



**FCC CFR47 PART 15 SUBPART C**

**BLUETOOTH LOW ENERGY  
C2PC CERTIFICATION TEST REPORT**

**FOR**

**GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac & NFC**

**MODEL NUMBER: LG-H791, LGH791, H791, LG-H791F, LGH791F, H791F**

**FCC ID: ZNFH791**

**REPORT NUMBER: 15I21552-E3V1**

**ISSUE DATE: AUGUST 27, 2015**

*Prepared for*  
**LG ELECTRONICS MOBILECOMM U.S.A., INC**  
**1000 SYLVAN AVENUE**

**ENGLEWOOD CLIFFS,  
NEW JERSEY, 07632, U.S.A**

*Prepared by*  
**UL VERIFICATION SERVICES INC.**  
**47173 BENICIA STREET**  
**FREMONT, CA 94538, U.S.A.**  
**TEL: (510) 771-1000**  
**FAX: (510) 661-0888**



**NVLAP LAB CODE 200065-0**

Revision History

Rev.	Date	Revisions	Revised By
--	8/27/15	Initial Issue (C2PC Test Report)	C.S.OOI

## 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>	<i>6</i>
4.2. <i>SAMPLE CALCULATION .....</i>	<i>6</i>
4.3. <i>MEASUREMENT UNCERTAINTY.....</i>	<i>6</i>
<b>5. EQUIPMENT UNDER TEST .....</b>	<b>7</b>
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>
<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>	<i>13</i>
8.2. <i>99% BANDWIDTH.....</i>	<i>17</i>
8.3. <i>OUTPUT POWER.....</i>	<i>21</i>
8.4. <i>AVERAGE POWER.....</i>	<i>25</i>
8.5. <i>POWER SPECTRAL DENSITY.....</i>	<i>26</i>
8.6. <i>CONDUCTED SPURIOUS EMISSIONS.....</i>	<i>30</i>
<b>9. RADIATED TEST RESULTS.....</b>	<b>37</b>
9.1. <i>LIMITS AND PROCEDURE.....</i>	<i>37</i>
9.2. <i>TRANSMITTER ABOVE 1 GHz.....</i>	<i>38</i>
9.3. <i>WORST-CASE BELOW 1 GHz.....</i>	<i>51</i>
<b>10. SETUP PHOTOS .....</b>	<b>54</b>

# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** LG ELECTRONICS MOBILECOMM U.S.A., INC  
**EUT DESCRIPTION:** GSM/WCDMA/LTE PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac & NFC  
**MODEL:** LG-H791, LGH791, H791, LG-H791F, LGH791F, H791F  
**SERIAL NUMBER:** Conducted(21YFY), Radiated(21YG3)  
**DATE TESTED:** August 23 – 28, 2015

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.

Approved & Released For  
UL Verification Services Inc. By:

Tested By:



CHOON SIAN OOI  
CONSUMER TECHNOLOGY DIVISION  
PROJECT LEAD  
UL VERIFICATION SERVICES INC

ROLLY ALEGRE  
CONSUMER TECHNOLOGY DIVISION  
LAB ENGINEER  
UL VERIFICATION SERVICES INC

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, KDB 558074 D01 v03r03, ANSI C63.10-2009 for FCC.

### ANSI C63.10-2009 Deviation

Radiated spurious emission above 1GHz was performed with the EUT elevated at 1.5m instead of 0.8m. 1.5m is the required height in ANSI C63.10:2013 as referenced by RSS GEN issue 4.

## 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 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 PHONE + BLUETOOTH, DTS/UNII a/b/g/n/ac & 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	BLE	1.72	1.49

### 5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -1.71dBi.

## **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	LG	MCS-N04WS	SA560000030	DoC
Earphone	LG	-	-	

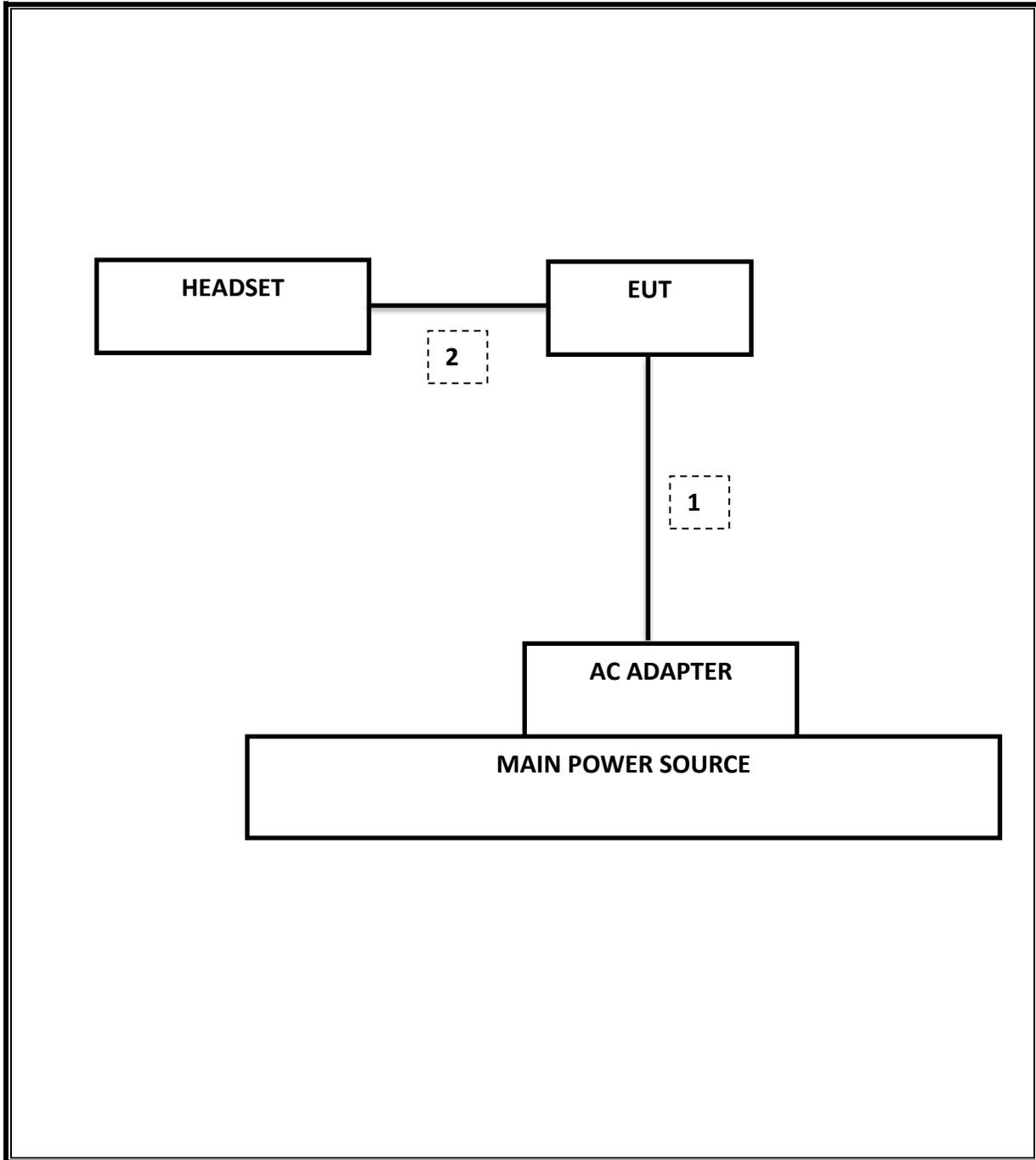
### I/O CABLES

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

EUT was set in the BLE 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
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
Spectrum Analyzer,9KHz-40GHz	HP	8564E	C00986	04/01/16
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/15
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/16
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/15
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/16
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	T404	06/29/16
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/15
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	F00219	05/23/16
High Pass Filter 6GHz	Micro-Tronics	HPS17542	F00222	05/22/16
High Pass Filter 3GHz	Micro-Tronics	HPM17543	F00224	05/22/16

Test Software List			
Description	Manufacturer	Model	Version
Radiated Software	UL	UL EMC	Version 9.5, 07/22/14
Conducted Software	UL	UL EMC	Version 9.5, 05/17/14
CLT Software	UL	UL RF	Version 1.0, 02/02/15
Antenna Port Software	UL	UL RF	Version 2.1.1.1, 1/20/15

## 7. SUMMARY

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	RSS-247 5.2 (1)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	0.644 MHz
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-49.55 dBm
15.247	RSS-247 5.4 (4)	TX conducted output power	<30dBm		Pass	1.72 dBm
15.247	RSS-247 5.2 (2)	PSD	<8dBm		Pass	-12.26dBm
15.205, 15.209	RSS-GEN 8.9	Radiated Spurious Emission	< 54dBuV/m		Pass	43.13 dBuV/m

## ANTENNA PORT TEST RESULTS

### 8.1. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

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

#### TEST PROCEDURE

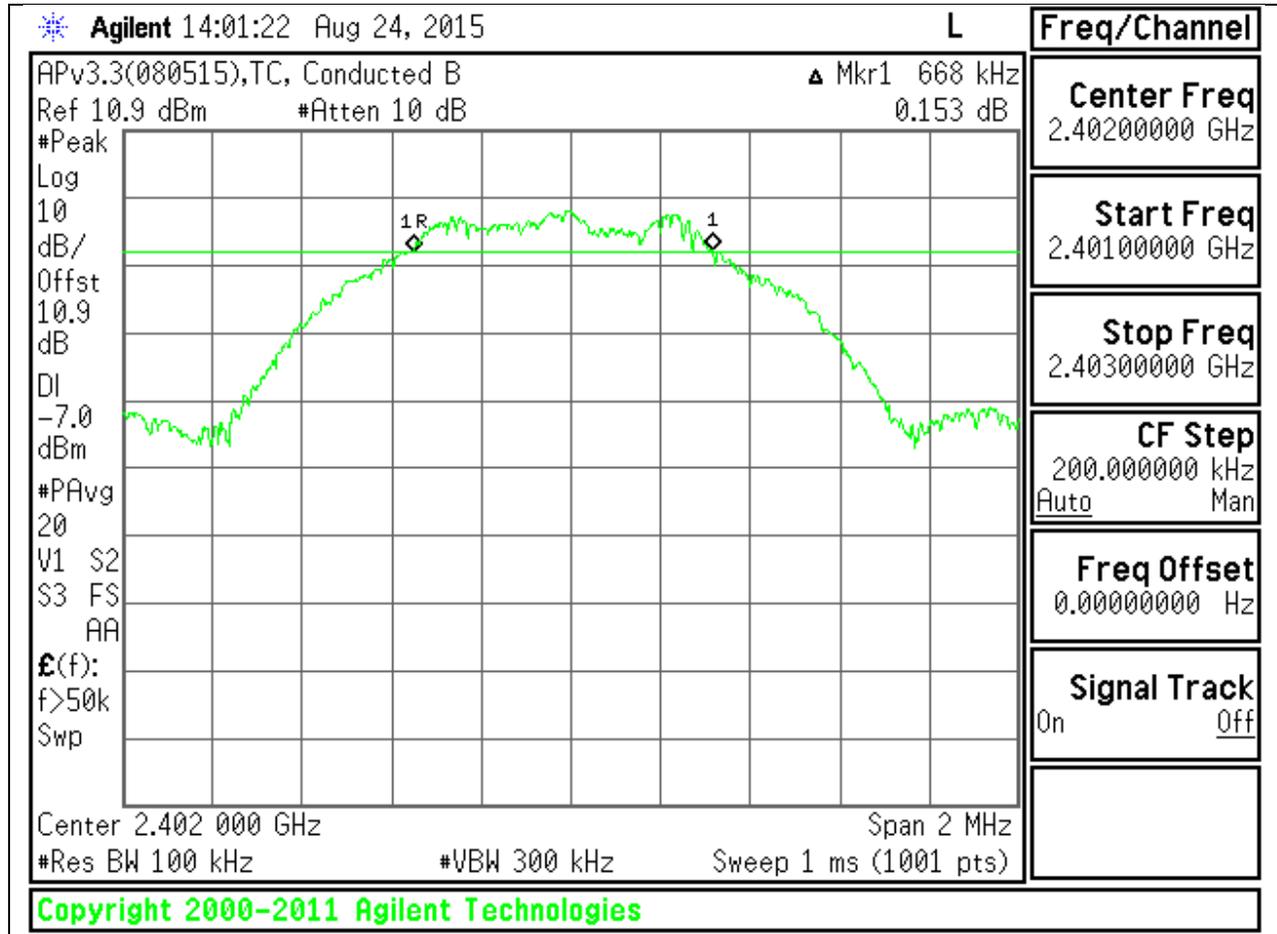
The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 300 kHz. The sweep time is coupled.

#### RESULTS

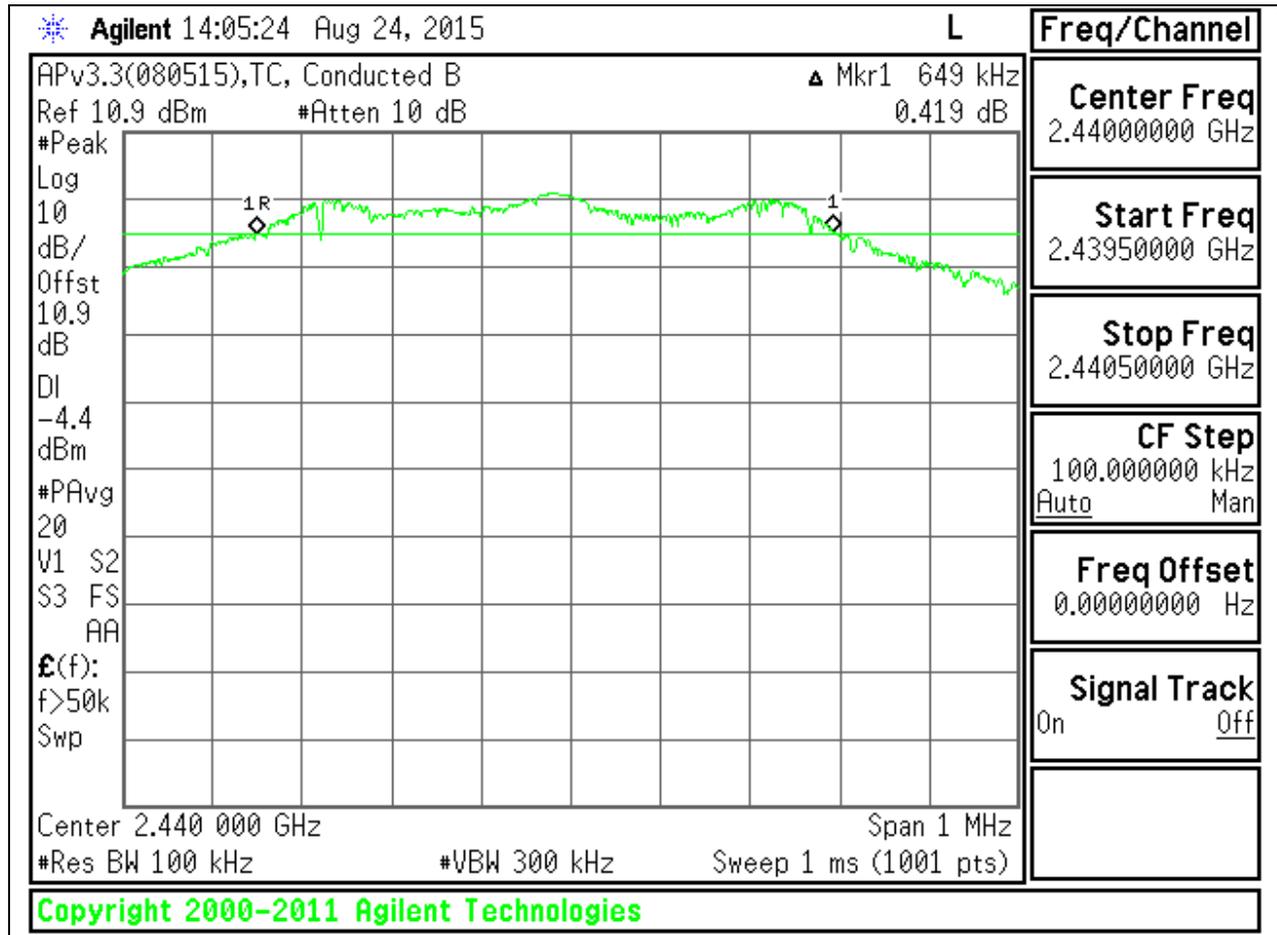
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.668	0.5
Middle	2440	0.649	0.5
High	2480	0.644	0.5

