



**FCC CFR47 PART 15 SUBPART C**

**CERTIFICATION TEST REPORT**

**FOR**

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

**MODEL NUMBER: LG-H740, LGH740, H740**

**FCC ID: ZNFH740**

**REPORT NUMBER: 15I21238-E2**

**ISSUE DATE: AUGUST 4, 2015**

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**NVLAP LAB CODE 200065-0**

Revision History

Rev.	Date	Revisions	Revised By
--	8/4/15	Initial Issue	

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# 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** LG ELECTRONICS MOBILECOMM U.S.A., INC.  
**EUT DESCRIPTION:** GSM/WCDMA/LTE PHABLET + BLUETOOTH, DTS/UNII a/b/g/n & NFC  
**MODEL:** LG-H740, LGH740, H740  
**SERIAL NUMBER:** 1ZW89 (RADIATED), 1ZW8C (CONDUCTED)  
**DATE TESTED:** JULY 6-27, 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.

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## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009 for FCC and ANSI C63.10-2013 for IC, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-247 Issue 1.

### ANSI C63.10-2009 Deviation

Radiated spurious emission above 1GHz EUT height is 1.5m not 0.8m.

## 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 checked="" type="checkbox"/> Chamber A(IC: 2324B-1)	<input type="checkbox"/> Chamber D(IC: 2324B-4)
<input checked="" 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:

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

### 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 & 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	9.06	8.05
2402 - 2480	Enhanced 8PSK	8.58	7.21

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 -2.0 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	LG	MCS-N04WS	SA560000030	N/A
Earphone	LG	N/A	N/A	N/A

### I/O CABLES

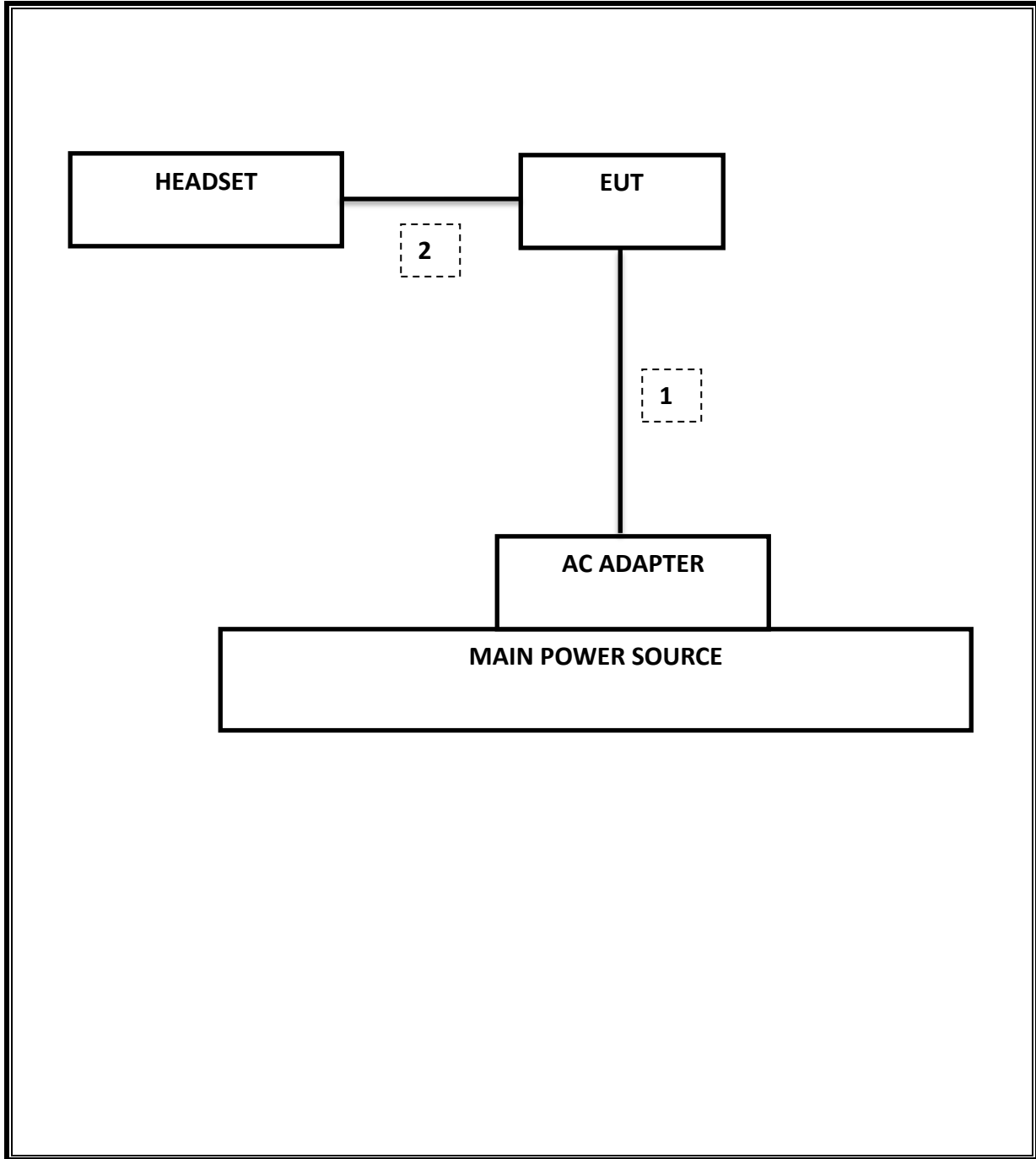
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

### 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.

**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	02/13/16
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/14/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	T404	06/29/16
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
CBT Bluetooth Tester	R & S	CBT	T258	06/30/16
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
Reject Filter, 2.4GHz	Micro-Tronics	BRM50702	N02684	CNR
Radiated Software	UL	UL EMC	Ver 9.5, July 22, 2014	
Conducted Software	UL	UL EMC	Ver 9.5, May 17 2012	
CLT Software	UL	UL RF	Ver 1.0, Feb 2 2015	
Antenna Port Software	UL	UL RF	Ver 2.1.1.1, Jan 20 2015	

## 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	1.056 MHz
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-44.07 dBm
15.247 (b)(1)	RSS-247 5.4.2	TX conducted output power	<21dBm		Pass	9.06 dBm
15.247 (a)(1)	RSS-247 5.1.2	Hopping frequency separation	> 25KHz		Pass	1 MHz
15.247 (a)(1)(iii)	RSS-247 5.1.4	Number of Hopping channels	More than 15 non-overlapping channels		Pass	79 channels
15.247 (a)(1)(iii)	RSS-247 5.1.4	Avg Time of Occupancy	< 0.4sec		Pass	0.22 s
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass	46.68 dBuV
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass	35.96 dBuV/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	1.032	1.0205
Middle	2441	1.032	1.0201
High	2480	1.032	1.0027
Worst		1.032	1.0205

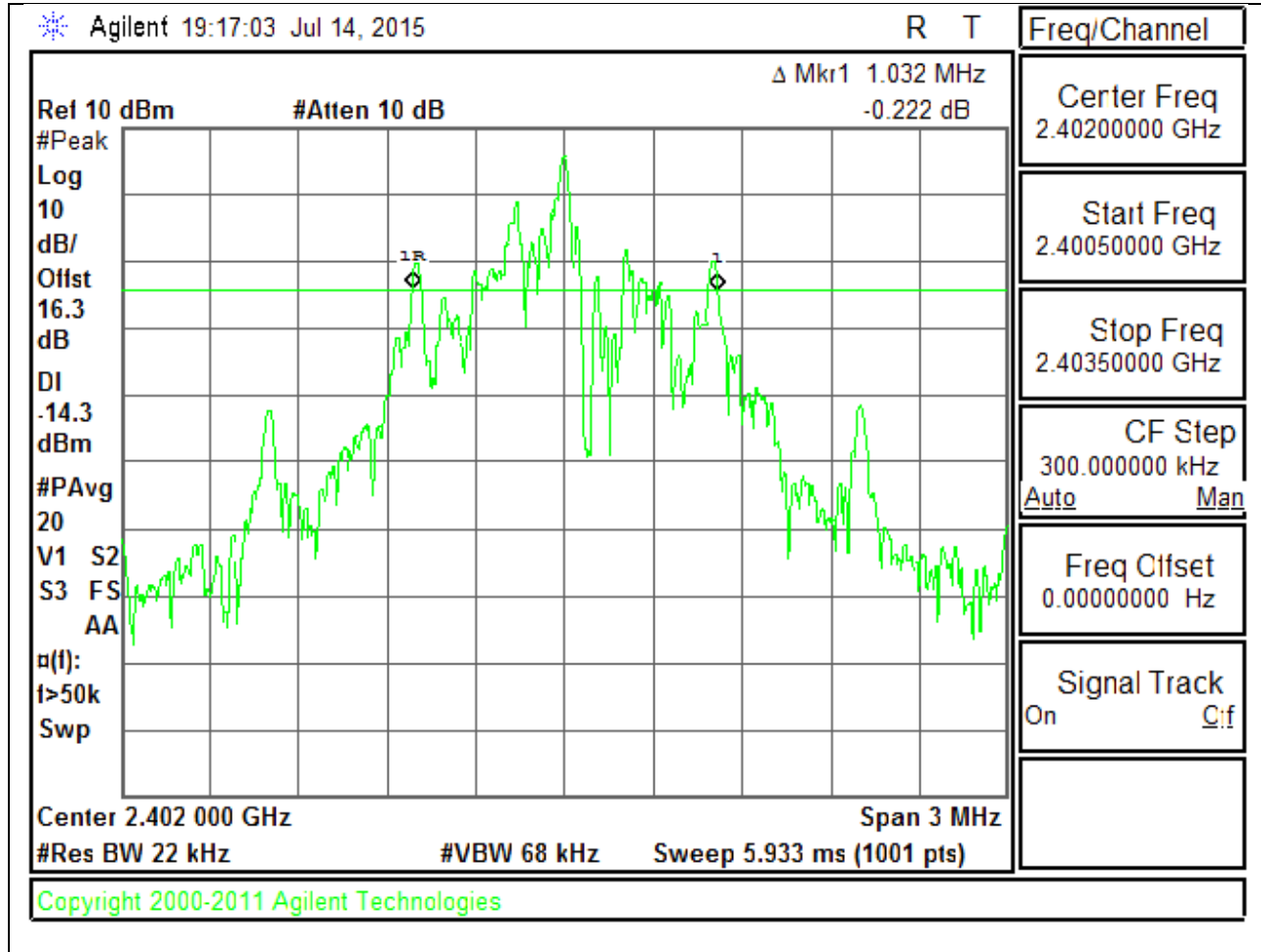
##### 8.1.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.152	1.0547
Middle	2441	1.077	1.0562
High	2480	1.062	1.0558
Worst		1.152	1.0562

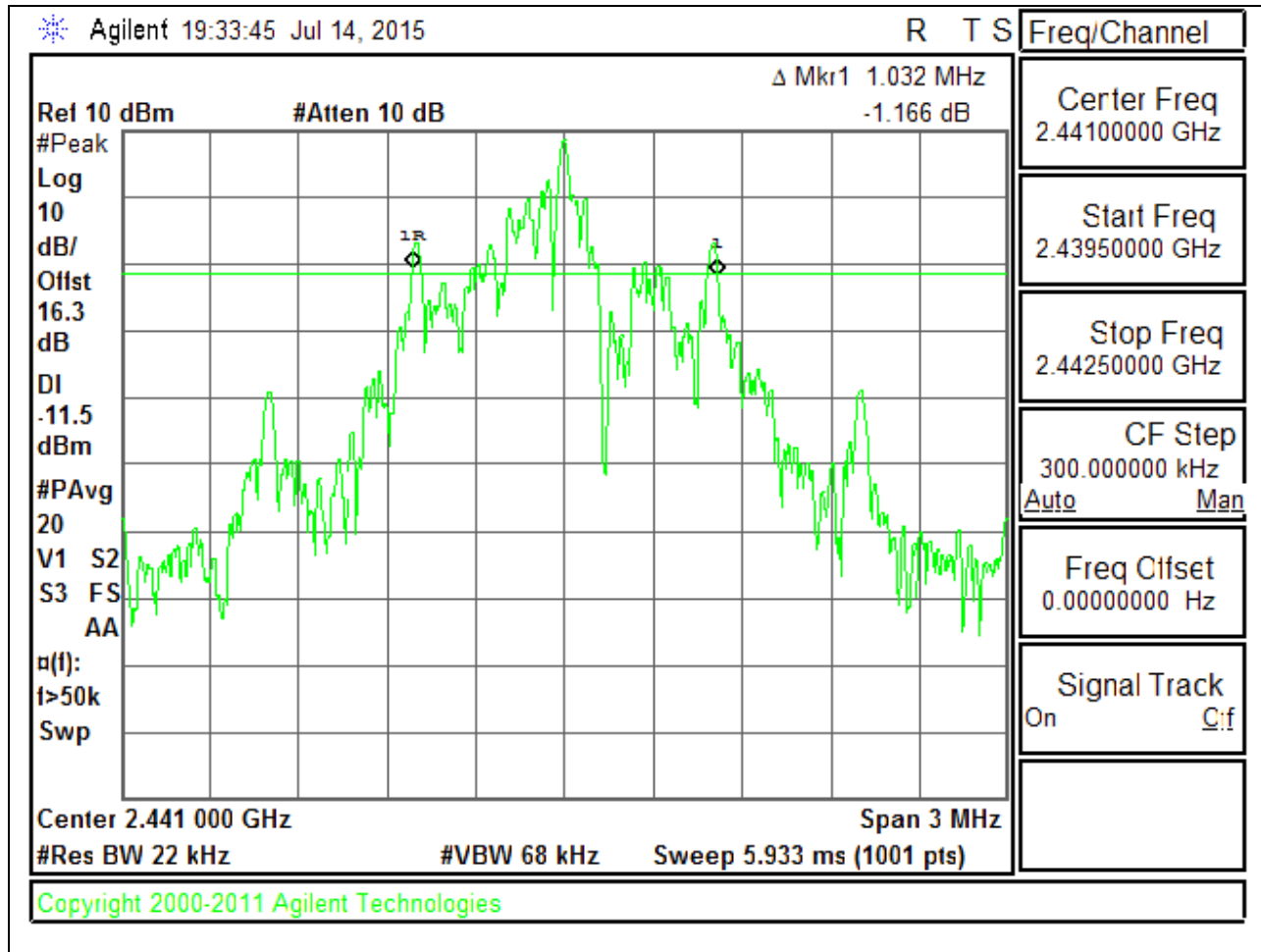
### 8.1.3. 20 dB AND 99% BANDWIDTH PLOTS

#### GFSK 20 dB BANDWIDTH

#### LOW CHANNEL

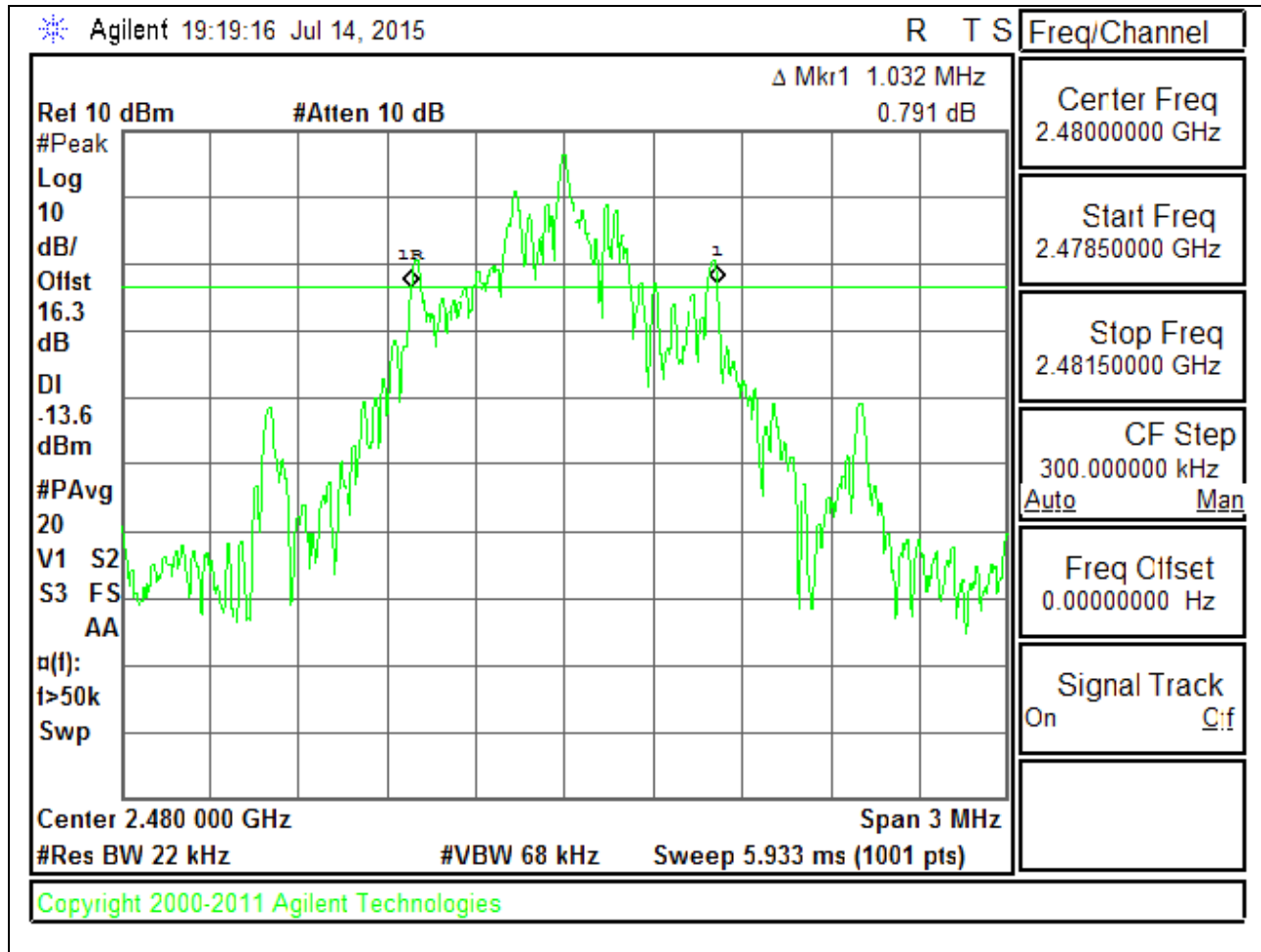


MID CHANNEL



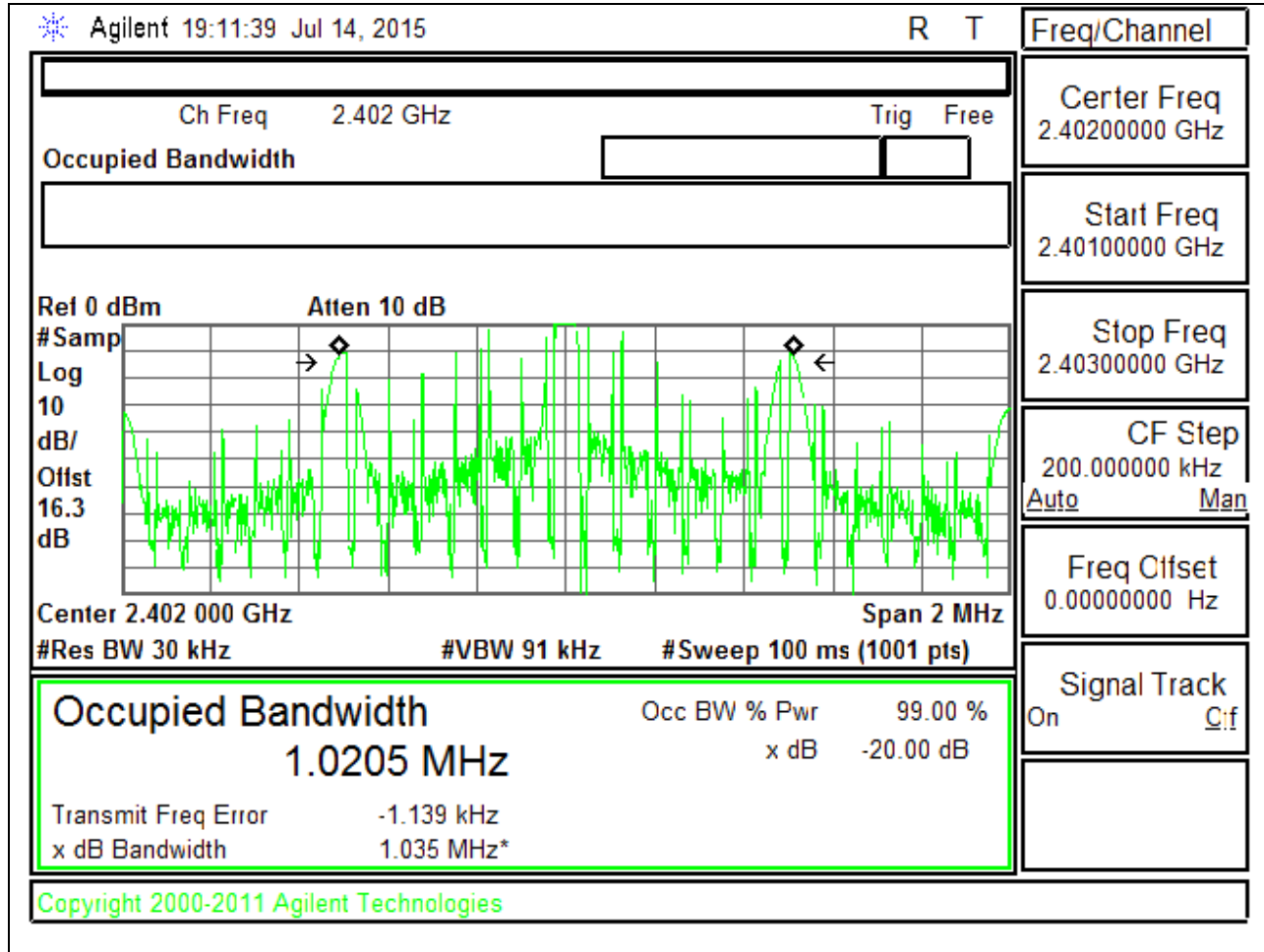


**HIGH CHANNEL**

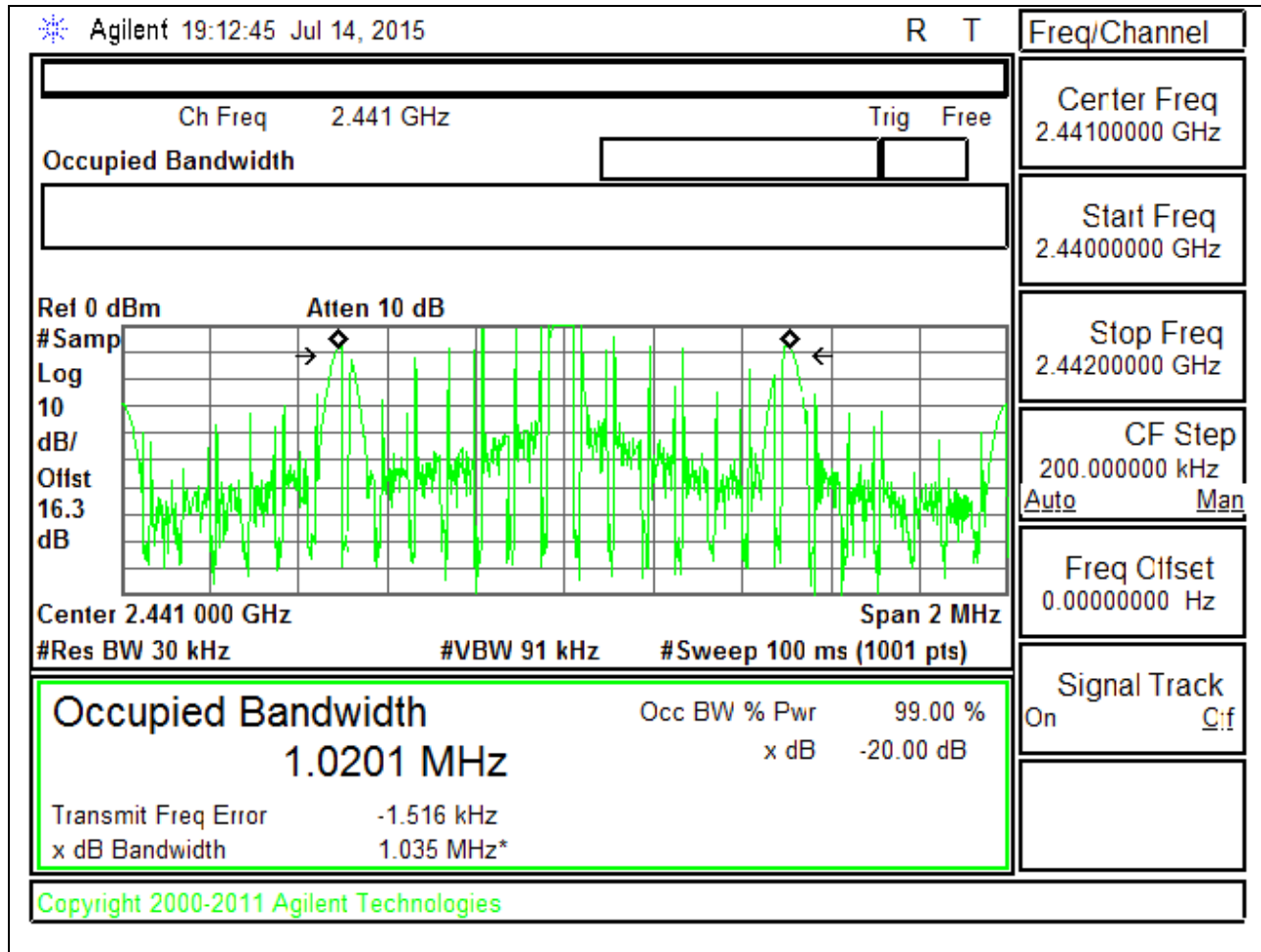


**GFSK 99% BANDWIDTH**

**LOW CHANNEL**



MID CHANNEL

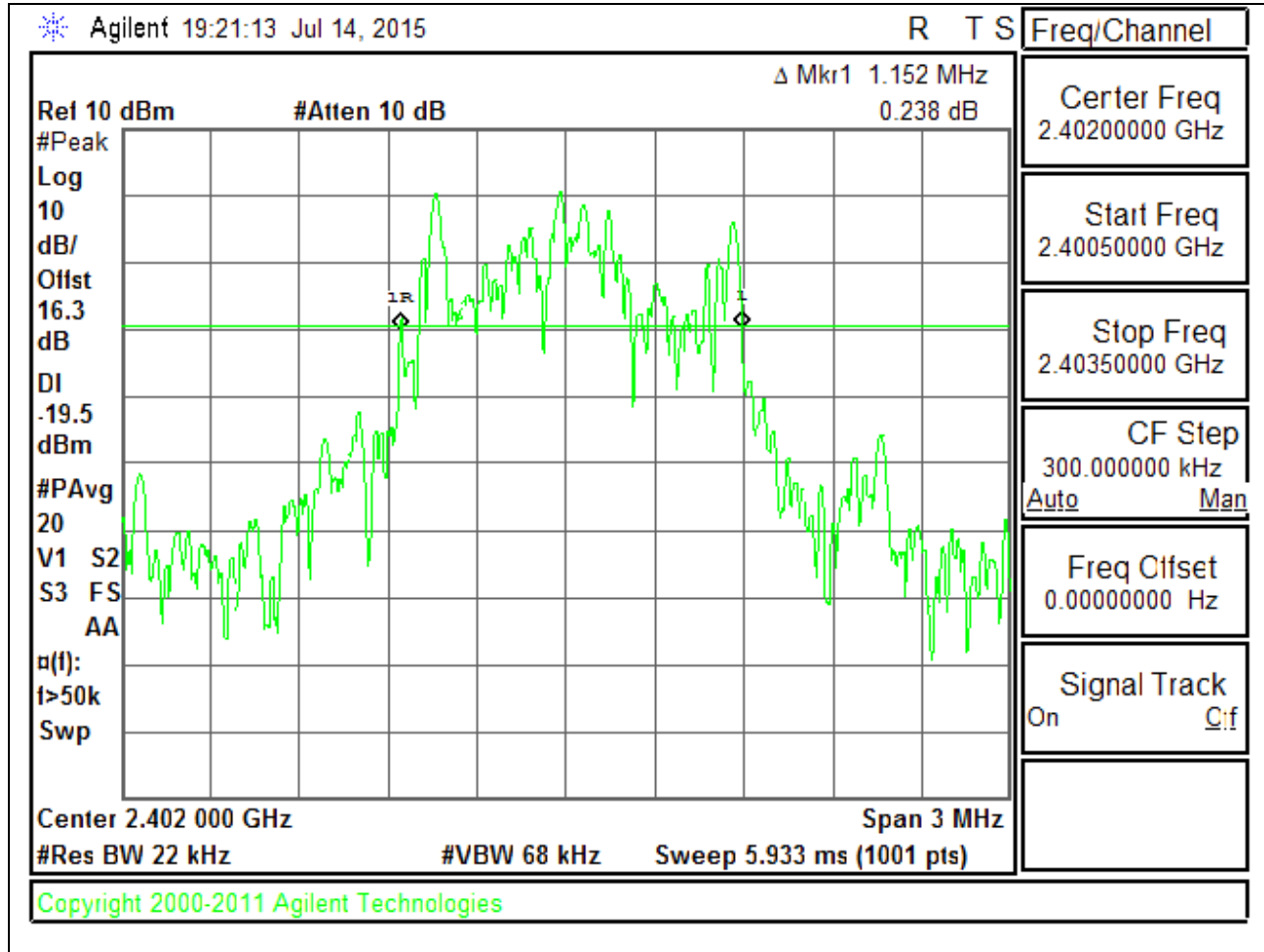


**HIGH CHANNEL**

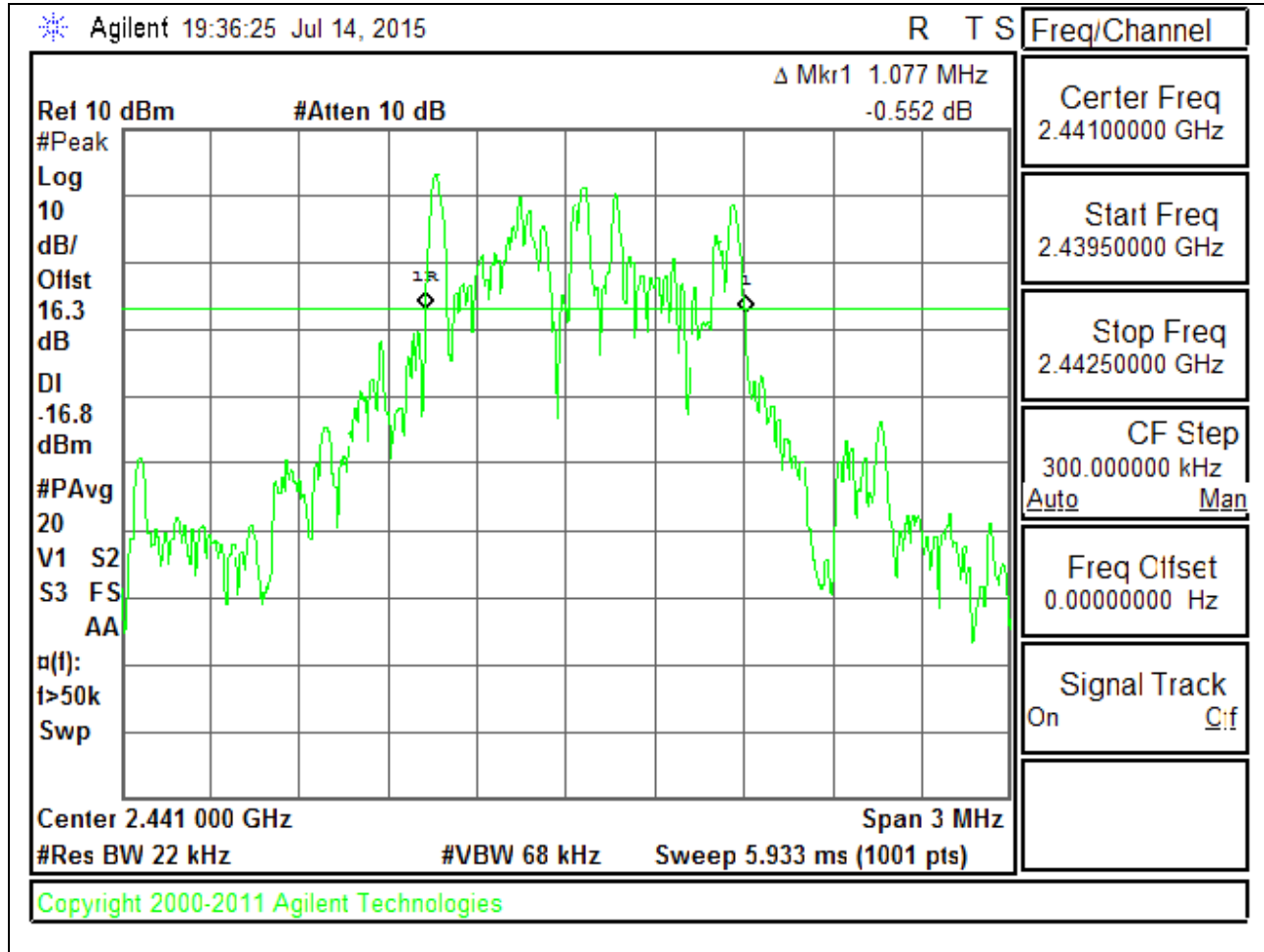
Agilent 19:13:06 Jul 14, 2015		R T	<b>Freq/Channel</b>
Ch Freq 2.48 GHz		Center Freq 2.48000000 GHz	
Occupied Bandwidth		Start Freq 2.47900000 GHz	
Rel 0 dBm # Samp Log 10 dB/ Offst 16.3 dB		Stop Freq 2.48100000 GHz	
		CF Step 200.000000 kHz Auto Man	
Center 2.480 000 GHz		Span 2 MHz	
#Res BW 30 kHz		#VBW 91 kHz	
#Sweep 100 ms (1001 pts)		Freq Offset 0.00000000 Hz	
<b>Occupied Bandwidth</b> 1.0027 MHz		Occ BW % Pwr 99.00 % x dB -20.00 dB	
Transmit Freq Error -11.434 kHz		Signal Track On Cif	
x dB Bandwidth 1.035 MHz*		Copyright 2000-2011 Agilent Technologies	

