



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

CDMA WATCH + Bluetooth, DTS b/g

MODEL NUMBER: LG-VC110, LGVC110, VC110

FCC ID: ZNFVC110

REPORT NUMBER: 15I21068-E2

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Prepared for

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Revision History

Issue			
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION: CDMA WATCH + Bluetooth, DTS b/g
MODEL: LG-VC110 LGVC110, VC110
SERIAL NUMBER: 1Z822 (Conducted), 1Z821 (Radiated)
DATE TESTED: JUNE 24-JULY 2, 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 CFR 47 Part 2, FCC CFR 47 Part 15, and KDB 558074 D01 v03r03, ANSI C63.10-2009 for FCC.

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
☐ Chamber A(IC: 2324B-1)	☐ Chamber D(IC: 2324B-4)
☒ Chamber B(IC: 2324B-2)	☐ Chamber E(IC: 2324B-5)
☒ Chamber C(IC: 2324B-3)	☐ Chamber F(IC: 2324B-6)
	☐ Chamber G(IC: 2324B-7)
	☐ 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 CDMA WATCH + Bluetooth, DTS b/g

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	7.64	5.81
2402 - 2480	Enhanced 8PSK	6.39	4.36

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 LMA antenna, with a maximum gain of -0.14dBi.

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	STA-U17WD	DS542312055	N/A

I/O CABLES

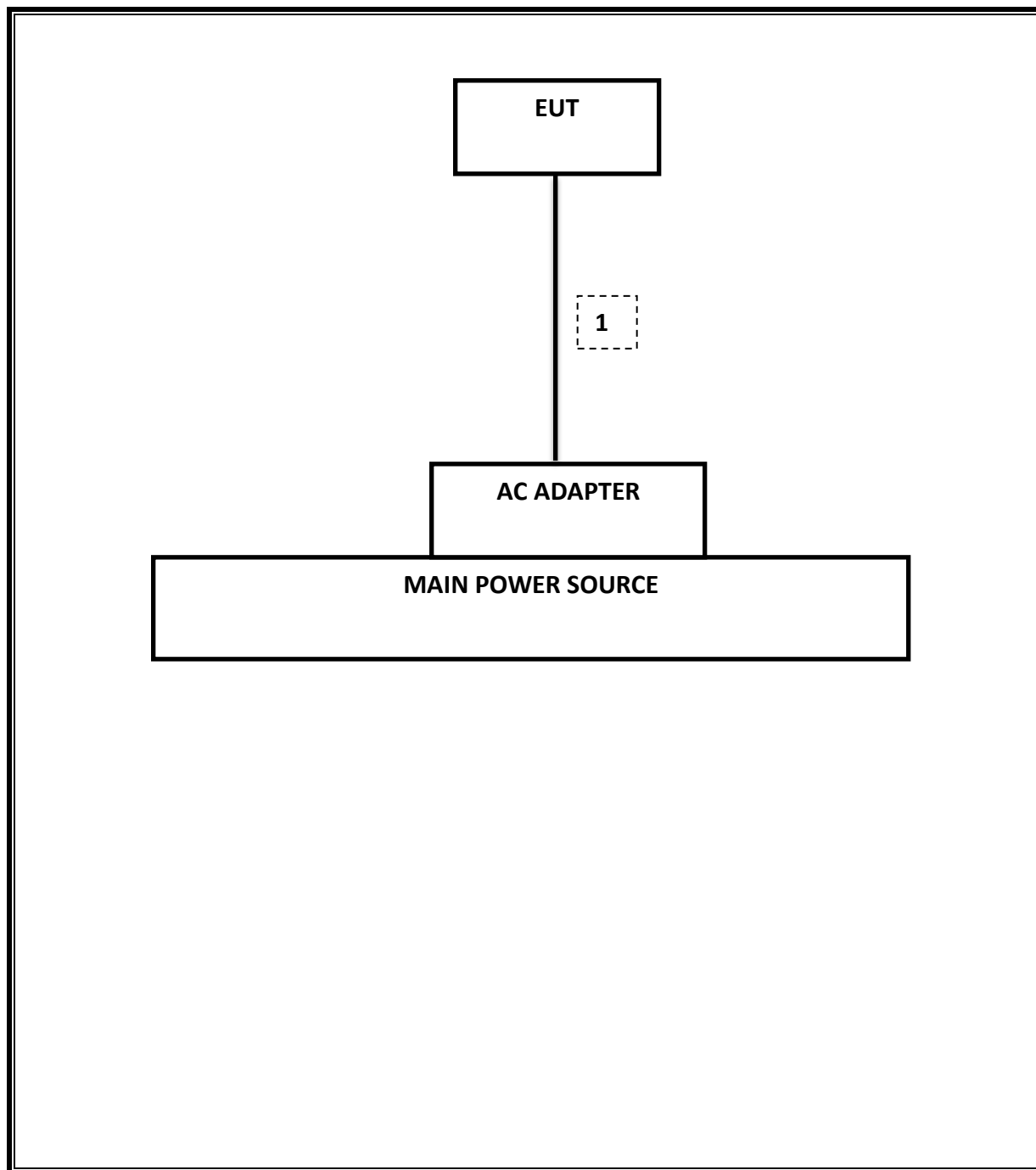
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

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	Keysight	8449B	T404	06/29/16
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/15
CBT Bluetooth Tester	R & S	CBT	None	07/12/15
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/15
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/15
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/14/16
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	1.078 MHz
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-43.57 dBm
15.247 (b)(1)	RSS-247 5.4.2	TX conducted output power	<21dBm		Pass	7.64 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	0.37 s
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass	41.14dBuV
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass	49.22 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

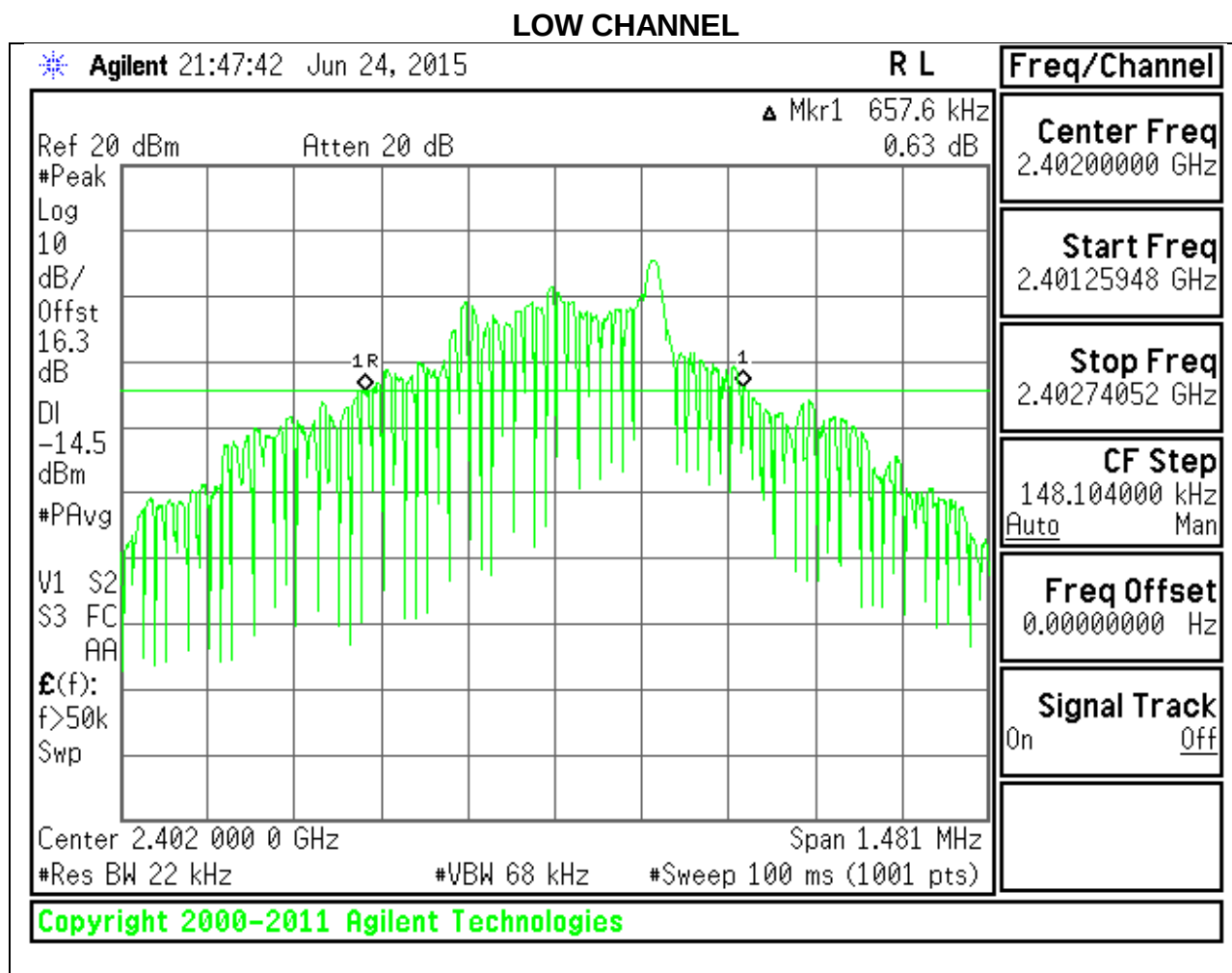
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	0.658	1.0018
Middle	2441	0.658	1.0068
High	2480	0.660	0.9155
Worst		0.660	1.0068

8.1.2. ENHANCED DATA RATE 8PSK MODULATION

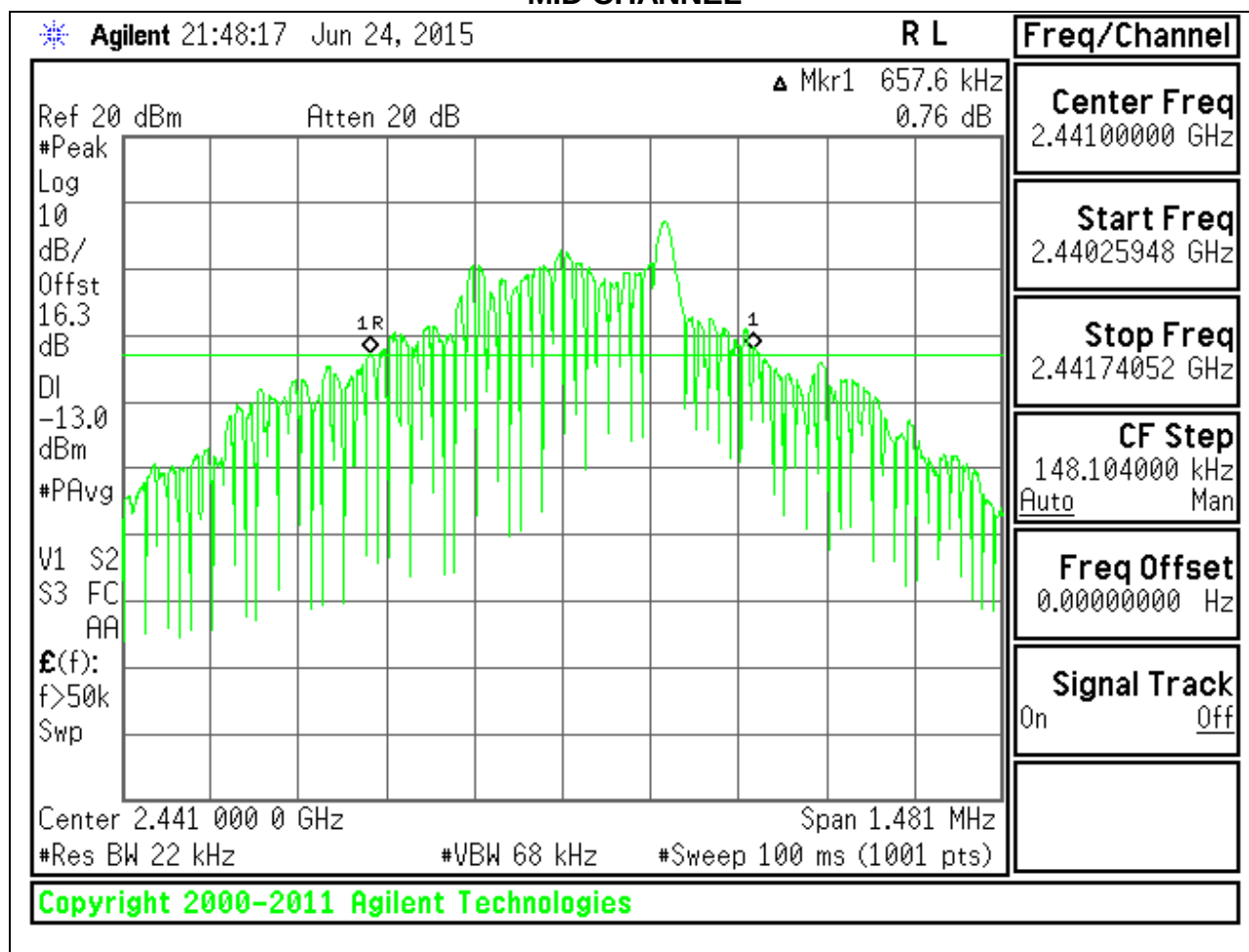
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.202	1.0787
Middle	2441	1.207	1.0438
High	2480	1.207	1.0210
Worst		1.207	1.0787