**6 dB BANDWIDTH PLOTS**

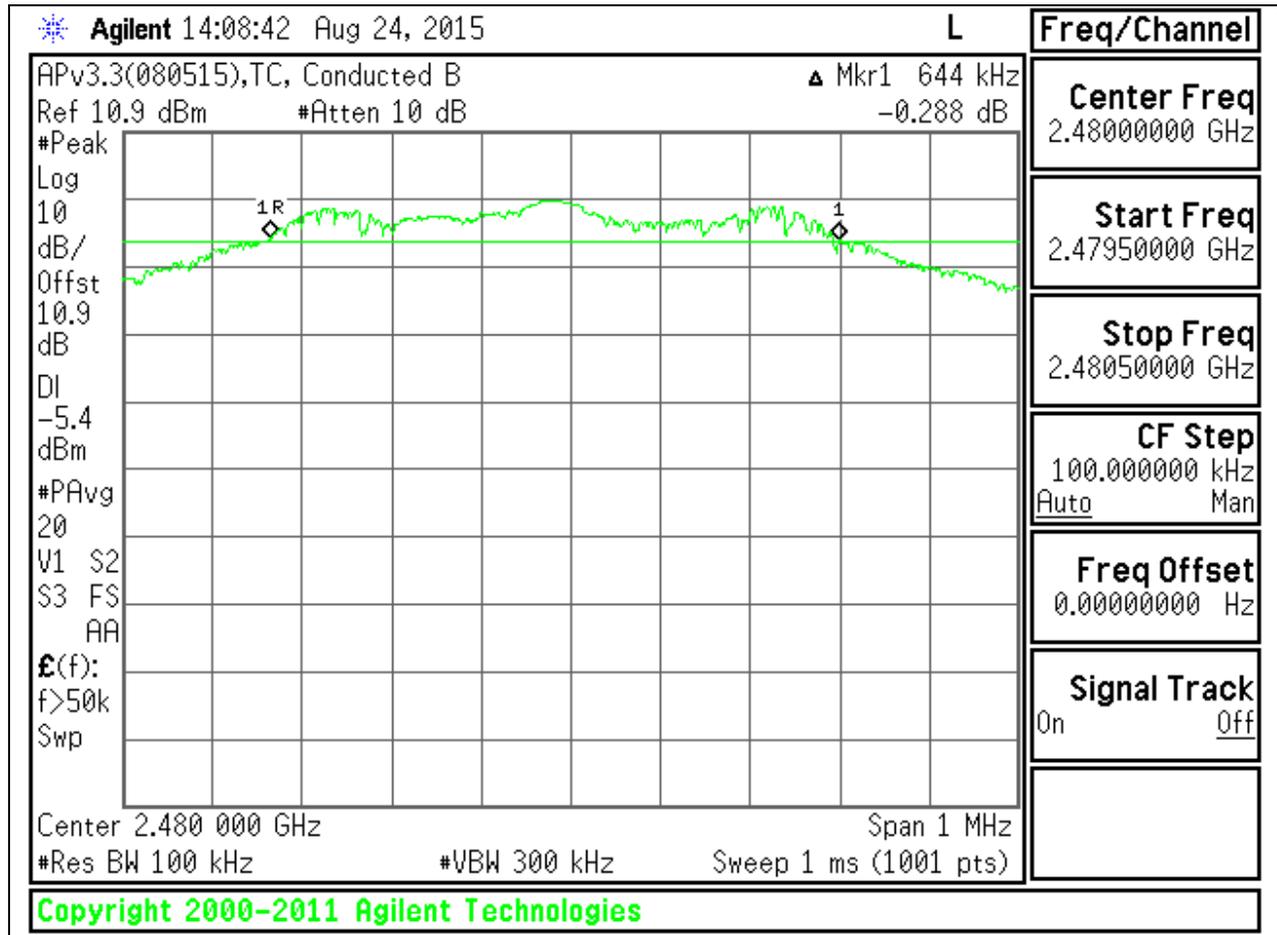
**LOW CHANNEL**



**MID CHANNEL**



**HIGH CHANNEL**



## 8.2. 99% BANDWIDTH

### LIMITS

None; for reporting purposes only.

### TEST PROCEDURE

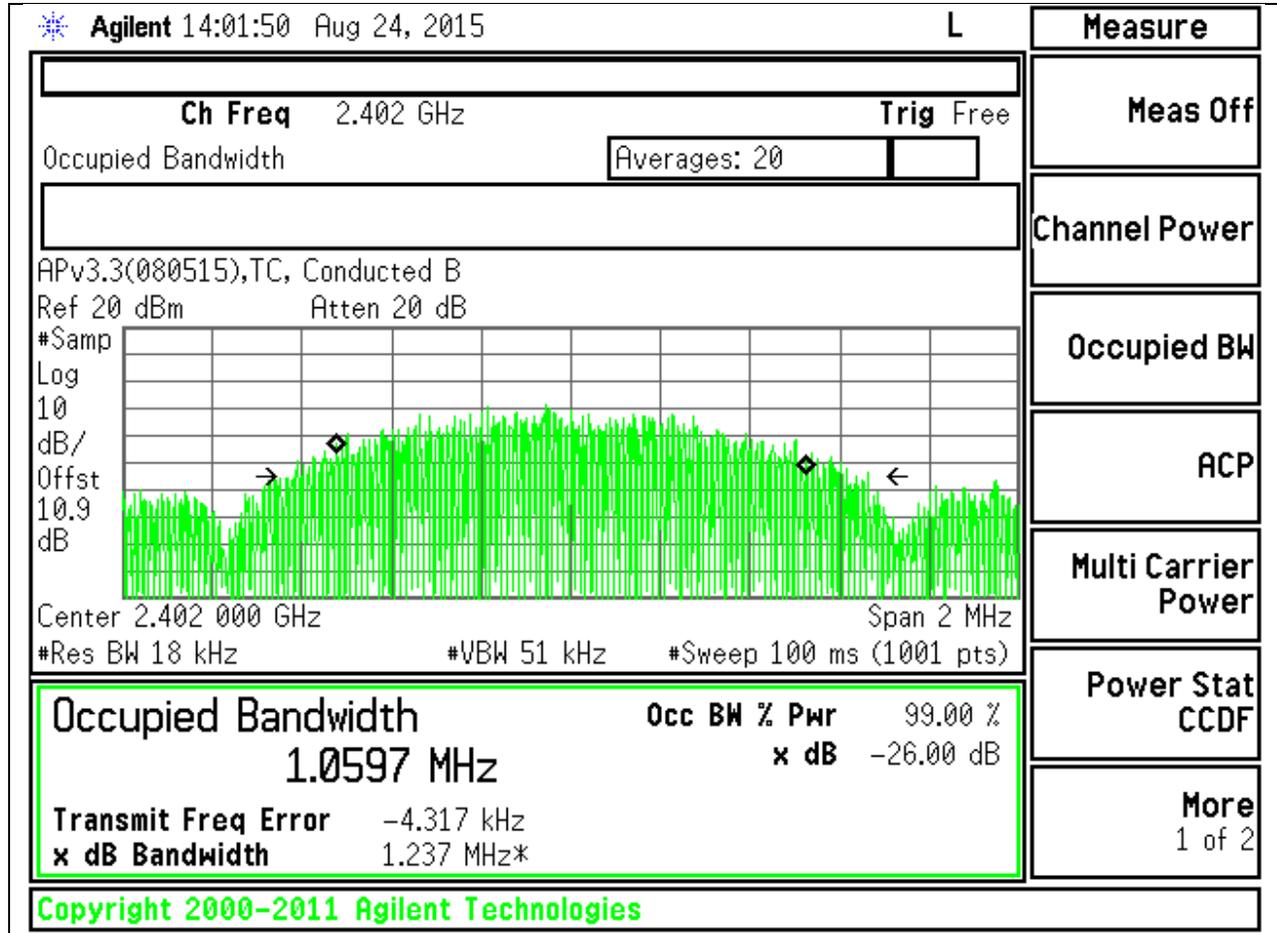
Reference to KDB558074 D01 DTS Meas Guidance v03r02: The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth and to 1% of the span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function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

### RESULTS

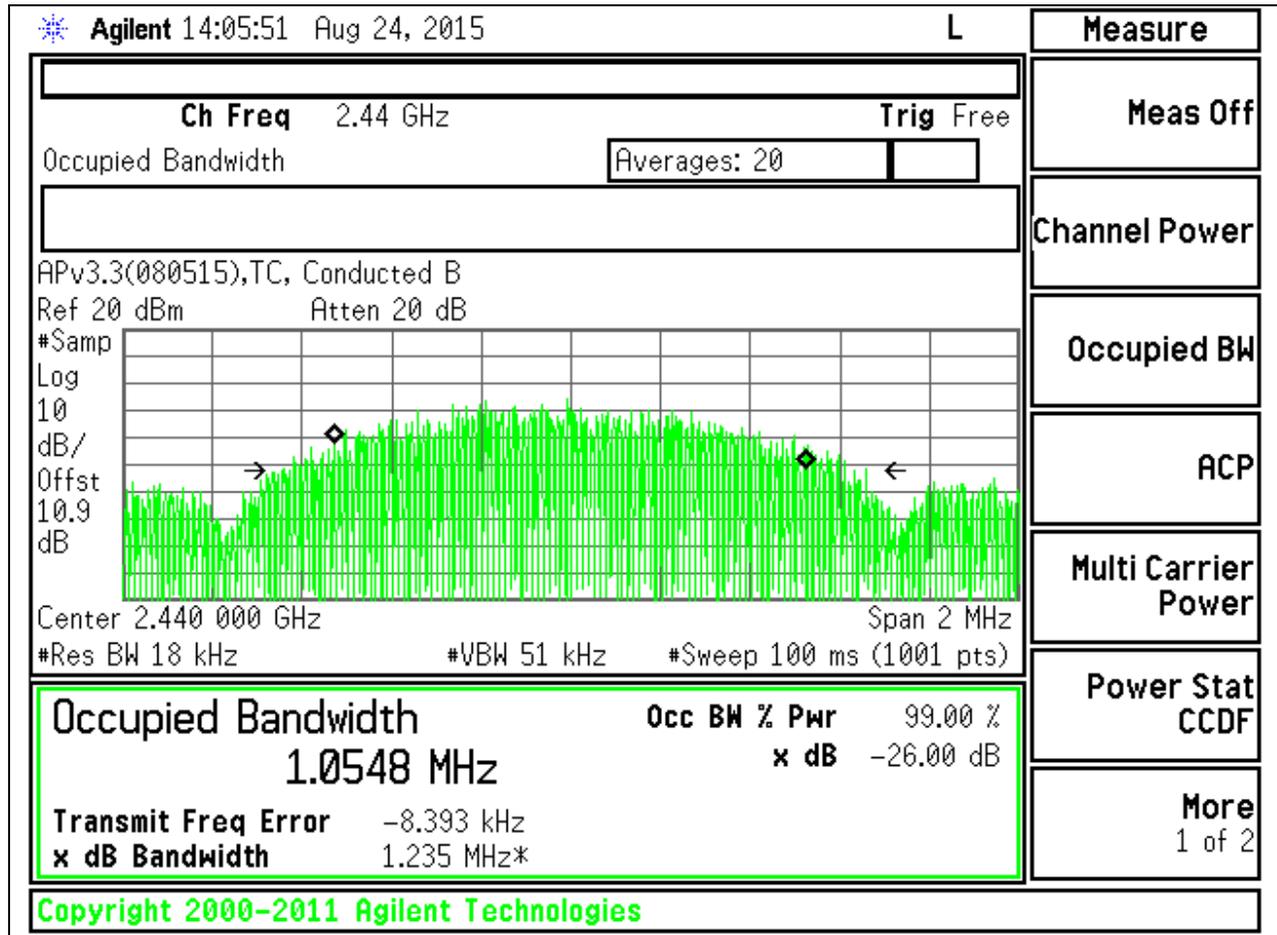
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0597
Middle	2440	1.0548
High	2480	1.0572

**99% BANDWIDTH PLOTS**

**LOW CHANNEL**



**MID CHANNEL**



### HIGH CHANNEL

Agilent 14:09:07 Aug 24, 2015 <span style="float: right;">L</span>		<b>Measure</b>
<b>Ch Freq</b> 2.48 GHz <span style="float: right;"><b>Trig</b> Free</span>		<b>Meas Off</b>
Occupied Bandwidth <span style="float: right;">Averages: 20</span>		<b>Channel Power</b>
APv3.3(080515),TC, Conducted B Ref 20 dBm Atten 20 dB		<b>Occupied BW</b>
#Samp Log 10 dB/ Offst 10.9 dB		<b>ACP</b>
		<b>Multi Carrier Power</b>
Center 2.480 000 GHz <span style="float: right;">Span 2 MHz</span> #Res BW 18 kHz <span style="float: right;">#VBW 51 kHz #Sweep 100 ms (1001 pts)</span>		<b>Power Stat CCDF</b>
<b>Occupied Bandwidth</b> <span style="float: right;"><b>Occ BW % Pwr</b> 99.00 %</span> <span style="float: right;"><b>x dB</b> -26.00 dB</span> <b>1.0572 MHz</b>		<b>More</b>
<b>Transmit Freq Error</b> -9.602 kHz <b>x dB Bandwidth</b> 1.231 MHz*		1 of 2
Copyright 2000-2011 Agilent Technologies		

### 8.3. OUTPUT POWER

#### LIMITS

FCC §15.247 (b)

