



**FCC CFR47 PART 15 SUBPART C
CERTIFICATION TEST REPORT**

FOR

GSM/WCDMA/LTE PHONE + BLUETOOTH and WLAN 2.4GHz b/g/n

MODEL NUMBER: SM-J110F, SM-J110F/DS, and SM-J110G/DS

FCC ID: A3LSMJ110F

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Prepared for

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: GSM/WCDMA/LTE Phone + Bluetooth and WLAN 2.4GHz b/g/n
MODEL: SM-J110F, SM-J110F/DS, and SM-J110G/DS
SERIAL NUMBER: 2152666(Conducted), 2152667(Radiated)
DATE TESTED: JUNE 29 – JULY 7, 2015

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

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

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:

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

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

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 30 to 18000 MHz	4.94 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE PHONE + BLUETOOTH and WLAN 2.4GHz b/g/n

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	Basic GFSK	9.28	8.47
2402 - 2480	Enhanced 8PSK	8.41	6.93

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 1.28 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Samsung	ETA810EBE	N/A	N/A
Earphone	Samsung	N/A	N/A	N/A

I/O CABLES

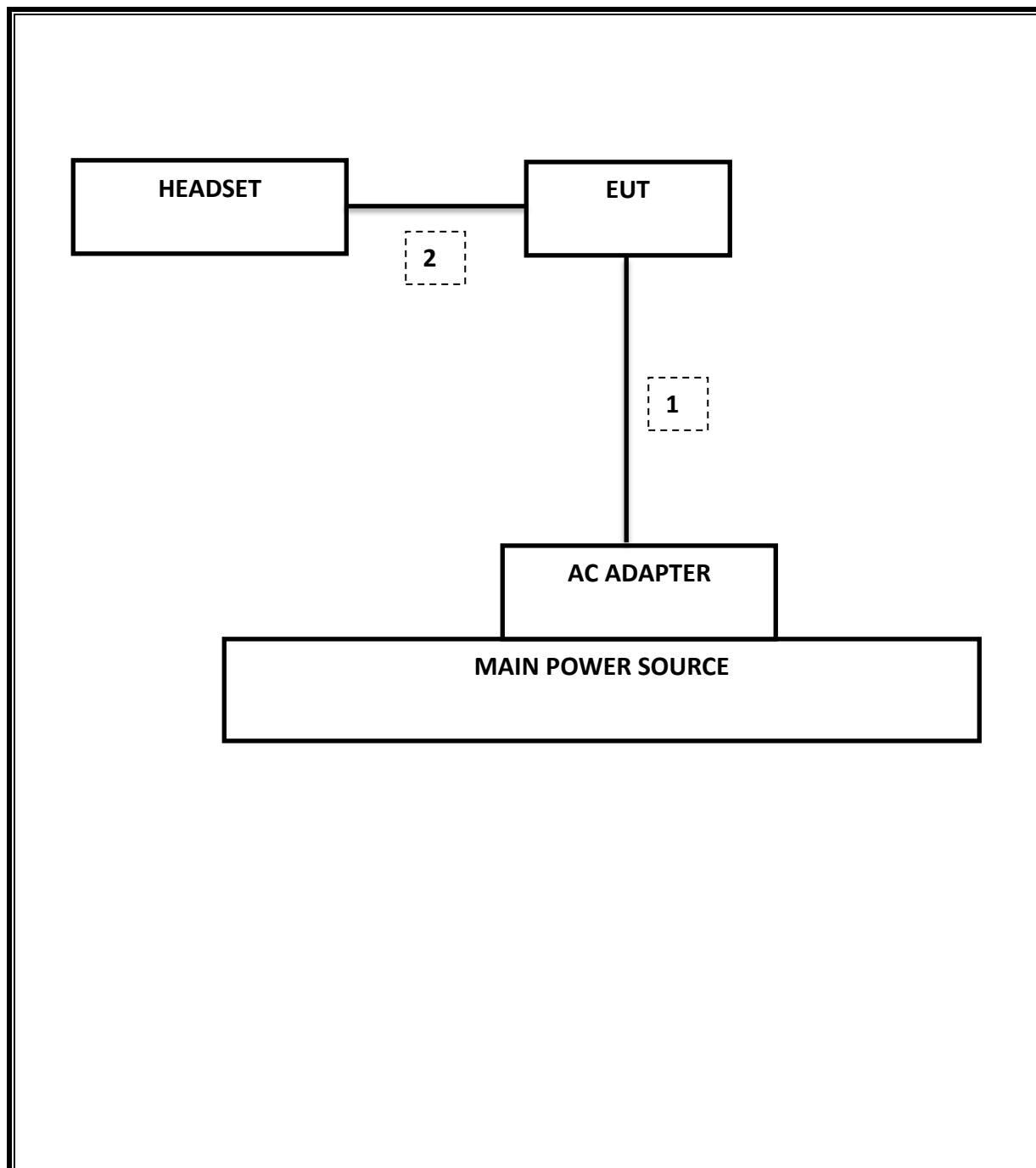
I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

TEST SETUP

The EUT is continuously communicating to the Bluetooth tester during the tests.

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

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	Asset	Cal Due
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01171	02/13/16
Antenna, Horn, 18GHz	EMCO	3115	C00783	10/25/15
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	C00980	11/14/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/16
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	1.053MHz
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-42.69dBm
15.247 (b)(1)	RSS-247 5.4.2	TX conducted output power	<21dBm		Pass	9.28dBm
15.247 (a)(1)	RSS-247 5.1.2	Hopping frequency separation	> 25KHz		Pass	1MHz
15.247 (a)(1)(iii)	RSS-247 5.1.4	Number of Hopping channels	More than 15 non-overlapping channels		Pass	79
15.247 (a)(1)(iii)	RSS-247 5.1.4	Avg Time of Occupancy	< 0.4sec		Pass	0.3179sec
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass	43.59dBuV
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass	53.46dBuV/m

8. ANTENNA PORT TEST RESULTS

8.1. 20 dB AND 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer. The RBW is set to $\geq 1\%$ of the 20 dB bandwidth. The VBW is set to $\geq$ RBW. The sweep time is coupled.

RESULTS

8.1.1. BASIC DATA RATE GFSK MODULATION

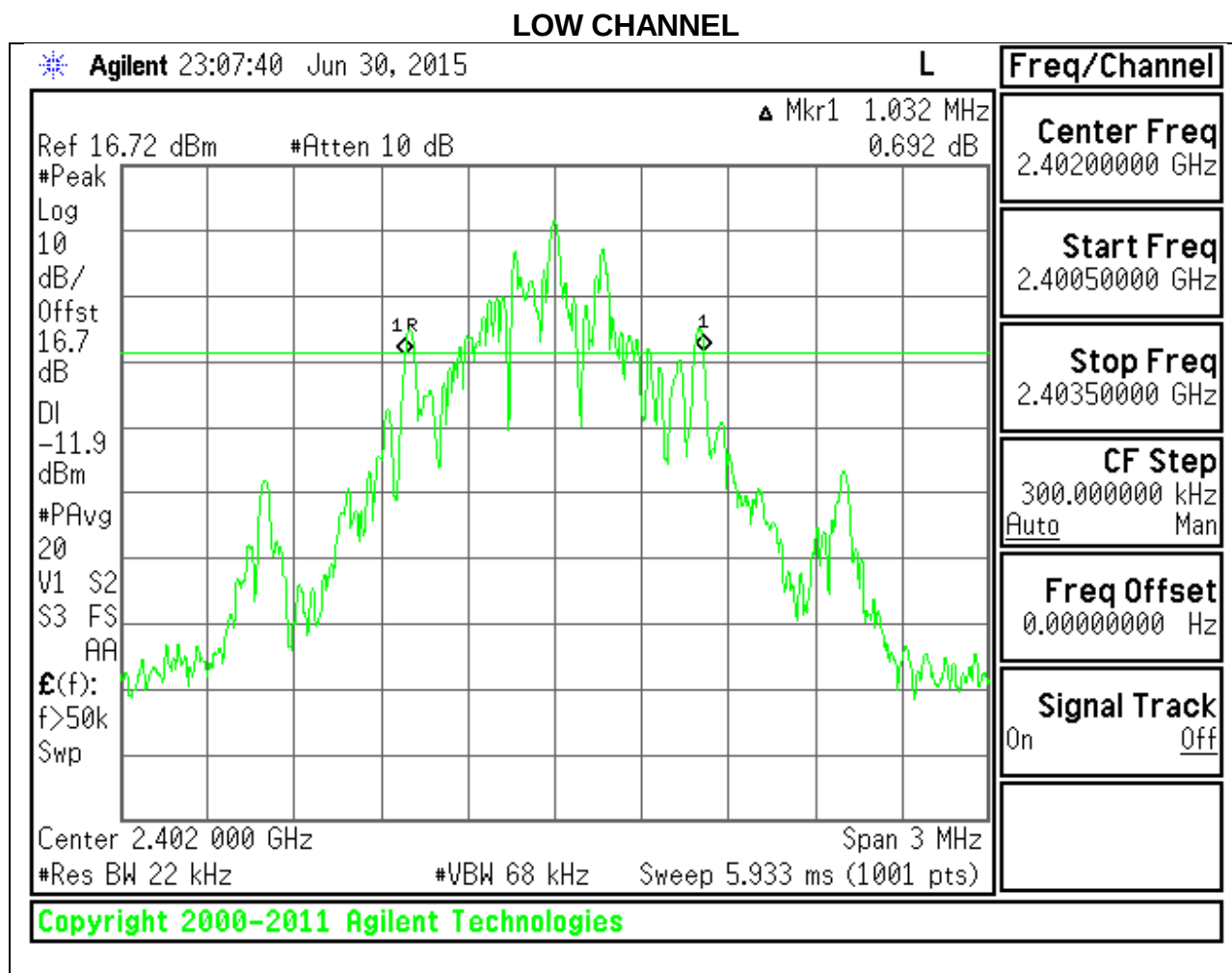
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.032	0.918
Middle	2441	1.029	0.990
High	2480	1.032	0.844
Worst		1.032	0.99

8.1.2. ENHANCED DATA RATE 8PSK MODULATION

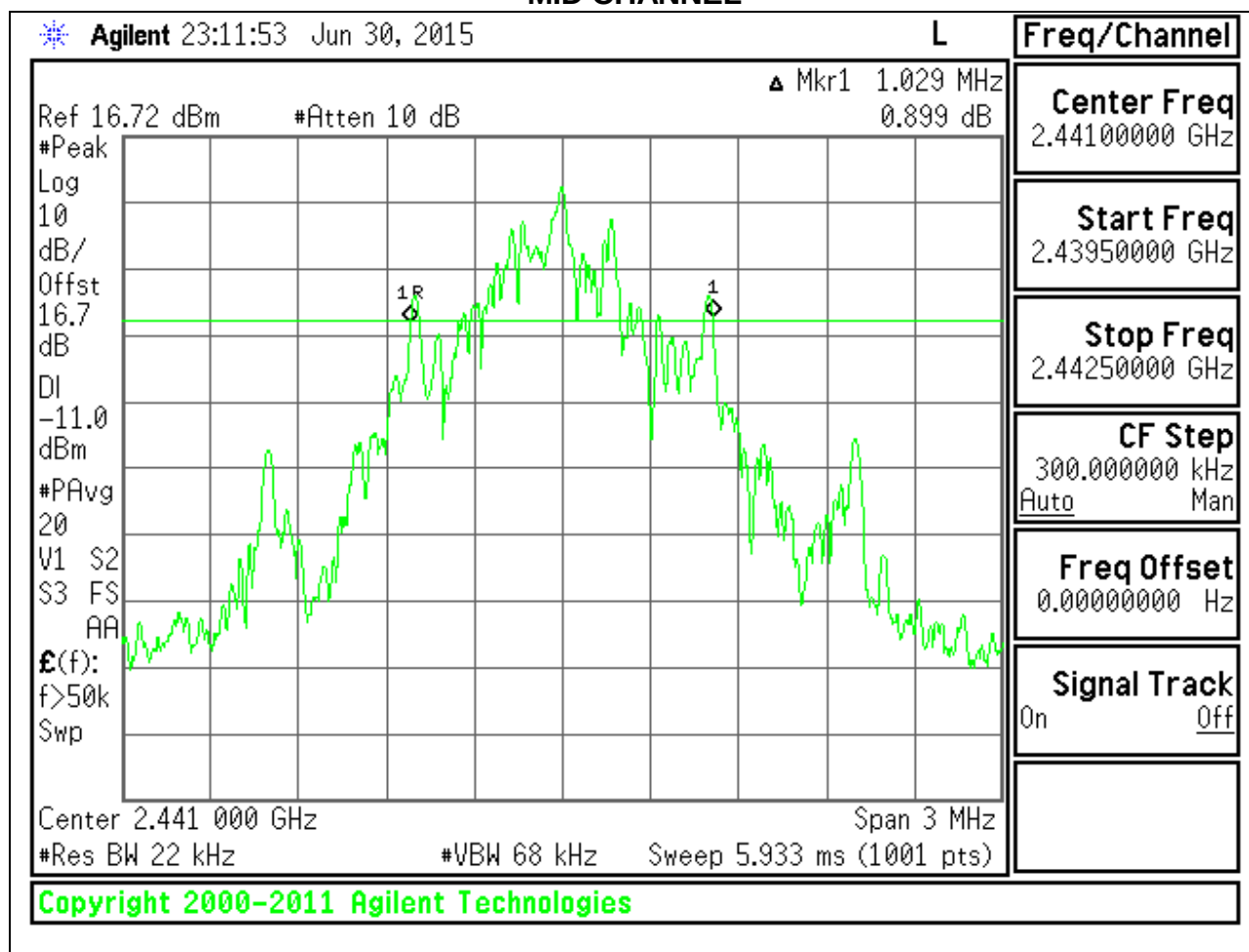
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.161	1.053
Middle	2441	1.086	1.049
High	2480	1.155	1.044
Worst		1.161	1.053