8.1.3. 20 dB AND 99% BANDWIDTH PLOTS

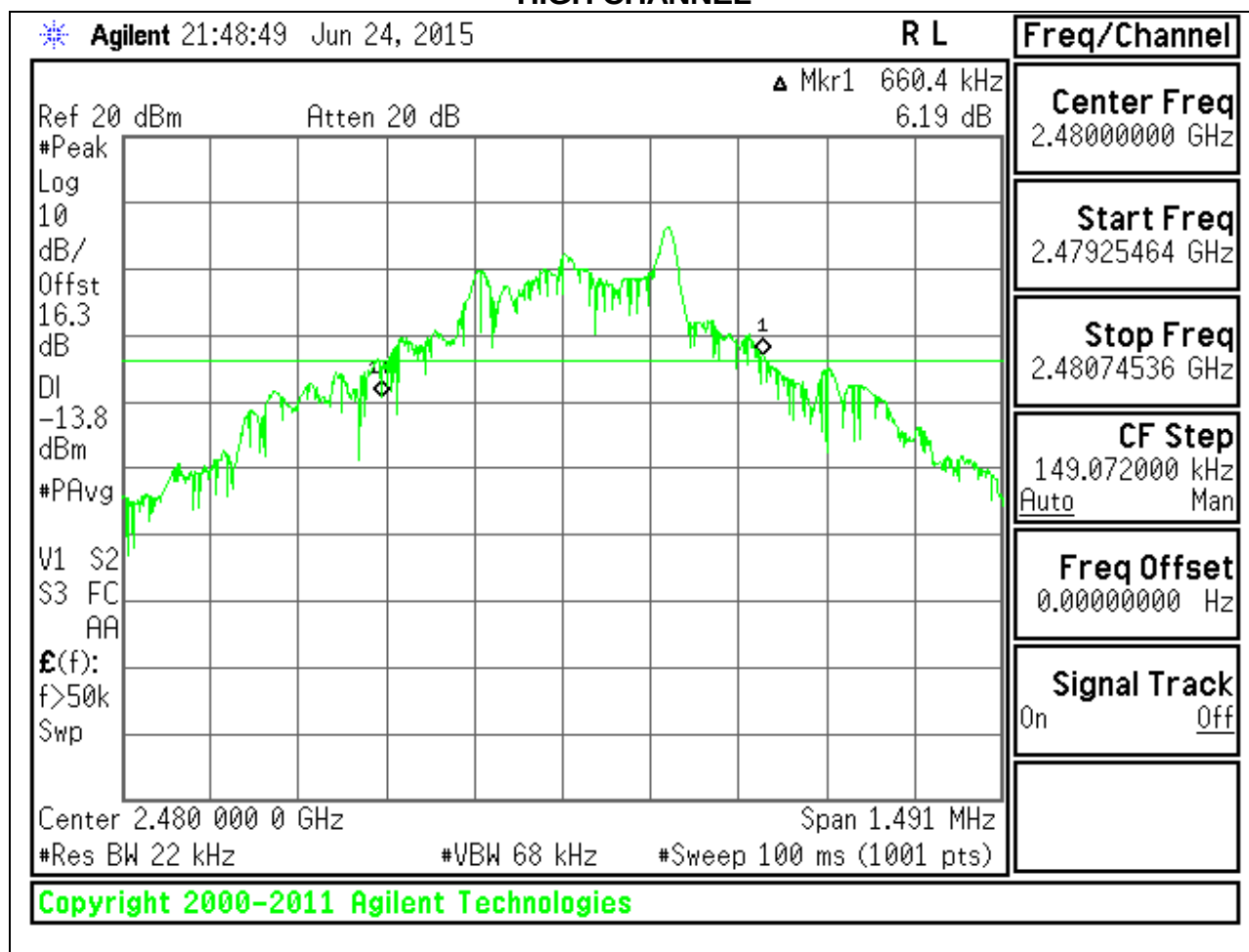
GFSK 20 dB BANDWIDTH



MID CHANNEL

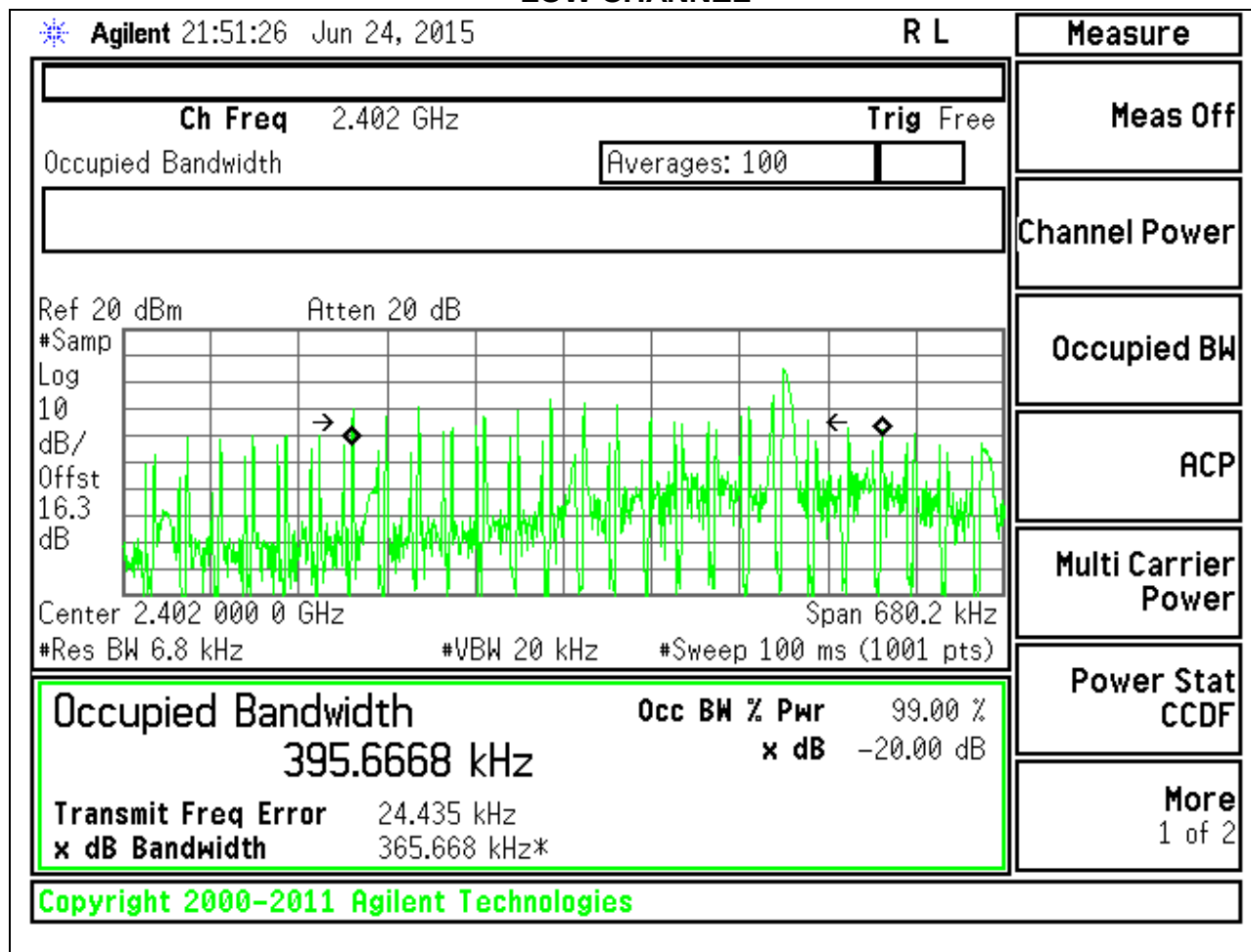


HIGH CHANNEL

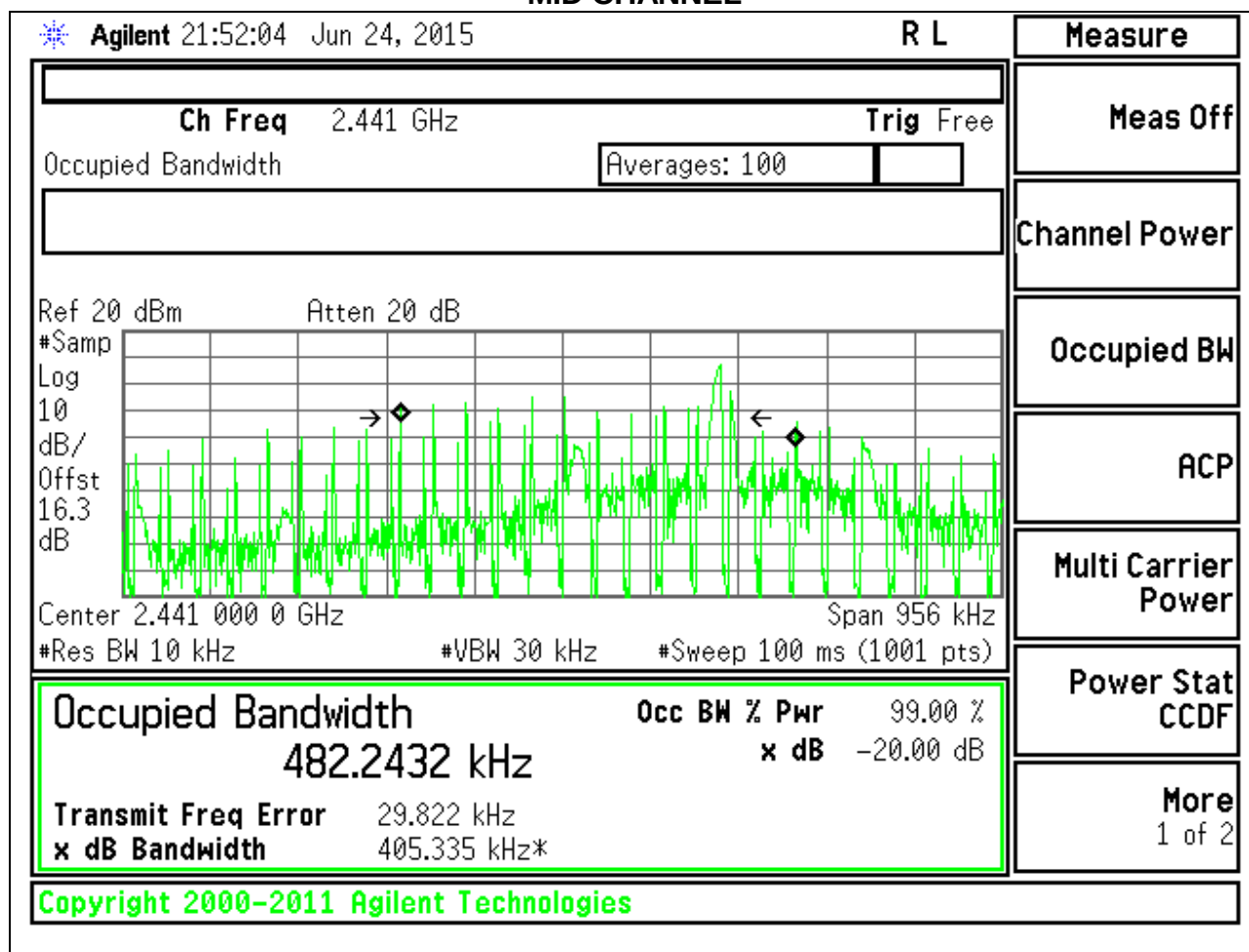


GFSK 99% BANDWIDTH

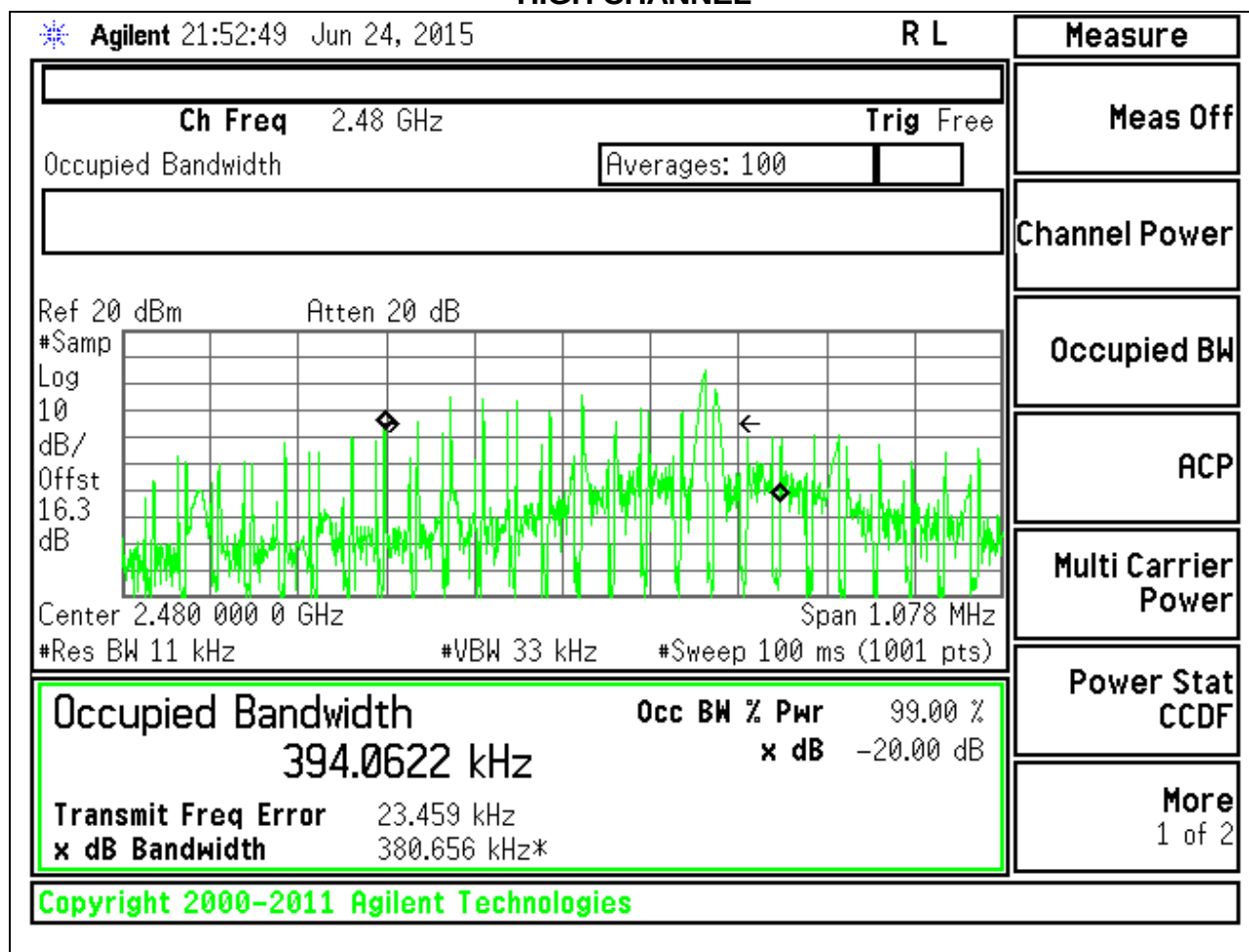
LOW CHANNEL



MID CHANNEL

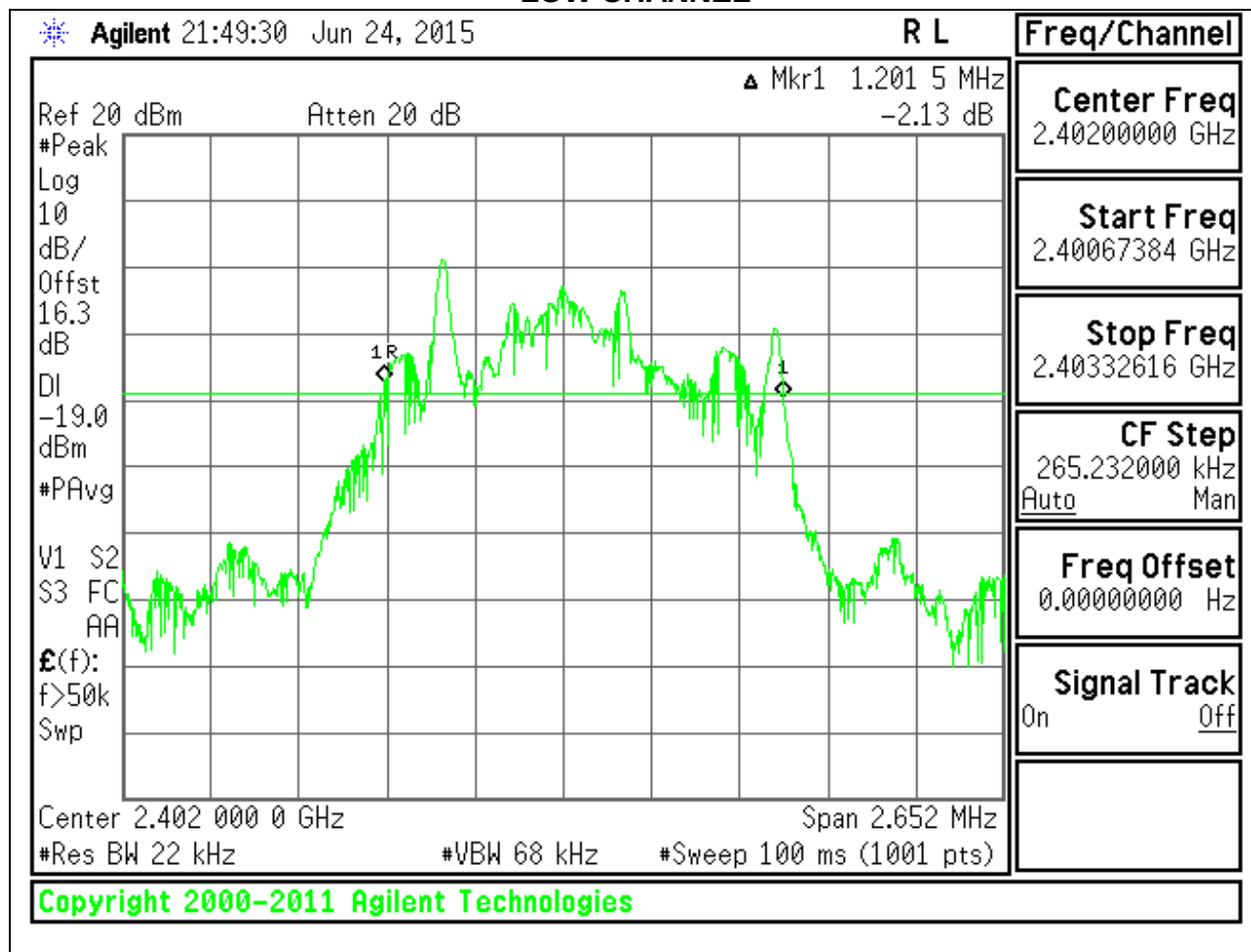


HIGH CHANNEL

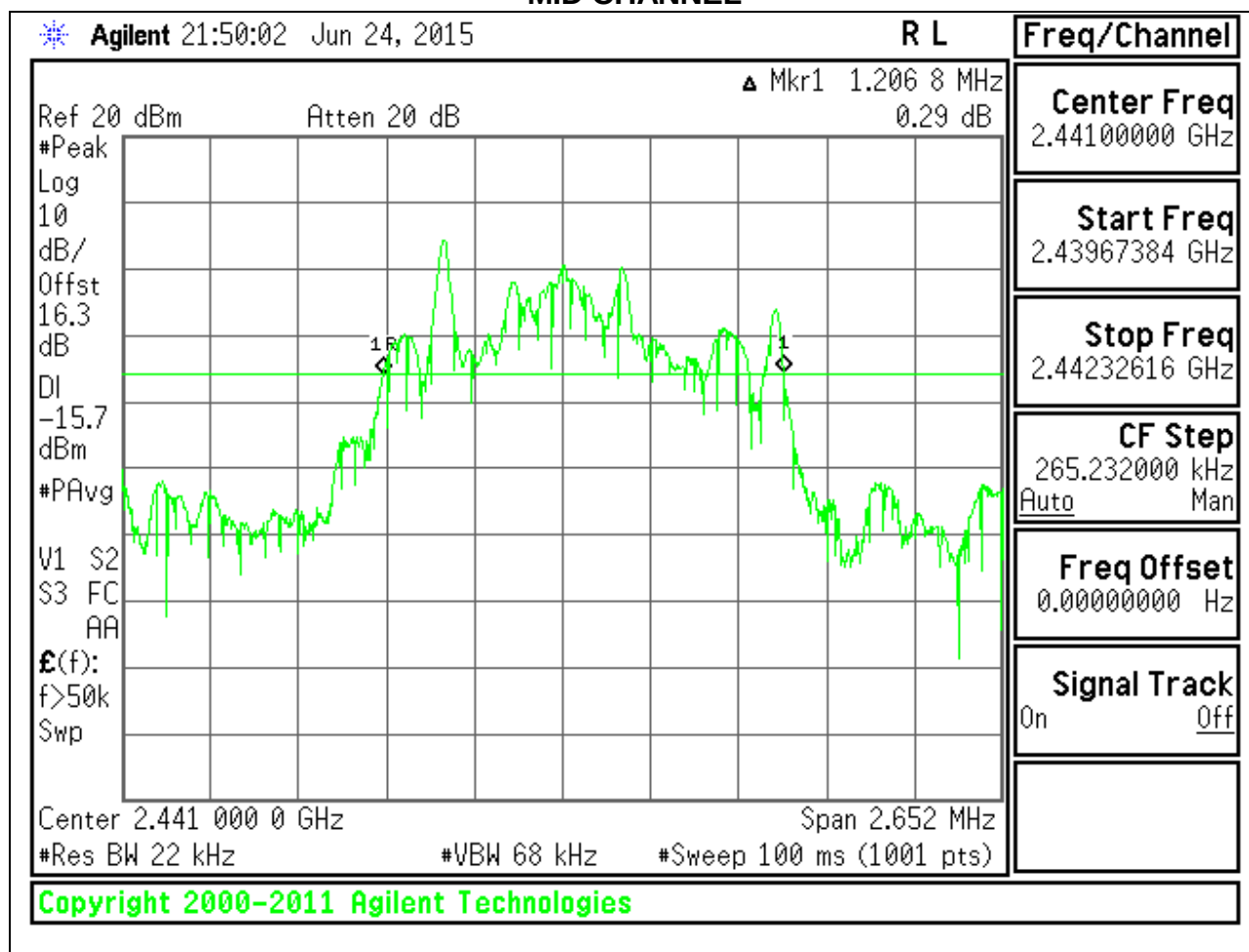


8PSK 20 dB BANDWIDTH

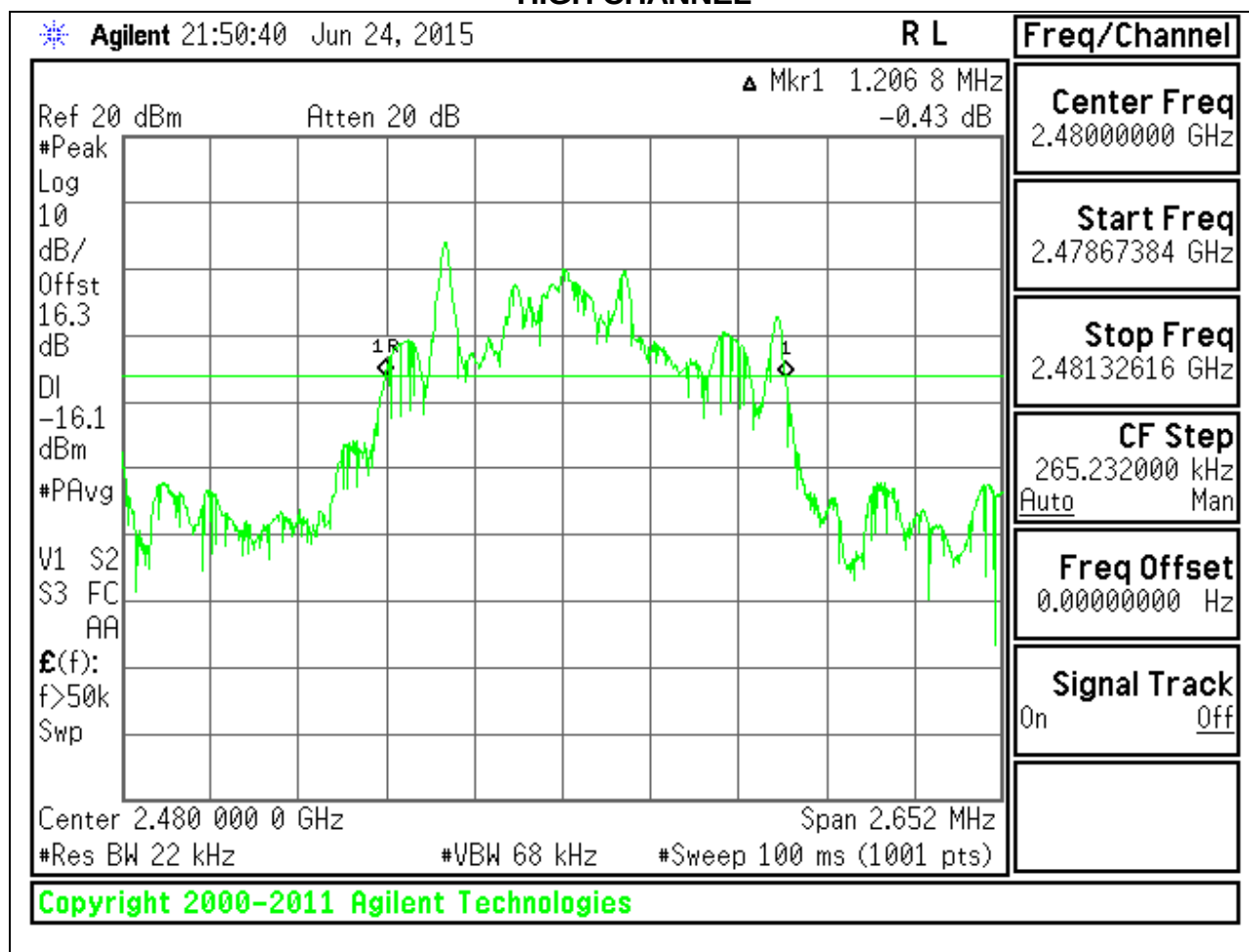
LOW CHANNEL



MID CHANNEL

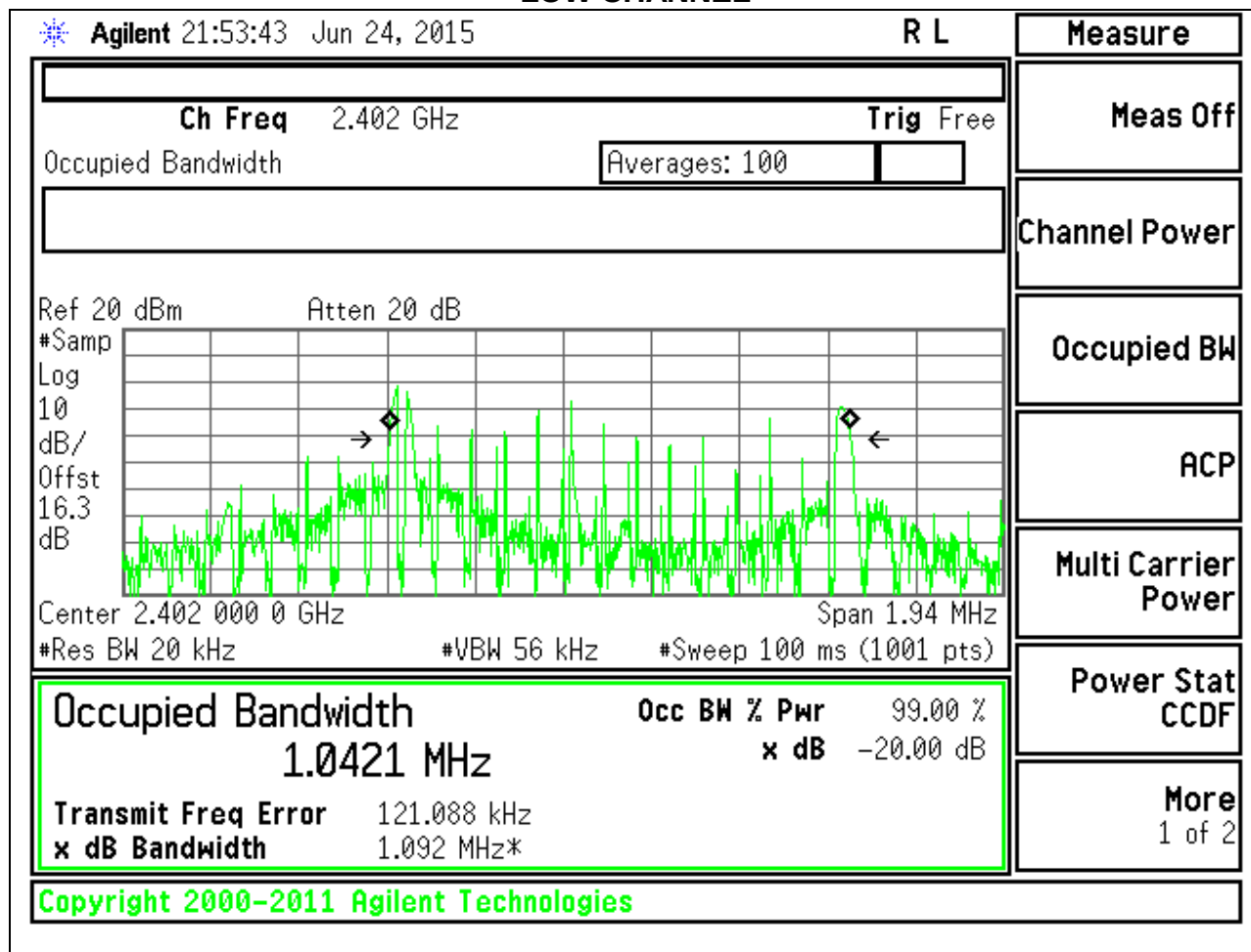


HIGH CHANNEL

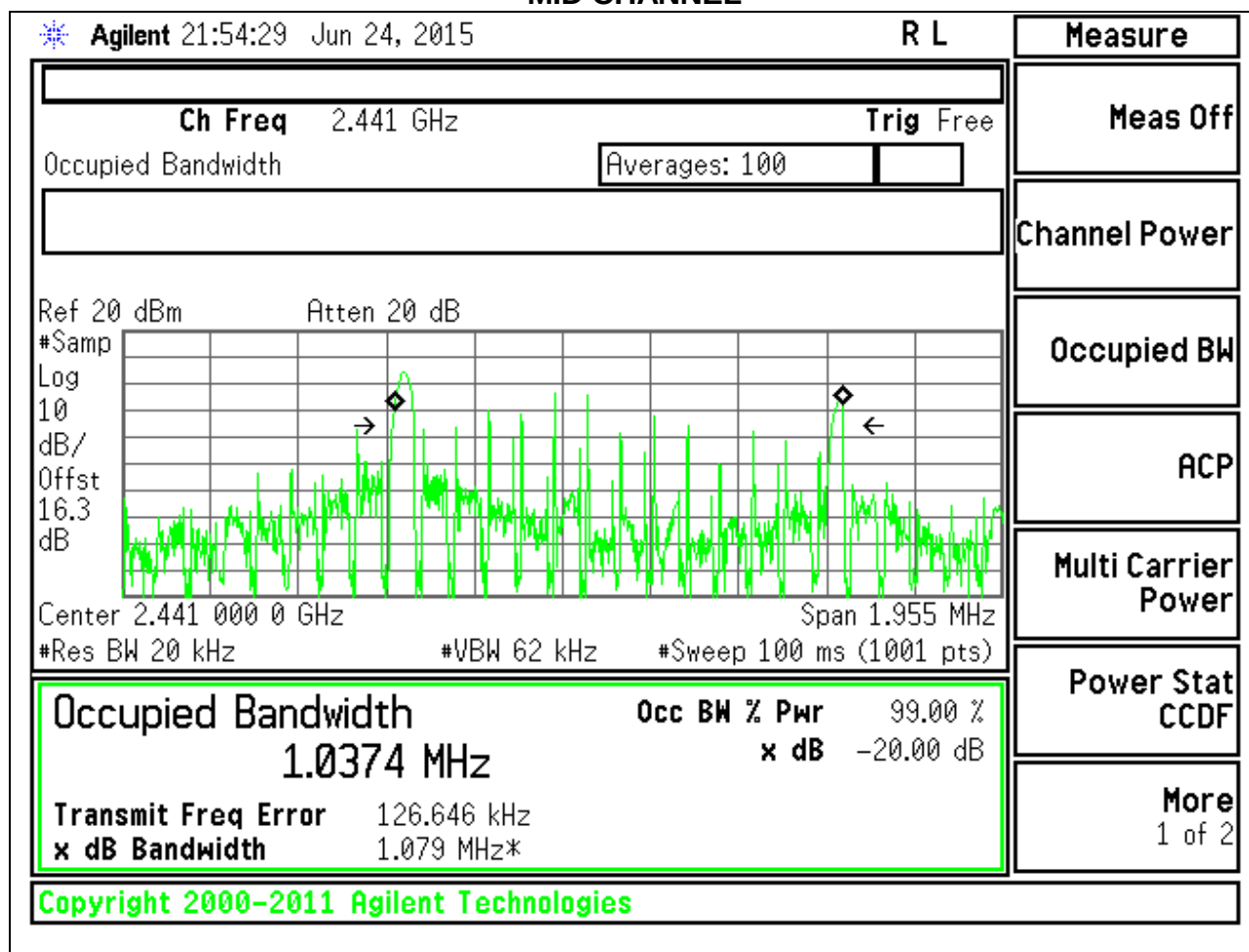


8PSK 99% BANDWIDTH

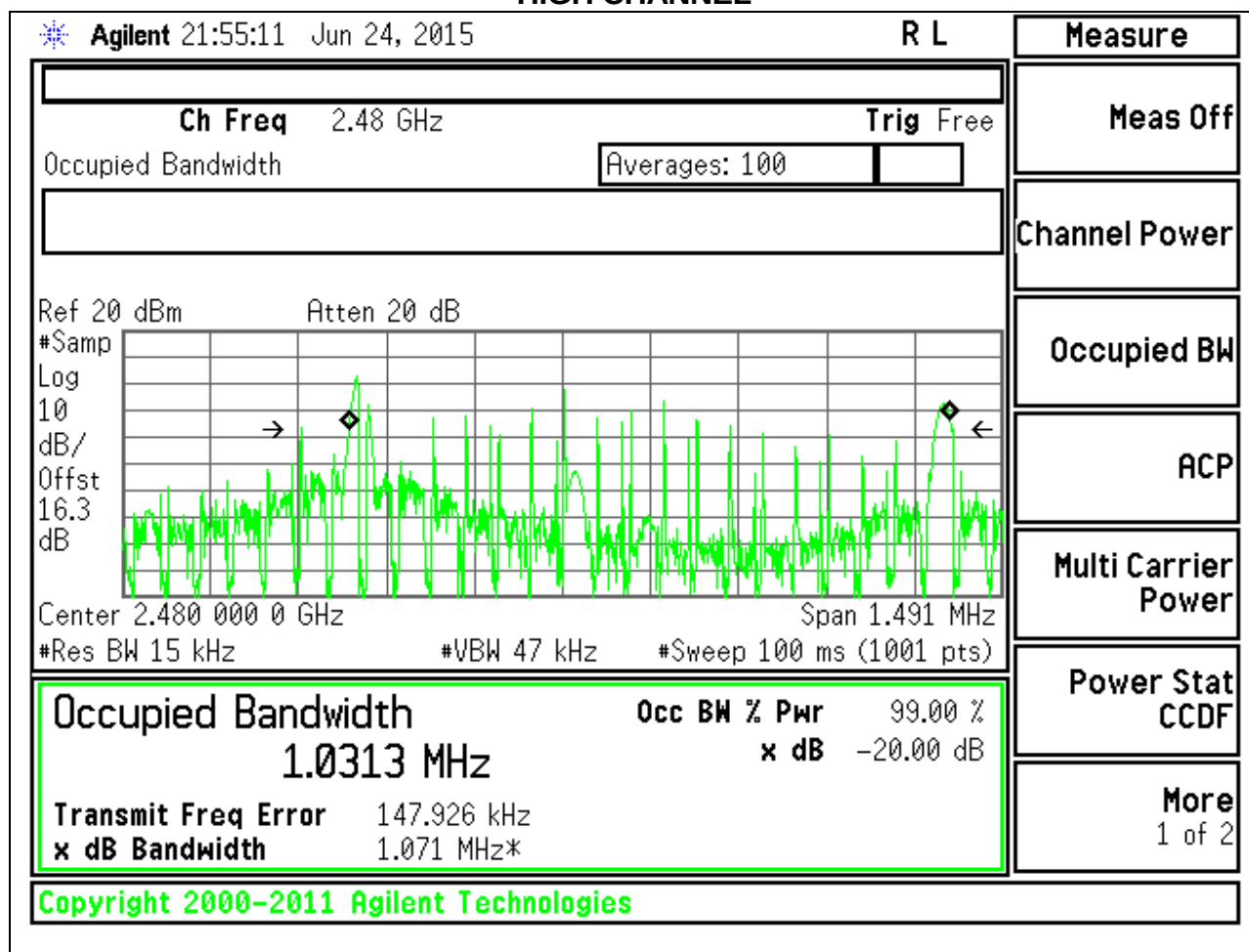
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



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.

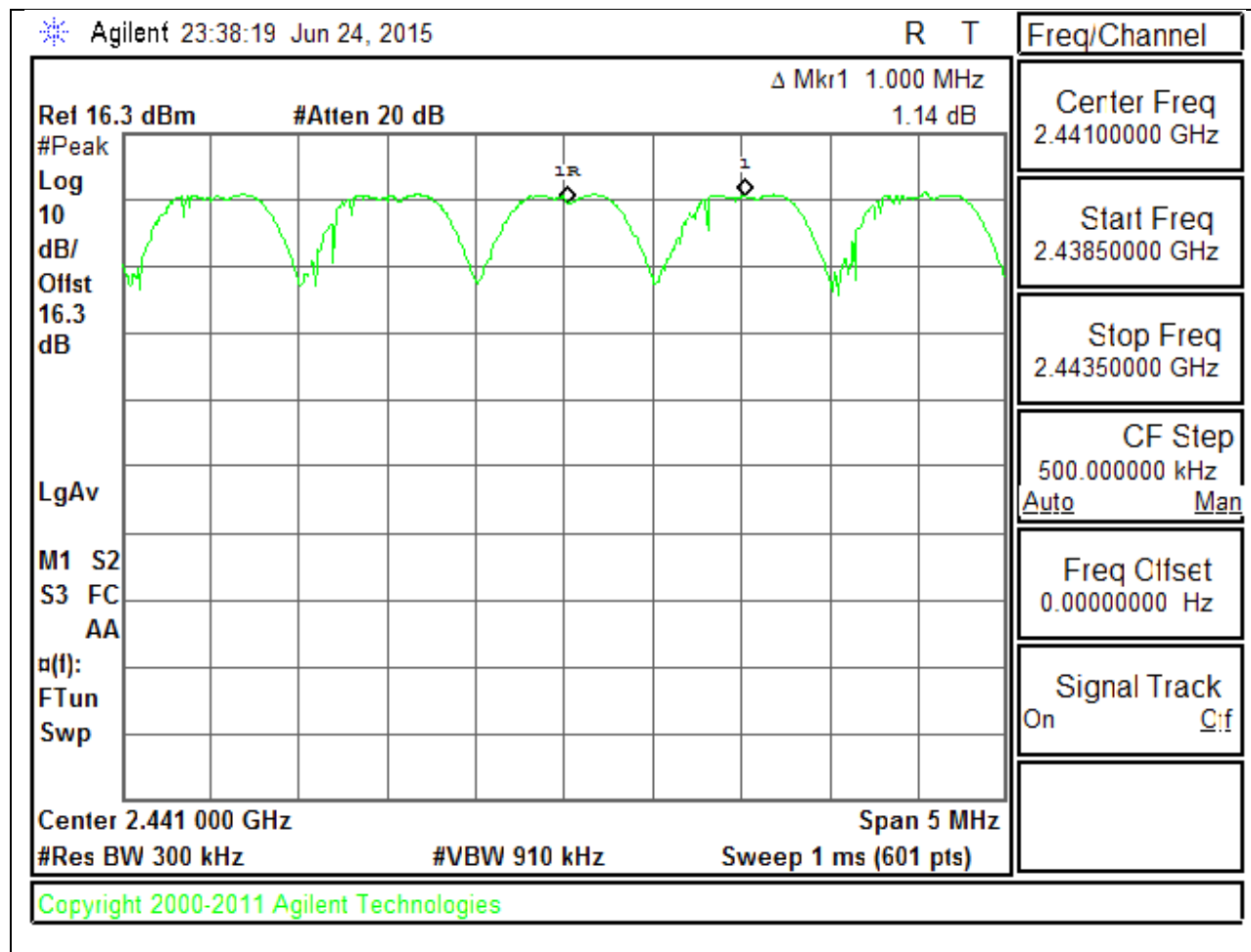
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than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

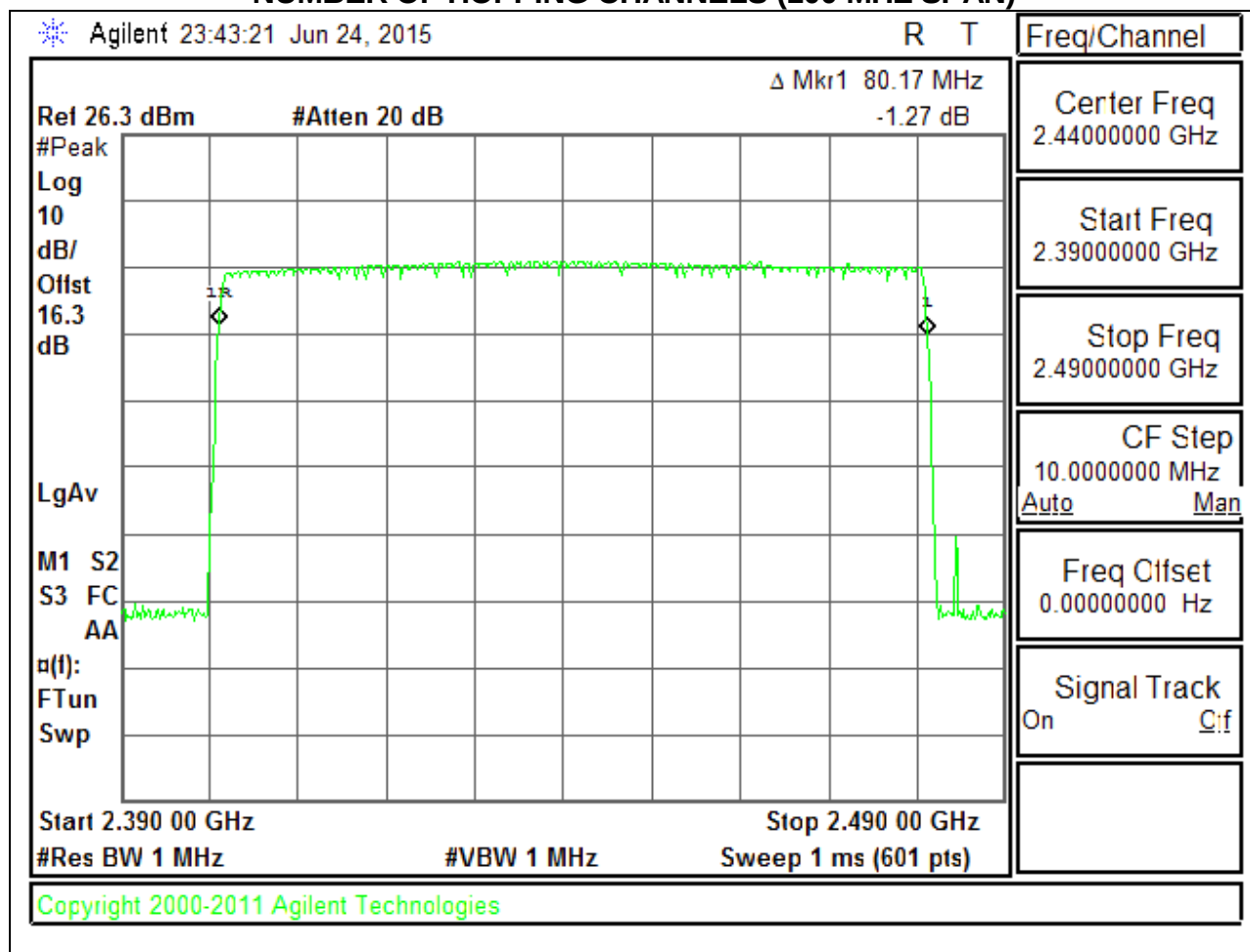
DA 00-705: The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

RESULTS

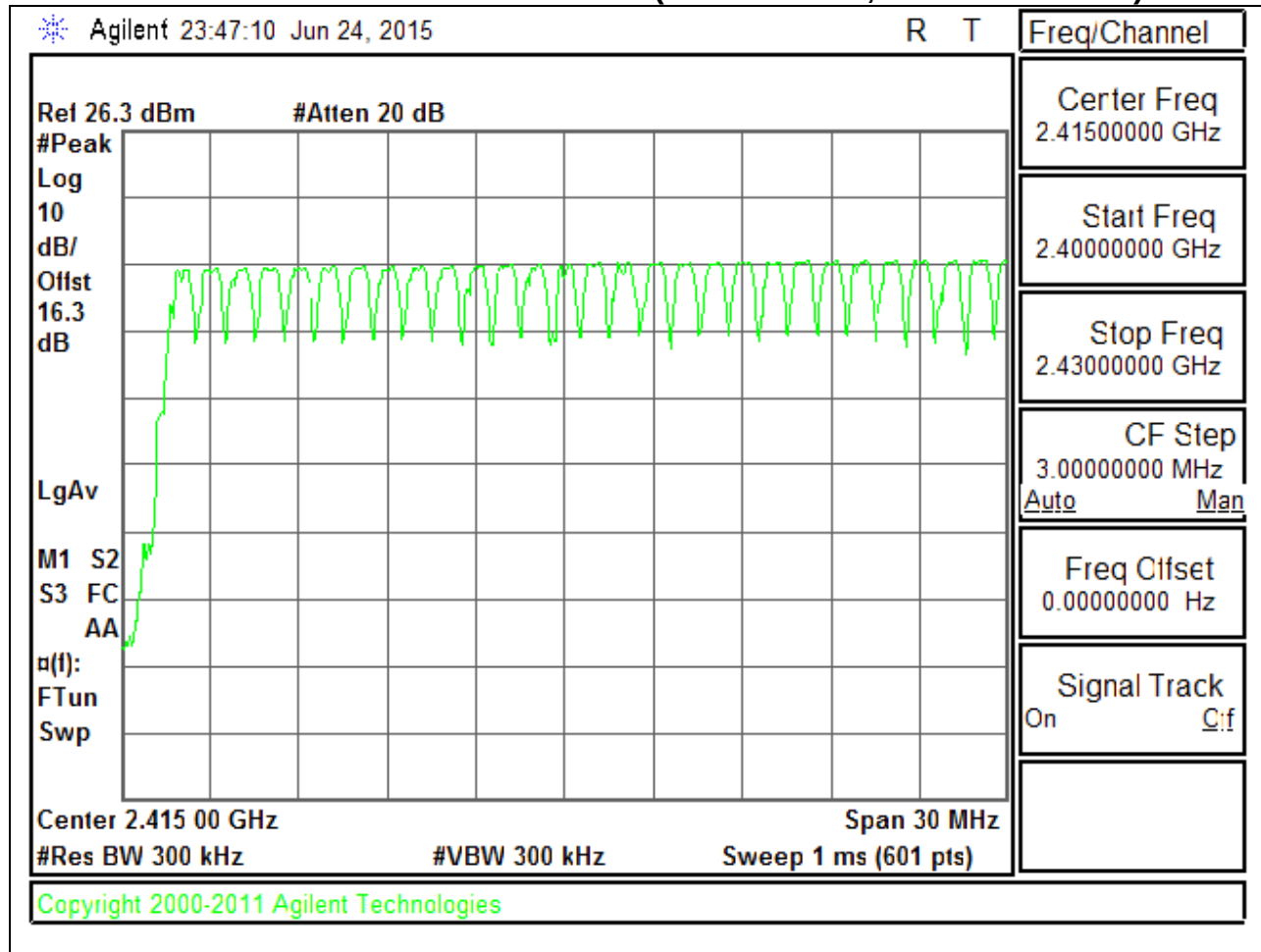
Normal Mode: 79 Channels observed.

NUMBER OF HOPPING CHANNELS PLOTS

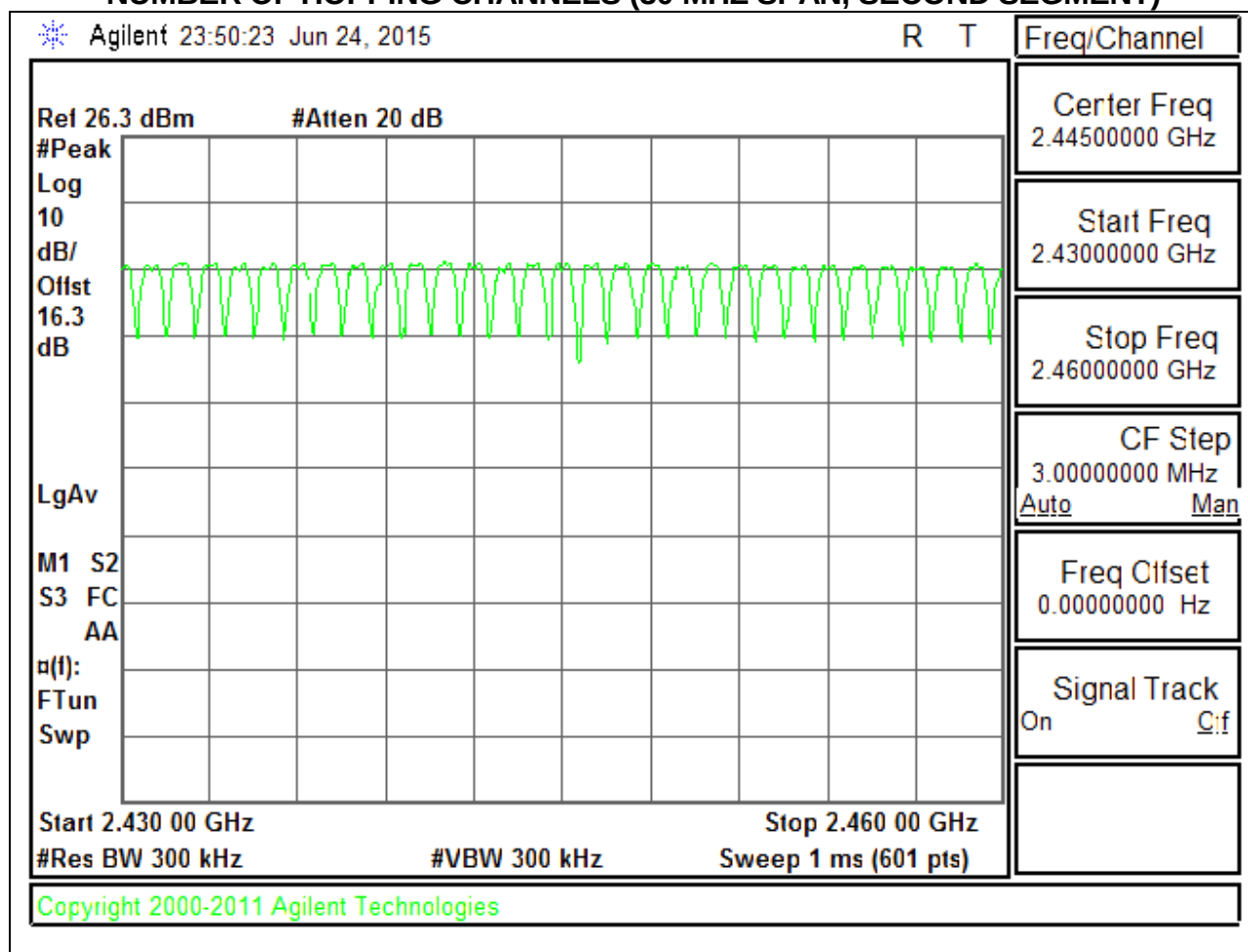
NUMBER OF HOPPING CHANNELS (100 MHz SPAN)



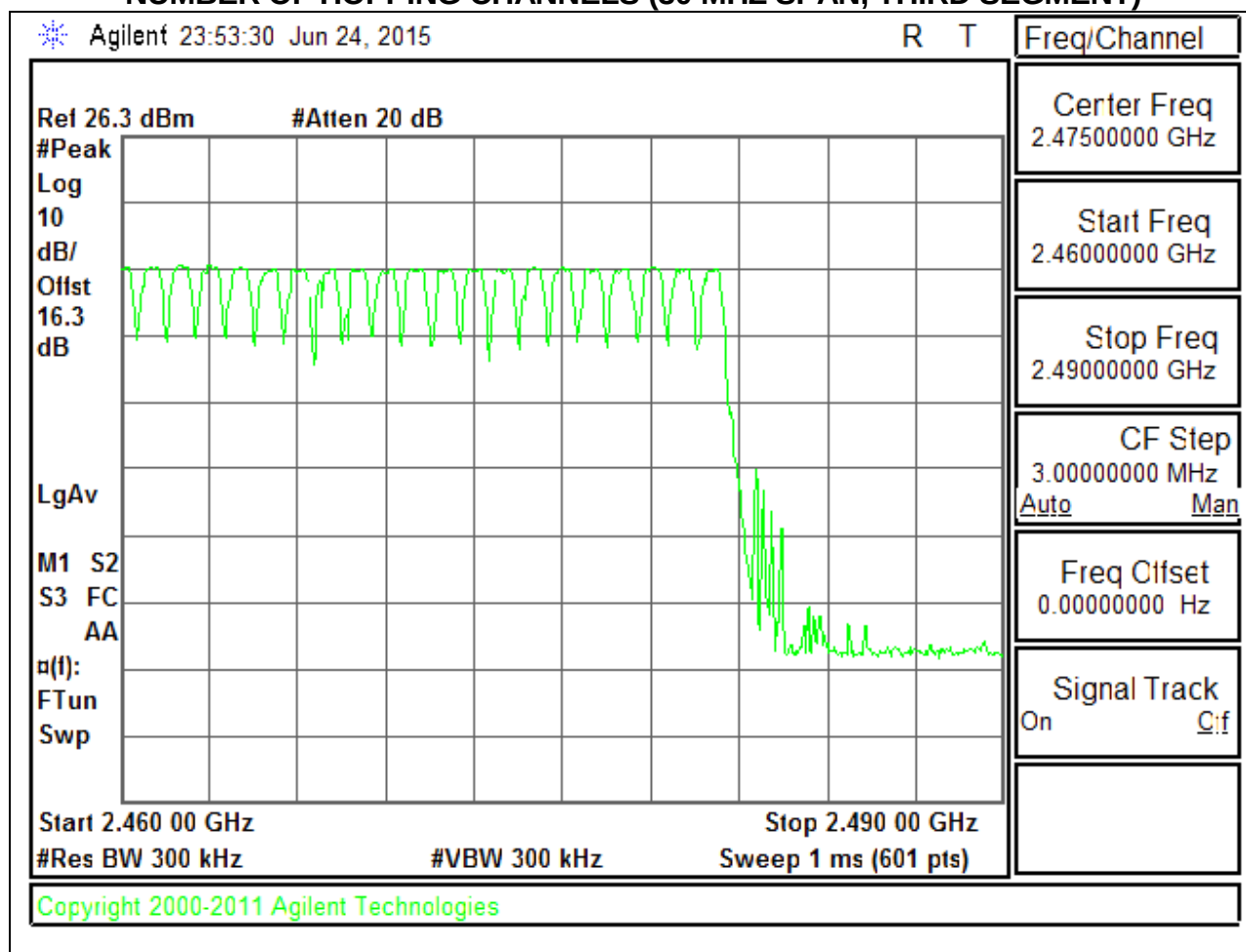
NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, FIRST SEGMENT)



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



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



8.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

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.