**8PSK 20 dB BANDWIDTH**

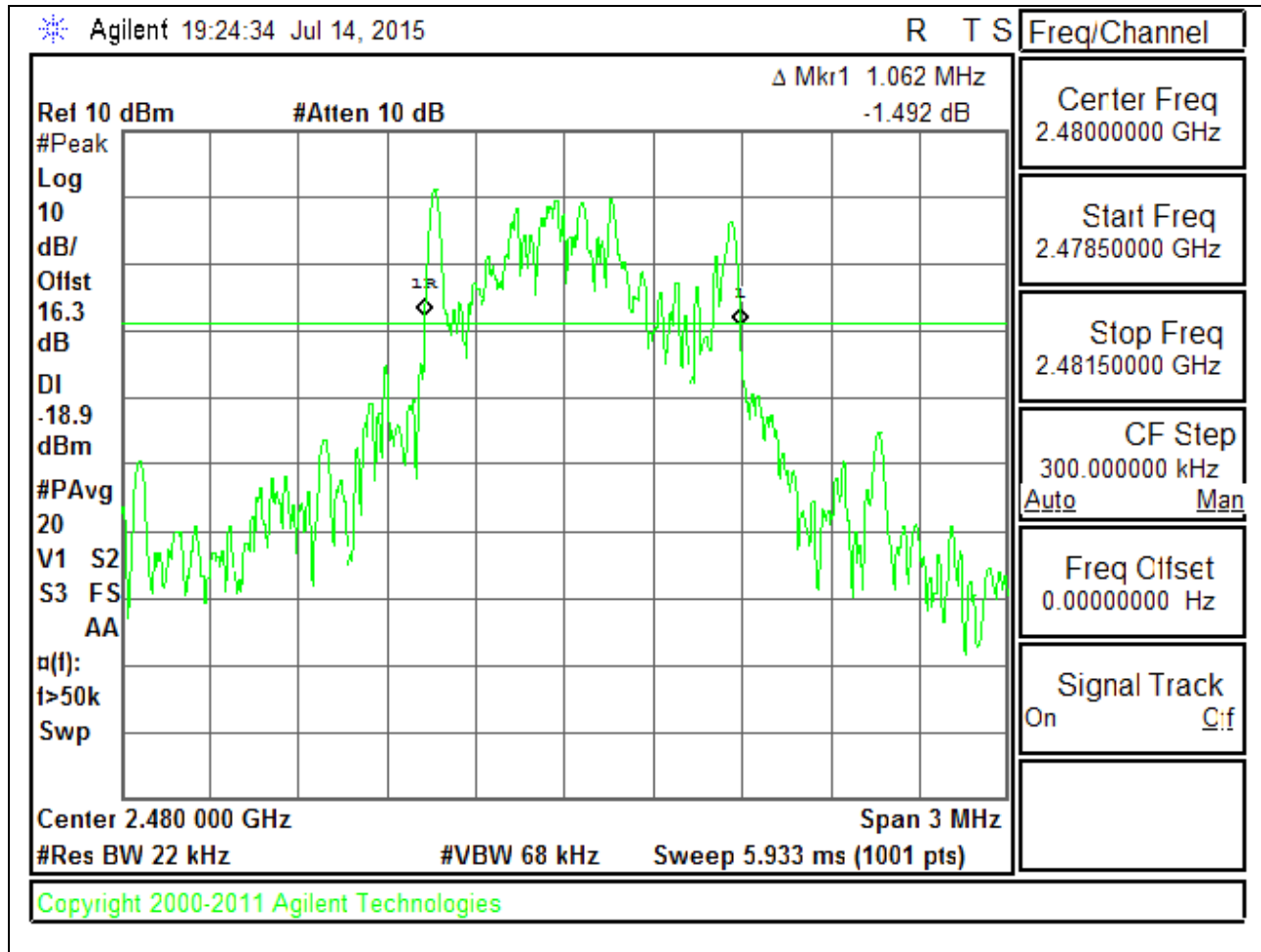
**LOW CHANNEL**



MID CHANNEL

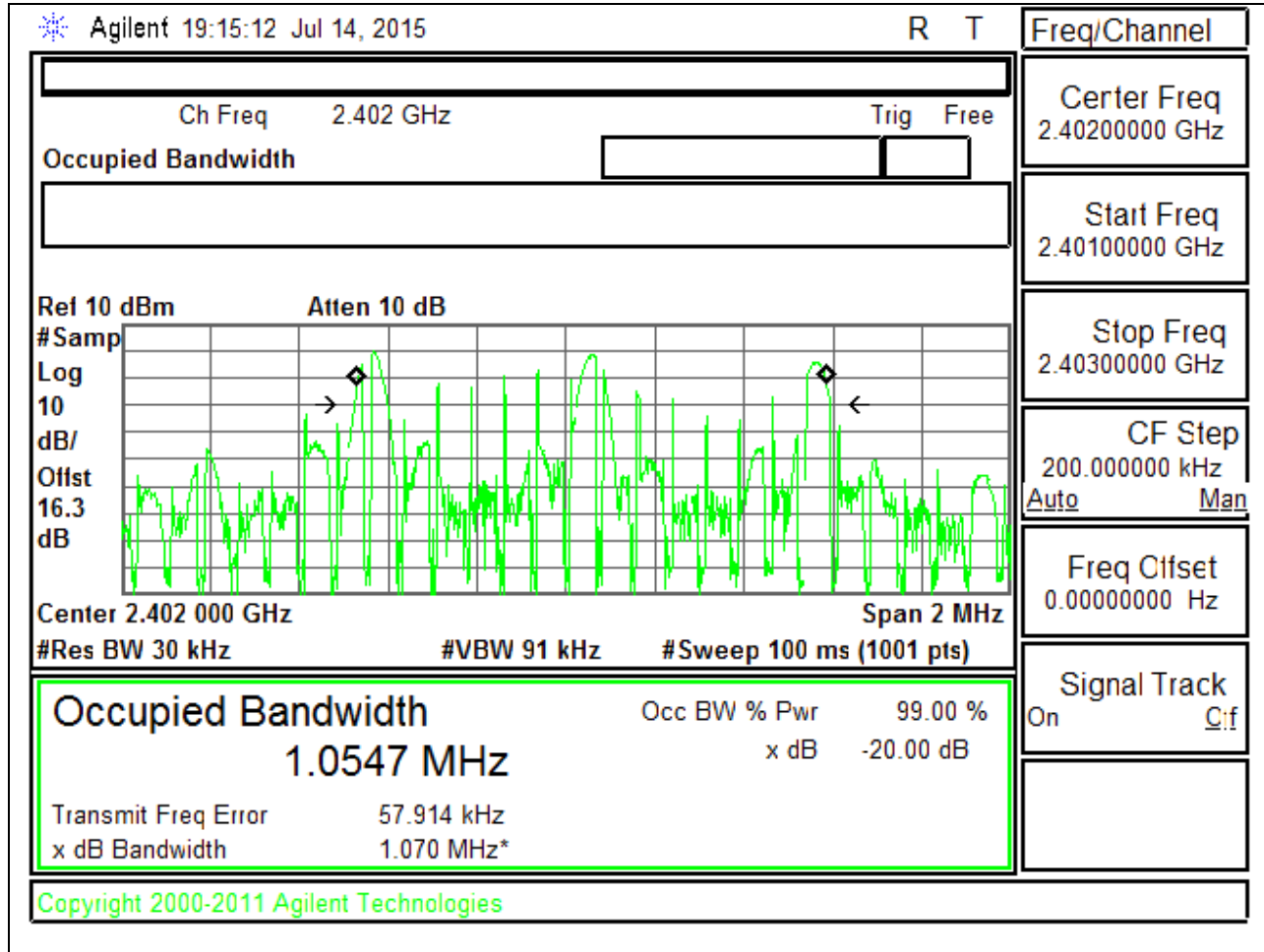


**HIGH CHANNEL**



**8PSK 99% BANDWIDTH**

**LOW CHANNEL**







**HIGH CHANNEL**

Agilent 19:13:38 Jul 14, 2015		R T	<b>Freq/Channel</b>
Ch Freq 2.48 GHz		Trig Free	
Occupied Bandwidth		Center Freq 2.48000000 GHz	
[Empty Field]		Start Freq 2.47900000 GHz	
[Empty Field]		Stop Freq 2.48100000 GHz	
[Empty Field]		CF Step 200.000000 kHz Auto Man	
[Empty Field]		Freq Offset 0.00000000 Hz	
[Empty Field]		Signal Track On Cif	
Rel 0 dBm      Atten 10 dB			
Center 2.480 000 GHz		Span 2 MHz	
#Res BW 30 kHz		#VBW 91 kHz      #Sweep 100 ms (1001 pts)	
<b>Occupied Bandwidth</b> 1.0558 MHz		Occ BW % Pwr      99.00 % x dB      -20.00 dB	
Transmit Freq Error      58.294 kHz x dB Bandwidth      1.072 MHz*			
Copyright 2000-2011 Agilent Technologies			

## **8.2. HOPPING FREQUENCY SEPARATION**

### **LIMIT**

FCC §15.247 (a) (1)

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.

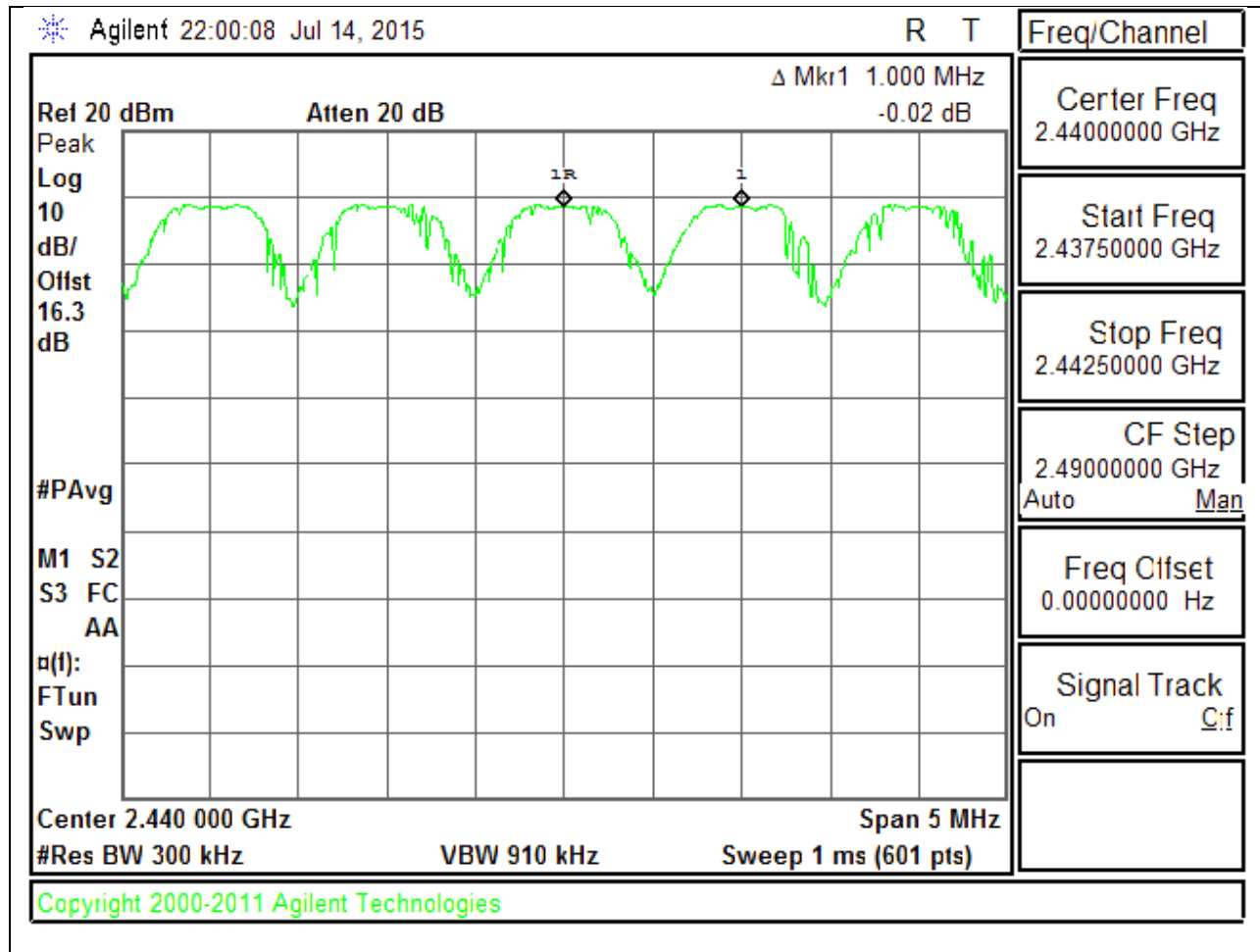
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than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

**HOPPING FREQUENCY SEPARATION PLOT**



### **8.3. NUMBER OF HOPPING CHANNELS**

#### **LIMIT**

FCC §15.247 (a) (1) (iii)

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

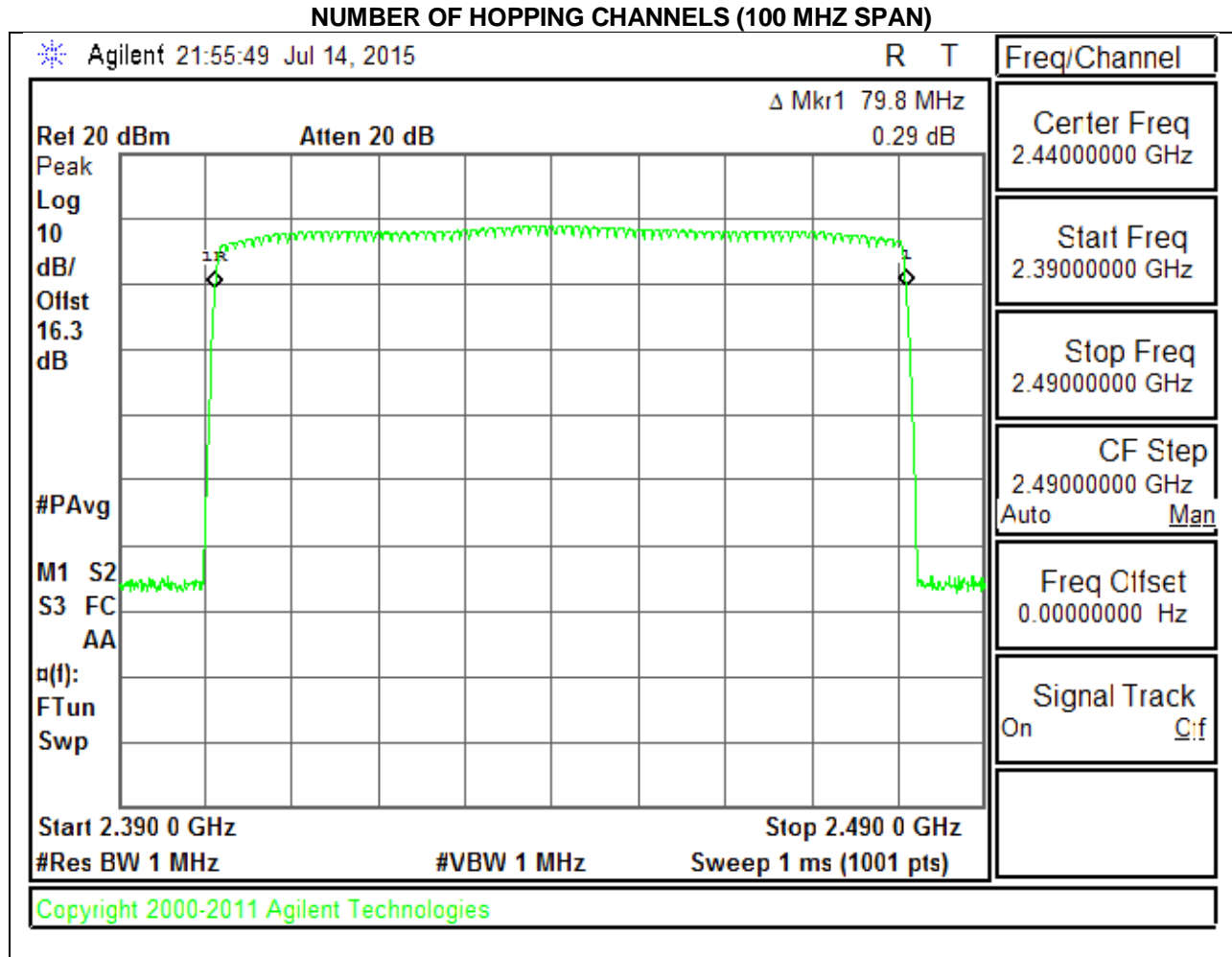
#### **TEST PROCEDURE**

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.

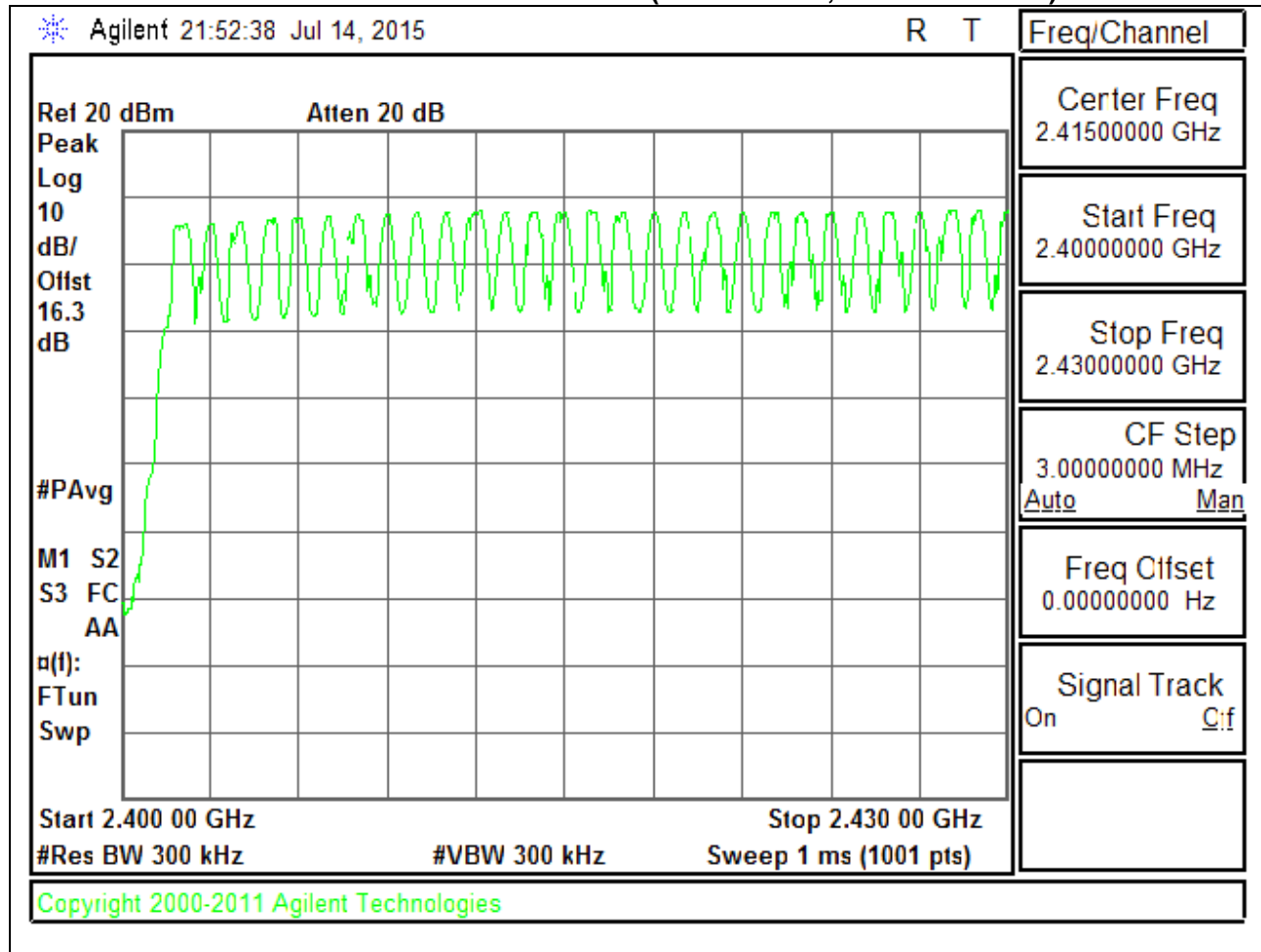
#### **RESULTS**

Normal Mode: 79 Channels observed.

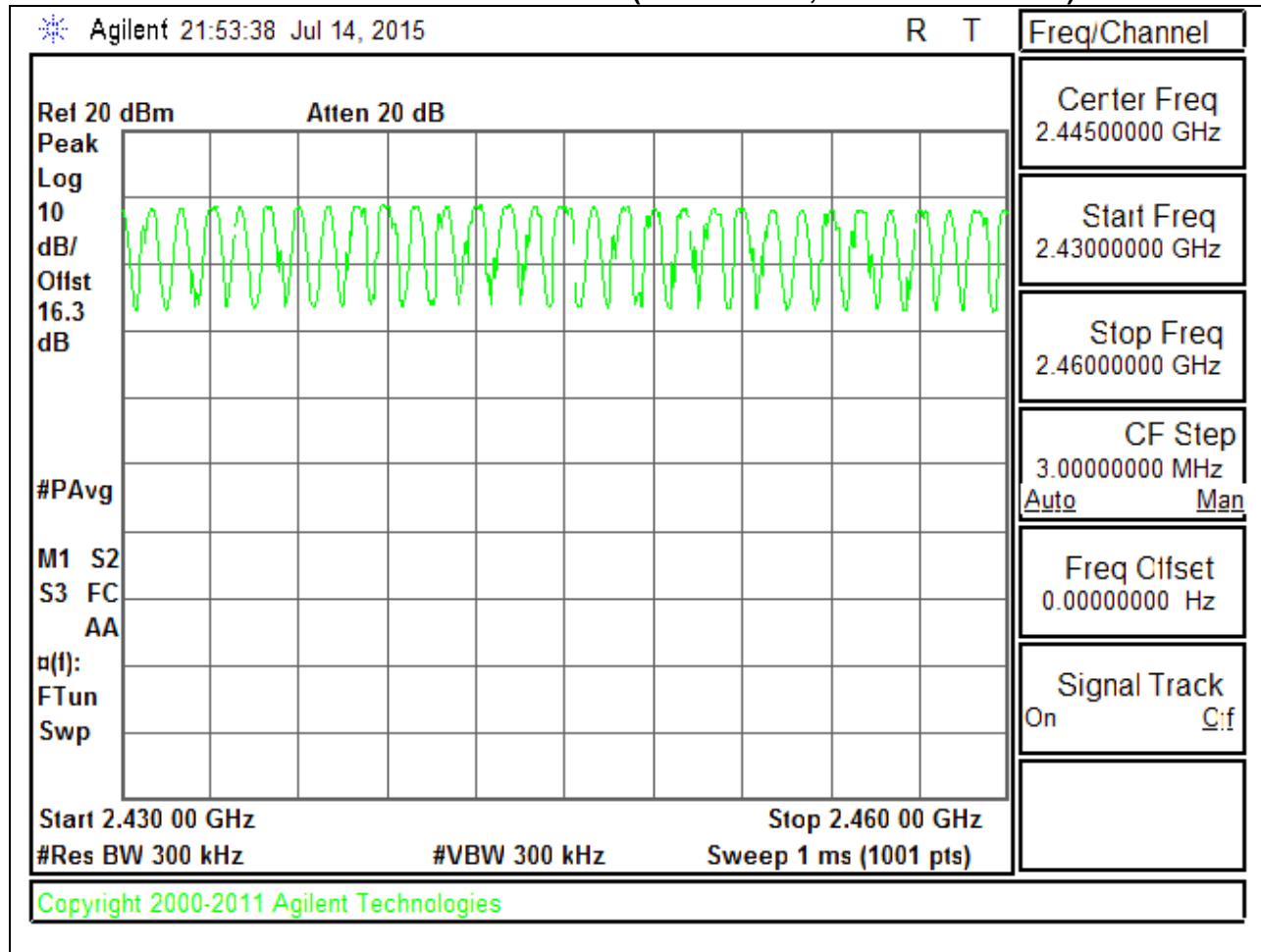
**NUMBER OF HOPPING CHANNELS PLOTS**



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

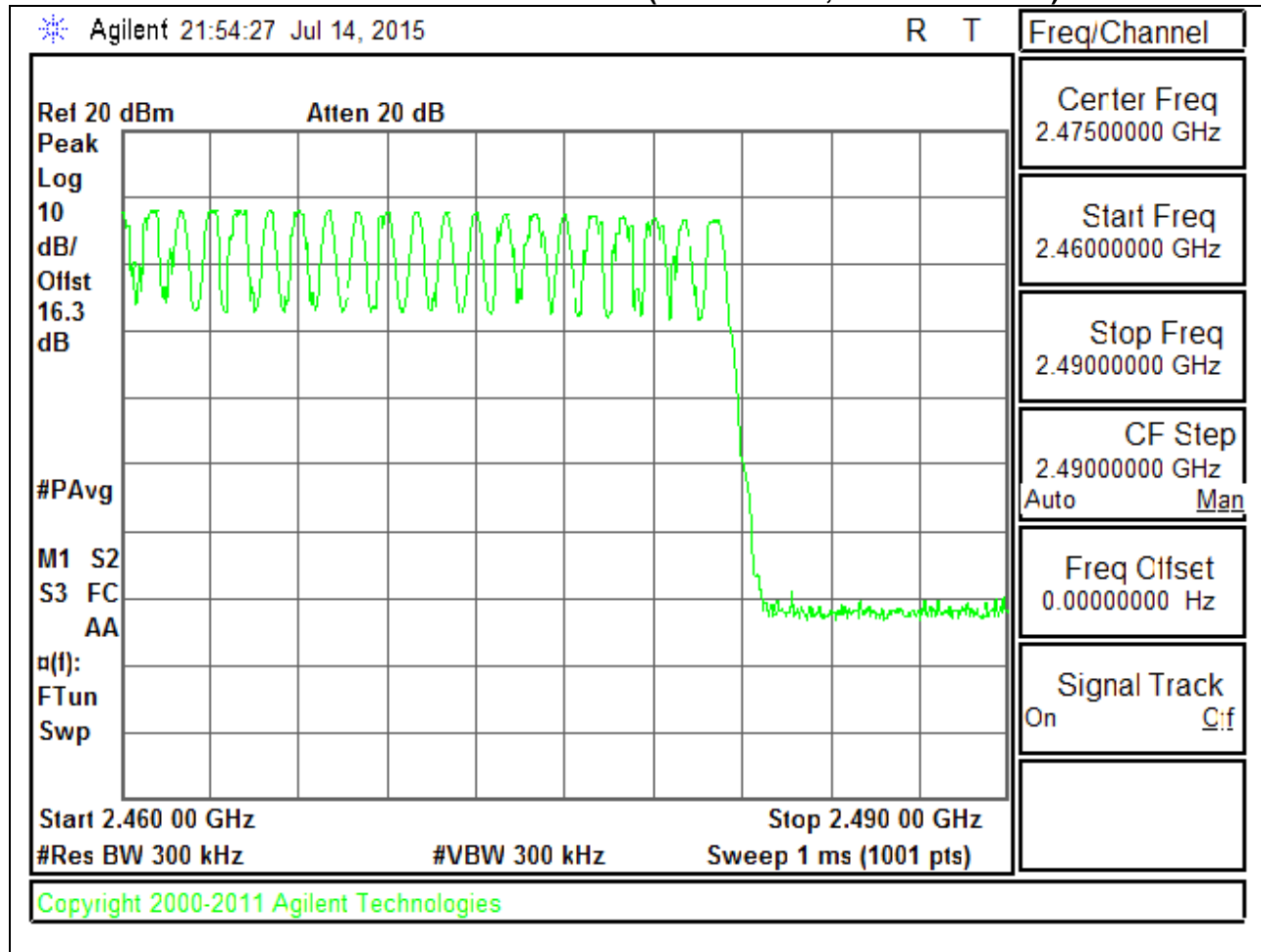


**NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, SECOND SEGMENT)**





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



## 8.4. AVERAGE TIME OF OCCUPANCY

### LIMIT

FCC §15.247 (a) (1) (iii)

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.

