



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE + BLUETOOTH + WLAN b/g/n & NFC WATCH

MODEL NUMBER: LG-W200A, LGW200A, W200A

FCC ID: ZNFW200A

REPORT NUMBER: 15I21604-E2V3

ISSUE DATE: OCTOBER 02, 2015

Prepared for

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Date	Revisions	Revised By
V1	09/29/15	Initial Issue	
V2	10/01/15	a. Removed duplicate references to ANSI C63.10 and C63.4. Only Test Methodology contains references to the ANSI C63.x standards. b. Updated Summary Table with worst case result for AC power line conducted emission.	I. Netto
V3	10/02/15	Updated Section 2	D. Corona

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION: GSM/WCDMA/LTE + BLUETOOTH + WLAN b/g/n & NFC WATCH
MODEL: LG-W200A, LGW200A, W200A
SERIAL NUMBER: 223B9
DATE TESTED: JULY 6-27, 2015, AUGUST 29, 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 FCC

- . FCC 47 CFR Part 2
- . FCC 47 CFR Part 15 Subpart C 15.247
- . FCC Public Notice DA 00-705

ANSI

- . ANSI C63.10-2013

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 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 + BLUETOOTH + WLAN b/g/n & NFC WATCH.

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	10.98	12.53
2402 - 2480	Enhanced 8PSK	8.56	7.18

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 -1.9dBi.

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 Y orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Y orientation.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	LG	MCS-02WRE	RB550800170	N/A

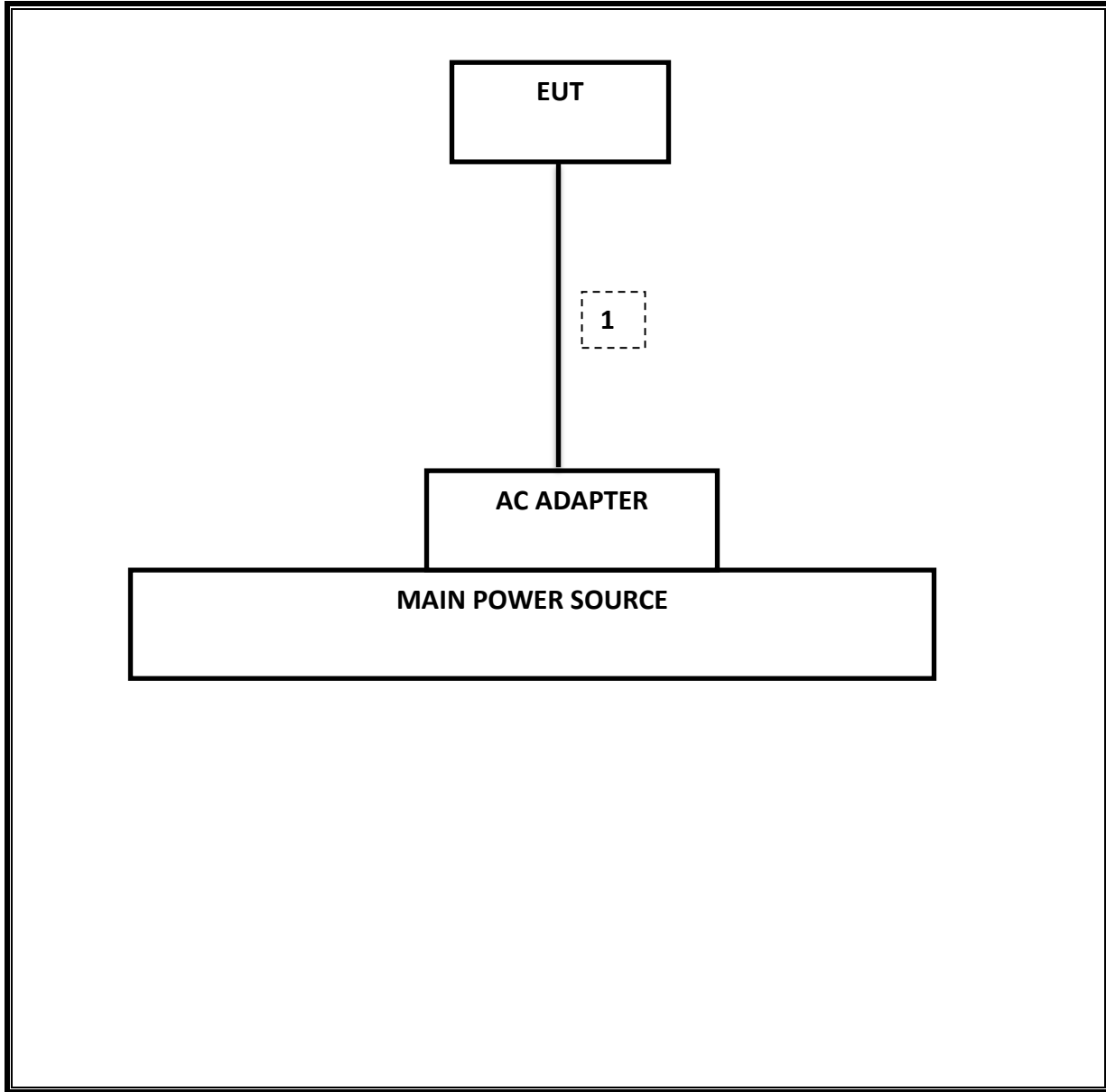
I/O CABLES

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

TEST SETUP

EUT was set in the BT 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 Preampifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/16
RF Preampifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preampifier, 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 6.6	Occupied Band width (%)	N/A	Conducted	Pass	1.250MHz
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-33.25dBm
15.247 (b)(1)	RSS-247 5.4(1)	TX conducted output power	<21dBm		Pass	10.98dBm
15.247 (a)(1)	RSS-247 5.1 (1)	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		Pass	79 channels
15.247 (a)(1)(iii)	RSS-247 5.1(4)	Avg Time of Occupancy	< 0.4sec		Pass	0.286 s
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10		Pass	51.32 dBuV(PK)
15.205, 15.209	RSS-GEN 8.9	Radiated Spurious Emission	< 54dBuV/m	Radiated	Pass	48.78 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	0.978	0.903
Middle	2441	0.980	0.908
High	2480	0.984	0.920
Worst		0.984	0.920

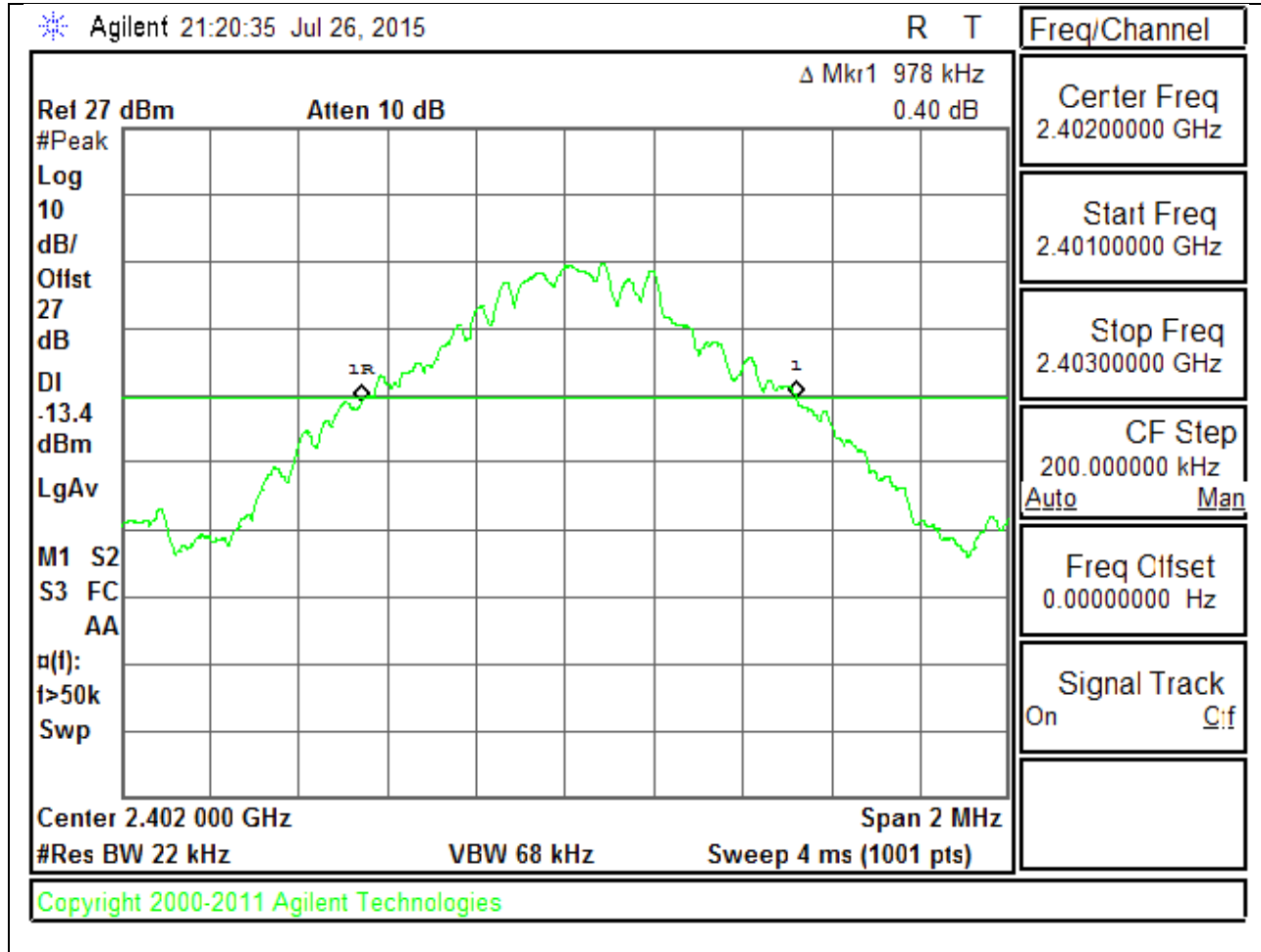
8.1.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.347	1.241
Middle	2441	1.344	1.209
High	2480	1.35	1.250
Worst		1.35	1.250

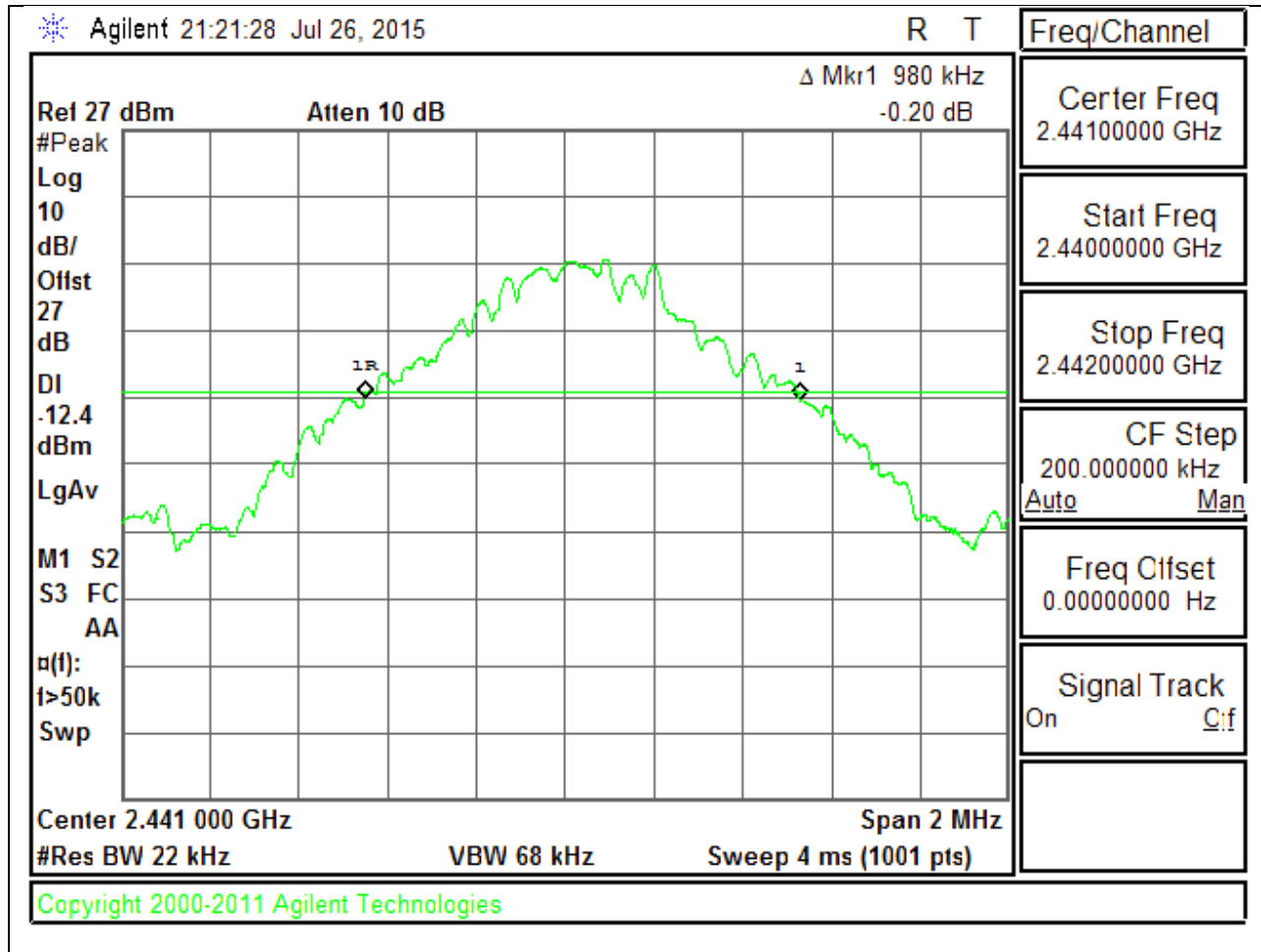
8.1.3. 20 dB AND 99% BANDWIDTH PLOTS

GFSK 20 dB BANDWIDTH

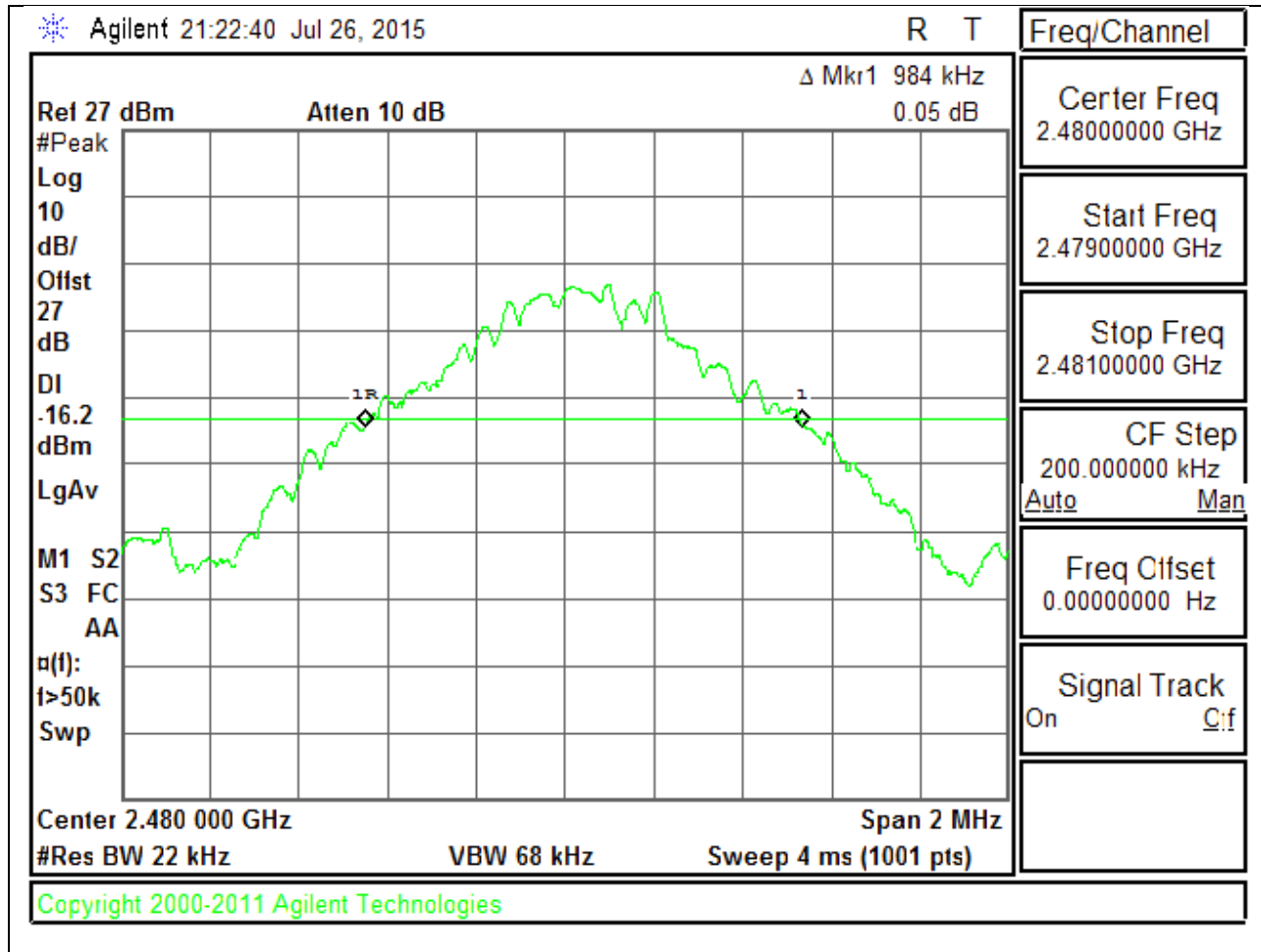
LOW CHANNEL



MID CHANNEL

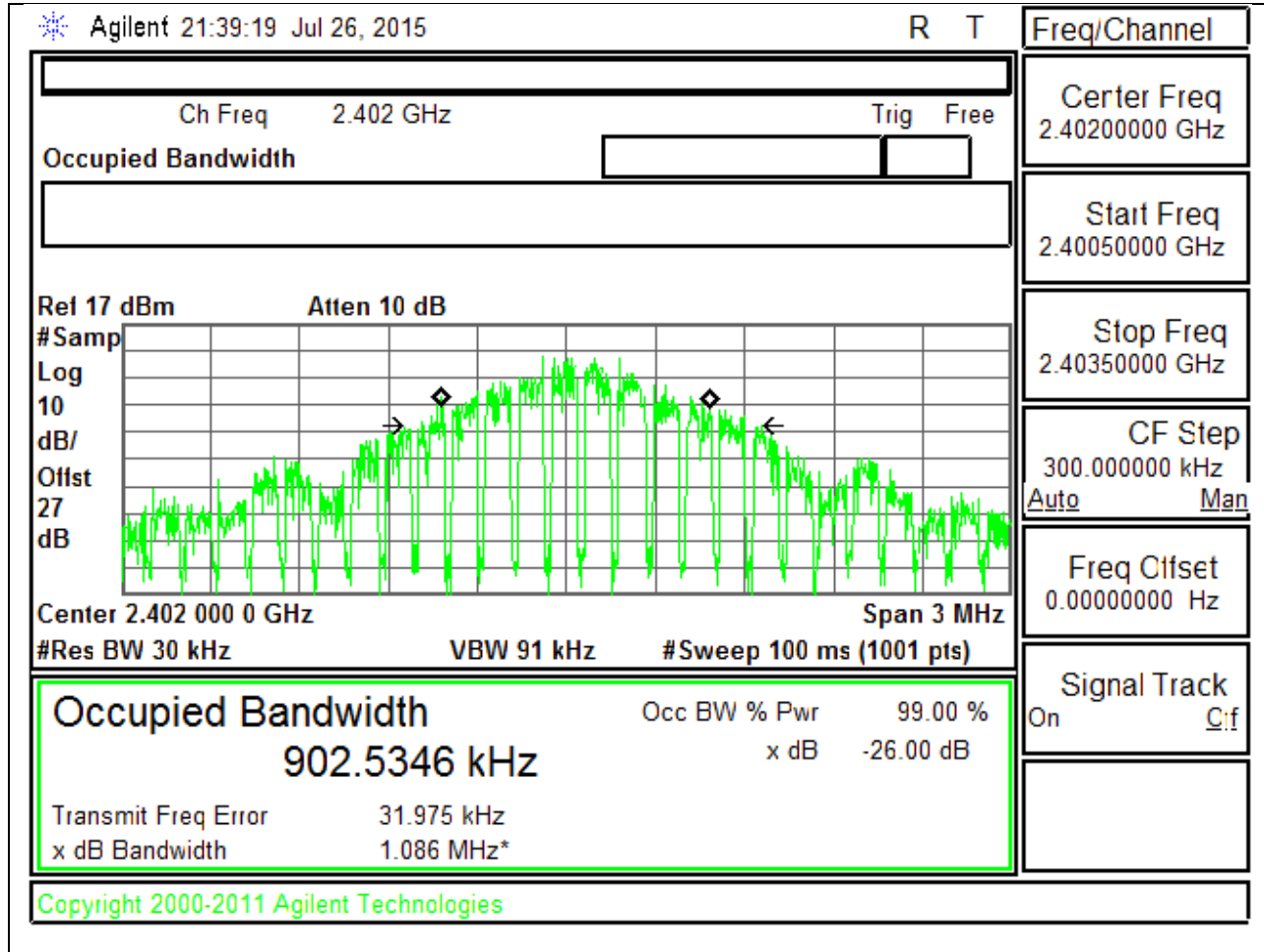


HIGH CHANNEL

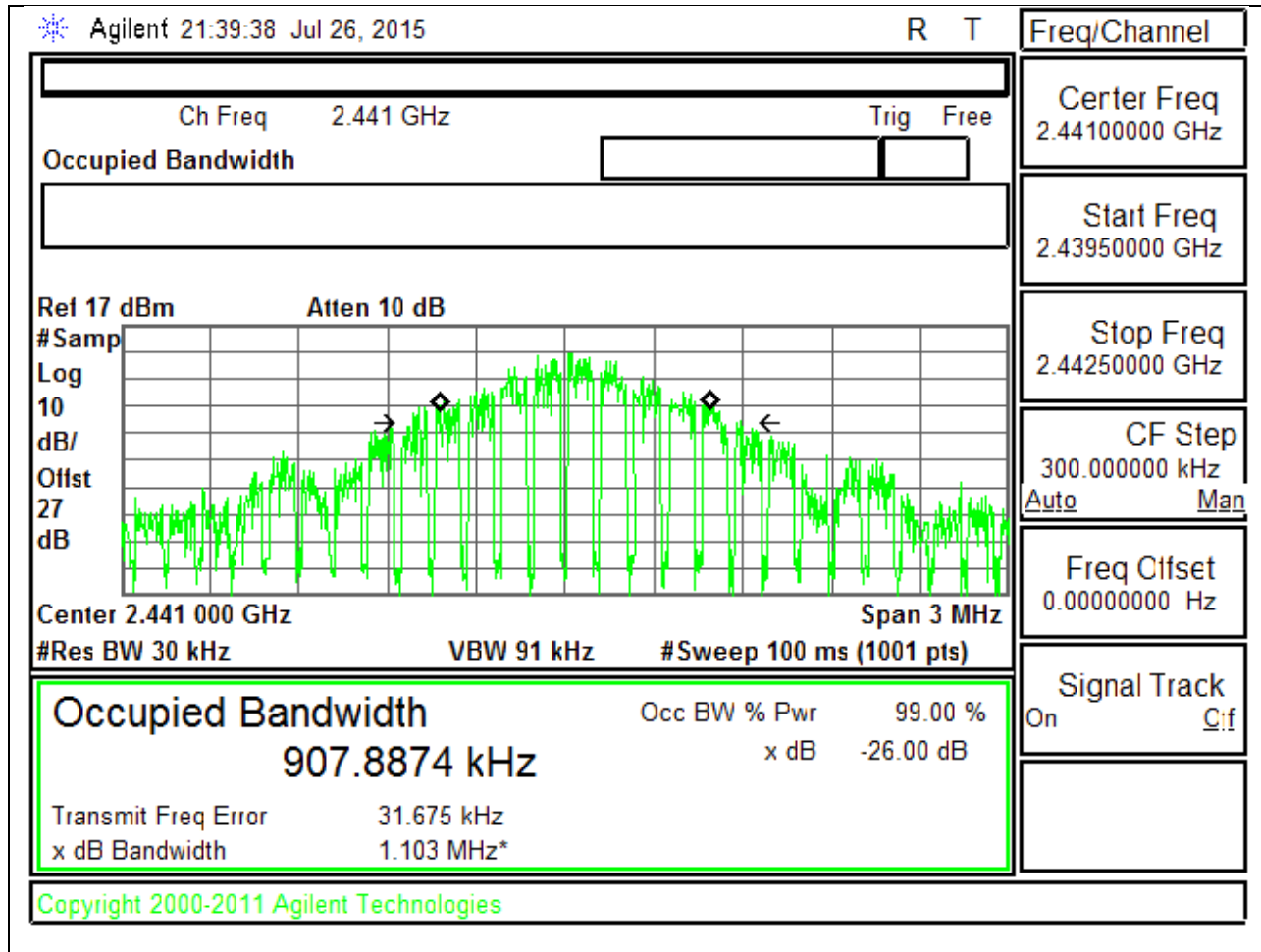


GFSK 99% BANDWIDTH

LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

Agilent 21:40:02 Jul 26, 2015
R T

Ch Freq 2.48 GHz
Trig Free

Occupied Bandwidth

Center Freq
2.4800000 GHz

Start Freq
2.4785000 GHz

Stop Freq
2.4815000 GHz

CF Step
300.000000 kHz
Auto Man

Freq Offset
0.0000000 Hz

Signal Track
On Off

Rel 17 dBm Atten 10 dB

Samp
Log
10
dB/
Offst
27
dB

Center 2.480 000 GHz Span 3 MHz

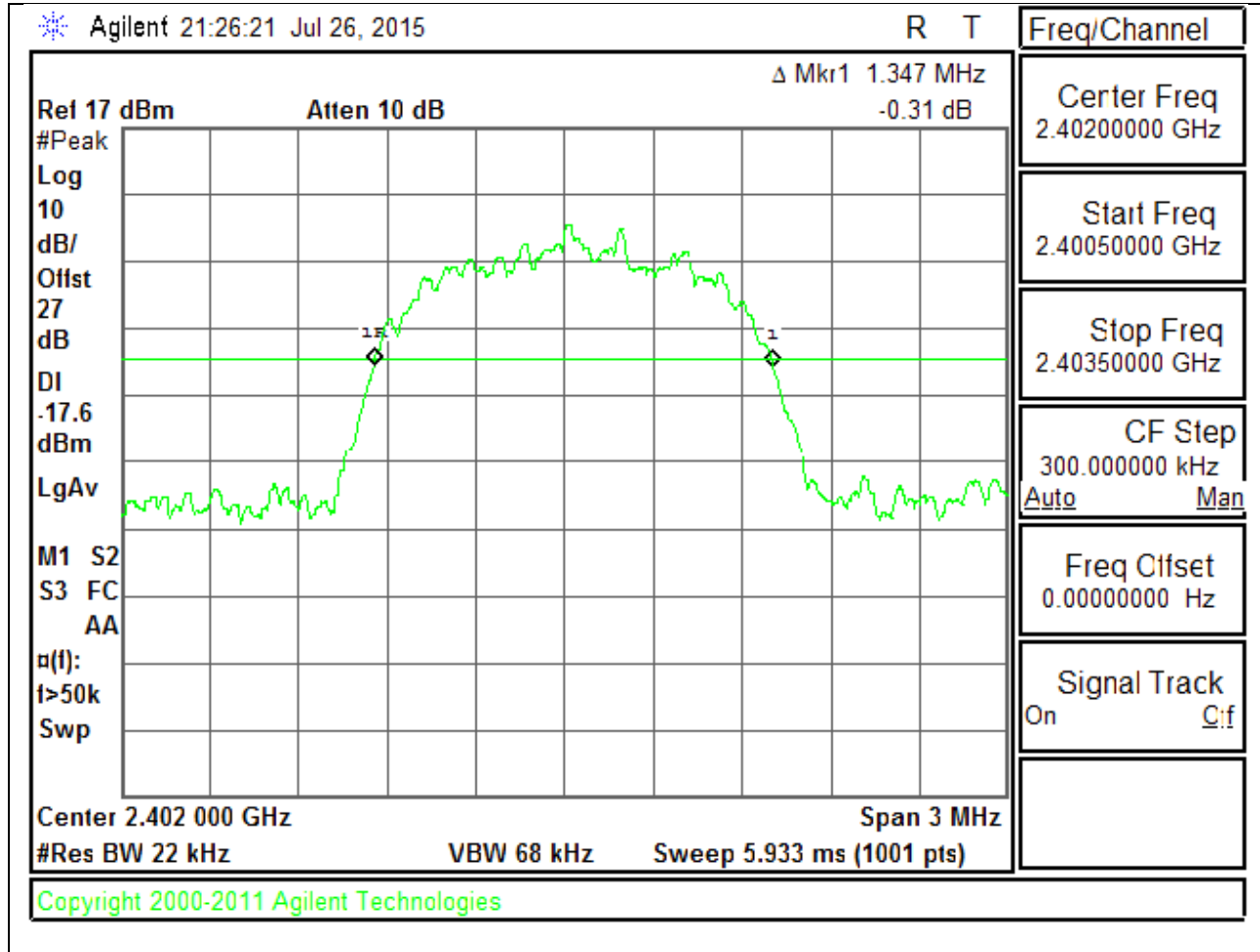
#Res BW 30 kHz VBW 91 kHz #Sweep 100 ms (1001 pts)

Occupied Bandwidth	Occ BW % Pwr	99.00 %
919.8024 kHz	x dB	-26.00 dB
Transmit Freq Error	43.160 kHz	
x dB Bandwidth	1.146 MHz*	

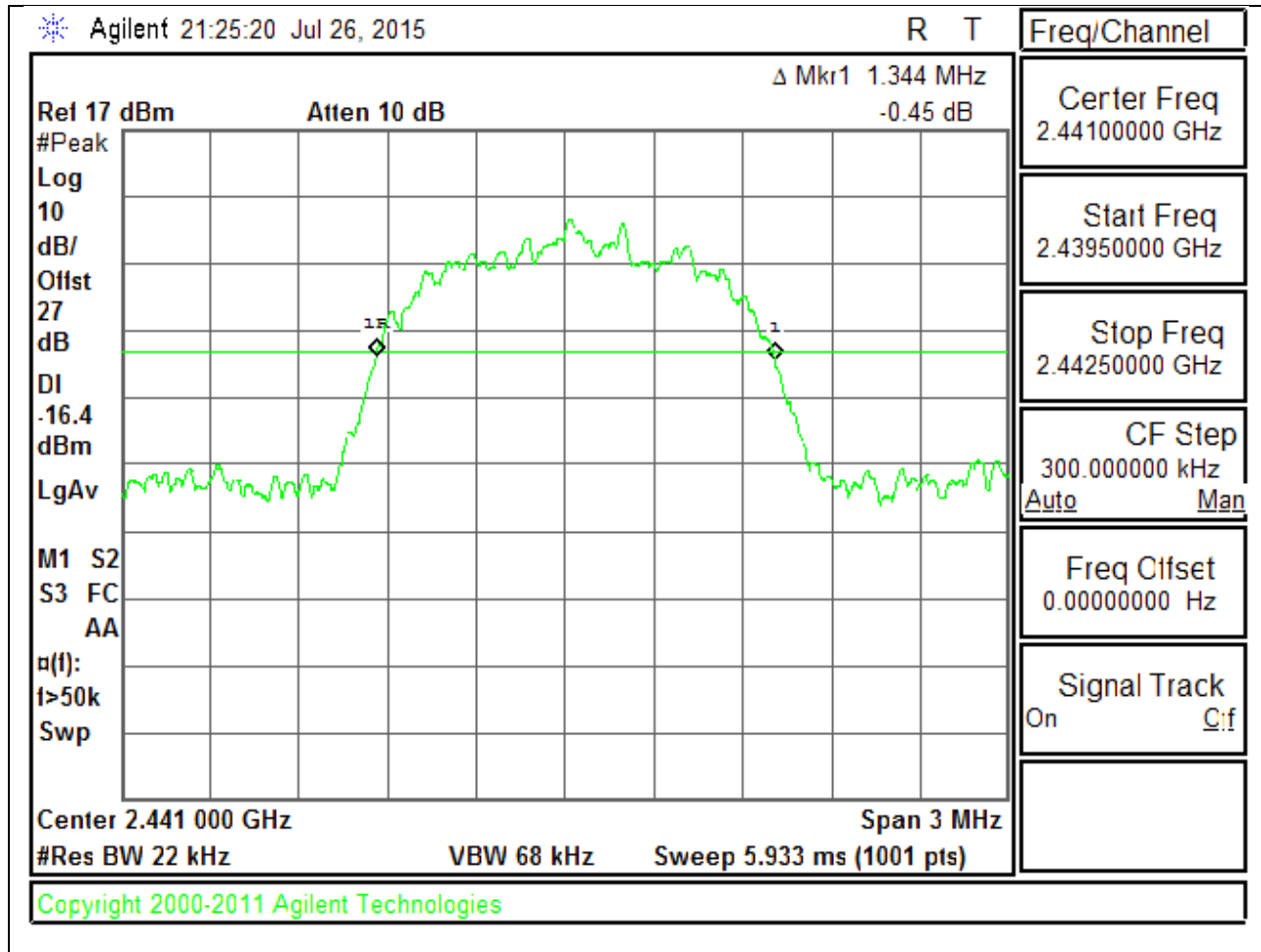
Copyright 2000-2011 Agilent Technologies