8.1.3. 20 dB AND 99% BANDWIDTH PLOTS

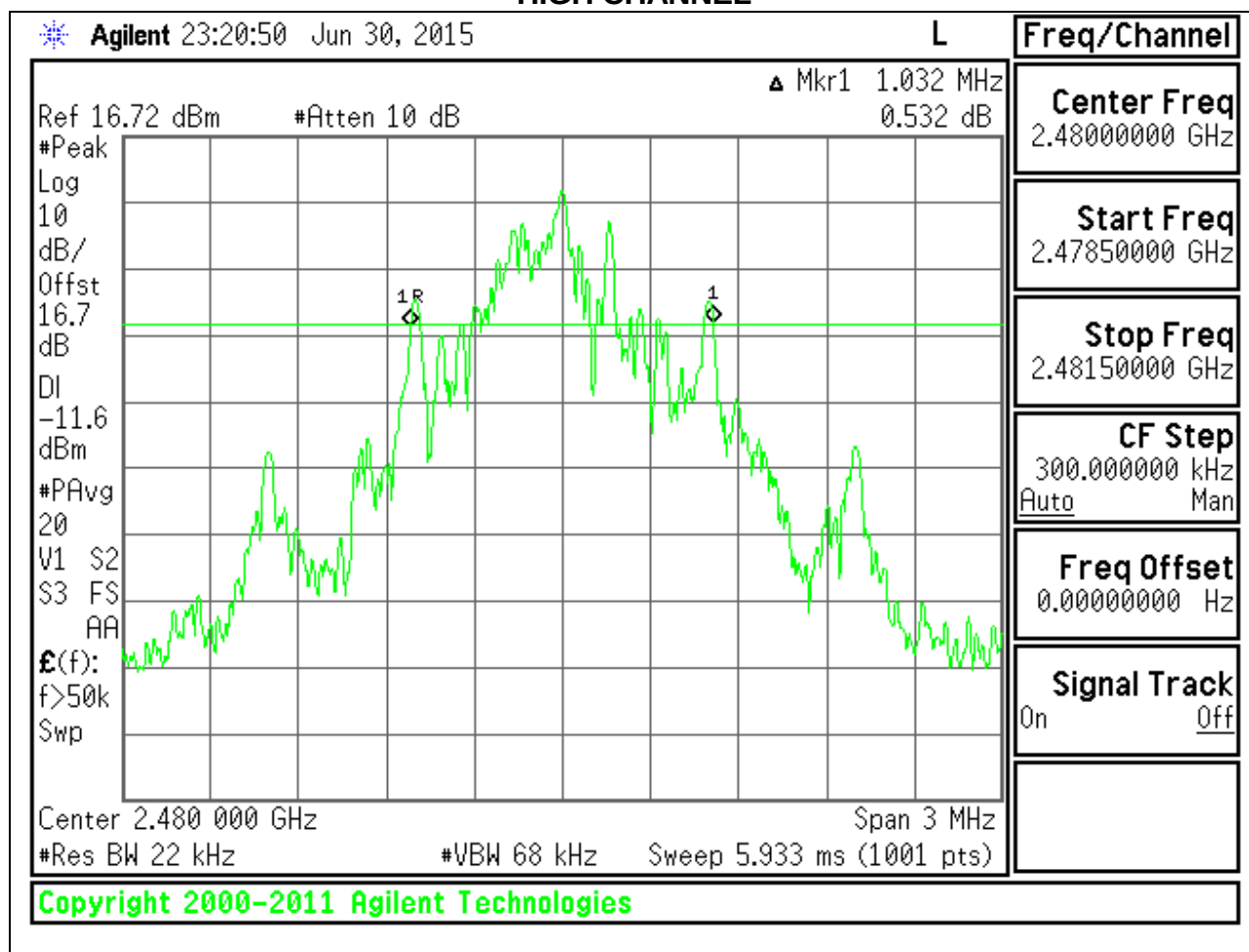
GFSK 20 dB BANDWIDTH



MID CHANNEL

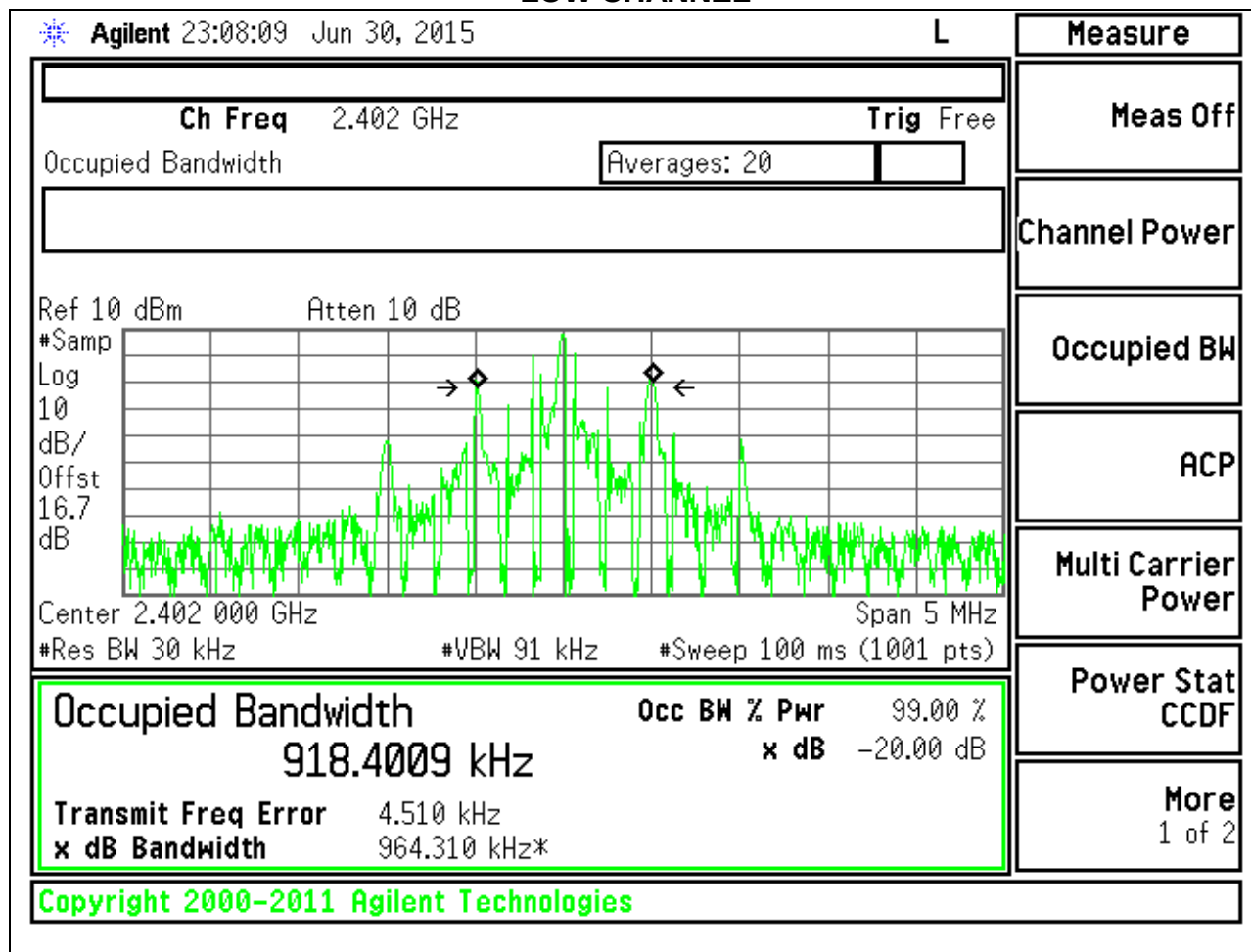


HIGH CHANNEL

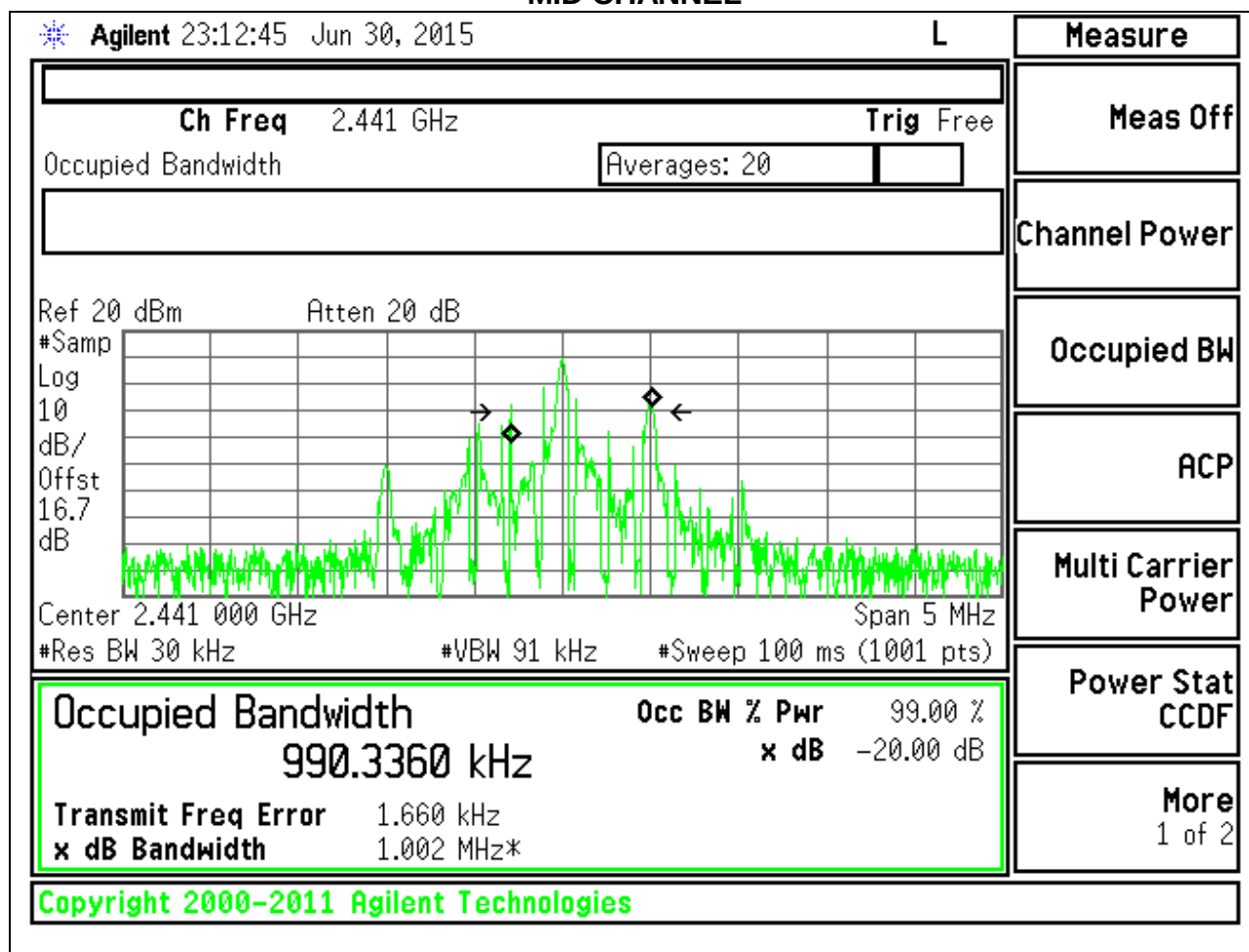


GFSK 99% BANDWIDTH

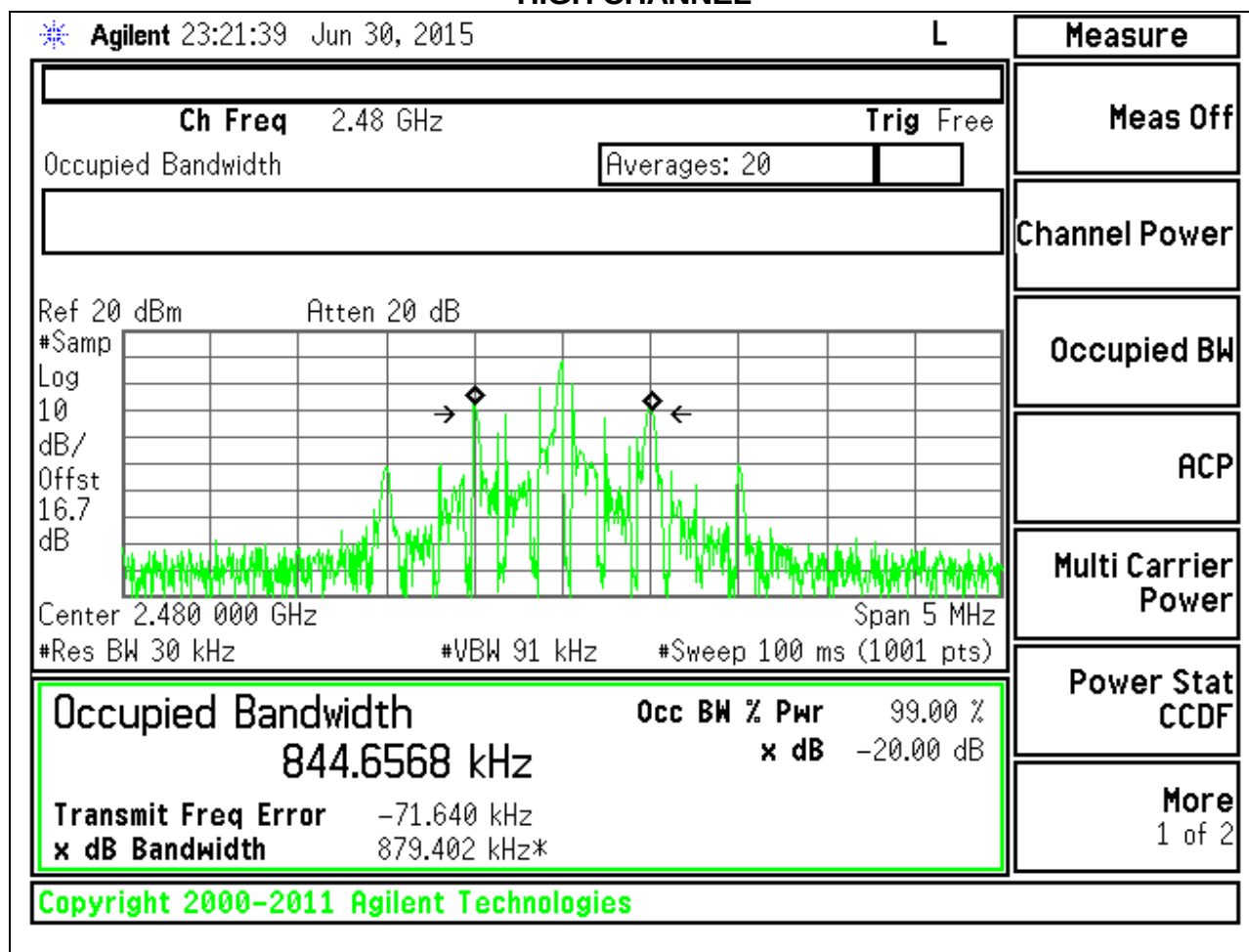
LOW CHANNEL



MID CHANNEL

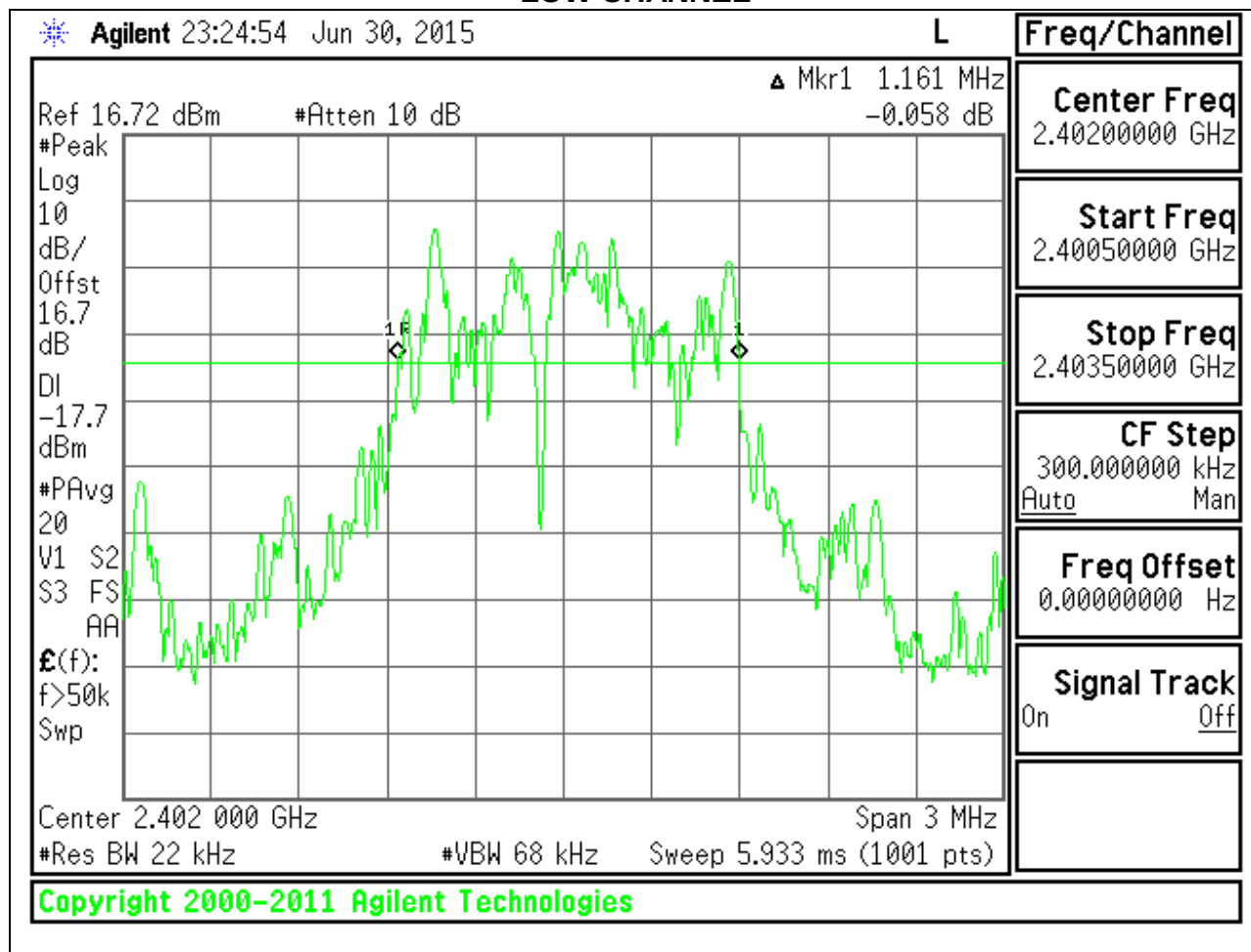


HIGH CHANNEL

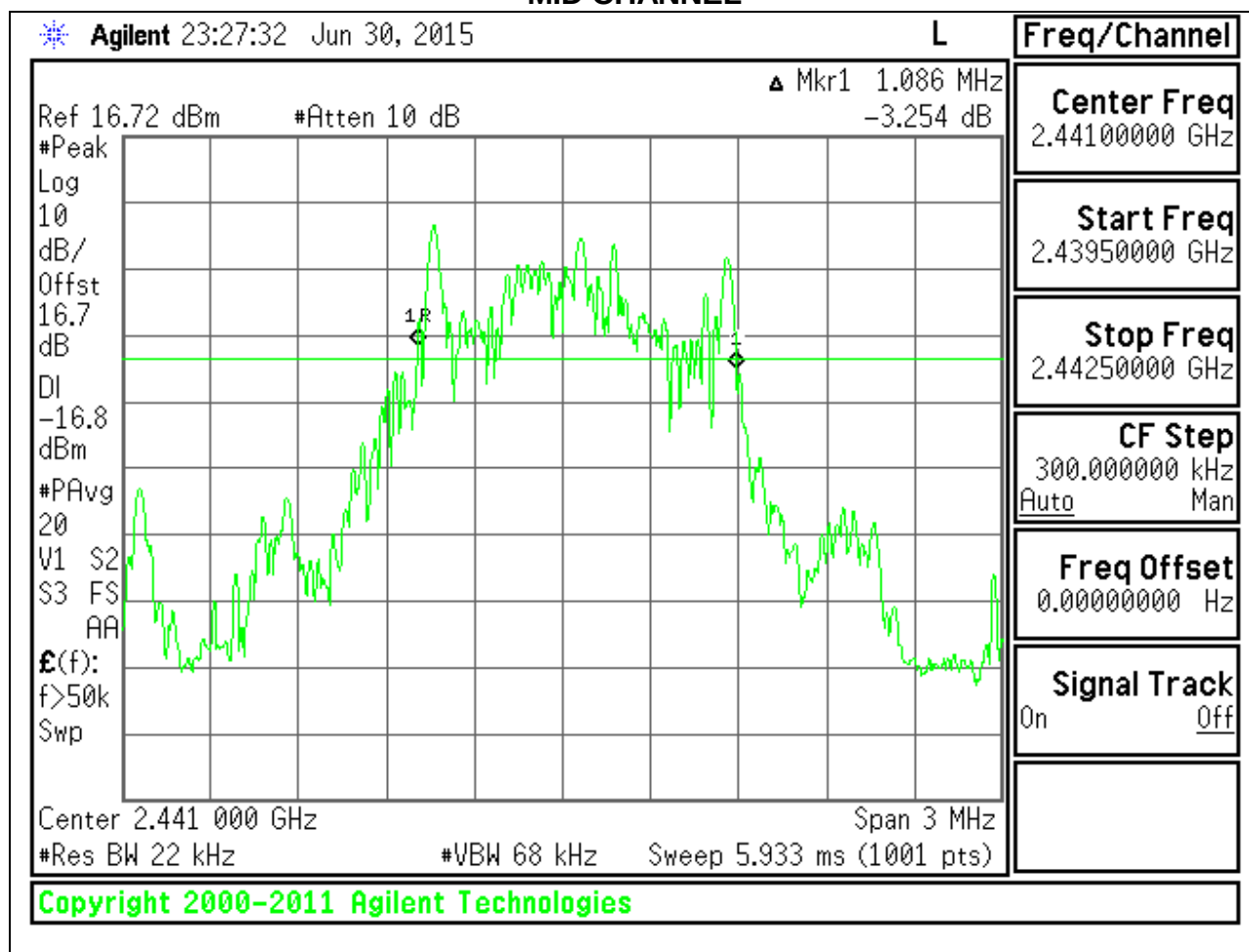


8PSK 20 dB BANDWIDTH

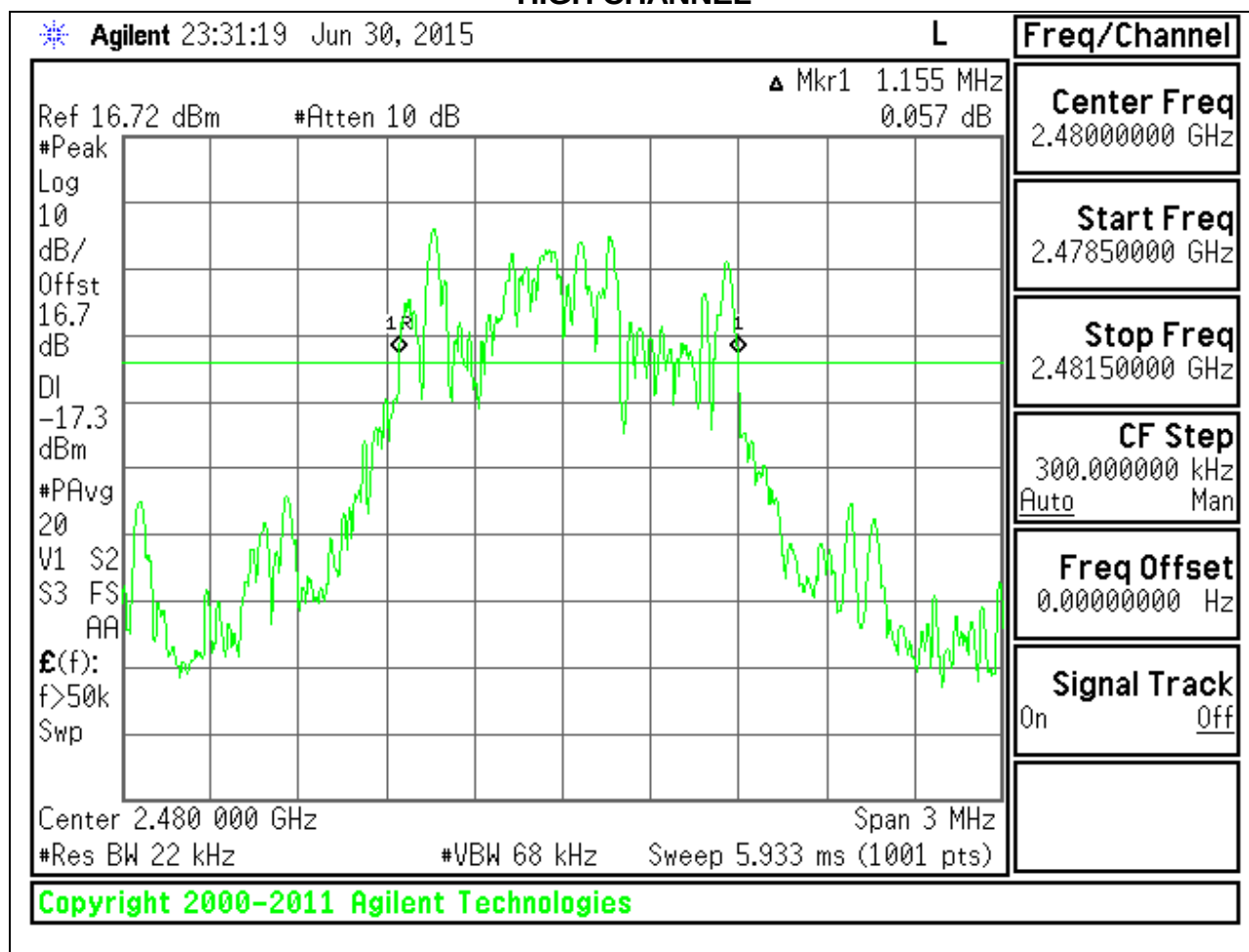
LOW CHANNEL



MID CHANNEL

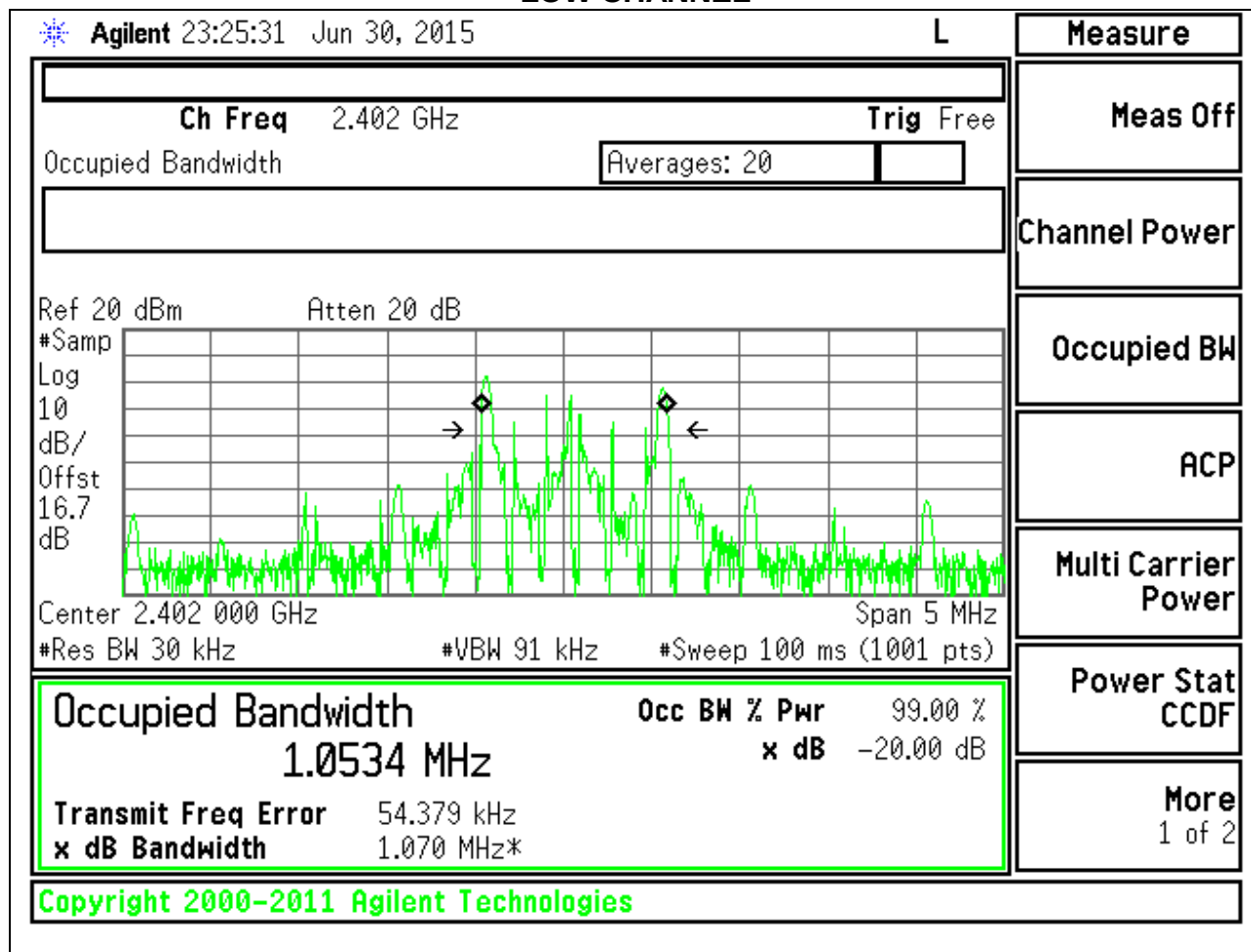


HIGH CHANNEL

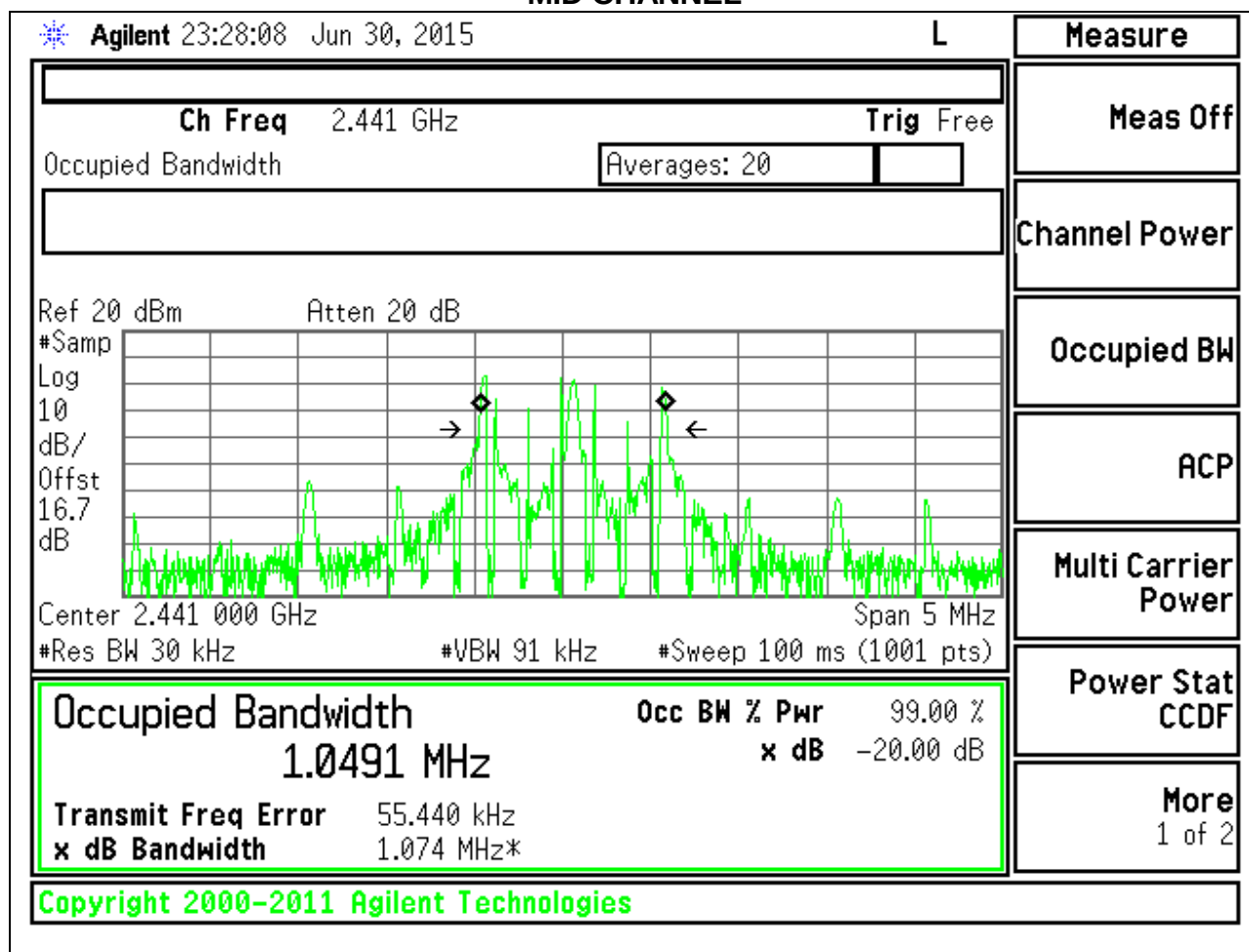


8PSK 99% BANDWIDTH

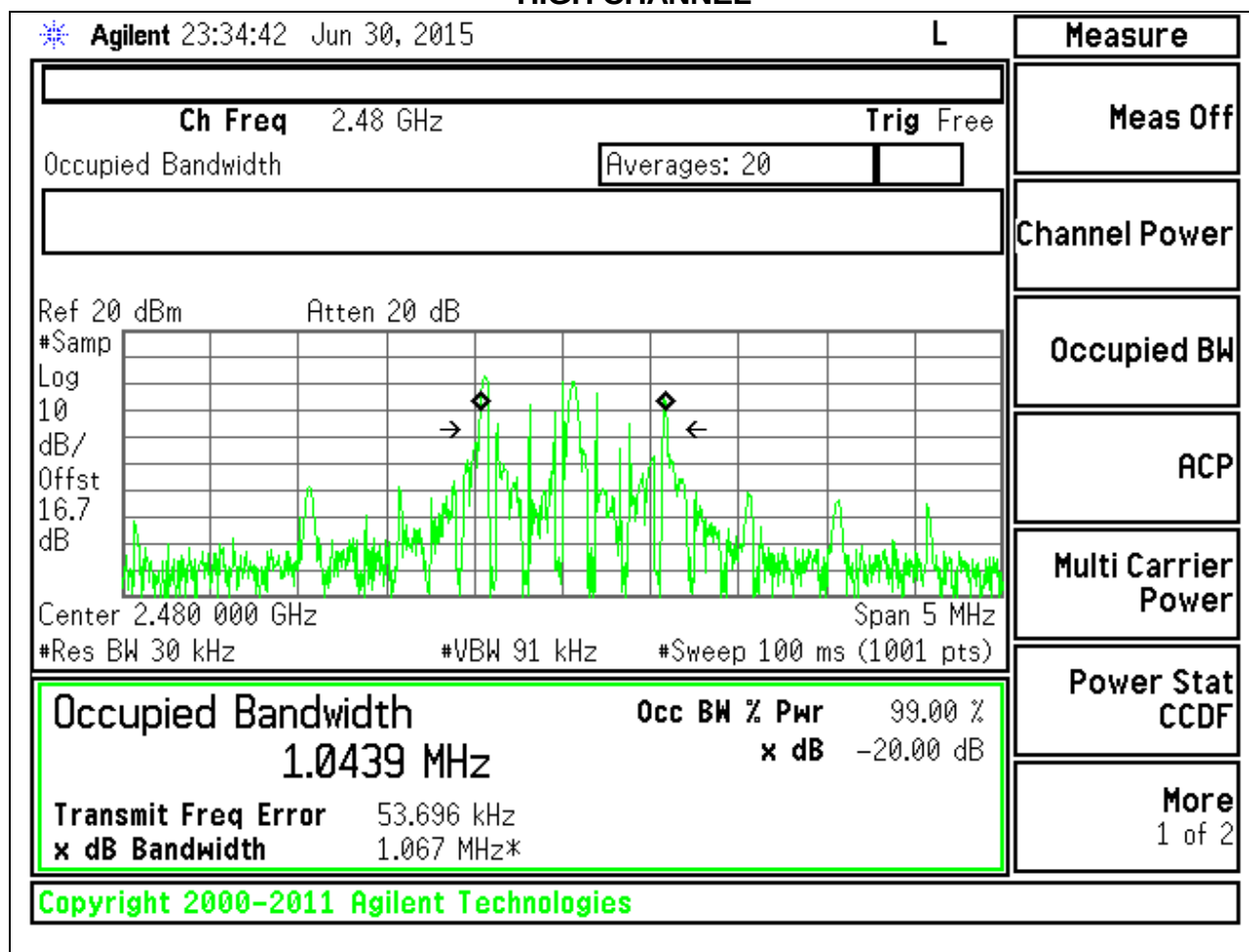
LOW CHANNEL



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.

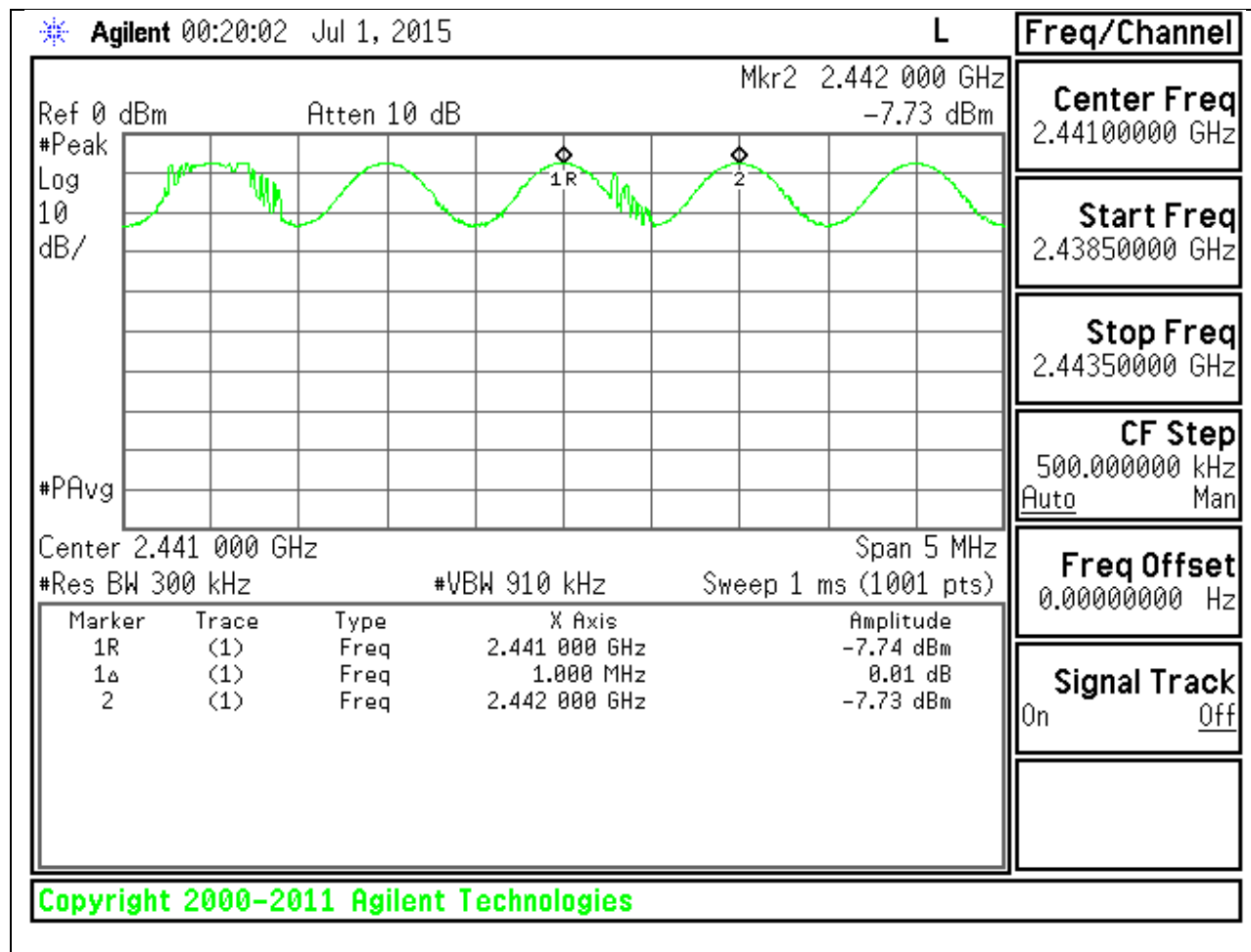
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than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

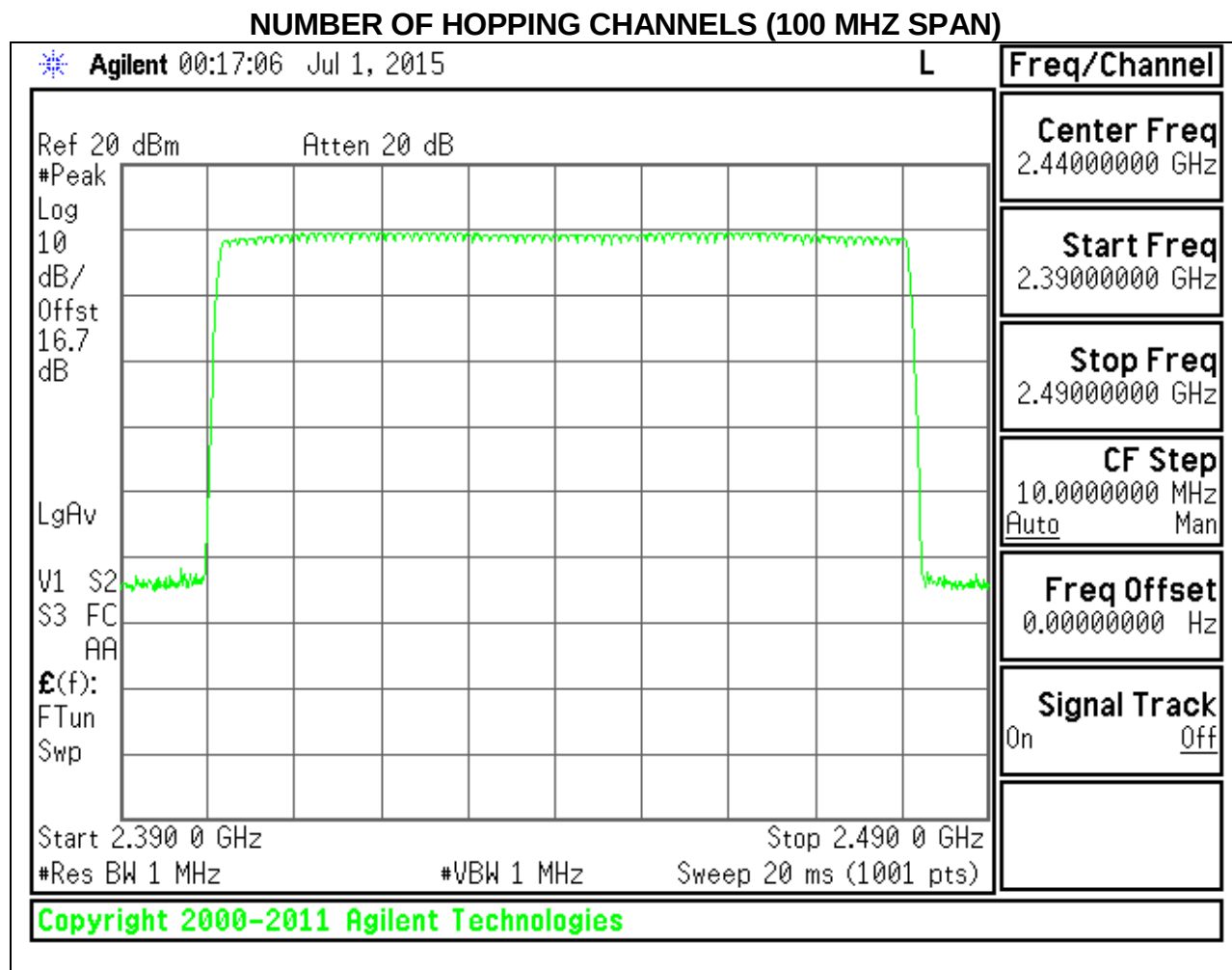
TEST PROCEDURE

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.

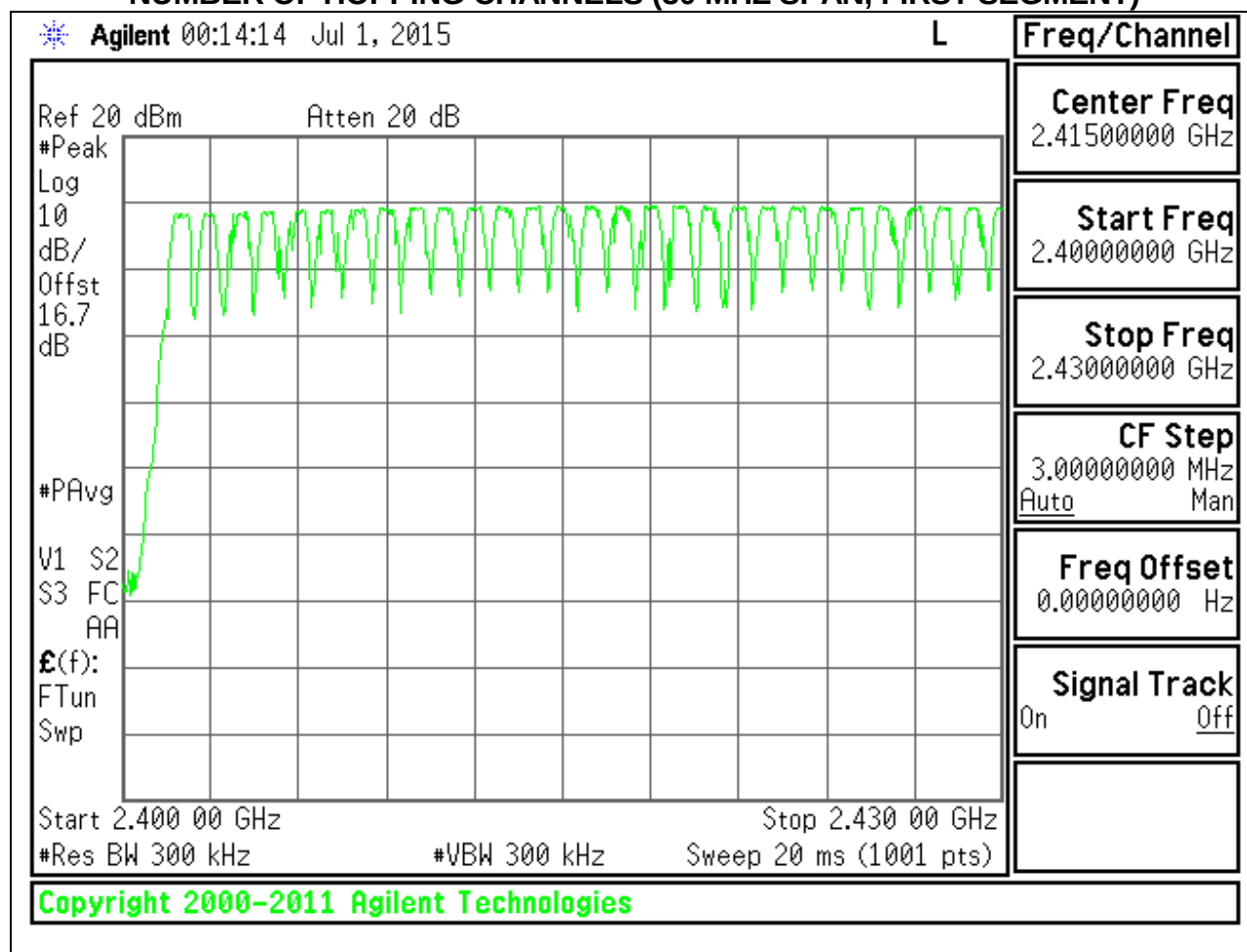
RESULTS

Normal Mode: 79 Channels observed.