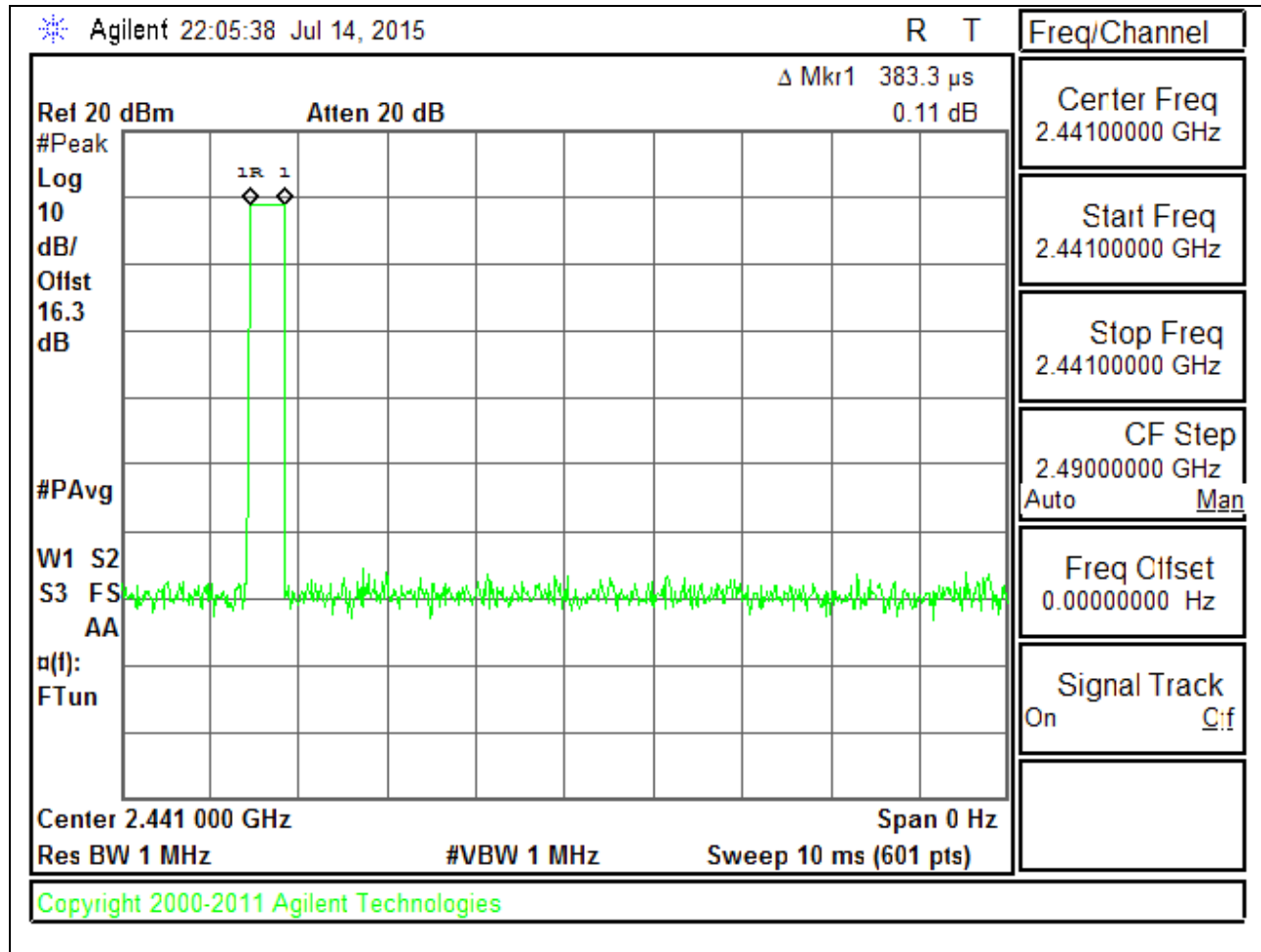
The average time of occupancy in the specified 31.6 second period (79 channels \* 0.4 s) is equal to 10 \* (# of pulses in 3.16 s) \* pulse width.

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

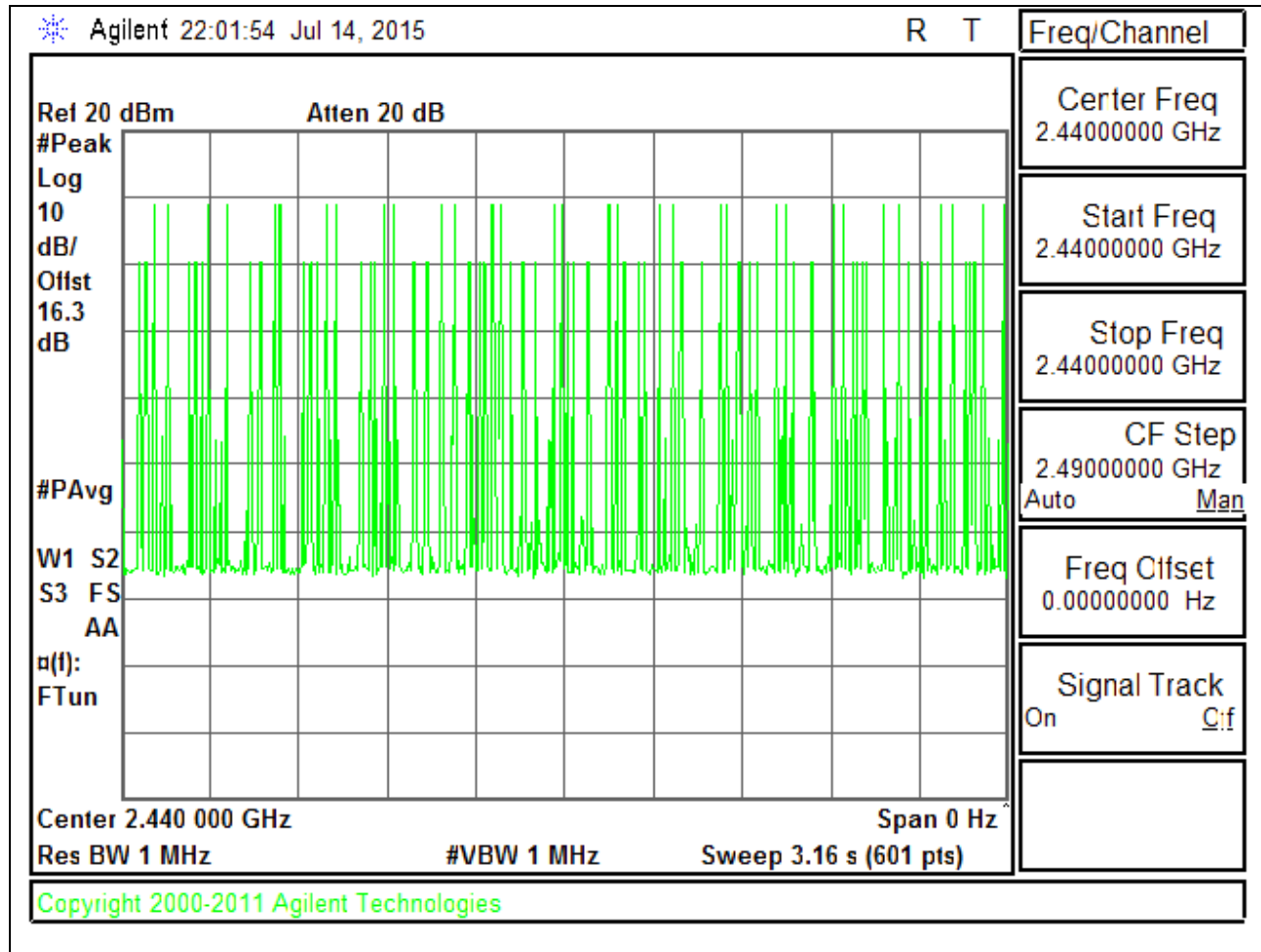
### RESULTS

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
<b>GFSK Normal Mode</b>					
DH1	0.3833	31	0.118823	0.4	-0.28118
DH3	1.598	15	0.2397	0.4	-0.1603
DH5	2.788	8	0.22304	0.4	-0.17696
<b>GFSK AFH Mode</b>					
DH Packet	Pulse Width (msec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
DH1	0.3833	7.75	0.02970575	0.4	-0.37029
DH3	1.598	3.75	0.059925	0.4	-0.34008
DH5	2.788	2	0.05576	0.4	-0.34424

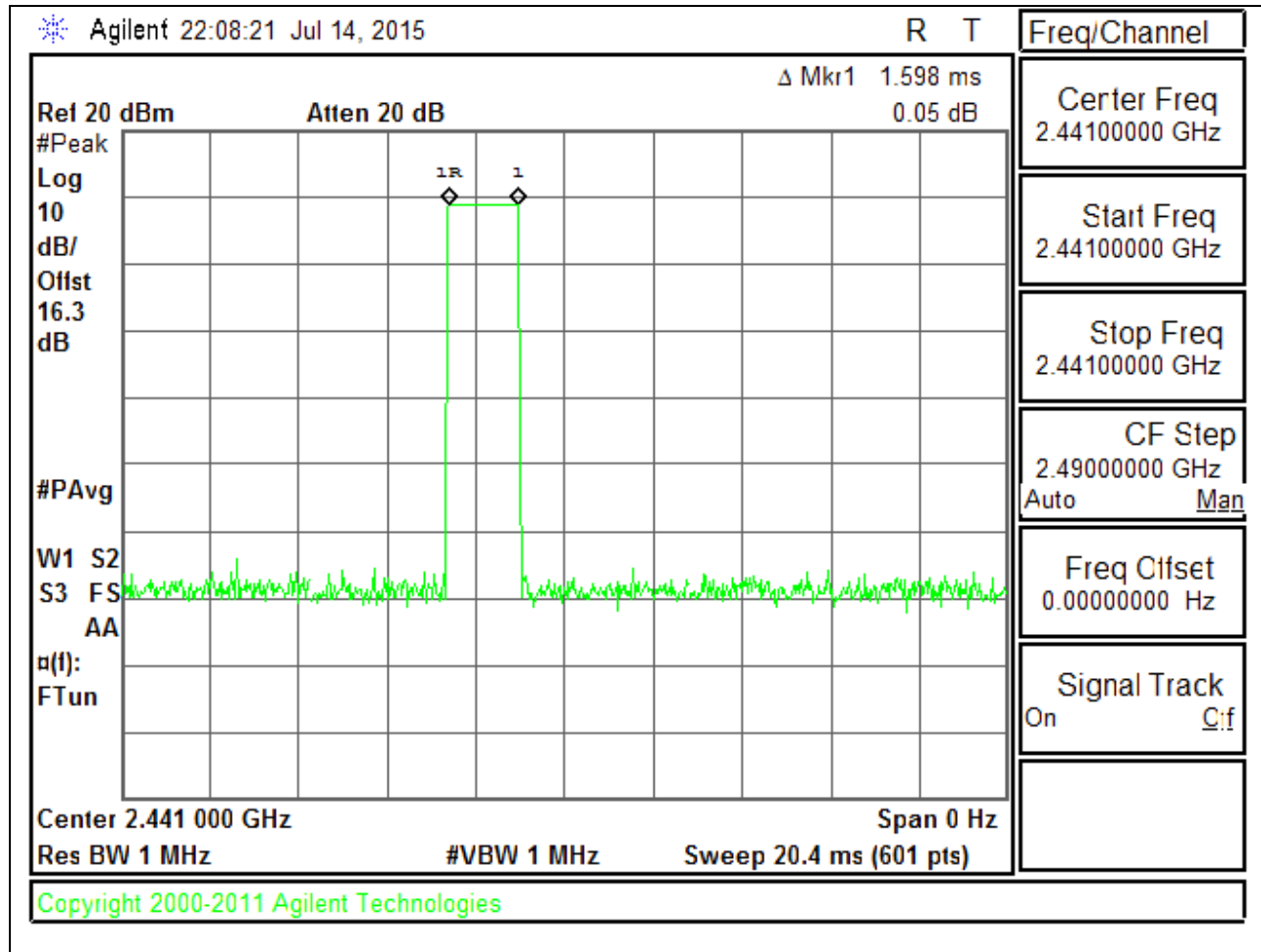
**PULSE WIDTH - DH1**



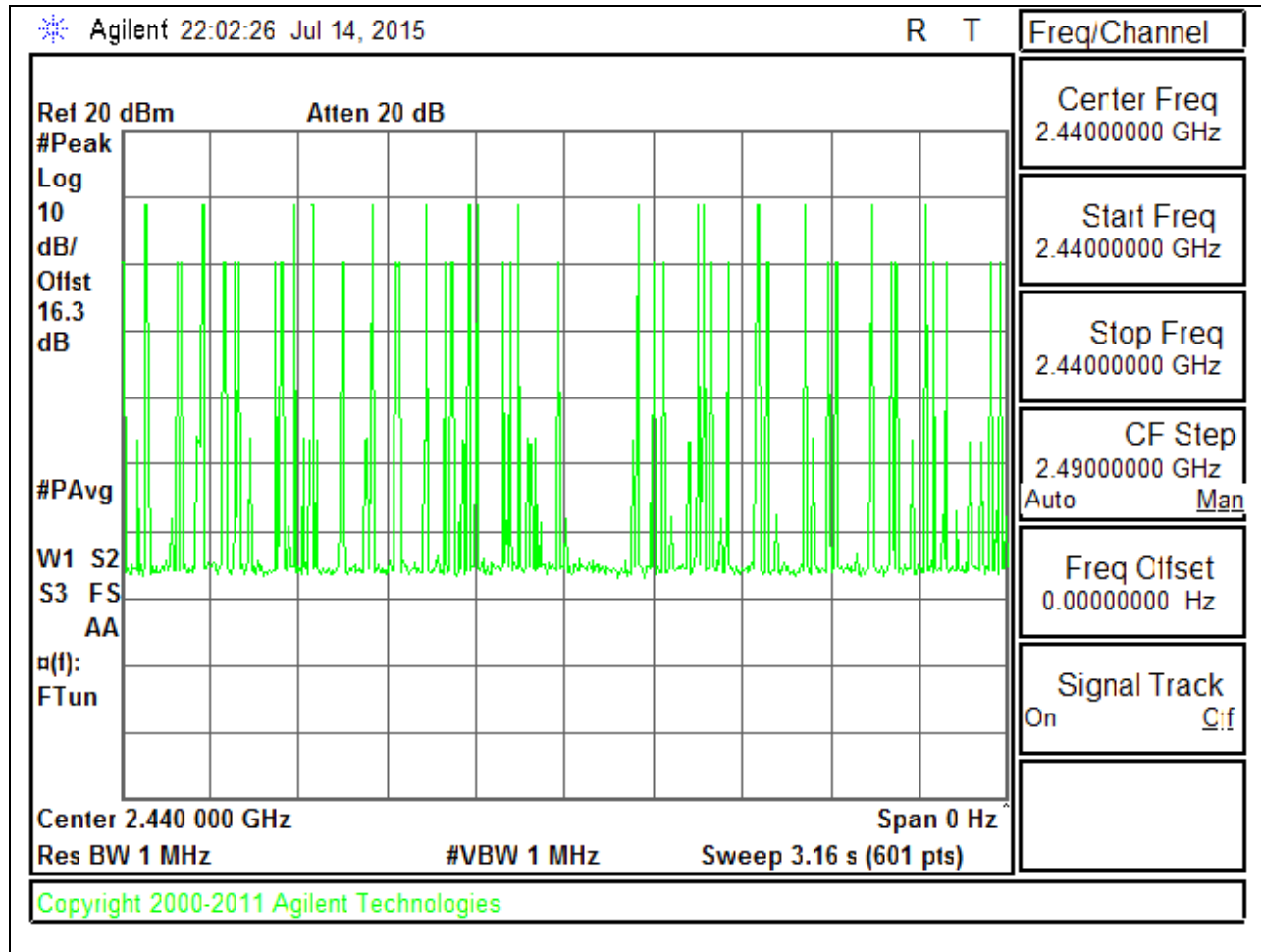
**NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH1**



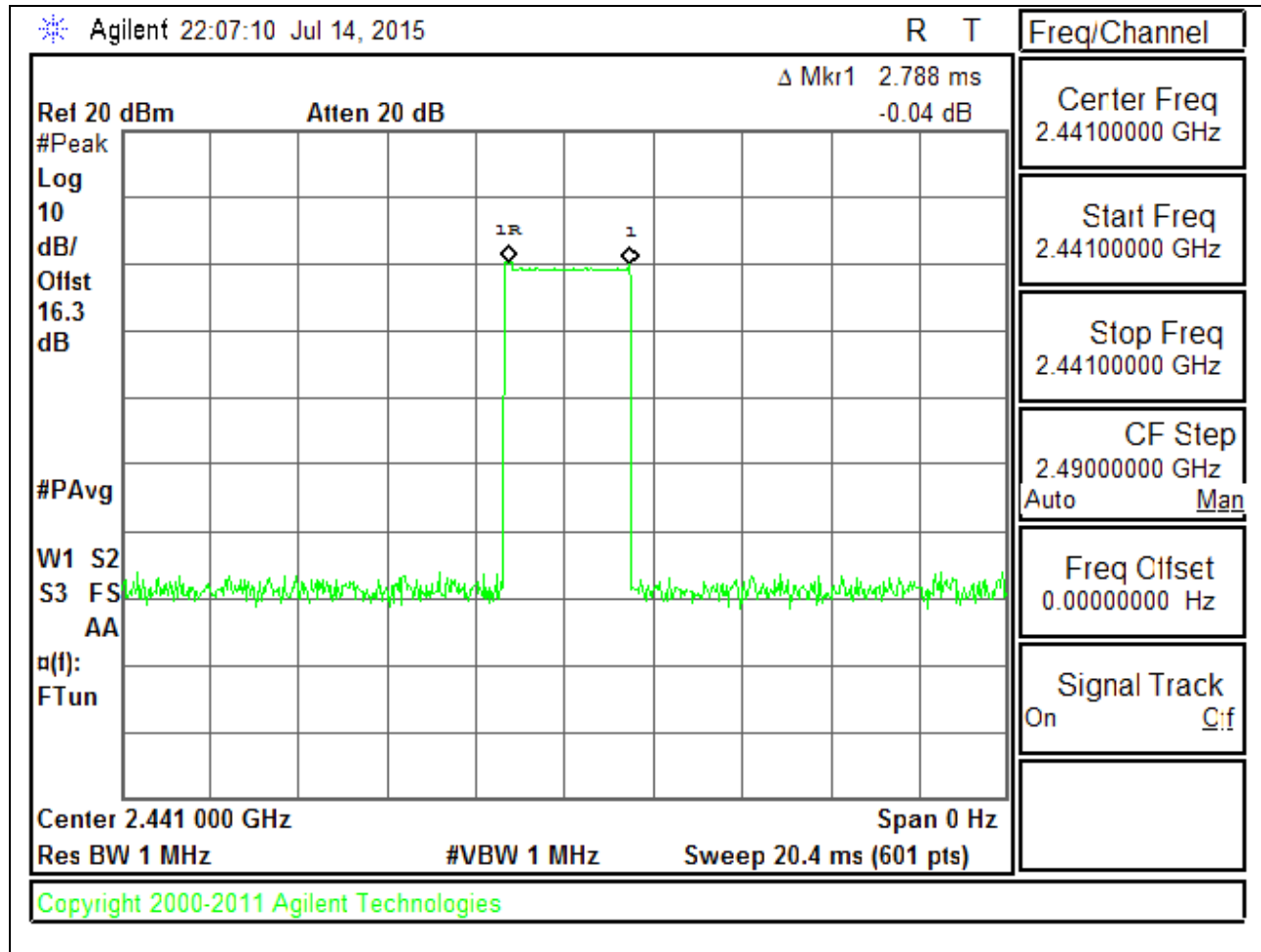
**PULSE WIDTH - DH3**



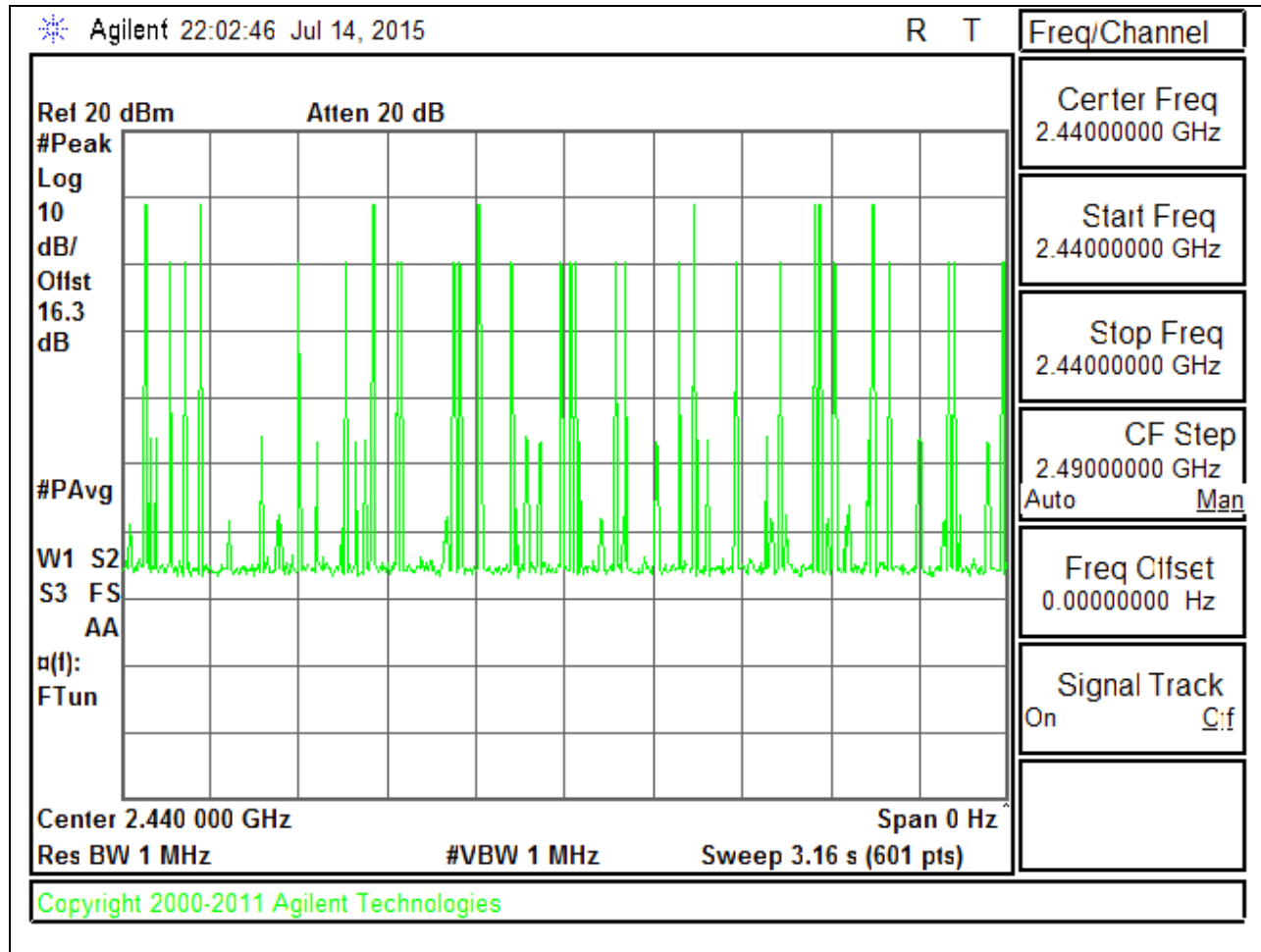
**NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH3**



**PULSE WIDTH - DH5**



**NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH5**





## 8.5. OUTPUT POWER

### LIMIT

§15.247 (b) (1)

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	6.22	21	-14.78
Middle	2441	9.06	21	-11.94
High	2480	6.91	21	-14.09
Worst		9.06		-11.94

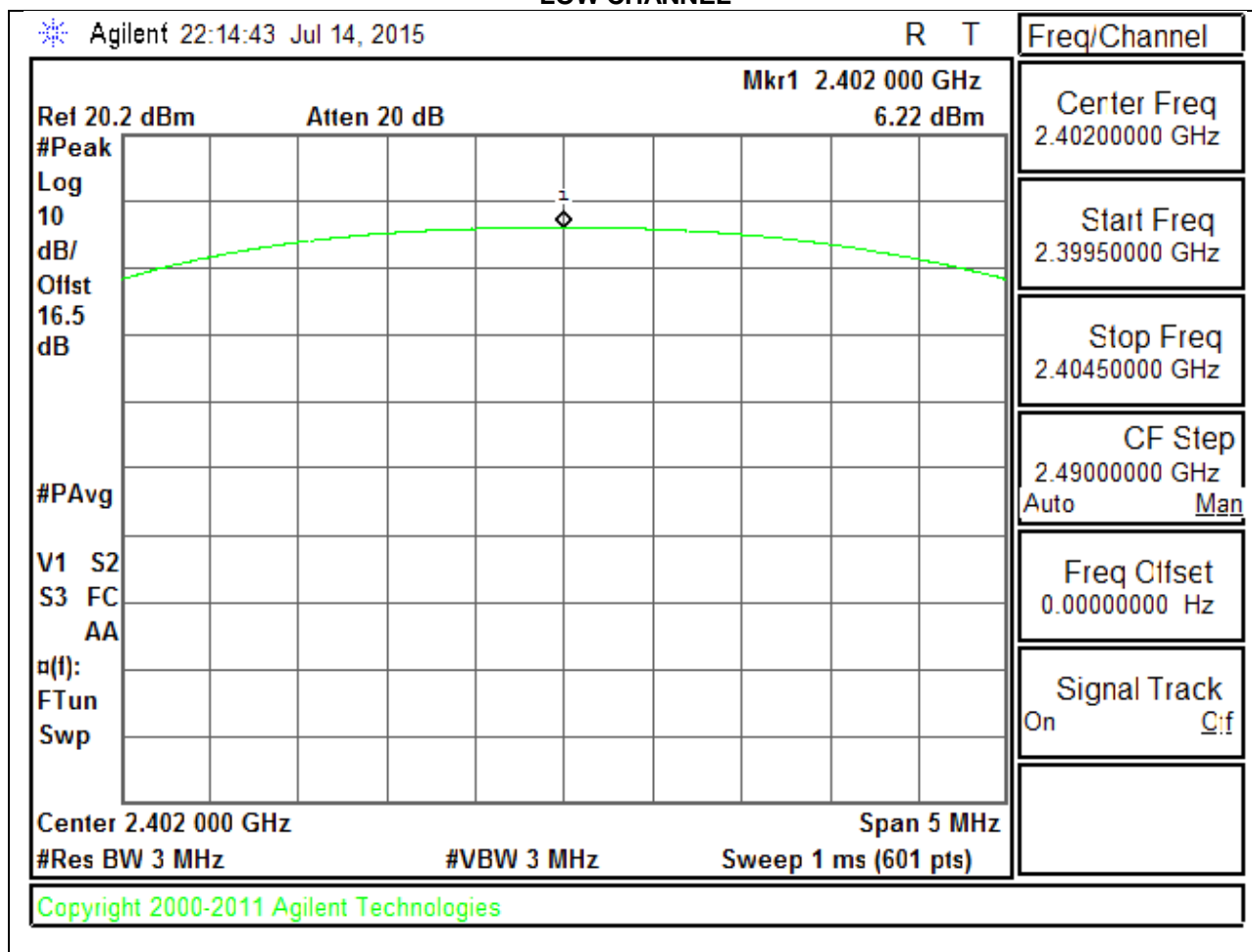
#### 8.5.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	5.70	21	-15.3
Middle	2441	8.58	21	-12.42
High	2480	6.40	21	-14.6
Worst		8.58		-12.42