8PSK 20 dB BANDWIDTH

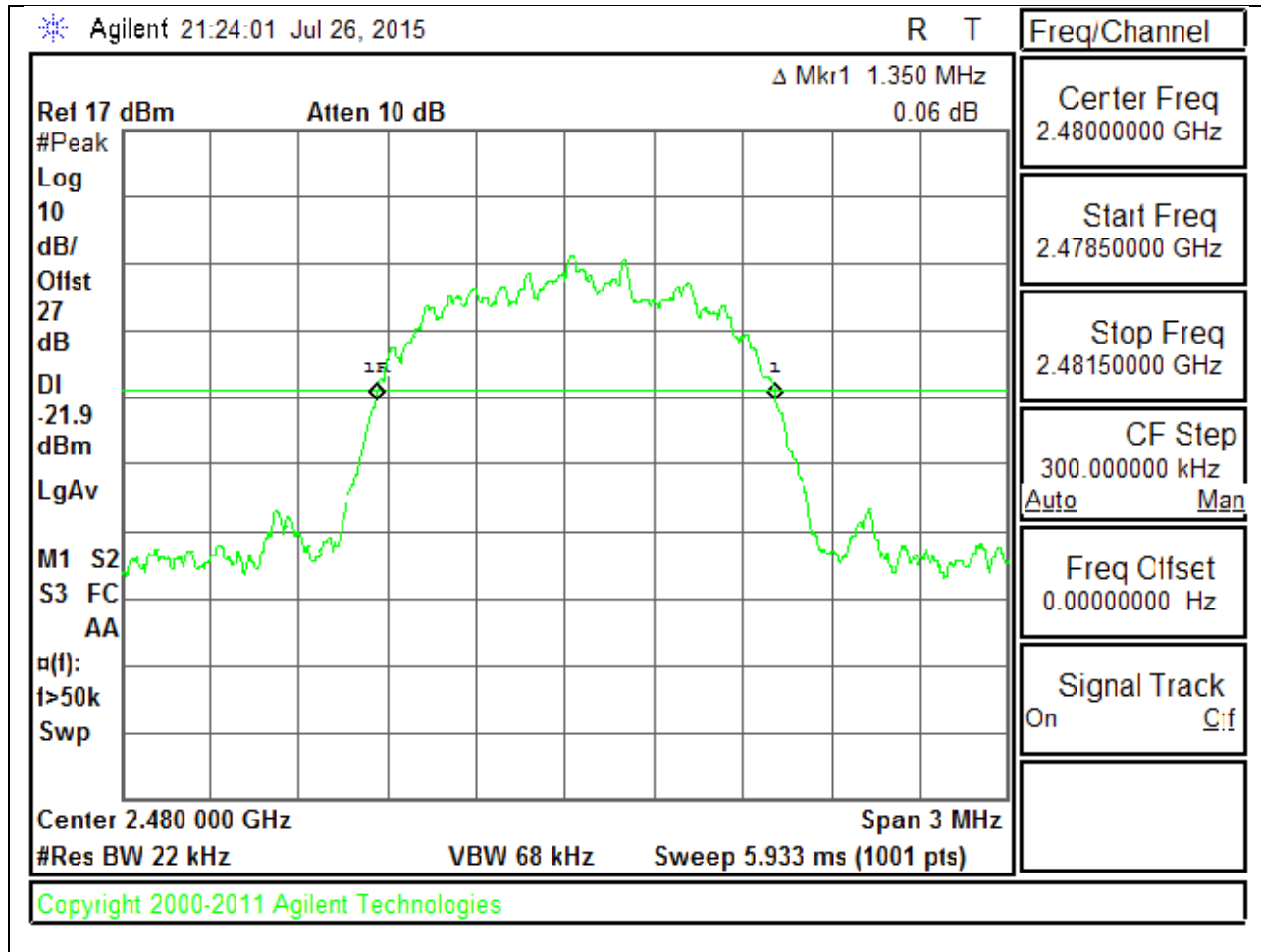
LOW CHANNEL



MID CHANNEL

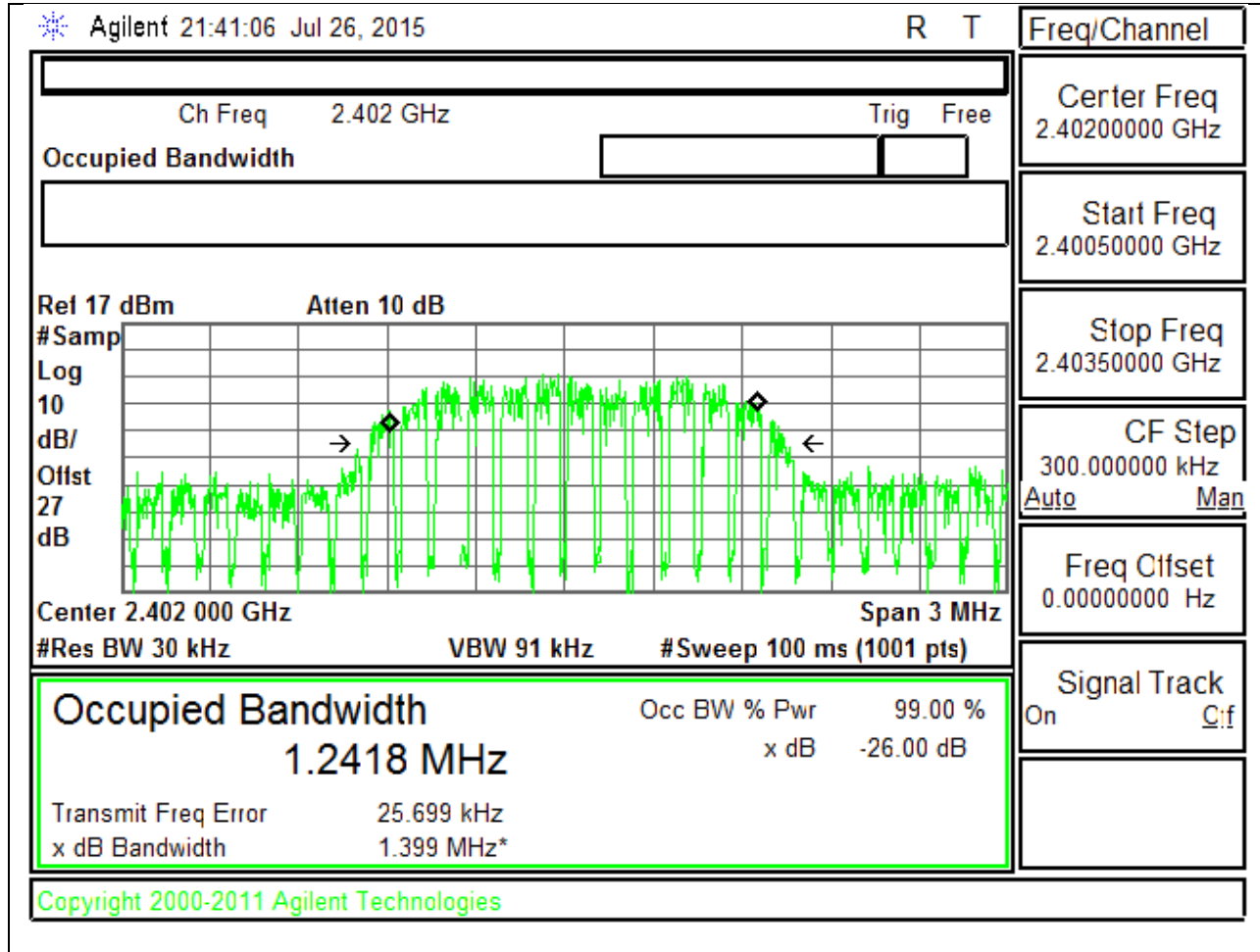


HIGH CHANNEL



8PSK 99% BANDWIDTH

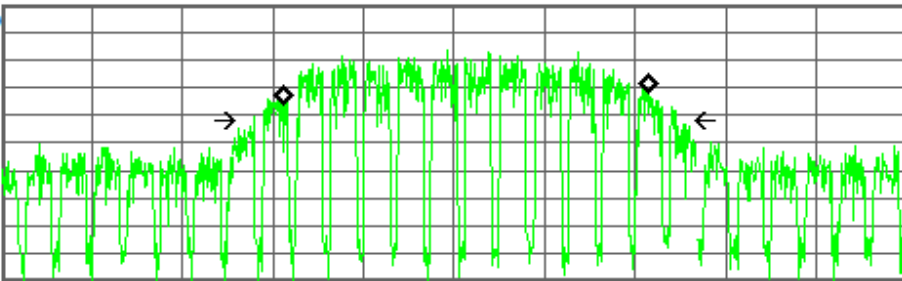
LOW CHANNEL



MID CHANNEL

Agilent 21:40:48 Jul 26, 2015 R T

Ch Freq 2.441 GHz Trig Free	Center Freq 2.44100000 GHz
Occupied Bandwidth []	Start Freq 2.43950000 GHz
Rel 17 dBm Atten 10 dB	Stop Freq 2.44250000 GHz
# Samp Log 10 dB/ Offst 27 dB	CF Step 300.000000 kHz Auto Man
Center 2.441 000 GHz Span 3 MHz	Freq Offset 0.00000000 Hz
#Res BW 30 kHz VBW 91 kHz #Sweep 100 ms (1001 pts)	Signal Track On Cif
Occupied Bandwidth 1.2094 MHz	Occ BW % Pwr 99.00 % x dB -26.00 dB
Transmit Freq Error 37.467 kHz	
x dB Bandwidth 1.398 MHz*	
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HIGH CHANNEL

Agilent 21:40:24 Jul 26, 2015
R T

Ch Freq 2.48 GHz
Trig Free

Occupied Bandwidth

Center Freq
2.4800000 GHz

Start Freq
2.4785000 GHz

Stop Freq
2.4815000 GHz

CF Step
300.000000 kHz
Auto Man

Freq Offset
0.0000000 Hz

Signal Track
On Off

Ref 17 dBm Atten 10 dB

Samp
Log
10
dB/
Offset
27
dB

Center 2.480 000 GHz Span 3 MHz
#Res BW 30 kHz VBW 91 kHz #Sweep 100 ms (1001 pts)

Occupied Bandwidth	Occ BW % Pwr	99.00 %
1.2530 MHz	x dB	-26.00 dB
Transmit Freq Error	37.595 kHz	
x dB Bandwidth	1.370 MHz*	

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8.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

IC RSS-247 5.1(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.

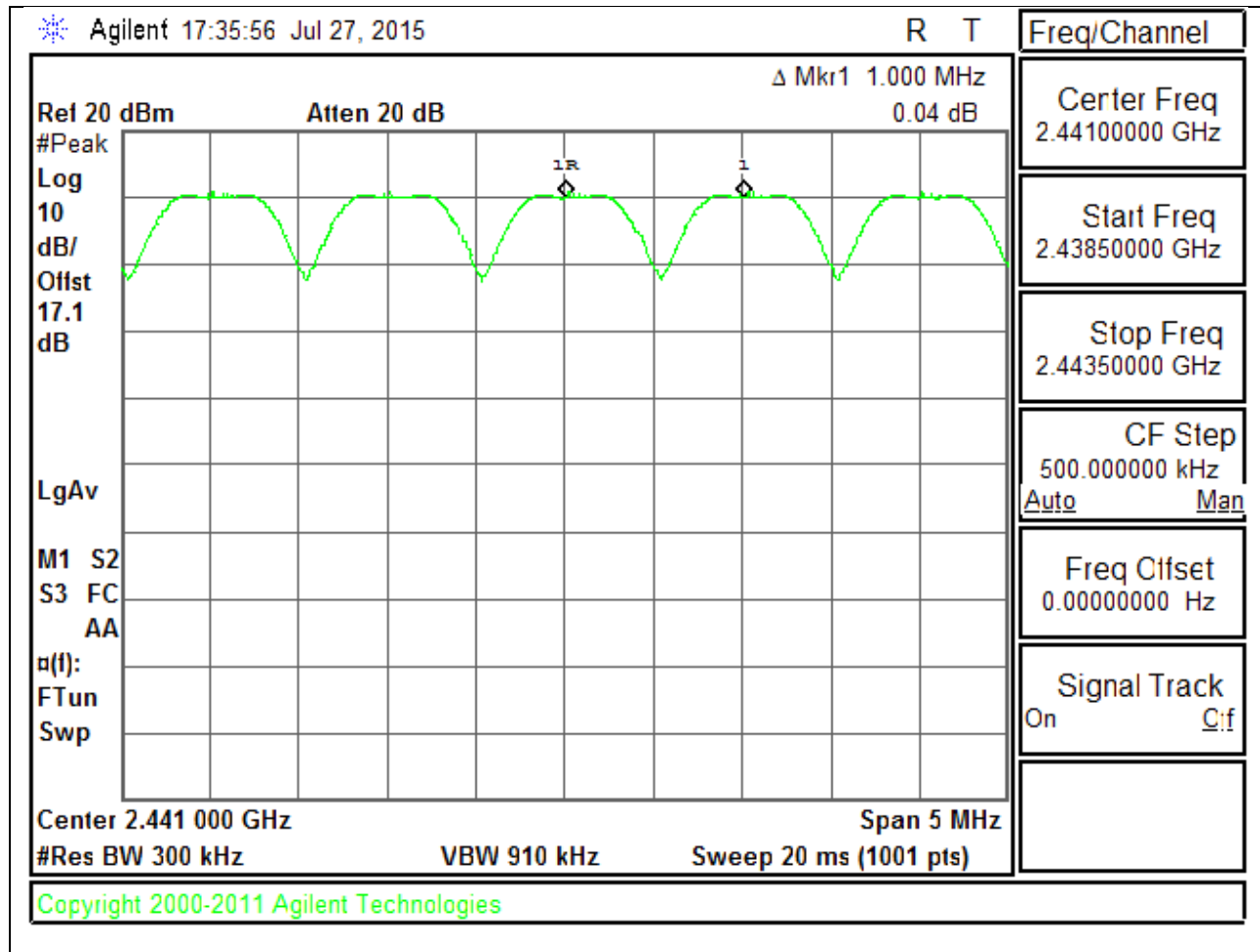
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than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

IC RSS-247 5.1(4)

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

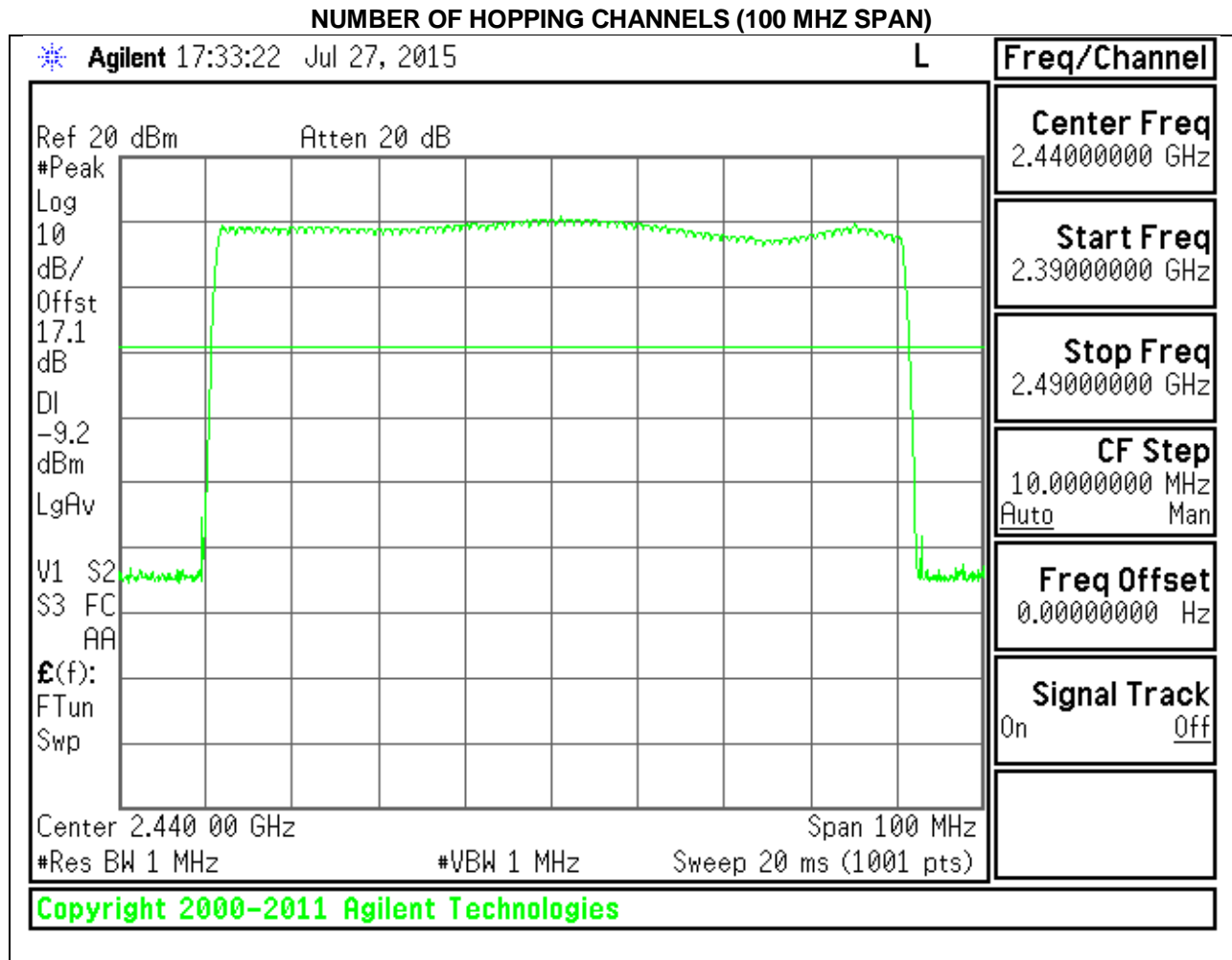
TEST PROCEDURE

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.

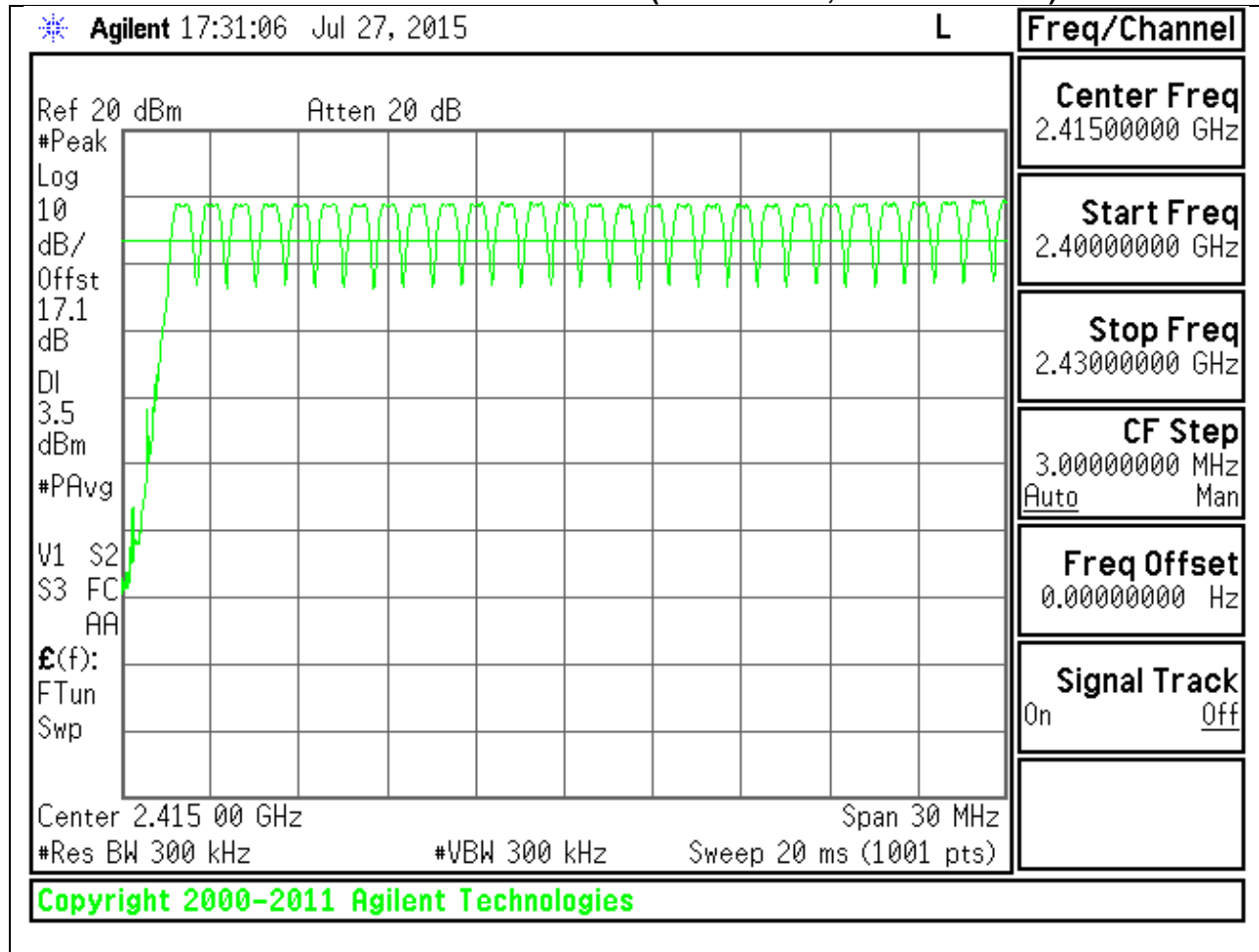
RESULTS

Normal Mode: 79 Channels observed.

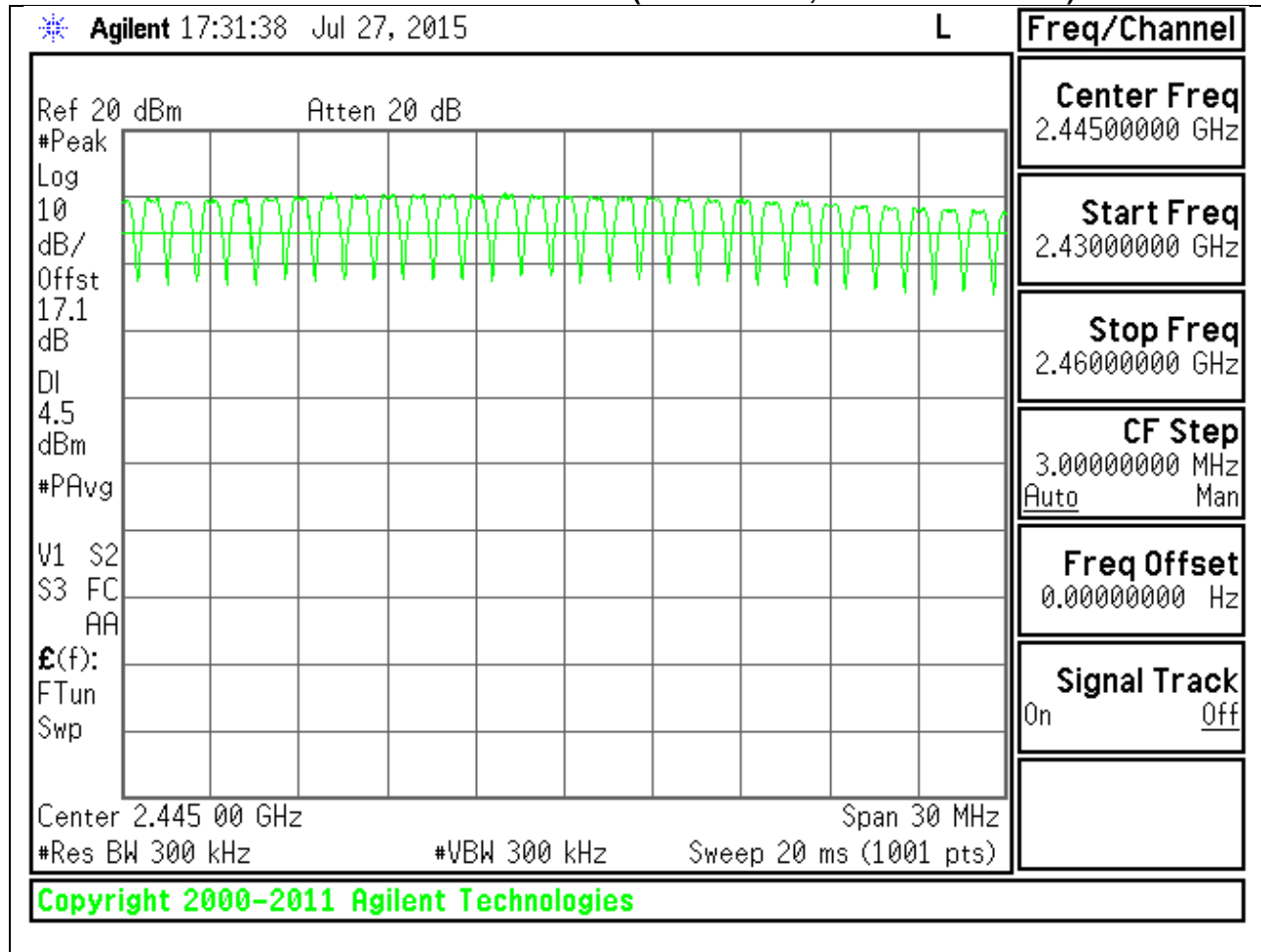
NUMBER OF HOPPING CHANNELS PLOTS



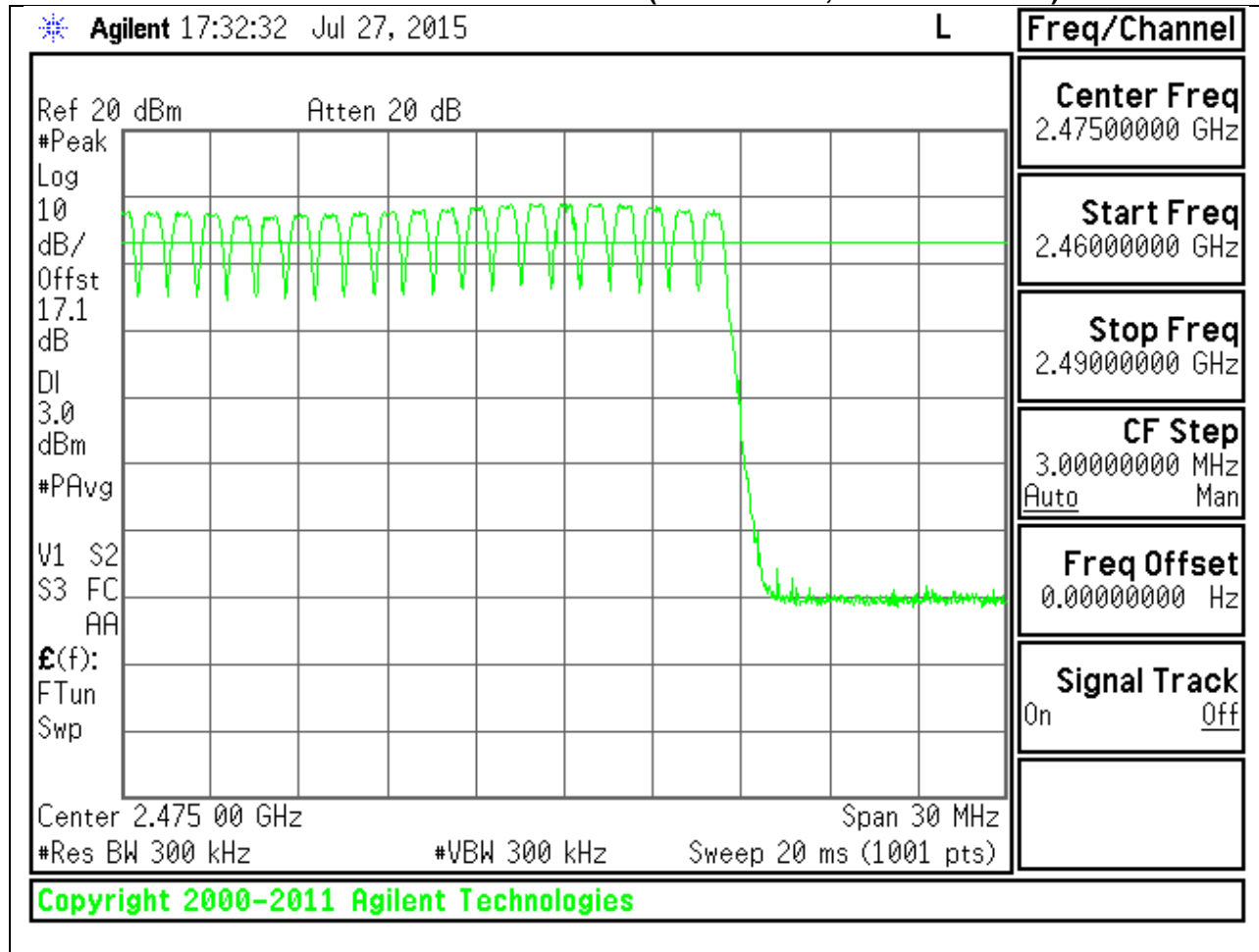
NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, FIRST SEGMENT)



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)

IC RSS-247 5.1(4)

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

TEST PROCEDURE

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

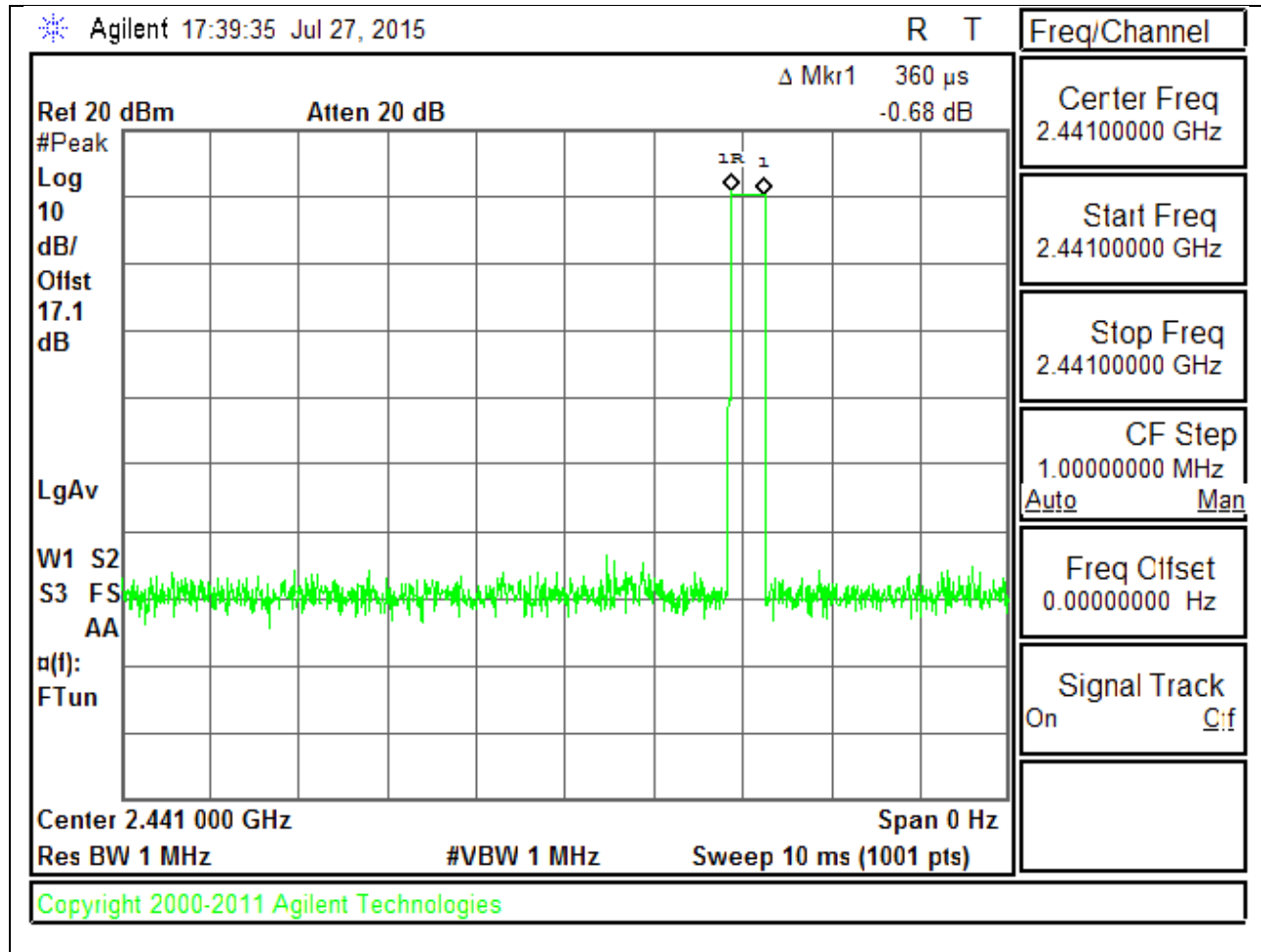
The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to $10 * (\# \text{ of pulses in } 3.16 \text{ s}) * \text{ pulse width}$.

