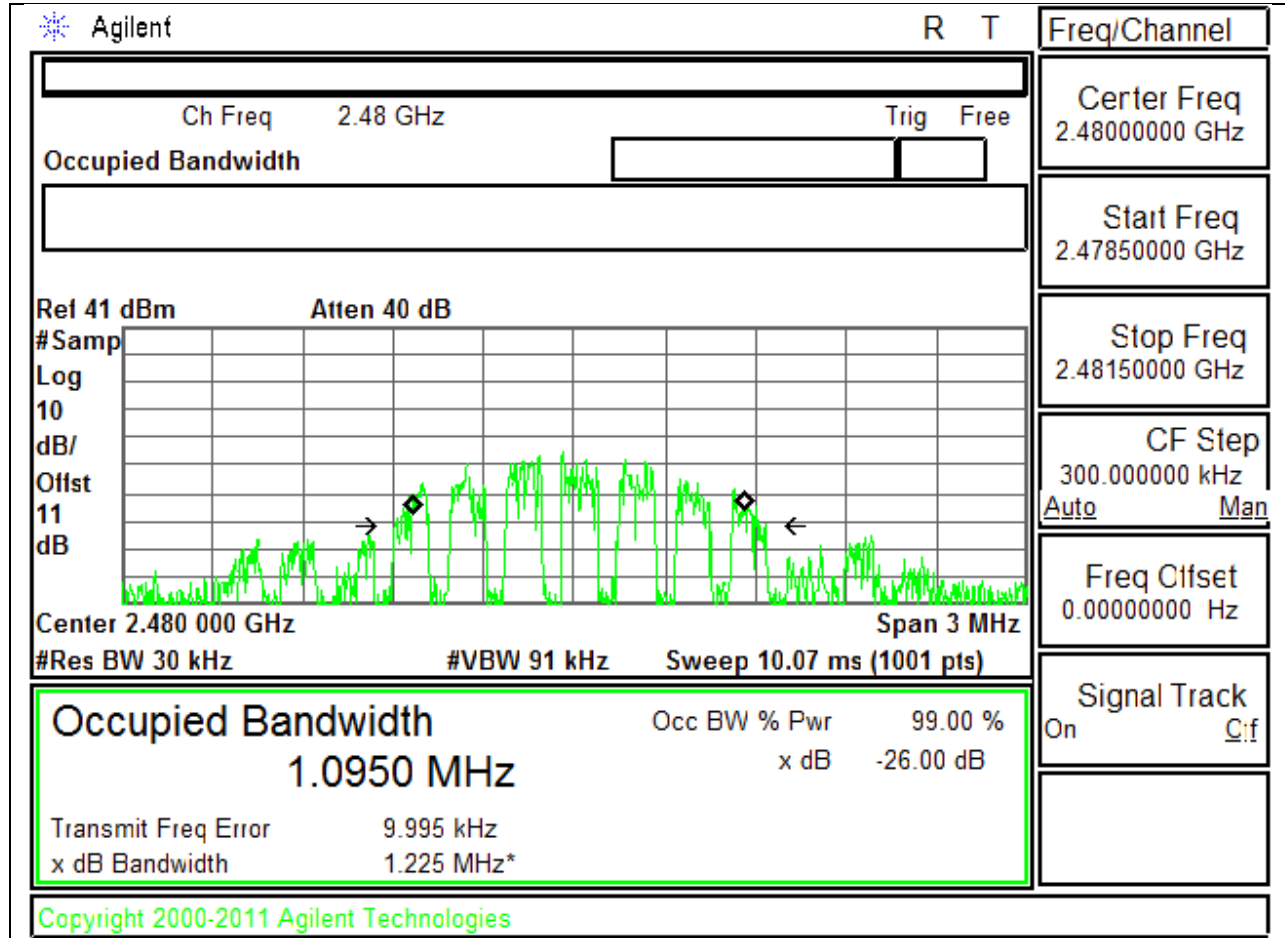
**LOW CHANNEL**



**MID CHANNEL**



**HIGH CHANNEL**



### 8.3. OUTPUT POWER

#### LIMITS

FCC §15.247 (b)

IC RSS-210 A8.4

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

#### TEST PROCEDURE

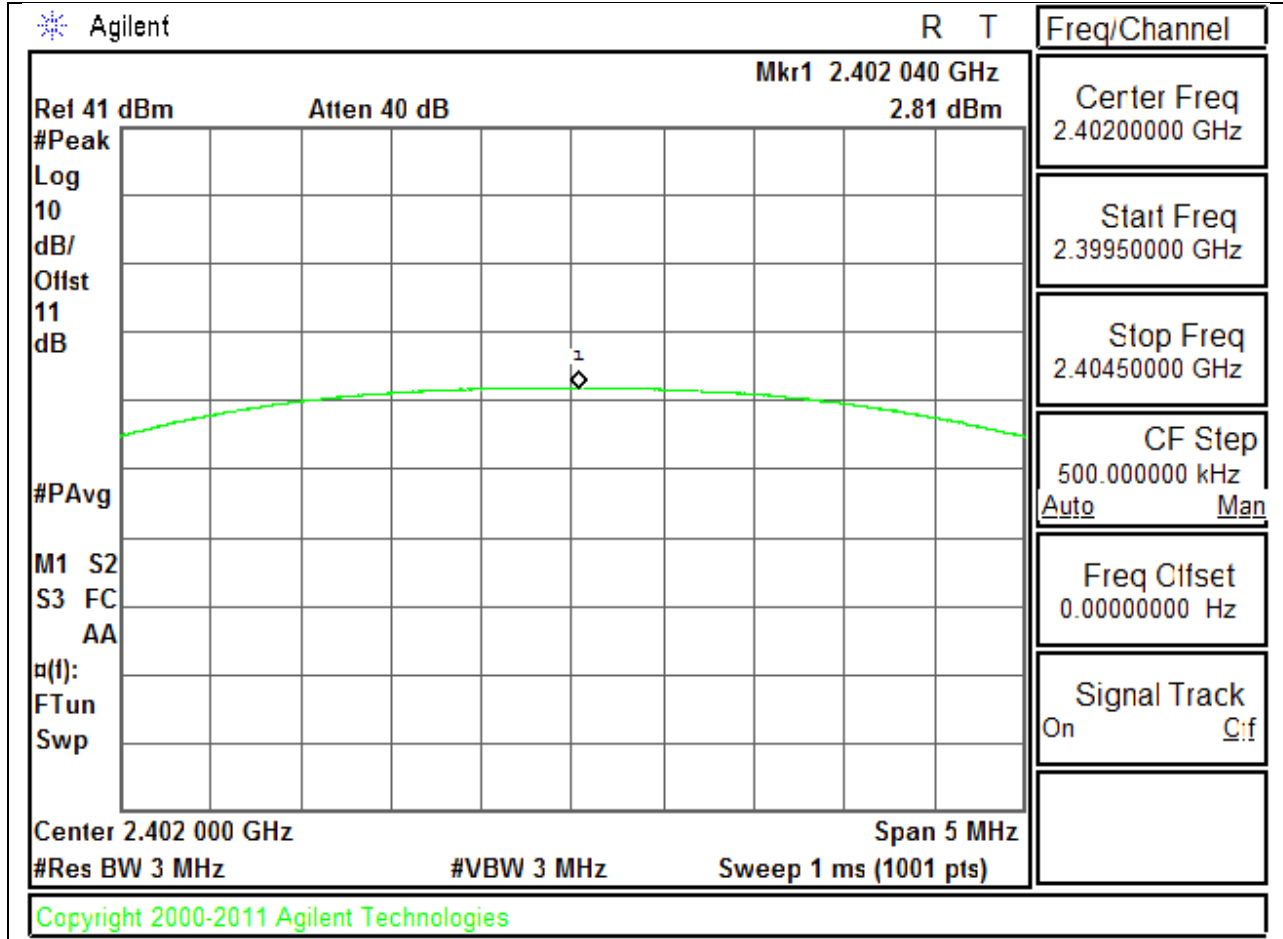
Peak power is measured using KDB558074 D01 DTS Meas Guidance v03r02 under section 9.1.1 utilizing spectrum analyzer.

#### RESULTS

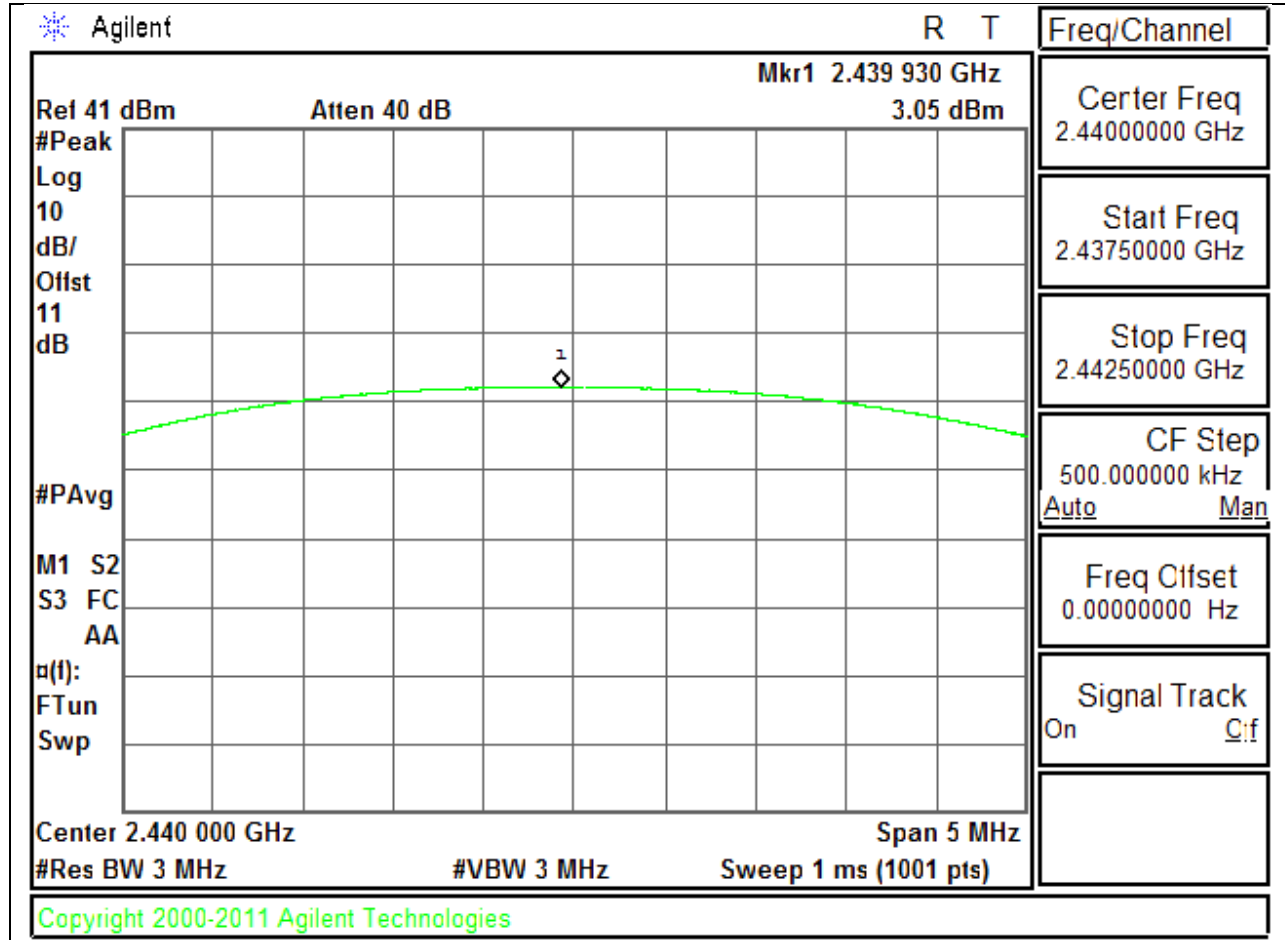
Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	2.810	30	-27.190
Middle	2440	3.050	30	-26.950
High	2480	1.760	30	-28.240