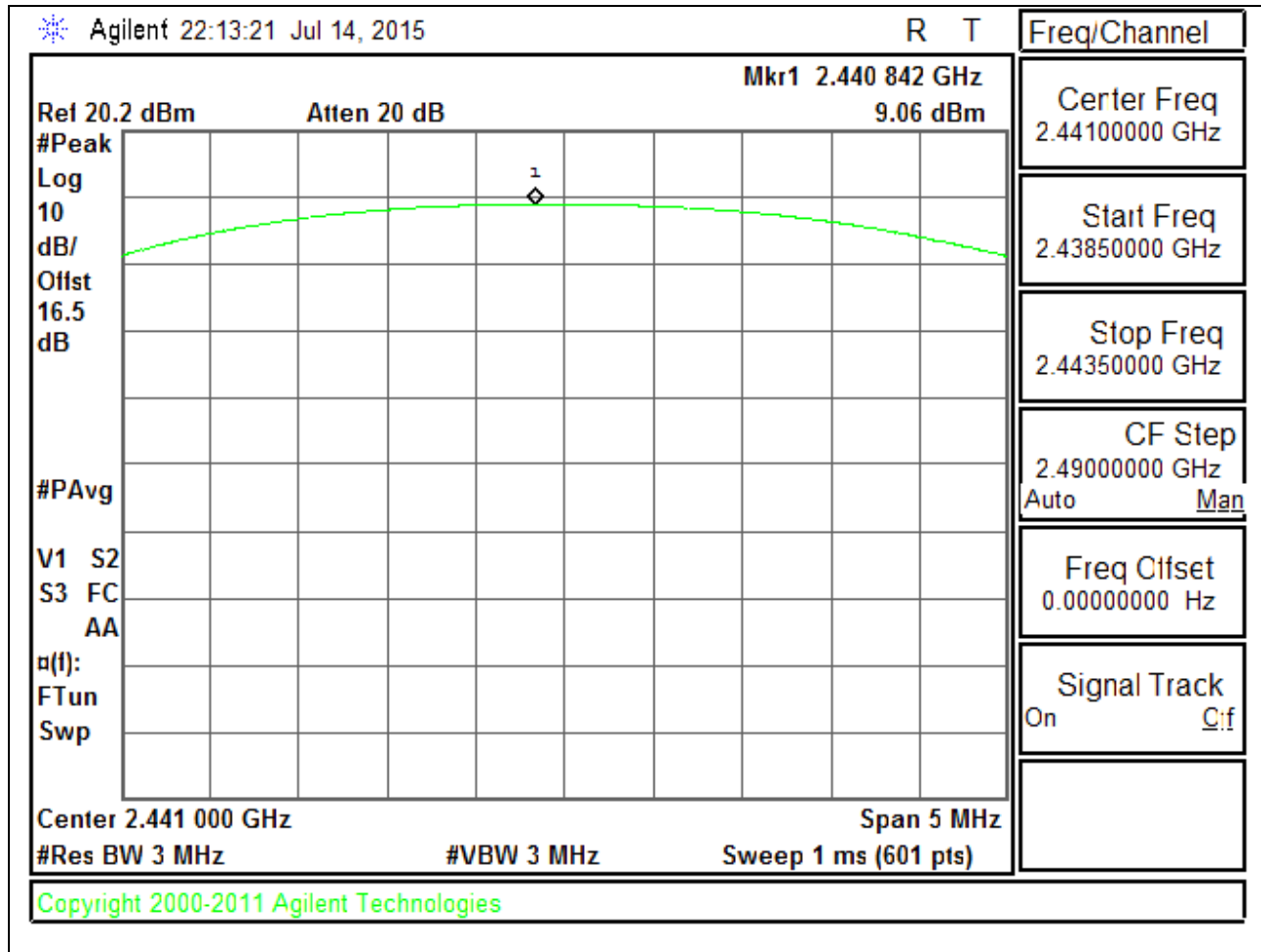
### 8.5.3. OUTPUT POWER PLOTS

#### GFSK OUTPUT POWER

#### LOW CHANNEL



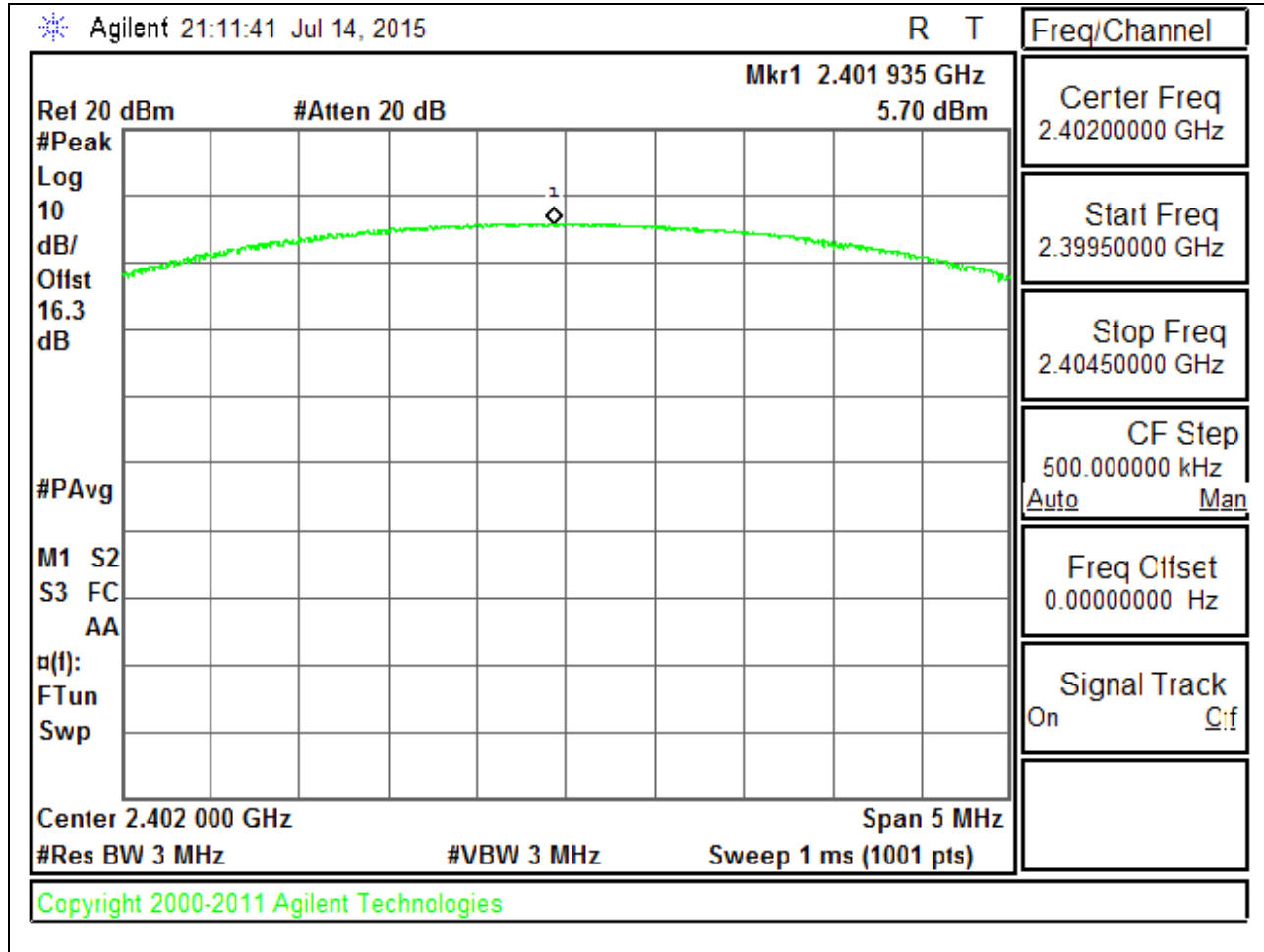
MID CHANNEL



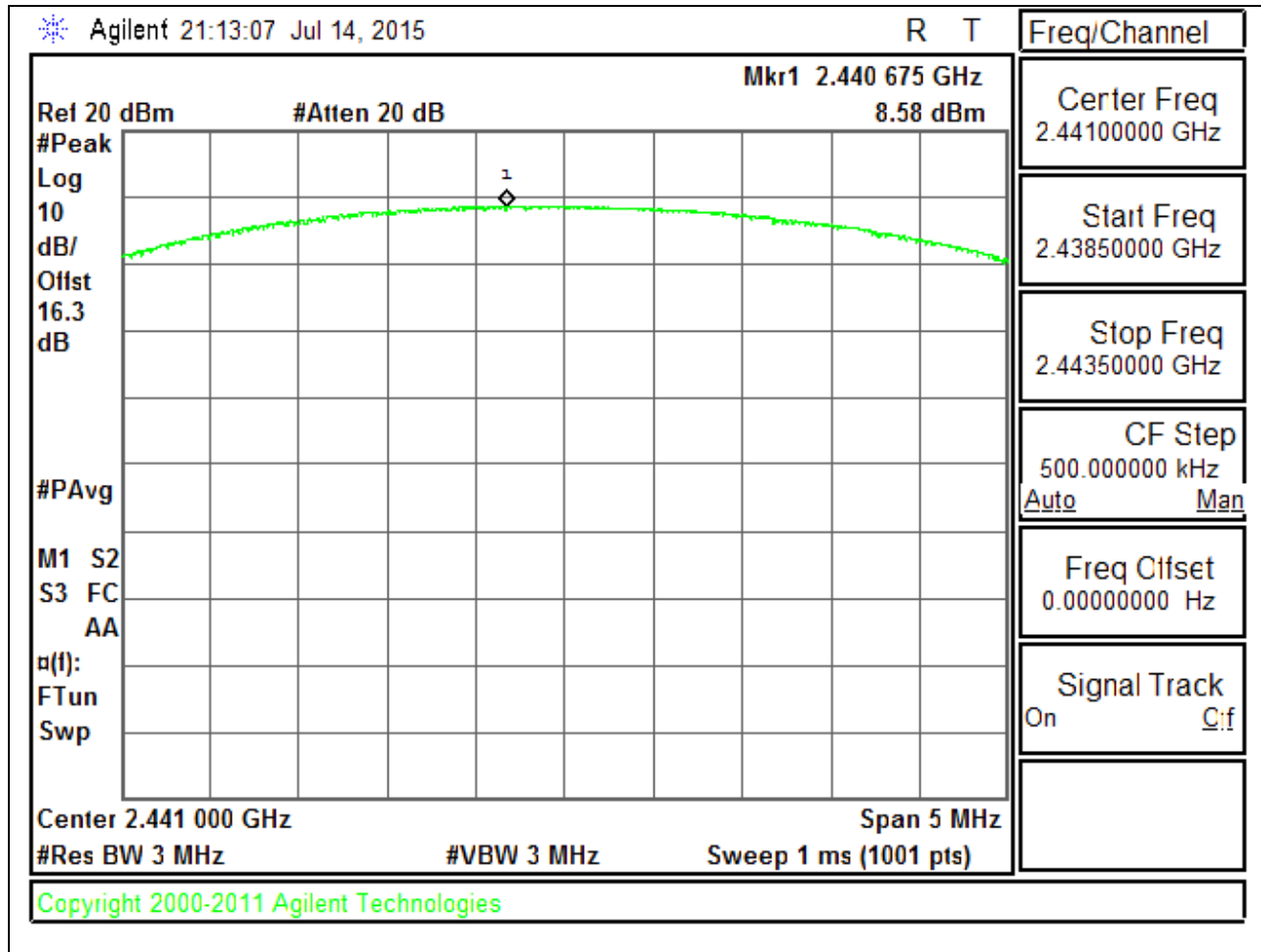


**8PSK OUTPUT POWER**

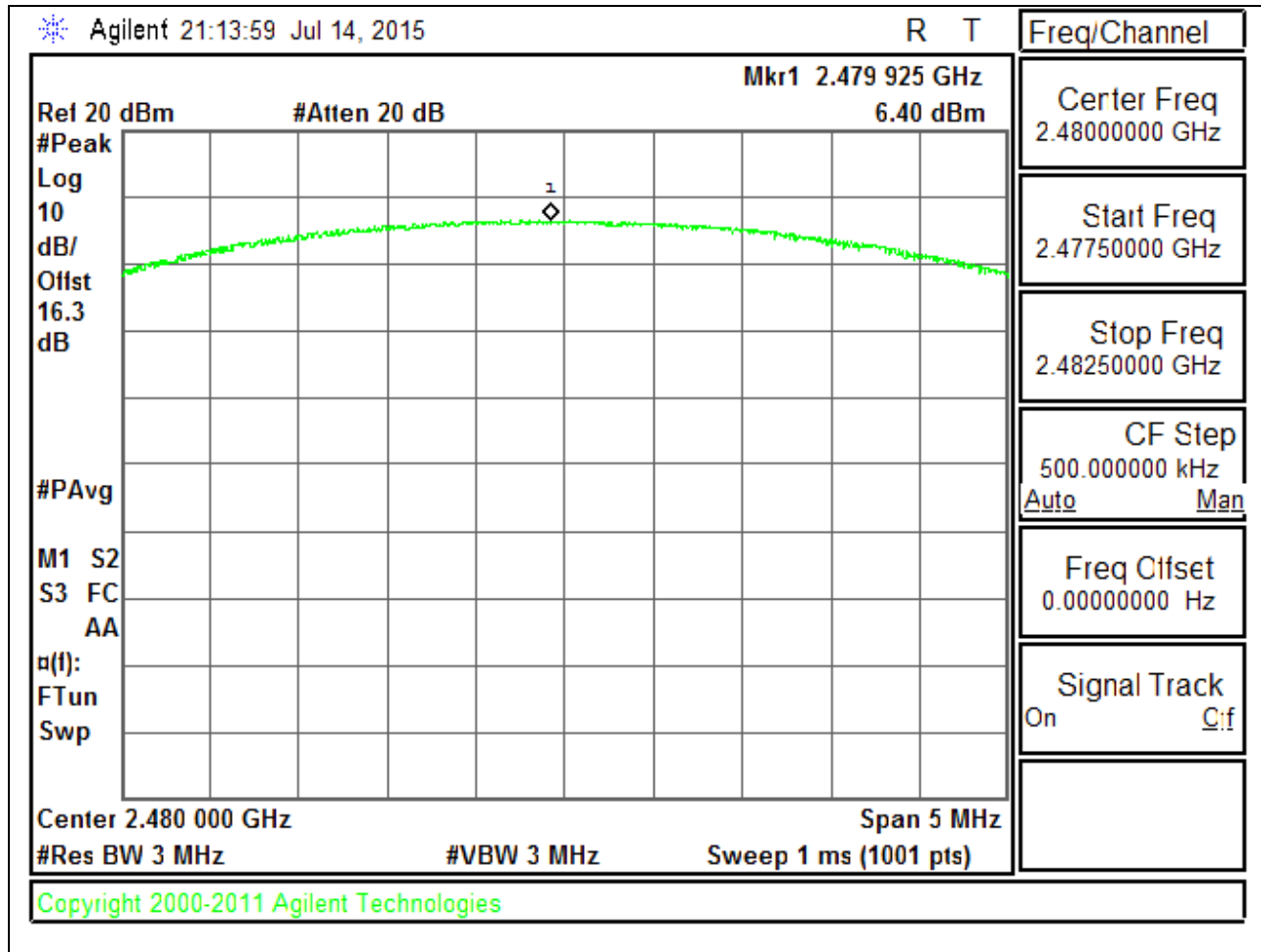
**LOW CHANNEL**



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	6.1
Middle	2441	8.8
High	2480	6.9
Worst		8.8

### 8.6.2. DATA RATE PI/4-DQPSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	3.9
Middle	2441	6.1
High	2480	4.2
Worst		6.1

### 8.6.3. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	3.8
Middle	2441	6.2
High	2480	4.3
Worst		6.2

## **8.7. CONDUCTED SPURIOUS EMISSIONS**

### **LIMITS**

FCC §15.247 (d)

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.

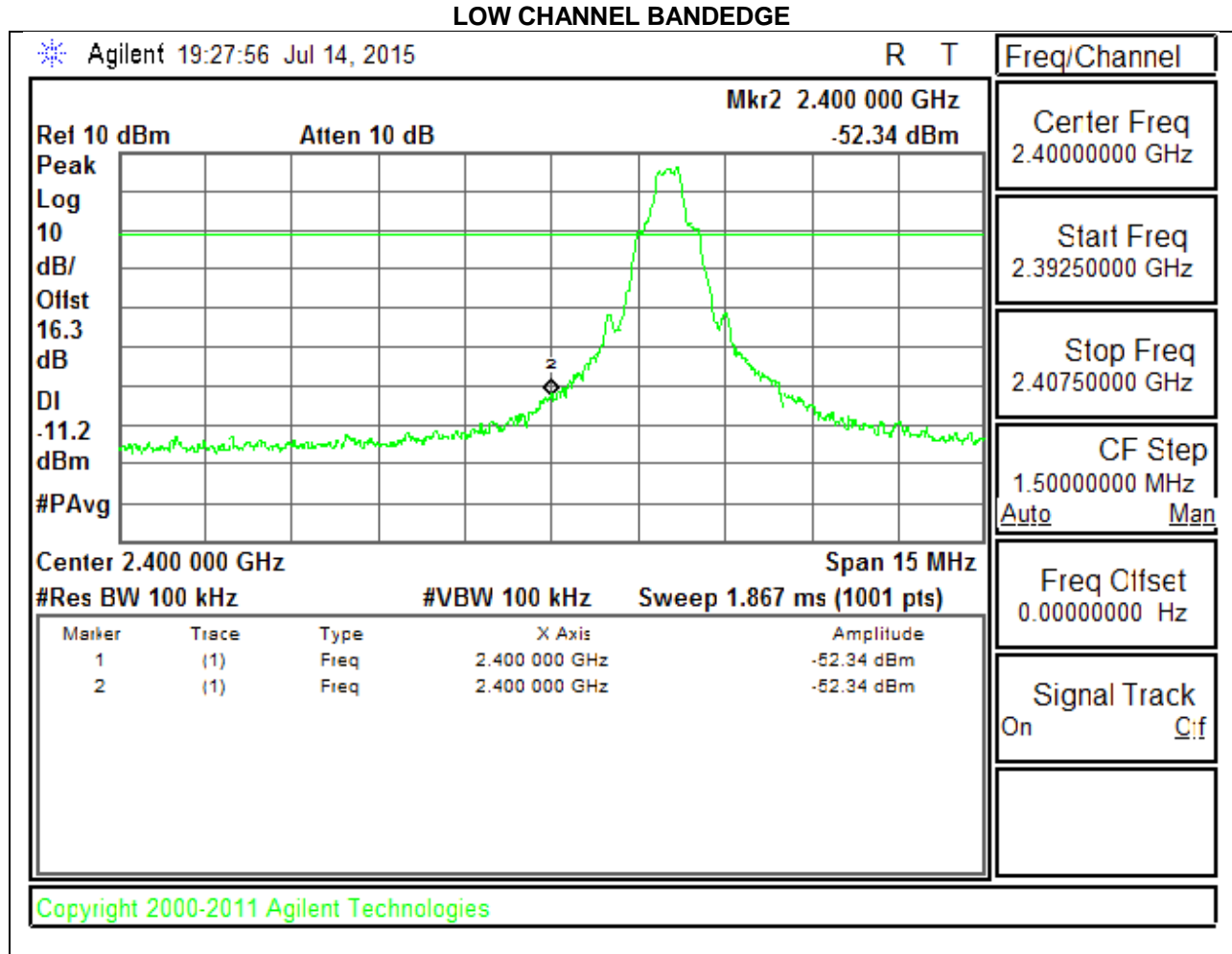
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