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

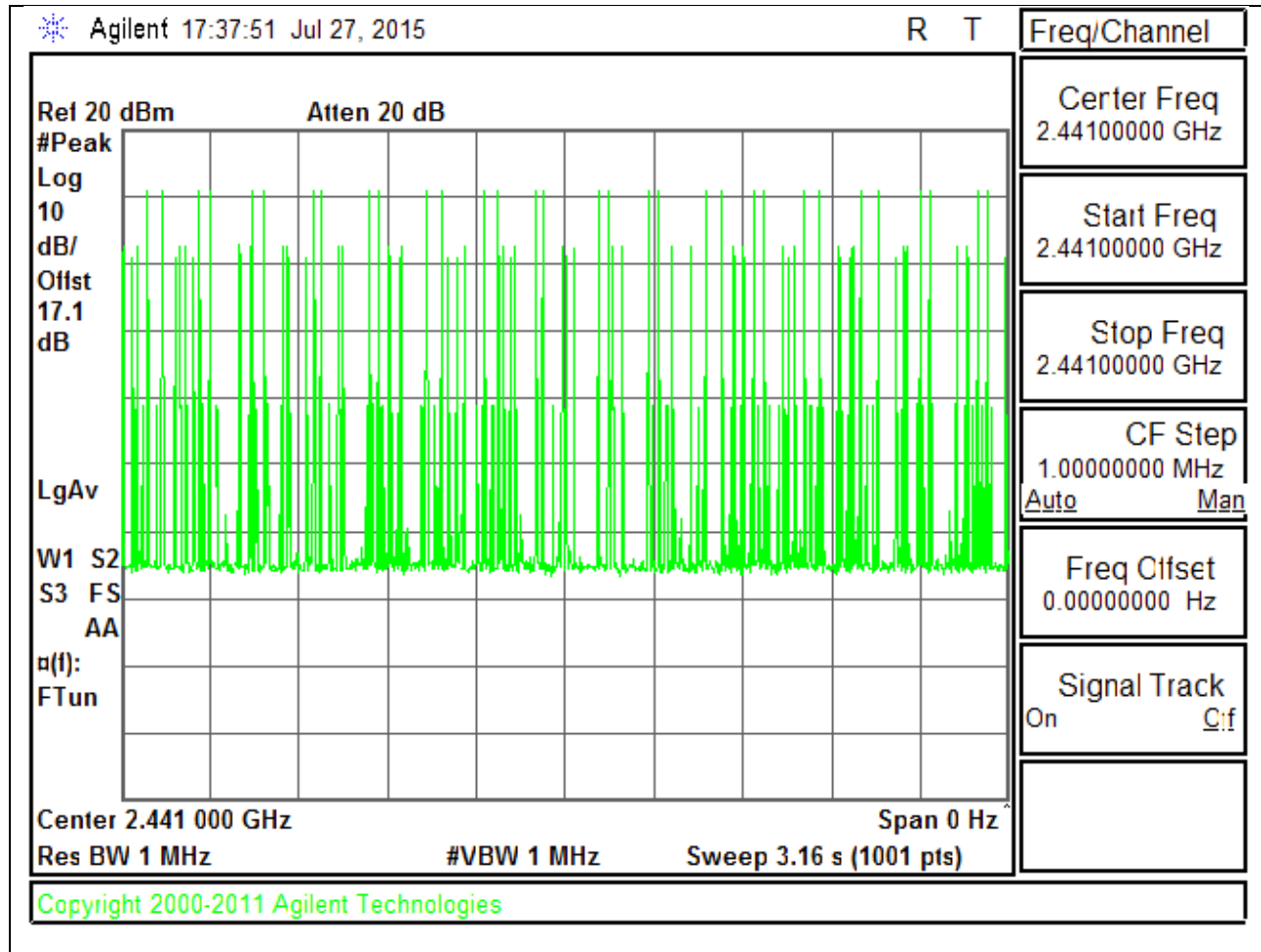
RESULTS

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	0.36	32	0.1152	0.4	-0.2848
DH3	1.62	15	0.243	0.4	-0.157
DH5	2.86	10	0.286	0.4	-0.114
DH Packet	Pulse Width (msec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK AFH Mode					
DH1	0.36	8	0.0288	0.4	-0.3712
DH3	1.62	3.75	0.06075	0.4	-0.3393
DH5	2.86	2.5	0.0715	0.4	-0.3285

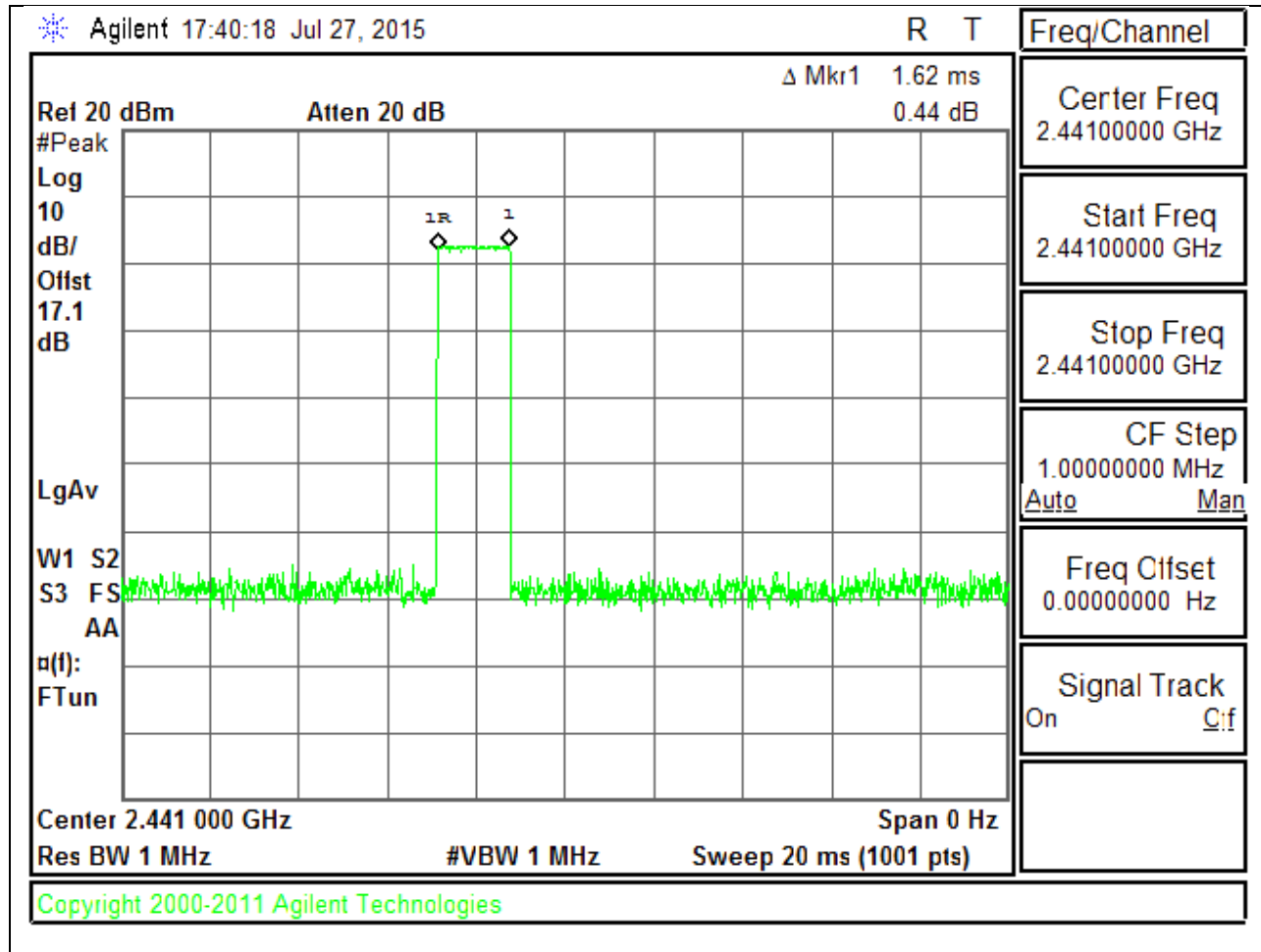
PULSE WIDTH - DH1



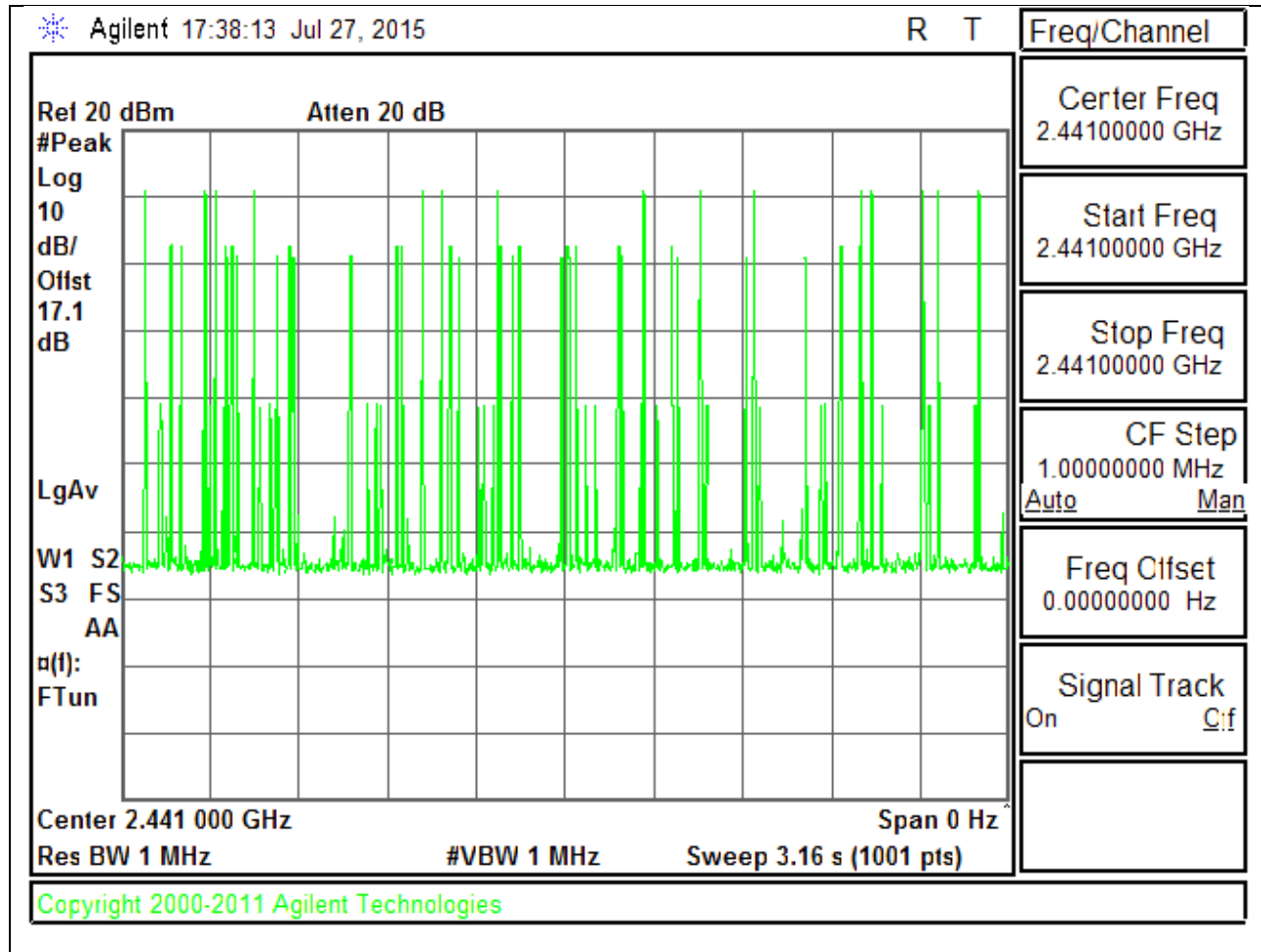
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH1



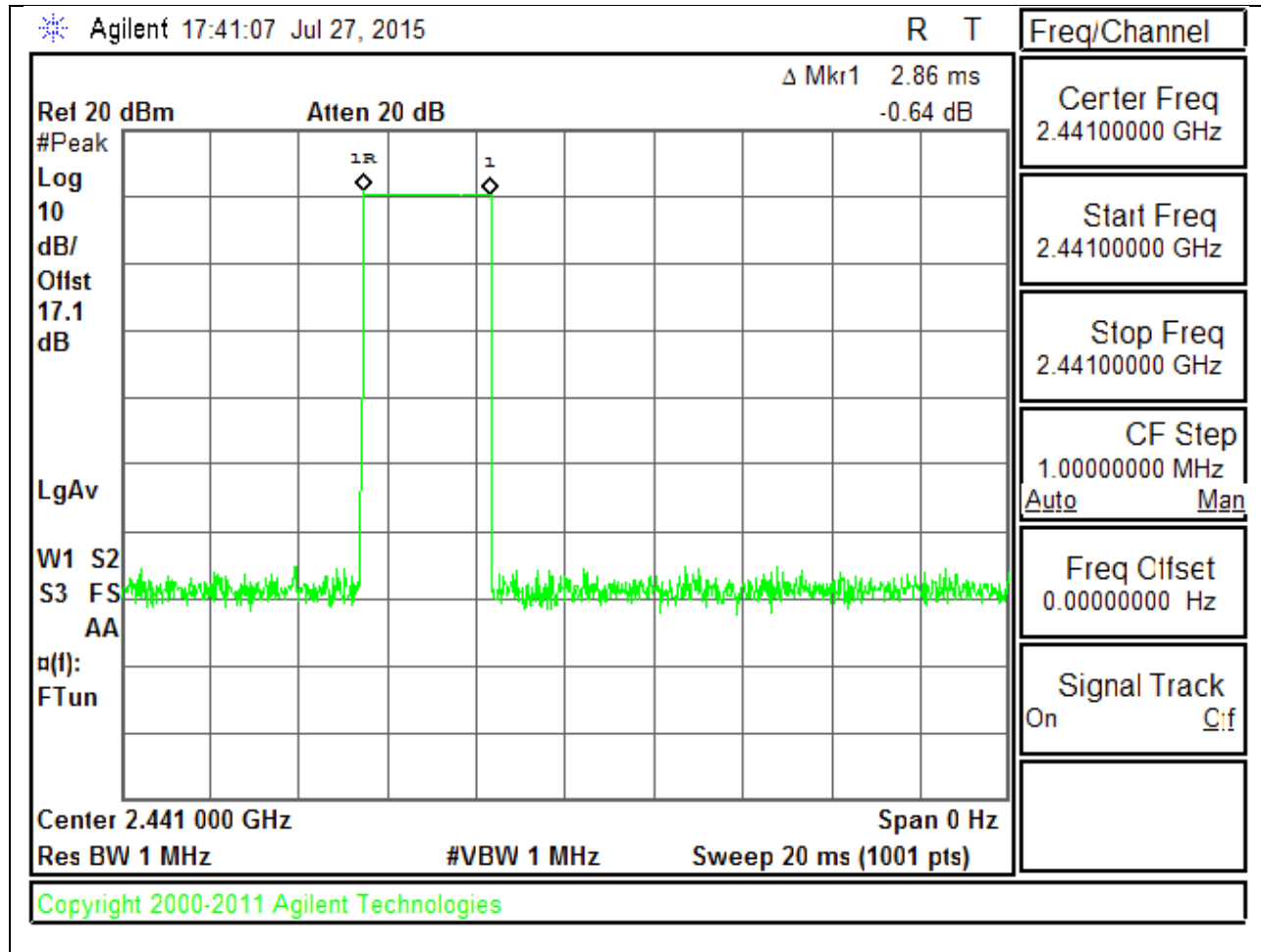
PULSE WIDTH - DH3



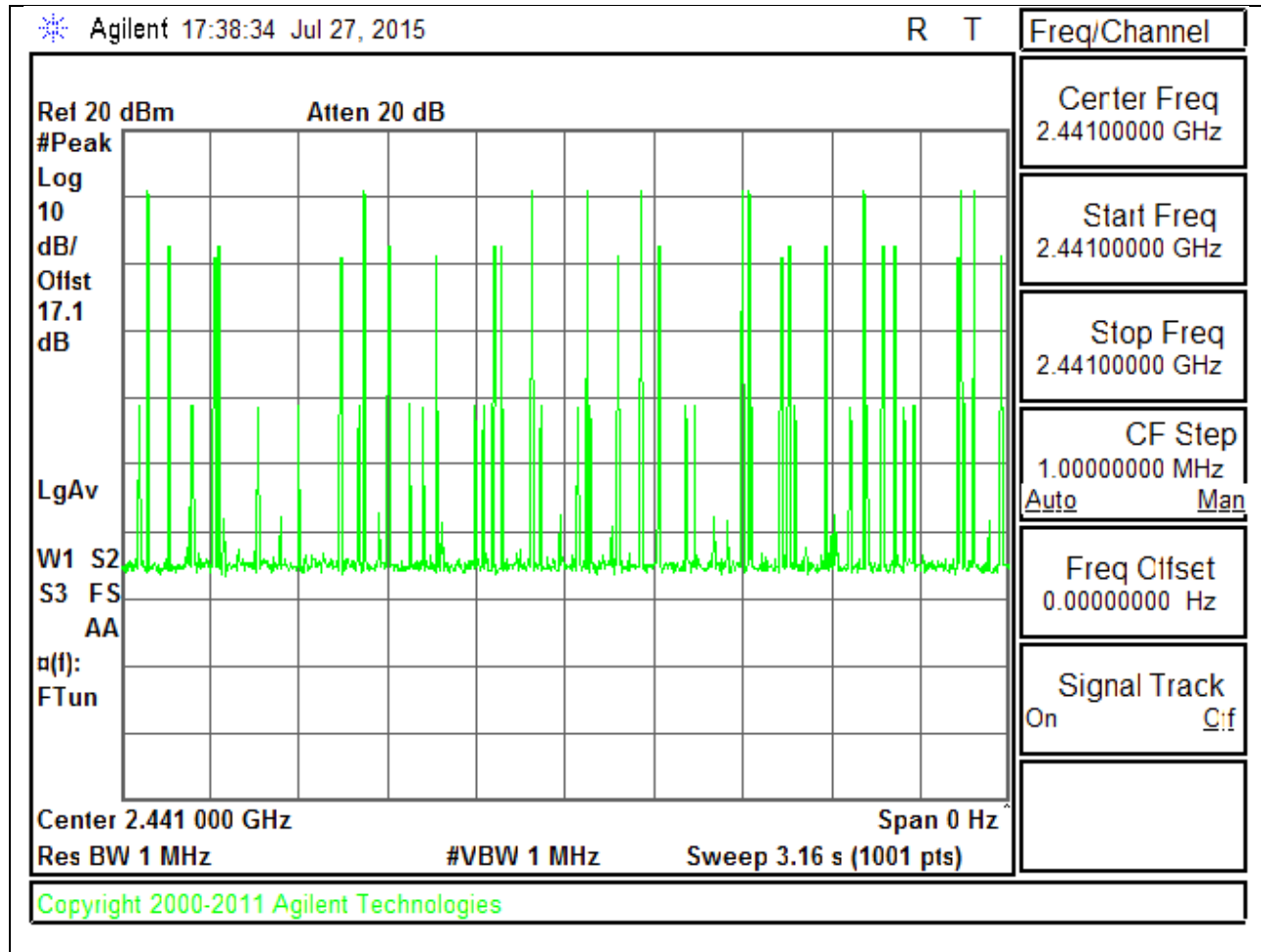
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH3



PULSE WIDTH - DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH5



8.5. OUTPUT POWER

LIMIT

§15.247 (b) (1)

RSS-247 5.4(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	9.91	21	-11.09
Middle	2441	10.98	21	-10.02
High	2480	8.14	21	-12.86
Worst		10.98		-10.02

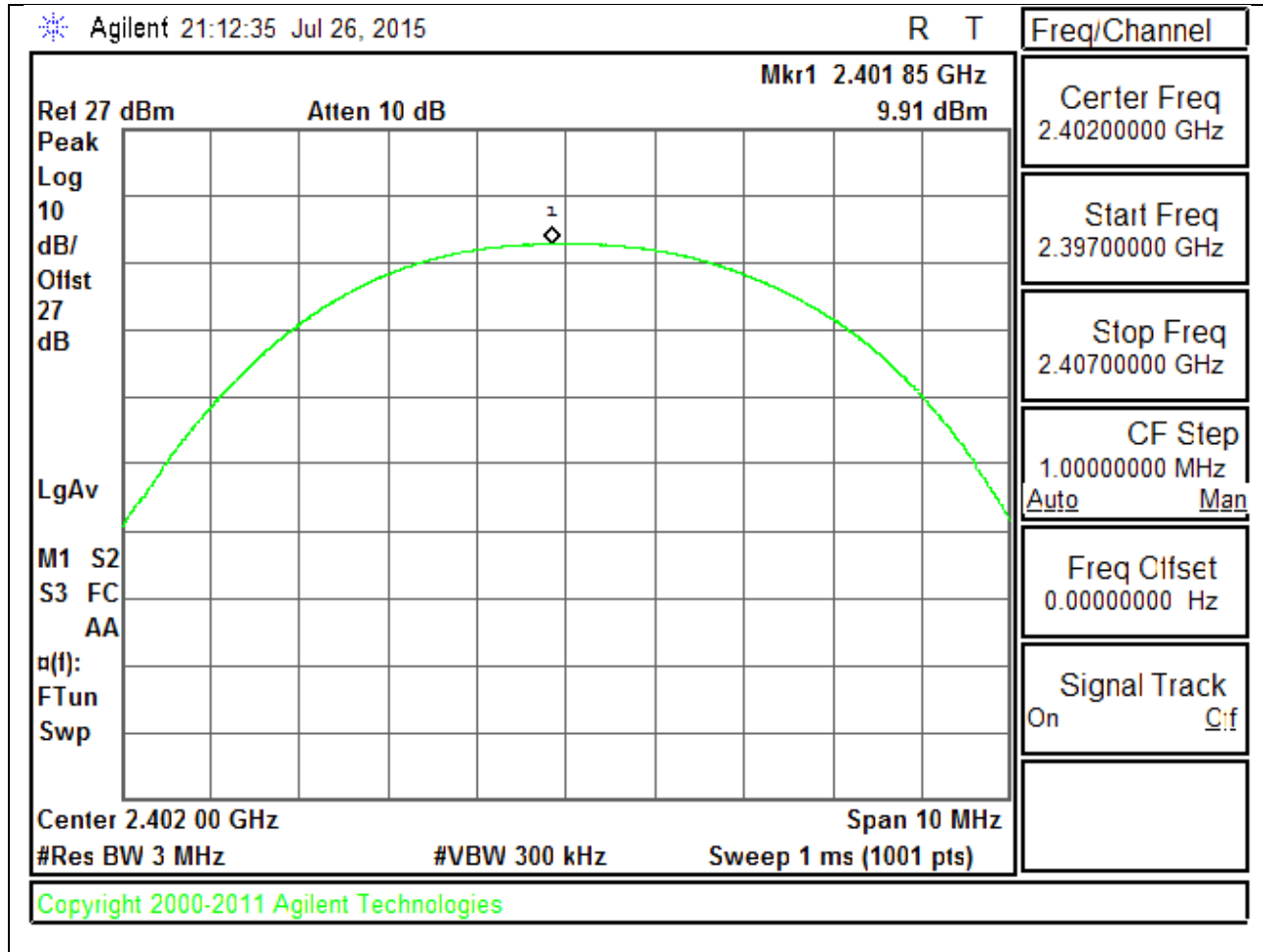
8.5.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	7.47	21	-13.53
Middle	2441	8.56	21	-12.44
High	2480	3.14	21	-17.86
Worst		8.56		-12.44