**OUTPUT POWER PLOTS**

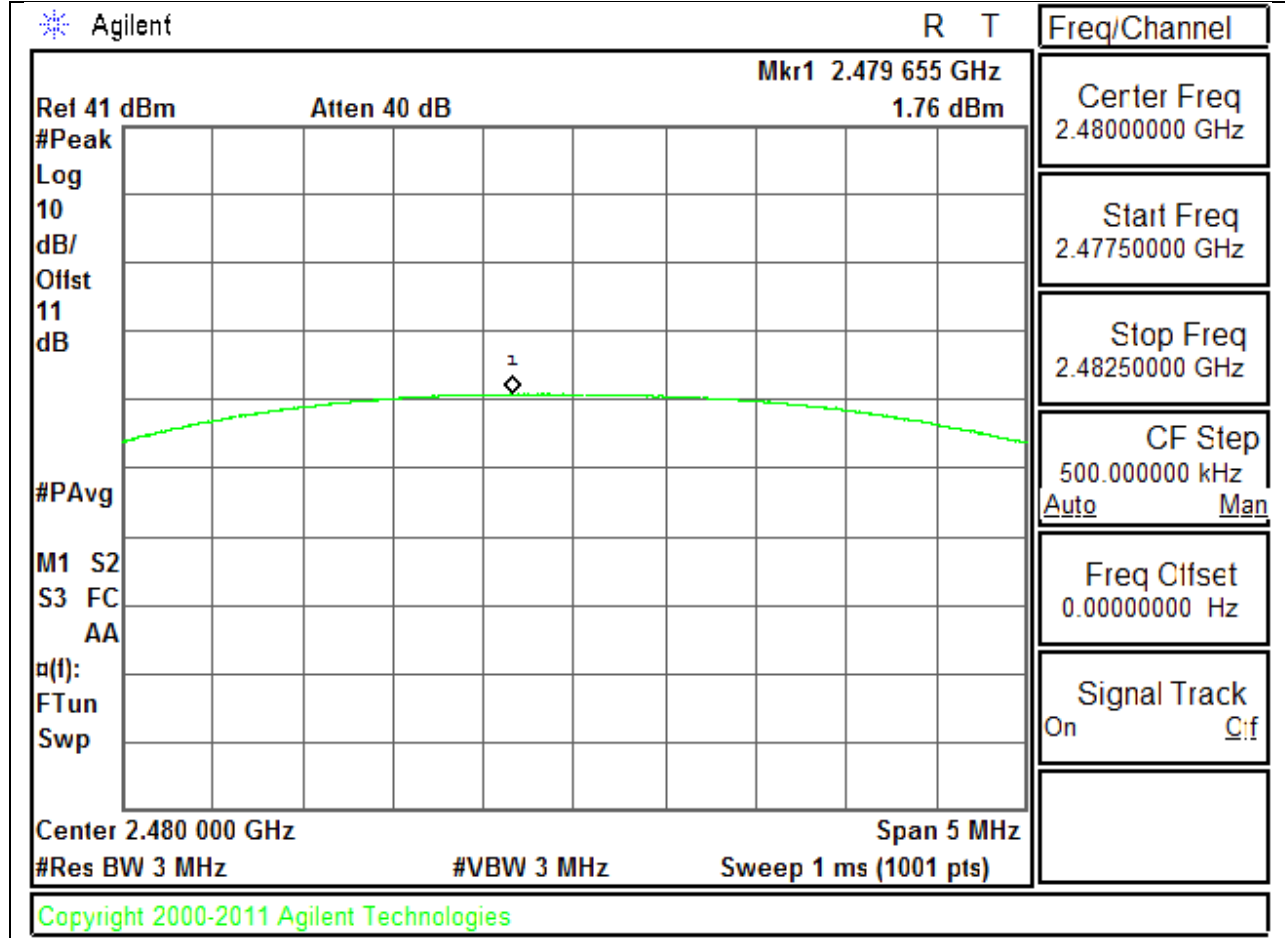
**LOW CHANNEL**



**MID CHANNEL**



**HIGH CHANNEL**



## 8.4. AVERAGE POWER

### LIMITS

None; for reporting purposes only.

### TEST PROCEDURE

The transmitter output is connected to a power meter.

### RESULTS

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	2.7
Middle	2440	2.9
High	2480	1.7

## 8.5. POWER SPECTRAL DENSITY

### LIMITS

FCC §15.247 (e)

IC RSS-210 A8.2 (b)

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

### TEST PROCEDURE

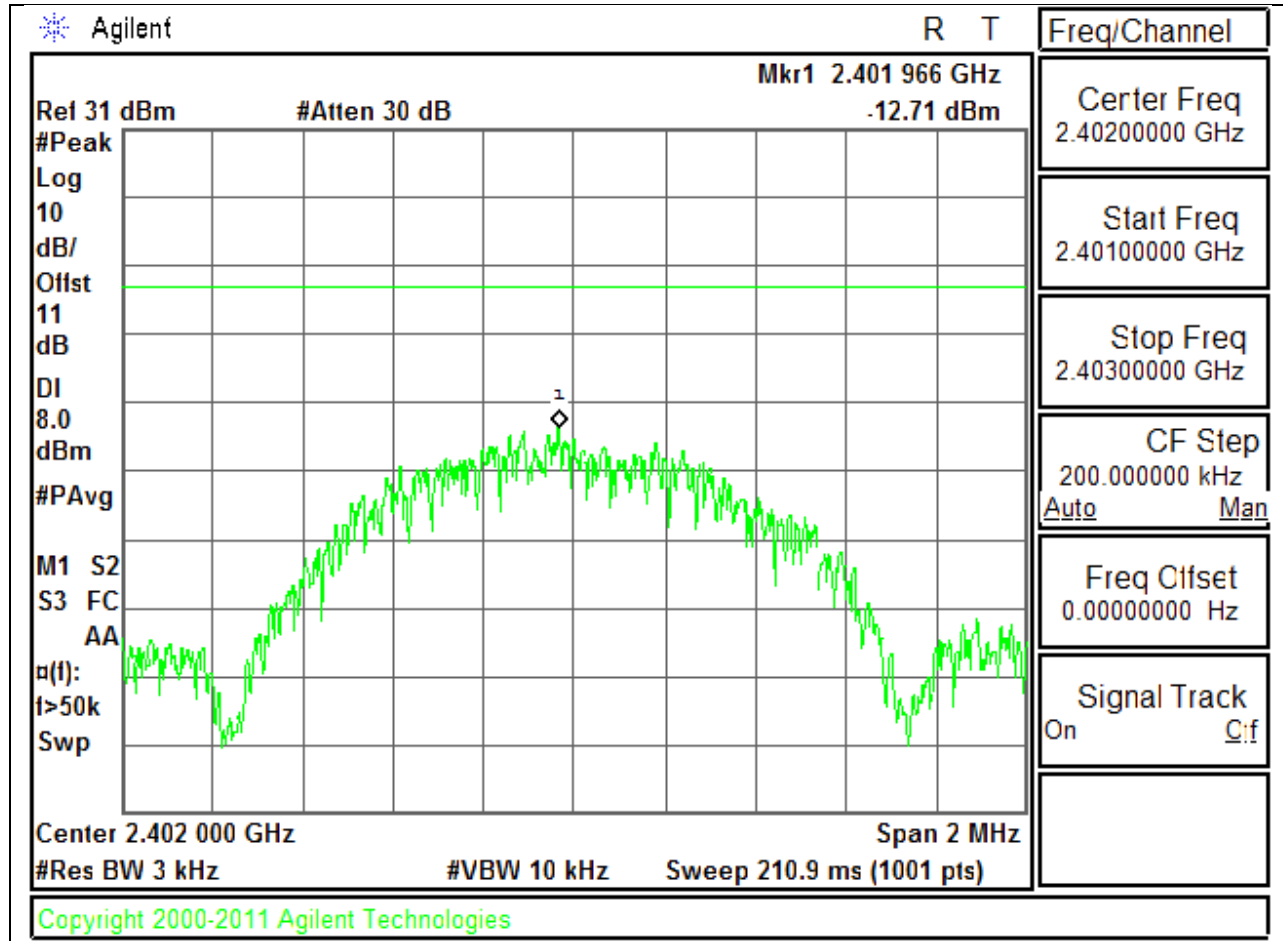
Power Spectral Density was performed utilizing the "Method PKPSD (Peak PSD)" under KDB558074 D01 DTS Meas Guidance v03r02.

### RESULTS

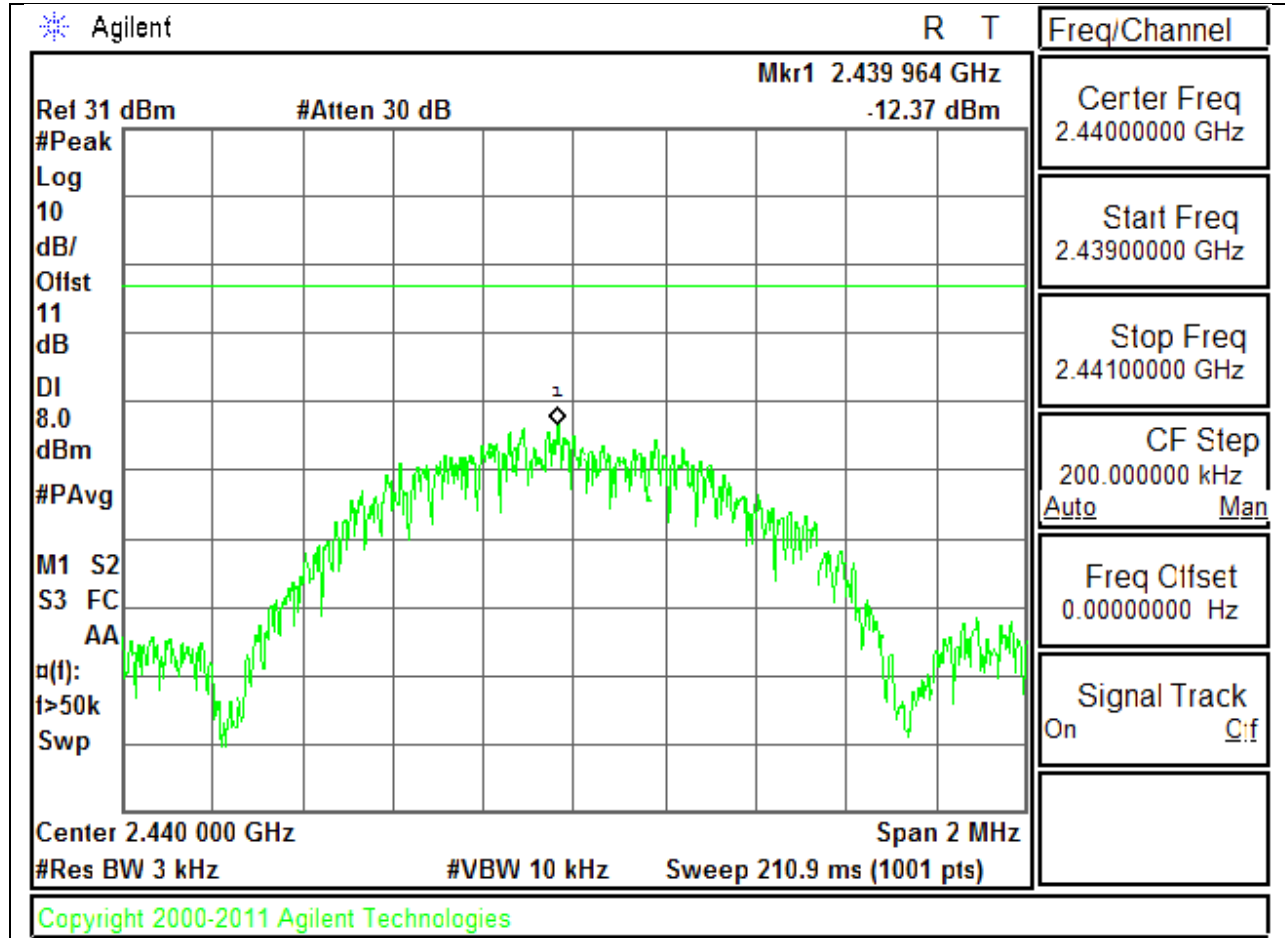
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-12.71	8	-20.71
Middle	2440	-12.37	8	-20.37
High	2480	-13.81	8	-21.81