IC RSS-247 5.4.4

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

#### TEST PROCEDURE

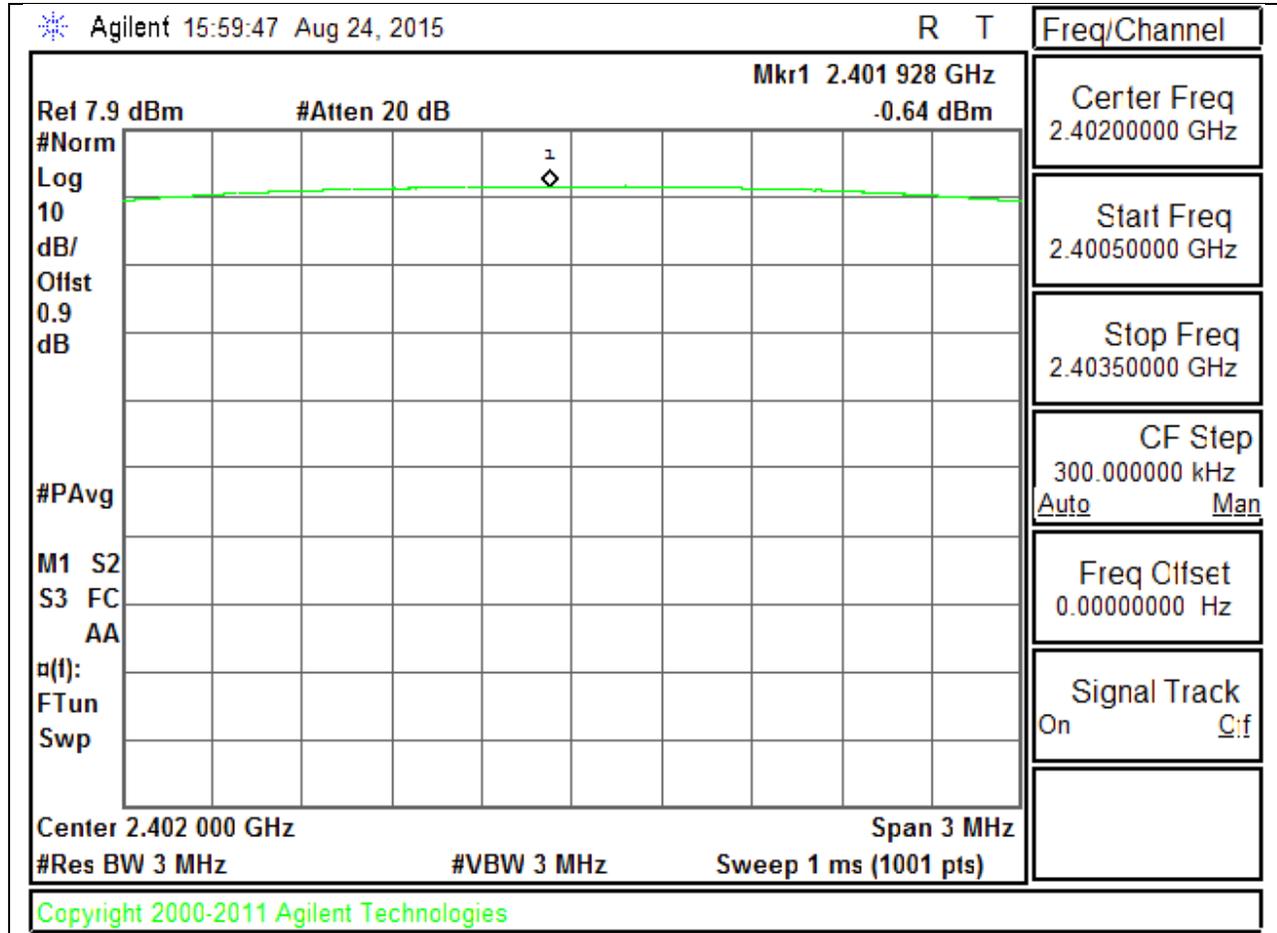
Peak power is measured using KDB558074 D01 DTS Meas Guidance v03r02 utilizing spectrum analyzer.

#### RESULTS

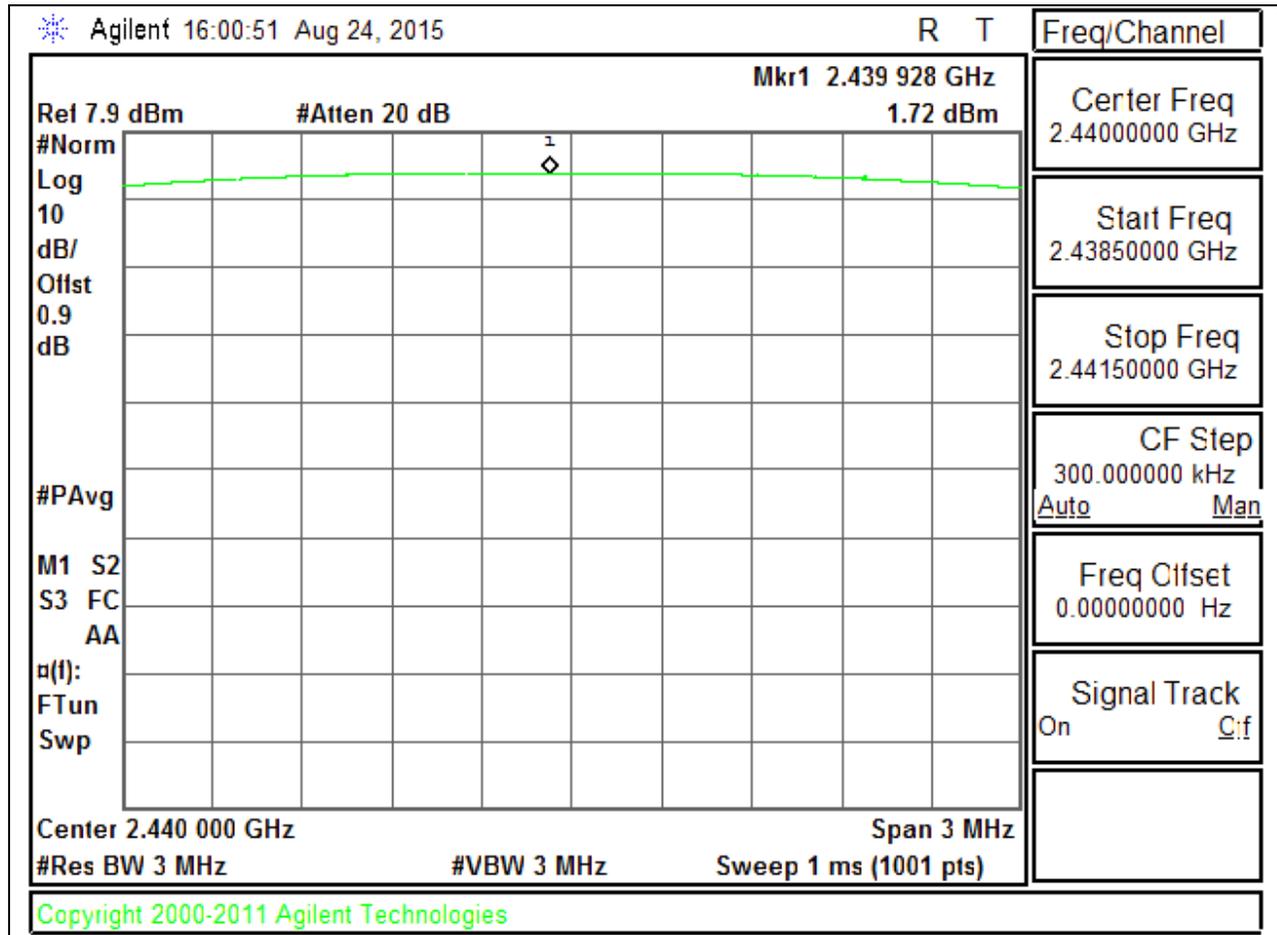
Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-0.64	30	-30.640
Middle	2440	1.72	30	-28.280
High	2480	0.65	30	-29.350

**OUTPUT POWER PLOTS**

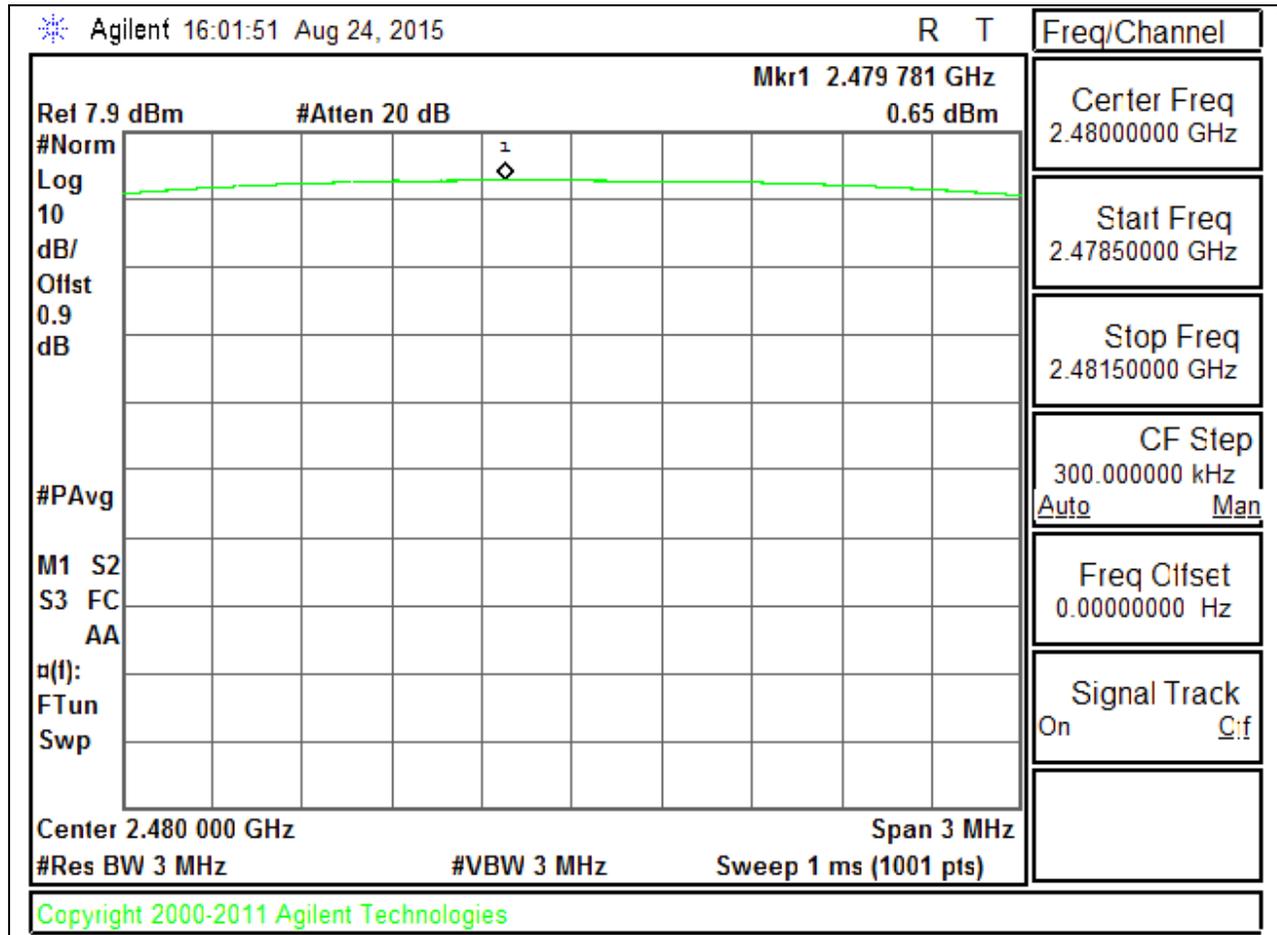
**LOW CHANNEL**



**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	-0.85
Middle	2440	1.47
High	2480	0.29

## 8.5. POWER SPECTRAL DENSITY

### LIMITS

FCC §15.247 (e)

IC RSS-247 5.2.2

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

### TEST PROCEDURE

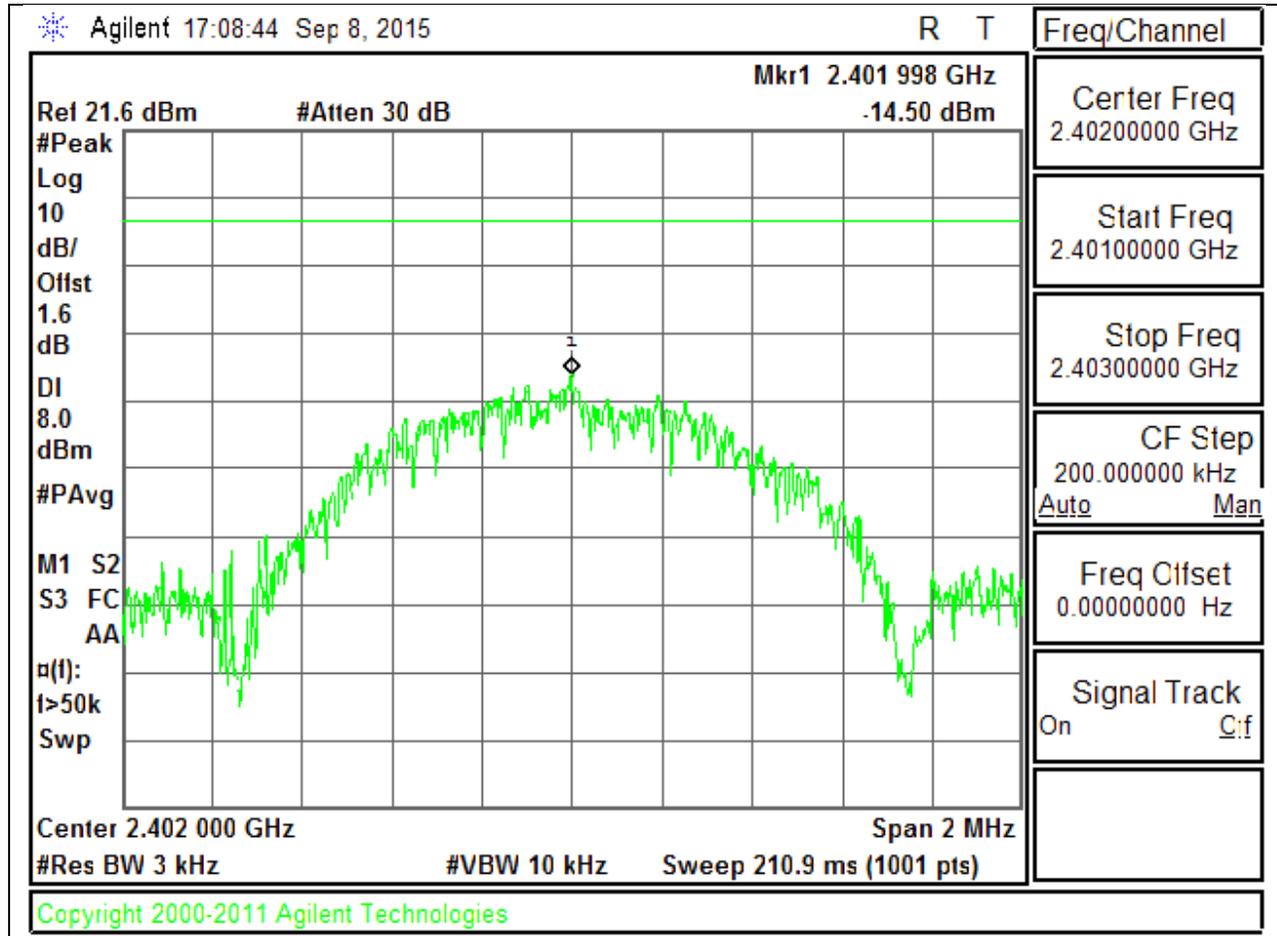
Power Spectral Density was performed utilizing the "Method PKPSD (Peak PSD)" under KDB558074 D01 DTS Meas Guidance v03r02.