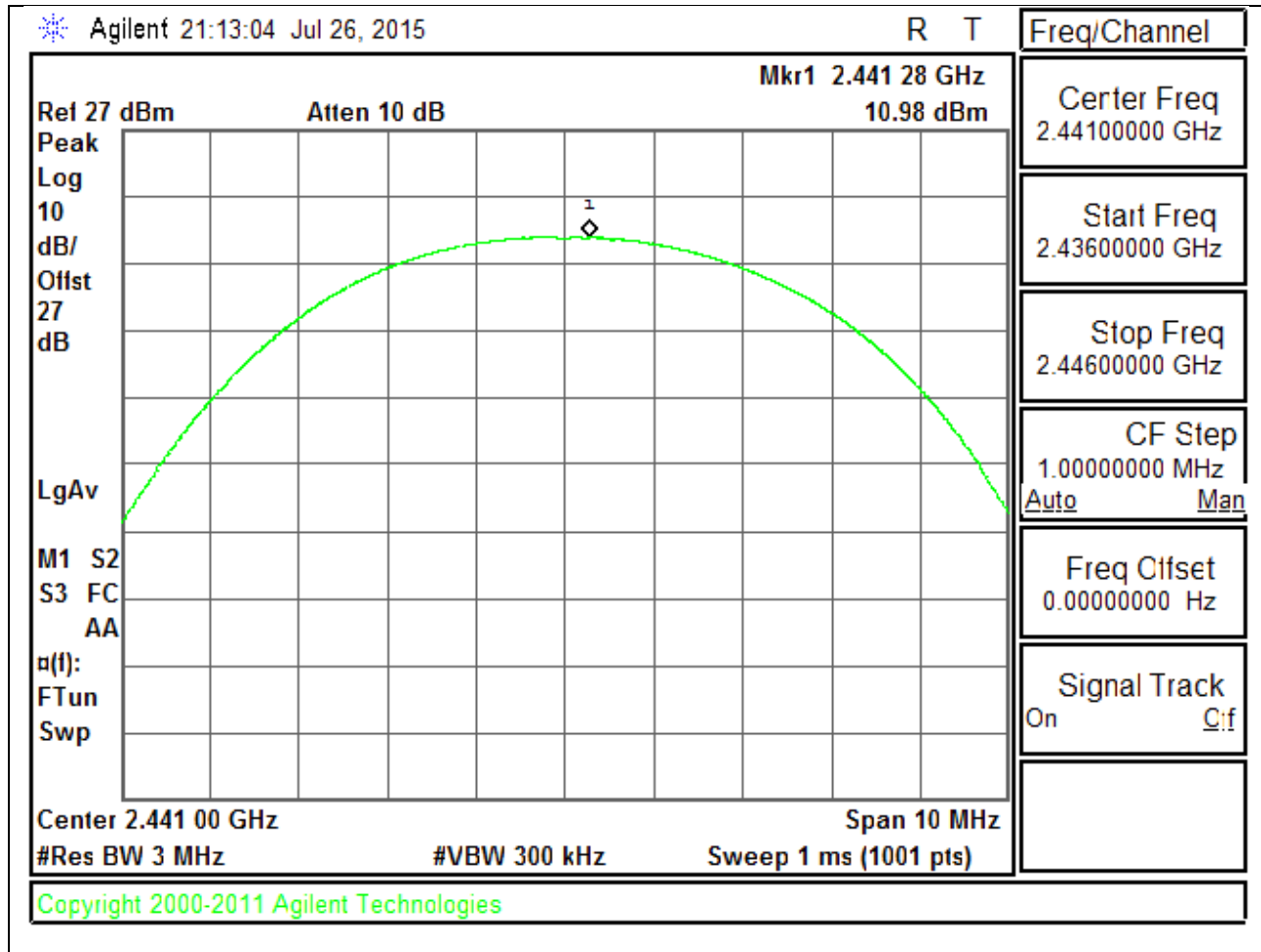
8.5.3. OUTPUT POWER PLOTS

GFSK OUTPUT POWER

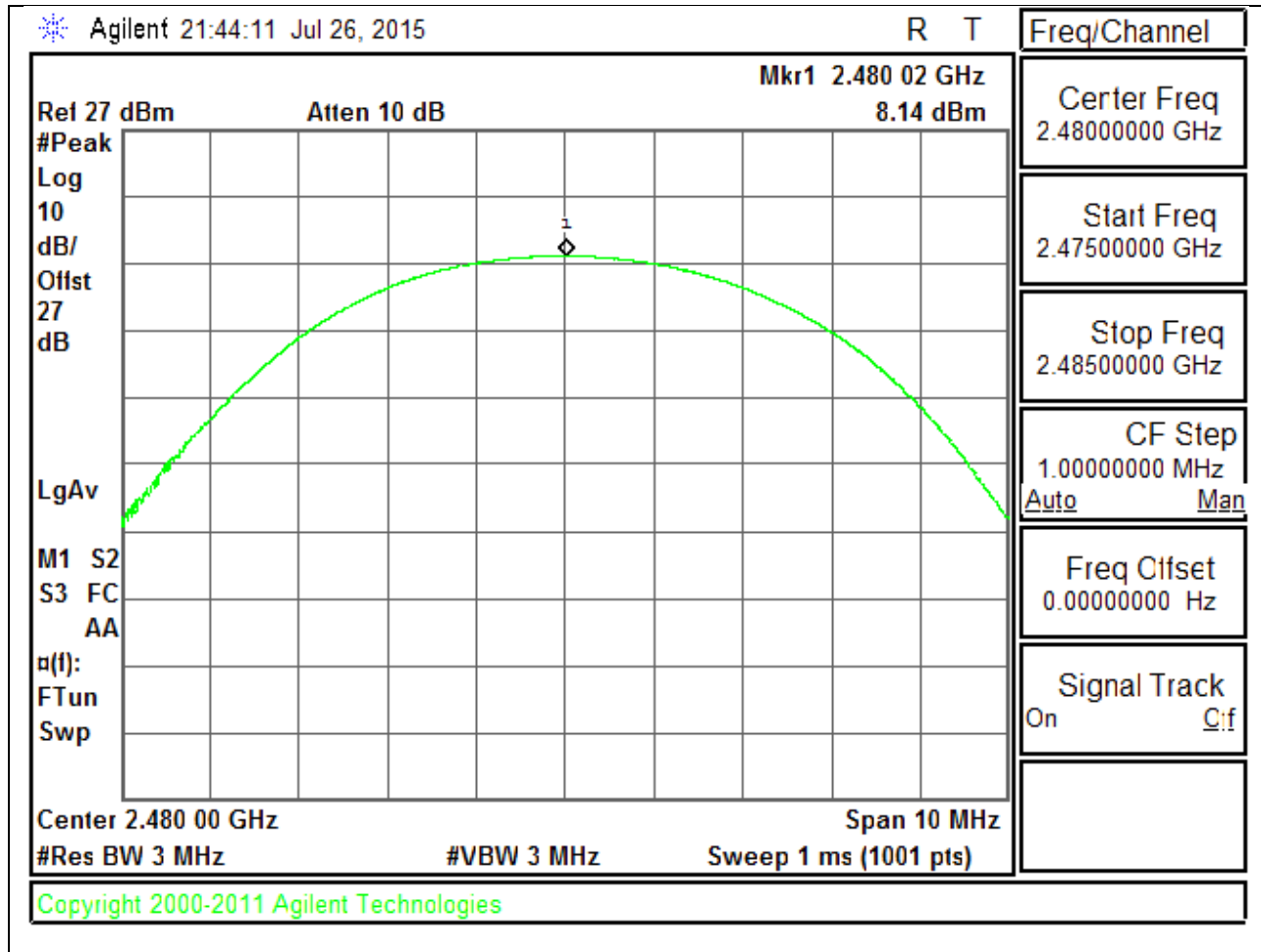
LOW CHANNEL



MID CHANNEL

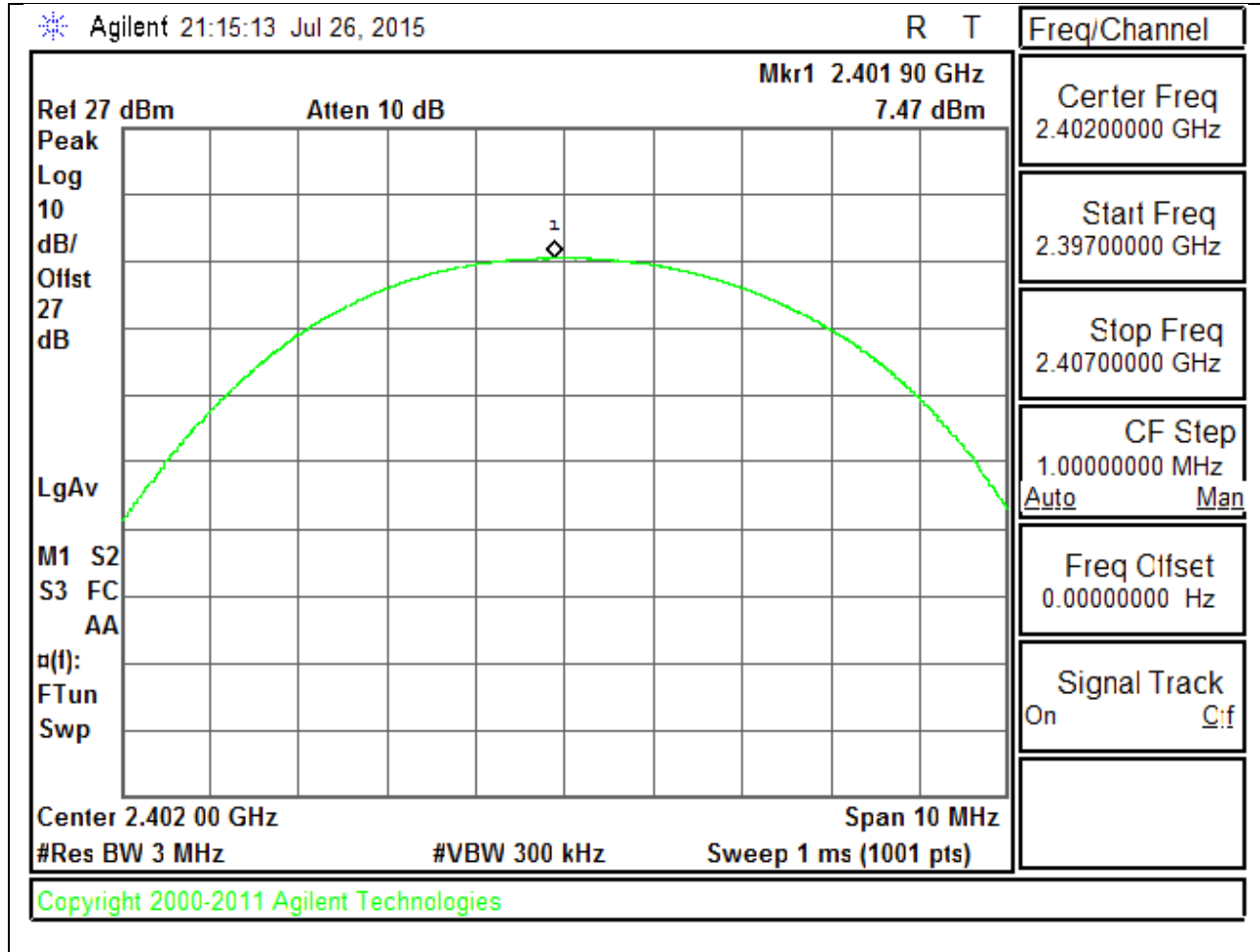


HIGH CHANNEL

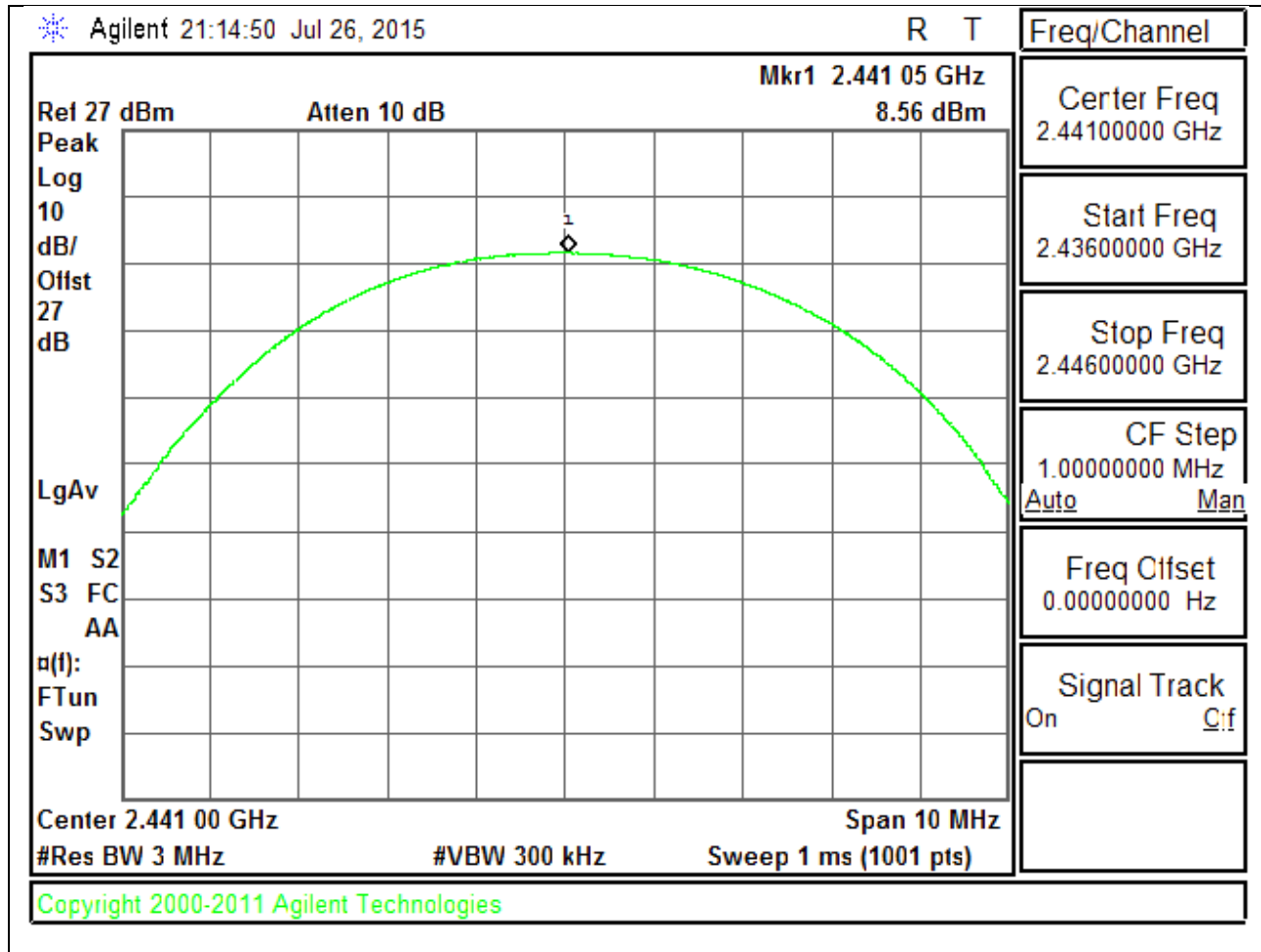


8PSK OUTPUT POWER

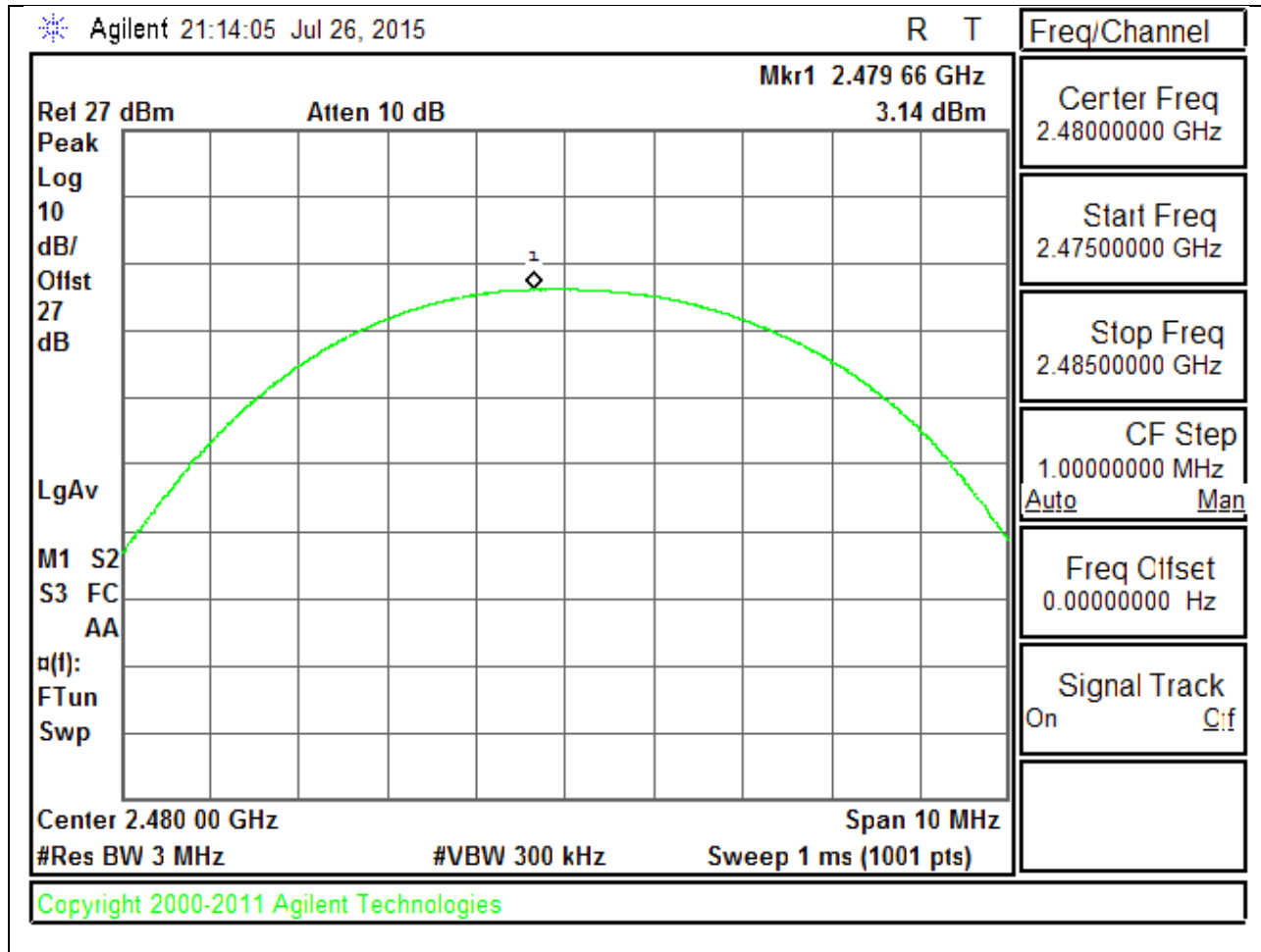
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



8.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

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

RESULTS

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

8.6.1. BASIC DATA RATE GFSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	9.7
Middle	2441	10.5
High	2480	7.7
Worst		10.5

8.6.2. DATA RATE PI/4-DQPSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	5.1
Middle	2441	5.9
High	2480	2.3
Worst		5.9

8.6.3. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	5.1
Middle	2441	5.9
High	2480	2.5
Worst		5.9

8.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)
IC RSS-247 5.5
Limit = -20 dBc

TEST PROCEDURE

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

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

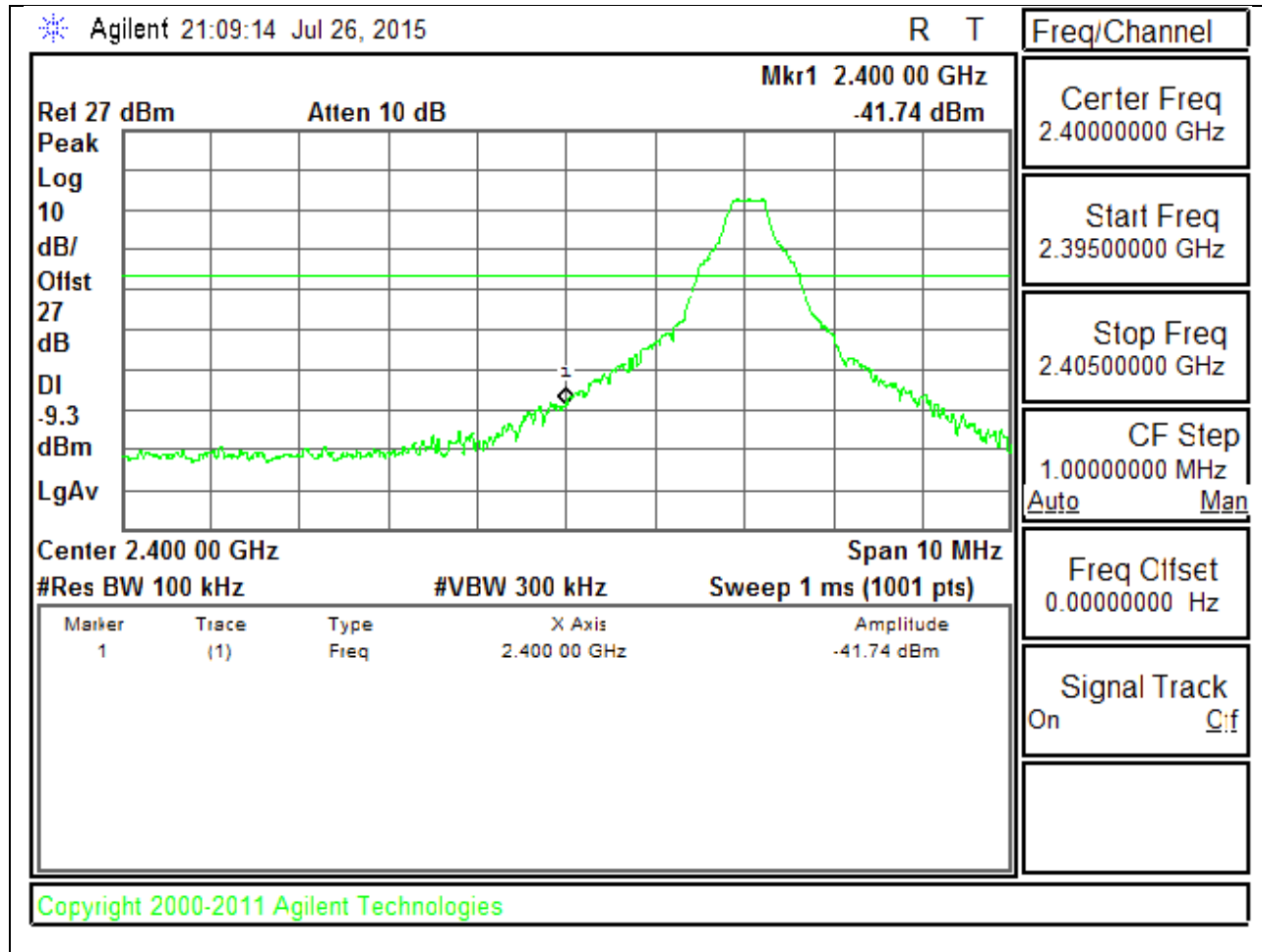
The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