**POWER SPECTRAL DENSITY PLOTS**

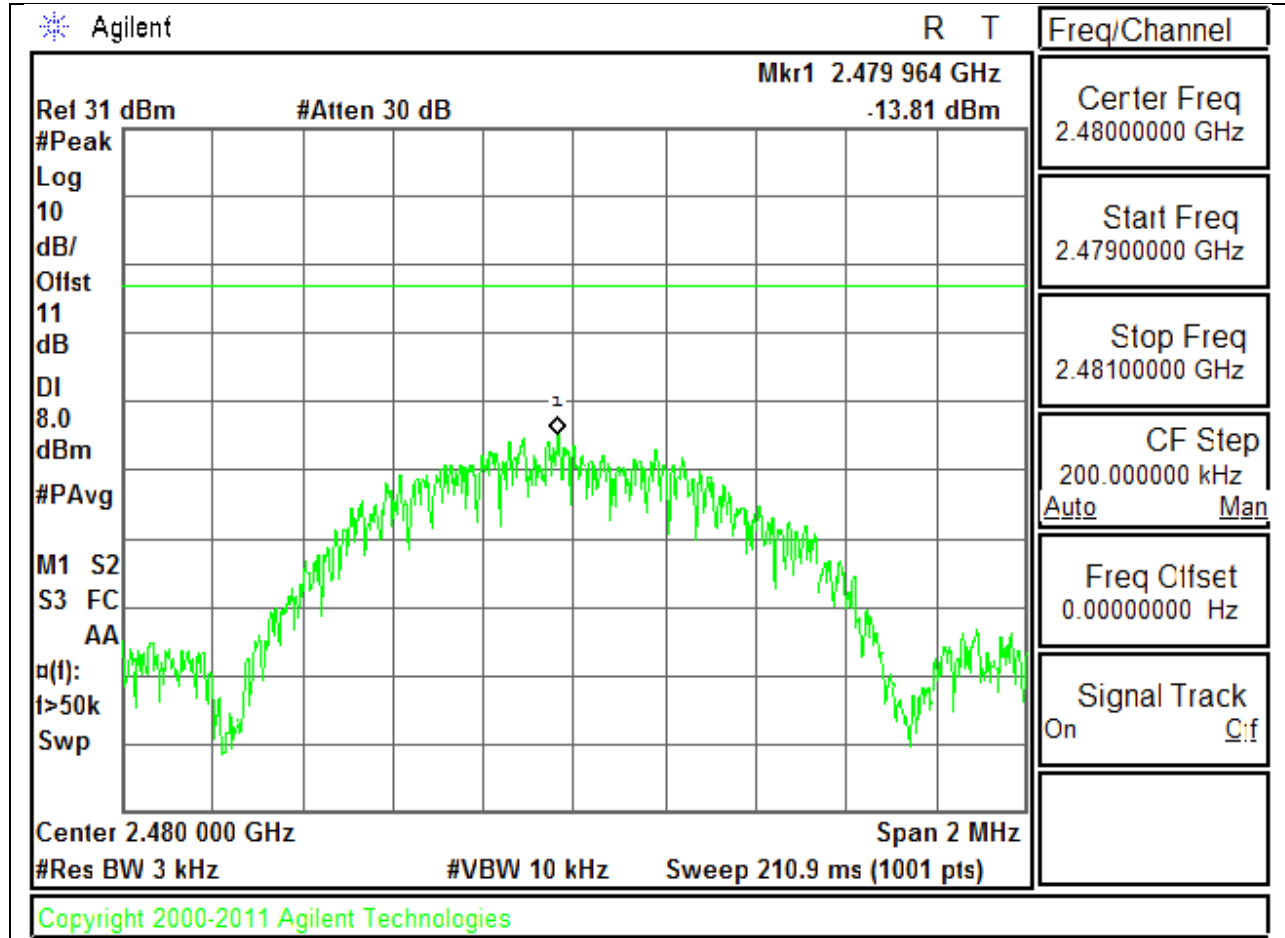
**LOW CHANNEL**



**MID CHANNEL**



**HIGH CHANNEL**



## **8.6. CONDUCTED SPURIOUS EMISSIONS**

### **LIMITS**

FCC §15.247 (d)

IC RSS-210 A8.5

Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

### **TEST PROCEDURE**

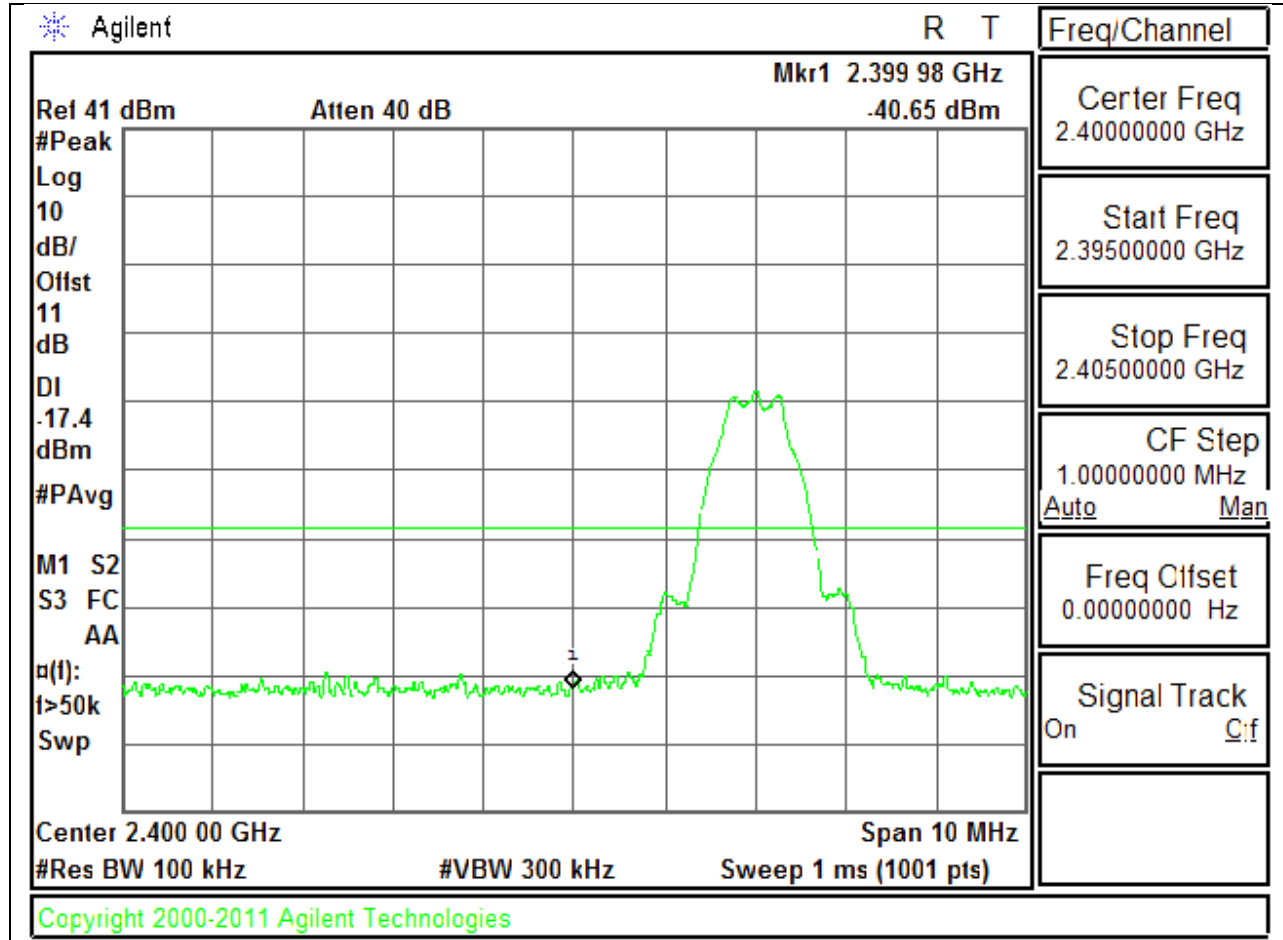
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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