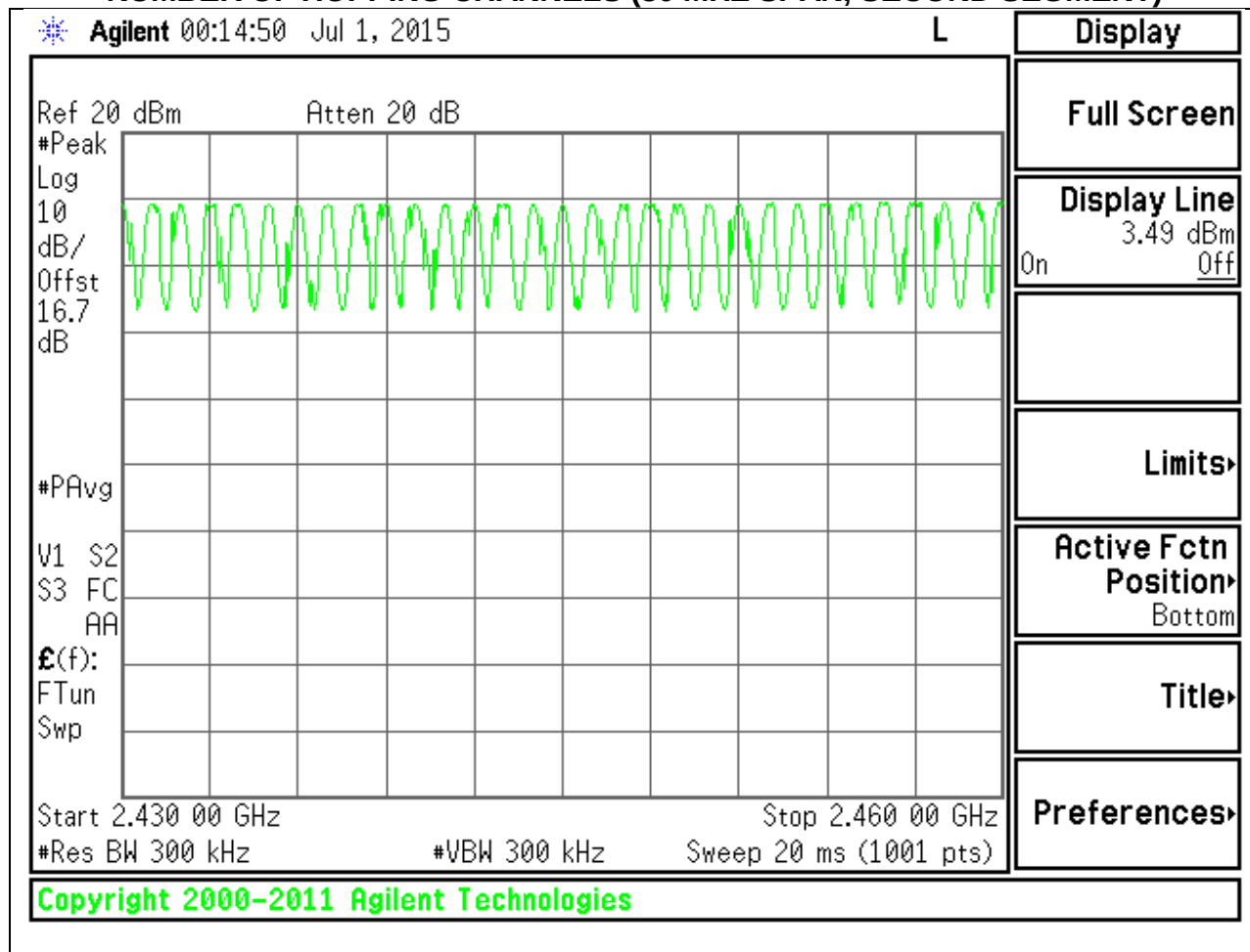
NUMBER OF HOPPING CHANNELS PLOTS



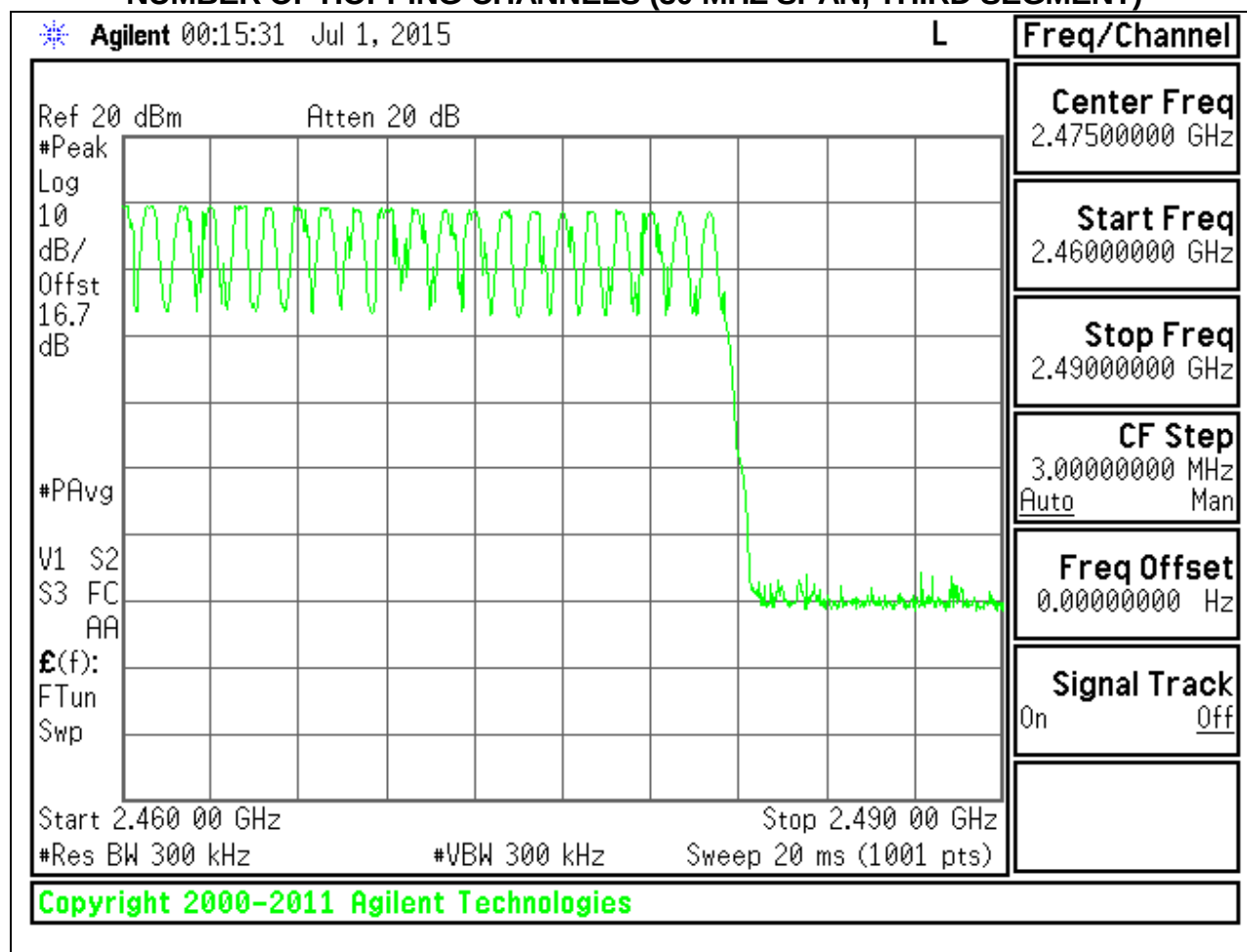
NUMBER OF HOPPING CHANNELS (30 MHz SPAN, FIRST SEGMENT)



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.

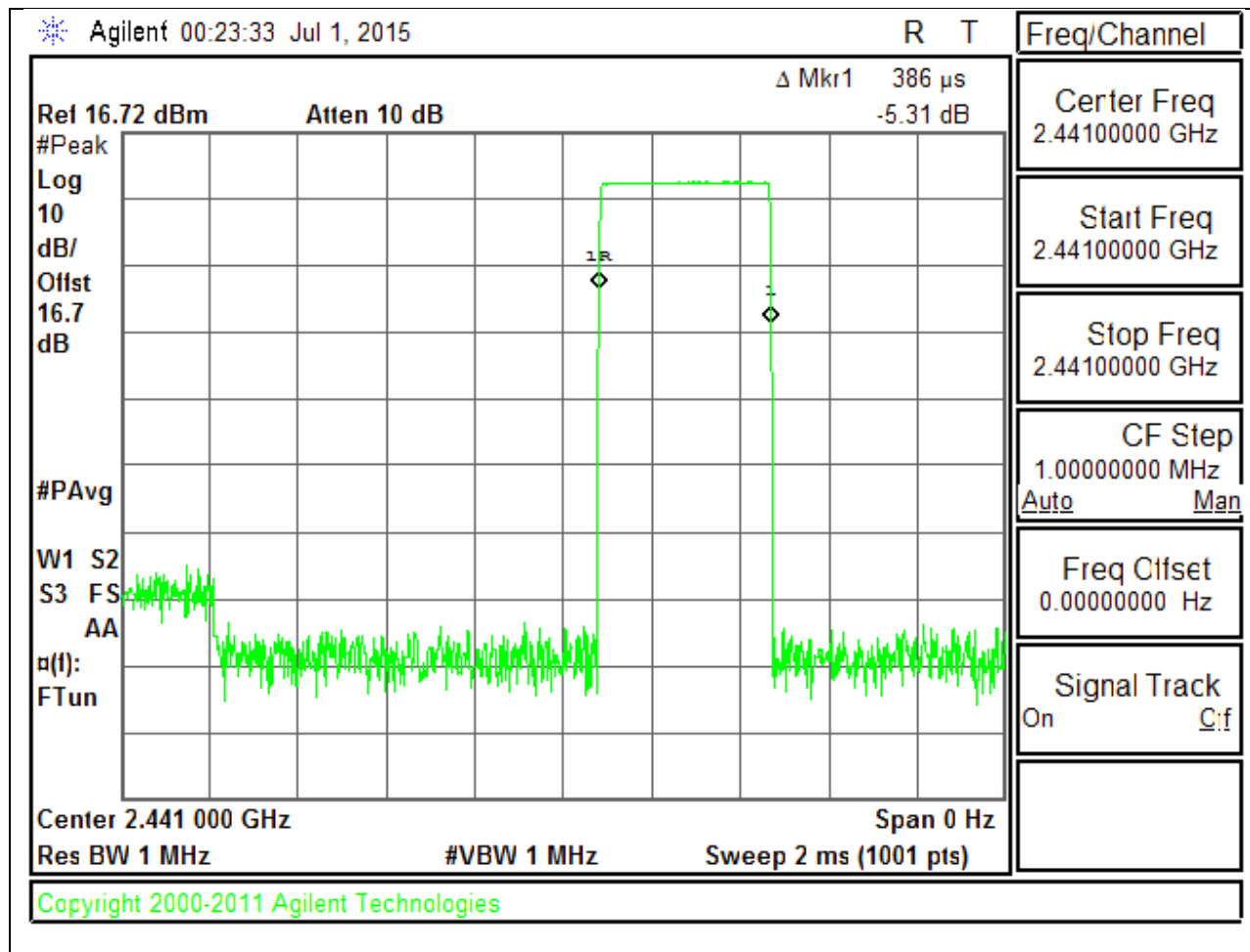
The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to $10 * (\text{\# of pulses in 3.16 s}) * \text{pulse width}$.

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

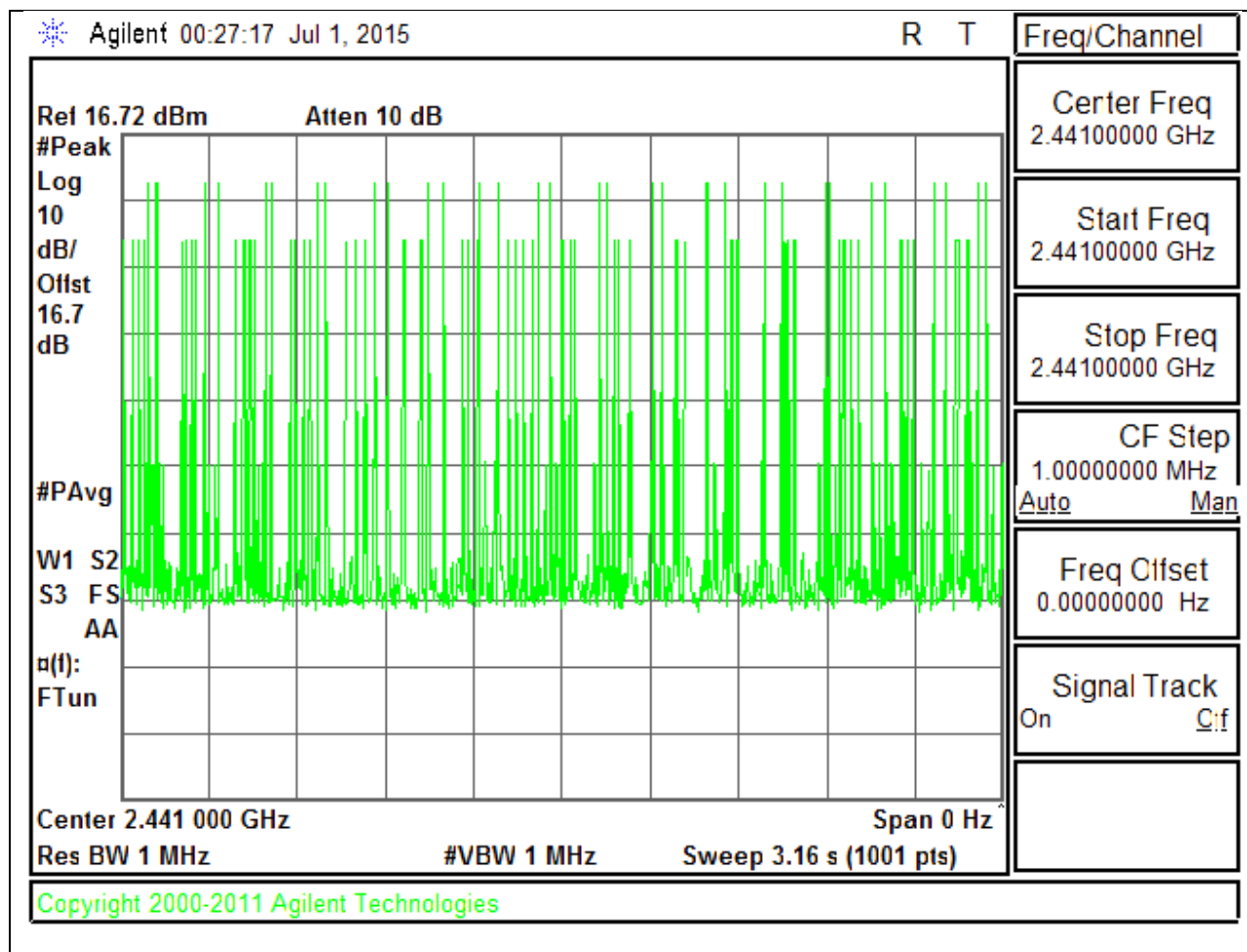
RESULTS

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	0.386	31	0.11966	0.4	-0.28034
DH3	1.641	15	0.24615	0.4	-0.15385
DH5	2.89	11	0.3179	0.4	-0.0821
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	0.386	7.75	0.029915	0.4	-0.37009
DH3	1.641	3.75	0.0615375	0.4	-0.33846
DH5	2.89	2.75	0.079475	0.4	-0.32053

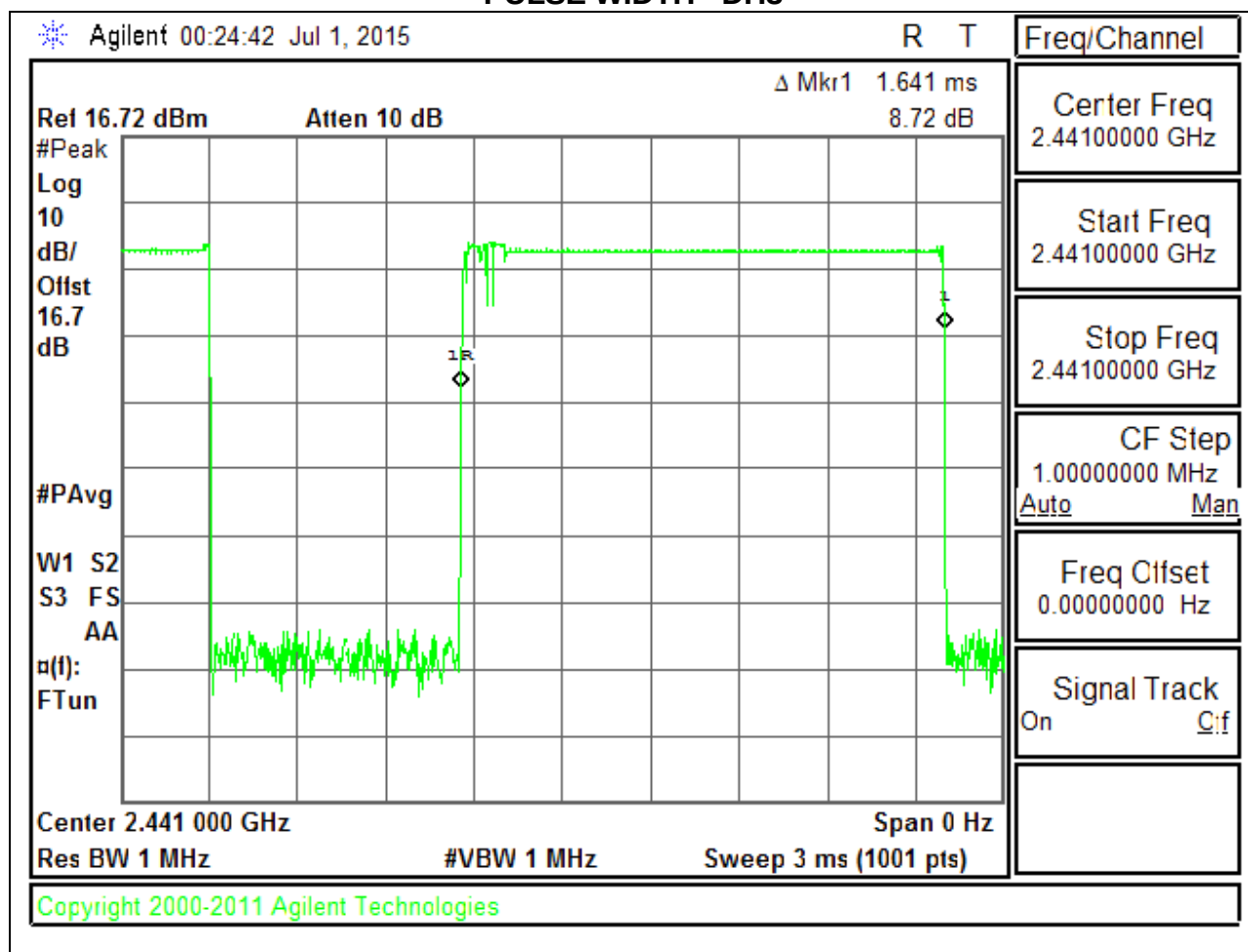
PULSE WIDTH - DH1



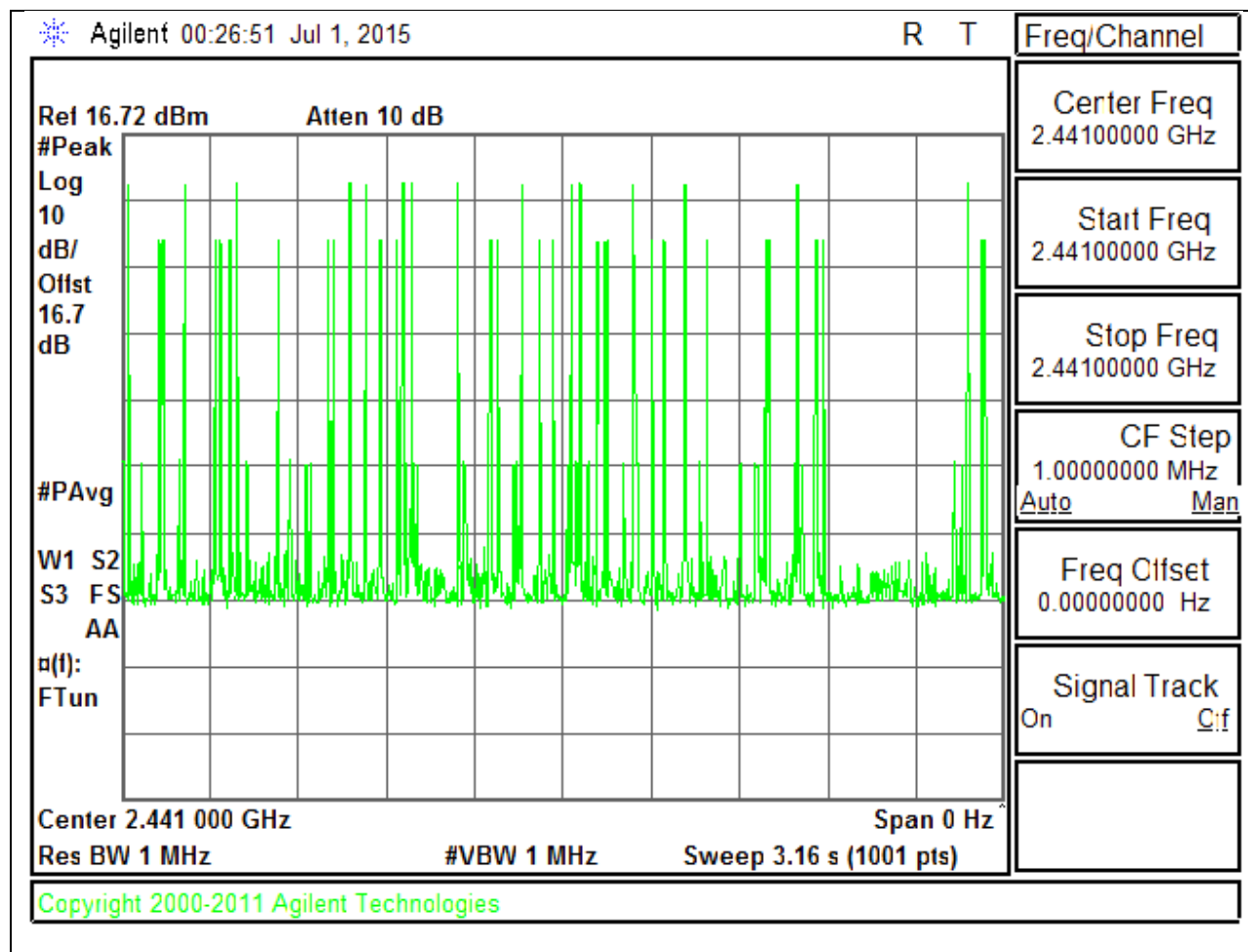
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH1



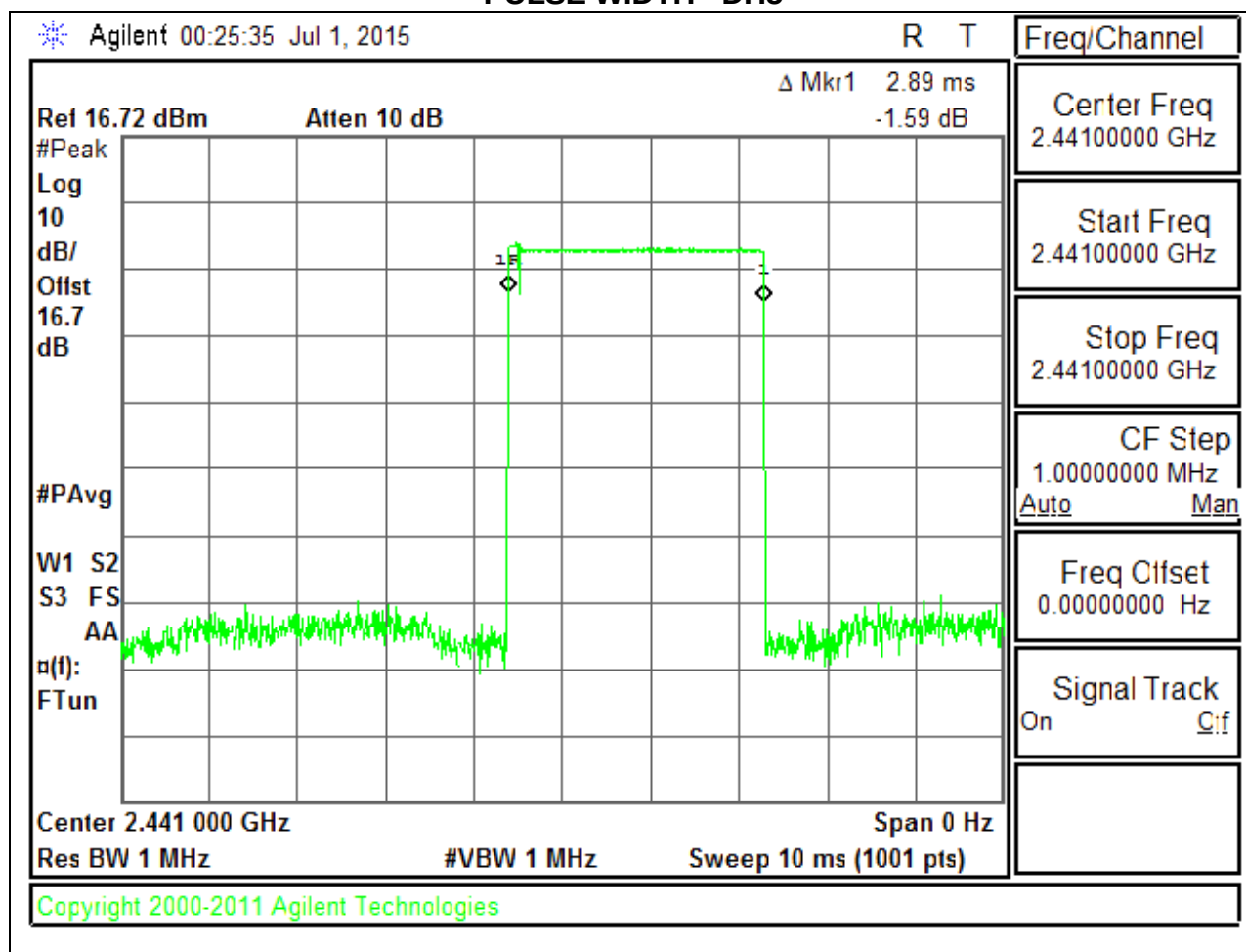
PULSE WIDTH - DH3



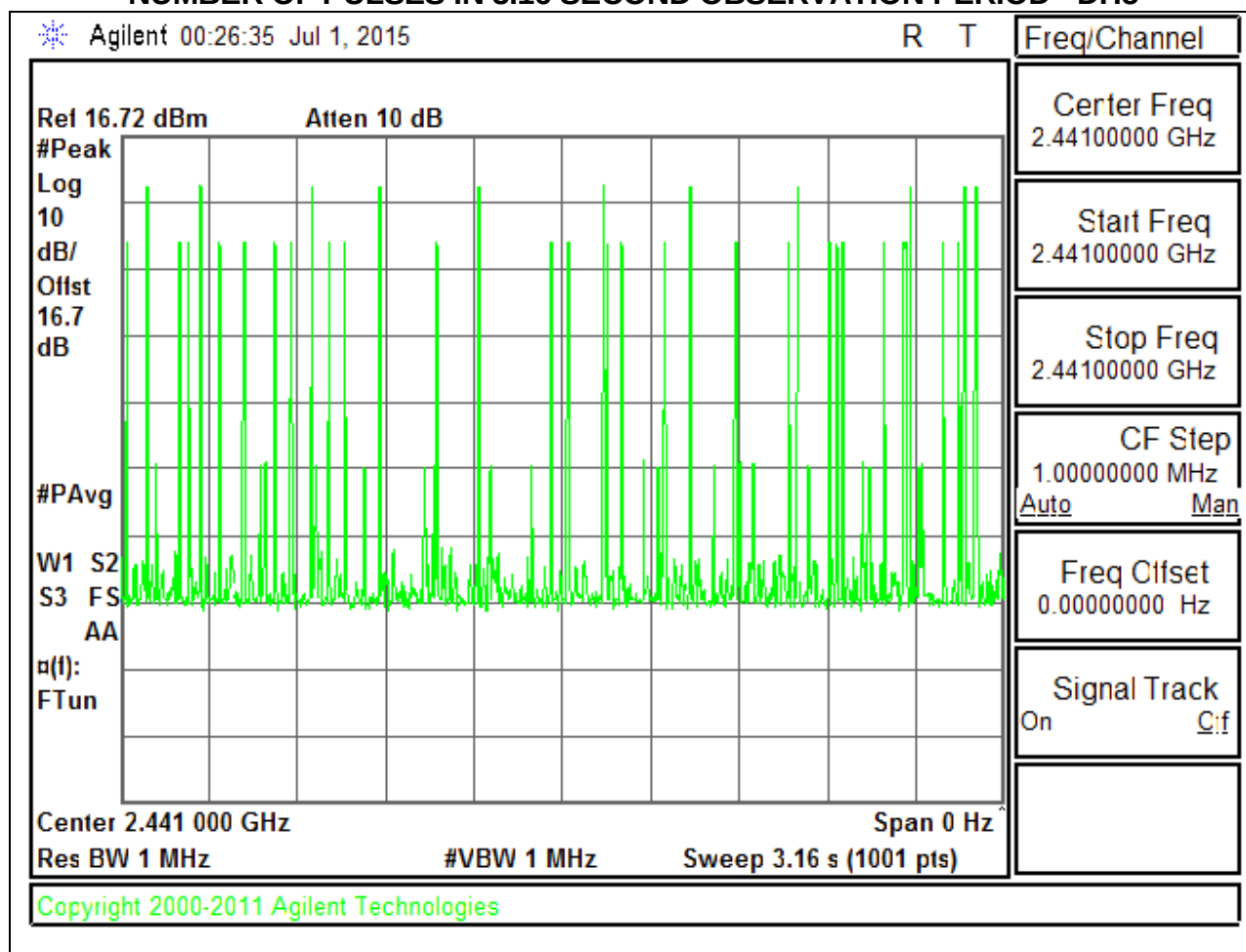
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH3



PULSE WIDTH - DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD - DH5



8.5. OUTPUT POWER

LIMIT

§15.247 (b) (1)

The maximum antenna gain is less than 6 dBi, therefore the limit is 21 dBm.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

RESULTS

8.5.1. BASIC DATA RATE GFSK MODULATION

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	8.4	21	-12.6
Middle	2441	9.28	21	-11.72
High	2480	8.69	21	-12.31
Worst		9.28		-11.72

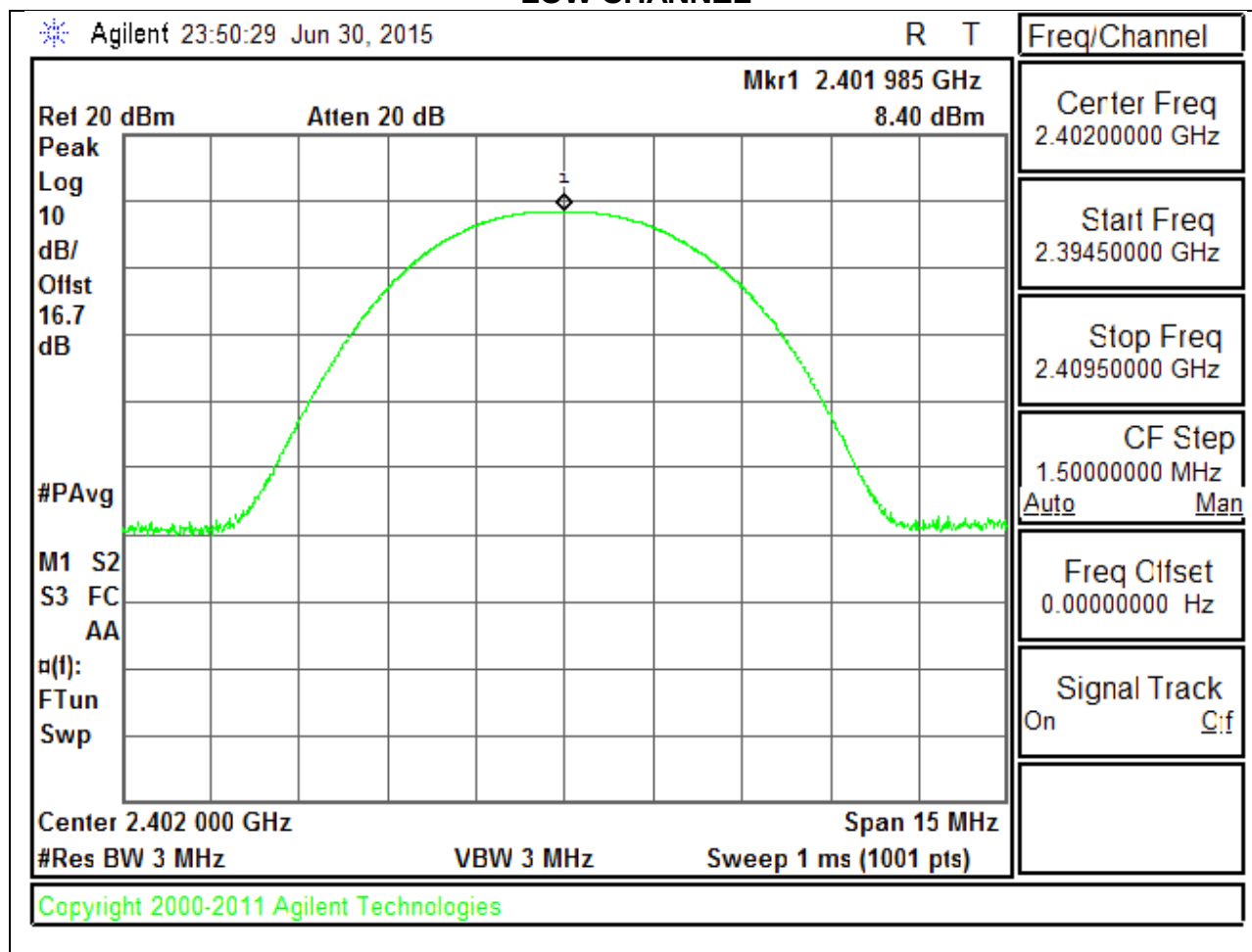
8.5.2. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	7.53	21	-13.47
Middle	2441	8.41	21	-12.59
High	2480	7.9	21	-13.1
Worst		8.41		-12.59