RESULTS

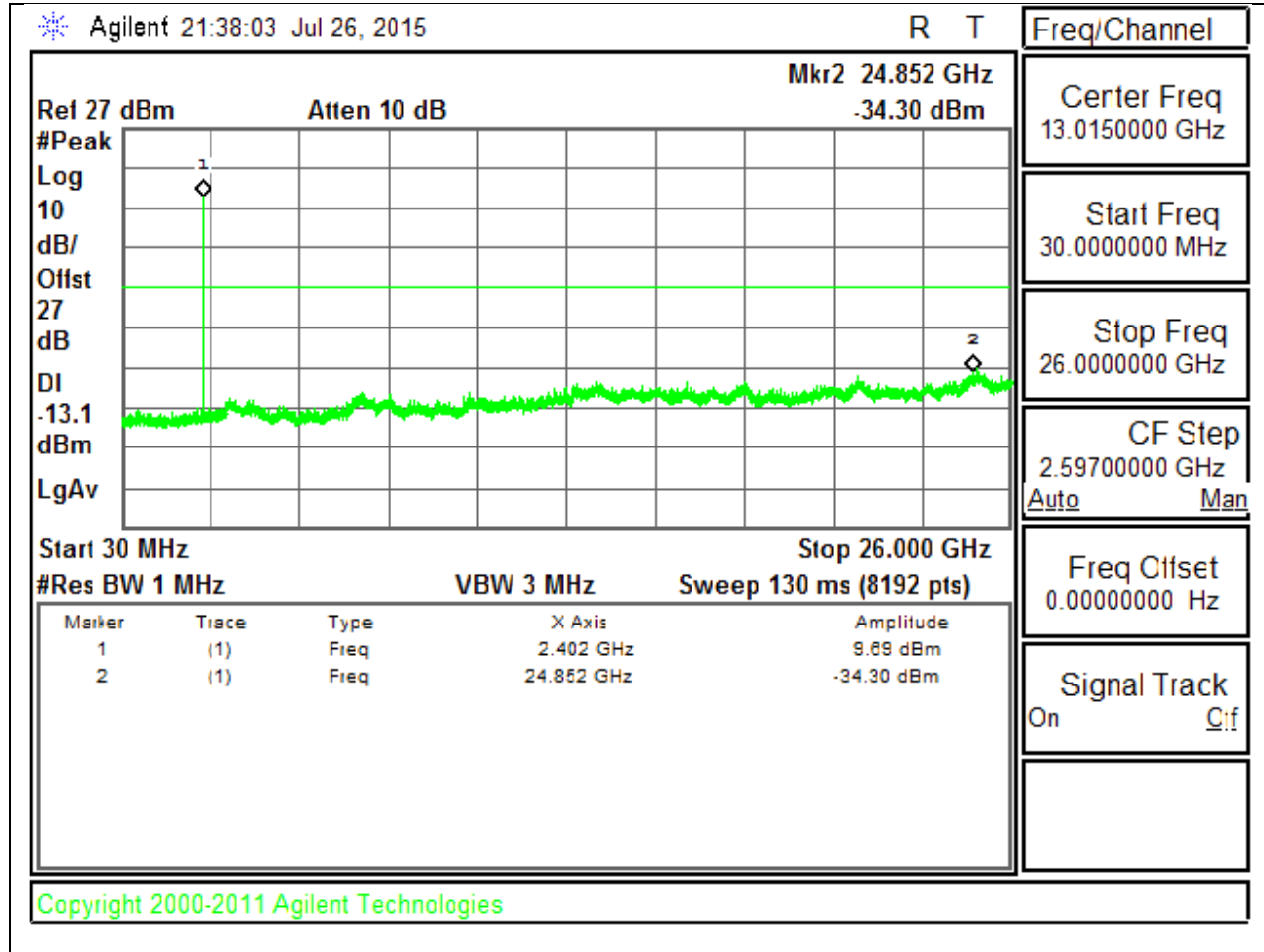
8.7.1. BASIC DATA RATE GFSK MODULATION

SPURIOUS EMISSIONS, LOW CHANNEL

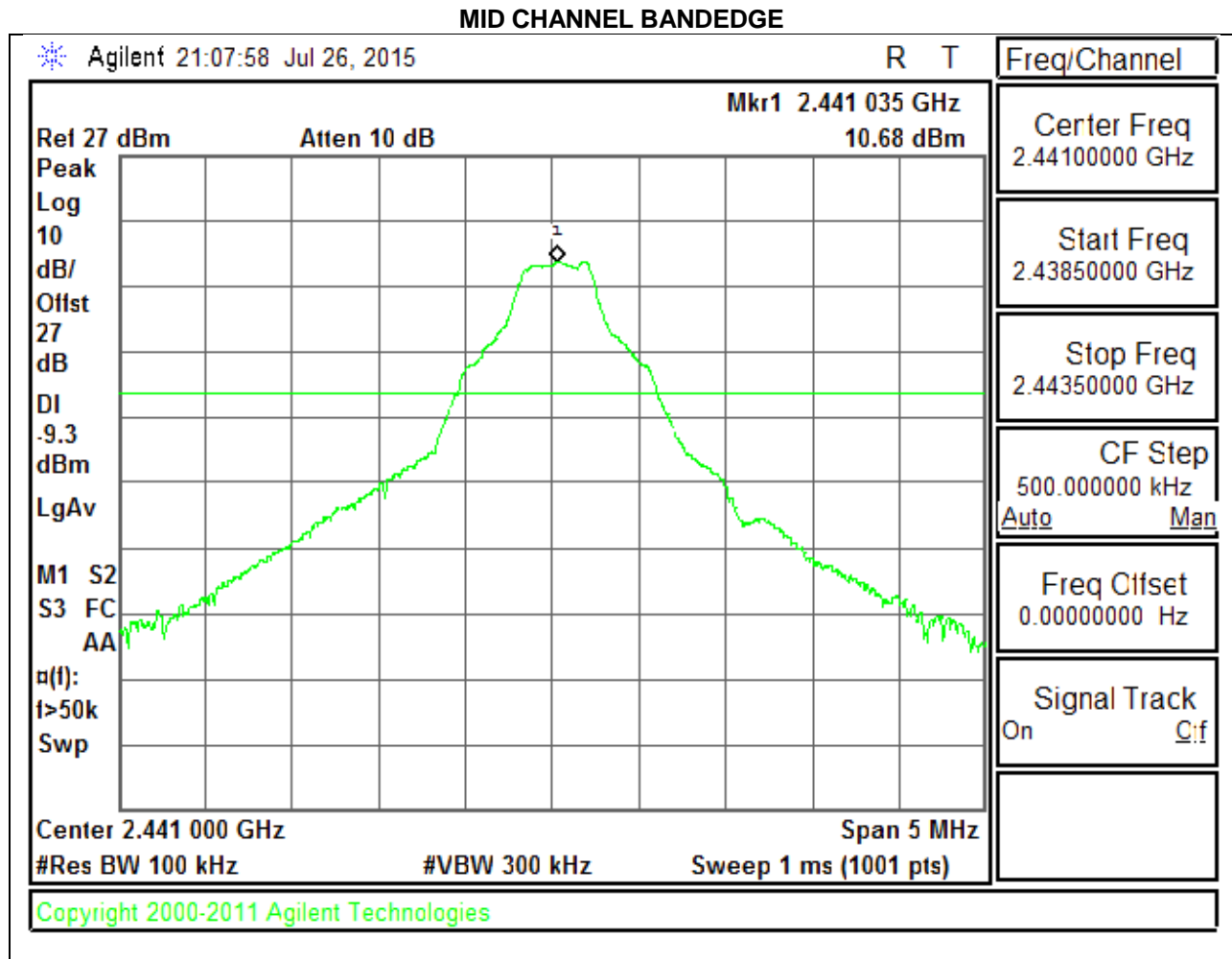
LOW CHANNEL BANDEDGE



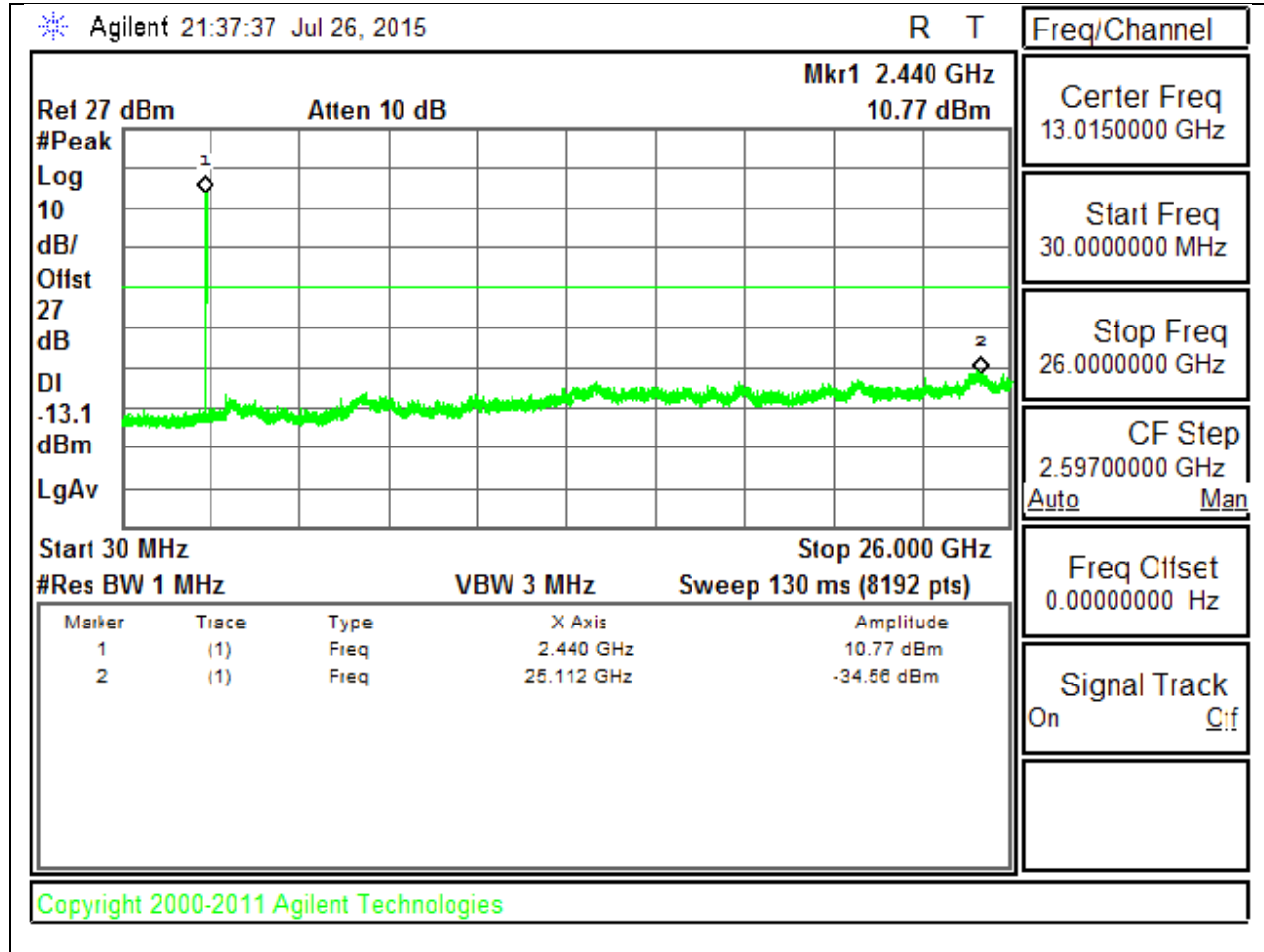
LOW CHANNEL SPURIOUS



SPURIOUS EMISSIONS, MID CHANNEL

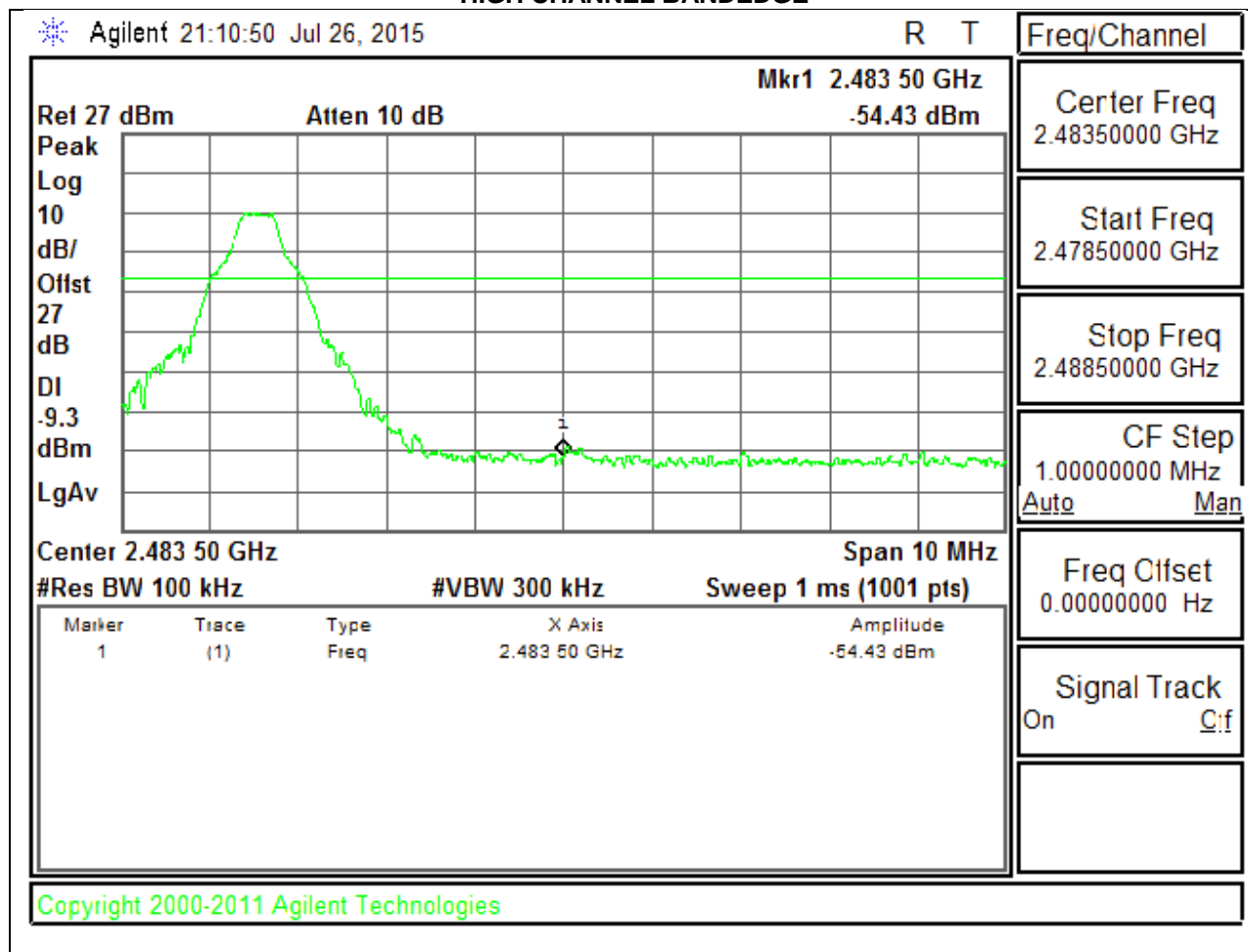


MID CHANNEL SPURIOUS

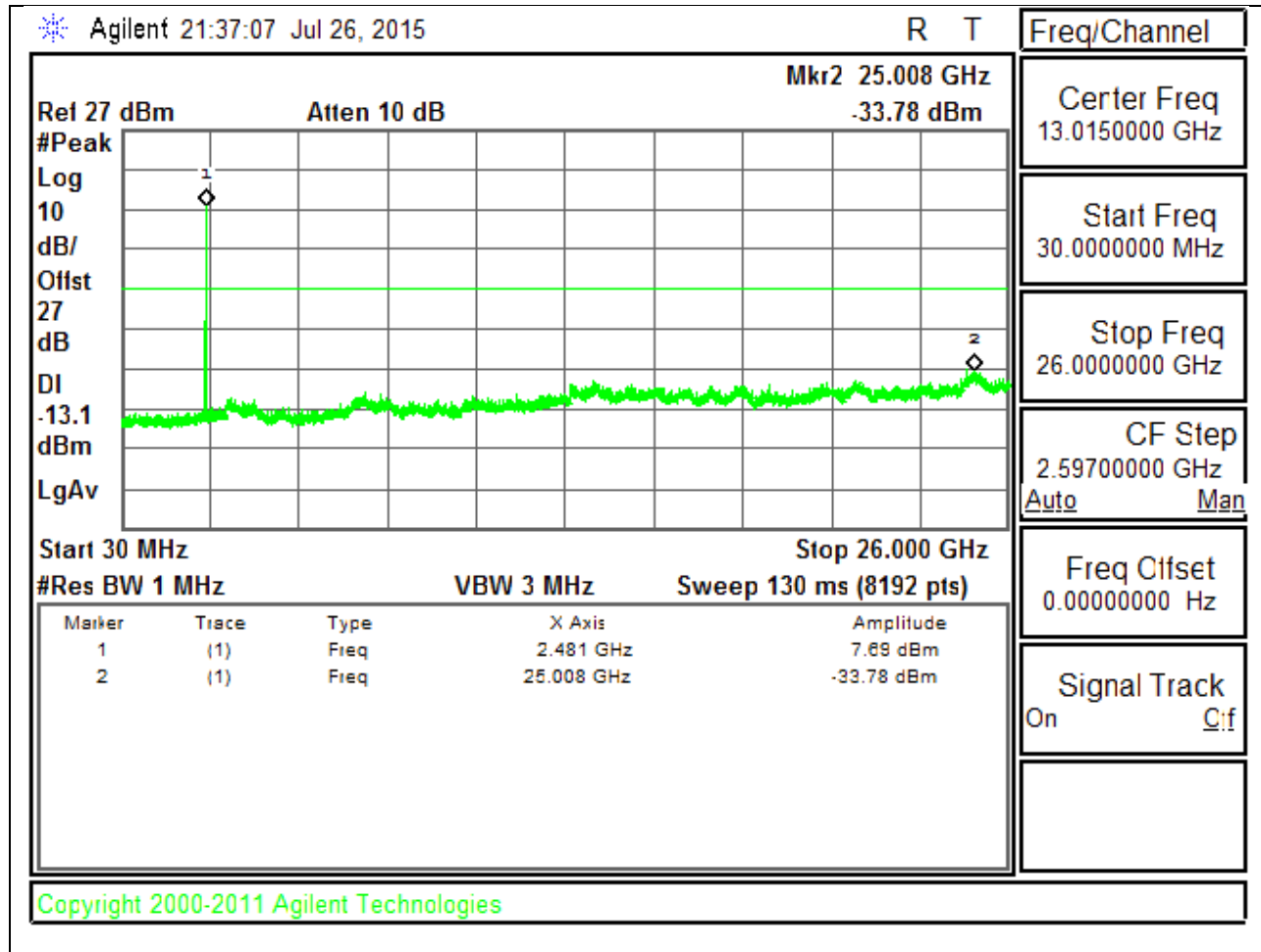


SPURIOUS EMISSIONS, HIGH CHANNEL

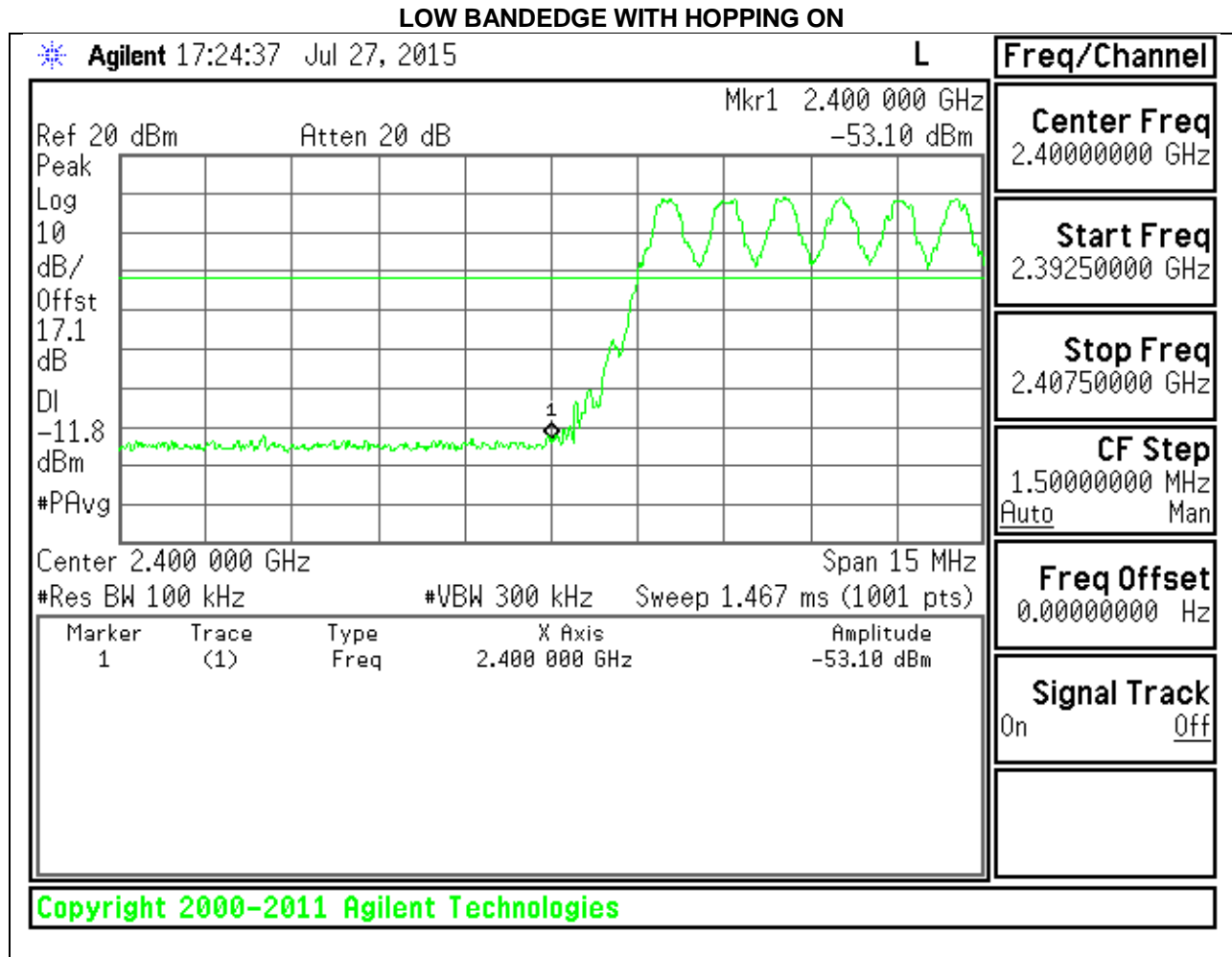
HIGH CHANNEL BANDEDGE



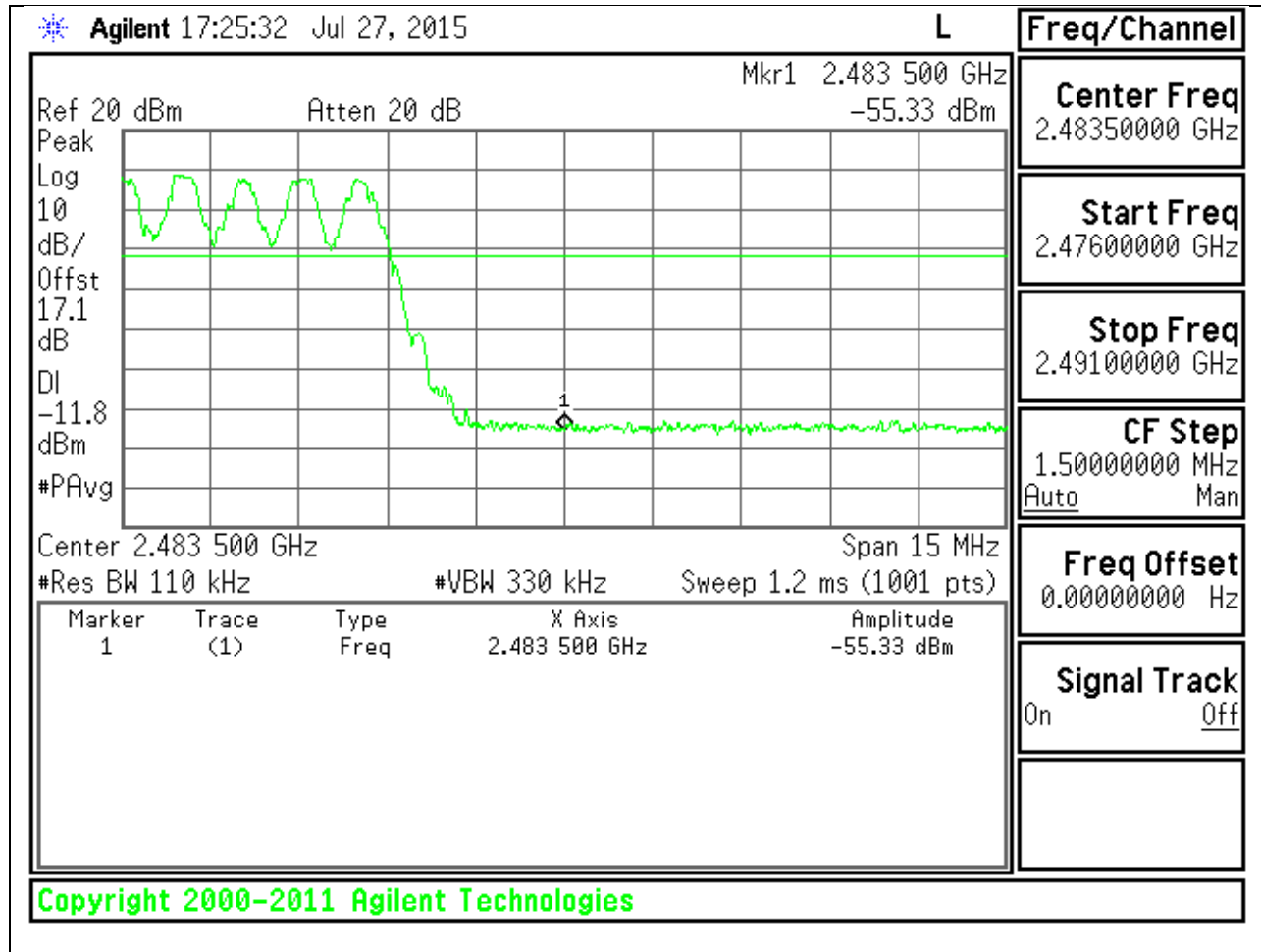
HIGH CHANNEL SPURIOUS



SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



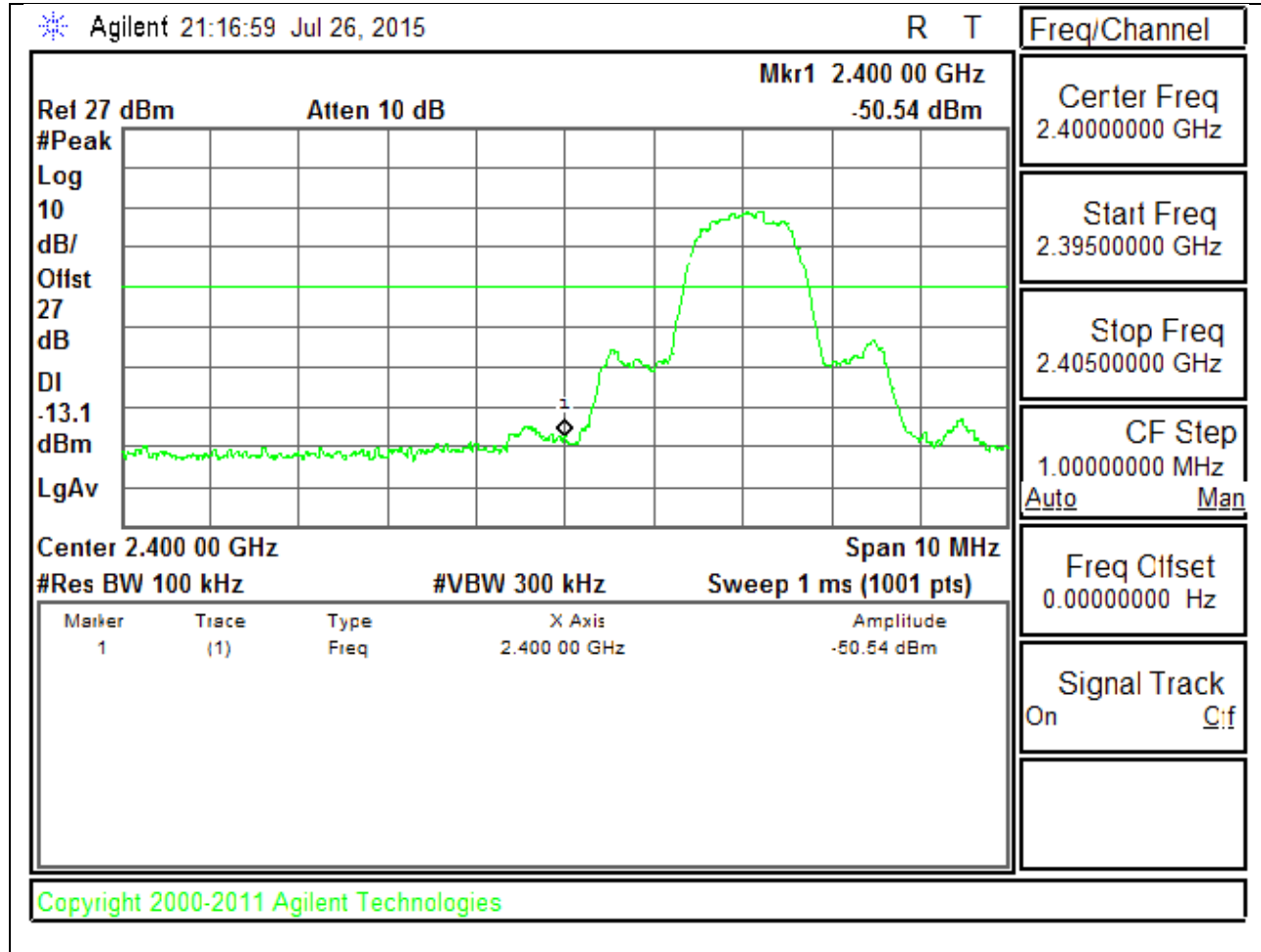
HIGH BANDEDGE WITH HOPPING ON



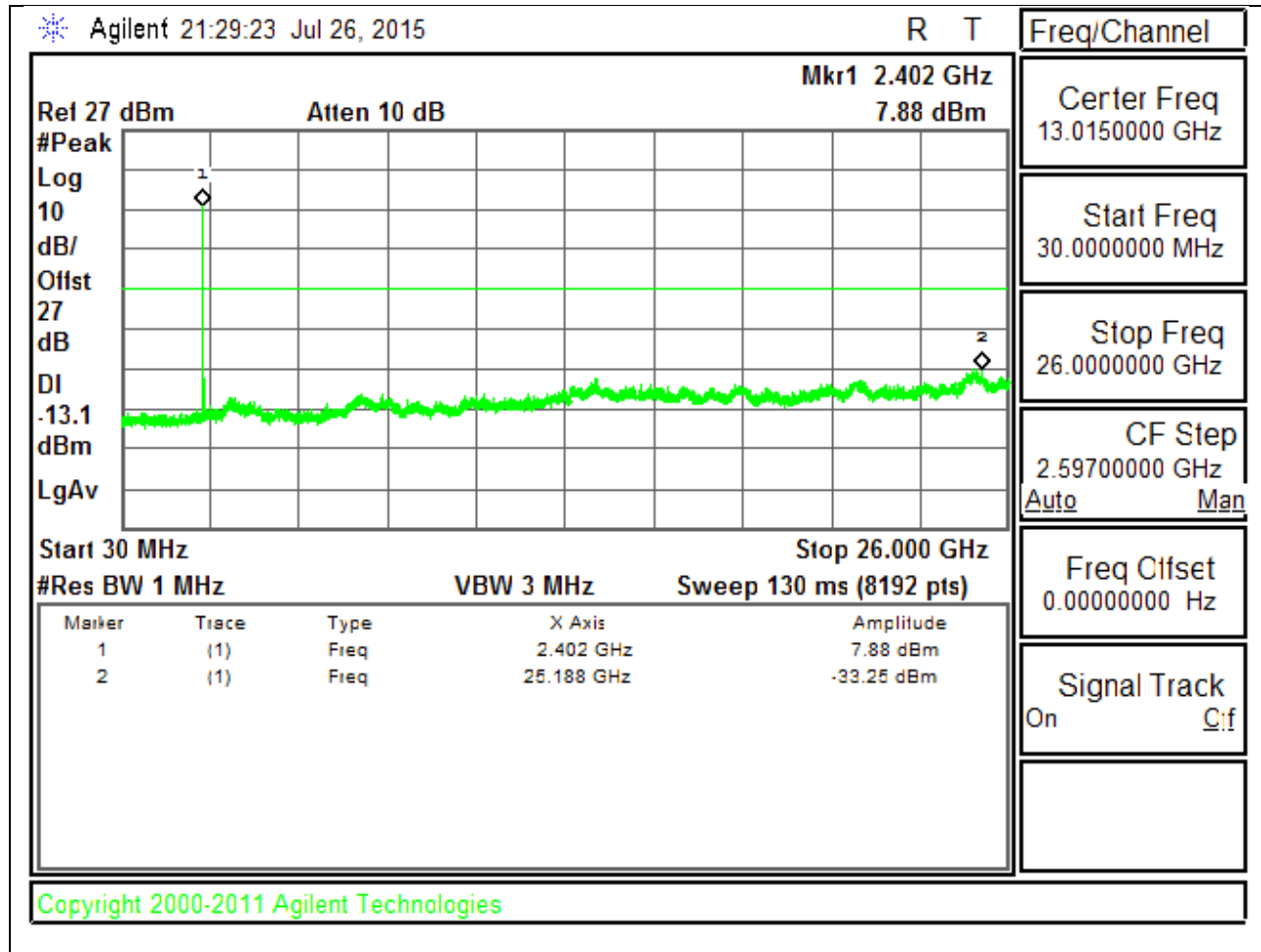
8.7.2. ENHANCED DATA RATE 8PSK MODULATION