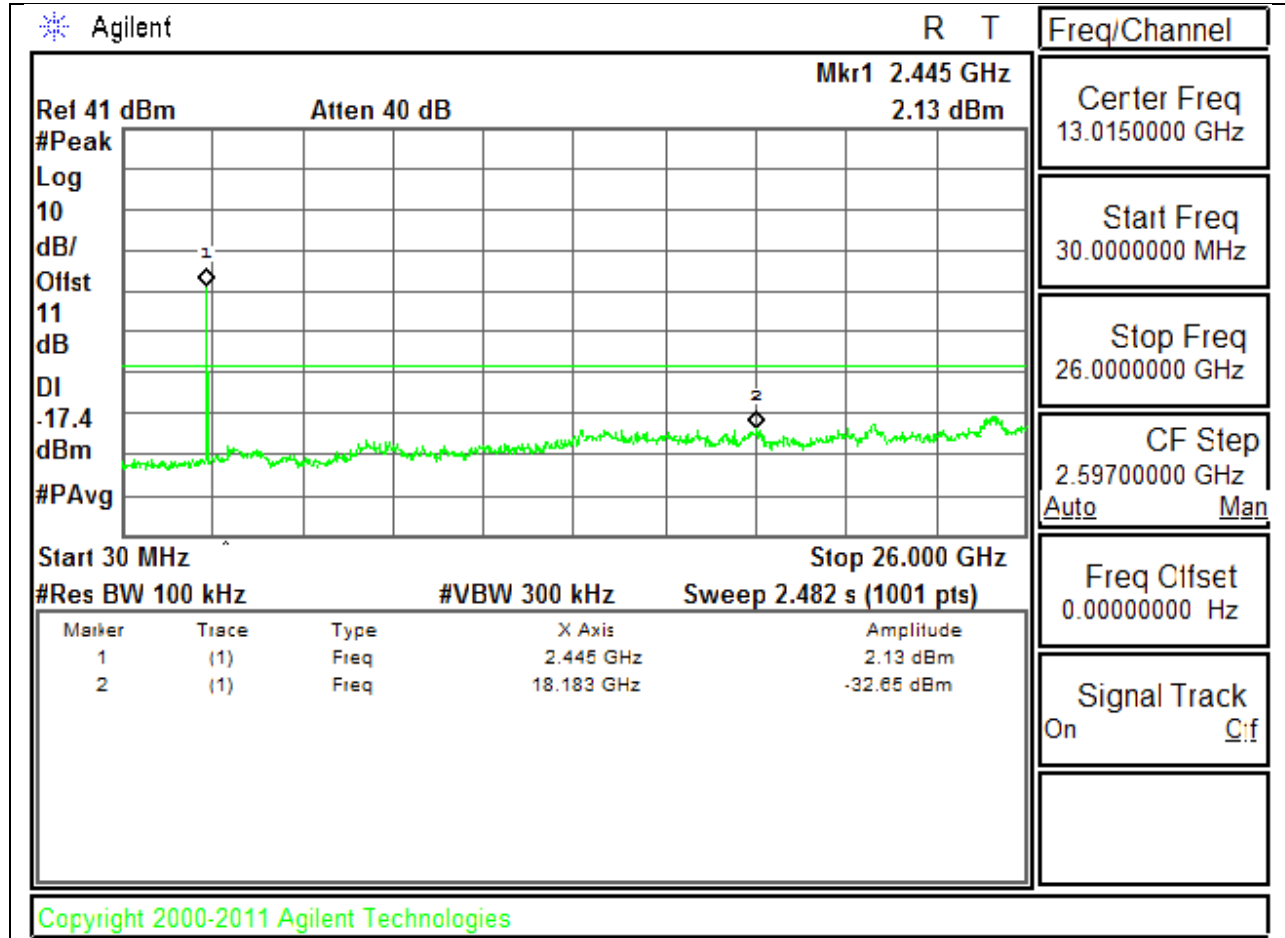
**RESULTS**

**SPURIOUS EMISSIONS, LOW CHANNEL**

**LOW CHANNEL BANDEDGE**

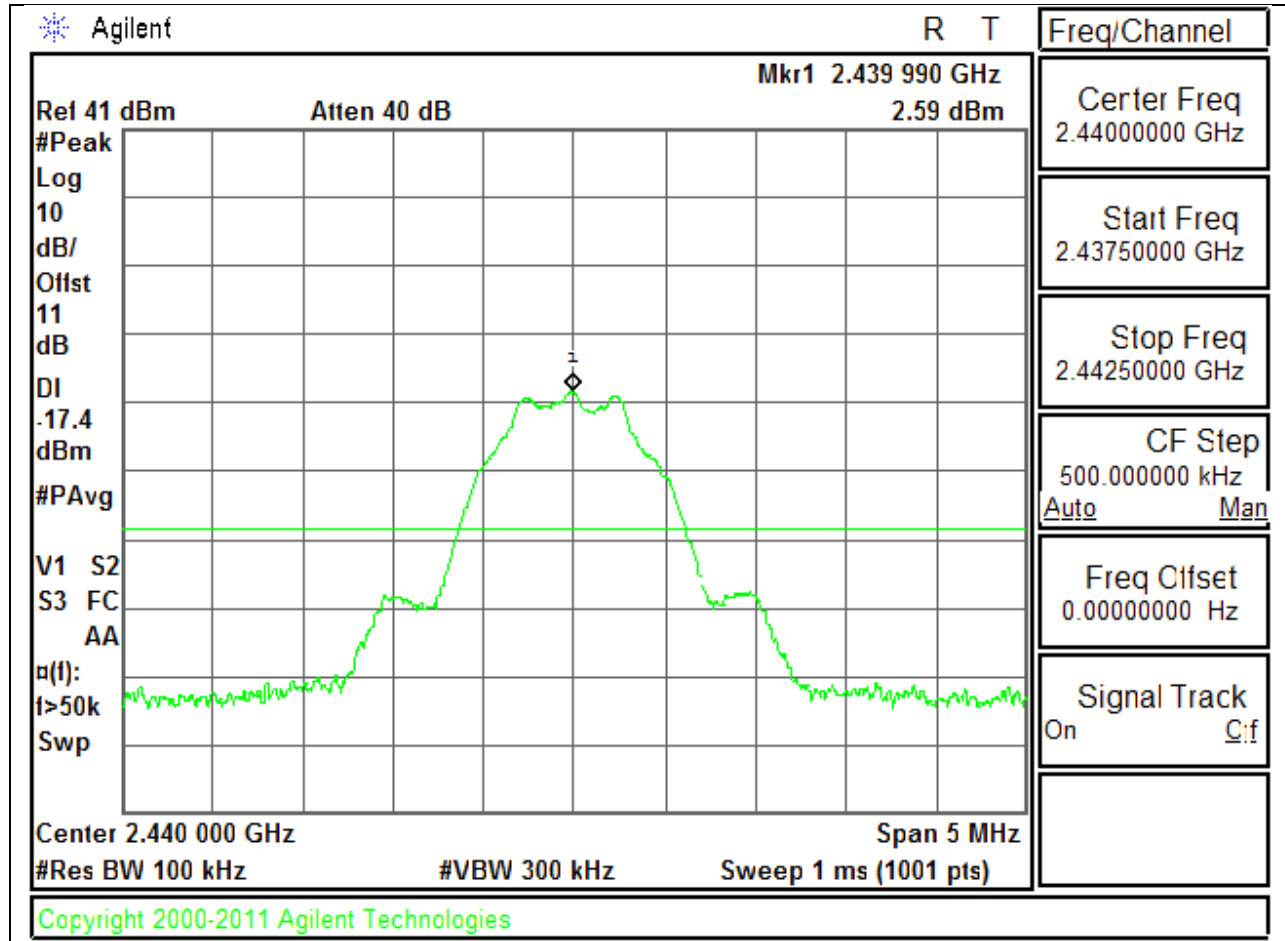


### LOW CHANNEL SPURIOUS

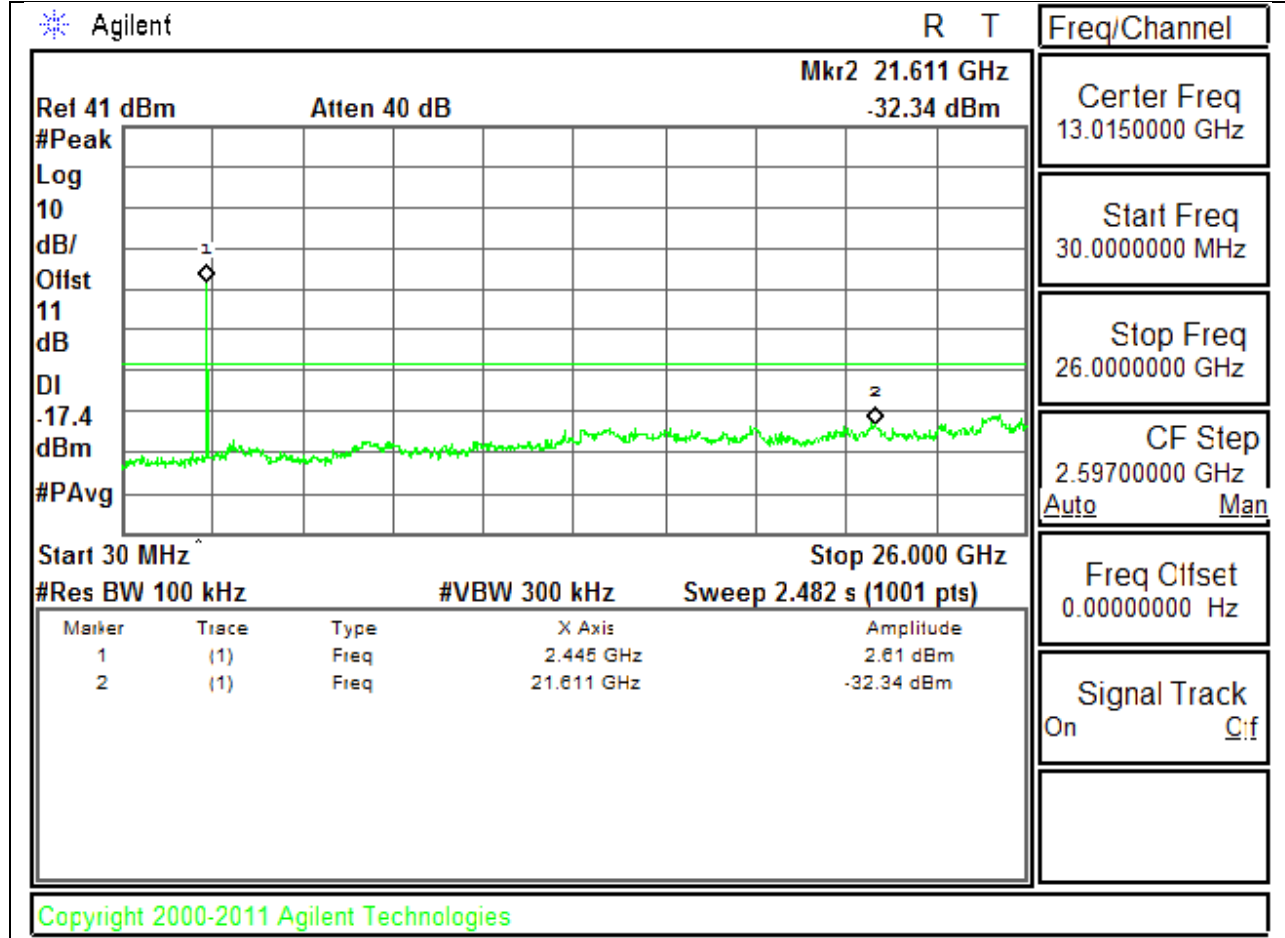


**SPURIOUS EMISSIONS, MID CHANNEL**

**MID CHANNEL REFERENCE**

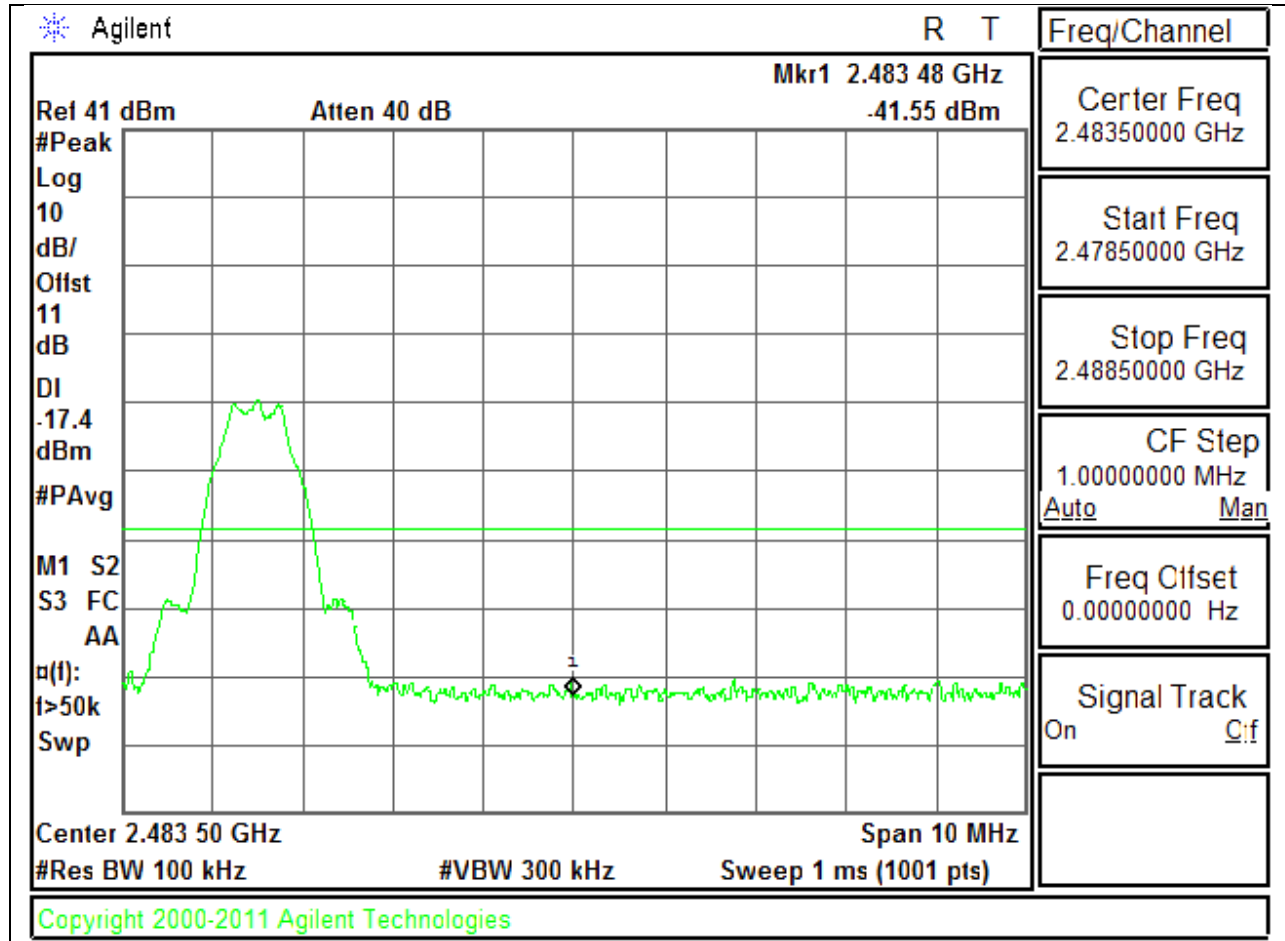


**MID CHANNEL SPURIOUS**

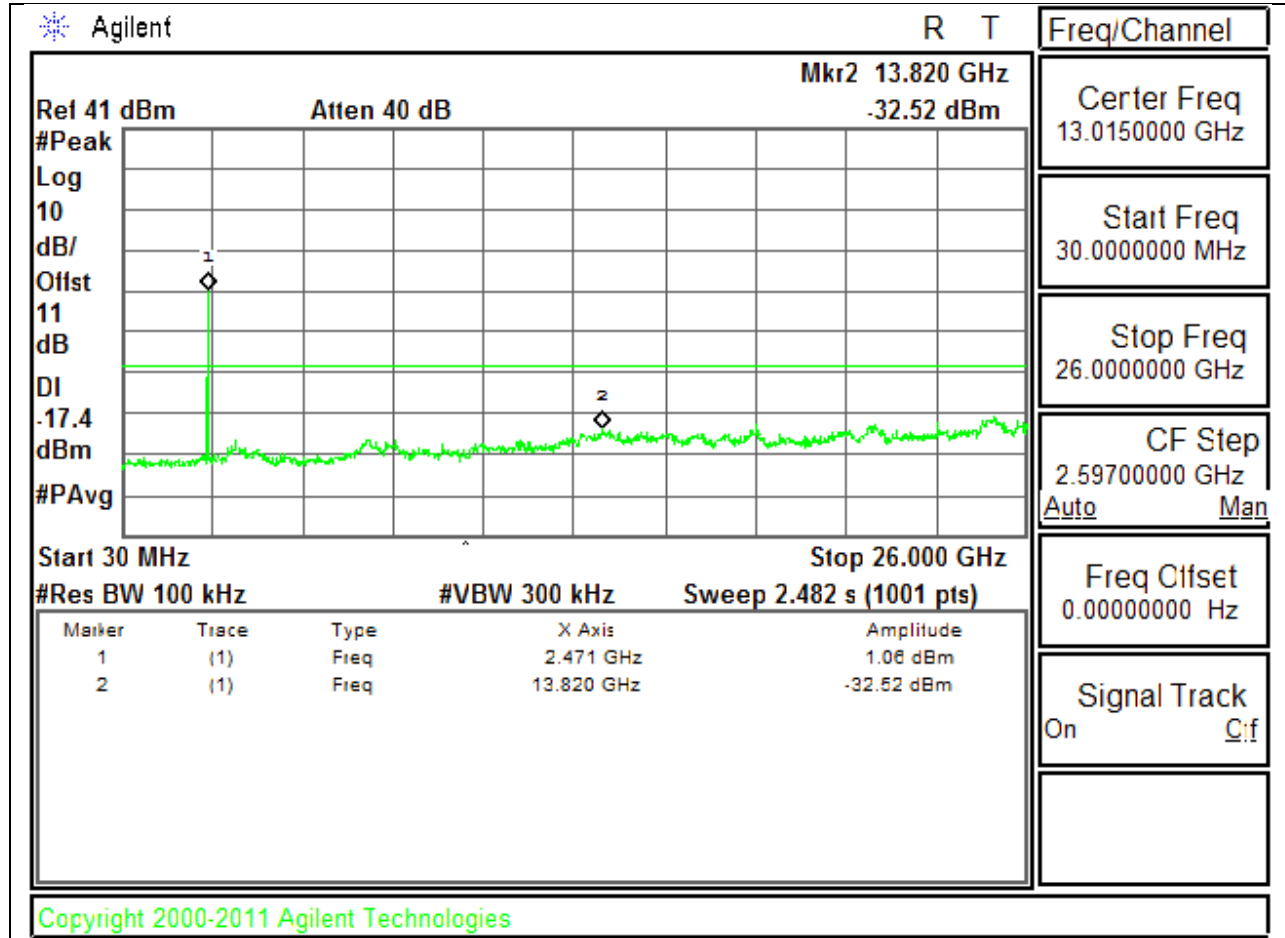


**SPURIOUS EMISSIONS, HIGH CHANNEL**

**HIGH CHANNEL BANDEDGE**



### HIGH CHANNEL SPURIOUS



## 9. RADIATED TEST RESULTS

### 9.1. LIMITS AND PROCEDURE

#### LIMITS

FCC §15.205 and §15.209

IC RSS-GEN Clause 8.9 (Transmitter)

