



FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE Tablet + Bluetooth, DTS/UNII a/b/g/n/ac & ANT +

MODEL NUMBER: SM-T805Y

FCC ID: A3LSMT805Y

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Prepared for

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
416, MAETAN 3-DONG, YEONGTONG-GU
SUWON-CITY, GYEONGGI-DO 443-742, SOUTH KOREA

EUT DESCRIPTION: GSM/WCDMA/LTE Tablet + Bluetooth, DTS/UNII a/b/g/n/ac &
ANT+

MODEL: SM-T805Y

SERIAL NUMBER: R32F203DVSN, R32F500BEQT (Radiated); R32F108JLEK
(Conducted);

DATE TESTED: February 6 - APRIL 26; May 15 – June 5, 2014

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, ANSI C63.4-2009.

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	☐ Chamber D
☒ Chamber B	☒ Chamber E
☐ Chamber C	☒ Chamber F

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:

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

4.3. MEASUREMENT UNCERTAINTY

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

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

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Tablet + Bluetooth, DTS/UNII a/b/g/n/ac & ANT+.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	Total Output Power (dBm)	Total Output Power (mW)
2412 - 2462	802.11b	19.31	85.31
2412 - 2462	802.11g	24.07	255.27
2412 - 2462	802.11n HT20	23.63	230.67
5745-5825	802.11a	20.38	109.14
5745-5825	802.11n HT20	20.68	116.95
5755-5795	802.11n HT40	21.03	126.77
5755-5795	802.11ac HT80	21.85	153.11

The transmitter has a average conducted output power as follows:

Band (GHz)	No. of Transmitters	Mode	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)		
						Wi-Fi 1	Wi-Fi 2	
2.4	1 Tx	802.11b	1 Mbps	1	2412	13.7		
				6	2437	14.3		
				11	2462	13.6		
				1	2412		12.7	
				6	2437		13.4	
				11	2462		12.8	
	2 Tx			1	2412	13.7	12.7	
				6	2437	14.3	13.4	
				11	2462	13.7	12.8	
	1 Tx	802.11g	6 Mbps	1	2412	11.9		
				6	2437	12.5		
				11	2462	12.0		
				1	2412		10.9	
				6	2437		11.6	
				11	2462		11.2	
				2 Tx	1	2412	11.9	11.0
					6	2437	12.5	11.6
					11	2462	12.0	11.3
	1 Tx	802.11n (HT20)	MCS0	1	2412	10.7		
				6	2437	11.3		

				11	2462	11.0	
				1	2412		9.5
				6	2437		10.2
				11	2462		9.7
	2 Tx			1	2412	11.0	9.8
				6	2437	11.3	10.2
				11	2462	11.0	9.8

Band (GHz)	Mode	Mode	Mode	Ch #	Freq. (MHz)	Avg Pwr (dBm)	
						Wi-Fi 1	Wi-Fi 2
5.8 (DTS)	1 Tx	802.11a	6 Mbps	149	5745	9.6	
				157	5785	9.5	
				165	5825	9.4	
				149	5745		9.9
				157	5785		9.7
				165	5825		9.6
				149	5745	10.5	10.5
				157	5785	10.4	10.5
				165	5825	10.4	10.4
	2 Tx	802.11n (HT20)	MCS0	149	5745	10.3	
				157	5785	10.2	
				165	5825	10.2	
				149	5745		9.6
				157	5785		9.6
				165	5825		9.5
				149	5745	10.3	10.4
				157	5785	10.2	10.3
				165	5825	10.2	10.3
	1 Tx	802.11n (HT40)	MCS0	151	5755	10.4	
				159	5795	10.3	
				151	5755		9.8
				159	5795		9.7
				151	5755	10.4	10.0
				159	5795	10.3	10.2
	2 Tx	802.11ac (20 MHz)	MCS0	149	5745	10.3	
				157	5785	10.3	
				165	5825	10.2	
				149	5745		9.6
				157	5785		9.6
				165	5825		9.6
				149	5745	10.3	10.4
				157	5785	10.3	10.3
				165	5825	10.2	10.3
	1 Tx	802.11ac (40 MHz)	MCS0	151	5755	10.4	
				159	5795	10.3	
				151	5755		9.8

				159	5795		9.8
	2 Tx			151	5755	10.4	10.0
				159	5795	10.3	10.2
	1 Tx	802.11ac (80 MHz)	MCS0	155	5775	10.3	
				155	5775		10.5
	2 Tx			155	5775	10.3	10.5

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes two FPCB antennas, with maximum gain of 0.19 dBi for 2.4GHz and 1.35 dBi for 5.8GHz; -4.24dBi for 2.4GHz and -2.01dBi for 5.8GHz

5.4. List of test reduction and modes covering other modes:

2400 - 2483.5 MHz Authorized Frequency Band (Antenna Port & Radiated Testing)		
Frequency Range (MHz)	Mode	Covered by
2412 - 2462	802.11b Legacy 1TX	802.11b CDD 2TX
2412 - 2462	802.11g Legacy 1TX	802.11g CDD 2TX
2412 - 2462	802.11n 1TX	802.11n HT20 CDD 2TX
2412 - 2462	802.11n STBC 2TX	802.11n HT20 CDD 2TX
2412 - 2462	802.11n HT40 1TX	802.11n HT40 CDD 2TX
2412 - 2462	802.11n HT40 STBC 2TX	802.11n HT40 CDD 2TX

5725 - 5850 MHz Authorized Frequency Band (Antenna Port & Radiated Testing)		
Frequency Range (MHz)	Mode	Covered by
5745 - 5825	802.11a Legacy 1TX	802.11a CDD 2TX
5745 - 5825	802.11n HT20 1TX	802.11n HT20 CDD 2TX
5745 - 5825	802.11n HT20 STBC 2TX	802.11n HT20 CDD 2TX
5755 - 5795	802.11n HT40 1TX	802.11n HT40 CDD 2TX
5755 - 5795	802.11n HT40 STBC 2TX	802.11n HT40 CDD 2TX
5775	802.11ac VHT80 1TX	802.11ac VHT80 CDD 2TX
5775	802.11ac VHT80 STBC 2TX	802.11ac VHT80 CDD 2TX

5.5. 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.

Based on the baseline scan, the worst-case data rates were:

802.11b mode: 1 Mbps
802.11g mode: 6 Mbps
802.11a mode: 6 Mbps
802.11n HT20mode: MCS0
802.11n HT40mode: MCS0
802.11ac VHT80mode: MCS0

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

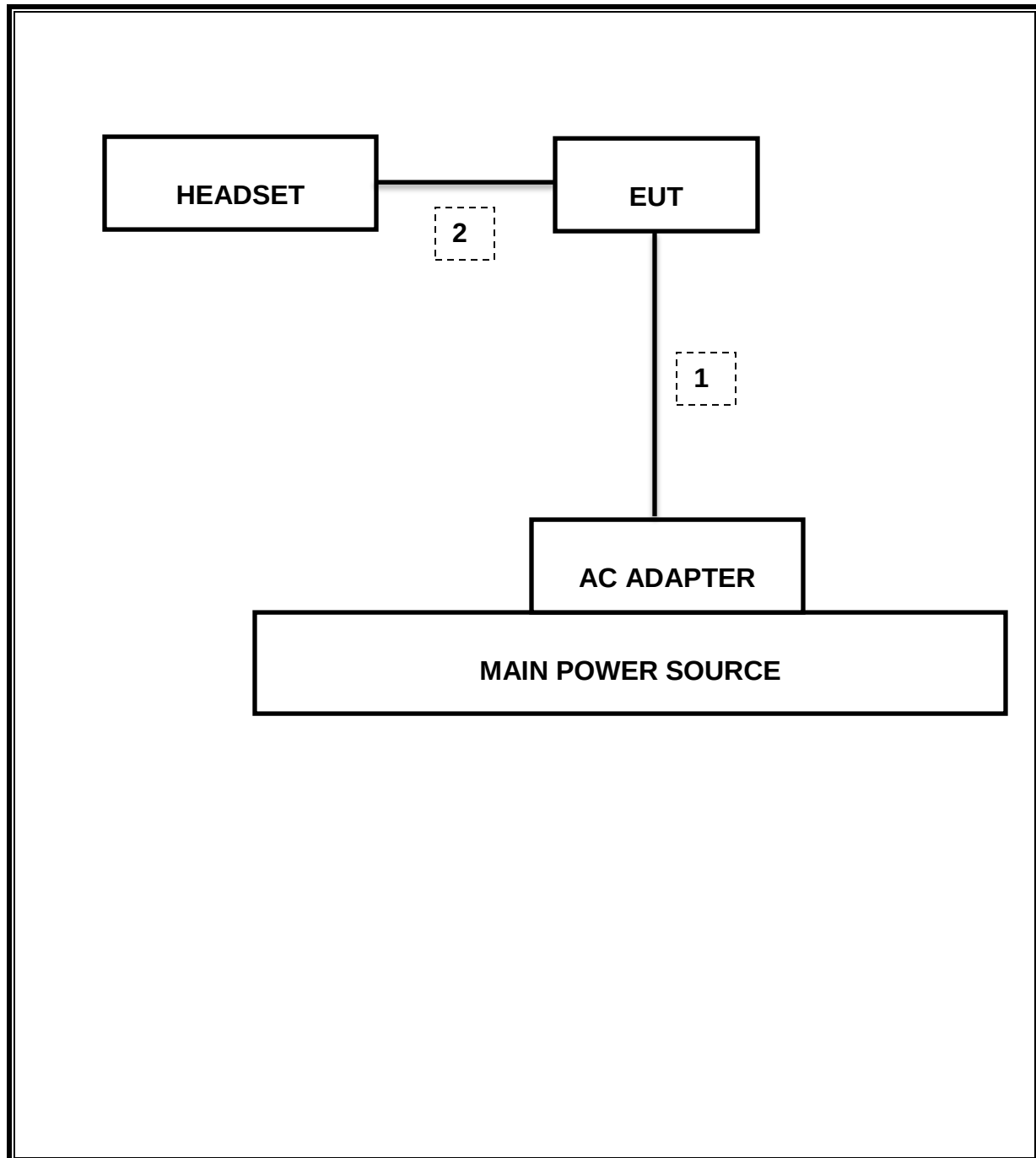
Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
AC Adapter	Samsung	Samsung	N/A	N/A
Earphone	Samsung	Samsung	N/A	N/A

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 a stand-alone unit during the tests. Test software exercised the radio card.

SETUP DIAGRAM FOR TESTS

6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	Asset	Cal Due
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/14
Spectrum Analyzer, 9KHz-40GHz	HP	8564E	C00986	04/01/15
EMI Test Receiver, 9 kHz-7 GHz	R & S	ESCI 7	1000741	08/13/14
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/18/14
Peak Power Meter	Agilent / HP	E4416A	C00963	12/13/14
Peak / Average Power Sensor	Agilent / HP	E9327A	C00964	12/13/14
Antenna, Horn, 1-18 GHz	ETS	3117	C01022	02/21/15
Antenna, Horn, 18- 26 GHz	ARA	MWH-1826/B	C00946	11/12/14
Antenna, Horn, 26-40 GHz	ARA	MWH-2640	C00891	06/28/14
Antenna, Bilog, 30MHz-1 GHz	Sunol Sciences	JB1	T243	03/06/15
RF Preamplifier, 100KHz -> 1300MHz	HP	TBD	C00825	06/01/15
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	924343	03/23/15
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	F00351	06/27/14
AC Power Supply, 2,500VA 45-500Hz	Elgar-Ametek	CW2501M	F00013	CNR
RF Preamplifier, 1GHz - 40GHz	Miteq	NSP4000-SP2	C00990	08/20/14
Attenuator / Switch driver	HP	11713A	F00204	CNR
Low Pass Filter 3GHz	Micro-Tronics	LPS17541	F00219	05/23/15
High Pass Filter 5GHz	Micro-Tronics	HPS17542	F00222	05/22/15
High Pass Filter 6GHz	Micro-Tronics	HPM17543	F00224	05/22/15

7. MEASUREMENT METHODS

KDB 558074 D01 DTS Meas Guidance v03r01:Measurement Procedure PK2 is used for power and PKPSD is used for power spectral density.

Unwanted emissions within Restricted Bands are measured using traditional radiated procedures.

Band edge emissions within Restricted Bands are measured using RMS with duty cycle factor offset method.

8. ON TIME, DUTY CYCLE AND MEASUREMENT METHODS

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 789033 Zero-Span Spectrum Analyzer Method.

8.1. ON TIME AND DUTY CYCLE RESULTS (From original)

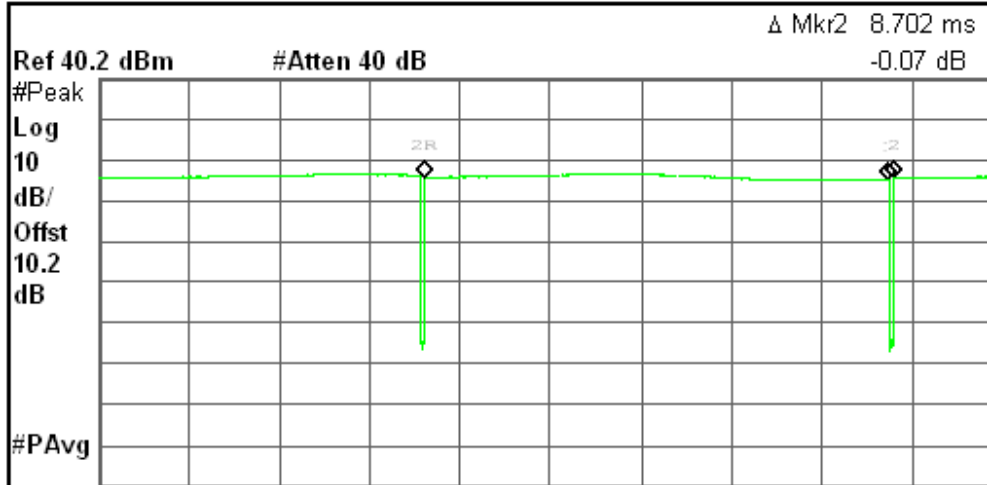
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
802.11b CDD	8.585	8.702	0.987	98.66%	0.06	0.010
802.11g CDD	1.415	1.530	0.925	92.48%	0.34	0.010
802.11n HT20 CDD	0.696	0.798	0.872	87.22%	0.59	0.010
5GHz Band						
802.11a CDD	1.420	1.525	0.931	93.11%	0.31	0.010
802.11n HT20 CDD	0.690	0.795	0.868	86.79%	0.62	0.010
802.11n HT40 CDD	0.3600	0.4640	0.776	77.59%	1.10	2.155
802.11ac VHT80 CDD	0.1920	0.2920	0.658	65.75%	1.82	3.425

2.4 B mode

Agilent 21:58:56 Feb 7, 2014

R T

Freq/Channel



Center Freq
2.43700000 GHz

Start Freq
2.43700000 GHz

Stop Freq
2.43700000 GHz

CF Step
8.00000000 MHz
Auto Man

Center 2.437 000 GHz Span 0 Hz
Res BW 8 MHz #VBW 50 MHz Sweep 16.8 ms (1001 pts)

Freq Offset
0.00000000 Hz

Marker	Trace	Type	X Axis	Amplitude
1R	(1)	Time	6.065 ms	15.96 dBm
1Δ	(1)	Time	8.585 ms	-0.52 dB
2R	(1)	Time	6.065 ms	15.96 dBm
2Δ	(1)	Time	8.702 ms	-0.07 dB

Signal Track
On Off

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2.4 G mode

Agilent 22:00:29 Feb 7, 2014

R T

Freq/Channel

Ref 40.2 dBm

#Atten 40 dB

Δ Mkr2 1.53 ms

0.27 dB

Center Freq
2.43700000 GHz

#Peak

Log

10

dB/

Offst

10.2

dB

Start Freq
2.43700000 GHz

Stop Freq
2.43700000 GHz

CF Step
8.00000000 MHz
Auto Man

#PAvg

Center 2.437 000 GHz

Span 0 Hz

Res BW 8 MHz

#VBW 50 MHz

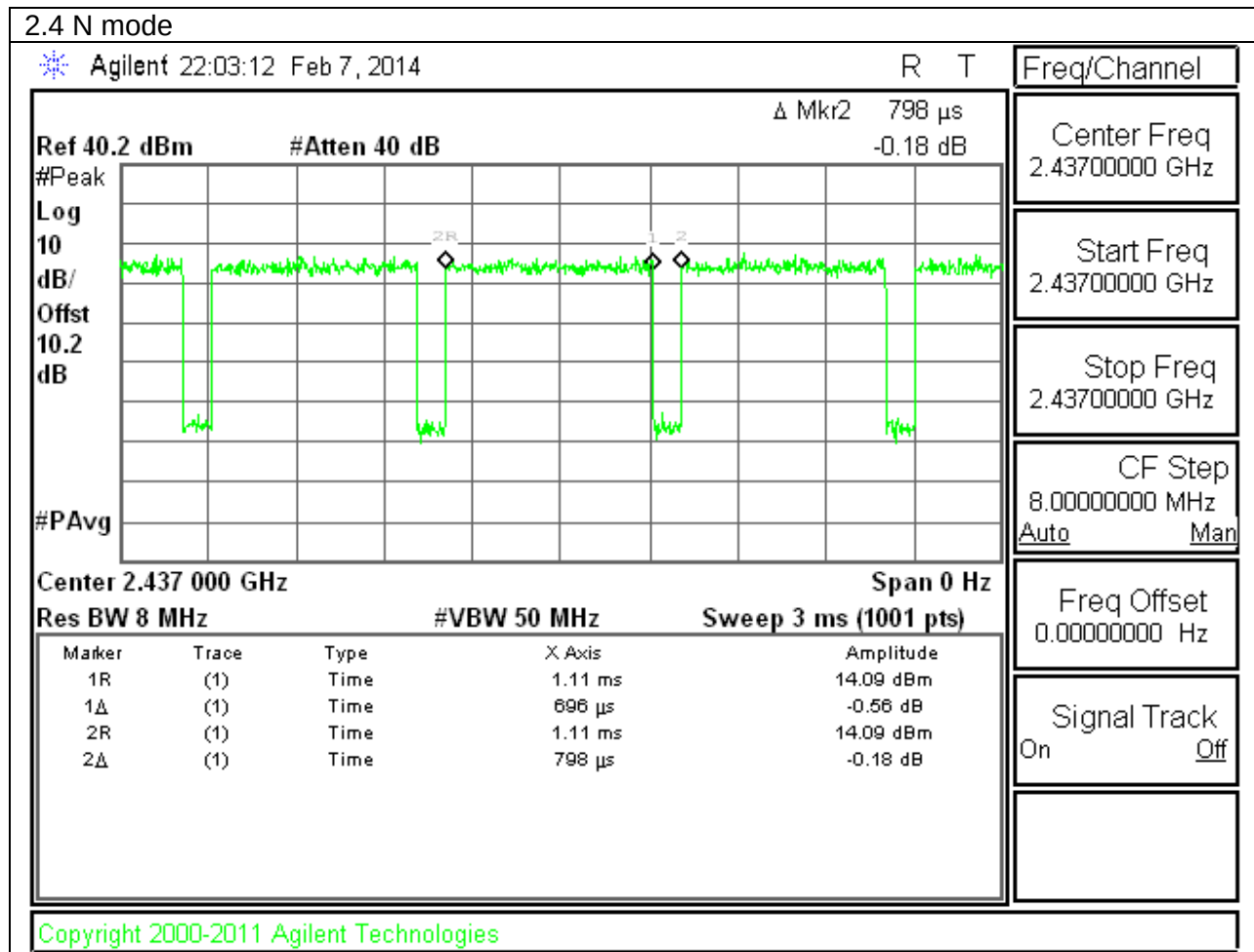
Sweep 5 ms (1001 pts)

Freq Offset
0.00000000 Hz

Marker	Trace	Type	X Axis	Amplitude
1R	(1)	Time	2.46 ms	14.01 dBm
1Δ	(1)	Time	1.415 ms	0.89 dB
2R	(1)	Time	2.465 ms	13.78 dBm
2Δ	(1)	Time	1.53 ms	0.27 dB

Signal Track
On Off

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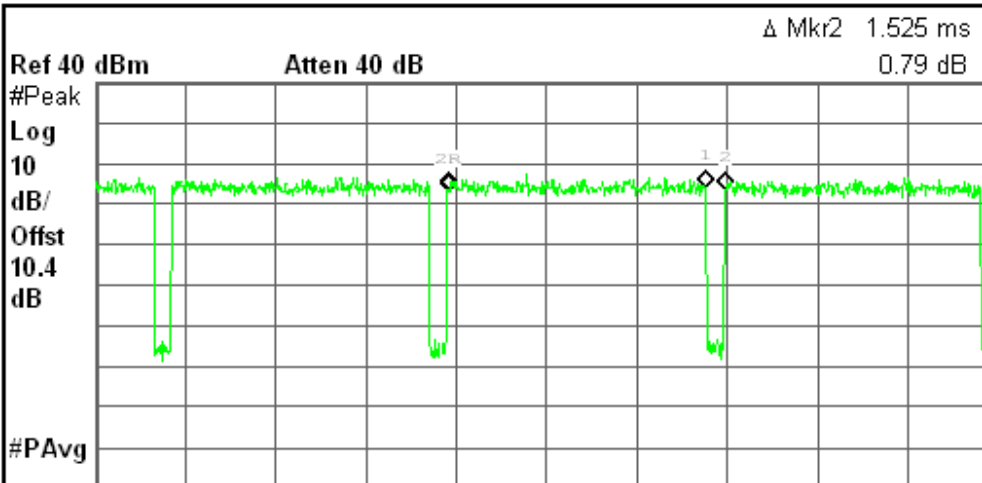


5.8 A mode

Agilent 20:19:30 Feb 10, 2014

R T

Freq/Channel



Center Freq
5.78500000 GHz

Start Freq
5.78500000 GHz

Stop Freq
5.78500000 GHz

CF Step
8.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Marker	Trace	Type	X Axis	Amplitude
1R	(1)	Time	1.955 ms	13.42 dBm
1Δ	(1)	Time	1.42 ms	0.56 dB
2R	(1)	Time	1.96 ms	12.88 dBm
2Δ	(1)	Time	1.525 ms	0.79 dB

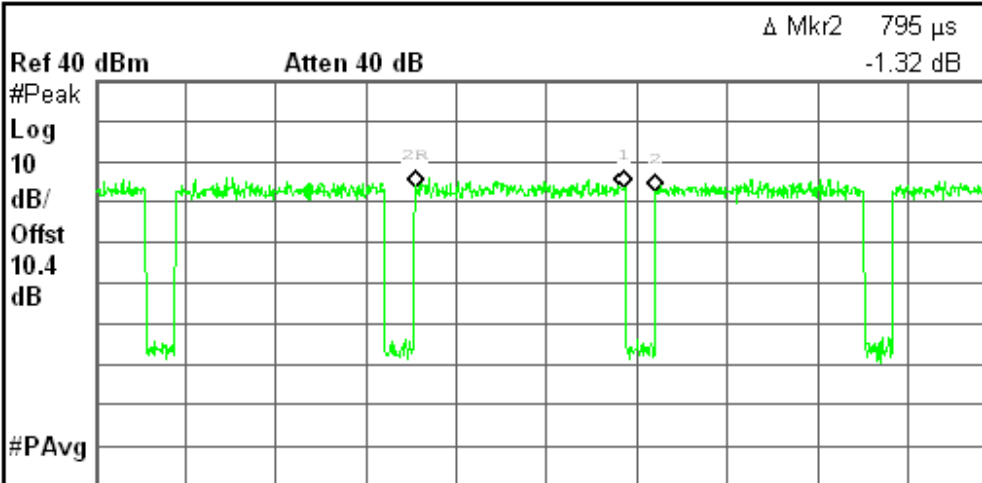
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5.8 N HT20 mode

Agilent 20:17:59 Feb 10, 2014

R T

Freq/Channel



Center Freq
5.78500000 GHz

Start Freq
5.78500000 GHz

Stop Freq
5.78500000 GHz

CF Step
8.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Marker	Trace	Type	X Axis	Amplitude
1R	(1)	Time	1.065 ms	13.75 dBm
1Δ	(1)	Time	690 μ s	-0.11 dB
2R	(1)	Time	1.065 ms	13.75 dBm
2Δ	(1)	Time	795 μ s	-1.32 dB

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5.8 N HT40mode

Agilent 20:16:03 Feb 10, 2014

R T

Freq/Channel

Ref 40 dBm

Atten 40 dB

Δ Mkr2 464 μ s
-0.23 dB

Center Freq
5.75500000 GHz

#Peak

Log

10

dB/

Offst

10.4

dB

Start Freq
5.75500000 GHz

Stop Freq
5.75500000 GHz

CF Step
8.00000000 MHz
Auto Man

#PAvg

Center 5.755 000 GHz

Span 0 Hz

Res BW 8 MHz

#VBW 50 MHz

Sweep 2 ms (1001 pts)

Freq Offset
0.00000000 Hz

Marker	Trace	Type	X Axis	Amplitude
1R	(1)	Time	690 μ s	5.62 dBm
1 Δ	(1)	Time	360 μ s	1.28 dB
2R	(1)	Time	690 μ s	5.62 dBm
2 Δ	(1)	Time	464 μ s	-0.23 dB

Signal Track
On Off

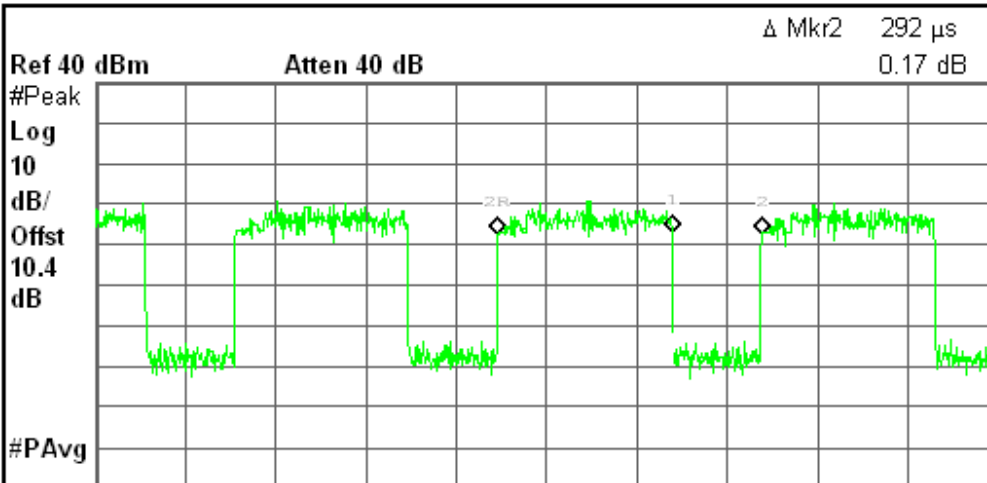
Copyright 2000-2011 Agilent Technologies

5.8 AC VHT80 mode

Agilent 20:13:51 Feb 10, 2014

R T

Freq/Channel



Center Freq
5.77500000 GHz

Start Freq
5.77500000 GHz

Stop Freq
5.77500000 GHz

CF Step
8.00000000 MHz
Auto Man

Center 5.775 000 GHz Span 0 Hz
Res BW 8 MHz #VBW 50 MHz Sweep 1 ms (1001 pts)

Freq Offset
0.00000000 Hz

Marker	Trace	Type	X Axis	Amplitude
1R	(1)	Time	446 μ s	2.48 dBm
1Δ	(1)	Time	192 μ s	0.54 dB
2R	(1)	Time	446 μ s	2.48 dBm
2Δ	(1)	Time	292 μ s	0.17 dB

Signal Track
On Off

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9. SUMMARY TABLE

The model FCC ID: A3LSMT805Y shares the same enclosure and circuit board as mode FCC ID: A3LSMT805. The WLAN/Bluetooth/NFC circuitry and layout, including antenna, are almost identical between the two units. The WLAN/Bluetooth antenna and surrounding circuitry is the same between these two units.

After confirming through preliminary radiated emissions that the performance of the A3LSMT805Y WLAN DTS remains representative of this model (FCC ID A3LSM T805) test data for FCC ID: A3LSMT805 is being submitted for this application.

Radiated performance for 5GHz band data is worse than A3LSMT805. So full radiated testing performed and document in the report.

Radiated emissions were fully re-evaluated against 15B requirements for digital devices and results indicated no significant differences between the two versions. Other differences between the two FCC IDs are in the WWAN RF Transceiver, connectivity part, components and placement. WWAN SAR and EMC has been fully retested for FCC ID: A3LSMT805Y.

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result	Worst Case
15.247 (a)(2)	RSS-210 A8.2(a)	Occupied Band width (6dB)	>500KHz	Conducted	Pass	8.57MHz
2.1051, 15.247 (d)	RSS-210 A8.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass	-33.49dBm
15.247	RSS-210 A8.4	TX conducted output power	<30dBm		Pass	24.07dBm
15.247	RSS-210 A8.2	PSD	<8dBm		Pass	-6.61dBm
15.207 (a)	RSS-GEN 7.2.2	AC Power Line conducted emissions	Section 10	Radiated	Pass	56dBuV
15.205, 15.209	RSS-210 Clause 2.6, RSS-210 Clause 6	Radiated Spurious Emission	< 54dBuV/m		Pass	53.75dBuV/m

10. ANTENNA PORT TEST RESULTS

10.1. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

IC RSS-210 A8.2 (a)

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

TEST PROCEDURE

Reference to KDB 558074 D01 DTS Meas Guidance v03r01: The transmitter output is connected to a spectrum analyzer with the RBW set to 100KHz, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

RESULTS

10.1.1. 802.11b CDD MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	2412	9.000	9.070	0.5
Mid	2437	9.030	9.030	0.5
High	2462	8.570	9.100	0.5

10.1.2. 802.11g CDD MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	2412	16.290	16.290	0.5
Mid	2437	16.330	16.380	0.5
High	2462	16.080	16.290	0.5

10.1.3. 802.11n CDD HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	2412	17.420	17.670	0.5
Mid	2437	17.460	17.670	0.5
High	2462	17.580	17.540	0.5

10.1.4. 802.11a CDD MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	16.500	16.400	0.5
Mid	5785	16.450	16.450	0.5
High	5825	16.450	16.450	0.5

10.1.5. 802.11n CDD HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5745	17.750	17.650	0.5
Mid	5785	17.700	17.650	0.5
High	5825	17.700	17.650	0.5

10.1.6. 802.11n CDD HT40 MODE IN THE 5.8 GHz BAND

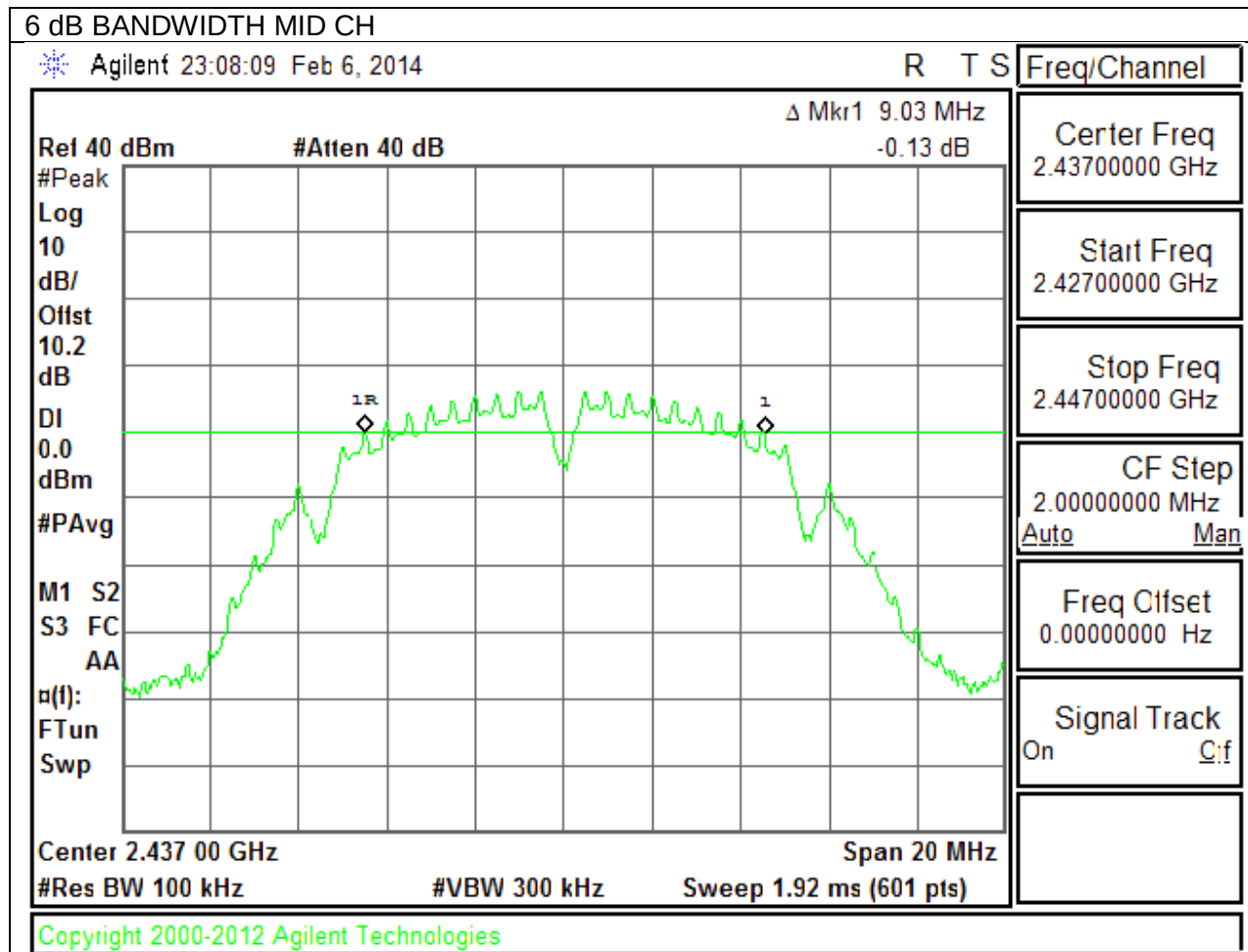
Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Low	5755	36.400	36.300	0.5
High	5795	36.400	36.200	0.5

10.1.7. 802.11AC CDD HT80 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	6 dB BW Chain 0 (MHz)	6 dB BW Chain 1 (MHz)	Minimum Limit (MHz)
Mid	5775	76.200	76.400	0.5

10.1.8. 2.4GHz Plots

802.11b 6 dB BANDWIDTH CHAIN 0



802.11b 6 dB BANDWIDTH CHAIN 1**6 dB BANDWIDTH MID CH**

Agilent 16:02:17 Feb 6, 2014

R T

Freq/Channel

Ref 40 dBm

Atten 40 dB

 Δ Mkr1 9.03 MHz

0.57 dB

#Peak

Log

10

dB/

Offst

10.2

dB

DI

-1.1

dBm

#PAvg

M1 S2

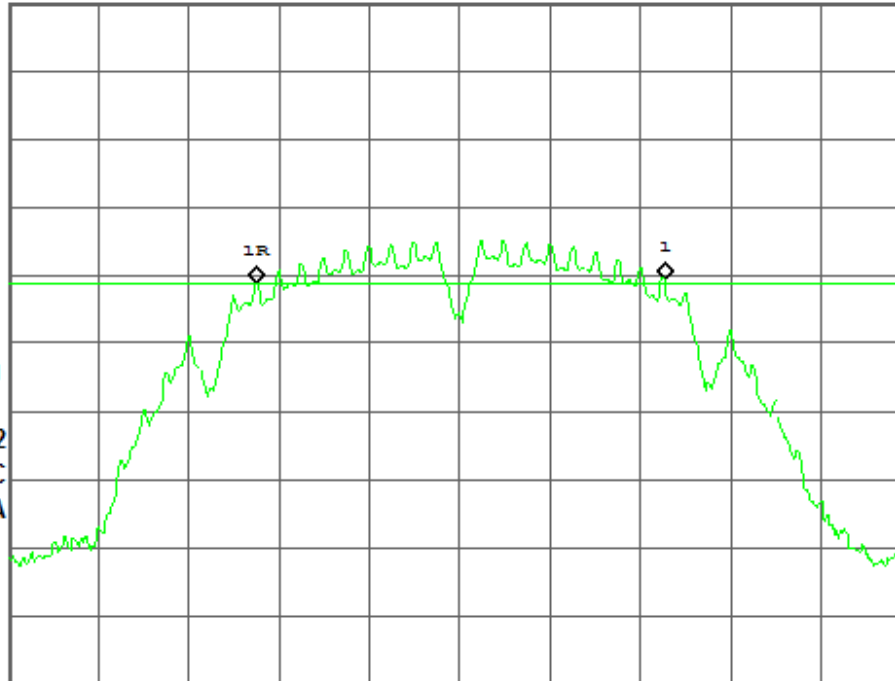
S3 FC

AA

p(f):

FTun

Swp



Center 2.437 00 GHz

Span 20 MHz

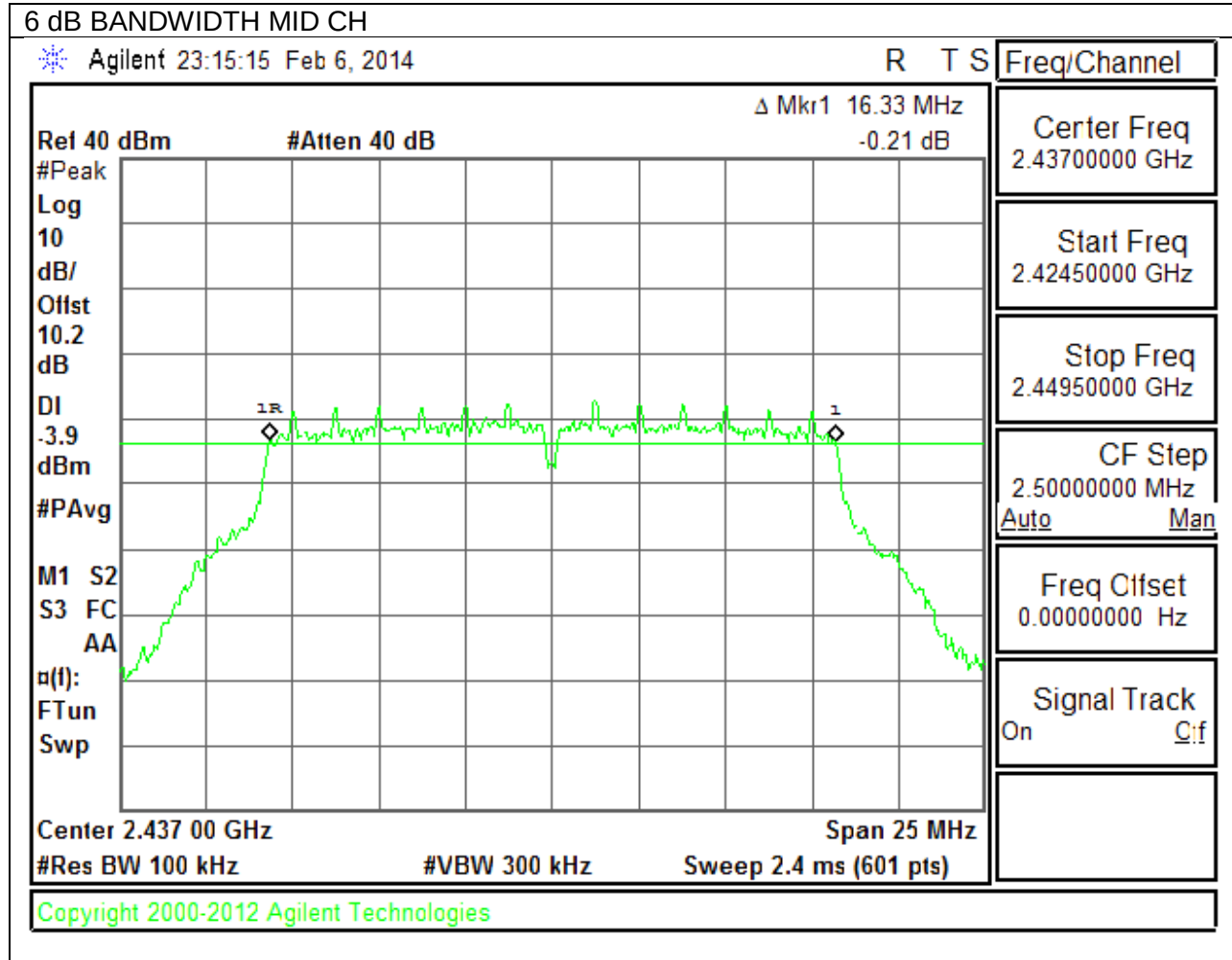
#Res BW 100 kHz

VBW 300 kHz

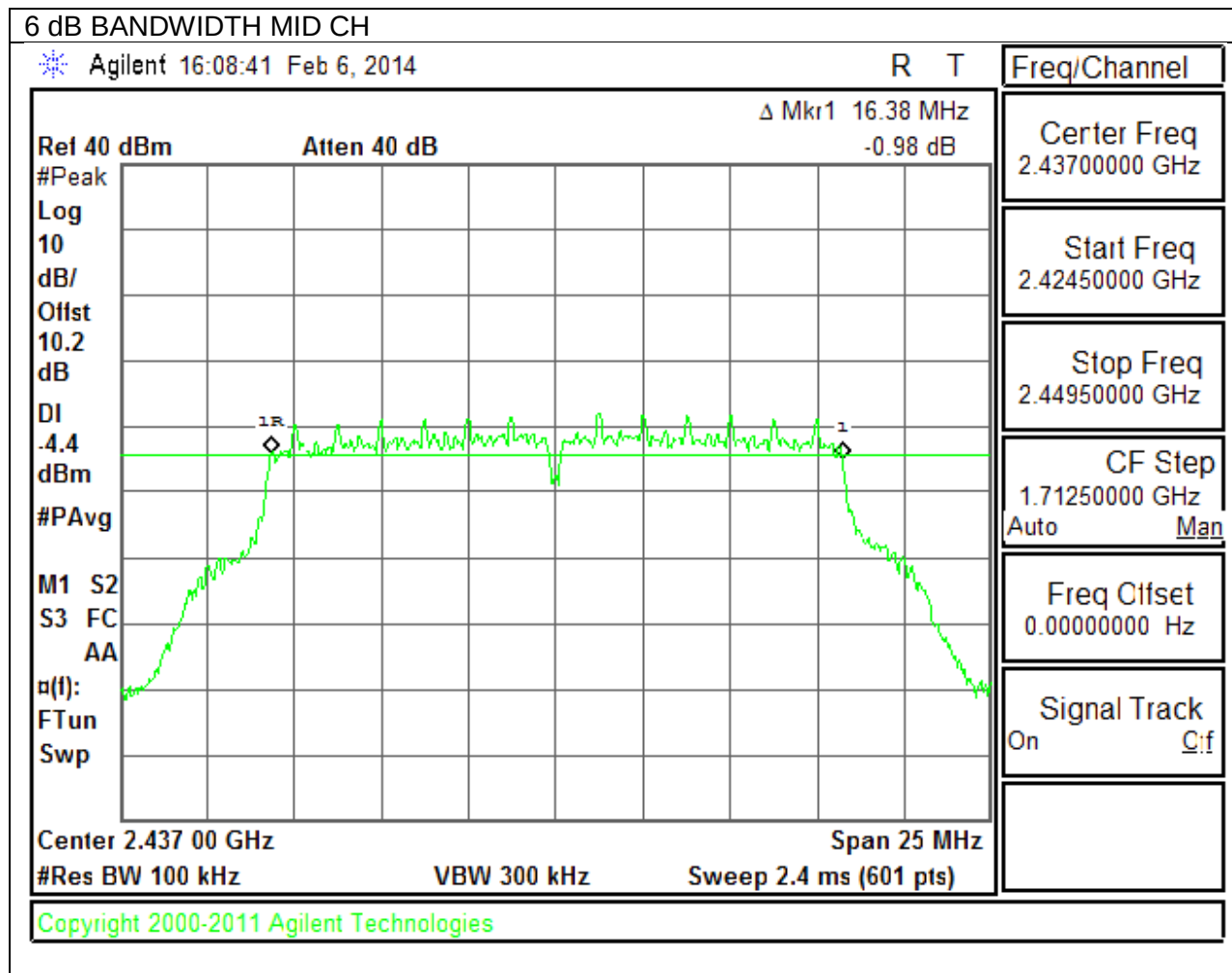
Sweep 1.92 ms (601 pts)

Center Freq
2.43700000 GHzStart Freq
2.42700000 GHzStop Freq
2.44700000 GHzCF Step
1.71250000 GHz
Auto ManFreq Offset
0.00000000 HzSignal Track
On Off

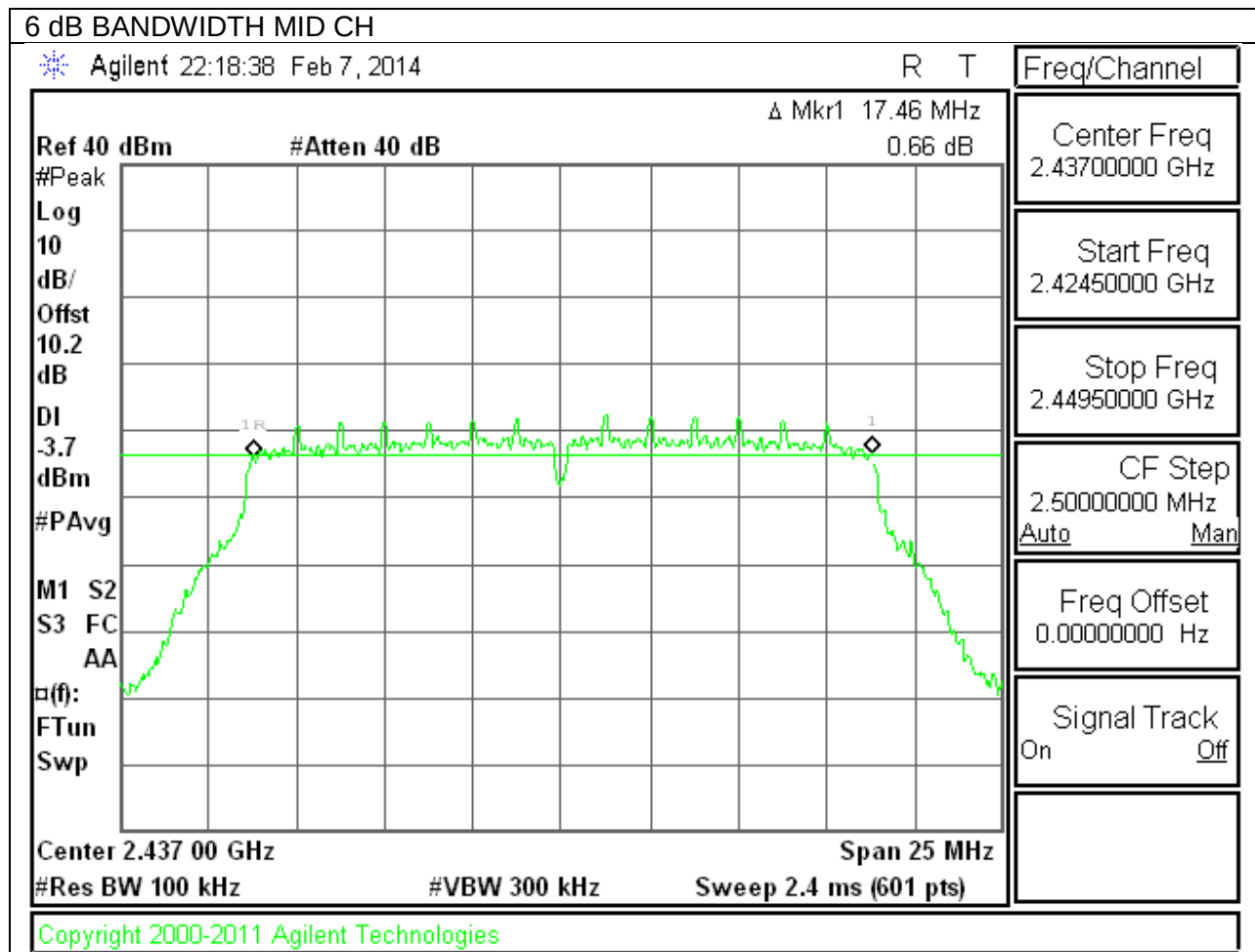
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802.11g 6 dB BANDWIDTH CHAIN 0

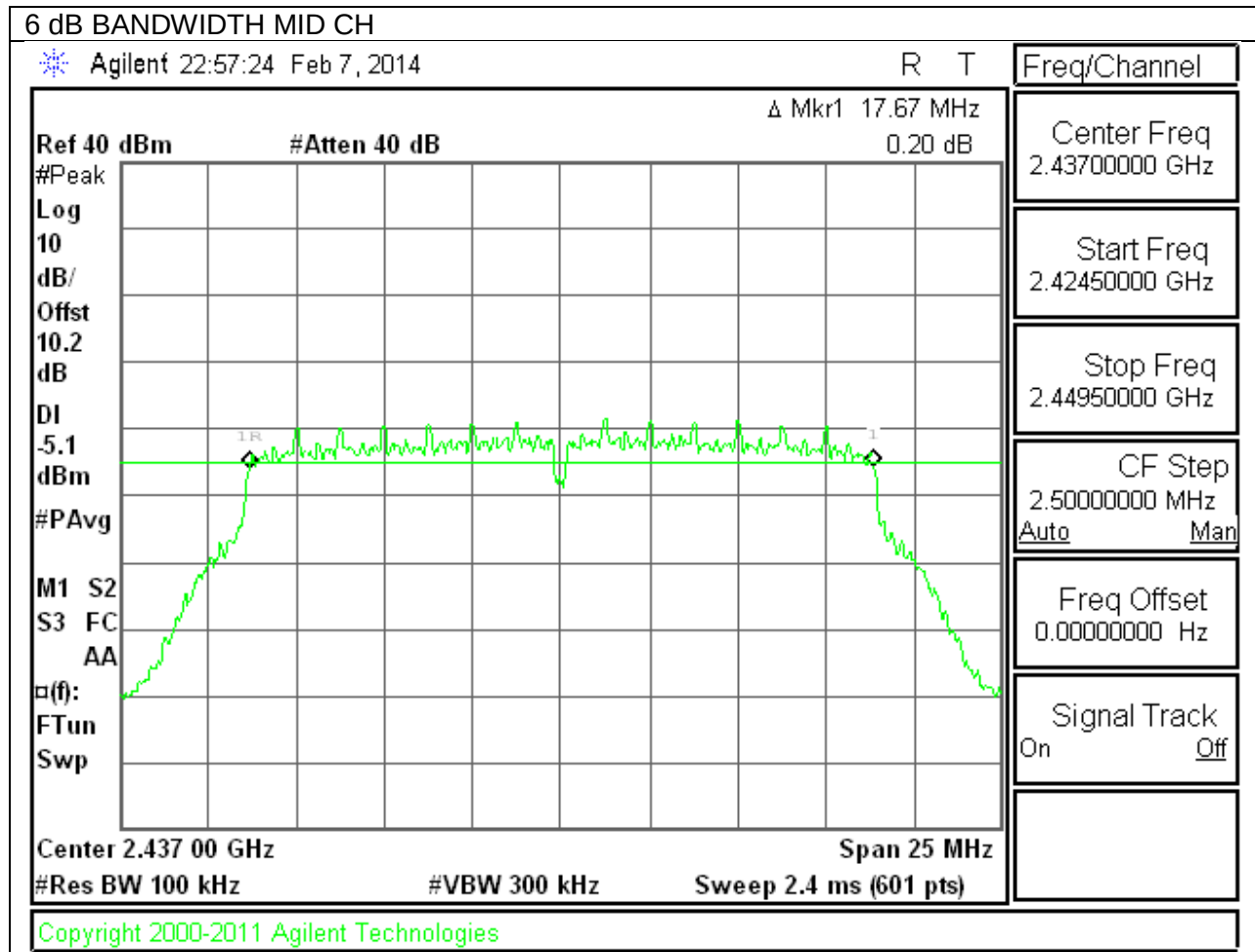
802.11g 6 dB BANDWIDTH CHAIN 1



802.11n 6 dB BANDWIDTH CHAIN 0

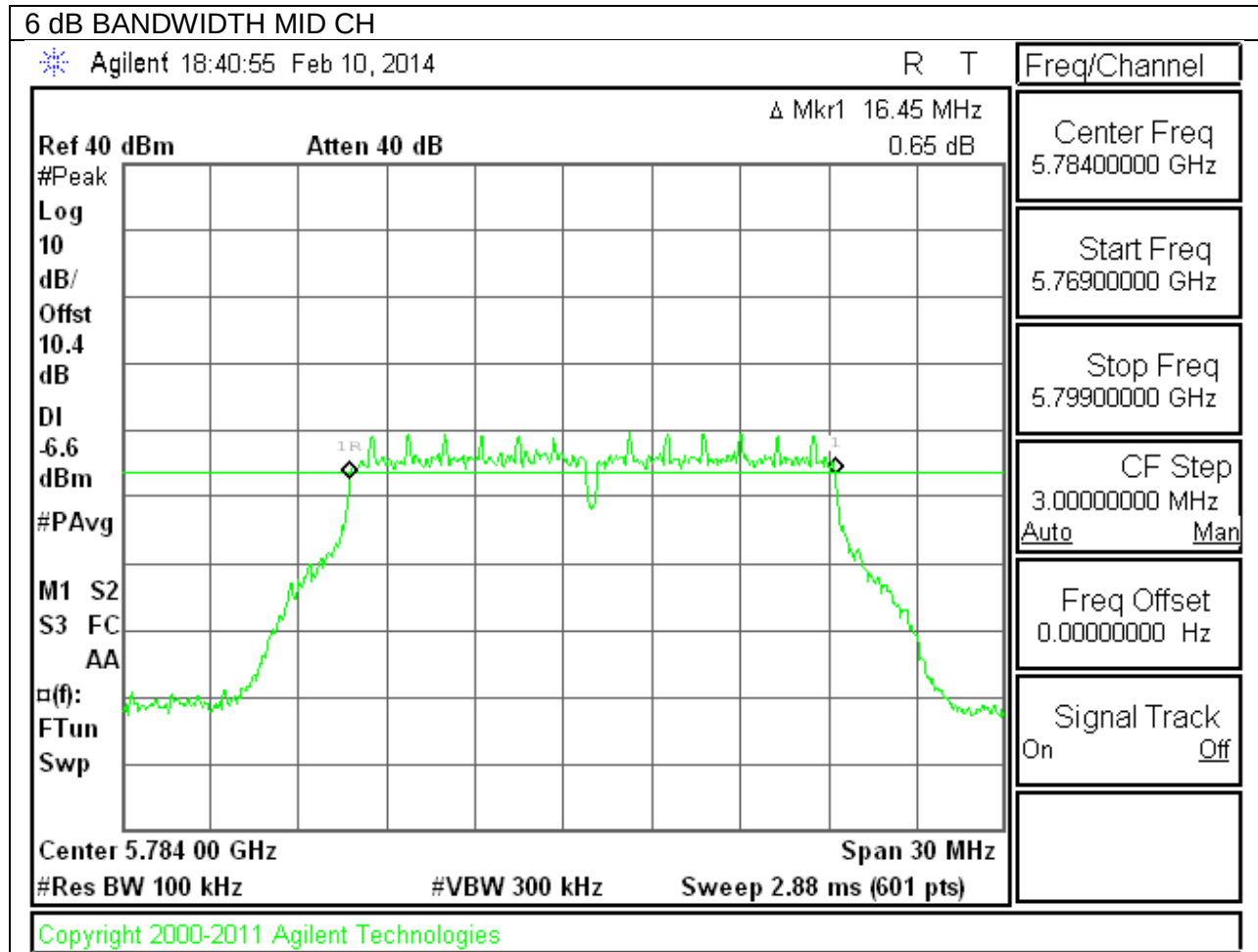


802.11n 6 dB BANDWIDTH CHAIN 1

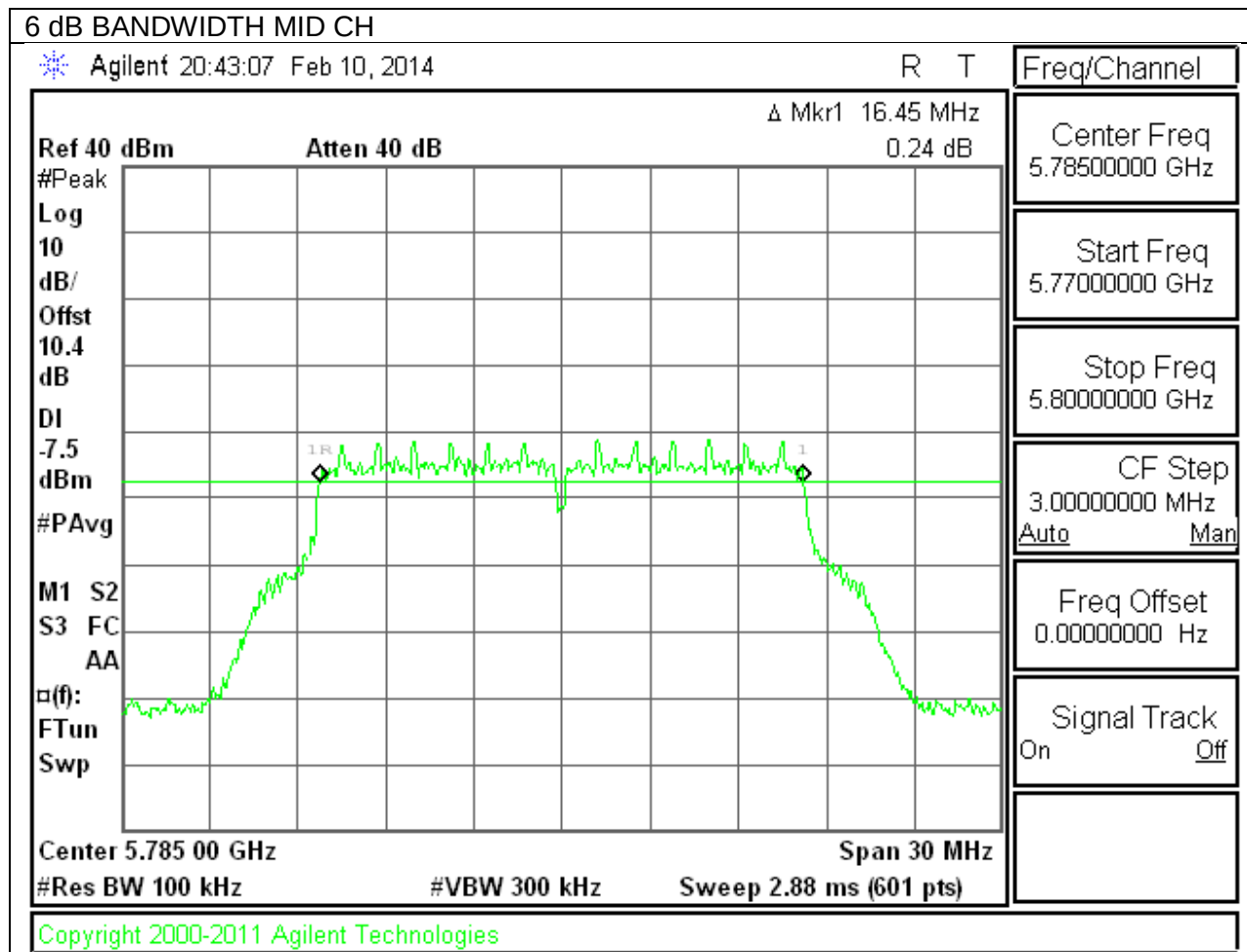


10.1.9. 5.8GHz Plots

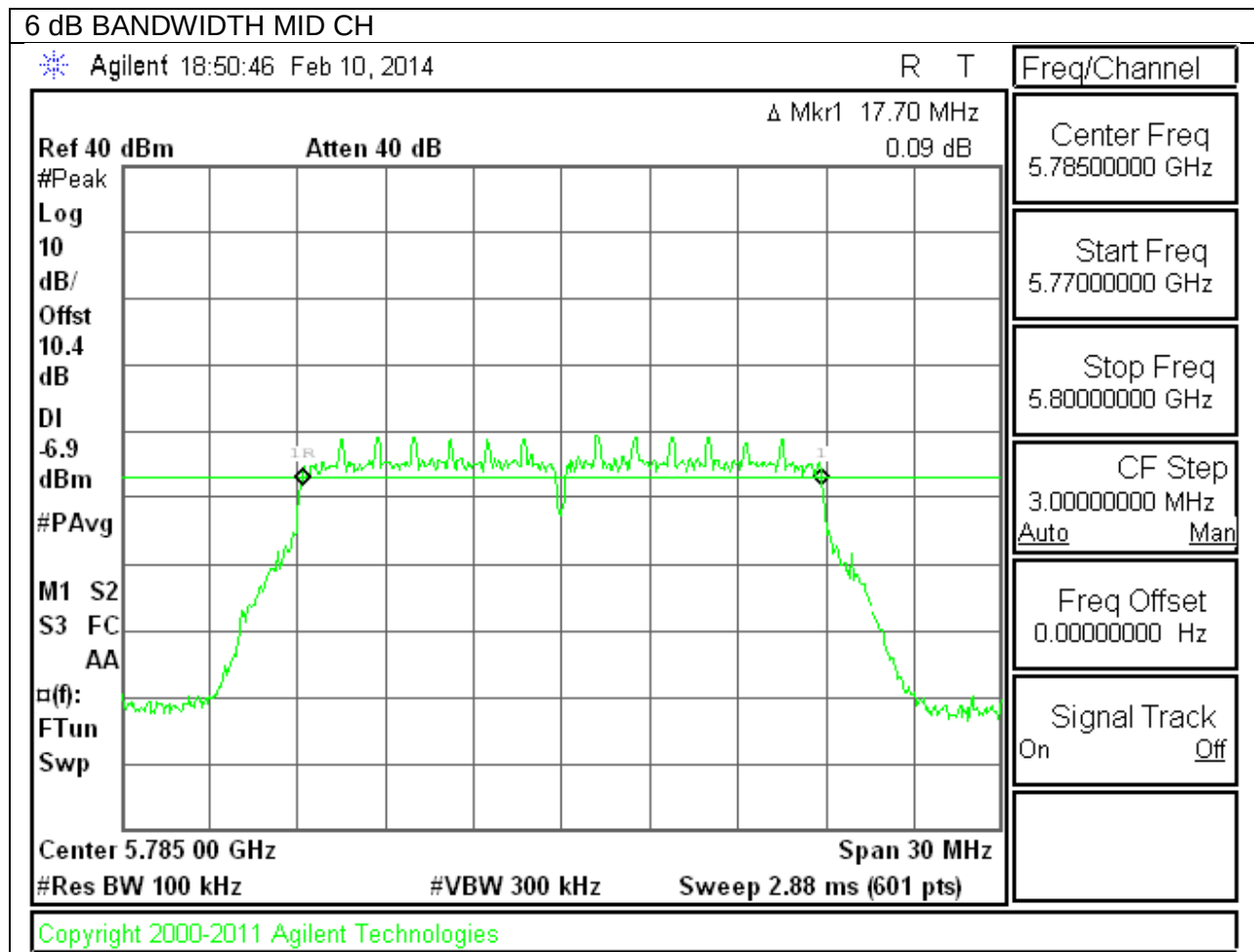
802.11a 6 dB BANDWIDTH CHAIN 0



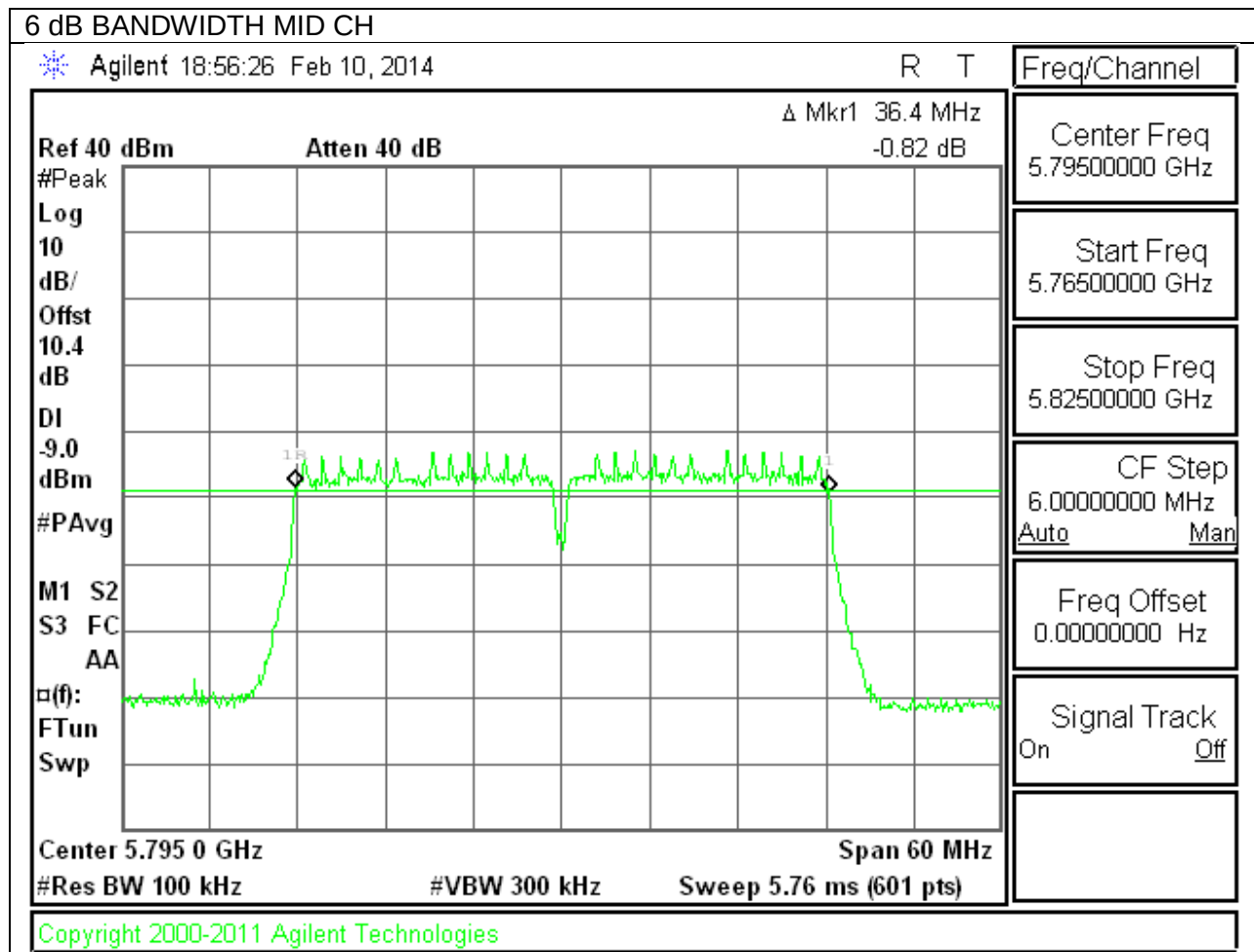
802.11a 6 dB BANDWIDTH CHAIN 1



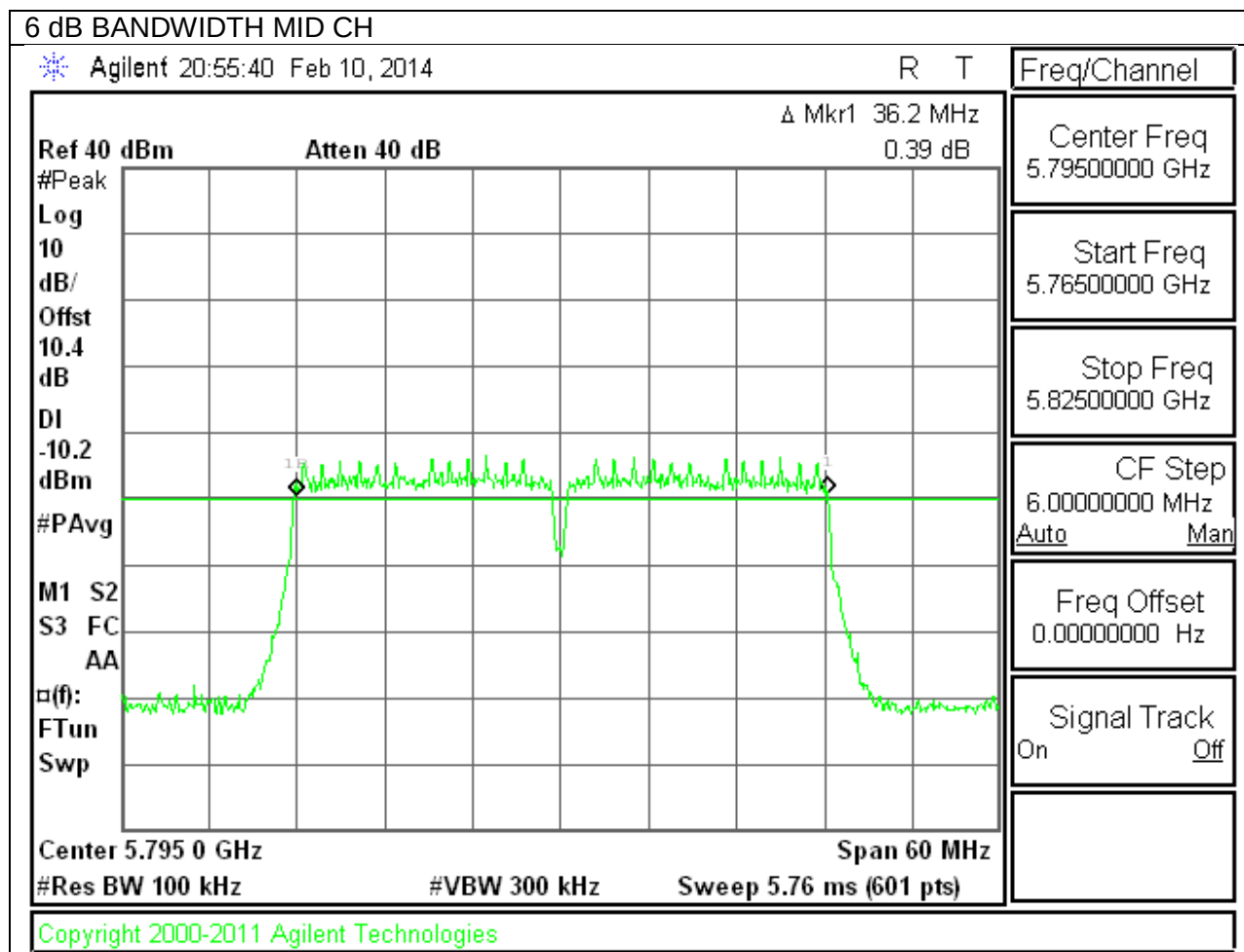
802.11n HT20 6 dB BANDWIDTH CHAIN 0



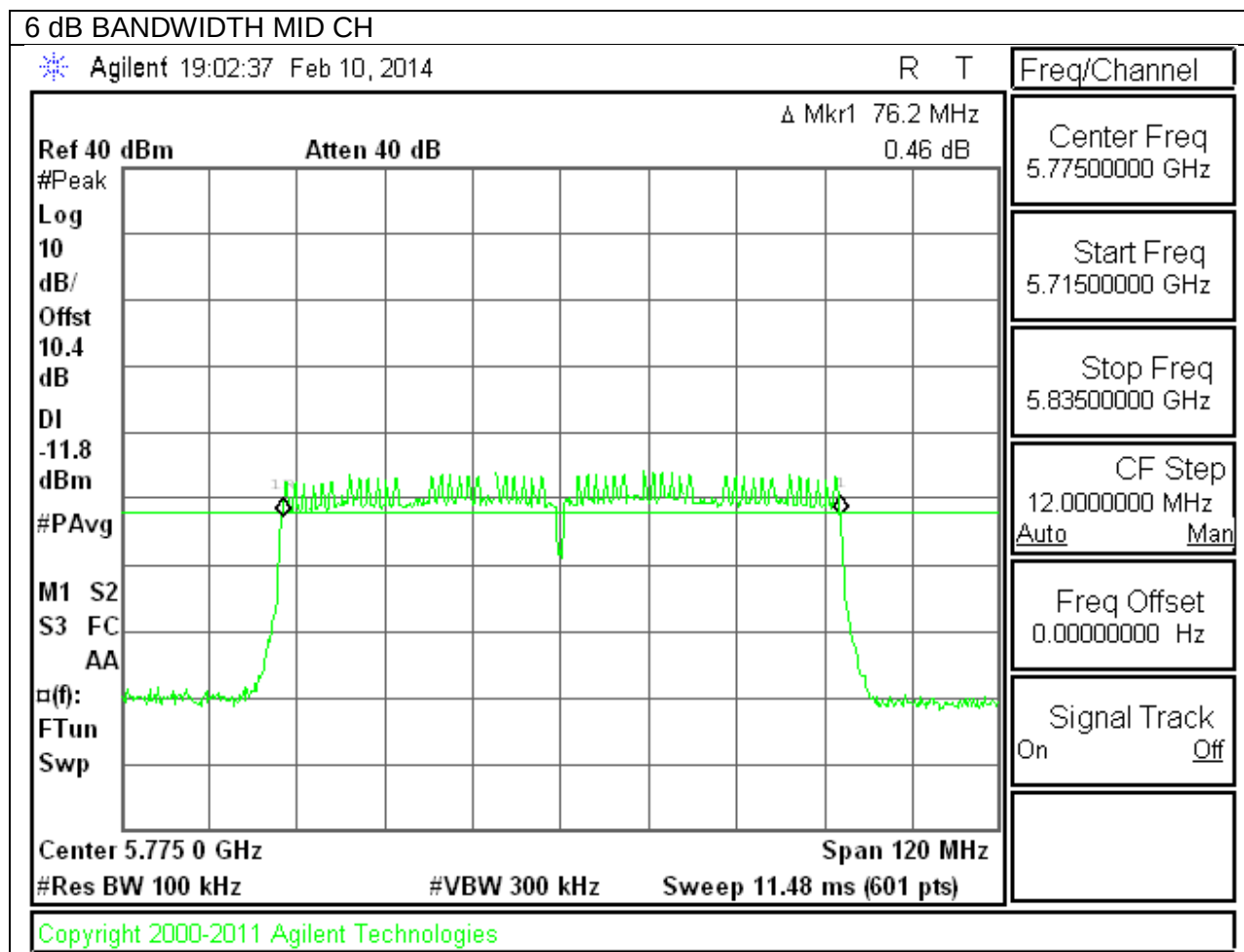
802.11n HT40 6 dB BANDWIDTH CHAIN 0



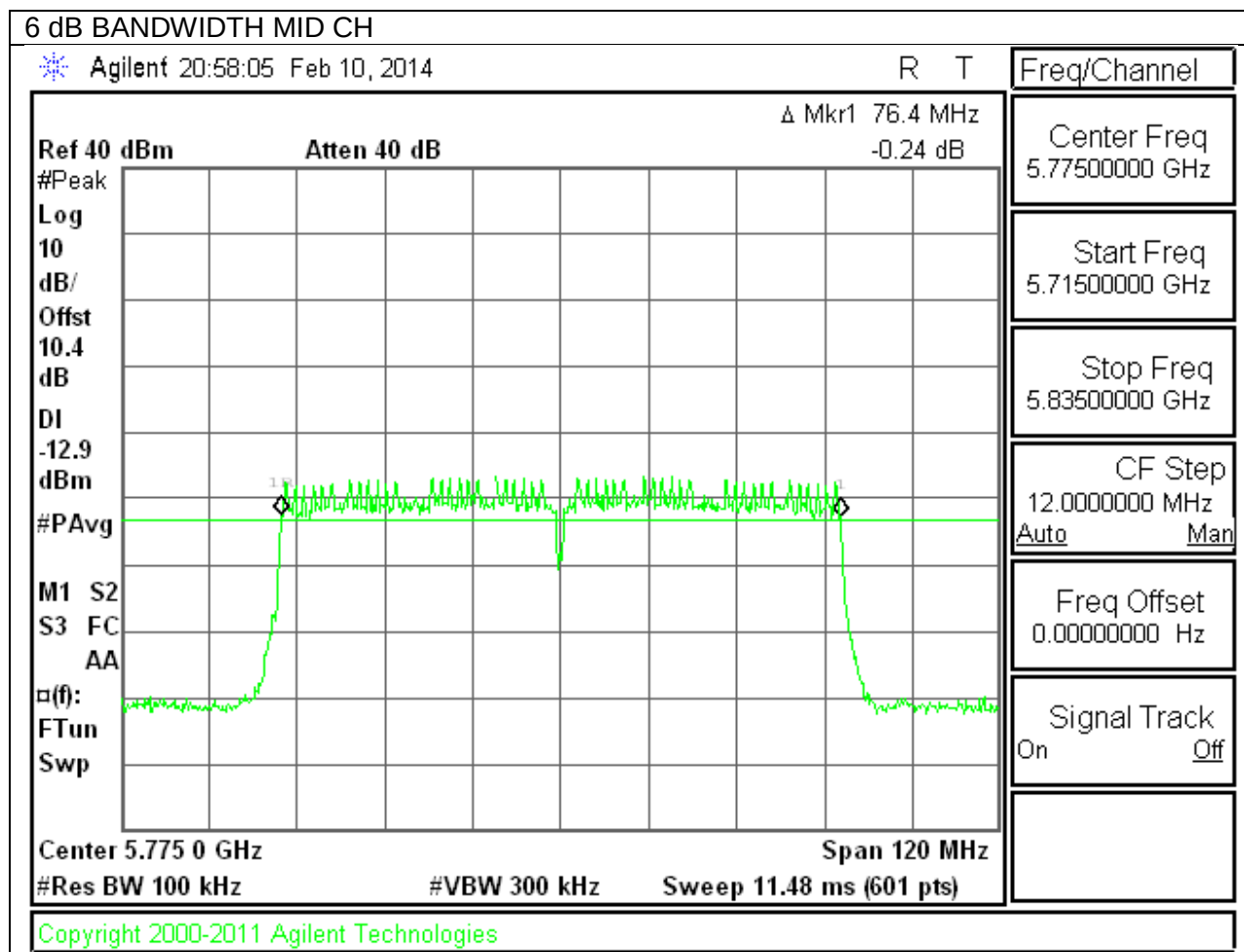
802.11n HT40 6 dB BANDWIDTH CHAIN 1



802.11ac HT80 6 dB BANDWIDTH CHAIN 0



802.11ac HT80 6 dB BANDWIDTH CHAIN 1



10.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

10.2.1. 802.11b MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	2412	10.9494	11.2056
Mid	2437	11.0146	11.0727
High	2462	11.0513	11.0870