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

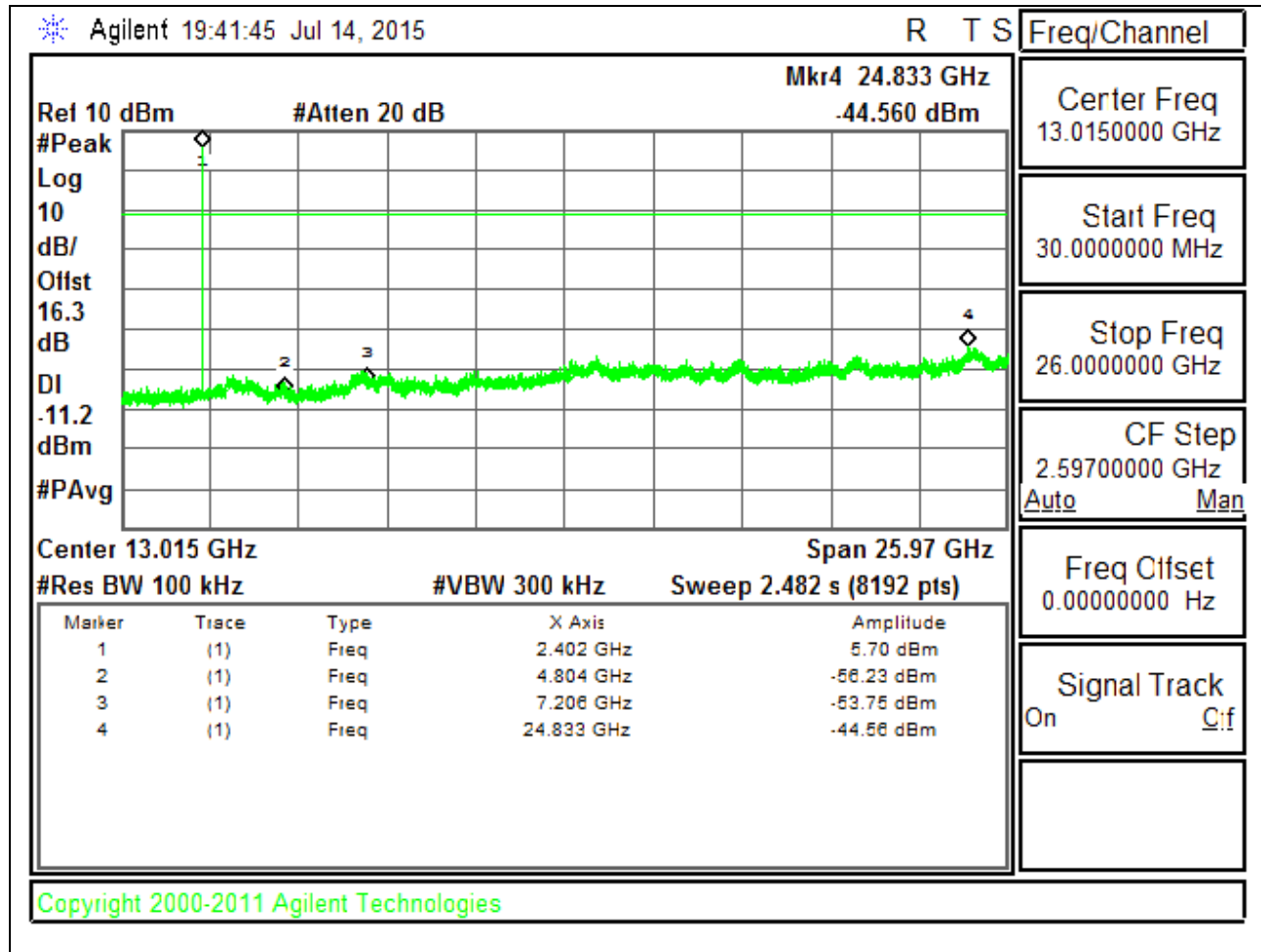
### **RESULTS**

### 8.7.1. BASIC DATA RATE GFSK MODULATION

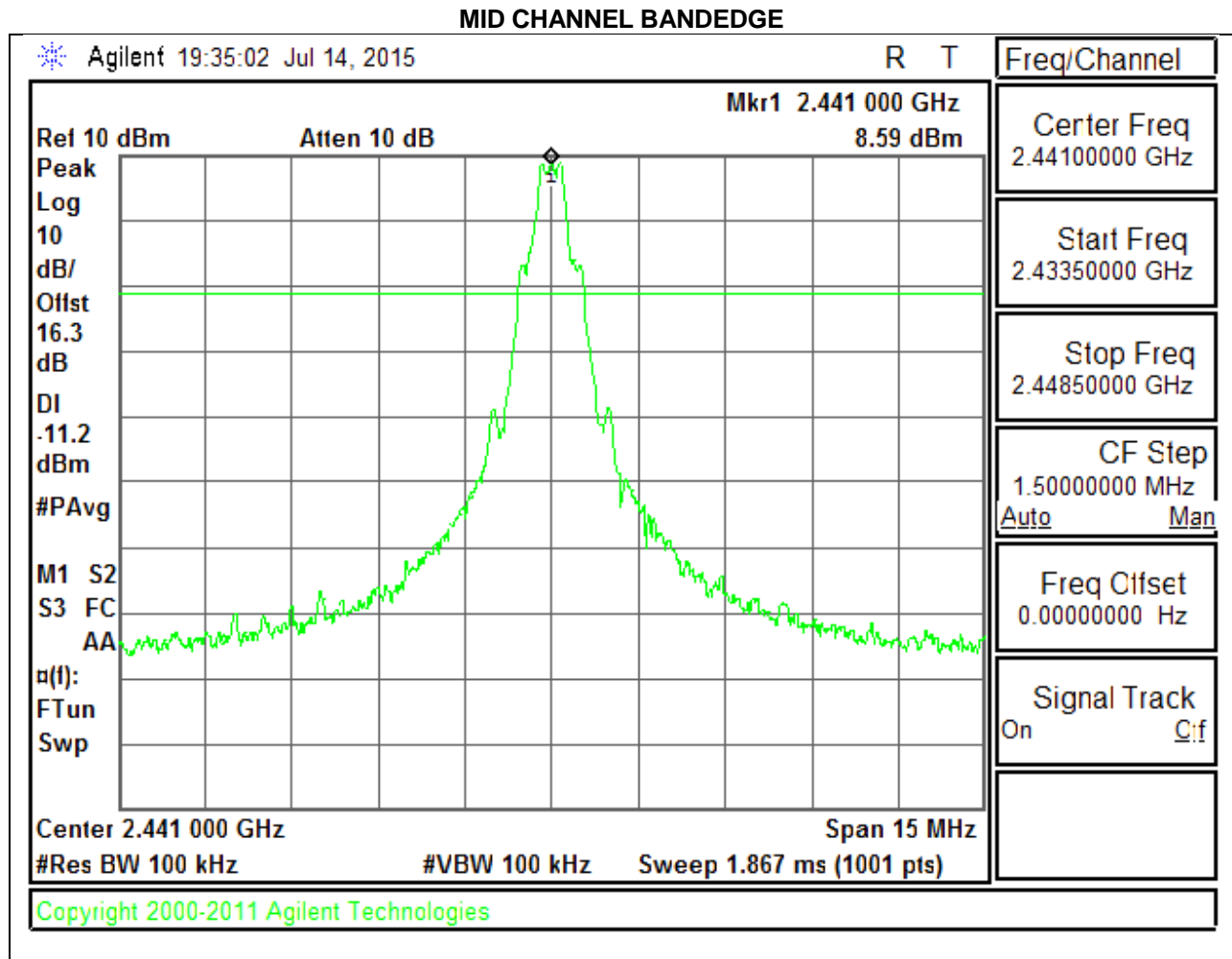
#### SPURIOUS EMISSIONS, LOW CHANNEL



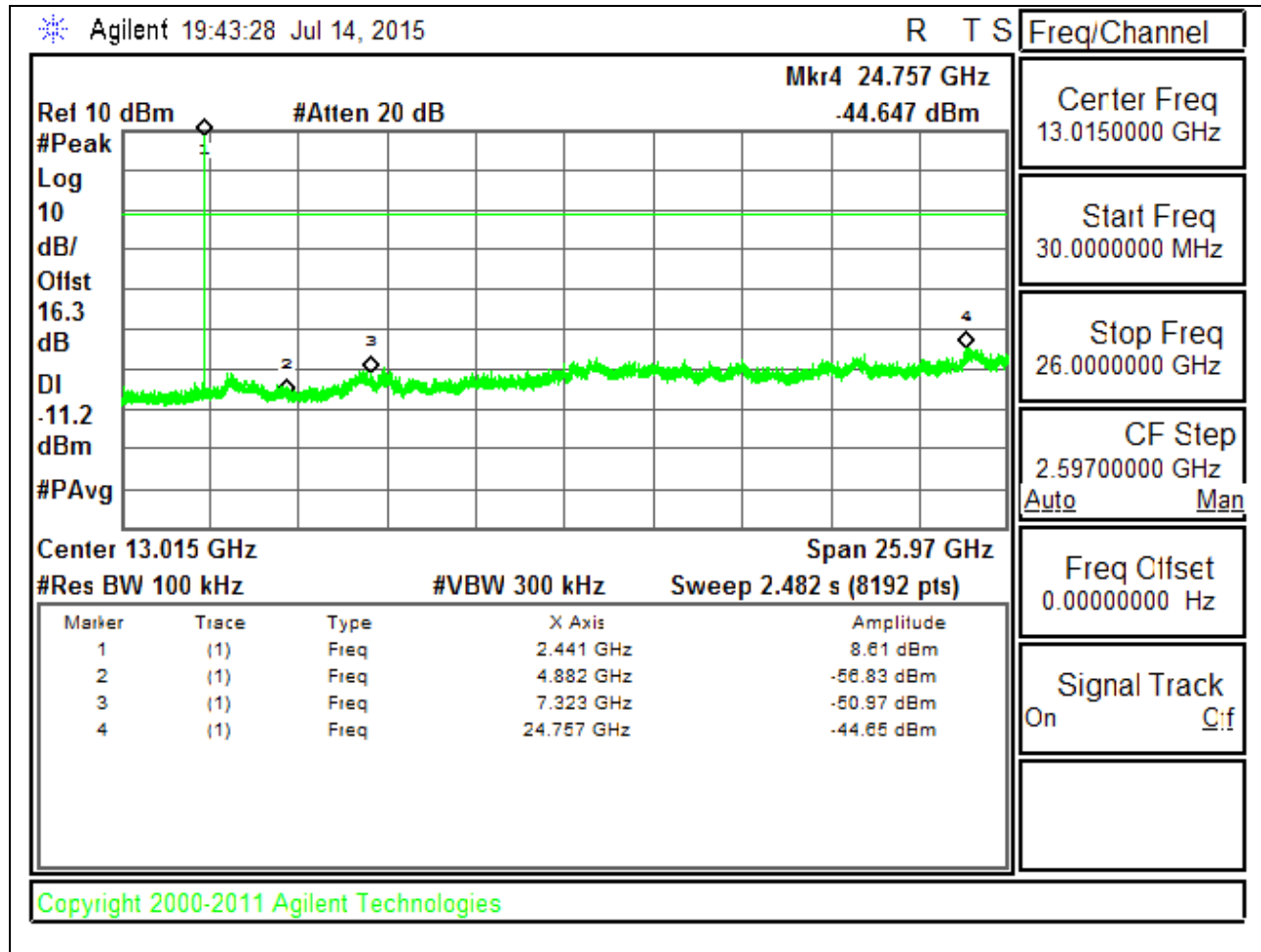
**LOW CHANNEL SPURIOUS**



**SPURIOUS EMISSIONS, MID CHANNEL**

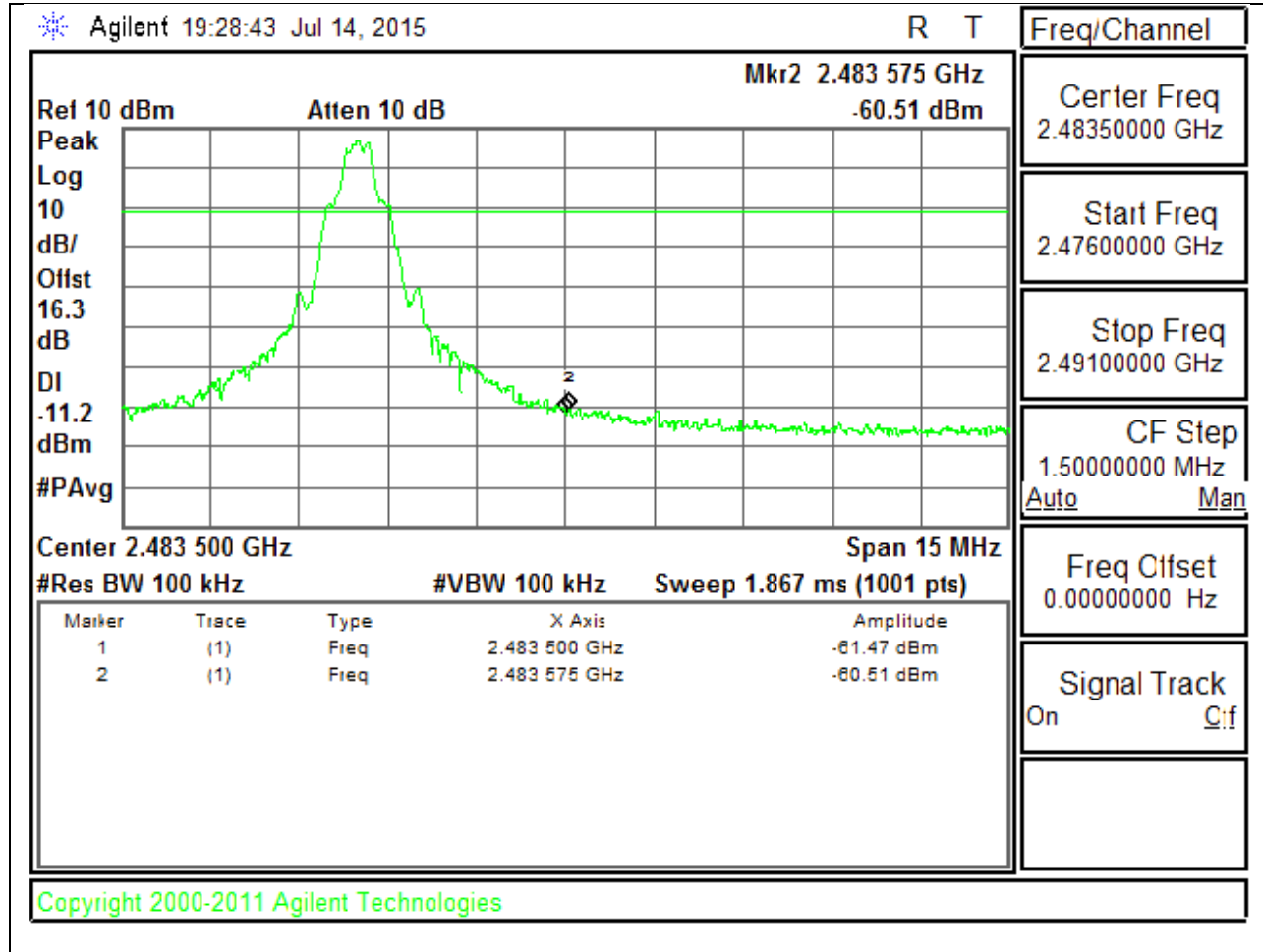


**MID CHANNEL SPURIOUS**

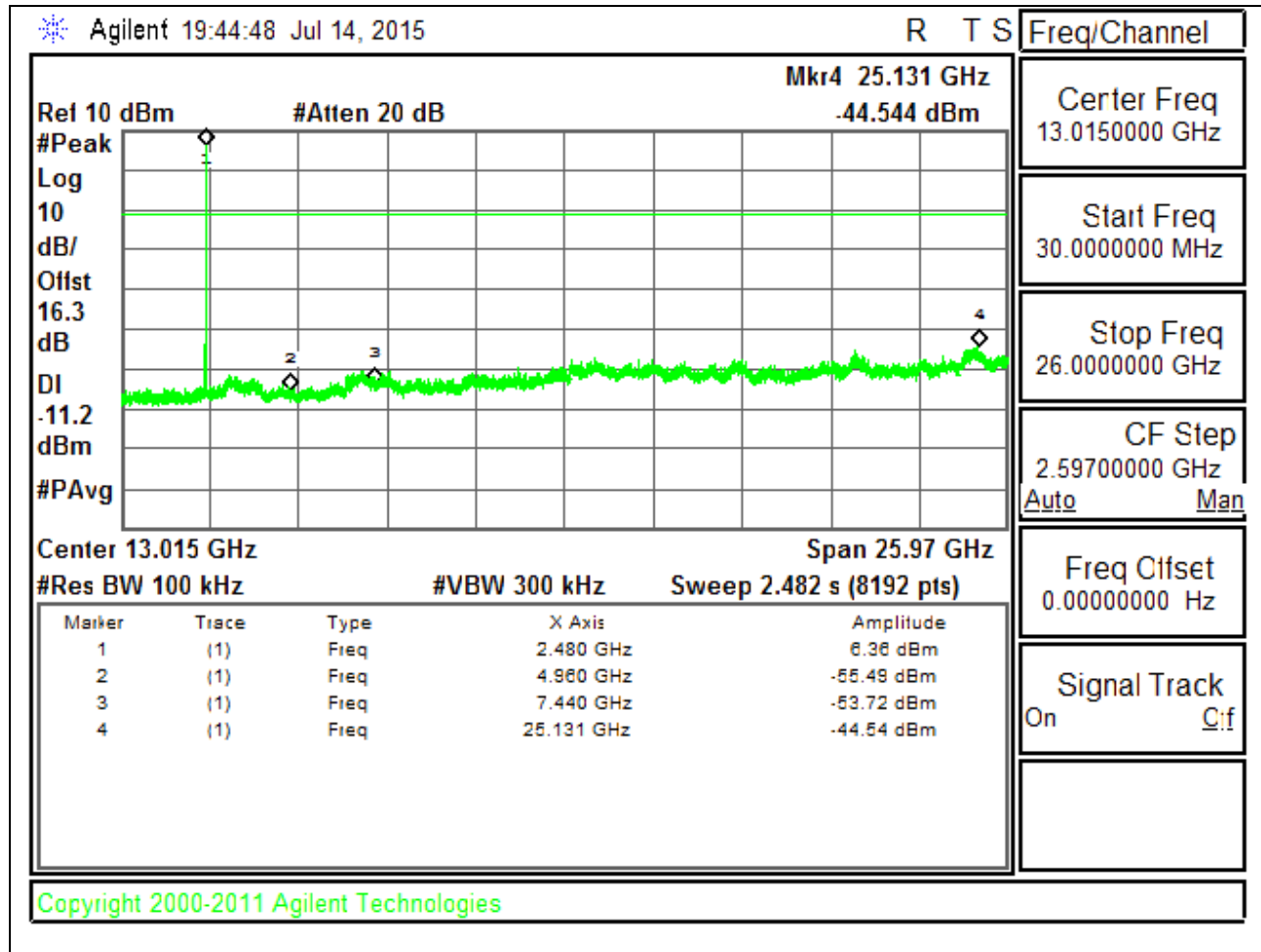


**SPURIOUS EMISSIONS, HIGH CHANNEL**

**HIGH CHANNEL BANDEDGE**



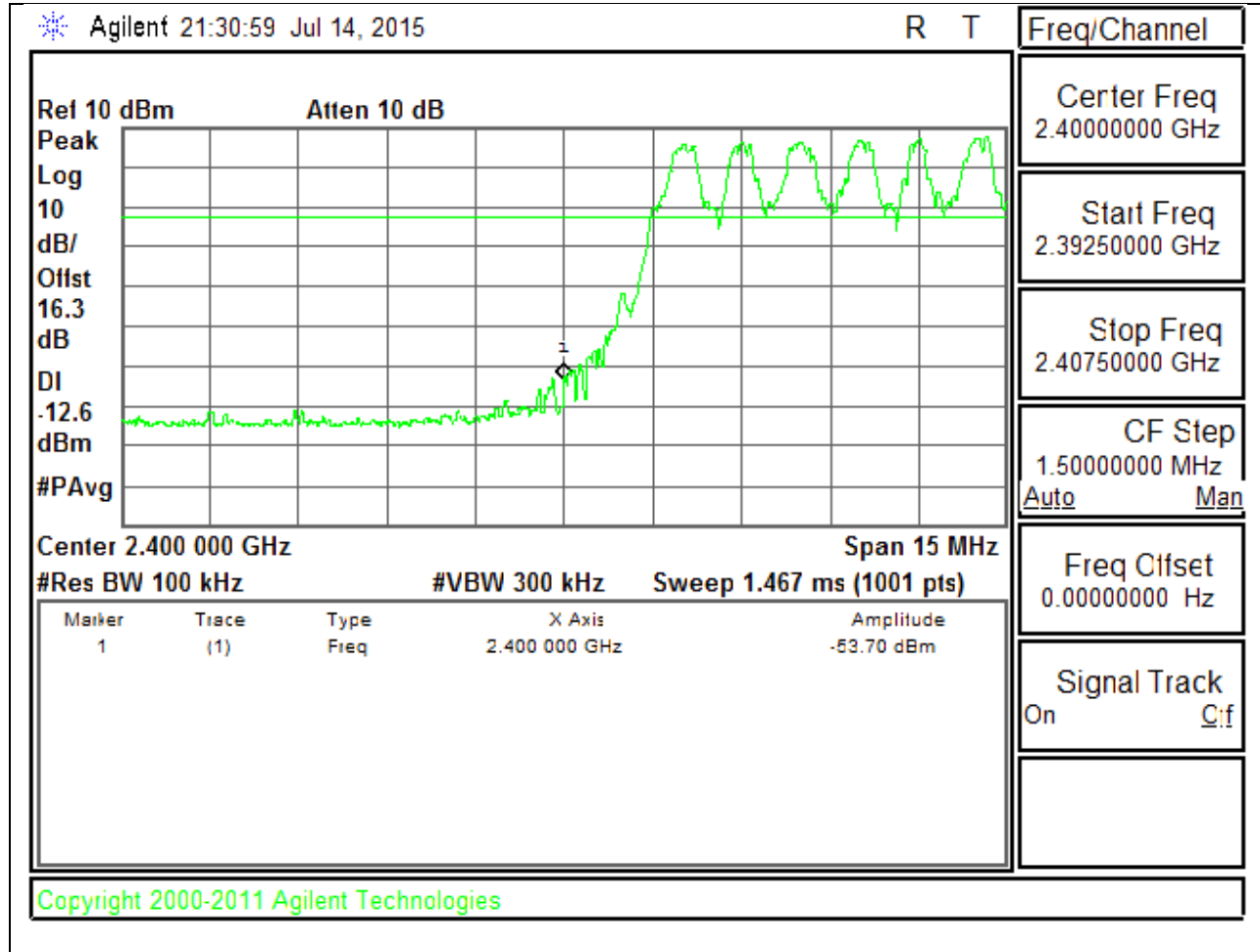
**HIGH CHANNEL SPURIOUS**



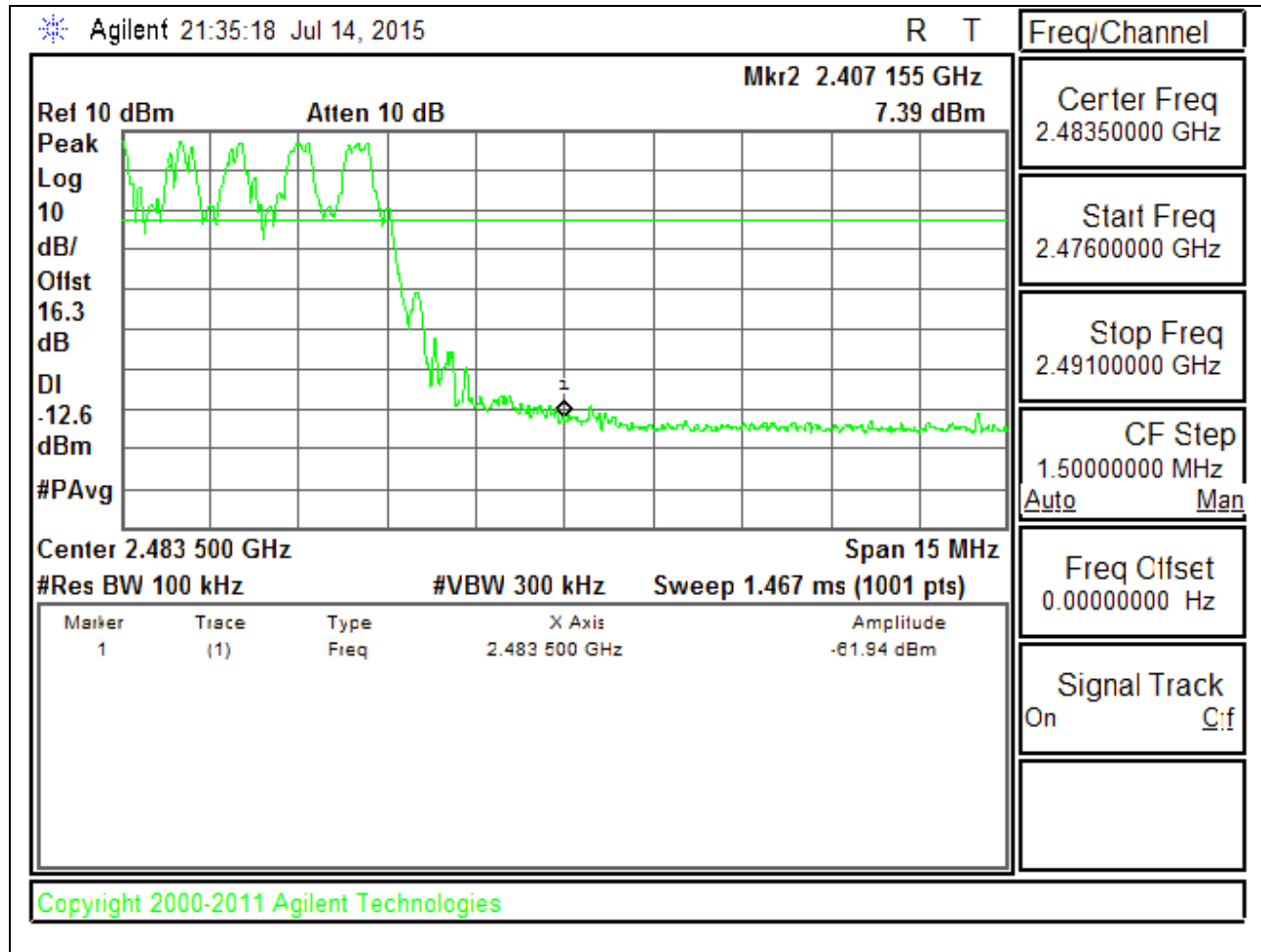


**SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON**

**LOW BANDEDGE WITH HOPPING ON**



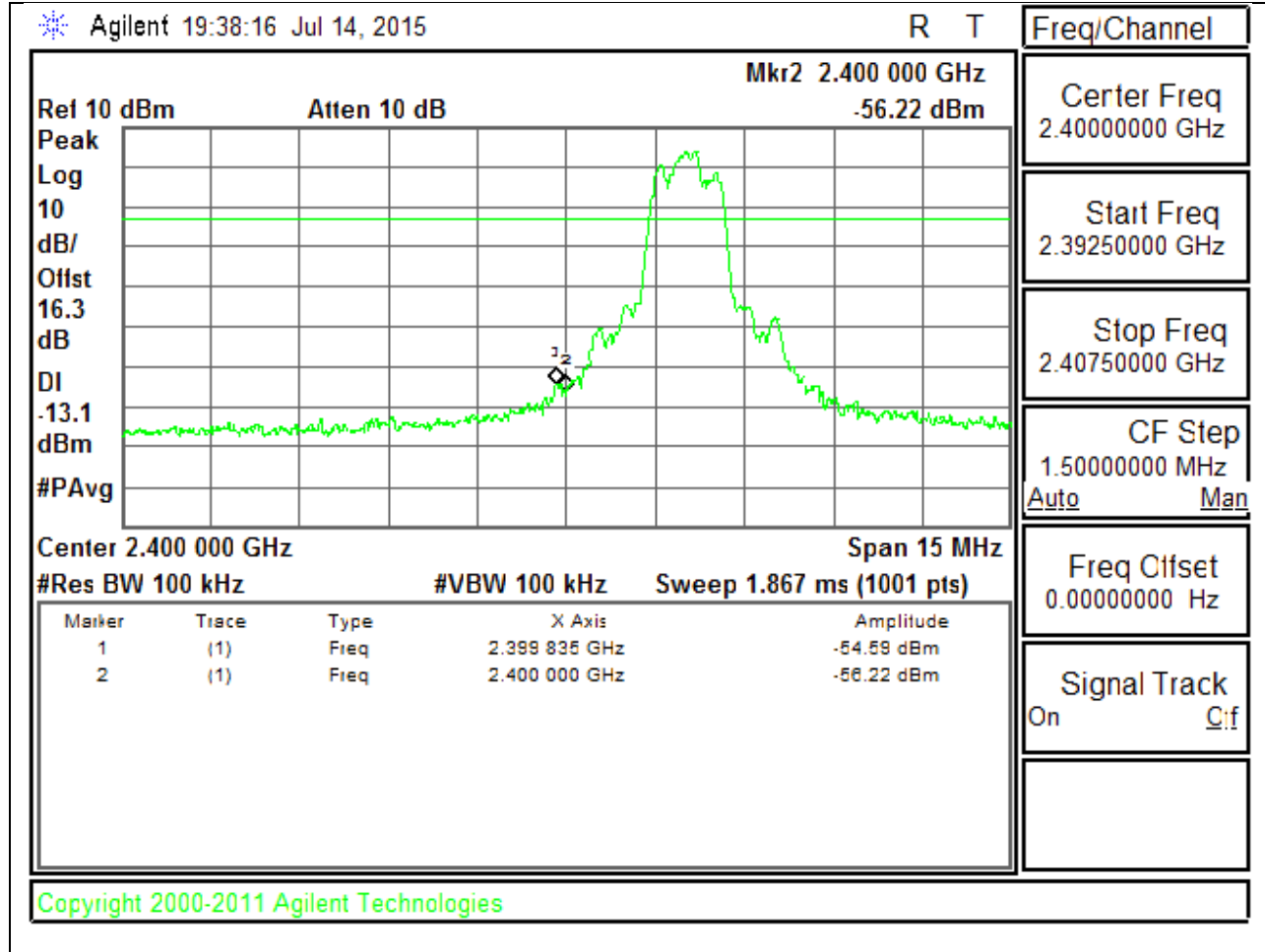
**HIGH BANDEDGE WITH HOPPING ON**



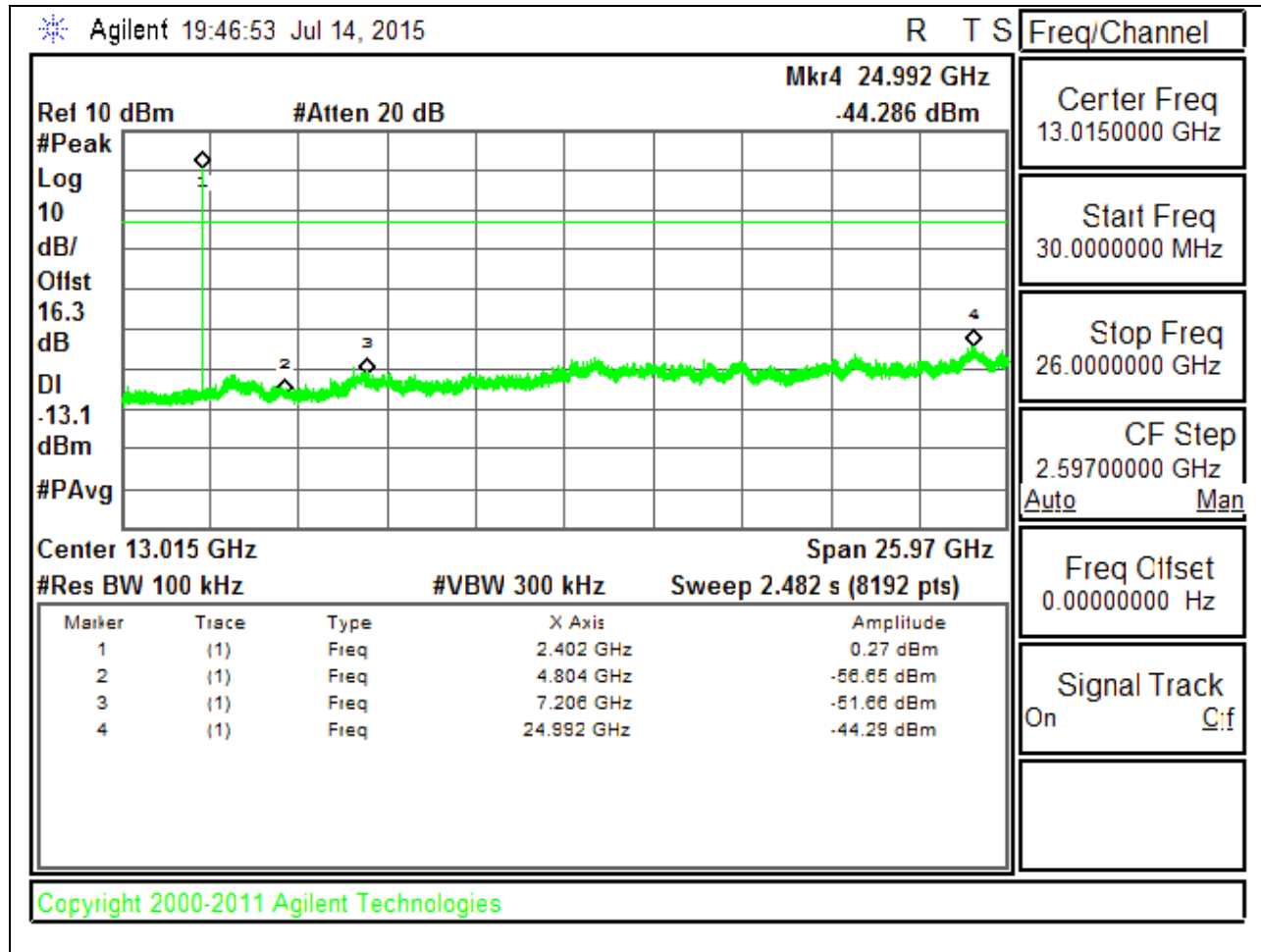
### 8.7.2. ENHANCED DATA RATE 8PSK MODULATION