IC RSS-GEN Clause 7 (Receiver)

Frequency Range (MHz)	Field Strength Limit ( $\mu\text{V}/\text{m}$ ) at 3 m	Field Strength Limit (dB $\mu\text{V}/\text{m}$ ) 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 - 2009. 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 add duty cycle factor for average measurements. Duty cycle factor =  $10 \log(1/x)$ . For this sample:  $DCF = 10 \log(1/0.618) = 2.08 \text{ dB}$

(Spectrum Analyzer round it up to 2.1dB)

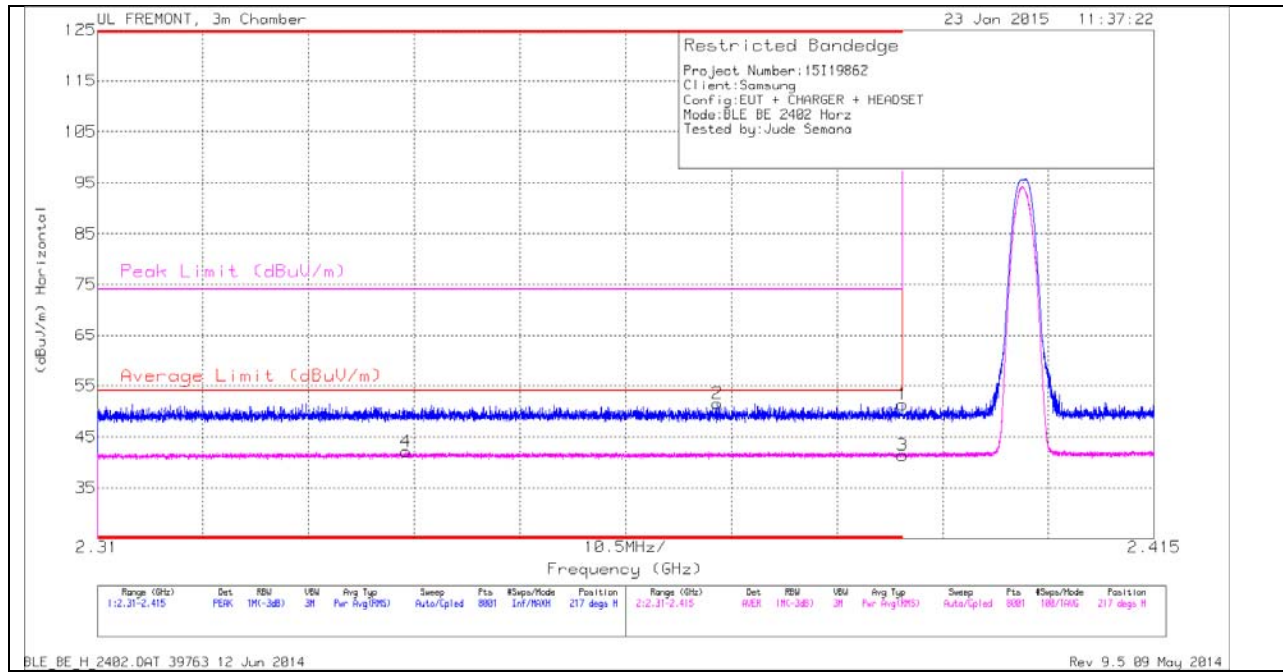
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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

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

## 9.2. TRANSMITTER ABOVE 1 GHz RESTRICTED BANDEDGE (LOW CHANNEL)

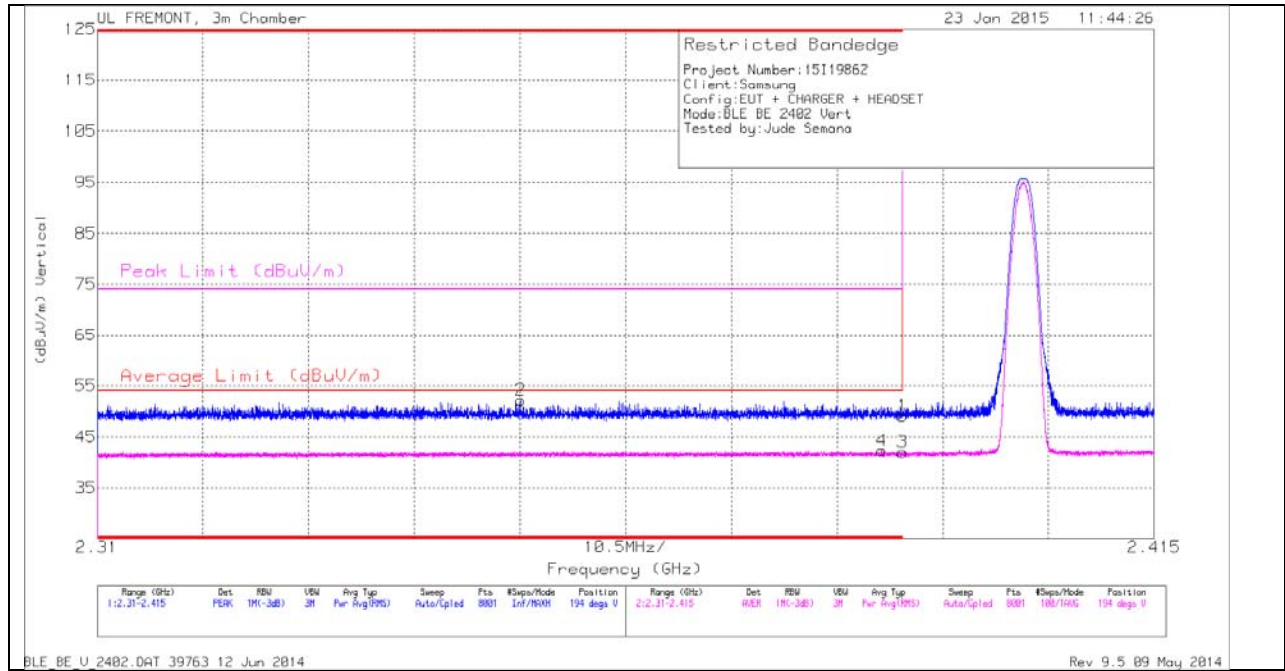
### HORIZONTAL PEAK AND AVERAGE PLOT



### HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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
4	* 2.341	31.15	RMS	32	-23.1	2.1	42.15	54	-11.85	-	-	217	119	H
2	* 2.372	42.42	PK	32.1	-23	0	51.52	-	-	74	-22.48	217	119	H
1	* 2.39	42.32	PK	32.1	-23.1	0	51.32	-	-	74	-22.68	217	119	H
3	* 2.39	30.34	RMS	32.1	-23.1	2.1	41.44	54	-12.56	-	-	217	119	H

**VERTICAL PEAK AND AVERAGE PLOT**

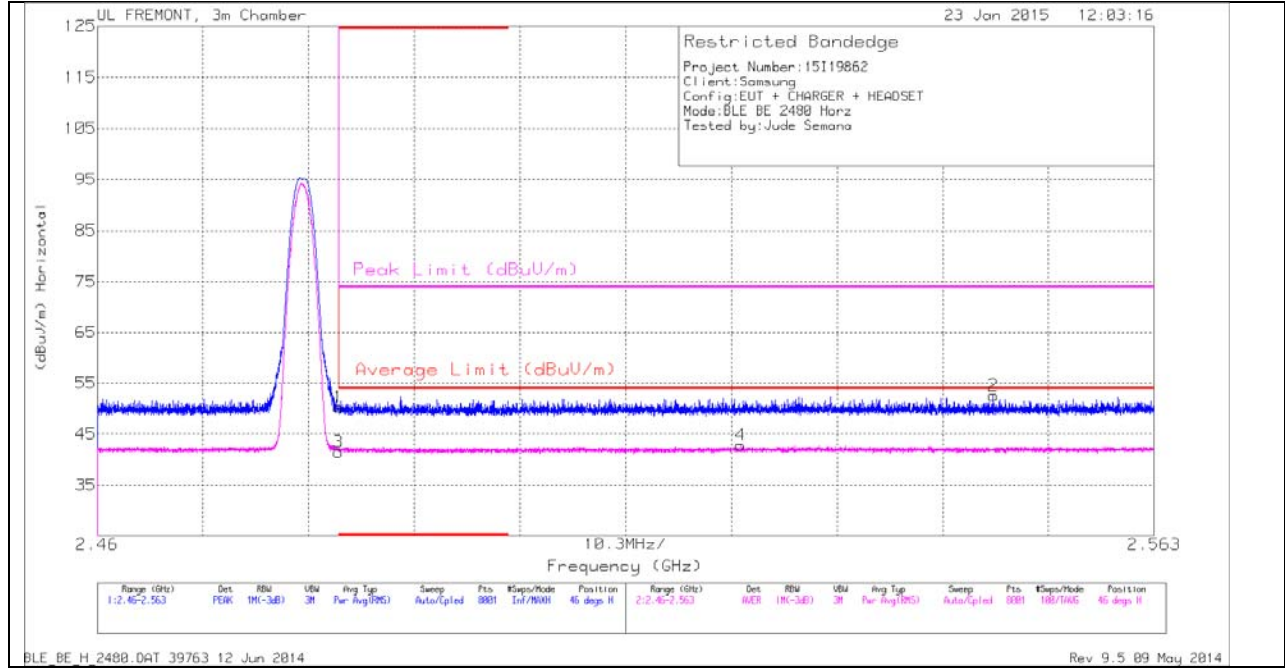


**VERTICAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/Fitter/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
2	* 2.352	43.23	PK	32	-23.1	0	52.13	-	-	74	-21.87	194	277	V
4	* 2.388	31.23	RMS	32.1	-23.1	2.1	42.33	54	-11.67	-	-	194	277	V
1	* 2.39	40.08	PK	32.1	-23.1	0	49.08	-	-	74	-24.92	194	277	V
3	* 2.39	30.95	RMS	32.1	-23.1	2.1	42.05	54	-11.95	-	-	194	277	V