### RESULTS

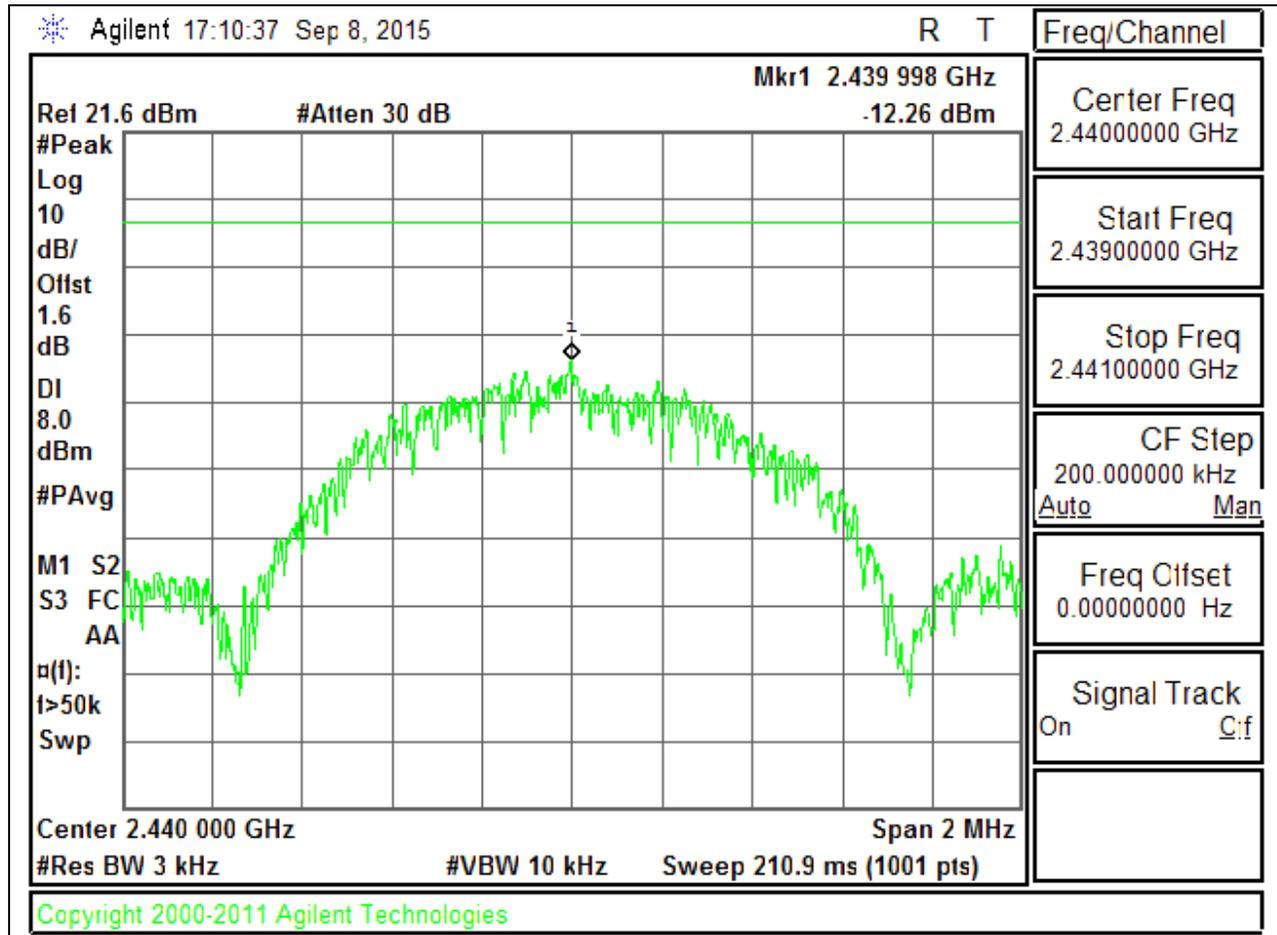
Channel	Frequency (MHz)	PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2402	-14.50	8	-22.50
Middle	2440	-12.26	8	-20.26
High	2480	-13.53	8	-21.53

**POWER SPECTRAL DENSITY PLOTS**

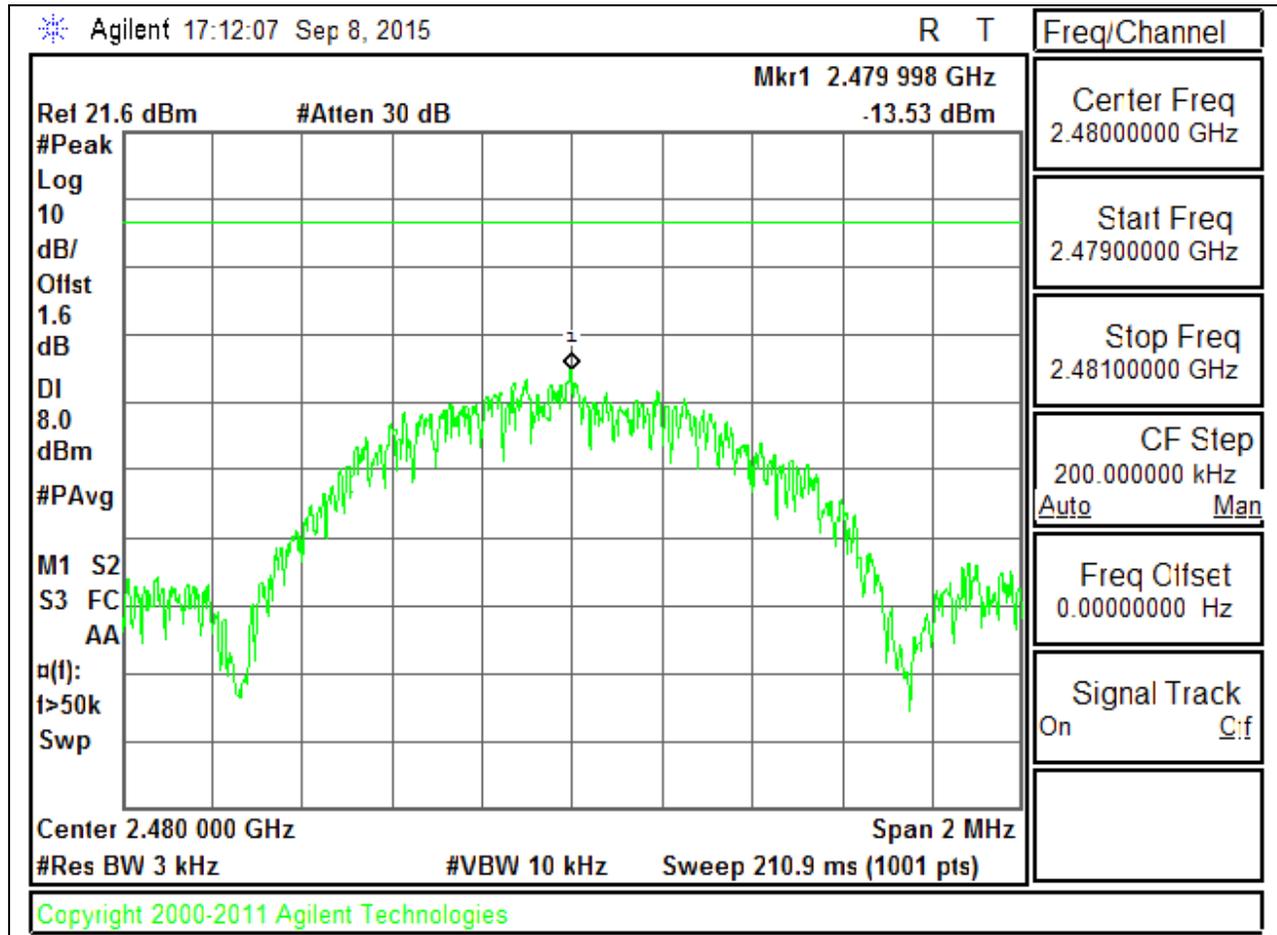
**LOW CHANNEL**



**MID CHANNEL**



### HIGH CHANNEL



## **8.6. CONDUCTED SPURIOUS EMISSIONS**

### **LIMITS**

FCC §15.247 (d)

IC RSS-247 5.5

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

### **TEST PROCEDURE**

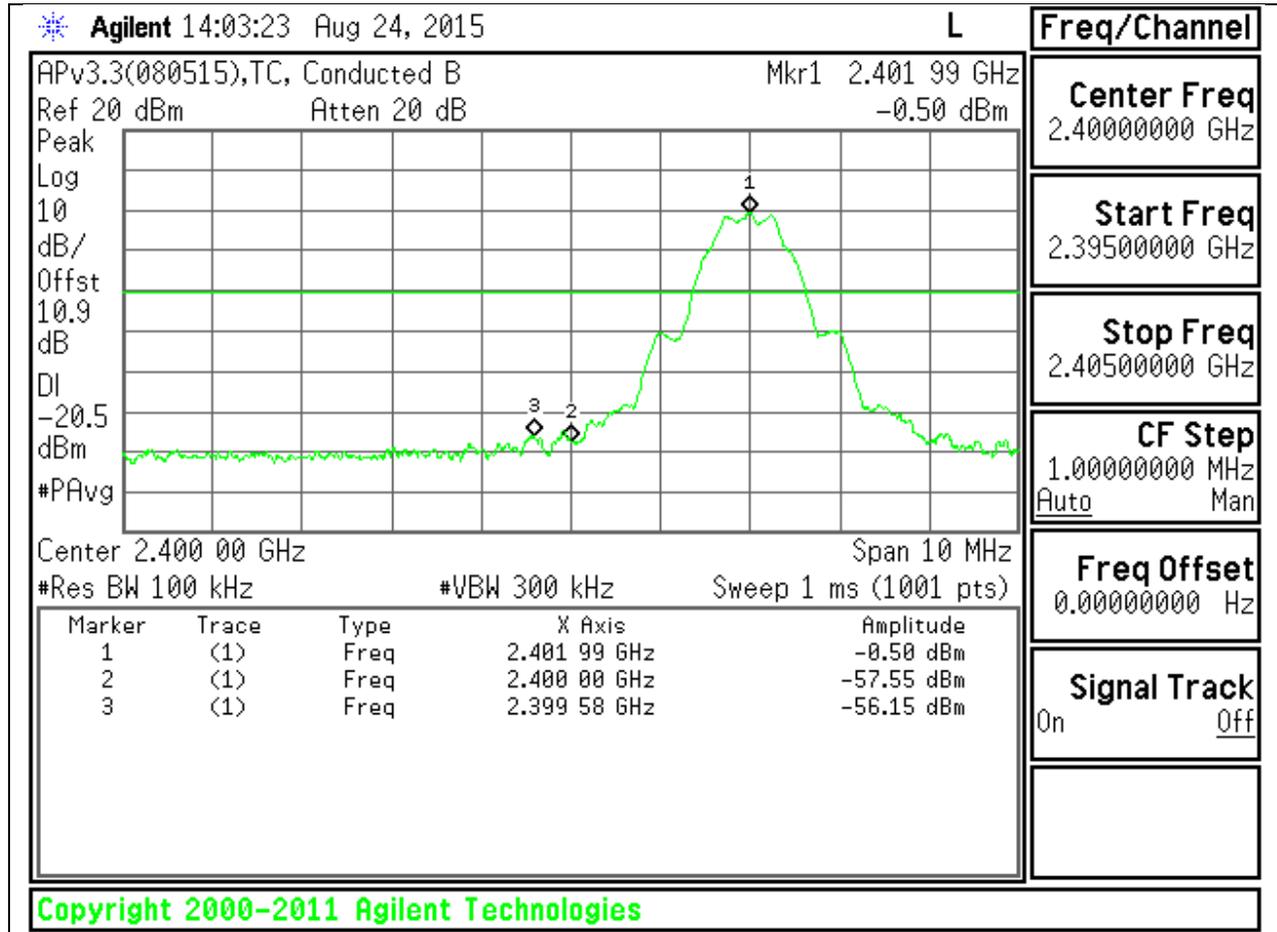
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