10.2.2. 802.11g MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	2412	16.3247	16.4233
Mid	2437	16.6263	16.4583
High	2462	16.3389	16.3284

10.2.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	2412	17.3655	17.3273
Mid	2437	17.2751	17.4736
High	2462	17.3331	17.4608

10.2.4. 802.11a MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	16.6561	16.6669
Mid	5785	16.6765	16.6718
High	5825	16.6778	16.6785

10.2.5. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5745	17.8537	17.8471
Mid	5785	17.8617	17.8567
High	5825	17.8625	17.8605

10.2.6. 802.11n HT40 MODE IN THE 5.8 GHz BAND

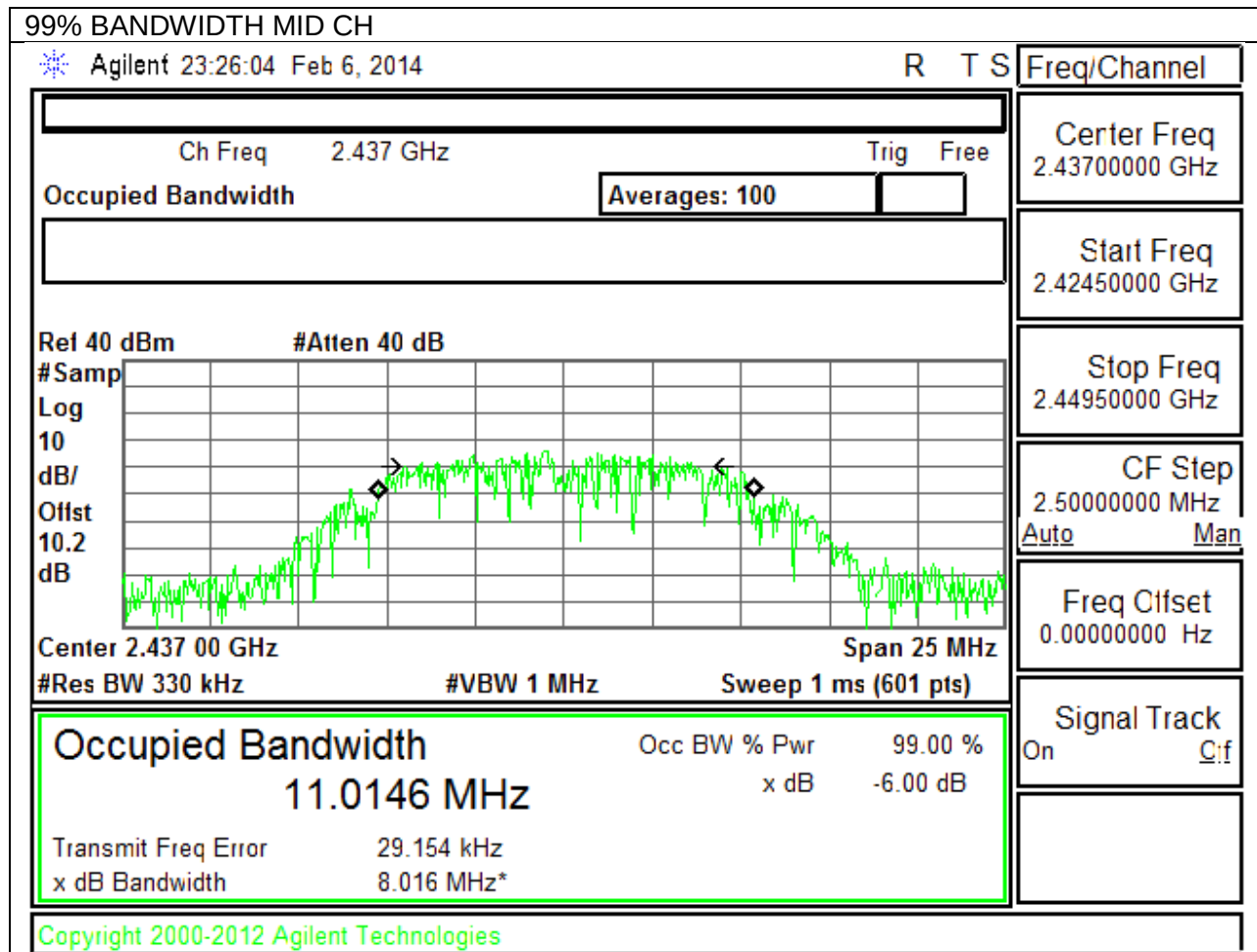
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5755	36.3735	36.3520
High	5795	36.4012	36.4250

10.2.7. 802.11A HT80 MODE IN THE 5.8 GHz BAND

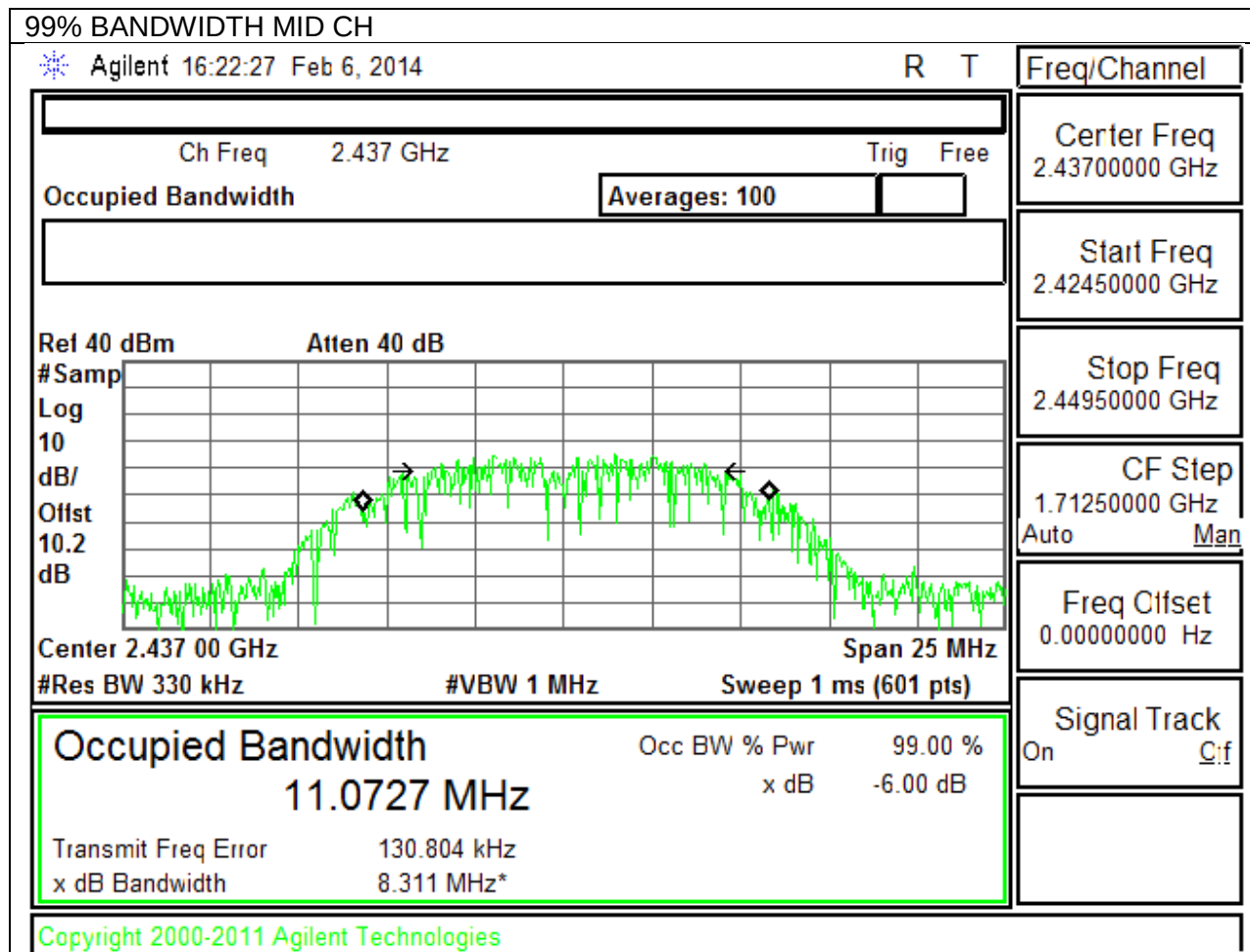
Channel	Frequency (MHz)	99% BW Chain 0 (MHz)	99% BW Chain 1 (MHz)
Low	5775	76.0032	76.0056

10.2.8. 2.4GHz Plots

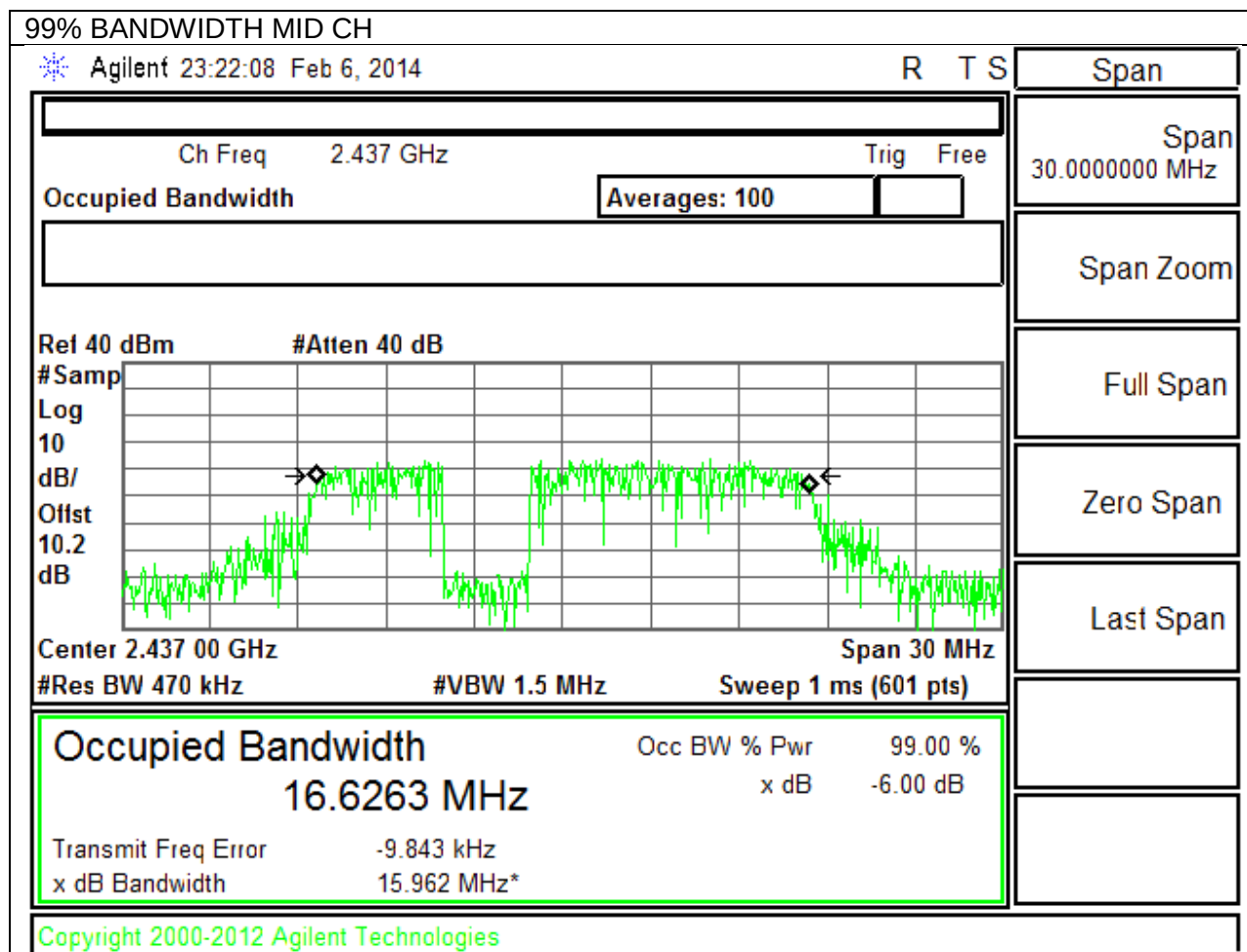
802.11b 99% BANDWIDTH CHAIN 0



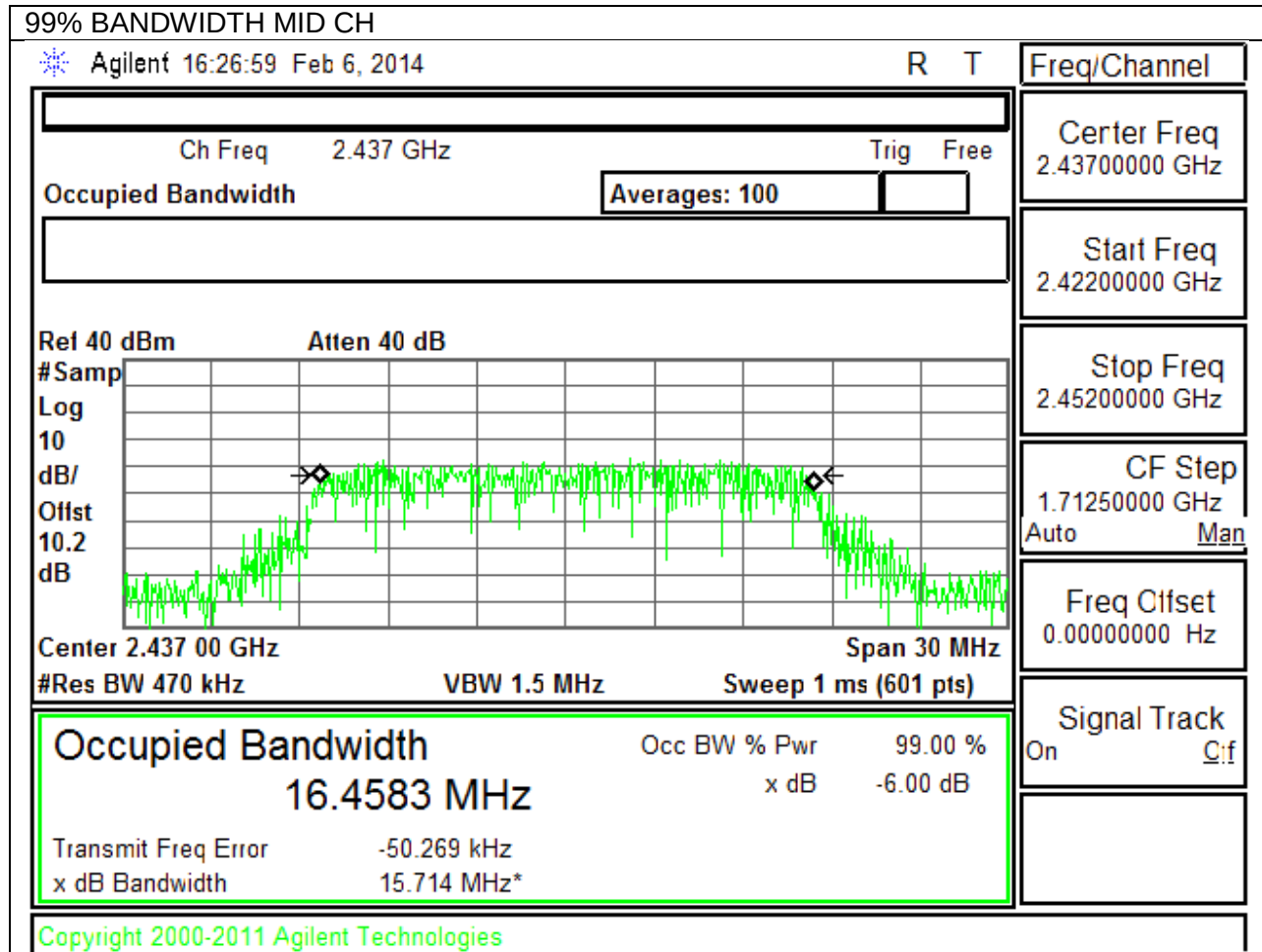
802.11b 99% BANDWIDTH CHAIN 1



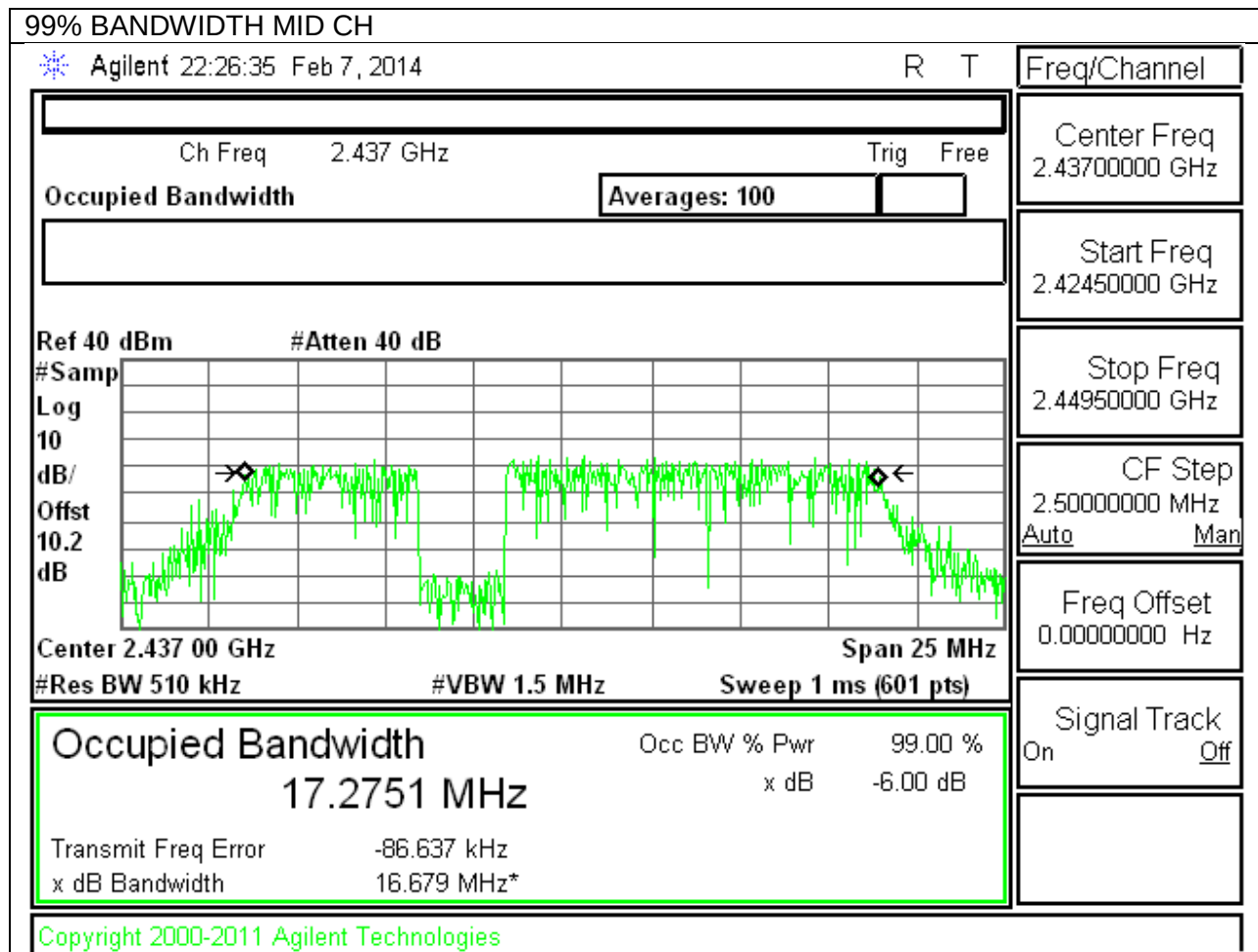
802.11g 99% BANDWIDTH CHAIN 0

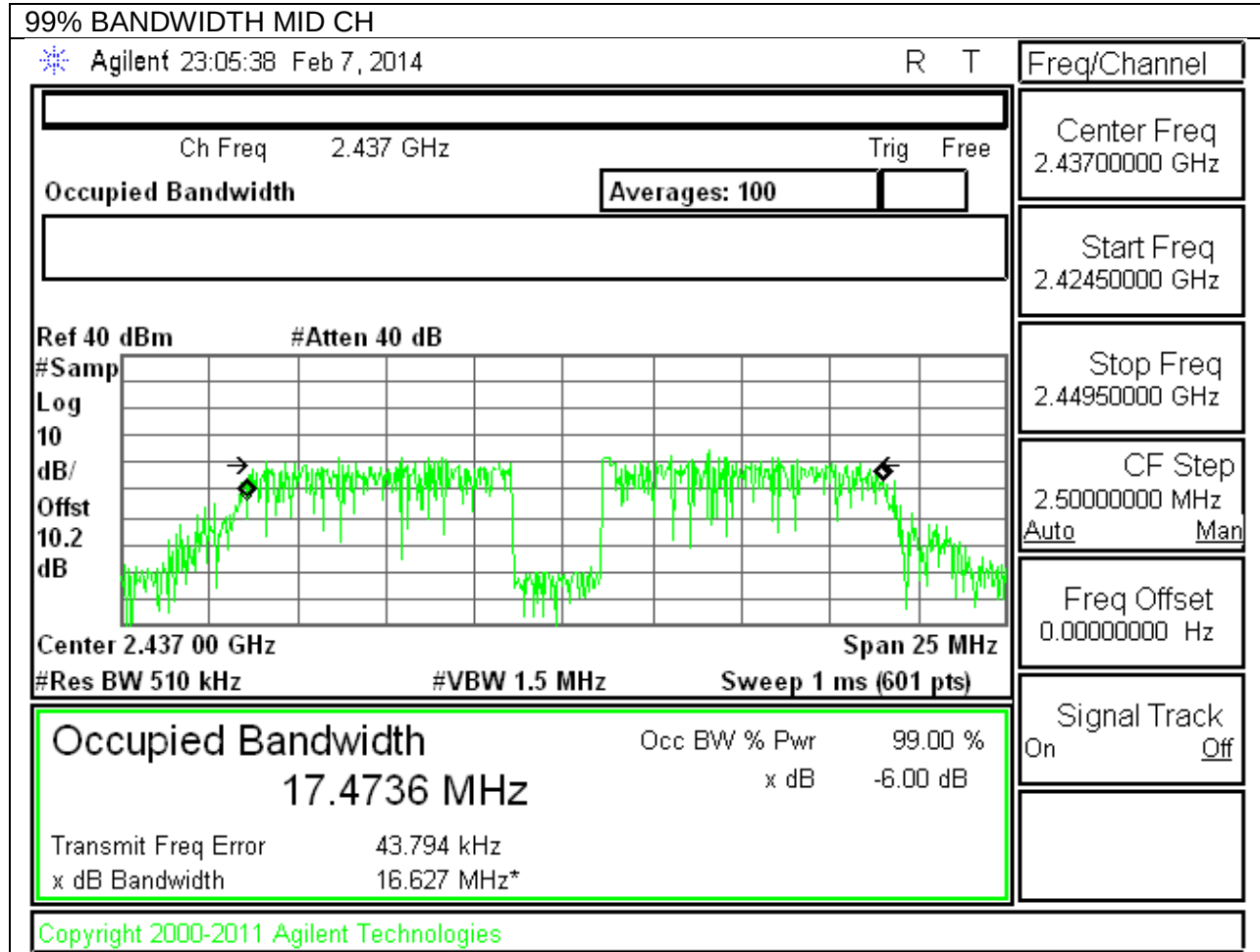


802.11g 99% BANDWIDTH CHAIN 1



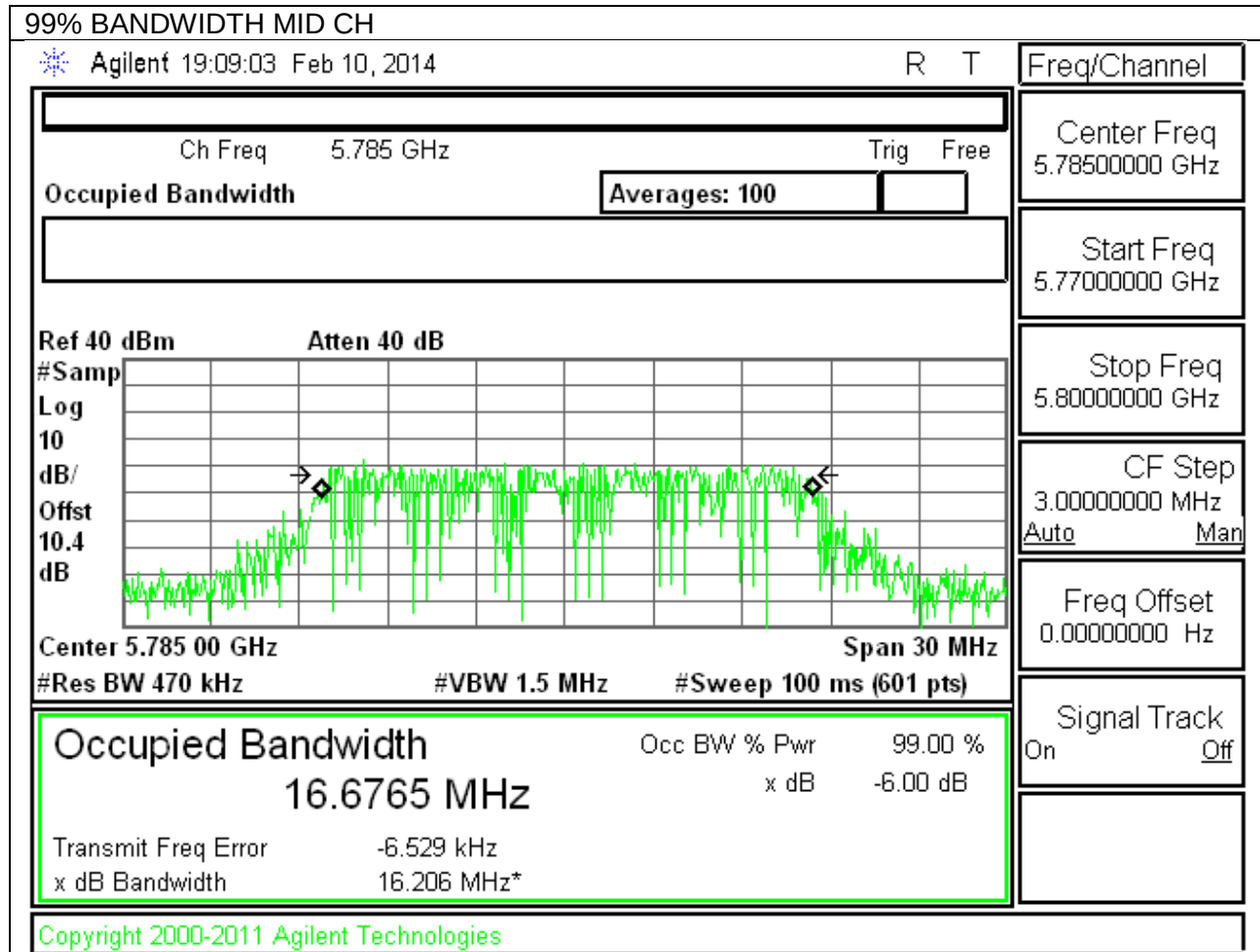
802.11n 99% BANDWIDTH CHAIN 0



802.11n 99% BANDWIDTH CHAIN 0

10.2.9. 5.8GHz Plots

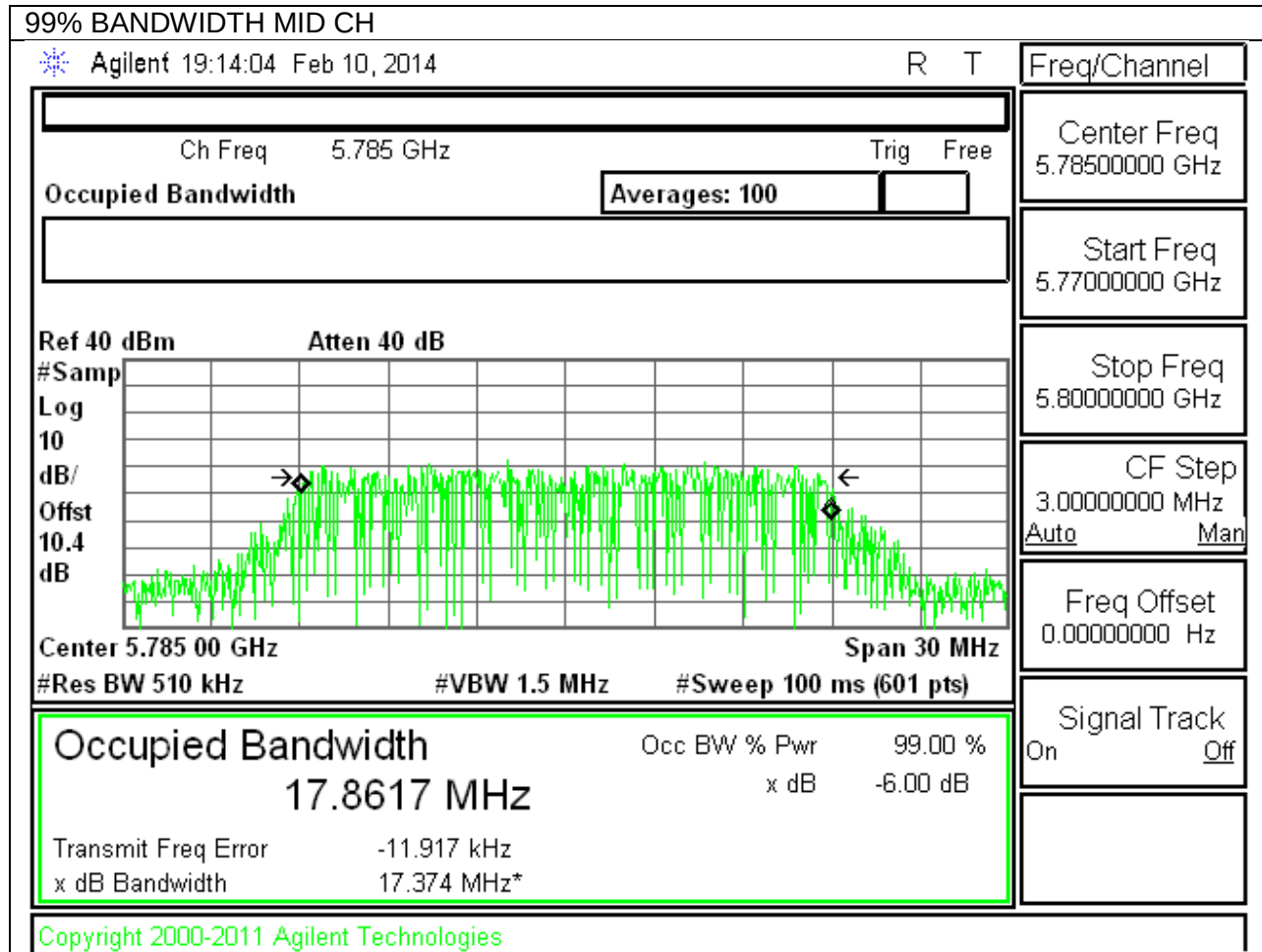
802.11a 99% BANDWIDTH CHAIN 0



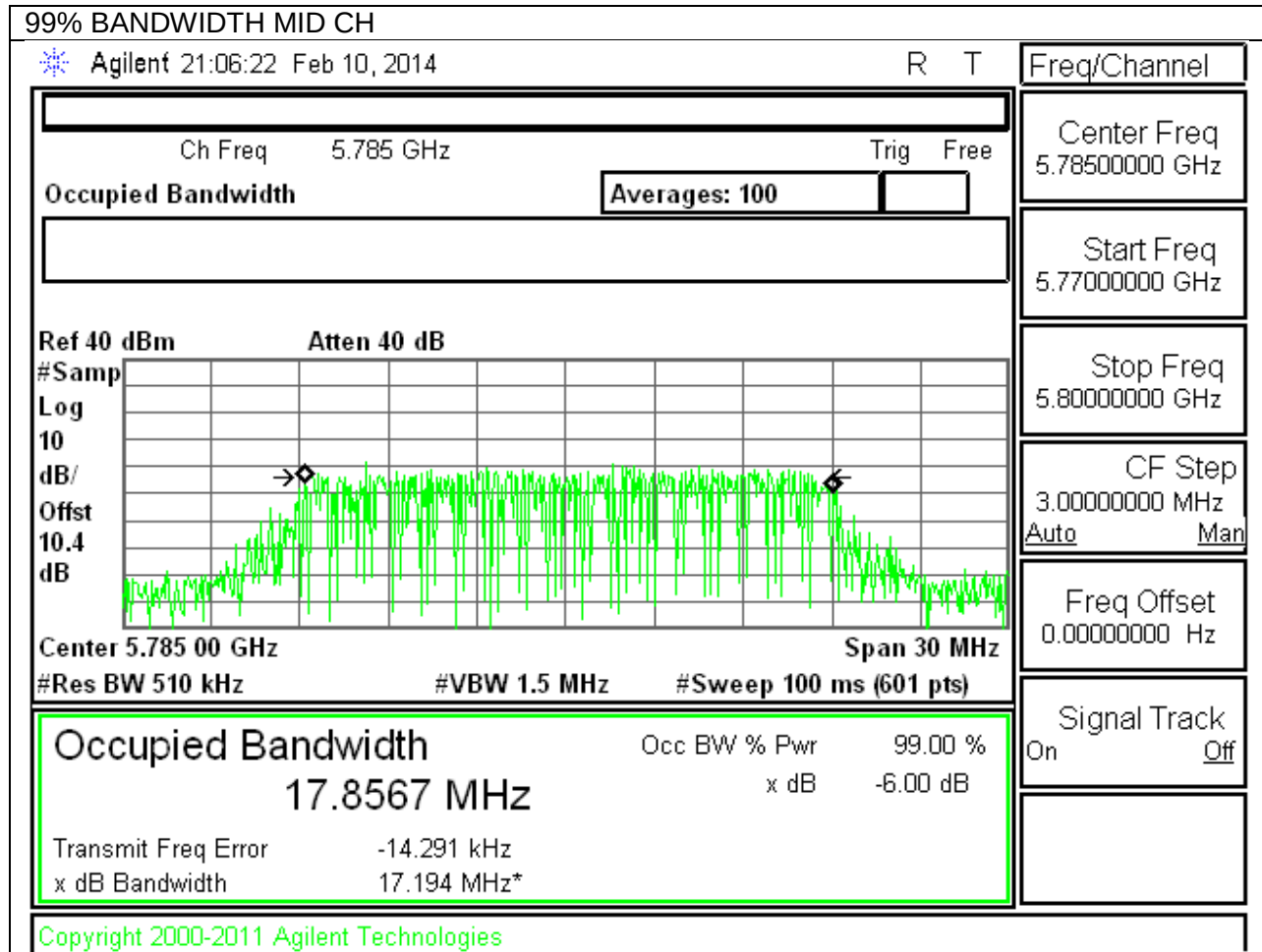
802.11a 99% BANDWIDTH CHAIN 1

99% BANDWIDTH MID CH		R T		Freq/Channel	
Agilent 21:11:18 Feb 10, 2014					
Ch Freq 5.785 GHz		Trig Free		Center Freq 5.78500000 GHz	
Occupied Bandwidth		Averages: 100			
				Start Freq 5.77000000 GHz	
				Stop Freq 5.80000000 GHz	
Ref 40 dBm Atten 40 dB				CF Step 3.00000000 MHz Auto Man	
#Samp Log 10 dB/ Offst 10.4 dB				Freq Offset 0.00000000 Hz	
Center 5.785 00 GHz		Span 30 MHz			
#Res BW 470 kHz		#VBW 1.5 MHz		#Sweep 100 ms (601 pts)	
Occupied Bandwidth 16.6718 MHz		Occ BW % Pwr 99.00 % x dB -6.00 dB		Signal Track On Off	
Transmit Freq Error -13.016 kHz					
x dB Bandwidth 16.107 MHz*					
Copyright 2000-2011 Agilent Technologies					

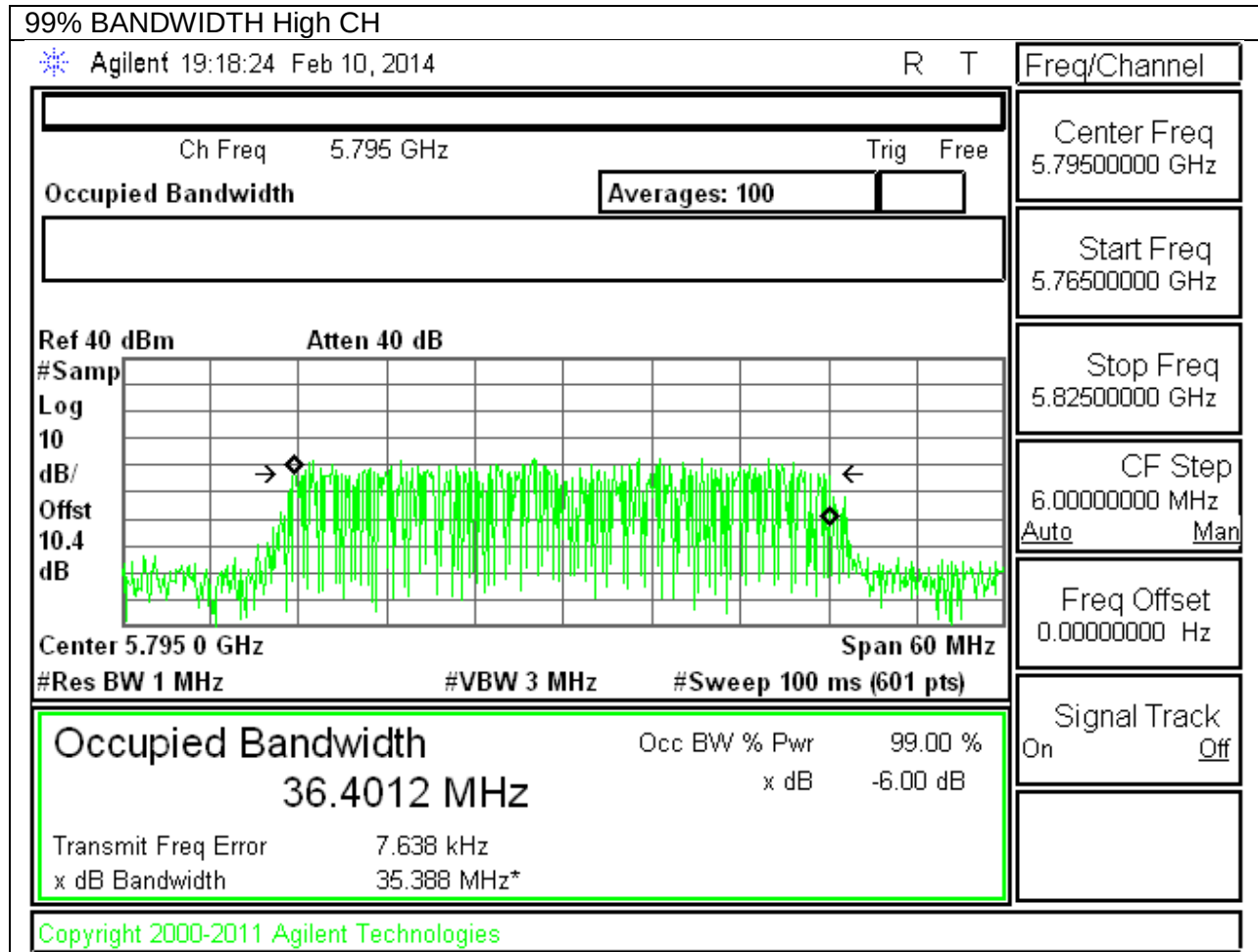
802.11n HT20 99% BANDWIDTH CHAIN 0



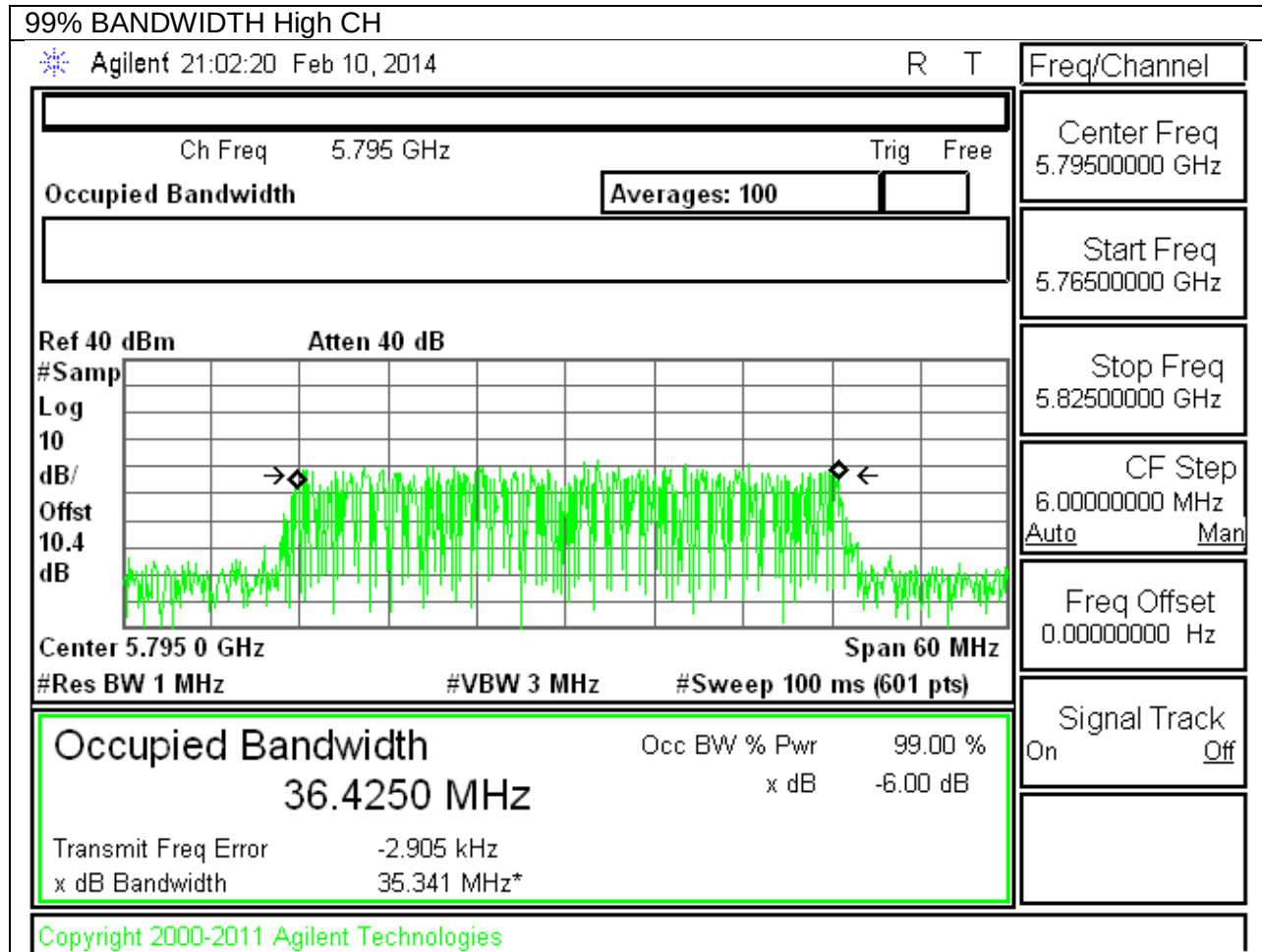
802.11n HT20 99% BANDWIDTH CHAIN 1



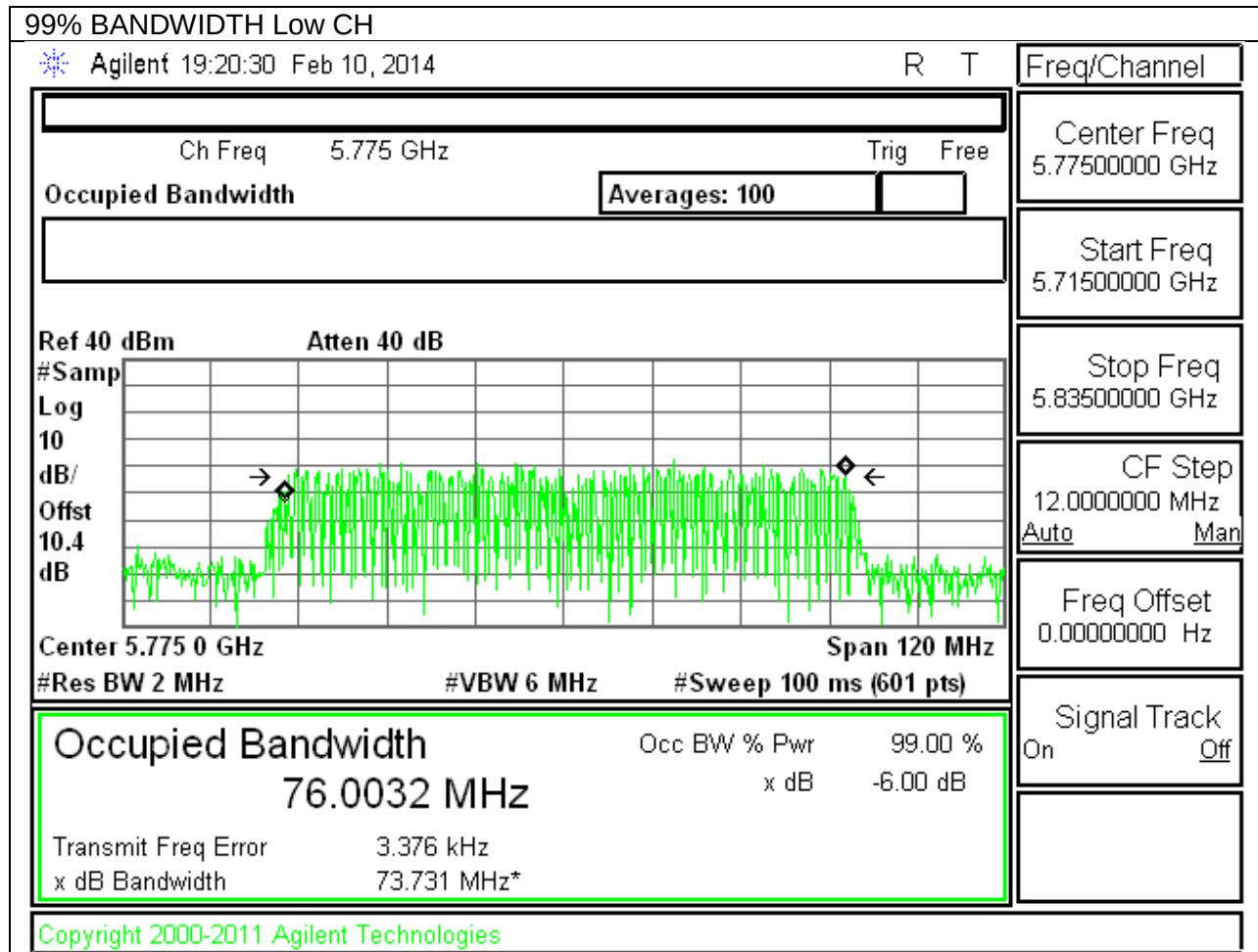
802.11n HT40 99% BANDWIDTH CHAIN 0

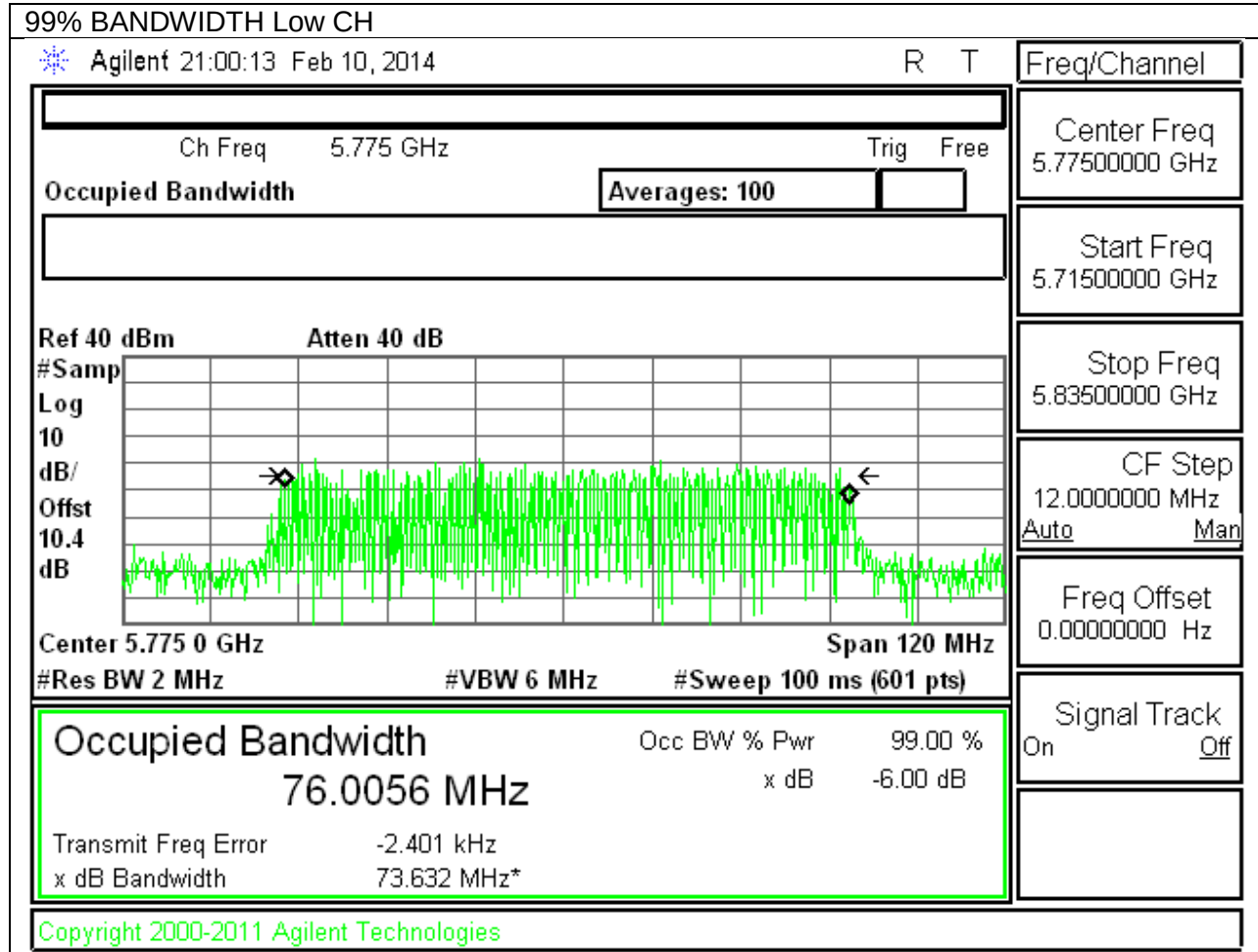


802.11n HT40 99% BANDWIDTH CHAIN 1



802.11ac HT80 99% BANDWIDTH CHAIN 0



802.11ac HT80 99% BANDWIDTH CHAIN 1

10.3. OUTPUT POWER

LIMITS

FCC §15.247

IC RSS-210 A8.4

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt, based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

DIRECTIONAL ANTENNA GAIN

The TX chains are uncorrelated and the antenna gain is the same for each chain. The directional gain is equal to the antenna gain.

2.4GHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-4.60	1.14	-0.84

5.8GHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Uncorrelated Chains Directional Gain (dBi)
-3.18	-0.40	-1.57

The TX chains are correlated and the antenna gain is unequal among the chains. The directional gain is:

2.4GHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-4.60	1.14	1.75

5.8GHz

Chain 0 Antenna Gain (dBi)	Chain 1 Antenna Gain (dBi)	Correlated Chains Directional Gain (dBi)
-3.18	-0.40	1.33

RESULTS

10.3.1. 802.11b MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-0.22	30.00	30	36	30.00
Mid	2437	-0.22	30.00	30	36	30.00
High	2462	-0.22	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low	2412	15.95	15.35	18.67	30.00	-11.33
Mid	2437	16.61	15.97	19.31	30.00	-10.69
High	2462	16.04	15.39	18.74	30.00	-11.26

10.3.2. 802.11g MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-0.22	30.00	30	36	30.00
Mid	2437	-0.22	30.00	30	36	30.00
High	2462	-0.22	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low	2412	20.59	20.26	23.44	30.00	-6.56
Mid	2437	21.23	20.89	24.07	30.00	-5.93
High	2462	20.78	20.41	23.61	30.00	-6.39

10.3.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	2412	-0.22	30.00	30	36	30.00
Mid	2437	-0.22	30.00	30	36	30.00
High	2462	-0.22	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low	2412	20.15	19.90	23.04	30.00	-6.96
Mid	2437	20.82	20.42	23.63	30.00	-6.37
High	2462	20.44	19.89	23.18	30.00	-6.82

10.3.4. 802.11a MODE IN THE 5.8 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5745	-0.13	30.00	30	36	30.00
Mid	5785	-0.13	30.00	30	36	30.00
High	5825	-0.13	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low	5745	18.31	16.17	20.38	30.00	-9.62
Mid	5785	18.35	15.08	20.03	30.00	-9.97
High	5825	18.40	15.76	20.29	30.00	-9.71

10.3.5. 802.11n HT20 MODE IN THE 5.8 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5745	-0.13	30.00	30	36	30.00
Mid	5785	-0.13	30.00	30	36	30.00
High	5825	-0.13	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margi (dB)
Low	5745	18.66	16.28	20.64	30.00	-9.36
Mid	5785	18.35	16.17	20.41	30.00	-9.59
High	5825	18.20	17.07	20.68	30.00	-9.32

10.3.6. 802.11n HT40 MODE IN THE 5.8 GHz BAND

Limits

Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5755	-0.13	30.00	30	36	30.00
High	5795	-0.13	30.00	30	36	30.00

Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5755	19.02	16.72	21.03	30.00	-8.97
High	5795	19.05	16.56	20.99	30.00	-9.01

10.3.7. 802.11AC HT80 MODE IN THE 5.8 GHz BAND

Limits

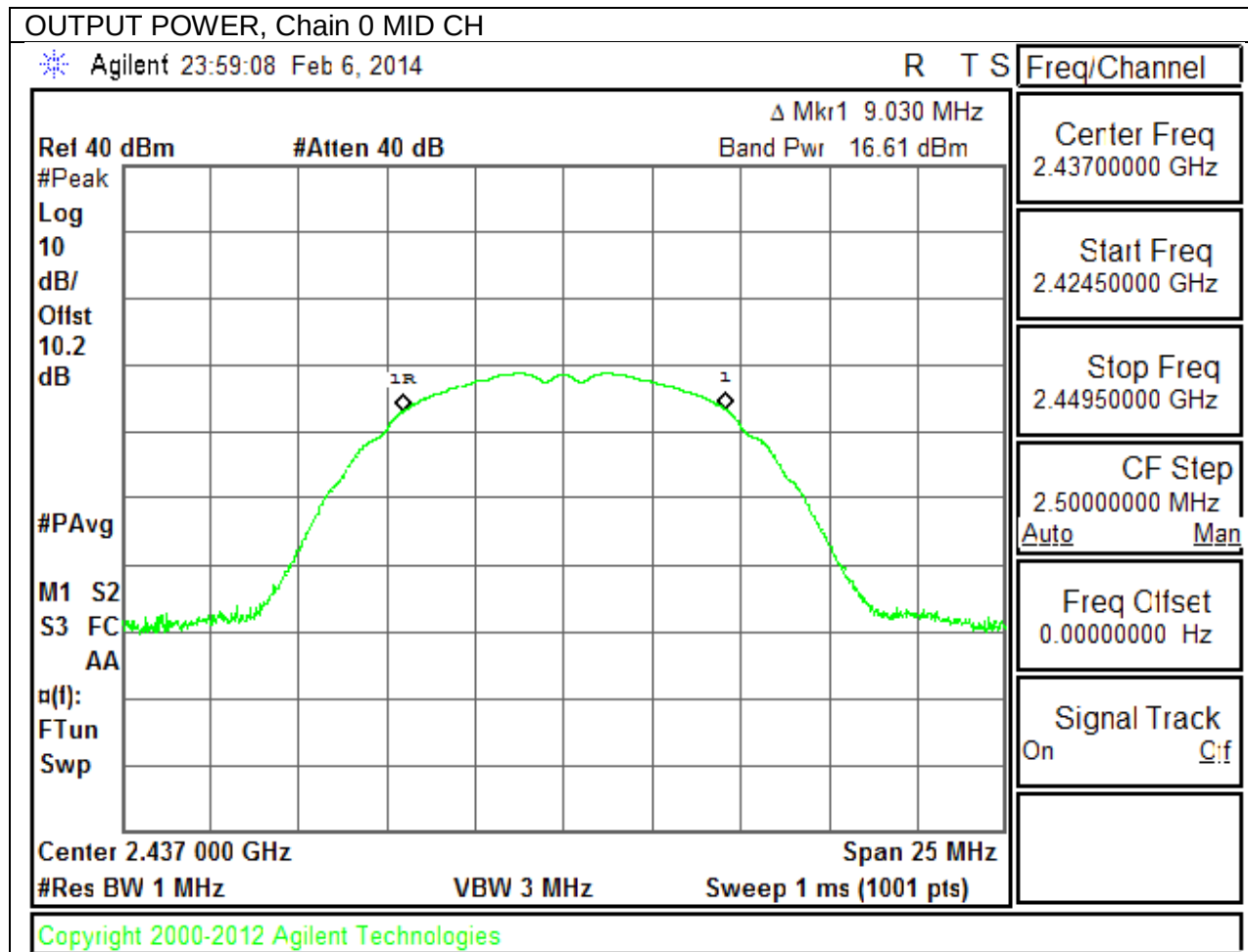
Channel	Frequency (MHz)	Directional Gain (dBi)	FCC Power Limit (dBm)	IC Power Limit (dBm)	IC EIRP Limit (dBm)	Max Power (dBm)
Low	5775	-0.13	30.00	30	36	30.00

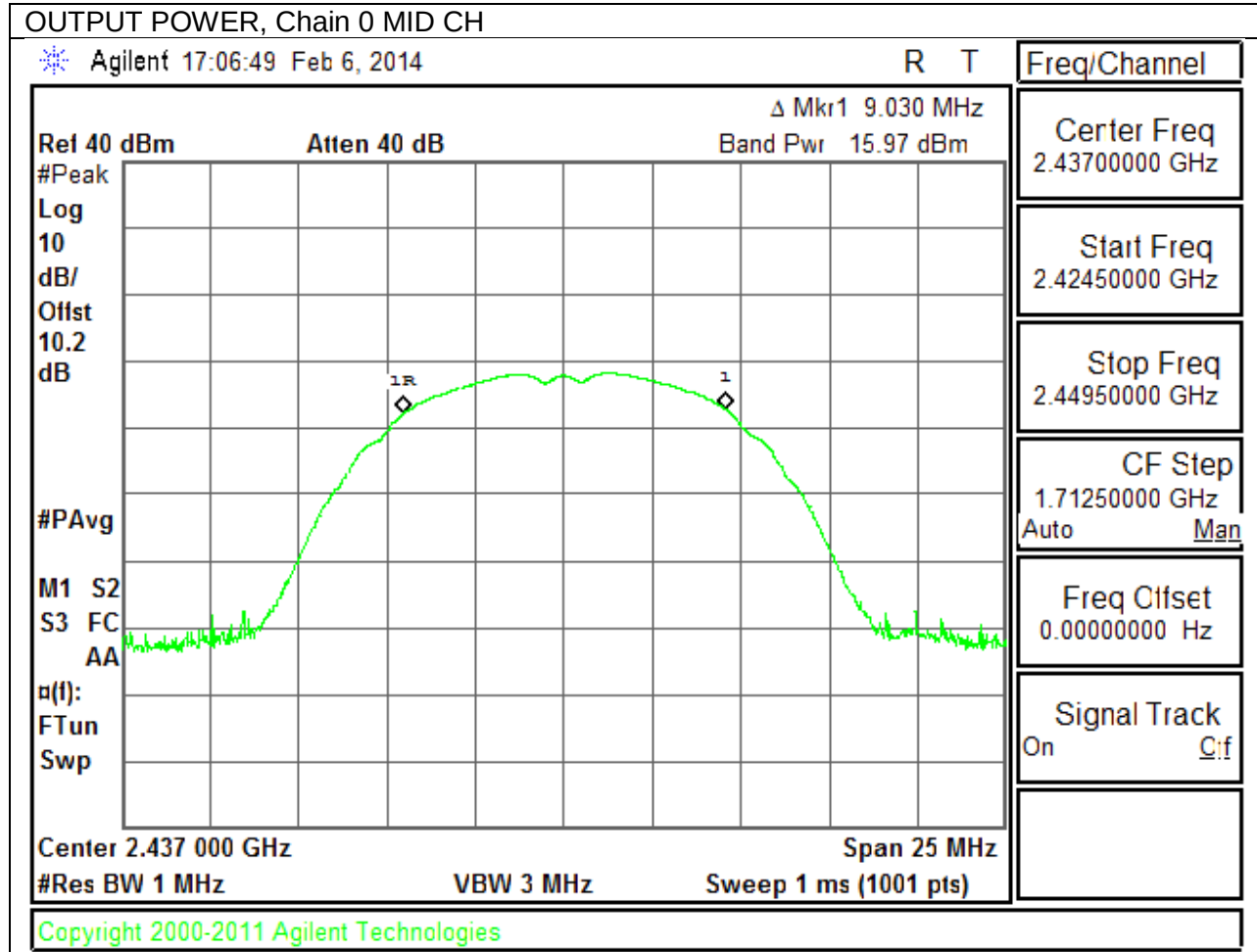
Results

Channel	Frequency (MHz)	Chain 0 Meas Power (dBm)	Chain 1 Meas Power (dBm)	Total Corr'd Power (dBm)	Power Limit (dBm)	Margin (dB)
Low	5775	19.48	18.08	21.85	30.00	-8.15