**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

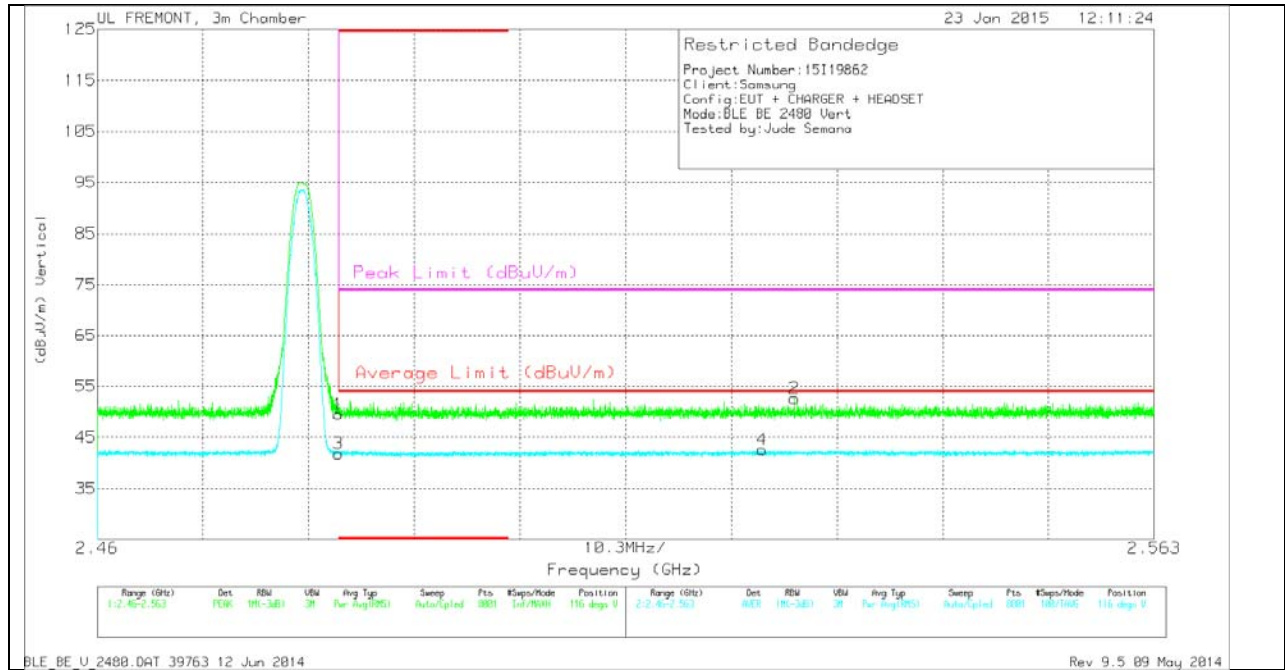
**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/Fitter/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	PK	32.1	-22.8	0	50.3	-	-	74	-23.7	46	313	H
3	* 2.484	30.12	RMS	32.1	-22.8	2.1	41.52	54	-12.48	-	-	46	313	H
4	2.523	31.44	RMS	32.1	-22.8	2.1	42.84	54	-11.16	-	-	46	313	H
2	2.547	43.05	PK	32.2	-22.7	0	52.55	-	-	74	-21.45	46	313	H

**VERTICAL PEAK AND AVERAGE PLOT**

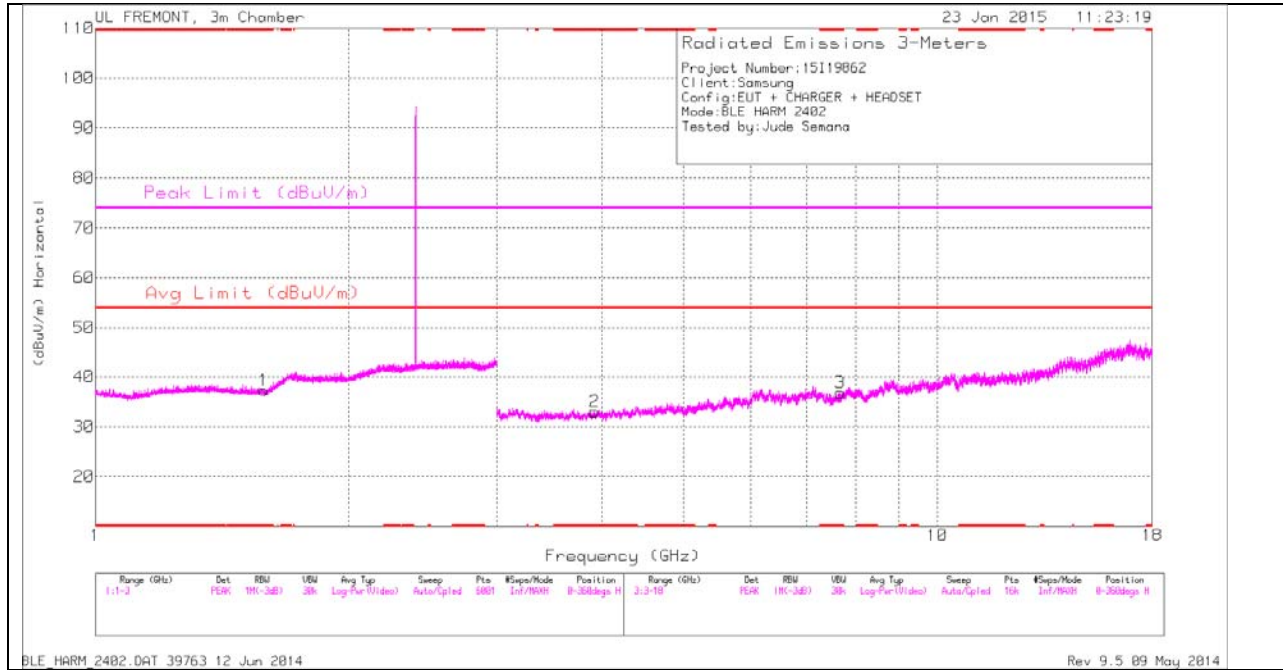


**VERTICAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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	* 2.484	40.25	PK	32.1	-22.8	0	49.55	-	-	74	-24.45	116	313	V
3	* 2.484	30.47	RMS	32.1	-22.8	2.1	41.87	54	-12.13	-	-	116	313	V
4	2.525	31.13	RMS	32.1	-22.7	2.1	42.63	54	-11.37	-	-	116	313	V
2	2.528	43.13	PK	32.2	-22.7	0	52.63	-	-	74	-21.37	116	313	V

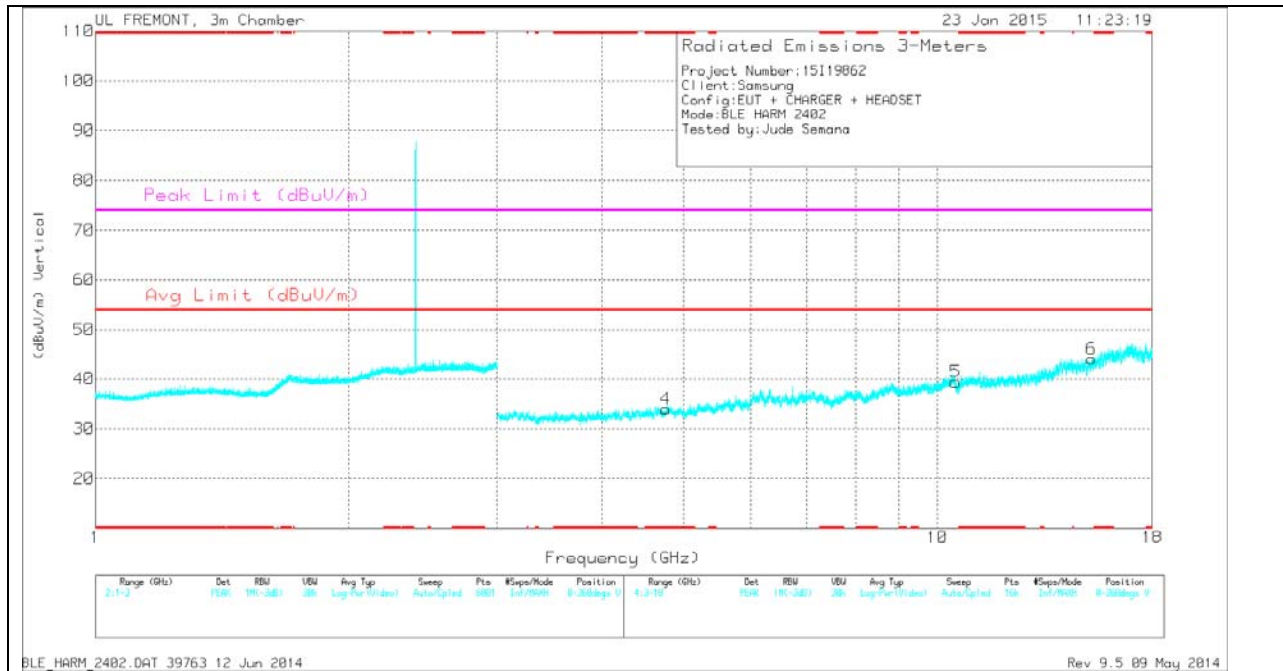
**HARMONICS AND SPURIOUS EMISSIONS**

**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.

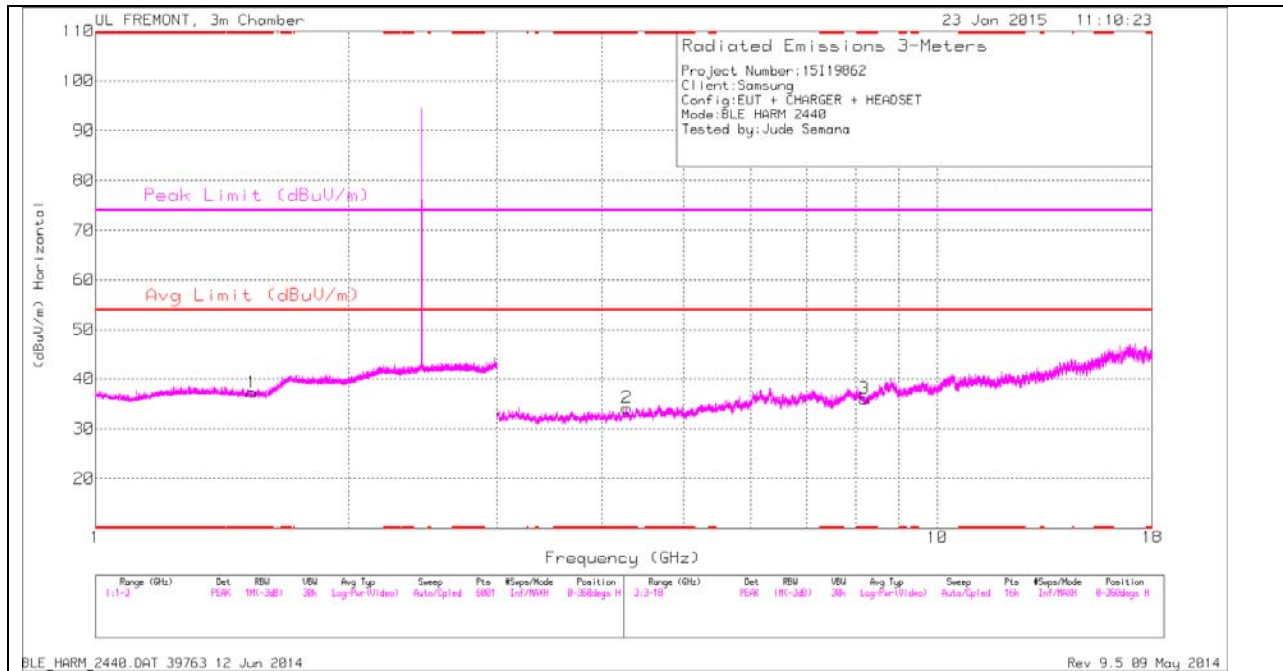
**LOW CHANNEL DATA**

*TRACE MARKERS*

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (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
1	* 1.586	32.99	PK	27.7	-23.4	0	37.29	-	-	74	-36.71	0-360	200	H
2	* 3.918	31.09	PK	33.1	-31.2	0	32.99	-	-	74	-41.01	0-360	200	H
3	* 7.67	29.68	PK	35.7	-28.6	0	36.78	-	-	74	-37.22	0-360	200	H
4	* 4.761	31.05	PK	33.9	-31	0	33.95	-	-	74	-40.05	0-360	200	V
5	10.515	26.75	PK	38.1	-25.5	0	39.35	-	-	-	-	0-360	200	V
6	15.246	29.96	PK	40.2	-26.2	0	43.96	-	-	-	-	0-360	200	V