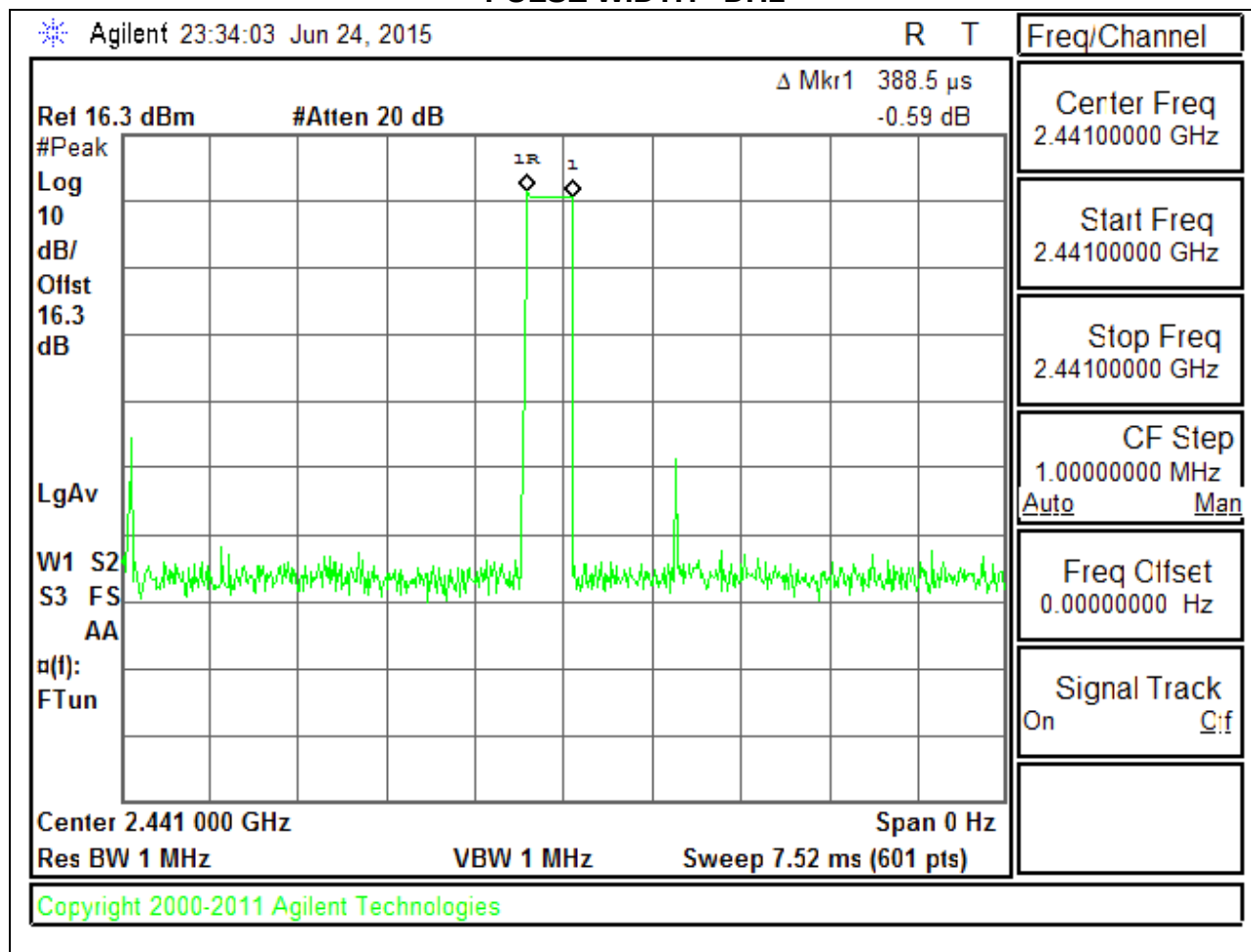
The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to $10 * (\# \text{ of pulses in 3.16 s}) * \text{pulse width}$.

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

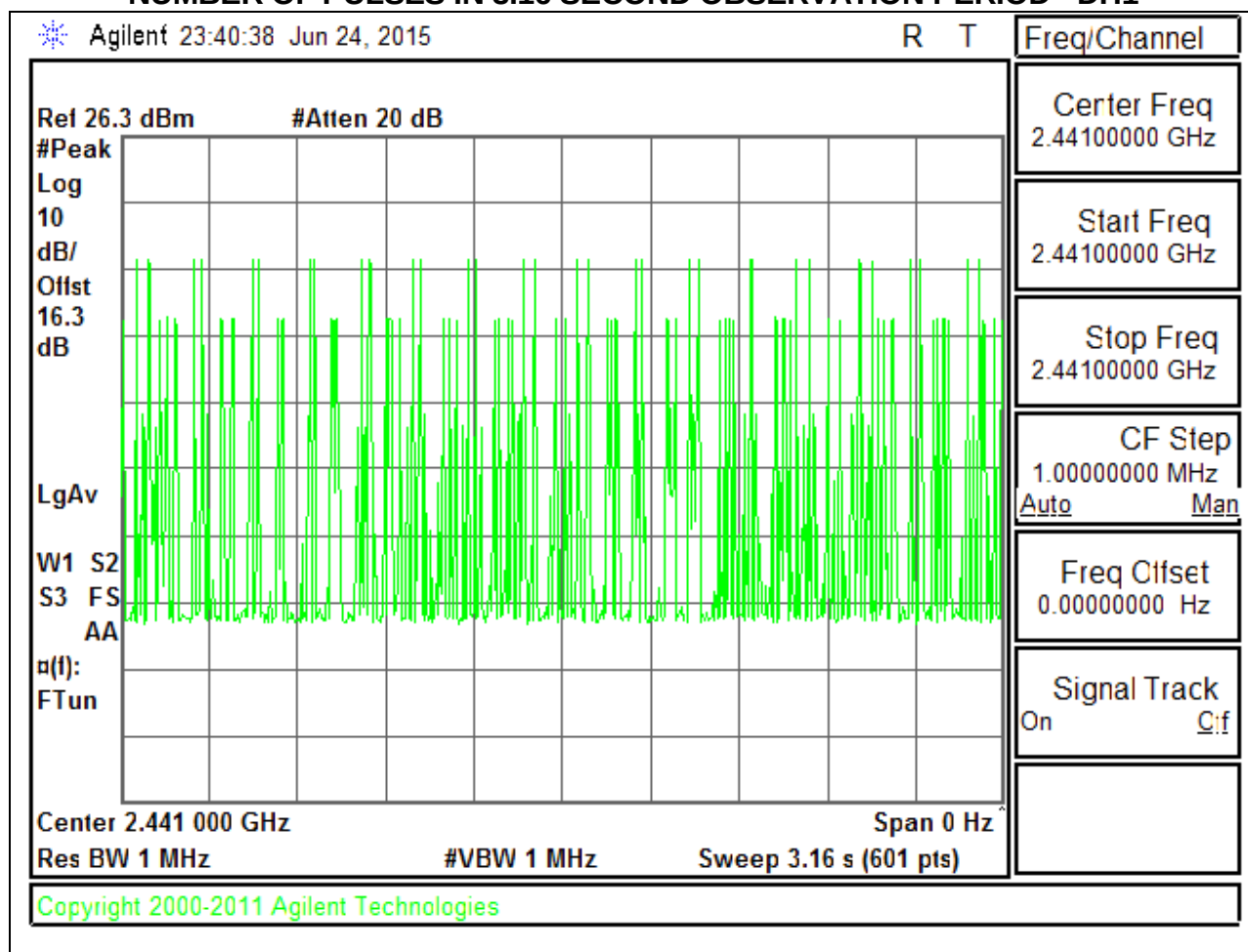
RESULTS

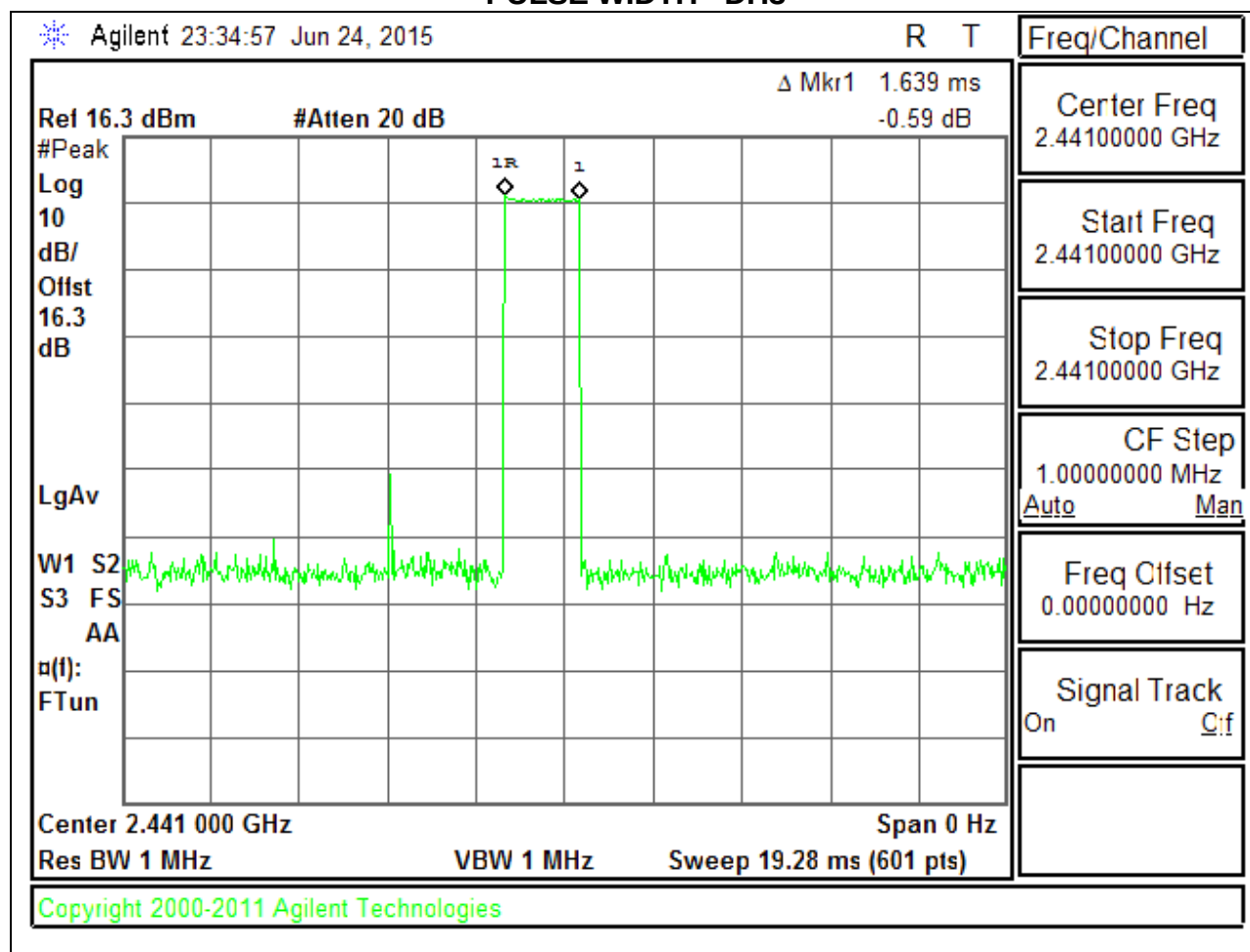
DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	32	0.3885	0.12432	0.4	-0.27568
DH3	16	1.639	0.26224	0.4	-0.13776
DH5	13	2.852	0.37076	0.4	-0.02924
DH Packet	Pulse Width (msec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK AFH Mode					
DH1	32	0.097125	0.03108	0.4	-0.36892
DH3	16	0.40975	0.06556	0.4	-0.33444
DH5	13	0.713	0.09269	0.4	-0.30731

PULSE WIDTH - DH1

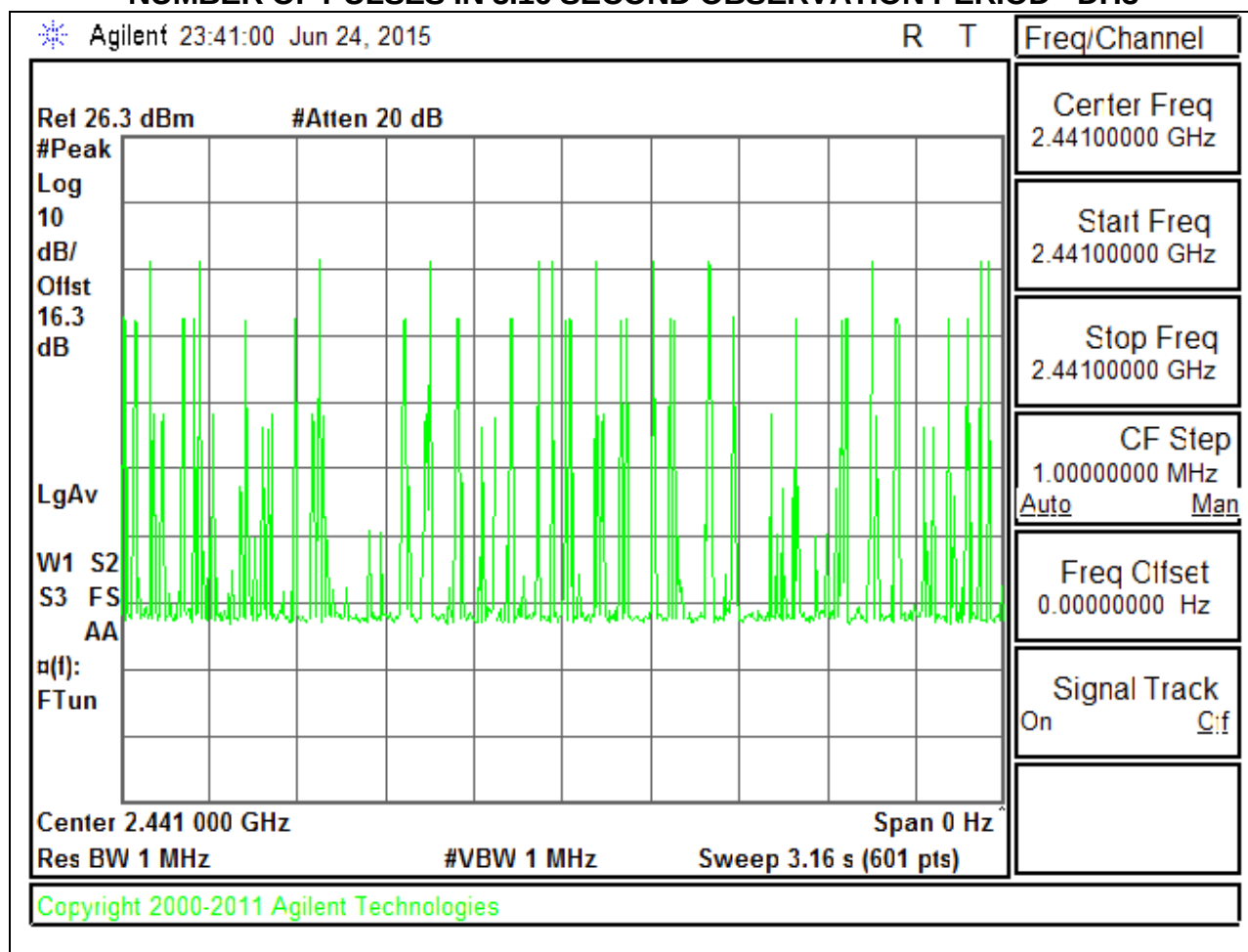


NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH1

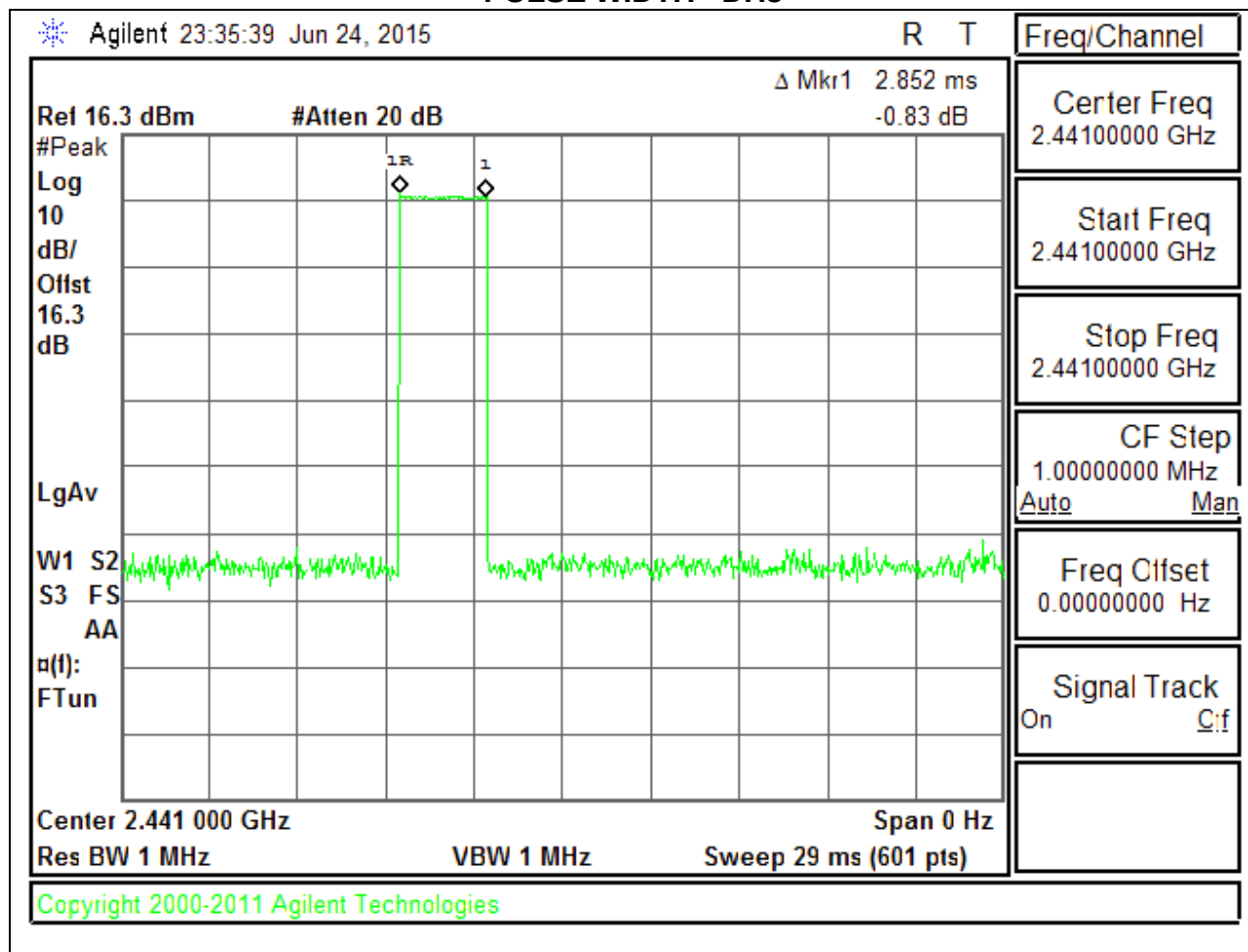




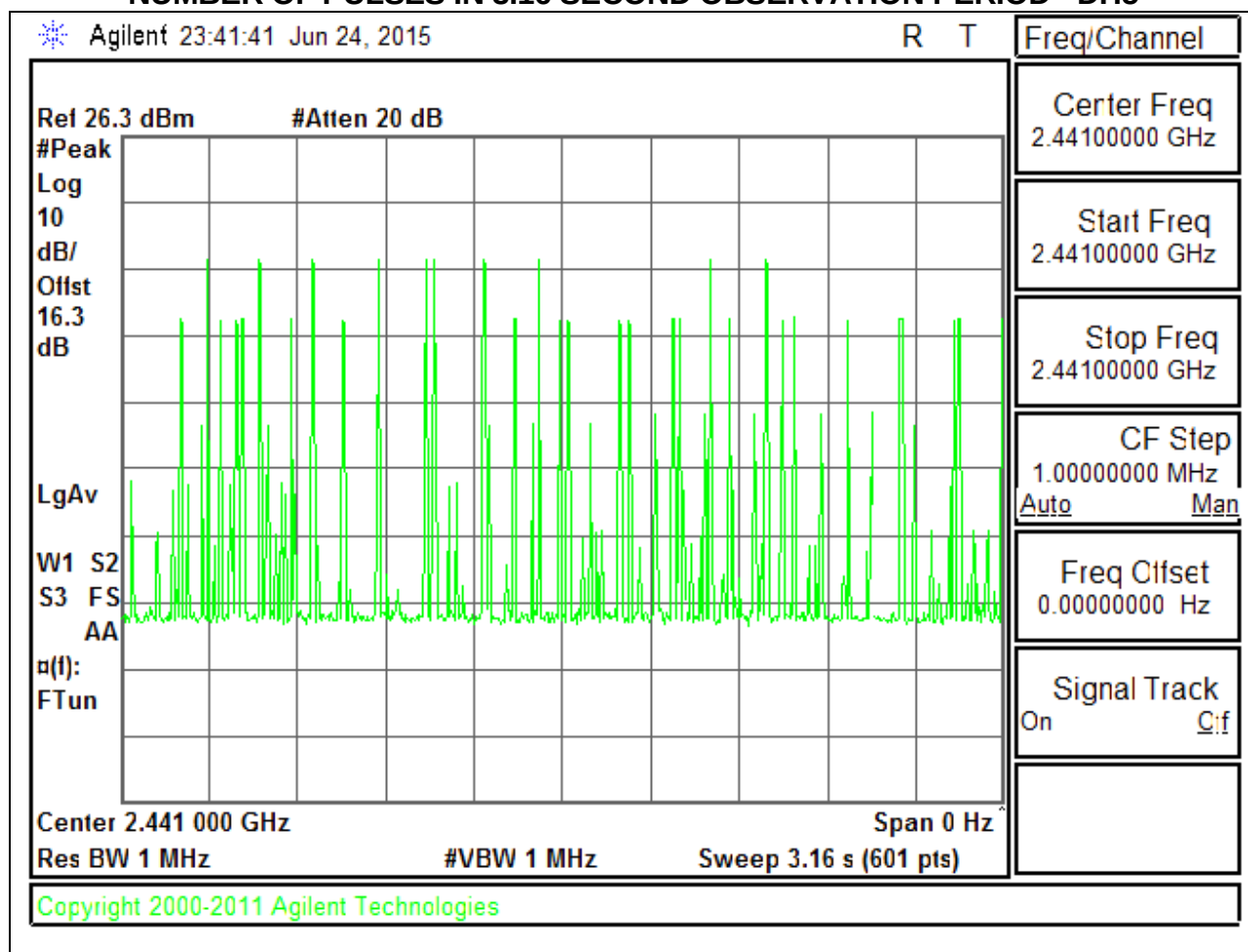
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH3



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	5.84	21	-15.16
Middle	2441	7.64	21	-13.36
High	2480	6.95	21	-14.05
Worst		7.64		-13.36

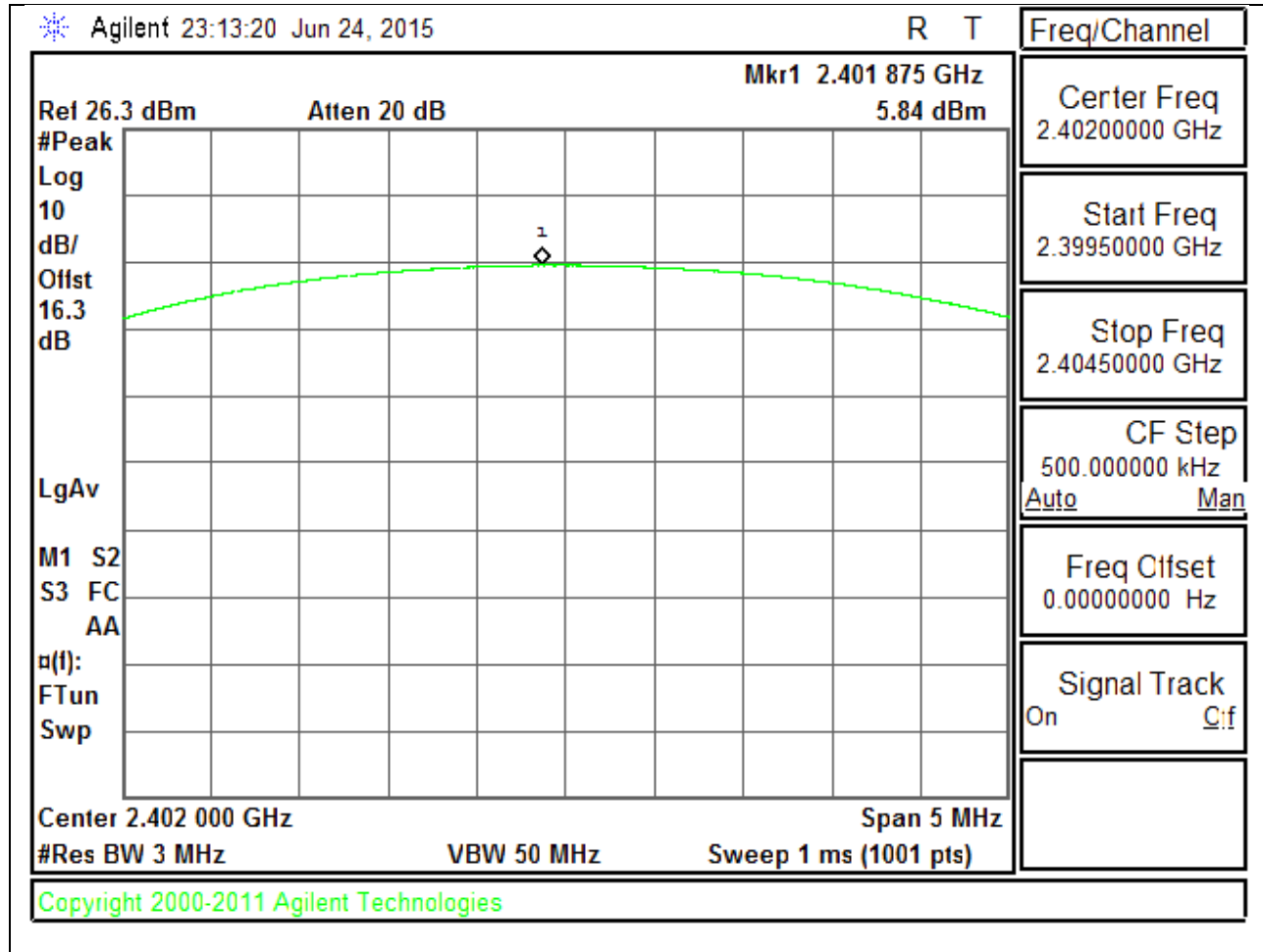
8.5.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	3.75	21	-17.25
Middle	2441	6.39	21	-14.61
High	2480	5.65	21	-15.35
Worst		6.39		-14.61