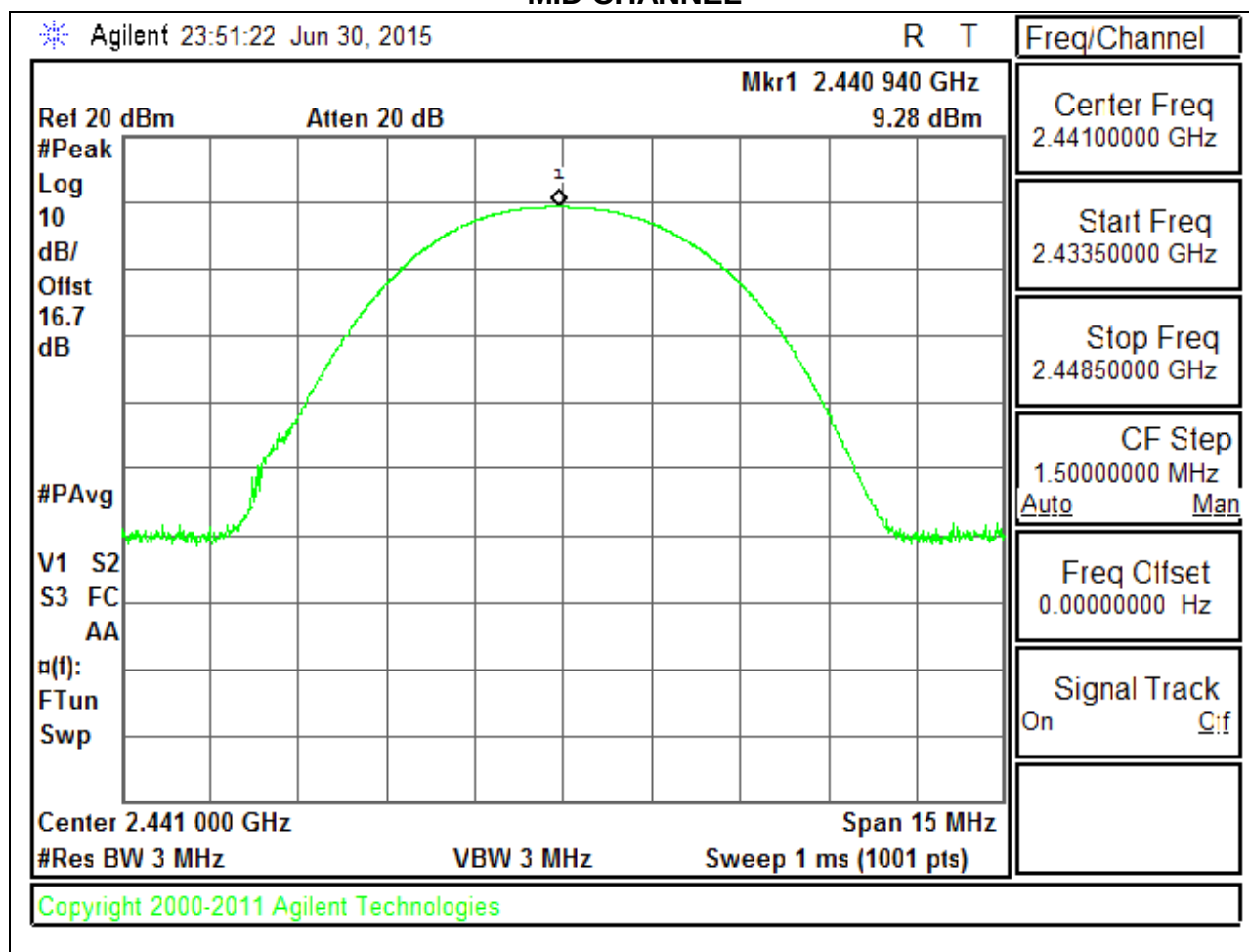
8.5.3. OUTPUT POWER PLOTS

GFSK OUTPUT POWER

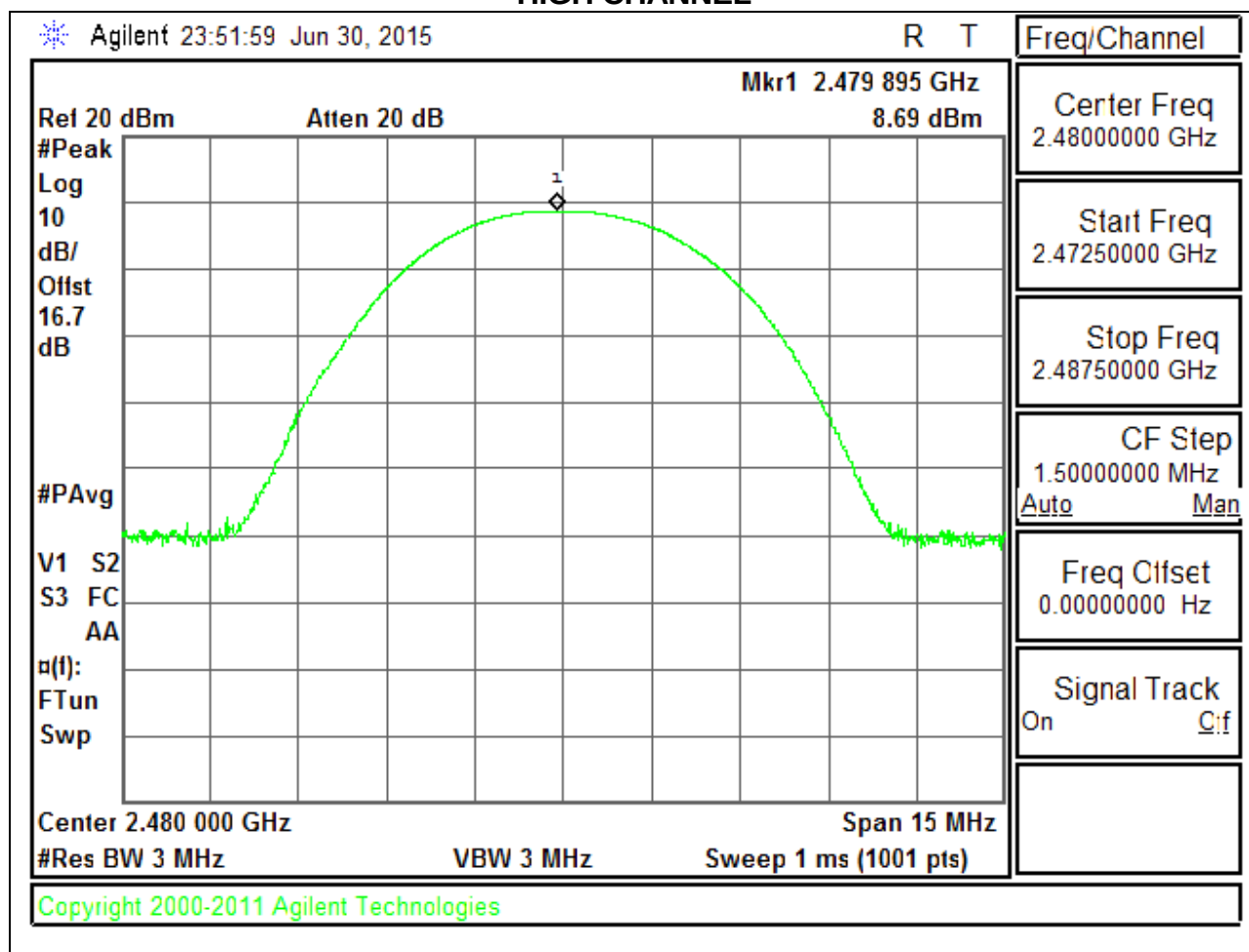
LOW CHANNEL



MID CHANNEL

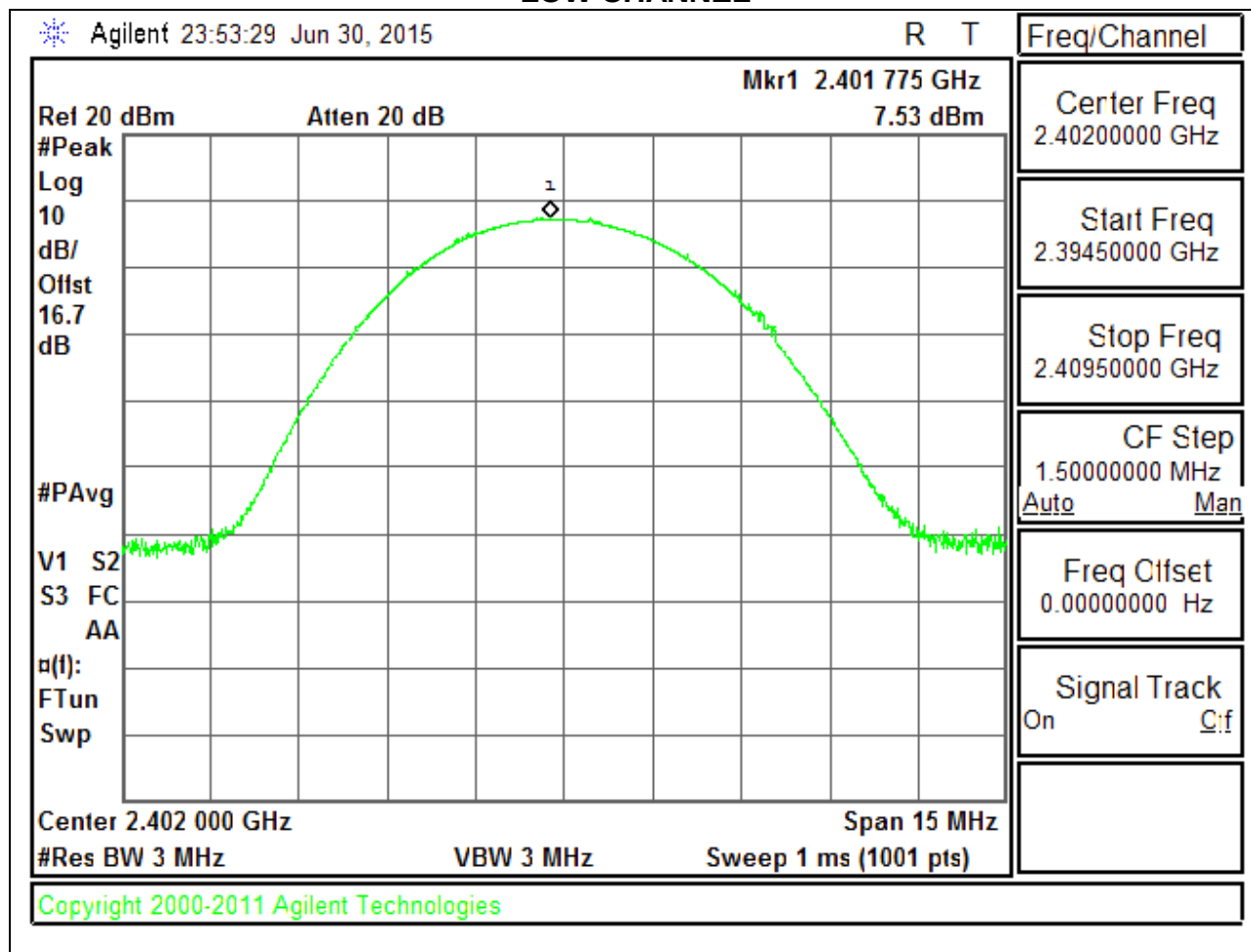


HIGH CHANNEL

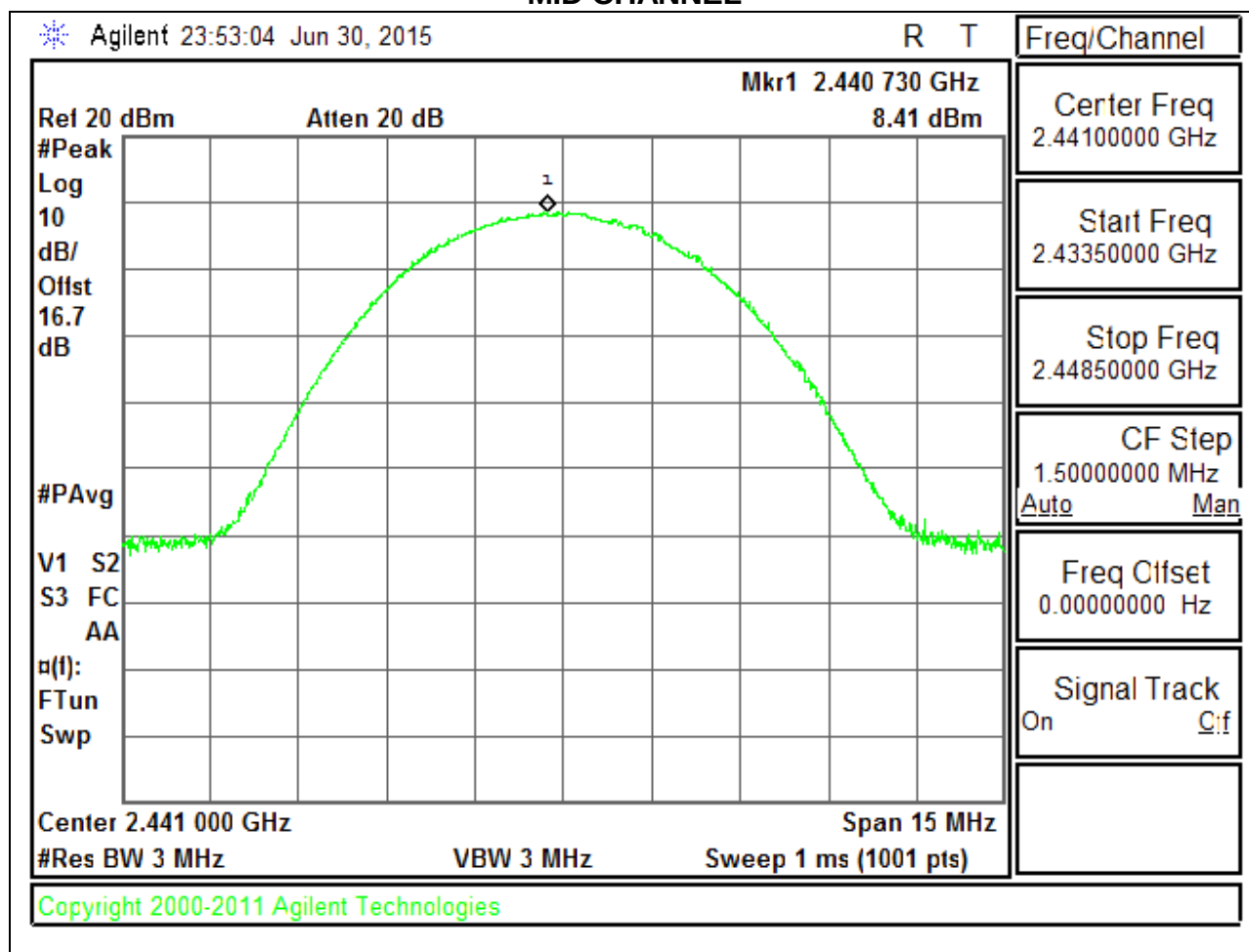


8PSK OUTPUT POWER

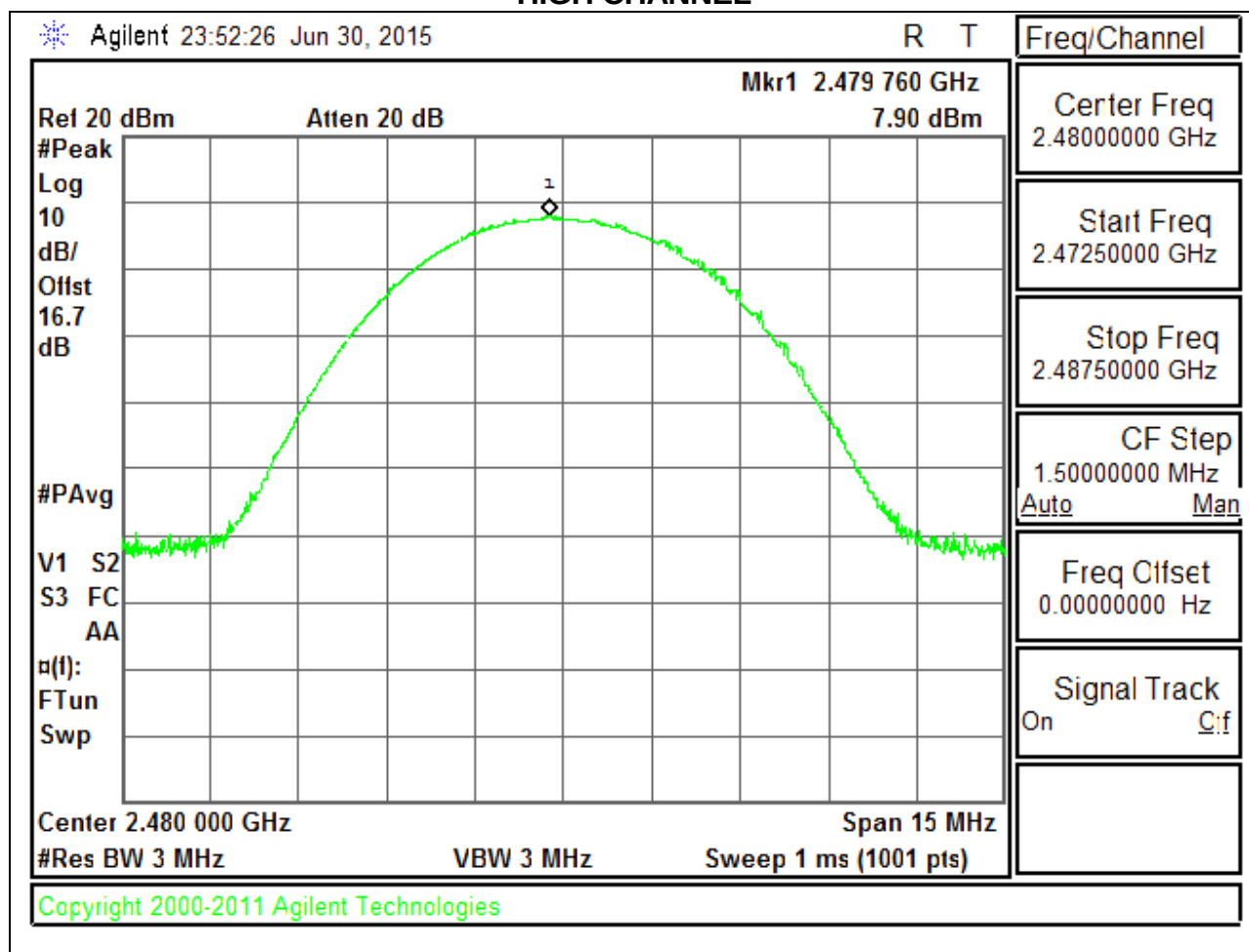
LOW CHANNEL



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	8.1
Middle	2441	8.3
High	2480	8.2
Worst		8.3

8.6.2. DATA RATE PI/4-DQPSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	5.5
Middle	2441	5.5
High	2480	5.4
Worst		5.5

8.6.3. ENHANCED DATA RATE 8PSK MODULATION

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	5.3
Middle	2441	5.3
High	2480	5.2
Worst		5.3

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.

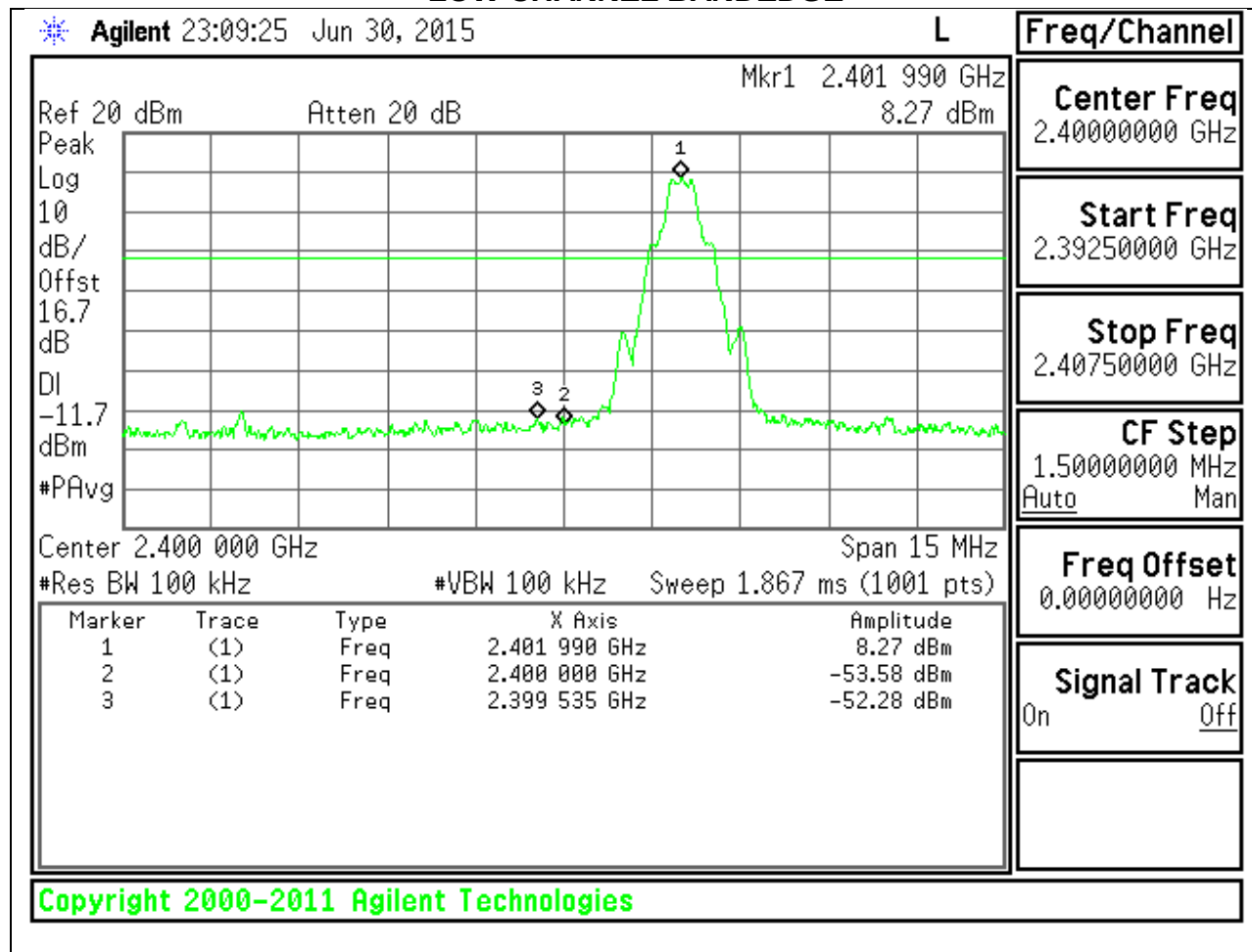
The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