#### SPURIOUS EMISSIONS, LOW CHANNEL

#### LOW CHANNEL BANDEDGE

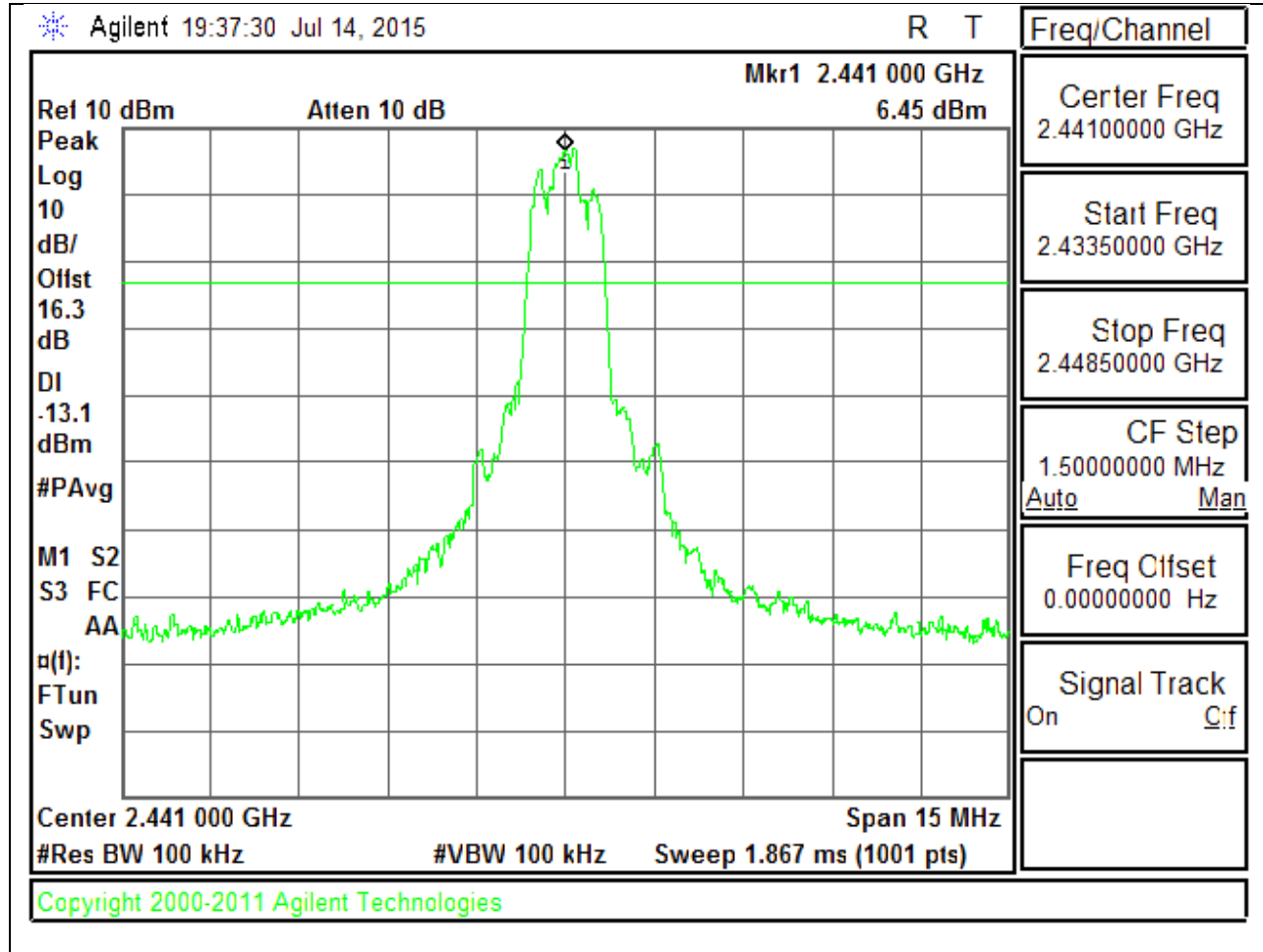


**LOW CHANNEL SPURIOUS**

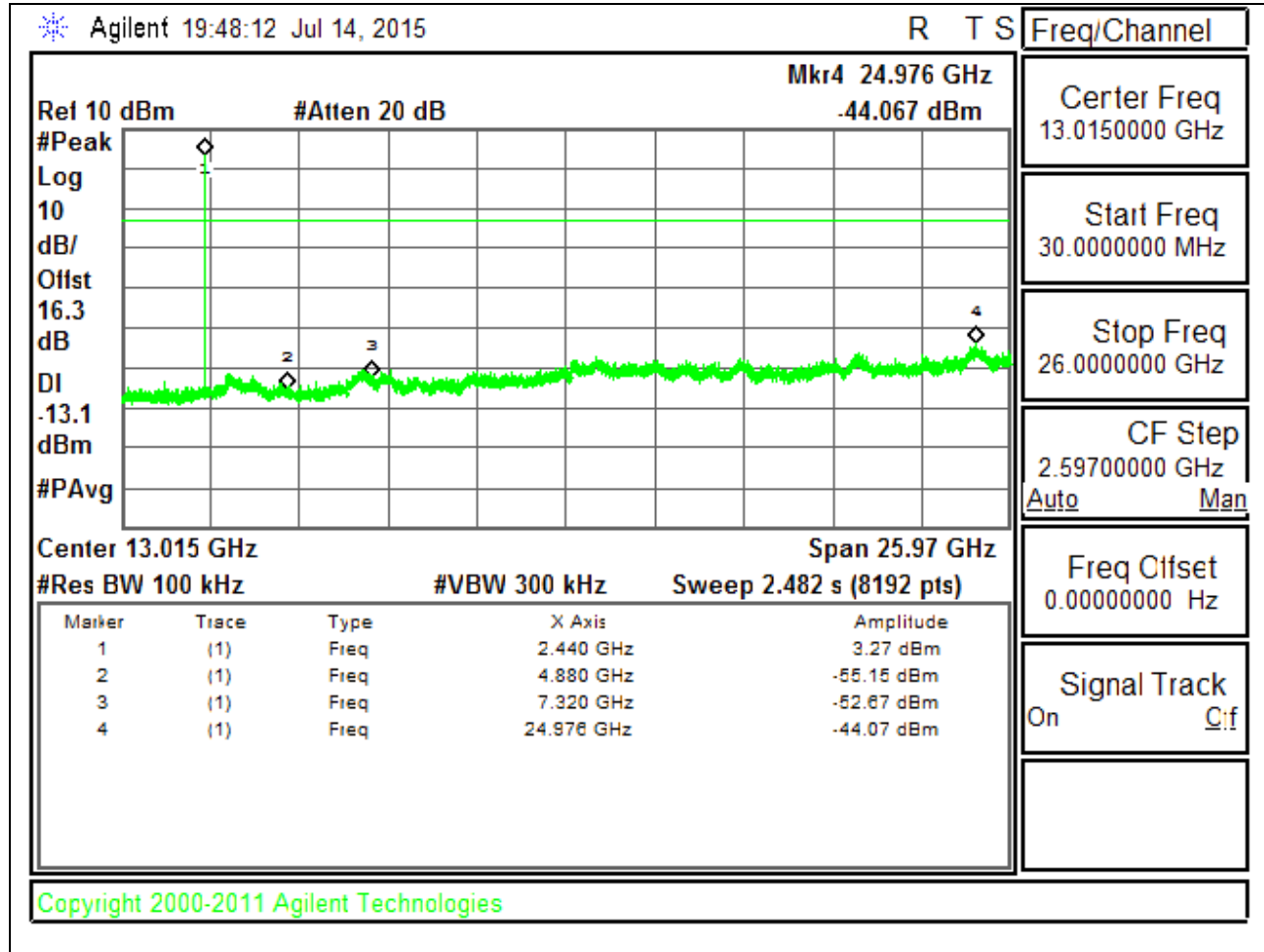


**SPURIOUS EMISSIONS, MID CHANNEL**

**MID CHANNEL BANDEDGE**

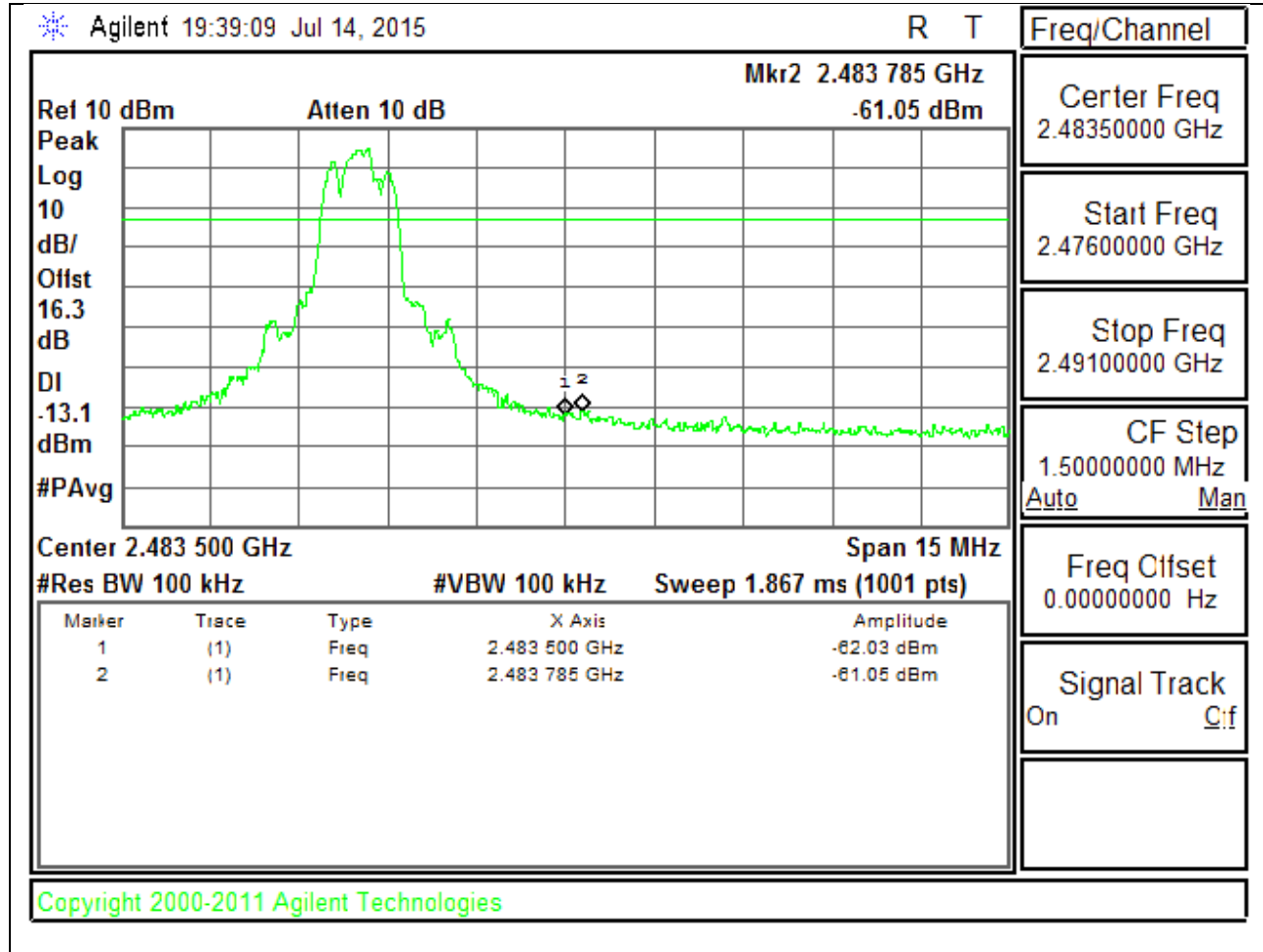


**MID CHANNEL SPURIOUS**

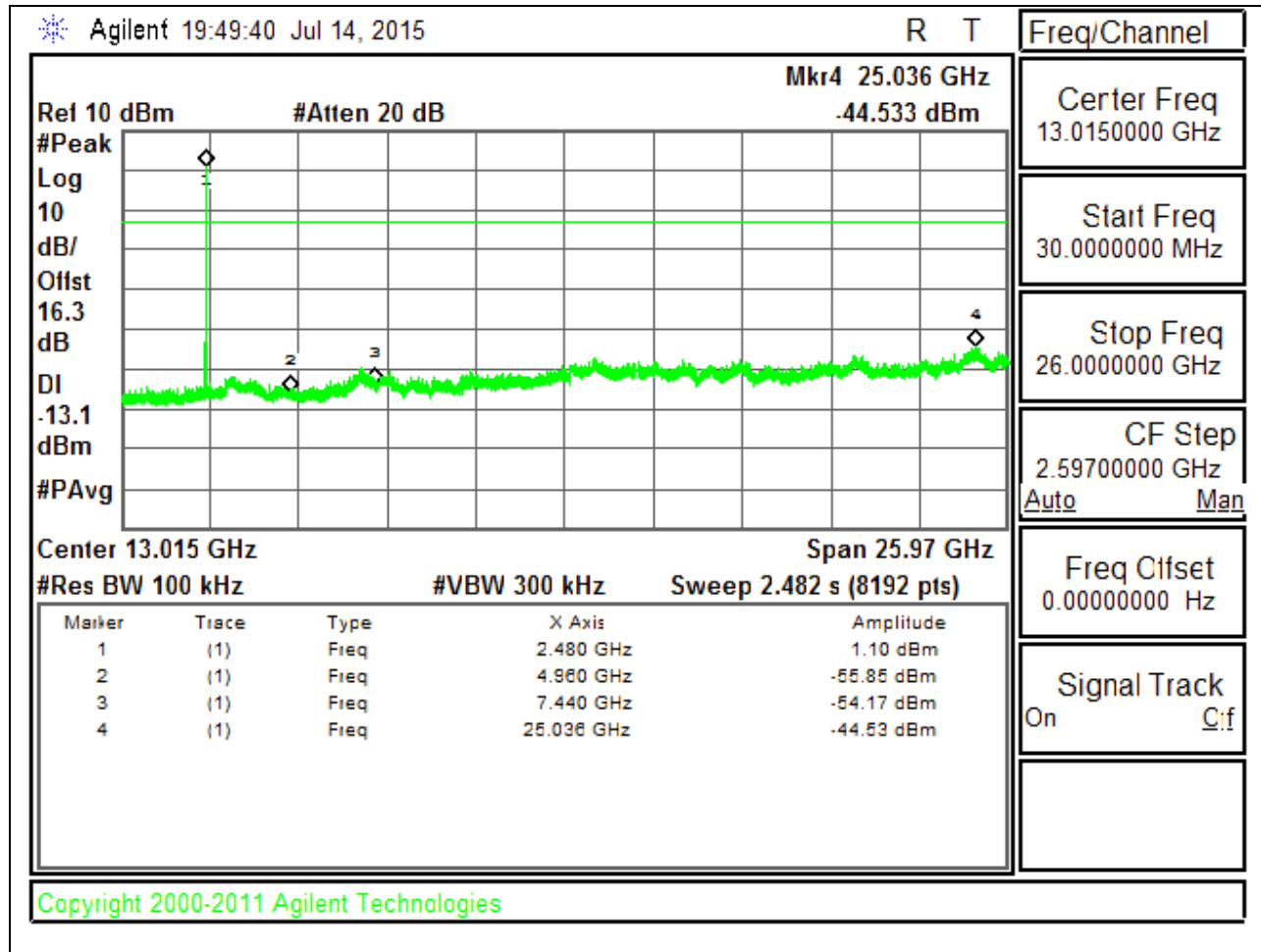


**SPURIOUS EMISSIONS, HIGH CHANNEL**

**HIGH CHANNEL BANDEDGE**



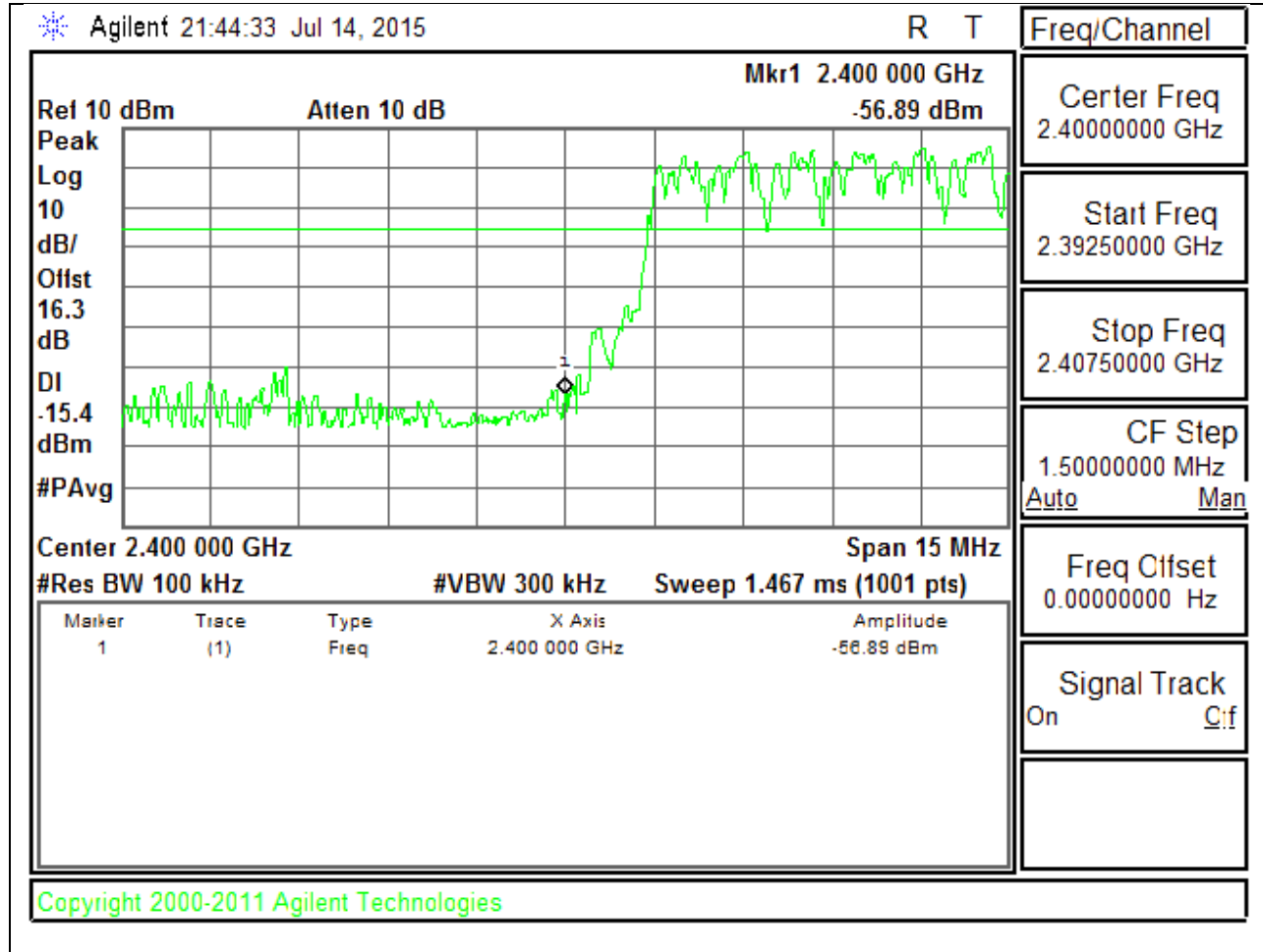
**HIGH CHANNEL SPURIOUS**



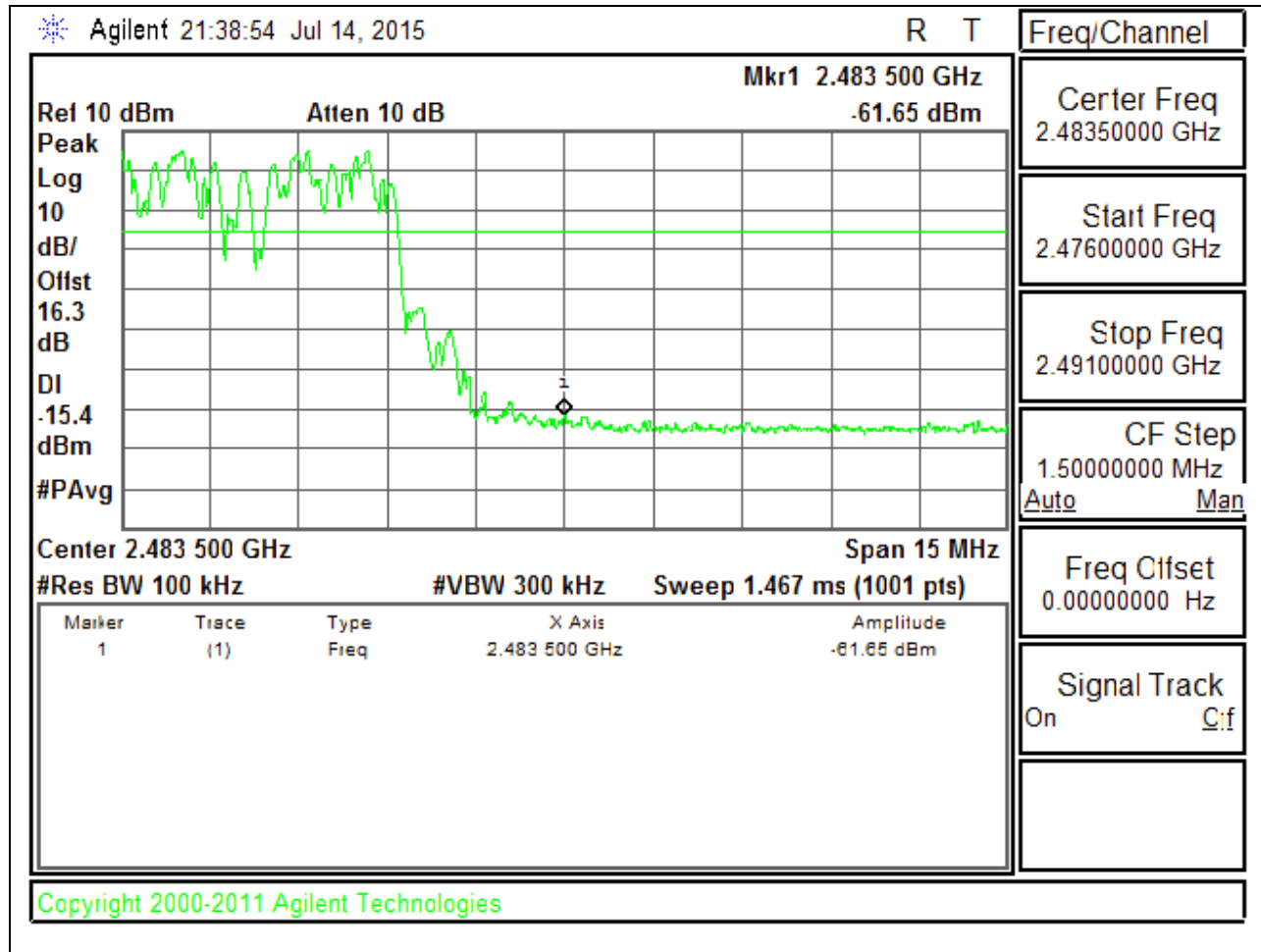


**SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON**

**LOW BANDEDGE WITH HOPPING ON**



**HIGH BANDEDGE WITH HOPPING ON**



## 9. RADIATED TEST RESULTS

### 9.1. LIMITS AND PROCEDURE LIMITS

FCC §15.205 and §15.209

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 band edge 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.  
 $GFSK = 1/T = 1 / 0.0038S = 360Hz.$

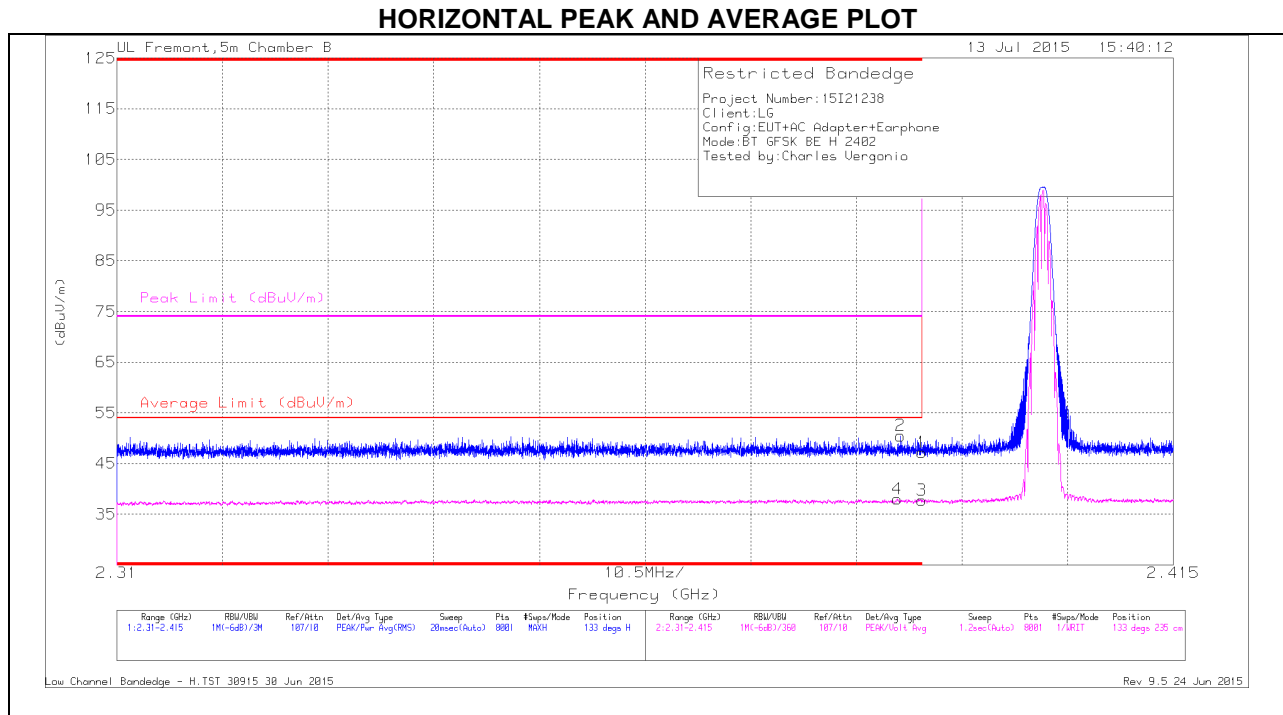
The spectrum from 1GHzHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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

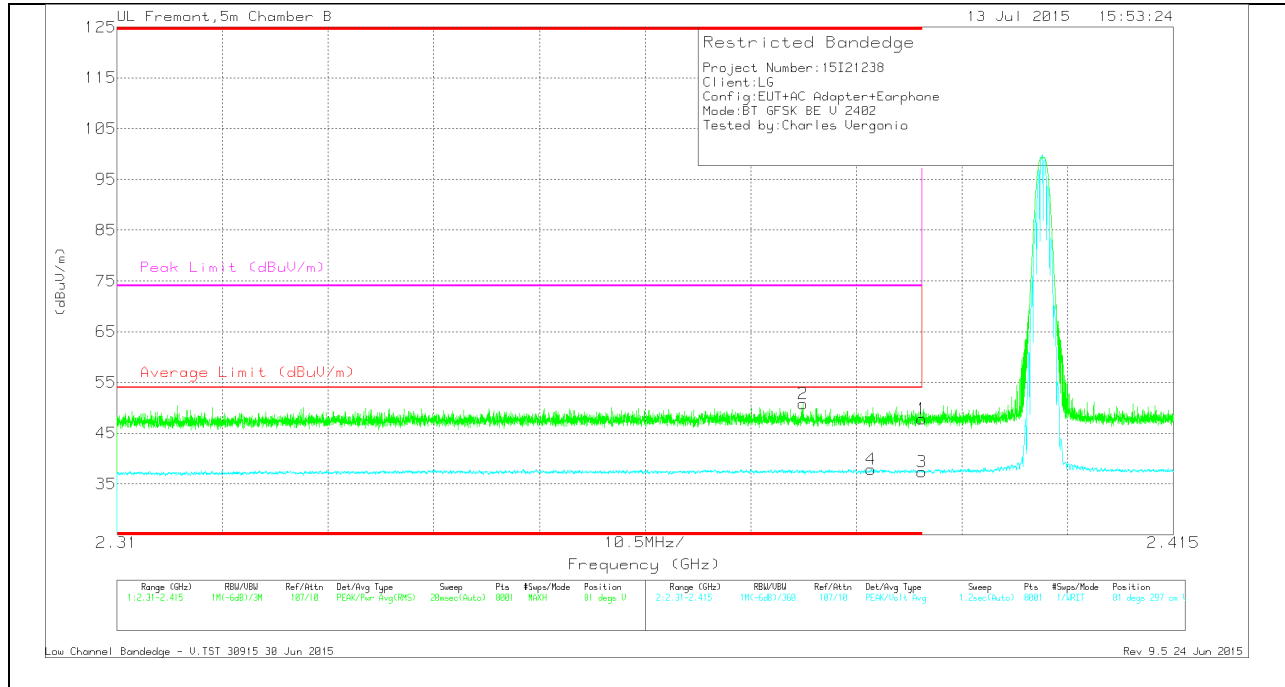
#### RESTRICTED BANDEDGE (LOW CHANNEL)



#### HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/Pad (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	37.54	Pk	32	-22.3	47.24	-	-	74	-26.76	133	235	H
2	* 2.388	40.78	Pk	32	-22.3	50.48	-	-	74	-23.52	133	235	H
3	* 2.39	28.01	VA1T	32	-22.3	37.71	54	-16.29	-	-	133	235	H
4	* 2.388	28.27	VA1T	32	-22.3	37.97	54	-16.03	-	-	133	235	H

**VERTICAL PEAK AND AVERAGE PLOT**

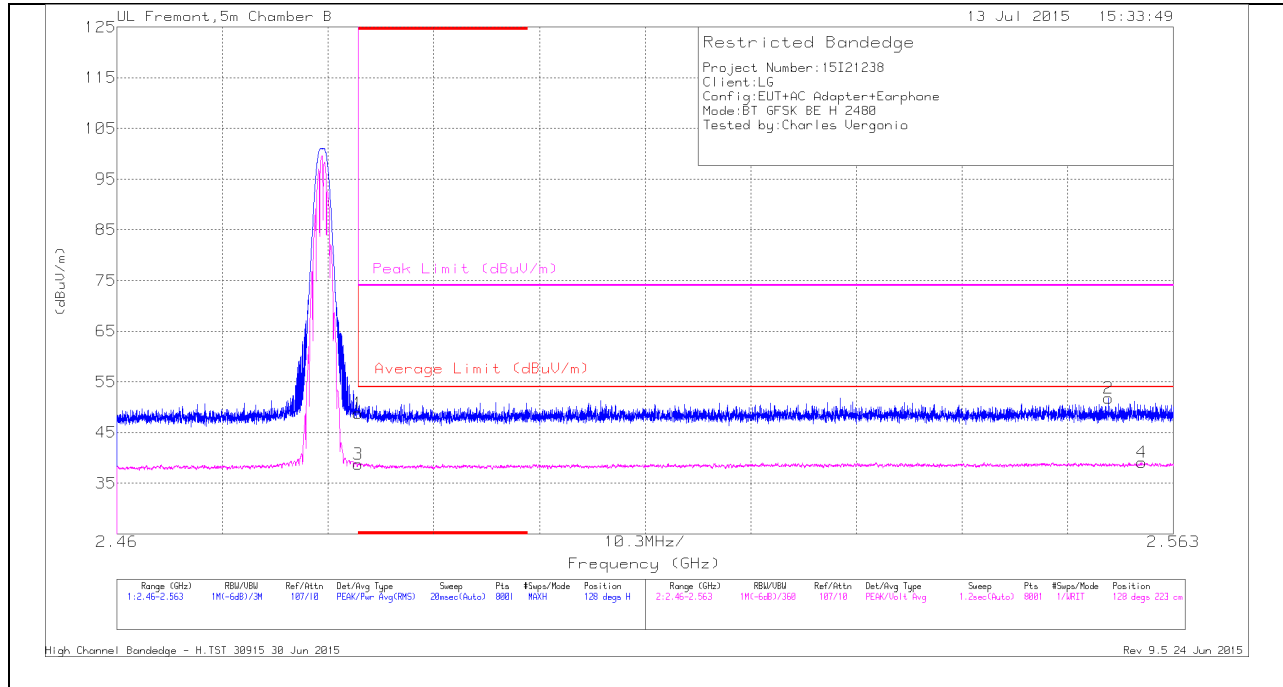


**VERTICAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (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	38.09	Pk	32	-22.3	47.79	-	-	74	-26.21	81	297	V
2	* 2.378	40.93	Pk	31.9	-22	50.83	-	-	74	-23.17	81	297	V
3	* 2.39	27.7	VA1T	32	-22.3	37.4	54	-16.6	-	-	81	297	V
4	* 2.385	28.1	VA1T	32	-22.2	37.9	54	-16.1	-	-	81	297	V

**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

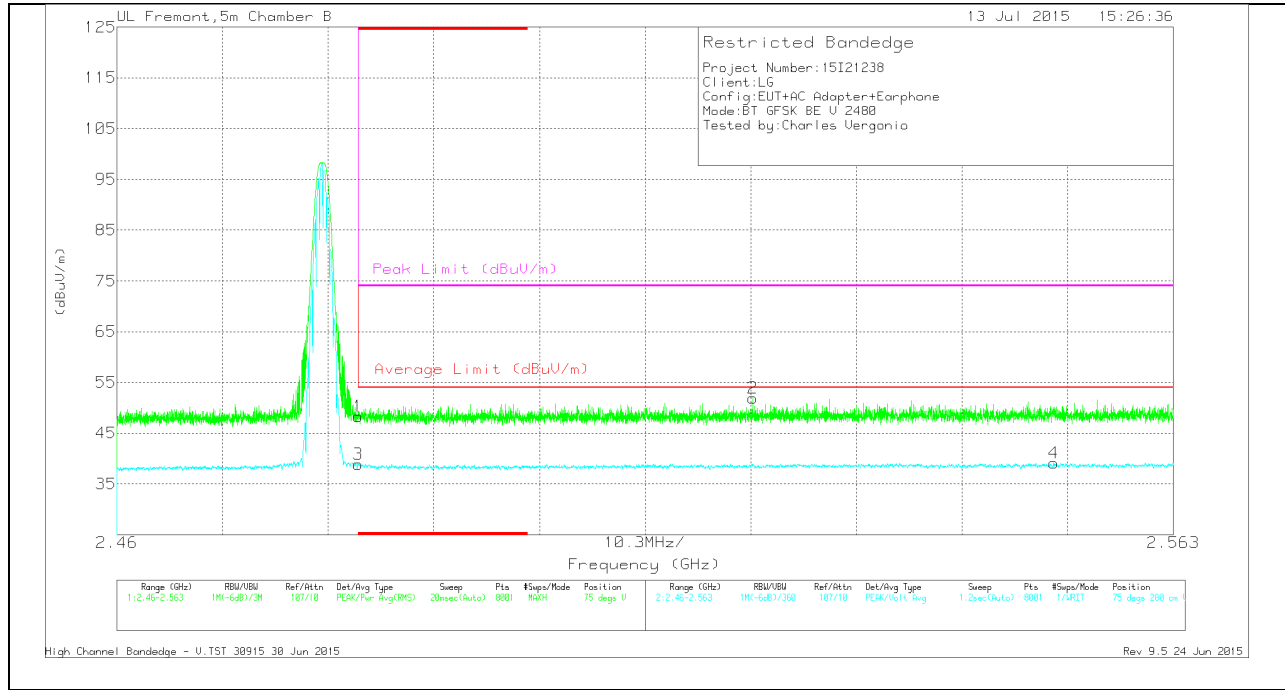
**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/ Fitr/Pad (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	38.14	Pk	32.5	-21.8	48.84	-	-	74	-25.16	128	223	H
3	* 2.484	28.07	VA1T	32.5	-21.8	38.77	54	-15.23	-	-	128	223	H
2	2.557	40.43	Pk	32.7	-21.3	51.83	-	-	74	-22.17	128	223	H
4	2.56	27.85	VA1T	32.7	-21.4	39.15	54	-14.85	-	-	128	223	H

**VERTICAL PEAK AND AVERAGE PLOT**

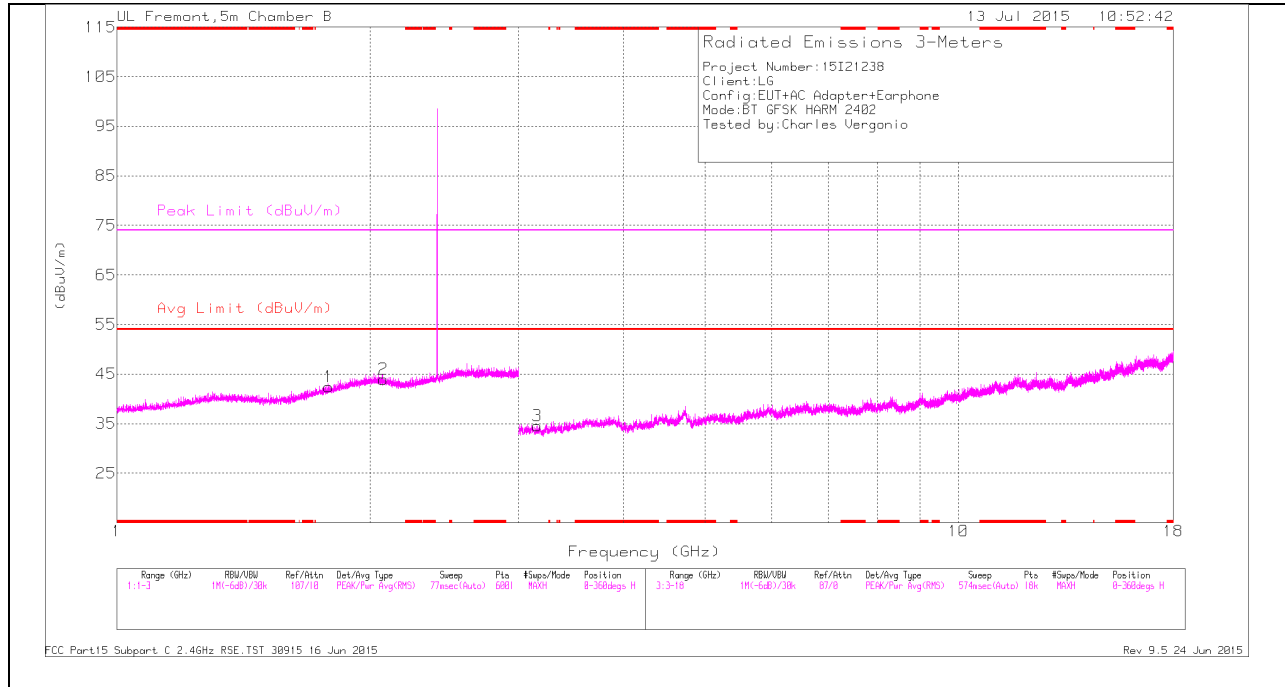


**VERTICAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/Pad (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	37.61	Pk	32.5	-21.8	48.31	-	-	74	-25.69	75	280	V
3	* 2.484	28.19	VA1T	32.5	-21.8	38.89	54	-15.11	-	-	75	280	V
2	2.522	40.94	Pk	32.6	-21.6	51.94	-	-	74	-22.06	75	280	V
4	2.551	27.68	VA1T	32.7	-21.3	39.08	54	-14.92	-	-	75	280	V

### HARMONICS AND SPURIOUS EMISSIONS

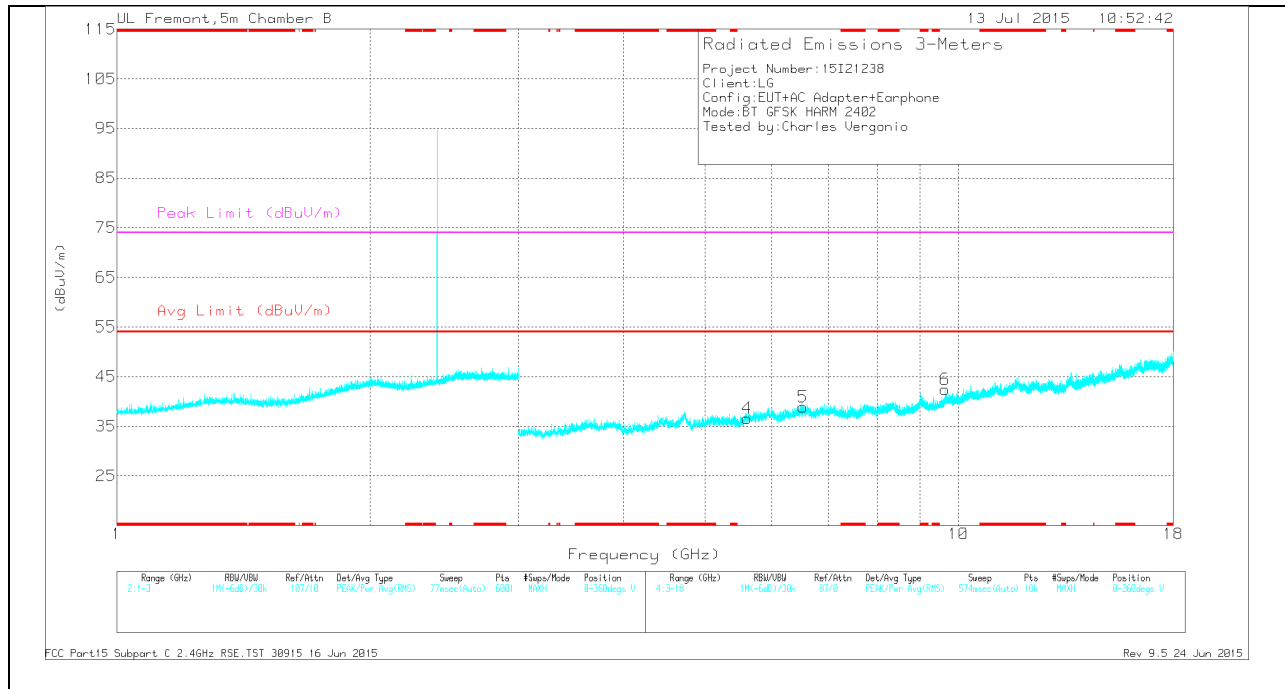
#### LOW CHANNEL HORIZONTAL



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*

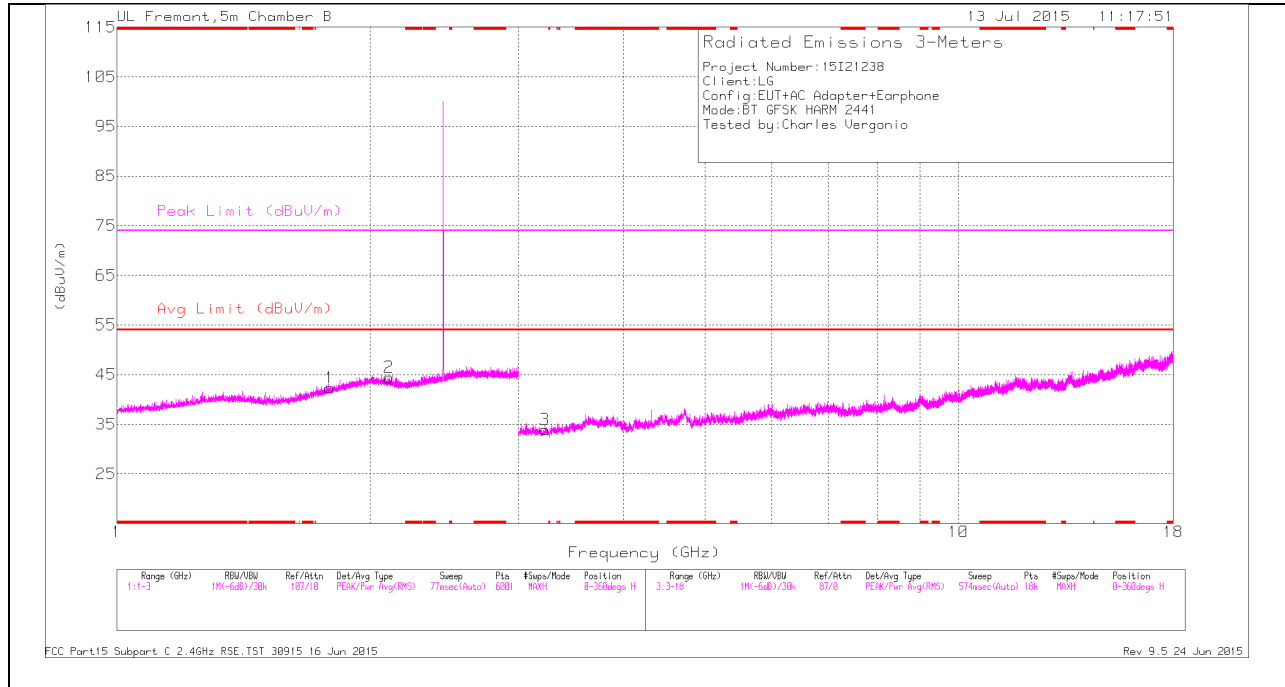
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.786	34.37	Pk	30.6	-22.6	42.37	-	-	-	-	0-360	199	H
2	2.073	34.59	Pk	31.9	-22.5	43.99	-	-	-	-	0-360	199	H
3	3.156	32.33	Pk	32.5	-30.3	34.53	-	-	-	-	0-360	101	H
4	5.607	30.14	Pk	34.7	-28.2	36.64	-	-	-	-	0-360	200	V
5	6.541	30.66	Pk	35.9	-27.7	38.86	-	-	-	-	0-360	200	V
6	9.648	29.07	Pk	36.7	-23.3	42.47	-	-	-	-	0-360	200	V