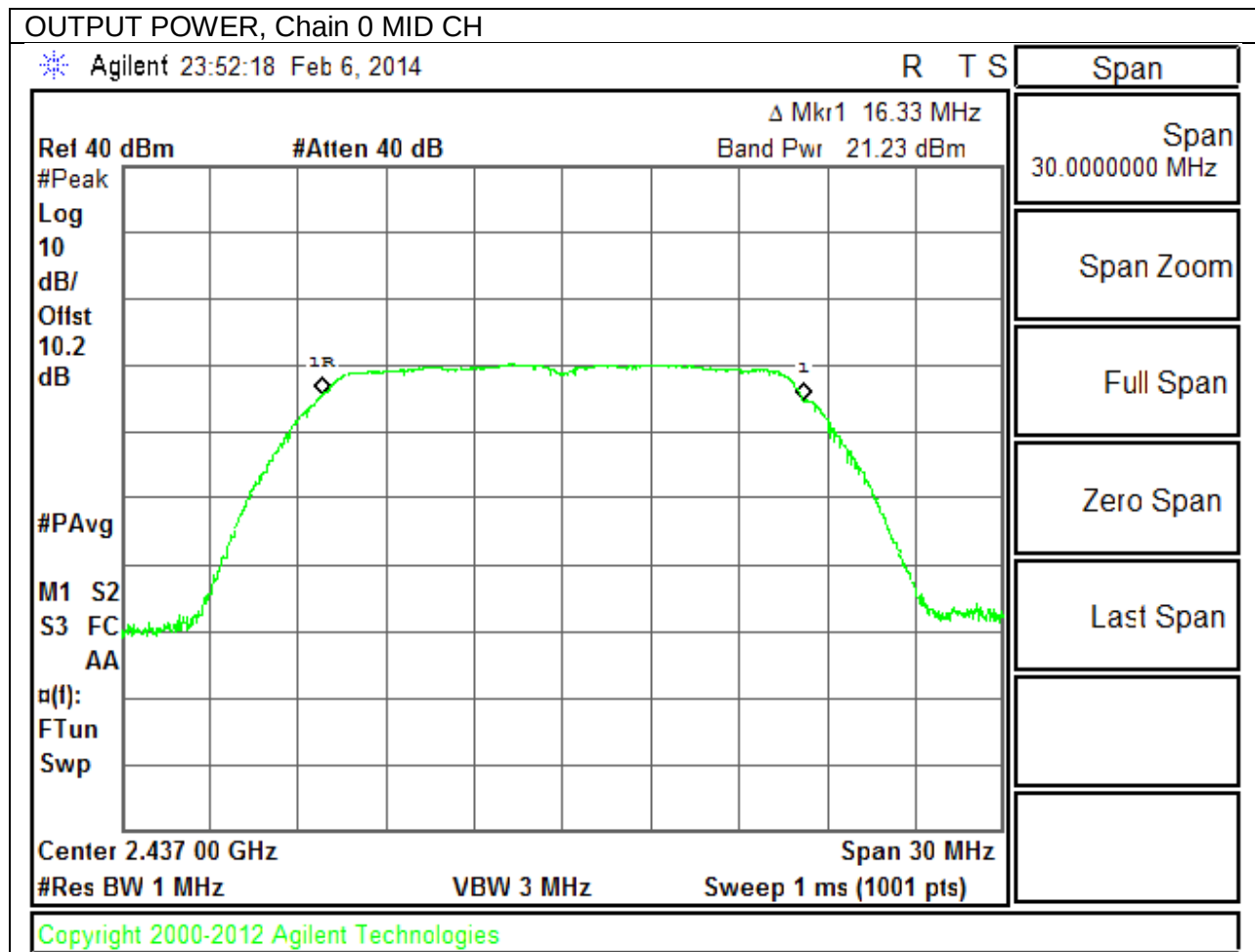
10.3.8. 2.4GHz Plots

802.11b OUTPUT POWER, Chain 0

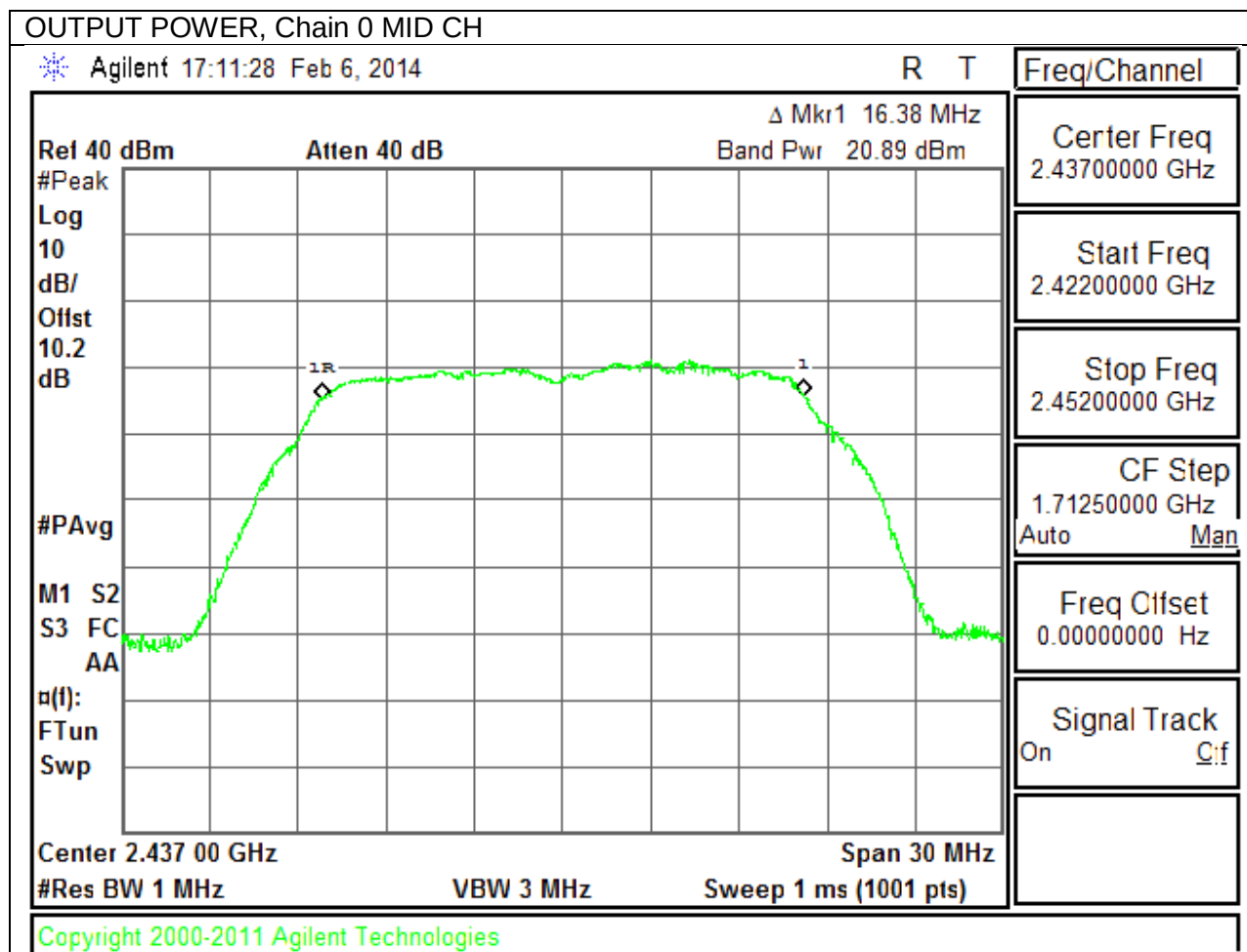


802.11b OUTPUT POWER, Chain 1

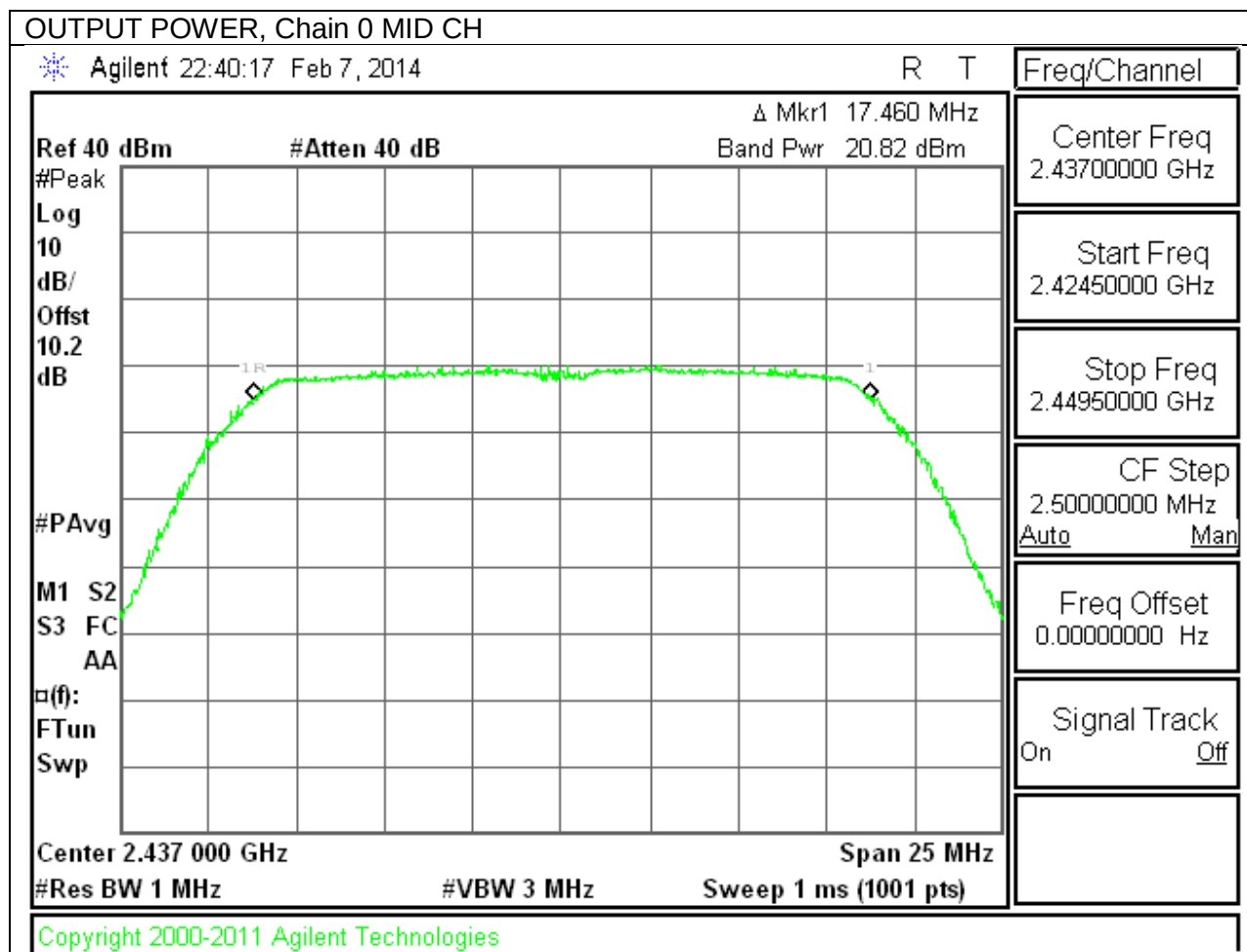
802.11g OUTPUT POWER, Chain 0



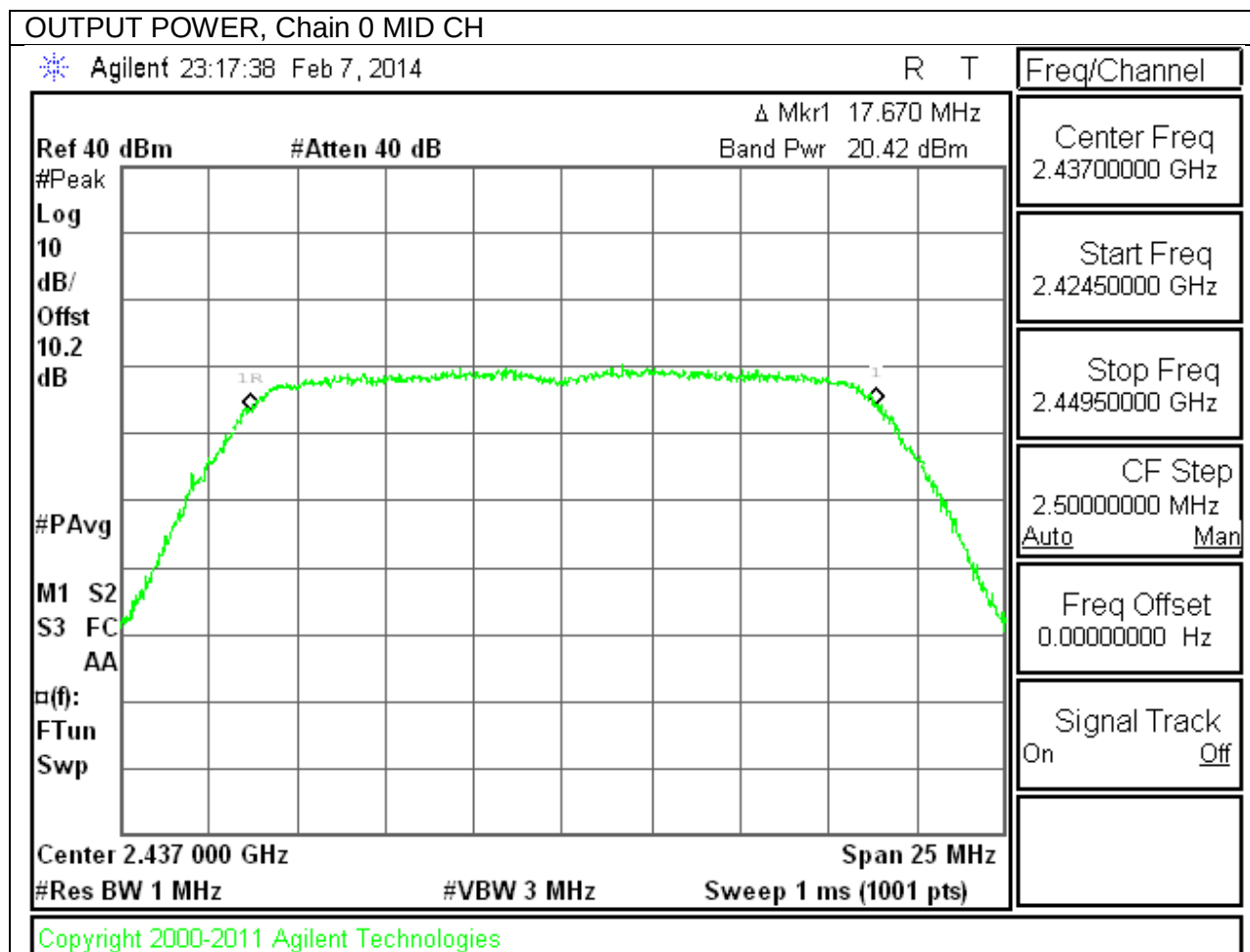
802.11g OUTPUT POWER, Chain 1



802.11n OUTPUT POWER, Chain 0

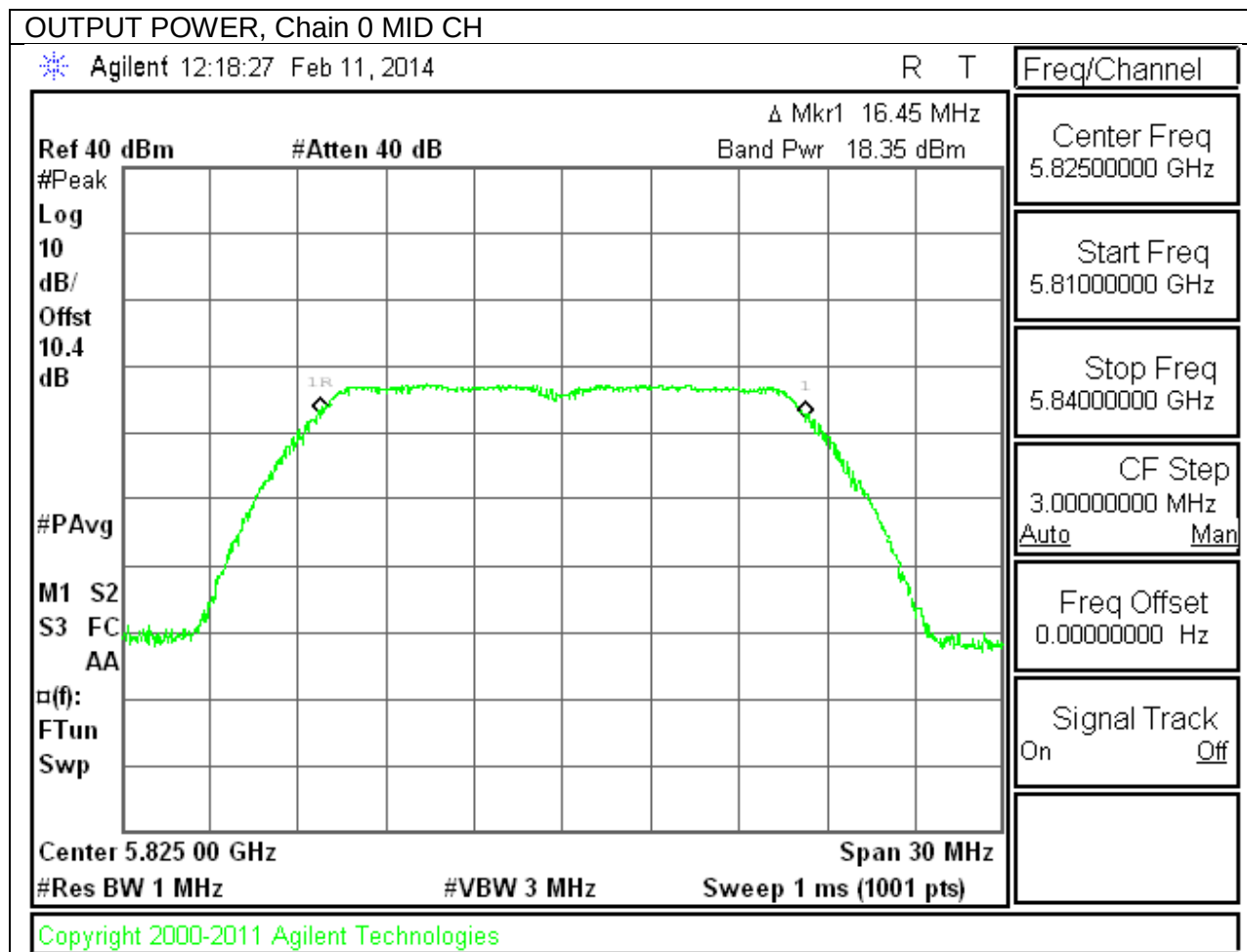


802.11n OUTPUT POWER, Chain 1

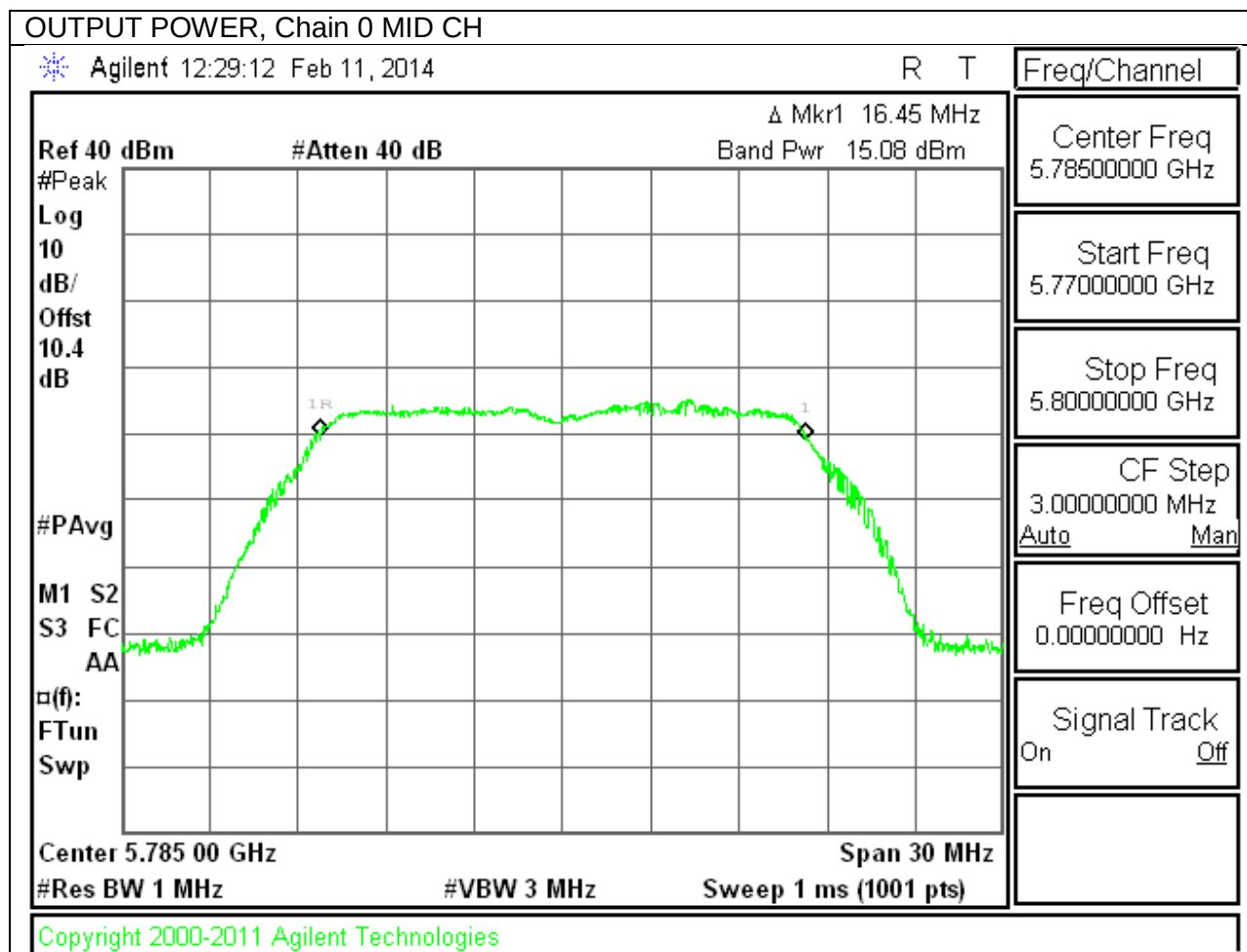


10.3.9. 5.8GHz Plots

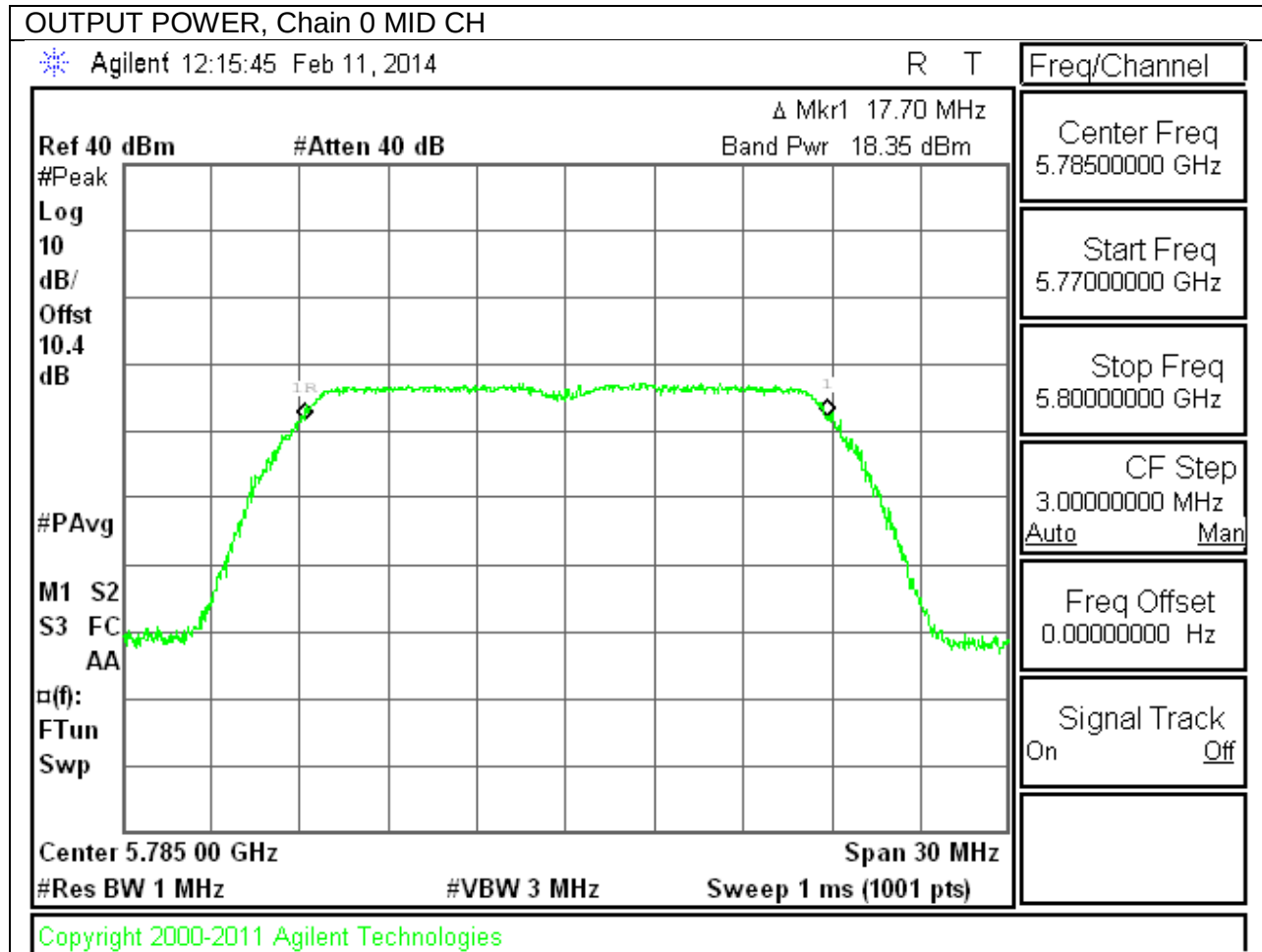
802.11a OUTPUT POWER, Chain 0



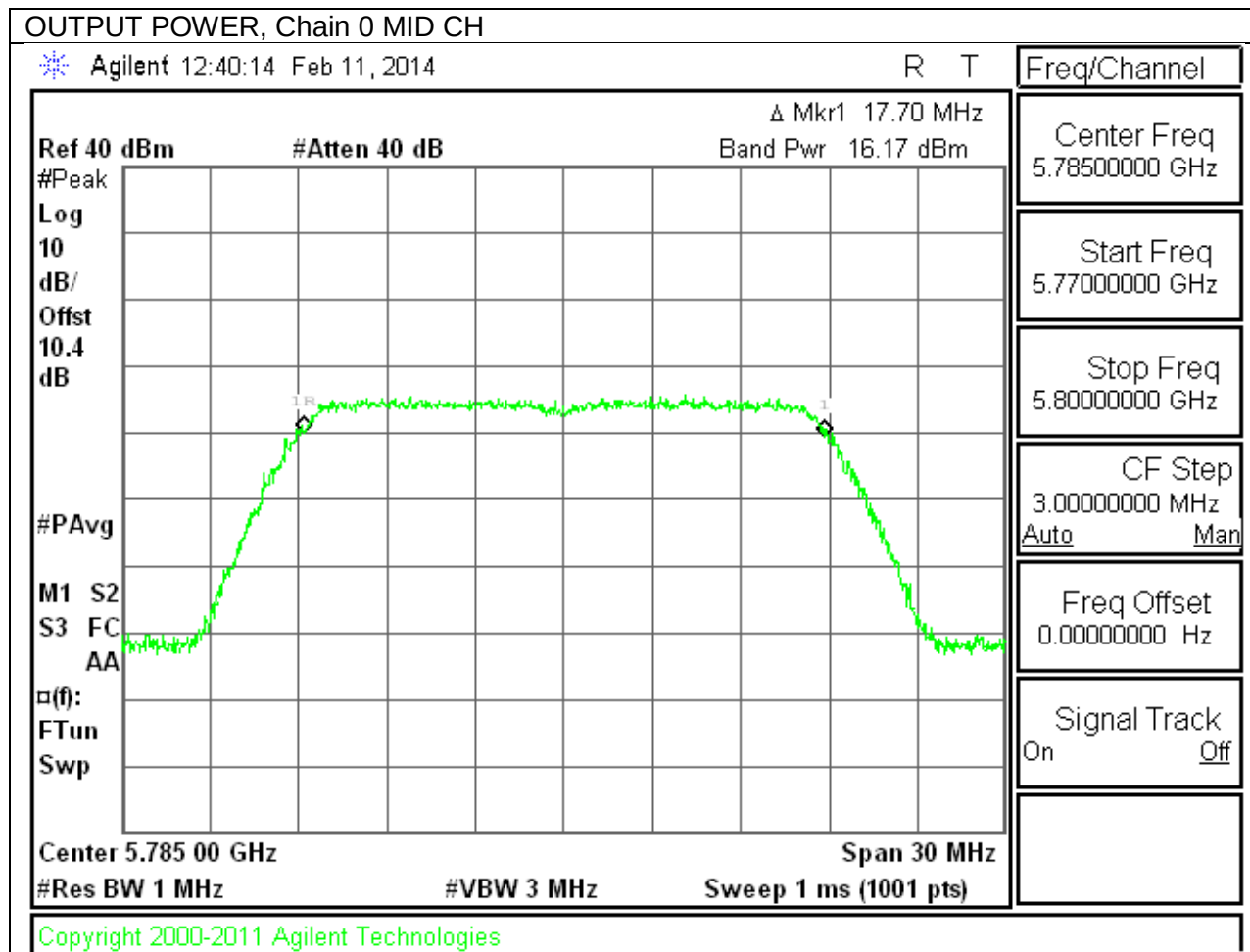
802.11a OUTPUT POWER, Chain 1



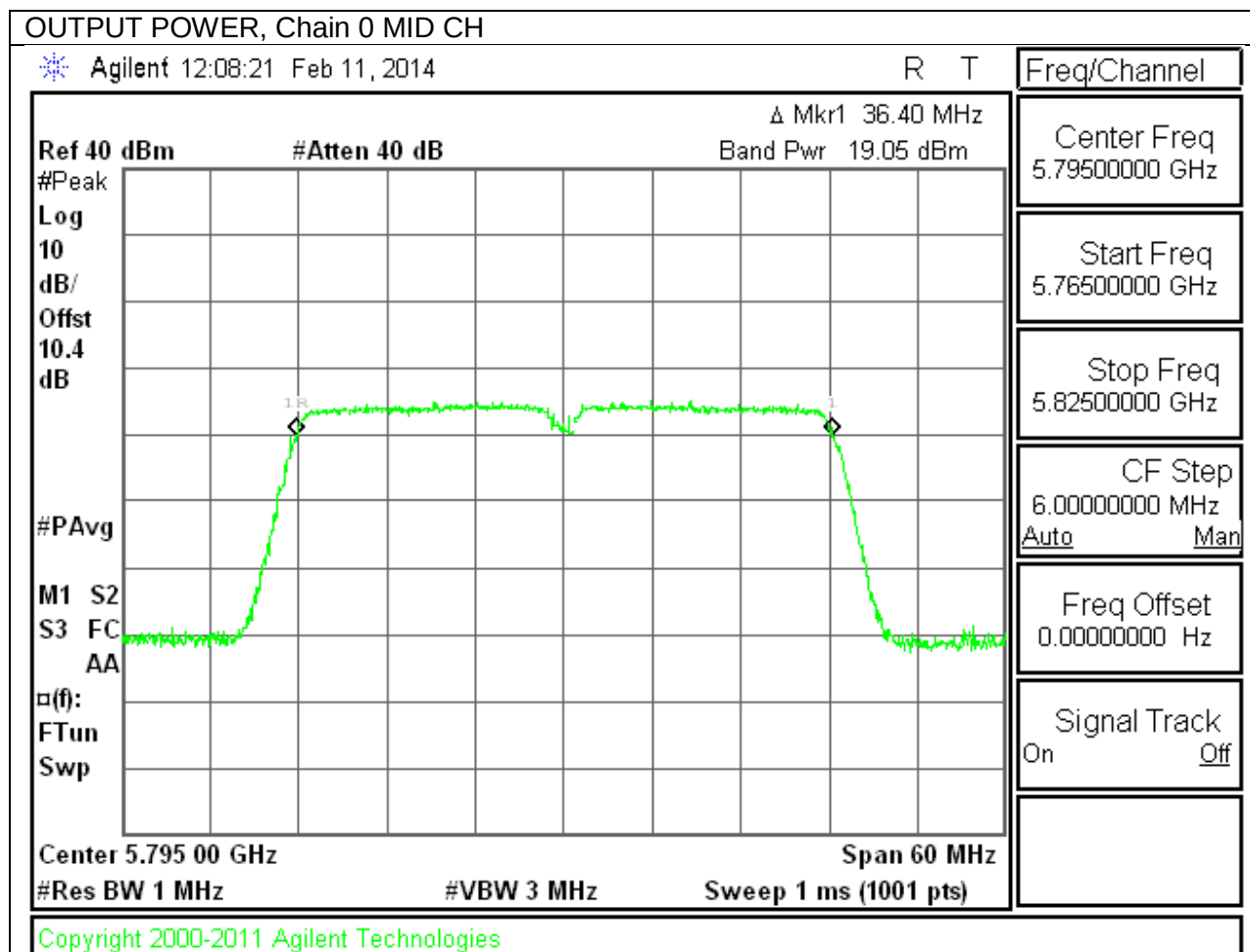
802.11n HT20 OUTPUT POWER, Chain 0



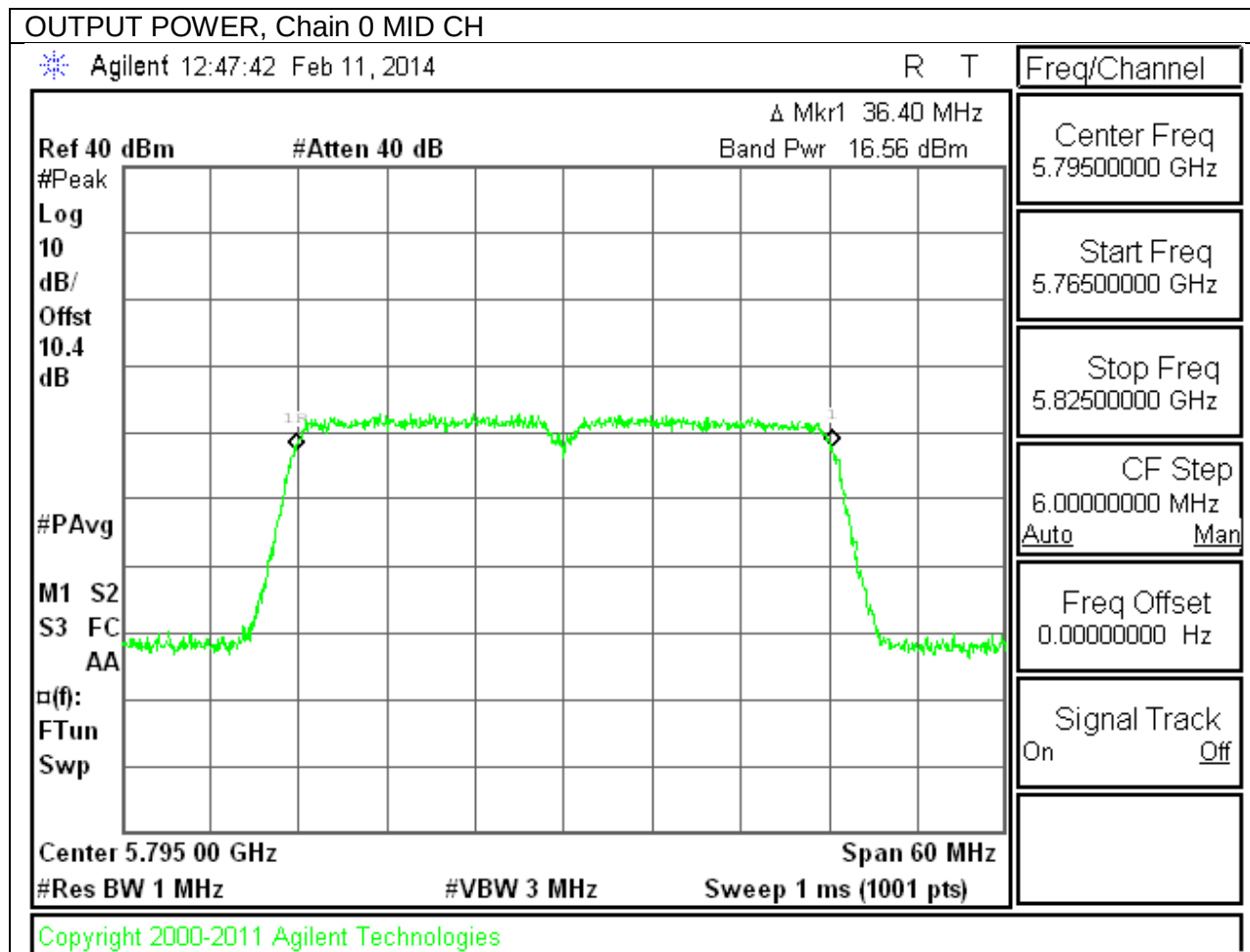
802.11n HT20 OUTPUT POWER, Chain 1



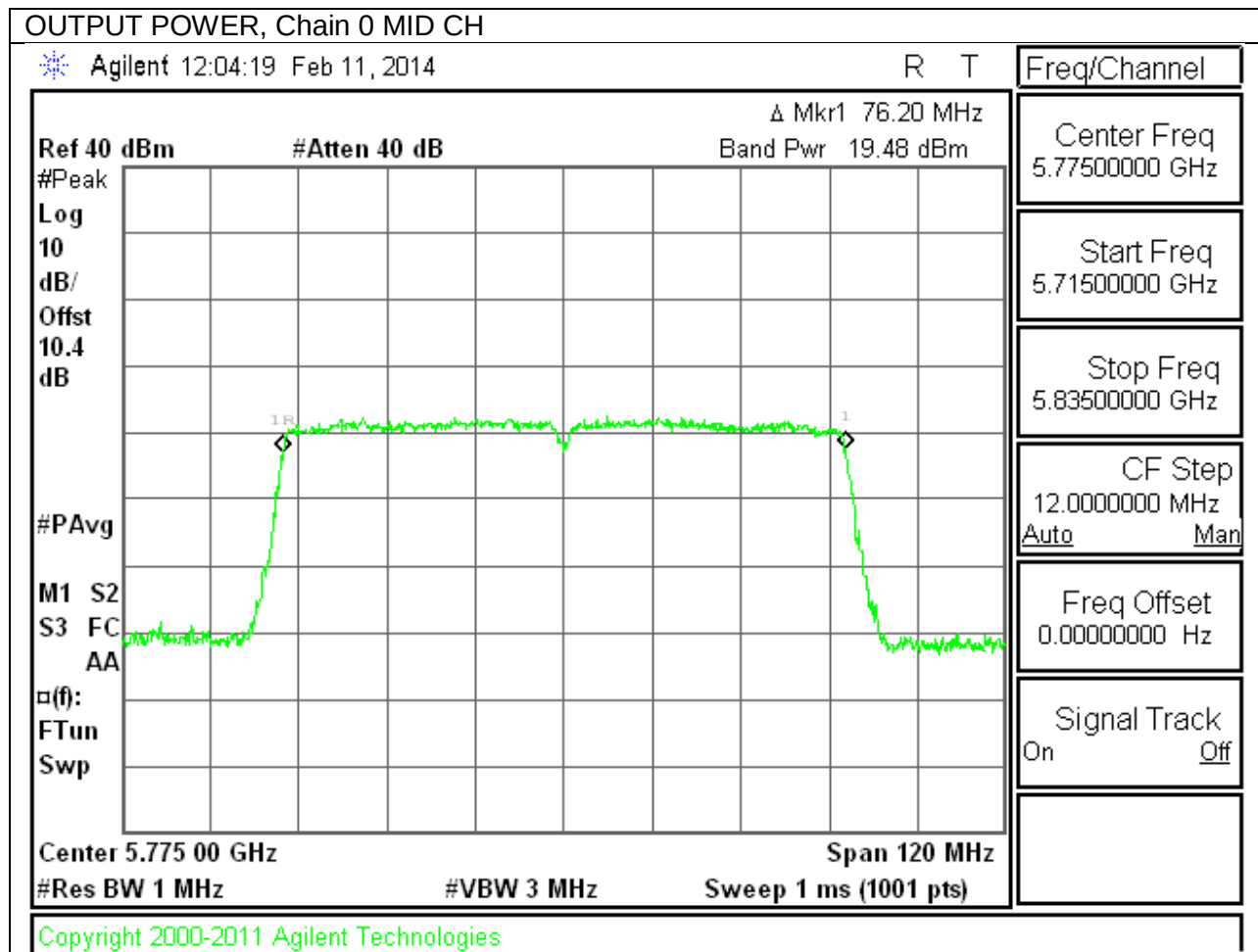
802.11n HT40 OUTPUT POWER, Chain 0



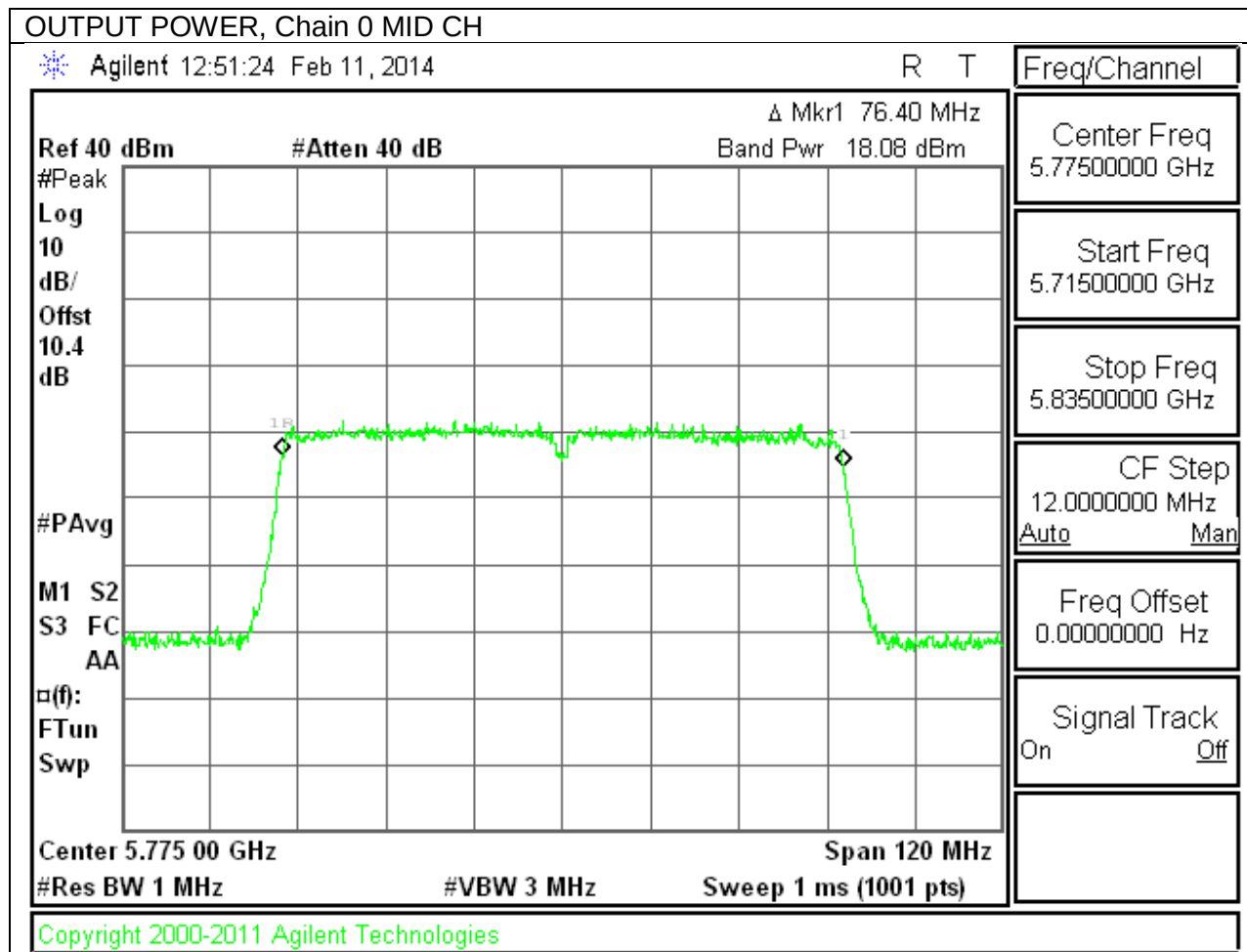
802.11n HT40 OUTPUT POWER, Chain 1



802.11ac HT80 OUTPUT POWER, Chain 0



802.11ac HT80 OUTPUT POWER, Chain 1



10.4. PSD

LIMITS

FCC §15.247

IC RSS-210 A8.2

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

RESULTS

10.4.1. 802.11b MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-10.03	-10.10	-7.05	8.0	-15.1
Mid	2437	-9.43	-9.81	-6.61	8.0	-14.6
High	2462	-9.88	-9.46	-6.65	8.0	-14.7

10.4.2. 802.11g MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-12.67	-13.53	-10.07	8.0	-18.1
Mid	2437	-11.30	-13.85	-9.38	8.0	-17.4
High	2462	-12.45	-13.95	-10.13	8.0	-18.1

10.4.3. 802.11n HT20 MODE IN THE 2.4 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	2412	-13.76	-13.37	-10.55	8.0	-18.6
Mid	2437	-13.91	-14.91	-11.37	8.0	-19.4
High	2462	-16.62	-14.88	-12.65	8.0	-20.7

10.4.4. 802.11a MODE IN THE 5.8 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5745	-14.42	-14.34	-11.37	8.0	-19.4
Mid	5785	-15.32	-16.94	-13.04	8.0	-21.0
High	5825	-20.14	-16.63	-15.03	8.0	-23.0

10.4.5. 802.11n HT20 MODE IN THE 5.8 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5745	-15.90	-16.29	-13.08	8.0	-21.1
Mid	5785	-15.79	-16.59	-13.16	8.0	-21.2
High	5825	-16.31	-17.18	-13.71	8.0	-21.7

10.4.6. 802.11n HT40 MODE IN THE 5.8 GHz BAND

PSD Results

Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5755	-17.76	-19.00	-15.33	8.0	-23.3
High	5795	-18.44	-18.55	-15.48	8.0	-23.5

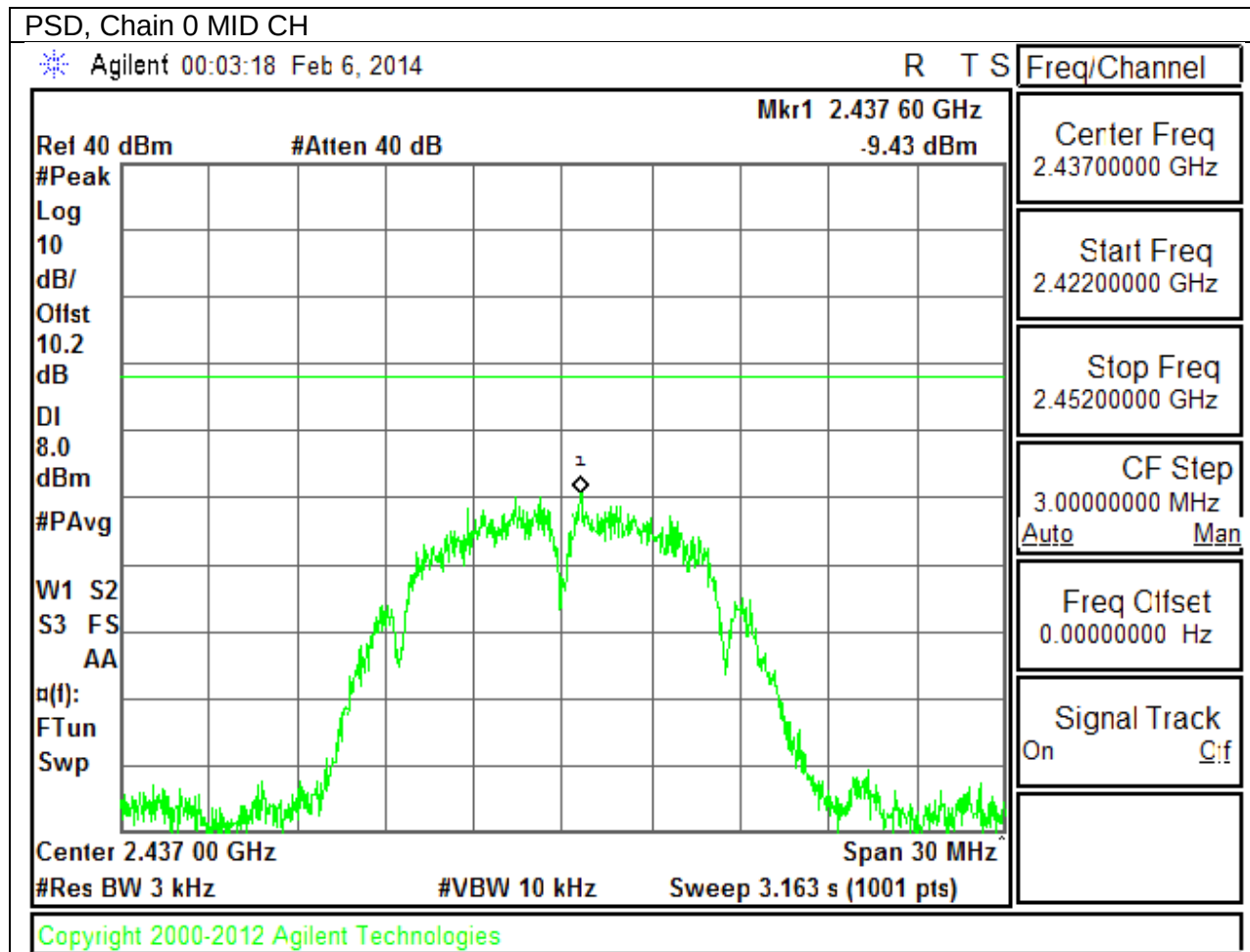
10.4.7. 802.11AC HT80 MODE IN THE 5.8 GHz BAND

PSD Results

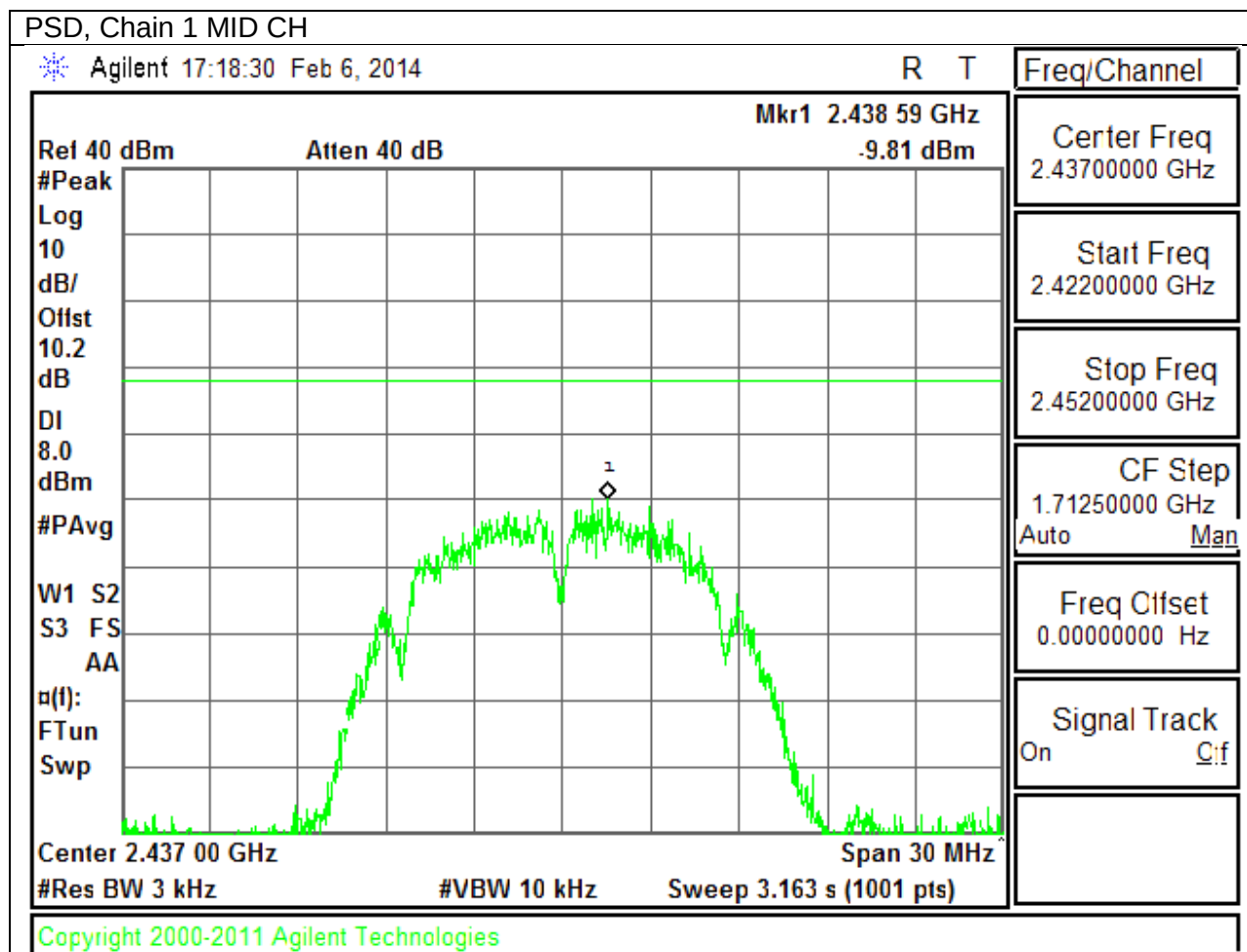
Channel	Frequency (MHz)	Chain 0 Meas (dBm)	Chain 1 Meas (dBm)	Total PSD (dBm)	Limit (dBm)	Margin (dB)
Low	5775	-21.05	-20.69	-17.86	8.0	-25.9

10.4.8. 2.4 GHz Plots

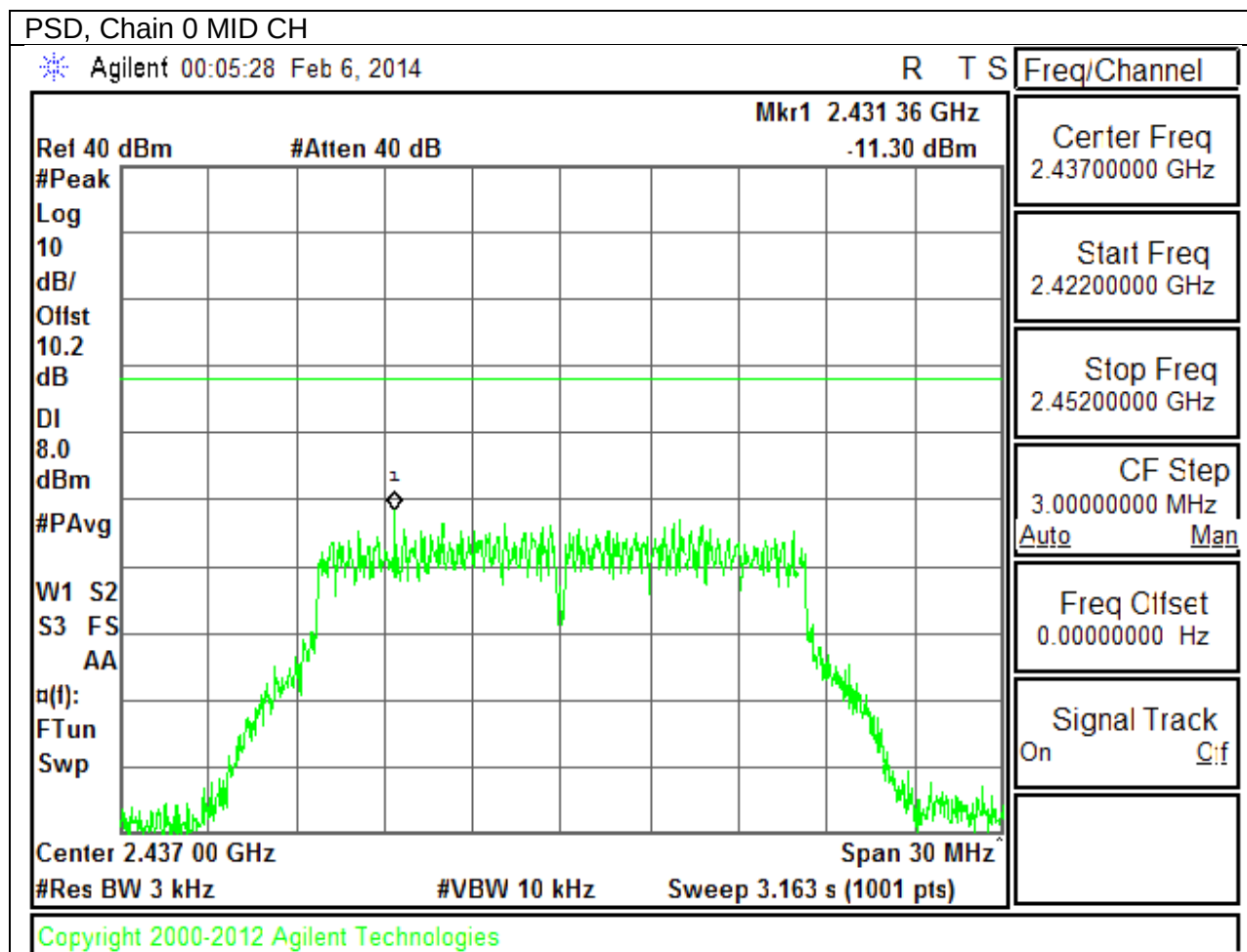
802.11b PSD, Chain 0



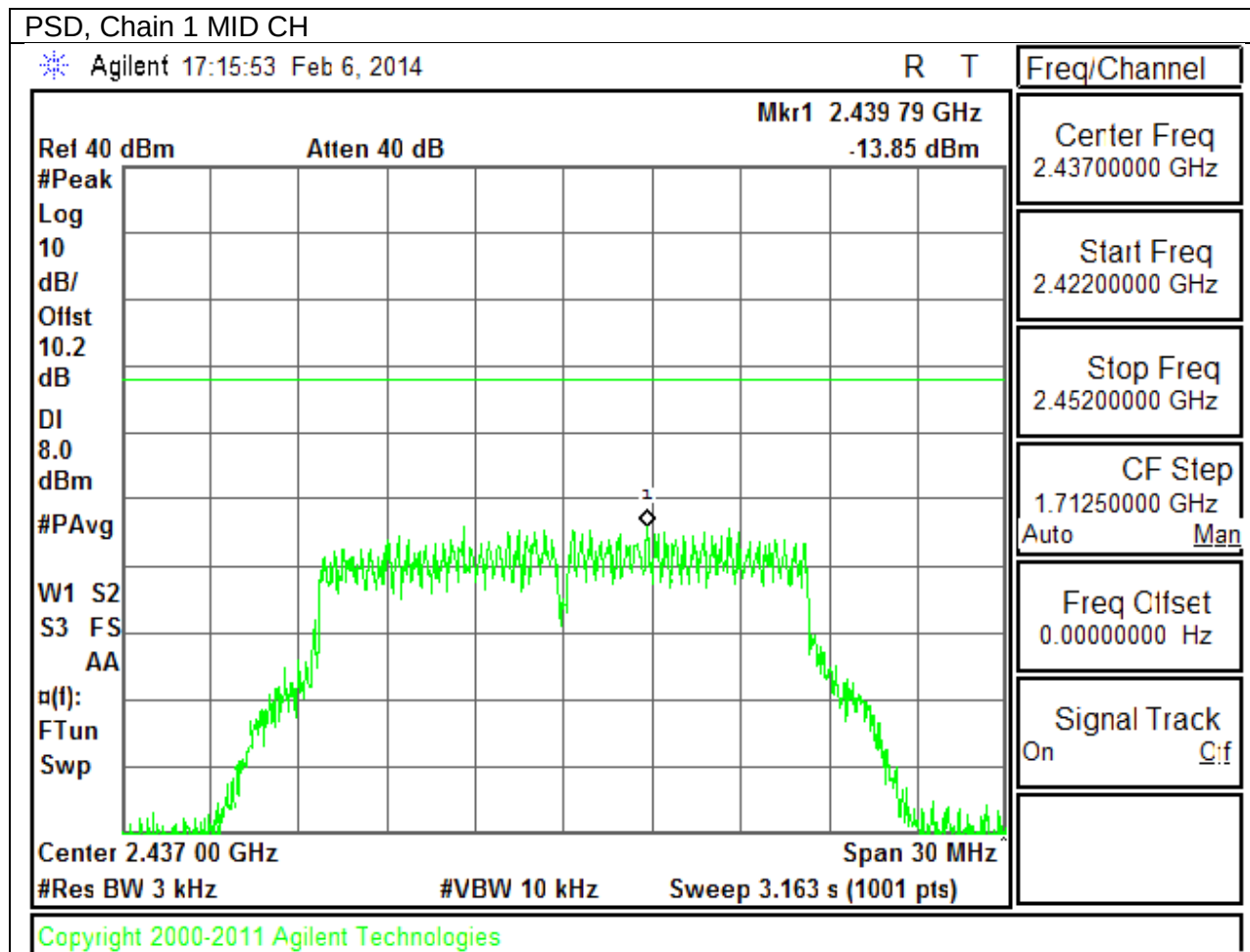
802.11b PSD, Chain 1



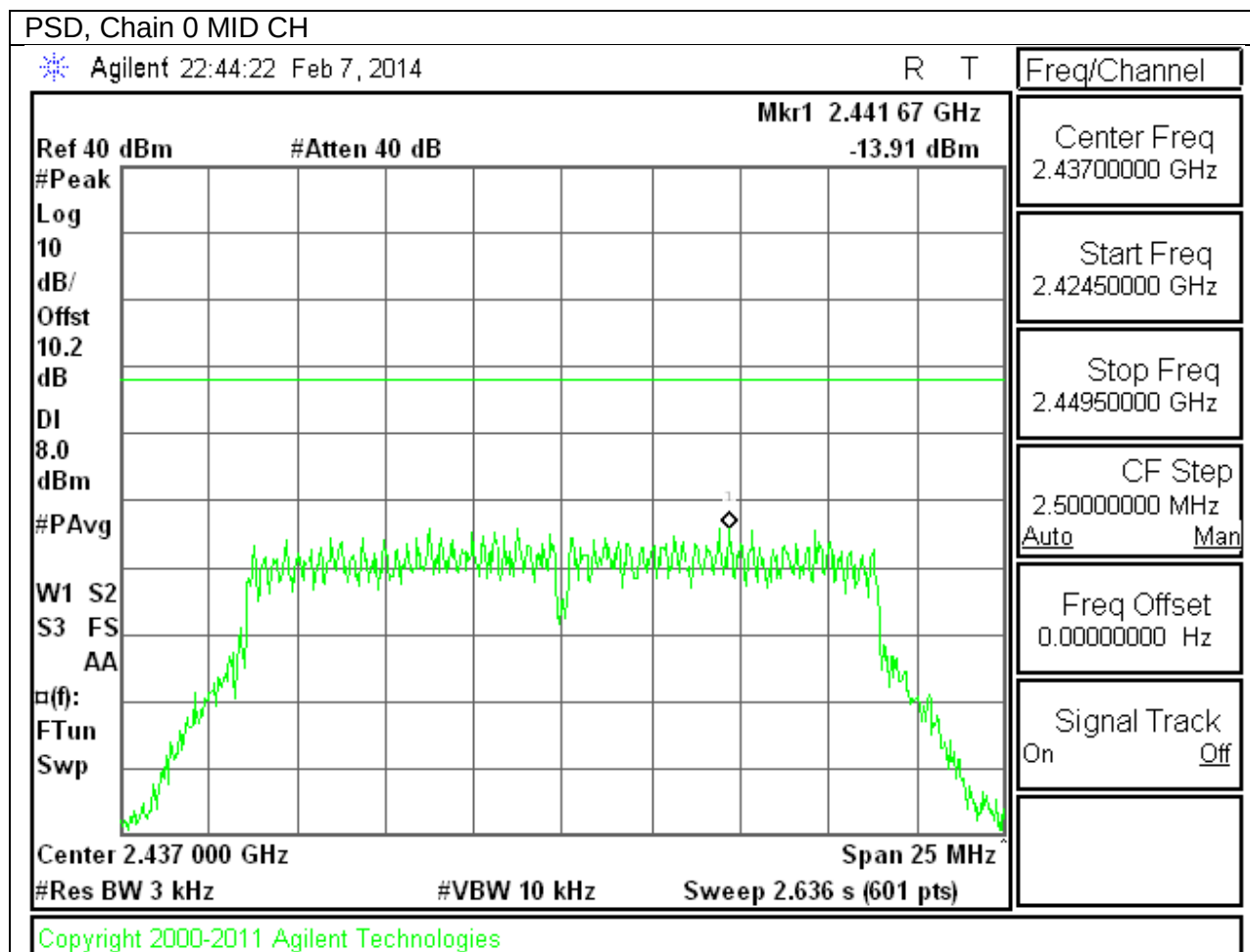
802.11g PSD, Chain 0



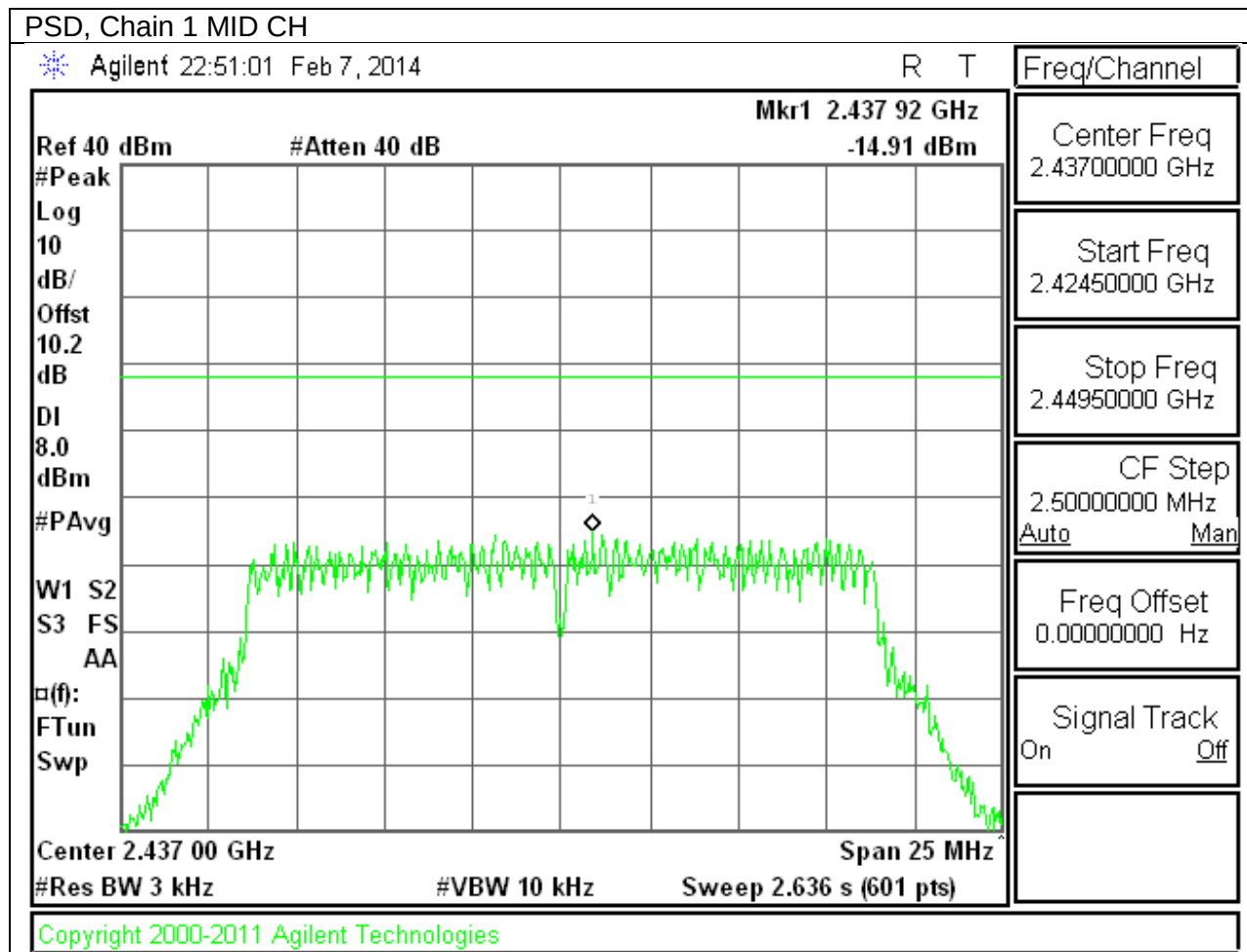
802.11g PSD, Chain 1



802.11n PSD, Chain 0

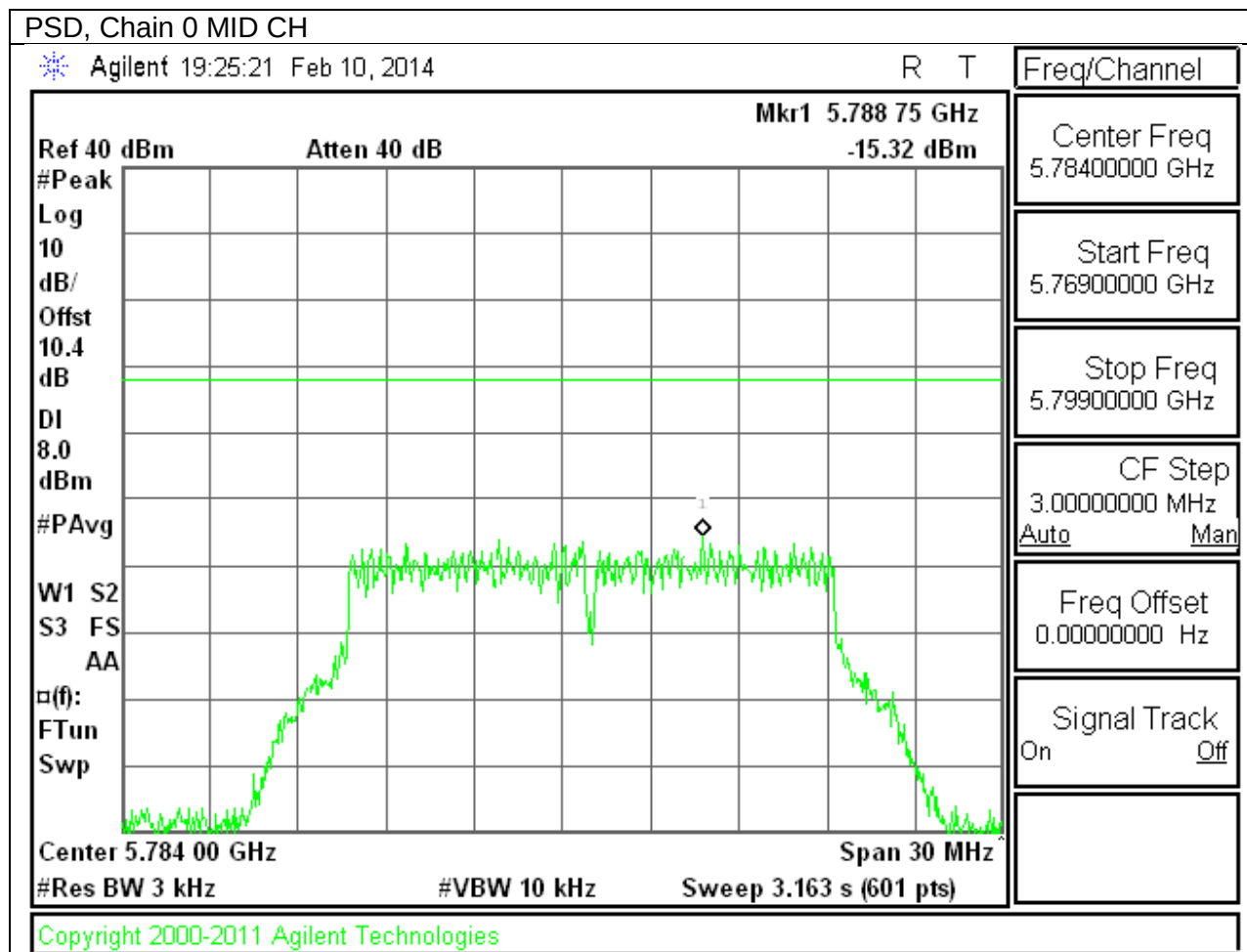


802.11n PSD, Chain 1

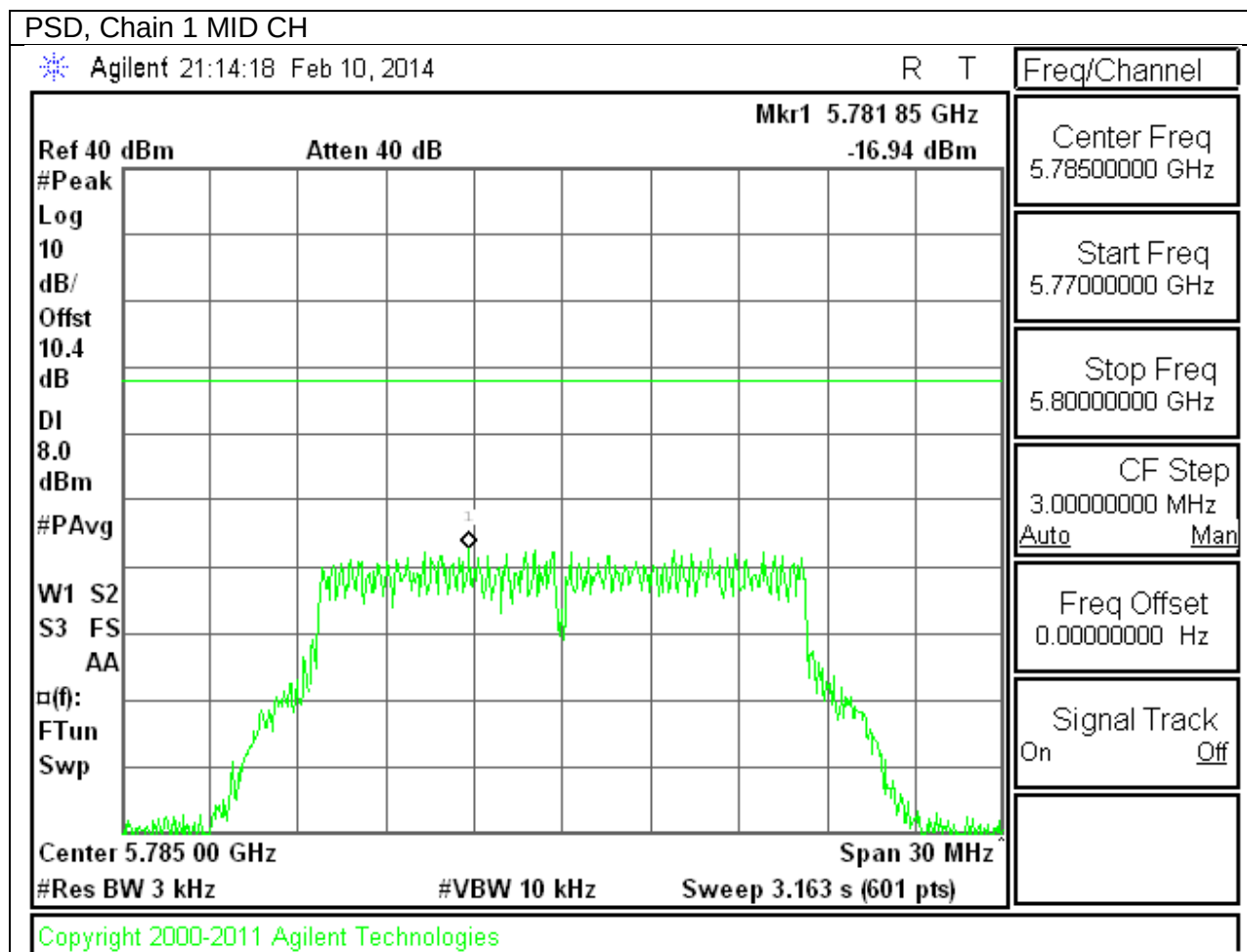


10.4.9. 5.8 GHz Plots

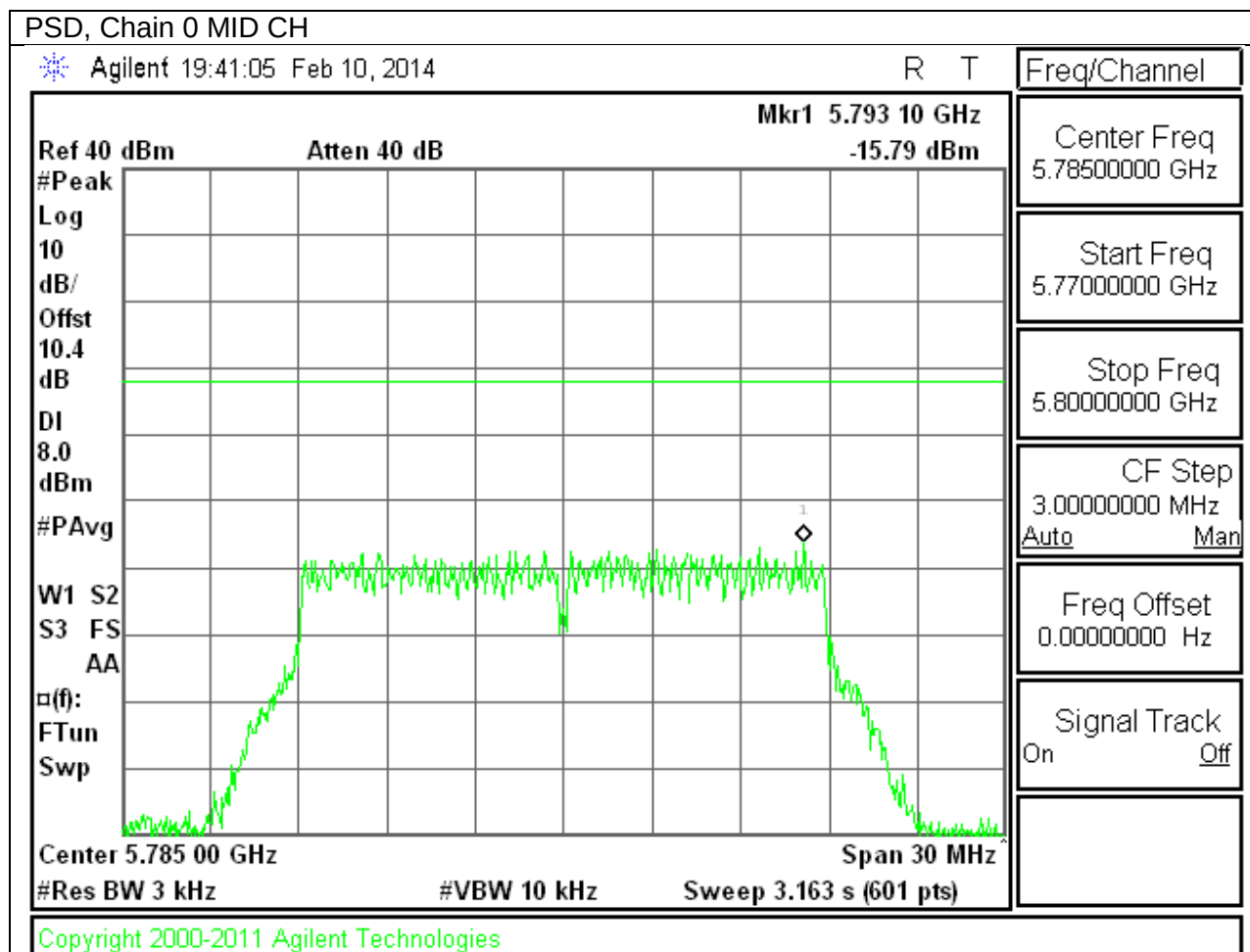
802.11a PSD, Chain 0



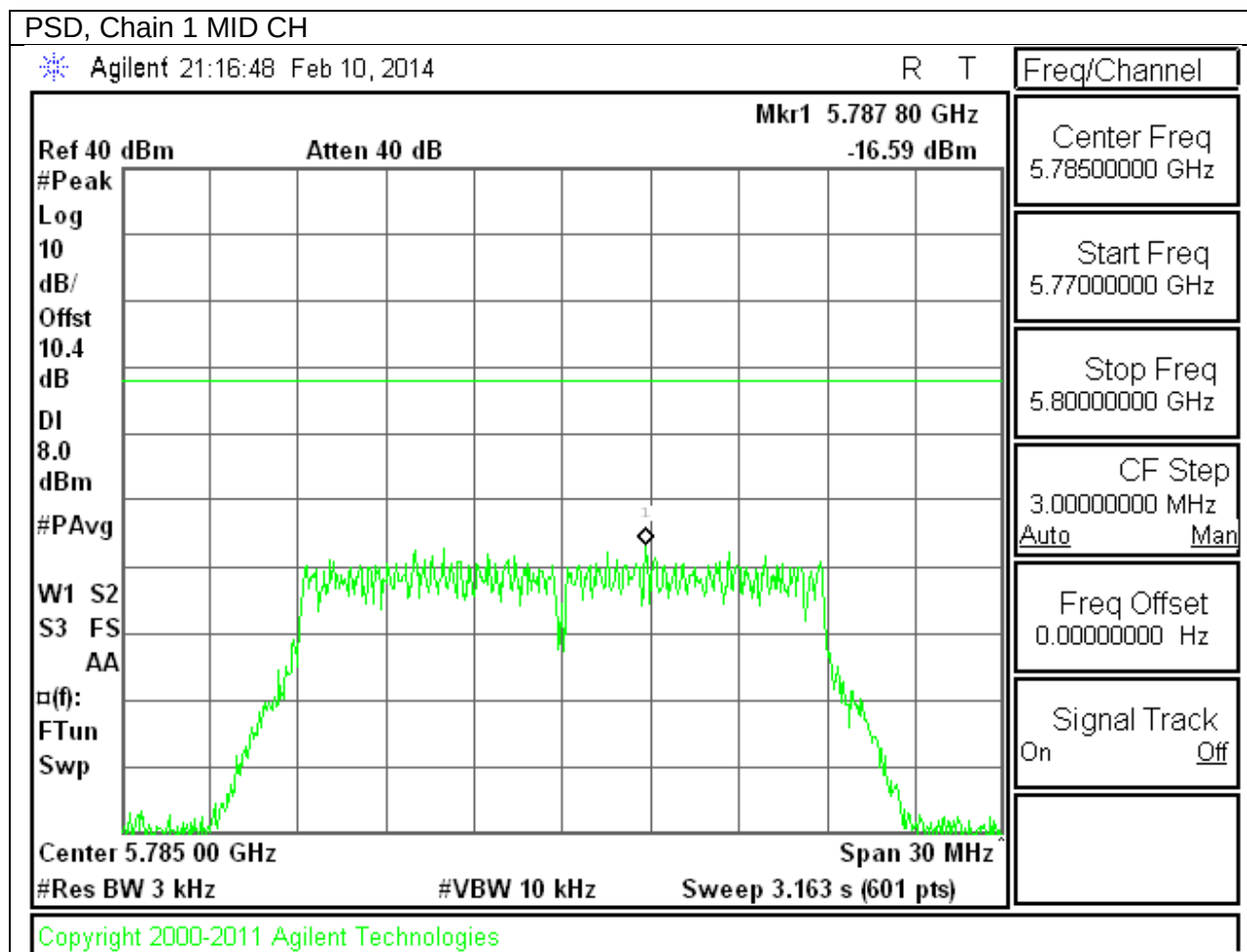
802.11a PSD, Chain 1



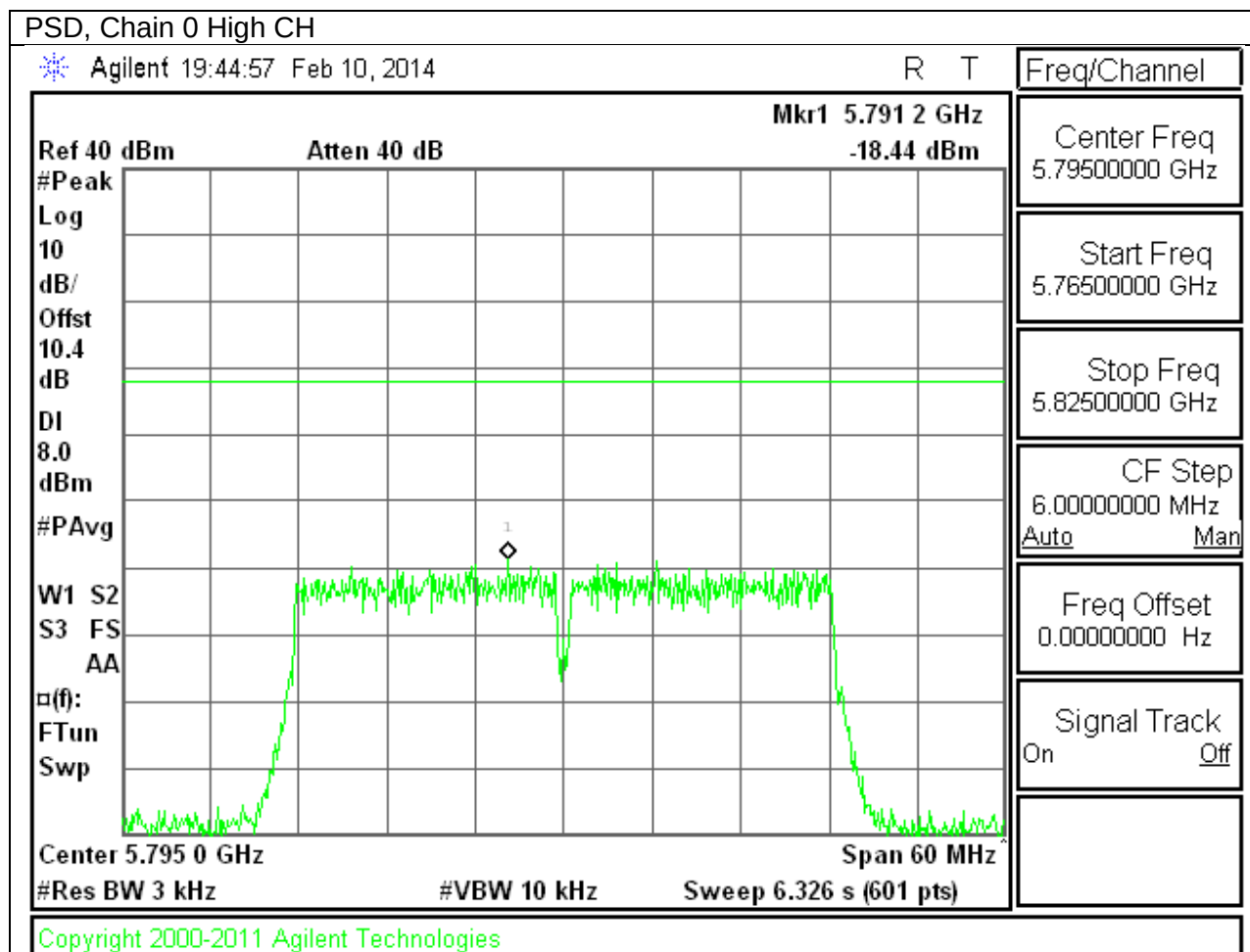
802.11n HT20 PSD, Chain 0



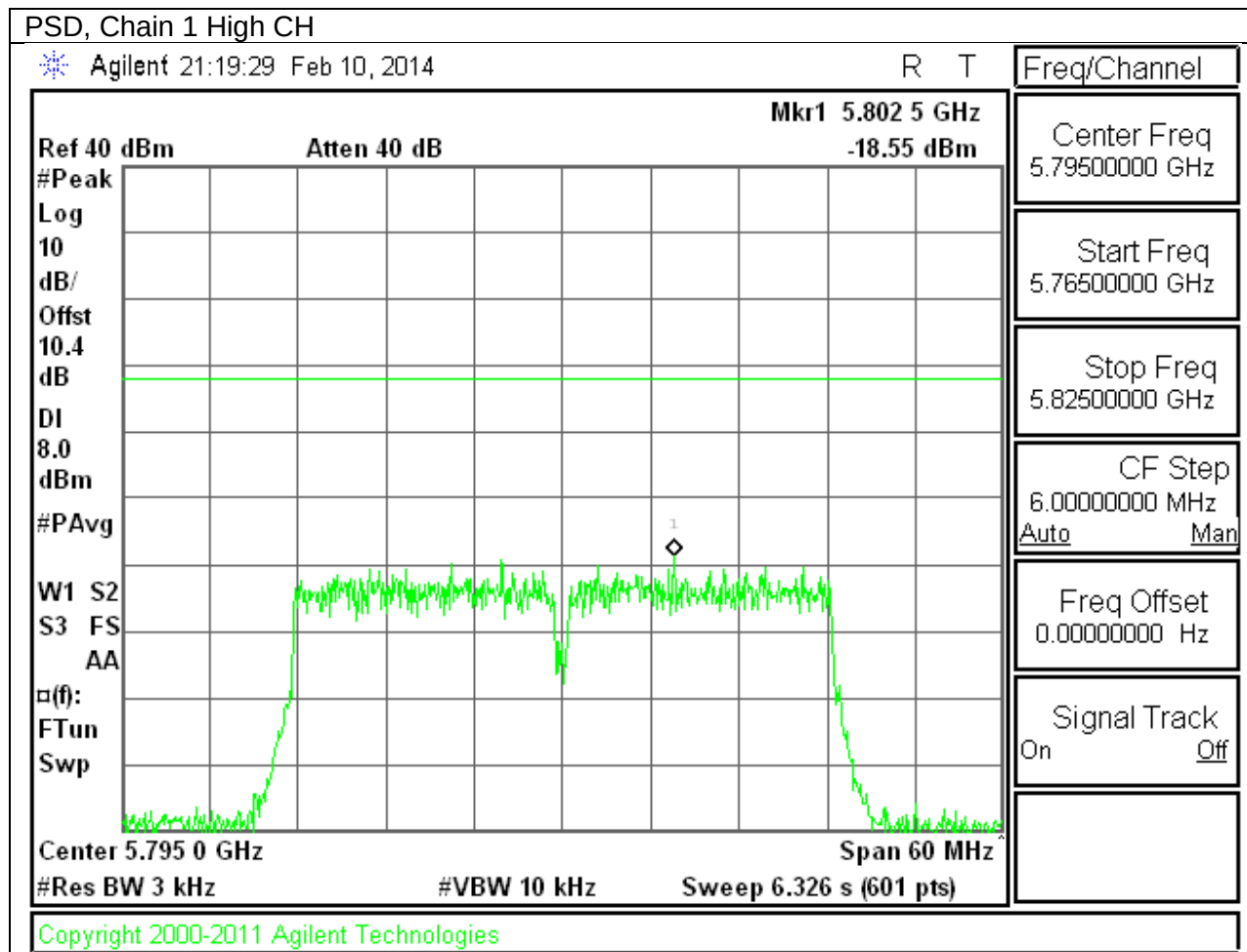
802.11n HT20 PSD, Chain 1



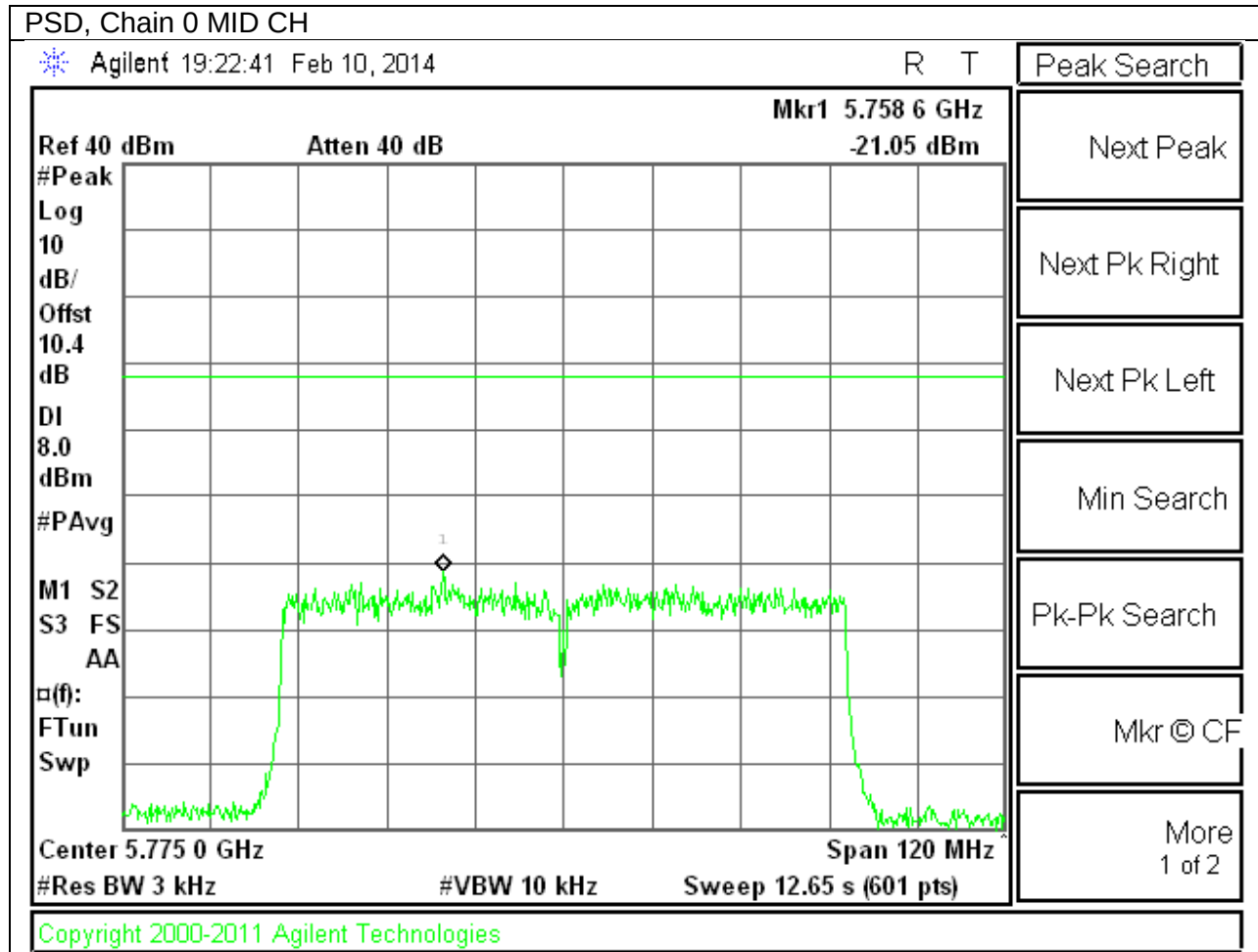
802.11n HT40 PSD, Chain 0



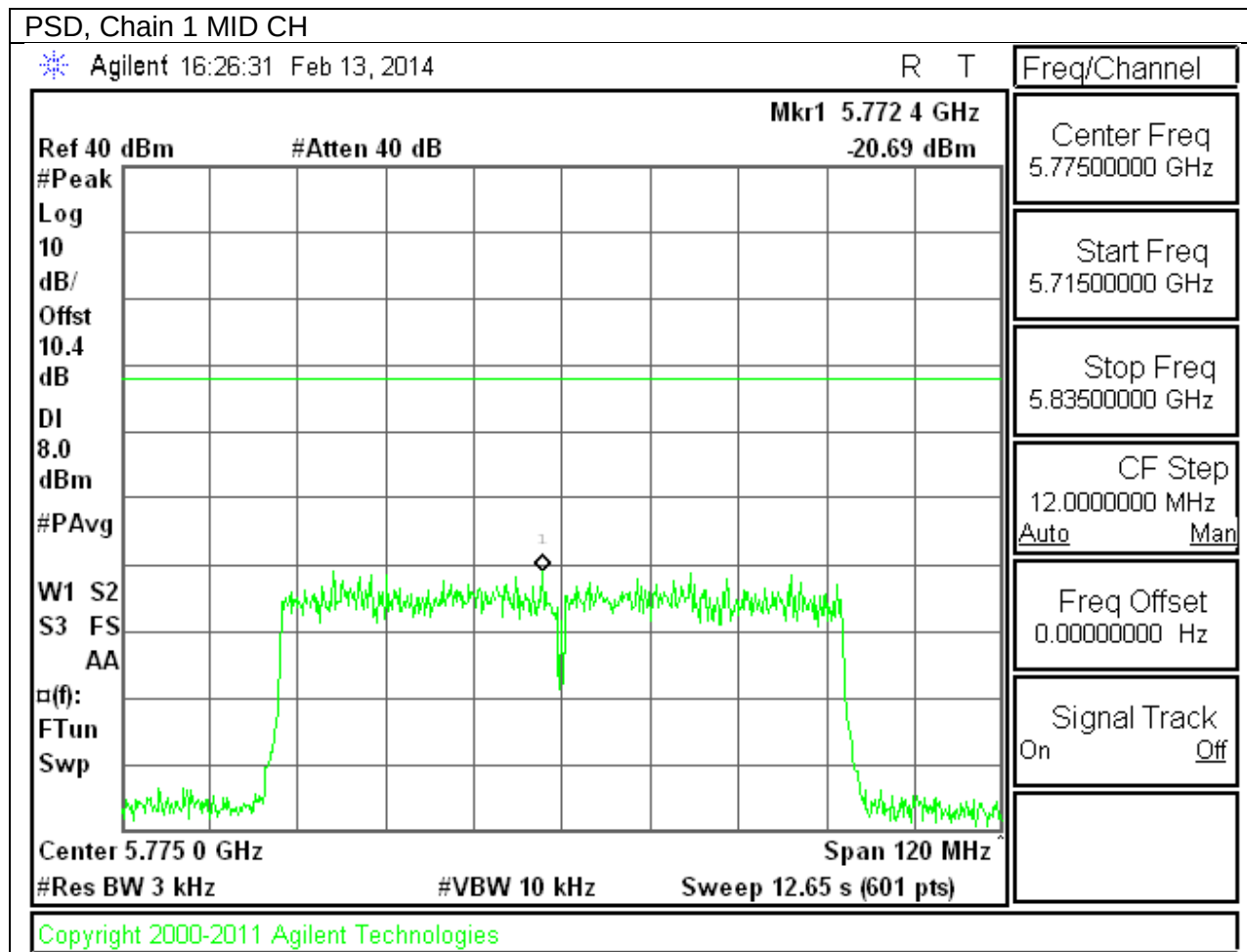
802.11n HT40 PSD, Chain 1



802.11ac HT80 PSD, Chain 0



802.11ac HT80 PSD, Chain 1



10.5. OUT-OF-BAND EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

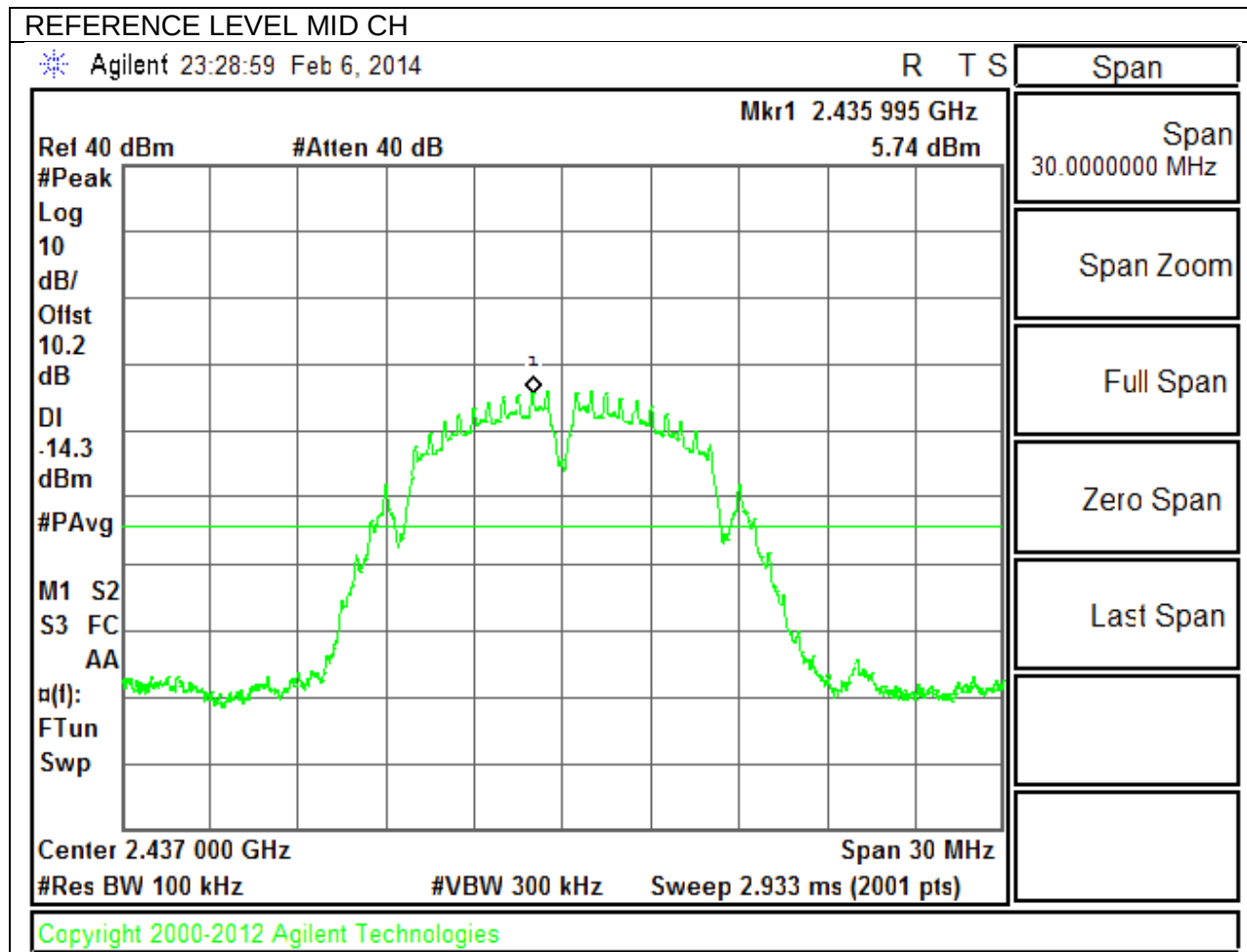
TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer with RBW = 100 kHz, VBW = 300 kHz, peak detector, and max hold. Measurements utilizing these settings are made of the in-band reference level, bandedge (where measurements to the general radiated limits will not be made) and out-of-band emissions.