RESULTS

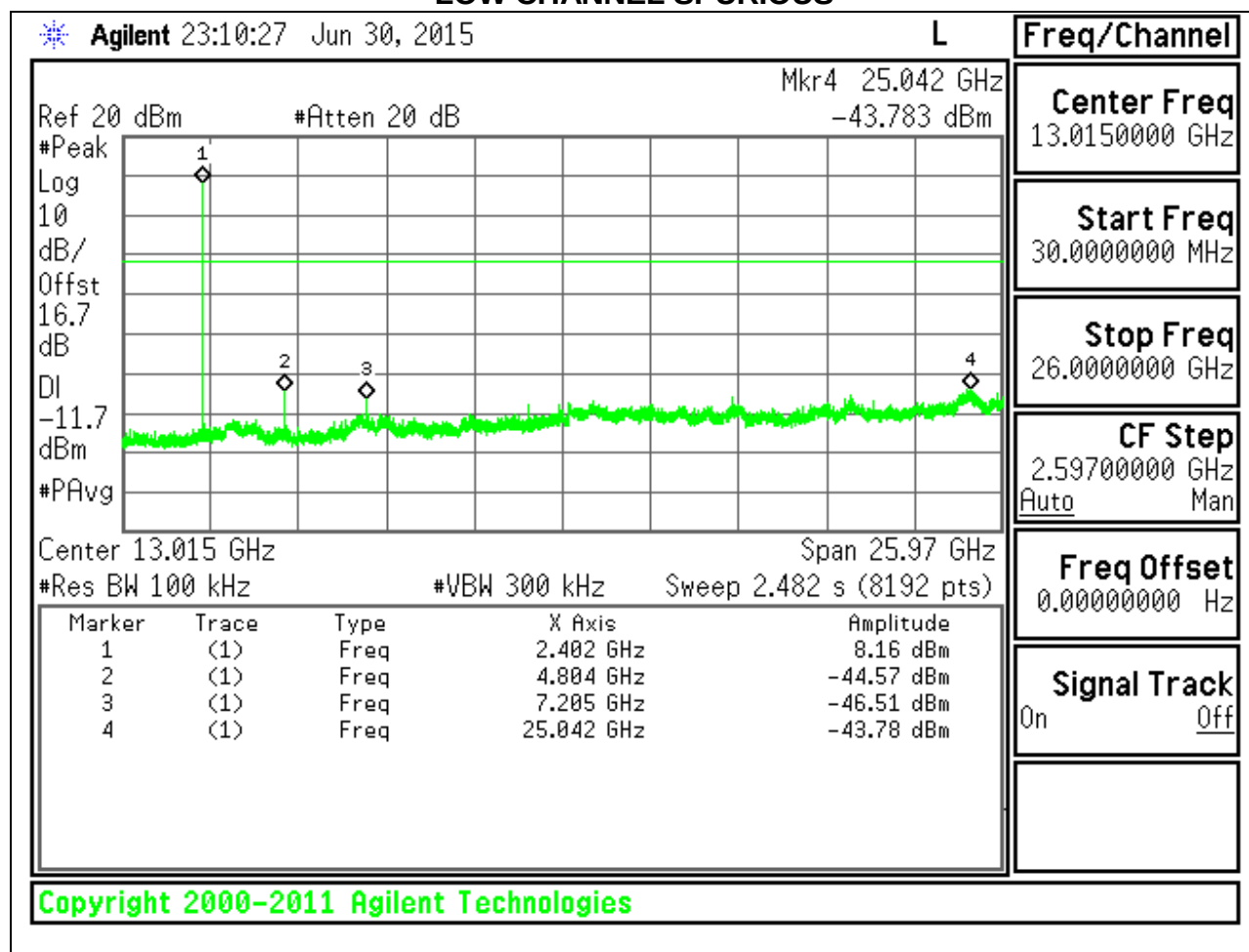
8.7.1. BASIC DATA RATE GFSK MODULATION

SPURIOUS EMISSIONS, LOW CHANNEL

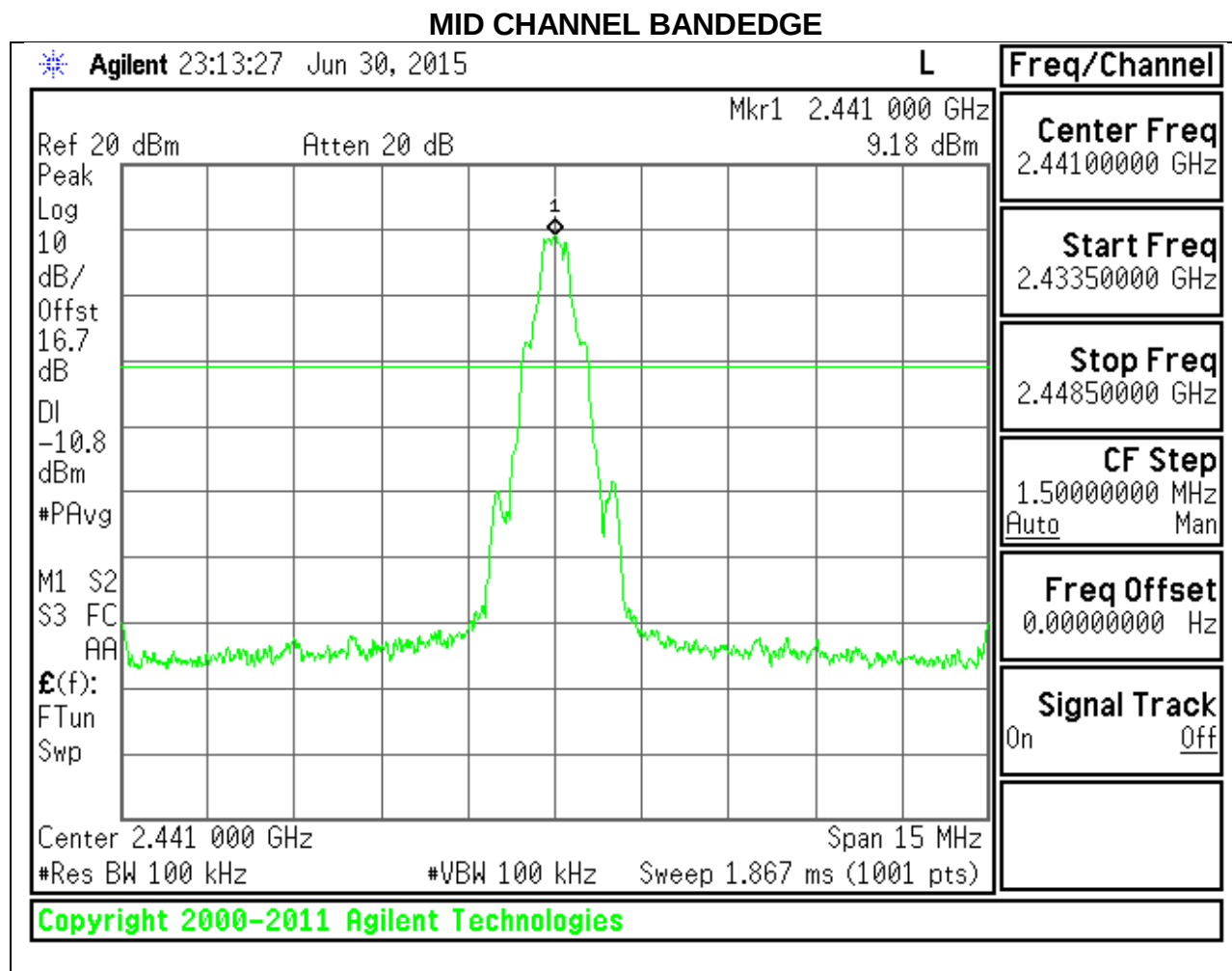
LOW CHANNEL BANDEDGE



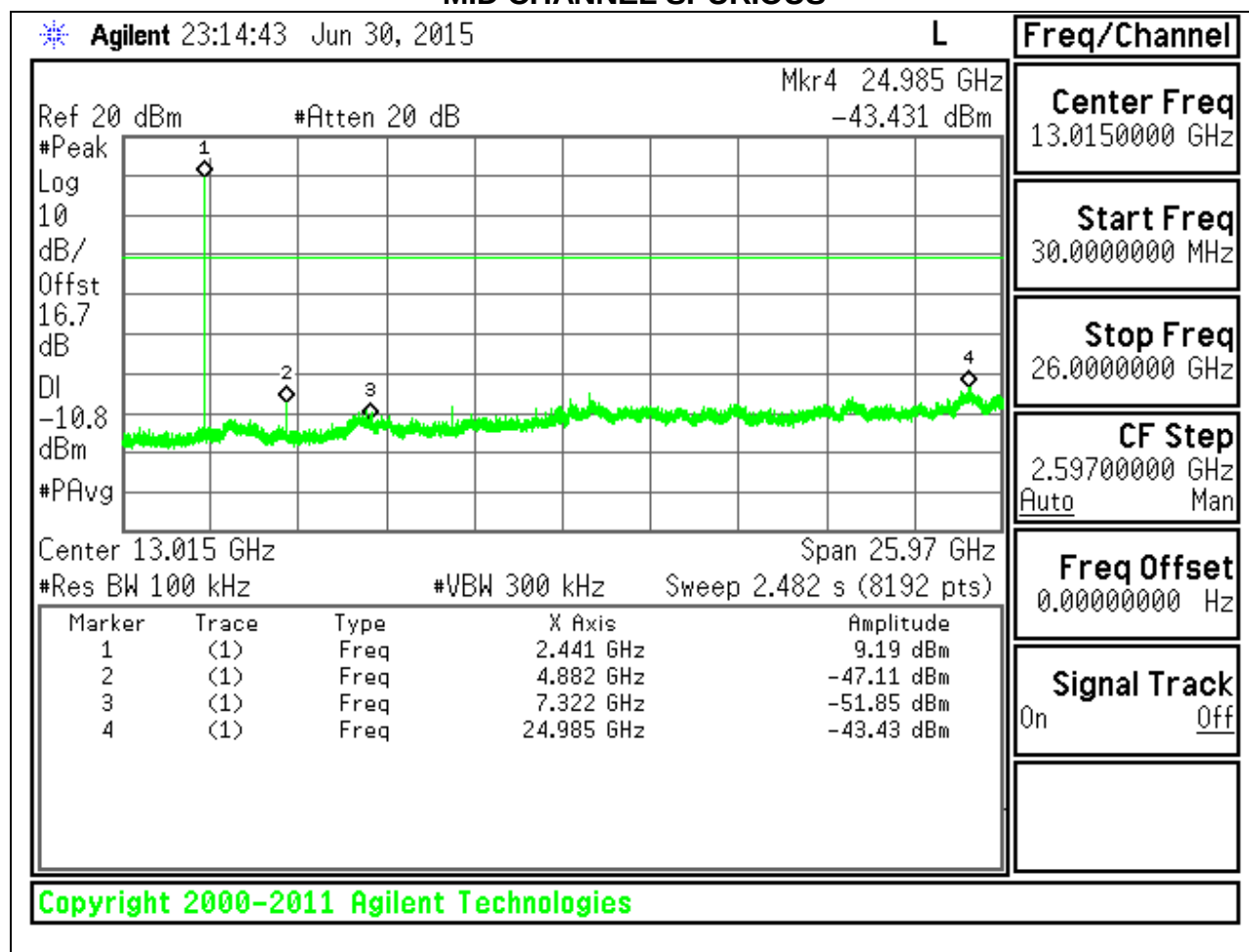
LOW CHANNEL SPURIOUS



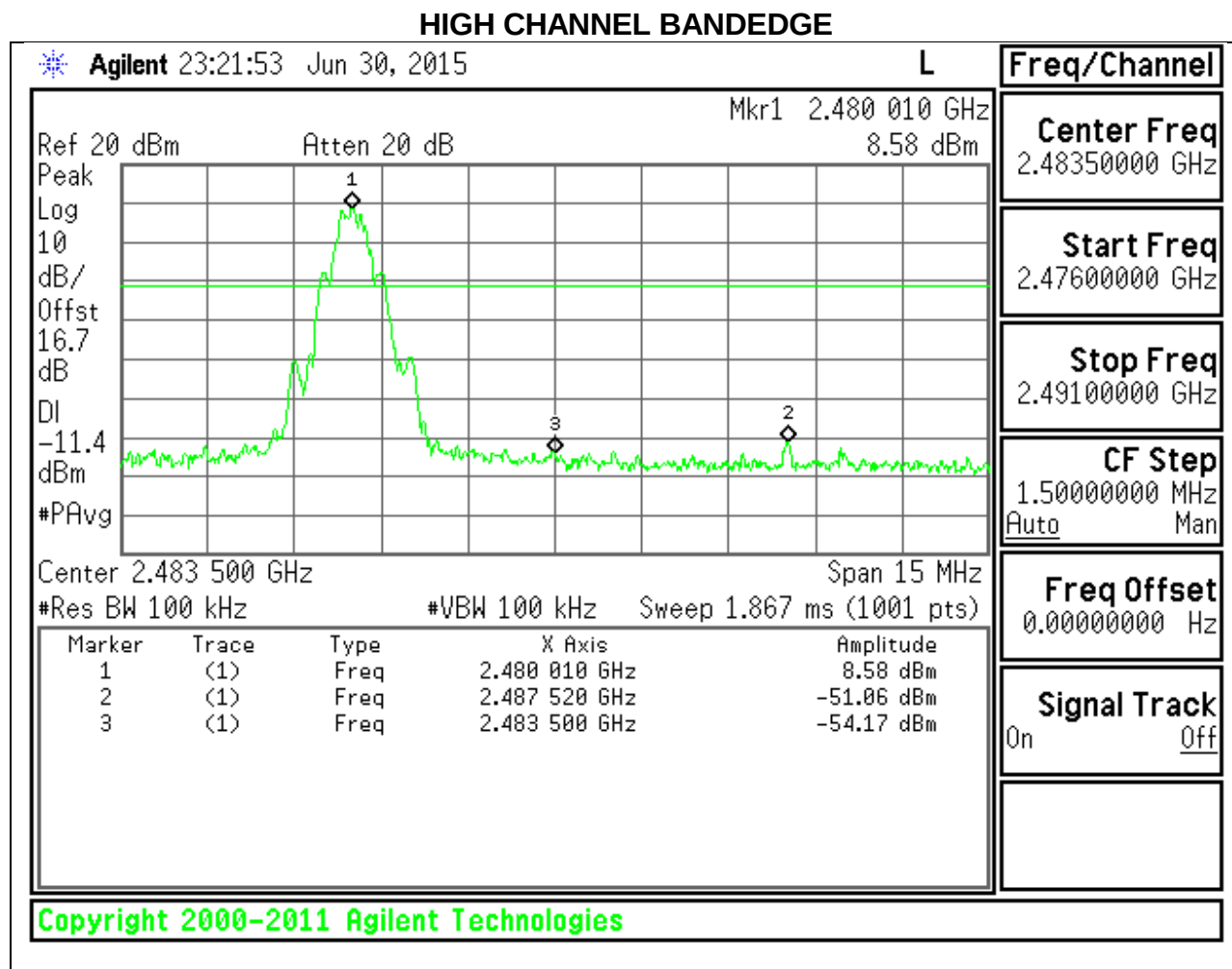
SPURIOUS EMISSIONS, MID CHANNEL



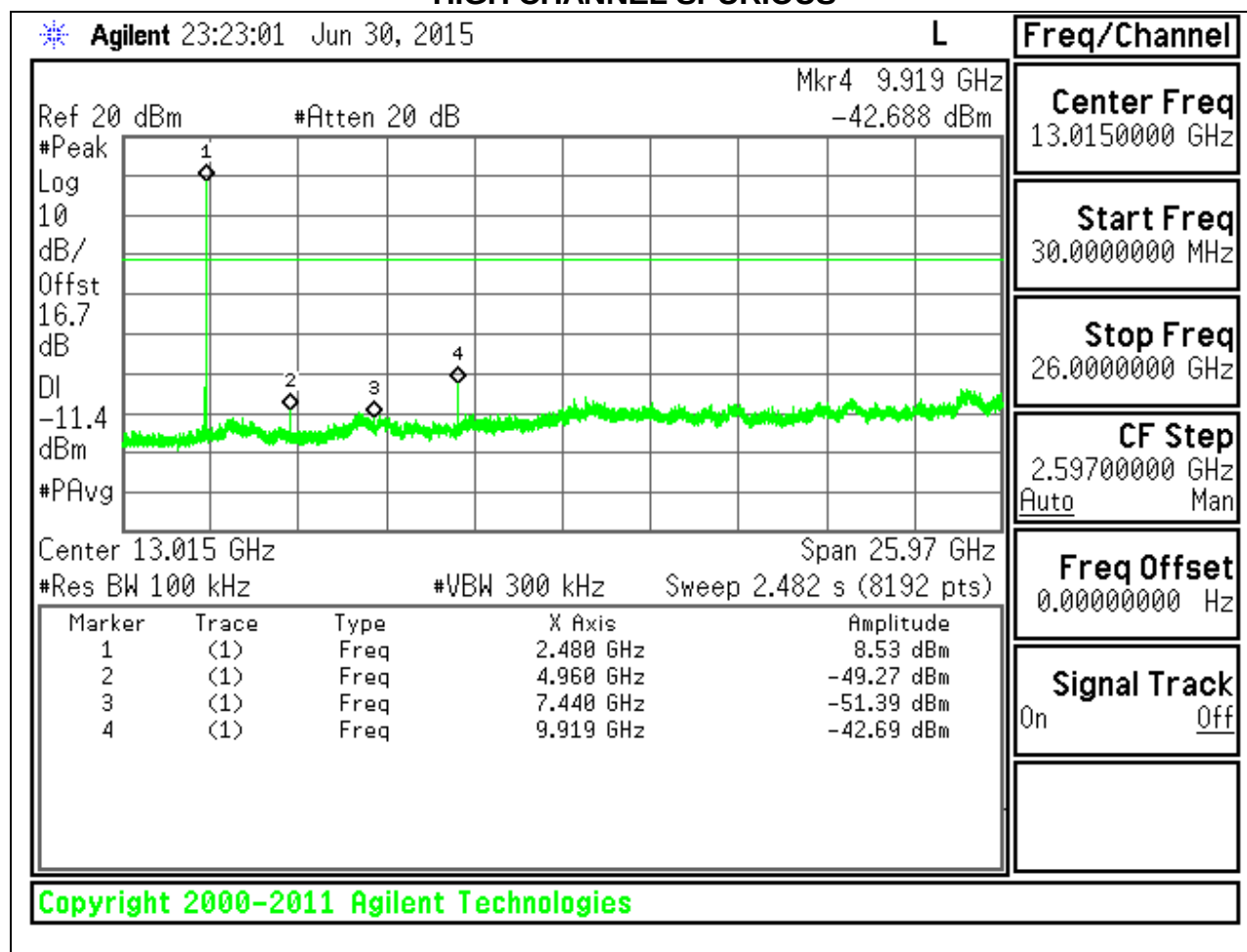
MID CHANNEL SPURIOUS



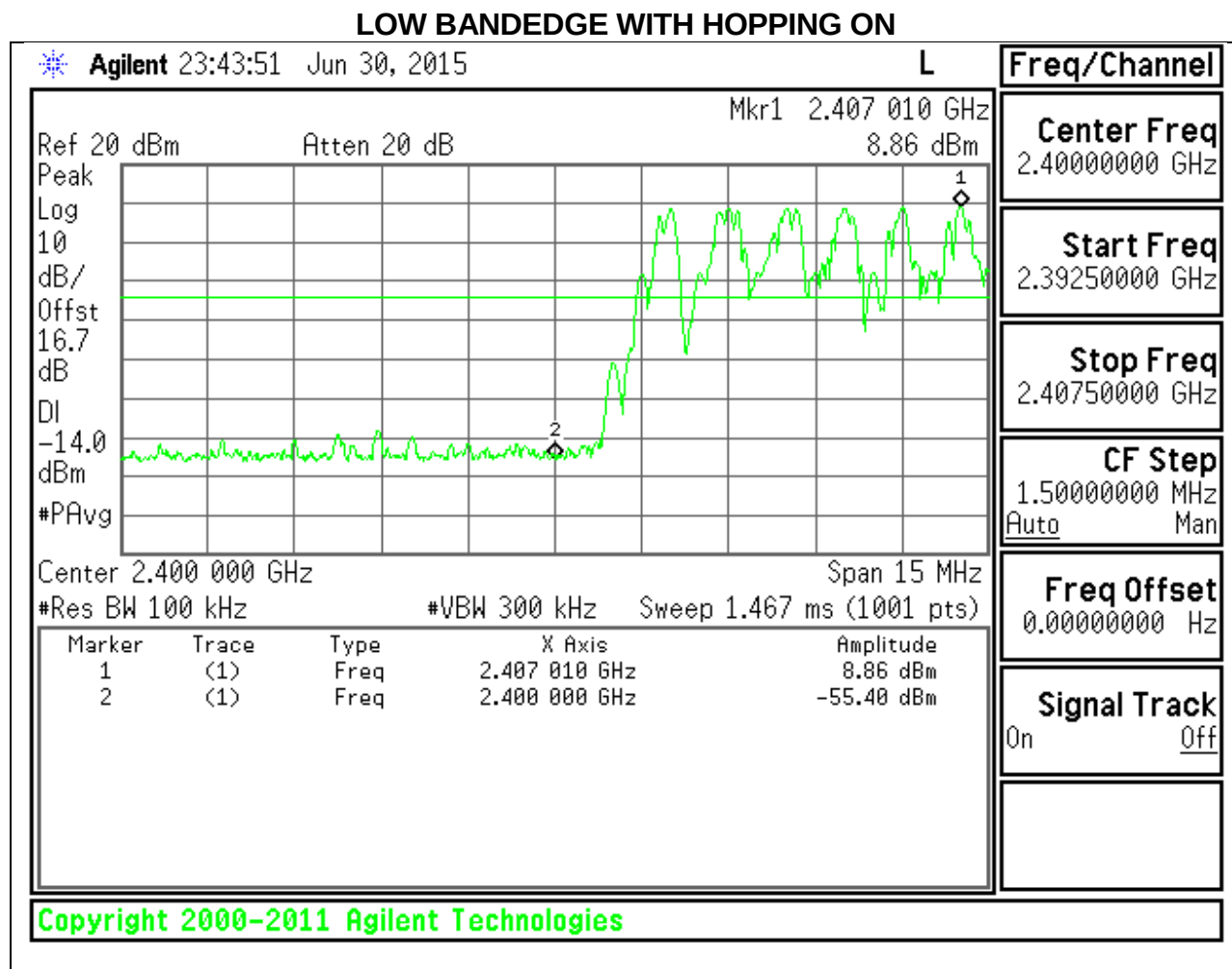
SPURIOUS EMISSIONS, HIGH CHANNEL



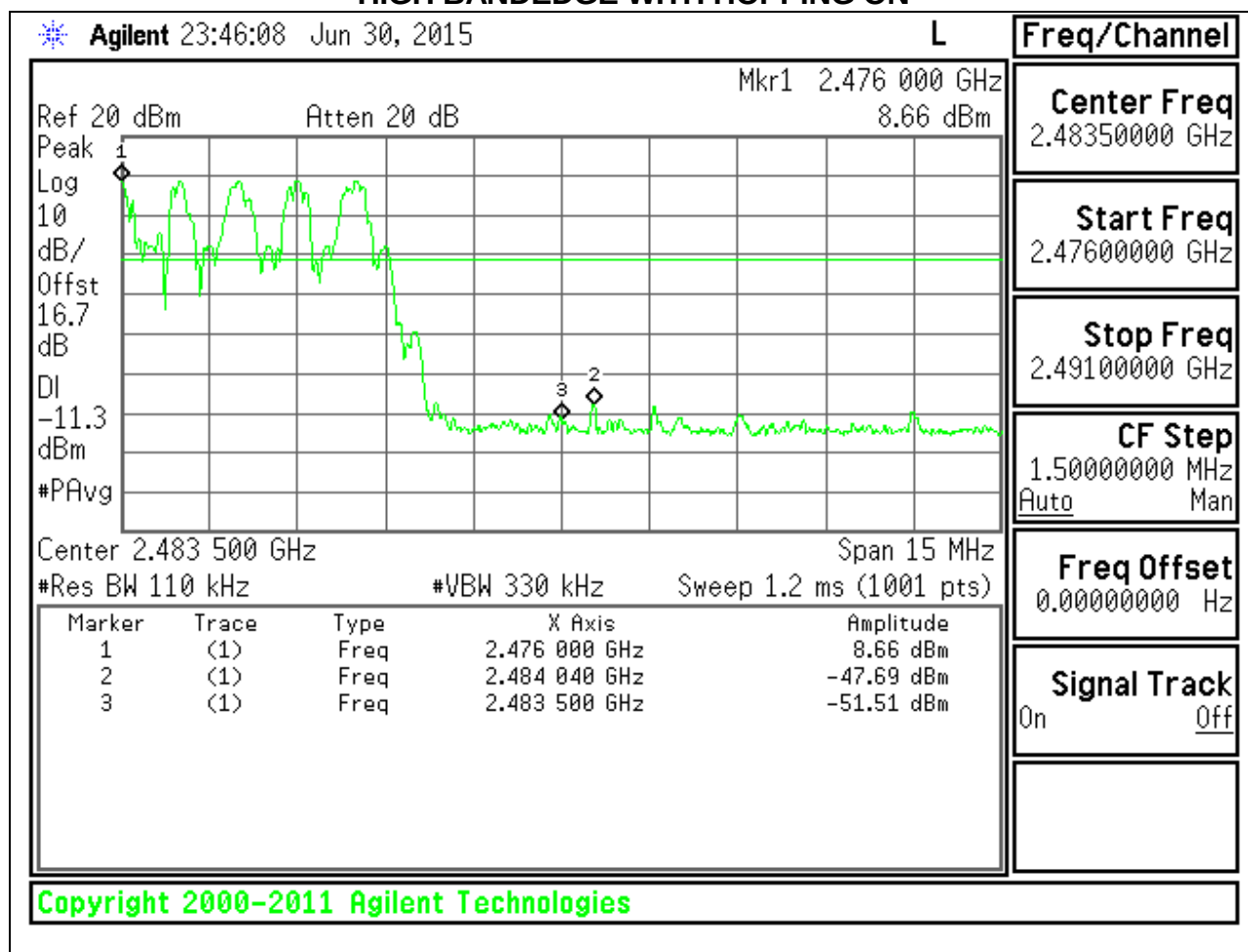
HIGH CHANNEL SPURIOUS



SPURIOUS BANDEGE EMISSIONS WITH HOPPING ON

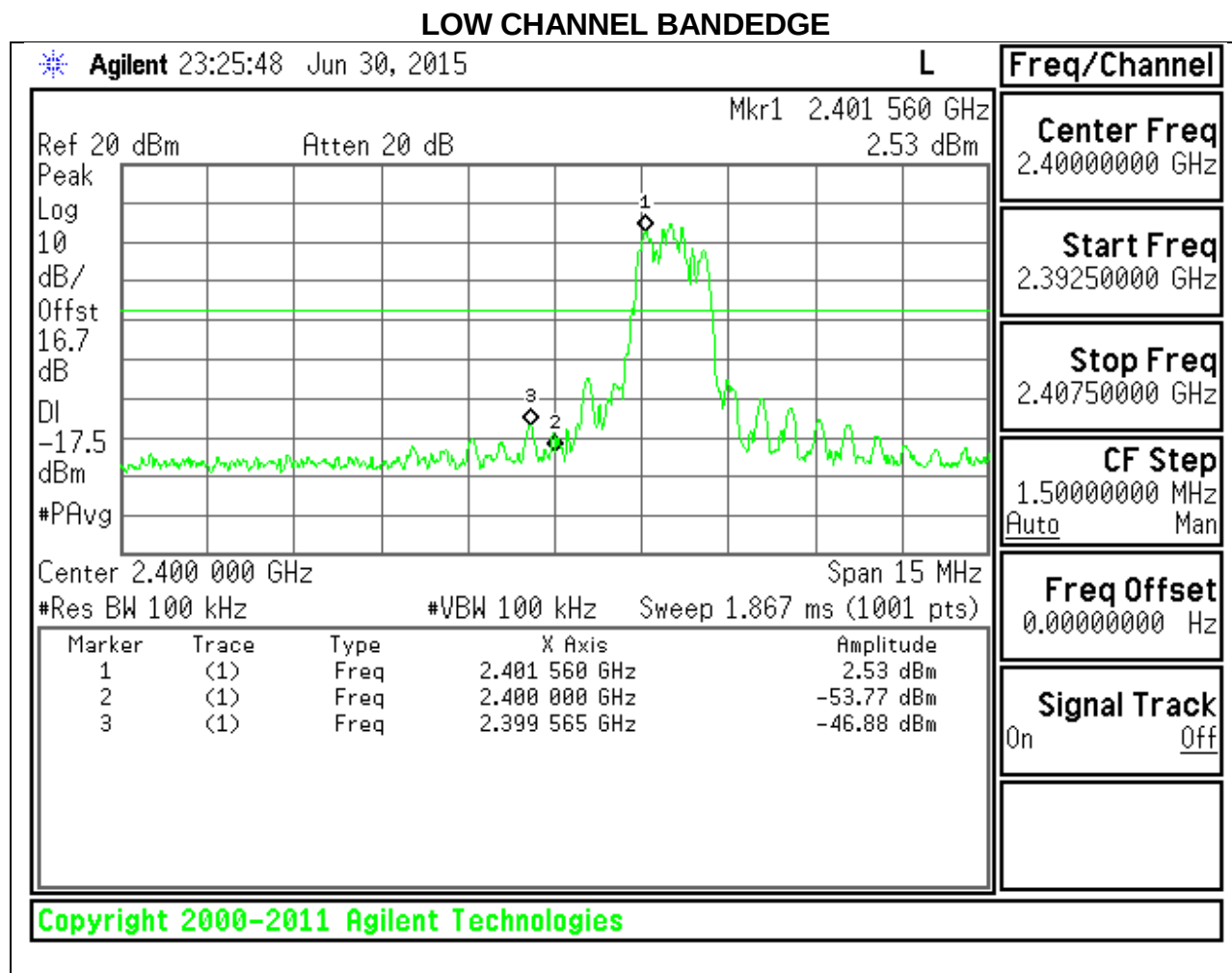


HIGH BANDEDGE WITH HOPPING ON

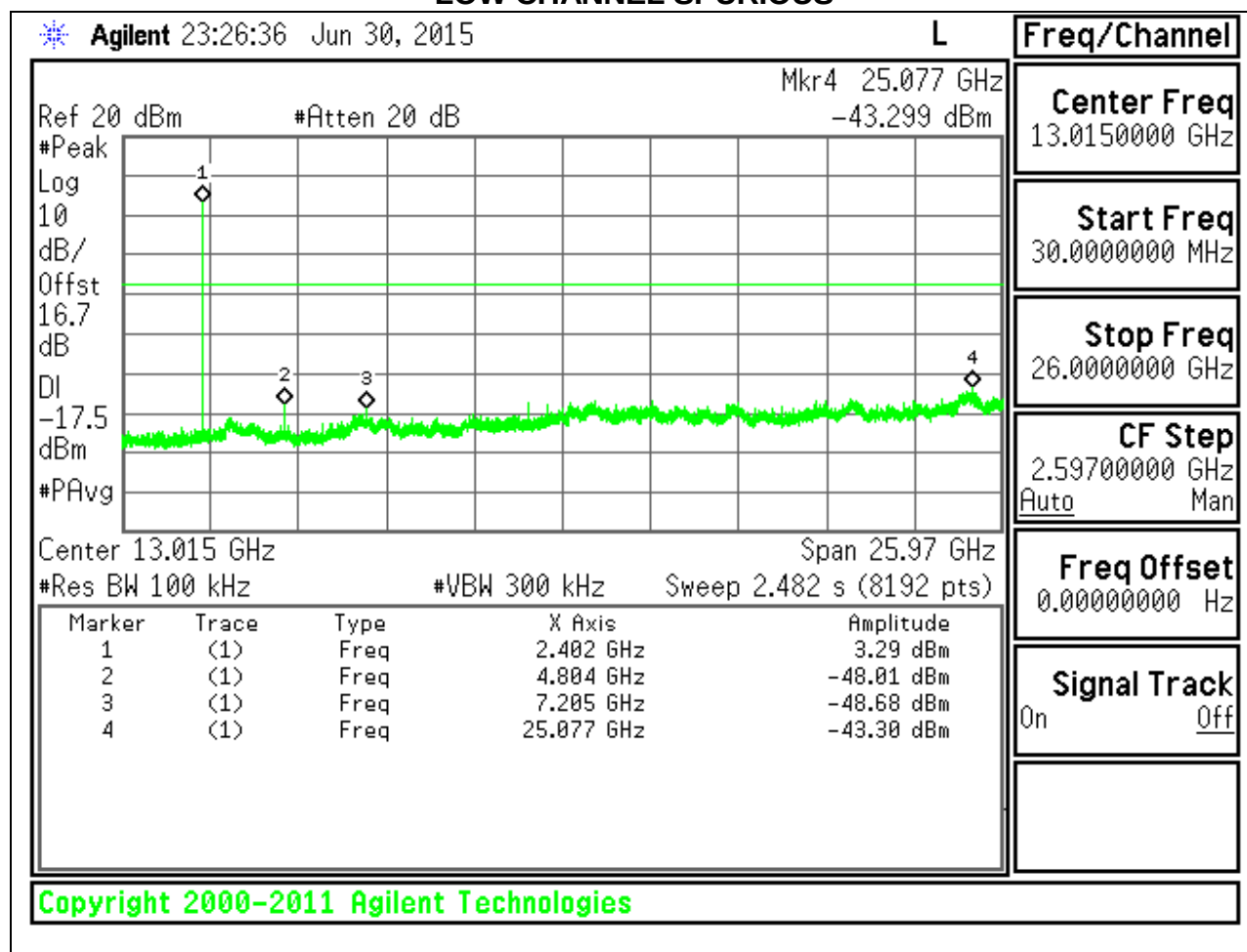


8.7.2. ENHANCED DATA RATE 8PSK MODULATION

SPURIOUS EMISSIONS, LOW CHANNEL

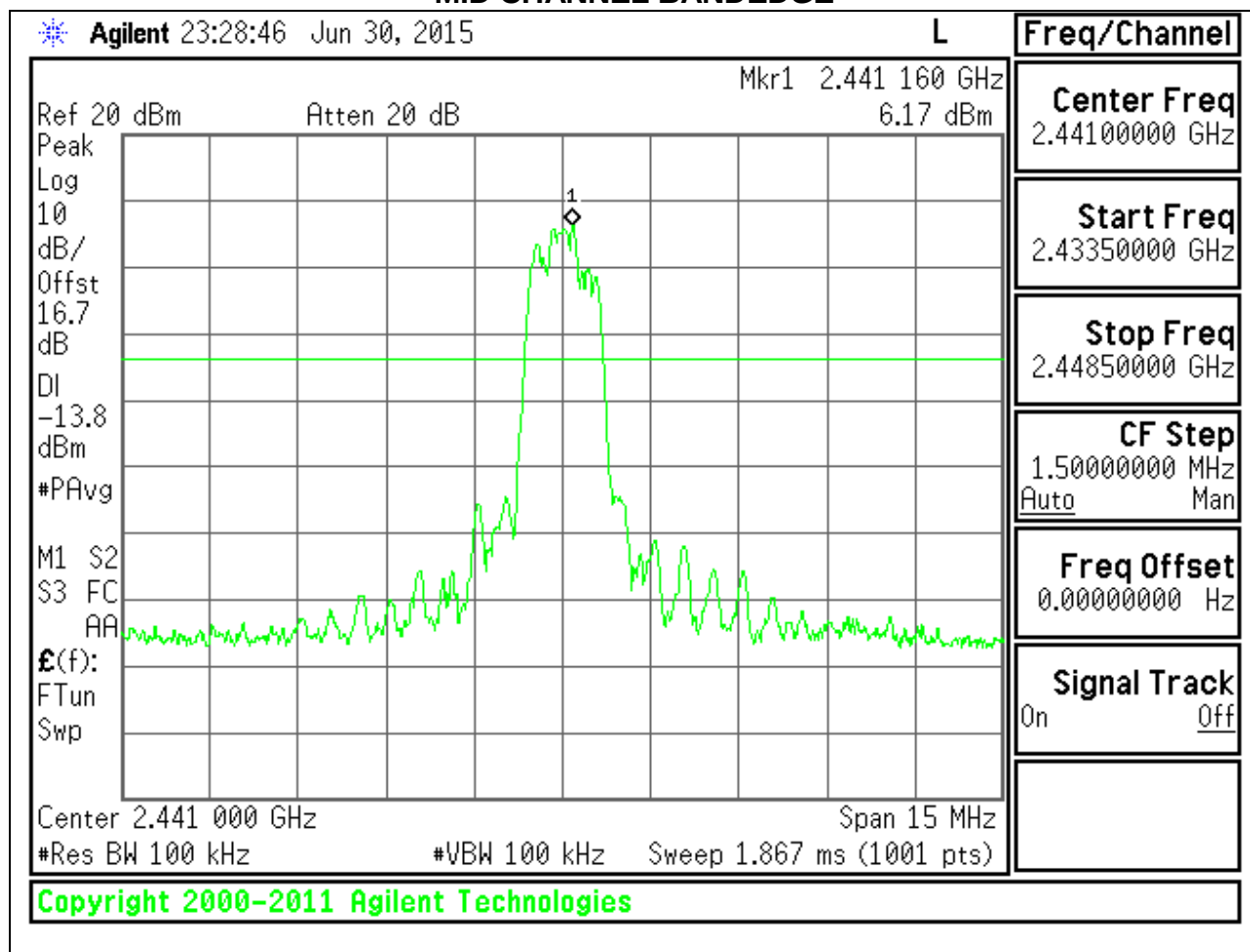


LOW CHANNEL SPURIOUS

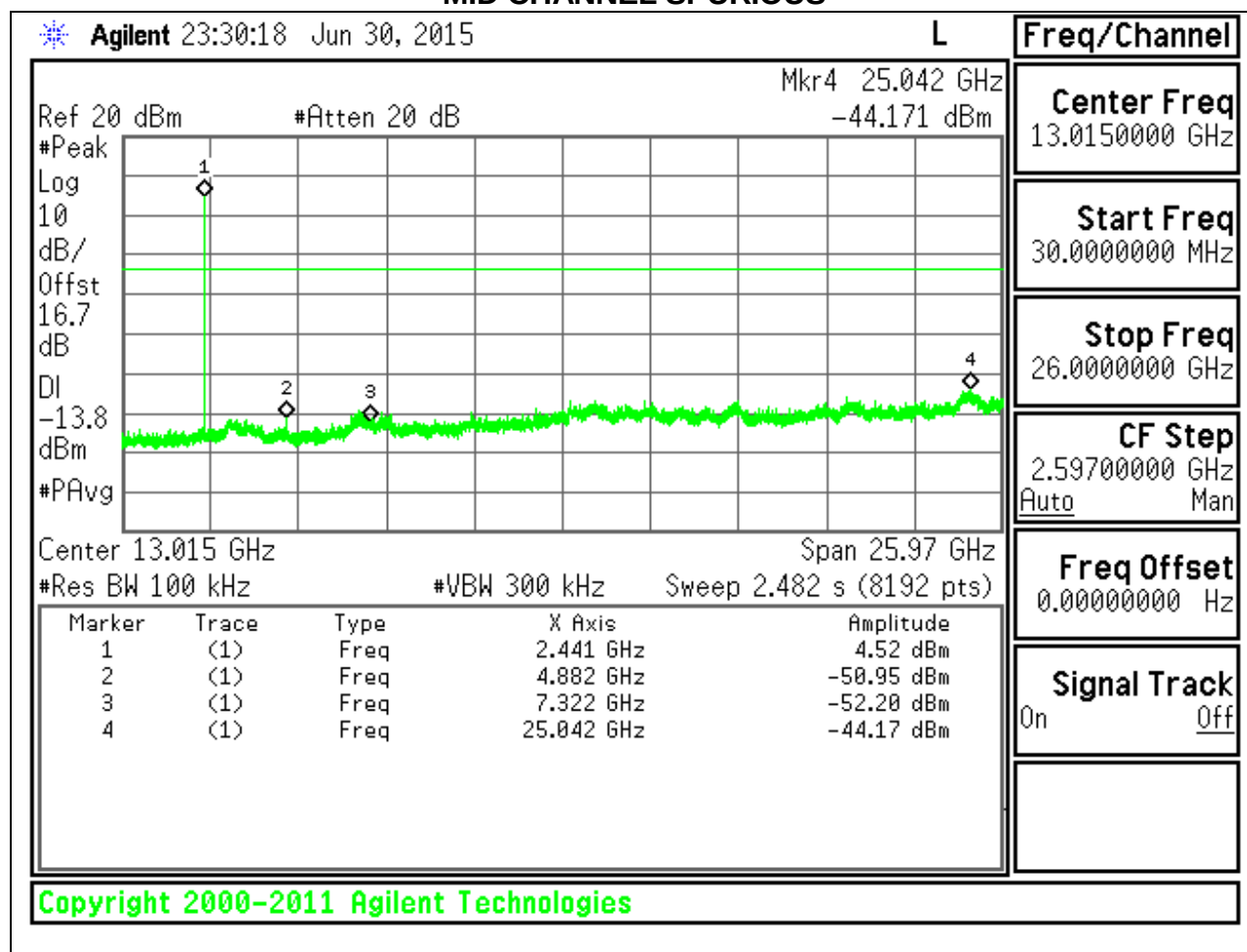


SPURIOUS EMISSIONS, MID CHANNEL

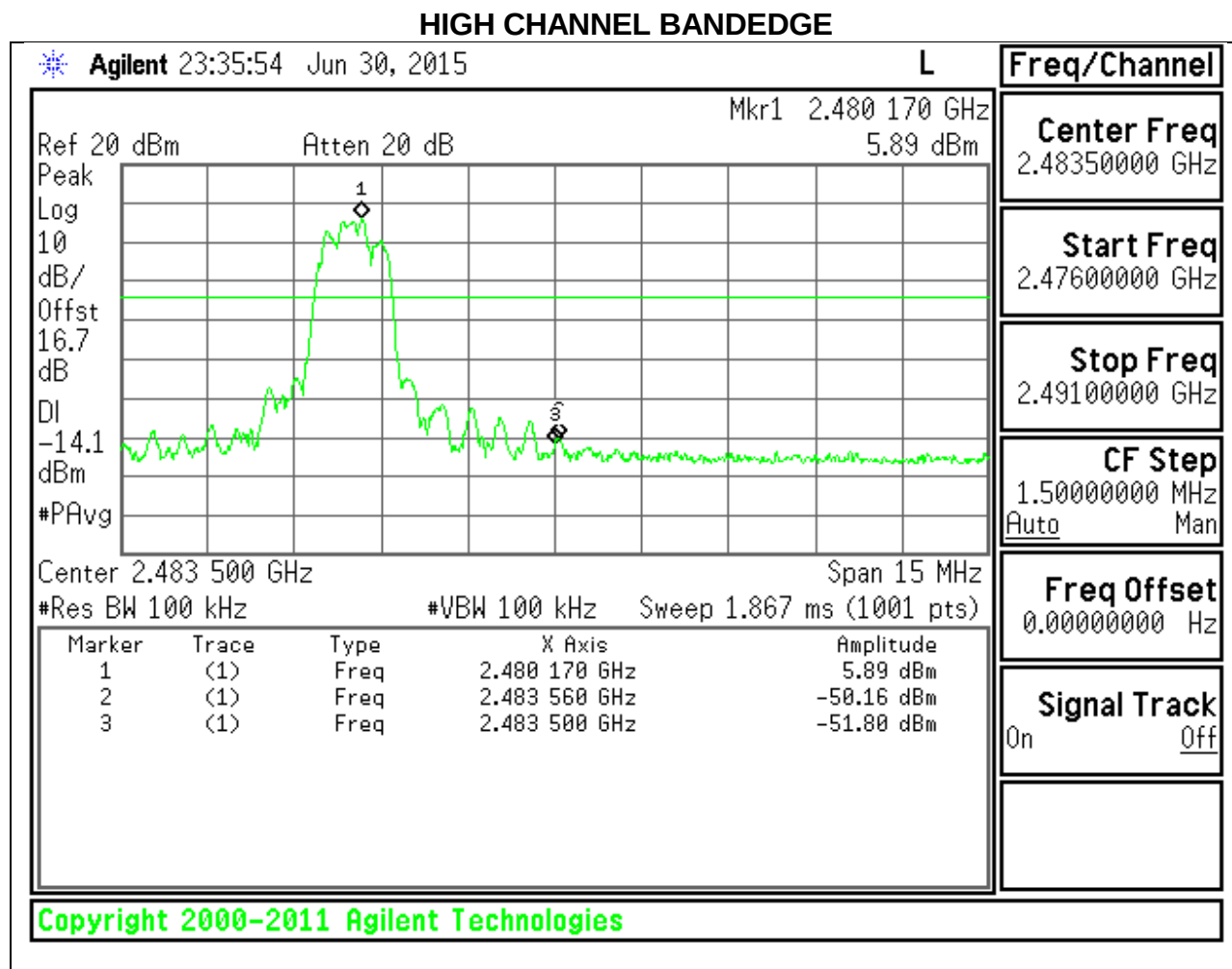
MID CHANNEL BANDEDGE



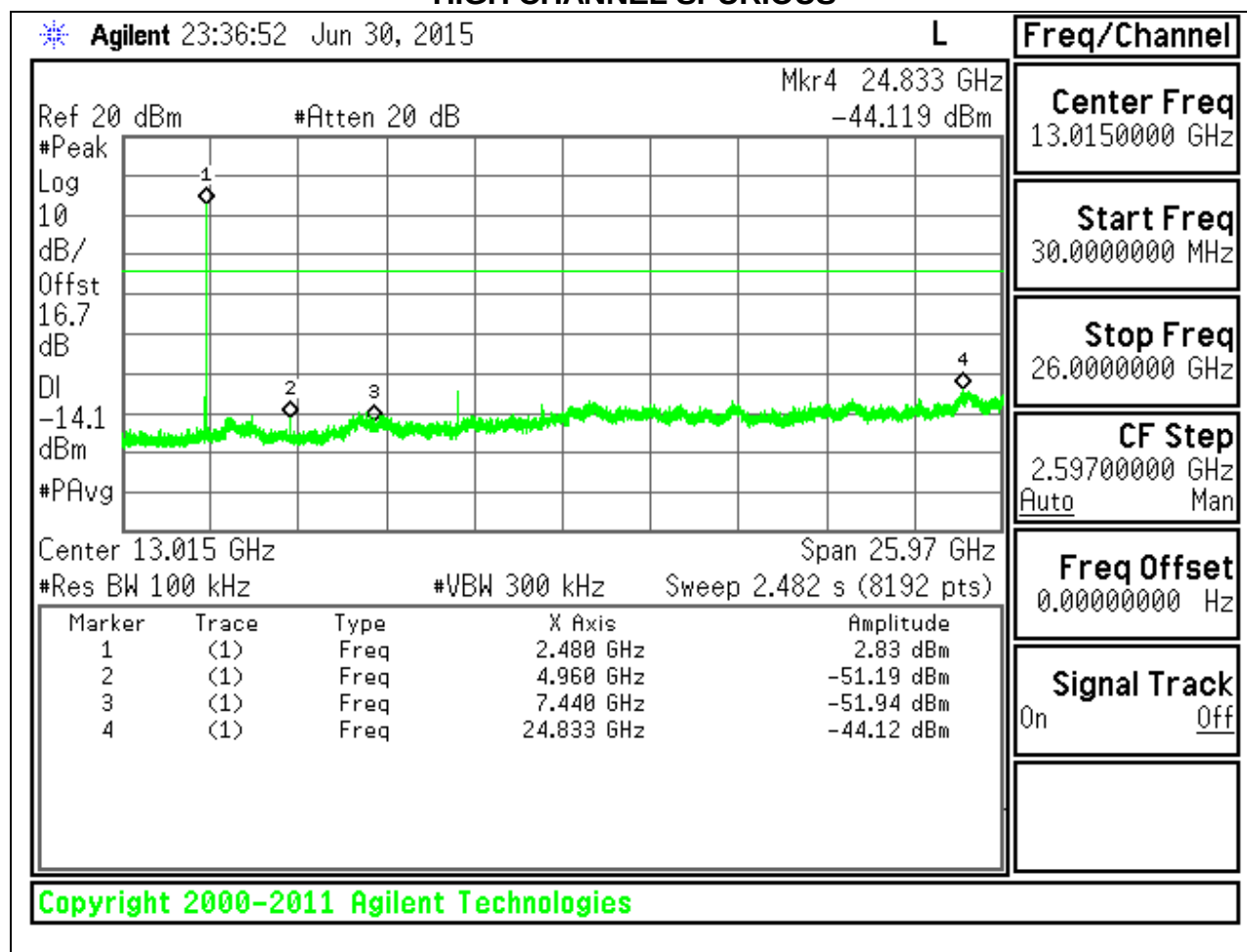
MID CHANNEL SPURIOUS



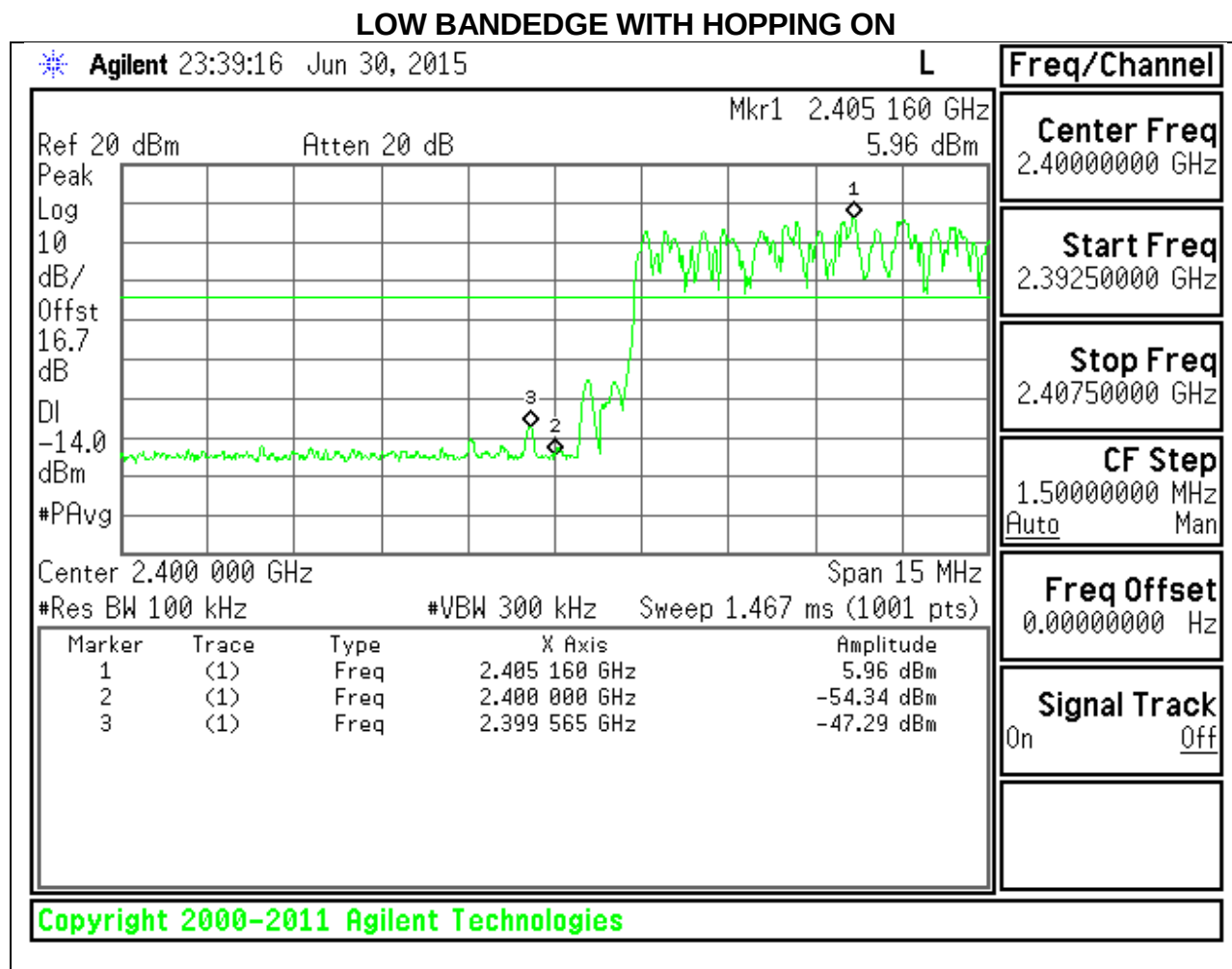
SPURIOUS EMISSIONS, HIGH CHANNEL



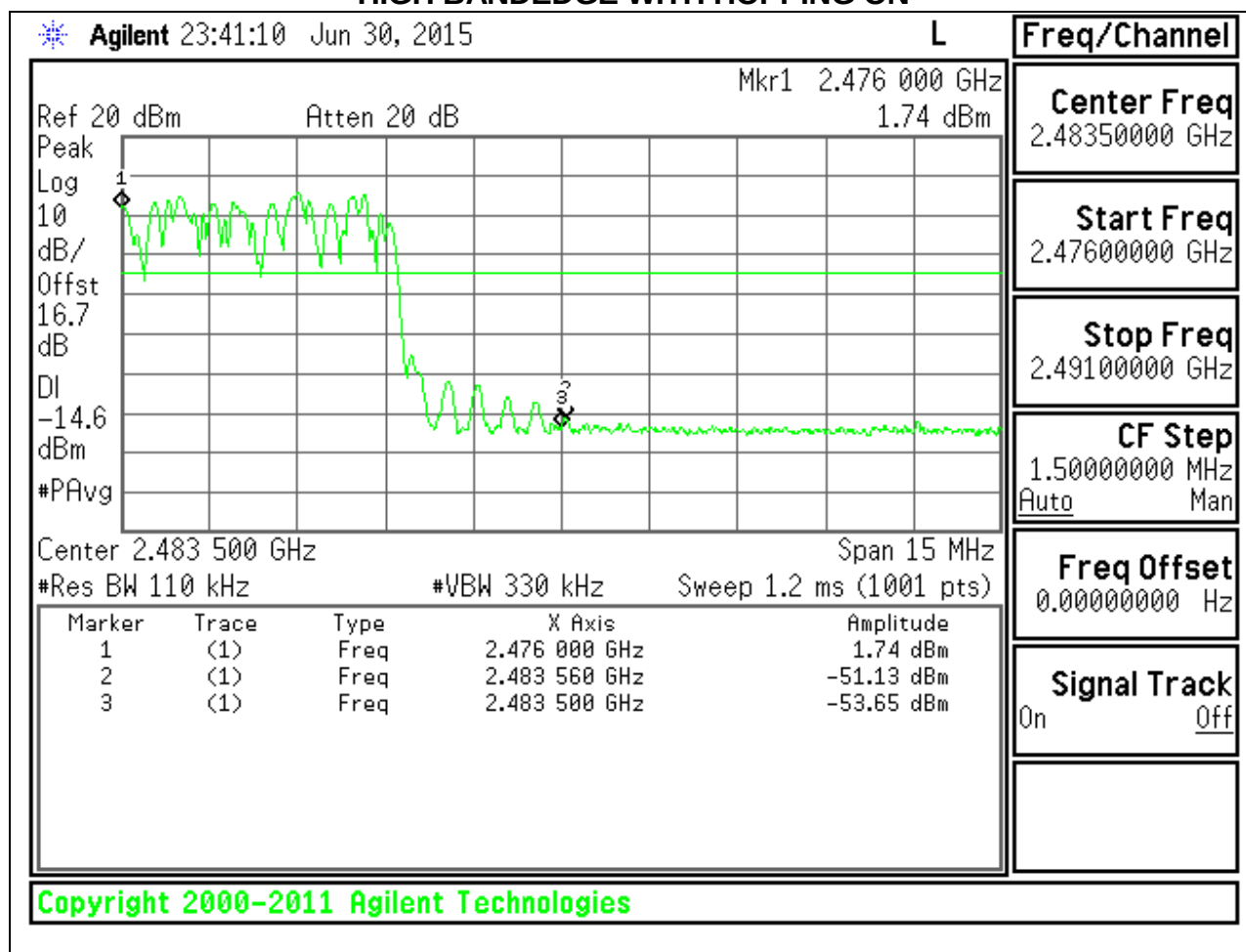
HIGH CHANNEL SPURIOUS



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 ($\mu\text{V}/\text{m}$) at 3 m	Field Strength Limit (dB $\mu\text{V}/\text{m}$) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For 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.
 $\text{GFSK} = 1/T = 1 / 0.0028\text{S} = 357\text{Hz}$.

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.

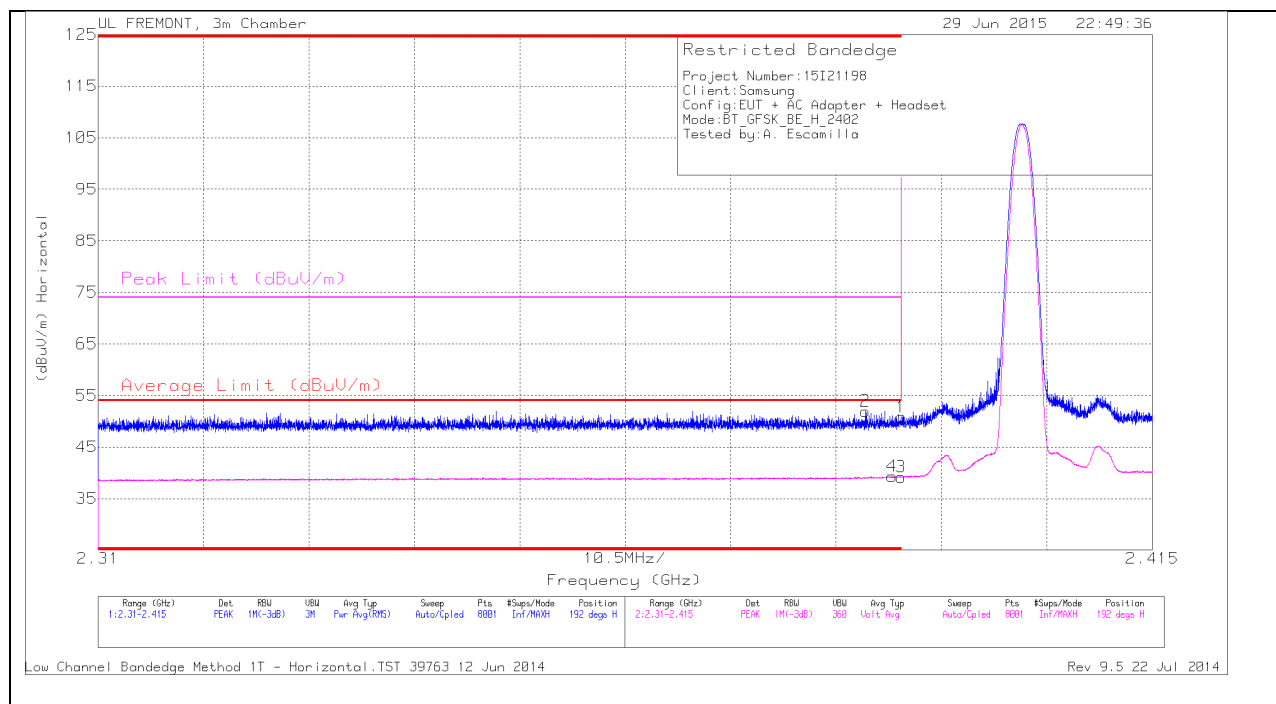
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

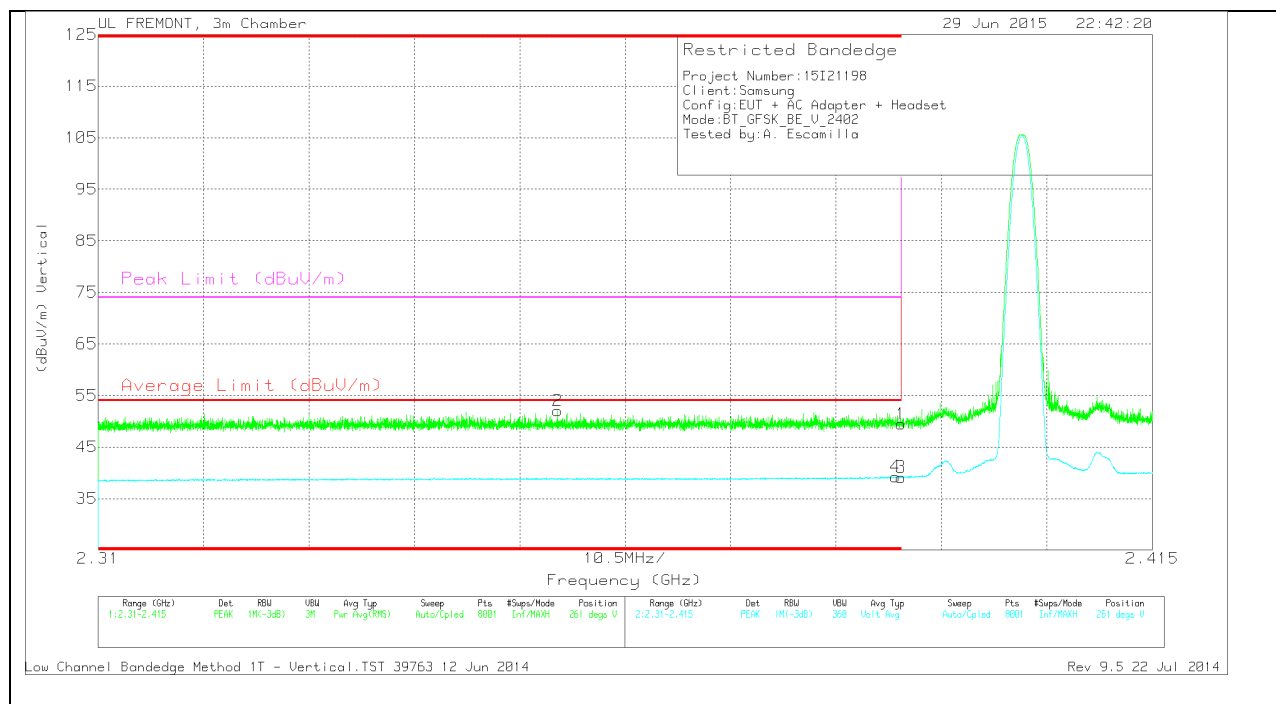
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL 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
2	* 2.386	42.36	PK	32	-22.4	51.96	-	-	74	-22.04	192	253	H
4	* 2.389	29.7	VB1T	32	-22.4	39.3	54	-14.7	-	-	192	253	H