SPURIOUS EMISSIONS, LOW CHANNEL

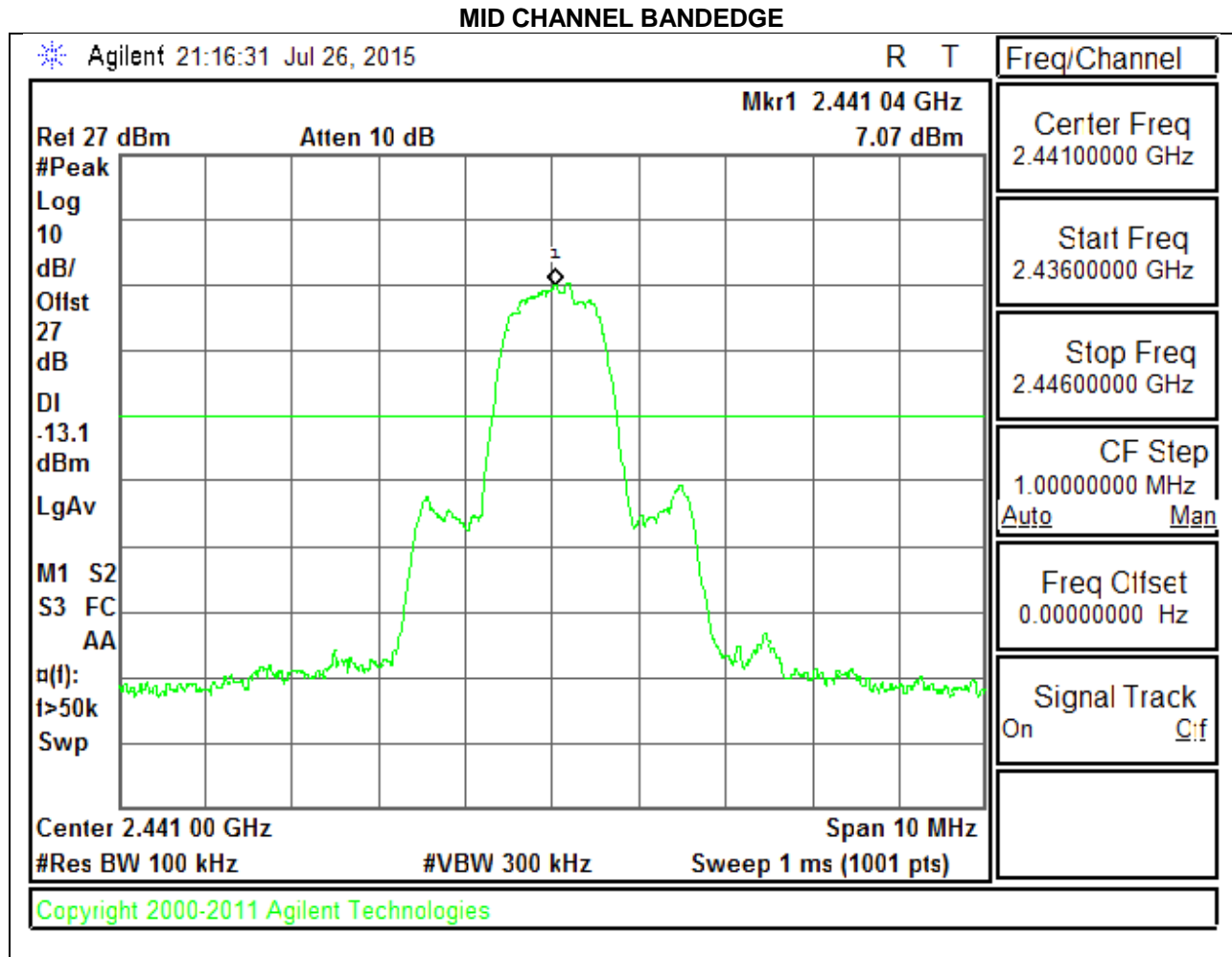
LOW CHANNEL BANDEDGE



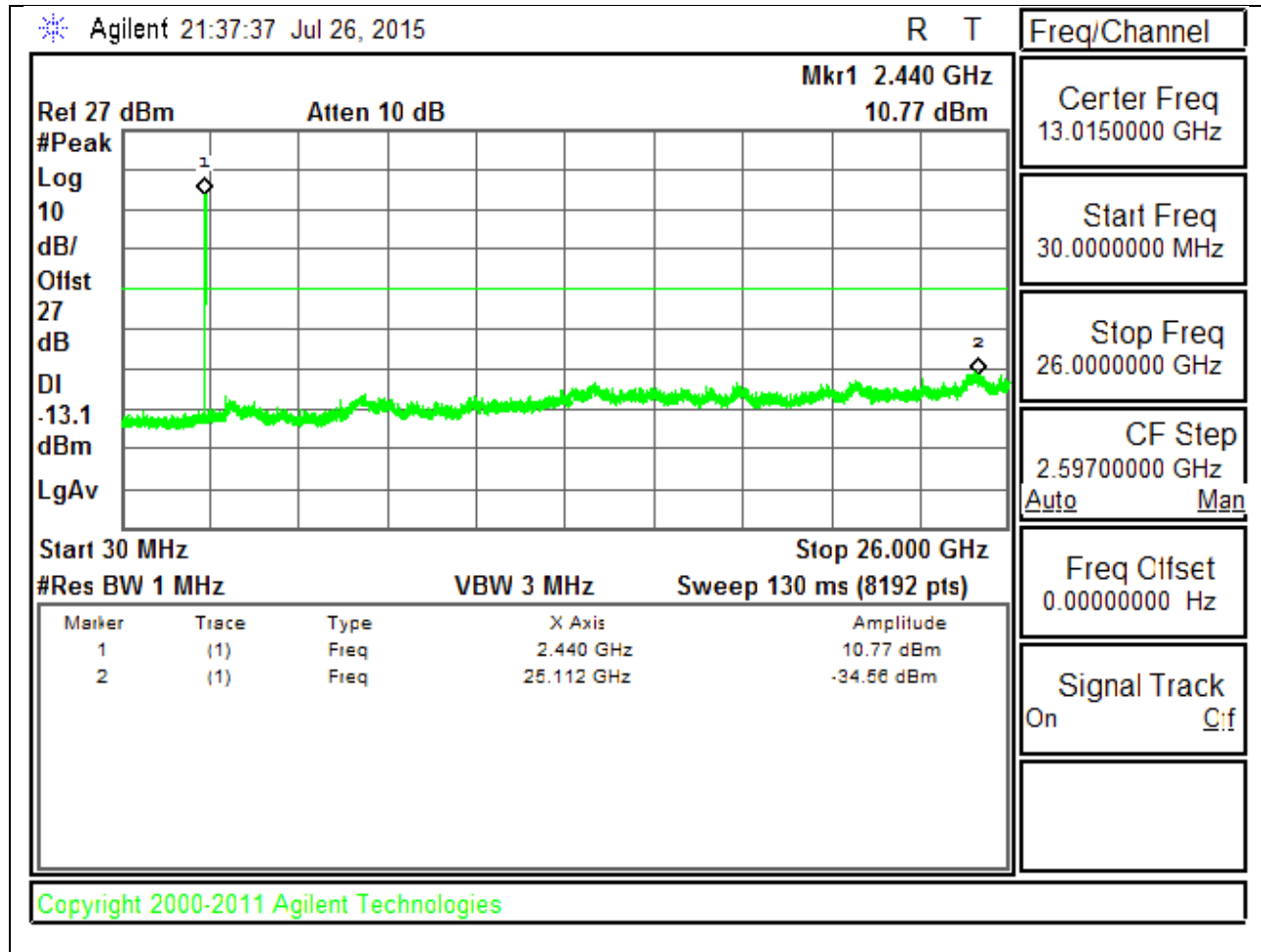
LOW CHANNEL SPURIOUS



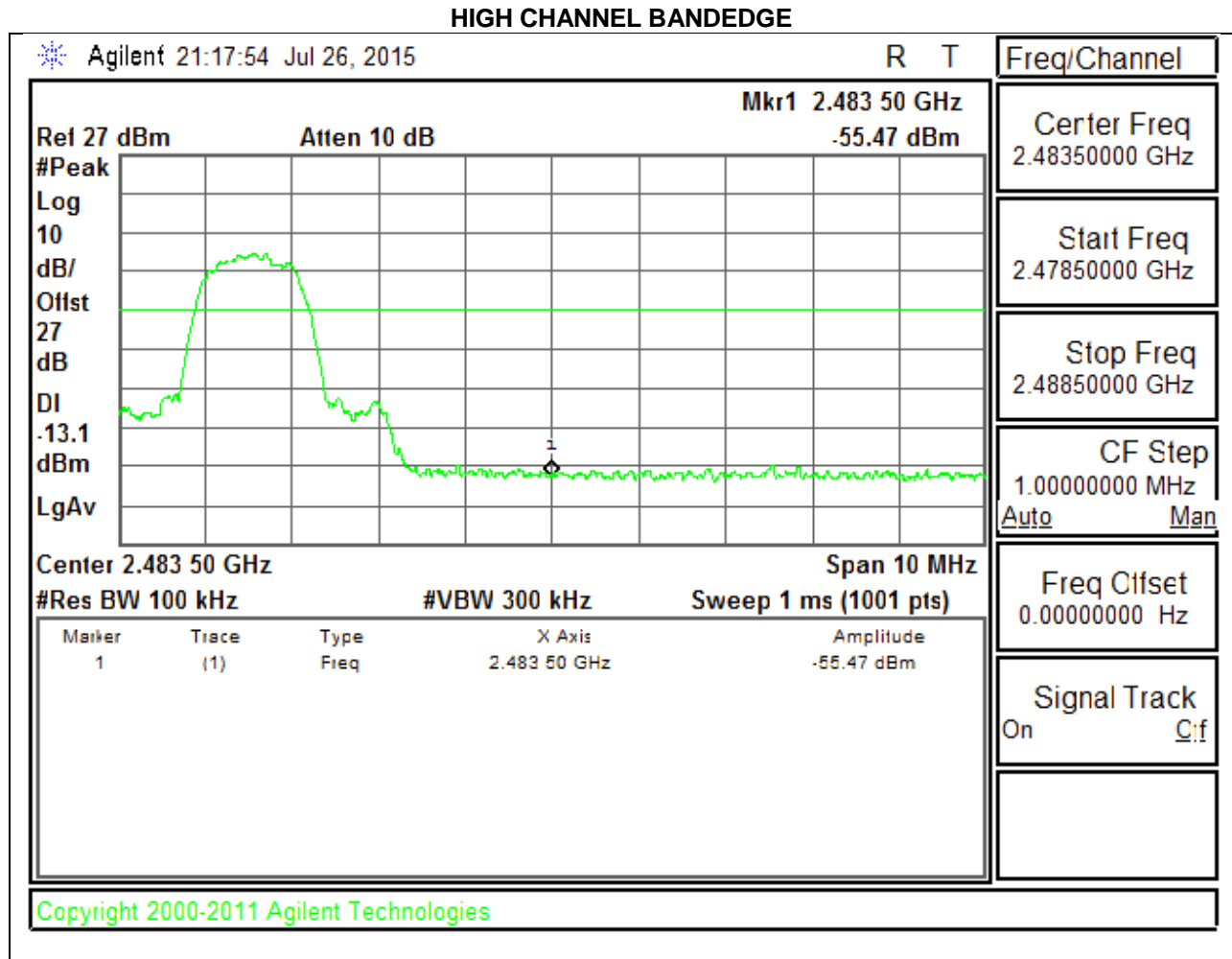
SPURIOUS EMISSIONS, MID CHANNEL



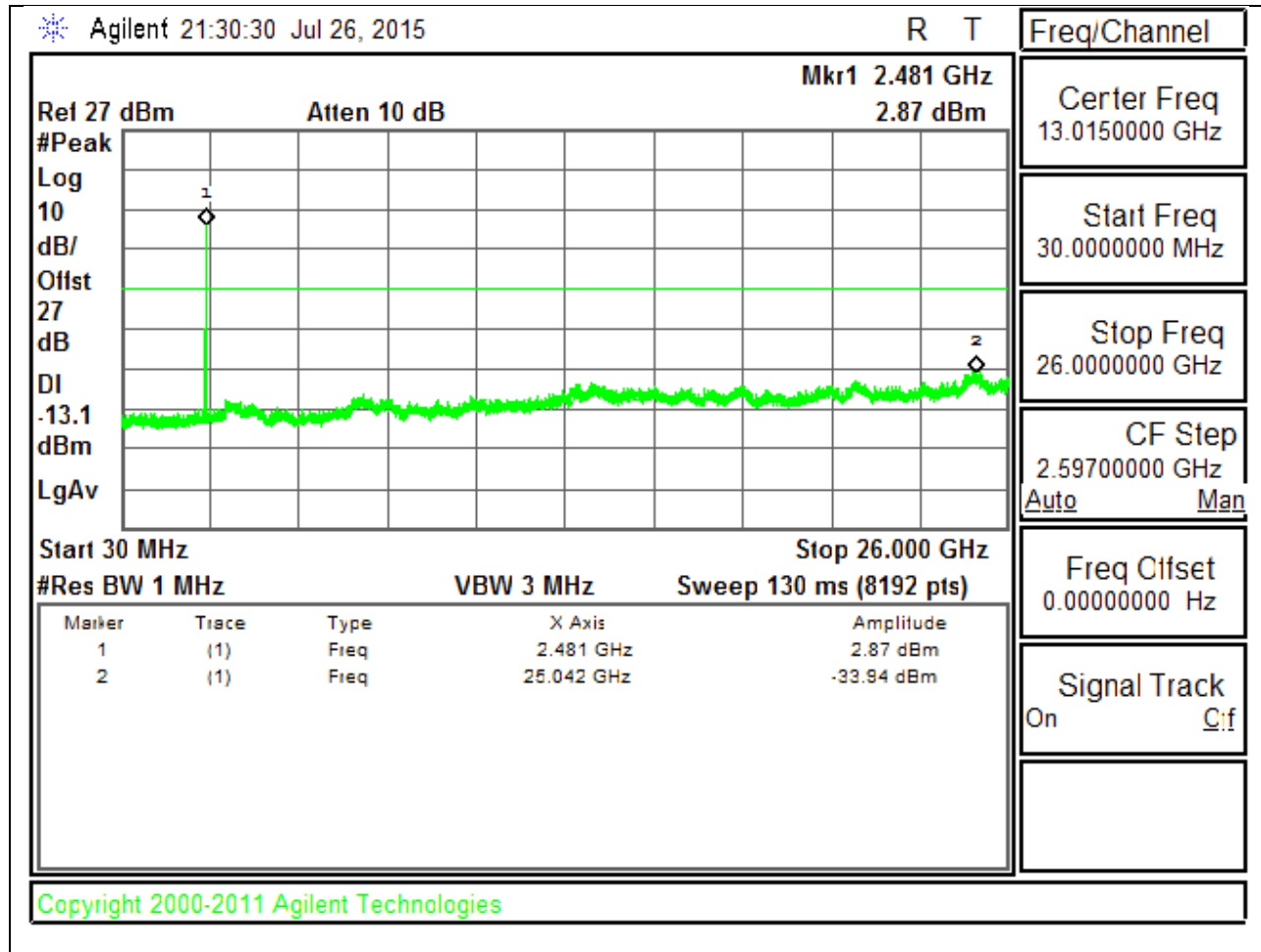
MID CHANNEL SPURIOUS



SPURIOUS EMISSIONS, HIGH CHANNEL

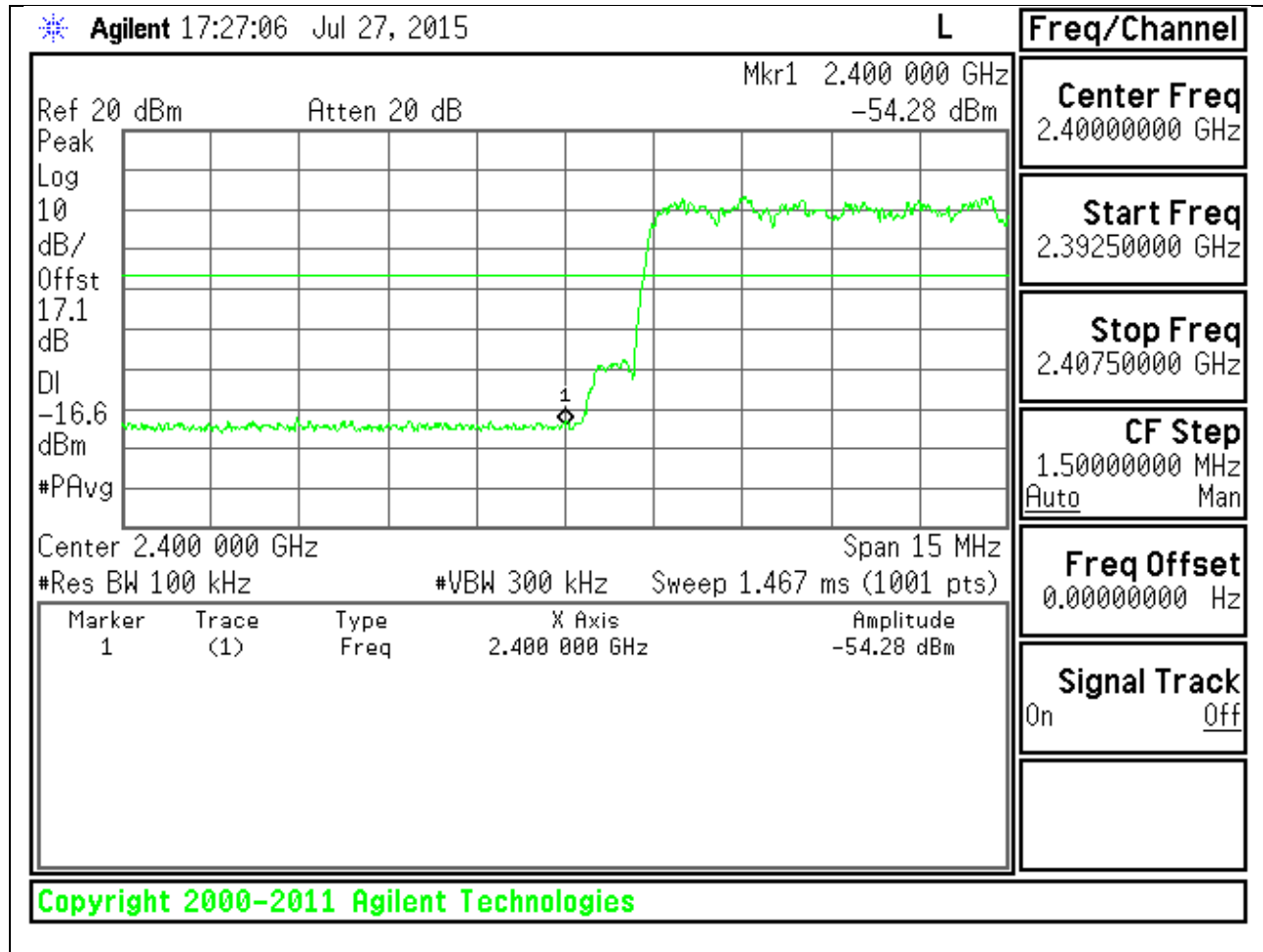


HIGH CHANNEL SPURIOUS

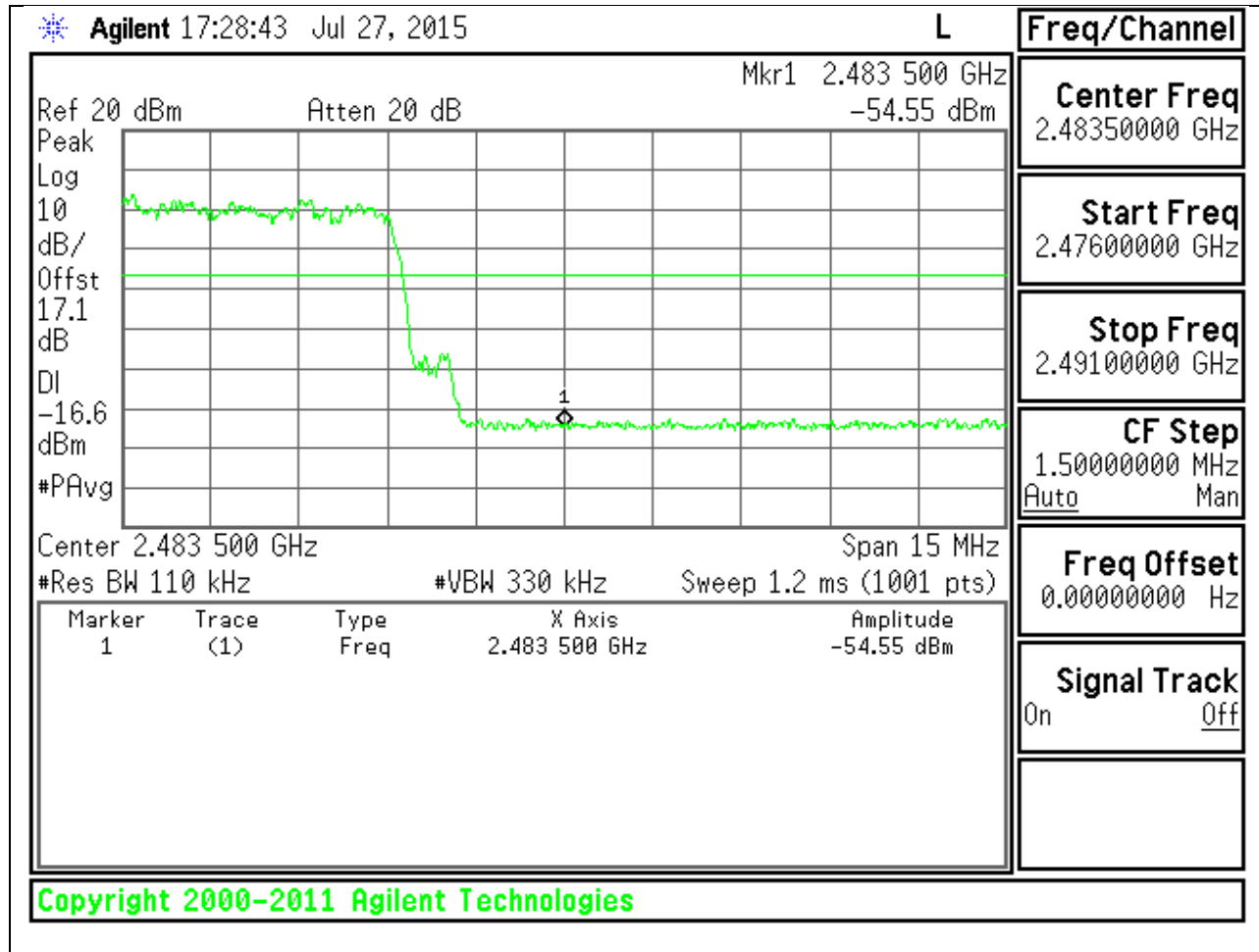


SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

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 150 cm above the ground plane. The antenna to EUT distance is 3 meters. 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.
 $GFSK = 1/T = 1 / 0.002901S = 345Hz.$

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.

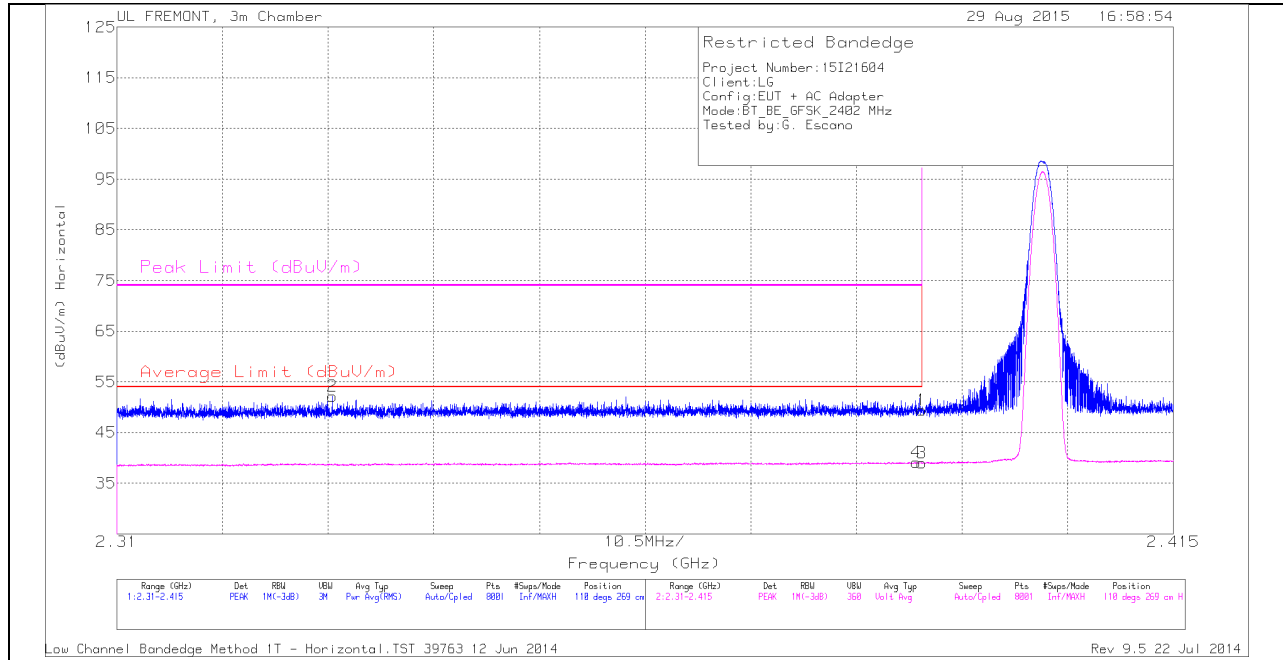
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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



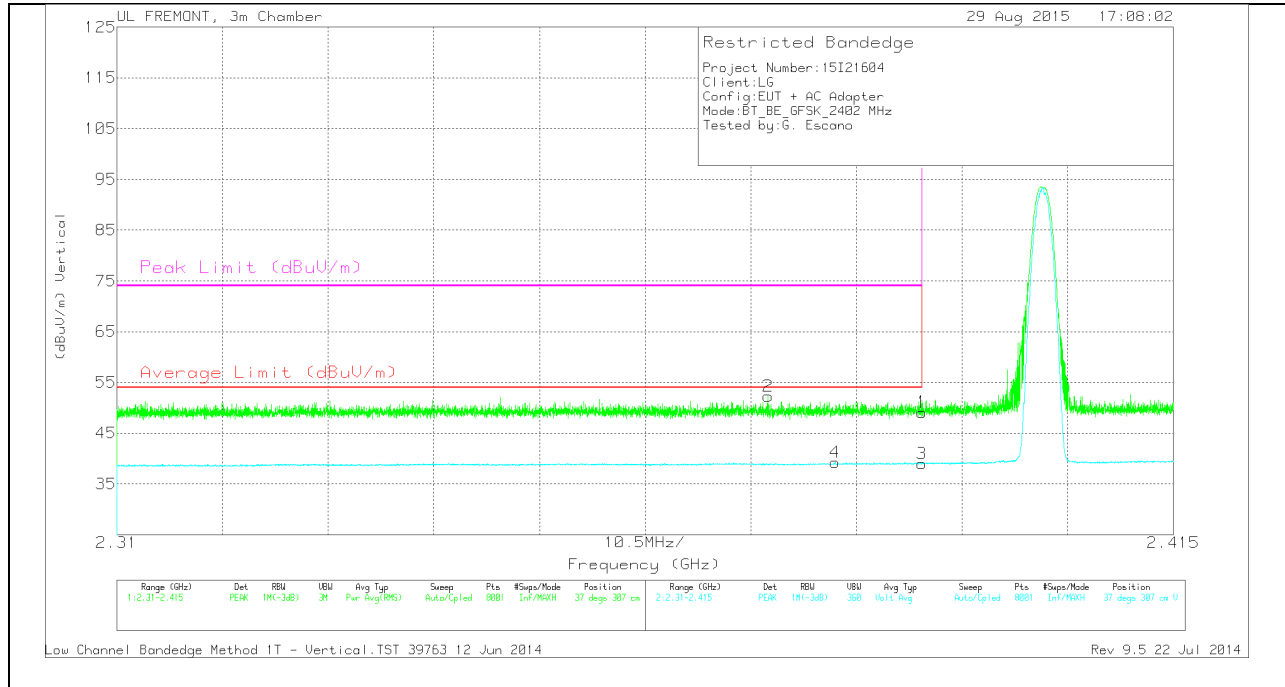
HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
2	2.331	42.81	PK	31.7	-22.4	52.11	-	-	74	-21.89	110	269	H
4	2.389	29.53	VB1T	32	-22.4	39.13	54	-14.87	-	-	110	269	H
1	2.39	39.83	PK	32	-22.4	49.43	-	-	74	-24.57	110	269	H
3	2.39	29.38	VB1T	32	-22.4	38.98	54	-15.02	-	-	110	269	H

PK - Peak detector

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

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

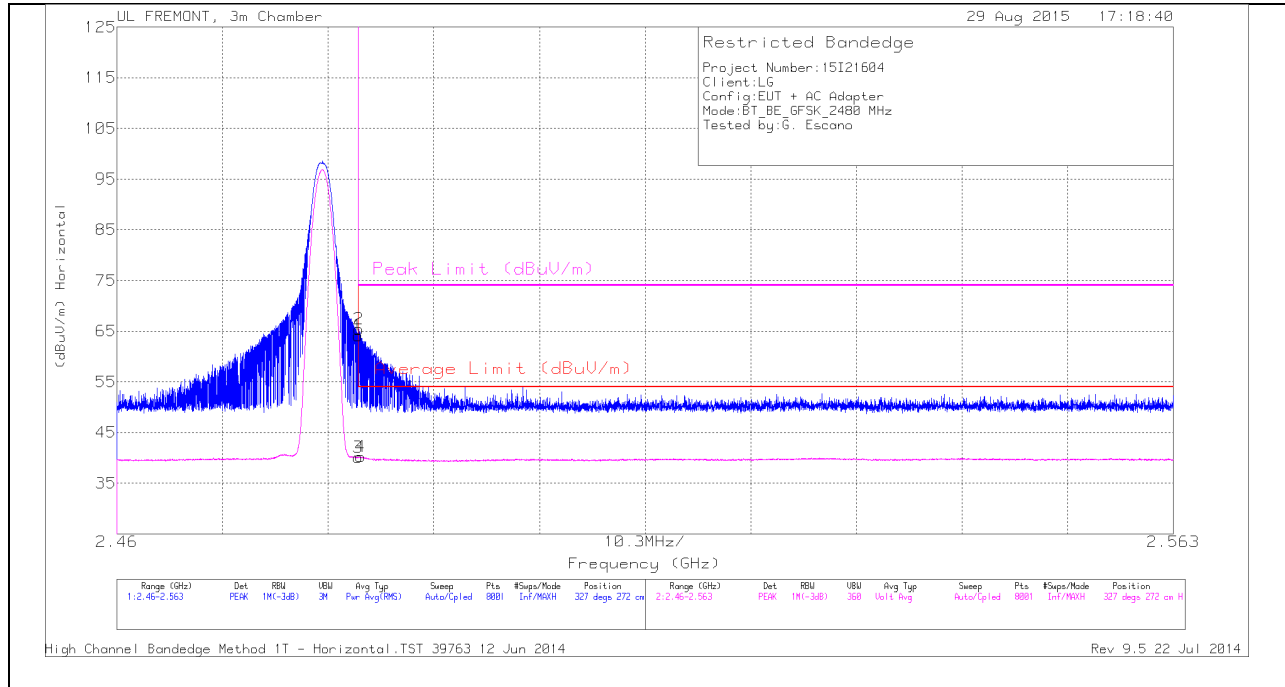
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.375	42.73	PK	31.9	-22.4	52.23	-	-	74	-21.77	37	307	V
4	2.381	29.62	VB1T	32	-22.4	39.22	54	-14.78	-	-	37	307	V
1	2.39	39.51	PK	32	-22.4	49.11	-	-	74	-24.89	37	307	V
3	2.39	29.36	VB1T	32	-22.4	38.96	54	-15.04	-	-	37	307	V

PK - Peak detector

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

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



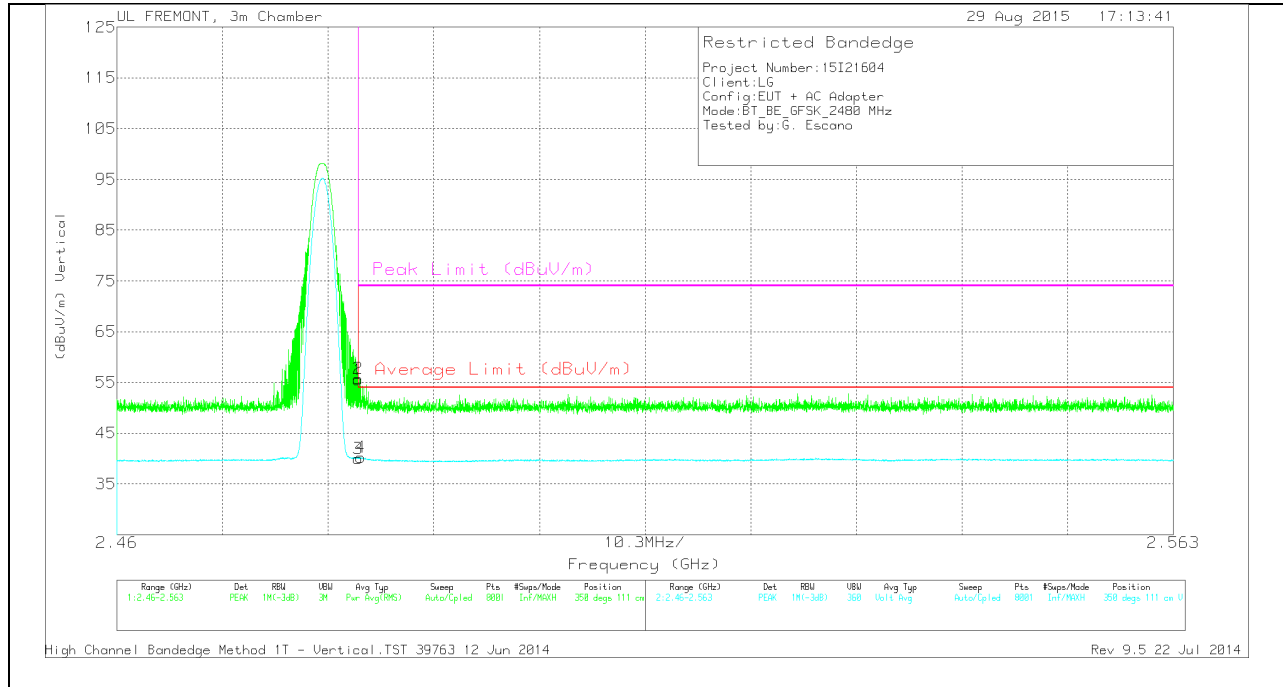
HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	53.94	PK	32.3	-22.1	64.14	-	-	74	-9.86	327	272	H
2	2.484	55.18	PK	32.3	-22.1	65.38	-	-	74	-8.62	327	272	H
3	2.484	29.9	VB1T	32.3	-22.1	40.1	54	-13.9	-	-	327	272	H
4	2.484	30.03	VB1T	32.3	-22.1	40.23	54	-13.77	-	-	327	272	H

PK - Peak detector

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

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

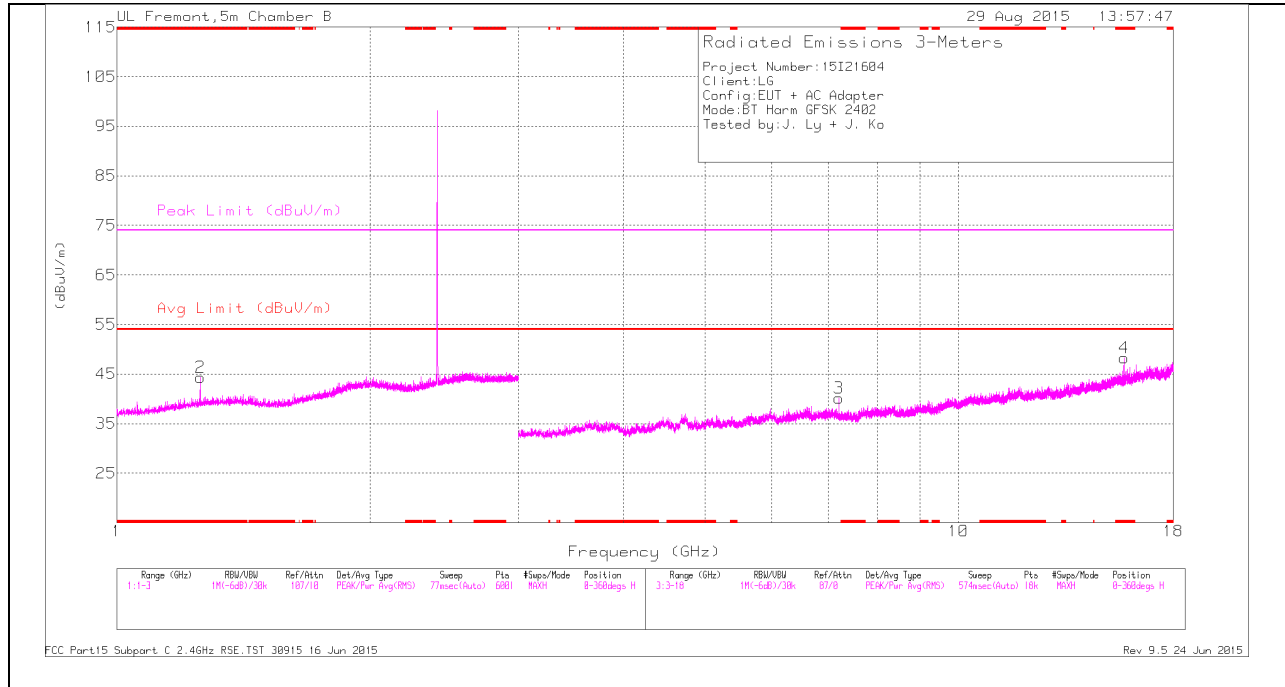
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	45.27	PK	32.3	-22.1	55.47	-	-	74	-18.53	350	111	V
2	2.484	45.54	PK	32.3	-22.1	55.74	-	-	74	-18.26	350	111	V
3	2.484	29.82	VB1T	32.3	-22.1	40.02	54	-13.98	-	-	350	111	V
4	2.484	30.01	VB1T	32.3	-22.1	40.21	54	-13.79	-	-	350	111	V

PK - Peak detector

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

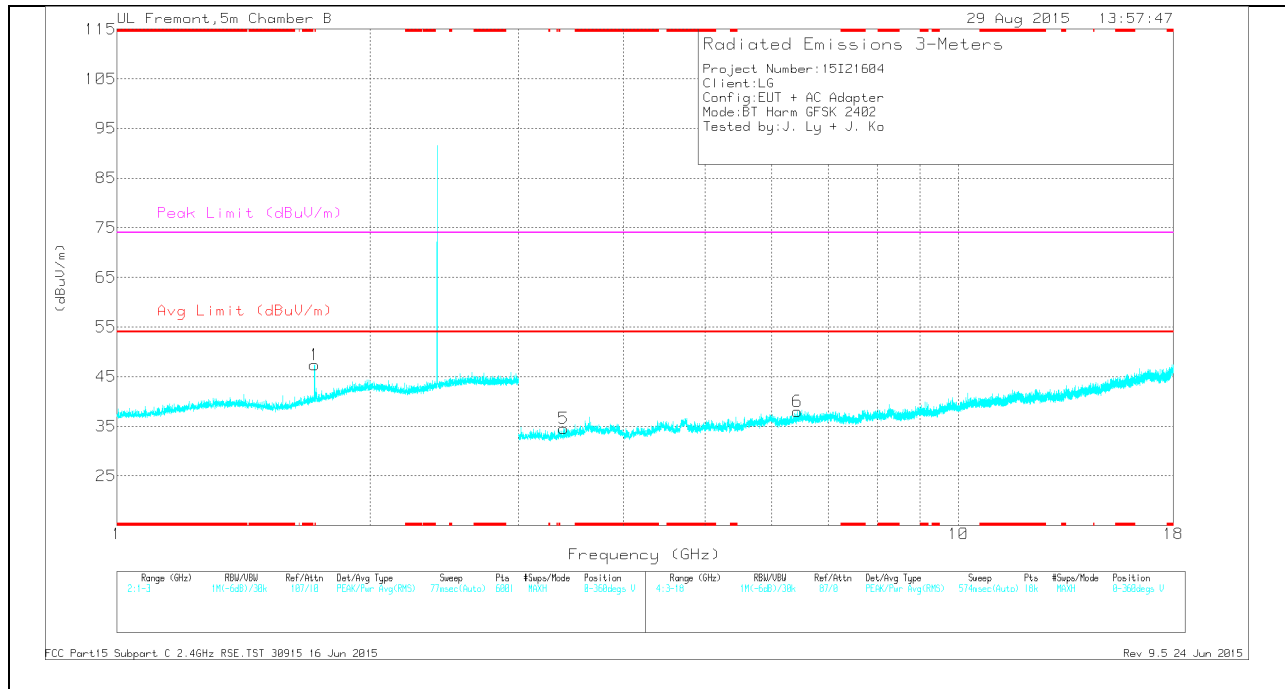
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/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
2	* 1.256	40.86	Pk	29	-25.5	0	44.36	-	-	74	-29.64	0-360	101	H
4	* 15.737	30.39	Pk	40.6	-22.7	0	48.29	-	-	74	-25.71	0-360	101	H
1	1.717	42.16	Pk	29.9	-24.7	0	47.36	-	-	-	-	0-360	199	V
5	3.397	34.56	Pk	33	-33	0	34.56	-	-	-	-	0-360	199	V
6	6.438	33	Pk	35.7	-30.7	0	38	-	-	-	-	0-360	199	V
3	7.206	34.44	Pk	35.3	-29.6	0	40.14	-	-	-	-	0-360	101	H