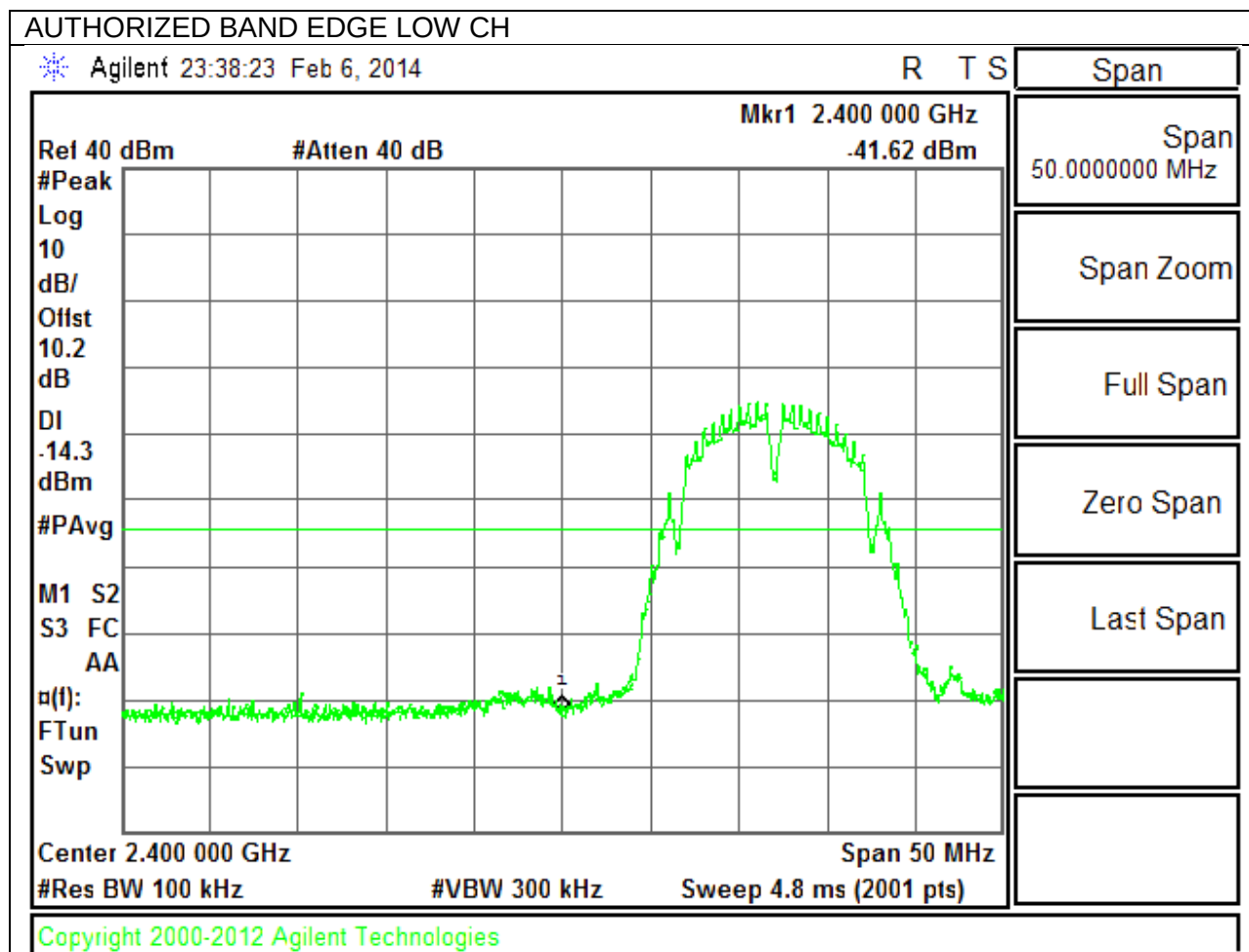
RESULTS

10.5.1. 802.11b MODE IN THE 2.4 GHz BAND CHAIN 0

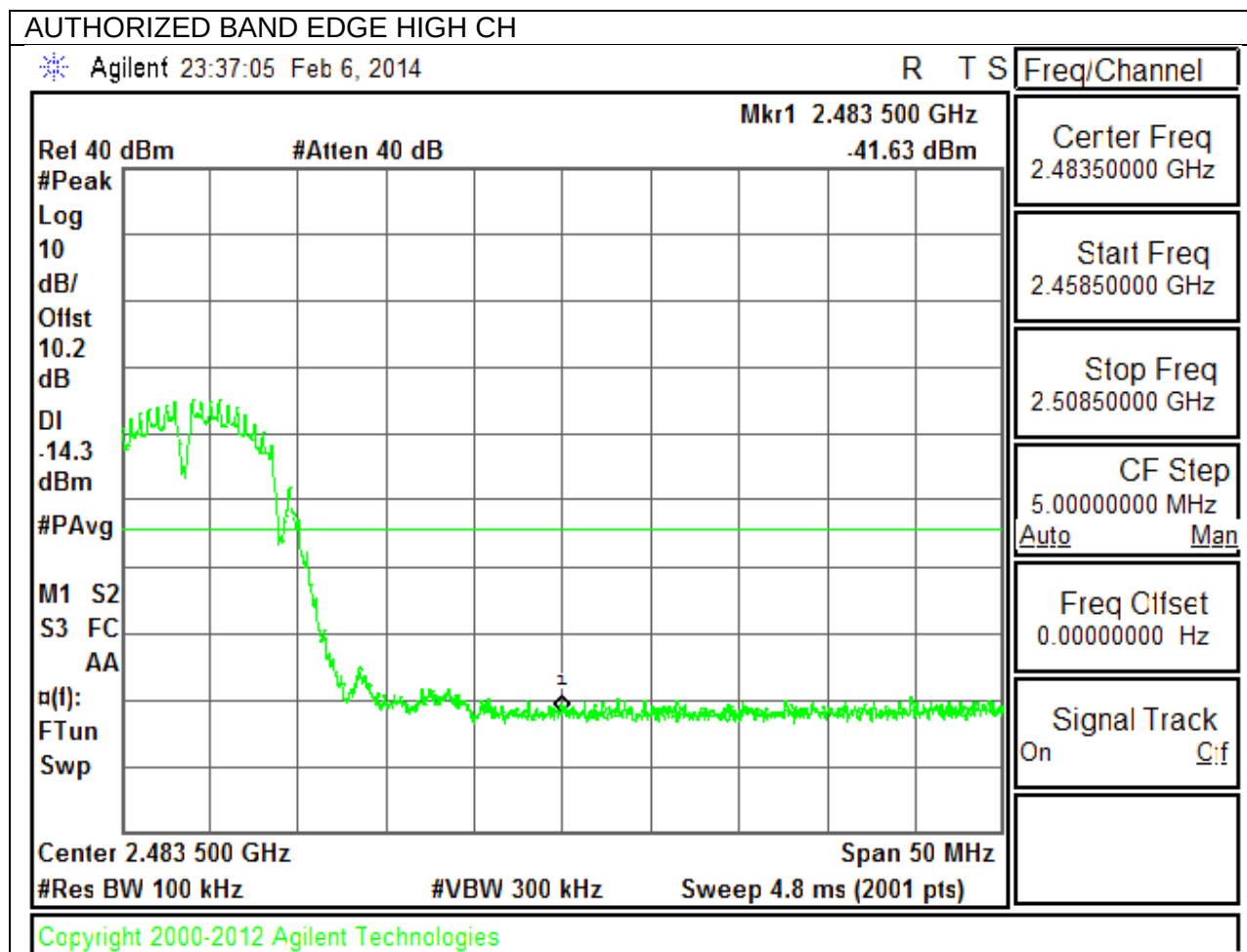
IN-BAND REFERENCE LEVEL



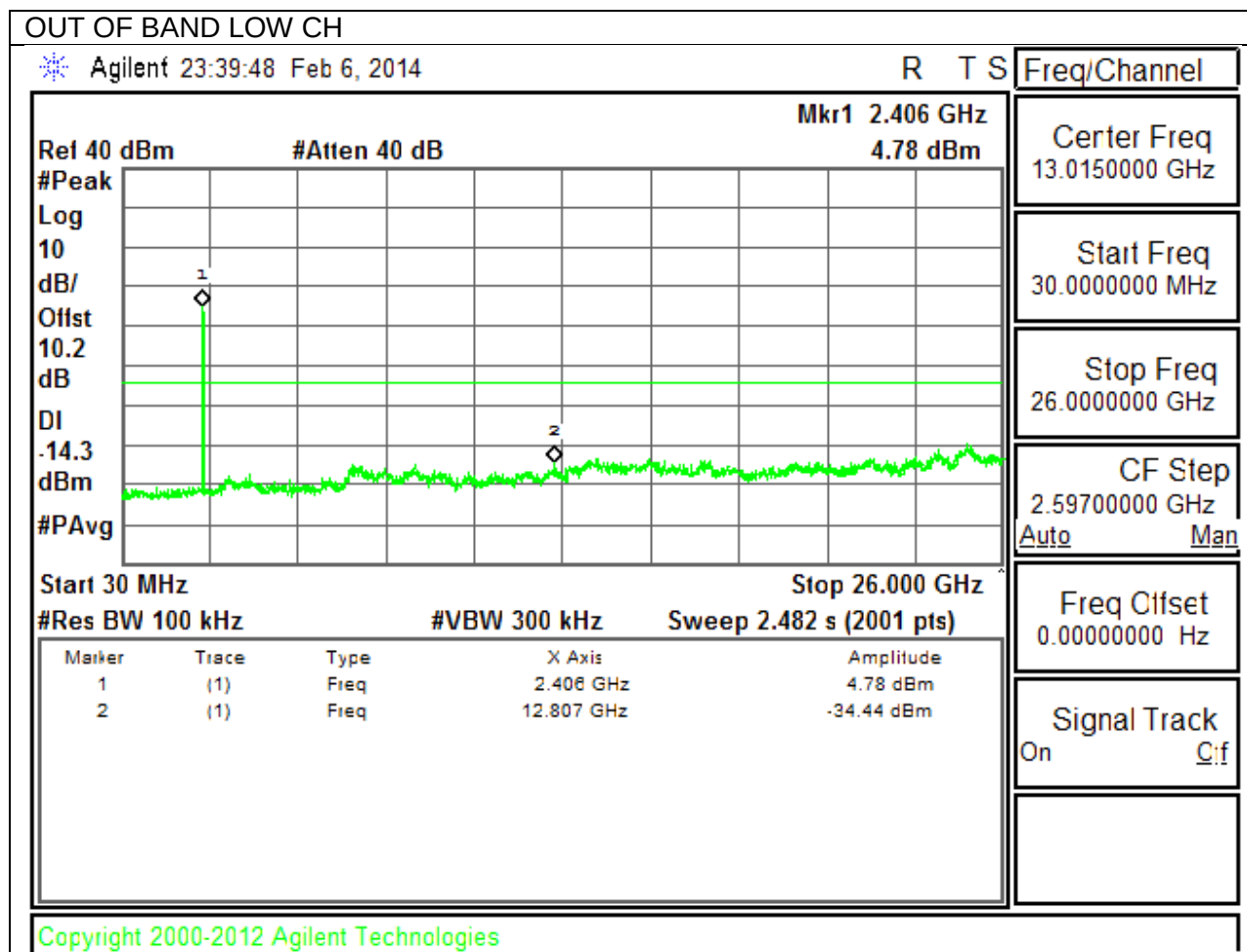
LOW CHANNEL BANDEDGE



HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS

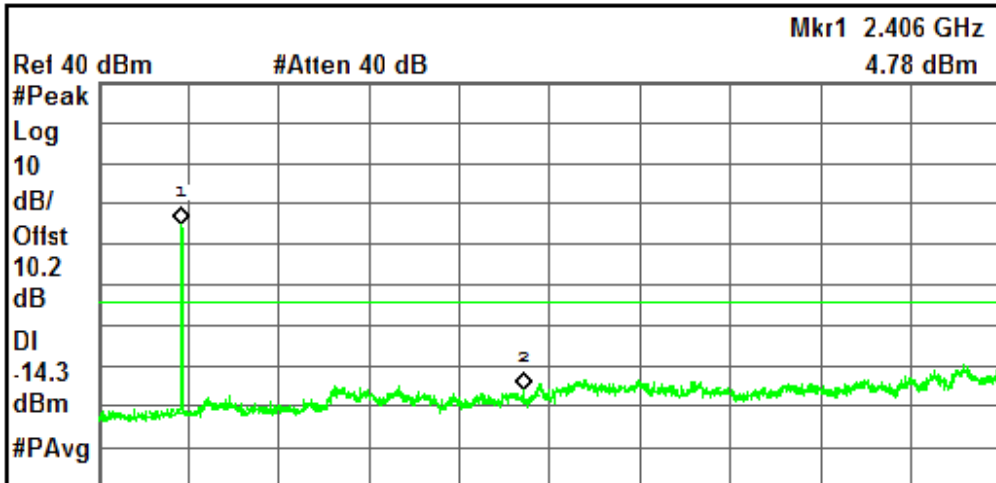


OUT OF BAND MID CH

Agilent 23:40:33 Feb 6, 2014

R T S

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

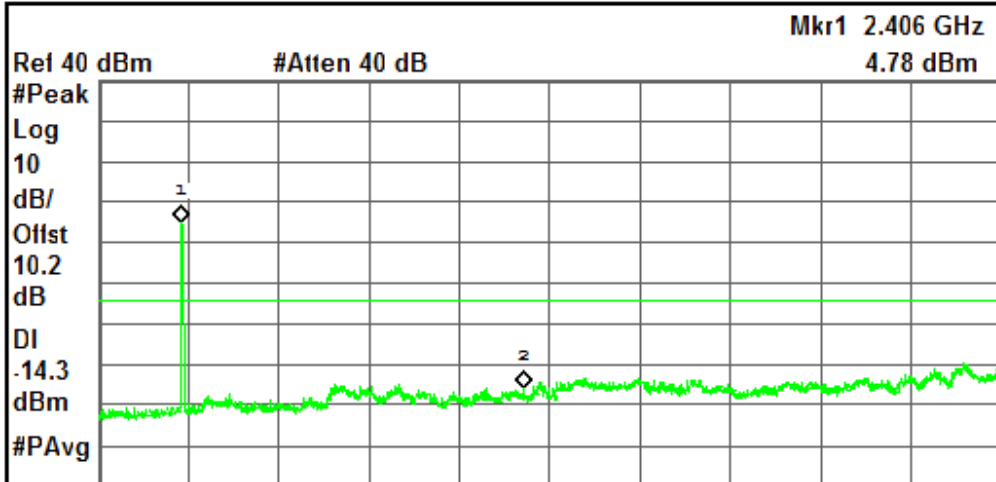
Copyright 2000-2012 Agilent Technologies

OUT OF BAND HIGH CH

Agilent 23:41:32 Feb 6, 2014

R T S

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

Freq Offset
0.00000000 Hz

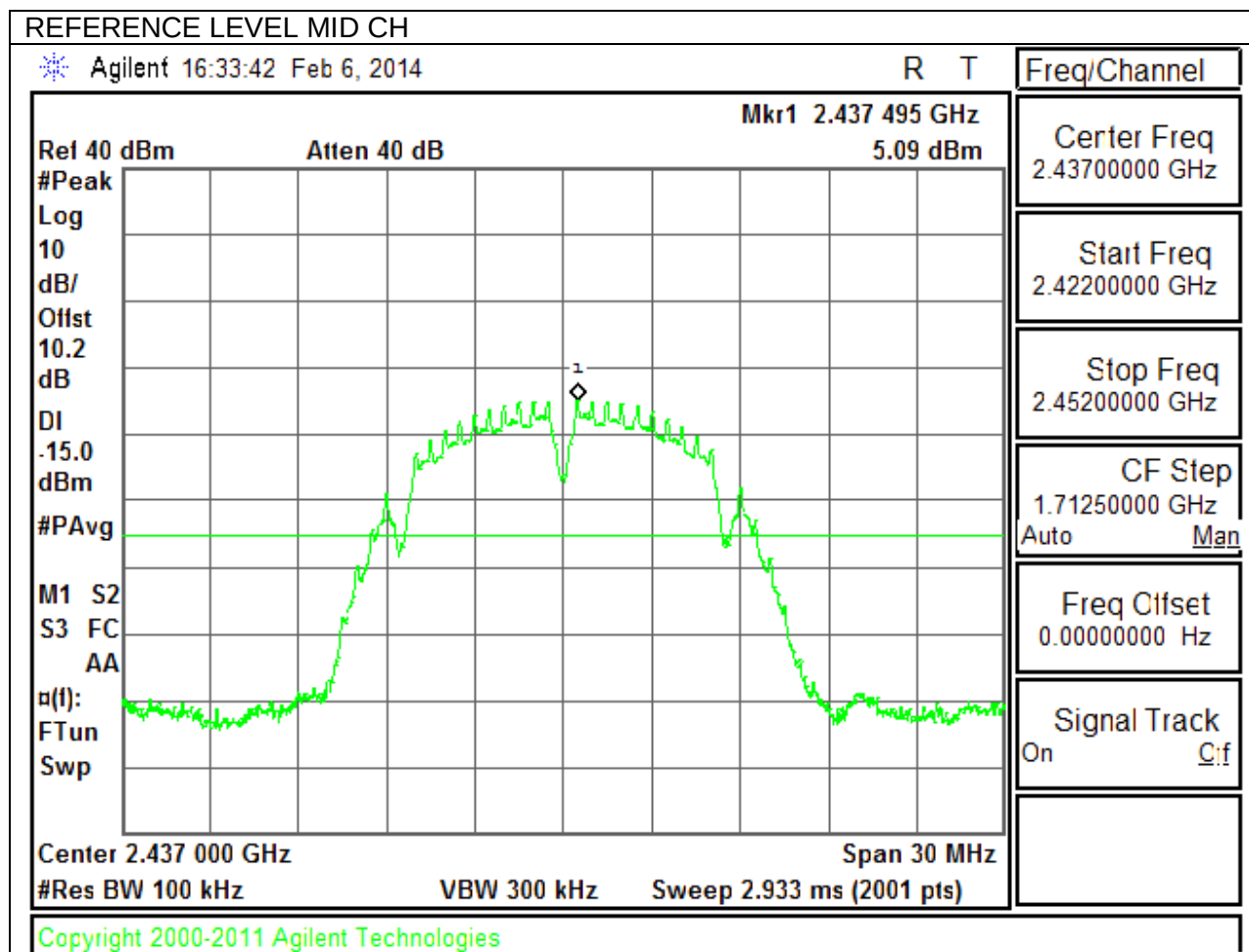
Signal Track
On Off

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.406 GHz	4.78 dBm
2	(1)	Freq	12.262 GHz	-36.04 dBm

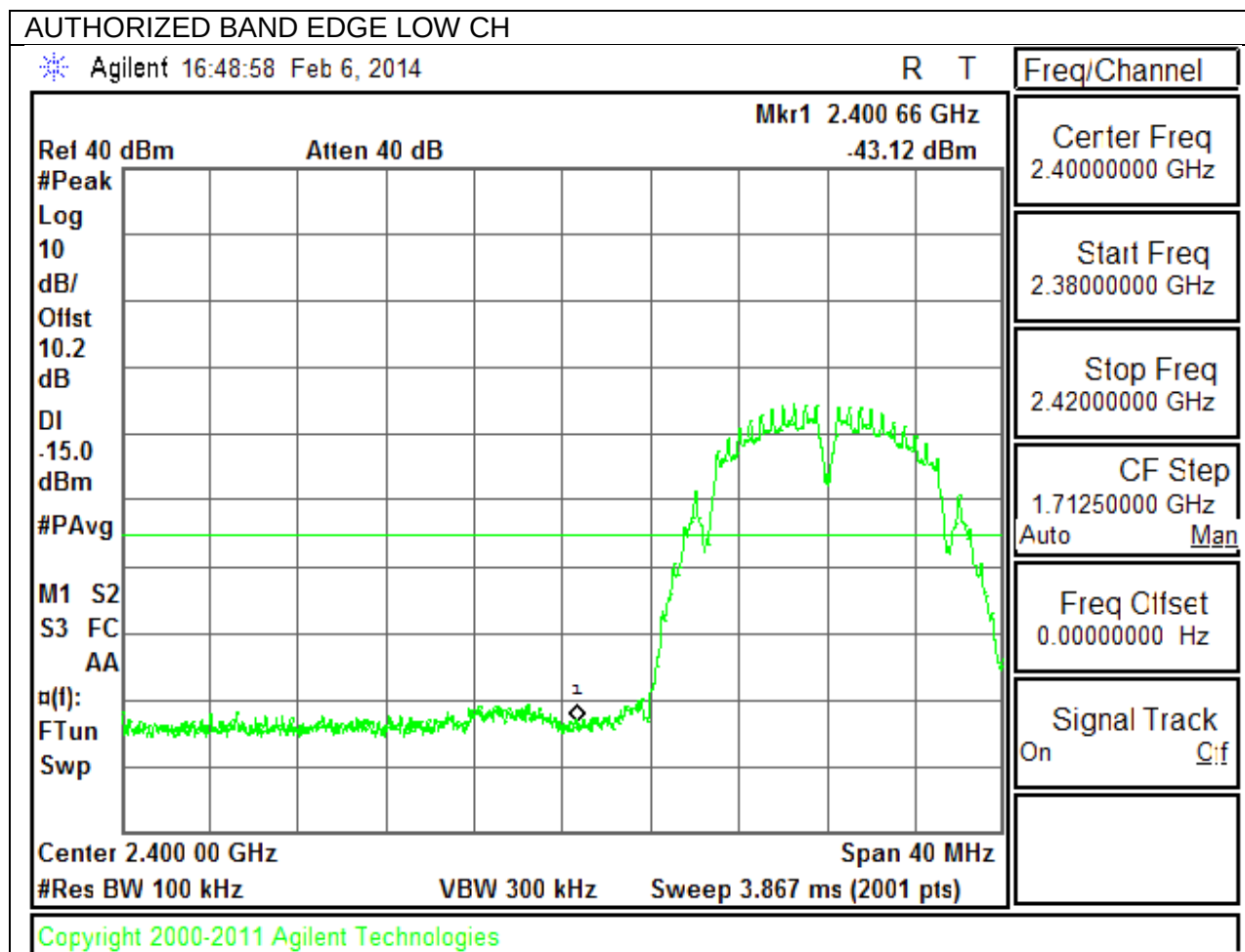
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10.5.2. 802.11b MODE IN THE 2.4 GHZ BAND CHAIN 1

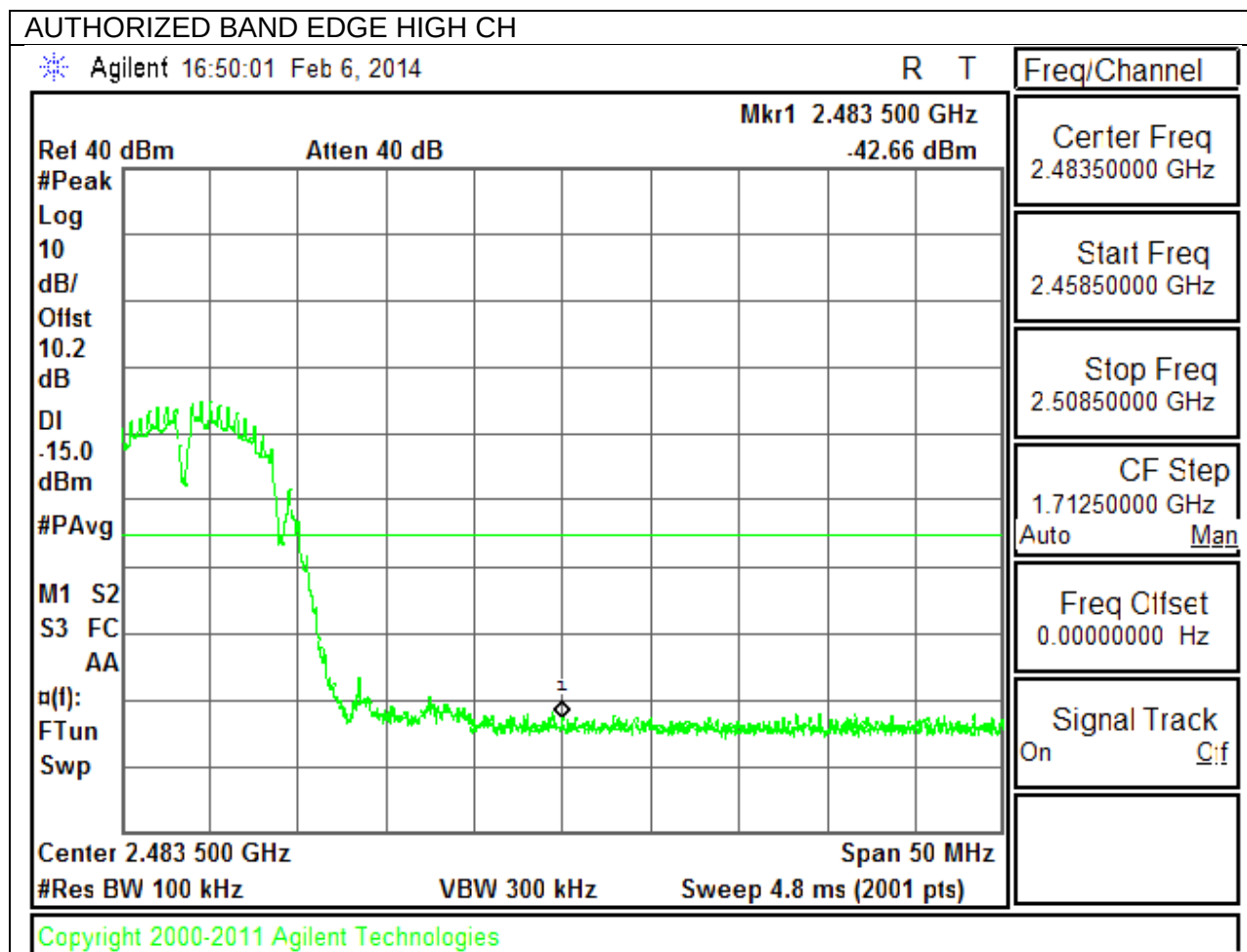
IN-BAND REFERENCE LEVEL



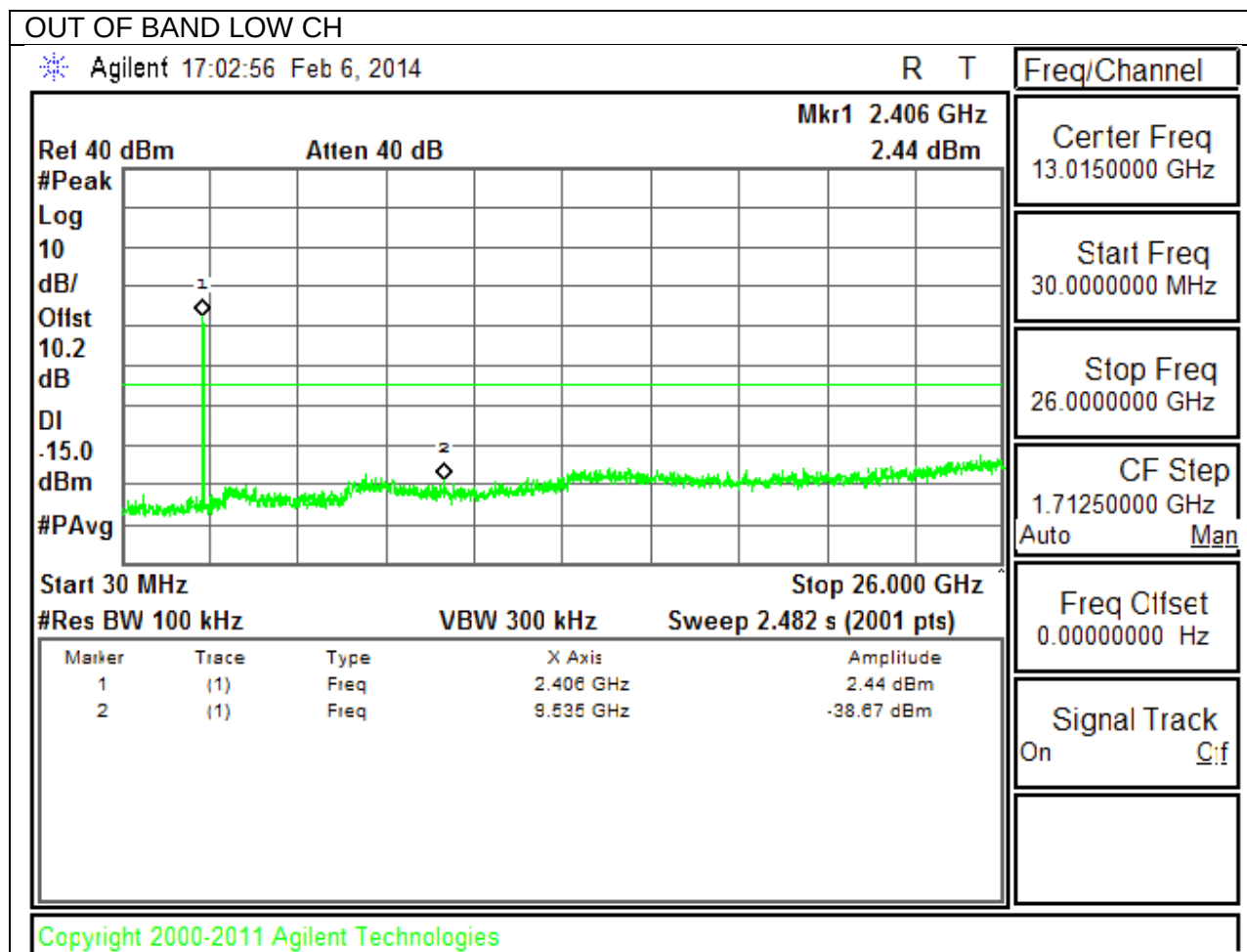
LOW CHANNEL BANDEDGE

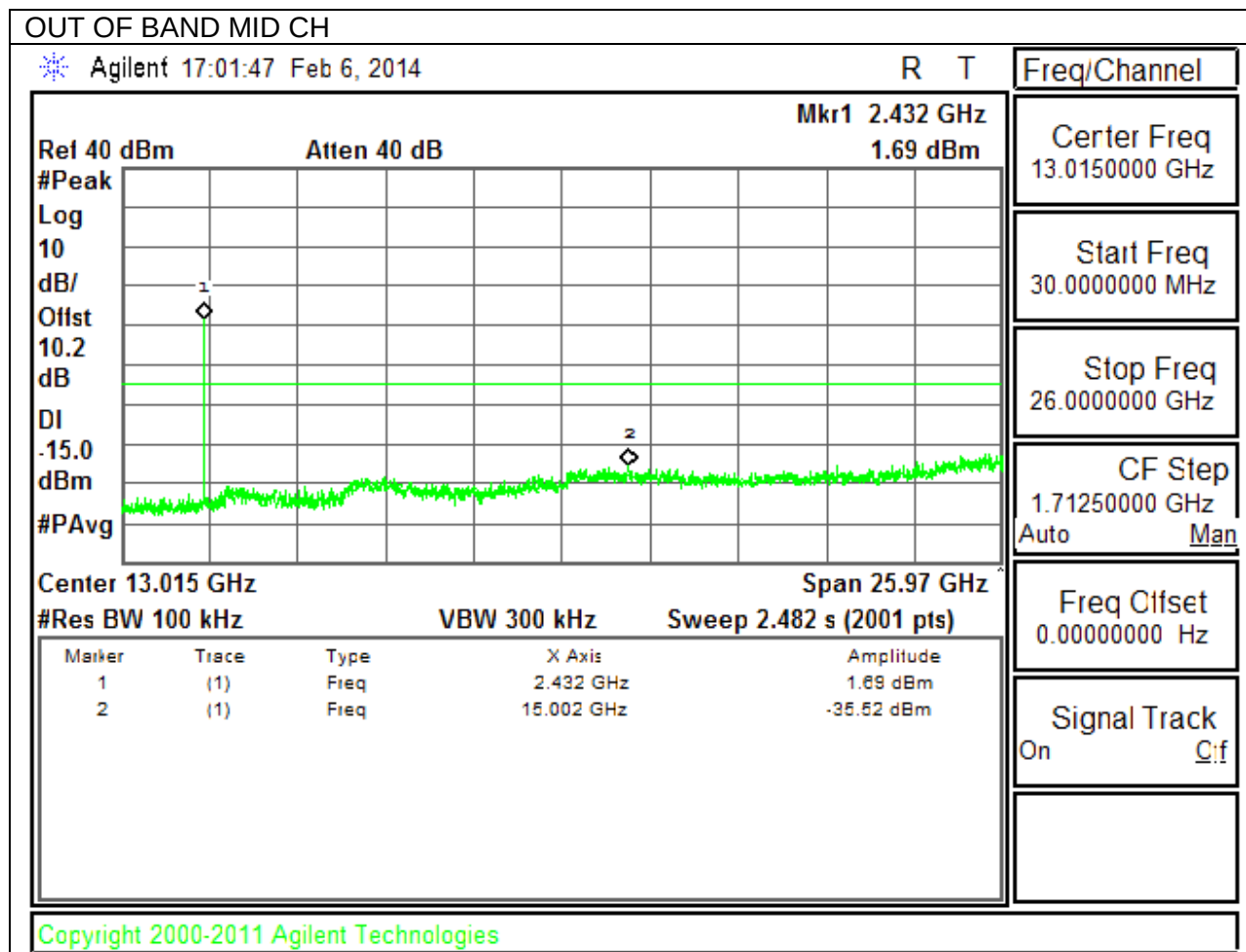


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS



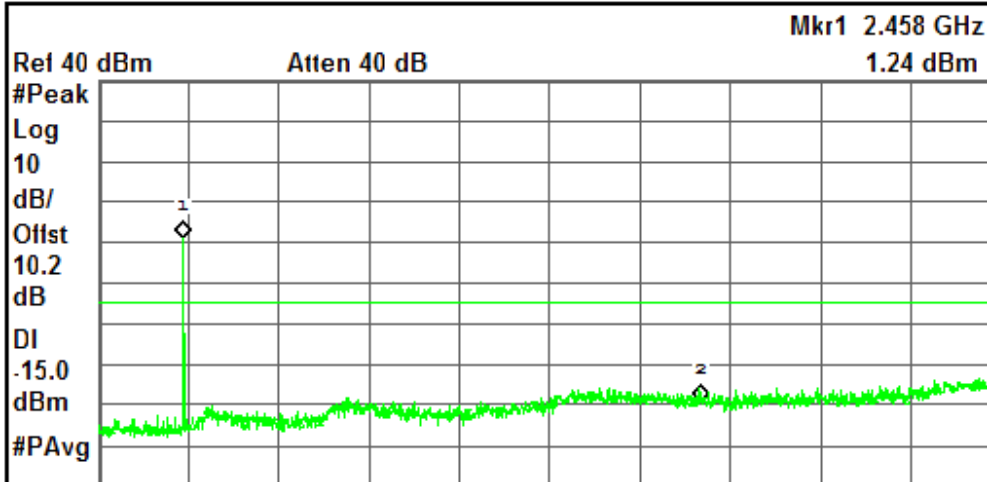


OUT OF BAND HIGH CH

Agilent 17:00:45 Feb 6, 2014

R T

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
1.71250000 GHz
Auto Man

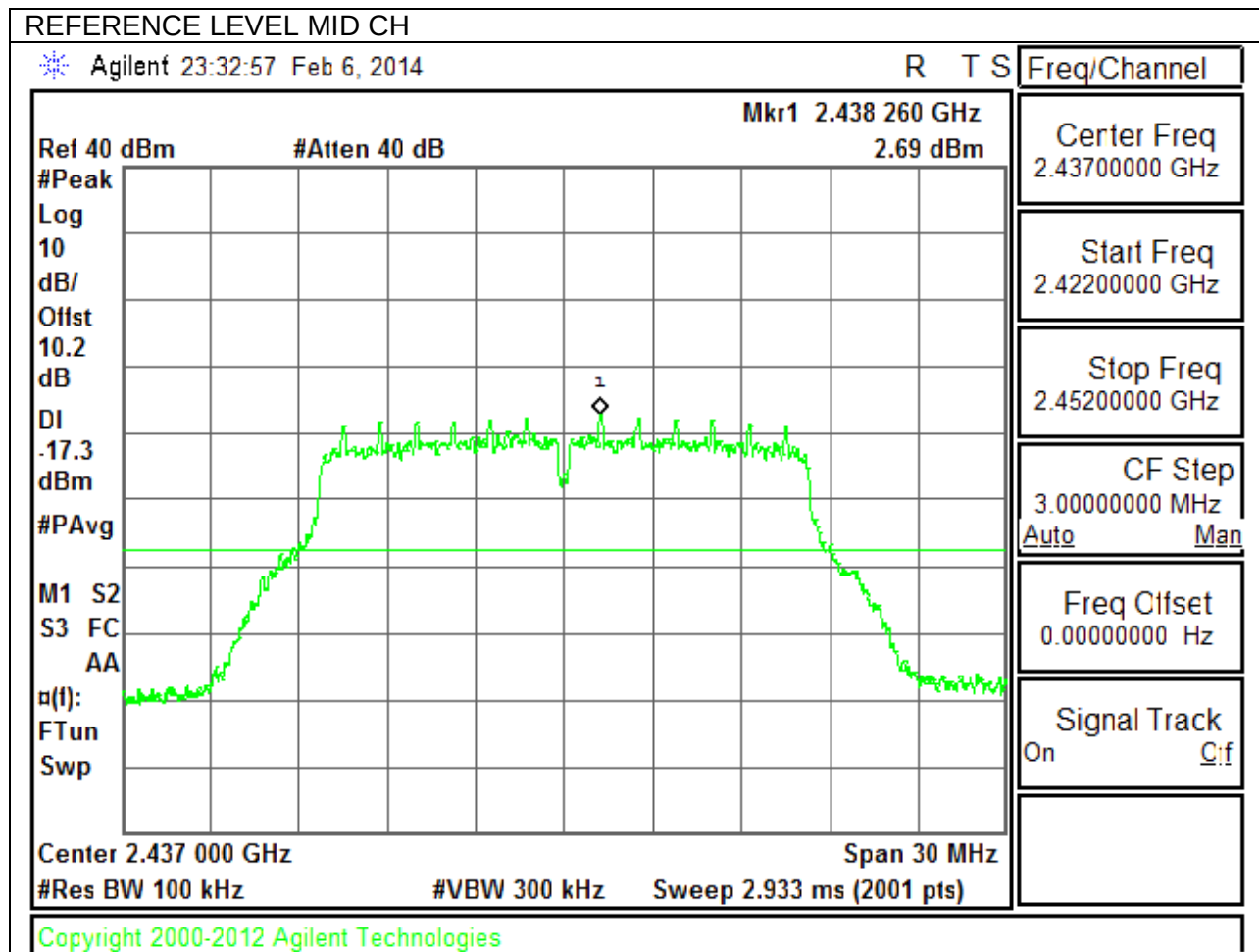
Freq Offset
0.00000000 Hz

Signal Track
On Off

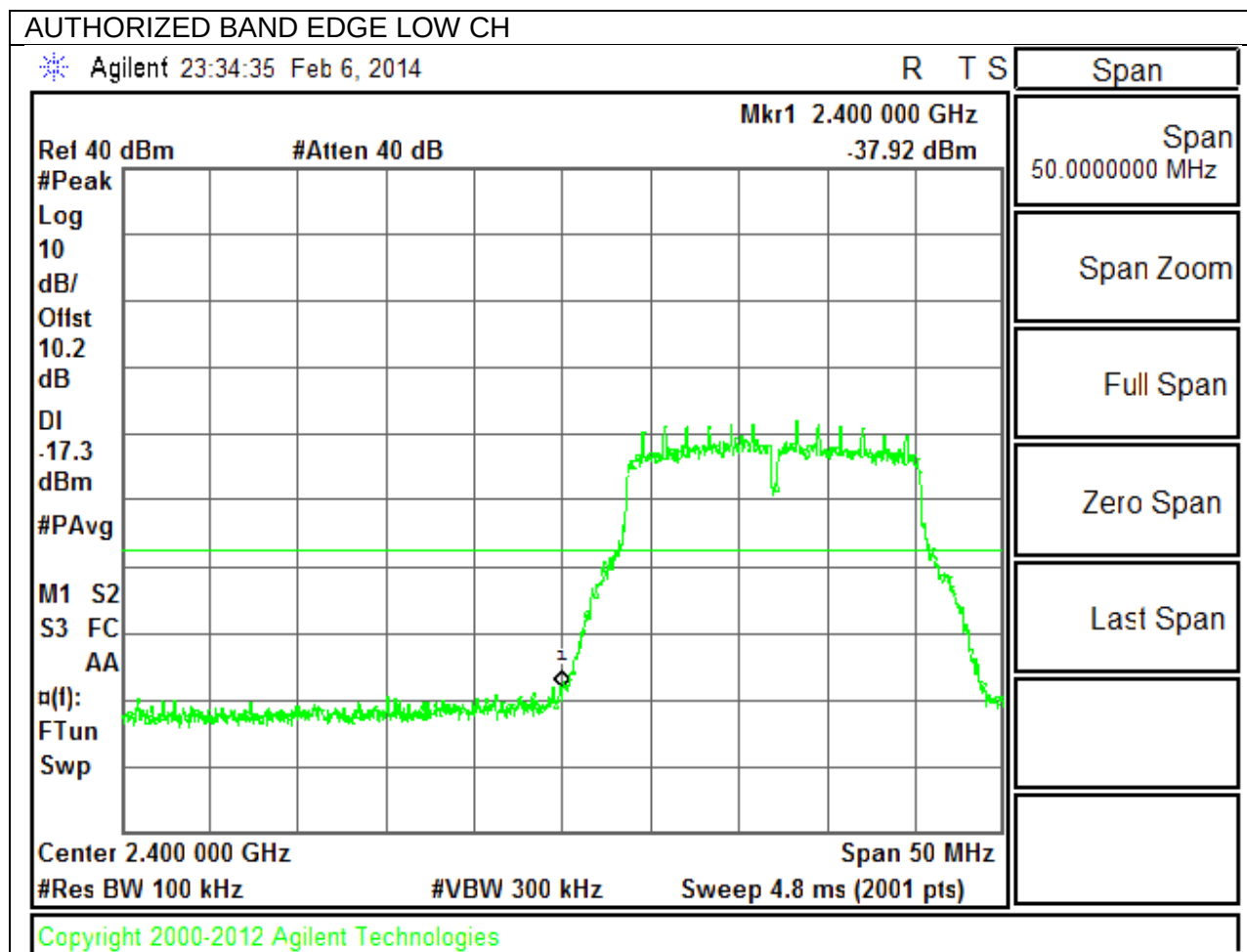
Copyright 2000-2011 Agilent Technologies

10.5.3. 802.11g MODE IN THE 2.4 GHZ BAND CHAIN 0

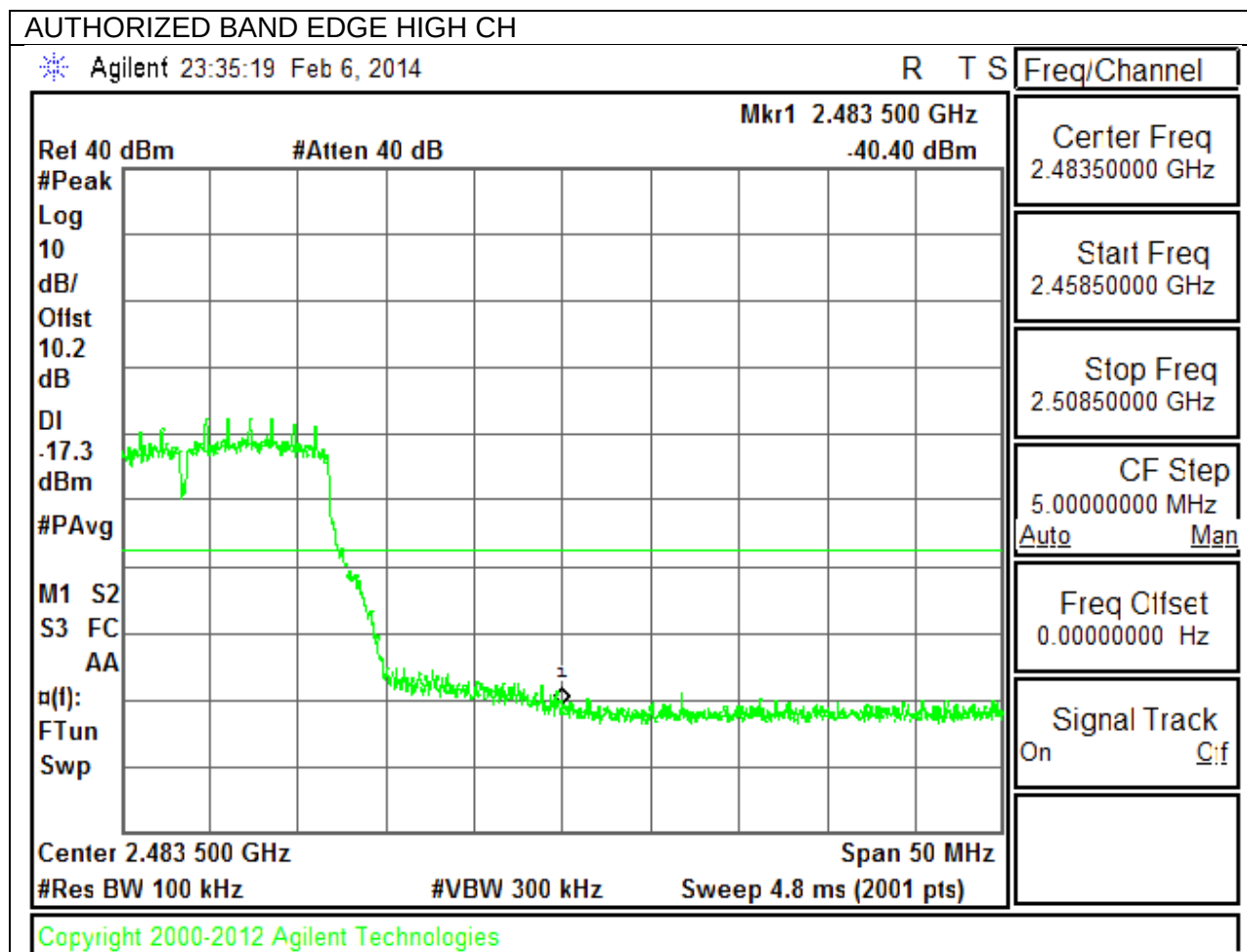
IN-BAND REFERENCE LEVEL



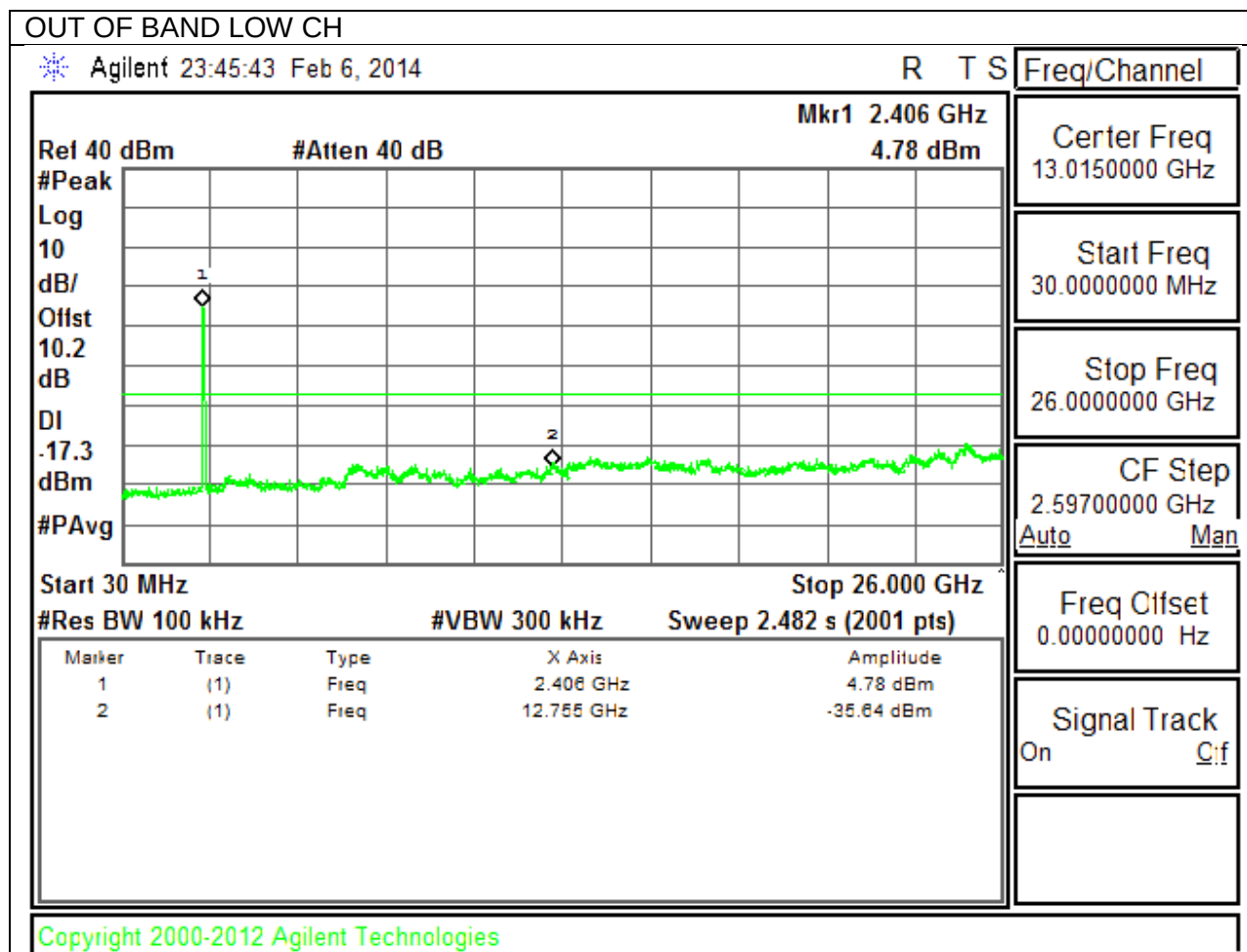
LOW CHANNEL BANDEDGE



HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS

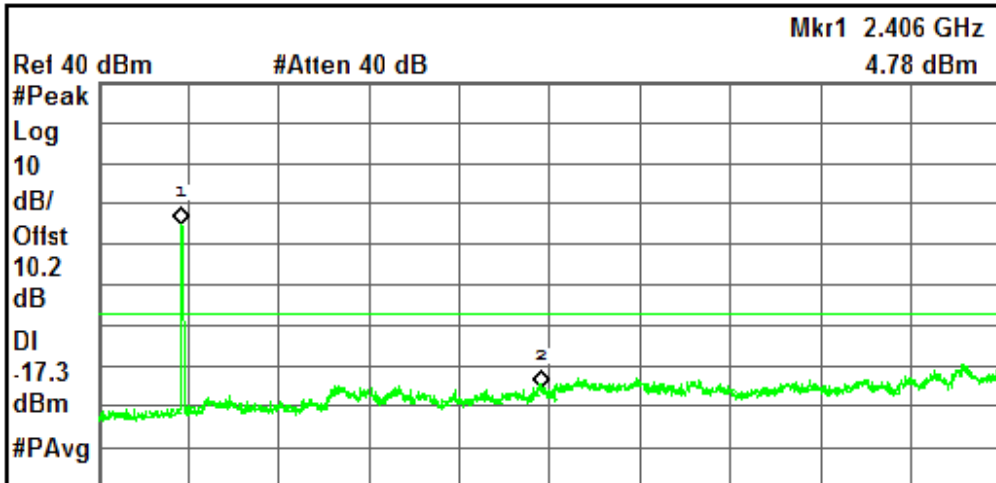


OUT OF BAND MID CH

Agilent 23:44:53 Feb 6, 2014

R T S

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

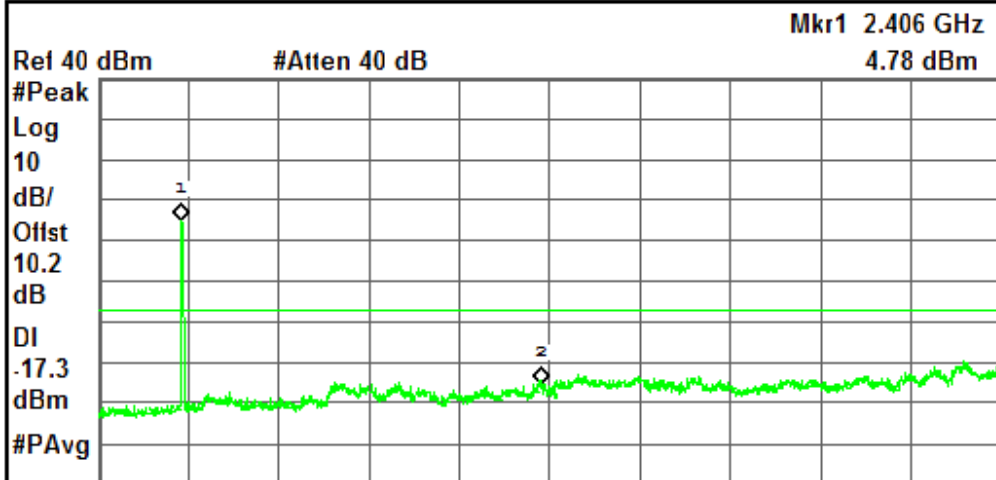
Copyright 2000-2012 Agilent Technologies

OUT OF BAND HIGH CH

Agilent 23:44:03 Feb 6, 2014

R T S

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

Start 30 MHz Stop 26.000 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 2.482 s (2001 pts)

Freq Offset
0.00000000 Hz

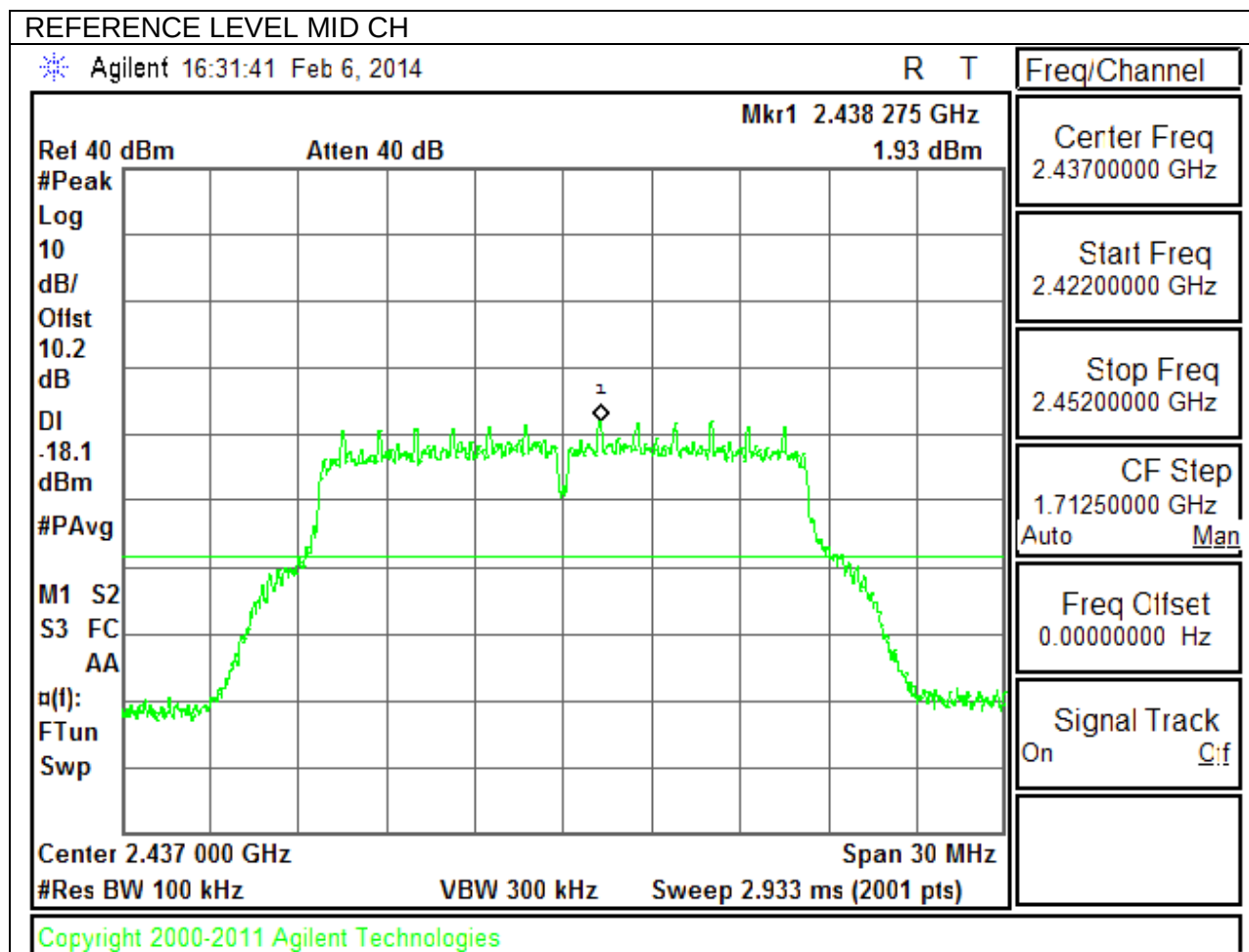
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.406 GHz	4.78 dBm
2	(1)	Freq	12.794 GHz	-35.67 dBm

Signal Track
On Off

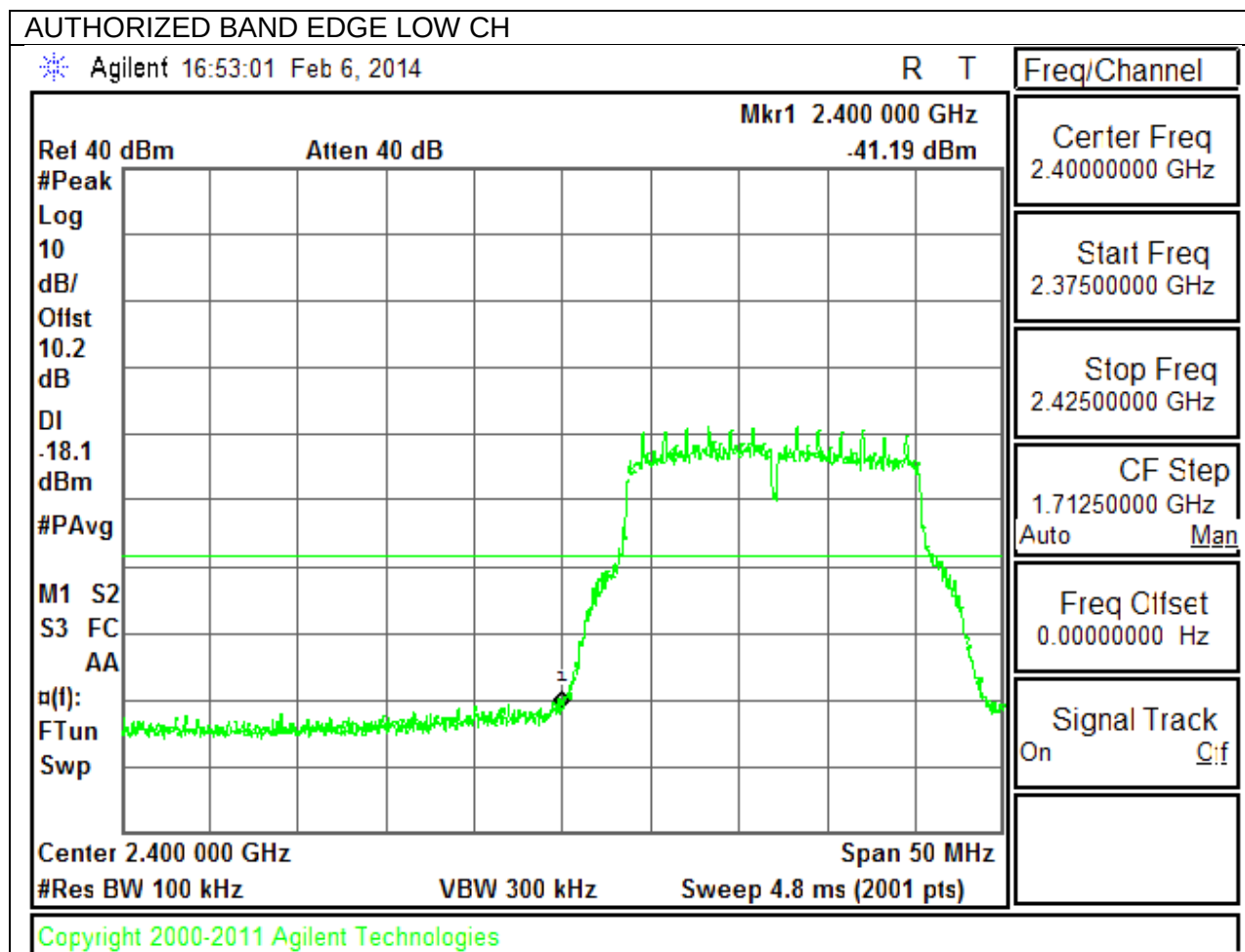
Copyright 2000-2012 Agilent Technologies

10.5.4. 802.11g MODE IN THE 2.4 GHz BAND CHAIN 1

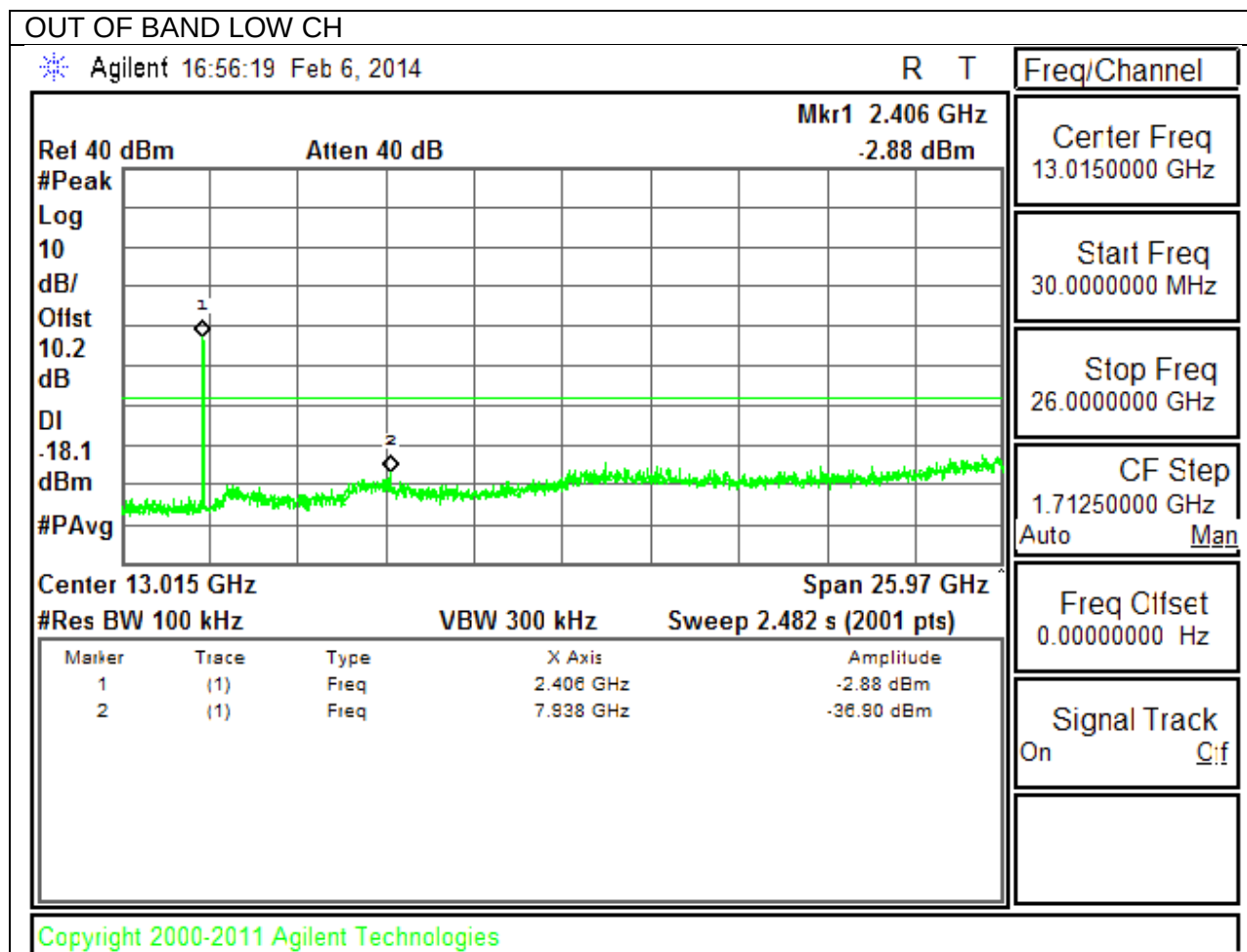
IN-BAND REFERENCE LEVEL

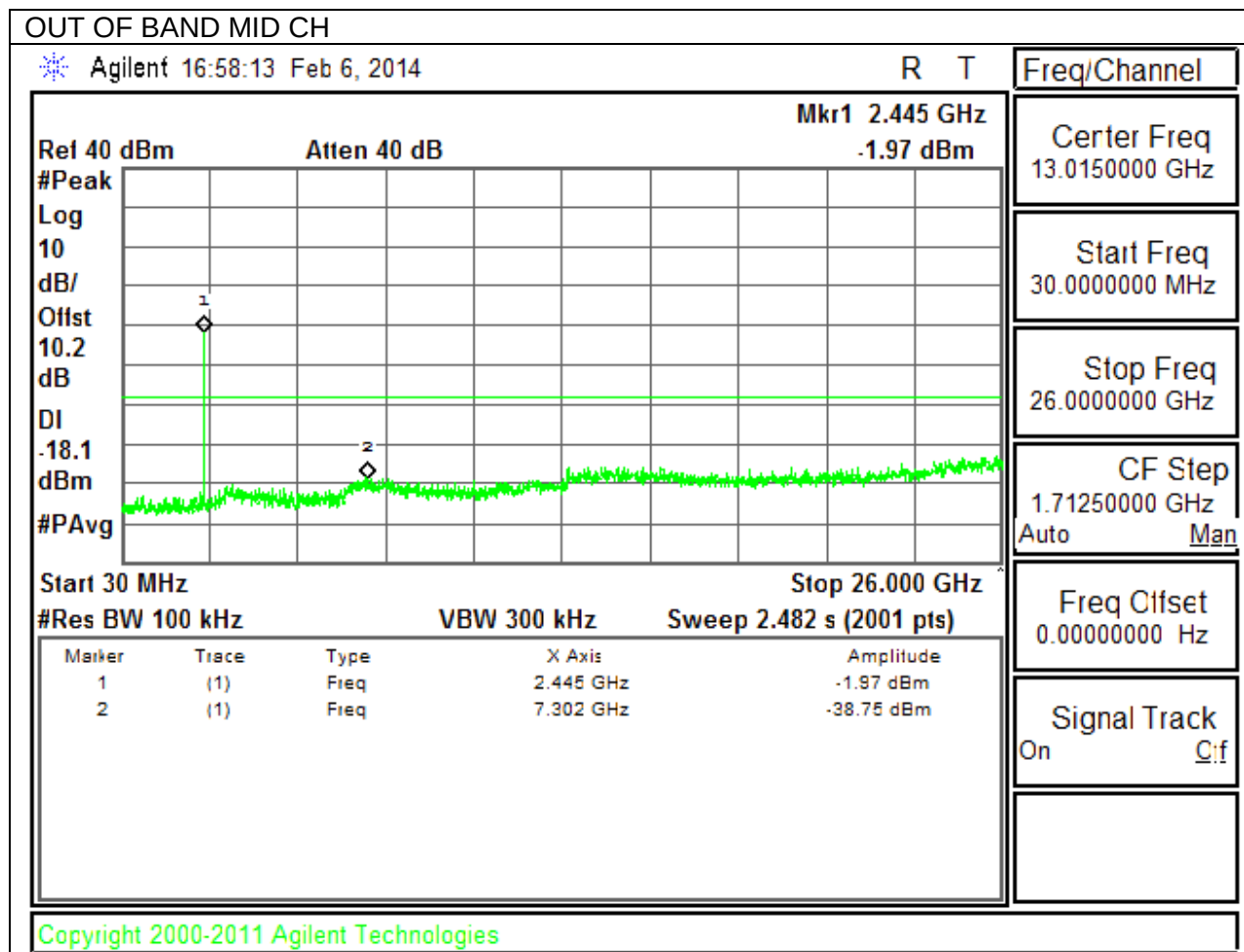


LOW CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS



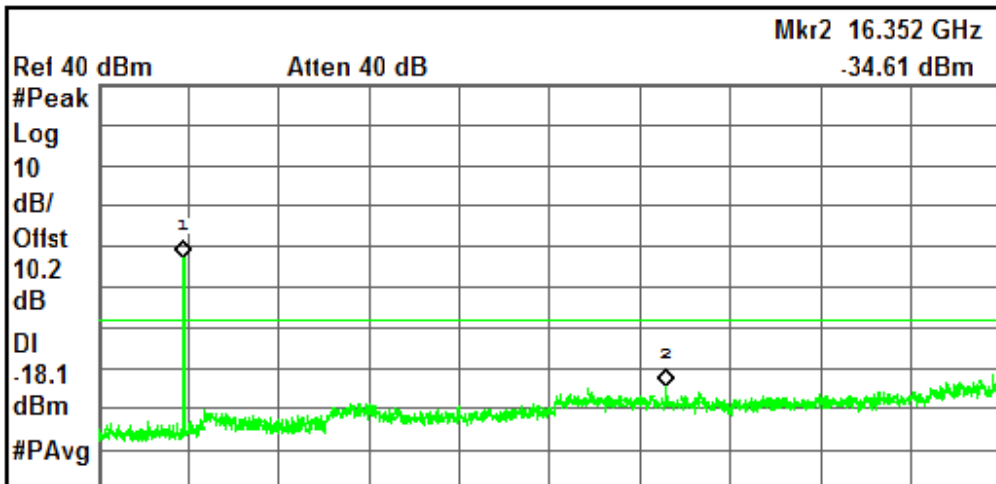


OUT OF BAND HIGH CH

Agilent 16:59:23 Feb 6, 2014

R T

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
1.71250000 GHz
Auto Man

Start 30 MHz Stop 26.000 GHz
#Res BW 100 kHz VBW 300 kHz Sweep 2.482 s (2001 pts)