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

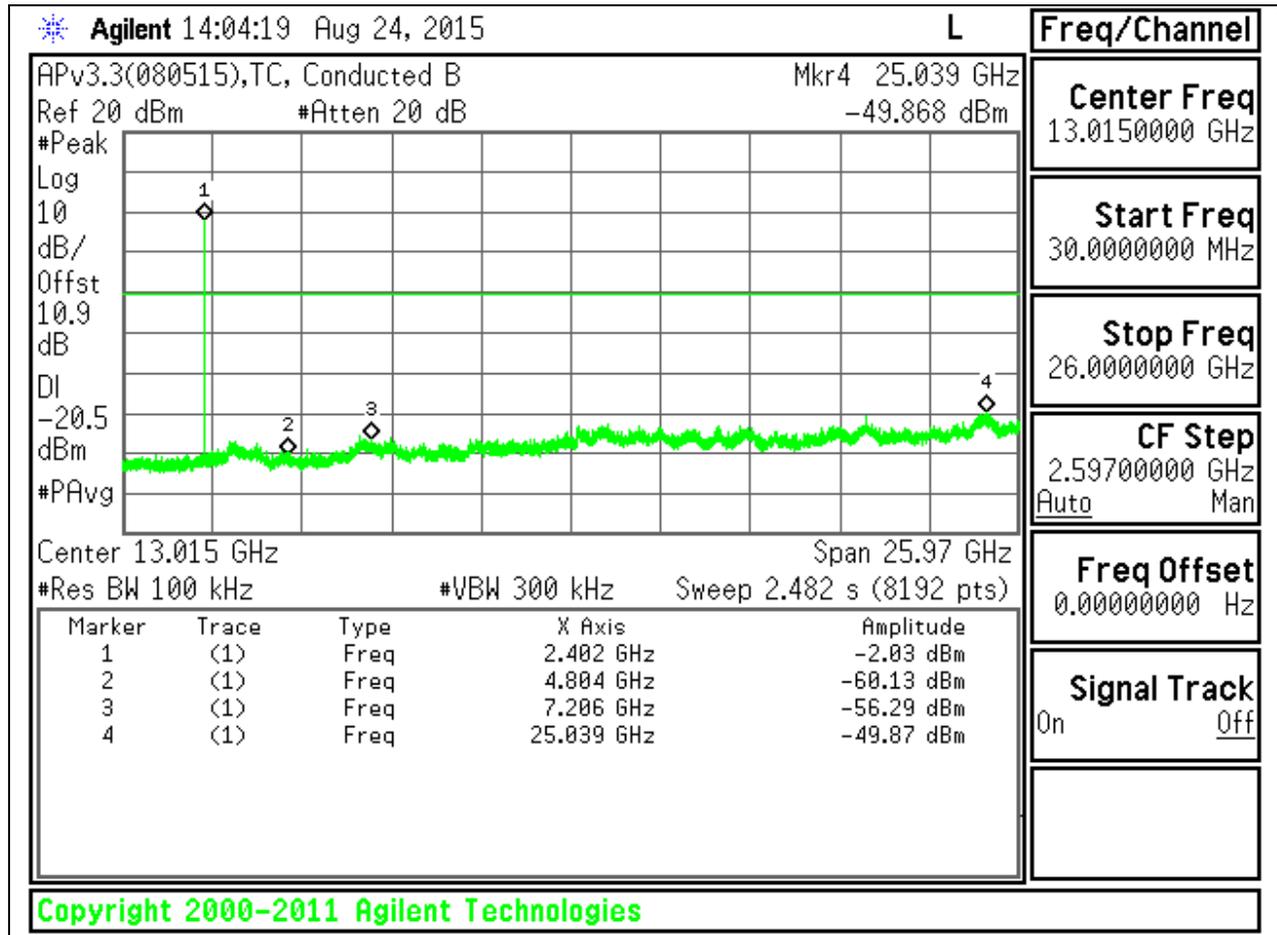
**RESULTS**

**SPURIOUS EMISSIONS, LOW CHANNEL**

**LOW CHANNEL BANDEDGE**

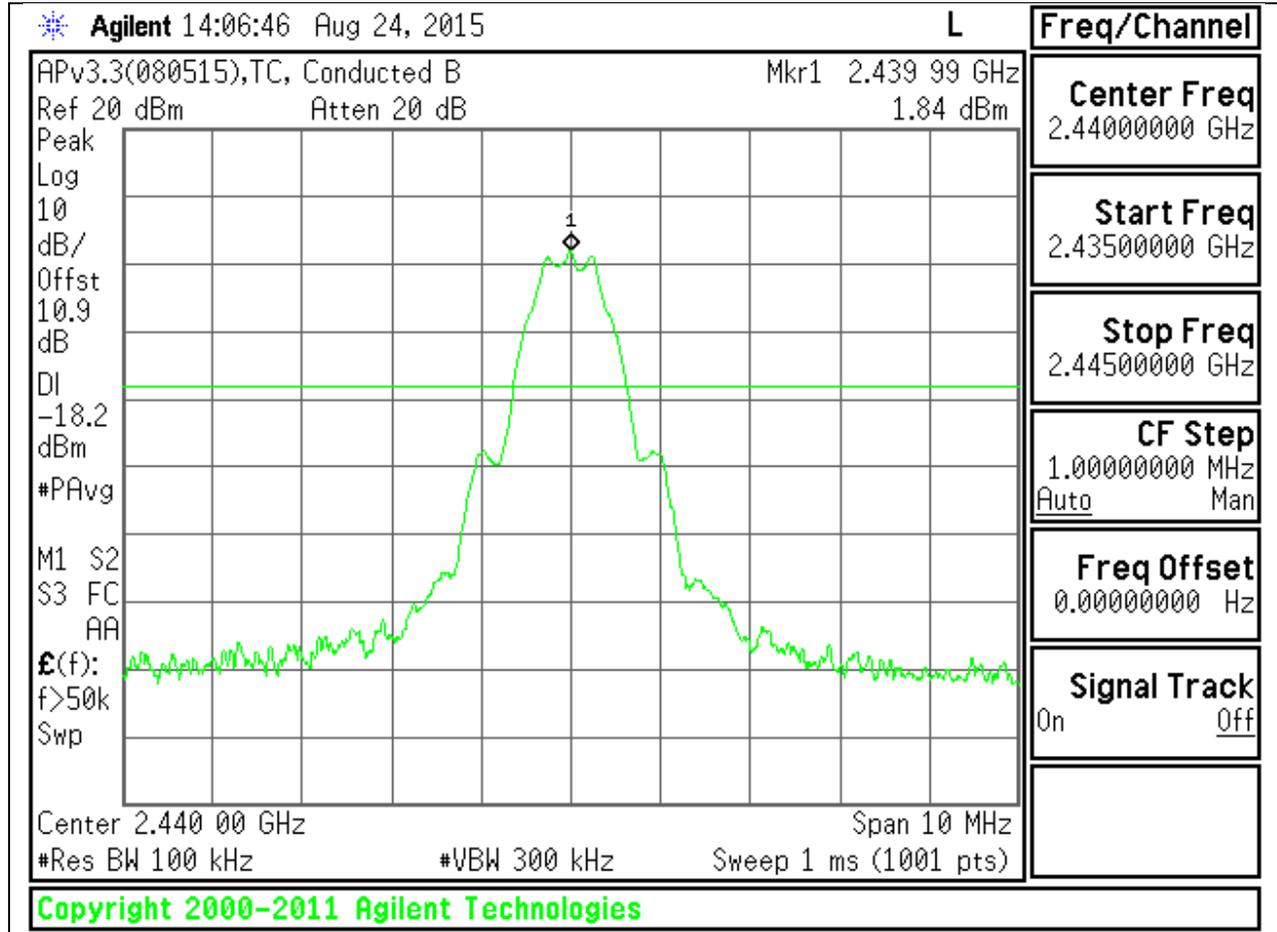


### LOW CHANNEL SPURIOUS

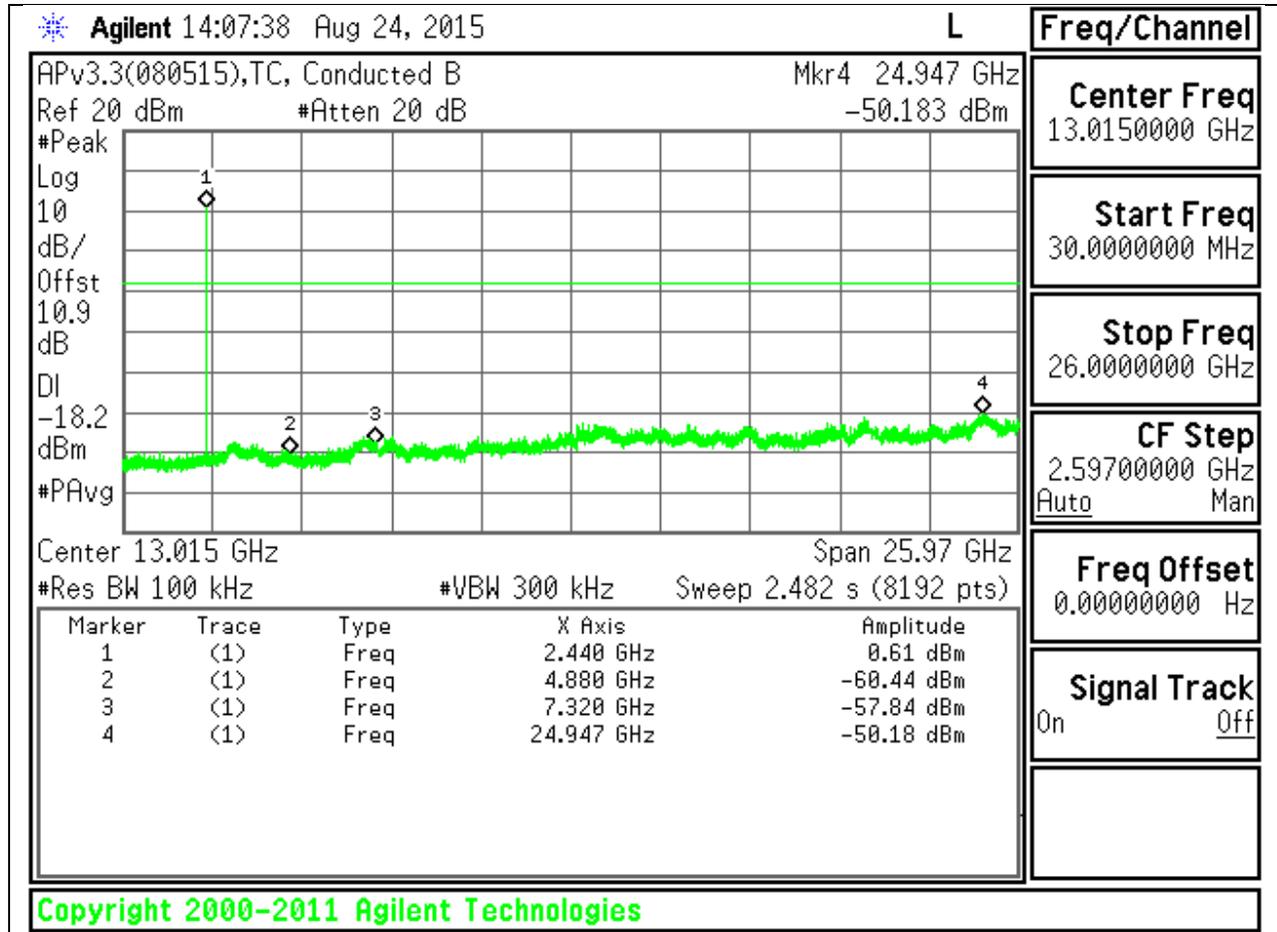


**SPURIOUS EMISSIONS, MID CHANNEL**

**MID CHANNEL REFERENCE**

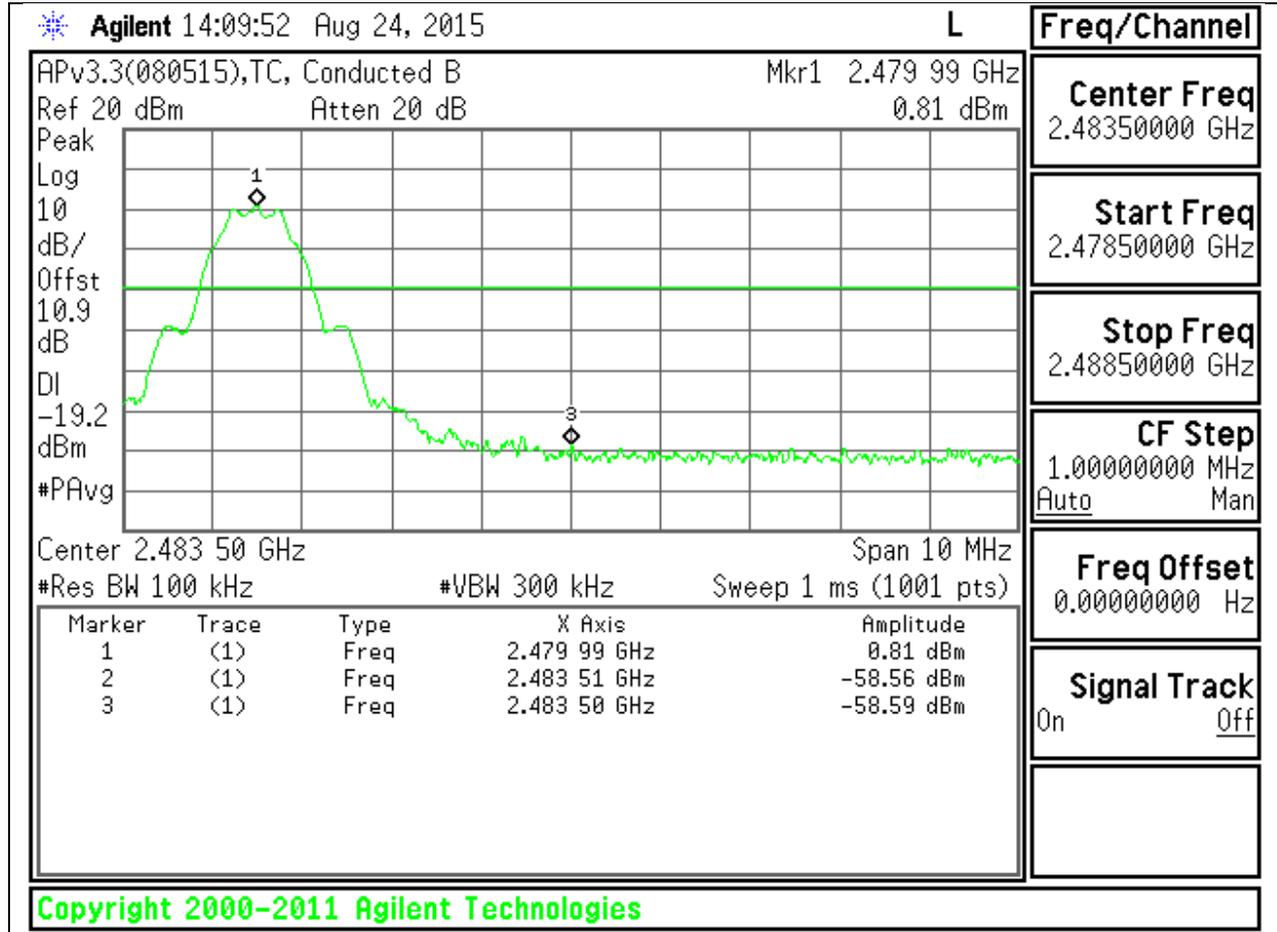


### MID CHANNEL SPURIOUS

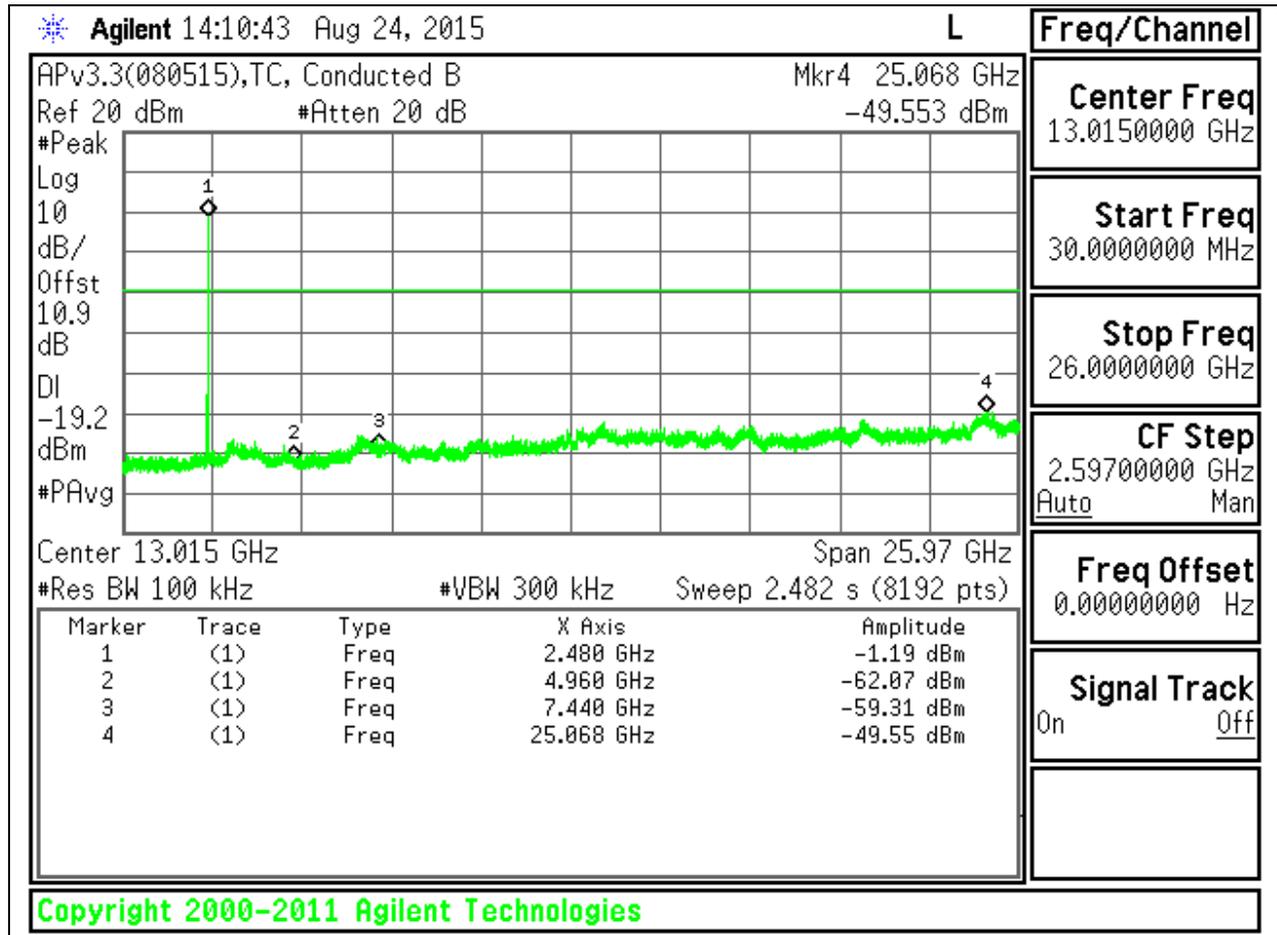


**SPURIOUS EMISSIONS, HIGH CHANNEL**

**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 (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 for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. 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:  $DCF = 10\log(1/0.65)=1.87$  dB

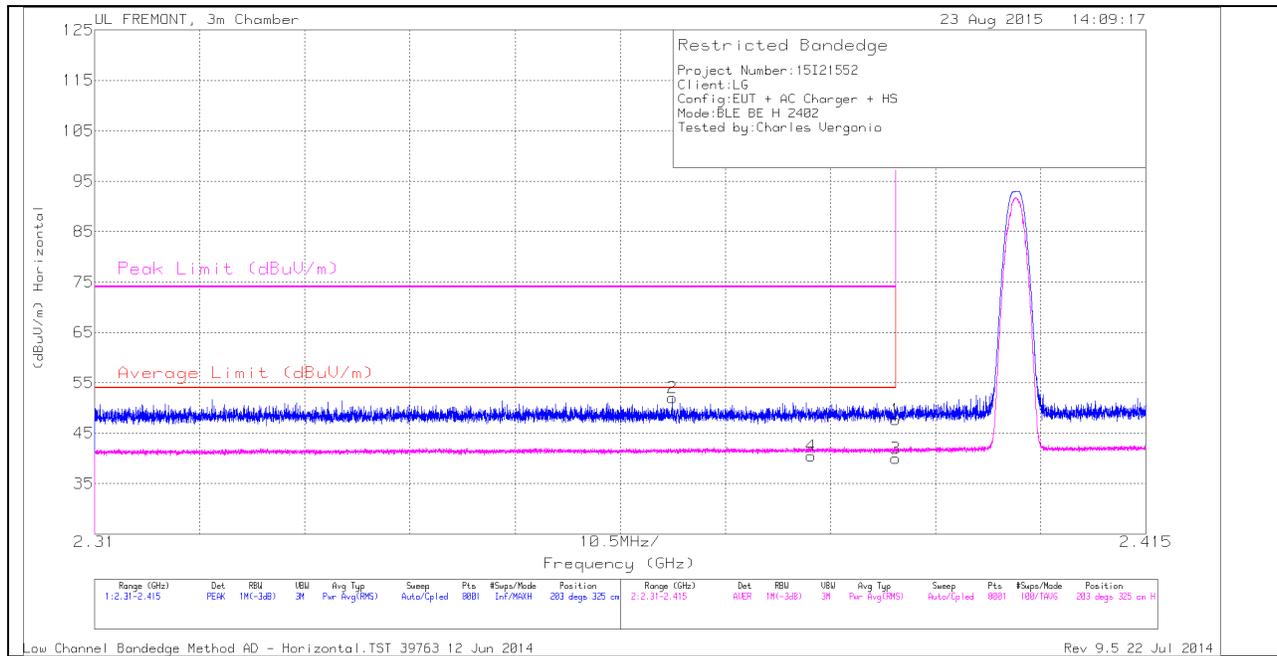
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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 BANDEGE (LOW CHANNEL)

### HORIZONTAL PEAK AND AVERAGE PLOT



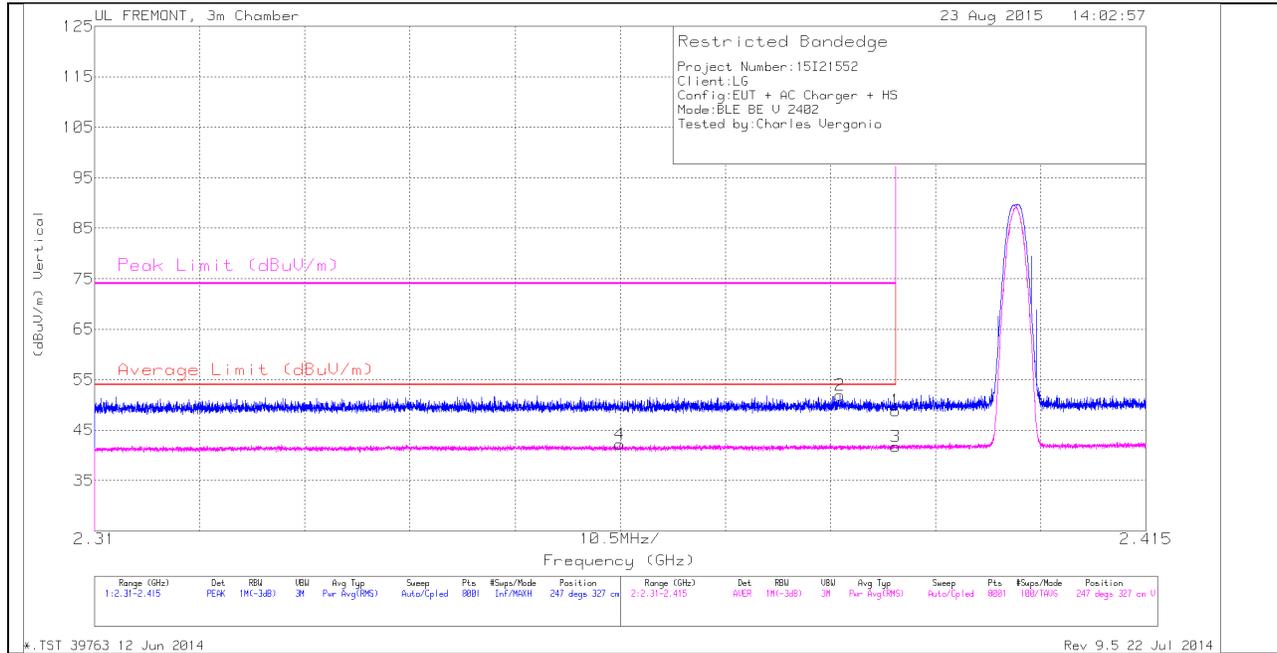
### HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
2	2.368	42.5	PK	31.9	-22.4	0	52	-	-	74	-22	203	325	H