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

Pk - Peak detector

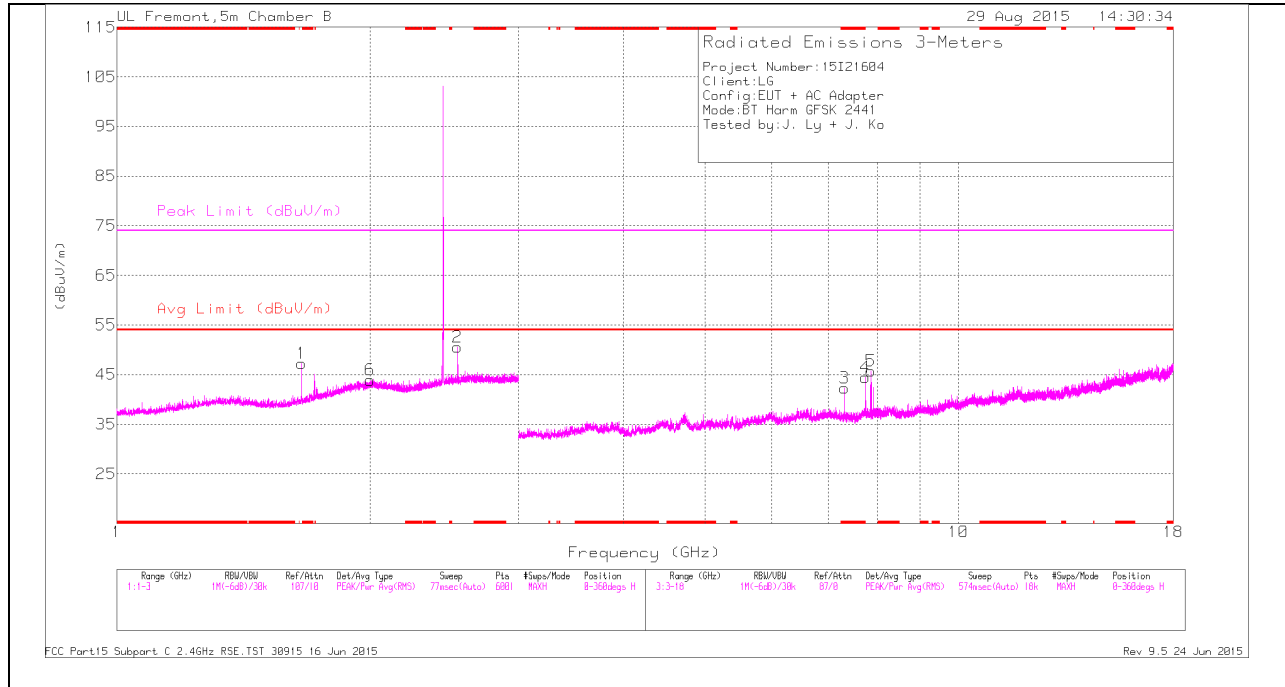
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fitr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.256	31.25	VA1T	29	-25.5	34.75	54	-19.25	-	-	248	291	H
* 15.736	22.05	VA1T	40.6	-22.8	39.85	54	-14.15	-	-	236	388	H
1.716	30.94	VA1T	29.9	-24.8	36.04	54	-17.96	-	-	183	112	V
3.398	29.21	VA1T	33	-33	29.21	54	-24.79	-	-	236	388	V
6.438	28.3	VA1T	35.7	-30.7	33.3	54	-20.7	-	-	236	388	V
7.206	27.72	VA1T	35.3	-29.6	33.42	54	-20.58	-	-	183	112	H

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

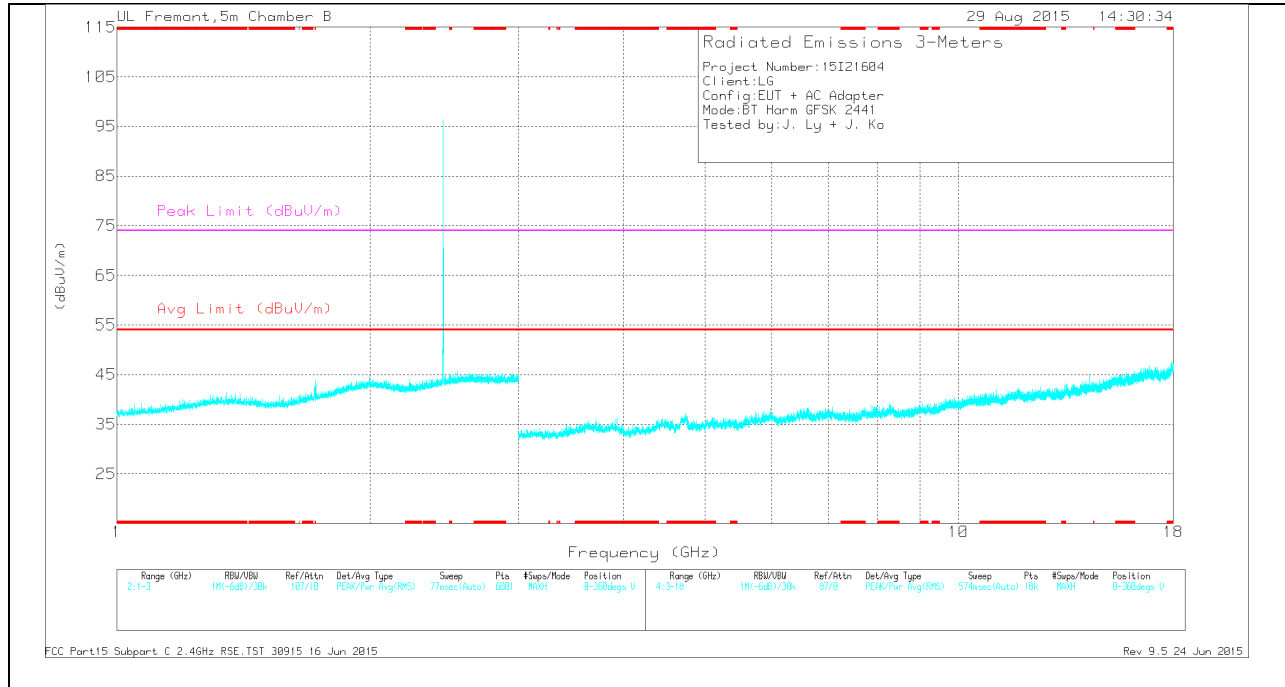
V1TV - U-NII: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

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/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
3	* 7.323	37.02	Pk	35.3	-30	0	42.32	-	-	74	-31.68	0-360	101	H
1	1.657	42.85	Pk	29.3	-24.9	0	47.25	-	-	-	-	0-360	199	H
6	1.999	36.09	Pk	32.3	-24.5	0	43.89	-	-	-	-	0-360	199	H
2	2.539	41.84	Pk	32.6	-23.9	0	50.54	-	-	-	-	0-360	101	H
4	7.755	37.27	Pk	35.5	-28.3	0	44.47	-	-	-	-	0-360	101	H
5	7.871	39.31	Pk	35.6	-29.2	0	45.71	-	-	-	-	0-360	101	H

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

Pk - Peak detector

Radiated Emissions

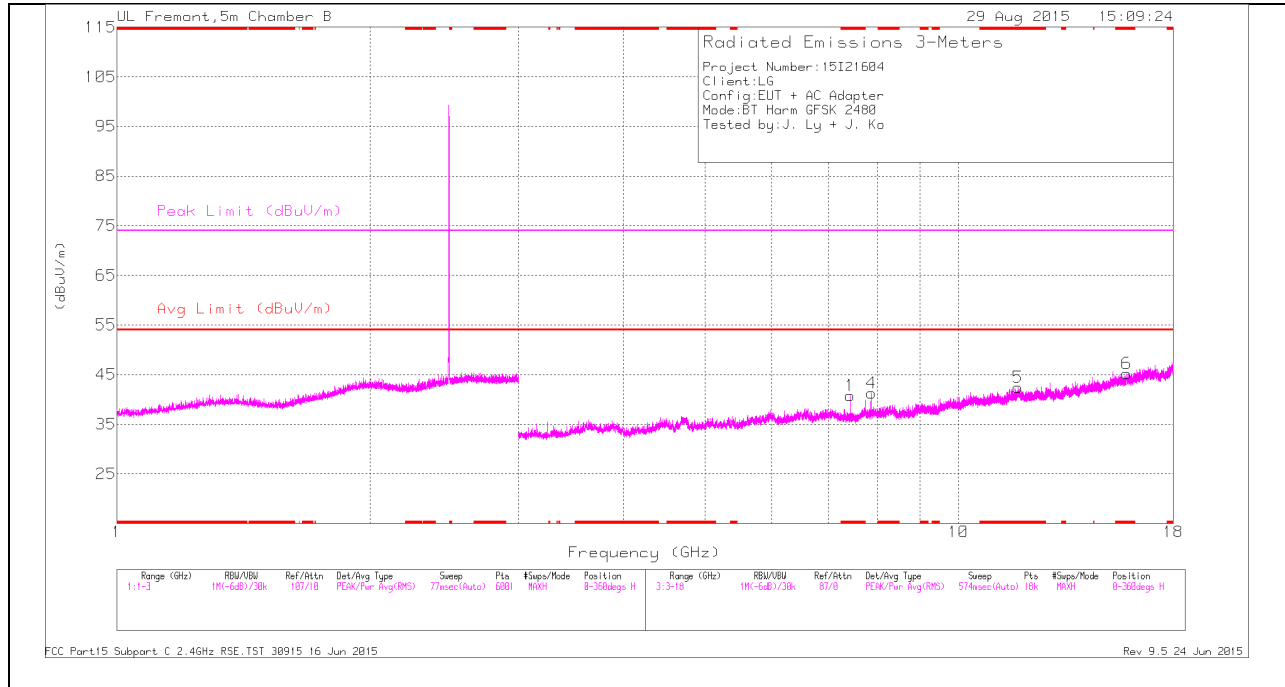
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fitr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.323	34.27	VA1T	35.3	-30	39.57	54	-14.43	-	-	145	123	H
1.657	30.99	VA1T	29.3	-24.9	35.39	54	-18.61	-	-	119	152	H
1.999	30.82	VA1T	32.3	-24.5	38.62	54	-15.38	-	-	99	365	H
2.539	31.05	VA1T	32.6	-23.9	39.75	54	-14.25	-	-	184	113	H
7.754	29.57	VA1T	35.5	-28.3	36.77	54	-17.23	-	-	159	164	H
7.87	26.57	VA1T	35.6	-29.2	32.97	54	-21.03	-	-	351	147	H

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

V1TV - U-NII: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

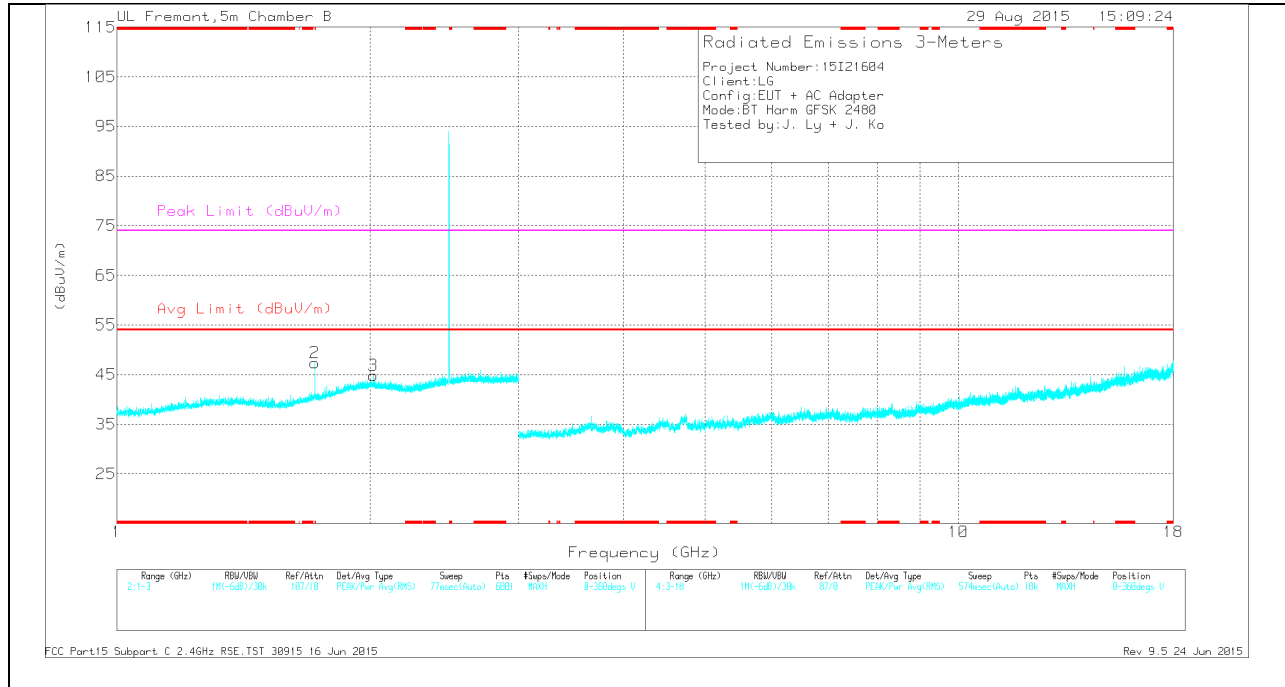
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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/Cb/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	* 7.44	34.69	Pk	35.3	-29.2	0	40.79	-	-	74	-33.21	0-360	101	H
5	* 11.775	28.18	Pk	38.6	-24.4	0	42.38	-	-	74	-31.62	0-360	101	H
6	* 15.854	25.55	Pk	40.6	-20.9	0	45.25	-	-	74	-28.75	0-360	200	H
2	1.718	42.25	Pk	29.9	-24.8	0	47.35	-	-	-	-	0-360	199	V
3	2.017	36.92	Pk	32.3	-24.4	0	44.82	-	-	-	-	0-360	101	V
4	7.886	35.01	Pk	35.6	-29.3	0	41.31	-	-	-	-	0-360	200	H

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

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Fitr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 7.44	33.18	VA1T	35.3	-29.2	39.28	54	-14.72	-	-	139	105	H
* 11.774	22.81	VA1T	38.6	-24.4	37.01	54	-16.99	-	-	139	105	H
* 15.852	20.86	VA1T	40.6	-20.9	40.56	54	-13.44	-	-	139	105	H
1.717	30.9	VA1T	29.9	-24.7	36.1	54	-17.9	-	-	139	105	V
2.016	30.88	VA1T	32.3	-24.4	48.78	54	-15.22	-	-	139	105	V
7.885	26.8	VA1T	35.6	-29.3	33.1	54	-20.9	-	-	139	105	H

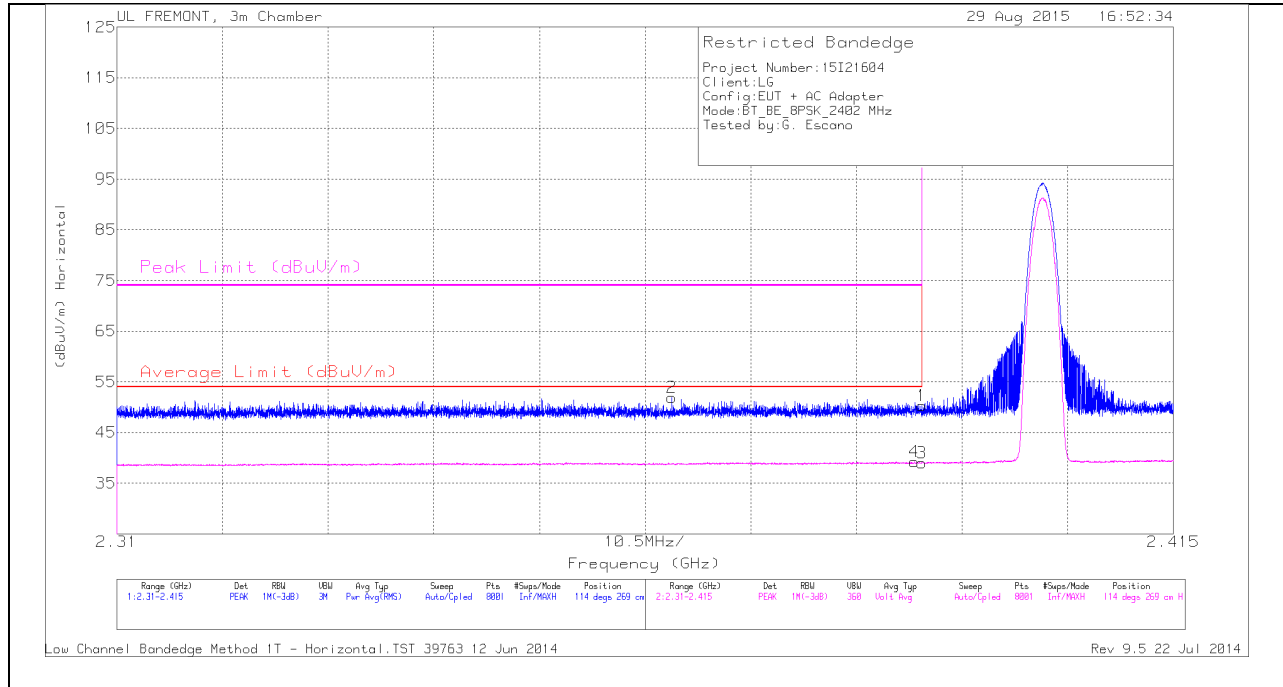
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

V1TV - U-NII: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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

HORIZONTAL PEAK AND AVERAGE PLOT



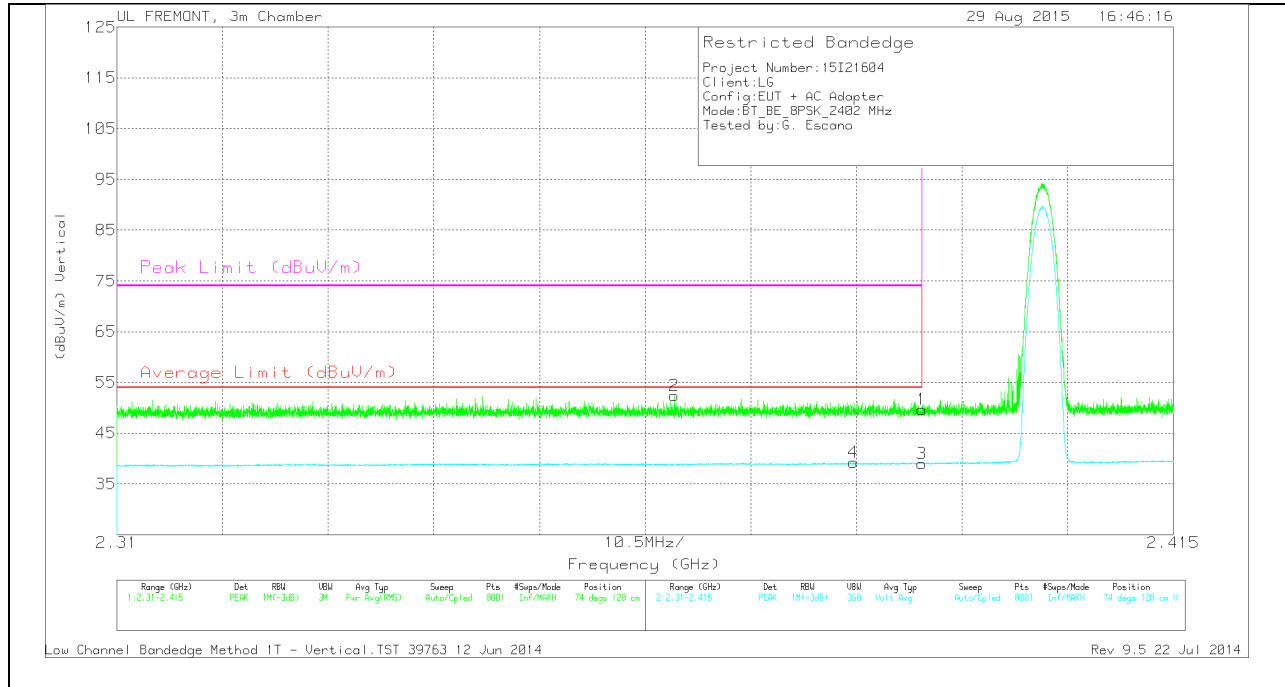
HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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
2	2.365	42.54	PK	31.9	-22.5	51.94	-	-	74	-22.06	114	269	H
4	2.389	29.59	VB1T	32	-22.4	39.19	54	-14.81	-	-	114	269	H
1	2.39	40.71	PK	32	-22.4	50.31	-	-	74	-23.69	114	269	H
3	2.39	29.38	VB1T	32	-22.4	38.98	54	-15.02	-	-	114	269	H

PK - Peak detector

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

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

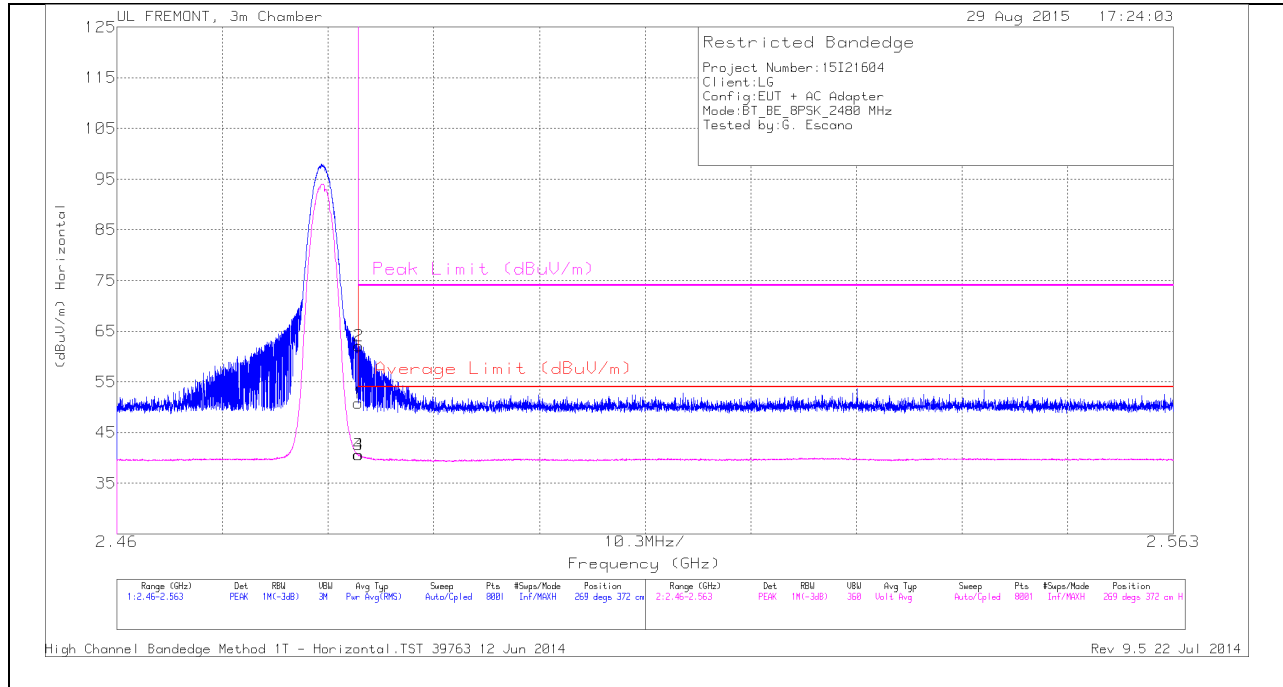
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cb/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.365	43.05	PK	31.9	-22.5	52.45	-	-	74	-21.55	74	128	V
4	2.383	29.59	VB1T	32	-22.4	39.19	54	-14.81	-	-	74	128	V
1	2.39	40.06	PK	32	-22.4	49.66	-	-	74	-24.34	74	128	V
3	2.39	29.43	VB1T	32	-22.4	39.03	54	-14.97	-	-	74	128	V

PK - Peak detector

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

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



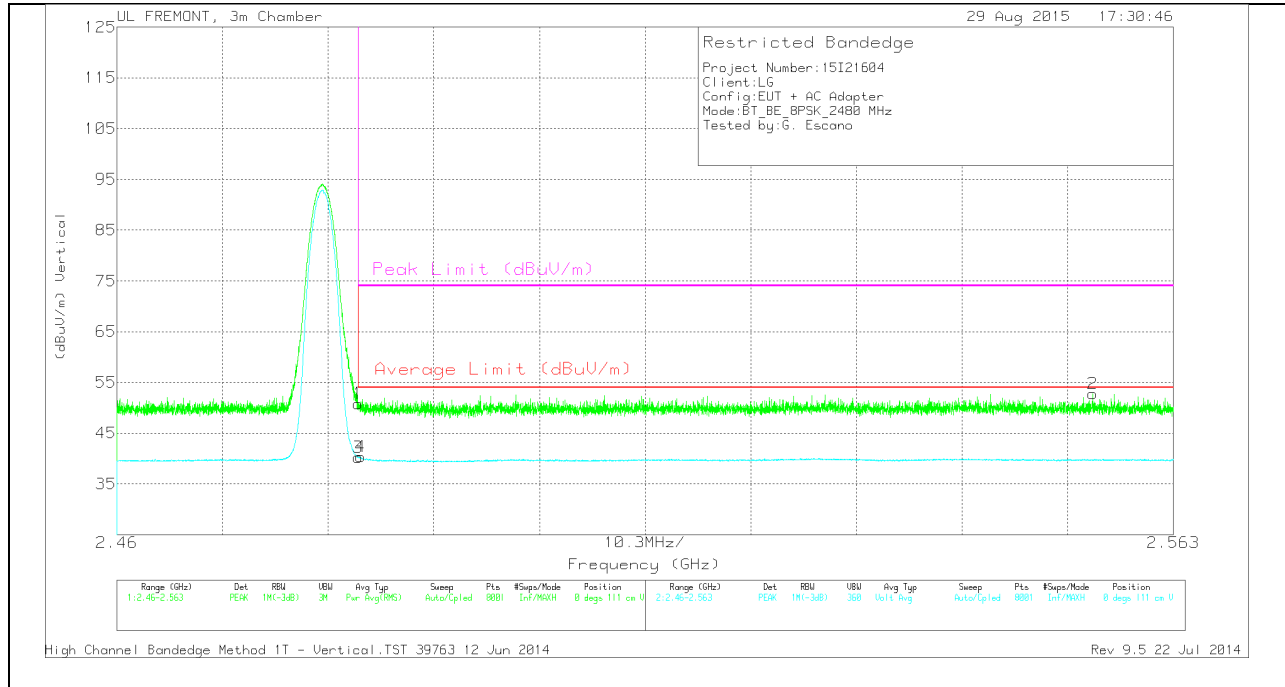
HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (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	2.484	40.62	PK	32.3	-22.1	50.82	-	-	74	-23.18	269	372	H
2	2.484	51.9	PK	32.3	-22.1	62.1	-	-	74	-11.9	269	372	H
3	2.484	30.37	VB1T	32.3	-22.1	40.57	54	-13.43	-	-	269	372	H
4	2.484	30.41	VB1T	32.3	-22.1	40.61	54	-13.39	-	-	269	372	H

PK - Peak detector

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

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

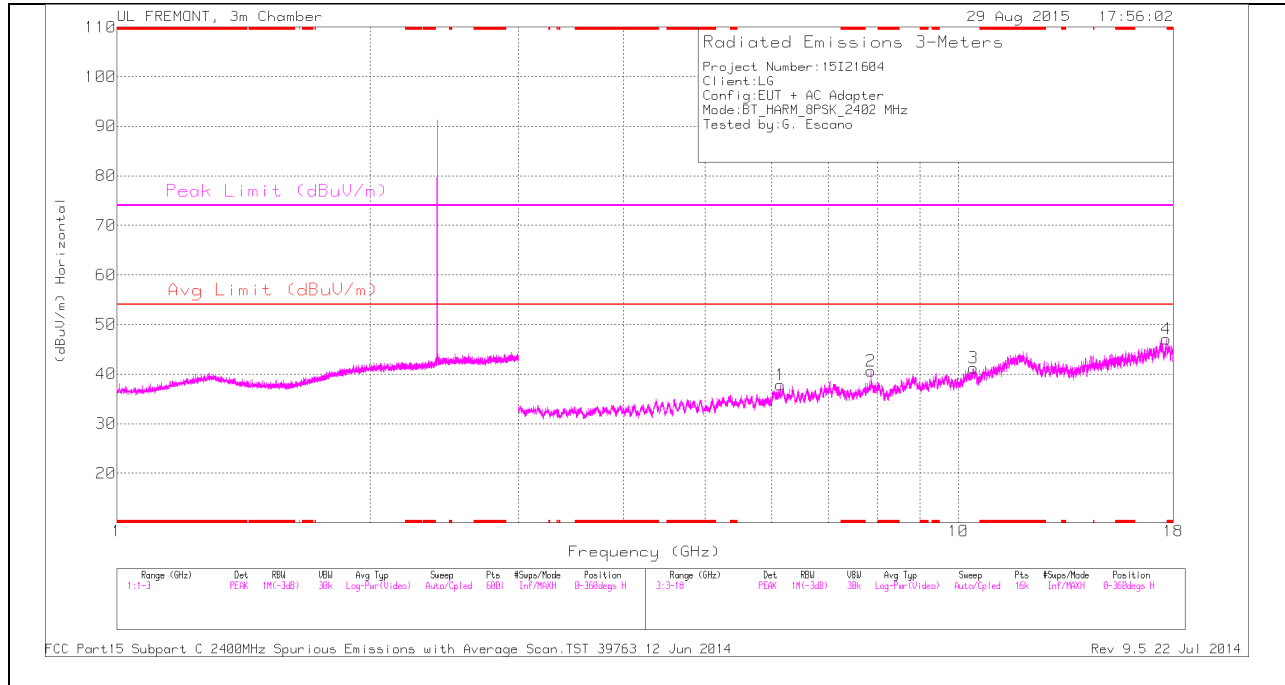
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	40.65	PK	32.3	-22.1	50.85	-	-	74	-23.15	0	111	V
3	2.484	30.06	VB1T	32.3	-22.1	40.26	54	-13.74	-	-	0	111	V
4	2.484	30.14	VB1T	32.3	-22.1	40.34	54	-13.66	-	-	0	111	V
2	2.555	42.35	PK	32.4	-22	52.75	-	-	74	-21.25	0	111	V

PK - Peak detector

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

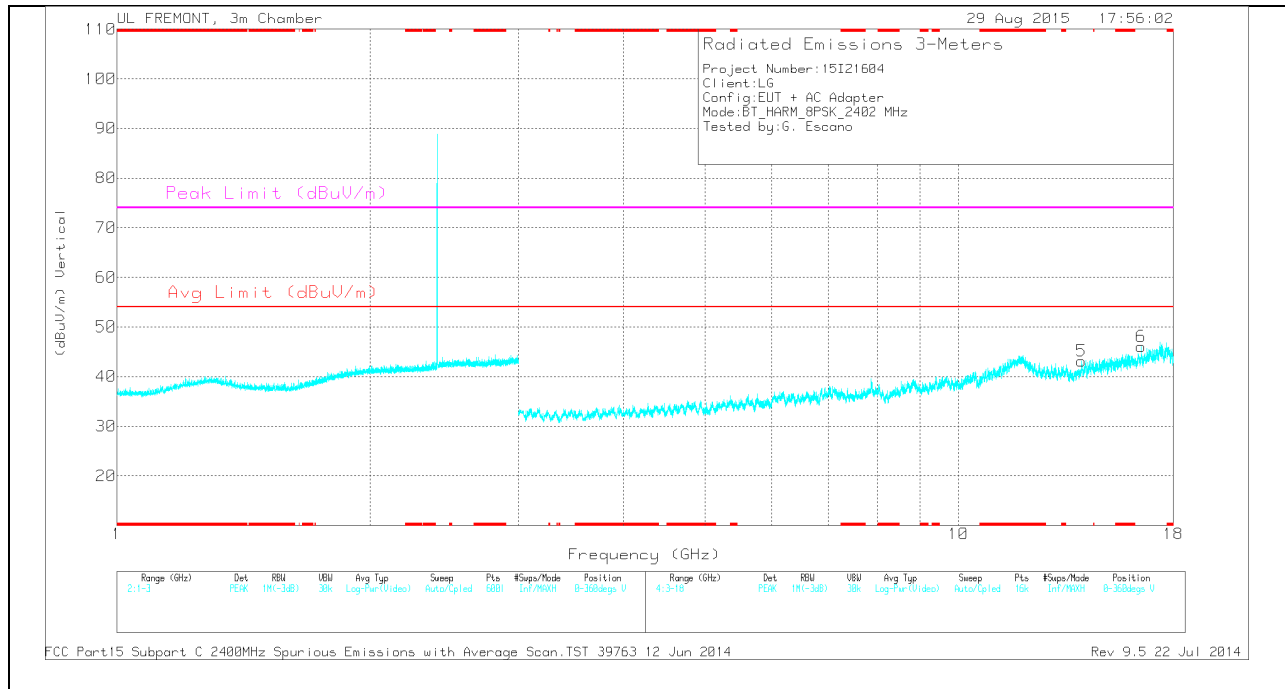
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	6.139	31.16	PK	35.3	-28.7	37.76	-	-	-	-	0-360	200	H
2	7.868	31.26	PK	35.8	-26.5	40.56	-	-	-	-	0-360	100	H
3	10.42	27.39	PK	37.3	-23.4	41.29	-	-	-	-	0-360	100	H
5	14.007	31.12	PK	38.8	-26.8	43.12	-	-	-	-	0-360	100	V
6	16.489	28.66	PK	40.9	-23.5	46.06	-	-	-	-	0-360	100	V
4	17.662	26.32	PK	41.4	-20.7	47.02	-	-	-	-	0-360	100	H