Freq Offset
0.00000000 Hz

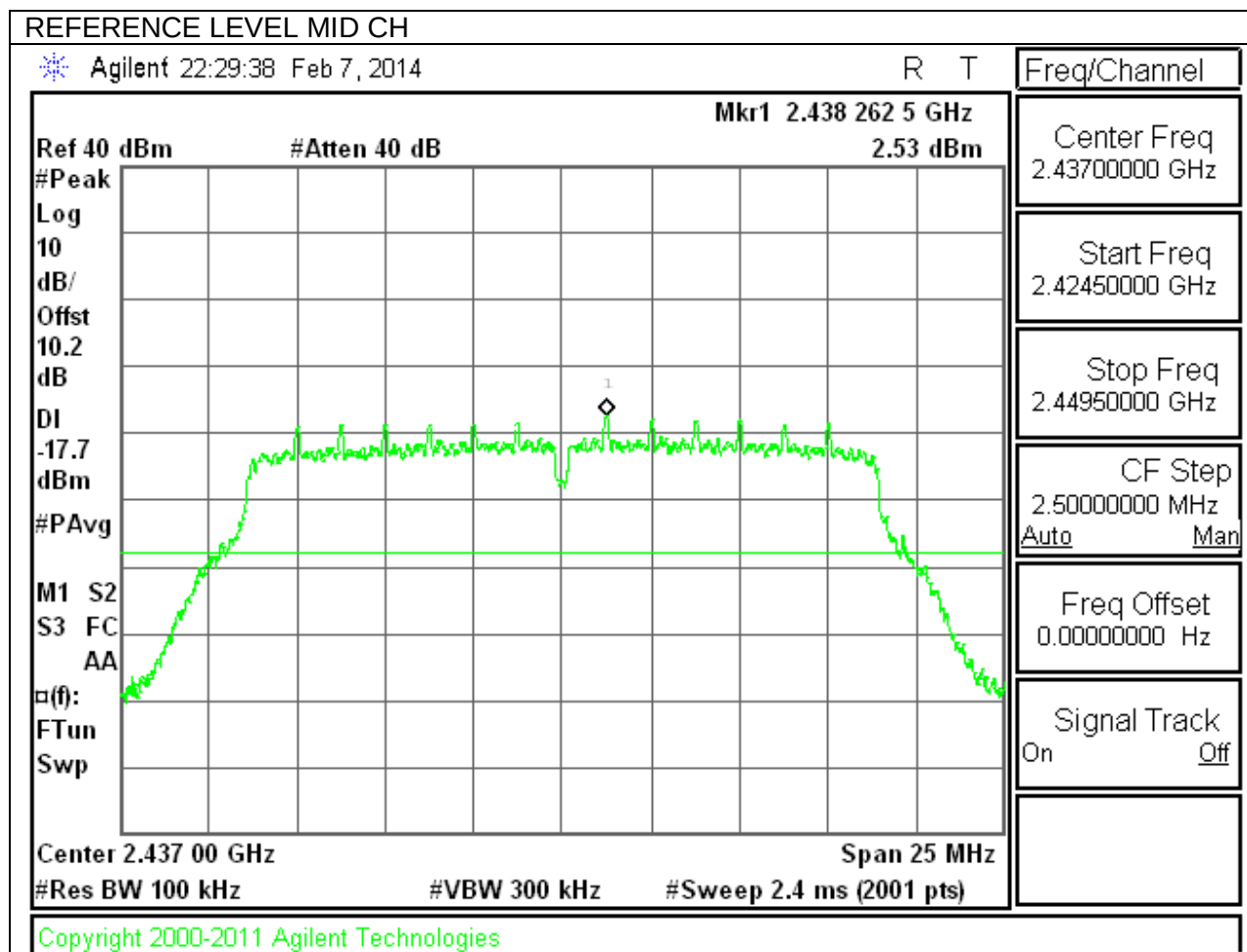
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.458 GHz	-2.57 dBm
2	(1)	Freq	16.352 GHz	-34.61 dBm

Signal Track
On Off

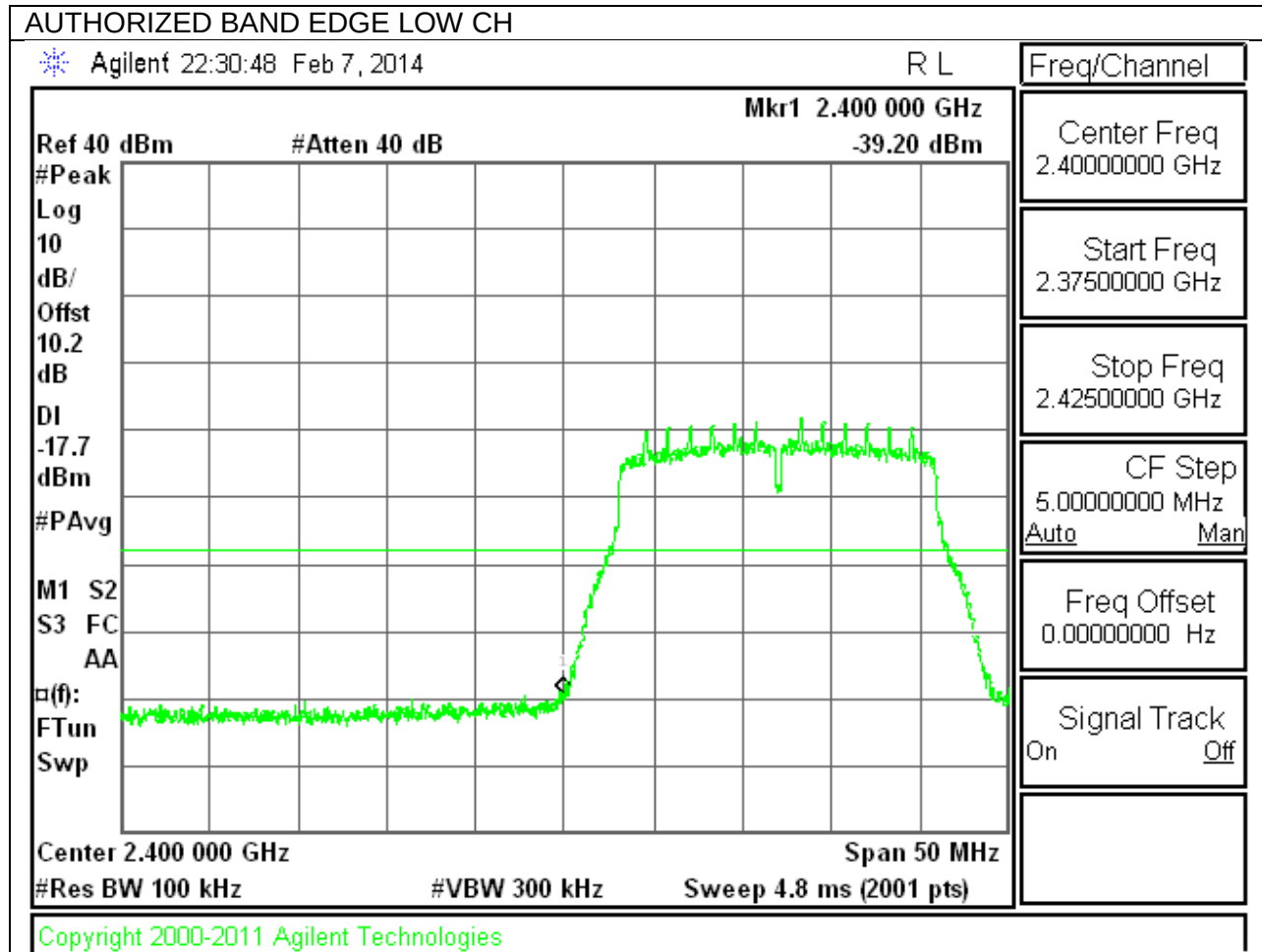
Copyright 2000-2011 Agilent Technologies

10.5.5. 802.11n MODE IN THE 2.4 GHz BAND CHAIN 0

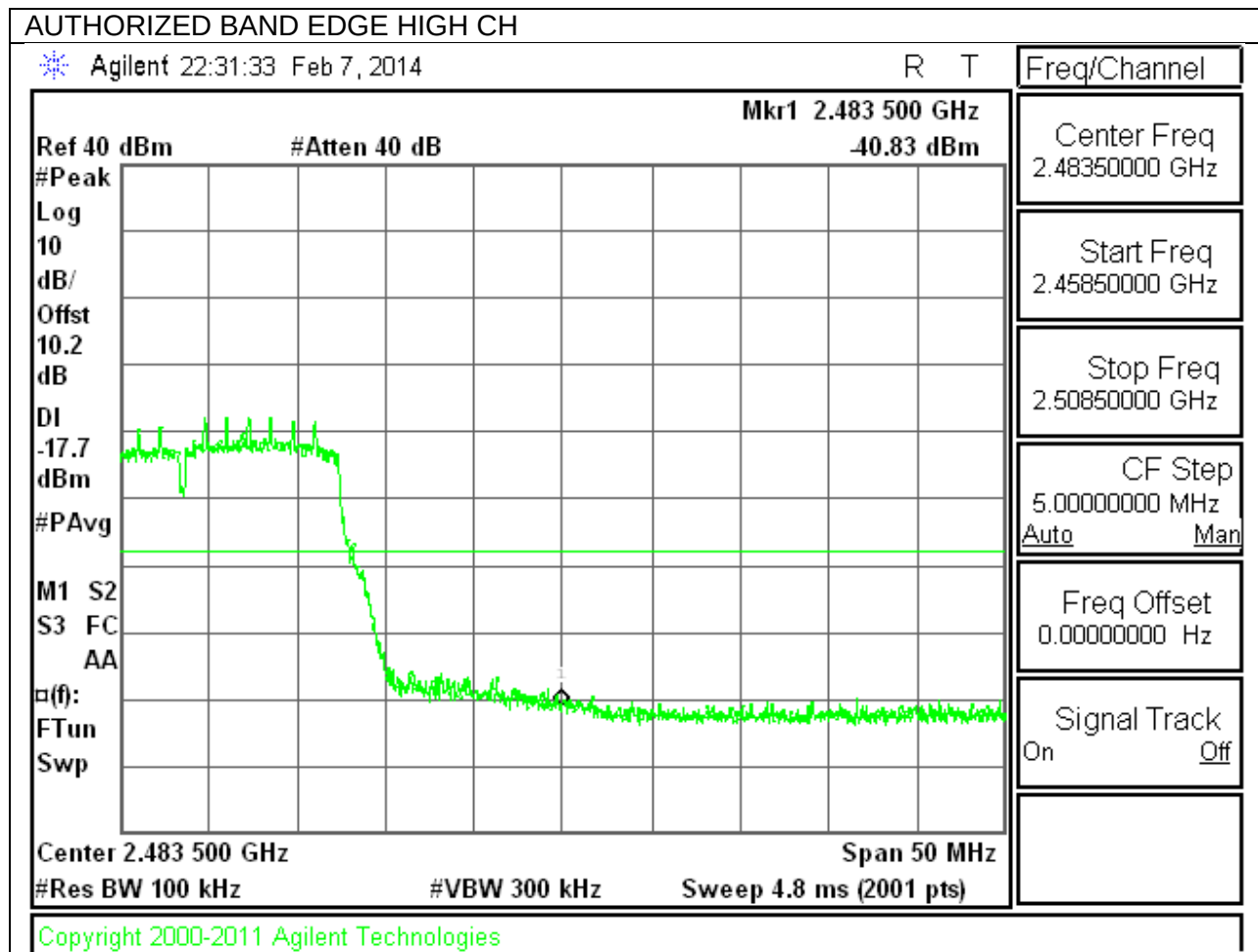
IN-BAND REFERENCE LEVEL

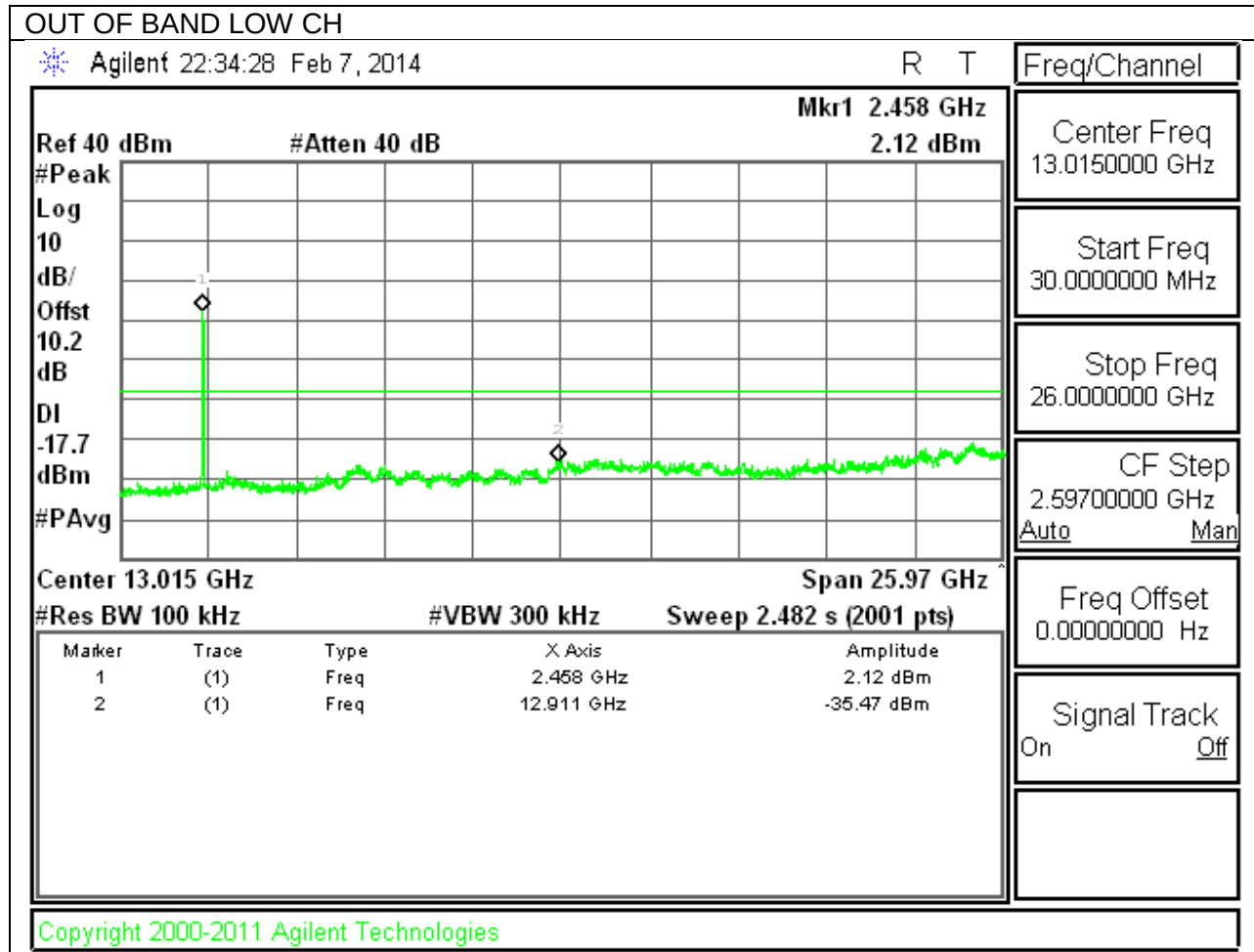


LOW CHANNEL BANDEDGE



HIGH CHANNEL BANDEDGE



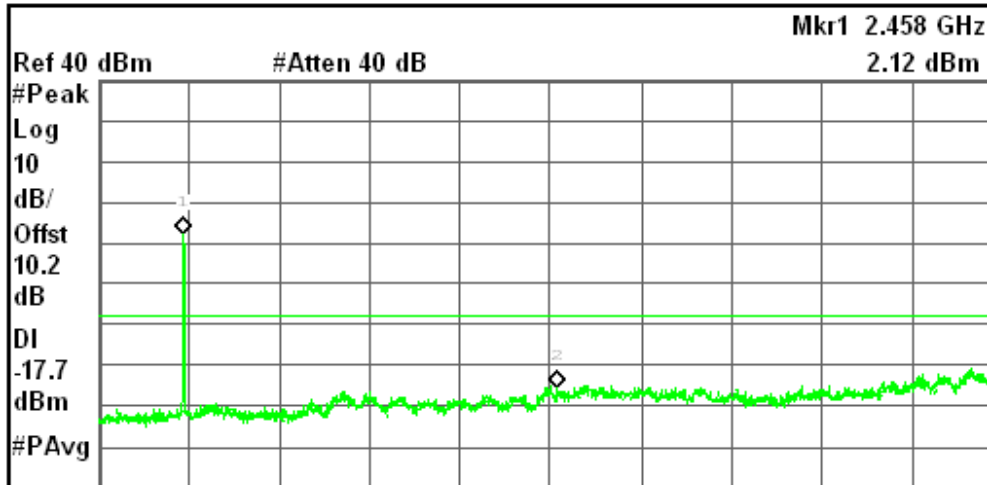
OUT-OF-BAND EMISSIONS

OUT OF BAND MID CH

Agilent 22:33:42 Feb 7, 2014

R T

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Start 30 MHz Stop 26.000 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 2.482 s (2001 pts)

Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.458 GHz	2.12 dBm
2	(1)	Freq	13.223 GHz	-35.43 dBm

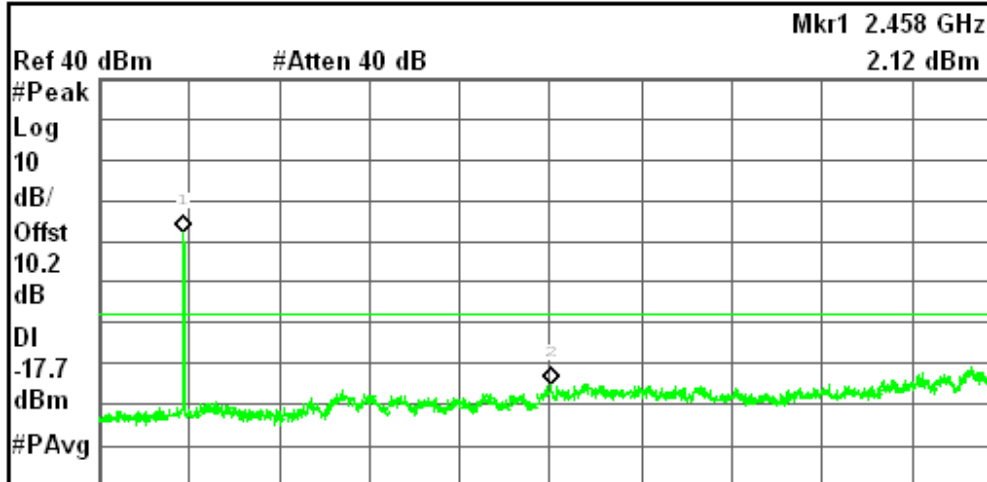
Copyright 2000-2011 Agilent Technologies

OUT OF BAND HIGH CH

Agilent 22:33:03 Feb 7, 2014

R T

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

Start 30 MHz Stop 26.000 GHz
#Res BW 100 kHz #VBW 300 kHz Sweep 2.482 s (2001 pts)

Freq Offset
0.00000000 Hz

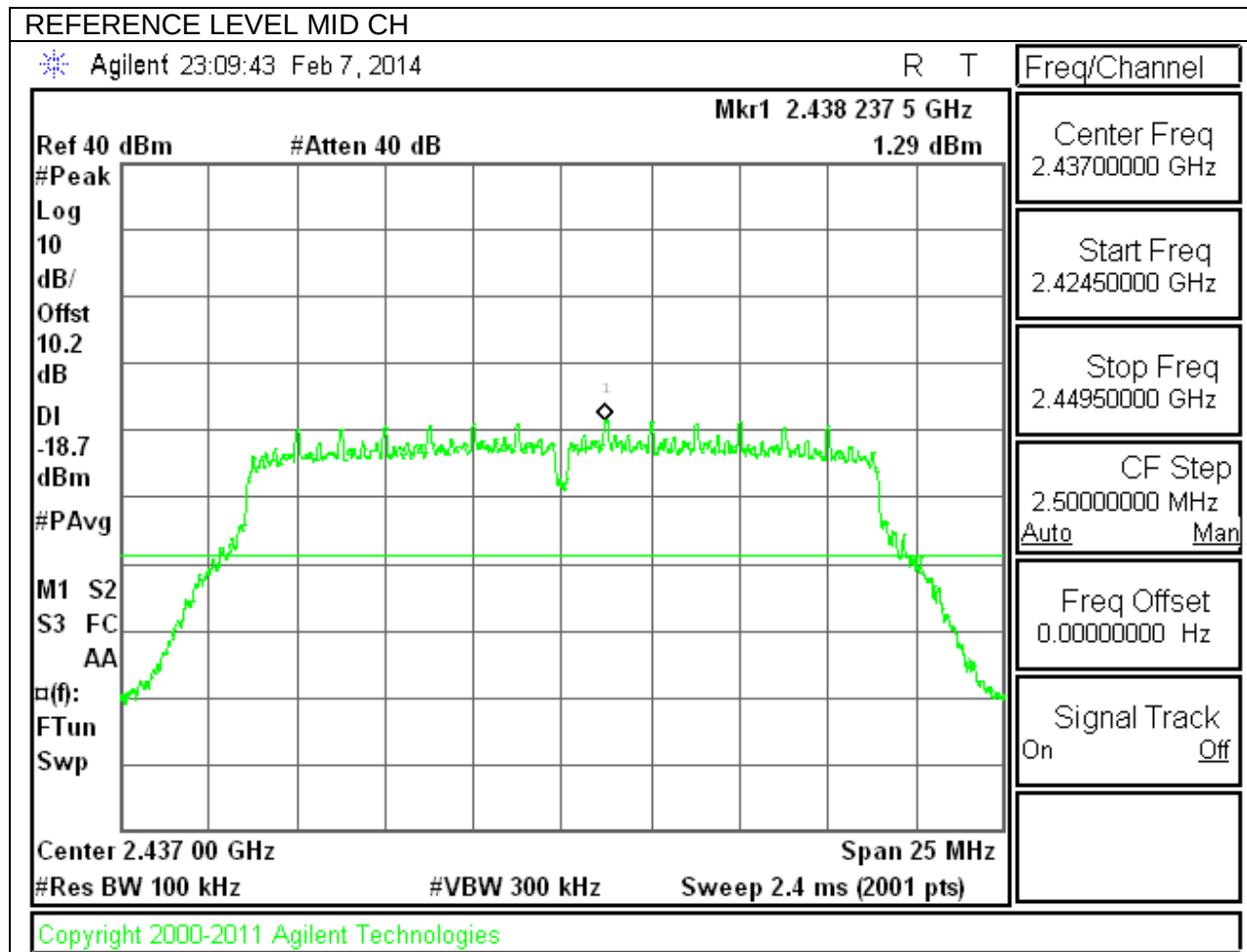
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.458 GHz	2.12 dBm
2	(1)	Freq	13.067 GHz	-34.96 dBm

Signal Track
On Off

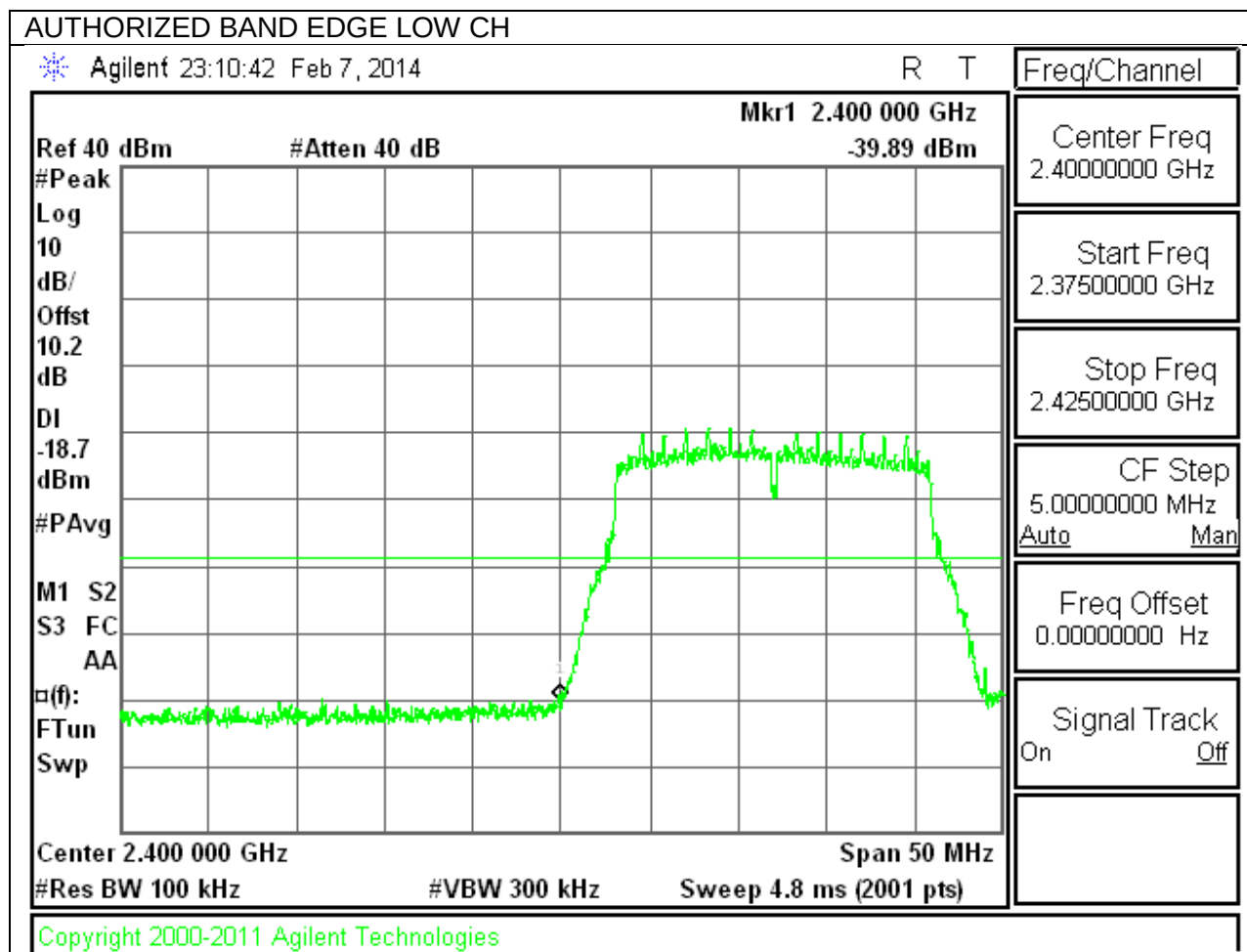
Copyright 2000-2011 Agilent Technologies

10.5.6. 802.11n MODE IN THE 2.4 GHz BAND CHAIN 1

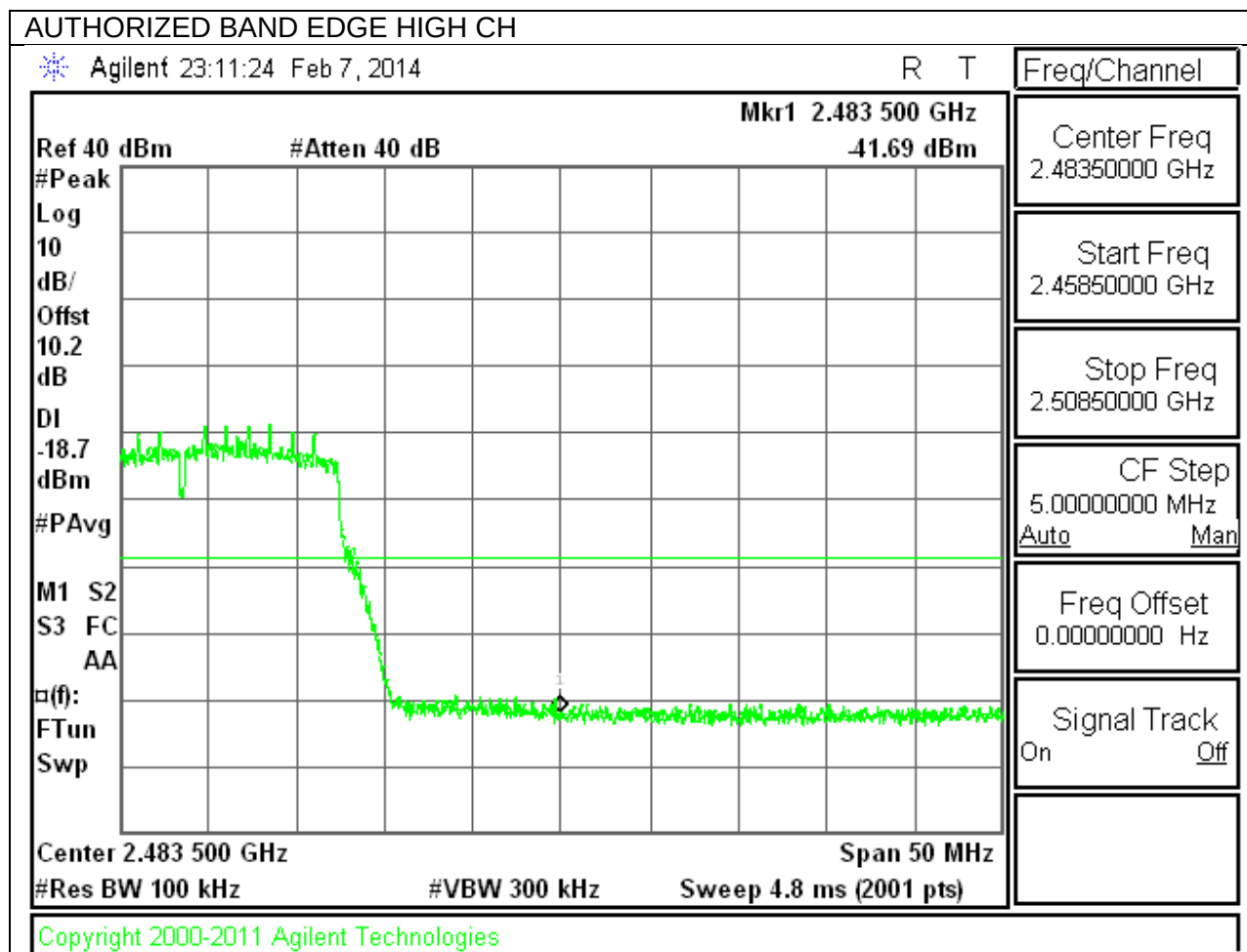
IN-BAND REFERENCE LEVEL



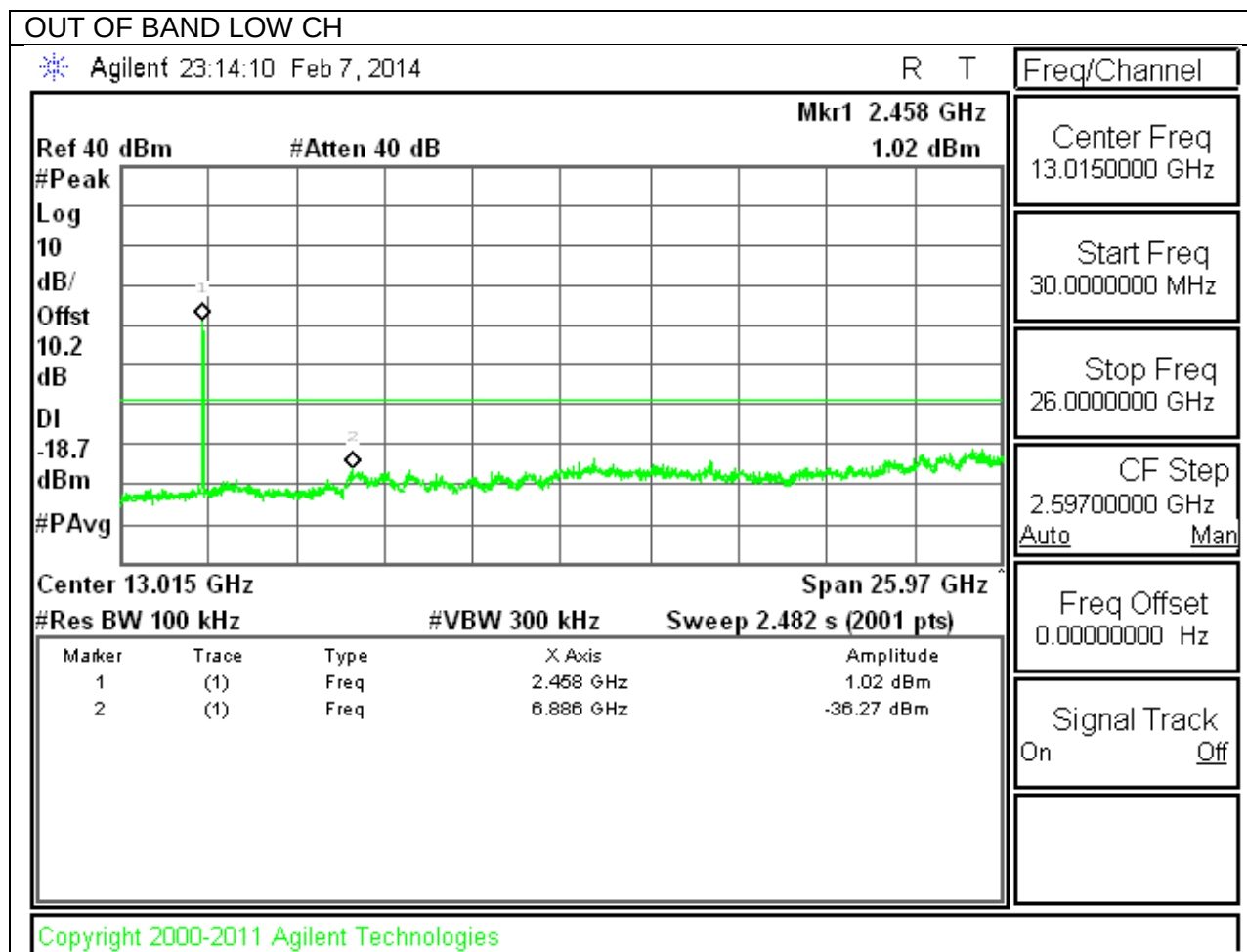
LOW CHANNEL BANDEDGE

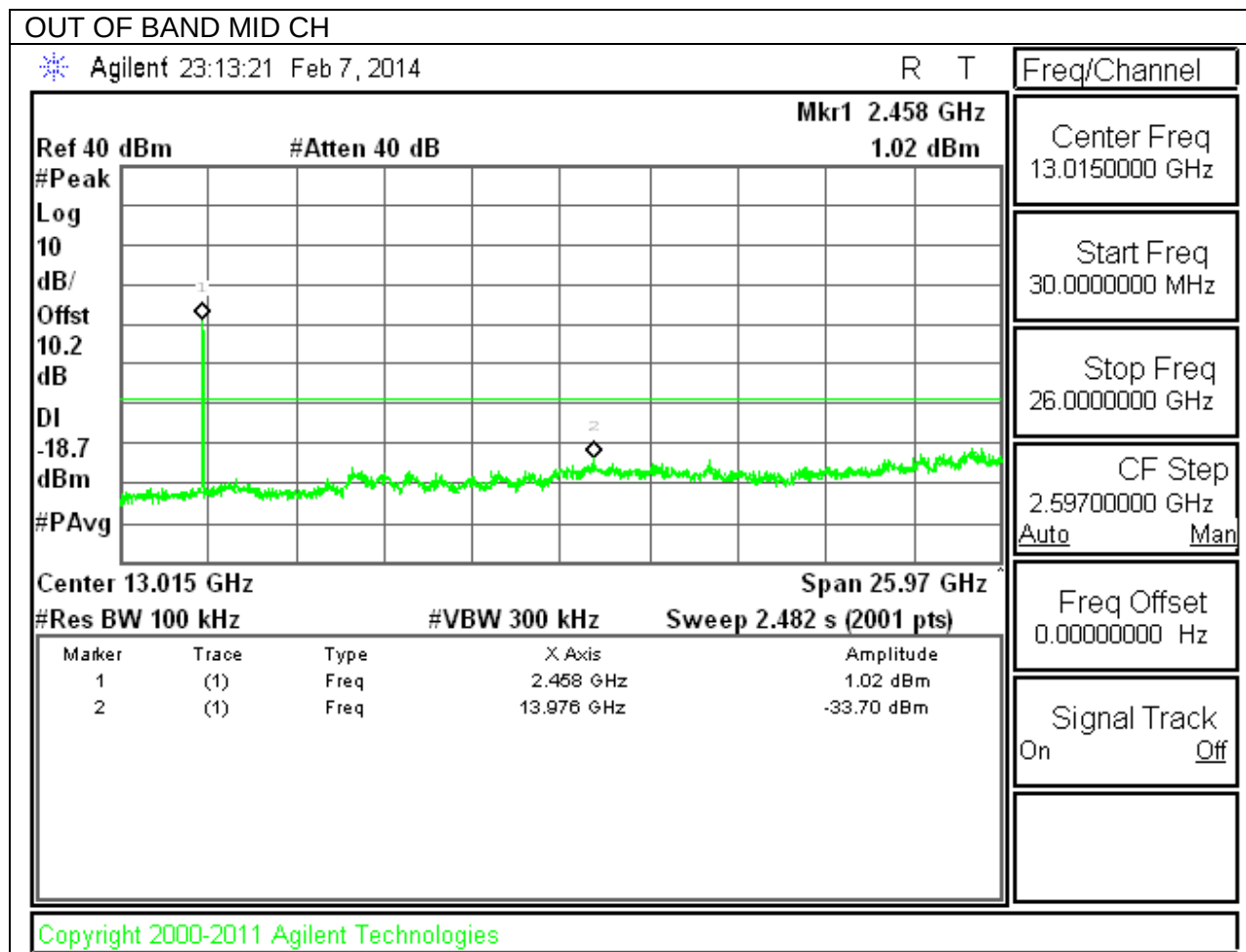


HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS



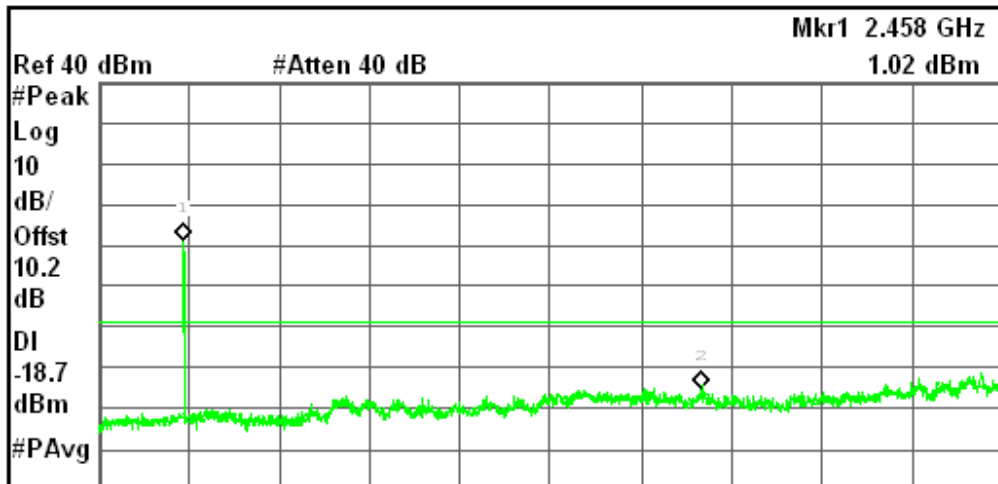


OUT OF BAND HIGH CH

Agilent 23:12:45 Feb 7, 2014

R T

Freq/Channel



Center Freq
13.0150000 GHz

Start Freq
30.0000000 MHz

Stop Freq
26.0000000 GHz

CF Step
2.59700000 GHz
Auto Man

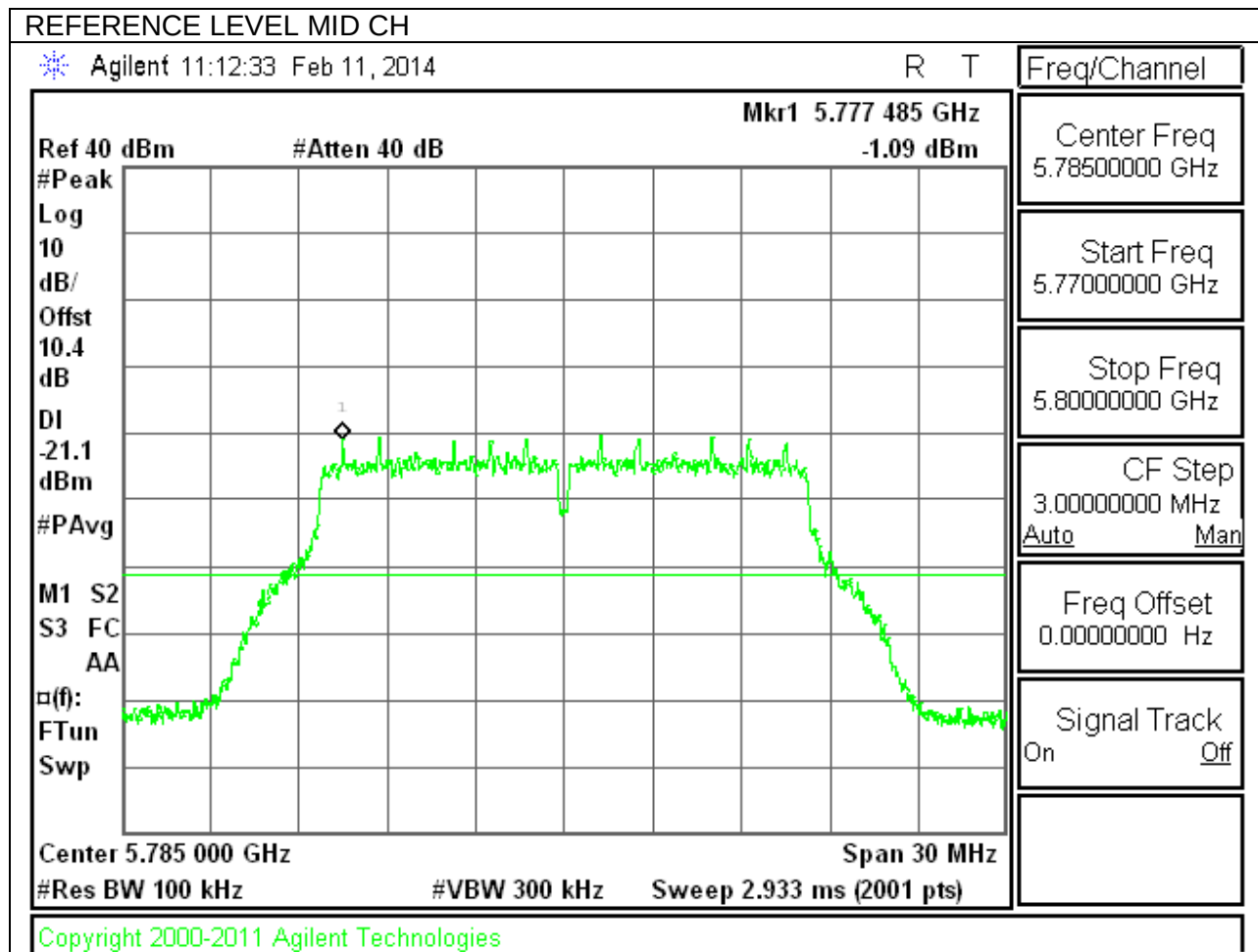
Freq Offset
0.00000000 Hz

Signal Track
On Off

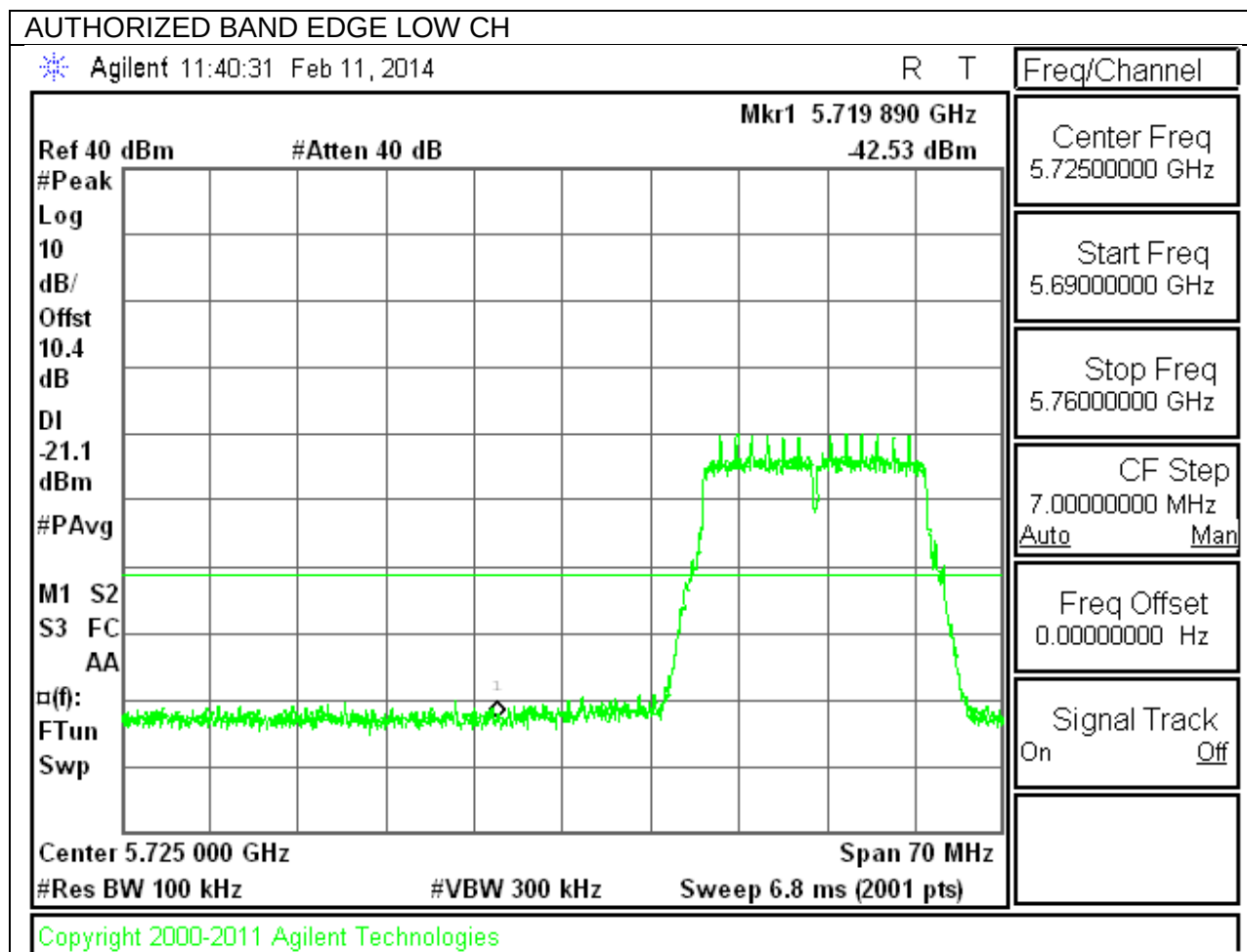
Copyright 2000-2011 Agilent Technologies

10.5.7. 802.11a MODE IN THE 5.8 GHz BAND CHAIN 0

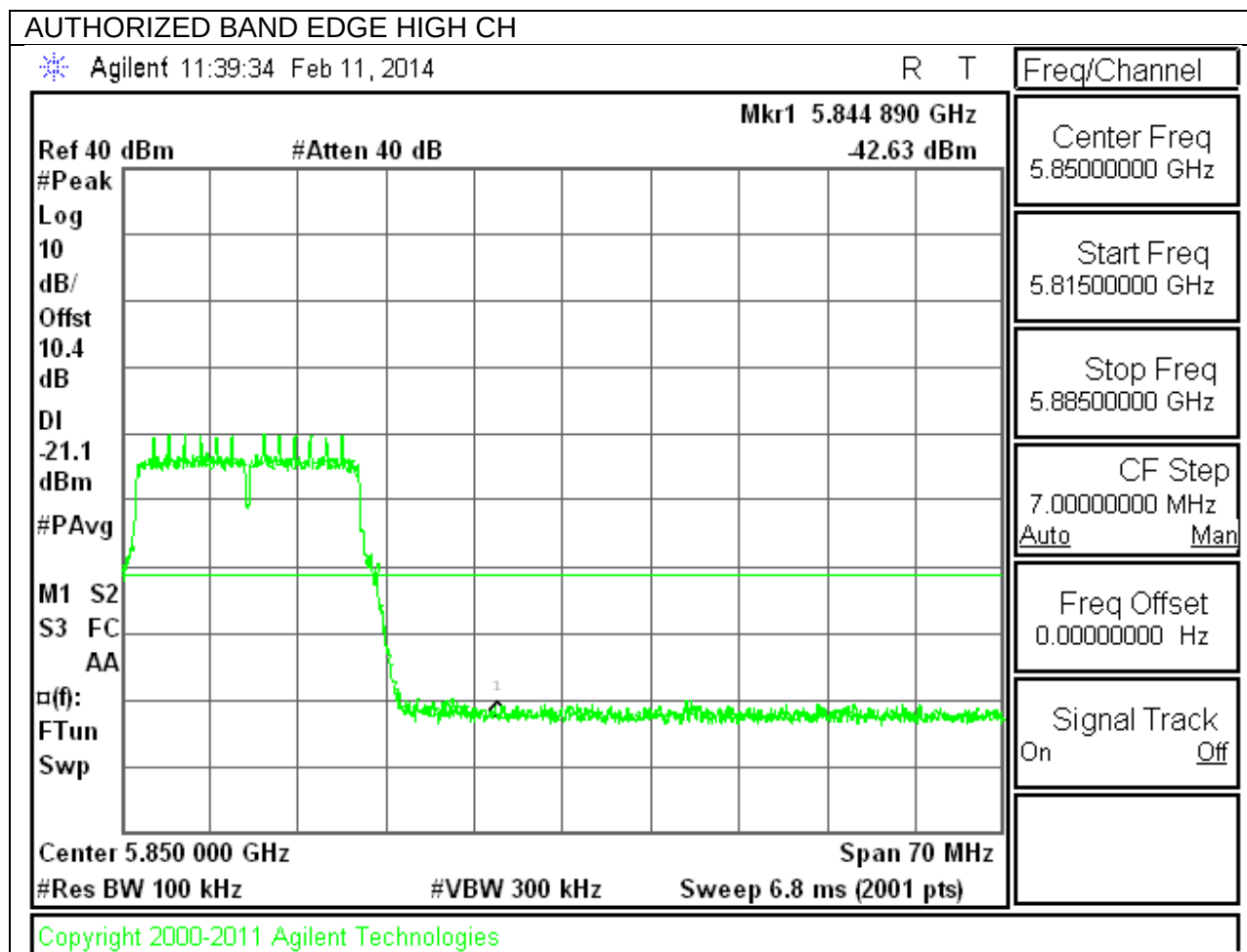
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE

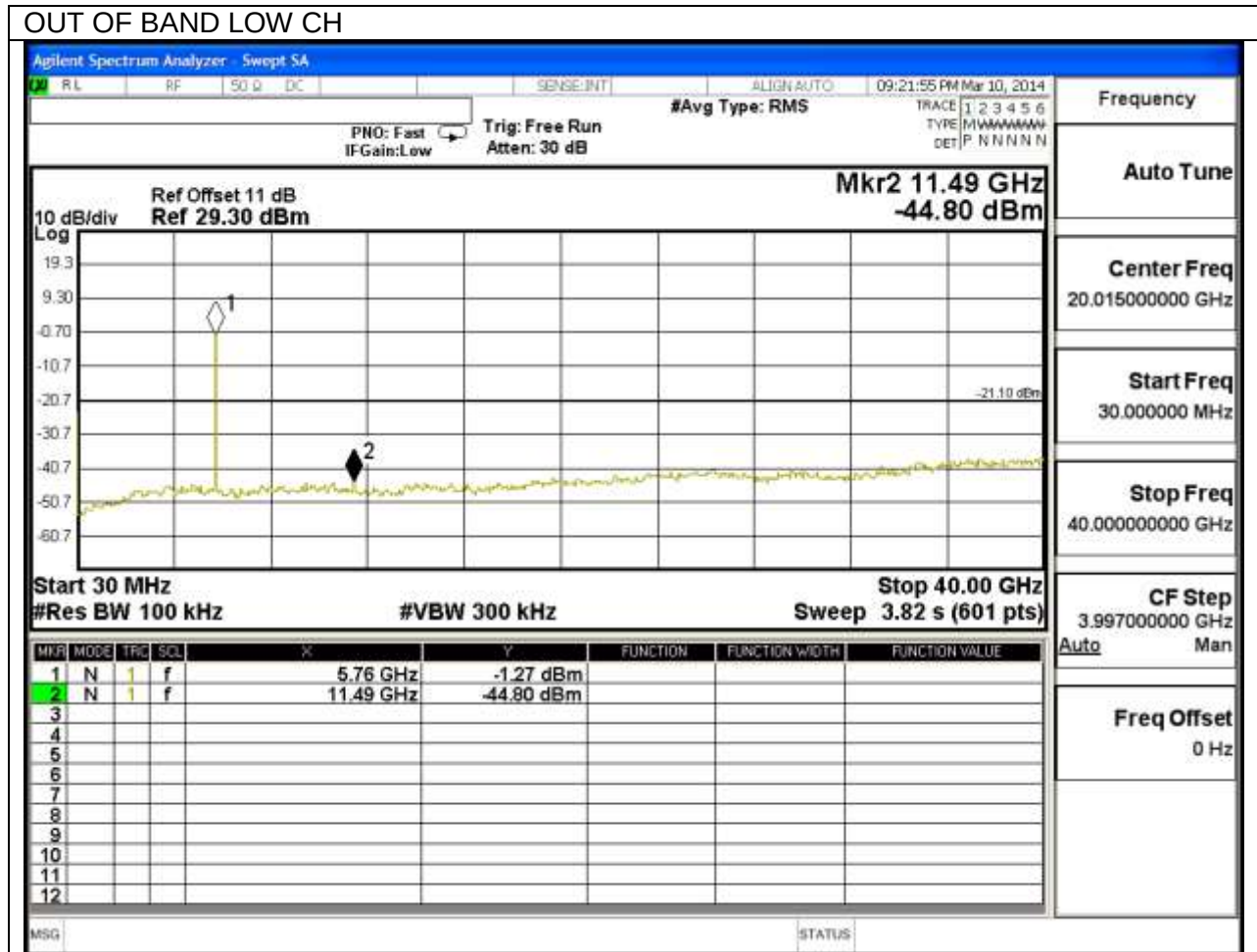


HIGH CHANNEL BANDEDGE

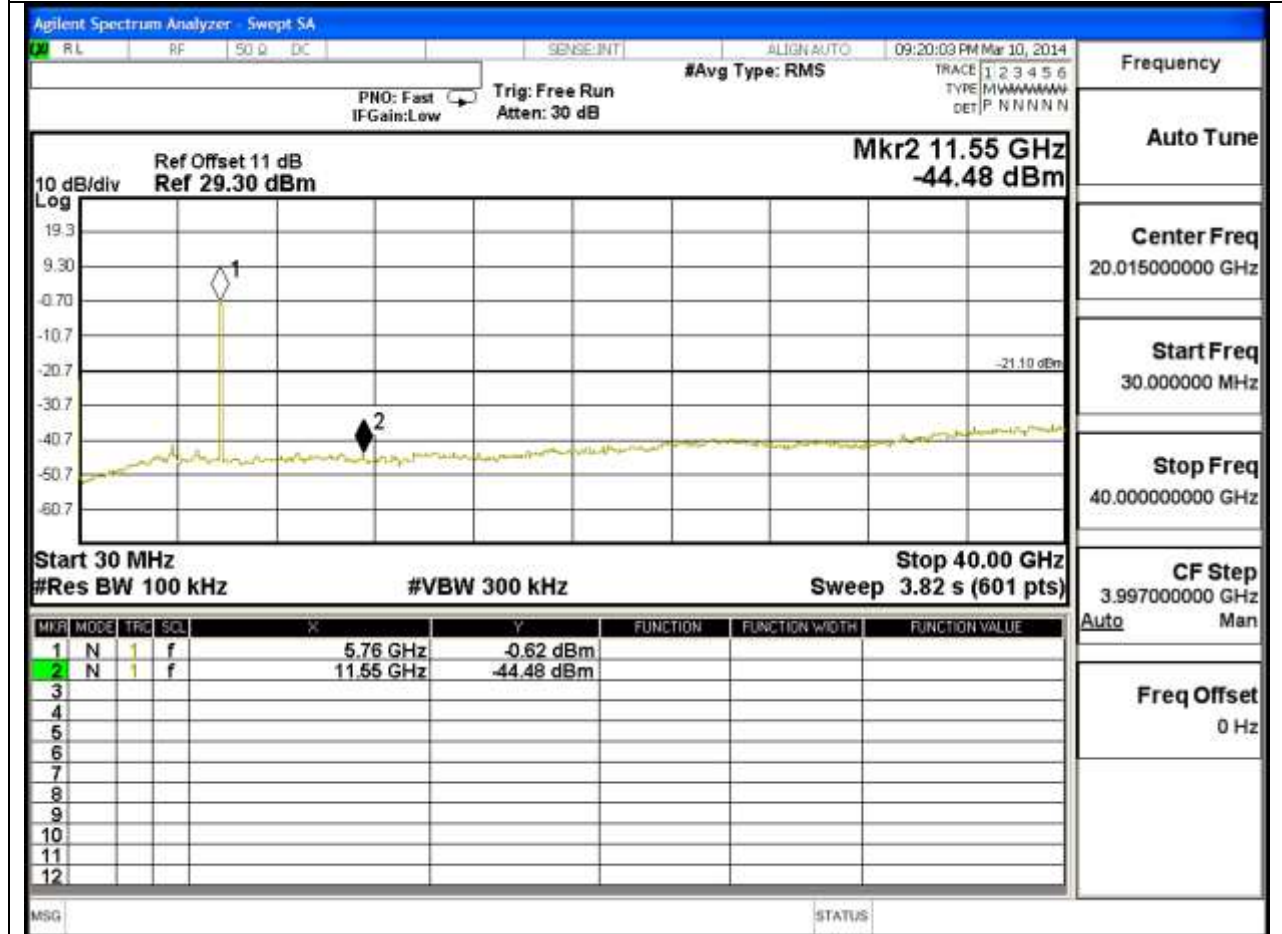


OUT-OF-BAND EMISSIONS

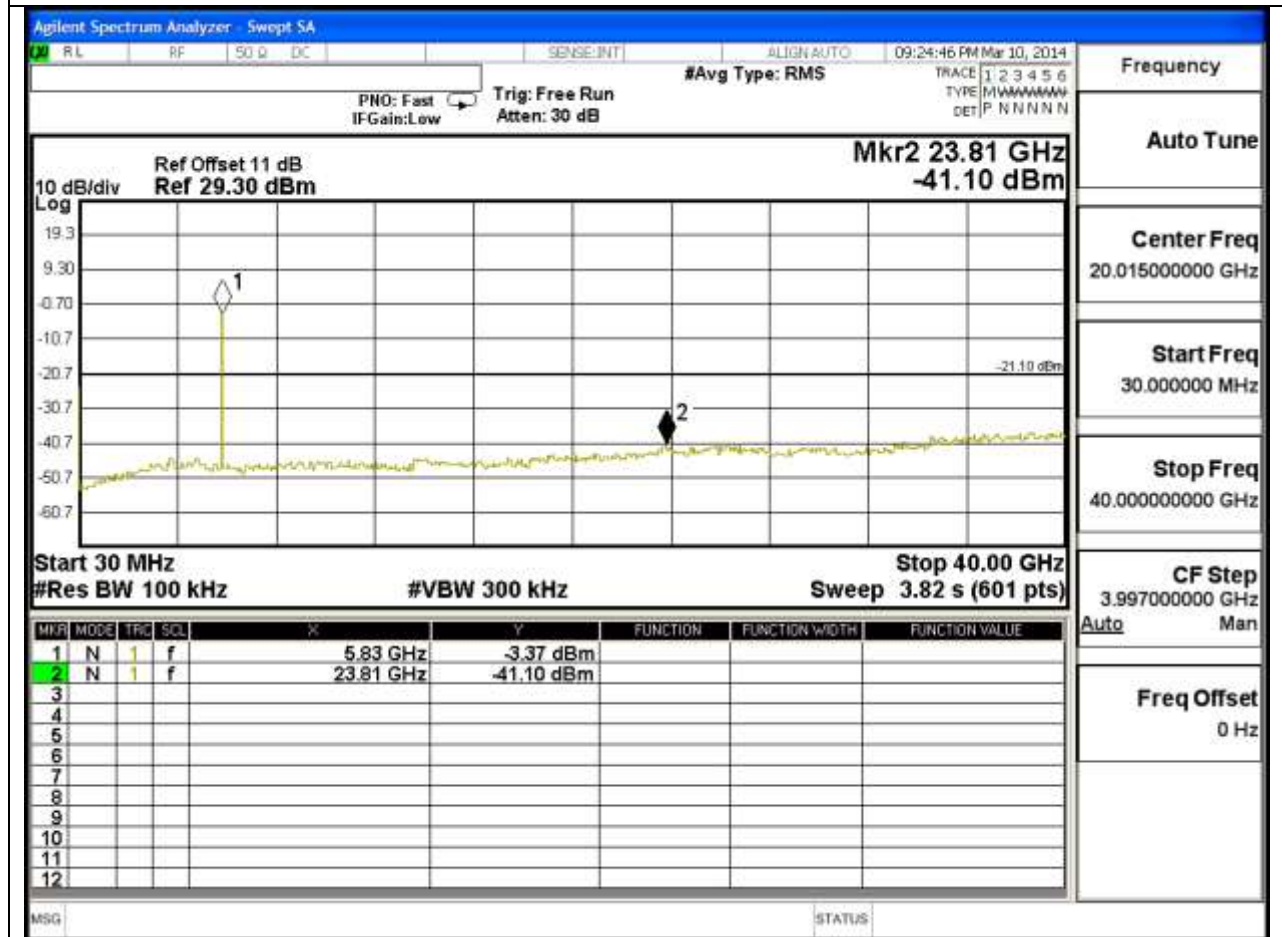
OUT OF BAND LOW CH



OUT OF BAND MID CH

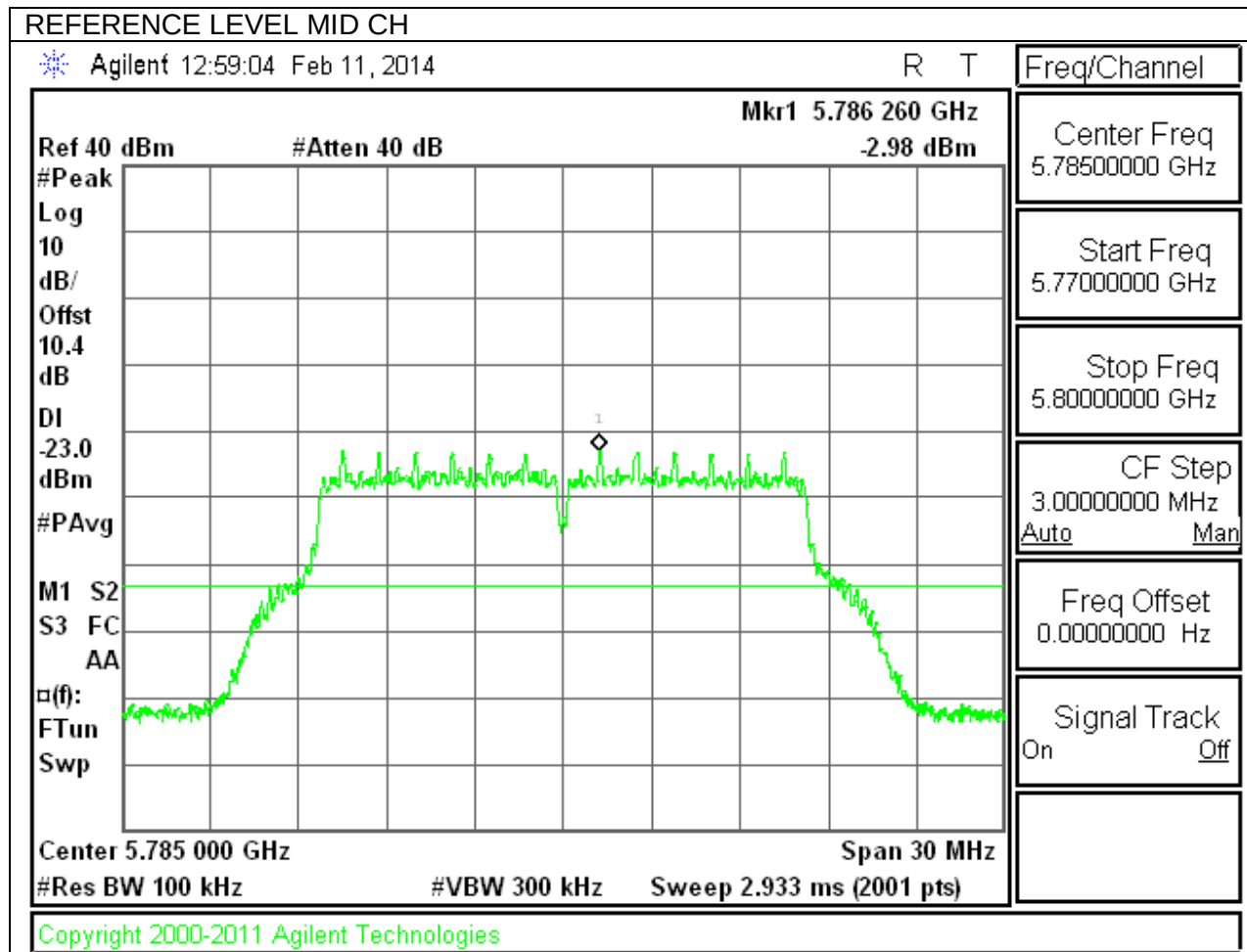


OUT OF BAND HIGH CH

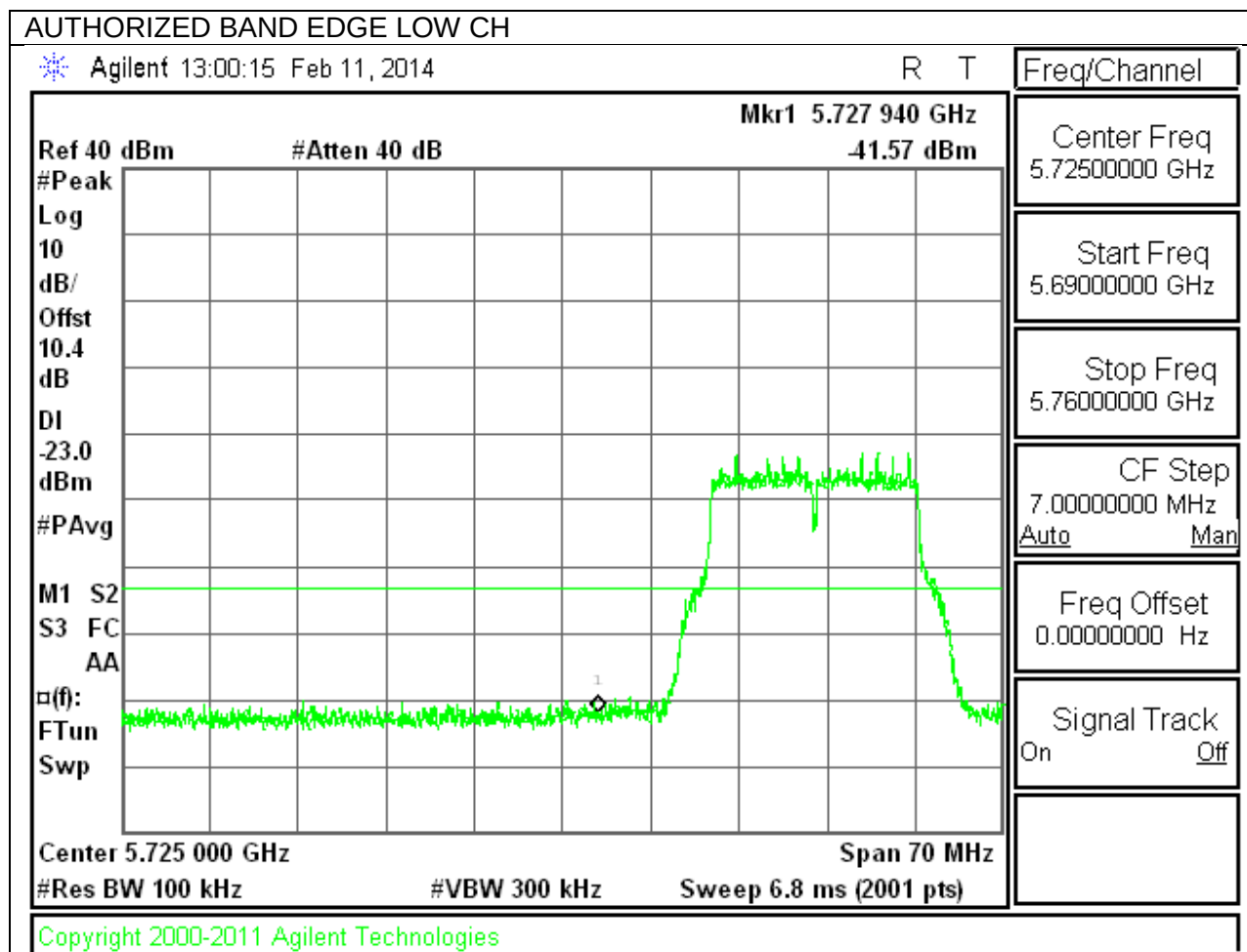


10.5.8. 802.11a MODE IN THE 5.8 GHz BAND CHAIN 1

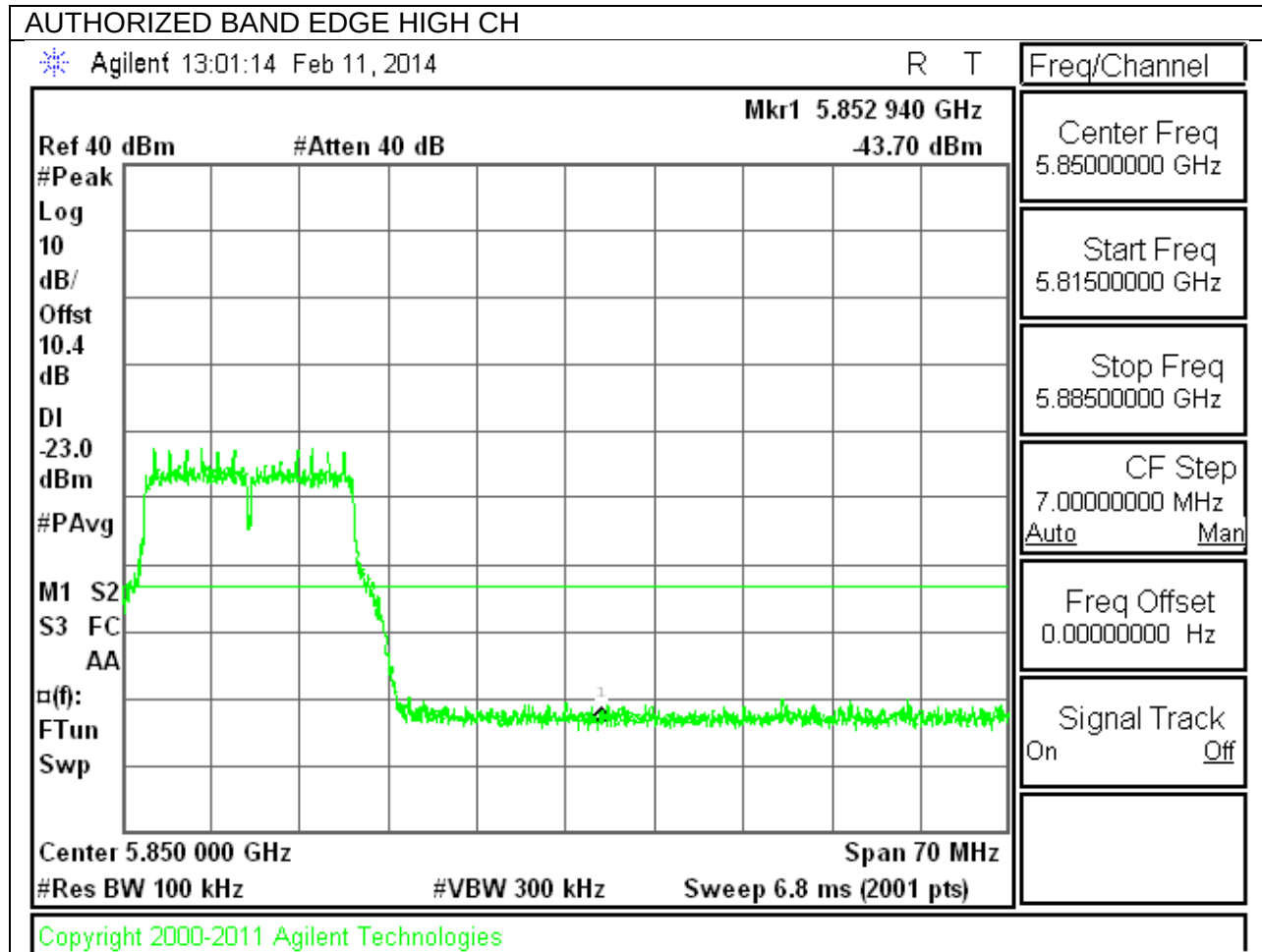
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE