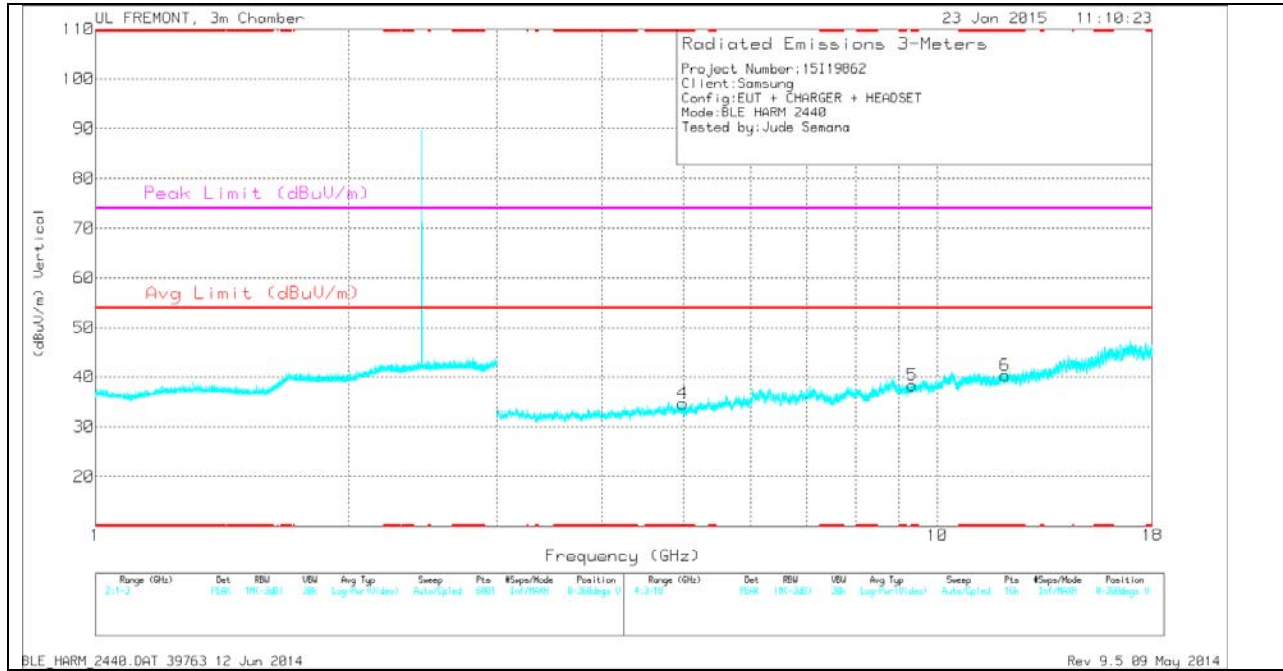
PK - Peak detector

### 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.

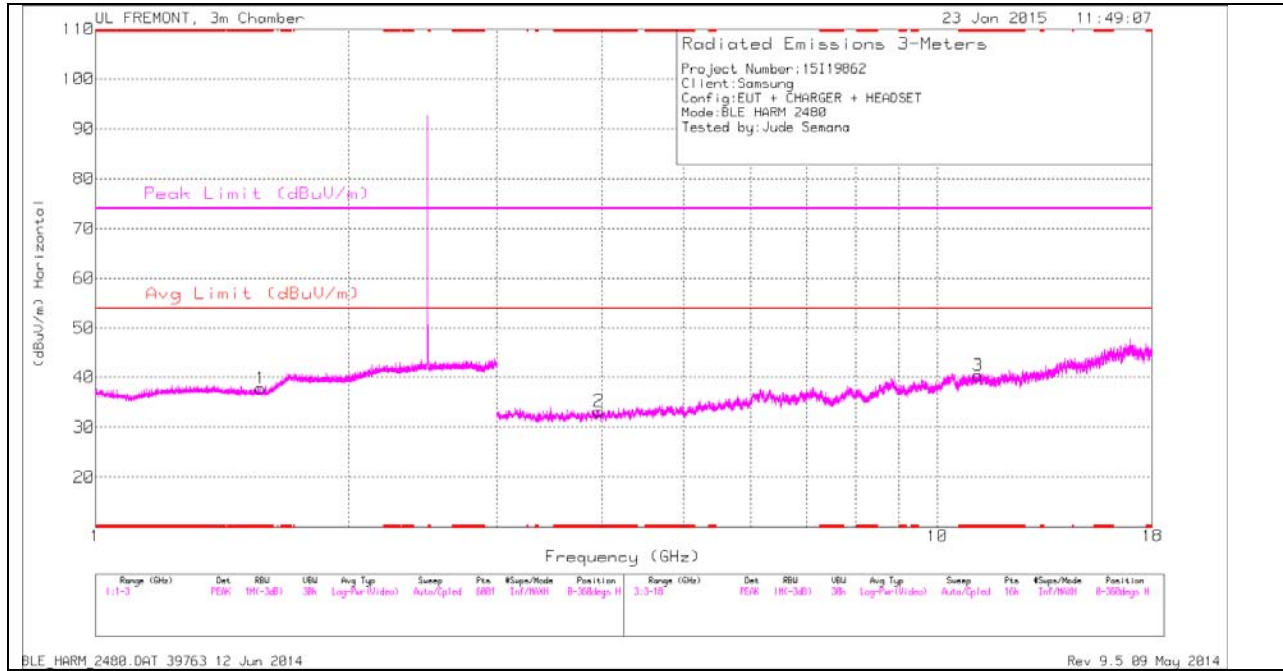
**MID CHANNEL DATA**

*TRACE MARKERS*

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/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
1	* 1.536	32.99	PK	27.7	-23.4	0	37.29	-	-	74	-36.71	0-360	200	H
6	* 12.043	27.87	PK	38.5	-26.1	0	40.27	-	-	74	-33.73	0-360	200	V
2	* 4.281	31.86	PK	33.4	-31.1	0	34.16	-	-	74	-39.84	0-360	200	H
4	* 4.987	31.95	PK	34	-31.3	0	34.65	-	-	74	-39.35	0-360	200	V
3	* 8.194	28.33	PK	36.1	-28.4	0	36.03	-	-	74	-37.97	0-360	100	H
5	* 9.337	27.4	PK	36.9	-26	0	38.3	-	-	74	-35.7	0-360	100	V

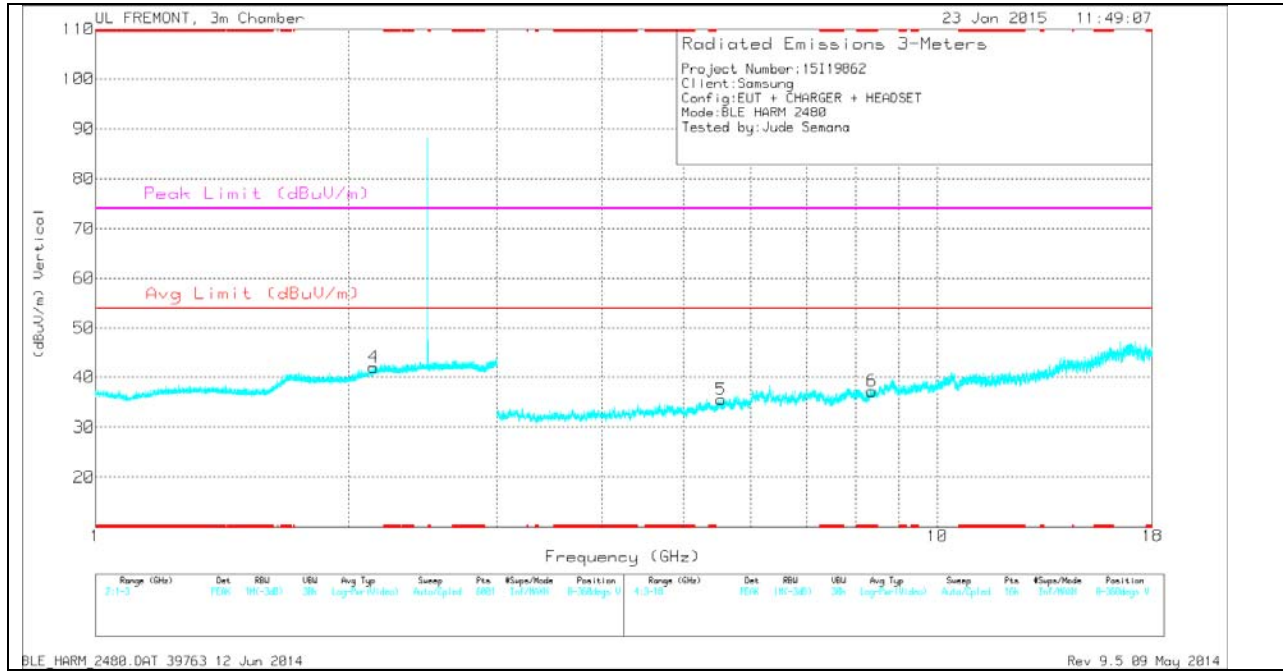
PK - Peak detector

### 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

### TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T711 (dB/m)	Amp/Cb/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
1	* 1.571	33.48	PK	27.7	-23.4	0	37.78	-	-	74	-36.22	0-360	100	H
3	* 11.184	27.49	PK	38.3	-25.4	0	40.39	-	-	74	-33.61	0-360	200	H
2	* 3.965	31	PK	33.2	-31	0	33.2	-	-	74	-40.8	0-360	200	H
6	* 8.367	28.03	PK	36.1	-26.9	0	37.23	-	-	74	-36.77	0-360	100	V
4	2.141	33.49	PK	31.5	-23	0	41.99	-	-	-	-	0-360	100	V
5	5.538	30.97	PK	34.7	-30.1	0	35.57	-	-	-	-	0-360	100	V

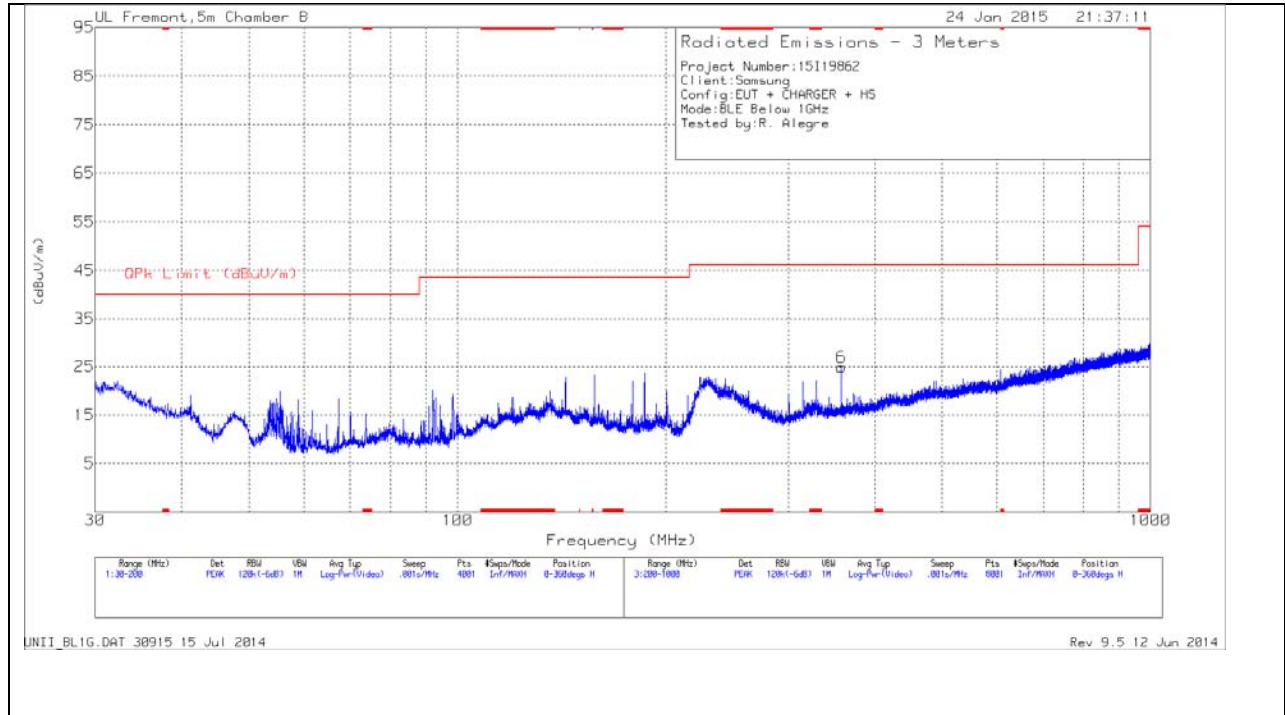
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