1	* 2.39	41.2	PK	32	-22.4	50.8	-	-	74	-23.2	192	253	H
3	* 2.39	29.56	VB1T	32	-22.4	39.16	54	-14.84	-	-	192	253	H

VERTICAL PEAK AND AVERAGE PLOT

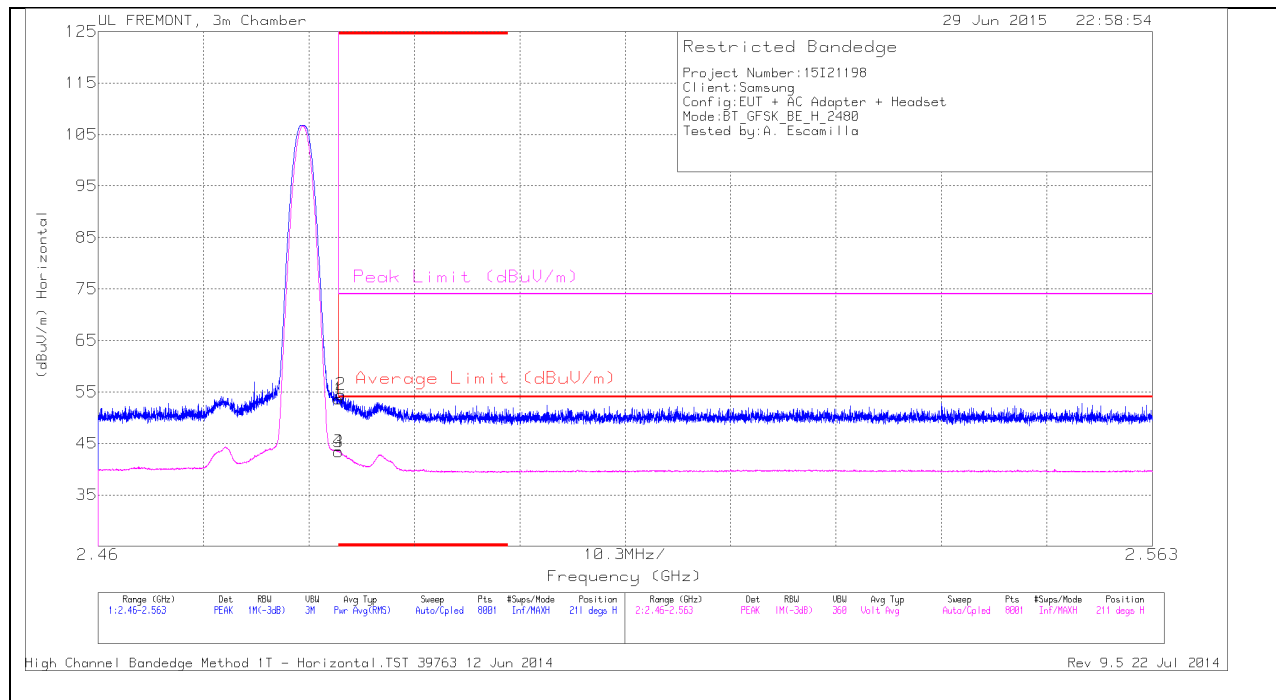


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/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	* 2.356	42.64	PK	31.8	-22.4	52.04	-	-	74	-21.96	261	311	V
4	* 2.389	29.64	VB1T	32	-22.4	39.24	54	-14.76	-	-	261	311	V
1	* 2.39	39.87	PK	32	-22.4	49.47	-	-	74	-24.53	261	311	V
3	* 2.39	29.52	VB1T	32	-22.4	39.12	54	-14.88	-	-	261	311	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

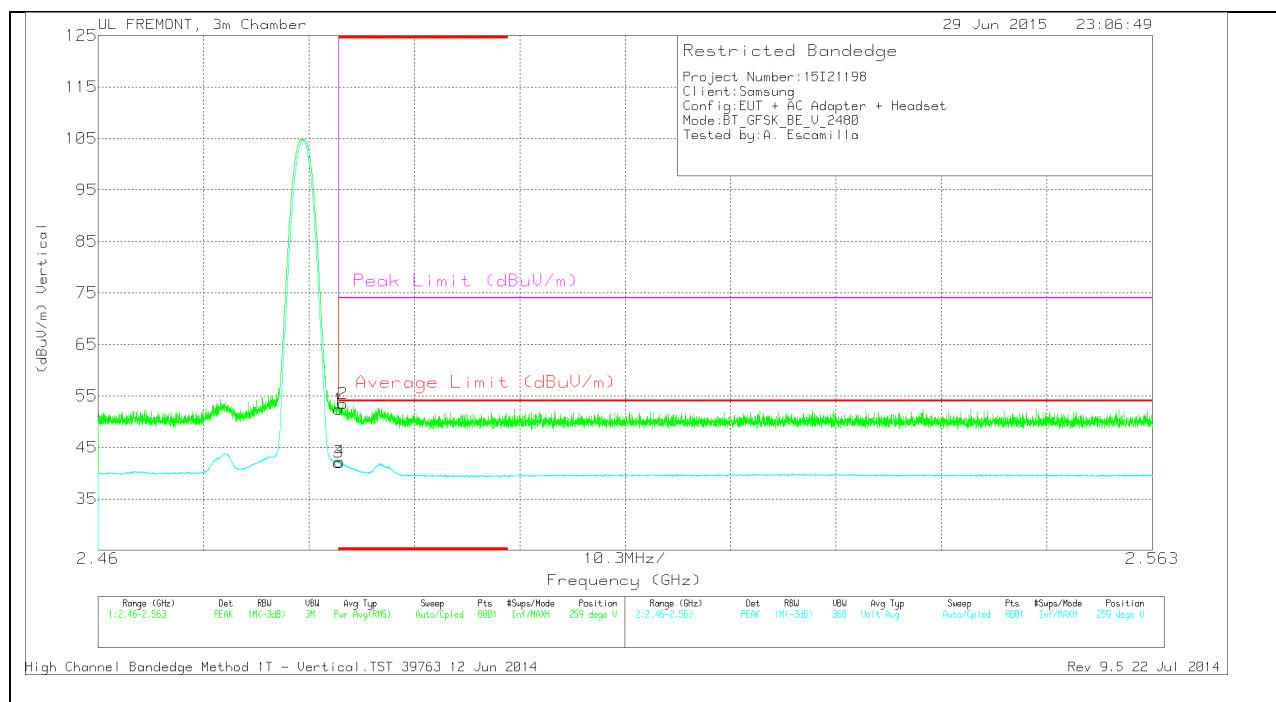
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL 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	43.44	PK	32.3	-22.1	53.64	-	-	74	-20.36	211	148	H
2	* 2.484	44.31	PK	32.3	-22.1	54.51	-	-	74	-19.49	211	148	H
3	* 2.484	33.18	VB1T	32.3	-22.1	43.38	54	-10.62	-	-	211	148	H
4	* 2.484	33.23	VB1T	32.3	-22.1	43.43	54	-10.57	-	-	211	148	H

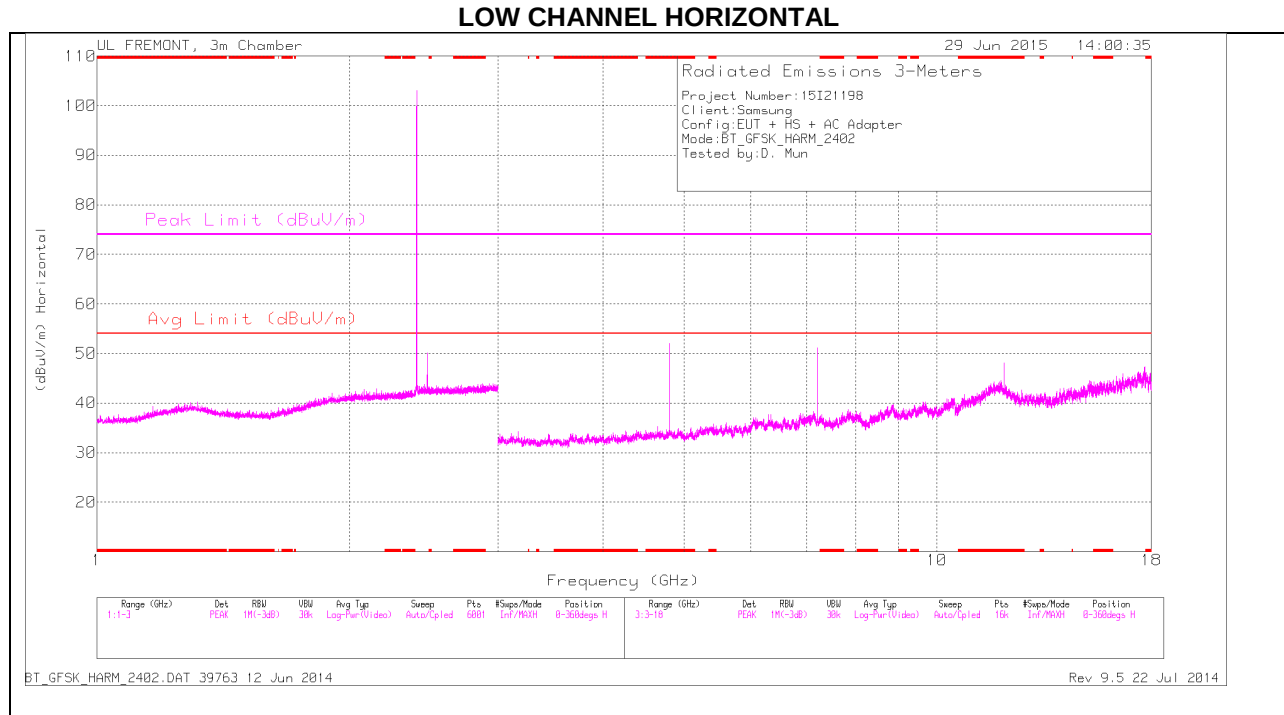
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

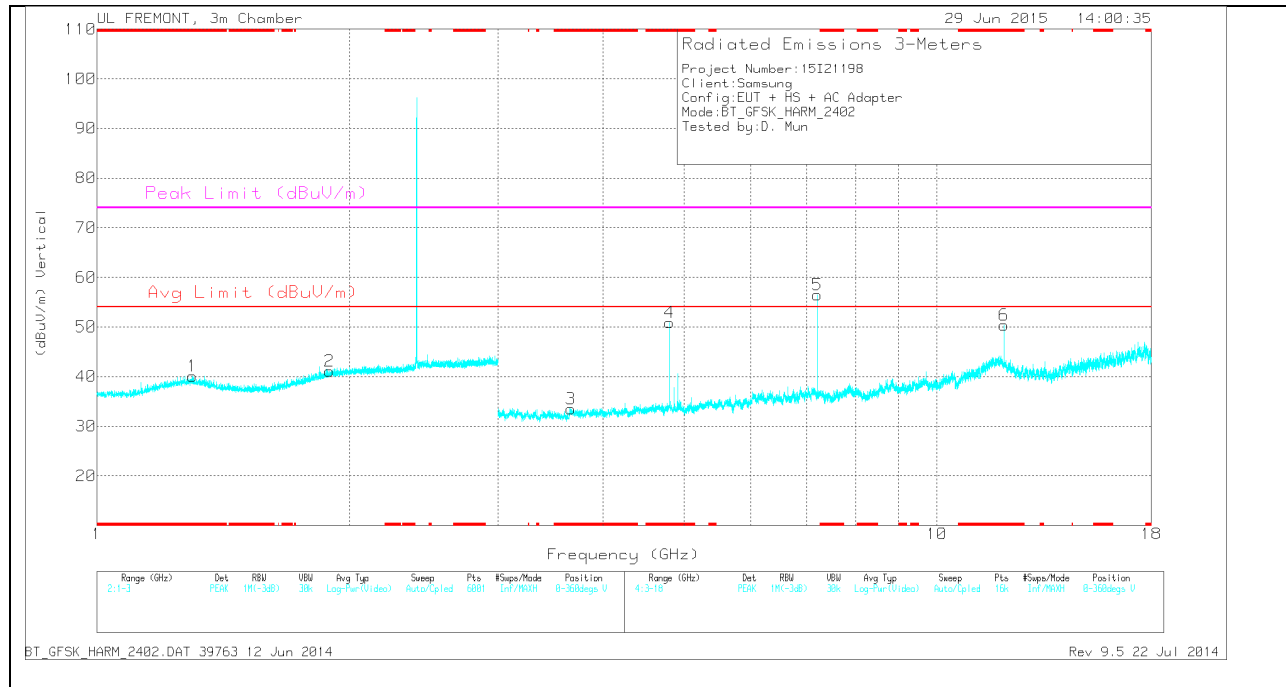
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	42.17	PK	32.3	-22.1	52.37	-	-	74	-21.63	259	294	V
2	* 2.484	43.27	PK	32.3	-22.1	53.47	-	-	74	-20.53	259	294	V
3	* 2.484	31.88	VB1T	32.3	-22.1	42.08	54	-11.92	-	-	259	294	V
4	* 2.484	32.01	VB1T	32.3	-22.1	42.21	54	-11.79	-	-	259	294	V

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 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	* 1.3	33.35	PK	29.9	-23.2	40.05	-	-	74	-33.95	0-360	100	V
6	* 12.011	33.92	PK	39.1	-22.7	50.32	-	-	74	-23.68	0-360	100	V
3	* 3.667	30.63	PK	32.9	-30	33.53	-	-	74	-40.47	0-360	100	V
4	* 4.805	46.27	PK	34	-29.4	50.87	-	-	74	-23.13	0-360	100	V
2	1.89	32.71	PK	31	-22.6	41.11	-	-	-	-	0-360	100	V
5	7.206	49.23	PK	35.6	-28.4	56.43	-	-	-	-	0-360	100	V

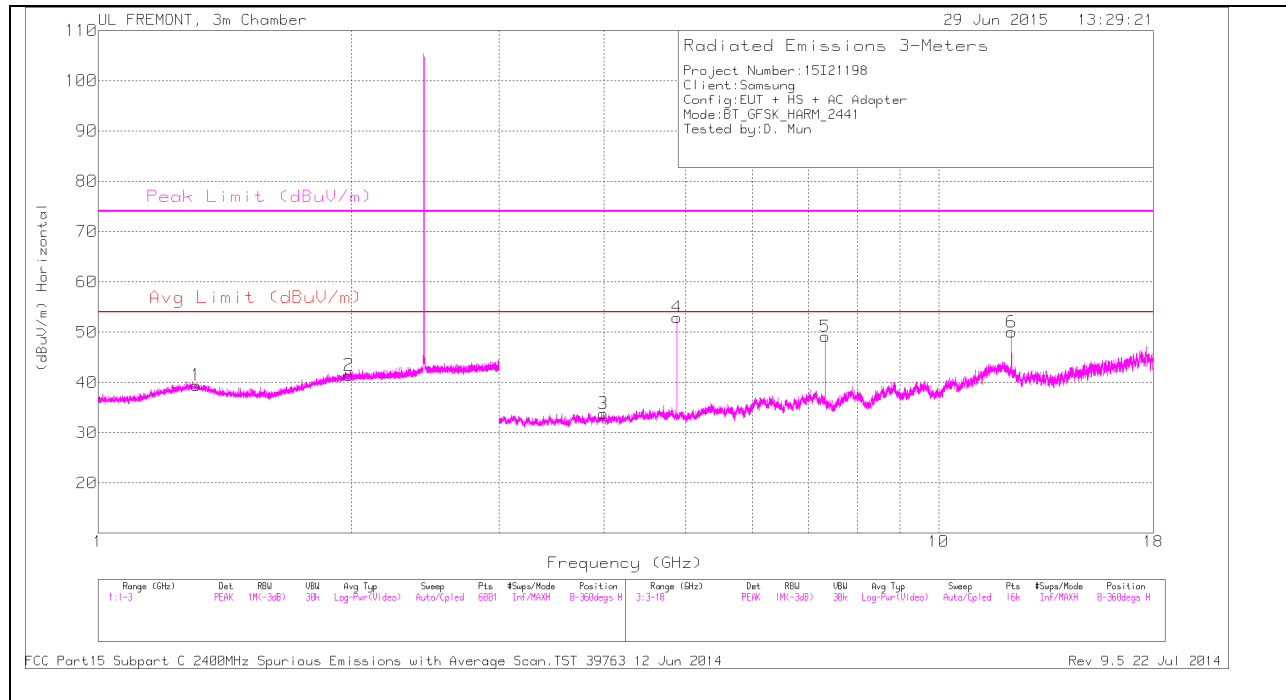
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RADIATED EMISSIONS