PK - Peak detector

*RADIATED EMISSIONS*

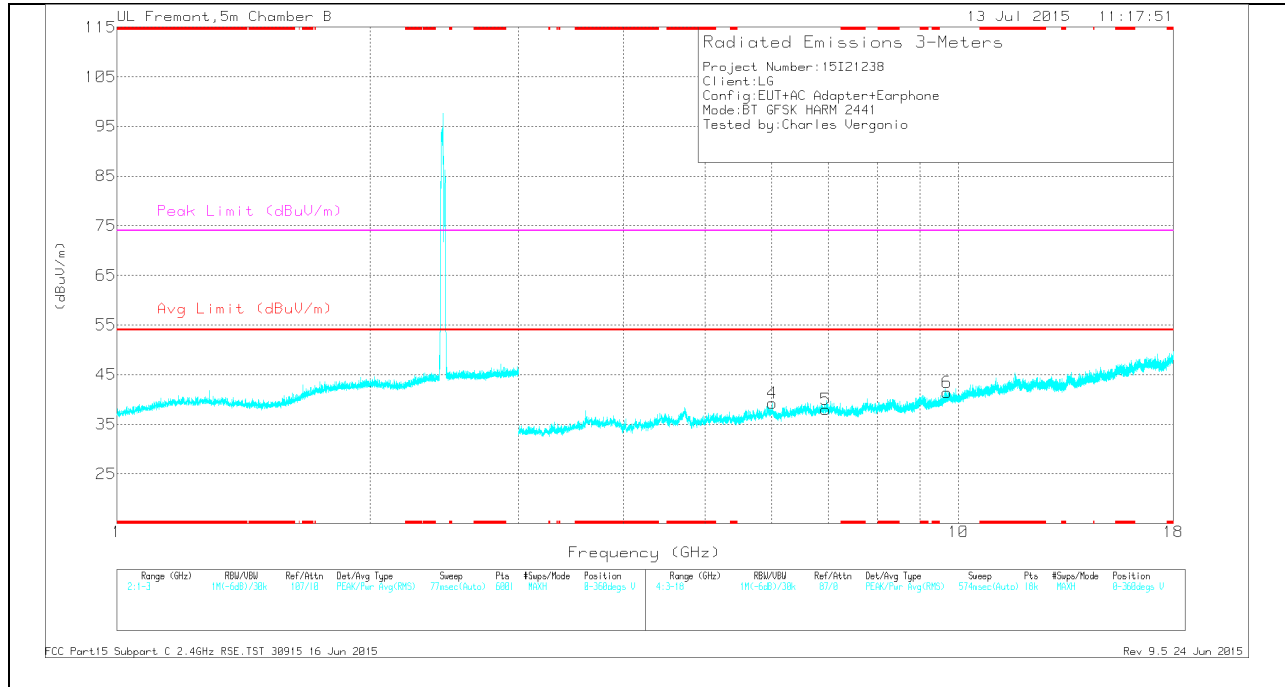
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.784	43.06	PK2	30.6	-22.7	50.96	-	-	-	-	1	198	H
1.784	29.48	VA1T	30.6	-22.7	37.38	-	-	-	-	1	198	H
2.072	29.58	VA1T	31.9	-22.6	38.88	-	-	-	-	1	198	H
2.075	43.24	PK2	31.9	-22.5	52.64	-	-	-	-	1	198	H
3.154	27.21	VA1T	32.5	-30.4	29.31	-	-	-	-	1	102	H
3.156	40.53	PK2	32.5	-30.3	42.73	-	-	-	-	1	102	H
5.607	26.12	VA1T	34.7	-28.2	32.62	-	-	-	-	1	199	V
5.608	39.32	PK2	34.7	-28.3	45.72	-	-	-	-	1	199	V
6.541	39.92	PK2	35.9	-27.7	48.12	-	-	-	-	1	199	V
6.543	26.11	VA1T	35.9	-27.7	34.31	-	-	-	-	1	199	V
9.648	22.92	VA1T	36.7	-23.3	36.32	-	-	-	-	1	199	V
9.649	36.06	PK2	36.7	-23.3	49.46	-	-	-	-	1	199	V

**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*

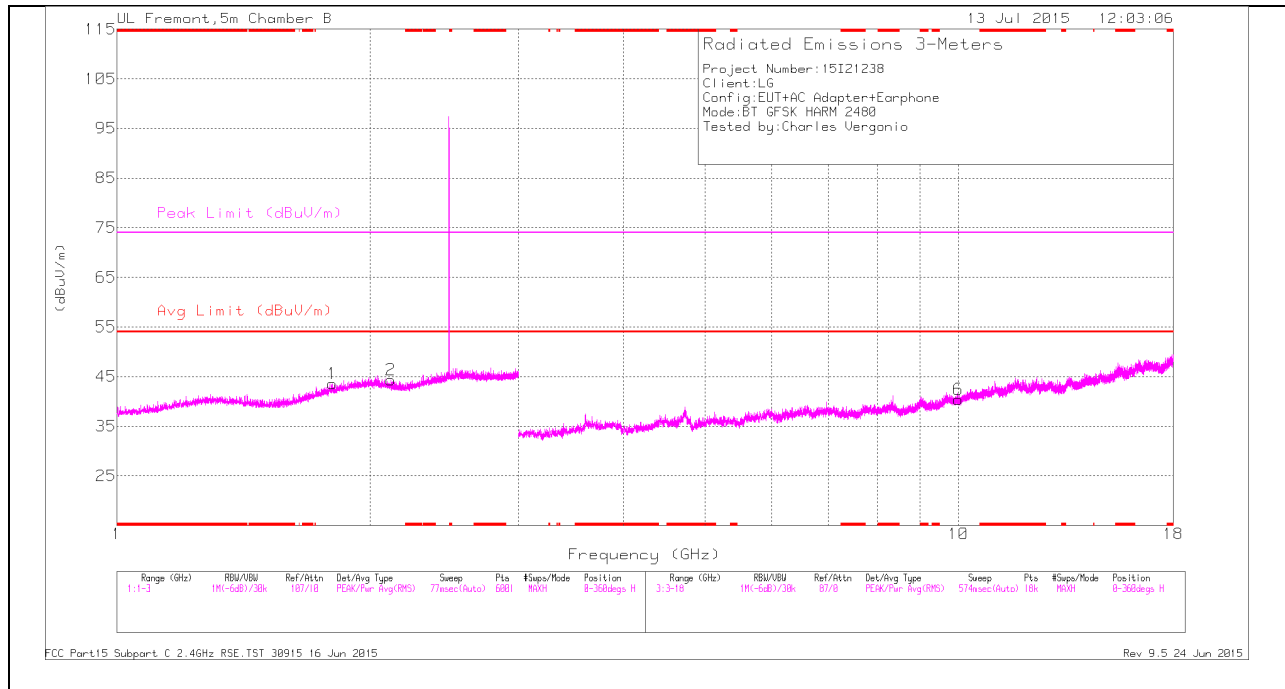
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.789	34.34	Pk	30.6	-22.6	42.34	-	-	-	-	0-360	101	H
2	2.103	35	Pk	31.8	-22.4	44.4	-	-	-	-	0-360	101	H
3	3.223	31.98	Pk	32.5	-30.5	33.98	-	-	-	-	0-360	200	H
4	6.006	31.3	Pk	35.7	-27.7	39.3	-	-	-	-	0-360	200	V
5	6.955	29.61	Pk	36.1	-27.7	38.01	-	-	-	-	0-360	200	V
6	9.69	27.68	Pk	36.8	-23.1	41.38	-	-	-	-	0-360	200	V

PK - Peak detector

*RADIATED EMISSIONS*

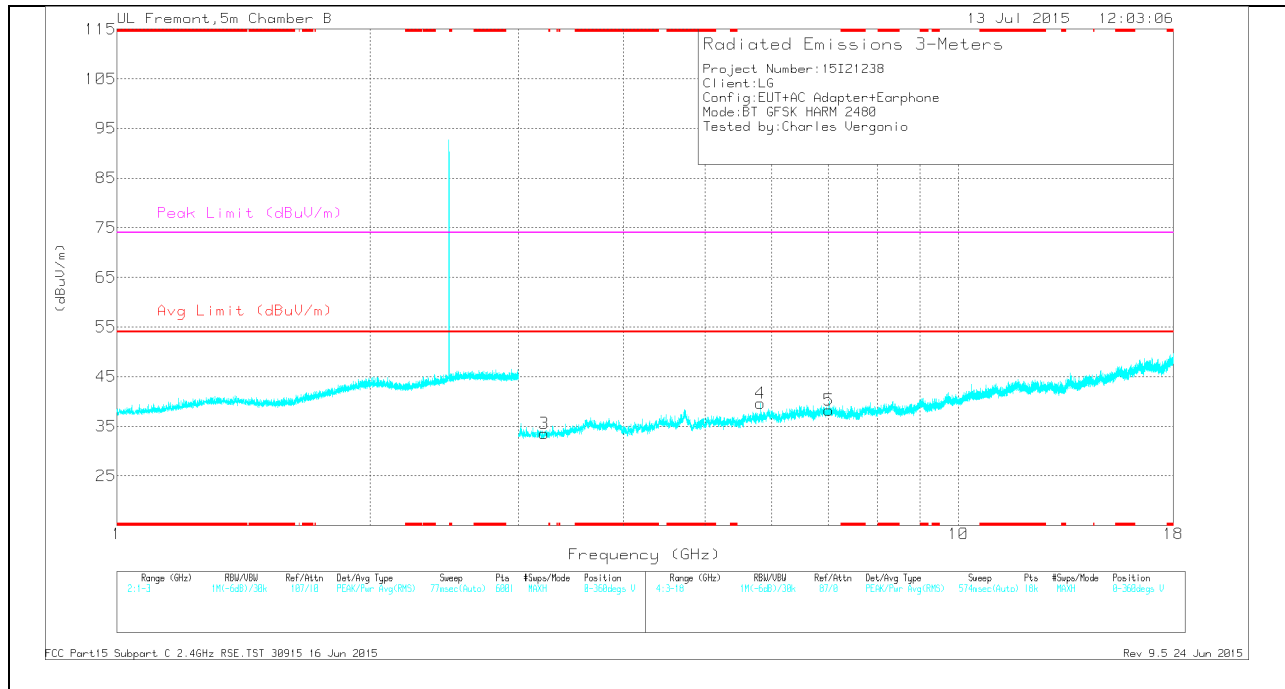
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.788	30.17	VA1T	30.6	-22.6	38.17	-	-	-	-	1	101	H
1.791	42.71	PK2	30.6	-22.7	50.61	-	-	-	-	1	101	H
2.103	29.06	VA1T	31.8	-22.4	38.46	-	-	-	-	1	101	H
2.104	41.55	PK2	31.8	-22.4	50.95	-	-	-	-	1	101	H
3.225	41.23	PK2	32.5	-30.4	43.33	-	-	-	-	1	199	H
3.225	27.85	VA1T	32.5	-30.4	29.95	-	-	-	-	1	199	H
6.004	38.25	PK2	35.7	-27.7	46.25	-	-	-	-	1	199	V
6.008	26	VA1T	35.7	-27.6	34.1	-	-	-	-	1	199	V
6.954	38.68	PK2	36.1	-27.7	47.08	-	-	-	-	1	199	V
6.955	26.07	VA1T	36.1	-27.7	34.47	-	-	-	-	1	199	V
9.69	23.15	VA1T	36.8	-23.1	36.85	-	-	-	-	1	199	V
9.692	36.43	PK2	36.8	-23.1	50.13	-	-	-	-	1	199	V

### 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 T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.802	35.52	Pk	30.8	-22.7	43.62	-	-	-	-	0-360	200	H
2	2.116	35	Pk	31.7	-22.4	44.3	-	-	-	-	0-360	200	H
3	3.218	31.78	Pk	32.4	-30.6	33.58	-	-	-	-	0-360	101	V
4	5.818	33.33	Pk	35.2	-28.9	39.63	-	-	-	-	0-360	199	V
5	7.014	29.78	Pk	36	-27.5	38.28	-	-	-	-	0-360	101	V
6	9.991	26.21	Pk	37.1	-22.9	40.41	-	-	-	-	0-360	101	H

PK - Peak detector

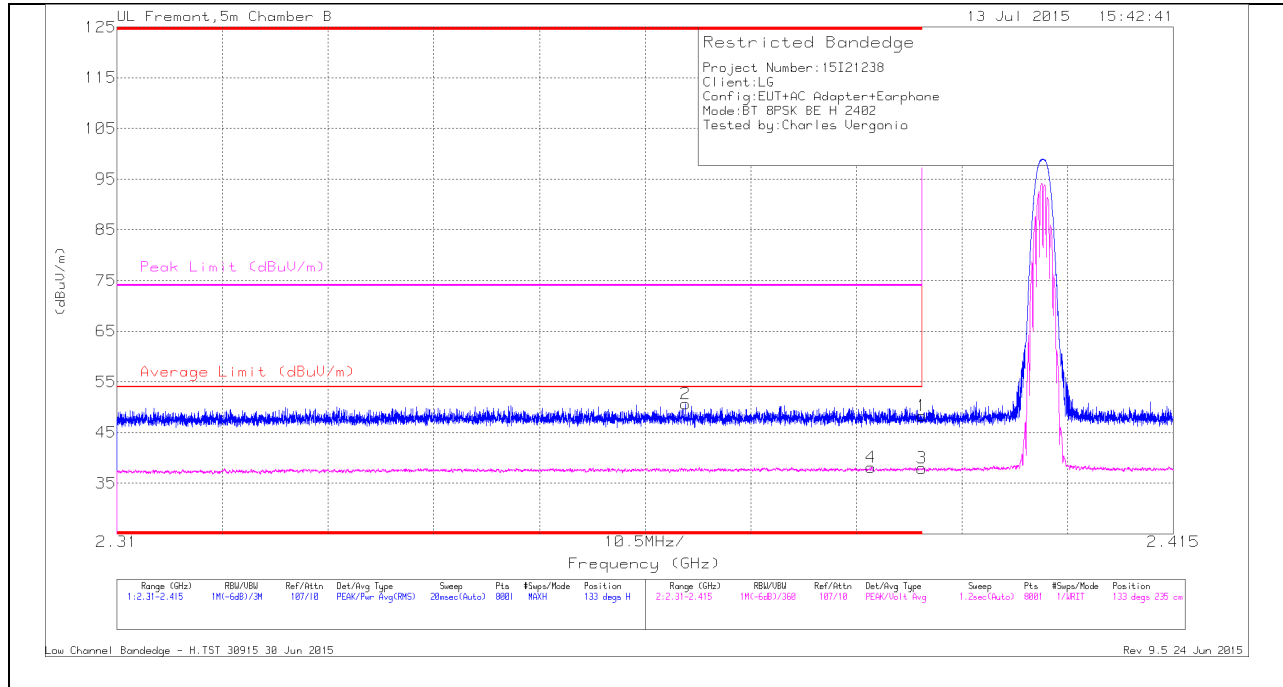
*RADIATED EMISSIONS*

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.802	29.71	VA1T	30.8	-22.7	37.81	-	-	-	-	1	199	H
1.803	42.8	PK2	30.8	-22.7	50.9	-	-	-	-	1	199	H
2.116	42.46	PK2	31.7	-22.4	51.76	-	-	-	-	1	199	H
2.118	29.84	VA1T	31.7	-22.4	39.14	-	-	-	-	1	199	H
3.216	40.22	PK2	32.4	-30.6	42.02	-	-	-	-	1	102	V
3.217	27.61	VA1T	32.4	-30.6	29.41	-	-	-	-	1	102	V
5.818	39.45	PK2	35.2	-28.9	45.75	-	-	-	-	1	198	V
5.82	27.28	VA1T	35.3	-29	33.58	-	-	-	-	1	198	V
7.012	38.19	PK2	36	-27.4	46.79	-	-	-	-	1	102	V
7.015	25.8	VA1T	36	-27.6	34.2	-	-	-	-	1	102	V
9.99	22.04	VA1T	37.1	-22.9	36.24	-	-	-	-	1	102	H
9.992	34.35	PK2	37.1	-22.9	48.55	-	-	-	-	1	102	H



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

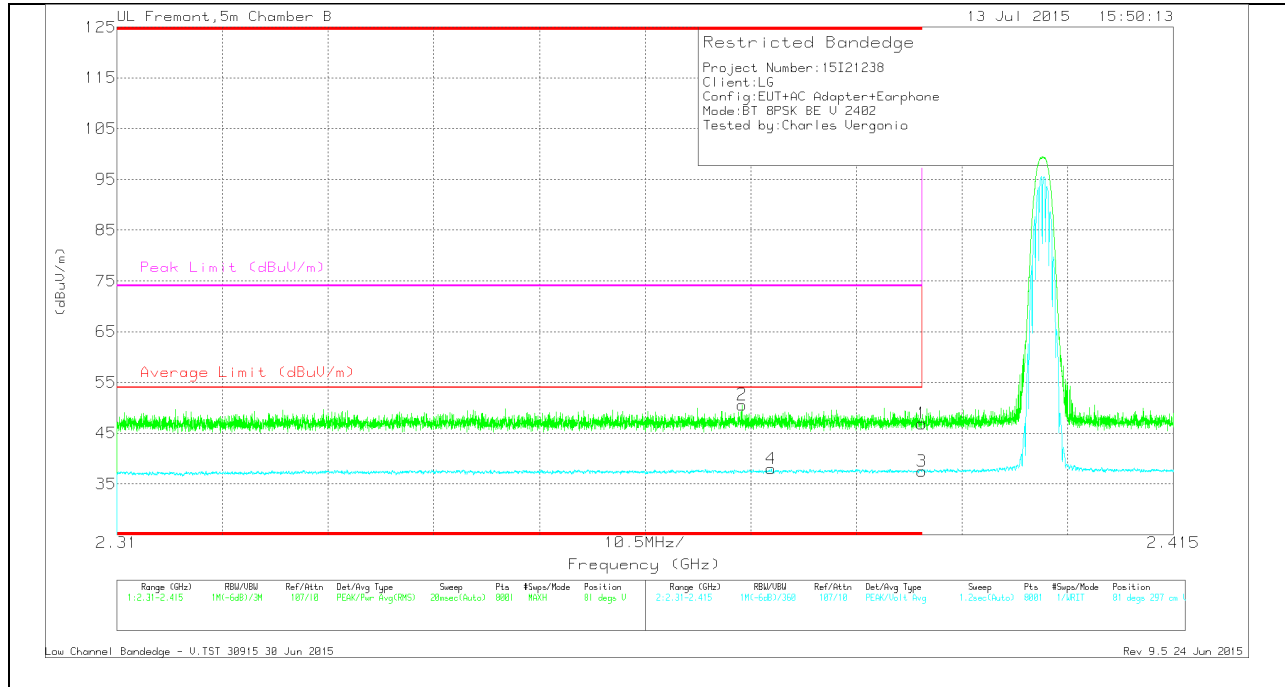
#### HORIZONTAL PEAK AND AVERAGE PLOT



#### HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (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	38.6	Pk	32	-22.3	48.3	-	-	74	-25.7	133	235	H
2	* 2.367	40.73	Pk	31.9	-22	50.63	-	-	74	-23.37	133	235	H
3	* 2.39	28.24	VA1T	32	-22.3	37.94	54	-16.06	-	-	133	235	H
4	* 2.385	28.38	VA1T	32	-22.2	38.18	54	-15.82	-	-	133	235	H

**VERTICAL PEAK AND AVERAGE PLOT**

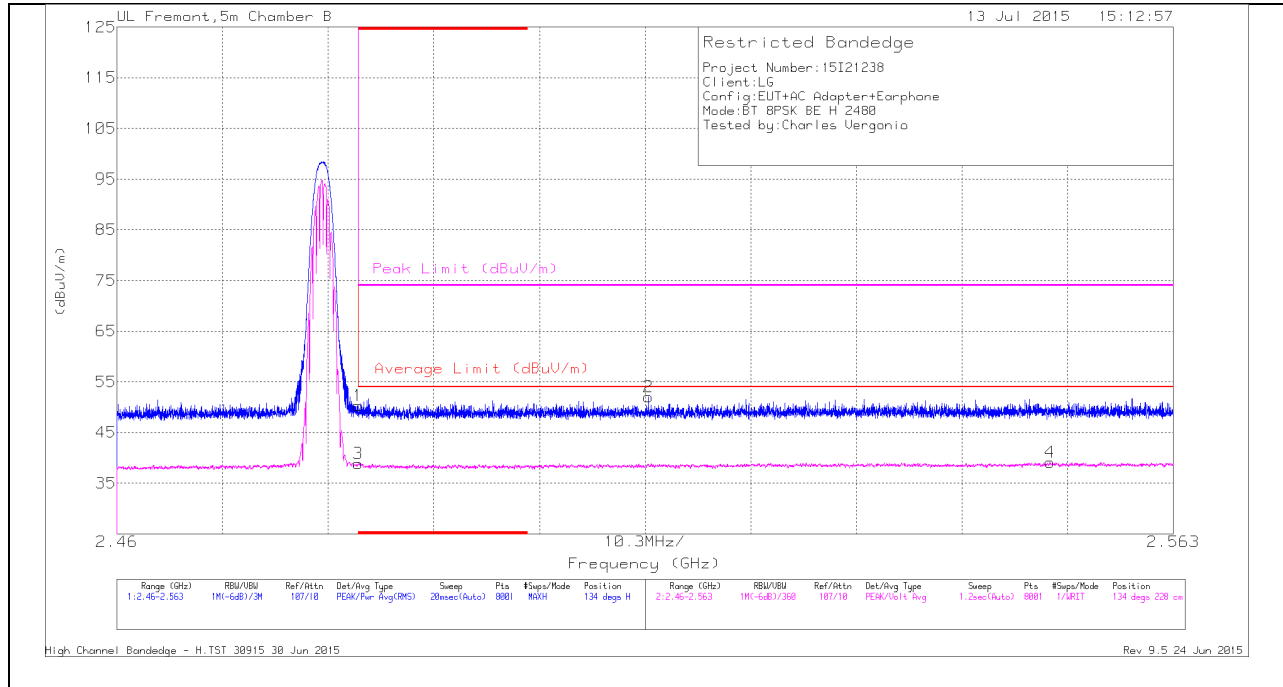


**VERTICAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (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	37.18	Pk	32	-22.3	46.88	-	-	74	-27.12	81	297	V
2	* 2.372	40.7	Pk	31.9	-22	50.6	-	-	74	-23.4	81	297	V
3	* 2.39	27.8	VA1T	32	-22.3	37.5	54	-16.5	-	-	81	297	V
4	* 2.375	27.95	VA1T	31.9	-21.9	37.95	54	-16.05	-	-	81	297	V

**AUTHORIZED BANDEDGE (HIGH CHANNEL)**

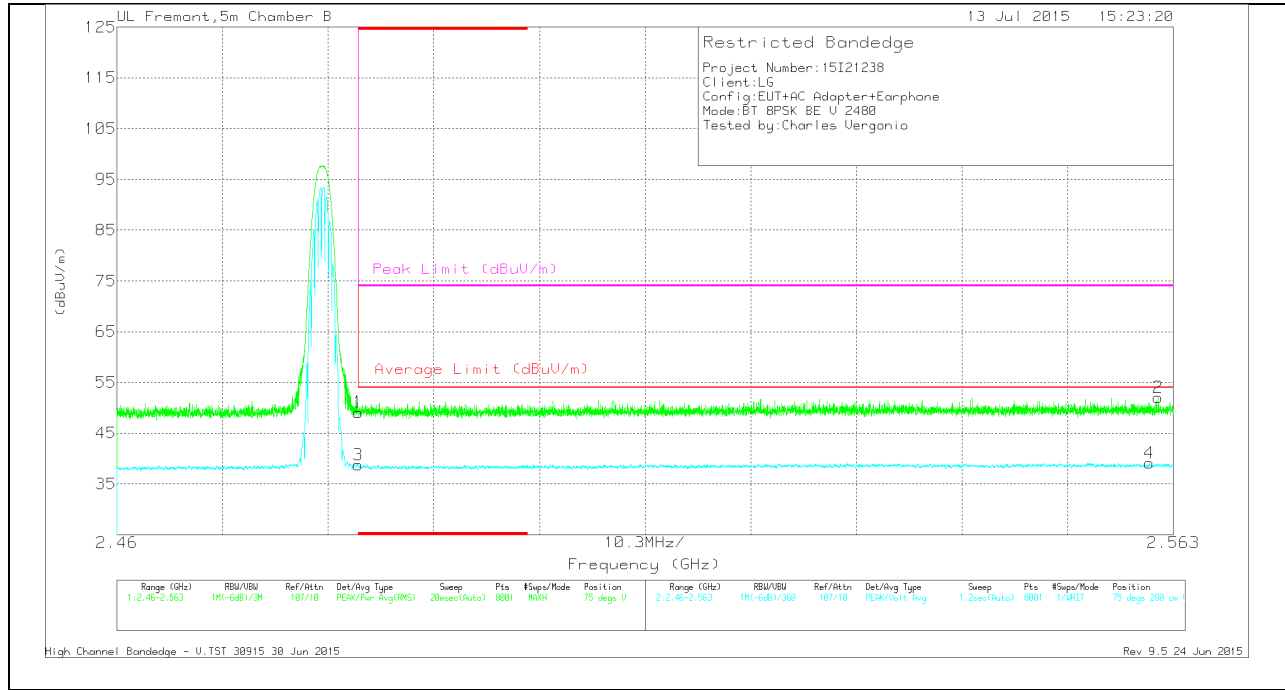
**HORIZONTAL PEAK AND AVERAGE PLOT**



**HORIZONTAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/ Fitr/Pad (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	39.61	Pk	32.5	-21.8	50.31	-	-	74	-23.69	134	228	H
3	* 2.484	28.21	VA1T	32.5	-21.8	38.91	54	-15.09	-	-	134	228	H
2	2.512	41.08	Pk	32.6	-21.7	51.98	-	-	74	-22.02	134	228	H
4	2.551	27.69	VA1T	32.7	-21.3	39.09	54	-14.91	-	-	134	228	H

**VERTICAL PEAK AND AVERAGE PLOT**

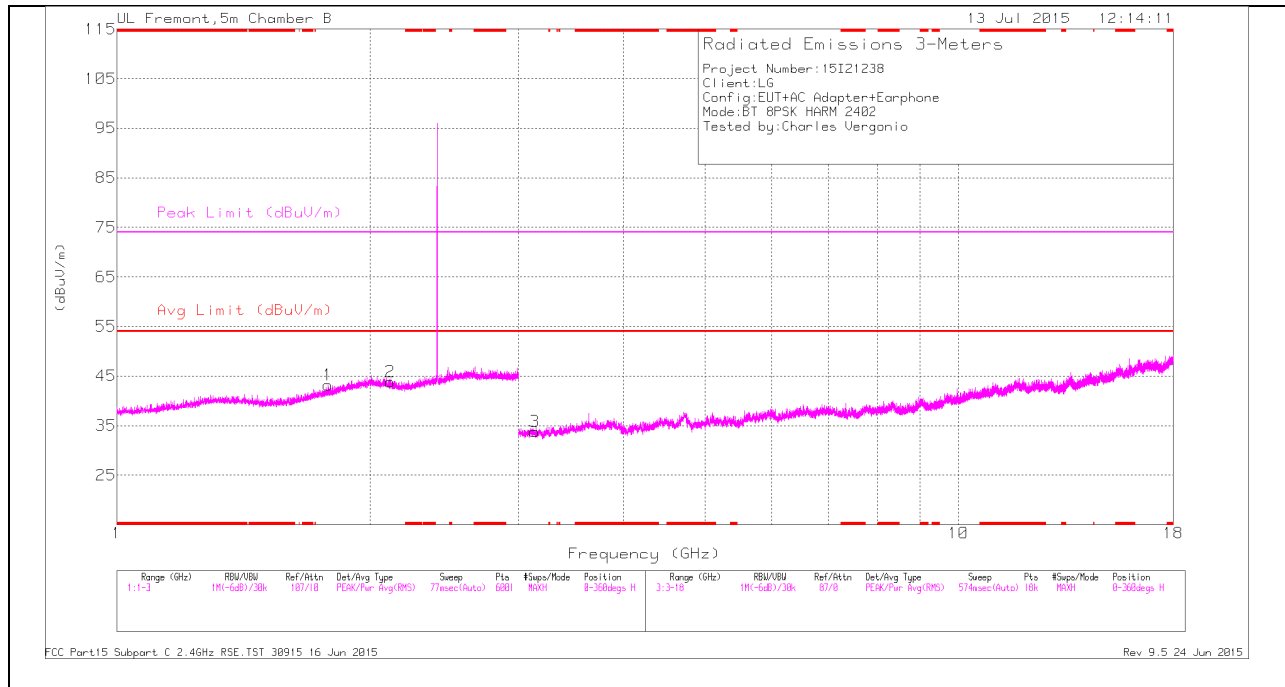


**VERTICAL DATA**

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/Pad (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	38.41	Pk	32.5	-21.8	49.11	-	-	74	-24.89	75	280	V
3	* 2.484	28.03	VA1T	32.5	-21.8	38.73	54	-15.27	-	-	75	280	V
4	2.561	27.84	VA1T	32.7	-21.4	39.14	54	-14.86	-	-	75	280	V
2	2.562	40.79	Pk	32.7	-21.5	51.99	-	-	74	-22.01	75	280	V

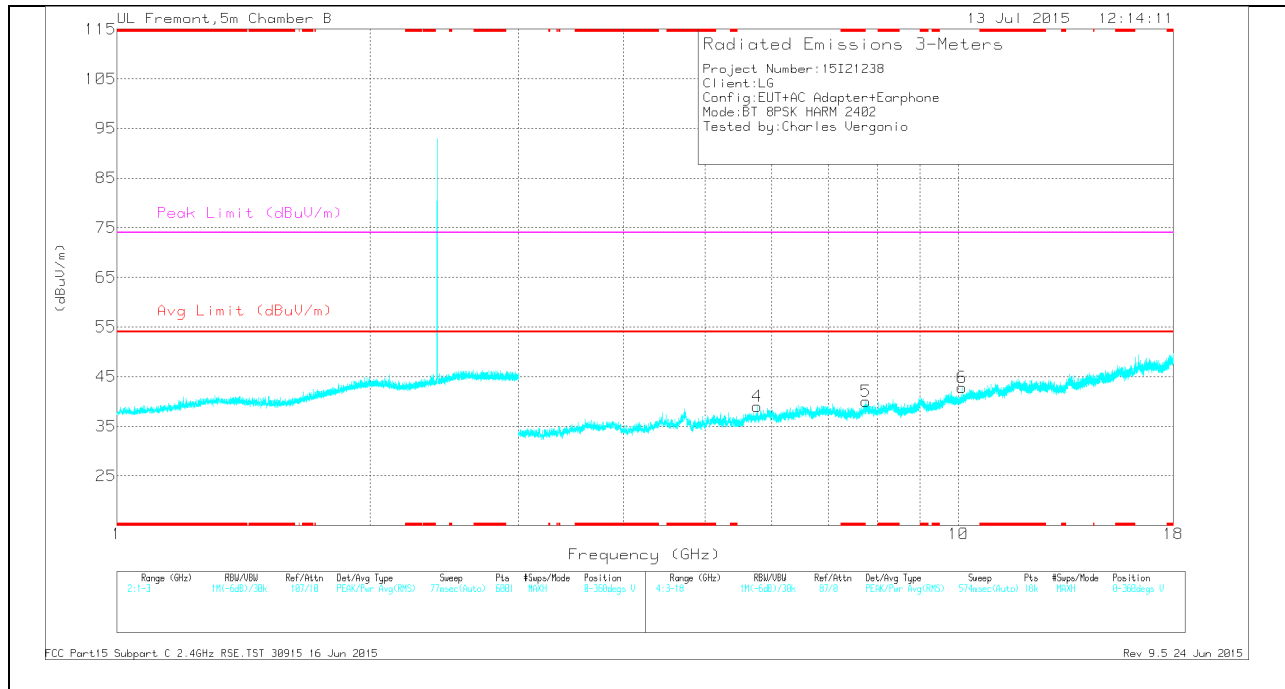
### HARMONICS AND SPURIOUS EMISSIONS

#### 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*

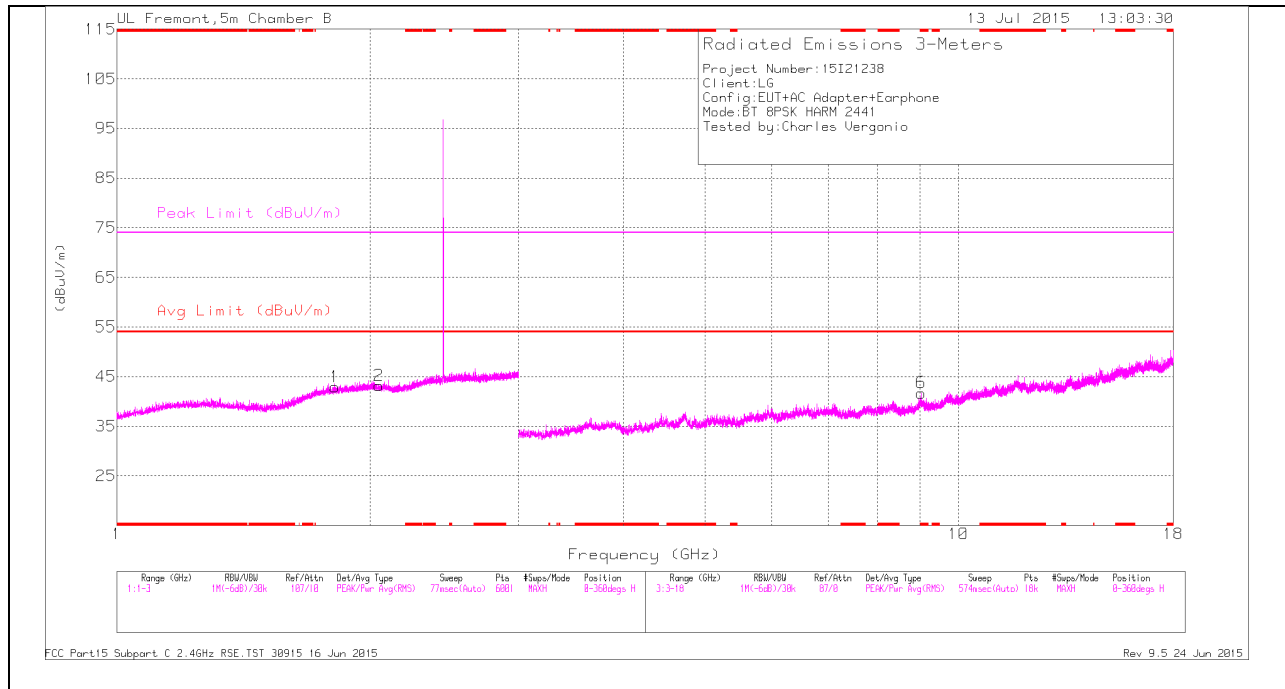
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.783	35.27	Pk	30.6	-22.7	43.17	-	-	-	-	0-360	199	H
2	2.113	34.47	Pk	31.7	-22.3	43.87	-	-	-	-	0-360	102	H
3	3.134	31.74	Pk	32.6	-30.5	33.84	-	-	-	-	0-360	200	H
4	5.77	32.37	Pk	35.1	-28.5	38.97	-	-	-	-	0-360	101	V
5	7.766	30.25	Pk	35.5	-25.7	40.05	-	-	-	-	0-360	200	V
6	10.094	28.29	Pk	37.2	-22.7	42.79	-	-	-	-	0-360	200	V