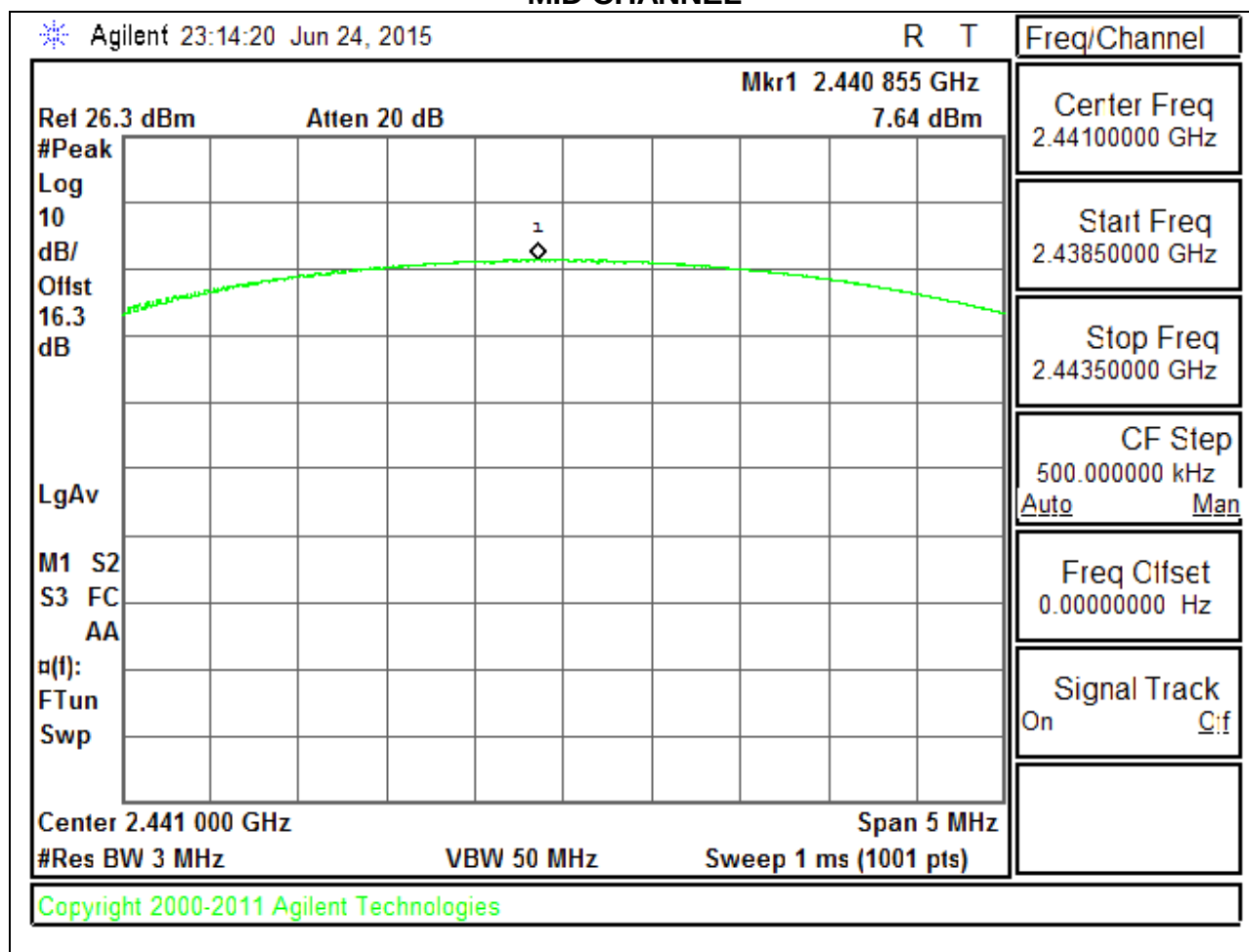
8.5.3. OUTPUT POWER PLOTS

GFSK OUTPUT POWER

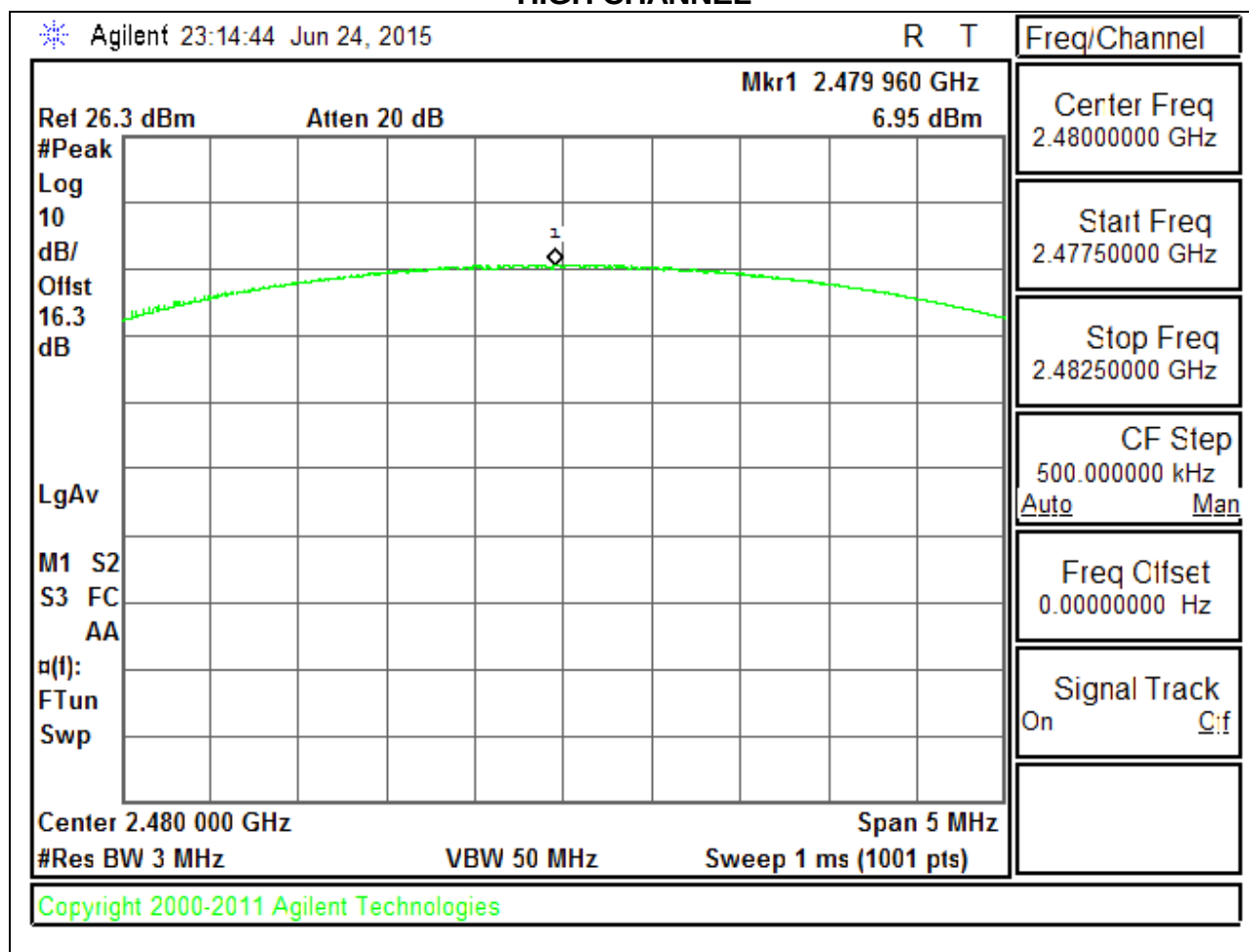
LOW CHANNEL



MID CHANNEL

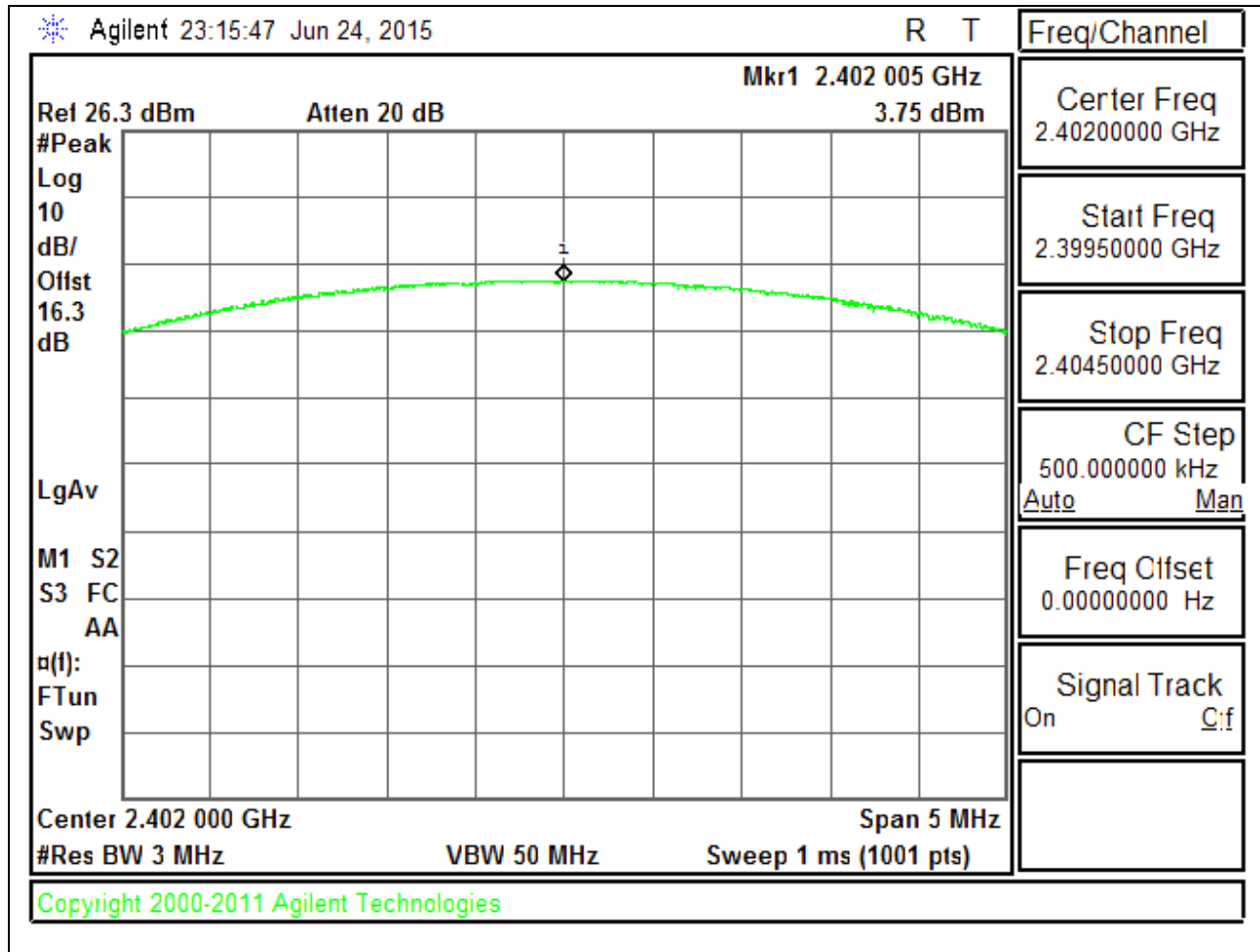


HIGH CHANNEL

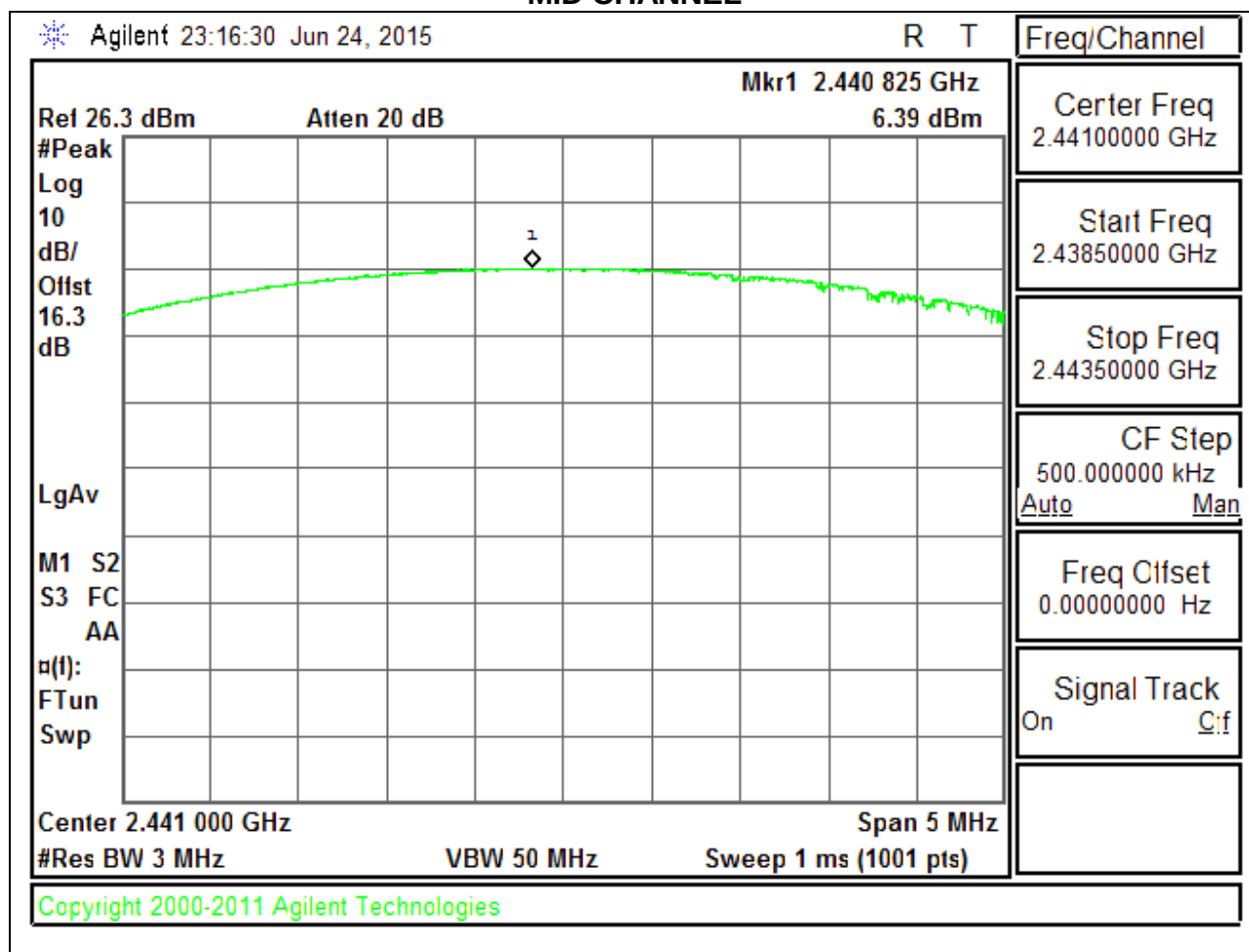


8PSK OUTPUT POWER

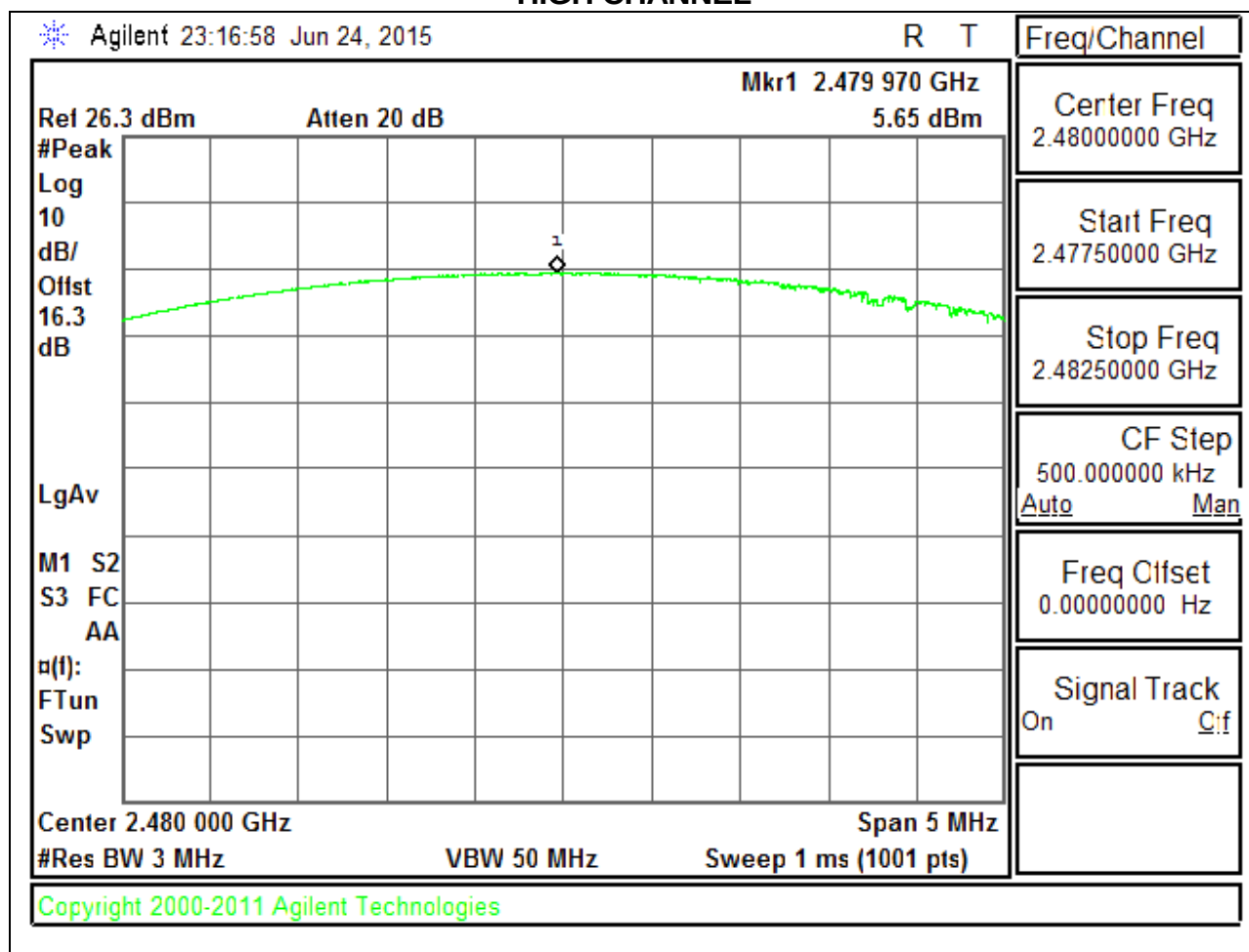
LOW CHANNEL



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	7.8
Middle	2441	8.1
High	2480	7.2
Worst		8.1

8.6.2. DATA RATE PI/4-DQPSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	3.9
Middle	2441	4.3
High	2480	3.9
Worst		4.3

8.6.3. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	3.8
Middle	2441	4.2
High	2480	3.9
Worst		4.2

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.

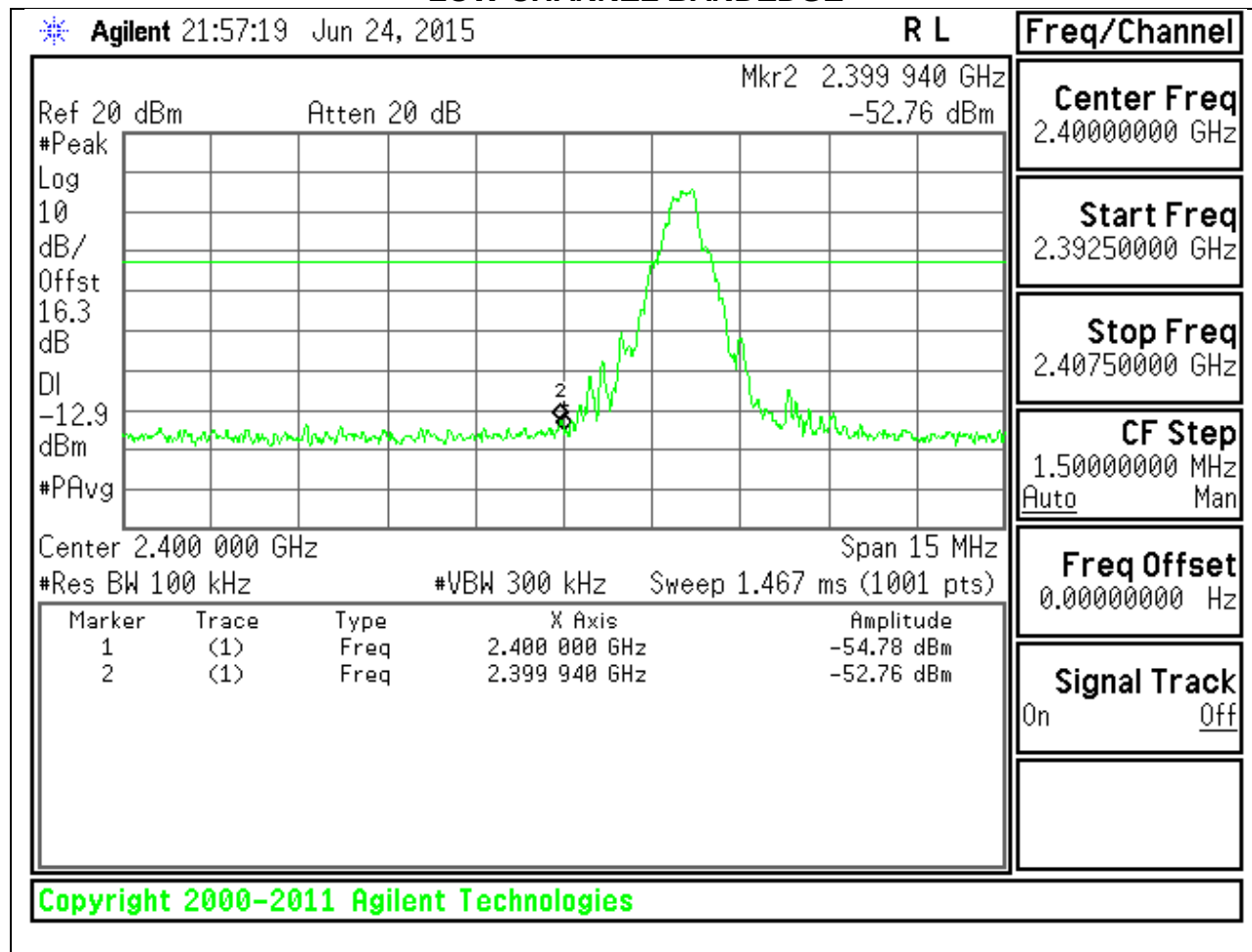
The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