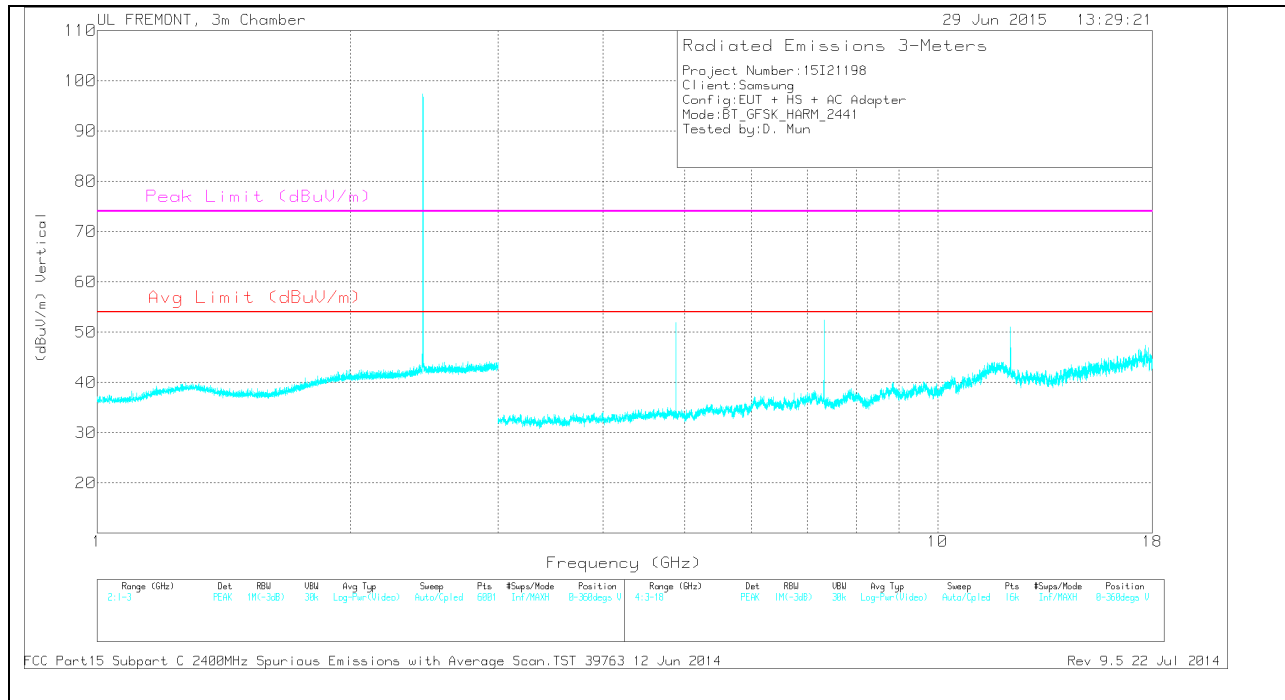
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.301	43.1	PK3	29.9	-23.2	49.8	-	-	74	-24.2	0	100	V
* 1.3	29.78	VB1T	29.9	-23.2	36.48	54	-17.52	-	-	0	100	V
* 3.666	40.97	PK3	32.9	-30	43.87	-	-	74	-30.13	0	100	V
* 3.665	27.59	VB1T	32.9	-30	30.49	54	-23.51	-	-	0	100	V
* 3.666	40.86	PK3	32.9	-30	43.76	-	-	74	-30.24	0	100	V
* 3.666	27.56	VB1T	32.9	-30	30.46	54	-23.54	-	-	0	100	V
* 4.804	43.79	PK3	34	-29.4	48.39	-	-	74	-25.61	0	100	V
* 4.804	37.38	VB1T	34	-29.4	41.98	54	-12.02	-	-	0	100	V
* 12.011	37.41	PK3	39.1	-22.7	53.81	-	-	74	-20.19	0	100	V
* 12.011	26.71	VB1T	39.1	-22.7	43.11	54	-10.89	-	-	0	100	V
1.892	42.41	PK3	31	-22.6	50.81	-	-	-	-	0	100	V
1.892	29.54	VB1T	31	-22.6	37.94	-	-	-	-	0	100	V
7.206	47.17	PK3	35.6	-28.4	54.37	-	-	-	-	0	100	V
7.206	44	VB1T	35.6	-28.4	51.2	54	-2.8	-	-	0	100	V

MID CHANNEL HORIZONTAL



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

MID CHANNEL VERTICAL



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

MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 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	1.308	32.74	PK	29.8	-23.1	39.44	-	-	74	-34.56	0-360	100	H
2	1.989	32.45	PK	31.5	-22.5	41.45	-	-	-	-	0-360	100	H
3	3.993	31.01	PK	33.2	-30.4	33.81	-	-	74	-40.19	0-360	100	H
4	4.882	48.05	PK	34	-29.1	52.95	-	-	74	-21.05	0-360	100	H
5	7.323	40.71	PK	35.6	-27.2	49.11	-	-	74	-24.89	0-360	100	H
6	12.206	35.2	PK	39	-24.2	50	-	-	74	-24	0-360	100	H

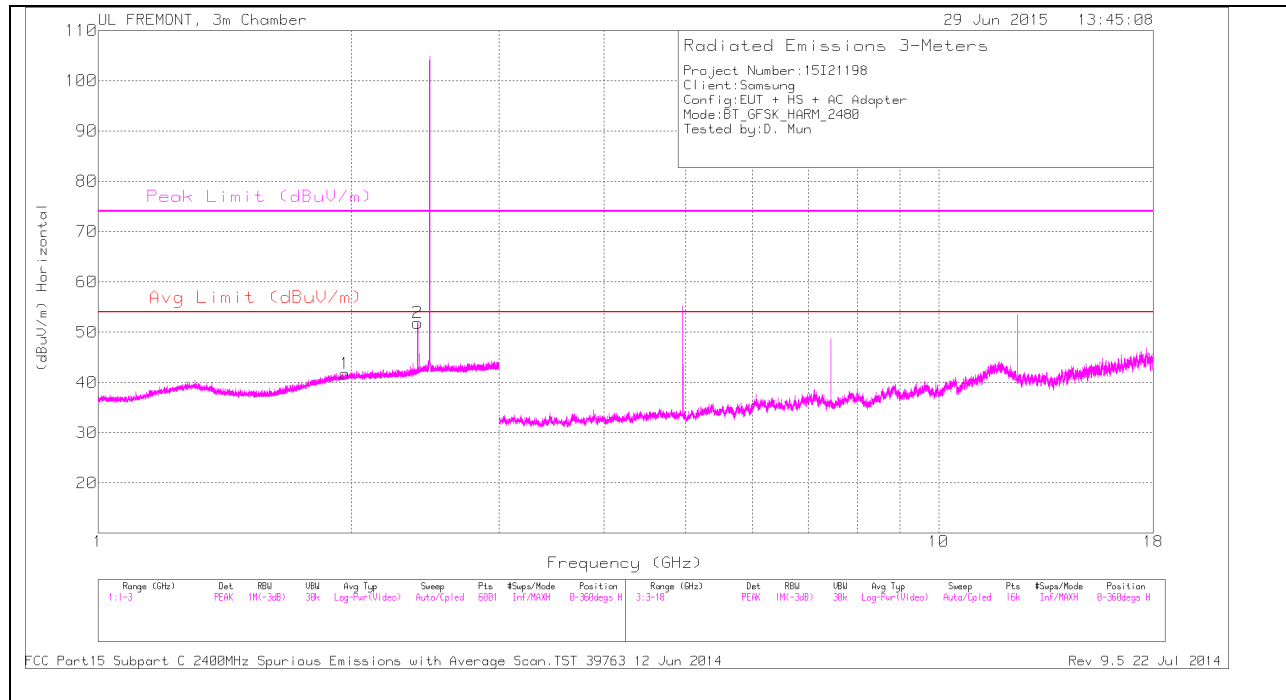
PK - Peak detector

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
1.307	29.74	VB1T	29.8	-23.1	36.44	54	-17.56	-	-	0	100	H
1.309	43.16	PK3	29.8	-23.1	49.86	-	-	74	-24.14	0	100	H
1.987	42.35	PK3	31.5	-22.5	51.35	-	-	-	-	0	100	H
1.99	29.57	VB1T	31.5	-22.5	38.57	-	-	-	-	0	100	H
3.993	40.75	PK3	33.2	-30.4	43.55	-	-	74	-30.45	0	100	H
3.995	27.69	VB1T	33.2	-30.4	30.49	54	-23.51	-	-	0	100	H
4.882	42.32	VB1T	34	-29.1	47.22	54	-6.78	-	-	0	100	H
4.883	46.21	PK3	34	-29.1	51.11	-	-	74	-22.89	0	100	H
7.323	39.57	PK3	35.6	-27.2	47.97	-	-	74	-26.03	0	100	H
7.324	30.56	VB1T	35.6	-27.2	38.96	54	-15.04	-	-	0	100	H
12.206	38.95	PK3	39	-24.2	53.75	-	-	74	-20.25	0	100	H
12.206	28.04	VB1T	39	-24.2	42.84	54	-11.16	-	-	0	100	H

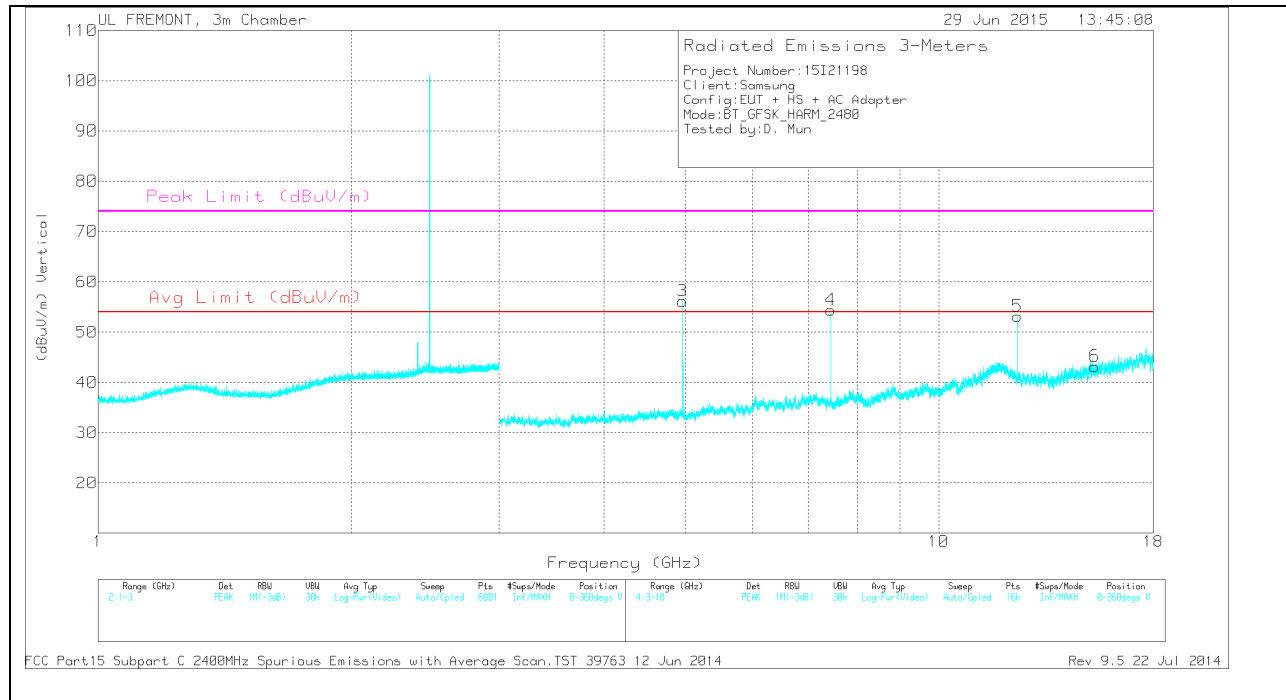
FCC Part15 Subpart C T186 2400MHz Spurious Emissions.TST 12746Rev 9.5 12 Jun 2013

HIGH CHANNEL HORIZONTAL



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

HIGH CHANNEL VERTICAL



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

HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/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	1.969	32.83	PK	31.4	-22.5	41.73	-	-	-	-	0-360	100	H
2	2.4	42.24	PK	32	-22.4	51.84	-	-	-	-	0-360	200	H
3	4.96	52.51	PK	34	-30.3	56.21	-	-	74	-17.79	0-360	200	V
4	7.441	46.33	PK	35.7	-27.6	54.43	-	-	74	-19.57	0-360	200	V
5	12.402	39.37	PK	39	-25.2	53.17	-	-	74	-20.83	0-360	200	V
6	15.333	29	PK	40	-25.8	43.2	-	-	-	-	0-360	200	V

PK - Peak detector

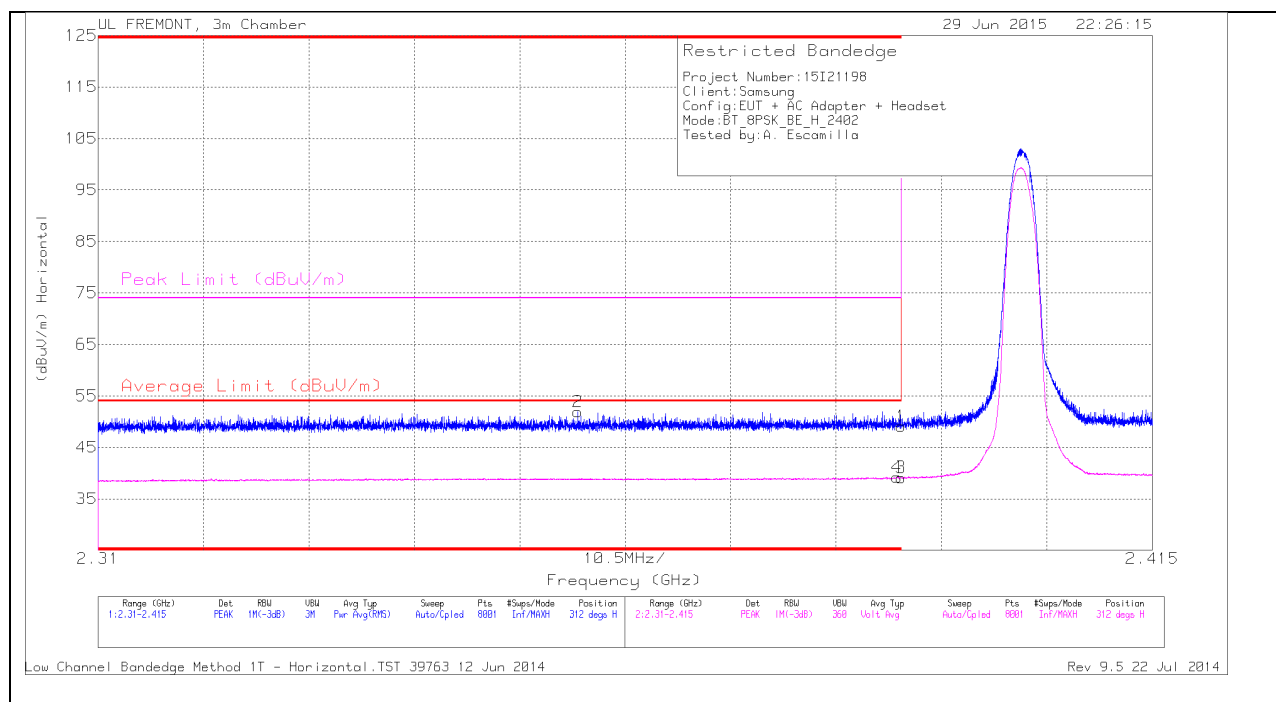
RADIATED EMISSIONS

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
1.968	42.74	PK3	31.4	-22.5	51.64	-	-	-	-	360	100	H
1.969	29.46	VB1T	31.4	-22.5	38.36	-	-	-	-	360	100	H
2.4	45.2	PK3	32	-22.4	54.8	-	-	-	-	360	200	H
2.4	34.97	VB1T	32	-22.4	44.57	-	-	-	-	360	200	H
4.96	51.03	PK3	34	-30.3	54.73	-	-	74	-19.27	360	200	V
4.96	48.73	VB1T	34	-30.3	52.43	54	-1.57	-	-	360	200	V
7.44	41.66	PK3	35.7	-27.6	49.76	-	-	74	-24.24	360	200	V
7.441	34.24	VB1T	35.7	-27.6	42.34	54	-11.66	-	-	360	200	V
12.401	42.03	PK3	39	-25.2	55.83	-	-	74	-18.17	360	200	V
12.401	37	VB1T	39	-25.2	50.8	54	-3.2	-	-	360	200	V
15.332	39.09	PK3	40	-25.9	53.19	-	-	-	-	360	200	V
15.335	25.84	VB1T	40	-25.9	39.94	-	-	-	-	360	200	V

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

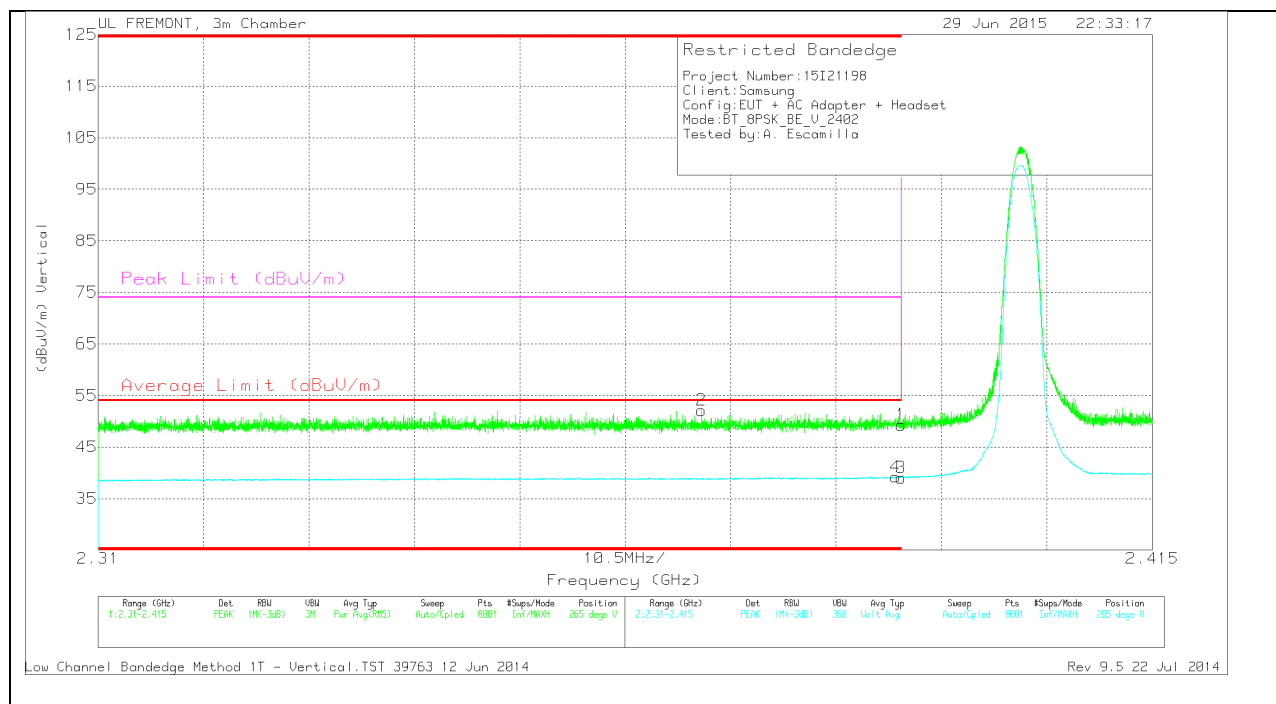
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/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	* 2.358	42.41	PK	31.9	-22.4	51.91	-	-	74	-22.09	312	287	H
1	* 2.39	39.51	PK	32	-22.4	49.11	-	-	74	-24.89	312	287	H
3	* 2.39	29.53	VB1T	32	-22.4	39.13	54	-14.87	-	-	312	287	H
4	* 2.39	29.62	VB1T	32	-22.4	39.22	54	-14.78	-	-	312	287	H

VERTICAL PEAK AND AVERAGE PLOT

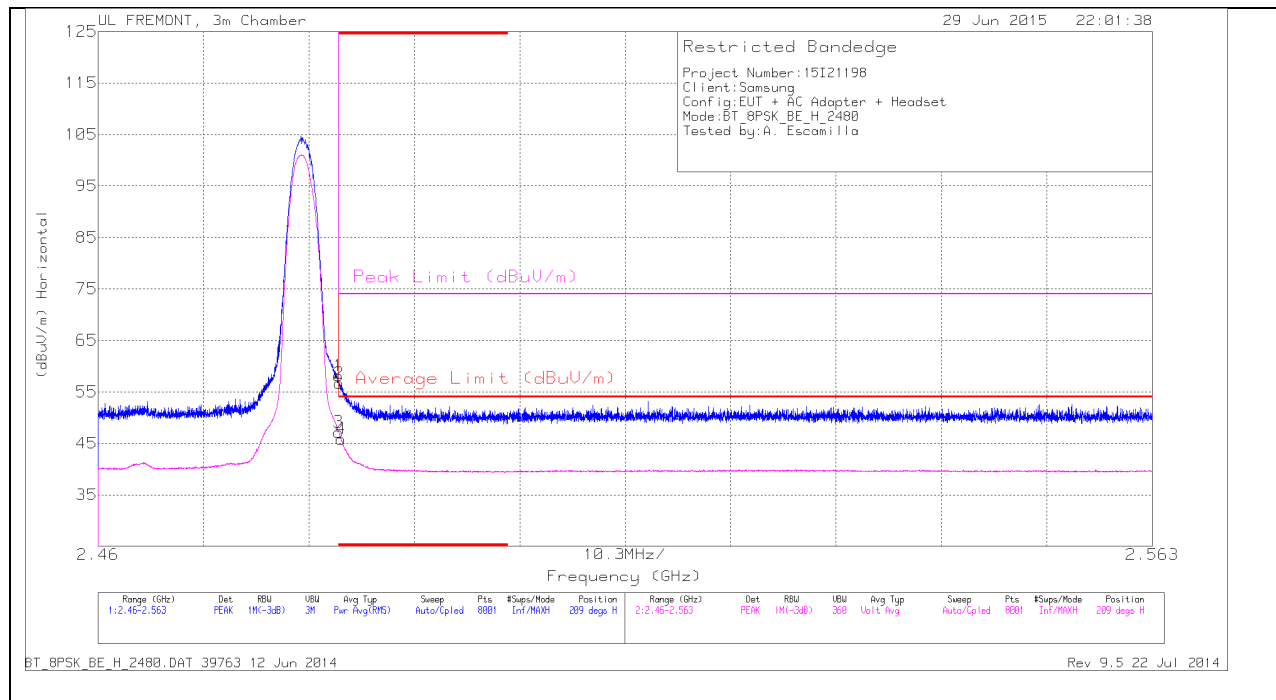


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/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	* 2.37	42.61	PK	31.9	-22.4	52.11	-	-	74	-21.89	265	306	V
4	* 2.389	29.6	VB1T	32	-22.4	39.2	54	-14.8	-	-	265	306	V
1	* 2.39	39.7	PK	32	-22.4	49.3	-	-	74	-24.7	265	306	V
3	* 2.39	29.44	VB1T	32	-22.4	39.04	54	-14.96	-	-	265	306	V

AUTHORIZED BANDEDGE (HIGH CHANNEL)

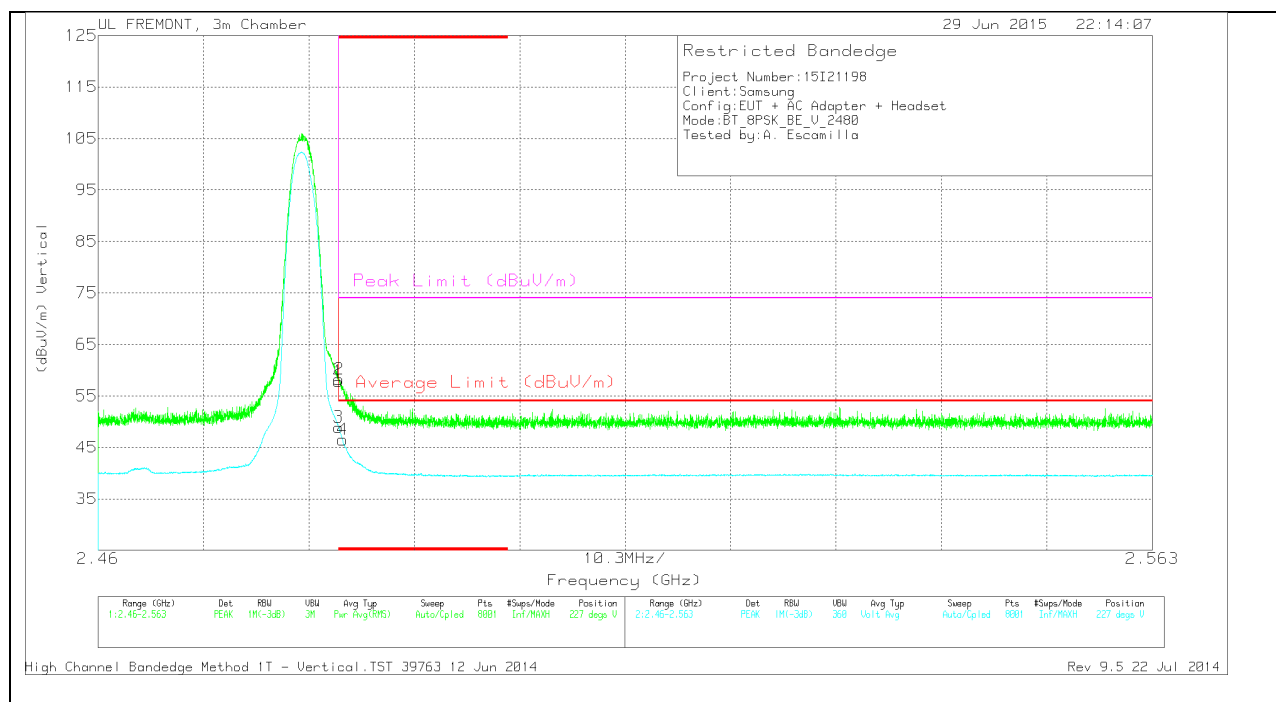
HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL 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	47.94	PK	32.3	-22.1	58.14	-	-	74	-15.86	209	238	H
2	* 2.484	46.47	PK	32.3	-22.1	56.67	-	-	74	-17.33	209	238	H
3	* 2.484	36.99	VB1T	32.3	-22.1	47.19	54	-6.81	-	-	209	238	H
4	* 2.484	35.67	VB1T	32.3	-22.1	45.87	54	-8.13	-	-	209	238	H

VERTICAL PEAK AND AVERAGE PLOT

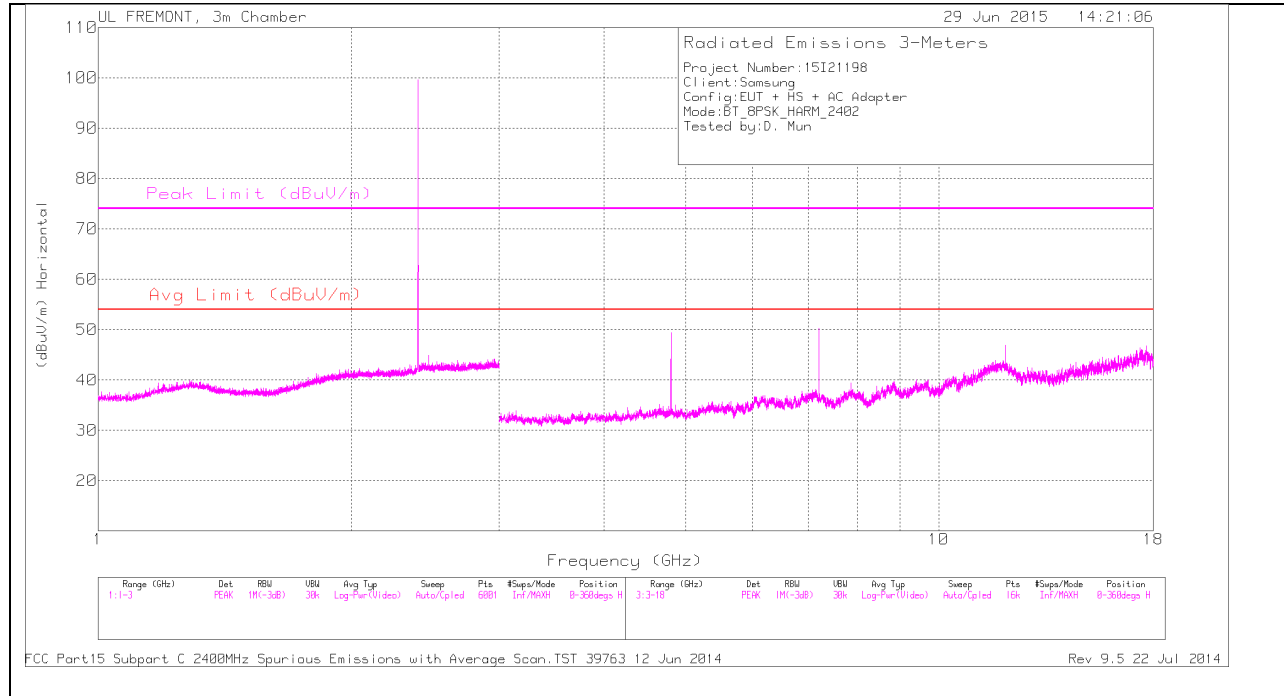


VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Filtr/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	47.63	PK	32.3	-22.1	57.83	-	-	74	-16.17	227	285	V
2	* 2.484	48.02	PK	32.3	-22.1	58.22	-	-	74	-15.78	227	285	V
3	* 2.484	38.71	VB1T	32.3	-22.1	48.91	54	-5.09	-	-	227	285	V
4	* 2.484	36.3	VB1T	32.3	-22.1	46.5	54	-7.5	-	-	227	285	V

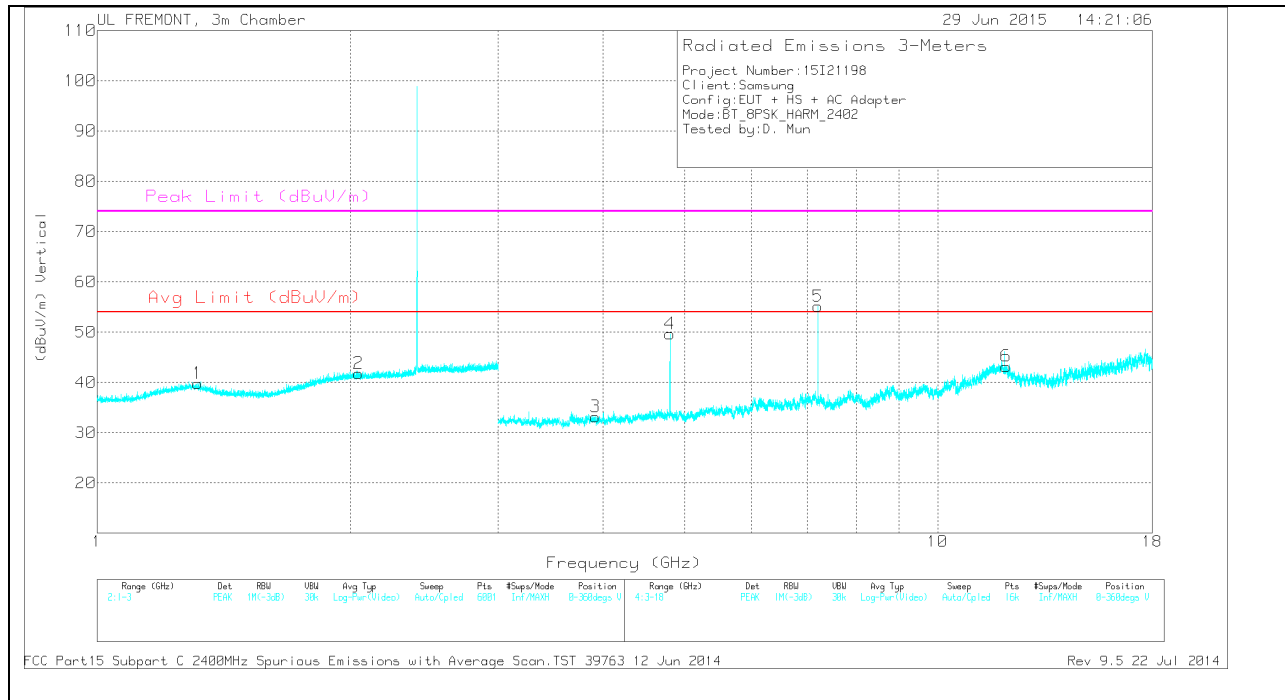
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL VERTICAL