PK - Peak detector

*RADIATED EMISSIONS*

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.781	29.92	VA1T	30.5	-22.8	37.62	-	-	-	-	1	199	H
1.785	42.68	PK2	30.6	-22.6	50.68	-	-	-	-	1	199	H
2.112	29.71	VA1T	31.7	-22.3	39.11	-	-	-	-	1	103	H
2.113	42.76	PK2	31.7	-22.3	52.16	-	-	-	-	1	103	H
3.134	40.11	PK2	32.6	-30.5	42.21	-	-	-	-	1	199	H
3.134	27.53	VA1T	32.6	-30.5	29.63	-	-	-	-	1	199	H
5.772	39.18	PK2	35.1	-28.6	45.68	-	-	-	-	1	102	V
5.772	27	VA1T	35.1	-28.6	33.5	-	-	-	-	1	102	V
7.765	24.88	VA1T	35.5	-25.7	34.68	-	-	-	-	1	199	V
7.768	37.3	PK2	35.5	-25.7	47.1	-	-	-	-	1	199	V
10.092	34.44	PK2	37.2	-22.7	48.94	-	-	-	-	1	199	V
10.095	22.25	VA1T	37.2	-22.7	36.75	-	-	-	-	1	199	V

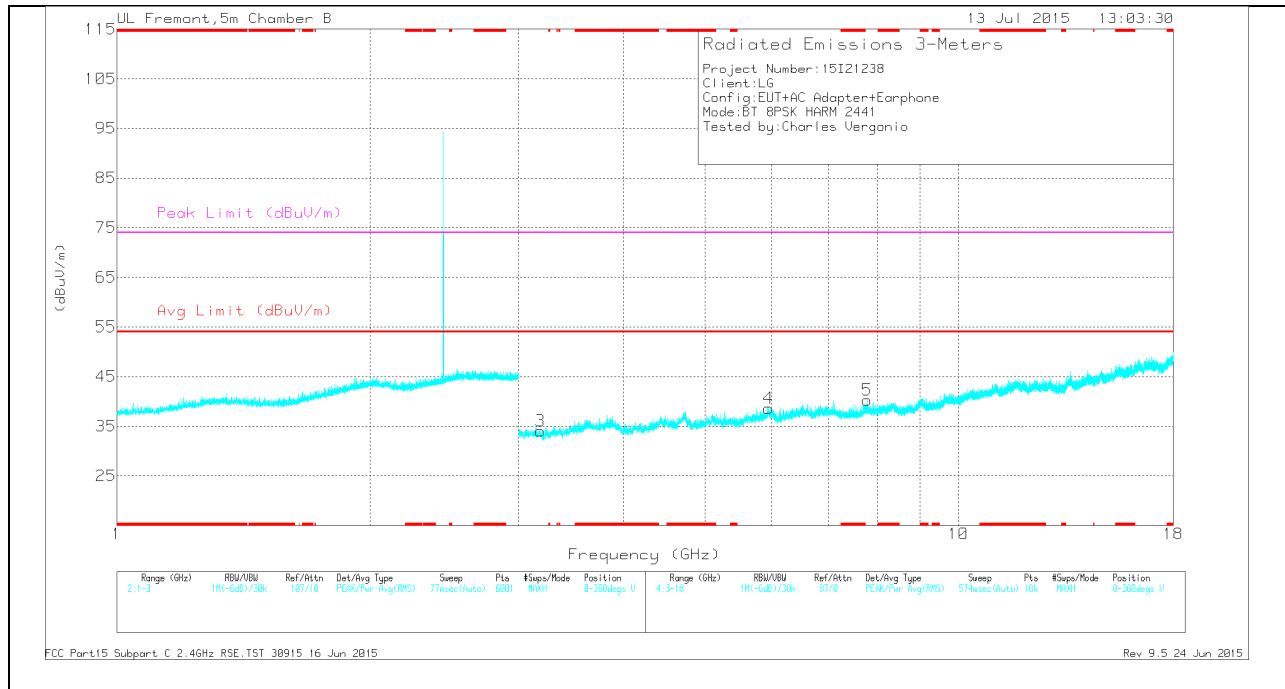
**MID CHANNEL HORIZONTAL**



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*

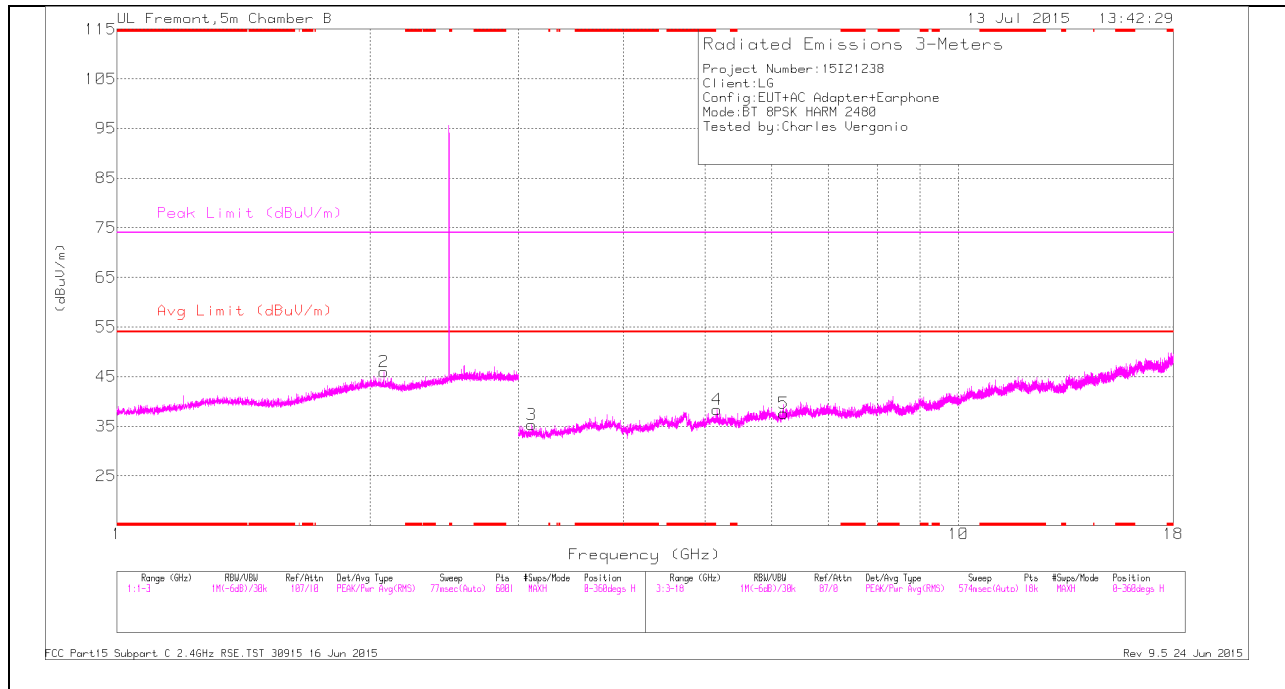
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6	* 9.025	29.33	Pk	36.1	-23.7	41.73	-	-	74	-32.27	0-360	199	H
1	1.815	34.71	Pk	30.9	-22.7	42.91	-	-	-	-	0-360	200	H
2	2.048	33.65	Pk	32.1	-22.6	43.15	-	-	-	-	0-360	200	H
3	3.184	31.9	Pk	32.4	-30.2	34.1	-	-	-	-	0-360	199	V
4	5.95	30.29	Pk	35.6	-27.3	38.59	-	-	-	-	0-360	101	V
5	7.786	30.04	Pk	35.5	-25.3	40.24	-	-	-	-	0-360	199	V

PK - Peak detector

*RADIATED EMISSIONS*

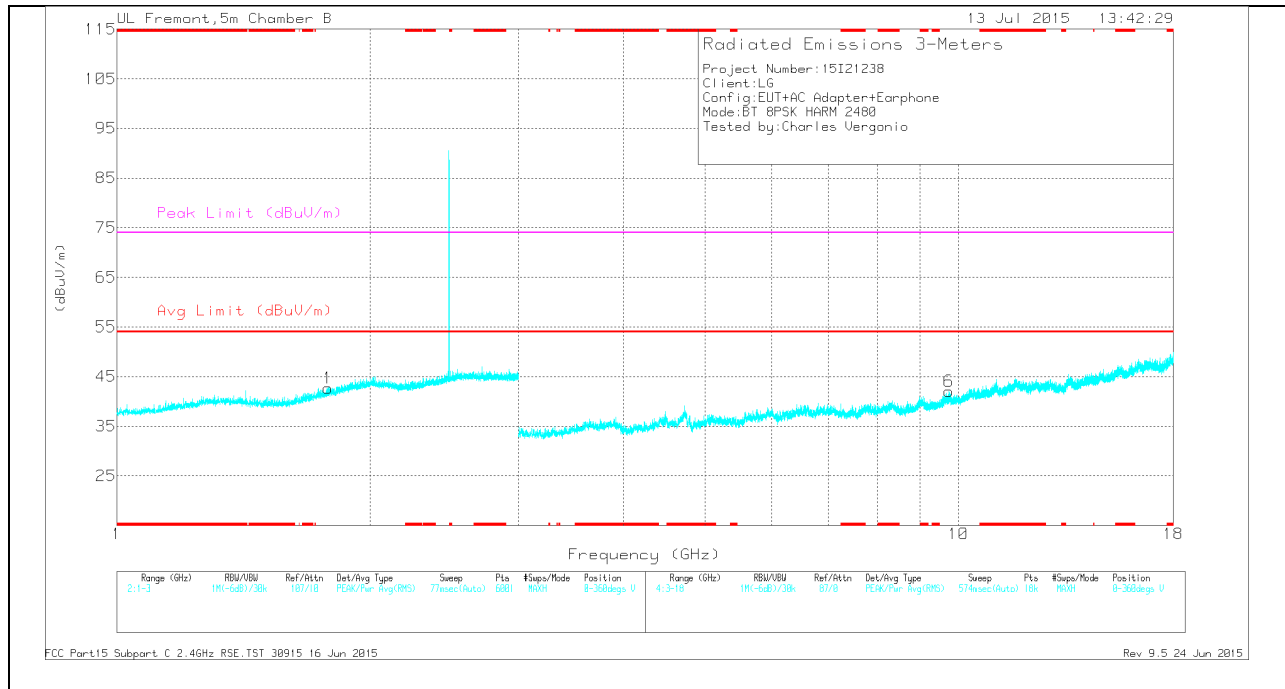
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 9.027	35.91	PK2	36.1	-23.7	48.31	-	-	74	-25.69	1	200	H
* 9.025	23.56	VA1T	36.1	-23.7	35.96	54	-18.04	-	-	1	200	H
1.813	42.97	PK2	30.9	-22.6	51.27	-	-	-	-	1	200	H
1.813	29.77	VA1T	30.9	-22.6	38.07	-	-	-	-	1	200	H
1.816	42.36	PK2	30.9	-22.7	50.56	-	-	-	-	1	200	H
1.817	29.68	VA1T	30.9	-22.7	37.88	-	-	-	-	1	200	H
2.047	42.91	PK2	32.1	-22.6	52.41	-	-	-	-	1	200	H
2.048	29.86	VA1T	32.1	-22.6	39.36	-	-	-	-	1	200	H
3.184	40.02	PK2	32.4	-30.2	42.22	-	-	-	-	1	200	V
3.186	27.5	VA1T	32.4	-30.1	29.8	-	-	-	-	1	200	V
5.949	38.55	PK2	35.6	-27.3	46.85	-	-	-	-	1	102	V
5.949	25.97	VA1T	35.6	-27.4	34.17	-	-	-	-	1	102	V
7.785	37.66	PK2	35.5	-25.3	47.86	-	-	-	-	1	198	V
7.785	24.78	VA1T	35.5	-25.3	34.98	-	-	-	-	1	198	V

### 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	AFT345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.782	34.74	Pk	30.6	-22.7	42.64	-	-	-	-	0-360	200	V
2	2.076	36.54	Pk	31.9	-22.4	46.04	-	-	-	-	0-360	101	H
3	3.112	32.88	Pk	32.7	-30.3	35.28	-	-	-	-	0-360	101	H
4	5.166	33.58	Pk	34.2	-29.4	38.38	-	-	-	-	0-360	101	H
5	6.2	29.97	Pk	35.5	-27.9	37.57	-	-	-	-	0-360	200	H
6	9.745	28.4	Pk	36.9	-23.3	42	-	-	-	-	0-360	101	V

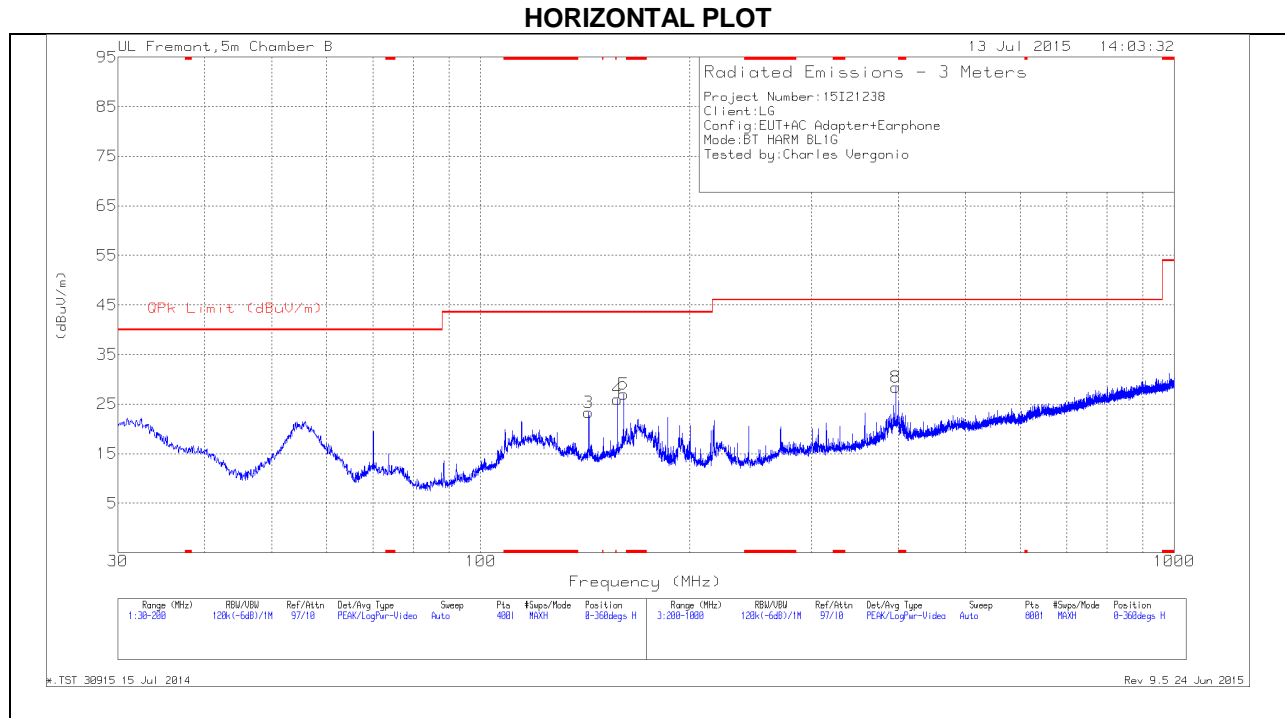
PK - Peak detector

*RADIATED EMISSIONS*

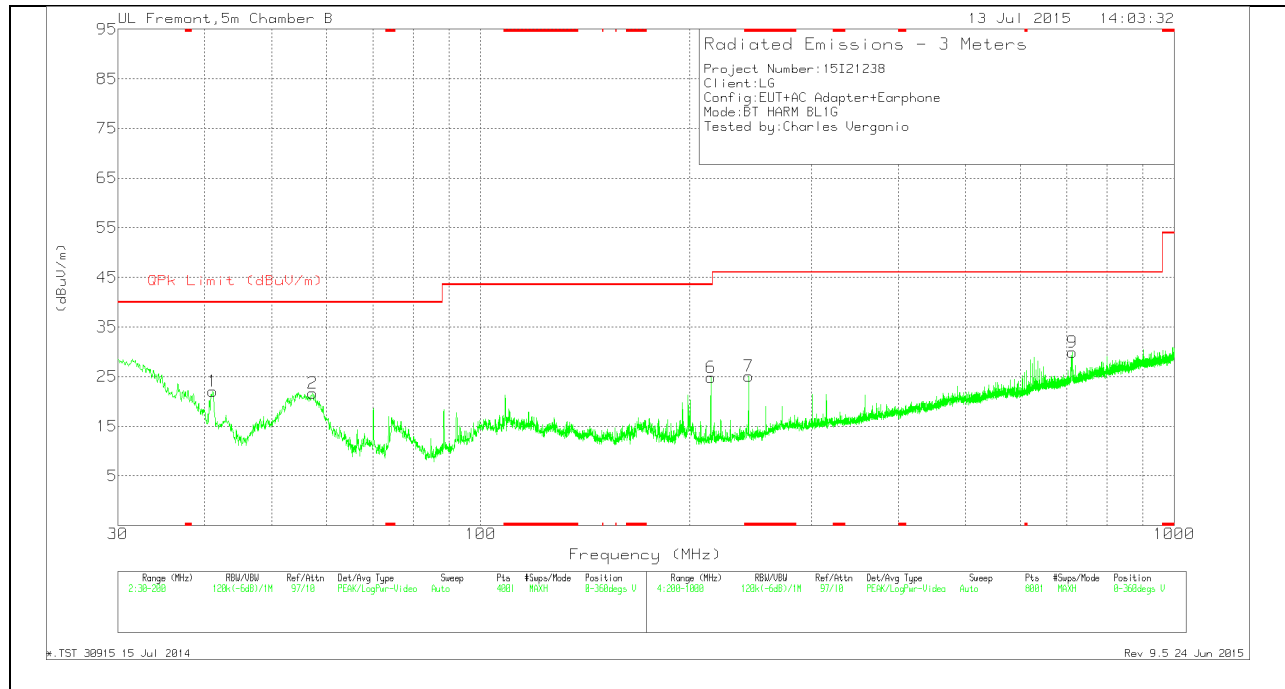
Frequency (GHz)	Meter Reading (dBuV)	Det	AFT345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.781	30.27	VA1T	30.6	-22.8	38.07	-	-	-	-	0	200	V
1.782	42.58	PK2	30.6	-22.7	50.48	-	-	-	-	0	200	V
2.075	42.52	PK2	31.9	-22.5	51.92	-	-	-	-	0	101	H
2.075	29.88	VA1T	31.9	-22.5	39.28	-	-	-	-	0	101	H
3.111	27.78	VA1T	32.7	-30.3	30.18	-	-	-	-	0	102	H
3.113	40.65	PK2	32.7	-30.3	43.05	-	-	-	-	0	102	H
5.166	40.26	PK2	34.2	-29.4	45.06	-	-	-	-	0	102	H
5.167	28.05	VA1T	34.2	-29.4	32.85	-	-	-	-	0	102	H
6.199	38.41	PK2	35.5	-27.9	46.01	-	-	-	-	0	200	H
6.199	25.91	VA1T	35.5	-27.9	33.51	-	-	-	-	0	200	H
9.743	23.01	VA1T	36.9	-23.3	36.61	-	-	-	-	0	102	V
9.744	35.5	PK2	36.9	-23.3	49.1	-	-	-	-	0	102	V

### 9.3. WORST-CASE BELOW 1 GHz

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



**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
7	* 243.4	39.91	Pk	11.6	-26.4	25.11	46.02	-20.91	0-360	101	V
1	41.135	37.49	Pk	13.2	-28.7	21.99	40	-18.01	0-360	101	V
2	57.285	42.77	Pk	7.4	-28.5	21.67	40	-18.33	0-360	101	V
3	143.1775	37.89	Pk	12.9	-27.5	23.29	43.52	-20.23	0-360	199	H
4	157.5	40.98	Pk	12.3	-27.3	25.98	43.52	-17.54	0-360	199	H
5	160.73	42.04	Pk	12.2	-27.2	27.04	43.52	-16.48	0-360	299	H
6	214.8	40.92	Pk	10.6	-26.7	24.82	43.52	-18.7	0-360	199	V
8	396.8	38.74	Pk	15.4	-25.8	28.34	46.02	-17.68	0-360	299	H
9	712.8	33.86	Pk	20.4	-24.3	29.96	46.02	-16.06	0-360	299	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
* 243.4047	40.49	Qp	11.6	-26.4	25.69	46.02	-20.33	160	140	V

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

Qp - Quasi-Peak detector

## 10. AC POWER LINE CONDUCTED EMISSIONS

### LIMITS

FCC §15.207 (a)

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

<sup>\*</sup> 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.

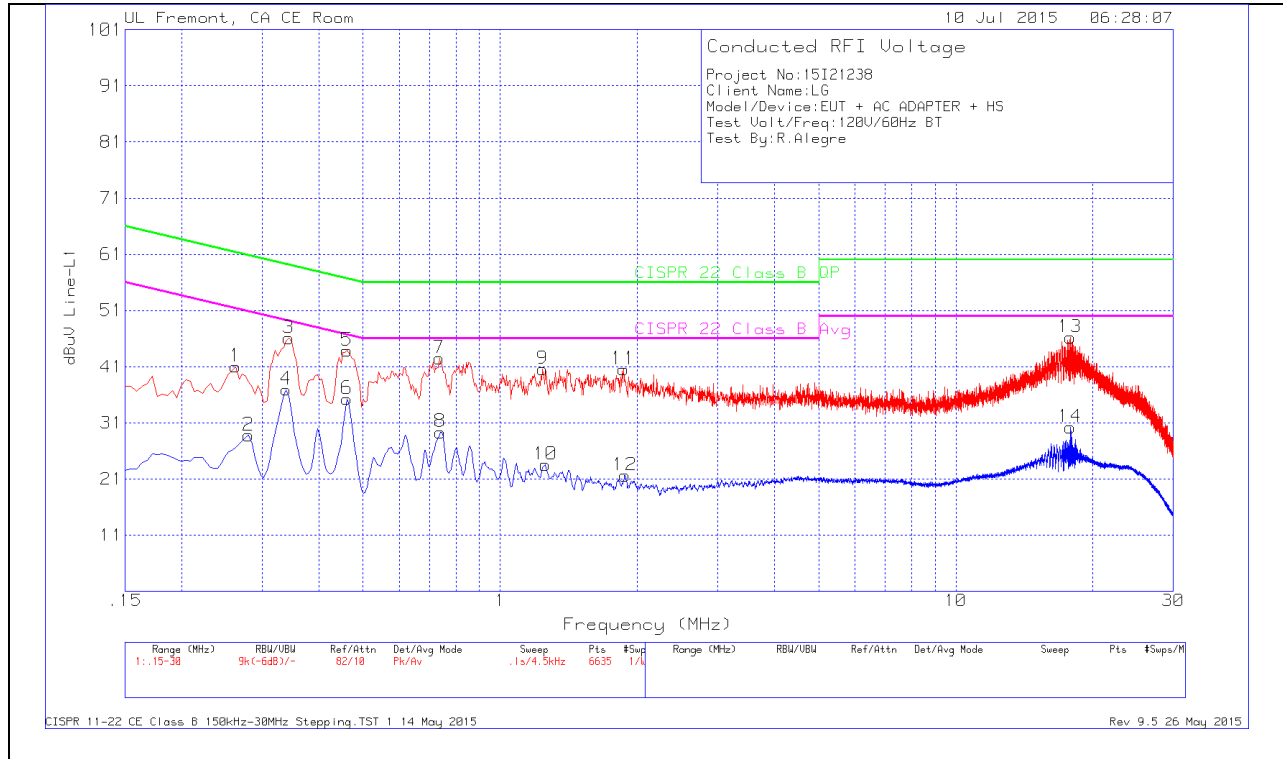
Line conducted data is recorded for both NEUTRAL and HOT lines.

### RESULTS



**6 WORST EMISSIONS**

**LINE 1 PLOT**



**LINE 1 RESULTS**

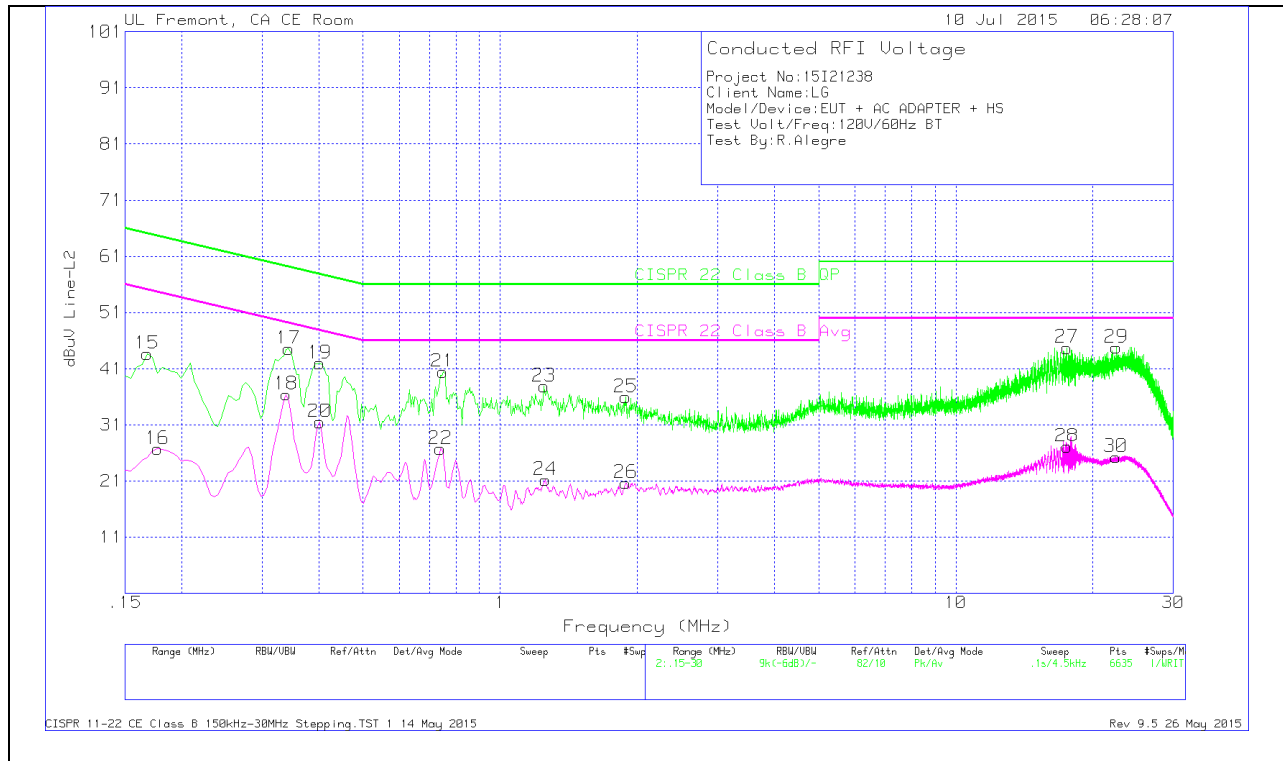
Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.2625	40.32	Pk	.7	0	41.02	61.35	-20.33	-	-
2	.2805	28.15	Av	.6	0	28.75	-	-	50.8	-22.05
3	.3435	45.57	Pk	.5	0	46.07	59.12	-13.05	-	-
4	.339	36.43	Av	.5	0	36.93	-	-	49.23	-12.3
5	.4605	43.46	Pk	.4	0	43.86	56.68	-12.82	-	-
6	.4605	34.86	Av	.4	0	35.26	-	-	46.68	-11.42
7	.735	42.19	Pk	.3	0	42.49	56	-13.51	-	-
8	.7395	29.05	Av	.3	0	29.35	-	-	46	-16.65
9	1.239	40.4	Pk	.2	0	40.6	56	-15.4	-	-
10	1.257	23.36	Av	.2	0	23.56	-	-	46	-22.44
11	1.8645	40.23	Pk	.2	.1	40.53	56	-15.47	-	-
12	1.878	21.3	Av	.2	.1	21.6	-	-	46	-24.4
13	17.826	45.7	Pk	.3	.2	46.2	60	-13.8	-	-
14	17.826	29.73	Av	.3	.2	30.23	-	-	50	-19.77

Pk - Peak detector

Av - Average detection

**LINE 2 PLOT**



**LINE 2 RESULTS**

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
15	.168	42.33	Pk	1.3	0	43.63	65.06	-21.43	-	-
16	.177	25.52	Av	1.2	0	26.72	-	-	54.63	-27.91
17	.3435	44.03	Pk	.5	0	44.53	59.12	-14.59	-	-
18	.339	35.92	Av	.5	0	36.42	-	-	49.23	-12.81
19	.402	41.55	Pk	.4	0	41.95	57.81	-15.86	-	-
20	.402	31.12	Av	.4	0	31.52	-	-	47.81	-16.29
21	.7485	40.14	Pk	.3	0	40.44	56	-15.56	-	-
22	.7395	26.41	Av	.3	0	26.71	-	-	46	-19.29
23	1.248	37.65	Pk	.2	0	37.85	56	-18.15	-	-
24	1.257	20.99	Av	.2	0	21.19	-	-	46	-24.81
25	1.887	35.64	Pk	.2	.1	35.94	56	-20.06	-	-
26	1.887	20.36	Av	.2	.1	20.66	-	-	46	-25.34
27	17.5425	44.22	Pk	.3	.2	44.72	60	-15.28	-	-
28	17.547	26.64	Av	.3	.2	27.14	-	-	50	-22.86
29	22.515	44.25	Pk	.3	.2	44.75	60	-15.25	-	-
30	22.461	24.76	Av	.3	.2	25.26	-	-	50	-24.74

Pk - Peak detector

Av - Average detection