RESULTS

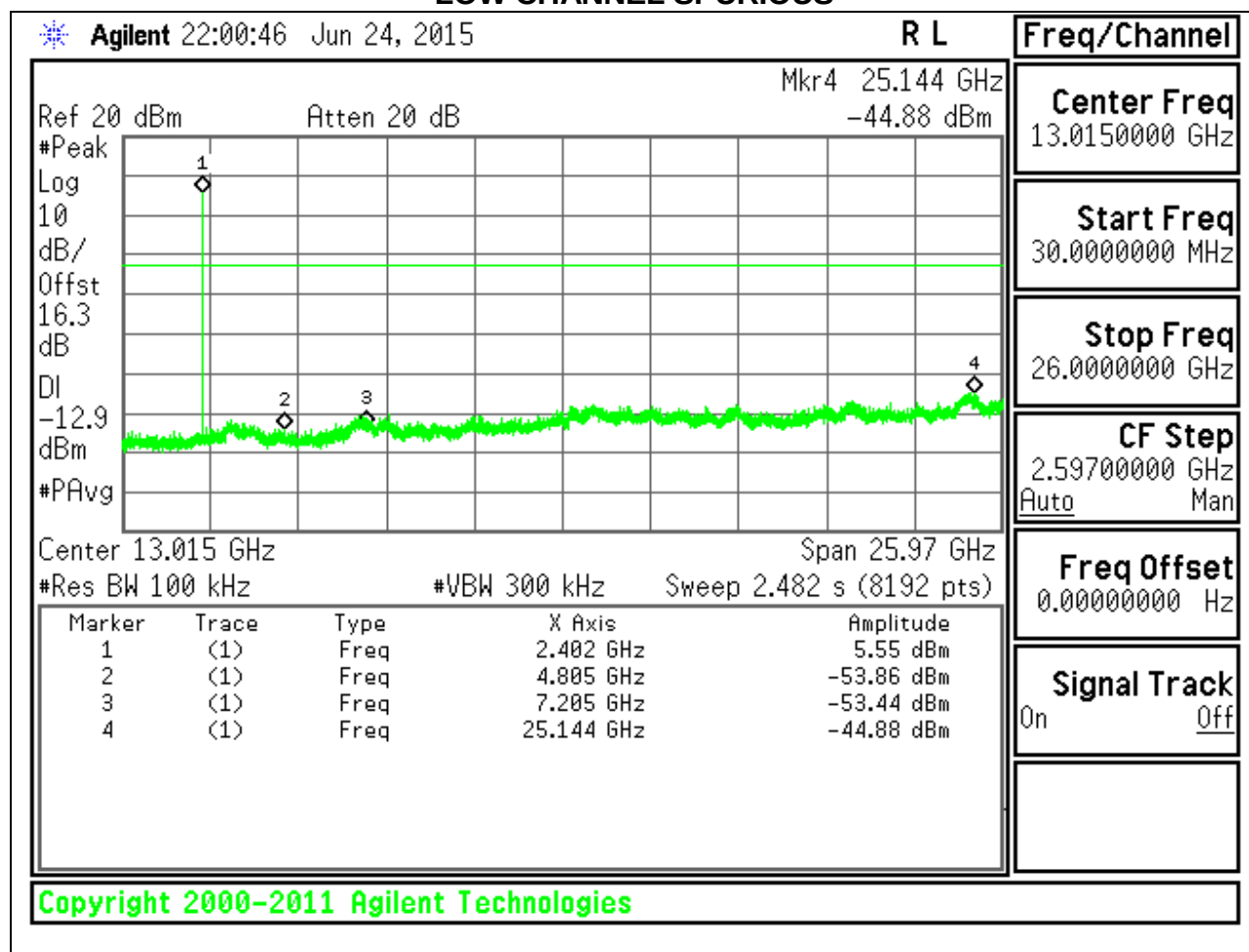
8.7.1. BASIC DATA RATE GFSK MODULATION

SPURIOUS EMISSIONS, LOW CHANNEL

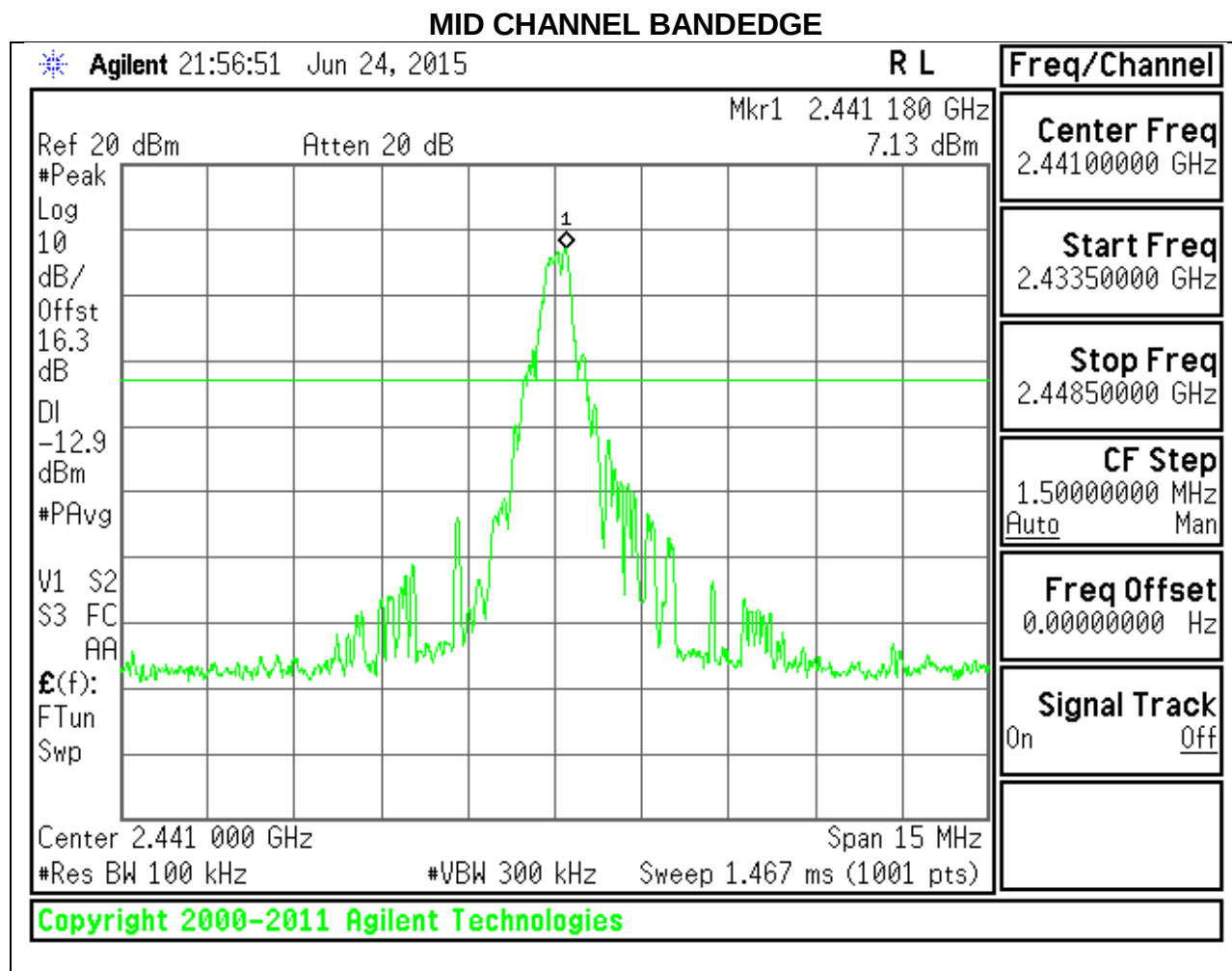
LOW CHANNEL BANDEDGE



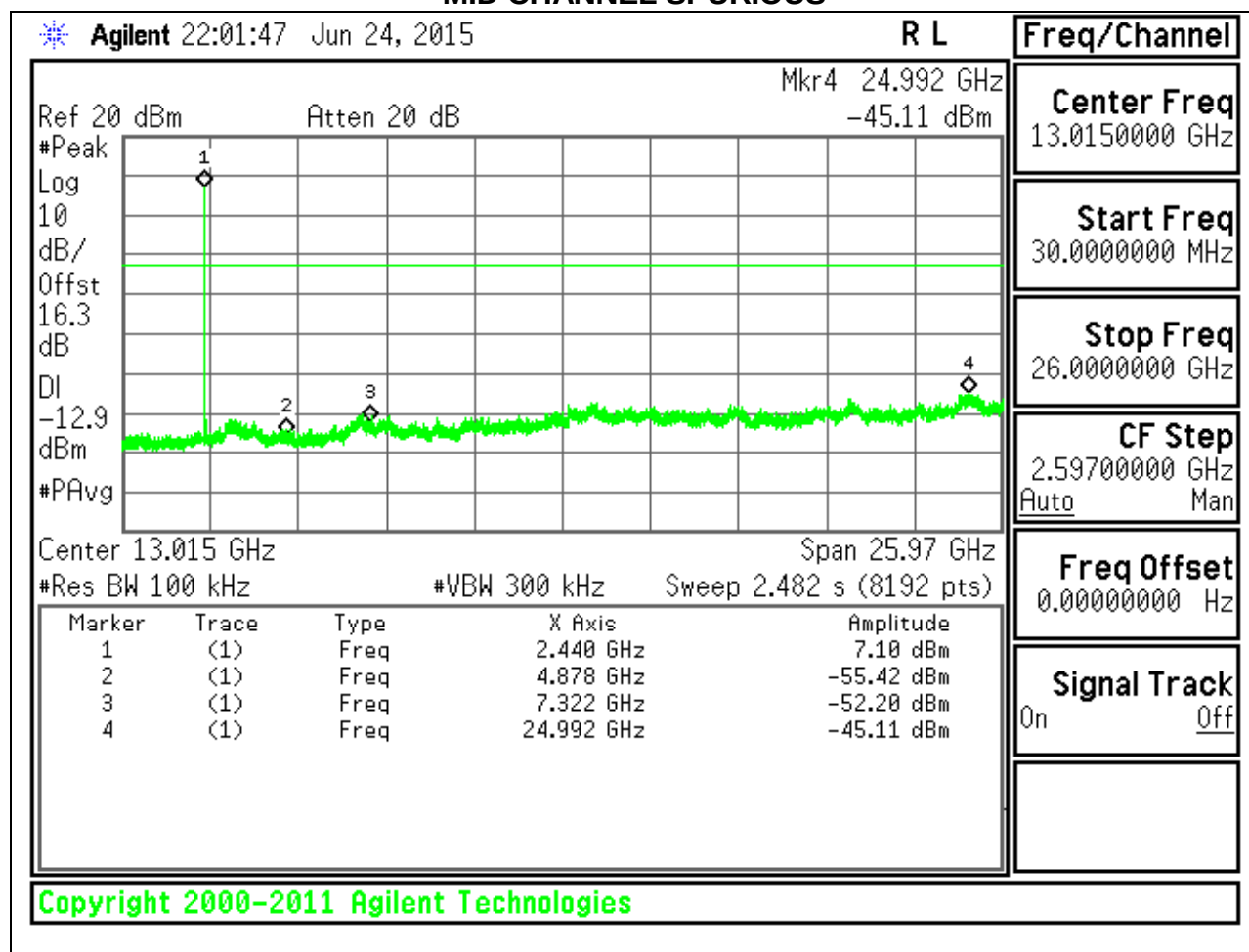
LOW CHANNEL SPURIOUS



SPURIOUS EMISSIONS, MID CHANNEL

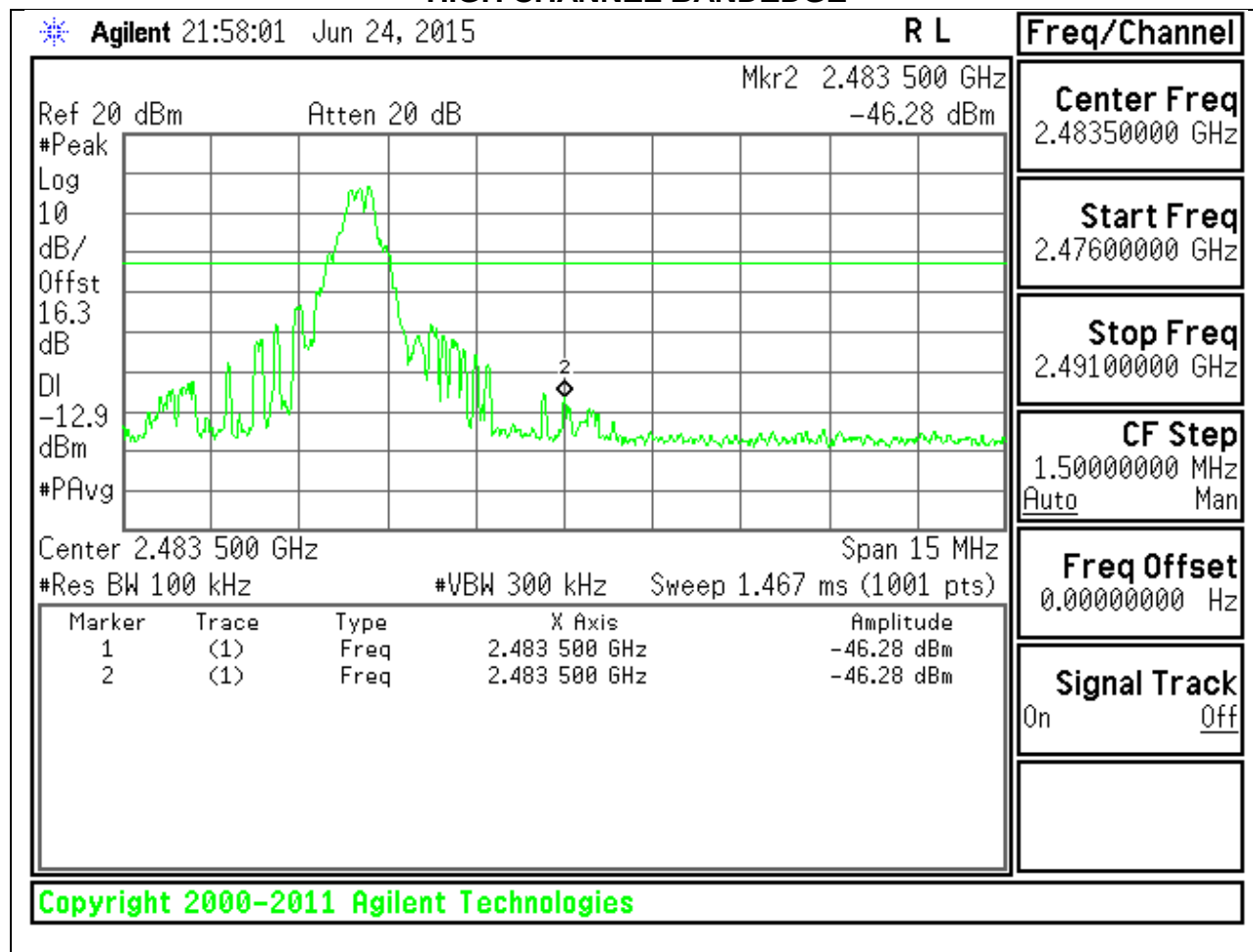


MID CHANNEL SPURIOUS

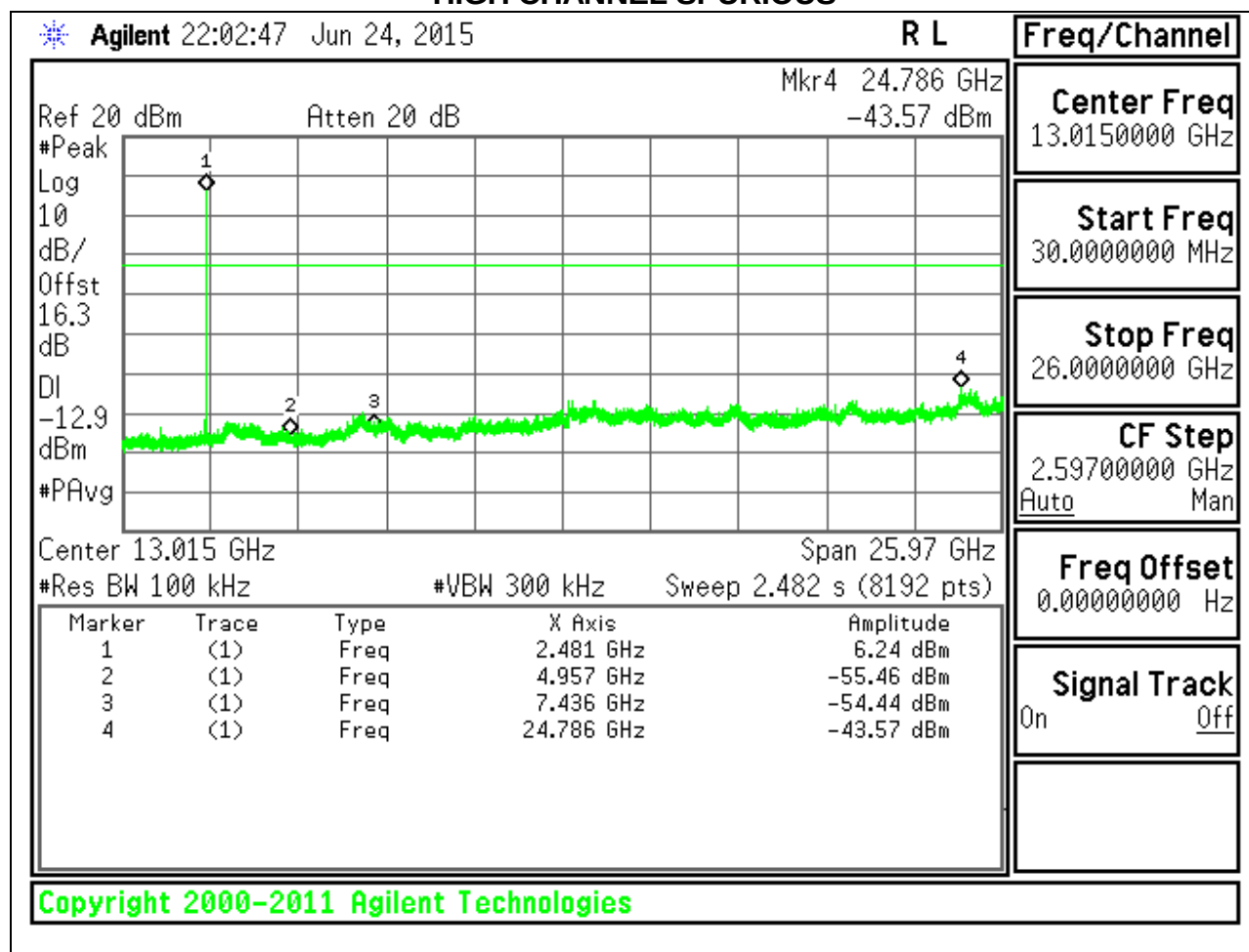


SPURIOUS EMISSIONS, HIGH CHANNEL

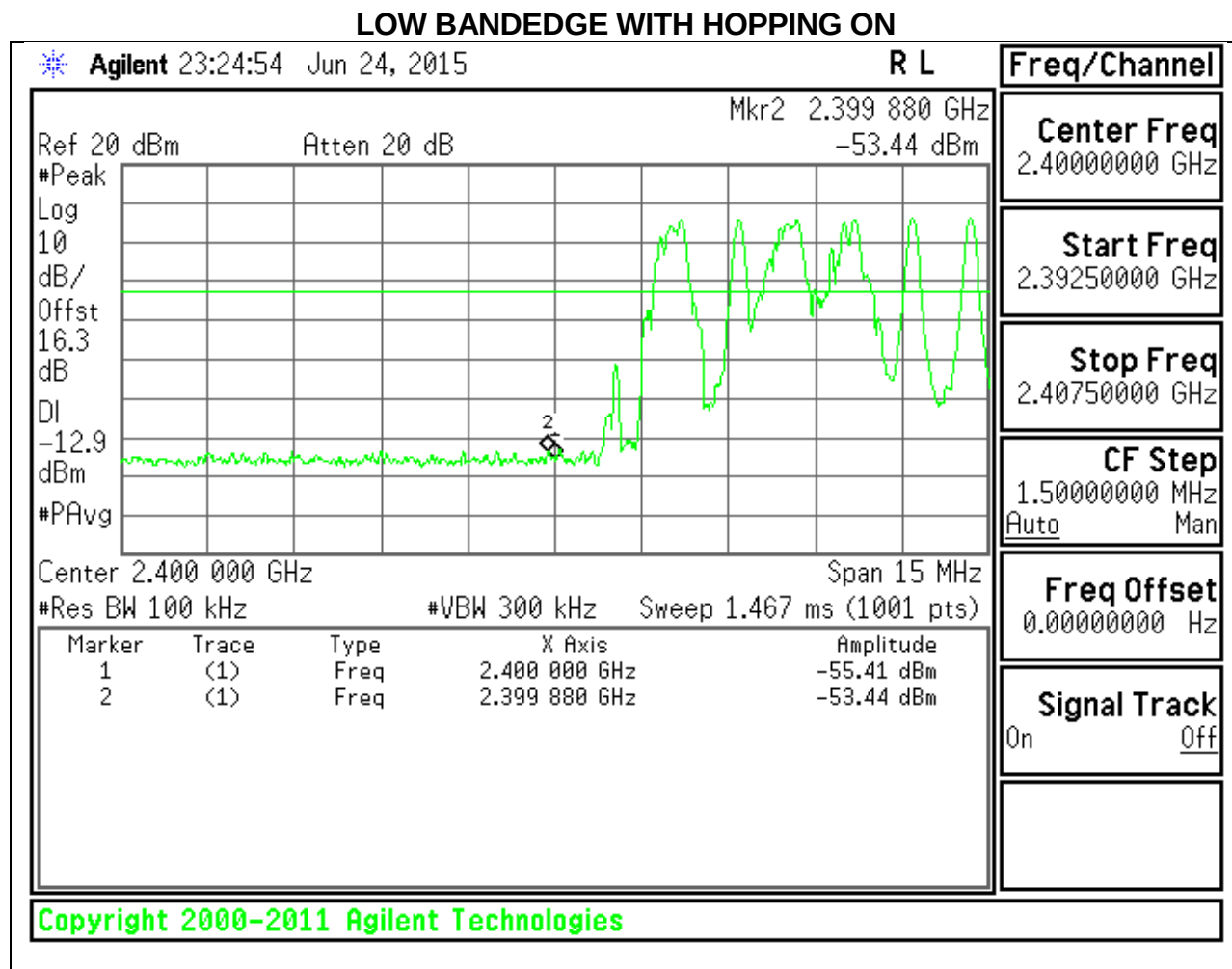
HIGH CHANNEL BANDEDGE



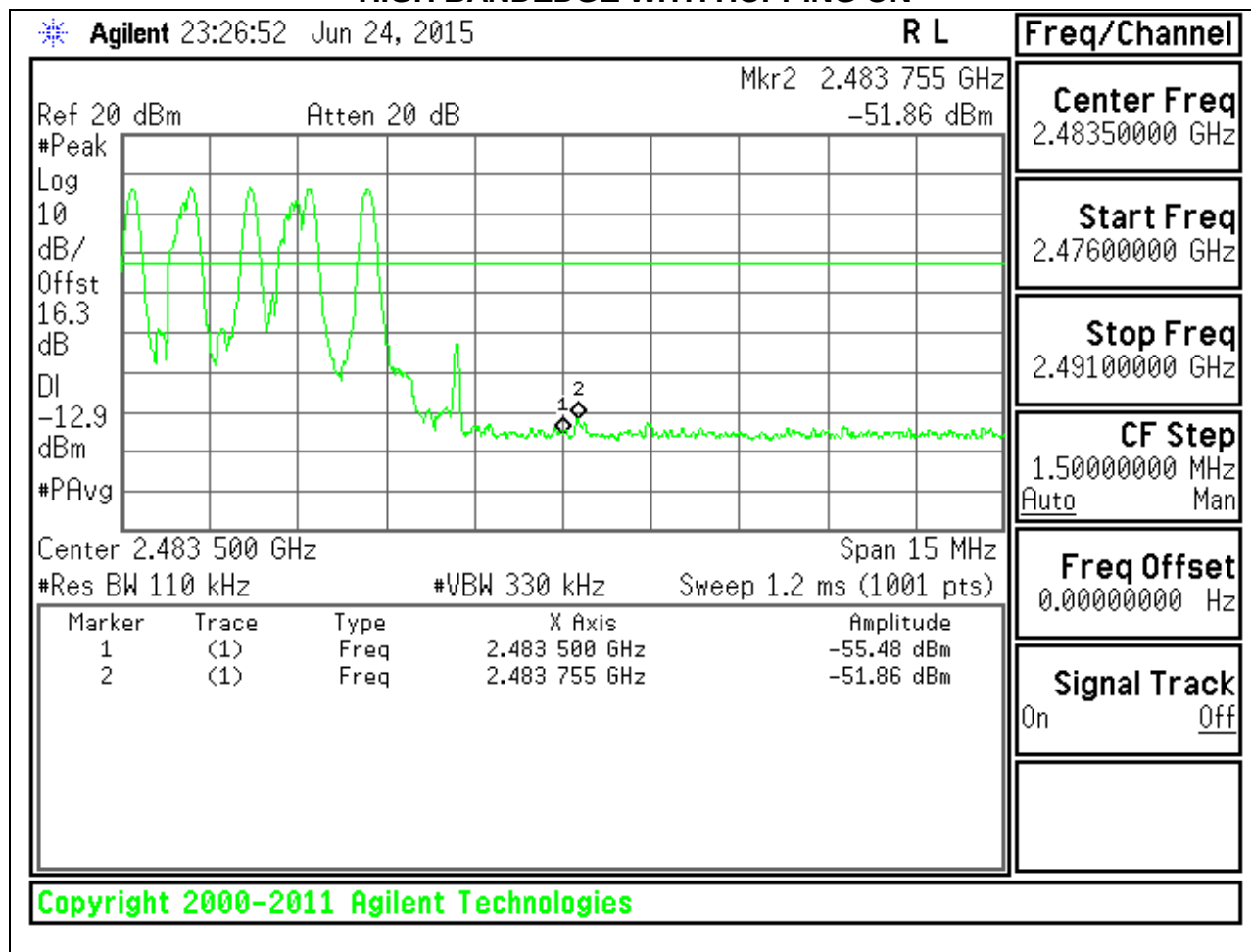
HIGH CHANNEL SPURIOUS



SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

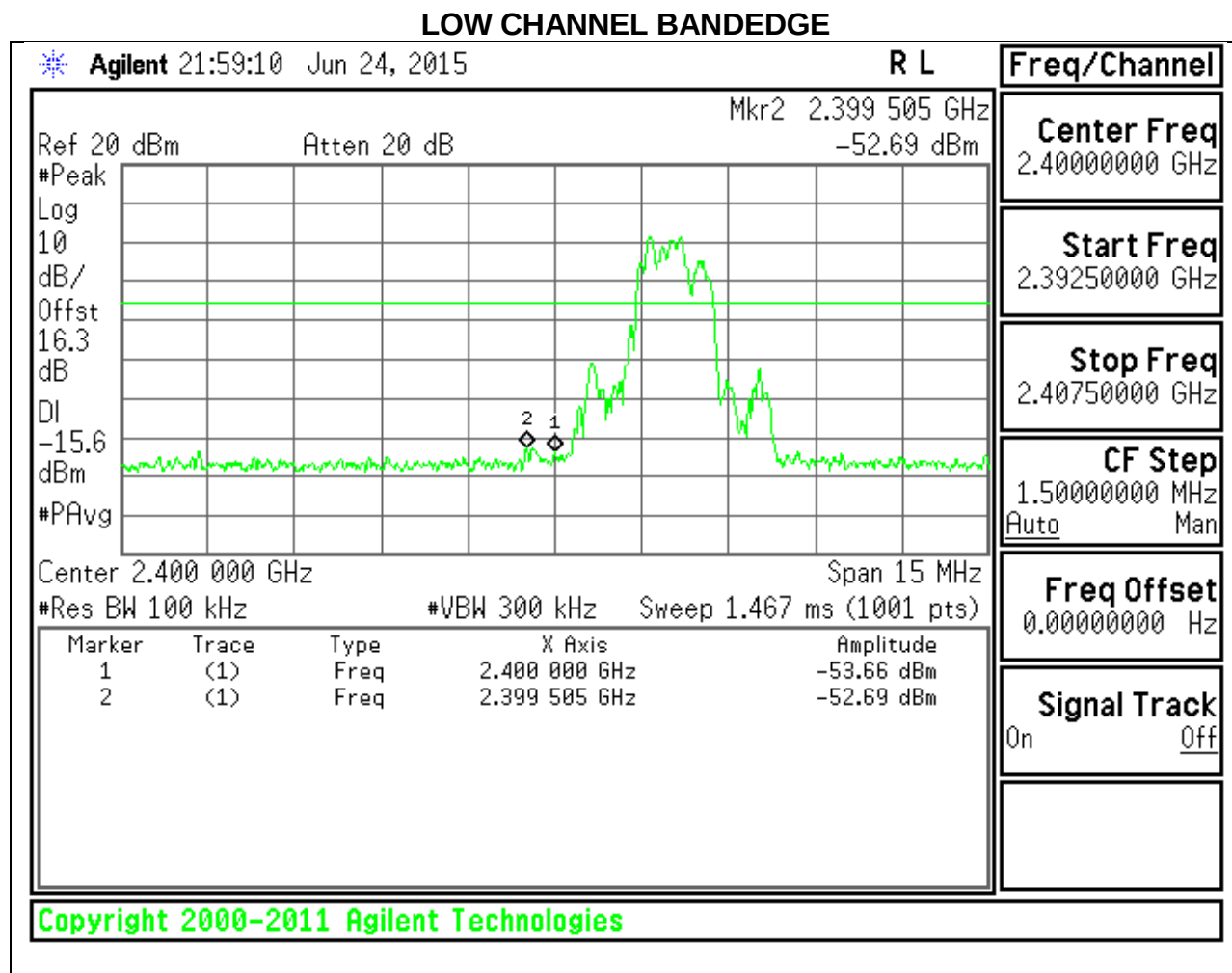


HIGH BANDEDGE WITH HOPPING ON

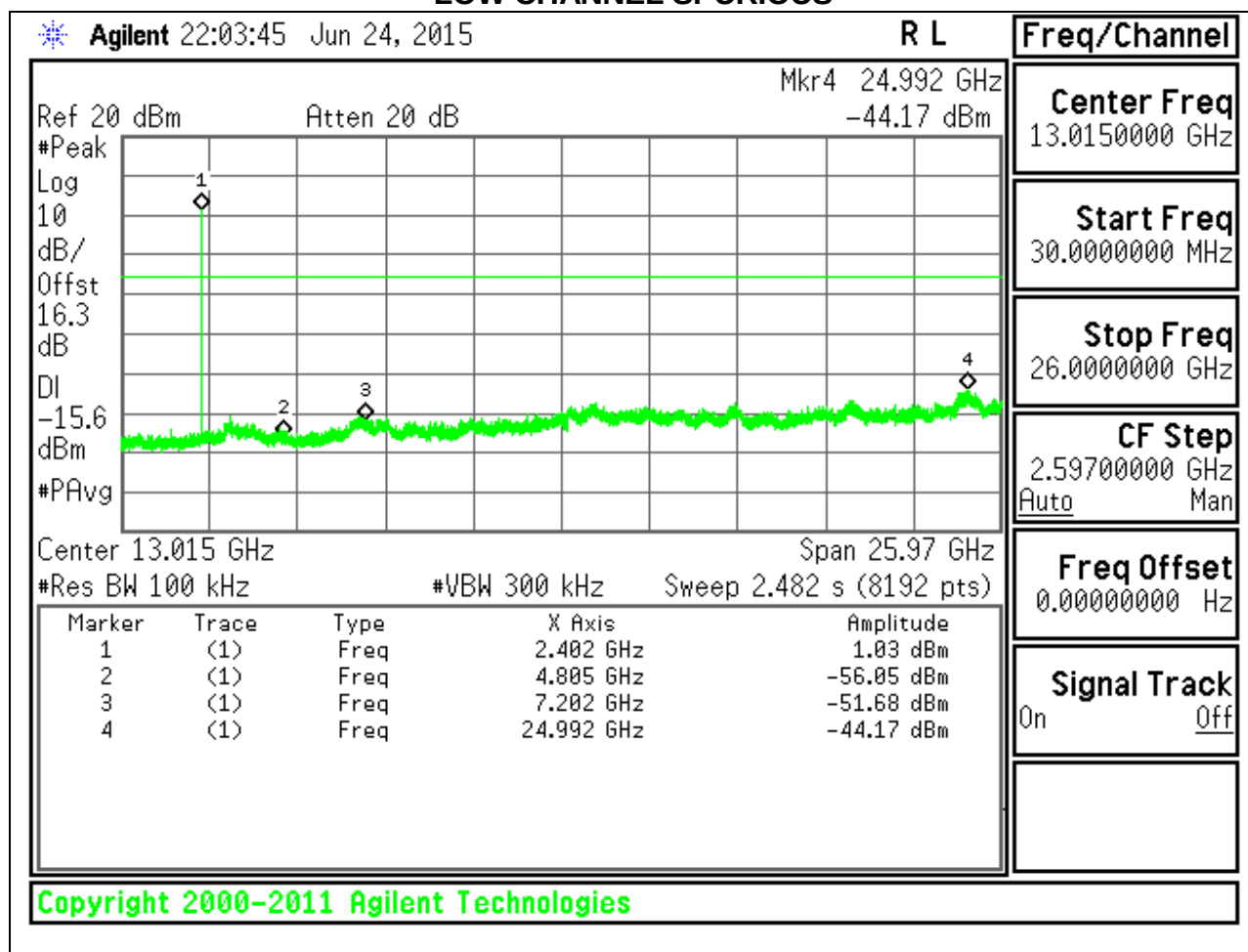


8.7.2. ENHANCED DATA RATE 8PSK MODULATION

SPURIOUS EMISSIONS, LOW CHANNEL

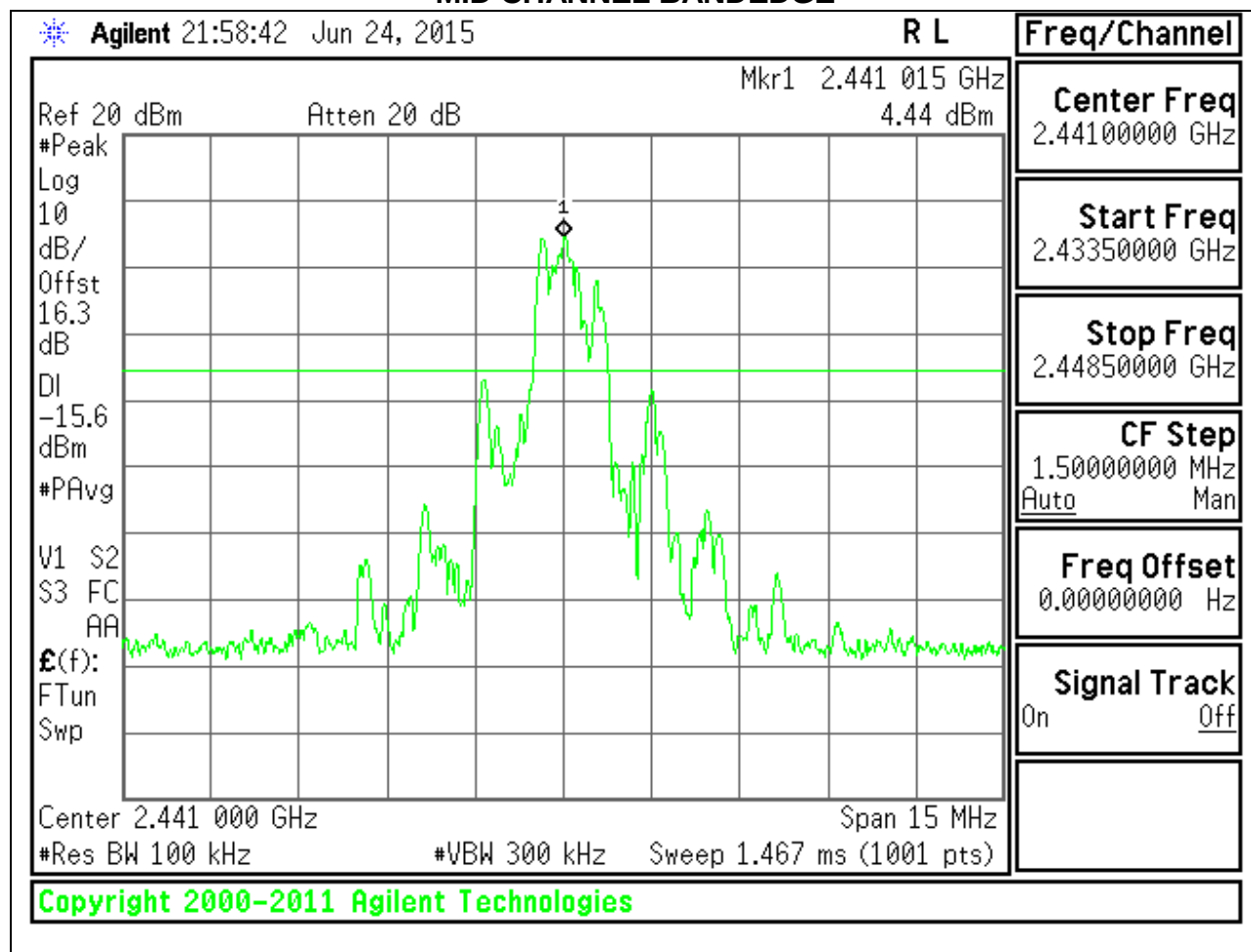


LOW CHANNEL SPURIOUS

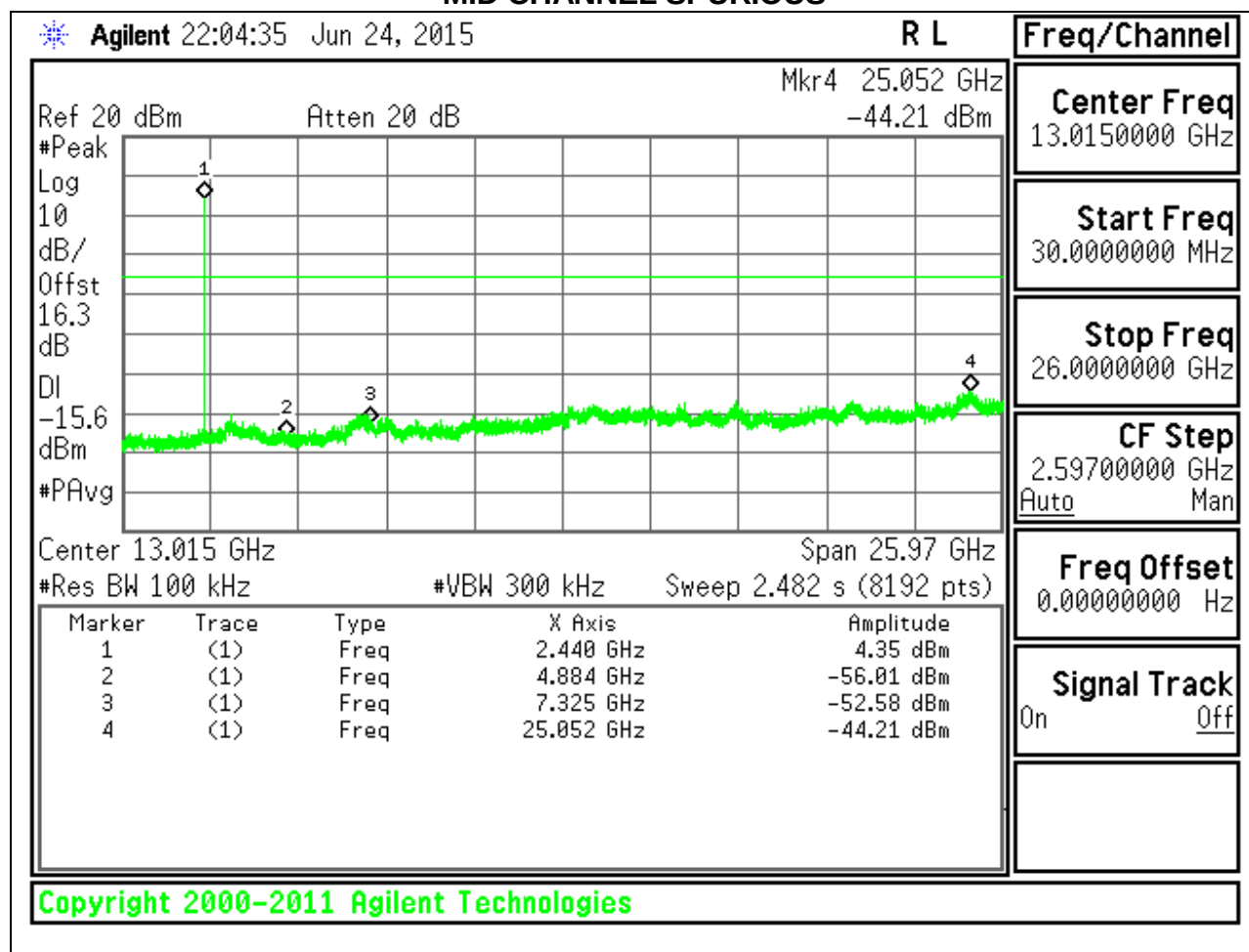


SPURIOUS EMISSIONS, MID CHANNEL

MID CHANNEL BANDEDGE

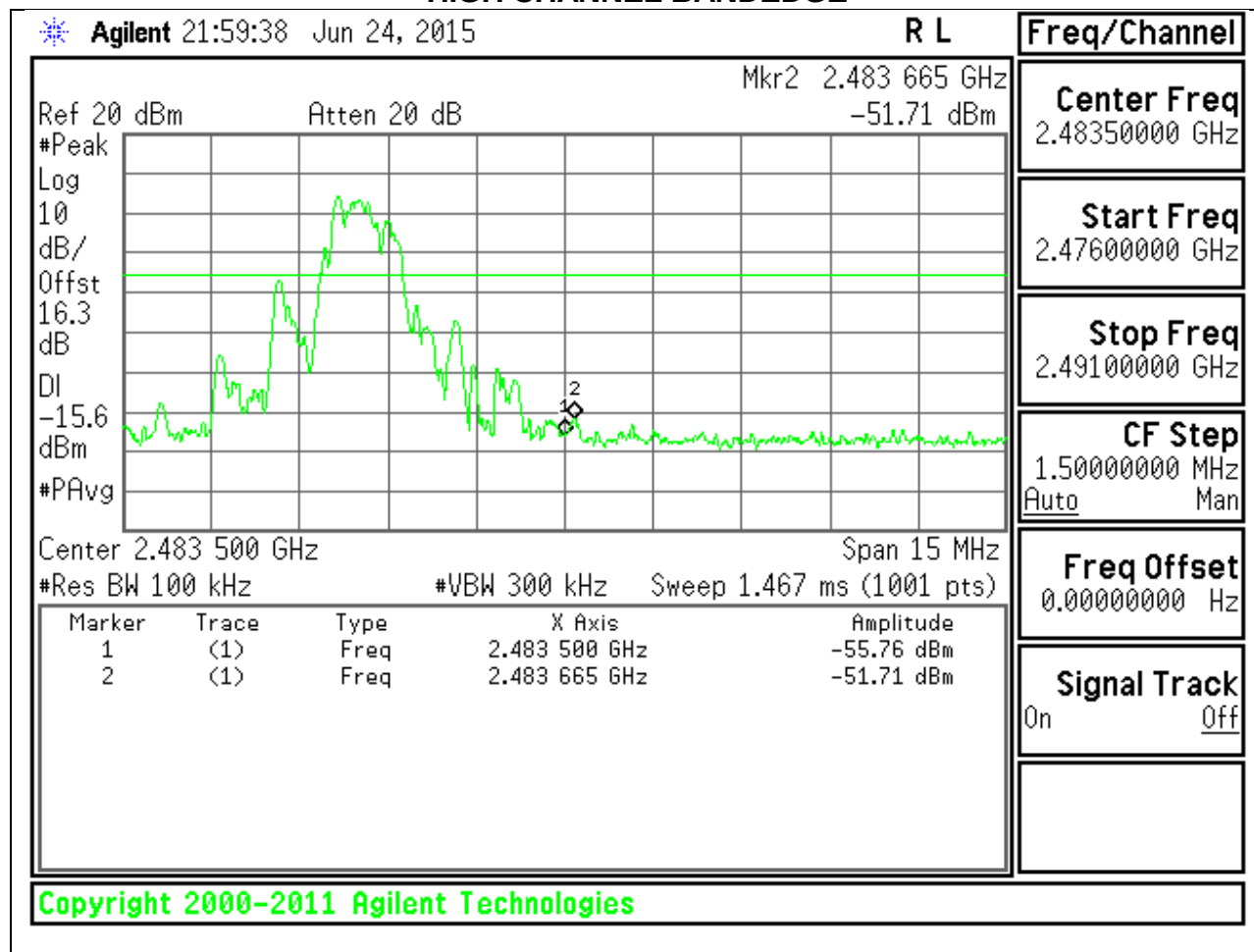


MID CHANNEL SPURIOUS

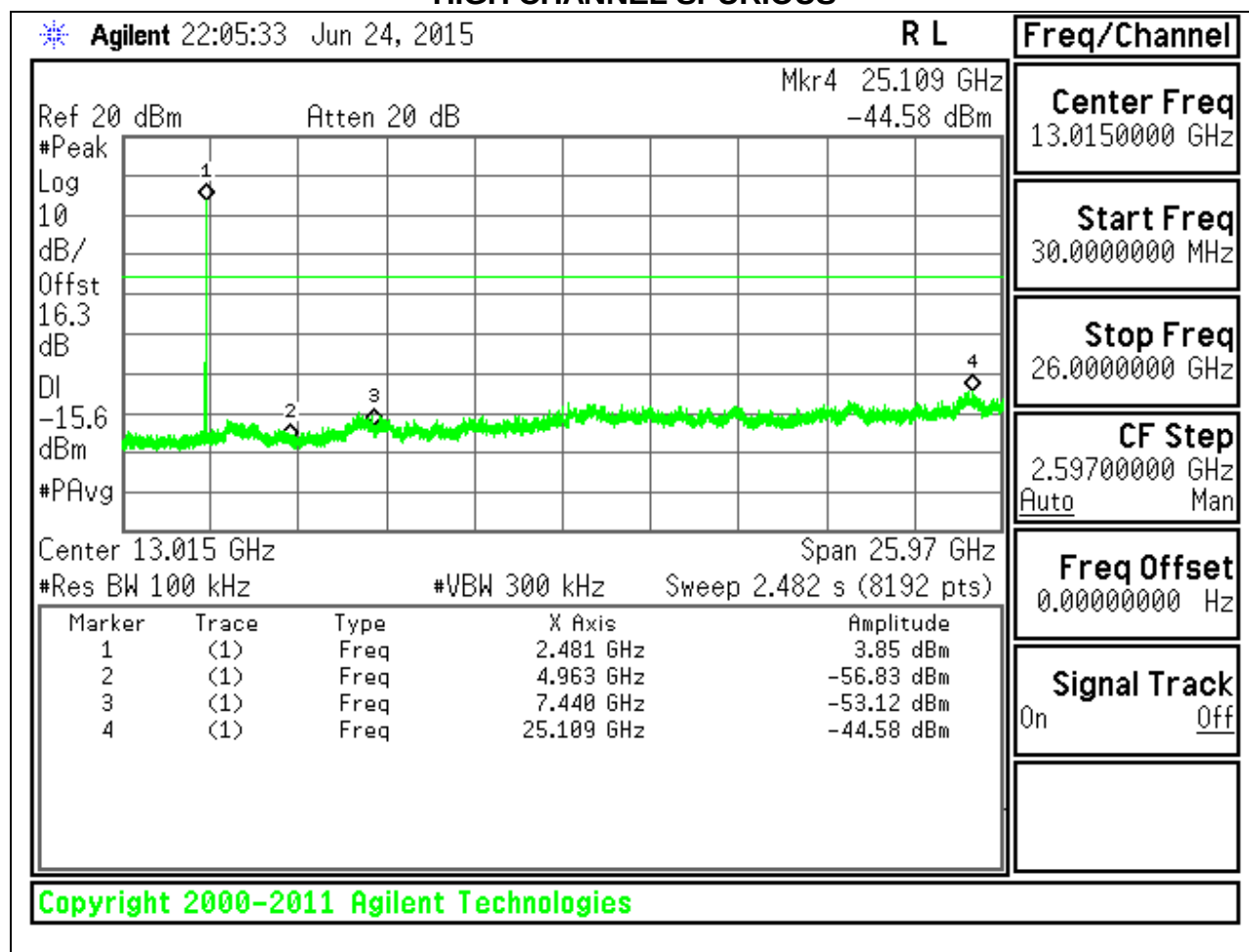


SPURIOUS EMISSIONS, HIGH CHANNEL

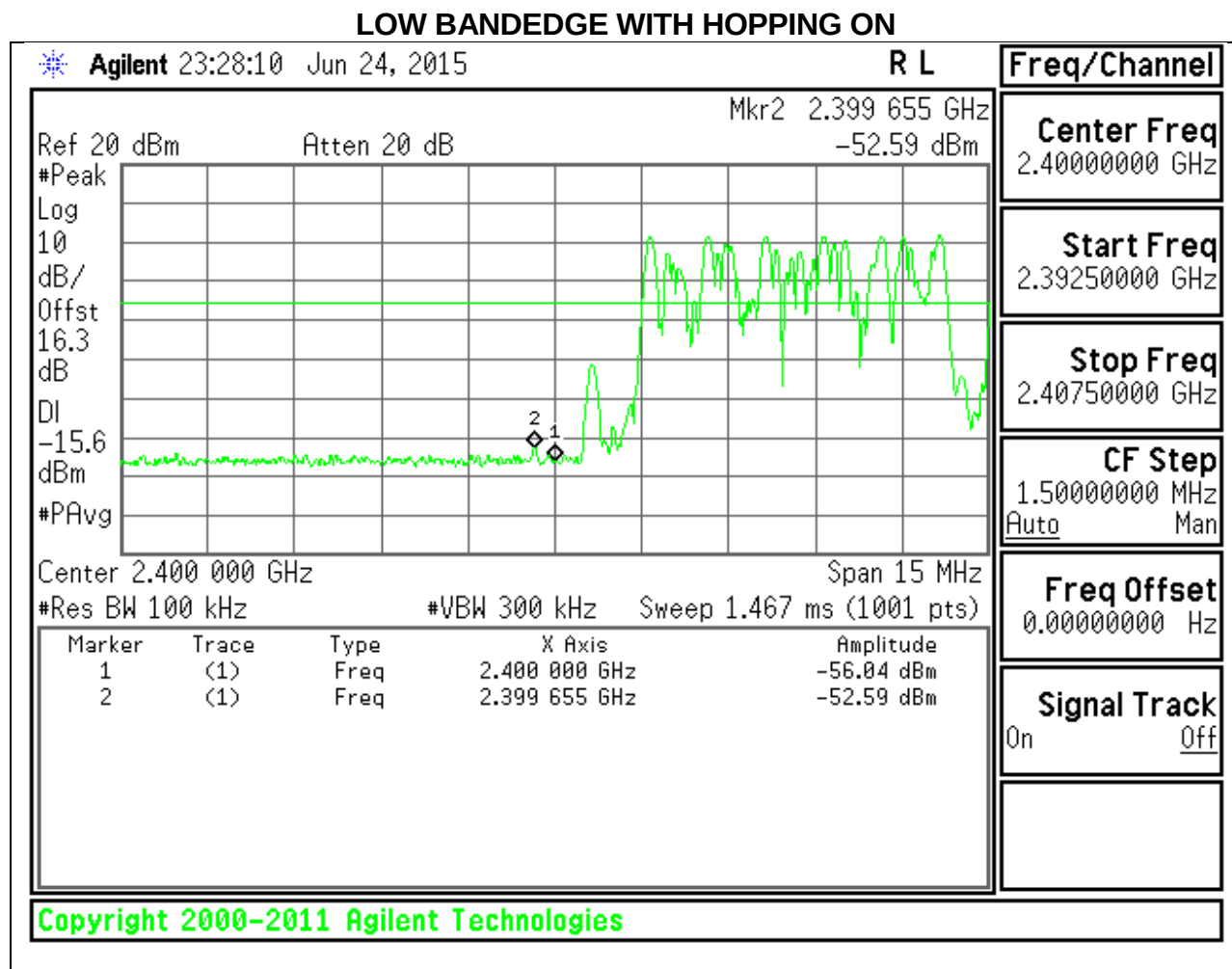
HIGH CHANNEL BANDEDGE



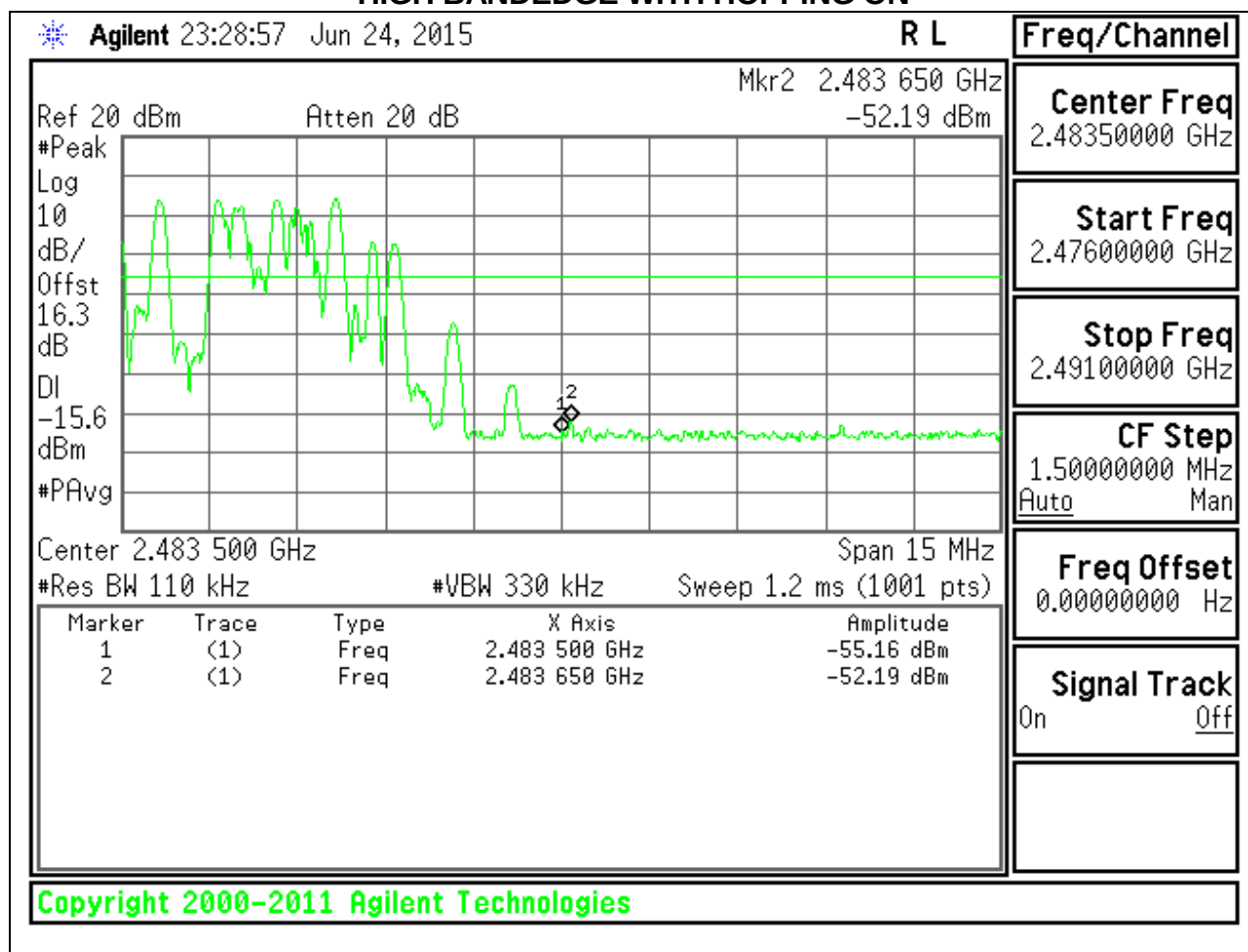
HIGH CHANNEL SPURIOUS



SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON



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 ($\mu\text{V/m}$) at 3 m	Field Strength Limit (dB $\mu\text{V/m}$) 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.
 $\text{GFSK} = 1/T = 1 / 0.001632\text{S} = 620\text{Hz}$.

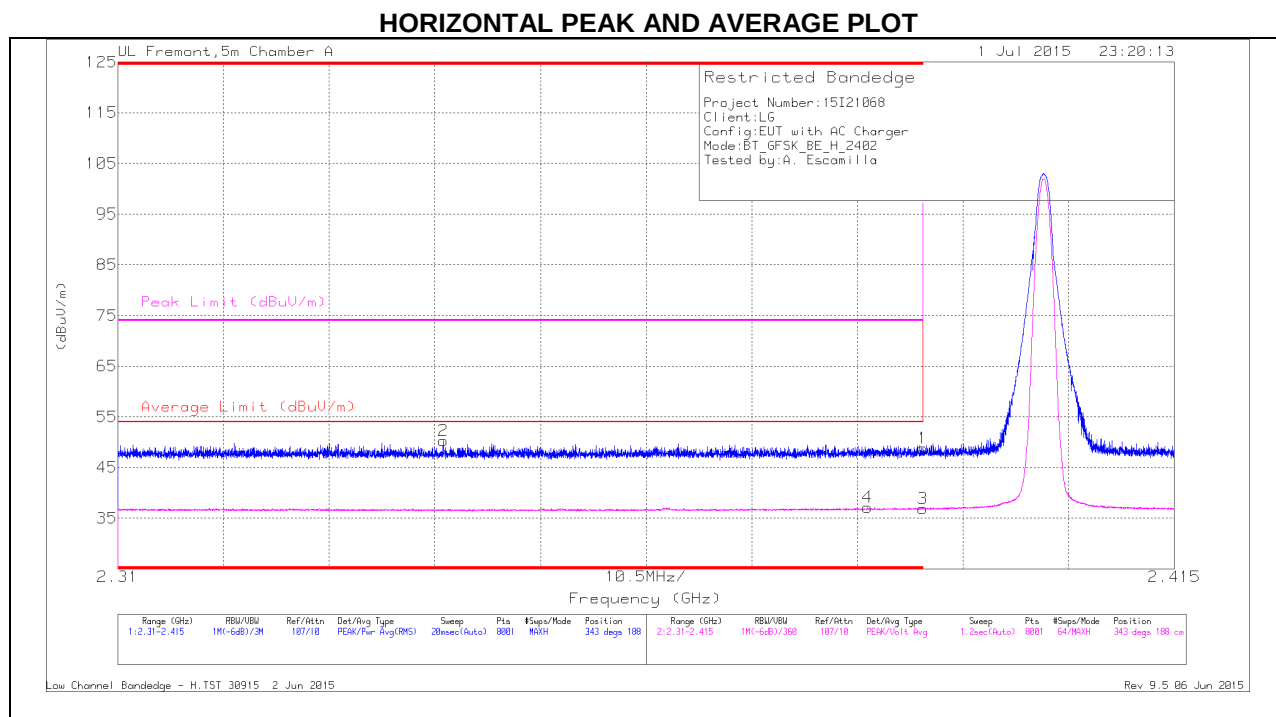
The spectrum from 1GHzHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

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)



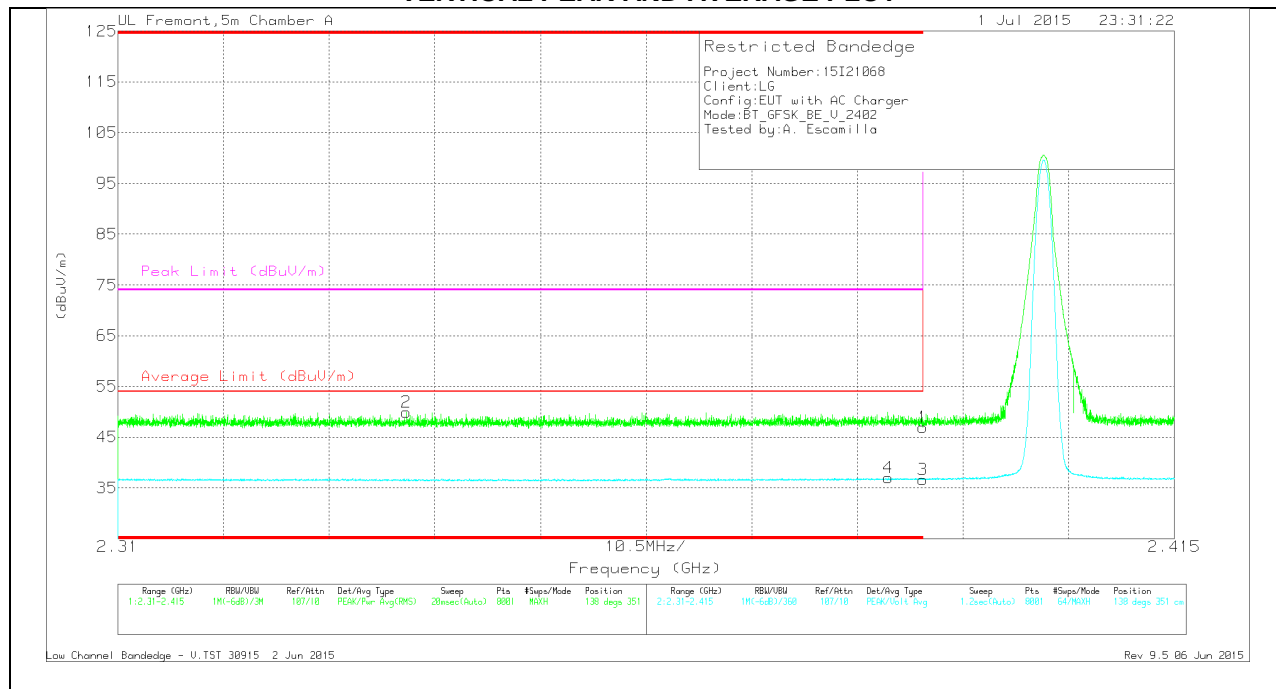
HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AFT136 (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	41.75	Pk	32	-24.9	48.85	-	-	74	-25.15	343	188	H
2	* 2.342	43.37	Pk	31.9	-25	50.27	-	-	74	-23.73	343	188	H
3	* 2.39	29.8	V1TV	32	-24.9	36.9	54	-17.1	-	-	343	188	H
4	* 2.385	30.12	V1TV	31.9	-24.9	37.12	54	-16.88	-	-	343	188	H

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

Pk - Peak detector

VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

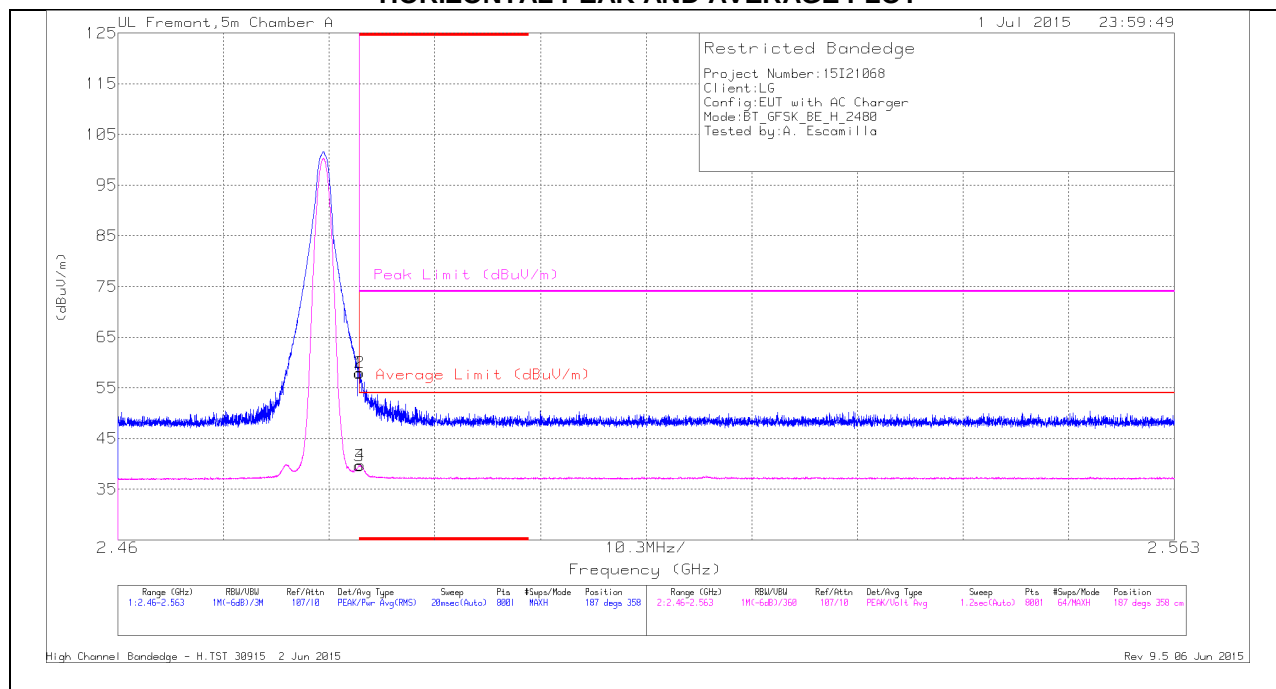
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 2.339	43.01	Pk	31.9	-25	49.91	-	-	74	-24.09	138	351	V
4	* 2.387	29.89	V1TV	32	-24.9	36.99	54	-17.01	-	-	138	351	V
1	* 2.39	39.8	Pk	32	-24.9	46.9	-	-	74	-27.1	138	351	V
3	* 2.39	29.56	V1TV	32	-24.9	36.66	54	-17.34	-	-	138	351	V

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

Pk - Peak detector