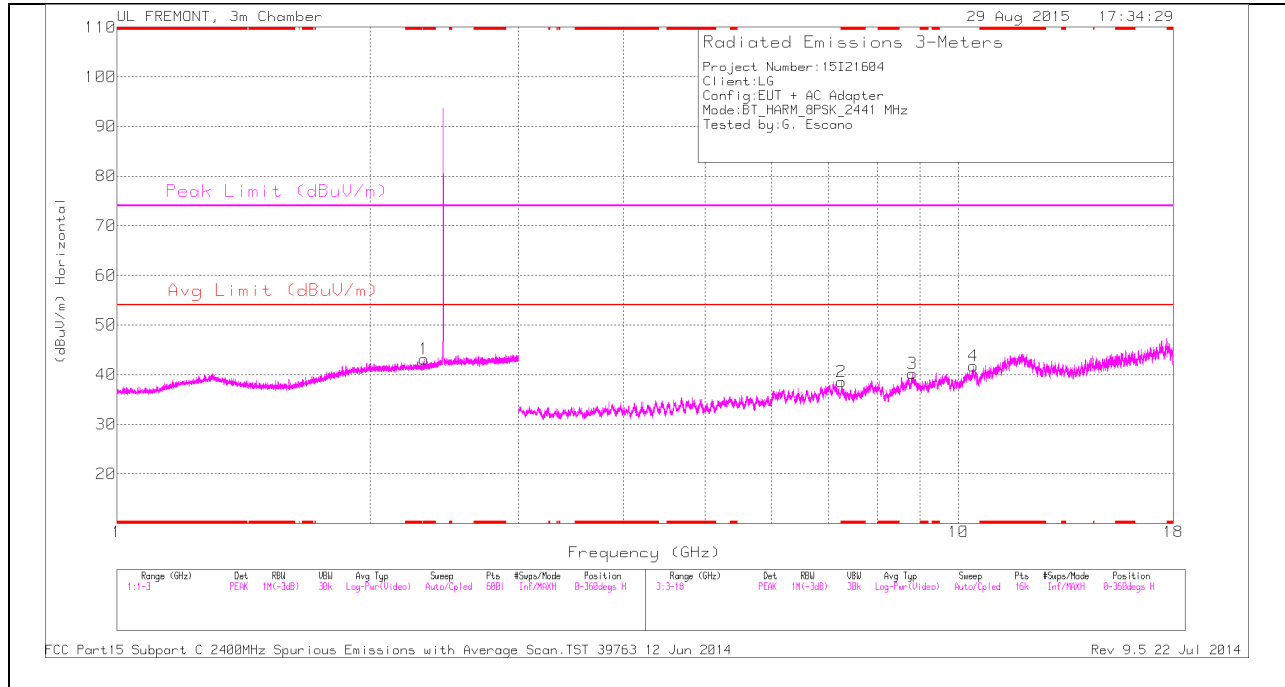
PK - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
6.141	39.11	PK3	35.3	-28.6	45.81	-	-	74	-28.19	49	134	H
7.868	38.04	PK3	35.8	-26.5	47.34	-	-	74	-26.66	75	112	H
10.422	35.95	PK3	37.3	-23.4	49.85	-	-	74	-24.15	11	100	H
14.008	40.09	PK3	38.8	-26.8	52.09	-	-	74	-21.91	74	100	V
16.487	37.27	PK3	40.9	-23.4	54.77	-	-	74	-19.23	121	100	V
17.662	35.86	PK3	41.4	-20.7	56.56	-	-	74	-17.44	140	100	H

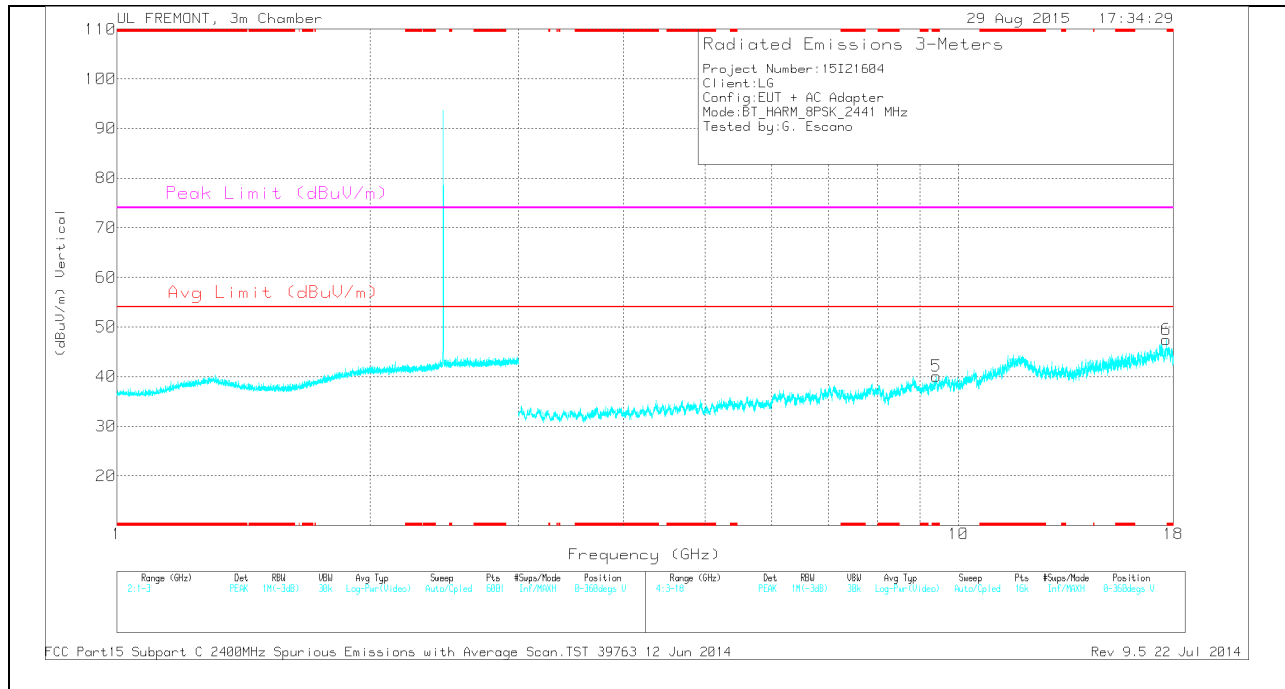
PK3 - FHSS Method: Maximum Peak

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/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.319	33.99	PK	31.7	-22.5	43.19	-	-	74	-30.81	0-360	200	H
2	* 7.26	31.42	PK	35.6	-28.4	38.62	-	-	74	-35.38	0-360	100	H
5	* 9.406	27.7	PK	36.4	-24	40.1	-	-	74	-33.9	0-360	200	V
4	10.409	27.99	PK	37.3	-23.6	41.69	-	-	-	-	0-360	100	H
6	17.661	26.74	PK	41.4	-20.7	47.44	-	-	-	-	0-360	100	V
3	8.816	29.7	PK	35.9	-25.4	40.2	-	-	-	-	0-360	100	H

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

PK - Peak detector

Radiated Emissions

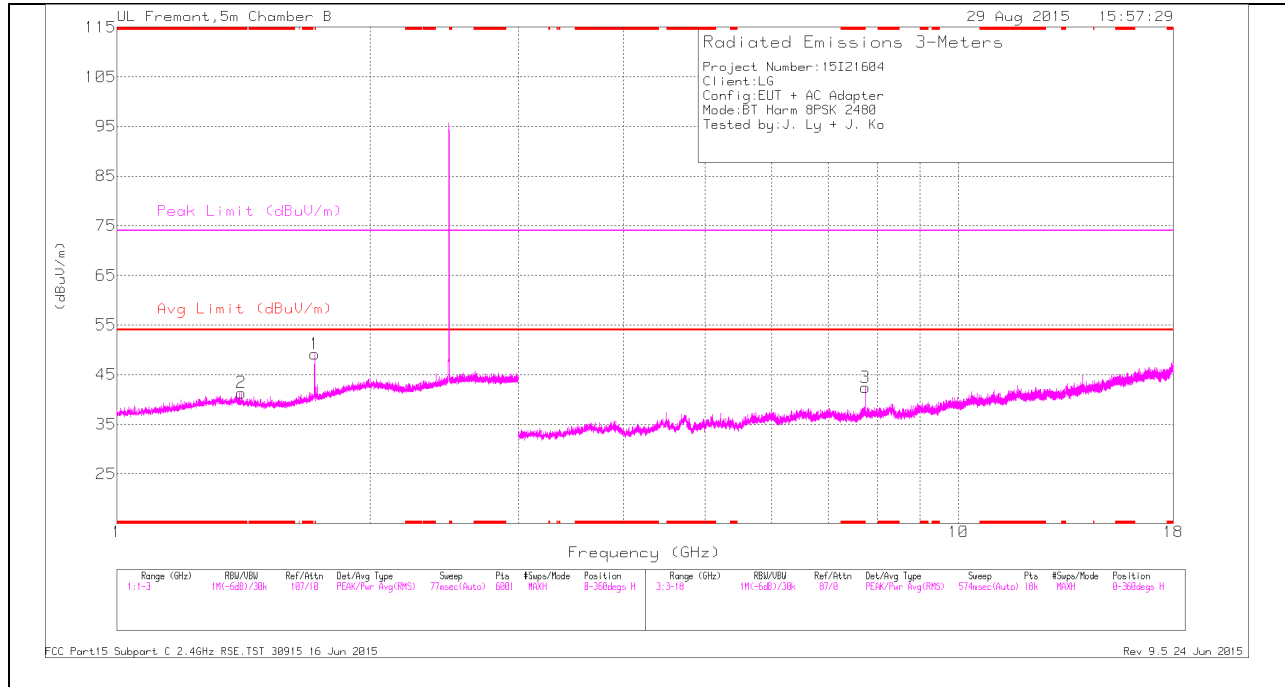
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.318	42.52	PK3	31.7	-22.4	51.82	-	-	74	-22.18	26	164	H
* 2.32	29.61	VB1T	31.7	-22.5	38.81	54	-15.19	-	-	26	164	H
* 7.261	39.37	PK3	35.6	-28.4	46.57	-	-	74	-27.43	77	115	H
* 7.261	26.99	VB1T	35.6	-28.4	34.19	54	-19.81	-	-	77	115	H
* 9.407	37.27	PK3	36.4	-24.1	49.57	-	-	74	-24.43	27	171	V
* 9.407	24.03	VB1T	36.4	-24.1	36.33	54	-17.67	-	-	27	171	V
8.817	37.29	PK3	35.9	-25.4	47.79	-	-	74	-26.21	50	107	H
10.41	36.38	PK3	37.3	-23.6	50.08	-	-	74	-23.92	131	174	H
17.659	36.35	PK3	41.4	-20.7	57.05	-	-	74	-16.95	16	144	V

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

PK3 - FHSS Method: Maximum Peak

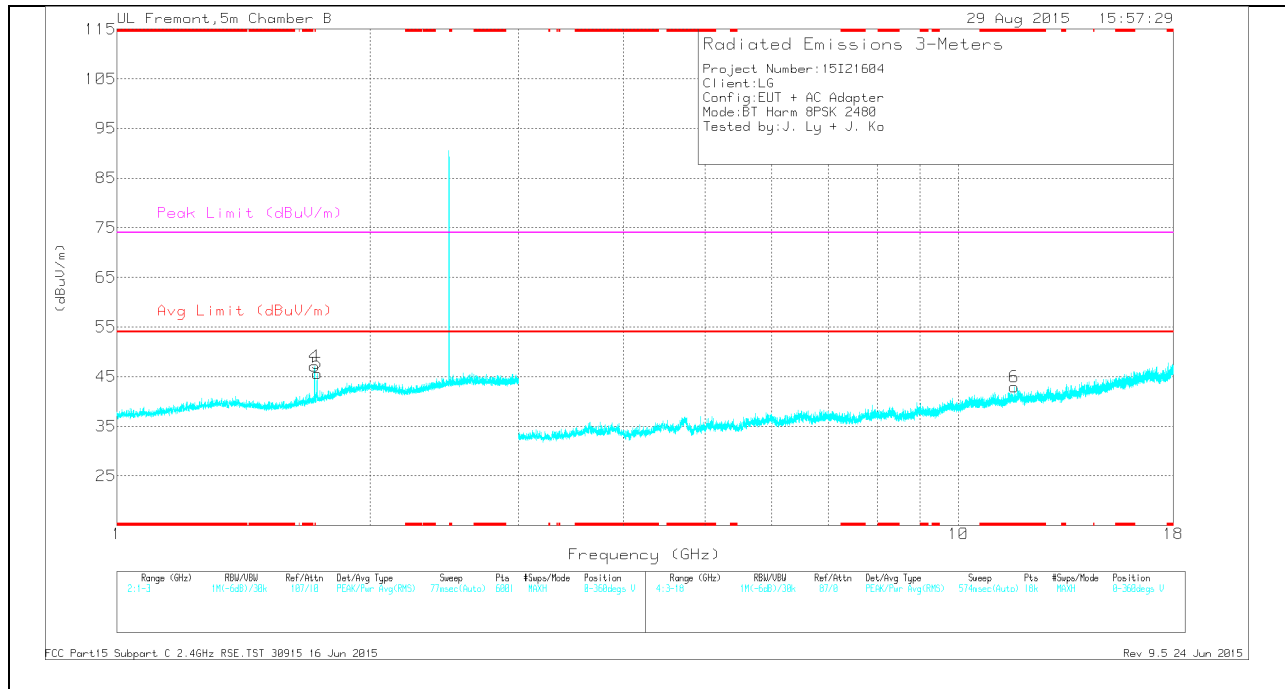
VB1T - FHSS Method: VB=1/Ton, Voltage Averaging Max Hold where: Ton is the duration of the packet

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)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 1.406	37.35	Pk	29.3	-25.3	0	41.35	-	-	74	-32.65	0-360	199	H
6	* 11.652	29.3	Pk	38.5	-24.9	0	42.9	-	-	74	-31.1	0-360	101	V
1	1.717	43.91	Pk	29.9	-24.7	0	49.11	-	-	-	-	0-360	199	H
4	1.717	41.93	Pk	29.9	-24.7	0	47.13	-	-	-	-	0-360	199	V
5	1.729	40.4	Pk	30	-24.8	0	45.6	-	-	-	-	0-360	199	V
3	7.751	35.09	Pk	35.5	-28.2	0	42.39	-	-	-	-	0-360	200	H

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

Pk - Peak detector

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.406	31.12	VA1T	29.3	-25.3	35.12	54	-18.88	-	-	1	101	H
* 11.654	23.15	VA1T	38.5	-24.9	36.75	54	-17.25	-	-	1	101	V
1.716	30.96	VA1T	29.9	-24.8	36.06	54	-17.94	-	-	1	101	H
1.716	31.14	VA1T	29.9	-24.8	36.24	54	-17.76	-	-	1	101	V
1.729	55.15	VA1T	30	-24.8	60.35	54	-6.35	-	-	1	101	V
7.751	26.37	VA1T	35.5	-28.2	33.67	54	-20.33	-	-	1	101	H

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

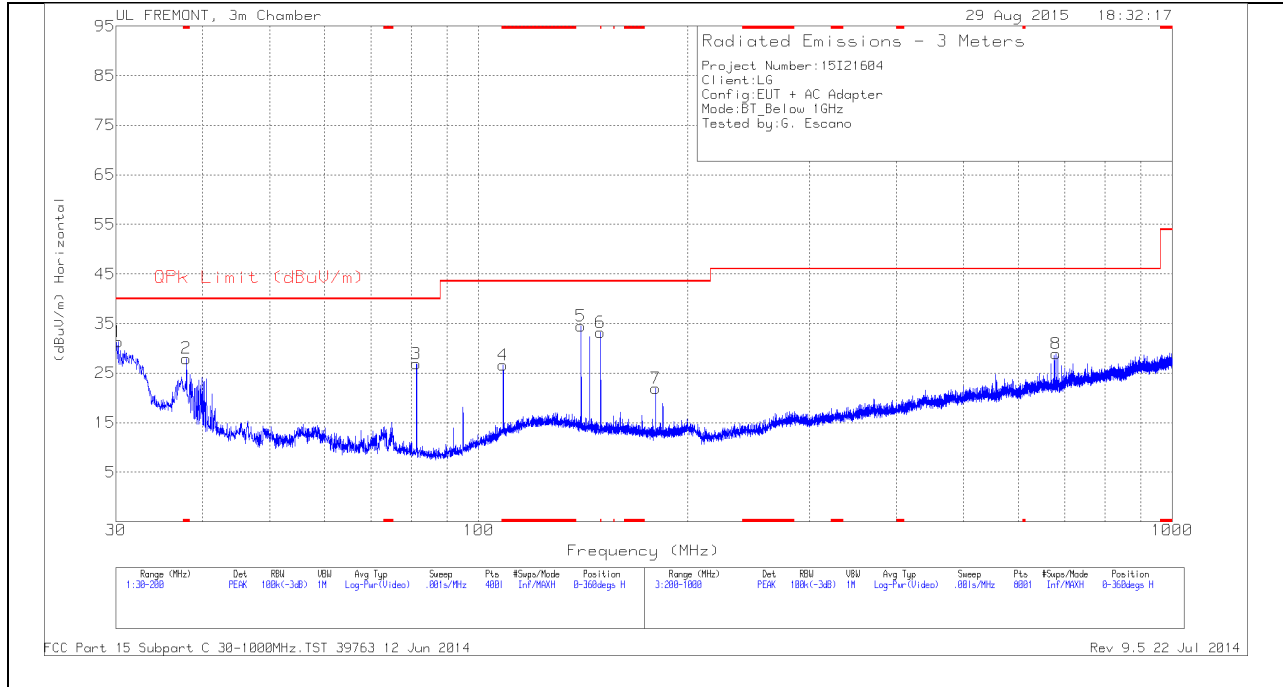
V1TV - U-NII: VB=1/Ton, Linear Voltage Average where: Ton is packet duration

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

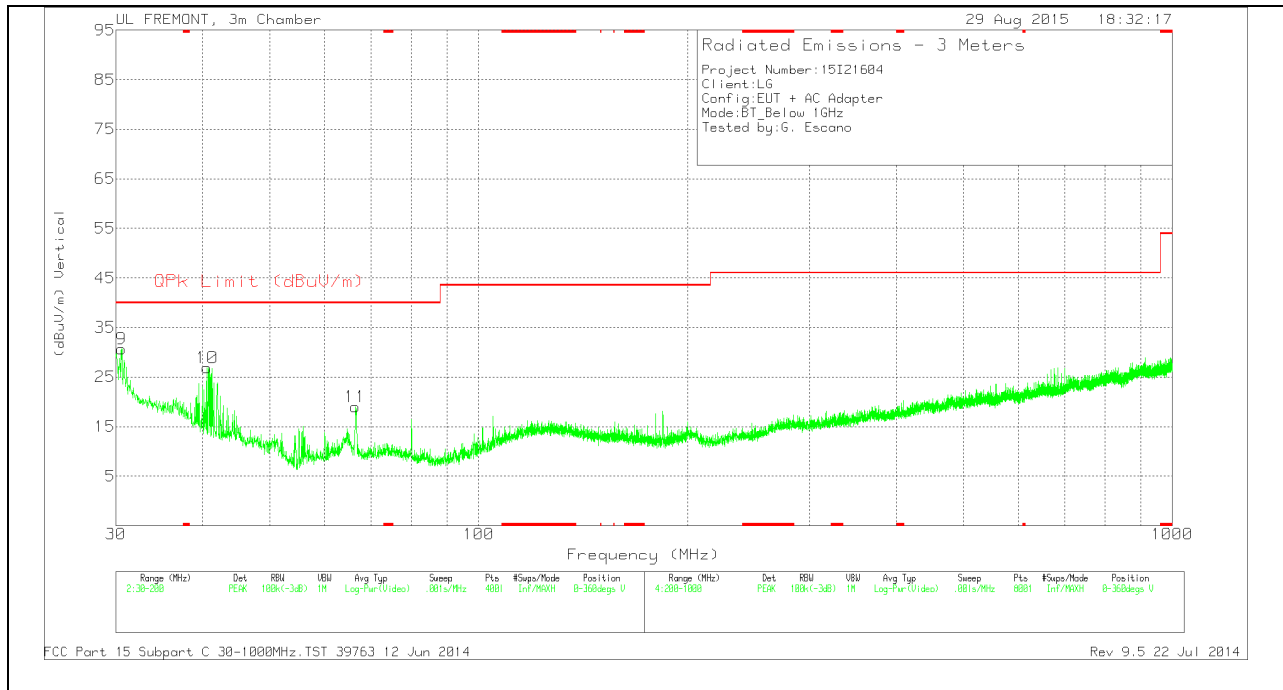
9.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



BELOW 1 GHz TABLE

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 37.905	39.25	PK	15.9	-27.2	27.95	40	-12.05	0-360	100	H
4	* 108.4975	40.86	PK	11.9	-26.2	26.56	43.52	-16.96	0-360	200	H
6	* 149.935	46.82	PK	12.1	-25.7	33.22	43.52	-10.3	0-360	100	H
1	30.2125	36.9	PK	21.6	-27.2	31.3	40	-8.7	0-360	100	H
9	30.5525	36.63	PK	21.3	-27.2	30.73	40	-9.27	0-360	100	V
10	40.625	40.06	PK	13.8	-27	26.86	40	-13.14	0-360	100	V
11	66.4225	37.6	PK	8.1	-26.7	19	40	-21	0-360	100	V
3	81.34	45.43	PK	7.9	-26.5	26.83	40	-13.17	0-360	200	H
5	140.5425	47.58	PK	12.8	-25.9	34.48	43.52	-9.04	0-360	100	H
7	179.9825	36.33	PK	11	-25.4	21.93	43.52	-21.59	0-360	200	H
8	680	33.74	PK	19.4	-24.2	28.94	46.02	-17.08	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

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane.

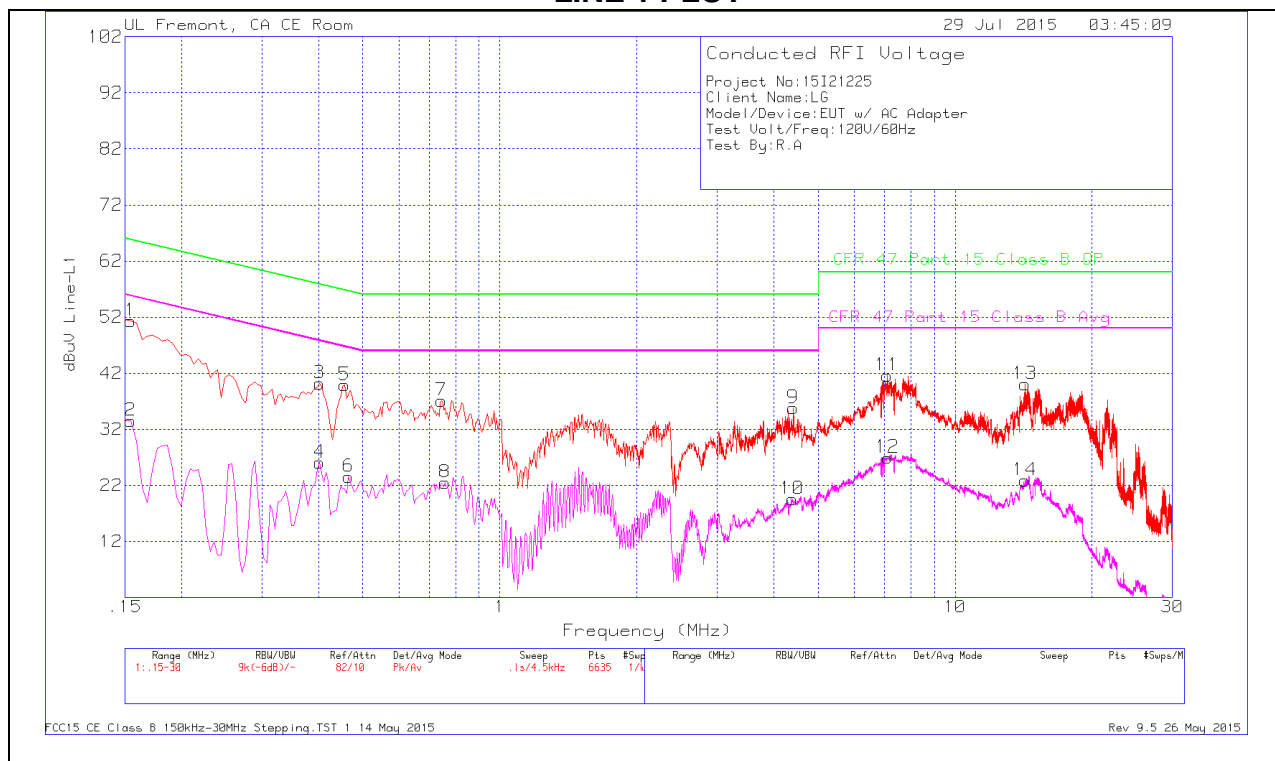
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULTS

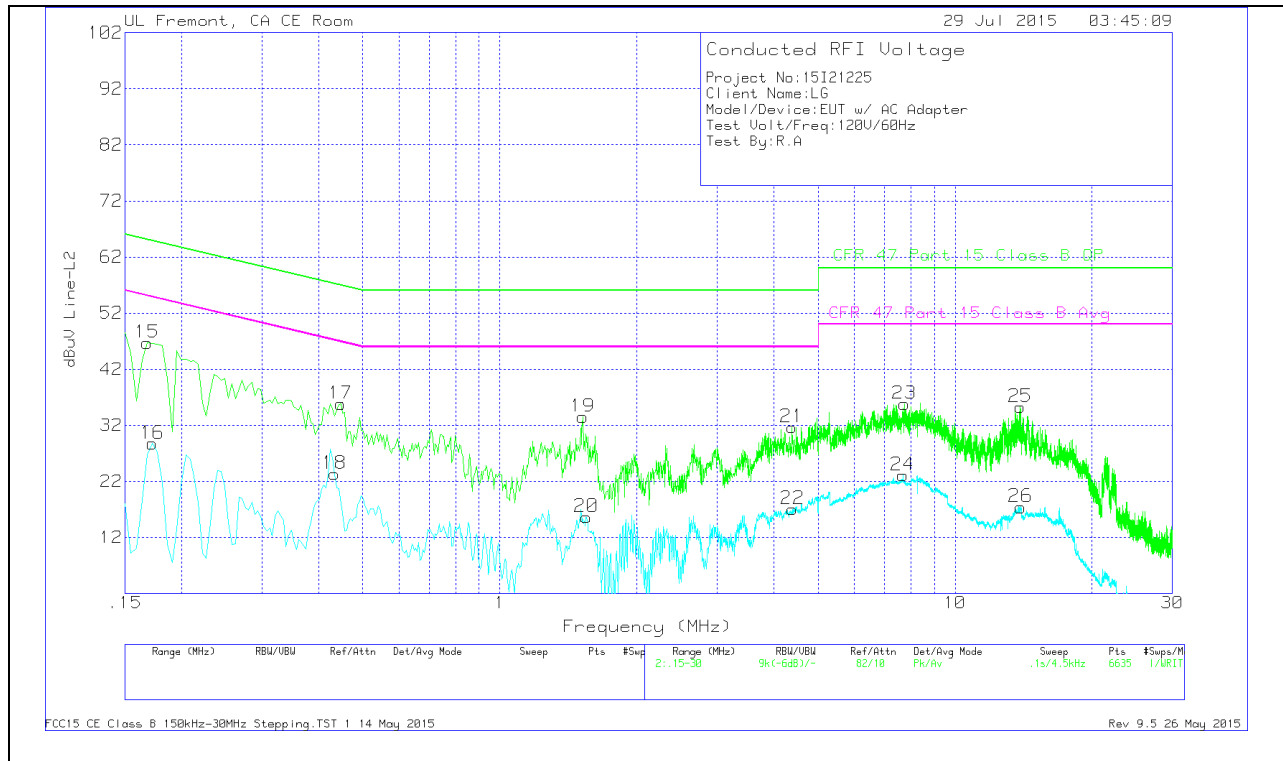
Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.1545	50.02	Pk	1.3	0	51.32	65.75	-14.43		
2	.1545	32.21	Av	1.3	0	33.51	-	-	55.75	-22.24
3	.402	39.79	Pk	.4	0	40.19	57.81	-17.62		
4	.402	25.64	Av	.4	0	26.04	-	-	47.81	-21.77
5	.456	39.48	Pk	.4	0	39.88	56.77	-16.89		
6	.465	23.13	Av	.4	0	23.53	-	-	46.6	-23.07
7	.744	36.77	Pk	.3	0	37.07	56	-18.93		
8	.7575	22.2	Av	.3	0	22.5	-	-	46	-23.5
9	4.407	35.48	Pk	.2	.1	35.78	56	-20.22		
10	4.389	19.23	Av	.2	.1	19.53	-	-	46	-26.47
11	7.089	41.28	Pk	.2	.1	41.58	60	-18.42		
12	7.107	26.61	Av	.2	.1	26.91	-	-	50	-23.09
13	14.2485	39.65	Pk	.2	.2	40.05	60	-19.95		
14	14.253	22.46	Av	.2	.2	22.86	-	-	50	-27.14

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	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
15	.168	45.41	Pk	1.3	0	46.71	65.06	-18.35		
16	.1725	27.54	Av	1.2	0	28.74	-	-	54.84	-26.1
17	.447	35.4	Pk	.4	0	35.8	56.93	-21.13		
18	.4335	22.92	Av	.4	0	23.32	-	-	47.19	-23.87
19	1.5225	33.21	Pk	.2	.1	33.51	56	-22.49		
20	1.5495	15.33	Av	.2	.1	15.63	-	-	46	-30.37
21	4.3845	31.36	Pk	.2	.1	31.66	56	-24.34		
22	4.398	16.76	Av	.2	.1	17.06	-	-	46	-28.94
23	7.737	35.52	Pk	.2	.1	35.82	60	-24.18		
24	7.6785	22.79	Av	.2	.1	23.09	-	-	50	-26.91
25	13.911	34.85	Pk	.2	.2	35.25	60	-24.75		
26	13.9335	17.02	Av	.2	.2	17.42	-	-	50	-32.58

Pk - Peak detector

Av - Average detection