4	2.382	30.85	RMS	32	-22.4	1.87	42.32	54	-11.68	-	-	203	325	H
1	2.39	38.09	PK	32	-22.4	0	47.69	-	-	74	-26.31	203	325	H
3	2.39	30.36	RMS	32	-22.4	1.87	41.83	54	-12.17	-	-	203	325	H

PK - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

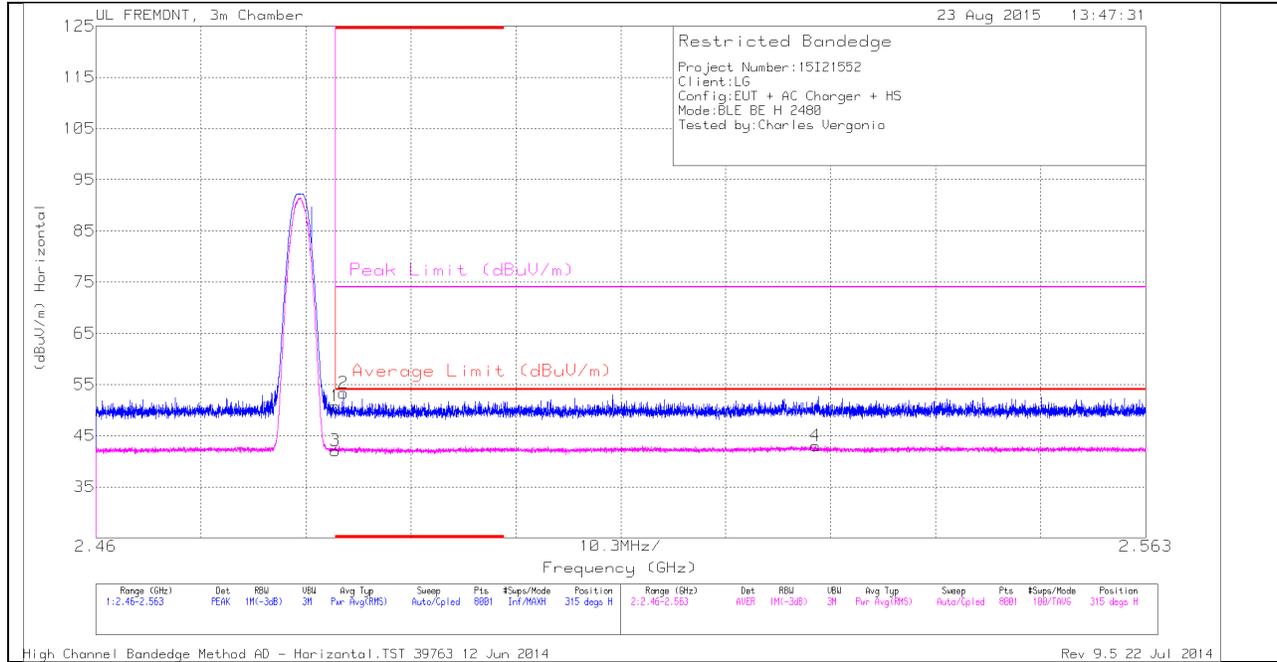
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	2.362	30.99	RMS	31.9	-22.5	1.87	42.26	54	-11.74	-	-	247	327	V
2	2.384	42.29	PK	32	-22.4	0	51.89	-	-	74	-22.11	247	327	V
1	2.39	39.26	PK	32	-22.4	0	48.86	-	-	74	-25.14	247	327	V
3	2.39	30.29	RMS	32	-22.4	1.87	41.76	54	-12.24	-	-	247	327	V

PK - Peak detector

RMS - RMS detection

### AUTHORIZED BANDEDGE (HIGH CHANNEL)

#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

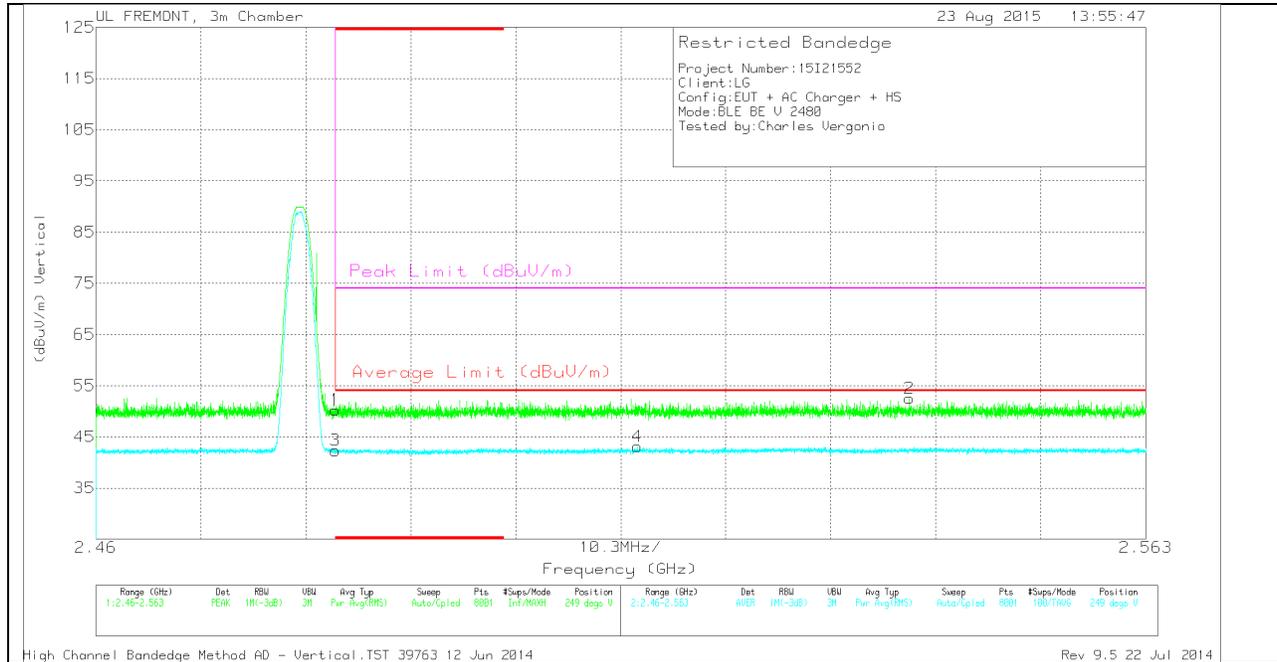
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.56	PK	32.3	-22.1	0	50.76	-	-	74	-23.24	315	277	H
2	* 2.484	43.13	PK	32.3	-22.1	0	53.33	-	-	74	-20.67	315	277	H
3	* 2.484	30	RMS	32.3	-22.1	1.87	42.07	54	-11.93	-	-	315	277	H
4	2.531	30.77	RMS	32.4	-22	1.87	43.04	54	-10.96	-	-	315	277	H