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT

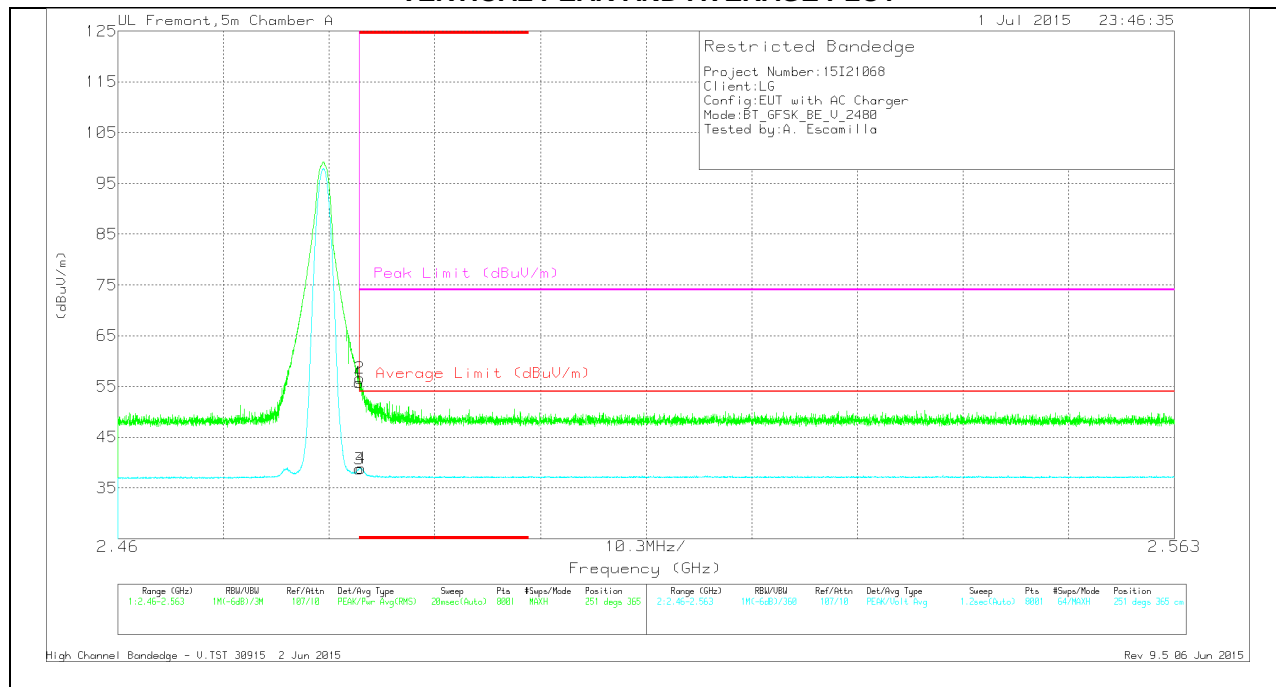


HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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	* 2.484	50.61	Pk	32.1	-24.8	57.91	-	-	74	-16.09	187	358	H
2	* 2.484	50.65	Pk	32.1	-24.8	57.95	-	-	74	-16.05	187	358	H
3	* 2.484	32.35	V1TV	32.1	-24.8	39.65	54	-14.35	-	-	187	358	H
4	* 2.484	32.43	V1TV	32.1	-24.8	39.73	54	-14.27	-	-	187	358	H

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

VERTICAL PEAK AND AVERAGE PLOT



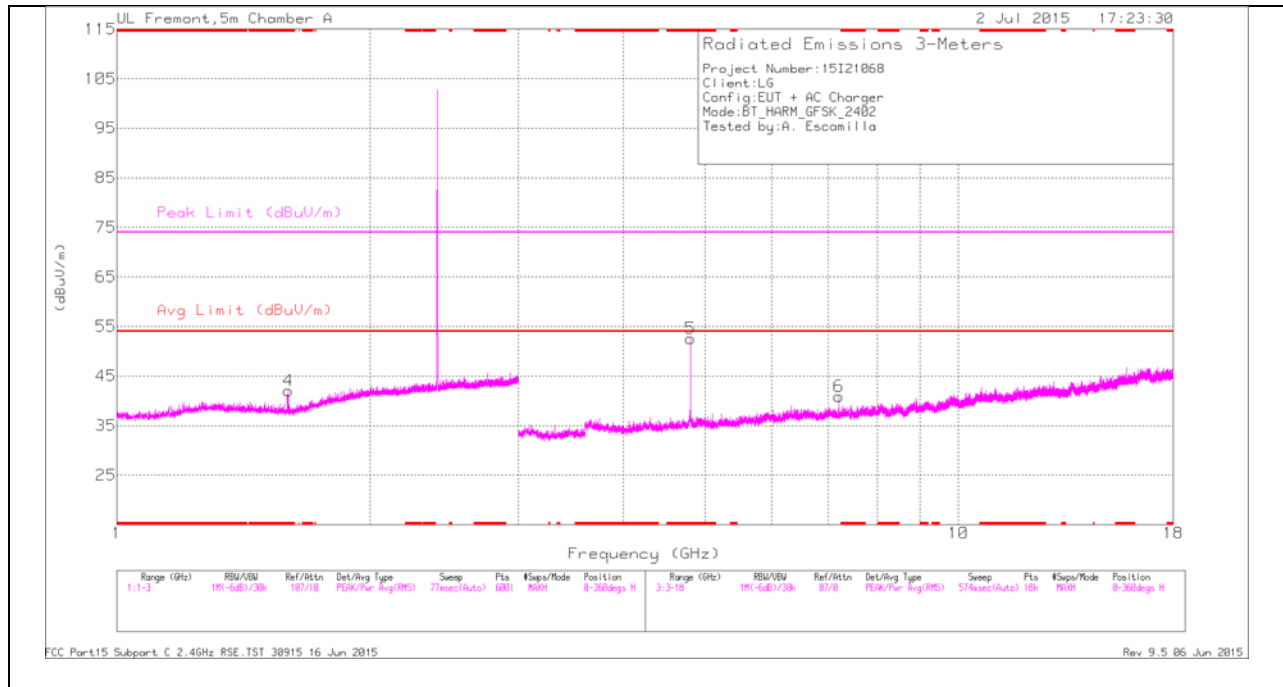
VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/ Filt/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	48.4	Pk	32.1	-24.8	55.7	-	-	74	-18.3	251	365	V
2	* 2.484	49.29	Pk	32.1	-24.8	56.59	-	-	74	-17.41	251	365	V
3	* 2.484	31.41	V1TV	32.1	-24.8	38.71	54	-15.29	-	-	251	365	V
4	* 2.484	31.58	V1TV	32.1	-24.8	38.88	54	-15.12	-	-	251	365	V

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

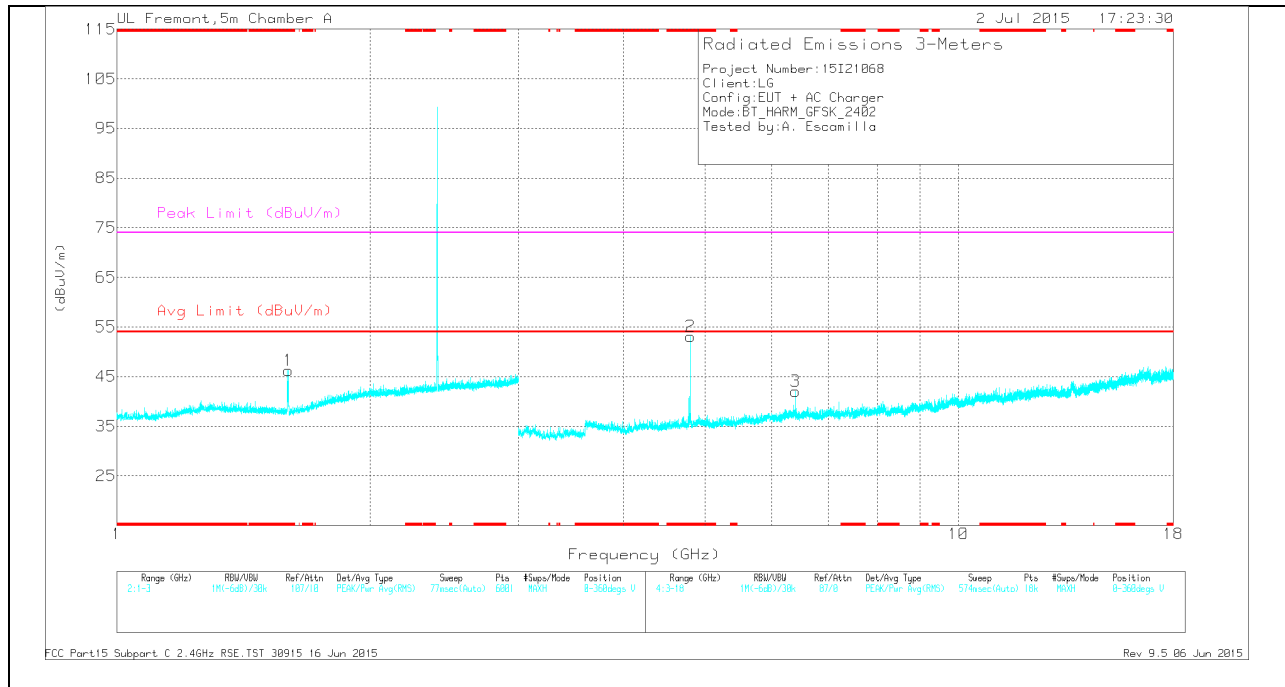
HARMONICS AND SPURIOUS EMISSIONS

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 T136 (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
4	* 1.599	39.99	Pk	27.9	-25.8	42.09	-	-	74	-31.91	0-360	100	H
1	* 1.598	44.13	Pk	27.9	-25.8	46.23	-	-	74	-27.77	0-360	100	V
5	* 4.804	49.68	Pk	34	-31.1	52.58	-	-	74	-21.42	0-360	100	H
2	* 4.803	50.28	Pk	34	-31.2	53.08	-	-	74	-20.92	0-360	100	V
3	6.398	34.99	Pk	35.5	-28.5	41.99	-	-	-	-	0-360	100	V
6	7.206	32.69	Pk	35.5	-27.3	40.89	-	-	-	-	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 1.599	46.56	PK3	27.9	-25.8	48.66	-	-	74	-25.34	321	159	H
* 1.598	32.92	VB1T	27.9	-25.8	35.02	54	-18.98	-	-	321	159	H
* 1.597	53.08	PK3	27.9	-25.8	55.18	-	-	74	-18.82	10	254	V
* 1.597	34.66	VB1T	27.9	-25.8	36.76	54	-17.24	-	-	10	254	V
* 4.804	52.49	PK3	34	-31.1	55.39	-	-	74	-18.61	129	100	H
* 4.804	49.84	VB1T	34	-31.1	52.74	54	-1.26	-	-	129	100	H
* 4.804	53.53	PK3	34	-31.2	56.33	-	-	74	-17.67	309	101	V
* 4.804	51.14	VB1T	34	-31.1	54.04	54	.04	-	-	309	101	V
6.398	41.97	PK3	35.5	-28.5	48.97	-	-	-	-	357	180	V
6.398	27.57	VB1T	35.5	-28.5	34.57	-	-	-	-	357	180	V
7.206	39.36	PK3	35.5	-27.3	47.56	-	-	-	-	40	124	H
7.206	31.07	VB1T	35.5	-27.3	39.27	-	-	-	-	40	124	H

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

FHSS option 2

* 4.804	52.49	PK3	34	-31.1	55.39	-	-	74	-18.61	129	100	H
* 4.804	49.84	VB1T	34	-31.1	24.59	54	-29.41	-	-	129	100	H
* 4.804	53.53	PK3	34	-31.2	56.33	-	-	74	-17.67	309	101	V
* 4.804	51.14	VB1T	34	-31.1	24.46	54	-29.54	-	-	309	101	V

For marker 4.804 MHz used the following method to do averaging:

DCCF=20* Log (100ms/Ton)