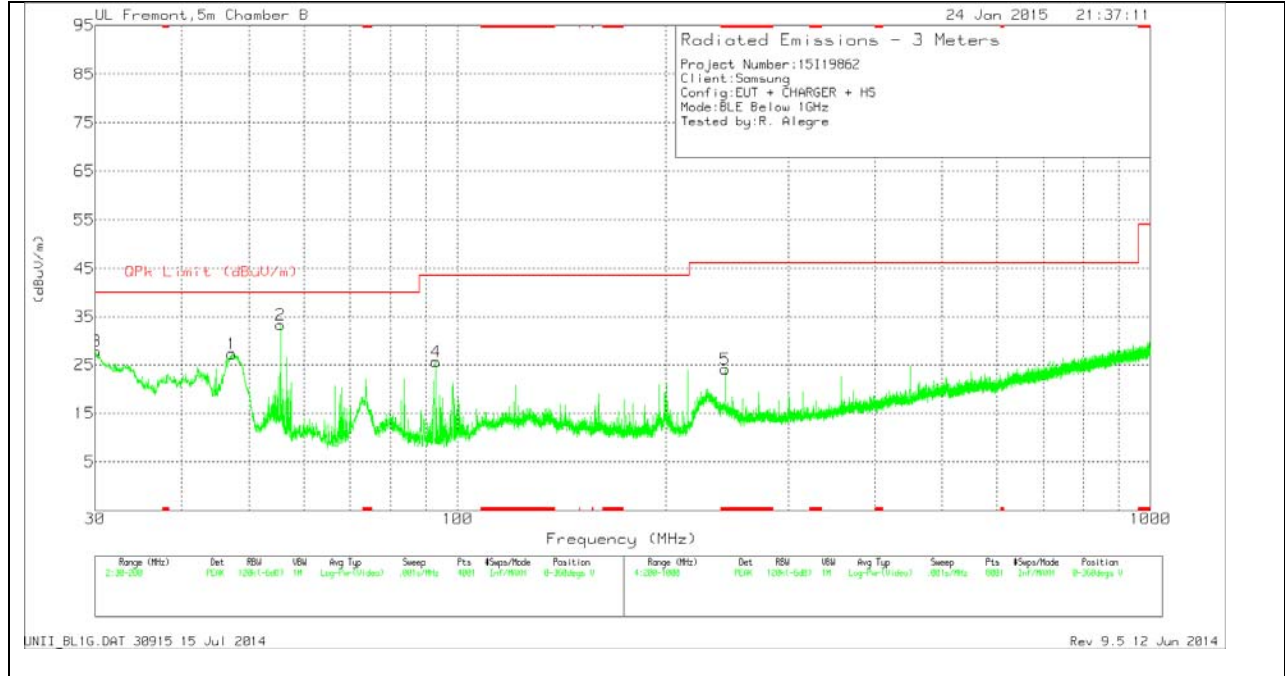
### 9.3. WORST-CASE BELOW 1 GHz

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

#### 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
5	* 243.4	38.97	PK	11.6	-26.5	24.07	46.02	-21.95	0-360	101	V
3	30.085	35.99	PK	20.7	-28.9	27.79	40	-12.21	0-360	101	V
1	47.255	46.54	PK	9.4	-28.7	27.24	40	-12.76	0-360	101	V
2	55.5425	54.63	PK	7.3	-28.6	33.33	40	-6.67	0-360	101	V
4	93.07	45.28	PK	8.4	-28.1	25.58	43.52	-17.94	0-360	101	V
6	357.95	35.97	PK	14.8	-25.9	24.87	46.02	-21.15	0-360	300	H

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

PK - Peak detector

## 10. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

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

\*Decreases with the logarithm of the frequency.

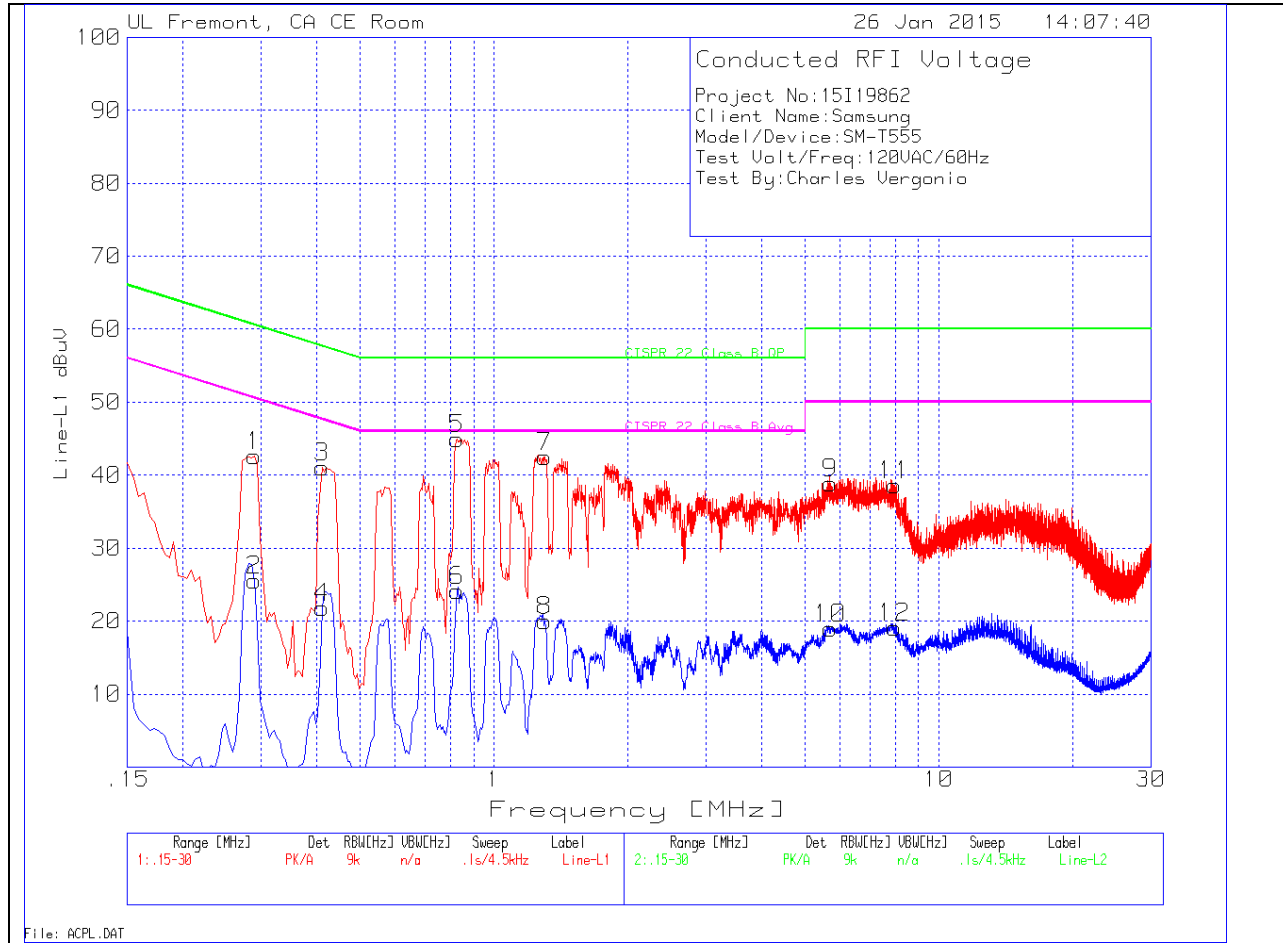
### TEST PROCEDURE

ANSI C63.4 - 2009

**RESULTS**

**6 WORST EMISSIONS**

**LINE 1 PLOT**

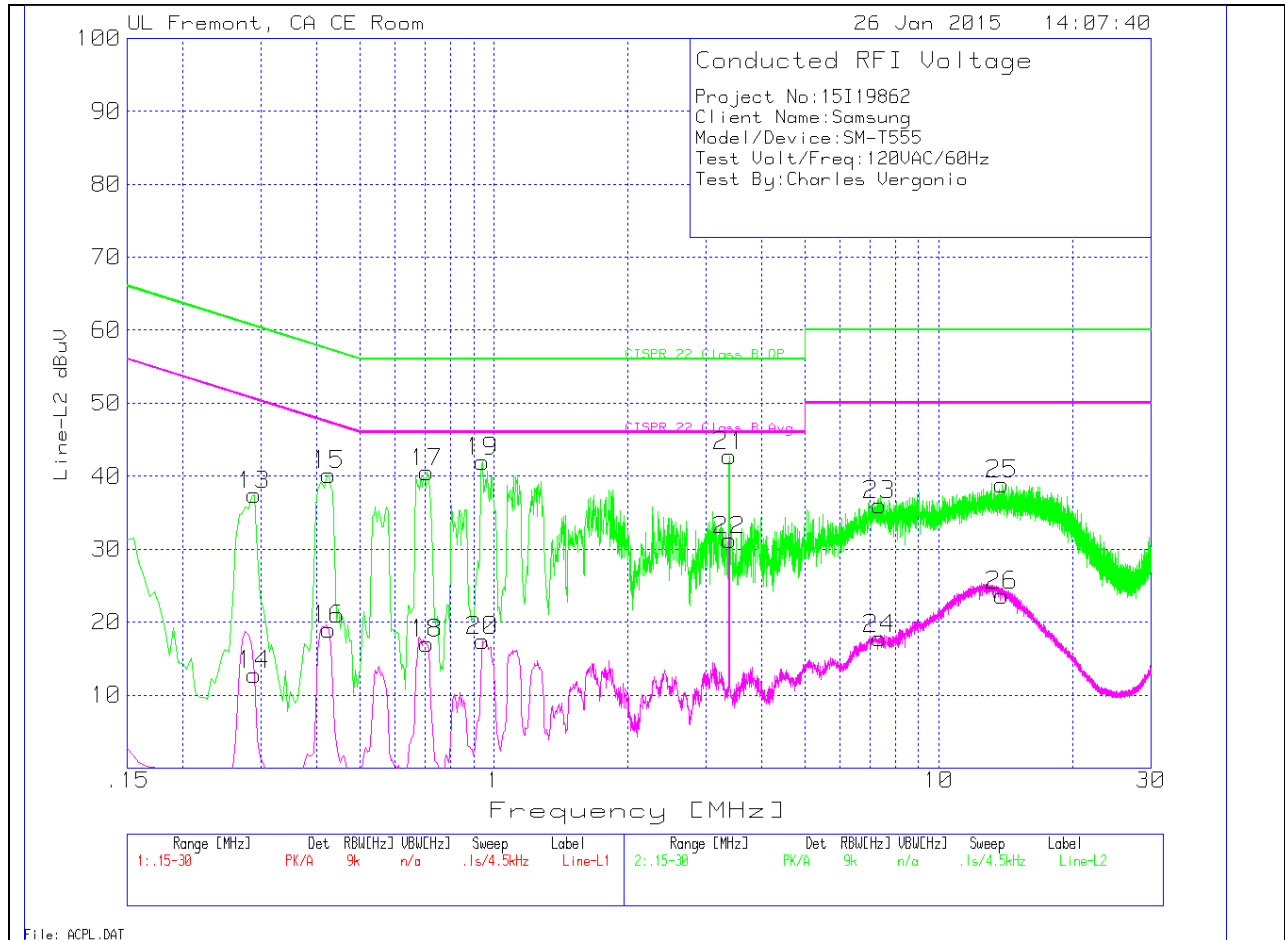


**LINE 1 RESULTS**

**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	.2895	42	PK	.6	0	42.6	60.5	-17.9	-	-
2	.2895	25	Av	.6	0	25.6	-	-	50.5	-24.9
3	.411	40.7	PK	.4	0	41.1	57.6	-16.5	-	-
4	.411	21.42	Av	.4	0	21.82	-	-	47.6	-25.78
5	.825	44.7	PK	.3	0	45	56	-11	-	-
6	.825	23.85	Av	.3	0	24.15	-	-	46	-21.85
7	1.302	42.16	PK	.2	.1	42.46	56	-13.54	-	-
8	1.302	19.68	Av	.2	.1	19.98	-	-	46	-26.02
9	5.7075	38.58	PK	.2	.1	38.88	60	-21.12	-	-
10	5.7075	18.74	Av	.2	.1	19.04	-	-	50	-30.96
11	7.9485	38.36	PK	.2	.1	38.66	60	-21.34	-	-
12	7.9485	18.86	Av	.2	.1	19.16	-	-	50	-30.84

**LINE 2 PLOT**



**LINE 2 RESULTS**

**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	.2895	36.8	PK	.6	0	37.4	60.5	-23.1	-	-
14	.2895	12.22	Av	.6	0	12.82	-	-	50.5	-37.68
15	.4245	39.81	PK	.4	0	40.21	57.4	-17.19	-	-
16	.4245	18.59	Av	.4	0	18.99	-	-	47.4	-28.41
17	.708	40.2	PK	.3	0	40.5	56	-15.5	-	-
18	.708	16.76	Av	.3	0	17.06	-	-	46	-28.94
19	.942	41.69	PK	.3	0	41.99	56	-14.01	-	-
20	.942	17.12	Av	.3	0	17.42	-	-	46	-28.58
21	3.381	42.48	PK	.2	.1	42.78	56	-13.22	-	-
22	3.381	30.9	Av	.2	.1	31.2	-	-	46	-14.8
23	7.3545	35.77	PK	.2	.1	36.07	60	-23.93	-	-
24	7.3545	17.46	Av	.2	.1	17.76	-	-	50	-32.24
25	13.8885	38.46	PK	.2	.2	38.86	60	-21.14	-	-
26	13.8885	23.27	Av	.2	.2	23.67	-	-	50	-26.33