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

LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF 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	1.318	33.2	PK	29.7	-23.1	39.8	-	-	74	-34.2	0-360	100	V
2	2.046	32.82	PK	31.5	-22.5	41.82	-	-	-	-	0-360	100	V
3	3.914	30.5	PK	33.2	-30.5	33.2	-	-	74	-40.8	0-360	200	V
4	4.803	45.08	PK	34	-29.4	49.68	-	-	74	-24.32	0-360	200	V
5	7.204	47.94	PK	35.6	-28.4	55.14	-	-	-	-	0-360	200	V
6	12.061	27.61	PK	39	-23.4	43.21	-	-	74	-30.79	0-360	200	V

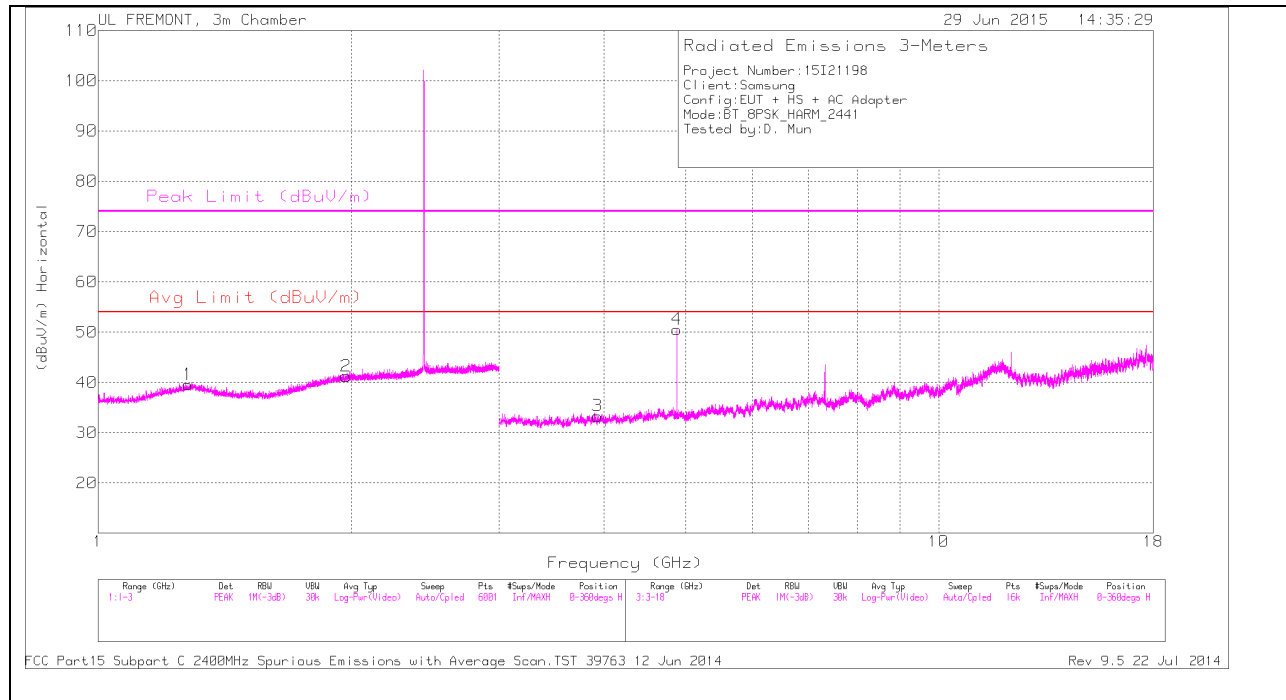
PK - Peak detector

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
1.316	29.65	VB1T	29.7	-23.1	36.25	54	-17.75	-	-	117	100	V
1.317	42.86	PK3	29.7	-23.1	49.46	-	-	74	-24.54	117	100	V
2.044	42.93	PK3	31.5	-22.5	51.93	-	-	-	-	117	100	V
2.044	29.53	VB1T	31.5	-22.5	38.53	-	-	-	-	117	100	V
3.915	39.85	PK3	33.2	-30.5	42.55	-	-	74	-31.45	117	200	V
3.916	27.17	VB1T	33.2	-30.5	29.87	54	-24.13	-	-	117	200	V
4.803	42.76	VB1T	34	-29.4	47.36	54	-6.64	-	-	117	200	V
4.804	47.14	PK3	34	-29.4	51.74	-	-	74	-22.26	117	200	V
7.205	46.26	VB1T	35.6	-28.4	53.46	54	-0.54	-	-	117	200	V
7.206	50.61	PK3	35.6	-28.4	57.81	-	-	-	-	117	200	V
12.062	36.43	PK3	39	-23.4	52.03	-	-	74	-21.97	117	200	V
12.063	24.33	VB1T	39	-23.4	39.93	54	-14.07	-	-	117	200	V

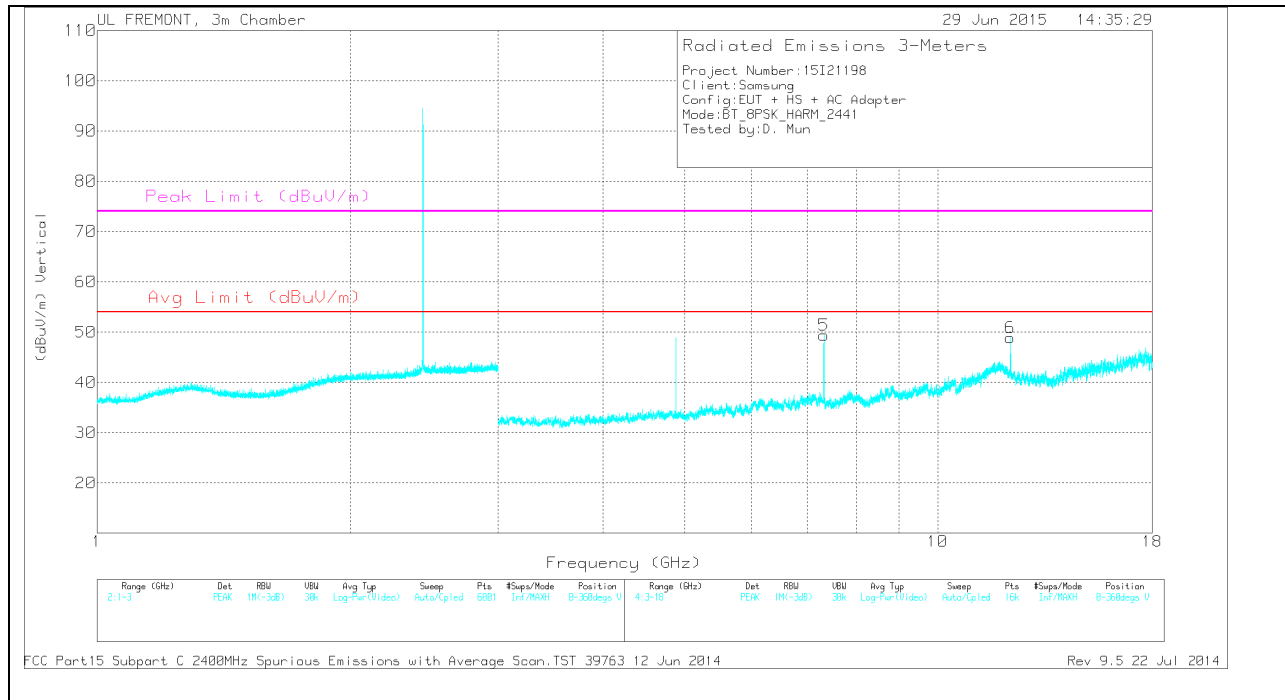
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MID CHANNEL HORIZONTAL



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	1.279	33.07	PK	29.7	-23.2	39.57	-	-	74	-34.43	0-360	100	H
2	1.973	32.44	PK	31.4	-22.6	41.24	-	-	-	-	0-360	100	H
3	3.926	30.34	PK	33.2	-30.2	33.34	-	-	74	-40.66	0-360	100	H
4	4.881	45.67	PK	34	-29.1	50.57	-	-	74	-23.43	0-360	100	H
5	7.322	40.89	PK	35.6	-27.1	49.39	-	-	74	-24.61	0-360	100	V
6	12.205	34.07	PK	39	-24.2	48.87	-	-	74	-25.13	0-360	100	V

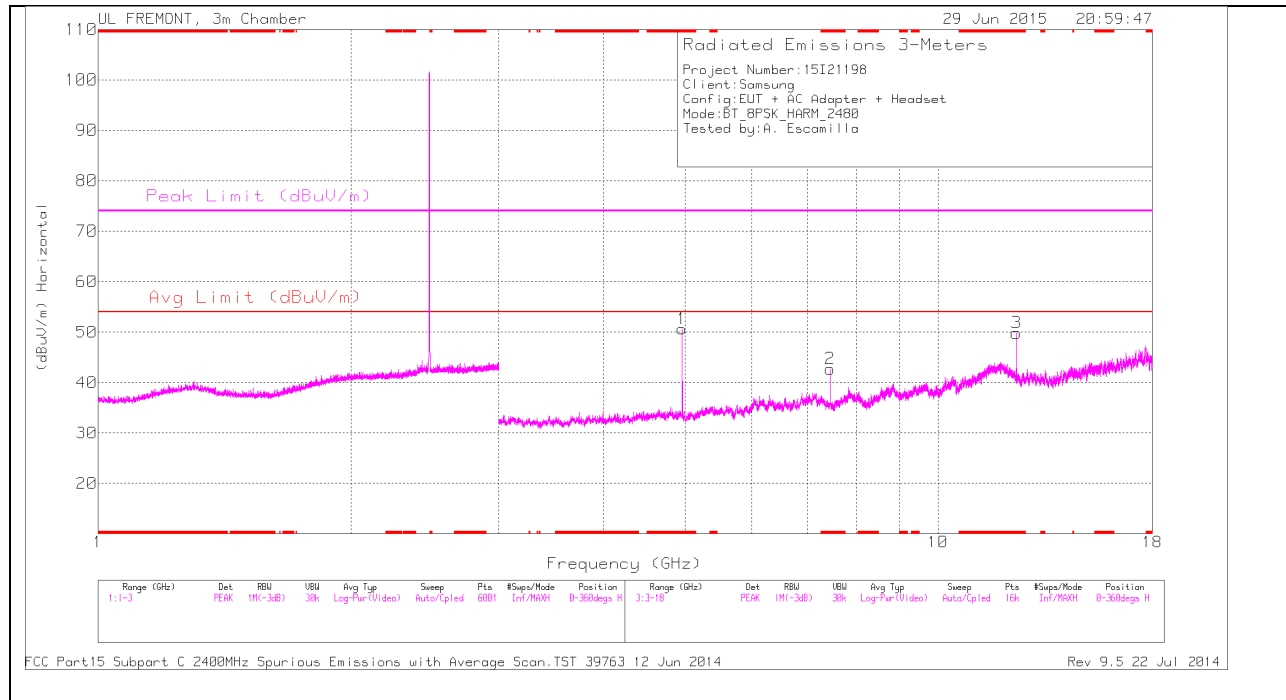
PK - Peak detector

RADIATED EMISSIONS

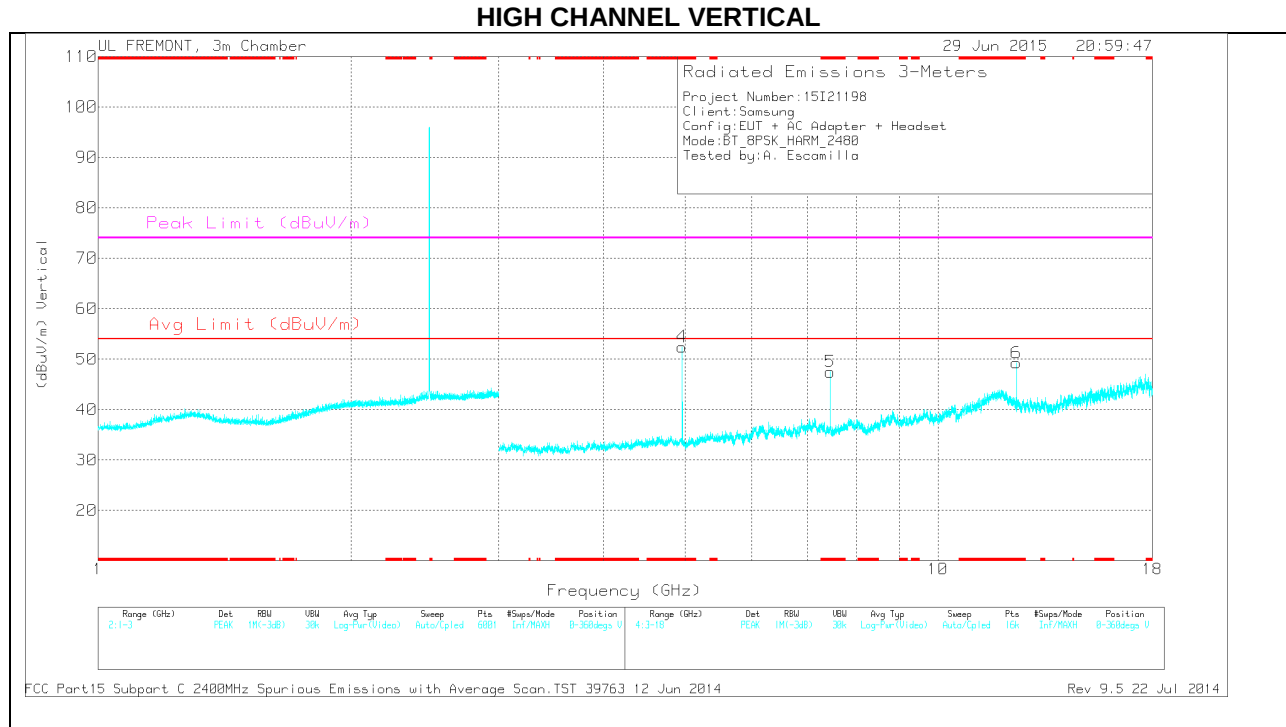
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.278	43.27	PK3	29.7	-23.1	49.87	-	-	74	-24.13	0	100	H
1.28	29.81	VB1T	29.7	-23.2	36.31	54	-17.69	-	-	0	100	H
1.974	42.05	PK3	31.4	-22.6	50.85	-	-	-	-	0	100	H
1.974	29.54	VB1T	31.4	-22.6	38.34	-	-	-	-	0	100	H
3.926	39.67	PK3	33.2	-30.2	42.67	-	-	74	-31.33	0	100	H
3.928	27.19	VB1T	33.2	-30.2	30.19	54	-23.81	-	-	0	100	H
4.881	43.07	PK3	34	-29.1	47.97	-	-	74	-26.03	0	100	H
4.881	36.15	VB1T	34	-29.1	41.05	54	-12.95	-	-	0	100	H
7.322	42.96	PK3	35.6	-27.1	51.46	-	-	74	-22.54	0	100	V
7.322	36.47	VB1T	35.6	-27.1	44.97	54	-9.03	-	-	0	100	V
12.204	30.56	VB1T	39	-24.2	45.36	54	-8.64	-	-	0	100	V
12.206	40.32	PK3	39	-24.2	55.12	-	-	74	-18.88	0	100	V

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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 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	* 4.96	46.91	PK	34	-30.3	50.61	-	-	74	-23.39	0-360	200	H
2	* 7.439	34.52	PK	35.7	-27.5	42.72	-	-	74	-31.28	0-360	200	H
3	* 12.4	36.05	PK	39	-25.2	49.85	-	-	74	-24.15	0-360	200	H
4	* 4.959	48.73	PK	34	-30.3	52.43	-	-	74	-21.57	0-360	200	V
5	* 7.44	39.28	PK	35.7	-27.5	47.48	-	-	74	-26.52	0-360	200	V
6	* 12.4	35.48	PK	39	-25.2	49.28	-	-	74	-24.72	0-360	200	V

PK - Peak detector

RADIATED EMISSIONS

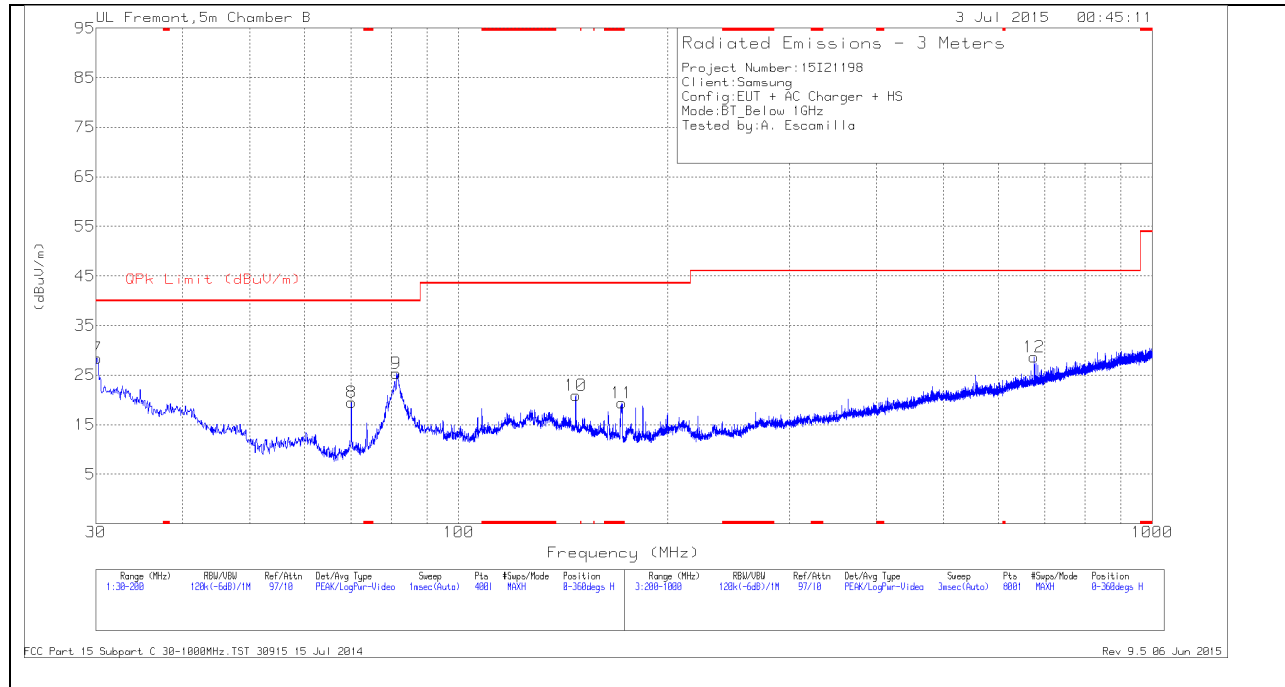
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.96	50.64	PK3	34	-30.3	54.34	-	-	74	-19.66	335	318	H
* 4.96	46.16	VB1T	34	-30.3	49.86	54	-4.14	-	-	335	318	H
* 7.439	44.28	PK3	35.7	-27.5	52.48	-	-	74	-21.52	357	393	H
* 7.439	37.02	VB1T	35.7	-27.5	45.22	54	-8.78	-	-	357	393	H
* 12.4	43.79	PK3	39	-25.2	57.59	-	-	74	-16.41	112	198	H
* 12.4	36.19	VB1T	39	-25.2	49.99	54	-4.01	-	-	112	198	H
* 4.96	52.28	PK3	34	-30.3	55.98	-	-	74	-18.02	57	341	V
* 4.96	48.27	VB1T	34	-30.3	51.97	54	-2.03	-	-	57	341	V
* 7.44	46.18	PK3	35.7	-27.6	54.28	-	-	74	-19.72	87	231	V
* 7.439	38.68	VB1T	35.7	-27.5	46.88	54	-7.12	-	-	87	231	V
* 12.401	41.66	PK3	39	-25.2	55.46	-	-	74	-18.54	3	164	V
* 12.4	33.21	VB1T	39	-25.2	47.01	54	-6.99	-	-	3	164	V

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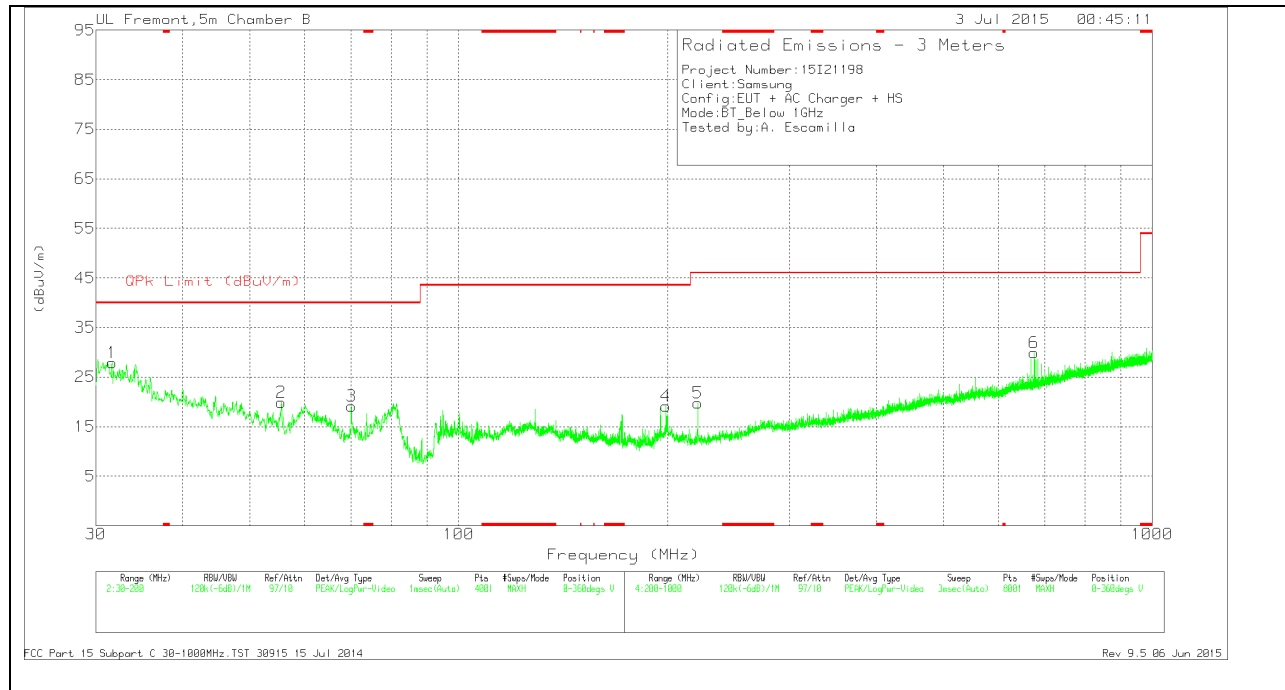
9.3. WORST-CASE BELOW 1 GHz

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	AFT243 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
11	* 172.035	34.97	Pk	11.5	-27.1	19.37	43.52	-24.15	0-360	199	H
7	30.1275	36.63	Pk	20.6	-28.8	28.43	40	-11.57	0-360	299	H
1	31.6575	37.02	Pk	19.7	-28.8	27.92	40	-12.08	0-360	101	V
2	55.5425	41.11	Pk	7.3	-28.5	19.91	40	-20.09	0-360	101	V
8	70.035	39.69	Pk	8.1	-28.3	19.49	40	-20.51	0-360	100	H
3	70.035	39.31	Pk	8.1	-28.3	19.11	40	-20.89	0-360	101	V
9	81.34	46	Pk	7.5	-28.2	25.3	40	-14.7	0-360	199	H
10	147.47	35.67	Pk	12.6	-27.4	20.87	43.52	-22.65	0-360	100	H
4	199.065	33.45	Pk	12.6	-26.9	19.15	43.52	-24.37	0-360	101	V
5	221.2	35.66	Pk	10.7	-26.6	19.76	46.02	-26.26	0-360	199	V
12	676	33.29	Pk	19.9	-24.6	28.59	46.02	-17.43	0-360	399	H
6	676	34.6	Pk	19.9	-24.6	29.9	46.02	-16.12	0-360	101	V

* - 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 EUT is configured in accordance with ANSI C63.10.

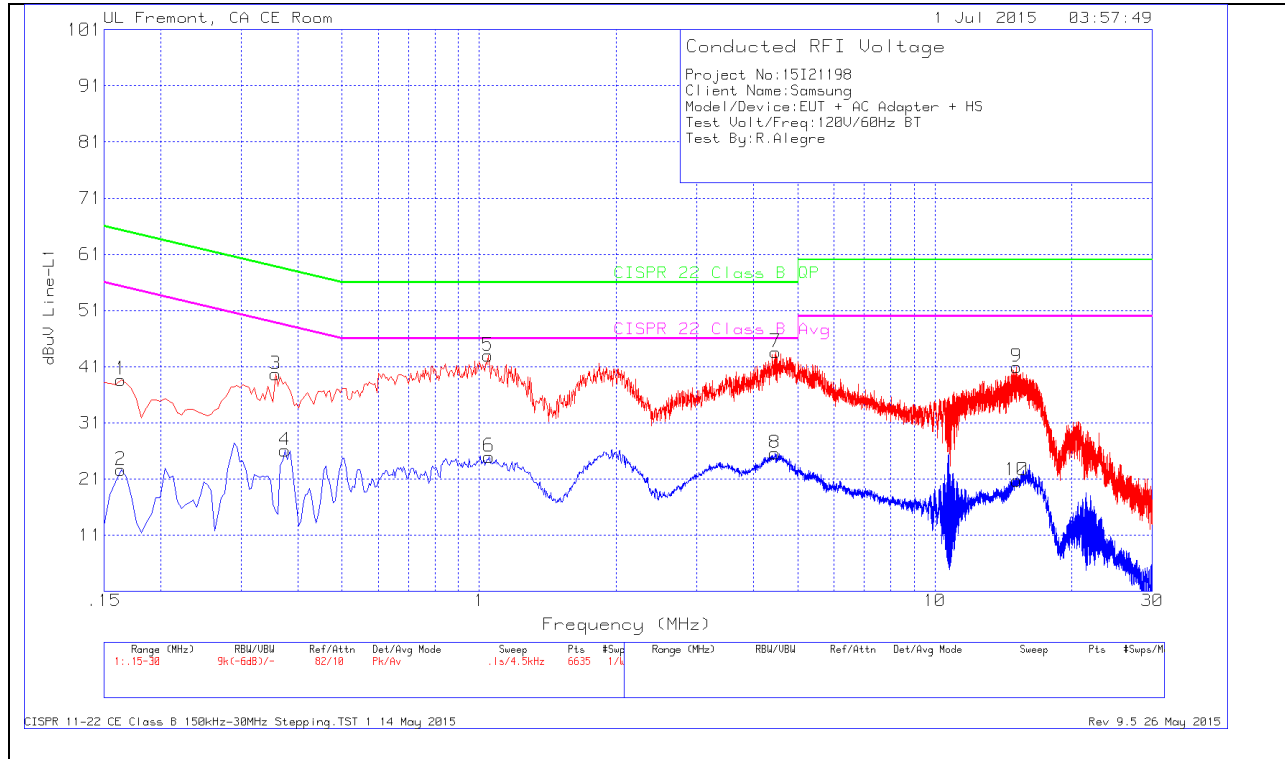
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

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

RESULTS

6 WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULTS

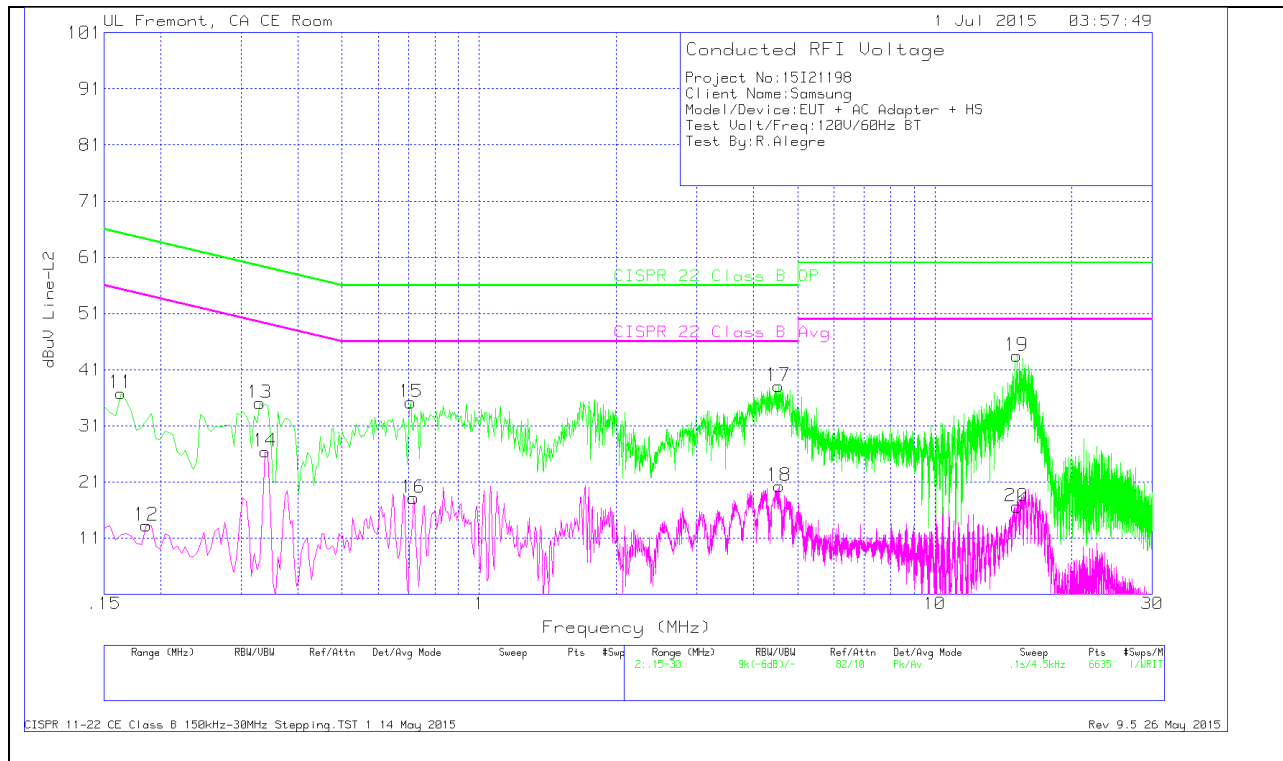
Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1	LC Cables 1&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
1	.1635	37.5	Pk	1.2	0	38.7	65.28	-26.58	55.28	-16.58
2	.1635	21.41	Av	1.2	0	22.61	-	-	55.28	-32.67
3	.357	39.16	Pk	.5	0	39.66	58.8	-19.14	48.8	-9.14
4	.375	25.69	Av	.4	0	26.09	-	-	48.39	-22.3
5	1.0455	42.78	Pk	.2	0	42.98	56	-13.02	46	-3.02
6	1.05	24.8	Av	.2	0	25	-	-	46	-21
7	4.47	43.29	Pk	.2	.1	43.59	56	-12.41	46	-2.41
8	4.4565	25.28	Av	.2	.1	25.58	-	-	46	-20.42
9	15.1215	40.49	Pk	.3	.2	40.99	60	-19.01	50	-9.01
10	15.1215	20.26	Av	.3	.2	20.76	-	-	50	-29.24

Pk - Peak detector

Av - Average detection

LINE 2 PLOT



LINE 2 RESULTS

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2	LC Cables 2&3	Corrected Reading dBuV	CISPR 22 Class B QP	Margin (dB)	CISPR 22 Class B Avg	Margin (dB)
11	.1635	35.5	Pk	1.3	0	36.8	65.28	-28.48	55.28	-18.48
12	.186	12.15	Av	1.1	0	13.25	-	-	54.21	-40.96
13	.33	34.55	Pk	.5	0	35.05	59.45	-24.4	49.45	-14.4
14	.339	25.93	Av	.5	0	26.43	-	-	49.23	-22.8
15	.708	34.88	Pk	.3	0	35.18	56	-20.82	46	-10.82
16	.717	17.85	Av	.3	0	18.15	-	-	46	-27.85
17	4.542	37.79	Pk	.2	.1	38.09	56	-17.91	46	-7.91
18	4.5555	19.98	Av	.2	.1	20.28	-	-	46	-25.72
19	15.126	42.97	Pk	.3	.2	43.47	60	-16.53	50	-6.53
20	15.135	16.15	Av	.3	.2	16.65	-	-	50	-33.35

Pk - Peak detector

Av - Average detection