Ton=2.86ms

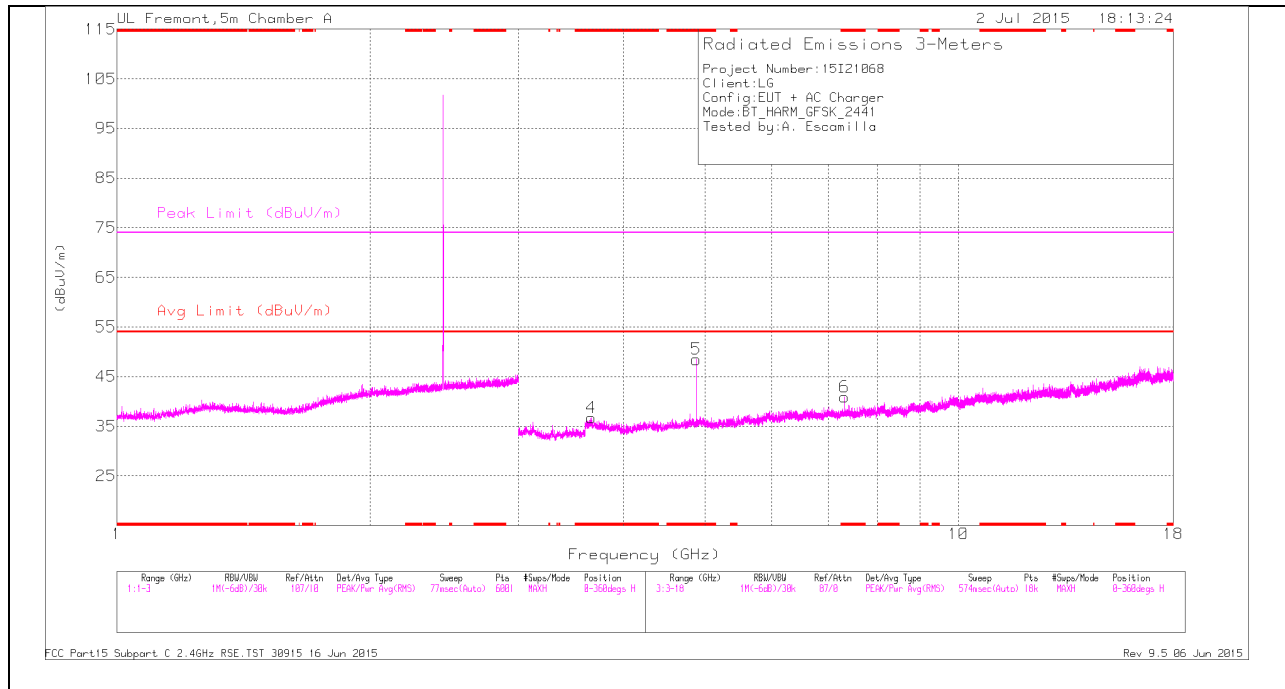
DCCF=30.87

Corrected AV reading = Peak Reading – DCCF

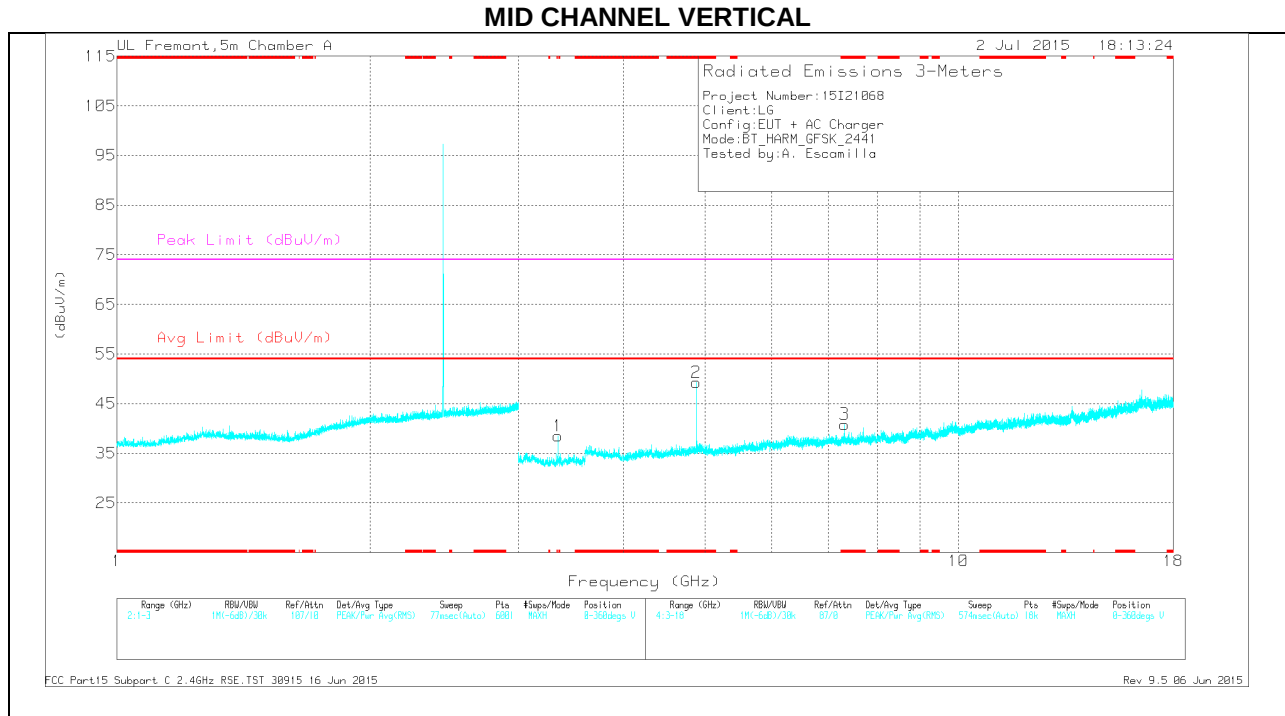
= 55.39 – 30.87 = 24.59 dBuV/m (Horizontal)

=56.33-30.87 = 24.46 dBuV/m (Vertical)

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.



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

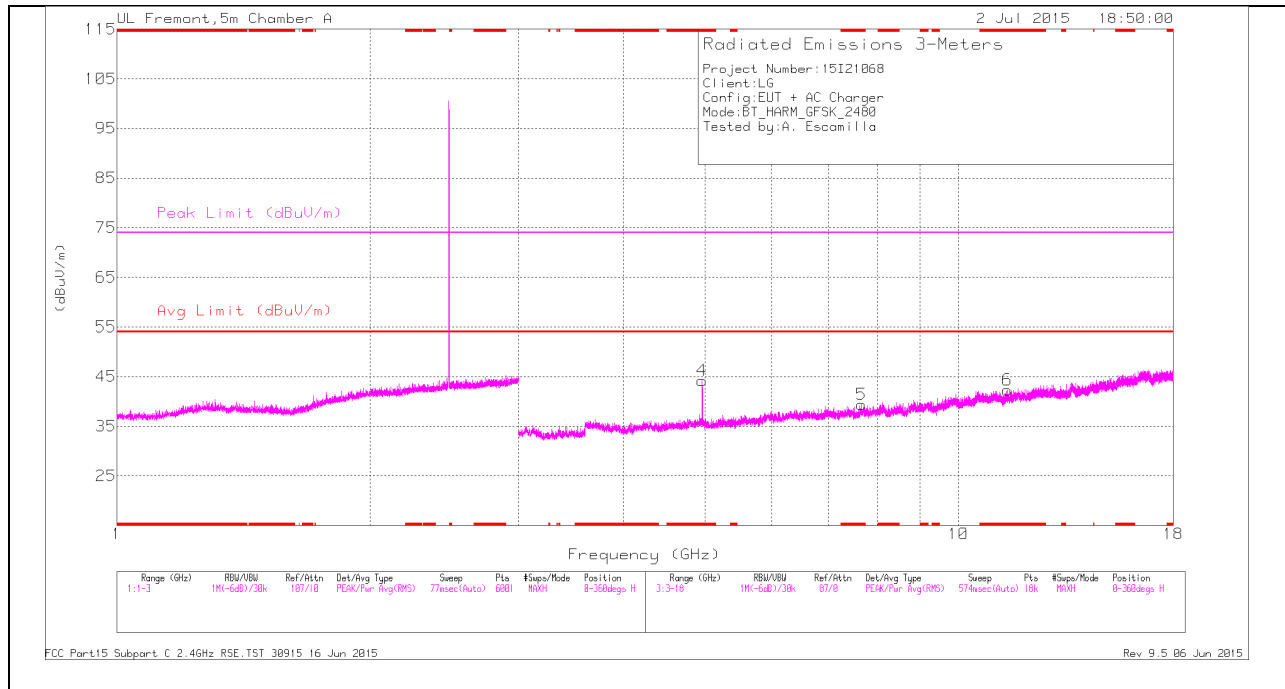
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 3.659	35.86	Pk	33.2	-32.3	36.76	-	-	74	-37.24	0-360	100	H
5	* 4.882	44.56	Pk	33.9	-30	48.46	-	-	74	-25.54	0-360	100	H
6	* 7.322	31.76	Pk	35.5	-26.4	40.86	-	-	74	-33.14	0-360	100	H
2	* 4.882	45.35	Pk	33.9	-30	49.25	-	-	74	-24.75	0-360	100	V
3	* 7.323	31.74	Pk	35.5	-26.4	40.84	-	-	74	-33.16	0-360	200	V
1	3.344	38.38	Pk	32.9	-32.8	38.48	-	-	-	-	0-360	100	V

PK - Peak detector

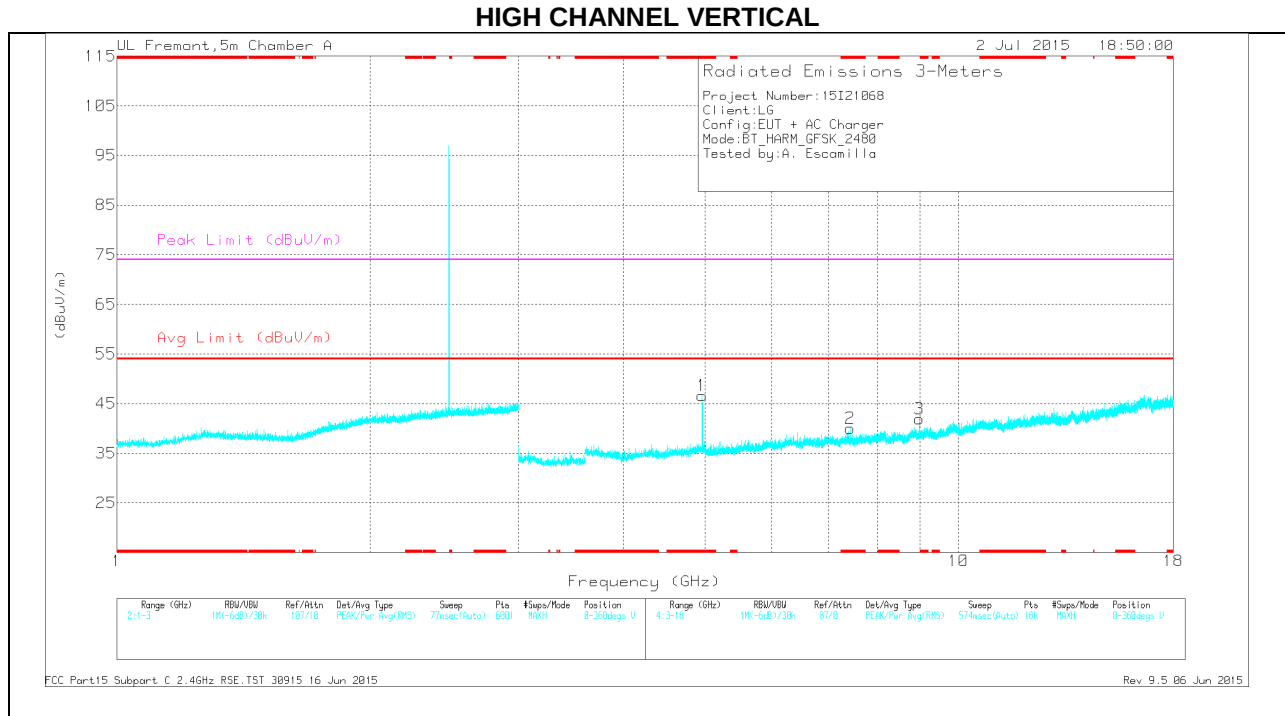
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 3.658	42.63	PK3	33.2	-32.3	43.53	-	-	74	-30.47	345	283	H
* 3.657	31.15	VB1T	33.2	-32.4	31.95	54	-22.05	-	-	345	283	H
* 4.882	47.95	PK3	33.9	-30	51.85	-	-	74	-22.15	130	106	H
* 4.882	44.33	VB1T	33.9	-30	48.23	54	-5.77	-	-	130	106	H
* 7.324	38.11	PK3	35.5	-26.4	47.21	-	-	74	-26.79	150	163	H
* 7.323	27.95	VB1T	35.5	-26.4	37.05	54	-16.95	-	-	150	163	H
* 4.882	48.67	PK3	33.9	-30	52.57	-	-	74	-21.43	309	103	V
* 4.882	45.32	VB1T	33.9	-30	49.22	54	-4.78	-	-	309	103	V
* 7.323	40.13	PK3	35.5	-26.4	49.23	-	-	74	-24.77	325	374	V
* 7.323	32.61	VB1T	35.5	-26.4	41.71	54	-12.29	-	-	325	374	V
3.343	42.21	PK3	32.9	-32.9	42.21	-	-	-	-	89	143	V
3.344	30.74	VB1T	32.9	-32.8	30.84	-	-	-	-	89	143	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.



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 T136 (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
4	* 4.96	40.22	Pk	33.9	-29.9	44.22	-	-	74	-29.78	0-360	100	H
5	* 7.668	29.84	Pk	35.6	-26.1	39.34	-	-	74	-34.66	0-360	201	H
6	* 11.438	27.19	Pk	37.9	-22.8	42.29	-	-	74	-31.71	0-360	201	H
1	* 4.96	42.63	Pk	33.9	-29.9	46.63	-	-	74	-27.37	0-360	100	V
2	* 7.44	30.7	Pk	35.5	-26.2	40	-	-	74	-34	0-360	200	V
3	8.991	31.37	Pk	36.1	-25.6	41.87	-	-	-	-	0-360	200	V

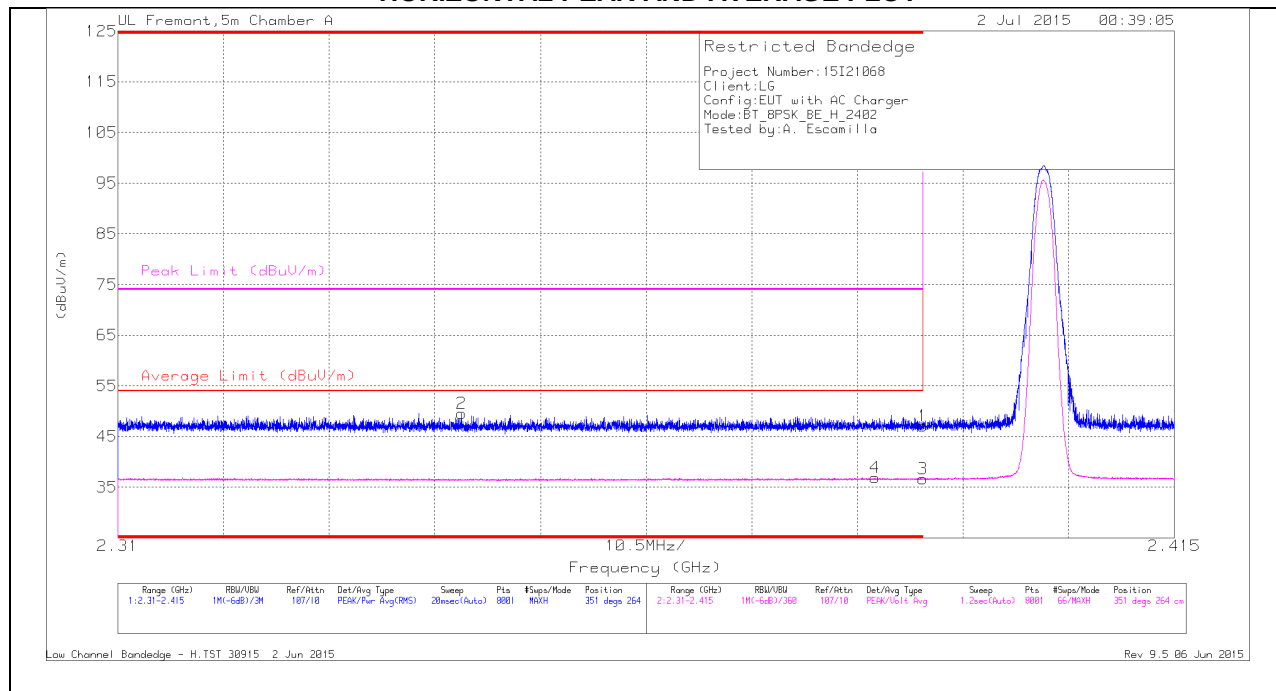
PK - Peak detector

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 4.96	46.77	PK3	33.9	-29.9	50.77	-	-	74	-23.23	322	149	H
* 4.96	42.16	VB1T	33.9	-29.9	46.16	54	-7.84	-	-	322	149	H
* 7.67	36.67	PK3	35.6	-26.1	46.17	-	-	74	-27.83	288	186	H
* 7.668	25.38	VB1T	35.6	-26.1	34.88	54	-19.12	-	-	288	186	H
* 11.437	33.84	PK3	37.9	-22.8	48.94	-	-	74	-25.06	224	154	H
* 11.44	22.81	VB1T	37.9	-22.8	37.91	54	-16.09	-	-	224	154	H
* 4.96	47.25	PK3	33.9	-29.9	51.25	-	-	74	-22.75	307	108	V
* 4.96	43.09	VB1T	33.9	-29.9	47.09	54	-6.91	-	-	307	108	V
* 7.44	38.63	PK3	35.5	-26.2	47.93	-	-	74	-26.07	345	218	V
* 7.44	30	VB1T	35.5	-26.2	39.3	54	-14.7	-	-	345	218	V
8.989	36.87	PK3	36.1	-25.6	47.37	-	-	-	-	295	208	V
8.99	25.26	VB1T	36.1	-25.6	35.76	-	-	-	-	295	208	V

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

HORIZONTAL PEAK AND AVERAGE PLOT

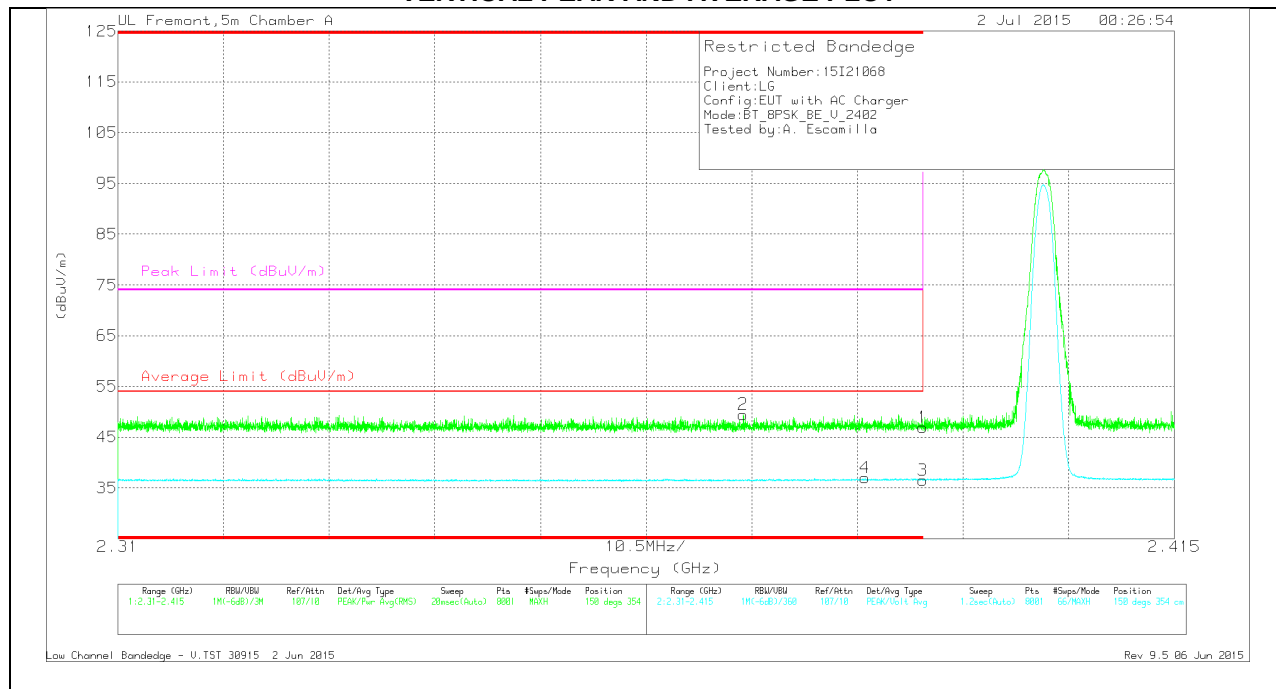


HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
2	* 2.344	42.66	Pk	31.9	-25	49.56	-	-	74	-24.44	351	264	H
4	* 2.385	29.79	V1TV	32	-24.9	36.89	54	-17.11	-	-	351	264	H
1	* 2.39	40.02	Pk	32	-24.9	47.12	-	-	74	-26.88	351	264	H
3	* 2.39	29.55	V1TV	32	-24.9	36.65	54	-17.35	-	-	351	264	H

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

VERTICAL PEAK AND AVERAGE PLOT



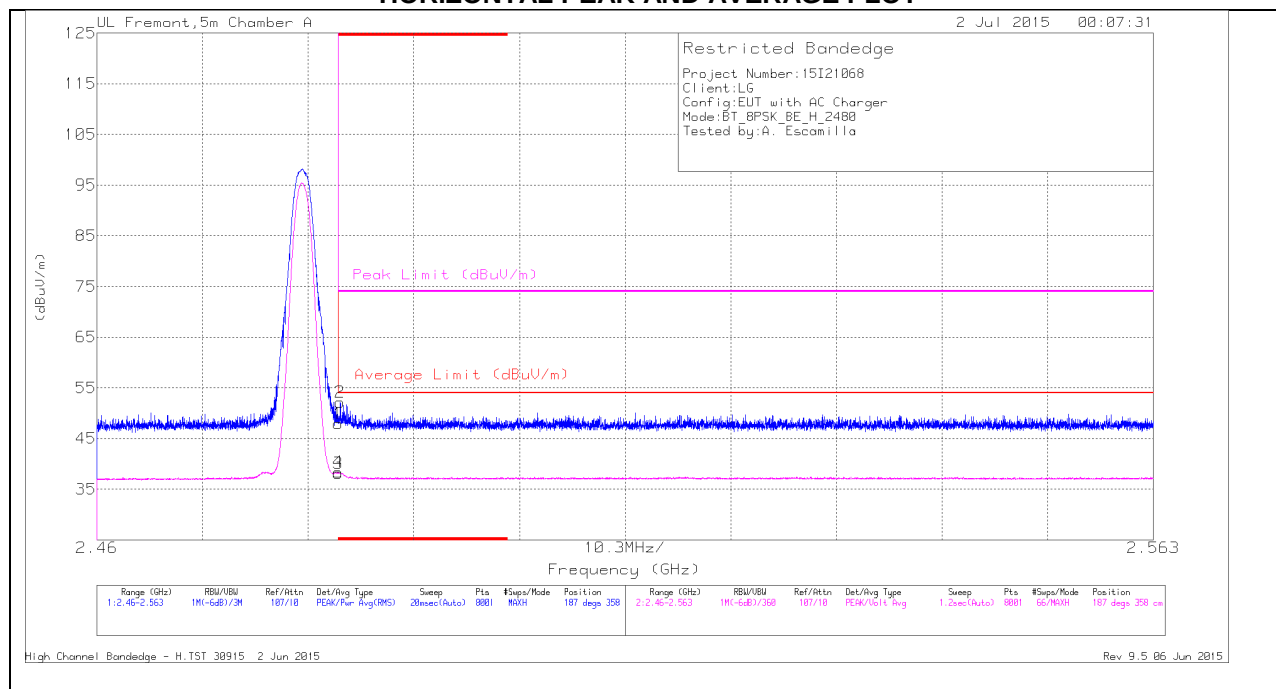
VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
2	* 2.372	42.58	Pk	31.9	-25	49.48	-	-	74	-24.52	150	354	V
4	* 2.384	29.96	V1TV	31.9	-24.9	36.96	54	-17.04	-	-	150	354	V
1	* 2.39	39.81	Pk	32	-24.9	46.91	-	-	74	-27.09	150	354	V
3	* 2.39	29.42	V1TV	32	-24.9	36.52	54	-17.48	-	-	150	354	V

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

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT

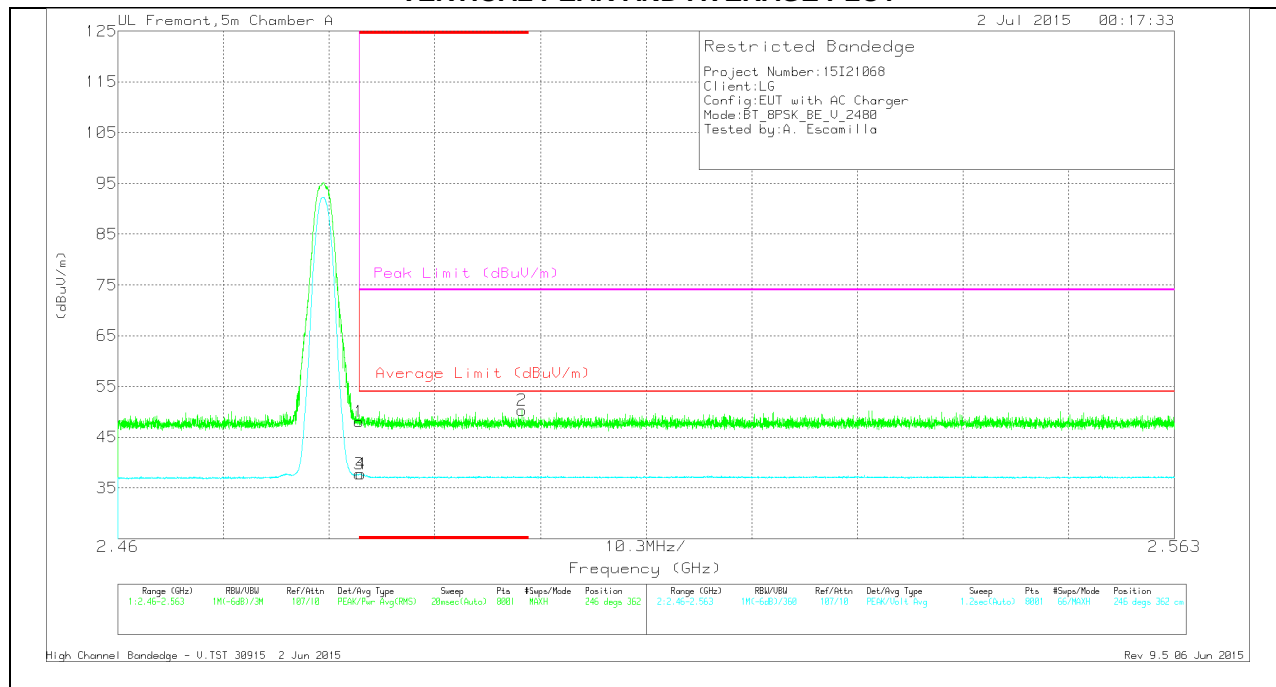


HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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	40.6	Pk	32.1	-24.8	47.9	-	-	74	-26.1	187	358	H
2	* 2.484	44.9	Pk	32.1	-24.8	52.2	-	-	74	-21.8	187	358	H
3	* 2.484	30.88	V1TV	32.1	-24.8	38.18	54	-15.82	-	-	187	358	H
4	* 2.484	31.02	V1TV	32.1	-24.8	38.32	54	-15.68	-	-	187	358	H

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

VERTICAL PEAK AND AVERAGE PLOT

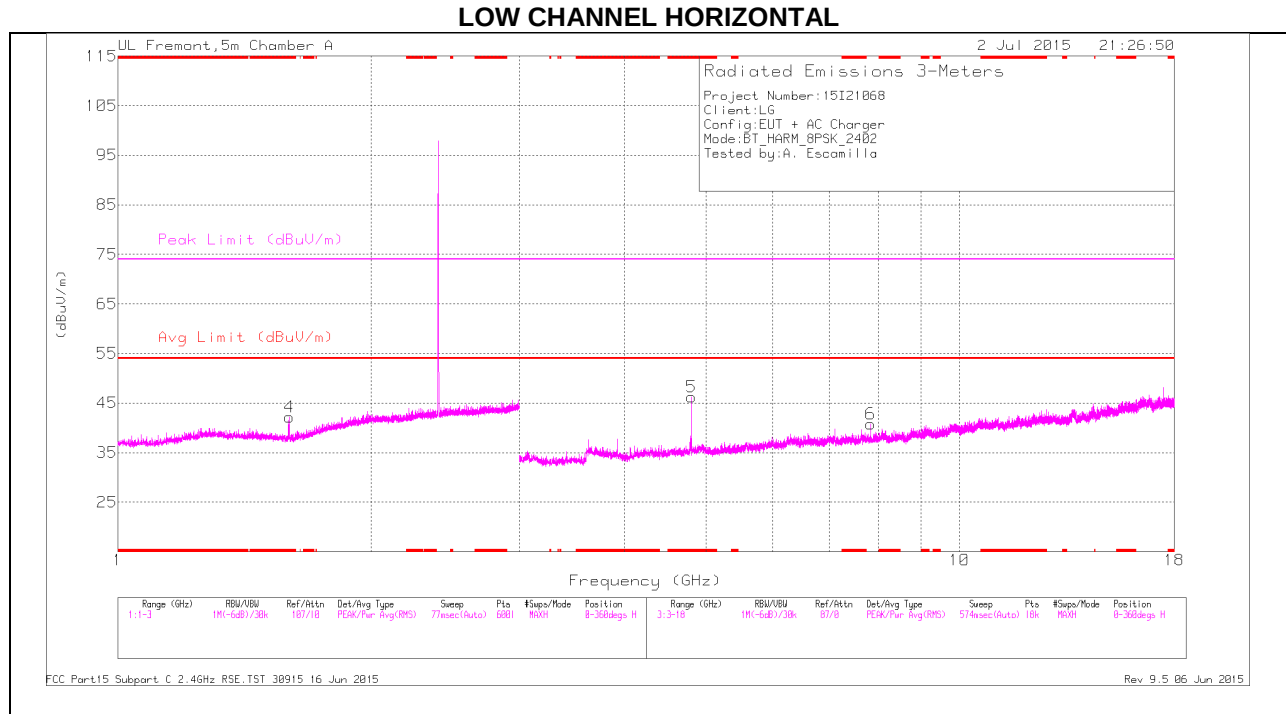


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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	40.72	Pk	32.1	-24.8	48.02	-	-	74	-25.98	246	362	V
2	* 2.499	42.85	Pk	32.1	-24.7	50.25	-	-	74	-23.75	246	362	V
3	* 2.484	30.47	V1TV	32.1	-24.8	37.77	54	-16.23	-	-	246	362	V
4	* 2.484	30.44	V1TV	32.1	-24.8	37.74	54	-16.26	-	-	246	362	V

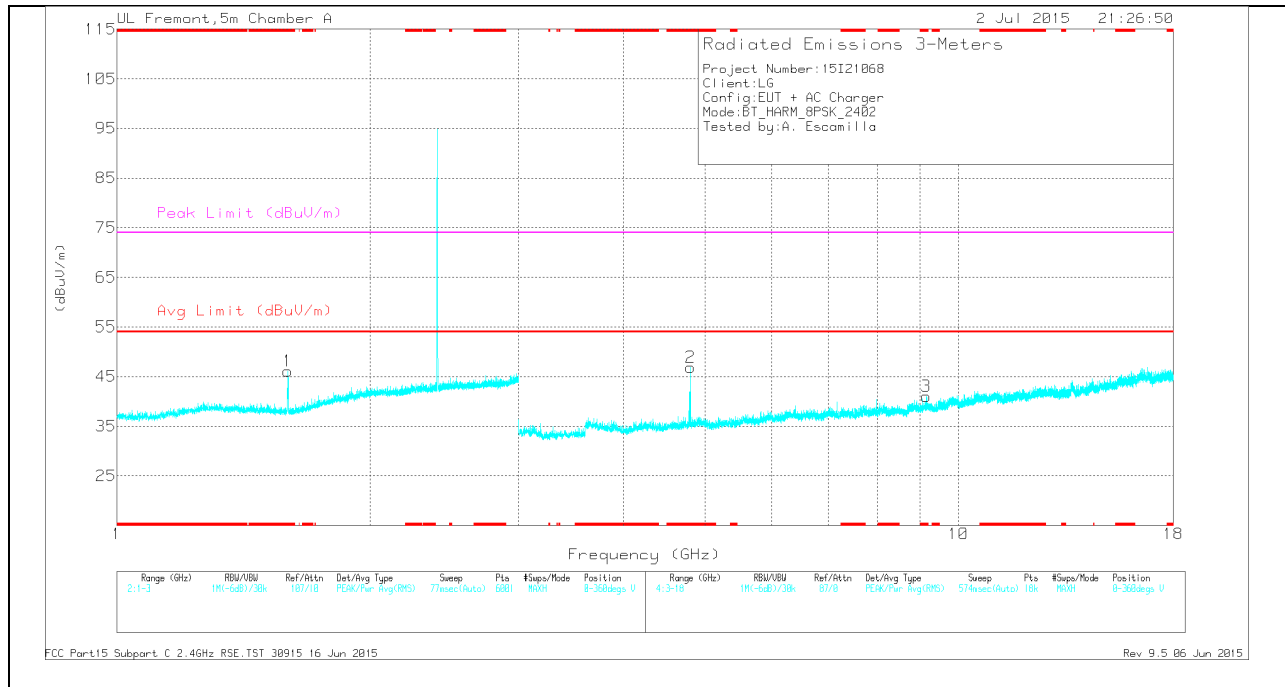
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