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

PK - Peak detector

RMS - RMS detection

**VERTICAL PEAK AND AVERAGE PLOT**



**VERTICAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	40.03	PK	32.3	-22.1	0	50.23	-	-	74	-23.77	249	302	V
3	* 2.484	30.26	RMS	32.3	-22.1	1.87	42.33	54	-11.67	-	-	249	302	V
4	2.513	30.96	RMS	32.3	-22	1.87	43.13	54	-10.87	-	-	249	302	V
2	2.54	42.03	PK	32.4	-21.9	0	52.53	-	-	74	-21.47	249	302	V

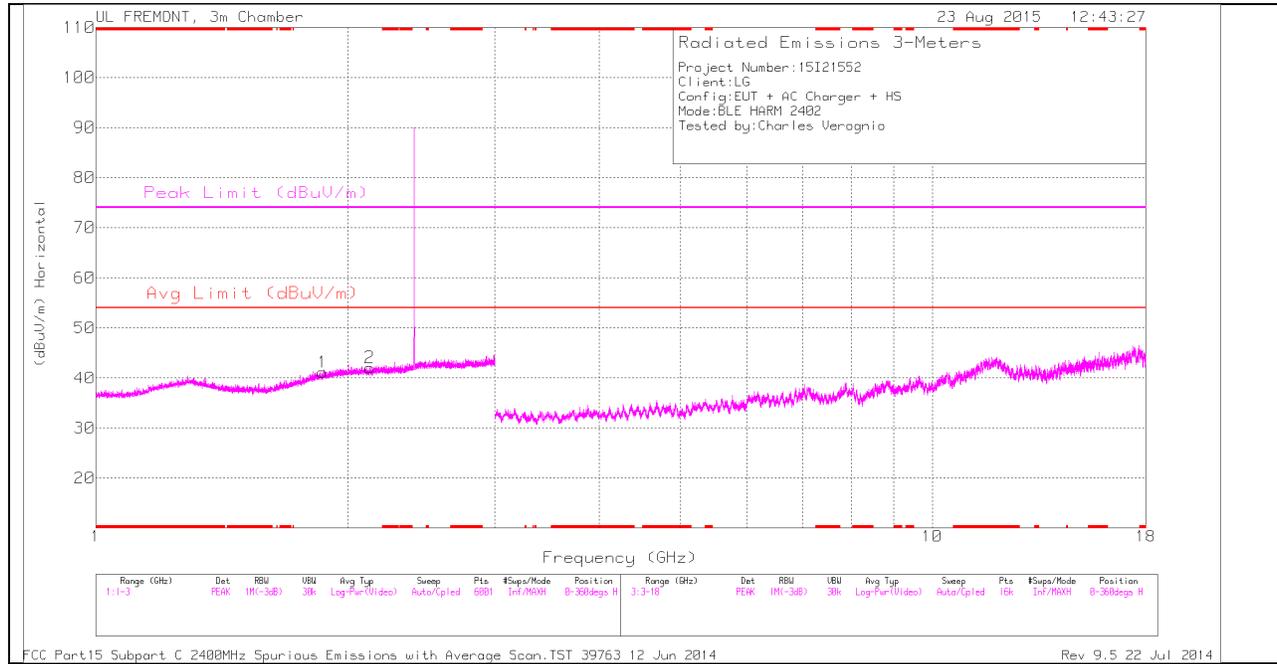
\* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

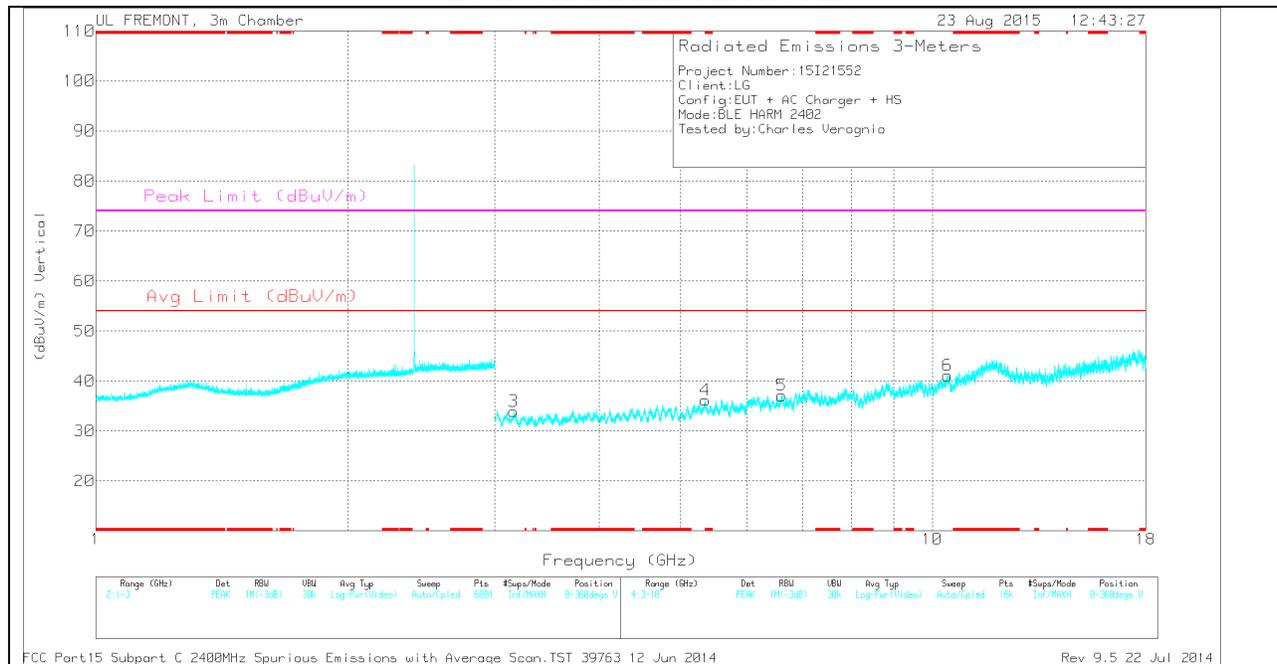
**HARMONICS AND SPURIOUS EMISSIONS**

**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 T119 (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
4	* 5.352	31.07	PK	34.5	-29.4	0	36.17	-	-	74	-37.83	0-360	100	V
1	1.867	32.92	PK	30.8	-22.6	0	41.12	-	-	-	-	0-360	100	H
2	2.126	32.65	PK	31.5	-22.1	0	42.05	-	-	-	-	0-360	200	H
3	3.159	31.63	PK	32.7	-30.4	0	33.93	-	-	-	-	0-360	200	V
5	6.611	29.51	PK	35.6	-28	0	37.11	-	-	-	-	0-360	200	V
6	10.425	27.2	PK	37.3	-23.4	0	41.1	-	-	-	-	0-360	100	V

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

PK - Peak detector

### Radiated Emissions

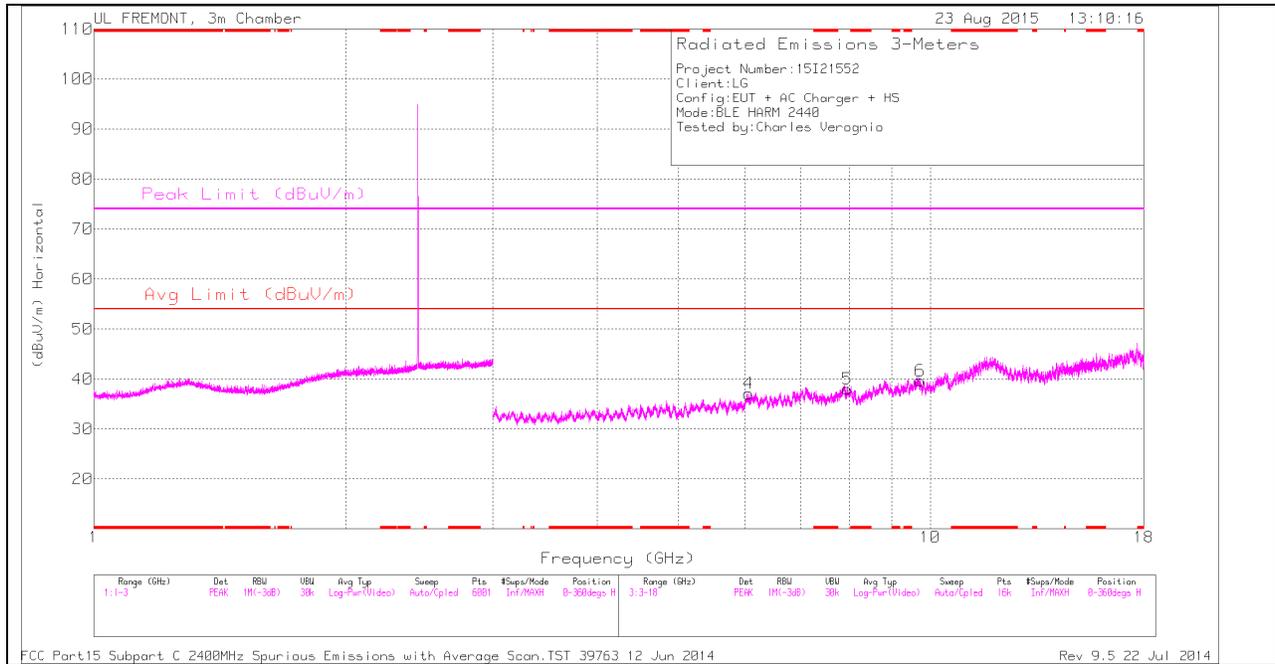
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/Ftr /Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 5.353	39.83	PK2	34.5	-29.4	0	44.93	-	-	74	-29.07	360	100	V
* 5.354	28.65	MAV1	34.5	-29.4	1.87	35.62	54	-18.38	-	-	360	100	V
1.868	42.23	PK2	30.8	-22.6	0	50.43	-	-	-	-	360	100	H
1.868	30.74	MAV1	30.8	-22.6	1.87	40.81	-	-	-	-	360	100	H
2.125	30.75	MAV1	31.5	-22.2	1.87	41.92	-	-	-	-	360	200	H
2.127	42.46	PK2	31.5	-22.2	0	51.76	-	-	-	-	360	200	H
3.159	29.38	MAV1	32.7	-30.4	1.87	33.55	-	-	-	-	360	200	V
3.161	40.45	PK2	32.7	-30.4	0	42.75	-	-	-	-	360	200	V
6.61	27.89	MAV1	35.6	-28	1.87	37.36	-	-	-	-	360	200	V
6.612	39.45	PK2	35.6	-27.9	0	47.15	-	-	-	-	360	200	V
10.425	35.48	PK2	37.3	-23.4	0	49.38	-	-	-	-	360	100	V
10.426	24.28	MAV1	37.3	-23.4	1.87	40.05	-	-	-	-	360	100	V

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

PK2 - KDB558074 Method: Maximum Peak

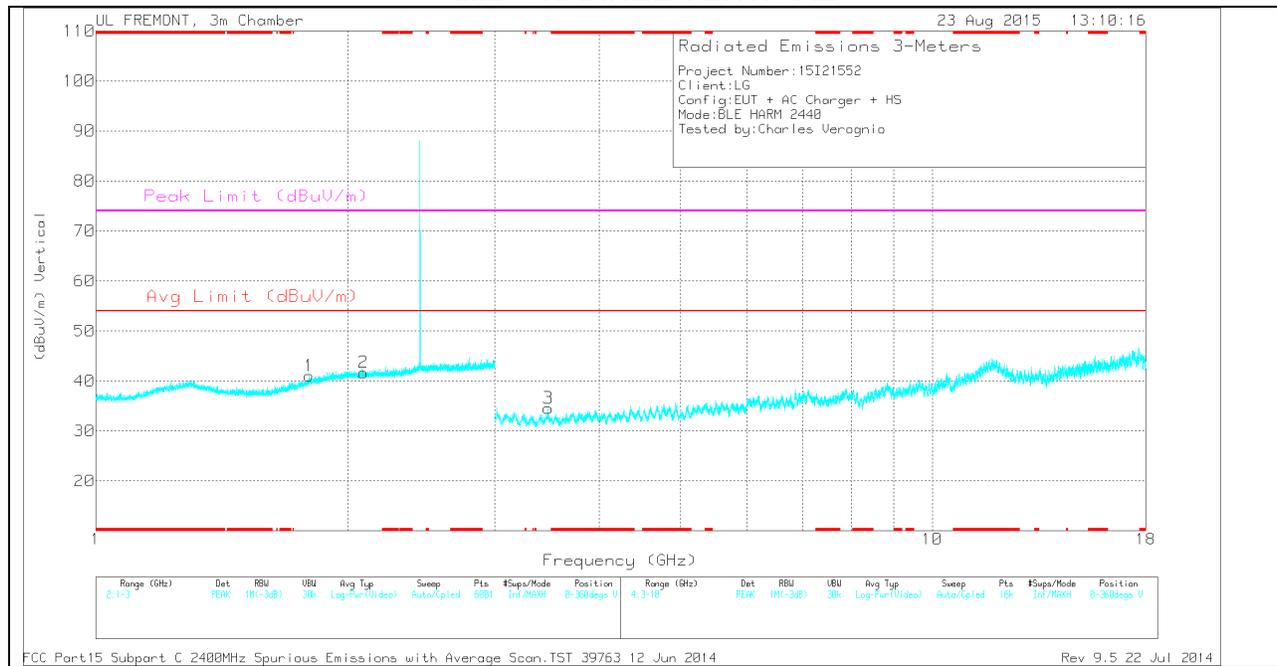
MAV1 - KDB558074 Option 1 Maximum RMS Average

### 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 T119 (dB/m)	Amp/Cbl/Fitr /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	1.8	33.54	PK	30.2	-22.7	0	41.04	-	-	-	-	0-360	100	V
2	2.089	32.61	PK	31.5	-22.4	0	41.71	-	-	-	-	0-360	100	V
3	3.474	32.27	PK	32.8	-30.5	0	34.57	-	-	-	-	0-360	200	V
4	6.067	30.21	PK	35.2	-28.3	0	37.11	-	-	-	-	0-360	200	H
5	7.958	29.61	PK	35.8	-27.4	0	38.01	-	-	-	-	0-360	200	H
6	9.727	27.02	PK	36.9	-24.3	0	39.62	-	-	-	-	0-360	200	H