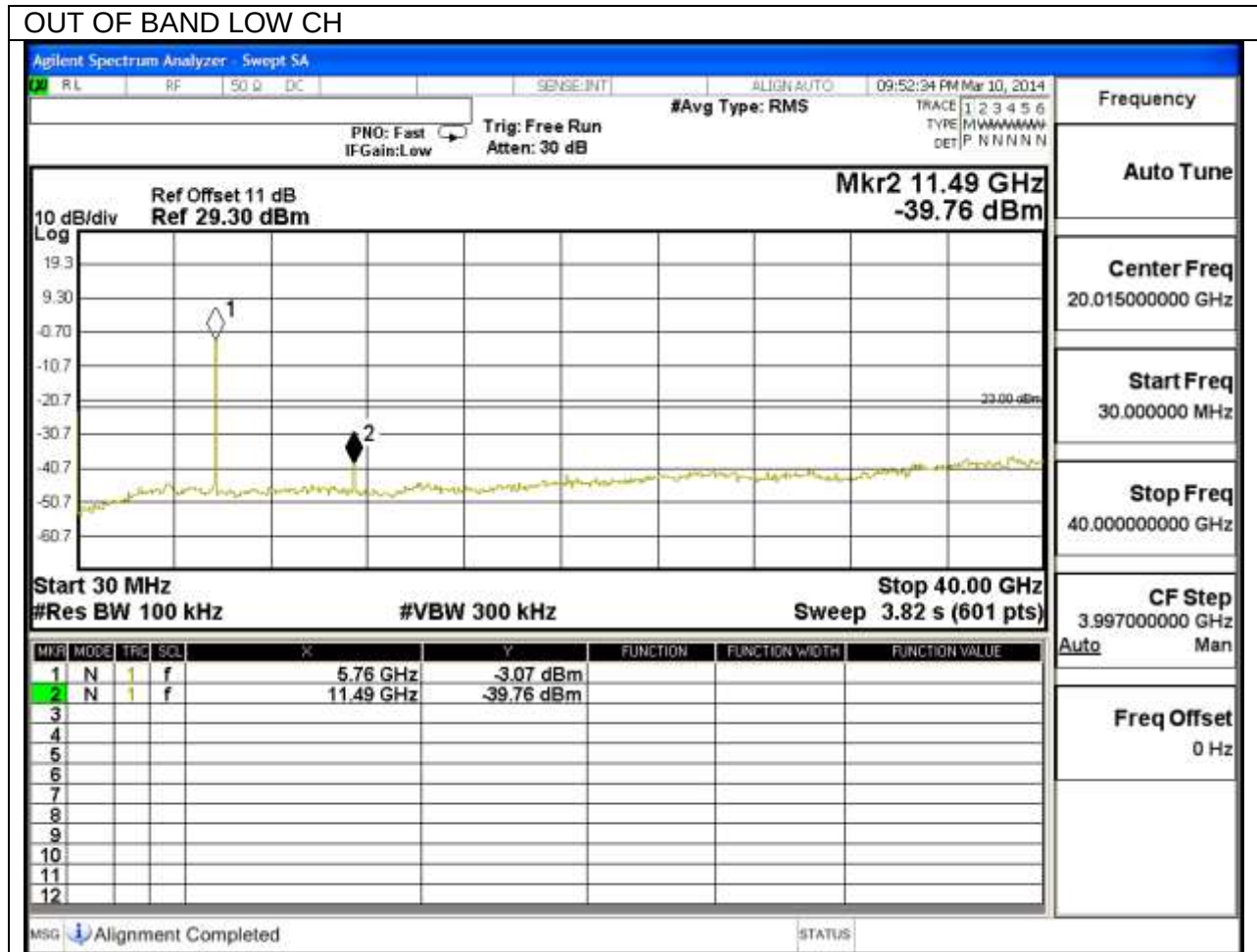


HIGH CHANNEL BANDEDGE

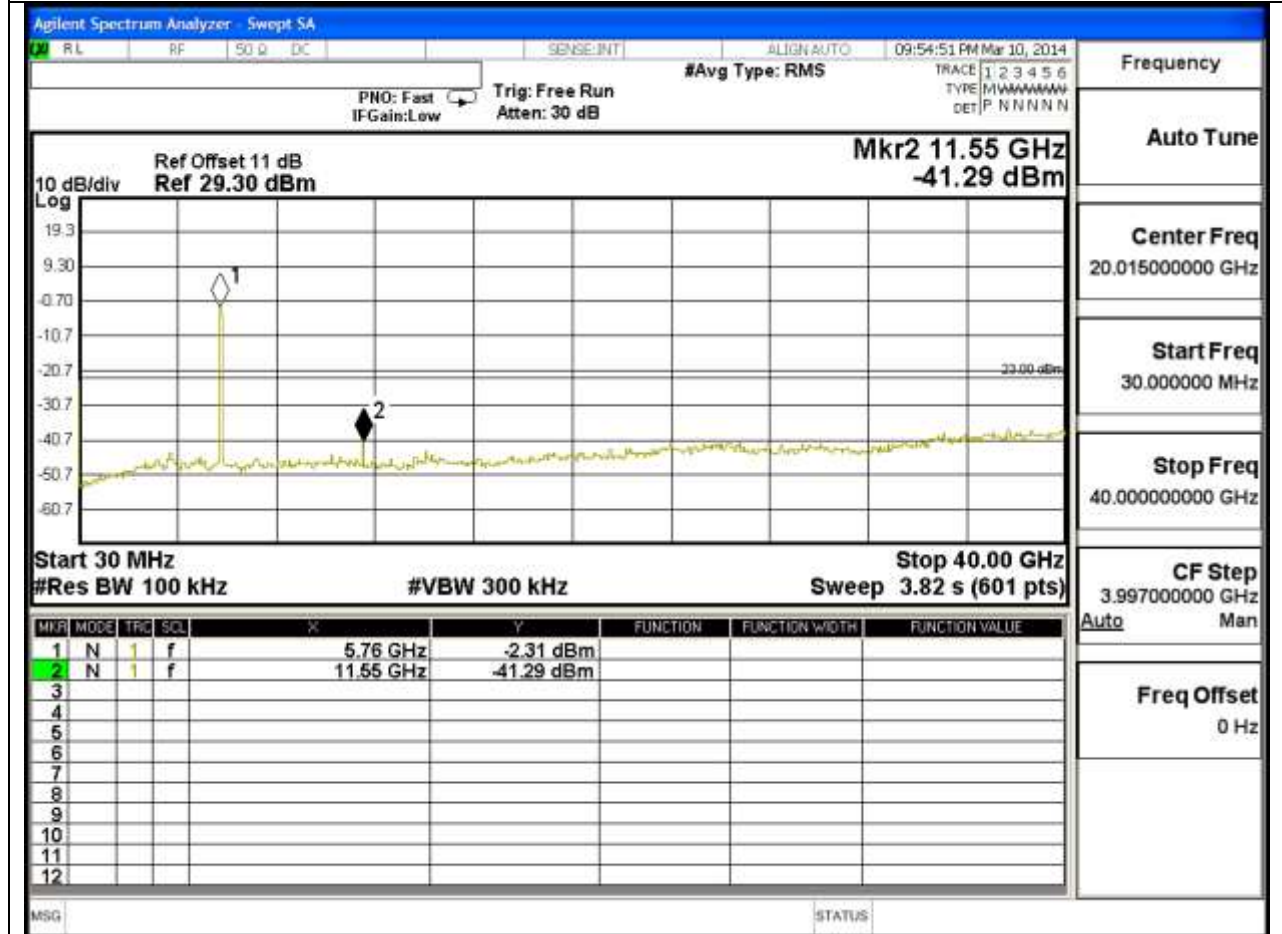


OUT-OF-BAND EMISSIONS

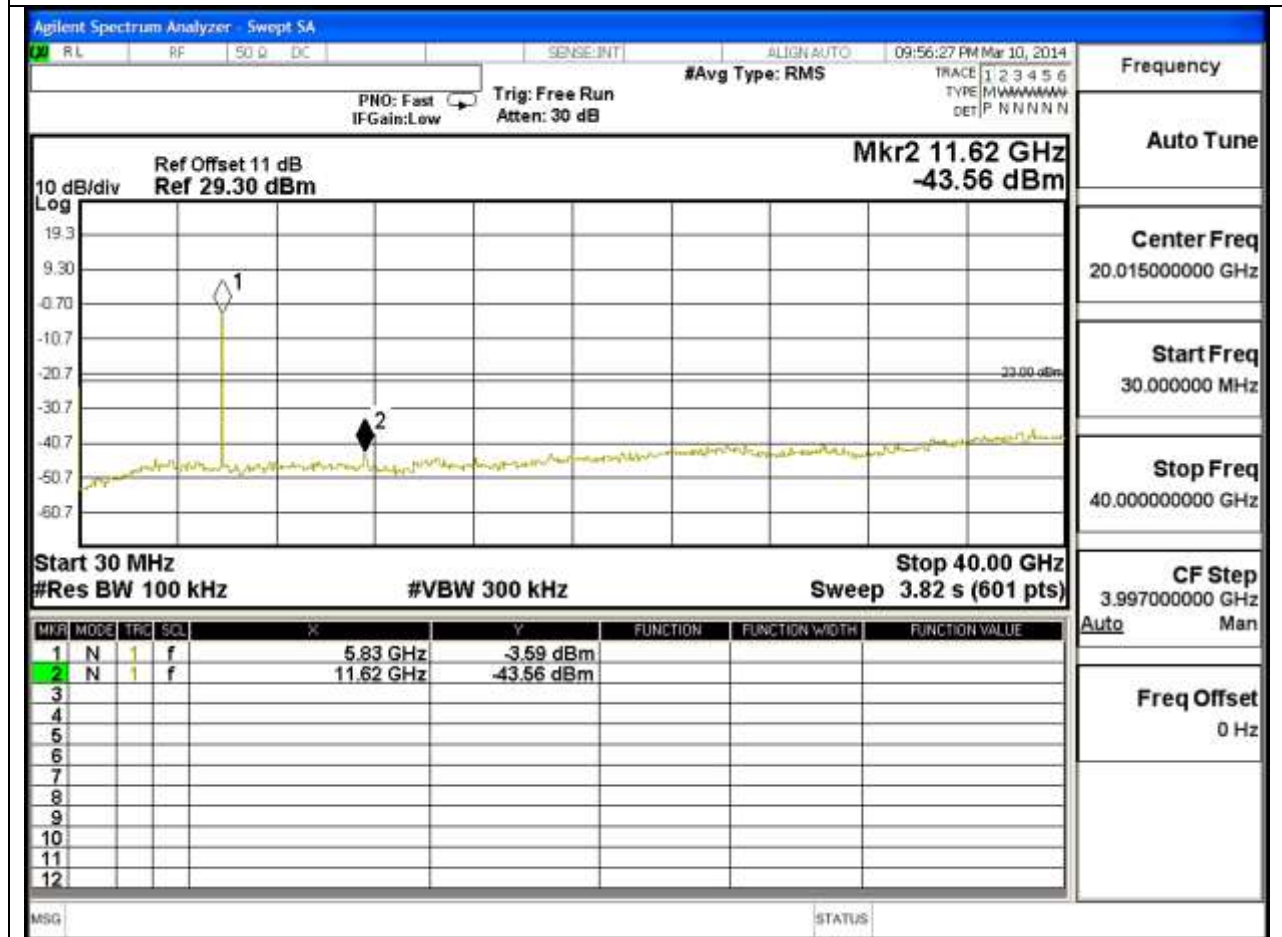
OUT OF BAND LOW CH



OUT OF BAND MID CH

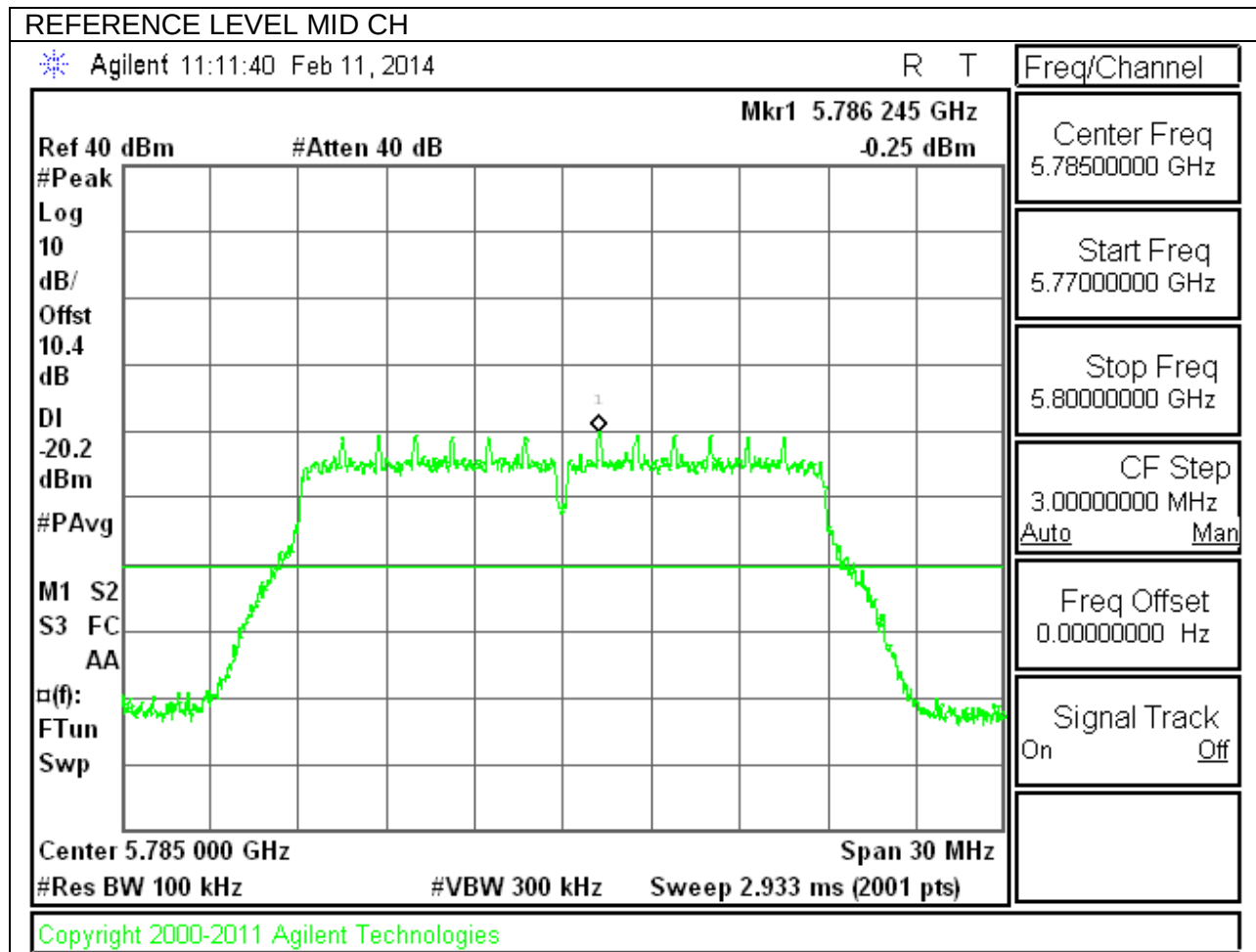


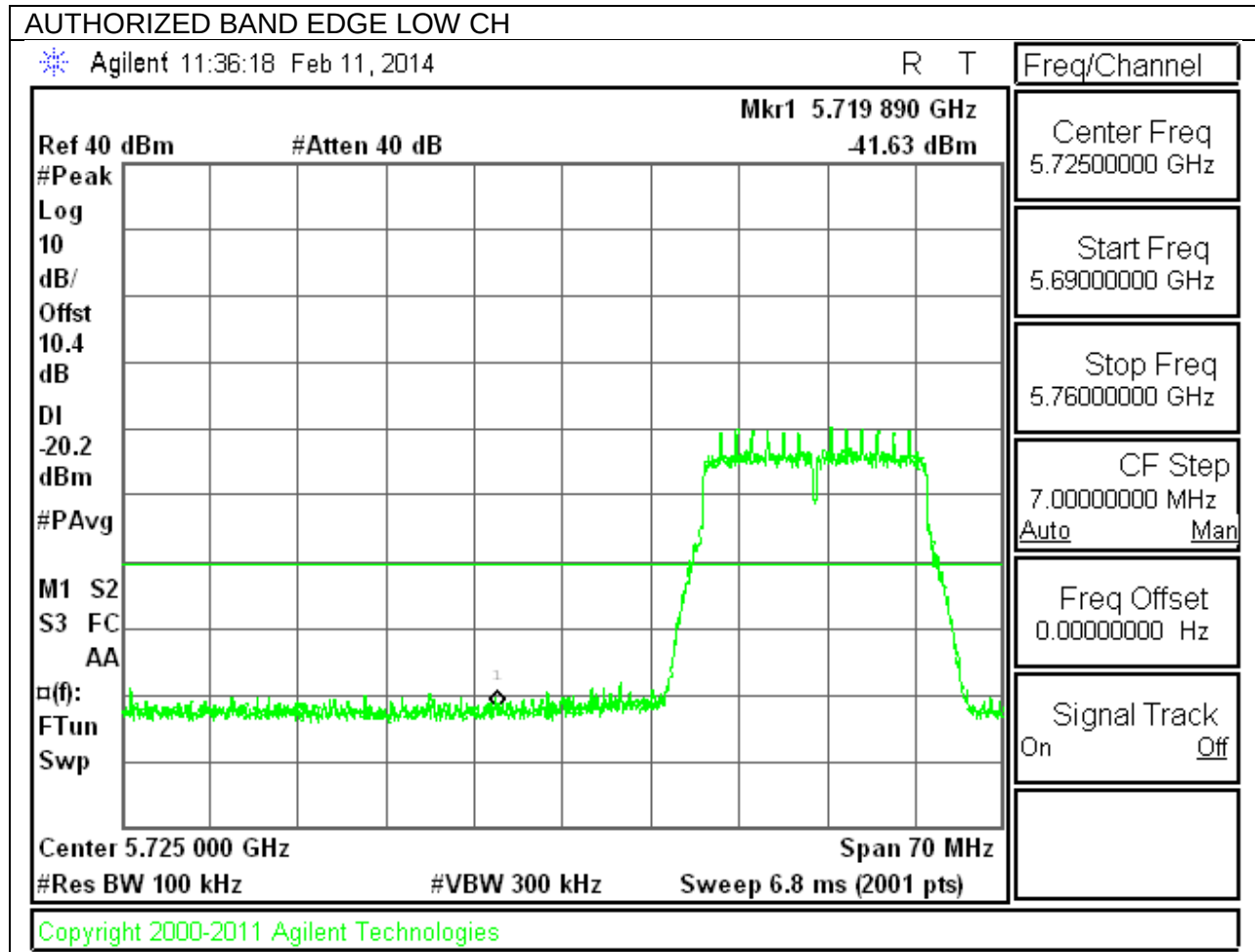
OUT OF BAND HIGH CH



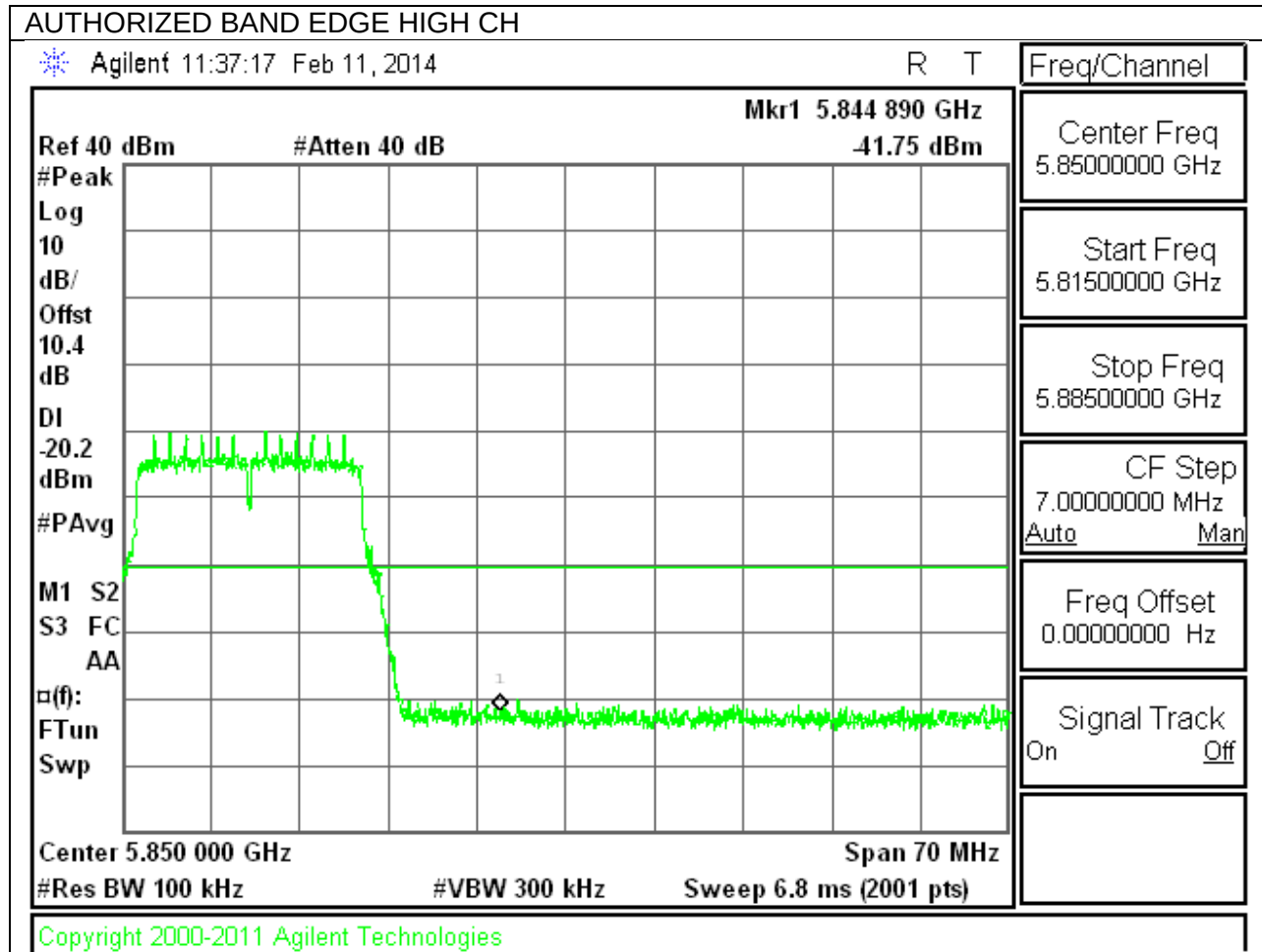
10.5.9. 802.11n MODE IN THE 5.8 GHz BAND CHAIN 0

IN-BAND REFERENCE LEVEL



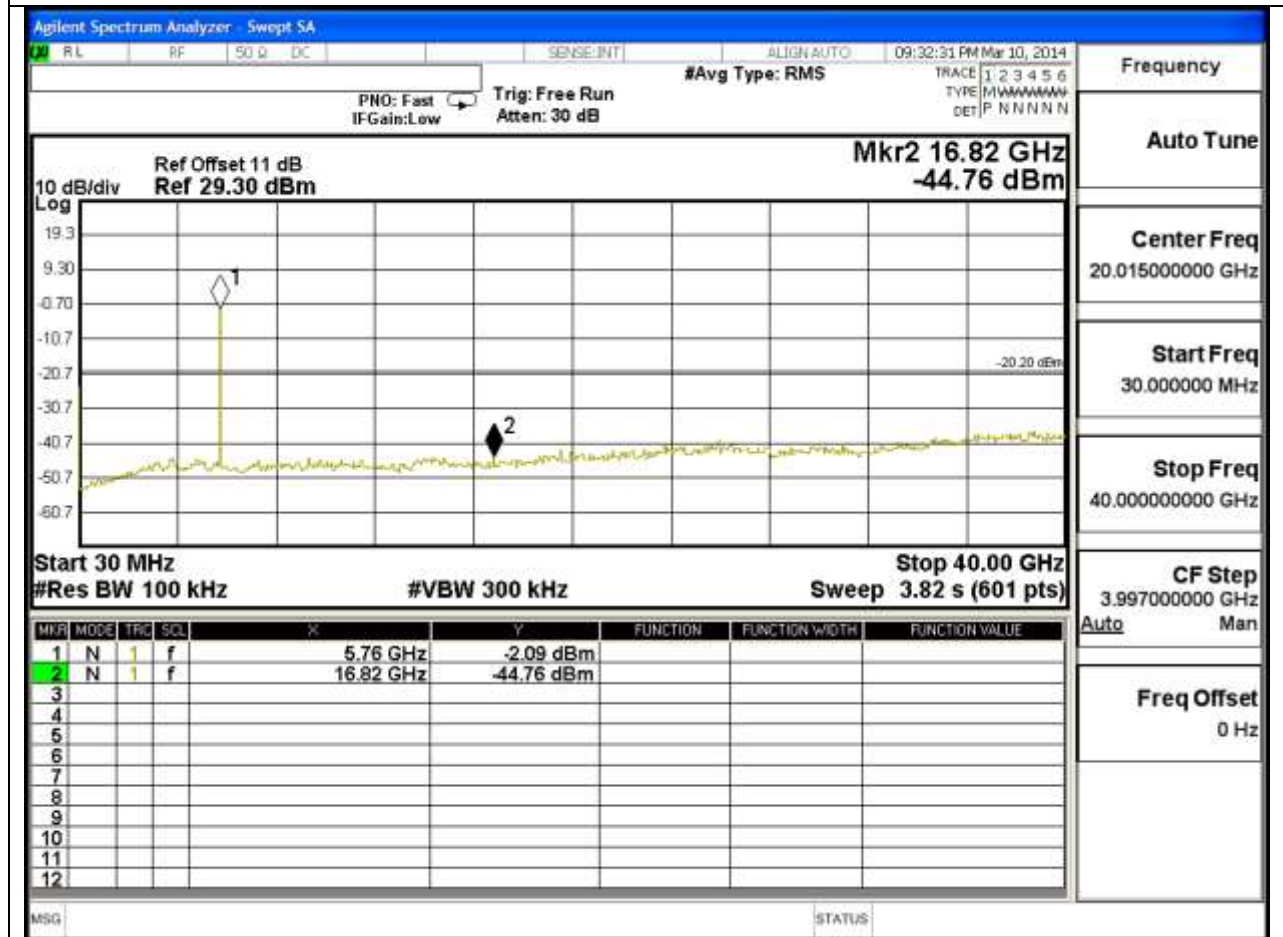
LOW CHANNEL BANDEDGE

HIGH CHANNEL BANDEDGE

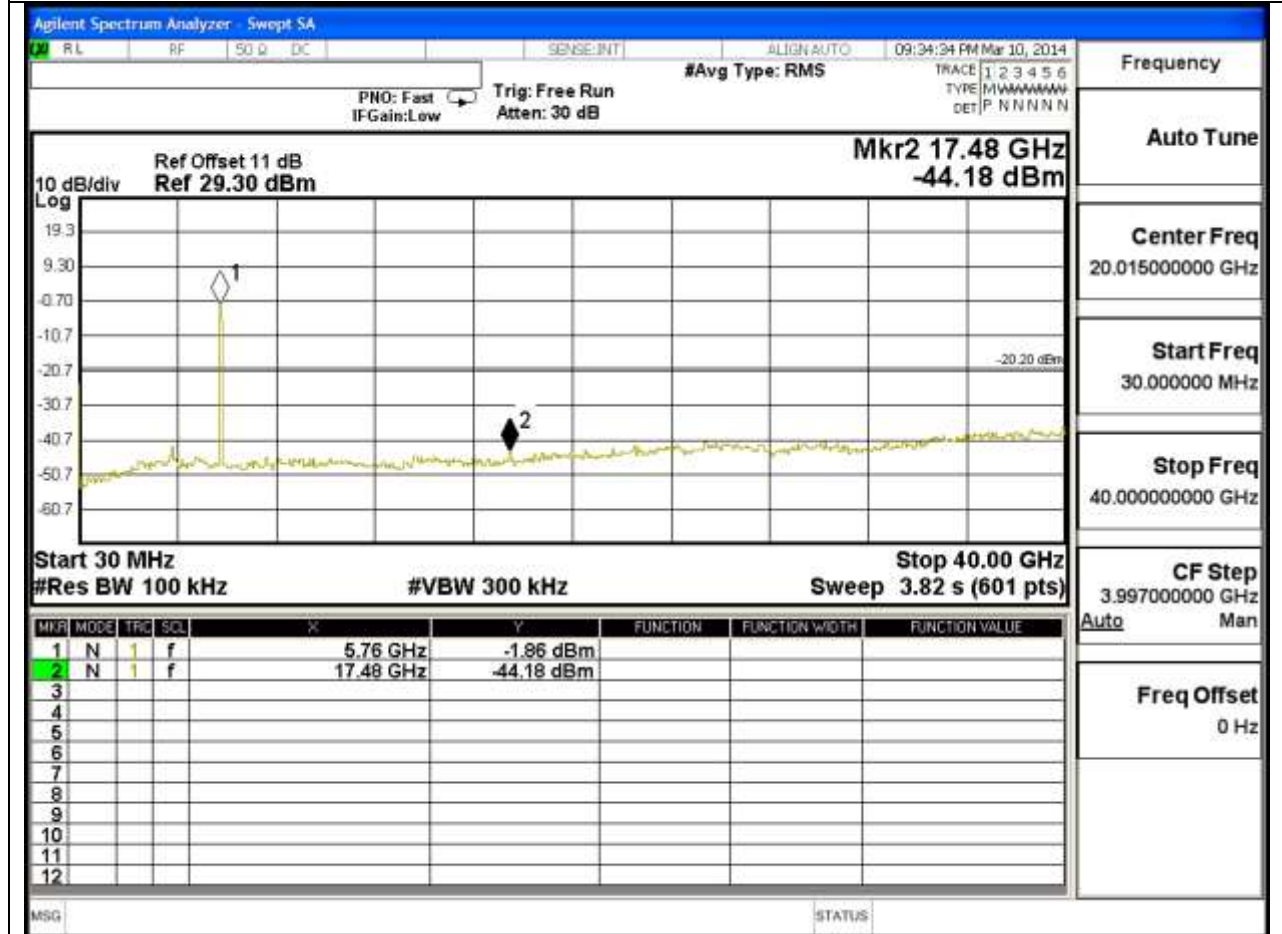


OUT-OF-BAND EMISSIONS

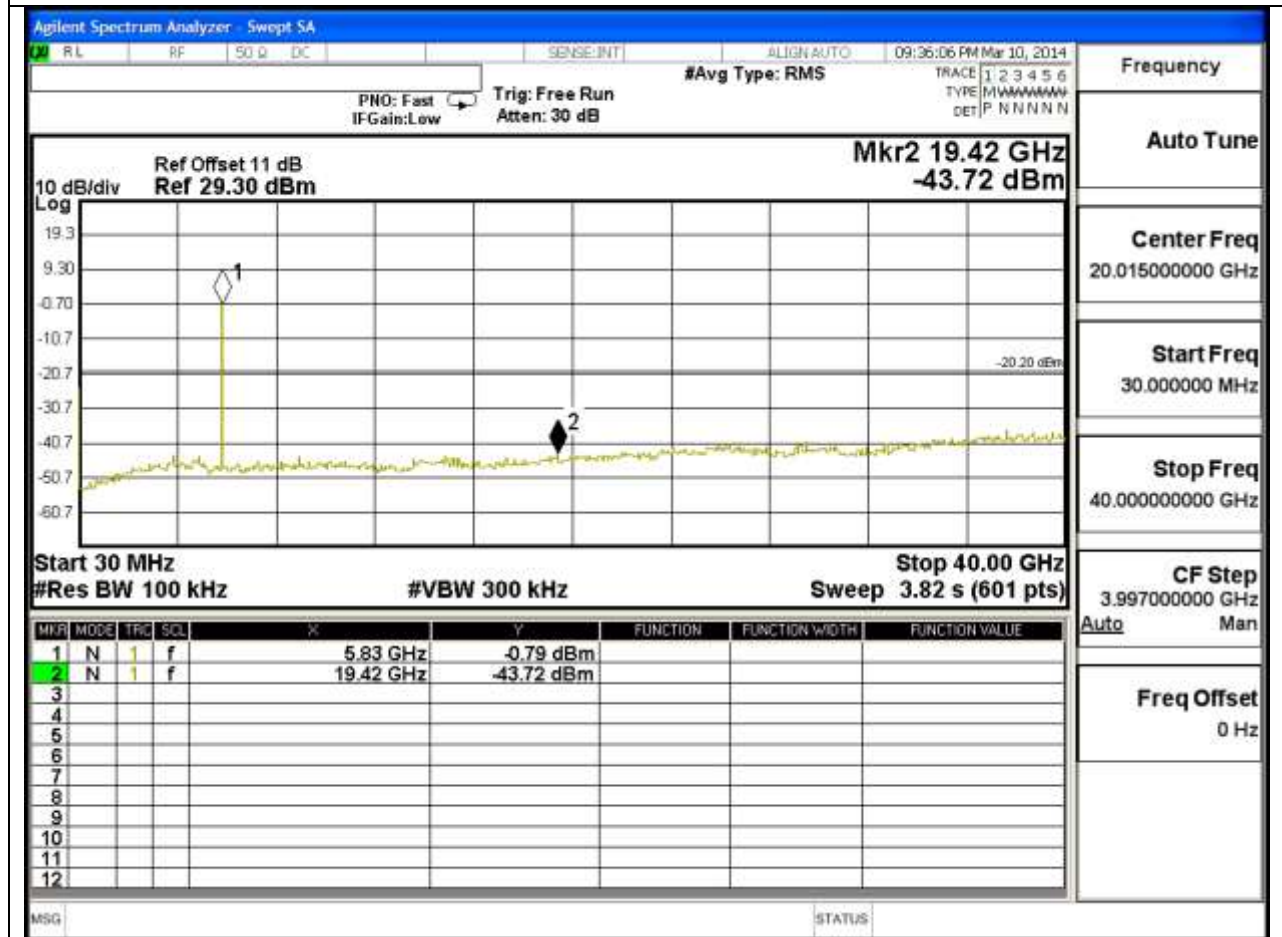
OUT OF BAND LOW CH



OUT OF BAND MID CH

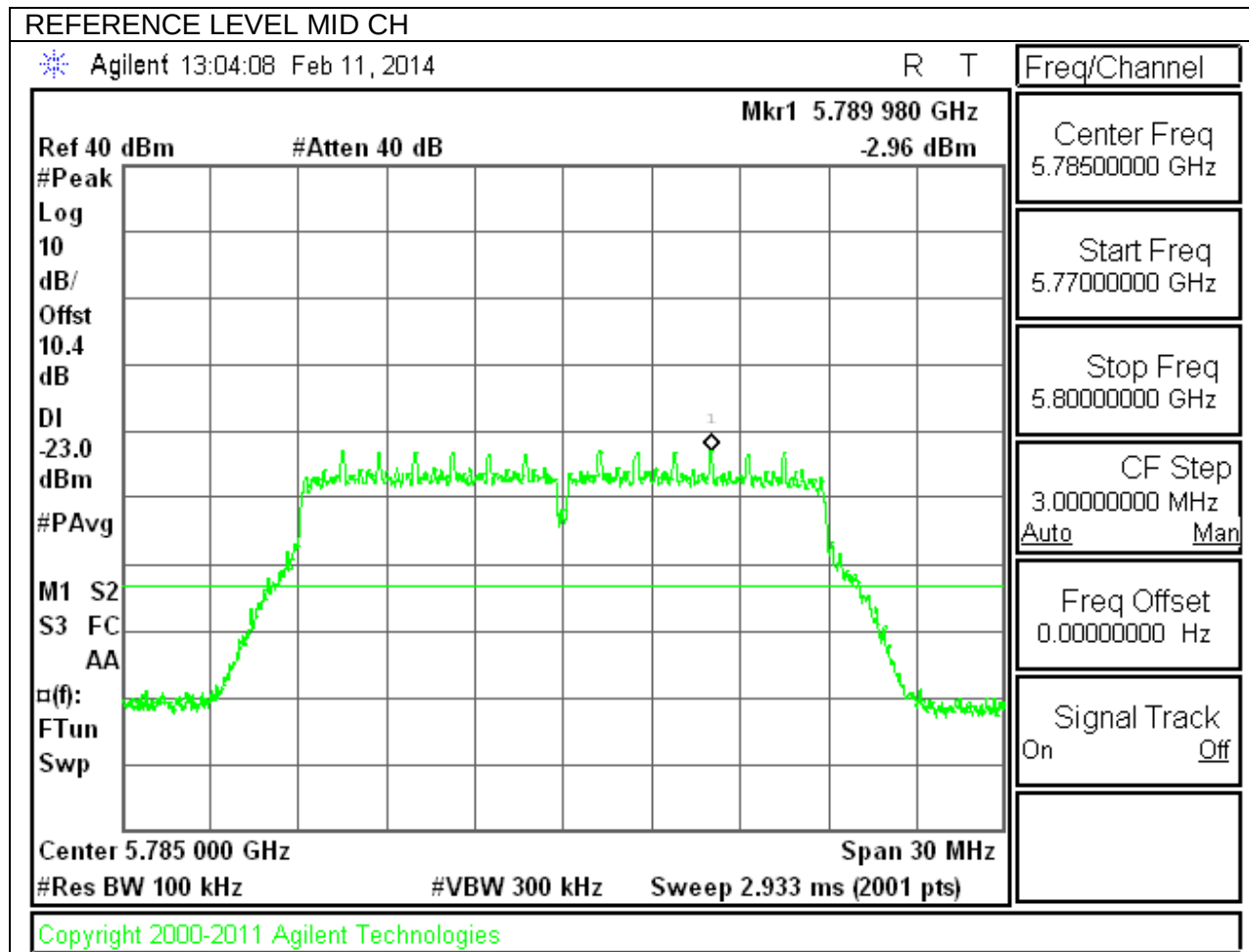


OUT OF BAND HIGH CH

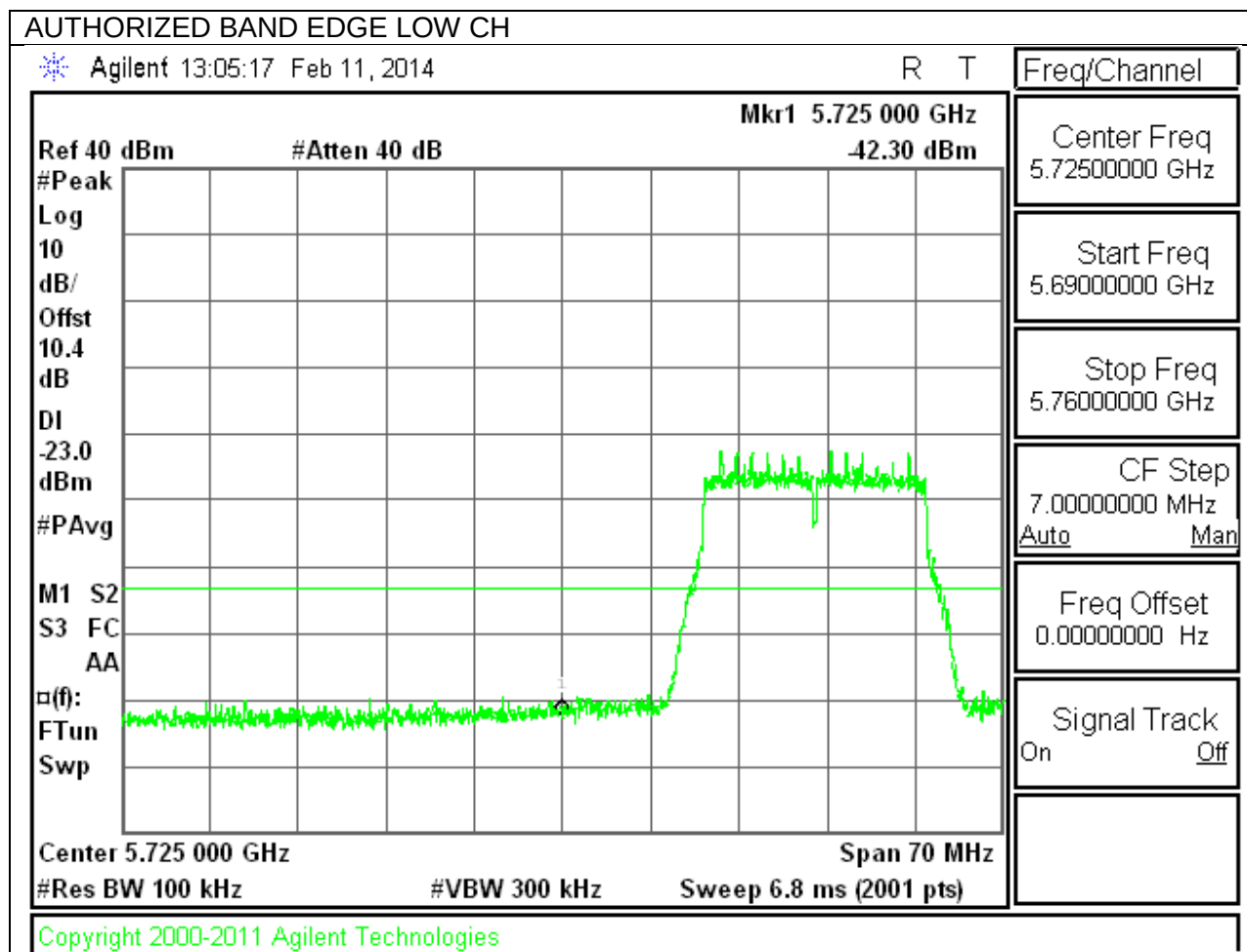


10.5.10. 802.11n MODE IN THE 5.8 GHz BAND CHAIN 1

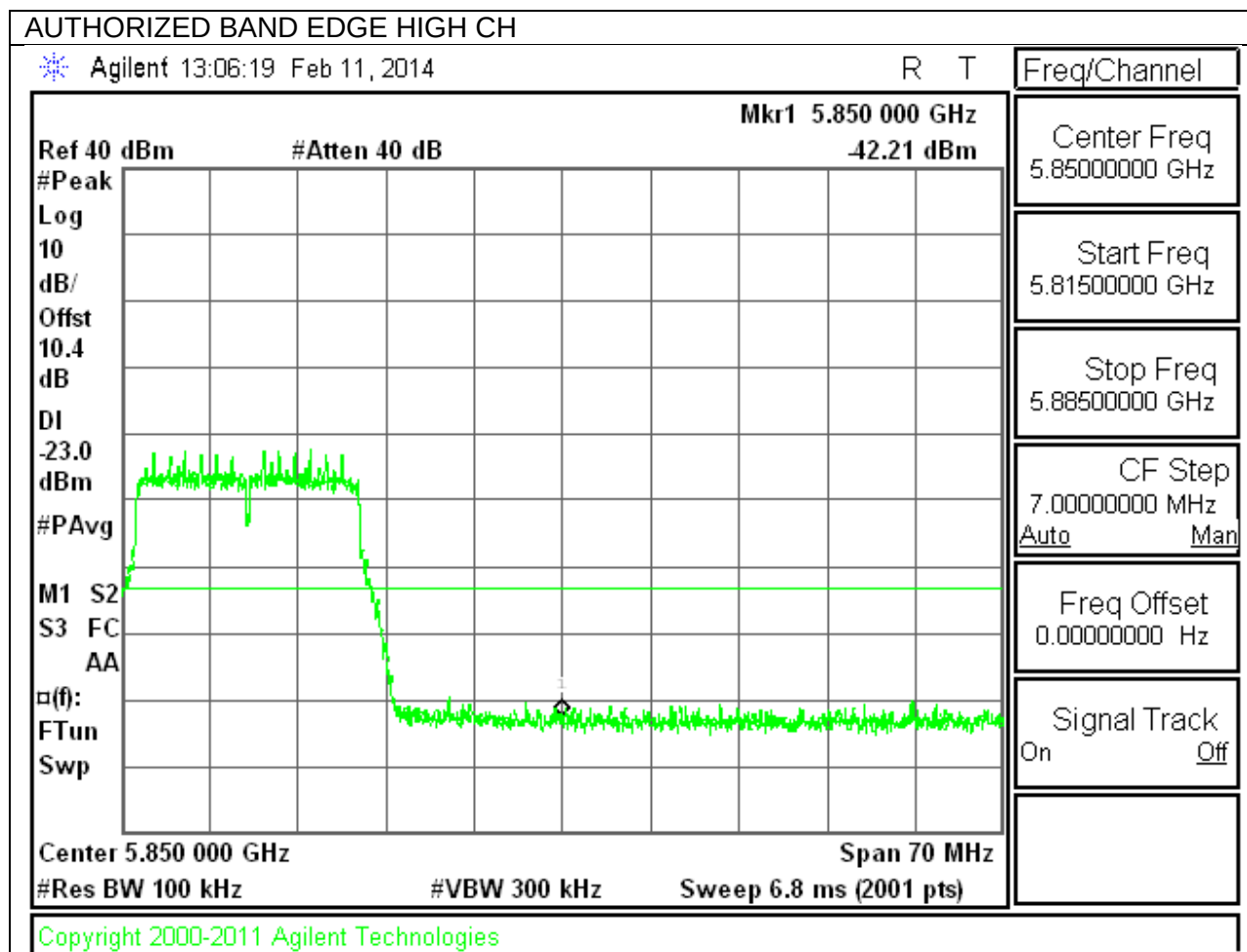
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE

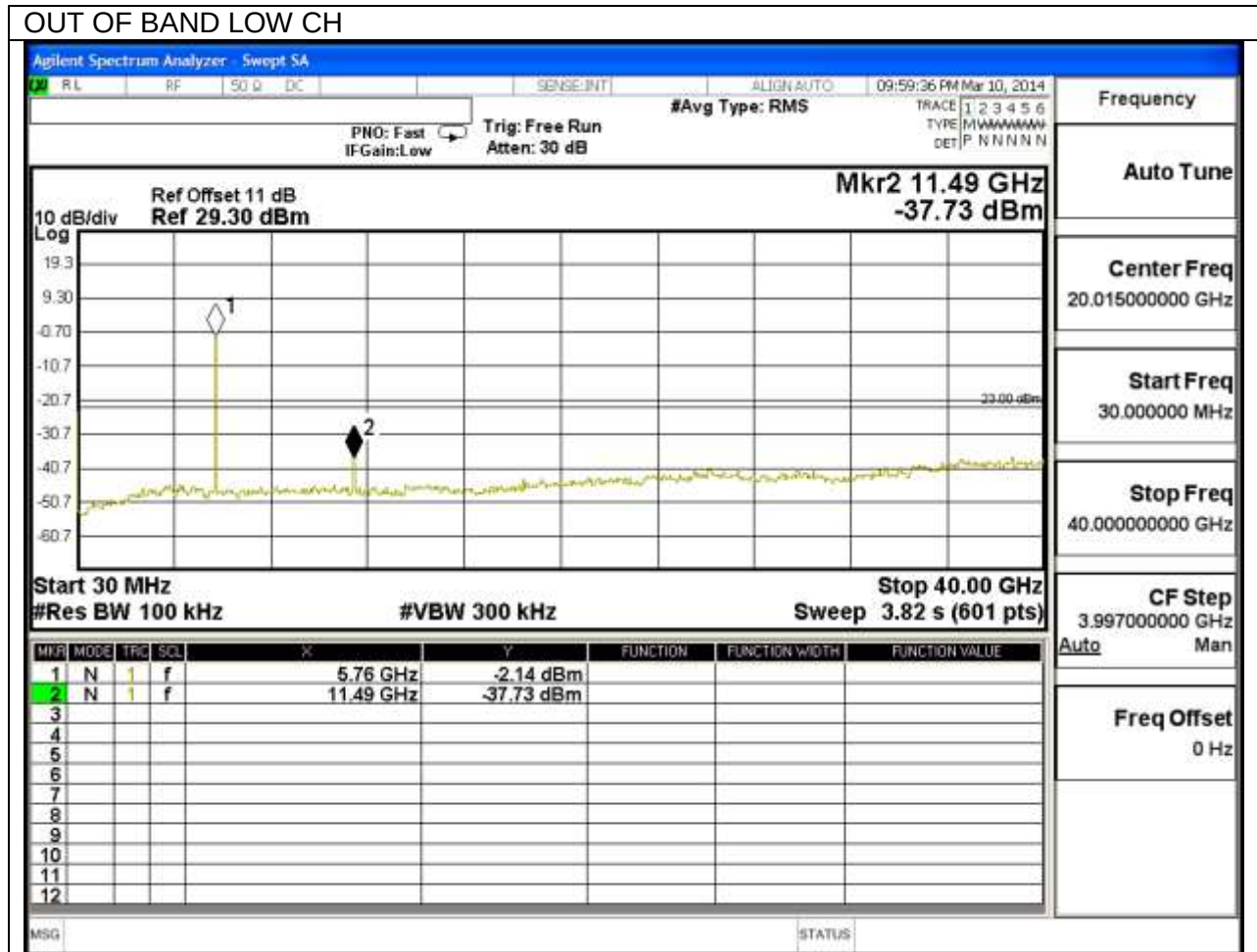


HIGH CHANNEL BANDEDGE

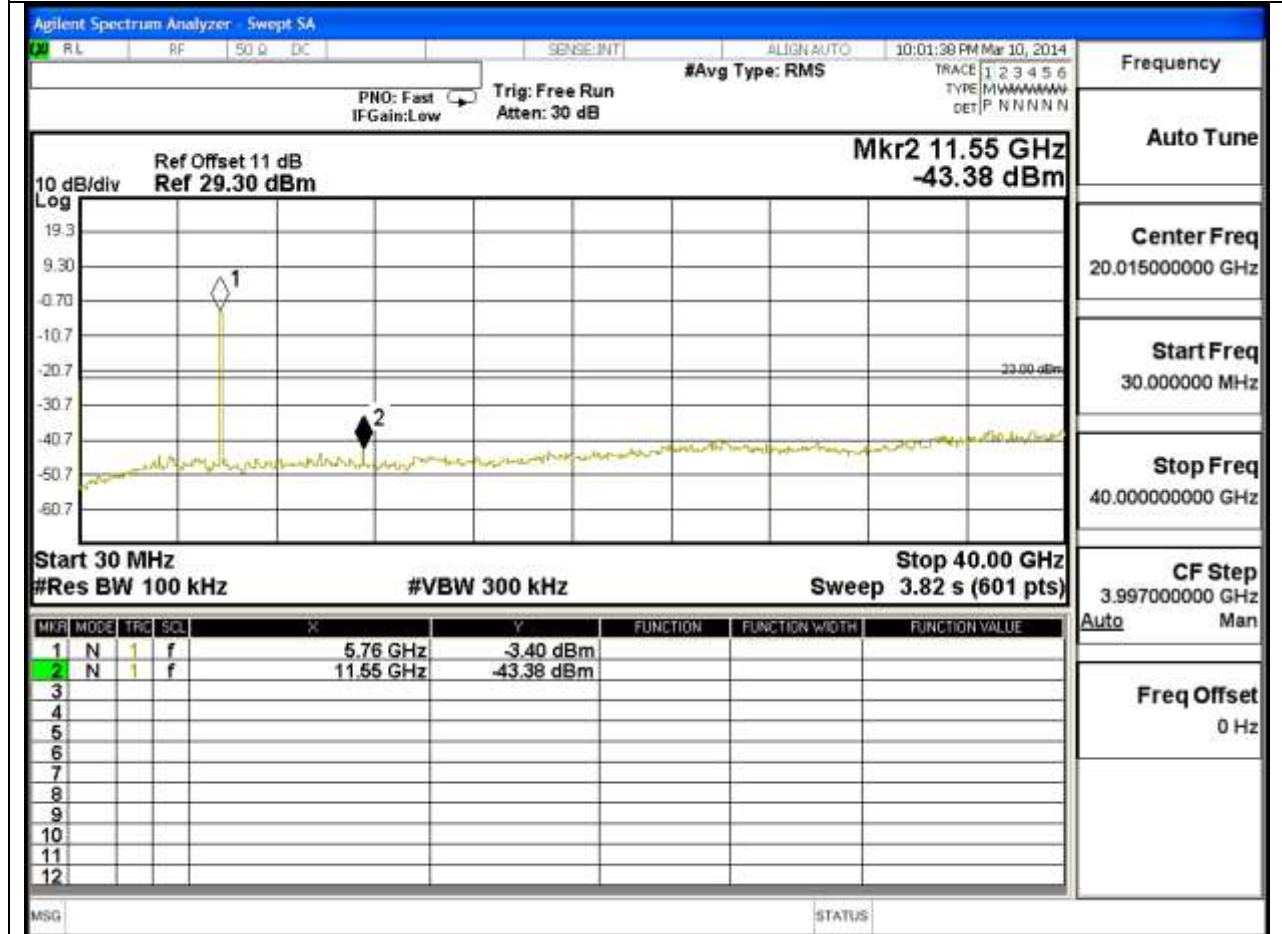


OUT-OF-BAND EMISSIONS

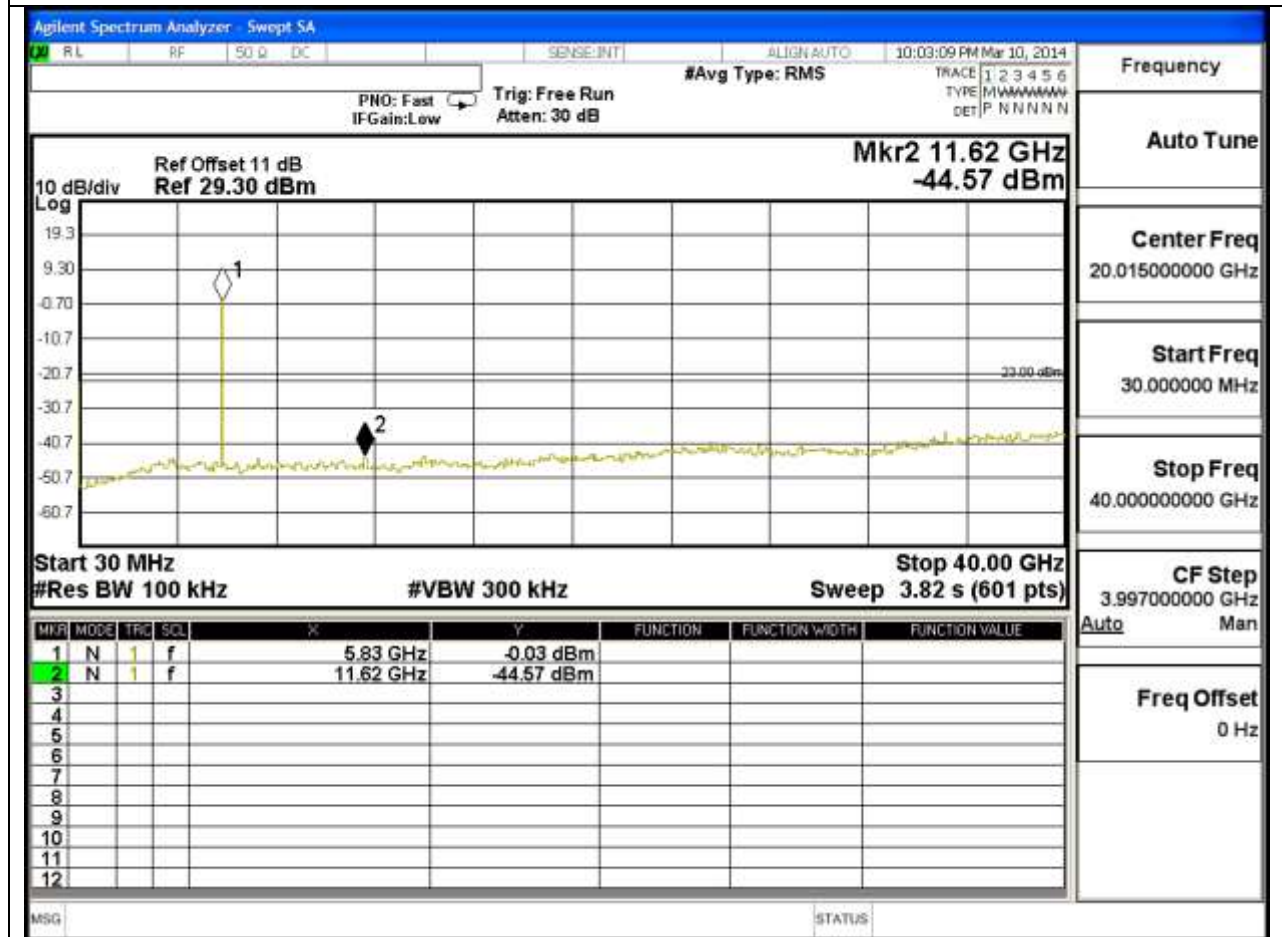
OUT OF BAND LOW CH



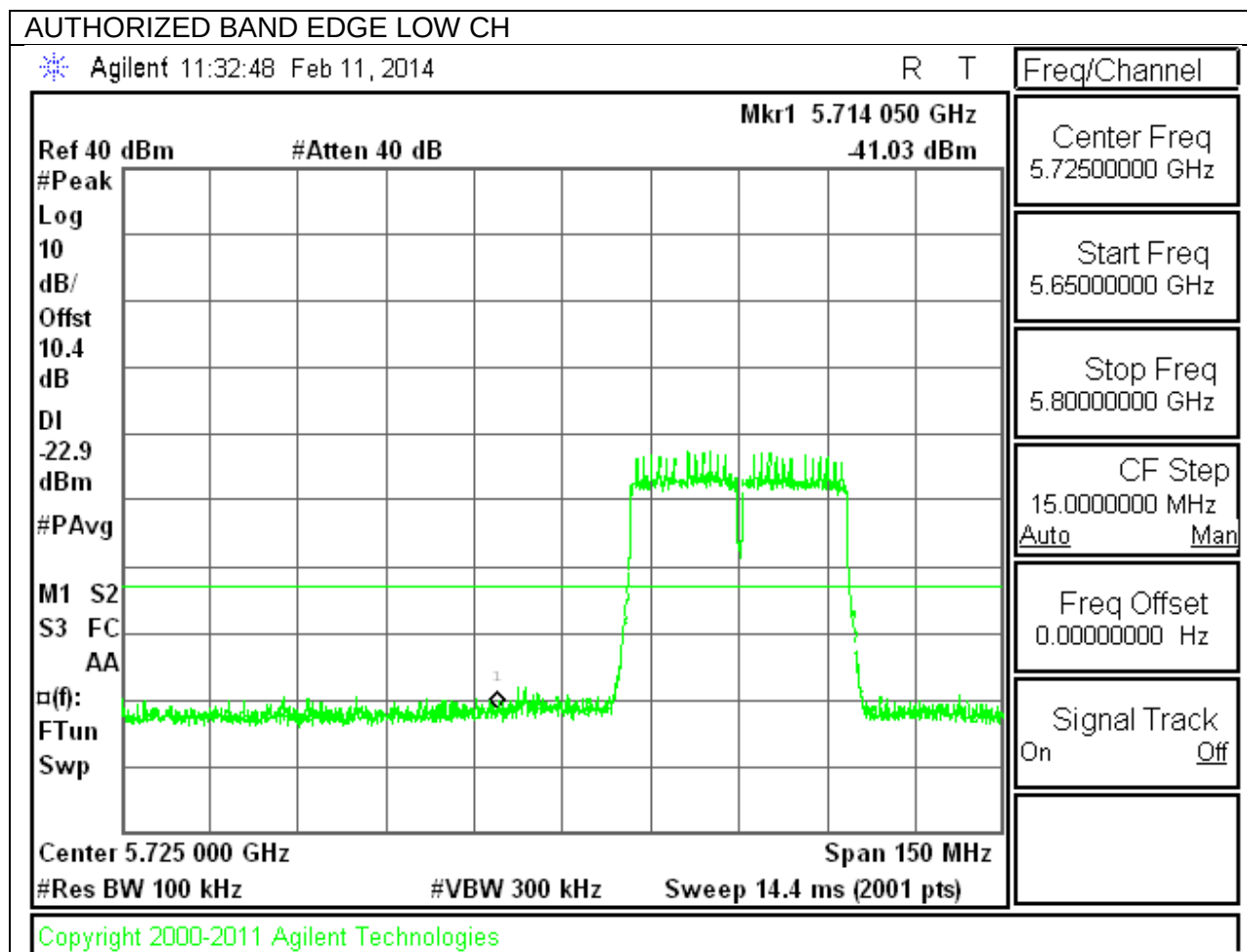
OUT OF BAND MID CH



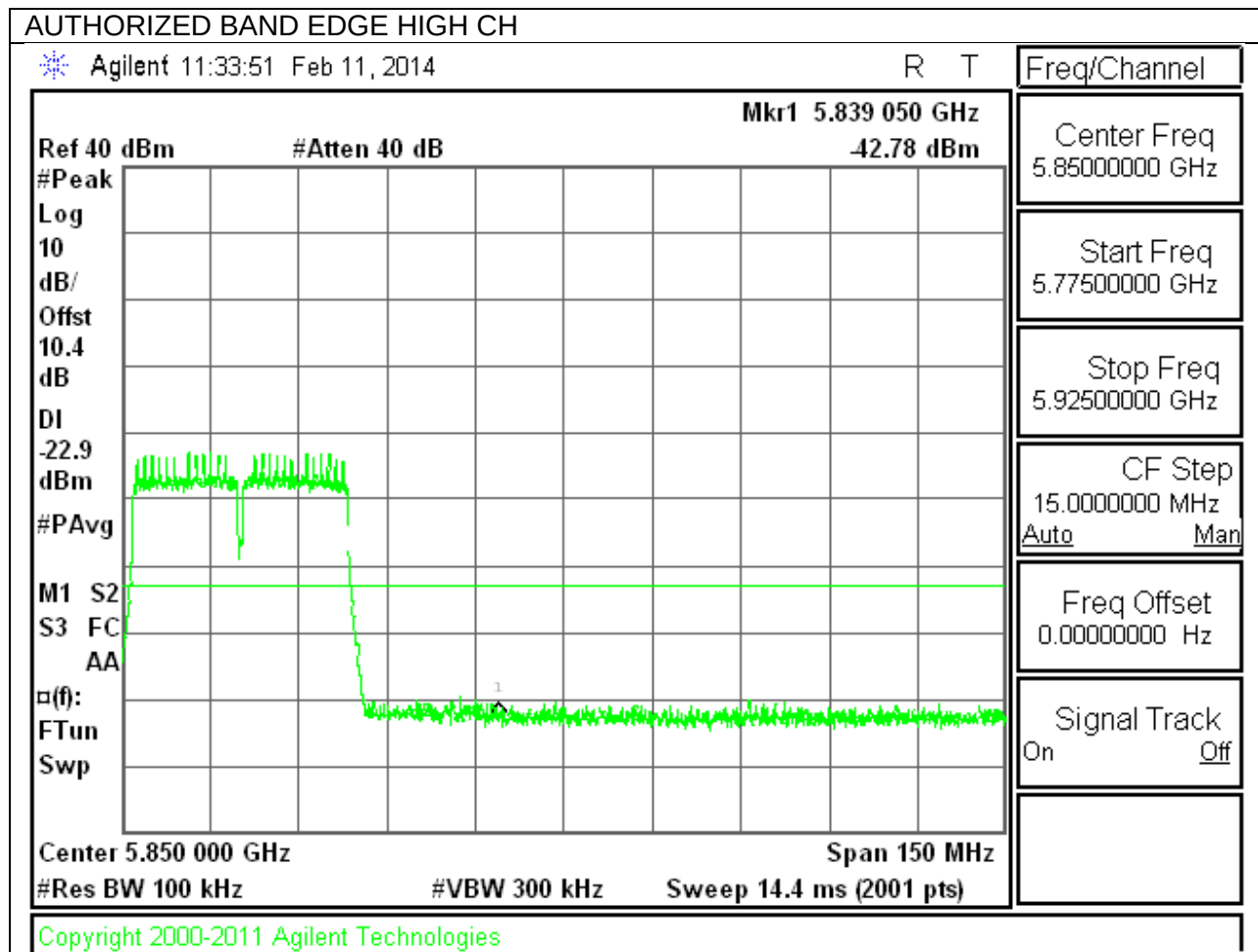
OUT OF BAND HIGH CH



LOW CHANNEL BANDEDGE

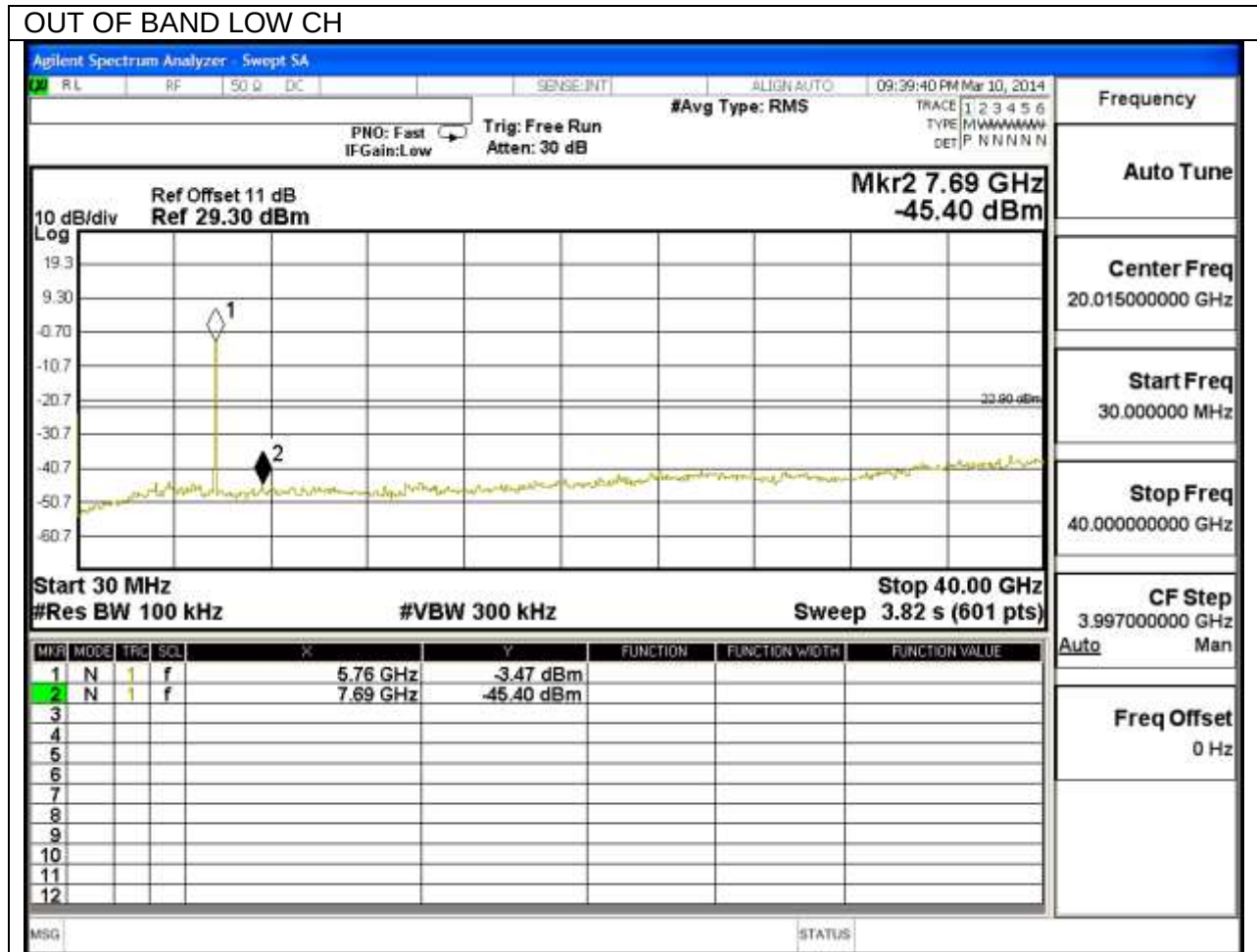


HIGH CHANNEL BANDEDGE

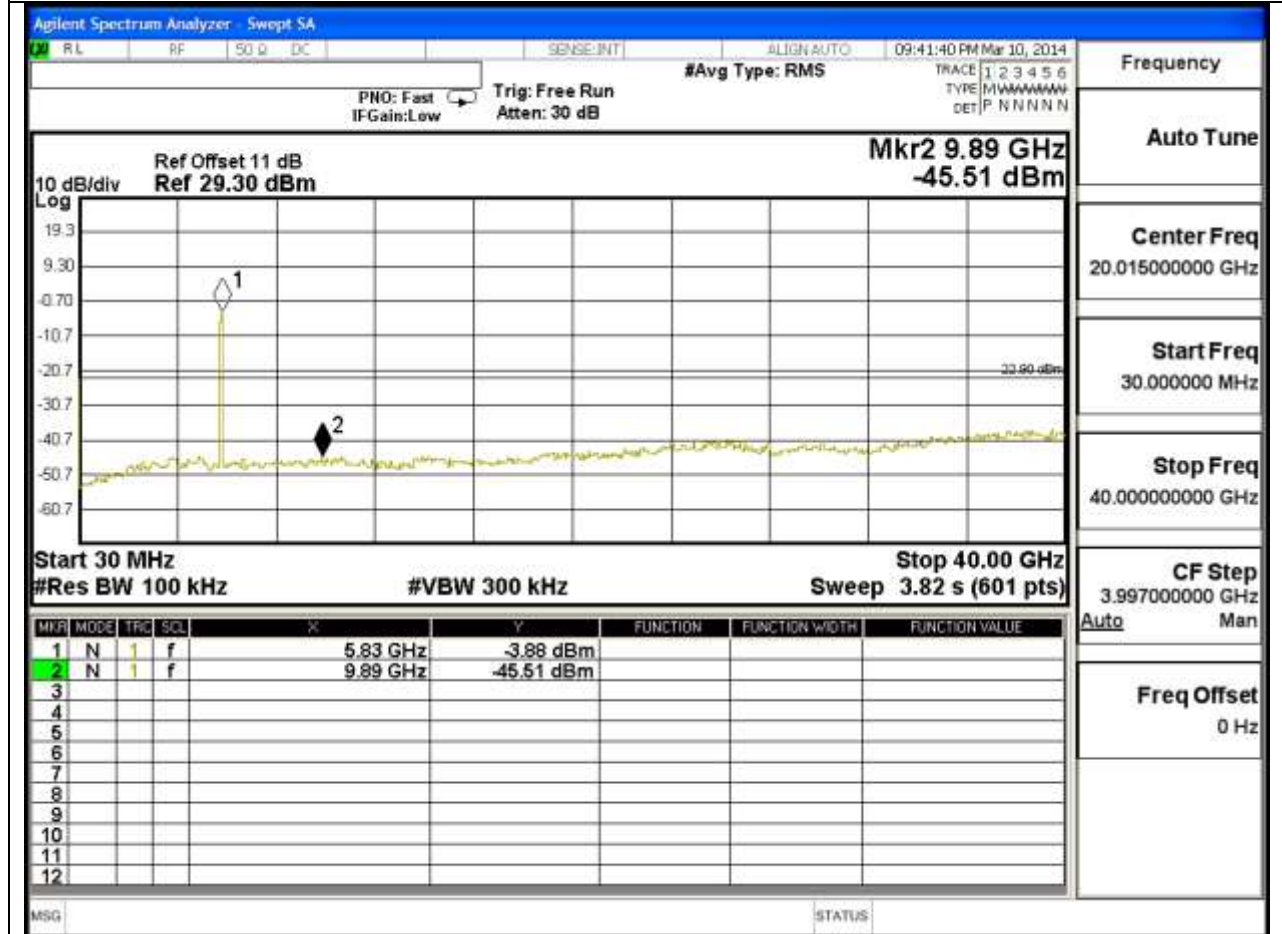


OUT-OF-BAND EMISSIONS

OUT OF BAND LOW CH

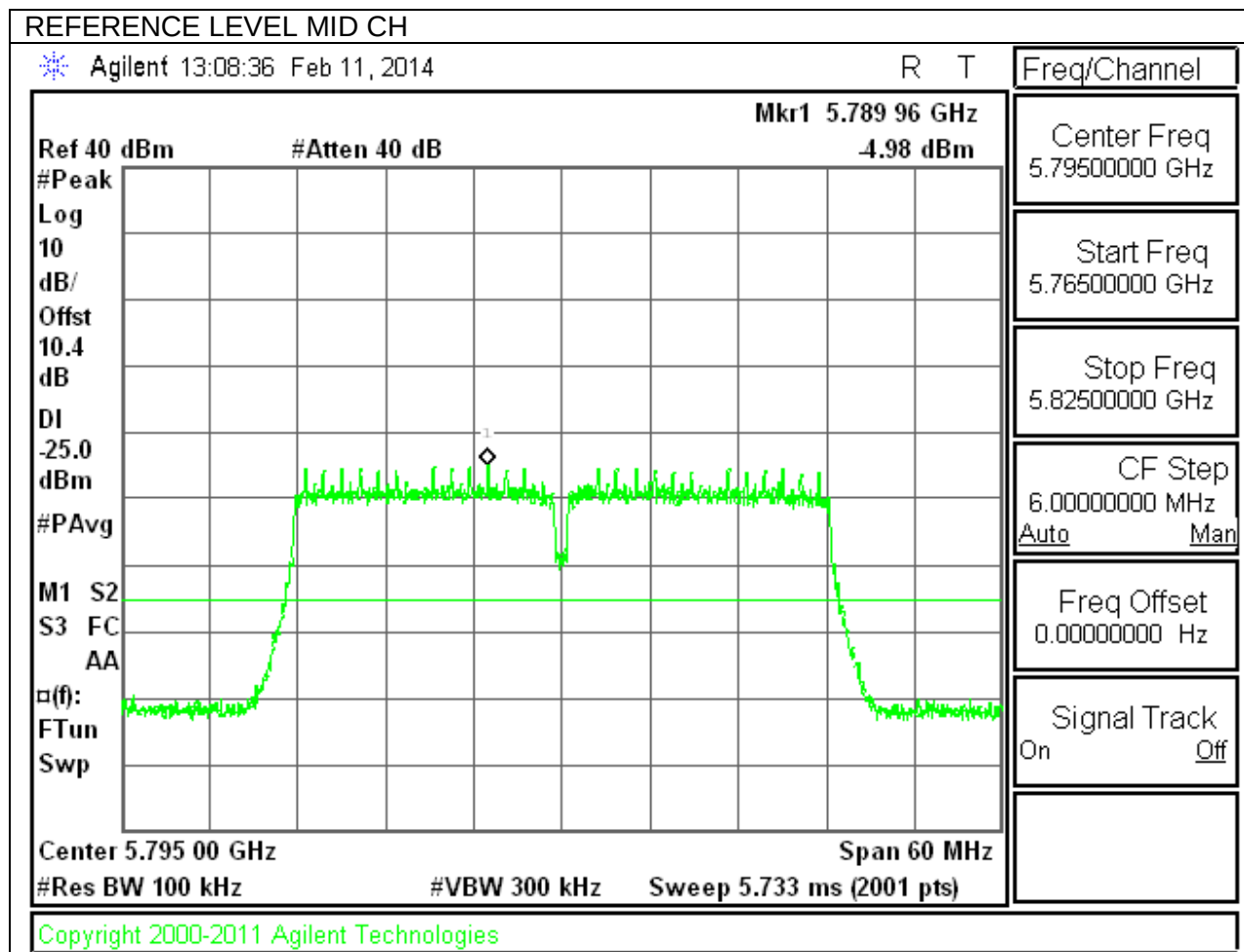


OUT OF BAND HIGH CH

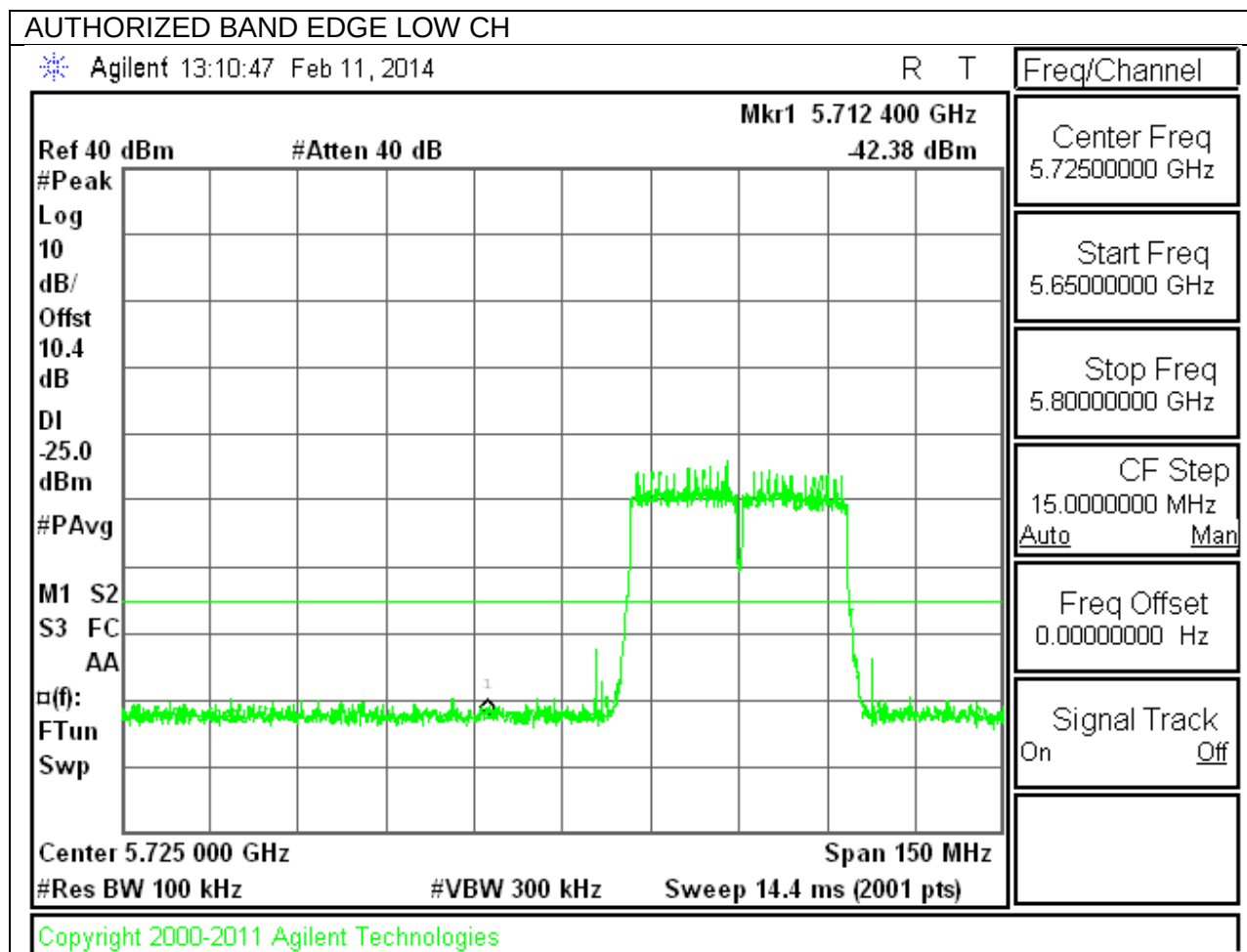


10.5.12. 802.11n HT40 MODE IN THE 5.8 GHz BAND CHAIN 1

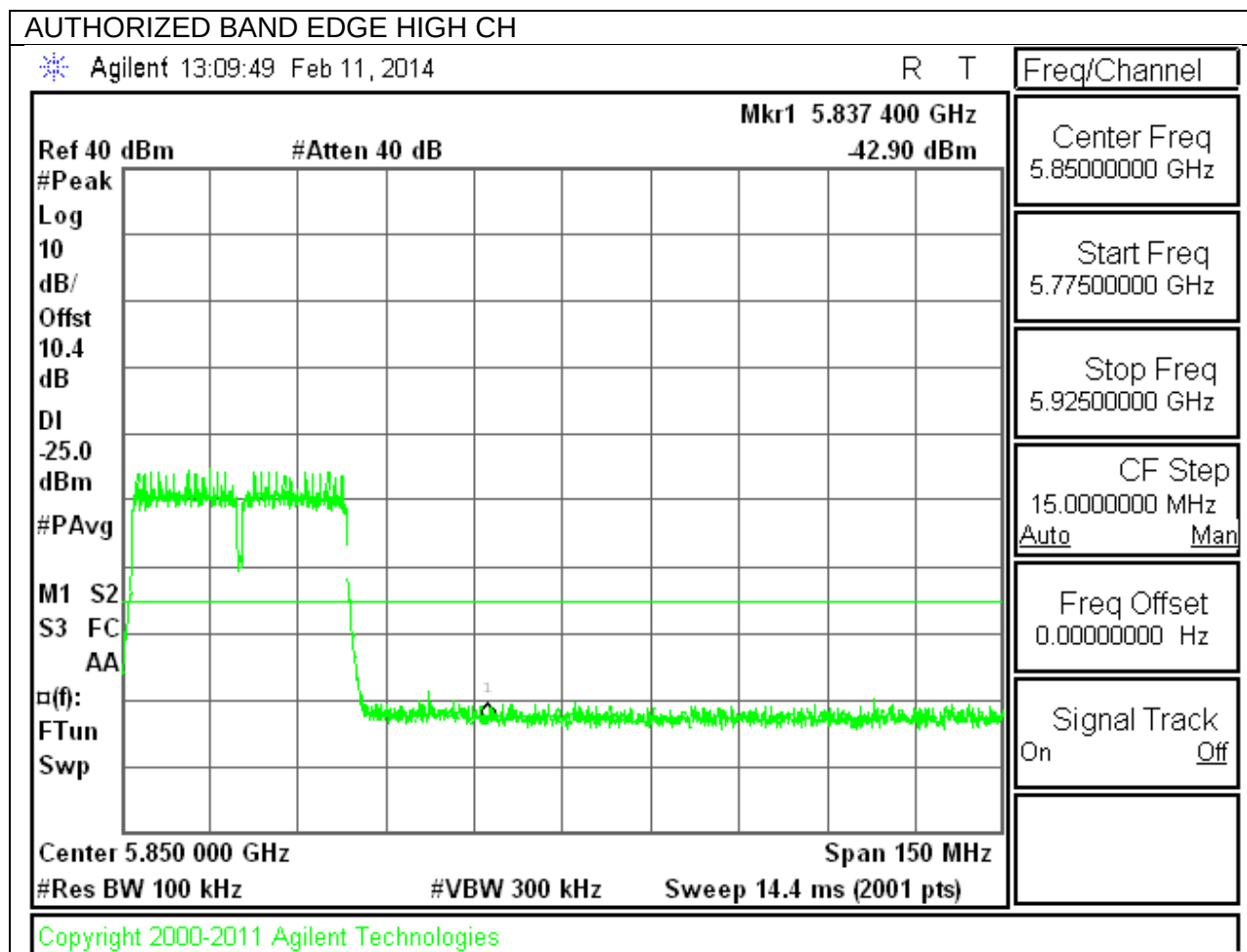
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE

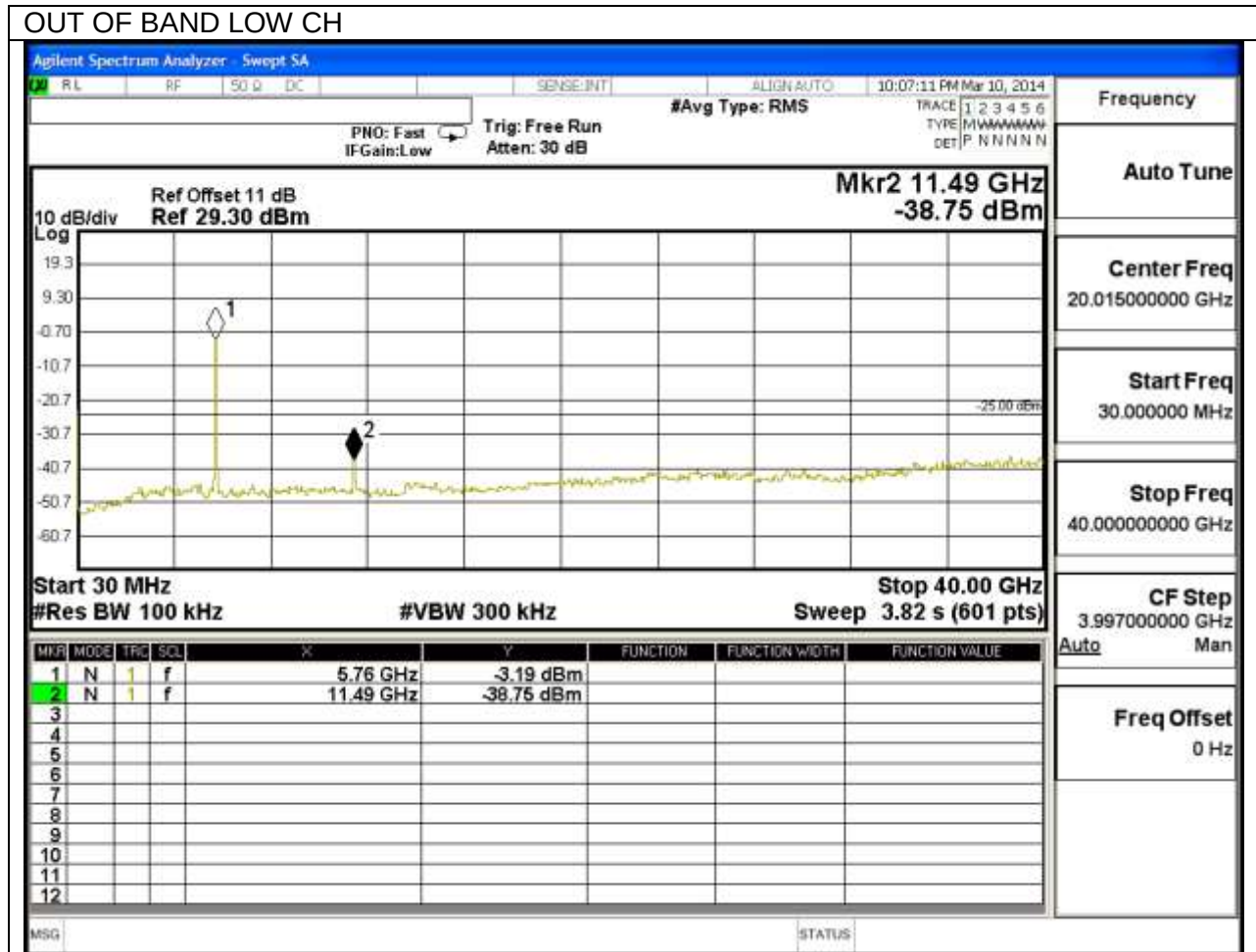


HIGH CHANNEL BANDEDGE

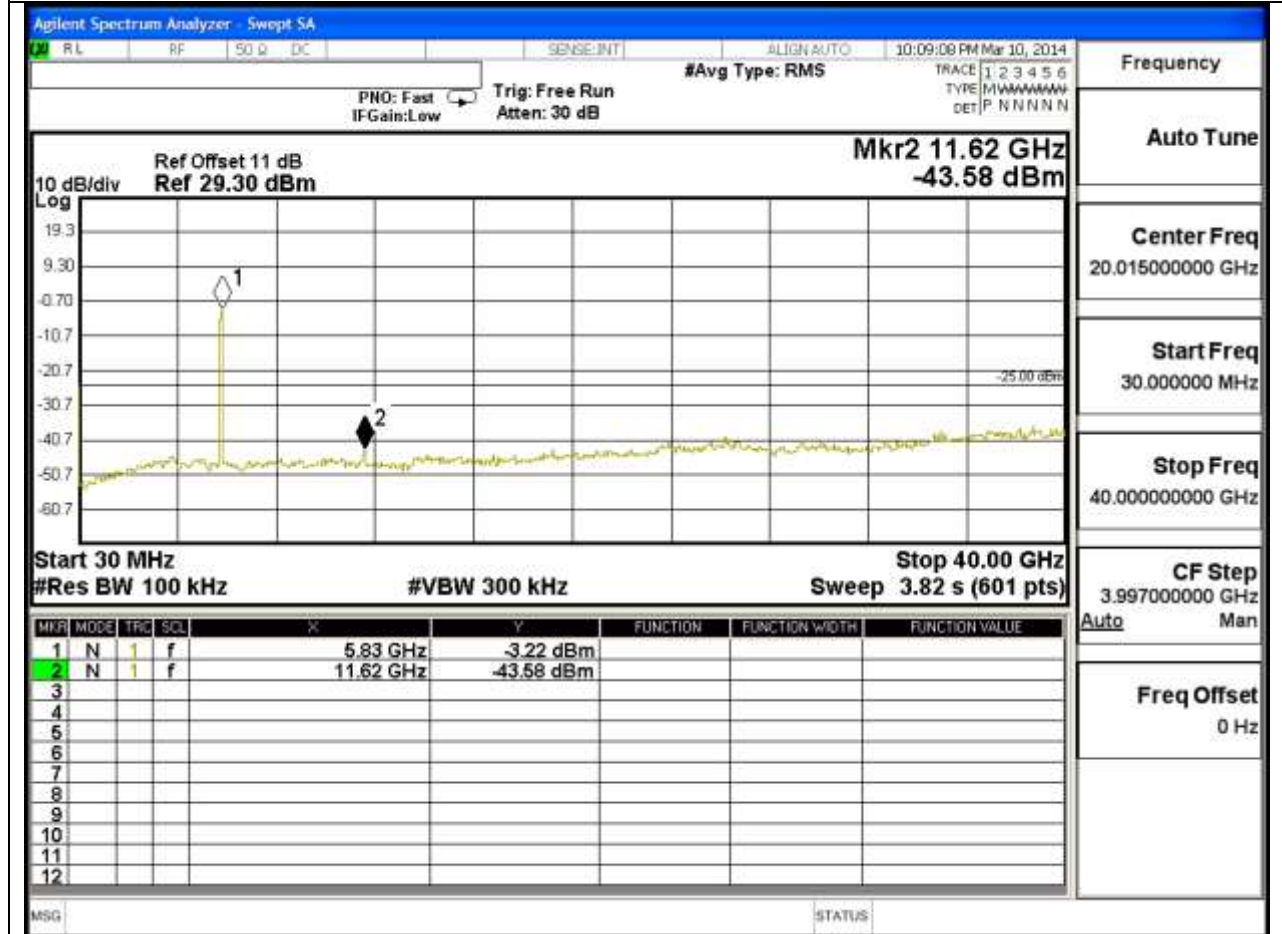


OUT-OF-BAND EMISSIONS

OUT OF BAND LOW CH

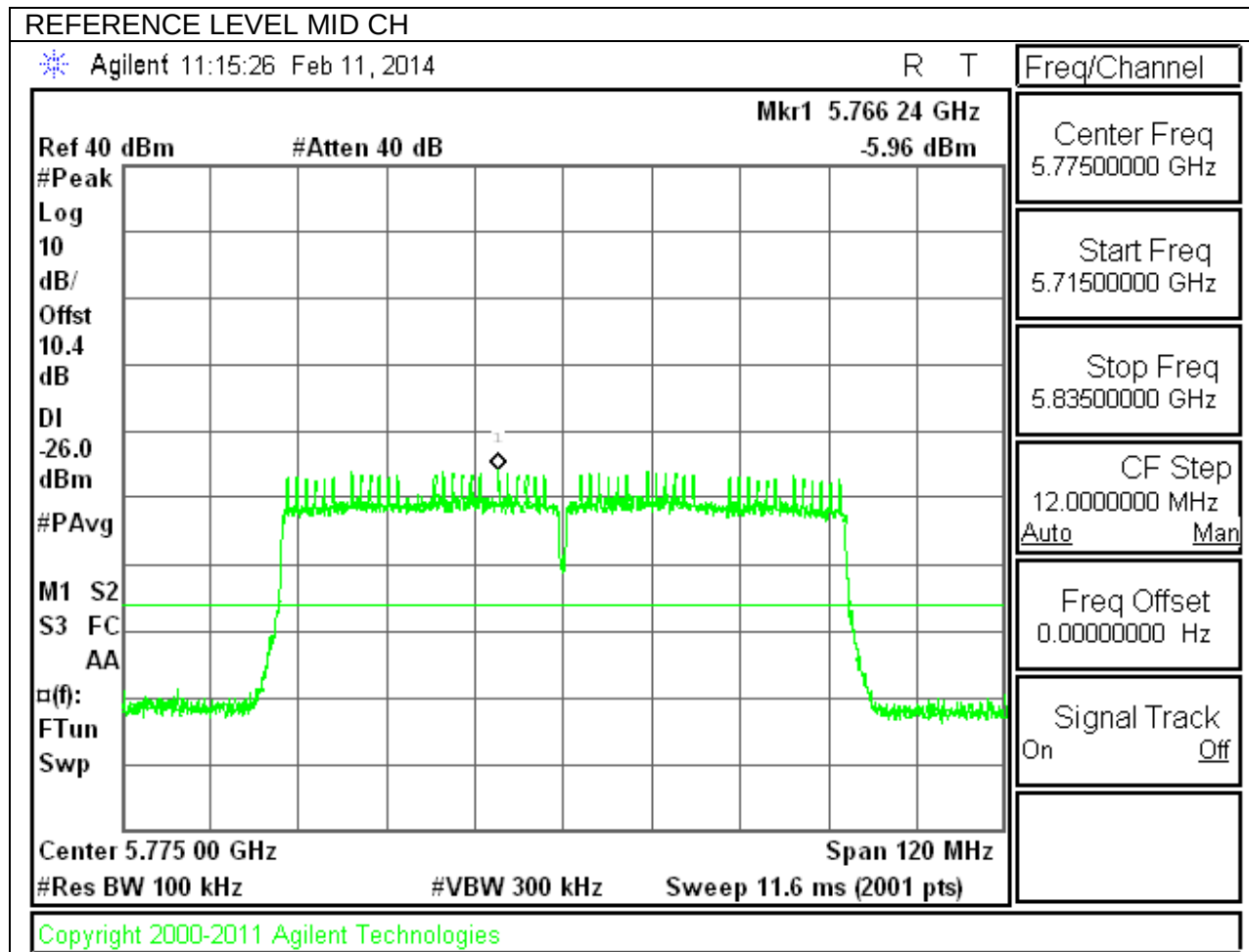


OUT OF BAND HIGH CH

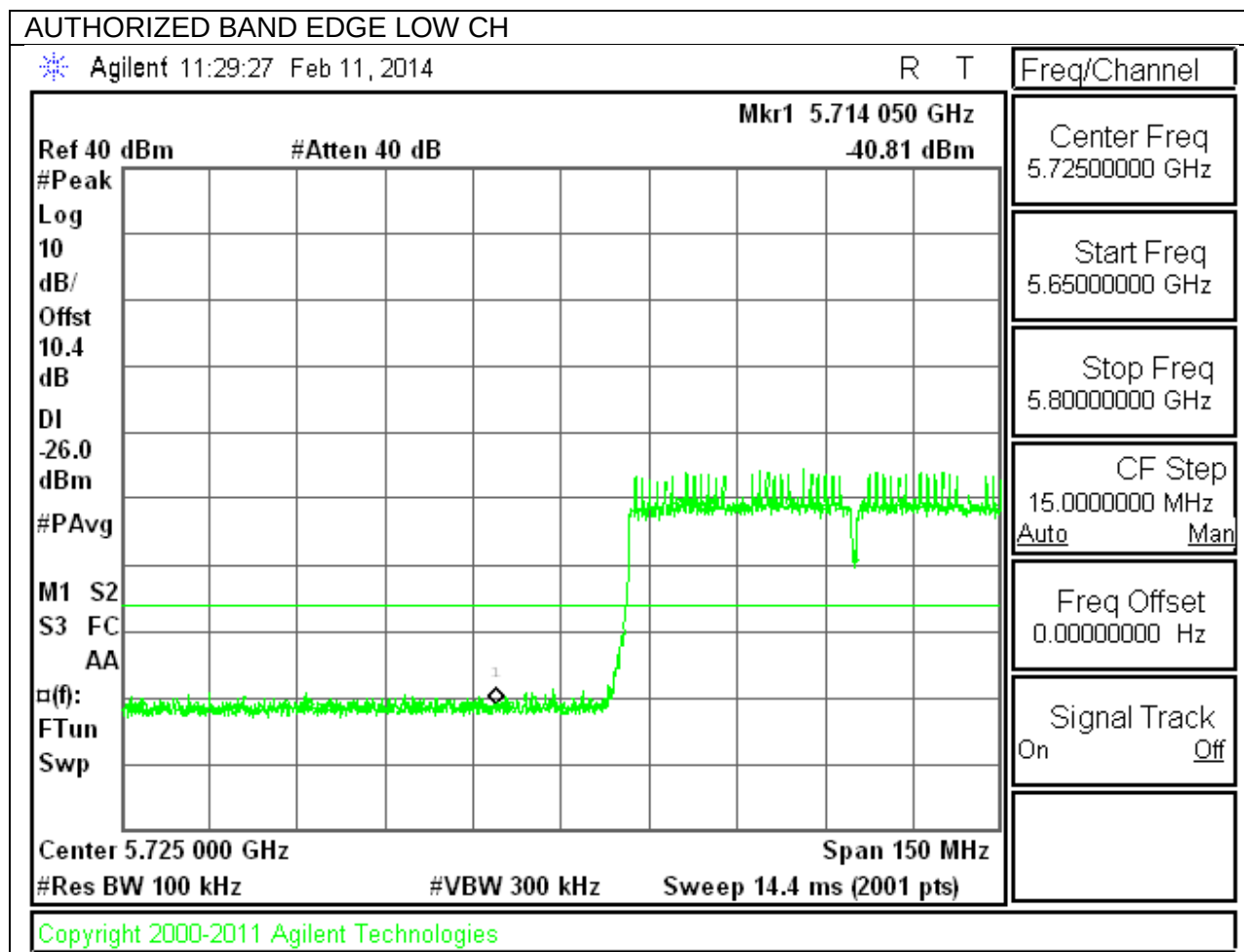


10.5.13. 802.11ac HT80 MODE IN THE 5.8 GHz BAND CHAIN 0

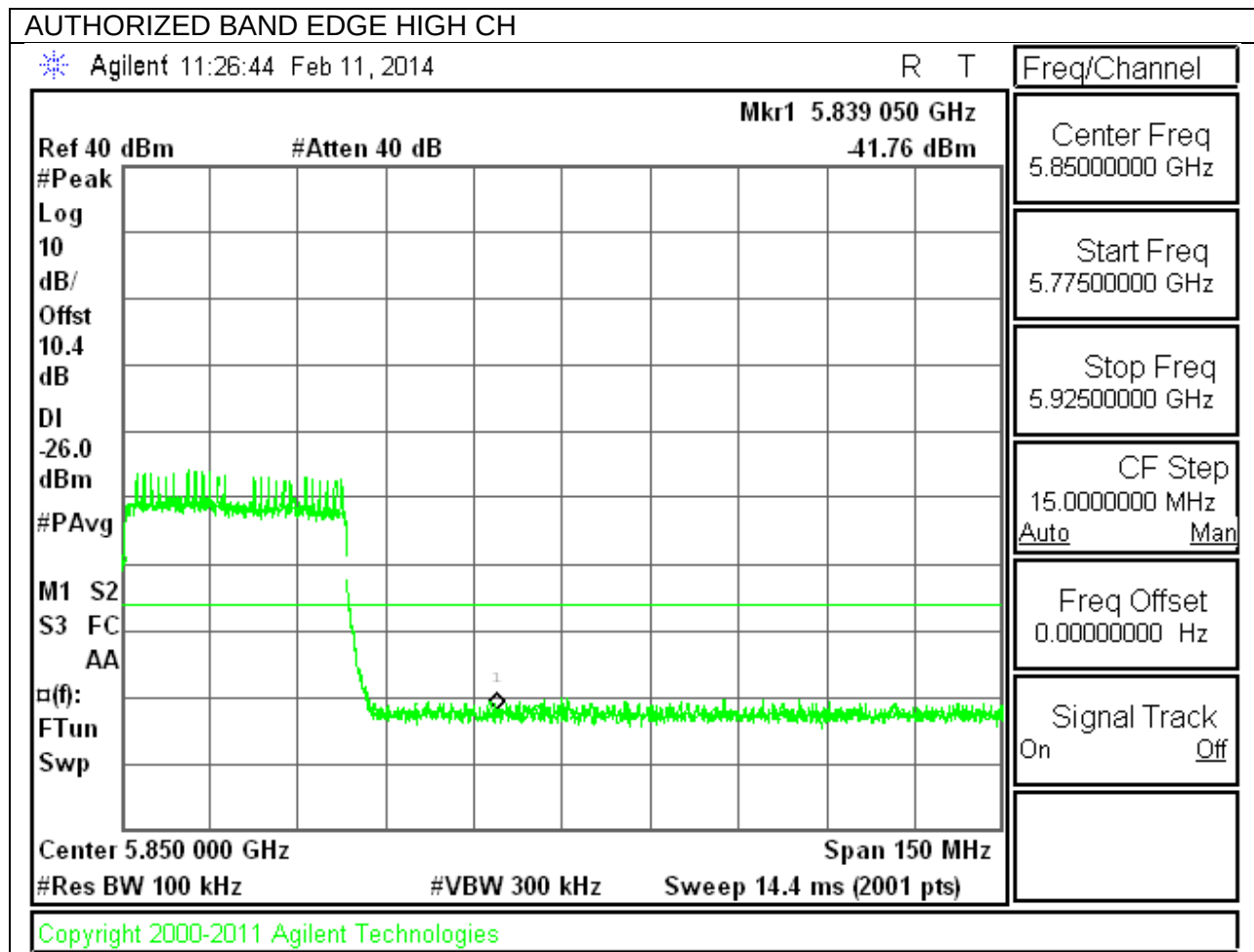
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE

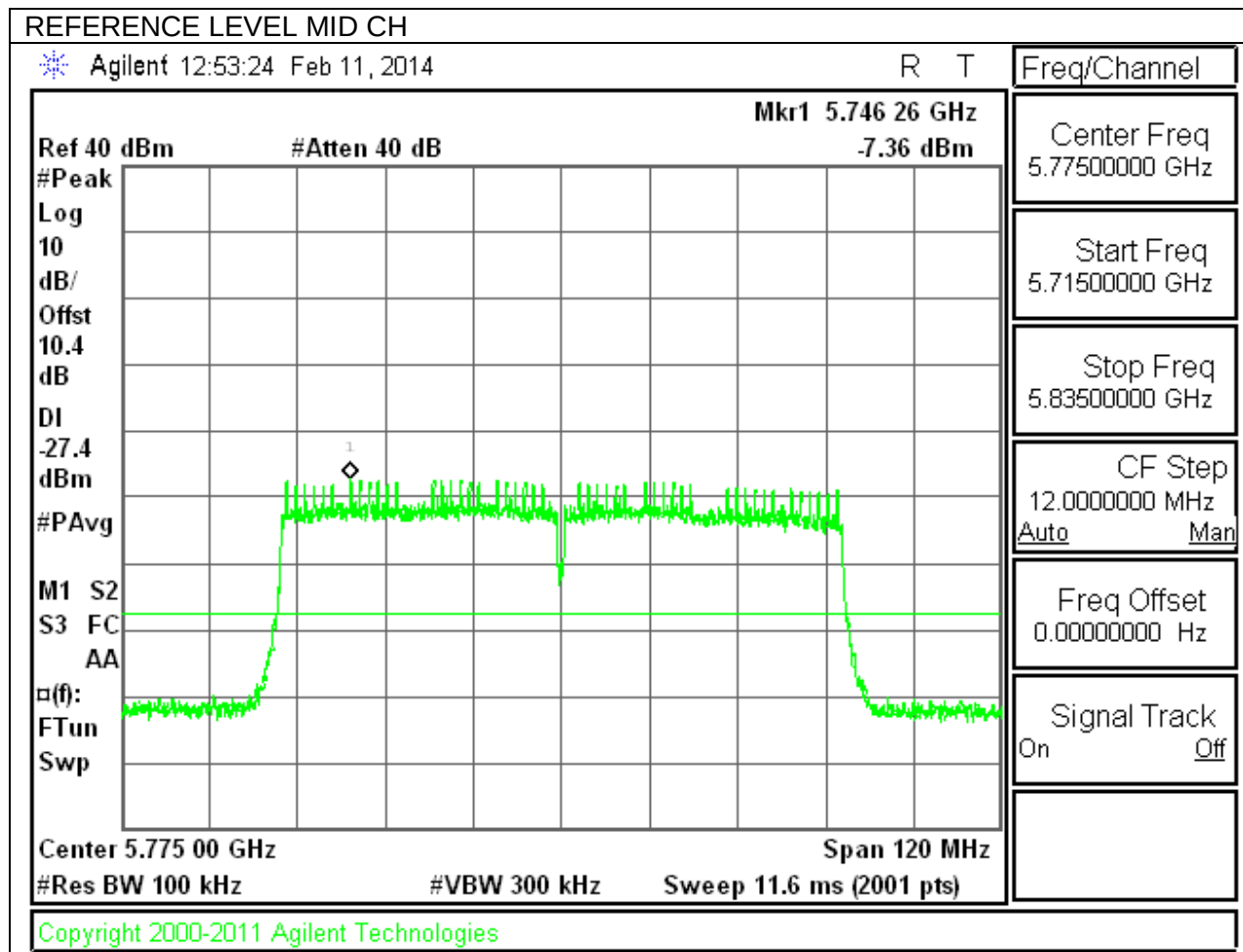


HIGH CHANNEL BANDEDGE

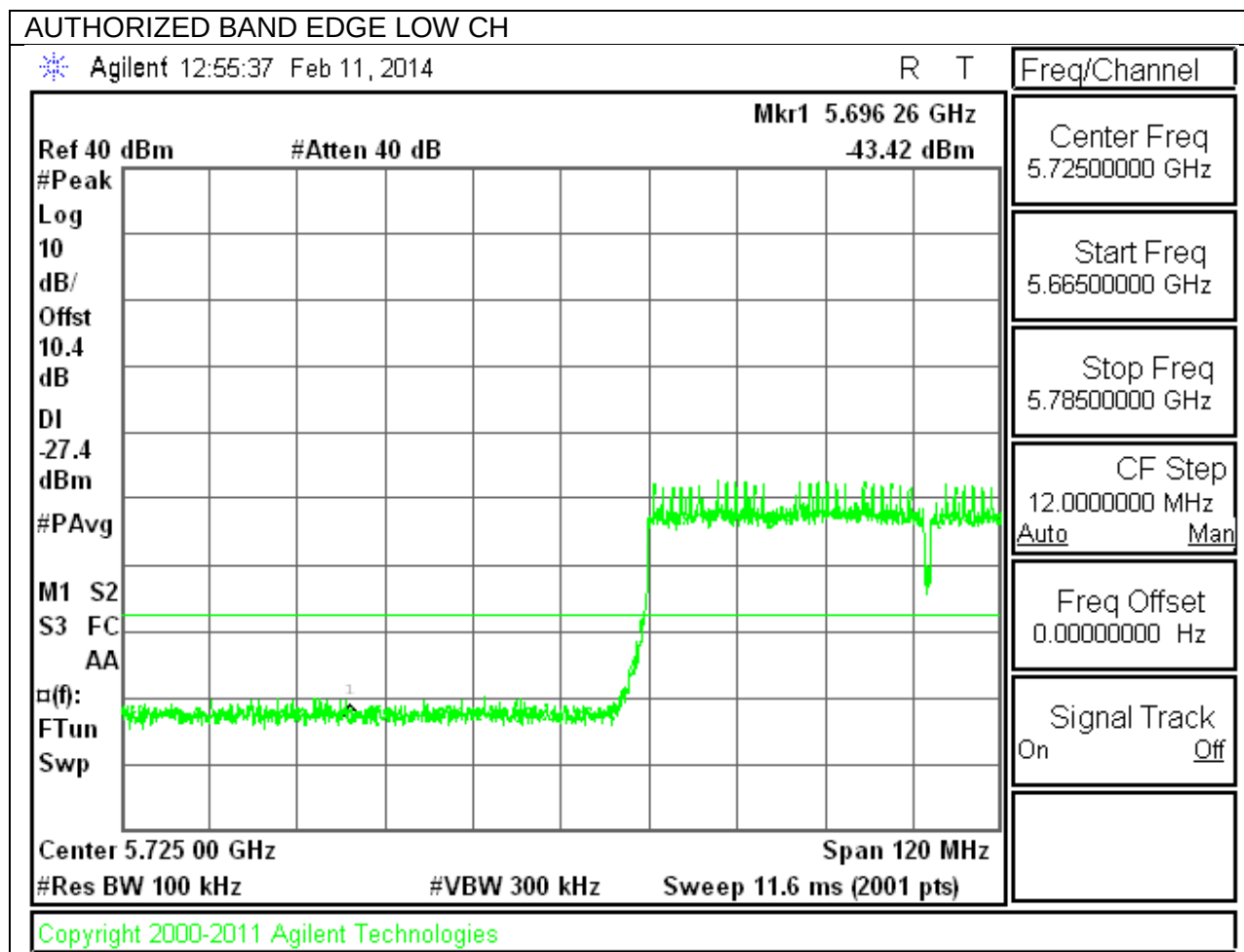


10.5.14. 802.11ac HT80 MODE IN THE 5.8 GHz BAND CHAIN 1

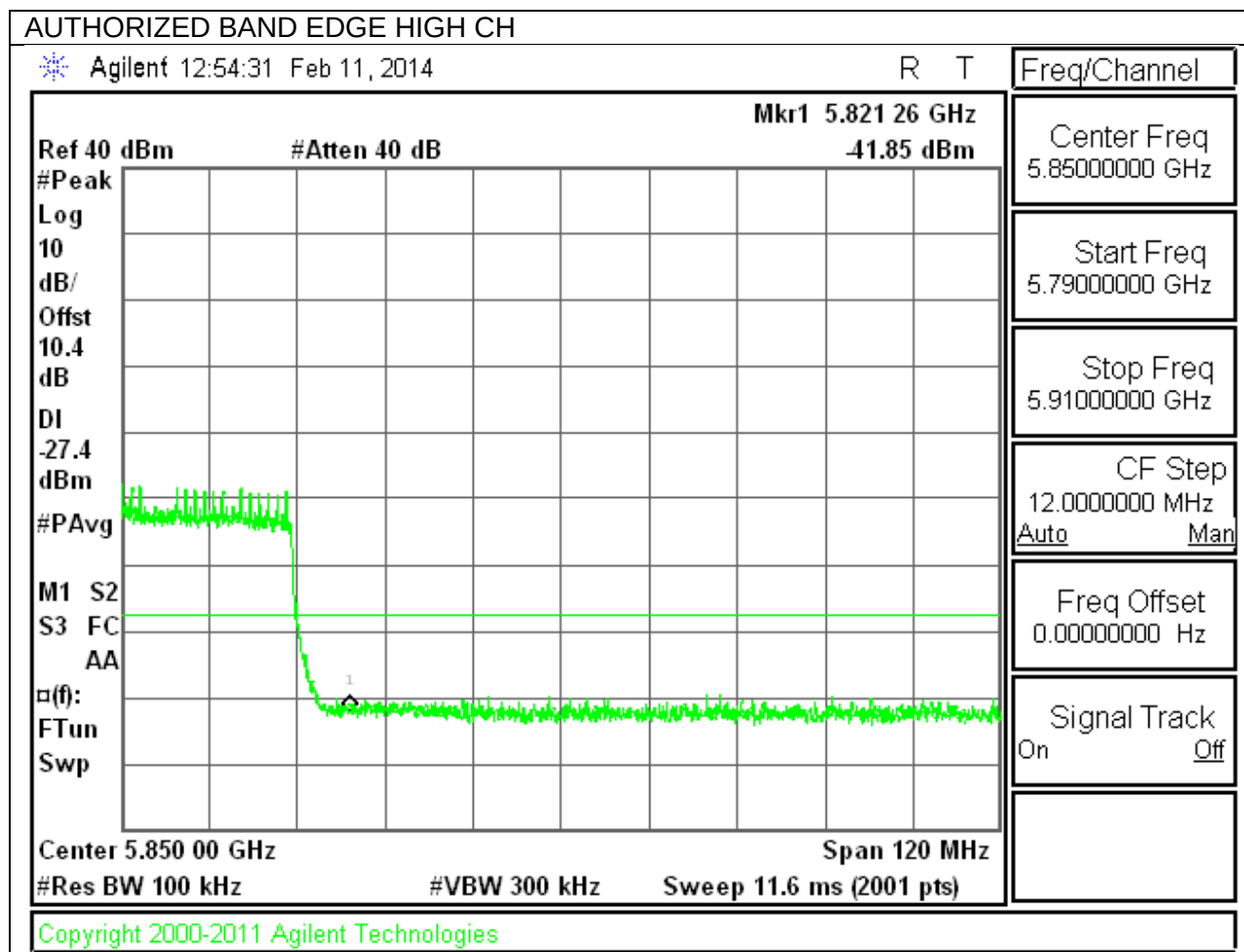
IN-BAND REFERENCE LEVEL



LOW CHANNEL BANDEDGE



HIGH CHANNEL BANDEDGE



OUT-OF-BAND EMISSIONS

OUT OF BAND



11. RADIATED TEST RESULTS

11.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters.

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

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. Duty cycle factor= $10\log(1/x)$

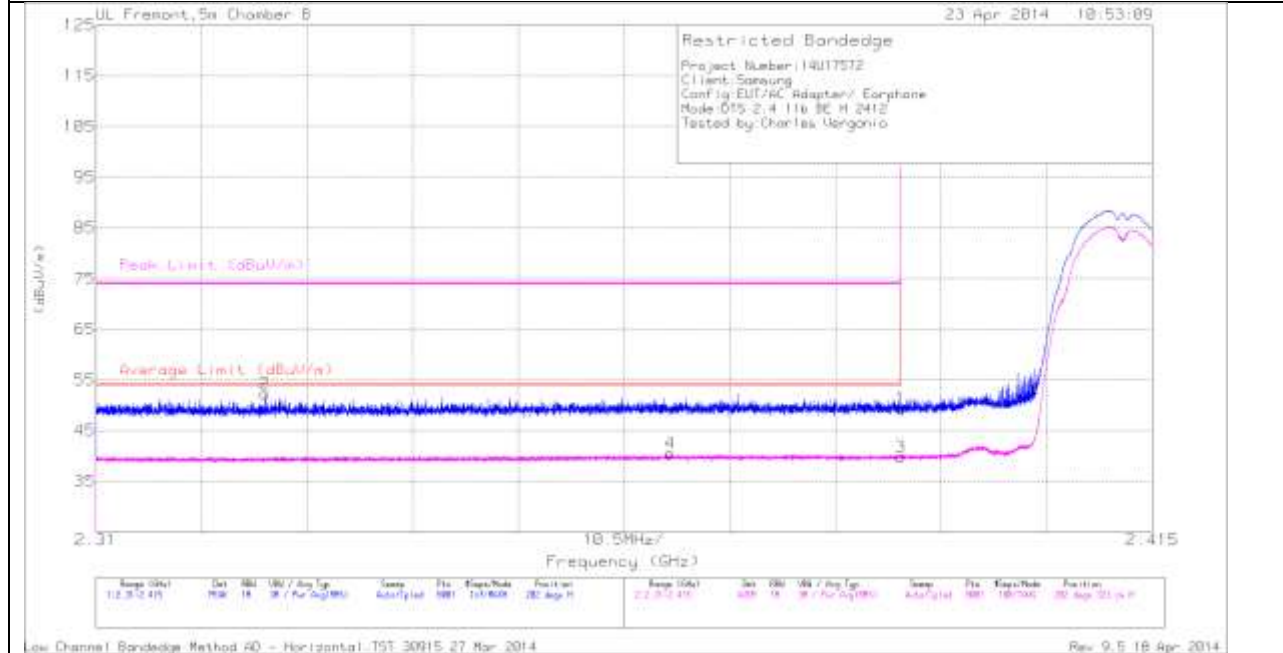
The spectrum from 1GHz to 40 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band.

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

11.2. TRANSMITTER ABOVE 1 GHz

11.2.1. TX ABOVE 1 GHz 802.11b CDD MODE IN THE 2.4 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



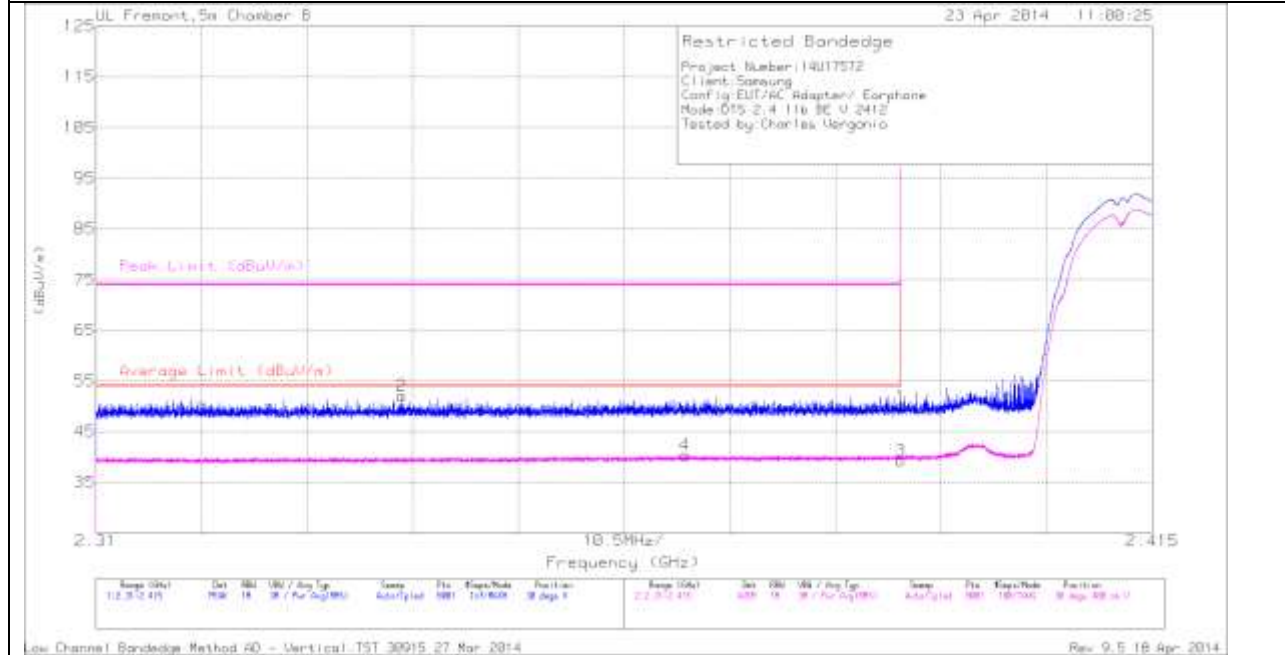
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Ftr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.27	PK	32.1	-22.9	49.47	-	-	74	-24.53	202	323	H
2	* 2.327	43.62	PK	31.8	-23.1	52.32	-	-	74	-21.68	202	323	H
3	* 2.39	30.56	RMS	32.1	-22.9	39.76	54	-14.24	-	-	202	323	H
4	* 2.367	31.24	RMS	32	-22.8	40.44	54	-13.56	-	-	202	323	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT

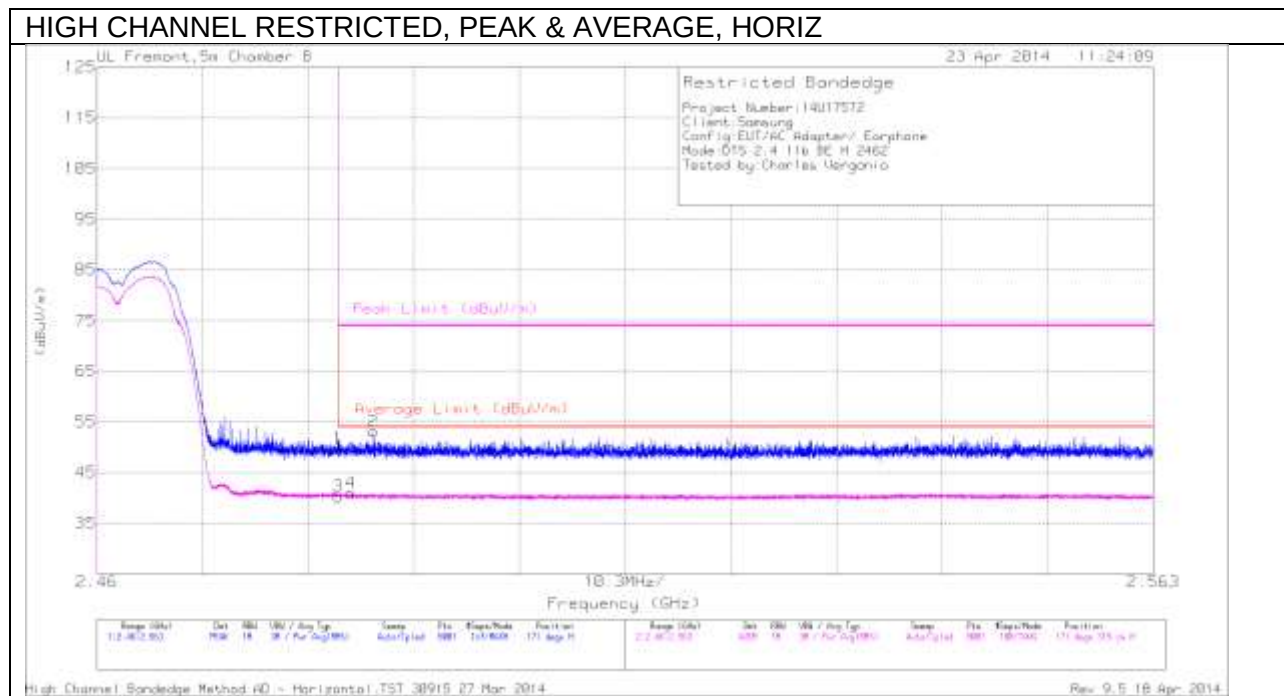


Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Filt/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.7	PK	32.1	-22.9	49.9	-	-	74	-24.1	30	400	V
2	* 2.34	43.3	PK	31.8	-23.1	52	-	-	74	-22	30	400	V
3	* 2.39	30.03	RMS	32.1	-22.9	39.23	54	-14.77	-	-	30	400	V
4	* 2.369	31.12	RMS	32	-22.8	40.32	54	-13.68	-	-	30	400	V

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

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

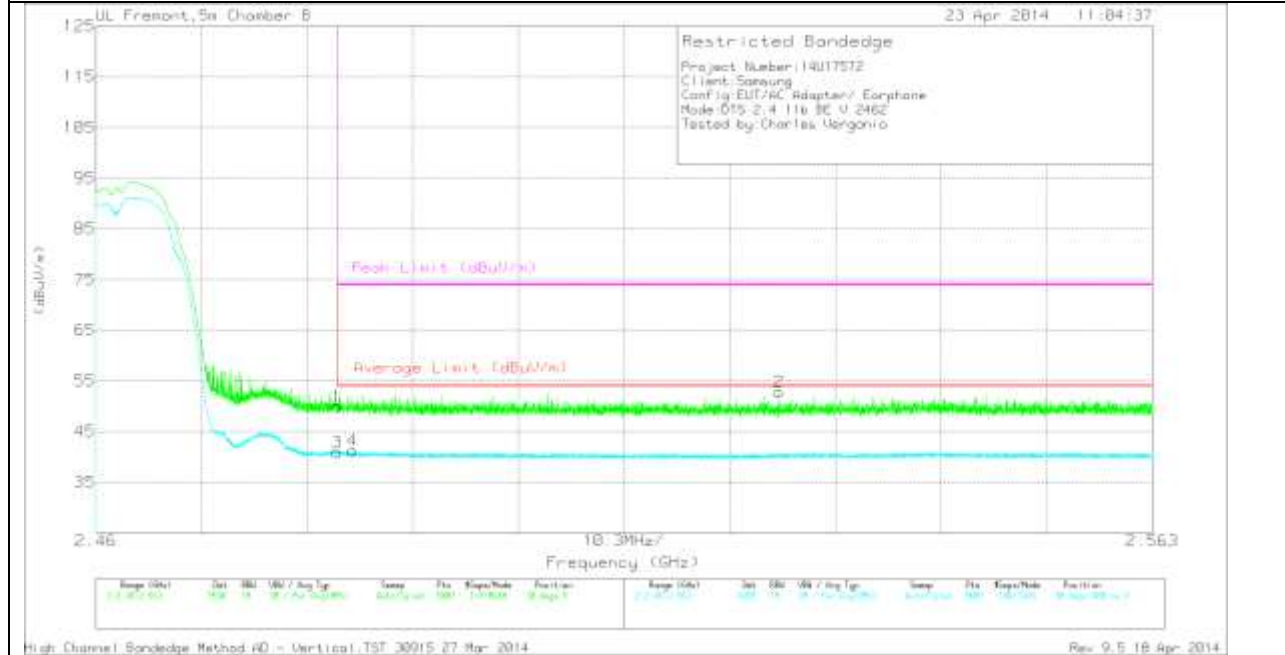
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.93	PK	32.4	-22.6	49.73	-	-	74	-24.27	171	319	H
2	* 2.487	43.31	PK	32.4	-22.6	53.11	-	-	74	-20.89	171	319	H
3	* 2.484	30.51	RMS	32.4	-22.6	40.31	54	-13.69	-	-	171	319	H
4	* 2.485	31.19	RMS	32.4	-22.6	40.99	54	-13.01	-	-	171	319	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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	40.14	PK	32.4	-22.6	49.94	-	-	74	-24.06	30	400	V
3	* 2.484	31.03	RMS	32.4	-22.6	40.83	54	-13.17	-	-	30	400	V
4	* 2.485	31.47	RMS	32.4	-22.6	41.27	54	-12.73	-	-	30	400	V
2	2.527	42.97	PK	32.5	-22.7	52.77	-	-	74	-21.23	30	400	V

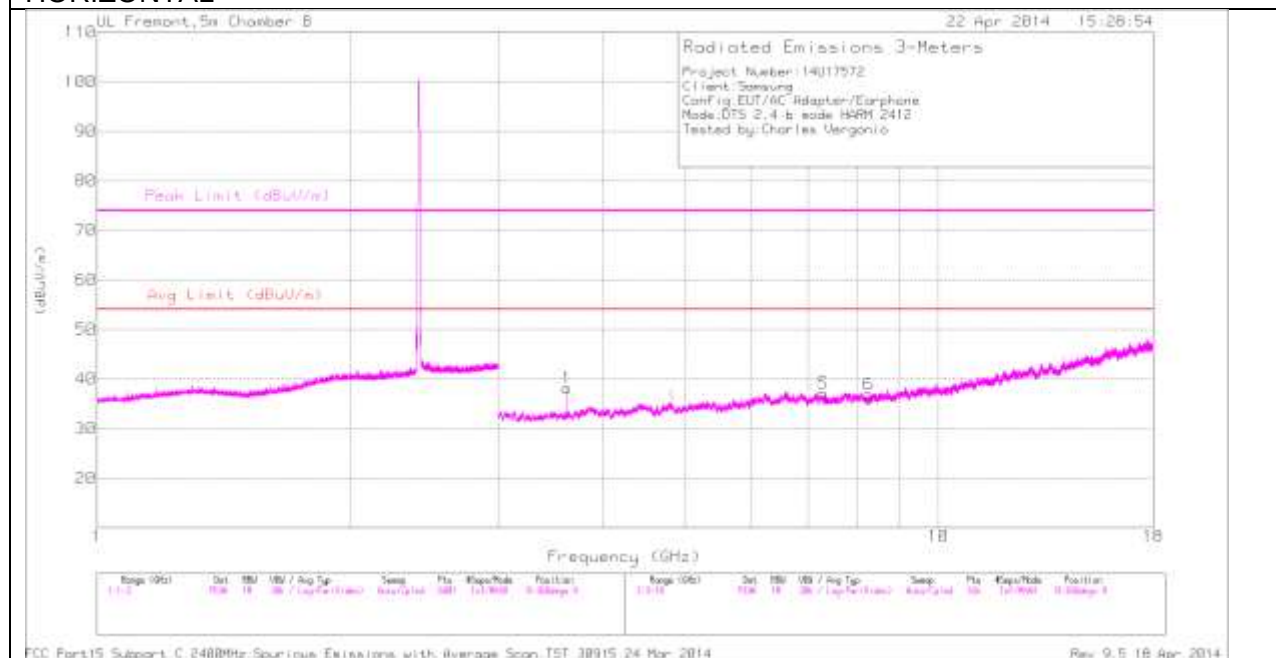
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

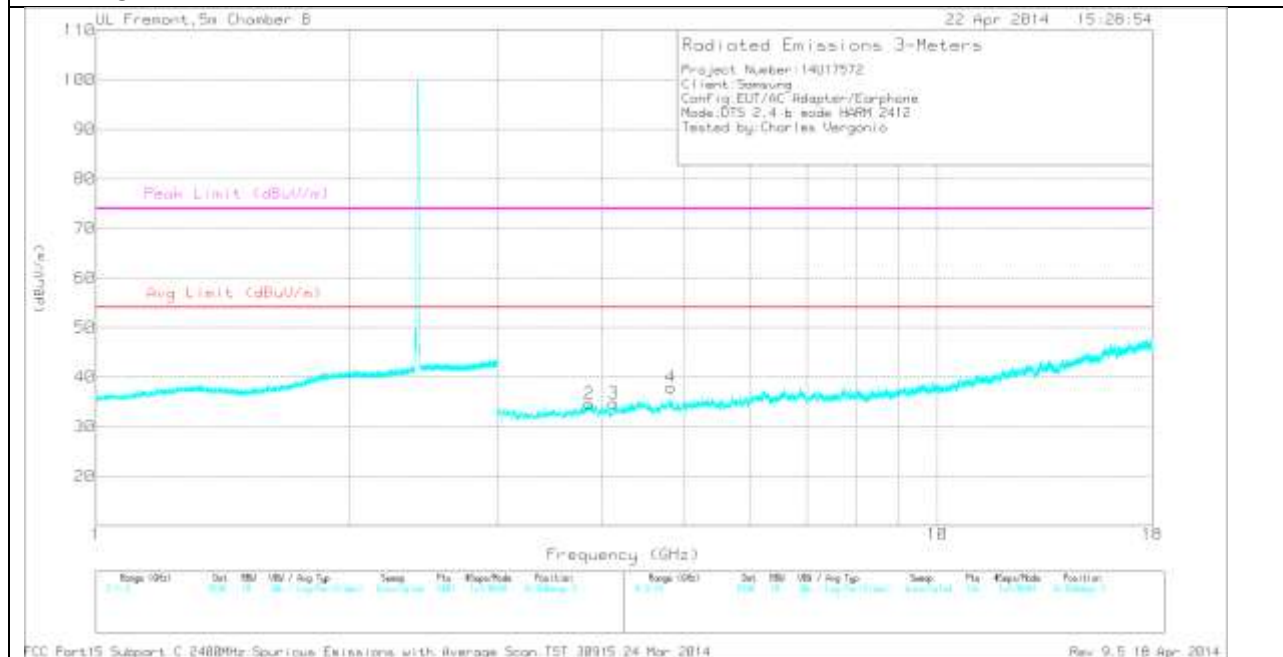
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL
VERTICAL



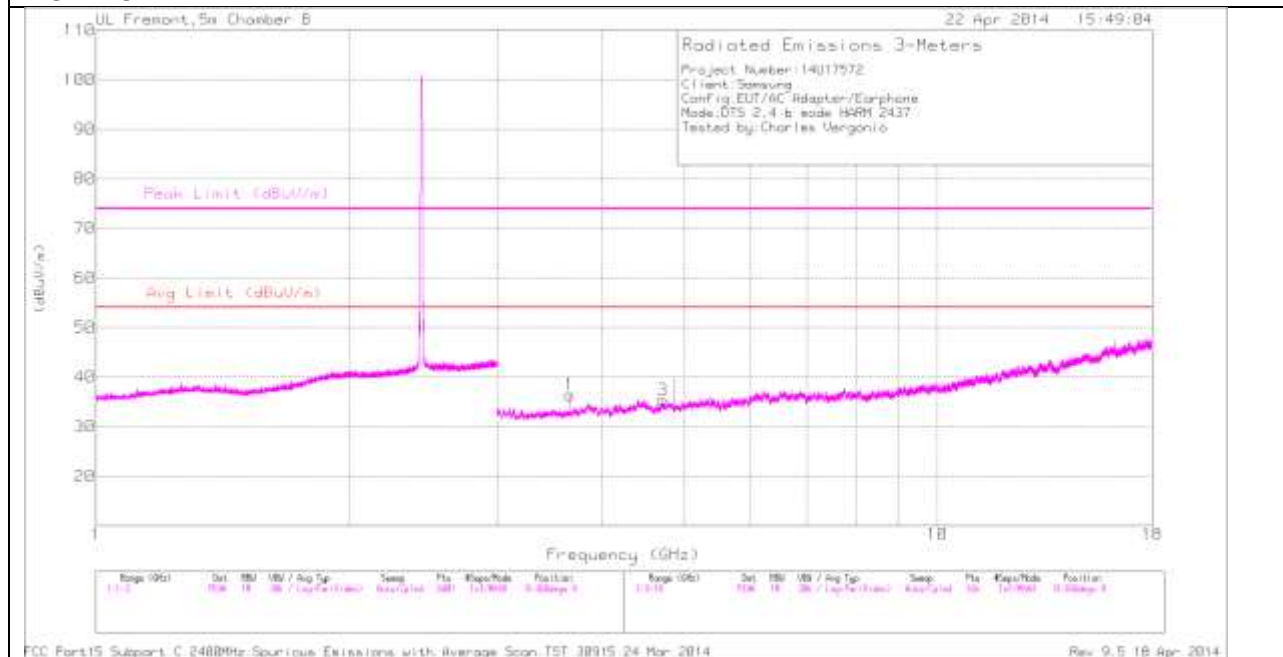
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.618	41.35	PK2	33.2	-31.2	43.35	54	-10.65	74	-30.65	360	100	H
* 3.618	30.77	MAv1	33.2	-31.2	32.77	54	-21.23	-	-	360	100	H
* 7.303	39.2	PK2	35.6	-27.8	47	54	-7.0	74	-27	360	100	H
* 8.253	36.61	PK2	35.7	-26.5	45.81	54	-8.19	74	-28.19	360	100	H
* 3.854	40.54	PK2	33.7	-30.2	44.04	54	-9.96	74	-29.96	360	100	V
* 4.127	40.3	PK2	33.6	-30.1	43.8	54	-10.2	74	-30.2	360	100	V
* 4.825	40.42	PK2	34.2	-29.4	45.22	54	-8.78	74	-28.78	360	100	V
* 4.824	29.4	MAv1	34.2	-29.3	34.3	54	-19.7	-	-	360	100	V

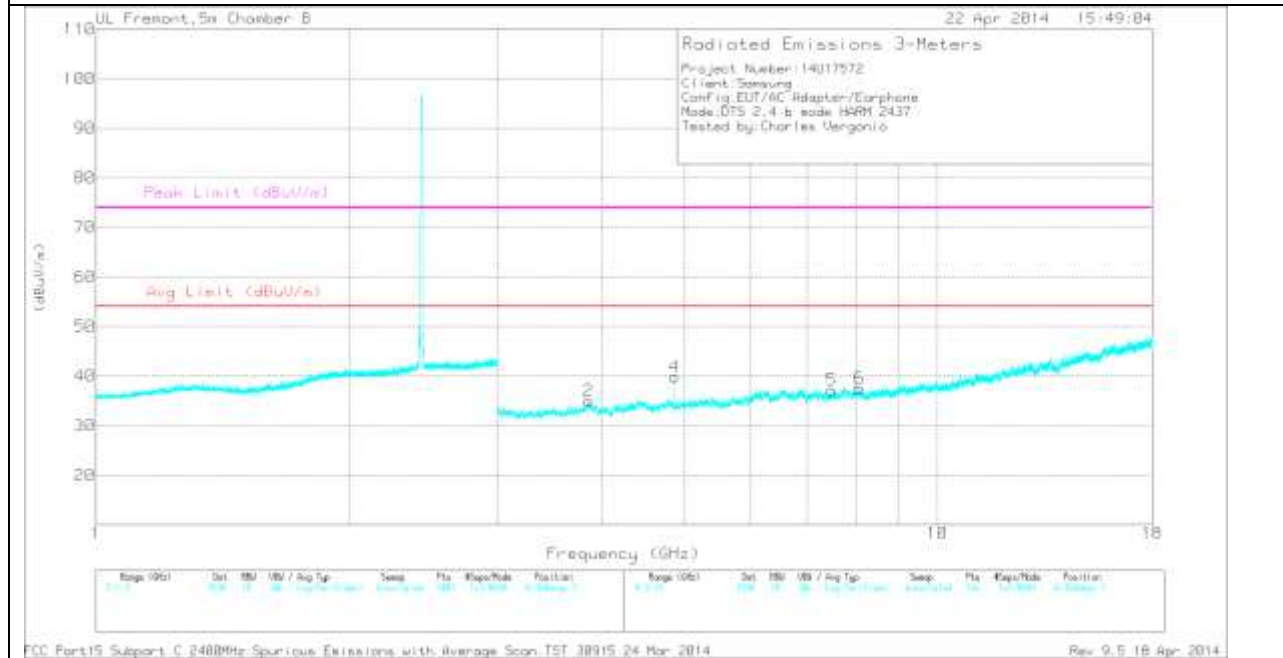
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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



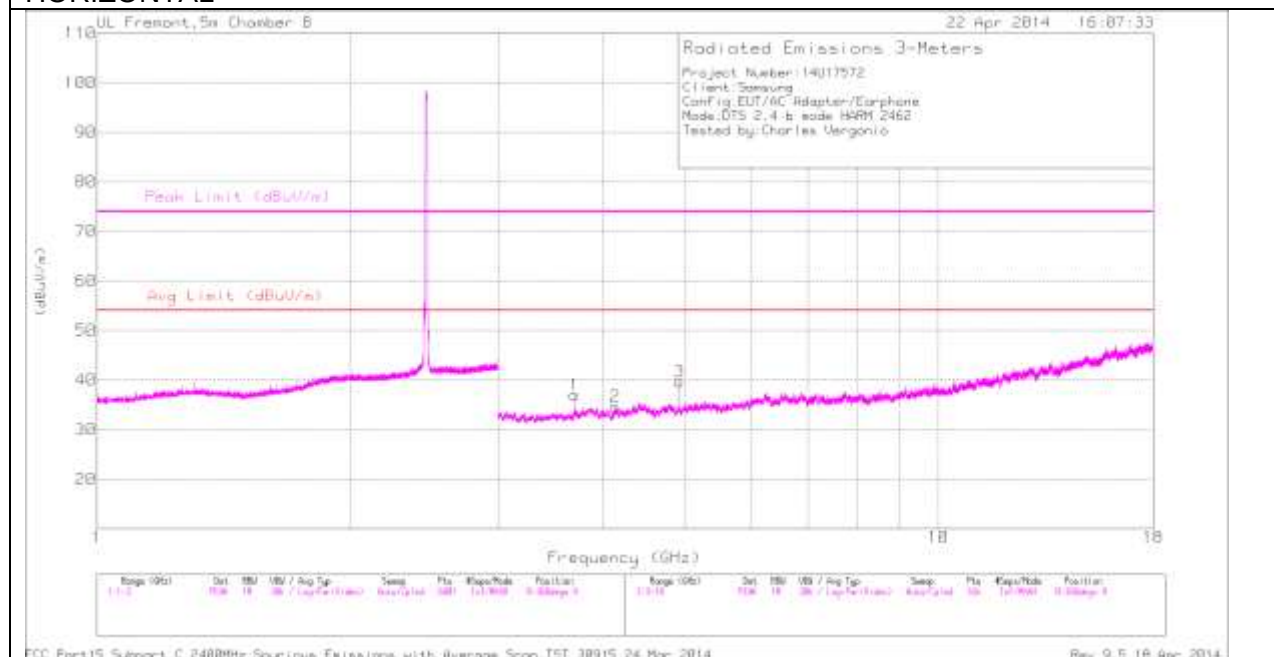
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.655	41.11	PK2	33.2	-31	43.31	54	-10.69	74	-30.69	359	100	H
* 3.656	30.43	MAV1	33.2	-31	32.63	54	-21.37	-	-	359	100	H
* 4.712	40.06	PK2	34.2	-29.5	44.76	54	-9.24	74	-29.24	359	100	H
* 3.847	40.78	PK2	33.7	-30.2	44.28	54	-9.72	74	-29.72	359	100	V
* 7.484	37.46	PK2	35.6	-26.5	46.56	54	-7.44	74	-27.44	359	100	V
* 8.068	37.52	PK2	35.7	-26.2	47.02	54	-6.98	74	-26.98	359	100	V
* 4.873	40.69	PK2	34.2	-30.6	44.29	54	-9.71	74	-29.71	359	100	V
* 4.874	30.52	MAV1	34.2	-30.6	34.12	54	-19.88	-	-	359	100	V

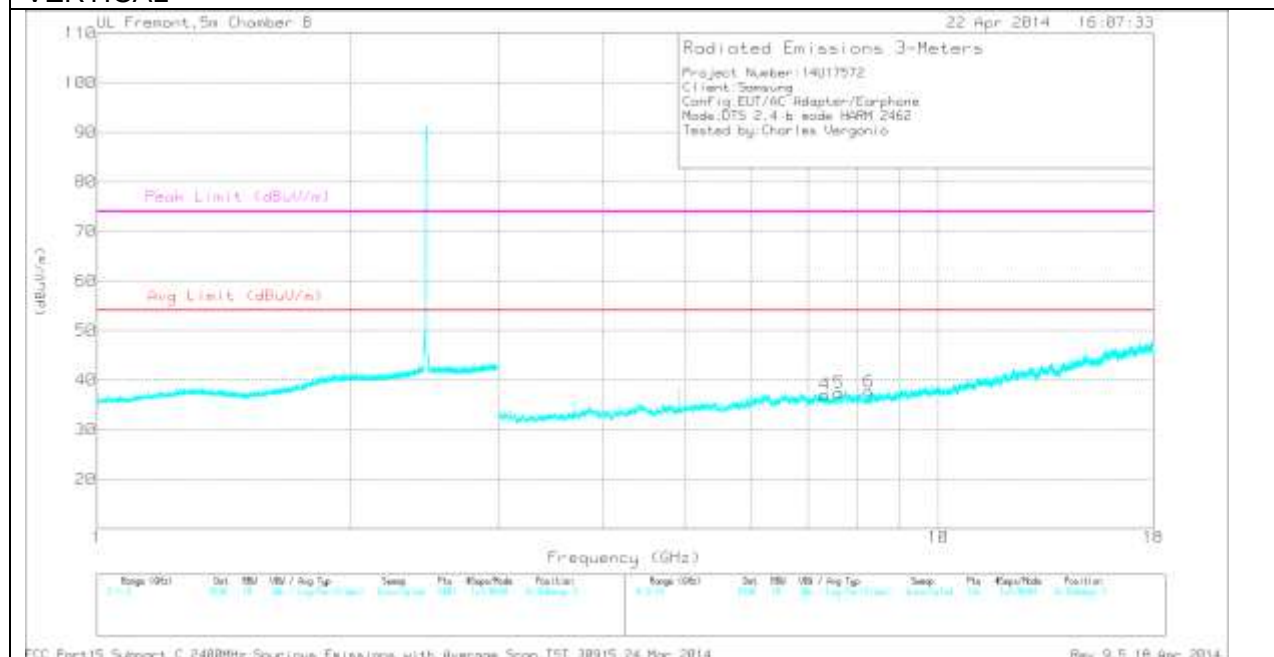
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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.

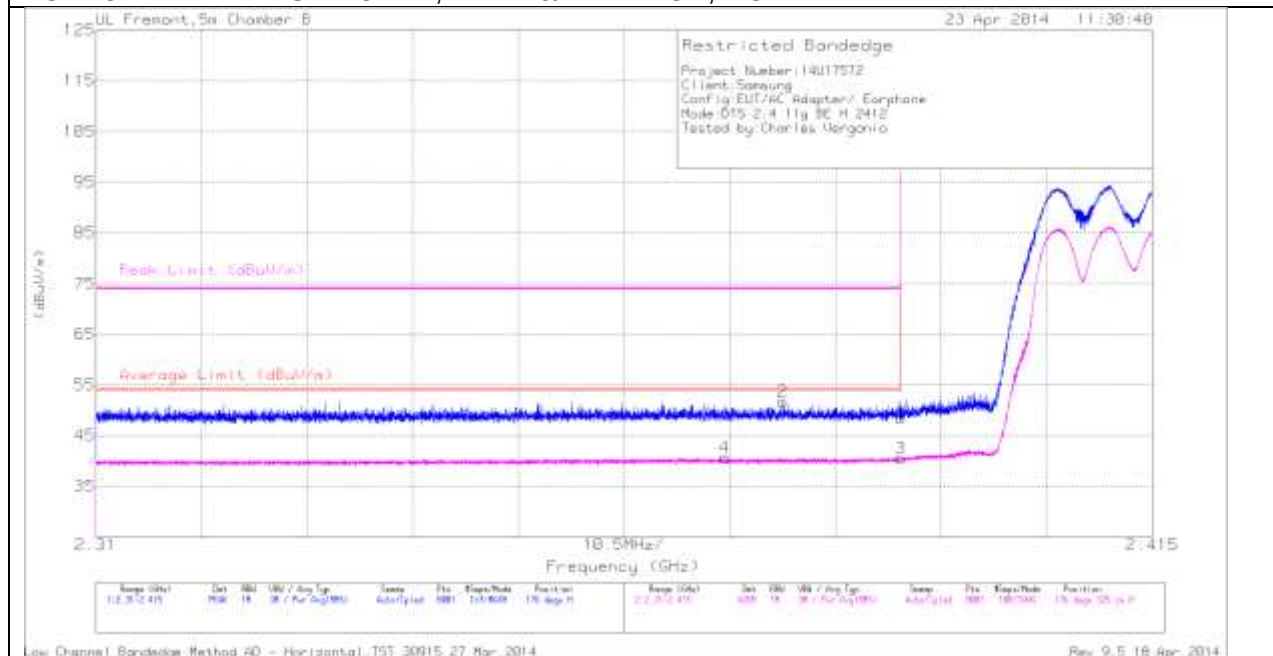
HIGH CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.132	40.32	PK2	33.6	-29.9	44.02	54	-9.98	74	-29.98	360	100	H
* 3.695	40.97	PK2	33.3	-31.2	43.07	54	-10.93	74	-30.93	360	100	H
* 3.693	30.38	MAV1	33.3	-31.2	32.48	54	-21.52	-	-	360	100	H
* 4.923	41.21	PK2	34.2	-30.7	44.71	54	-9.29	74	-29.29	360	100	H
* 4.924	31.01	MAV1	34.2	-30.7	34.51	54	-19.49	-	-	360	100	H
* 7.328	39.49	PK2	35.6	-27.9	47.19	54	-6.81	74	-26.81	360	100	V
* 7.619	38.76	PK2	35.7	-27.7	46.76	54	-7.24	74	-27.24	360	100	V
* 8.268	36.69	PK2	35.7	-26.5	45.89	54	-8.11	74	-28.11	360	100	V

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

11.2.2. TX ABOVE 1 GHz 802.11g CDD MODE IN THE 2.4 GHz BAND RESTRICTED BANDEDGE (LOW CHANNEL)

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



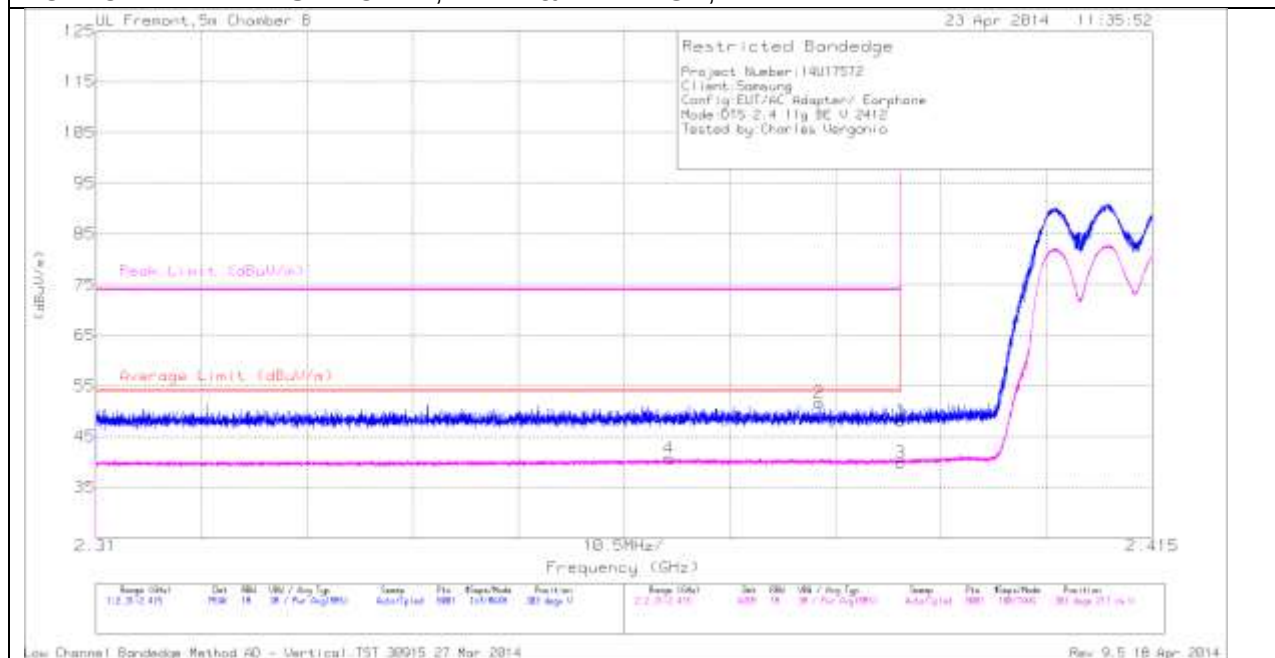
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.21	PK	32.1	-22.9	0	48.41	-	-	74	-25.59	176	325	H
2	* 2.378	42.51	PK	32	-22.9	0	51.61	-	-	74	-22.39	176	325	H
3	* 2.39	30.99	RMS	32.1	-22.9	.3	40.49	54	-13.51	-	-	176	325	H
4	* 2.373	31.18	RMS	32	-22.8	.3	40.68	54	-13.32	-	-	176	325	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	38.92	PK	32.1	-22.9	0	48.12	-	-	74	-25.88	303	217	V
2	* 2.382	42.54	PK	32	-22.9	0	51.64	-	-	74	-22.36	303	217	V
3	* 2.39	30.31	RMS	32.1	-22.9	.3	39.81	54	-14.19	-	-	303	217	V
4	* 2.367	31.18	RMS	32	-22.8	.3	40.68	54	-13.32	-	-	303	217	V

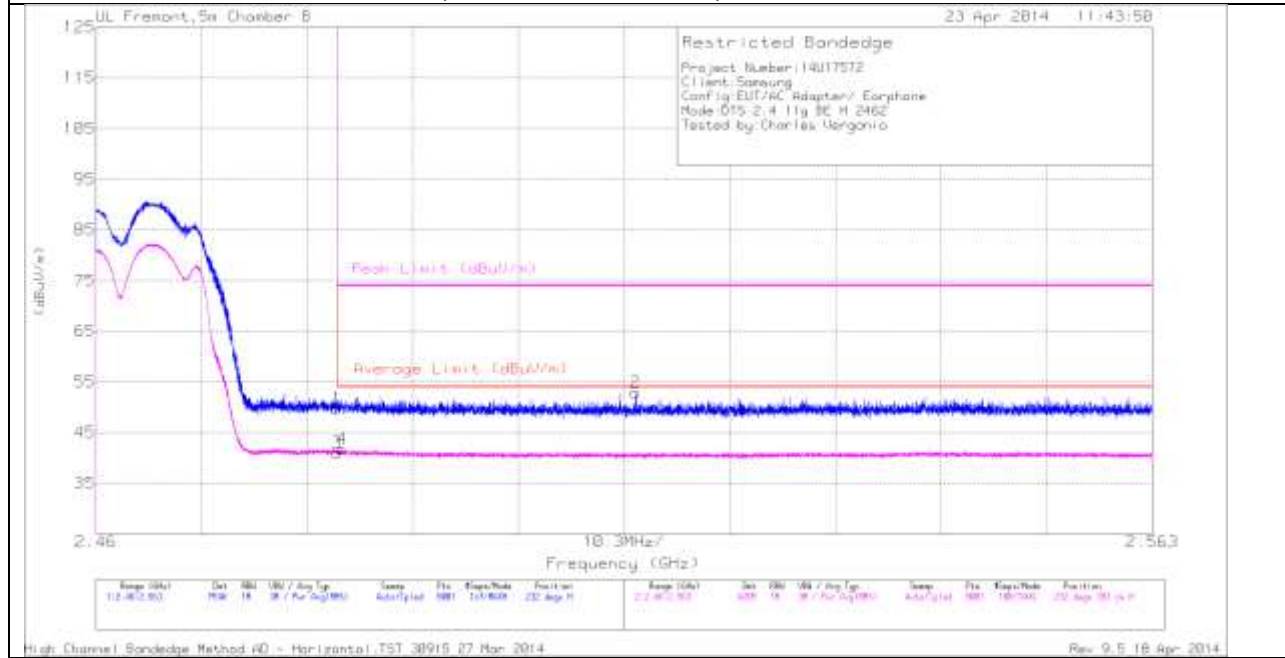
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



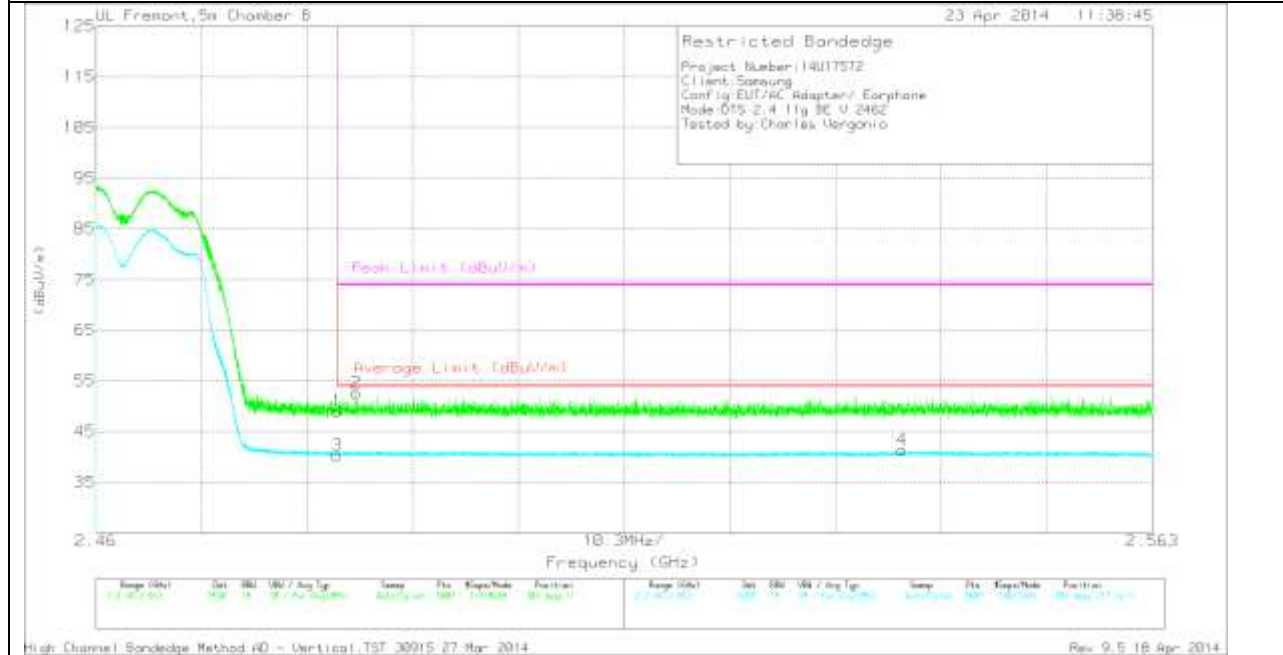
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.05	PK	32.4	-22.6	0	49.85	-	-	74	-24.15	232	383	H
3	* 2.484	30.91	RMS	32.4	-22.6	.3	41.01	54	-12.99	-	-	232	383	H
4	* 2.484	31.58	RMS	32.4	-22.6	.3	41.68	54	-12.32	-	-	232	383	H
2	2.513	43.19	PK	32.5	-22.8	0	52.89	-	-	74	-21.11	232	383	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	39.22	PK	32.4	-22.6	0	49.02	-	-	74	-24.98	303	217	V
2	* 2.485	42.8	PK	32.4	-22.6	0	52.6	-	-	74	-21.4	303	217	V
3	* 2.484	30.21	RMS	32.4	-22.6	.3	40.31	54	-13.69	-	-	303	217	V
4	2.539	31.12	RMS	32.5	-22.6	.3	41.32	54	-12.68	-	-	303	217	V

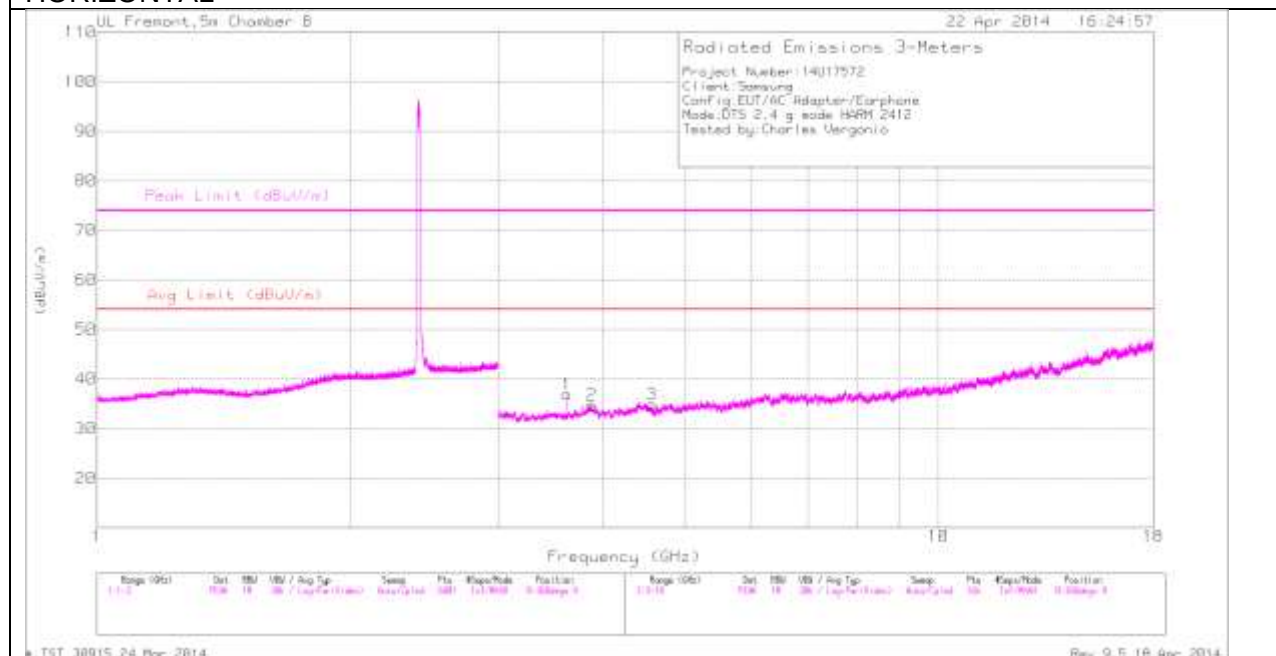
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