HARMONICS AND SPURIOUS EMISSIONS



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

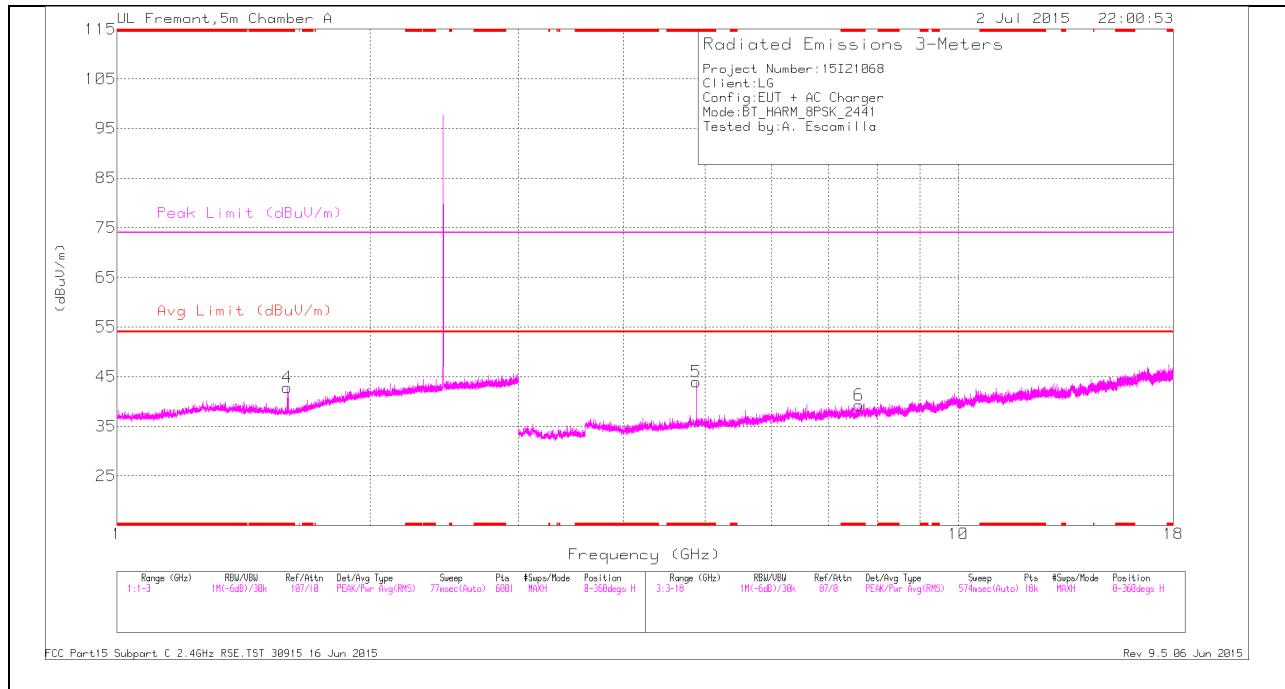
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 1.6	40.05	Pk	27.9	-25.8	42.15	-	-	74	-31.85	0-360	201	H
1	* 1.596	44.04	Pk	27.9	-25.8	46.14	-	-	74	-27.86	0-360	100	V
5	* 4.803	43.39	Pk	34	-31.2	46.19	-	-	74	-27.81	0-360	100	H
2	* 4.803	44.03	Pk	34	-31.2	46.83	-	-	74	-27.17	0-360	100	V
3	* 9.163	28.82	Pk	36.3	-24.1	41.02	-	-	74	-32.98	0-360	100	V
6	7.84	31.13	Pk	35.7	-26.1	40.73	-	-	-	-	0-360	100	H

PK - Peak detector

RADIATED EMISSIONS

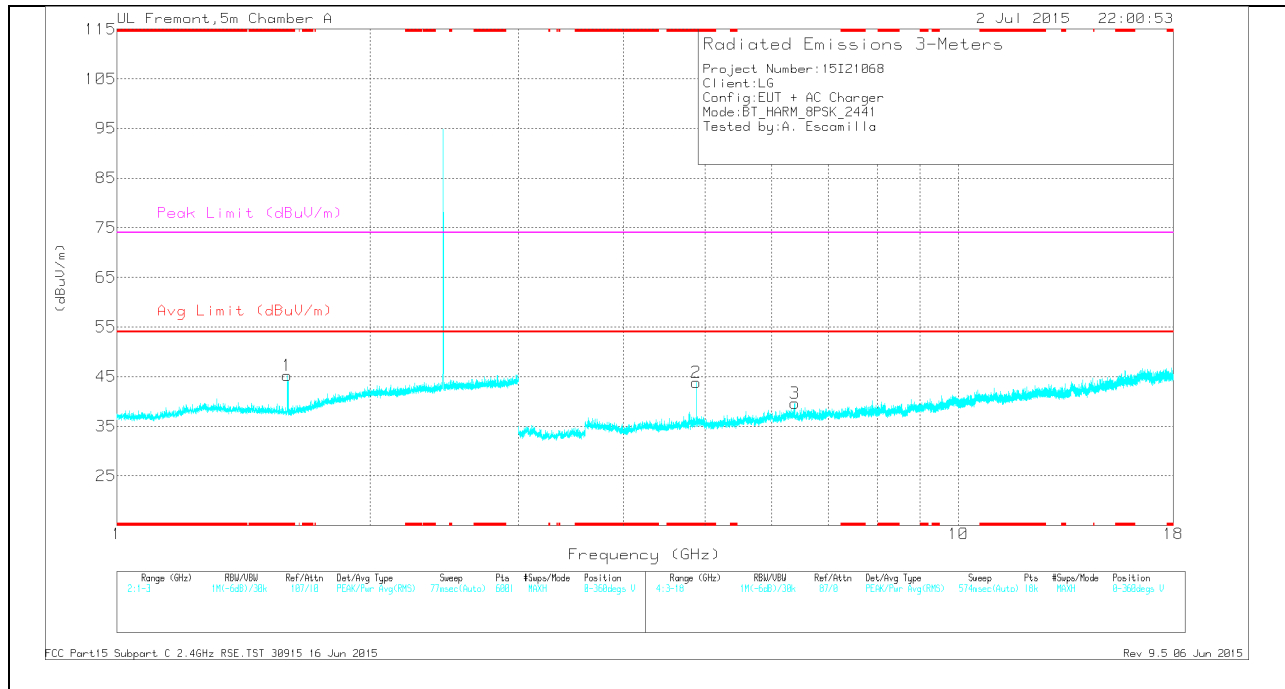
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.599	44.45	PK3	27.9	-25.8	46.55	-	-	74	-27.45	276	202	H
* 1.598	32.67	VB1T	27.9	-25.8	34.77	54	-19.23	-	-	276	202	H
* 1.594	51.86	PK3	27.9	-25.8	53.96	-	-	74	-20.04	180	102	V
* 1.597	34.08	VB1T	27.9	-25.8	36.18	54	-17.82	-	-	180	102	V
* 4.804	49.98	PK3	34	-31.2	52.78	-	-	74	-21.22	314	103	H
* 4.804	44.3	VB1T	34	-31.2	47.1	54	-6.9	-	-	314	103	H
* 4.804	51.25	PK3	34	-31.1	54.15	-	-	74	-19.85	330	105	V
* 4.804	45.43	VB1T	34	-31.2	48.23	54	-5.77	-	-	330	105	V
* 9.162	35.96	PK3	36.3	-24.1	48.16	-	-	74	-25.84	308	134	V
* 9.161	24.21	VB1T	36.3	-24.1	36.41	54	-17.59	-	-	308	134	V
7.838	25.36	VB1T	35.7	-26.1	34.96	-	-	-	-	335	169	H
7.839	36.51	PK3	35.7	-26.1	46.11	-	-	-	-	335	169	H

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

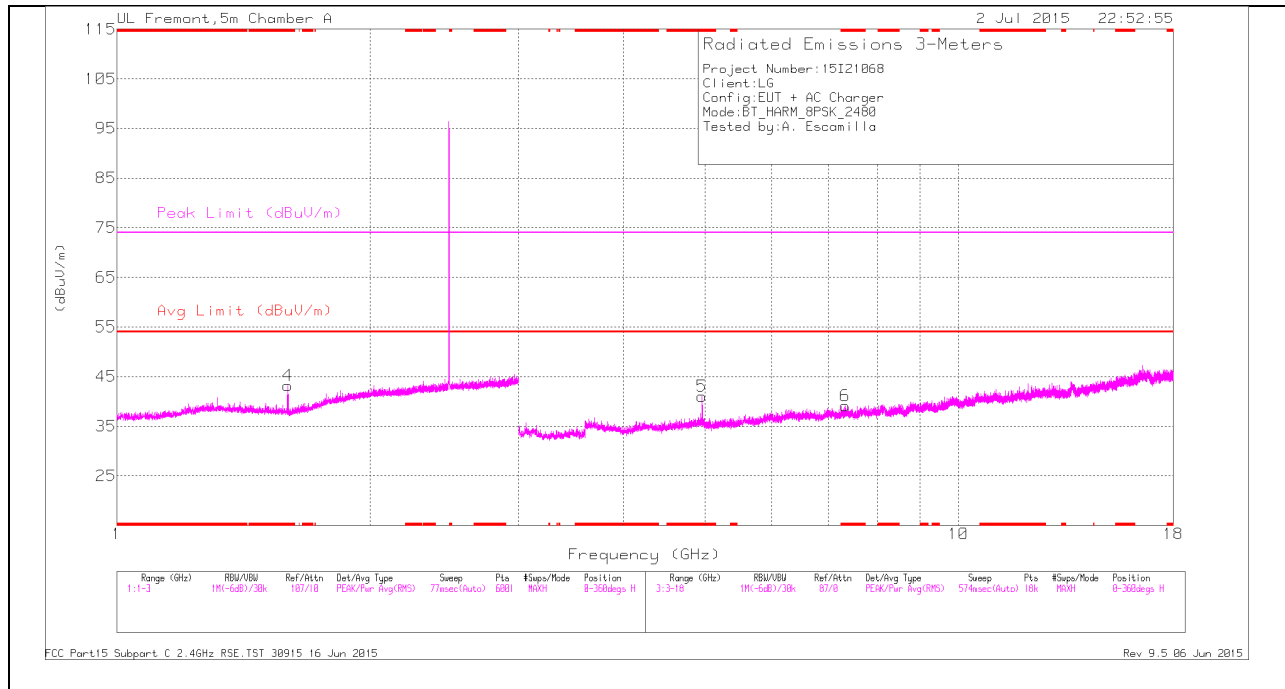
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 1.594	40.76	Pk	27.9	-25.8	42.86	-	-	74	-31.14	0-360	100	H
1	* 1.594	43.1	Pk	27.9	-25.8	45.2	-	-	74	-28.8	0-360	200	V
5	* 4.882	40.1	Pk	33.9	-30	44	-	-	74	-30	0-360	100	H
6	* 7.622	30.08	Pk	35.6	-26.4	39.28	-	-	74	-34.72	0-360	100	H
2	* 4.882	39.87	Pk	33.9	-30	43.77	-	-	74	-30.23	0-360	100	V
3	6.39	32.58	Pk	35.5	-28.4	39.68	-	-	-	-	0-360	100	V

PK - Peak detector

RADIATED EMISSIONS

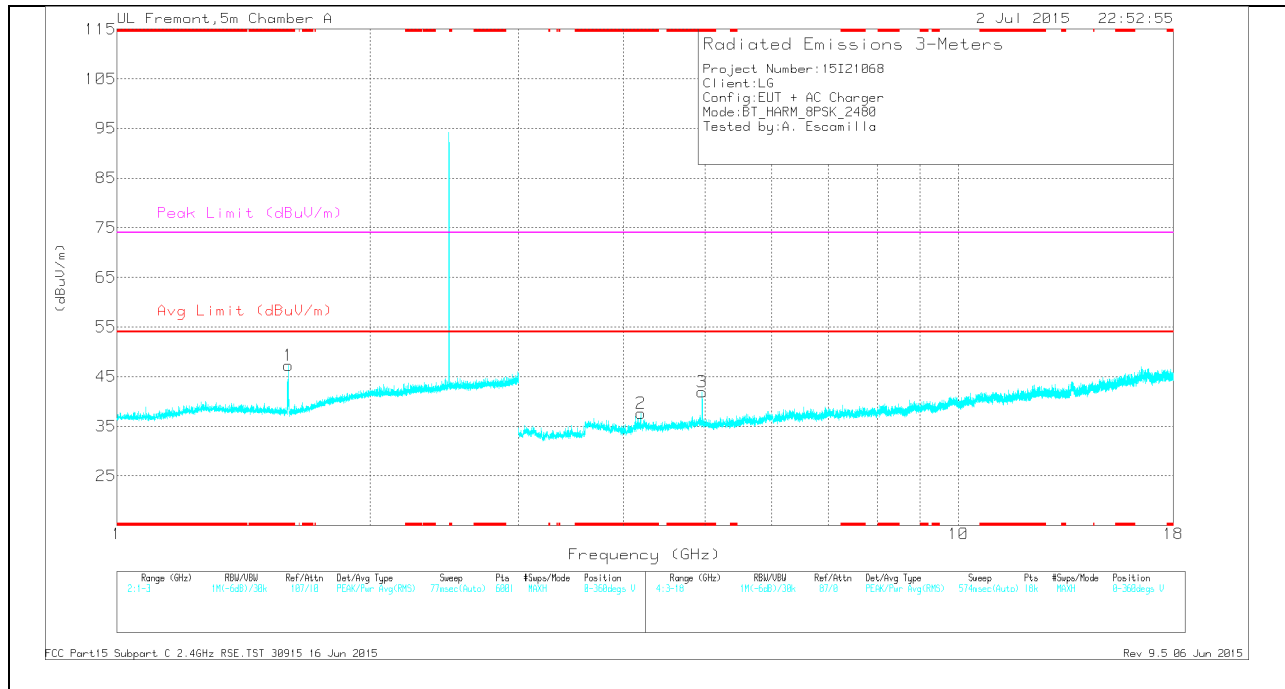
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.594	47.73	PK3	27.9	-25.8	49.83	-	-	74	-24.17	320	192	H
* 1.594	32.93	VB1T	27.9	-25.8	35.03	54	-18.97	-	-	320	192	H
* 1.594	52.11	PK3	27.9	-25.8	54.21	-	-	74	-19.79	33	251	V
* 1.593	33.91	VB1T	27.9	-25.8	36.01	54	-17.99	-	-	33	251	V
* 4.882	45.61	PK3	33.9	-30	49.51	-	-	74	-24.49	315	117	H
* 4.882	39.54	VB1T	33.9	-30	43.44	54	-10.56	-	-	315	117	H
* 7.622	37.41	PK3	35.6	-26.4	46.61	-	-	74	-27.39	351	174	H
* 7.621	25.5	VB1T	35.6	-26.5	34.6	54	-19.4	-	-	351	174	H
* 4.882	45.25	PK3	33.9	-30	49.15	-	-	74	-24.85	332	113	V
* 4.882	39.2	VB1T	33.9	-30	43.1	54	-10.9	-	-	332	113	V
6.389	39.27	PK3	35.5	-28.4	46.37	-	-	-	-	281	162	V
6.389	27.23	VB1T	35.5	-28.4	34.33	-	-	-	-	281	162	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 T136 (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
4	* 1.596	41.04	Pk	27.9	-25.8	43.14	-	-	74	-30.86	0-360	100	H
1	* 1.6	45.18	Pk	27.9	-25.8	47.28	-	-	74	-26.72	0-360	100	V
5	* 4.959	37.03	Pk	33.9	-29.9	41.03	-	-	74	-32.97	0-360	100	H
6	* 7.338	29.89	Pk	35.5	-26.3	39.09	-	-	74	-34.91	0-360	201	H
2	* 4.193	36.13	Pk	33.3	-31.8	37.63	-	-	74	-36.37	0-360	200	V
3	* 4.96	37.93	Pk	33.9	-29.9	41.93	-	-	74	-32.07	0-360	100	V

PK - Peak detector

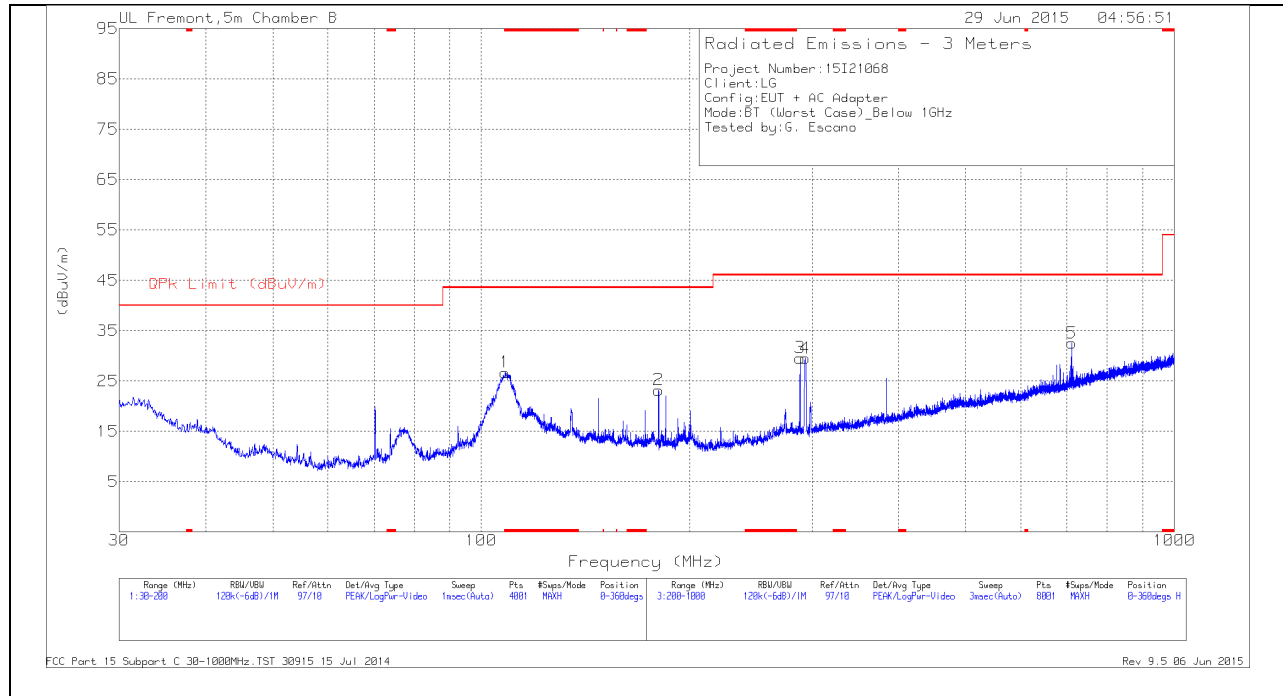
RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T136 (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
* 1.594	45.06	PK3	27.9	-25.8	47.16	-	-	74	-26.84	69	302	H
* 1.595	32.71	VB1T	27.9	-25.8	34.81	54	-19.19	-	-	69	302	H
* 1.598	44.92	PK3	27.9	-25.8	47.02	-	-	74	-26.98	83	383	V
* 1.599	32.71	VB1T	27.9	-25.8	34.81	54	-19.19	-	-	83	383	V
* 4.959	44.27	PK3	33.9	-29.9	48.27	-	-	74	-25.73	316	106	H
* 4.96	37.35	VB1T	33.9	-29.9	41.35	54	-12.65	-	-	316	106	H
* 7.338	36.97	PK3	35.5	-26.3	46.17	-	-	74	-27.83	336	153	H
* 7.337	25.7	VB1T	35.5	-26.3	34.9	54	-19.1	-	-	336	153	H
* 4.193	42.8	PK3	33.3	-31.8	44.3	-	-	74	-29.7	95	275	V
* 4.193	31.21	VB1T	33.3	-31.8	32.71	54	-21.29	-	-	95	275	V
* 4.96	44.82	PK3	33.9	-29.9	48.82	-	-	74	-25.18	330	128	V
* 4.96	37.87	VB1T	33.9	-29.9	41.87	54	-12.13	-	-	330	128	V

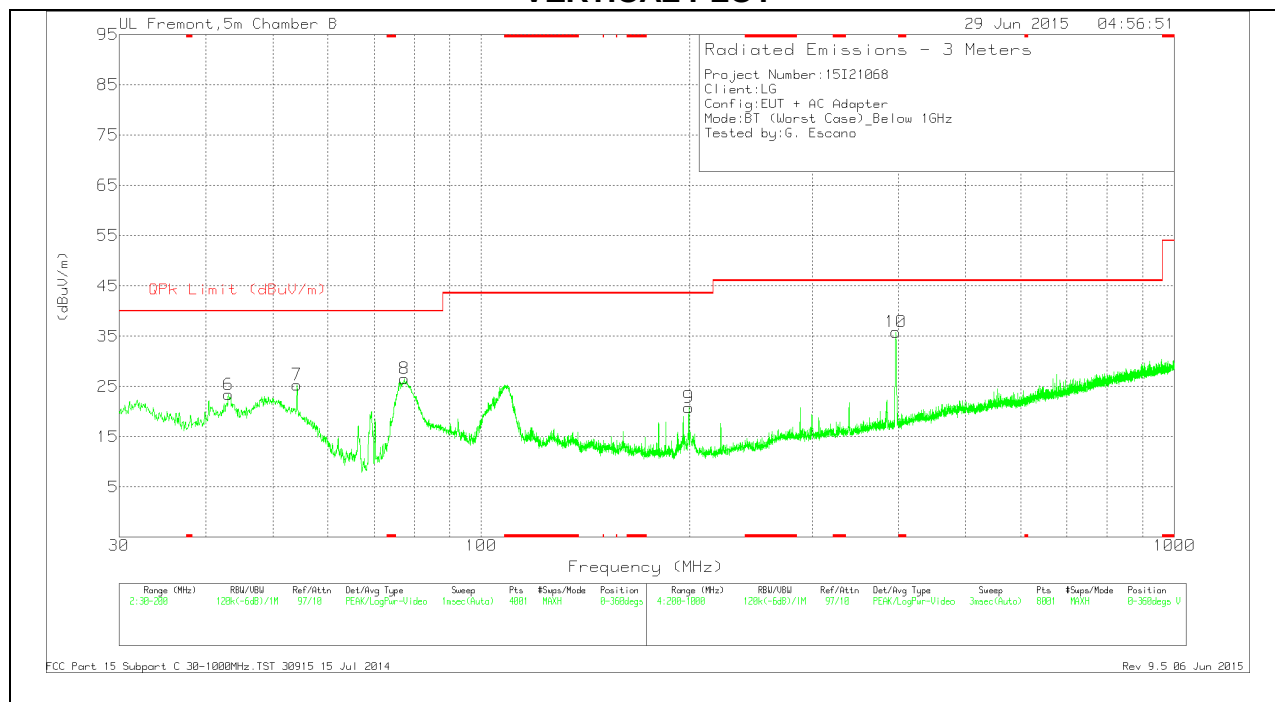
9.3. WORST-CASE BELOW 1 GHz

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

HORIZONTAL PLOT



VERTICAL PLOT



BELOW 1 GHz TABLE

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 108.2	42.31	Pk	12.3	-27.9	26.71	43.52	-16.81	0-360	299	H
6	43.1325	40.19	Pk	11.8	-28.6	23.39	40	-16.61	0-360	101	V
7	54.225	46.41	Pk	7.4	-28.5	25.31	40	-14.69	0-360	101	V
8	77.43	46.95	Pk	7.8	-28.2	26.55	40	-13.45	0-360	101	V
2	180.195	39.11	Pk	11.2	-27.1	23.21	43.52	-20.31	0-360	199	H
9	199.235	35.11	Pk	12.6	-26.9	20.81	43.52	-22.71	0-360	101	V
3	288.3	42.18	Pk	13.3	-25.9	29.58	46.02	-16.44	0-360	101	H
4	293.55	42.12	Pk	13.3	-25.9	29.52	46.02	-16.5	0-360	299	H
10	396.3	46.24	Pk	15.4	-25.8	35.84	46.02	-10.18	0-360	299	V
5	711.3	36.43	Pk	20.4	-24.3	32.53	46.02	-13.49	0-360	199	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)

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

^{*} Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

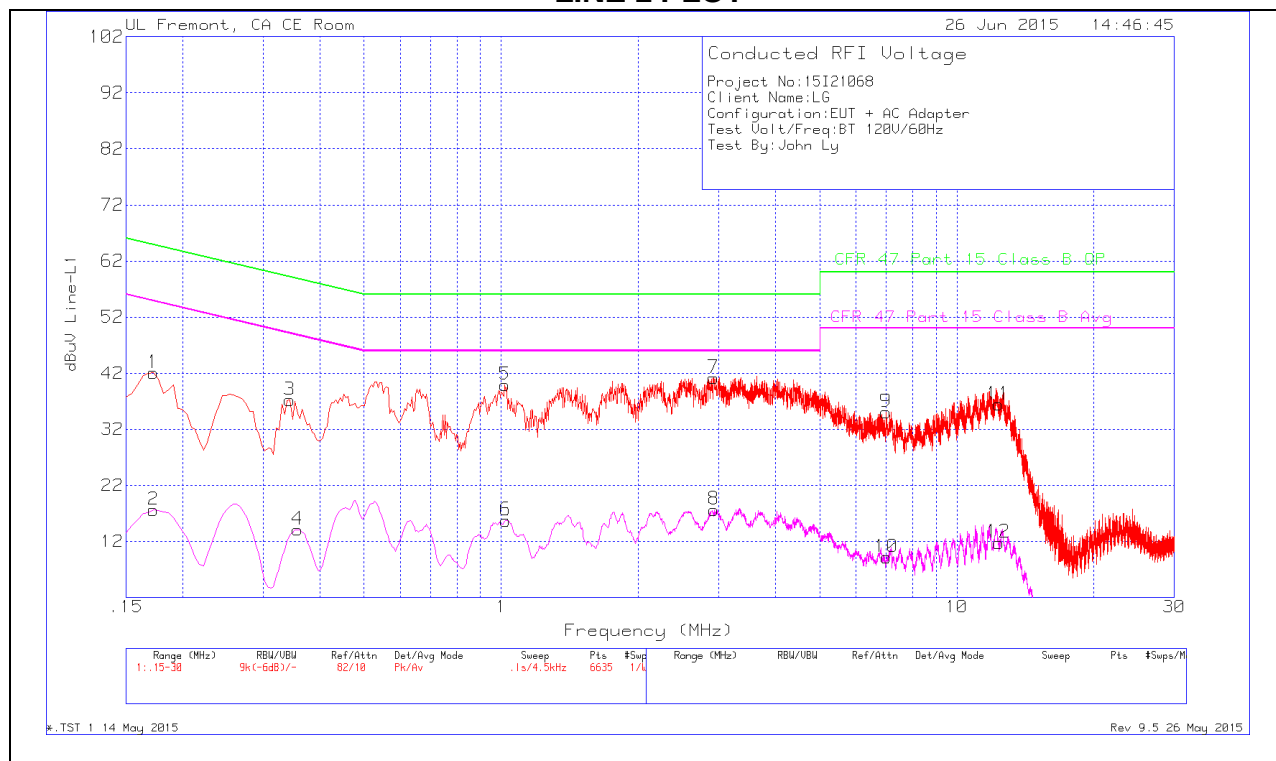
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULTS

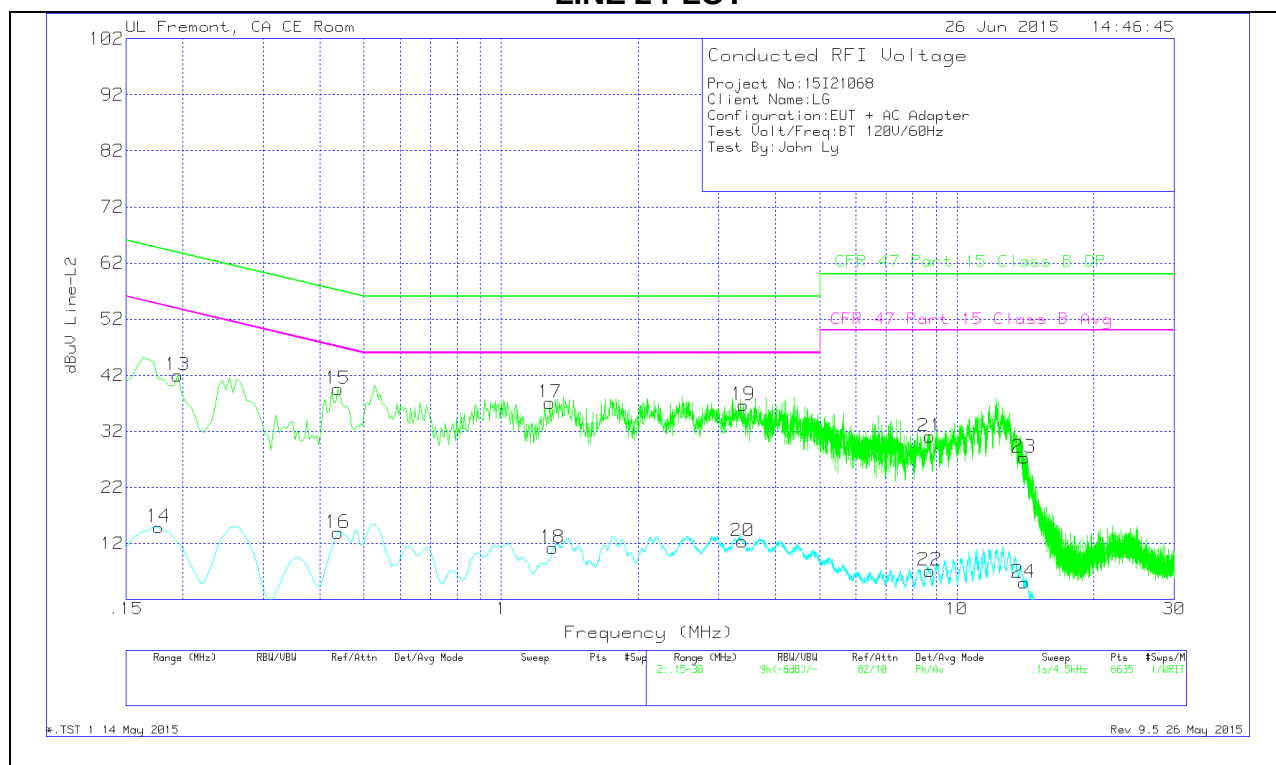
Range 1: Line-L1 .15 - 30MHz

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	.1725	40.96	Pk	1.1	0	42.06	64.84	-22.78		
2	.1725	16.52	Av	1.1	0	17.62	-	-	54.84	-37.22
3	.3435	36.7	Pk	.5	0	37.2	59.12	-21.92		
4	.357	13.6	Av	.5	0	14.1	-	-	48.8	-34.7
5	1.0185	39.73	Pk	.2	0	39.93	56	-16.07		
6	1.023	15.55	Av	.2	0	15.75	-	-	46	-30.25
7	2.9265	40.84	Pk	.2	.1	41.14	56	-14.86		
8	2.931	17.37	Av	.2	.1	17.67	-	-	46	-28.33
9	6.999	34.78	Pk	.2	.1	35.08	60	-24.92		
10	7.008	8.89	Av	.2	.1	9.19	-	-	50	-40.81
11	12.345	36.02	Pk	.2	.2	36.42	60	-23.58		
12	12.354	11.38	Av	.2	.2	11.78	-	-	50	-38.22

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)
13	.195	40.97	Pk	1	0	41.97	63.82	-21.85		
14	.177	13.68	Av	1.2	0	14.88	-	-	54.63	-39.75
15	.438	39.12	Pk	.4	0	39.52	57.1	-17.58		
16	.438	13.48	Av	.4	0	13.88	-	-	47.1	-33.22
17	1.2795	36.81	Pk	.2	.1	37.11	56	-18.89		
18	1.2975	10.89	Av	.2	.1	11.19	-	-	46	-34.81
19	3.399	36.36	Pk	.2	.1	36.66	56	-19.34		
20	3.3855	12.06	Av	.2	.1	12.36	-	-	46	-33.64
21	8.718	30.76	Pk	.2	.1	31.06	60	-28.94		
22	8.7225	6.86	Av	.2	.1	7.16	-	-	50	-42.84
23	14.046	26.91	Pk	.2	.2	27.31	60	-32.69		
24	14.028	4.62	Av	.2	.2	5.02	-	-	50	-44.98

Pk - Peak detector

Av - Average detection