PK - Peak detector

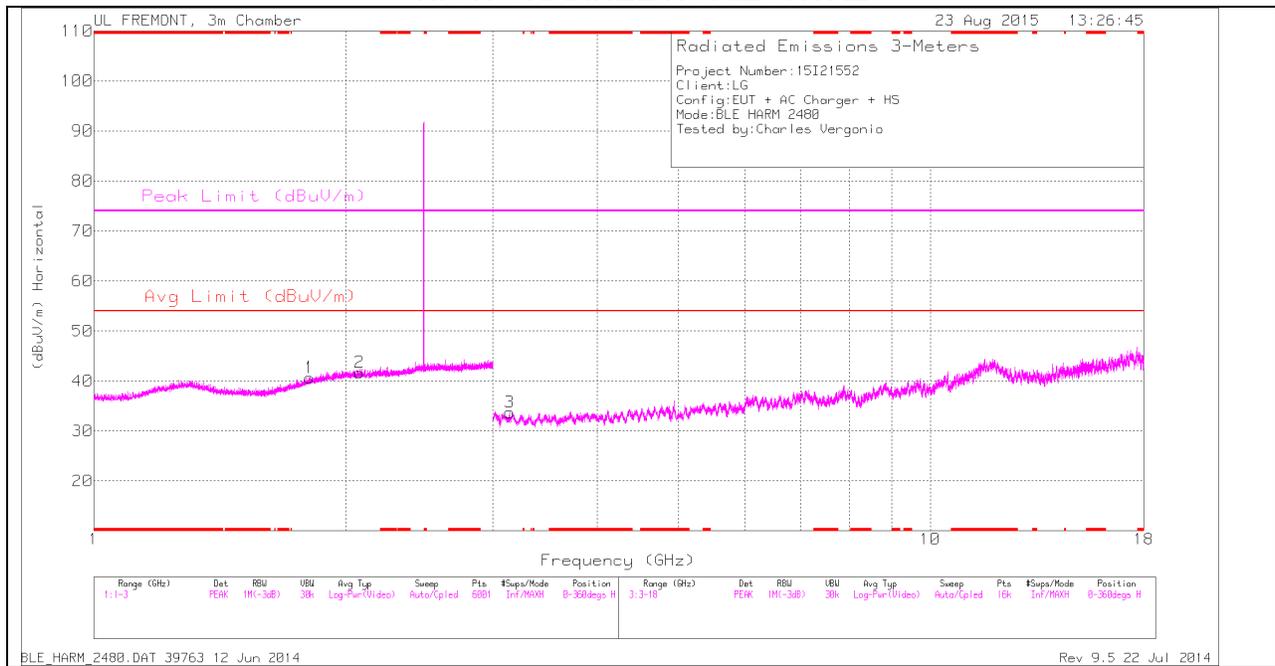
#### Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fitr /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
1.8	30.85	MAV1	30.2	-22.7	1.87	40.22	-	-	-	-	360	100	V
1.801	42.62	PK2	30.2	-22.7	0	50.12	-	-	-	-	360	100	V
2.087	30.61	MAV1	31.5	-22.4	1.87	41.58	-	-	-	-	360	100	V
2.091	42.21	PK2	31.5	-22.4	0	51.31	-	-	-	-	360	100	V
3.473	40.53	PK2	32.8	-30.5	0	42.83	-	-	-	-	360	200	V
3.474	29.34	MAV1	32.8	-30.5	1.87	33.51	-	-	-	-	360	200	V
6.068	38.66	PK2	35.2	-28.3	0	45.56	-	-	-	-	360	200	H
6.069	27.27	MAV1	35.2	-28.2	1.87	36.14	-	-	-	-	360	200	H
7.96	38.32	PK2	35.8	-27.4	0	46.72	-	-	-	-	360	200	H
7.96	27.13	MAV1	35.8	-27.4	1.87	37.4	-	-	-	-	360	200	H
9.729	36.84	PK2	36.9	-24.3	0	49.44	-	-	-	-	360	200	H
9.729	24.98	MAV1	36.9	-24.3	1.87	39.45	-	-	-	-	360	200	H

PK2 - KDB558074 Method: Maximum Peak

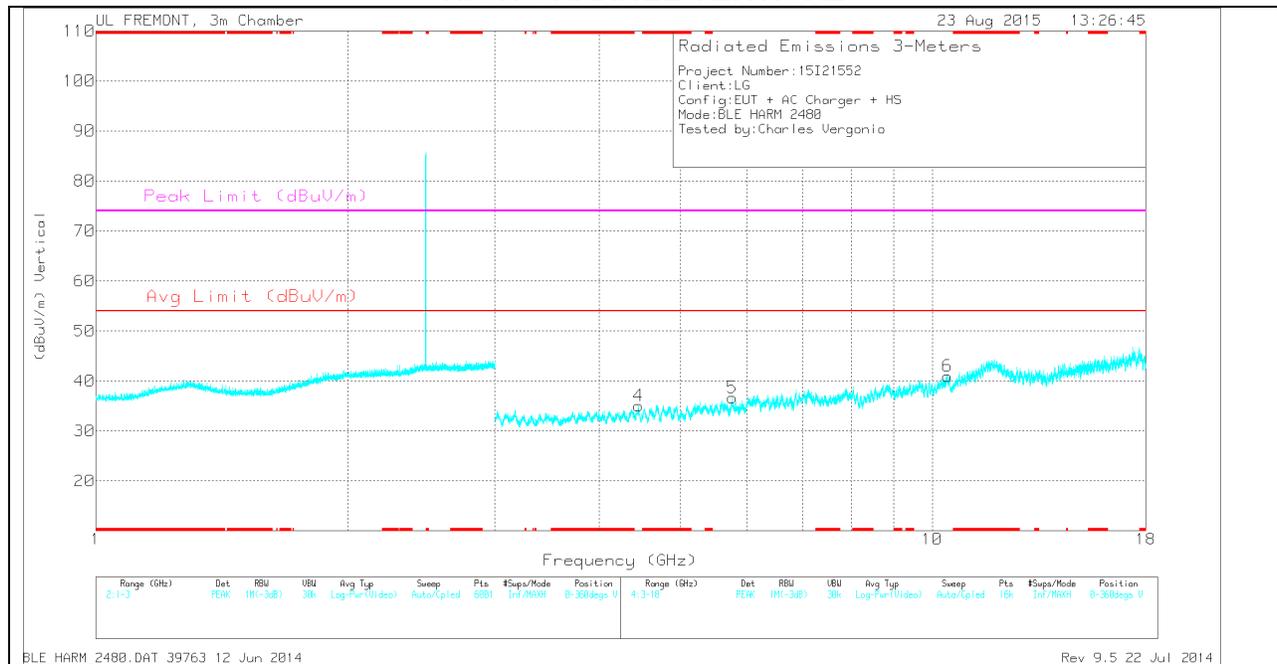
MAV1 - KDB558074 Option 1 Maximum RMS Average

### 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 T119 (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
1	1.811	33.07	PK	30.3	-22.7	0	40.67	-	-	-	-	0-360	100	H
2	2.079	32.51	PK	31.5	-22.3	0	41.71	-	-	-	-	0-360	100	H
3	3.142	31.43	PK	32.7	-30.4	0	33.73	-	-	-	-	0-360	200	H
4	4.457	31.65	PK	33.7	-30.3	0	35.05	-	-	-	-	0-360	100	V
5	5.768	31.38	PK	34.8	-29.5	0	36.68	-	-	-	-	0-360	100	V
6	10.435	27.36	PK	37.3	-23.7	0	40.96	-	-	-	-	0-360	200	V

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

PK - Peak detector

#### Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
1.81	30.93	MAV1	30.3	-22.7	1.87	40.4	-	-	-	-	360	100	H
1.813	42.45	PK2	30.3	-22.7	0	50.05	-	-	-	-	360	100	H
2.077	42.57	PK2	31.5	-22.4	0	51.67	-	-	-	-	360	100	H
2.08	30.74	MAV1	31.5	-22.3	1.87	41.81	-	-	-	-	360	100	H
3.14	28.62	MAV1	32.7	-30.4	1.87	32.79	-	-	-	-	360	200	H
3.141	40.23	PK2	32.7	-30.4	0	42.53	-	-	-	-	360	200	H
4.458	41.36	PK2	33.7	-30.3	0	44.76	-	-	-	-	360	100	V
4.458	29.1	MAV1	33.7	-30.3	1.87	34.37	-	-	-	-	360	100	V
5.767	29.2	MAV1	34.8	-29.5	1.87	36.37	-	-	-	-	360	100	V
5.769	40.86	PK2	34.8	-29.5	0	46.16	-	-	-	-	360	100	V
10.435	24.29	MAV1	37.3	-23.7	1.87	39.76	-	-	-	-	360	200	V
10.437	35.9	PK2	37.3	-23.7	0	49.5	-	-	-	-	360	200	V

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

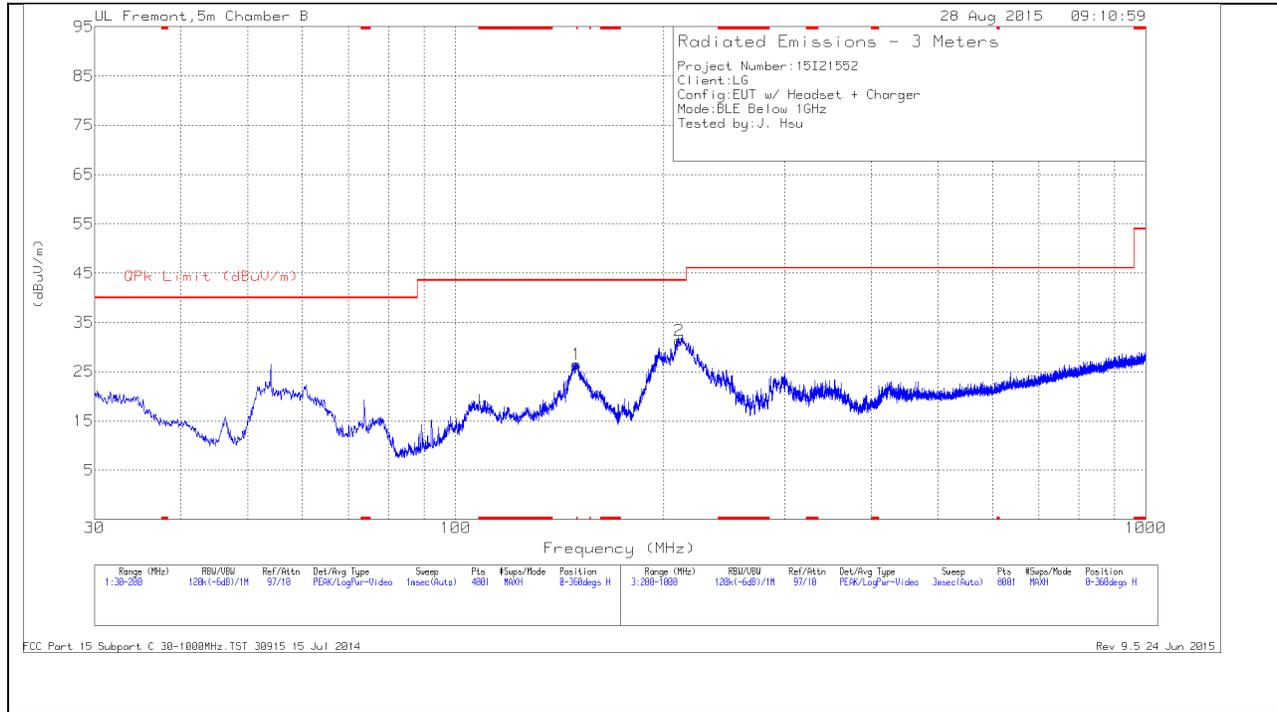
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

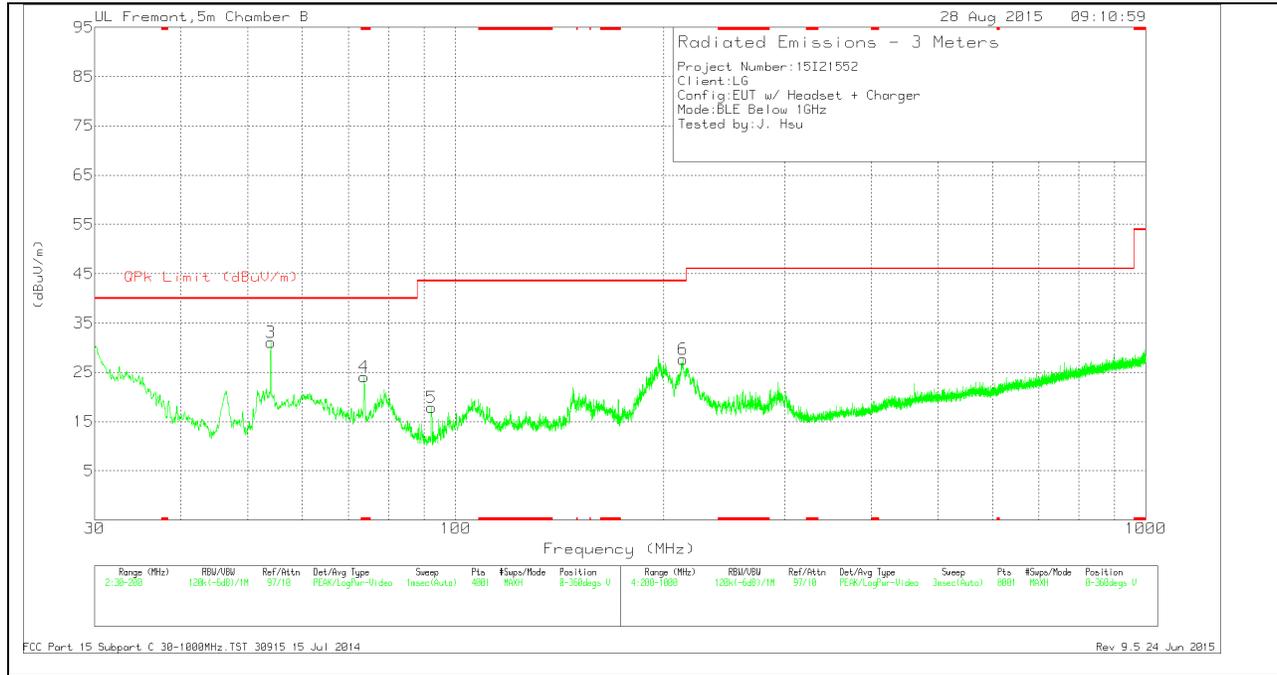
### 9.3. WORST-CASE BELOW 1 GHz

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

#### HORIZONTAL PLOT



### VERTICAL PLOT



**BELOW 1 GHz TABLE**

Trace Markers

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
4	* 73.7325	44.32	Pk	8	-28.3	24.02	40	-15.98	0-360	101	V
3	54.0125	52.15	Pk	7.4	-28.5	31.05	40	-8.95	0-360	101	V
5	92.3475	37.81	Pk	8.2	-28.2	17.81	43.52	-25.71	0-360	101	V
1	149.6375	41.46	Pk	12.5	-27.5	26.46	43.52	-17.06	0-360	199	H
2	210.8	47.86	Pk	10.5	-27	31.36	43.52	-12.16	0-360	199	H
6	213.6	44.08	Pk	10.5	-26.9	27.68	43.52	-15.84	0-360	101	V

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

Pk - Peak detector

Radiated Emissions

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
53.9962	50.56	Qp	7.4	-28.5	29.46	40	-10.54	360	104	V

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

Qp - Quasi-Peak detector