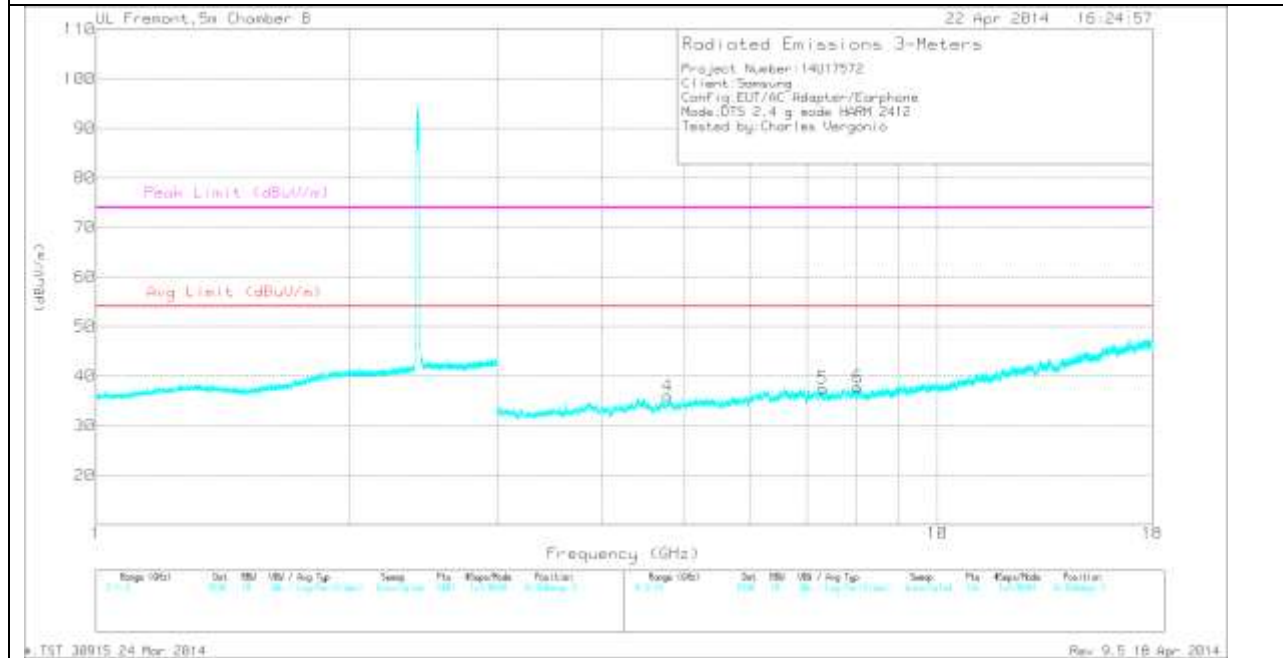
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

LOW CHANNEL
VERTICAL



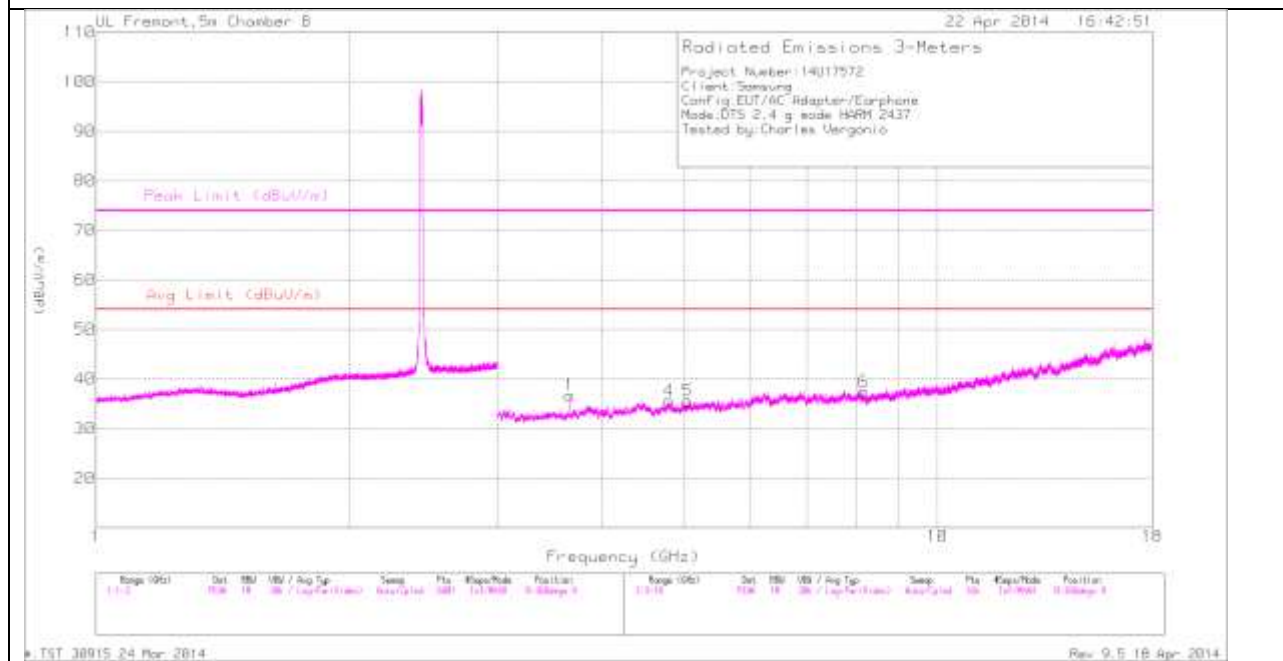
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 3.871	40.53	PK2	33.8	-30.2	44.13	54	-9.87	74	-29.87	360	100	H
* 4.565	41.13	PK2	34.1	-30.7	44.53	54	-9.47	74	-29.47	360	100	H
* 3.618	41.49	PK2	33.2	-31.2	43.49	54	-10.51	74	-30.51	360	100	H
* 4.782	39.89	PK2	34.2	-29	45.09	54	-8.91	74	-28.91	360	100	V
* 7.315	39.97	PK2	35.6	-27.7	47.87	54	-6.13	74	-26.13	360	100	V
* 8.052	37.7	PK2	35.7	-26.3	47.1	54	-6.9	74	-26.9	360	100	V

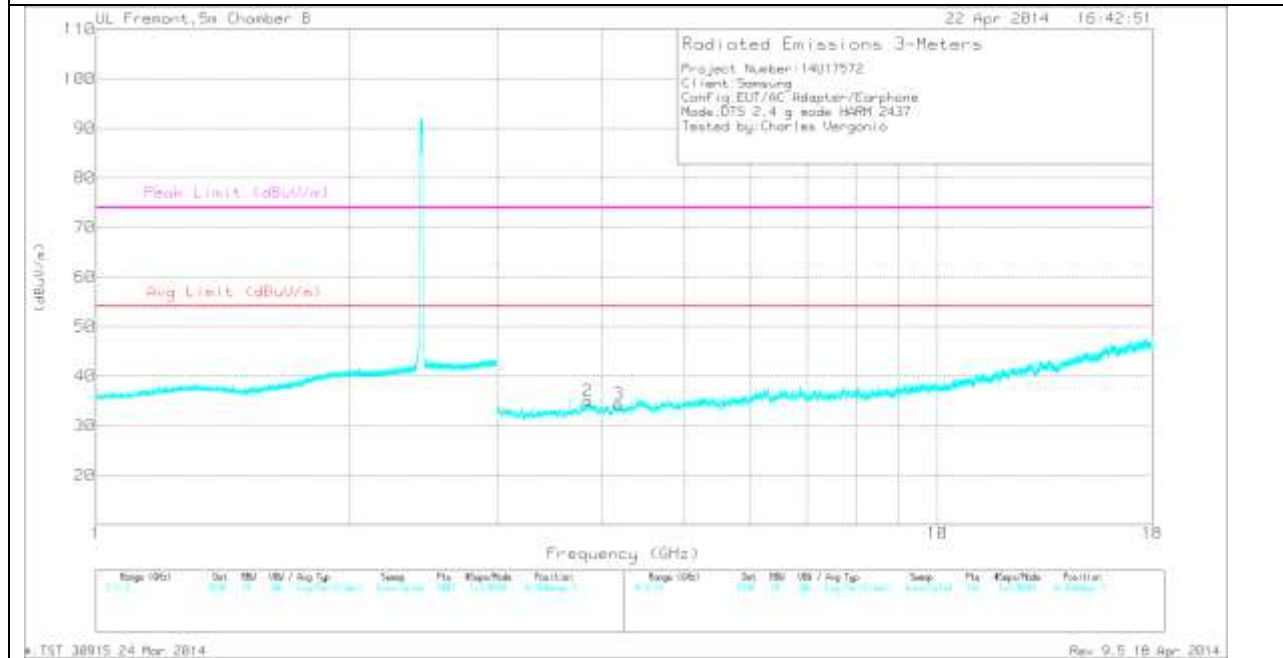
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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



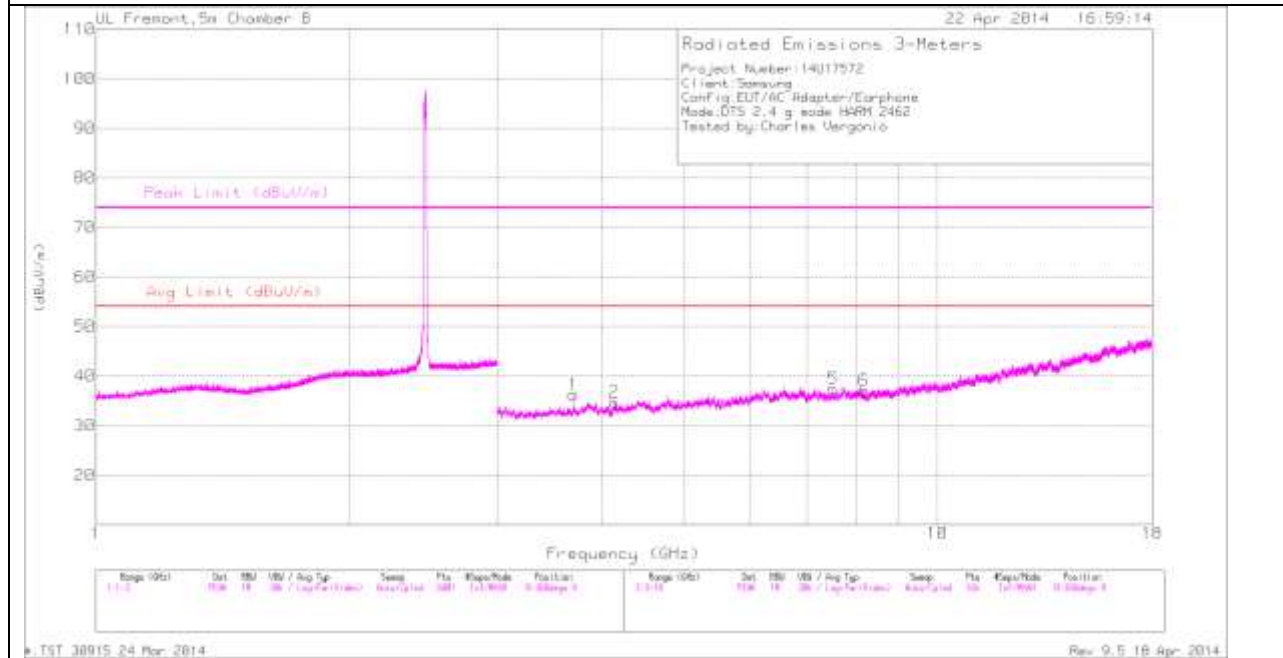
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (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
* 3.656	41.51	PK2	33.2	-31	43.71	54	-10.29	74	-30.29	360	100	H
* 4.801	39.16	PK2	34.2	-28.8	44.56	54	-9.44	74	-29.44	360	100	H
* 5.05	39.64	PK2	34.2	-28.8	45.04	54	-8.96	74	-28.96	360	100	H
* 8.172	37.55	PK2	35.7	-26.8	46.45	54	-7.55	74	-27.55	360	100	H
* 3.842	40.56	PK2	33.7	-30.2	44.06	54	-9.94	74	-29.94	360	100	V
* 4.184	39.9	PK2	33.6	-29.8	43.7	54	-10.3	74	-30.3	360	100	V

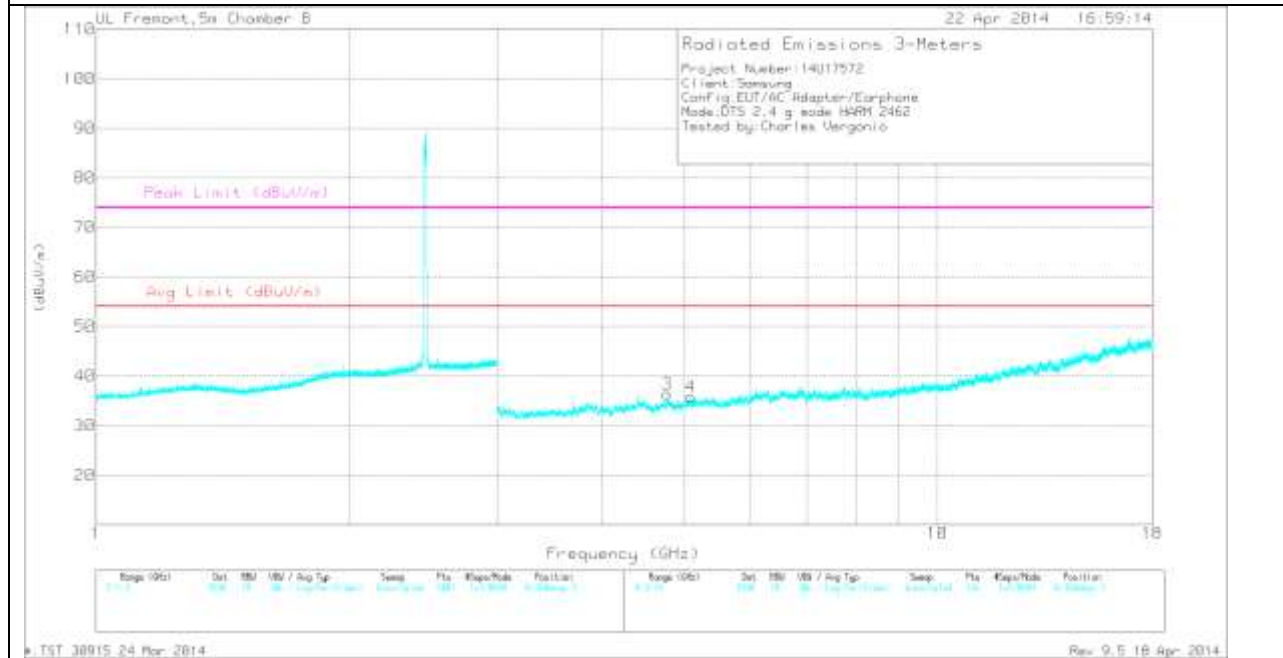
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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

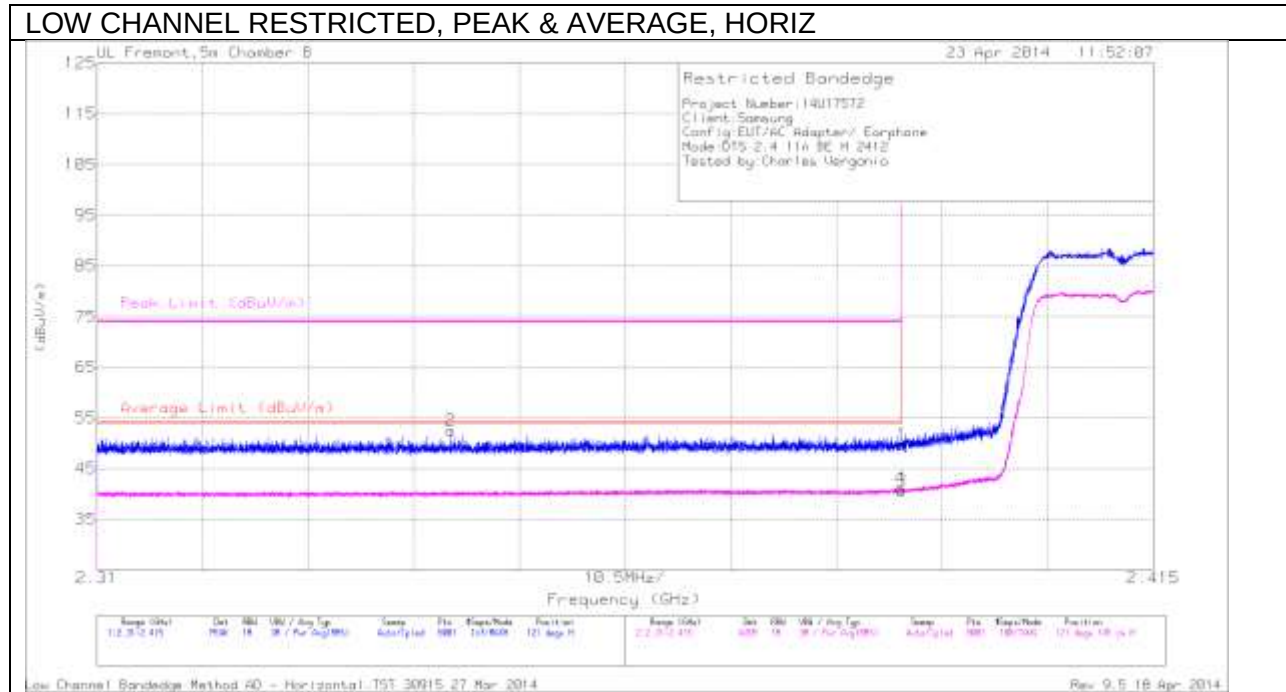
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/F ltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.694	41.13	PK2	33.3	-31.2	43.23	54	-10.77	74	-30.77	359	100	H
* 4.134	40.62	PK2	33.6	-29.8	44.42	54	-9.58	74	-29.58	359	100	H
* 7.508	38	PK2	35.6	-26.7	46.9	54	-7.1	74	-27.1	359	100	H
* 8.175	37.21	PK2	35.7	-26.8	46.11	54	-7.89	74	-27.89	359	100	H
* 4.774	40.35	PK2	34.2	-29.3	45.25	54	-8.75	74	-28.75	359	100	V
* 5.093	38.65	PK2	34.2	-28.5	44.35	54	-9.65	74	-29.65	359	100	V

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

PK2 - KDB558074 Method: Maximum Peak

11.2.3. TX ABOVE 1 GHz 802.11n HT20 CDD MODE IN THE 2.4 GHz BAND

RESTRICTED BANDEDGE (LOW CHANNEL)



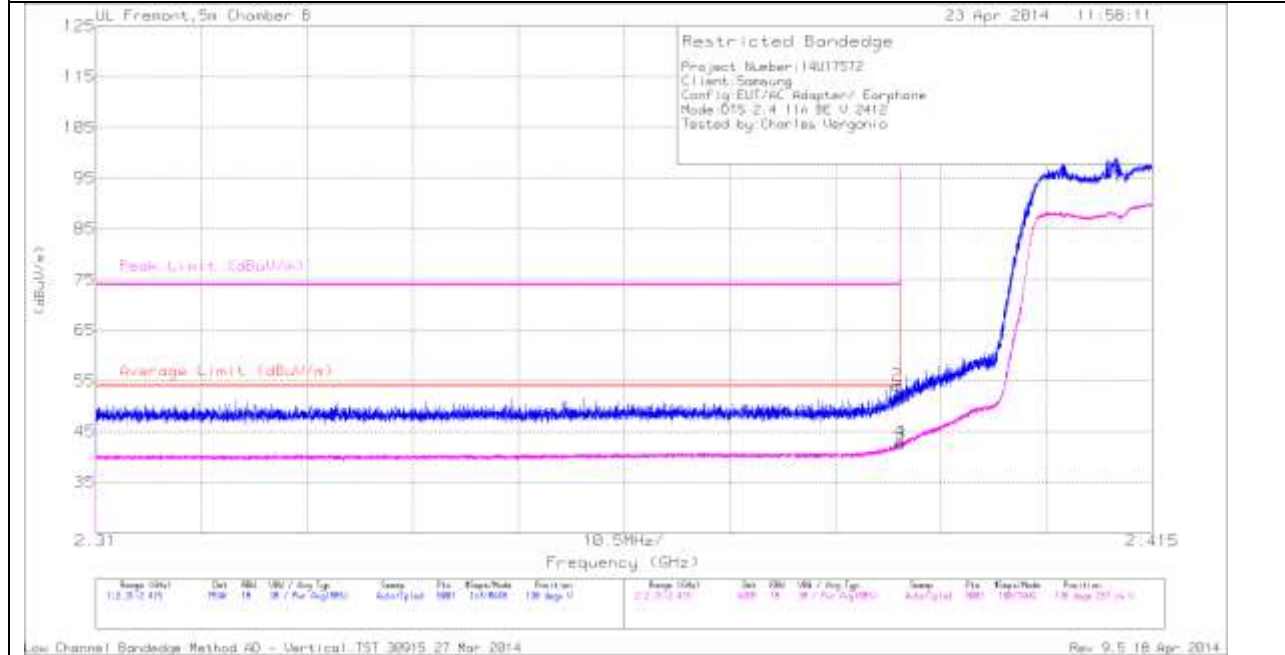
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.62	PK	32.1	-22.9	0	49.82	-	-	74	-24.18	121	145	H
2	* 2.345	43.65	PK	31.9	-23	0	52.55	-	-	74	-21.45	121	145	H
3	* 2.39	30.78	RMS	32.1	-22.9	.6	40.58	54	-13.42	-	-	121	145	H
4	* 2.39	31.26	RMS	32.1	-22.9	.6	41.06	54	-12.94	-	-	121	145	H

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

PK - Peak detector

RMS - RMS detection

LOW CHANNEL RESTRICTED, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	42.19	PK	32.1	-22.9	0	51.39	-	-	74	-22.61	138	257	V
2	* 2.39	44.88	PK	32.1	-22.9	0	54.08	-	-	74	-19.92	138	257	V
3	* 2.39	32.79	RMS	32.1	-22.9	.6	42.59	54	-11.41	-	-	138	257	V
4	* 2.39	33.05	RMS	32.1	-22.9	.6	42.85	54	-11.15	-	-	138	257	V

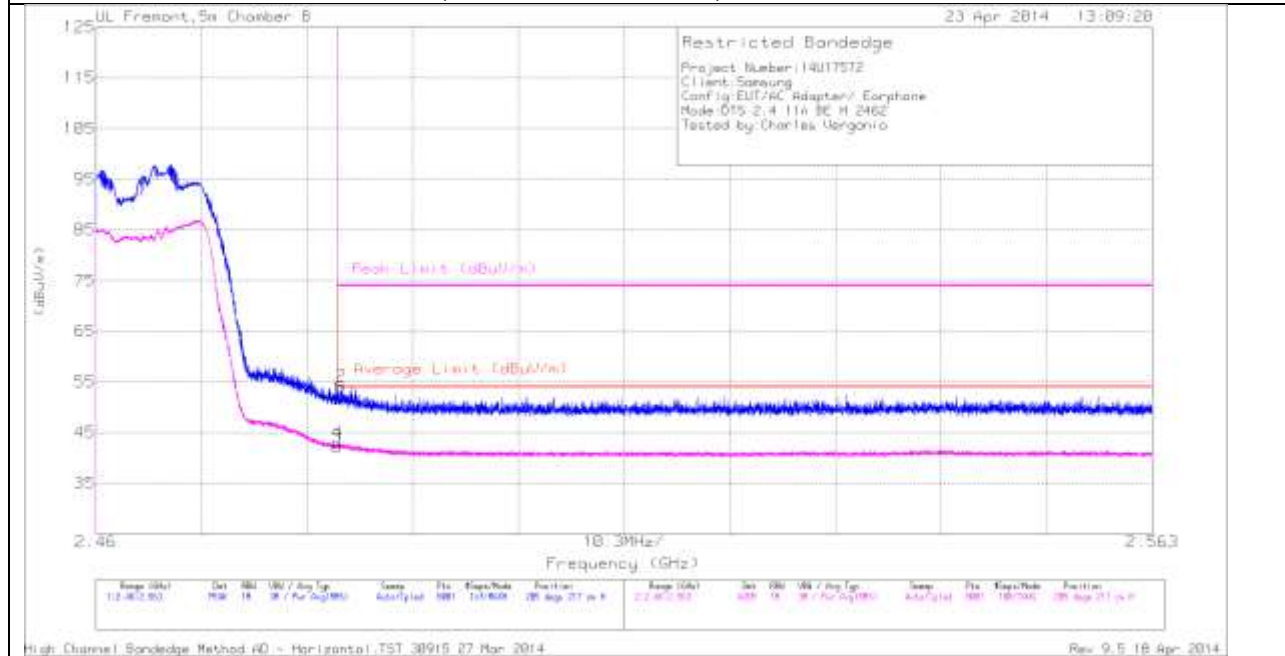
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

AUTHORIZED BANDEDGE (HIGH CHANNEL)

HIGH CHANNEL RESTRICTED, PEAK & AVERAGE, HORIZ



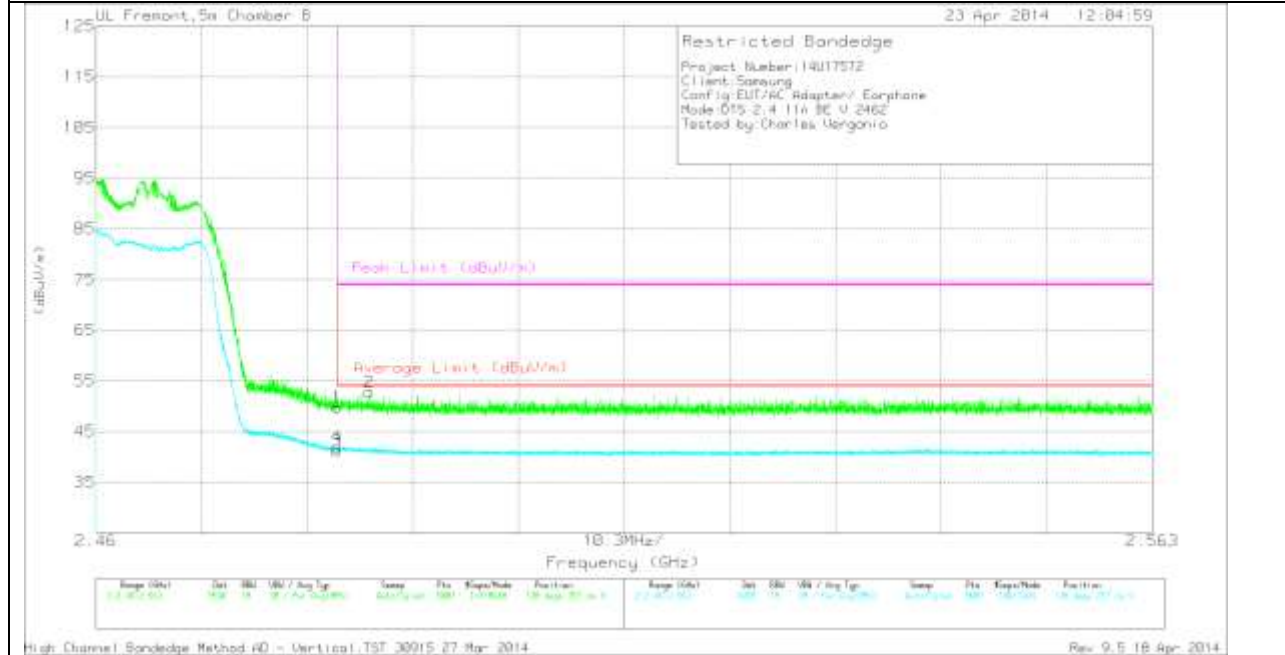
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cb/Flt r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	41.85	PK	32.4	-22.6	0	51.65	-	-	74	-22.35	205	217	H
2	* 2.484	44.37	PK	32.4	-22.6	0	54.17	-	-	74	-19.83	205	217	H
3	* 2.484	31.81	RMS	32.4	-22.6	.6	42.21	54	-11.79	-	-	205	217	H
4	* 2.484	32.61	RMS	32.4	-22.6	.6	43.01	54	-10.99	-	-	205	217	H

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

PK - Peak detector

RMS - RMS detection

HIGH CHANNEL BANDEDGE, PEAK & AVERAGE, VERT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Fit r/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.484	40.03	PK	32.4	-22.6	0	49.83	-	-	74	-24.17	138	257	V
2	* 2.487	42.93	PK	32.4	-22.6	0	52.73	-	-	74	-21.27	138	257	V
3	* 2.484	30.79	RMS	32.4	-22.6	.6	41.19	54	-12.81	-	-	138	257	V
4	* 2.484	31.57	RMS	32.4	-22.6	.6	41.97	54	-12.03	-	-	138	257	V

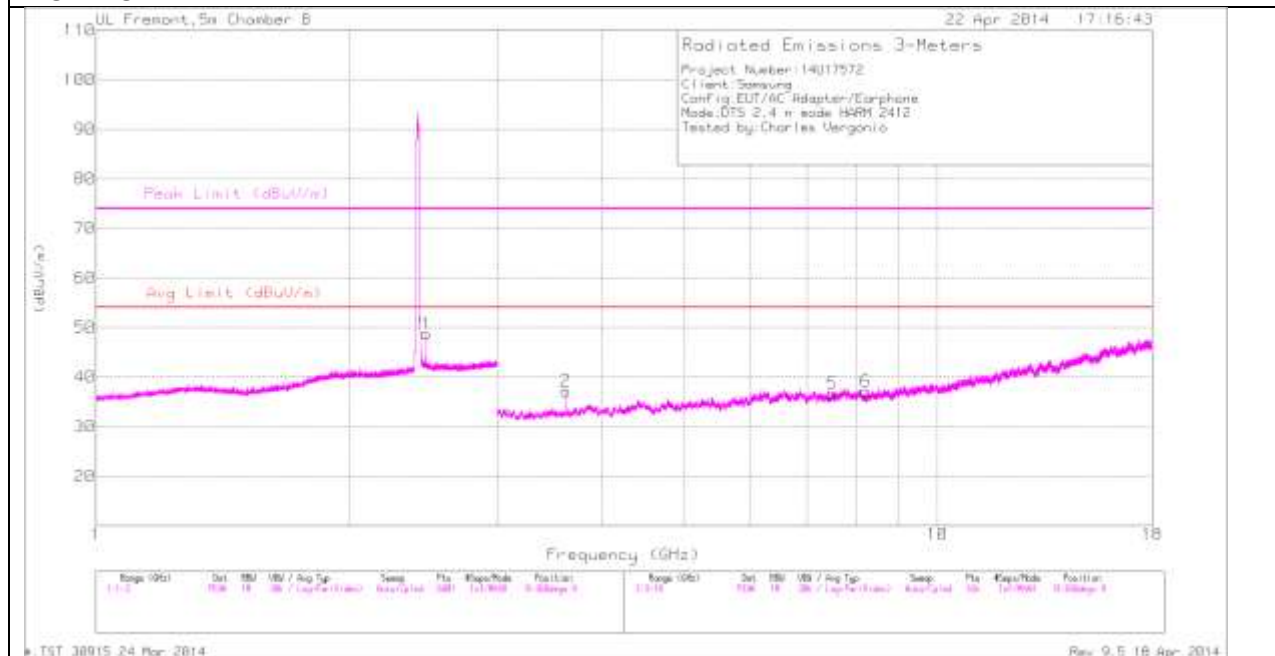
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



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

Radiated Emissions 3-Meters

Project Number: 14017572
 Client: Samsung
 Config: EUT/6C Adapter/Earphone
 Mode: OTS 2.4 m mode HARM 2412
 Tested by: Charles Vergonio

Peak Limit (dBuV/m): 74
 Avg Limit (dBuV/m): 55

Frequency (GHz)

Range (GHz)	Det.	MBU	MB / Avg Typ.	Swep.	Flx.	Expo/Mode	Position	Range (GHz)	Det.	MBU	MB / Avg Typ.	Swep.	Flx.	Expo/Mode	Position
0.01 - 18.0	Peak	10	10 / 10	1000	100	1000	1000	0.01 - 18.0	Peak	10	10 / 10	1000	100	1000	1000

• TST 20015 24 Mar 2014

Rev: 9.5 18 Apr 2014

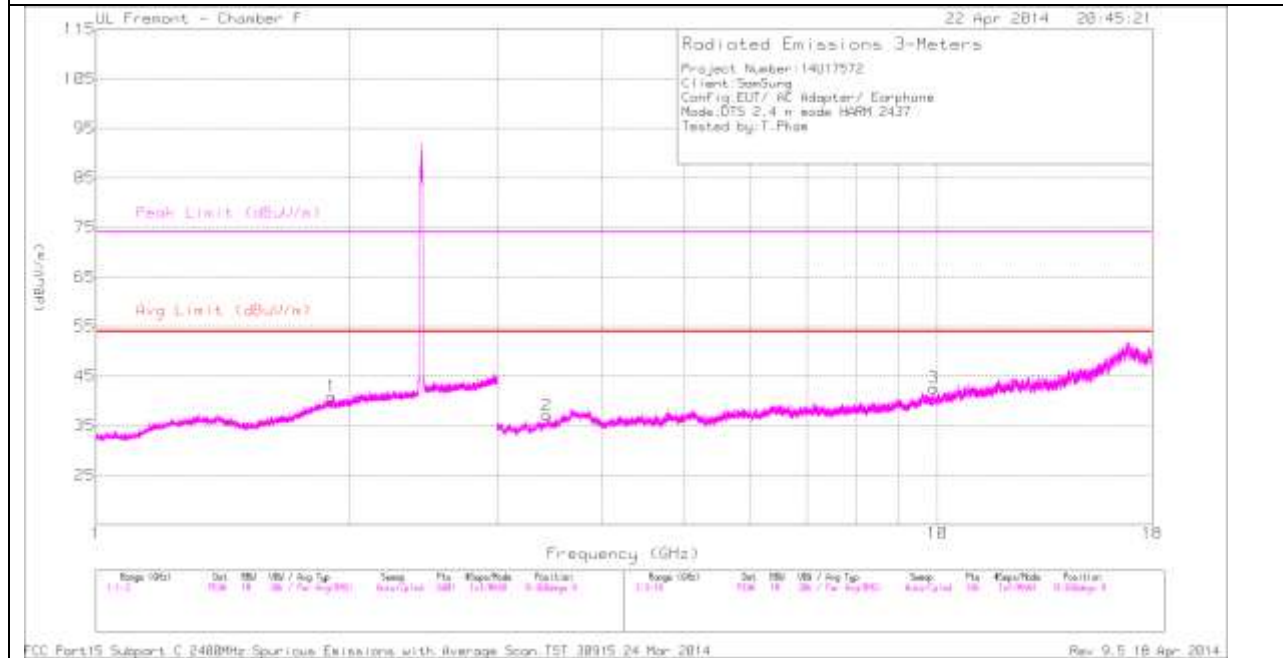
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LOW CHANNEL DATA

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/ Fitr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.618	42.32	PK2	33.2	-31.2	44.32	54	-9.68	74	-29.68	360	100	H
* 7.496	37.41	PK2	35.6	-26.5	46.51	54	-7.49	74	-27.49	360	100	H
* 8.216	37.41	PK2	35.7	-26.8	46.31	54	-7.69	74	-27.69	360	100	H
* 3.835	40.81	PK2	33.7	-30.2	44.31	54	-9.69	74	-29.69	360	100	V
* 4.793	39.47	PK2	34.2	-28.8	44.87	54	-9.13	74	-29.13	360	100	V
2.468	44.56	PK2	32.3	-22.8	54.06			74	-20.06	360	100	H
2.468	32.55	MAV1	32.4	-22.8	42.15	54	-11.85	74	-31.85	360	100	H

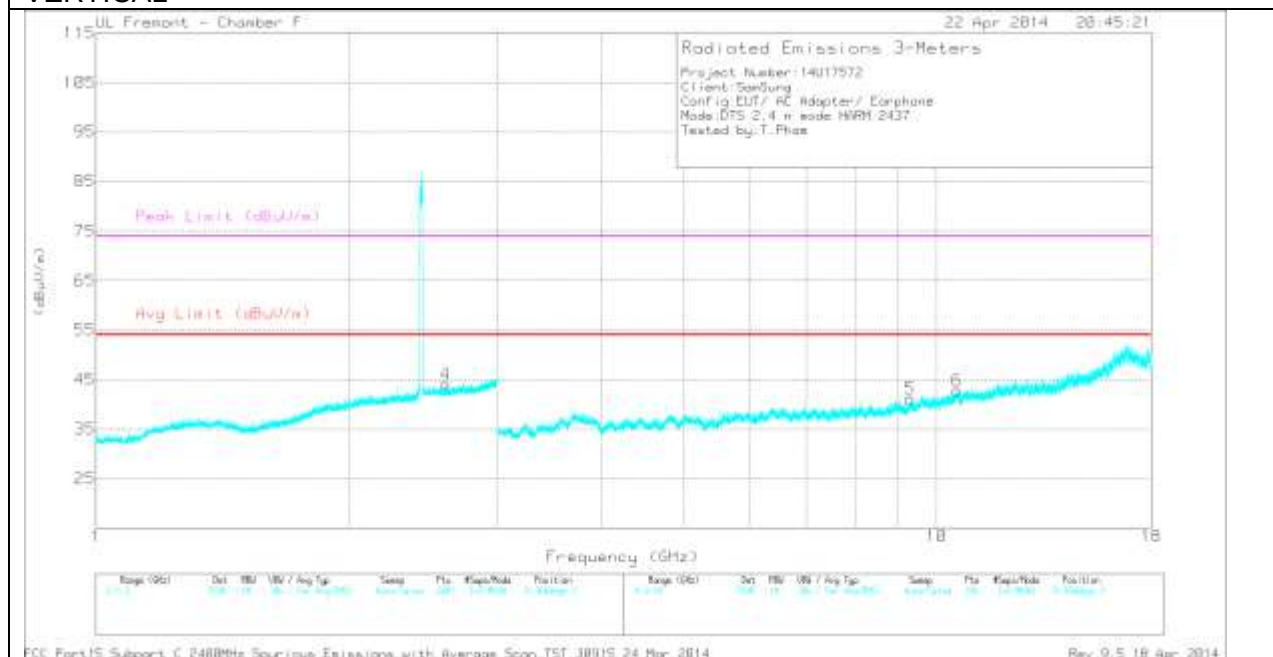
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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



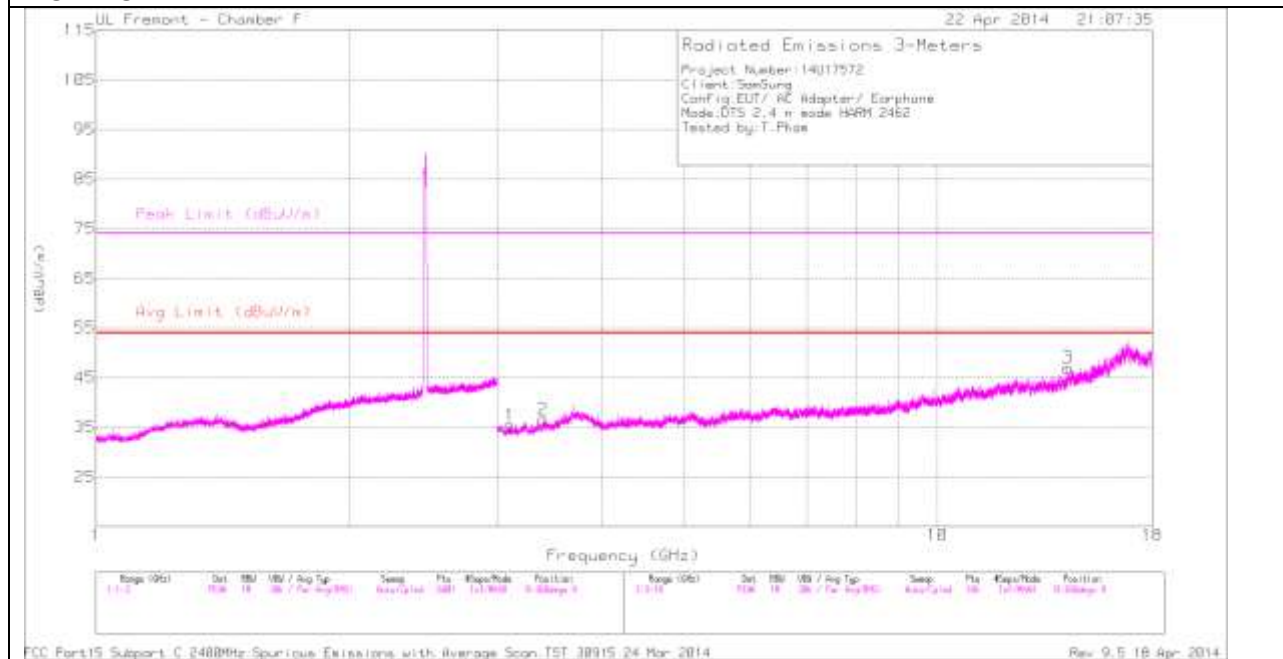
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	1.905	34.24	PK2	31.4	-24.7	40.94	54	-13.06	74	-33.06	0-360	199	H
4	2.606	34.68	PK2	32.7	-23.3	44.08	54	-9.92	74	-29.92	0-360	101	V
2	3.433	31.98	PK2	34.1	-29	37.08	54	-16.92	74	-36.92	0-360	199	H
3	9.888	27.42	PK2	37.2	-22	42.62	54	-11.38	74	-31.38	0-360	101	H
5	9.294	28.09	PK2	36.4	-23.3	41.19	54	-12.91	74	-32.91	0-360	201	V
6	10.57	25.82	PK2	37.8	-20.8	42.82	54	-11.18	74	-31.18	0-360	201	V

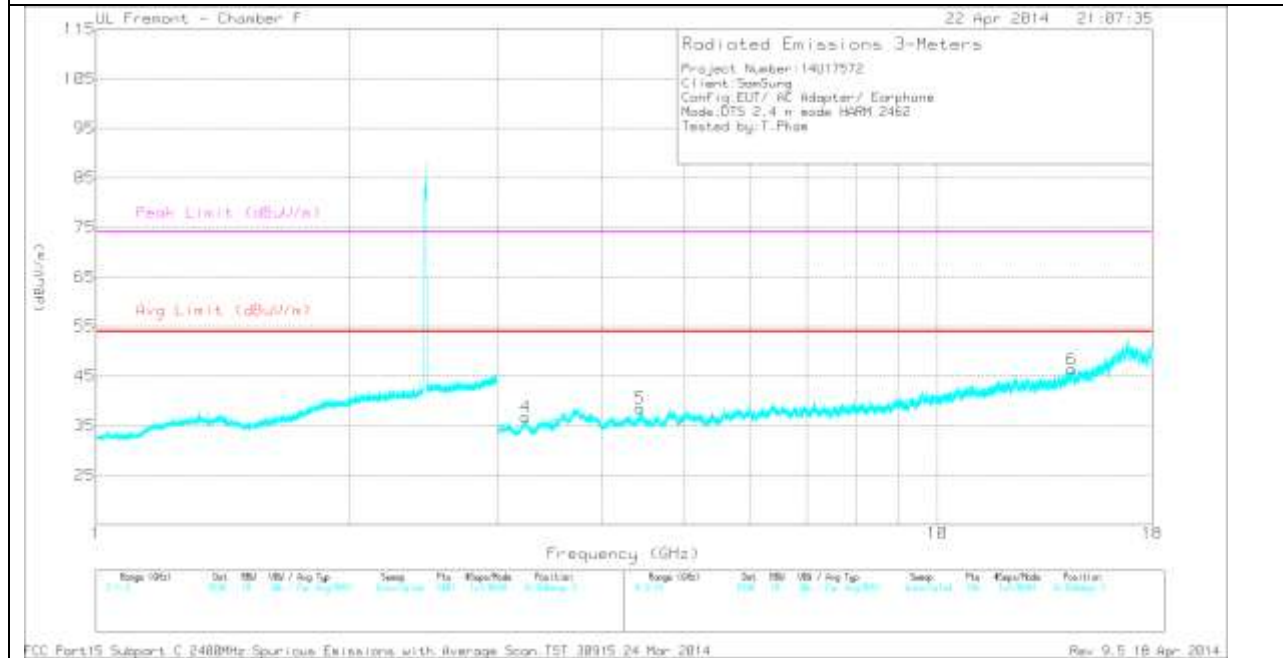
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

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



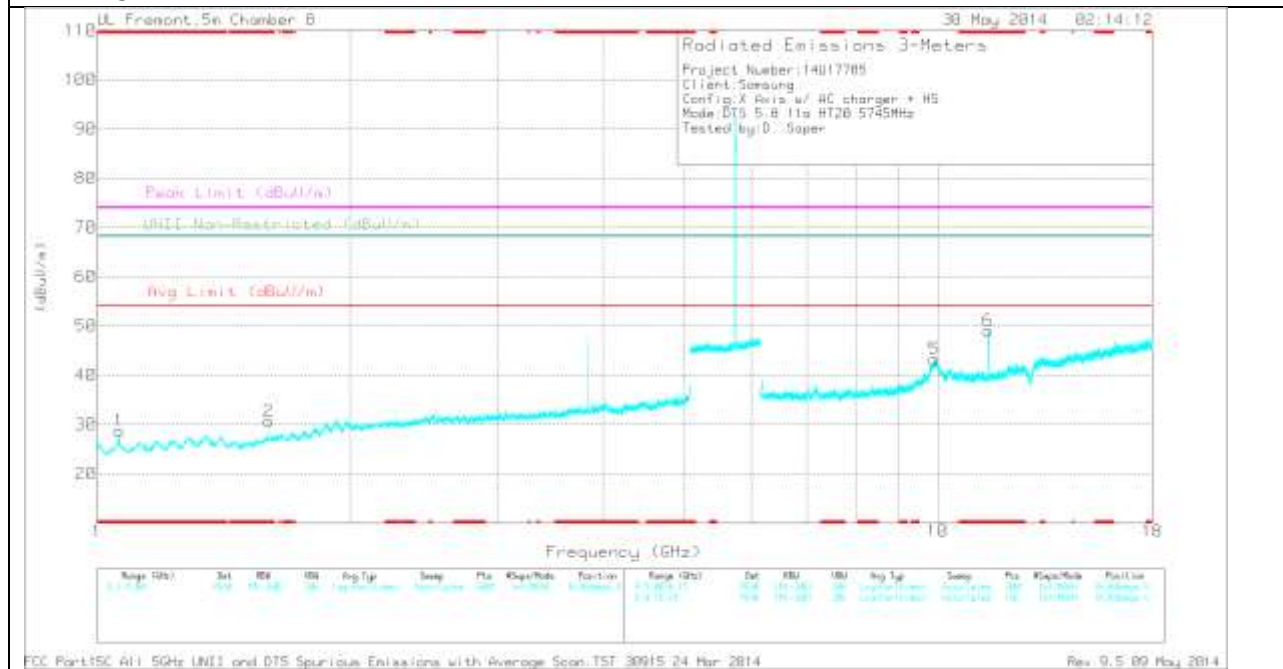
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T120 (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	3.104	32	PK2	33.3	-29.8	35.5	54	-18.5	74	-38.5	0-360	200	H
2	3.403	31.99	PK2	34	-29.4	36.59	54	-17.41	74	- 37.41	0-360	200	H
3	14.279	29.76	PK2	39.4	-22.1	47.06	54	-6.94	74	- 26.94	0-360	200	H
4	3.239	32.08	PK2	33.4	-28.8	36.68	54	-17.32	74	- 37.32	0-360	201	V
5	4.43	33.23	PK2	33.9	-28.6	38.53	54	-15.47	74	- 35.47	0-360	201	V
6	14.435	29.23	PK2	39.7	-22.6	46.33	54	-7.67	74	- 27.67	0-360	201	V

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

LOW CHANNEL
VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
3	* 3.83	48.51	PK	33.7	-31.2	0	51.01	-	-	74	-22.99	-	-	0-360	99	H
1	* 1.063	35.92	PK	27.2	-34.4	0	28.72	-	-	74	-45.28	-	-	0-360	202	V
2	* 1.6	35.22	PK	28.5	-33.1	0	30.62	-	-	74	-43.38	-	-	0-360	99	V
6	* 11.49	33.29	PK	38	-22.3	0	48.99	-	-	74	-25.01	-	-	0-360	202	V
4	6.172	32.6	PK	35.4	-28.2	0	39.8	-	-	-	-	68.2	-28.4	0-360	99	H
5	9.911	30.33	PK	37	-24.1	0	43.23	-	-	-	-	68.2	-24.97	0-360	99	V

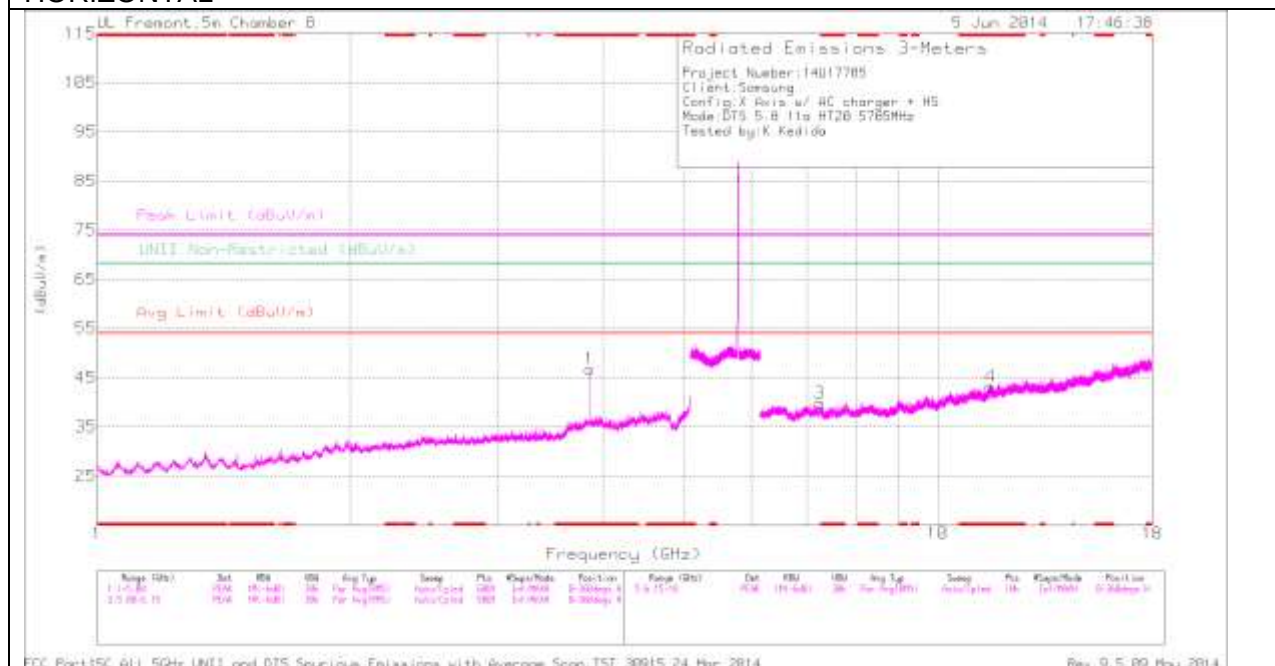
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.83	52.29	PK2	33.7	-31.2	0	54.79	-	-	74	-19.21	-	-	169	216	H
* 3.83	50.05	MAV1	33.7	-31.2	.3	52.85	54	-1.15	-	-	-	-	169	216	H
6.171	44.65	PK2	35.4	-28.2	0	51.85	-	-	-	-	68.2	-16.35	210	273	H
6.171	33.77	MAV1	35.4	-28.2	.3	41.27	-	-	-	-	-	-	210	273	H

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

PK - Peak detector

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

MID CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 11.552	27	PK	38.1	-21.9	43.2	-	-	74	-30.8	-	-	0-360	101	H
6	* 11.569	28.94	PK	38.1	-21.9	45.14	-	-	74	-28.86	-	-	0-360	201	V
1	* 3.857	44.49	PK	33.7	-31.4	46.79	-	-	74	-27.21	-	-	0-360	101	H
2	* 3.857	40.06	PK	33.7	-31.4	42.36	-	-	74	-31.64	-	-	0-360	201	V
3	7.239	30.46	PK	35.6	-26.2	39.86	-	-	-	-	68.2	-28.34	0-360	200	H
5	7.241	29.8	PK	35.6	-26.3	39.1	-	-	-	-	68.2	-29.1	0-360	201	V

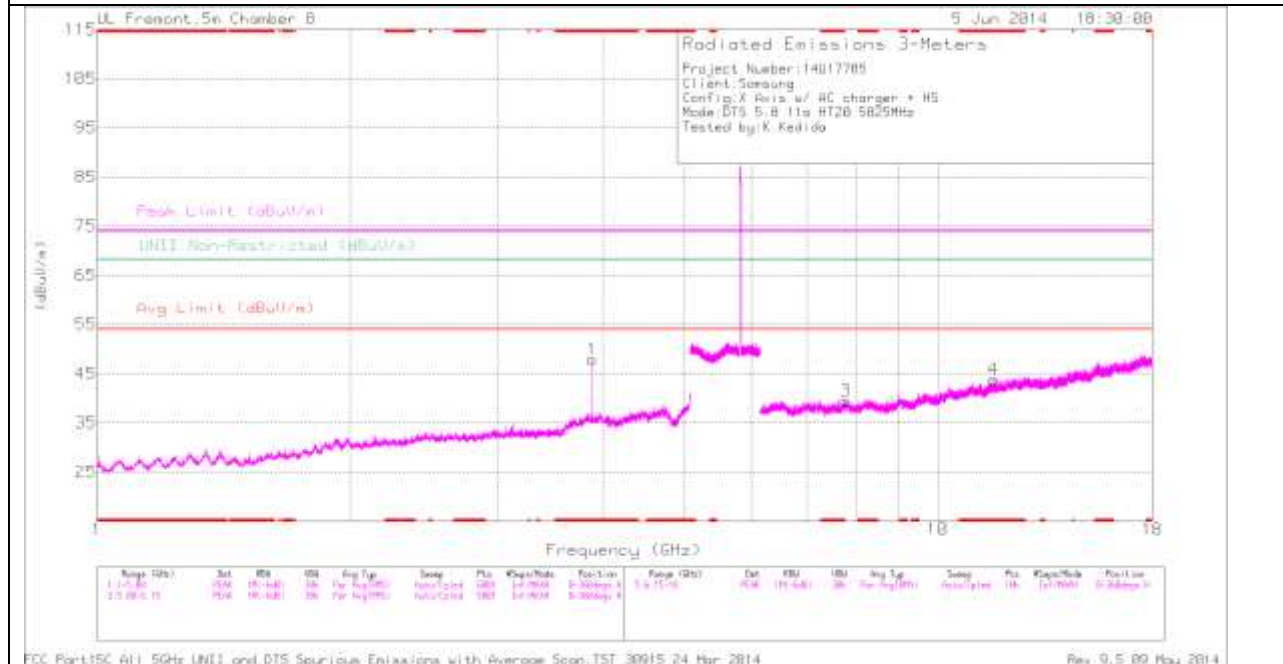
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr /Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.857	49.63	PK2	33.7	-31.4	51.93	-	-	74	-22.07	-	-	207	240	H
* 3.857	45.27	MAv1	33.7	-31.4	47.57	54	-6.43	-	-	-	-	207	240	H
* 3.857	46.15	PK2	33.7	-31.4	48.45	-	-	74	-25.55	-	-	45	259	V
* 3.857	39.95	MAv1	33.7	-31.4	42.25	54	-11.75	-	-	-	-	45	259	V
* 11.567	36.93	PK2	38.1	-21.9	53.13	-	-	74	-20.87	-	-	118	333	V
* 11.569	25.77	MAv1	38.1	-21.9	41.97	54	-12.03	-	-	-	-	118	333	V

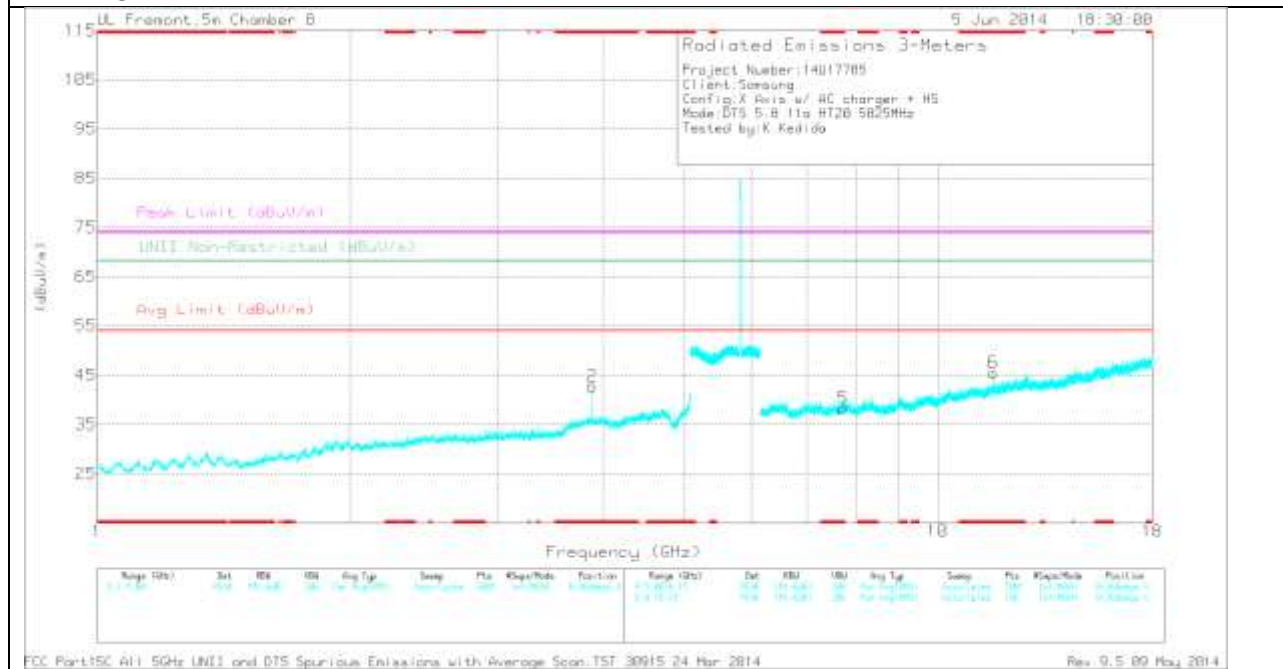
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.883	45.5	PK	33.8	-31.4	0	47.9	-	-	74	-26.1	-	-	0-360	101	H
2	* 3.883	40.35	PK	33.8	-31.4	0	42.75	-	-	74	-31.25	-	-	0-360	201	V
4	* 11.653	27.93	PK	38.2	-22.4	0	43.73	-	-	74	-30.27	-	-	0-360	201	H
5	* 7.721	29.88	PK	35.7	-27.3	0	38.28	-	-	74	-35.72	-	-	0-360	101	V
6	* 11.651	29.91	PK	38.1	-22.5	0	45.51	-	-	74	-28.49	-	-	0-360	201	V
3	7.765	30.3	PK	35.7	-26.5	0	39.5	-	-	-	-	68.2	-28.7	0-360	100	H

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

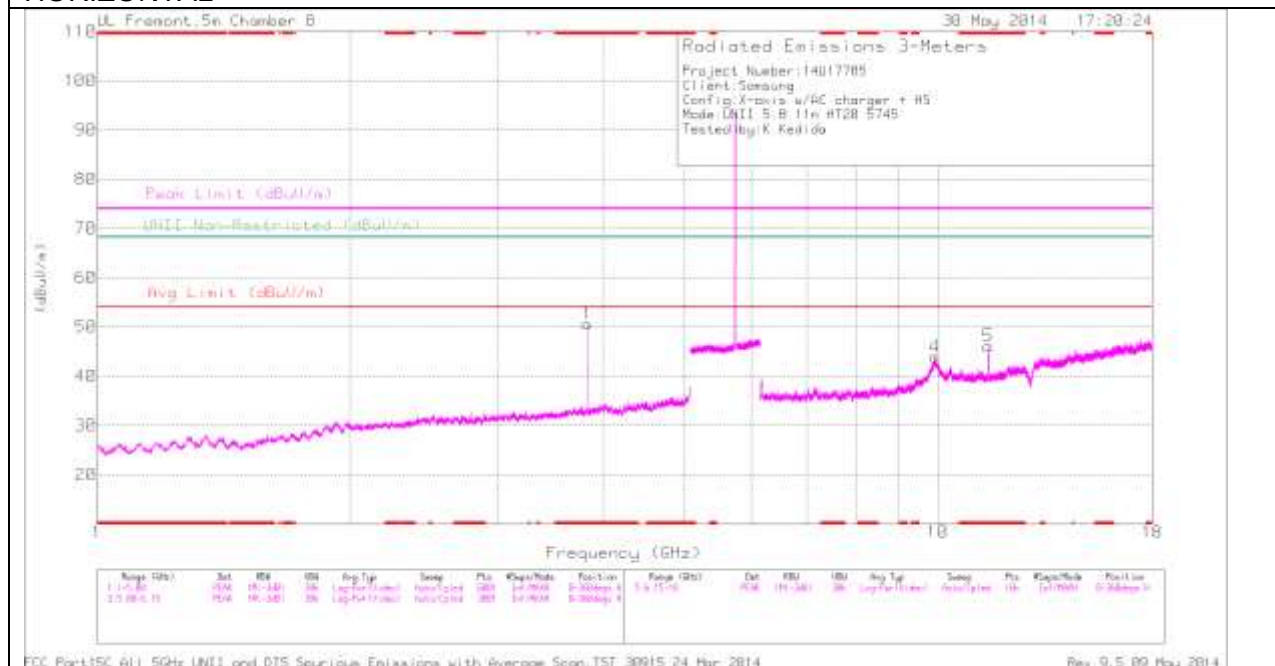
PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.883	49.25	PK2	33.8	-31.4	0	51.65	-	-	74	-22.35	-	-	208	239	H
* 3.883	45.4	MAV1	33.8	-31.4	.3	48.1	54	-5.9	-	-	-	-	208	239	H
* 11.652	38.39	PK2	38.2	-22.5	0	54.09	-	-	74	-19.91	-	-	99	223	V
* 11.649	26.47	MAV1	38.1	-22.5	.3	42.37	54	-11.63	-	-	-	-	99	223	V

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

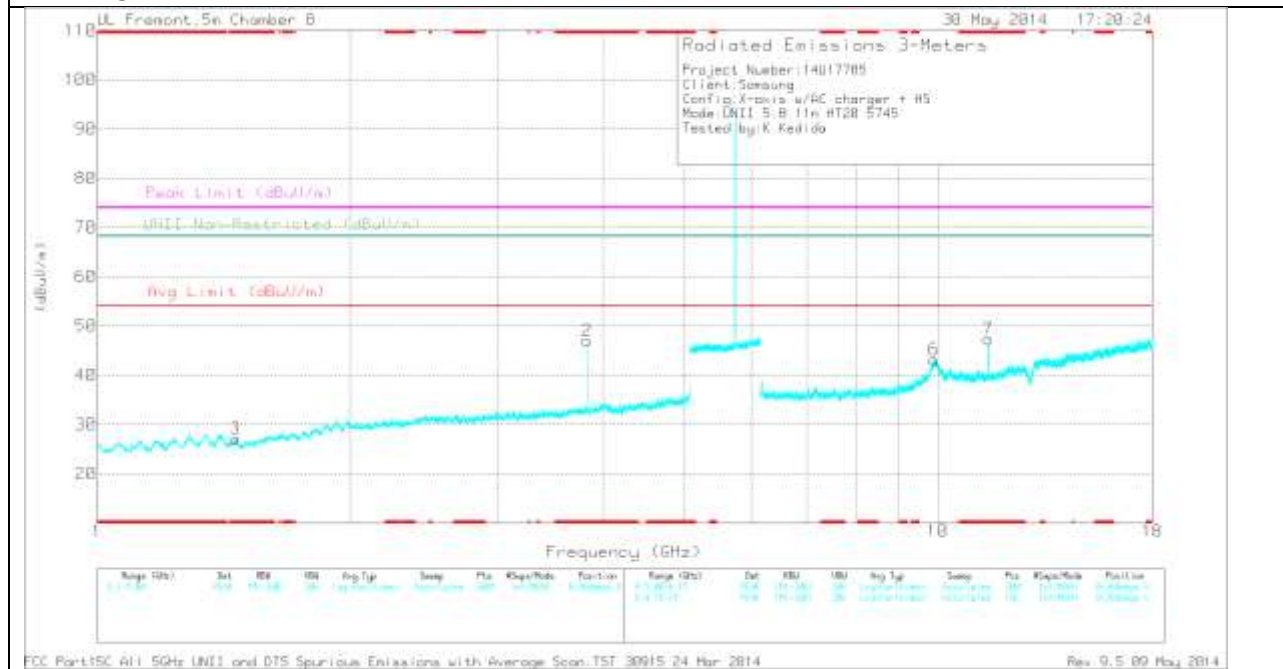
11.2.5. TX ABOVE 1 GHz 802.11n HT20 CDD MODE IN THE 5.8 GHz BAND **HARMONICS AND SPURIOUS EMISSIONS**

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

LOW CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.83	48.04	PK	33.7	-31.2	0	50.54	-	-	74	-23.46	-	-	0-360	99	H
2	* 3.83	44.5	PK	33.7	-31.2	0	47	-	-	74	-27	-	-	0-360	202	V
3	* 1.46	33.42	PK	28.2	-34.5	0	27.12	-	-	74	-46.88	-	-	0-360	202	V
5	* 11.495	30.41	PK	38	-22.3	0	46.11	-	-	74	-27.89	-	-	0-360	201	H
7	* 11.487	31.63	PK	38	-22.3	0	47.33	-	-	74	-26.67	-	-	0-360	202	V
6	9.908	30.29	PK	37	-24.1	0	43.19	-	-	-	-	68.2	-25.01	0-360	202	V
4	9.926	30.86	PK	37	-23.9	0	43.96	-	-	-	-	68.2	-24.24	0-360	201	H

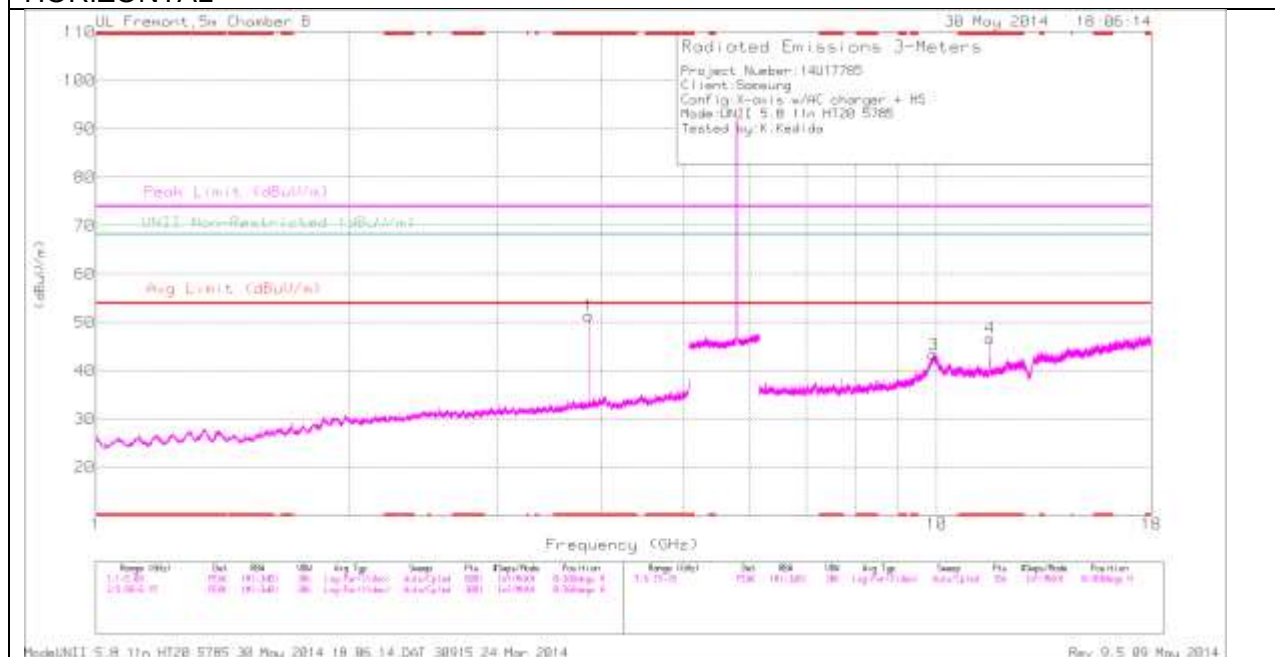
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.83	52.61	PK2	33.7	-31.2	0	55.11	-	-	74	-18.89	-	-	166	214	H
* 3.83	50.44	MAV1	33.7	-31.2	.2	53.14	54	-86	-	-	-	-	166	214	H
* 3.83	49.68	PK2	33.7	-31.2	0	52.18	-	-	74	-21.82	-	-	89	258	V
* 3.83	46.09	MAV1	33.7	-31.2	.2	48.79	54	-5.21	-	-	-	-	89	258	V
* 3.83	49.22	PK2	33.7	-31.2	0	51.72	-	-	74	-22.28	-	-	89	258	V
* 3.83	46.04	MAV1	33.7	-31.2	.2	48.74	54	-5.26	-	-	-	-	89	258	V
* 11.495	40.8	PK2	38	-22.3	0	56.5	-	-	74	-17.5	-	-	175	209	H
* 11.491	28.12	MAV1	38	-22.3	.2	44.02	54	-9.98	-	-	-	-	175	209	H
* 11.485	43.7	PK2	38	-22.2	0	59.5	-	-	74	-14.5	-	-	315	210	V
* 11.491	30.26	MAV1	38	-22.3	.2	46.16	54	-7.84	-	-	-	-	315	210	V

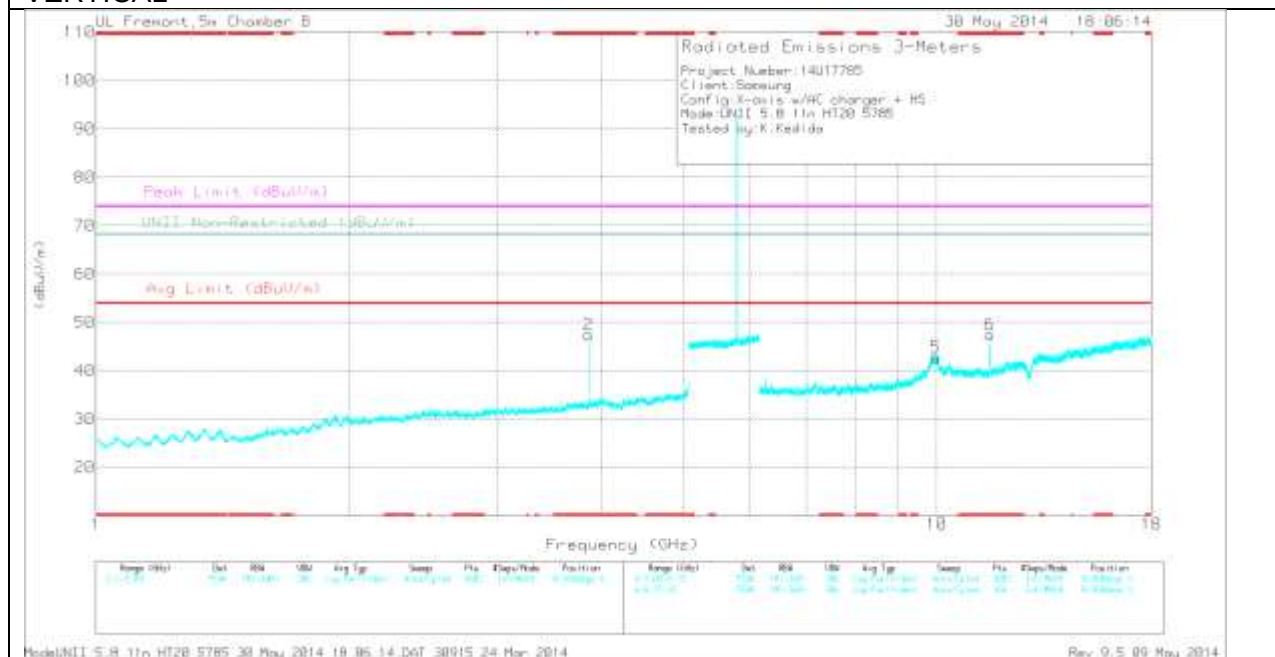
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

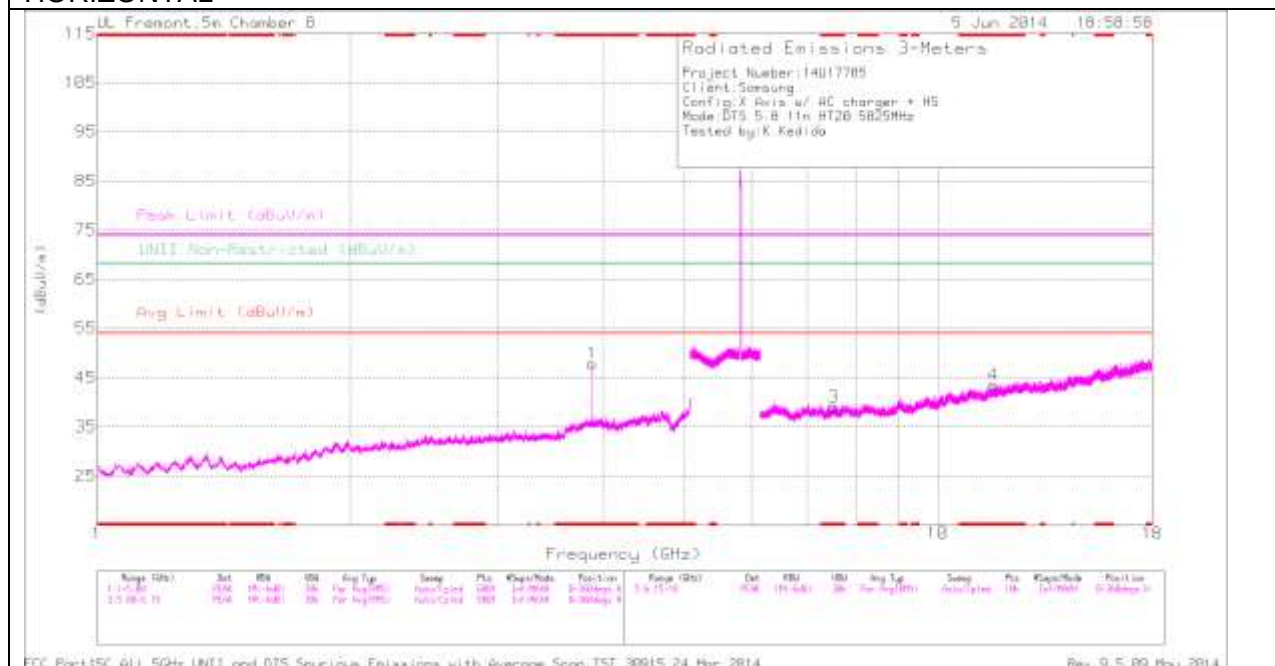
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dBm)	Amp/Cb/F Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.857	48.99	PK	33.7	-31.4	0	51.29	-	-	74	-22.71	-	-	0-360	99	H
2	* 3.857	45.18	PK	33.7	-31.4	0	47.48	-	-	74	-26.52	-	-	0-360	202	V
4	* 11.571	30.45	PK	38.1	-21.9	0	46.65	-	-	74	-27.35	-	-	0-360	202	H
6	* 11.57	31.2	PK2	38.1	-21.9	0	47.4	-	-	74	-26.6	-	-	0-360	202	V
3	9.908	30.41	PK	37	-24.1	0	43.31	-	-	-	-	68.2	-24.89	0-360	99	H
5	9.982	29.73	PK	37	-23.9	0	42.83	-	-	-	-	68.2	-25.37	0-360	202	V

PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dBm)	Amp/Cb/F Ftr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.857	53.36	PK2	33.7	-31.4	0	55.66	-	-	74	-18.34	-	-	166	211	H
* 3.857	50.94	MAv1	33.7	-31.4	.2	53.44	54	-5.6	-	-	-	-	166	211	H
* 3.857	49.98	PK2	33.7	-31.4	0	52.28	-	-	74	-21.72	-	-	83	254	V
* 3.857	46.84	MAv1	33.7	-31.4	.2	49.34	54	-4.66	-	-	-	-	83	254	V
* 11.565	40.99	PK2	38.1	-21.9	0	57.19	-	-	74	-16.81	-	-	319	208	V
* 11.571	27.54	MAv1	38.1	-21.9	.2	43.94	54	-10.06	-	-	-	-	319	208	V

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

HIGH CHANNEL
HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Ampl/Cbl/ Ftr/Pad (dB)	DC Corr (dB)	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non- Restrict ed (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.883	45.43	PK	33.8	-31.4	0	47.83	-	-	74	-26.17	-	-	0-360	100	H
2	* 3.883	40.42	PK	33.8	-31.4	0	42.82	-	-	74	-31.18	-	-	0-360	201	V
3	* 7.515	29.79	PK	35.6	-26.3	0	39.09	-	-	74	-34.91	-	-	0-360	100	H
4	* 11.648	27.89	PK	38.1	-22.5	0	43.49	-	-	74	-30.51	-	-	0-360	100	H
5	* 7.48	30.27	PK	35.6	-26.3	0	39.57	-	-	74	-34.43	-	-	0-360	100	V
6	* 11.649	30.22	PK	38.1	-22.5	0	45.82	-	-	74	-28.18	-	-	0-360	201	V

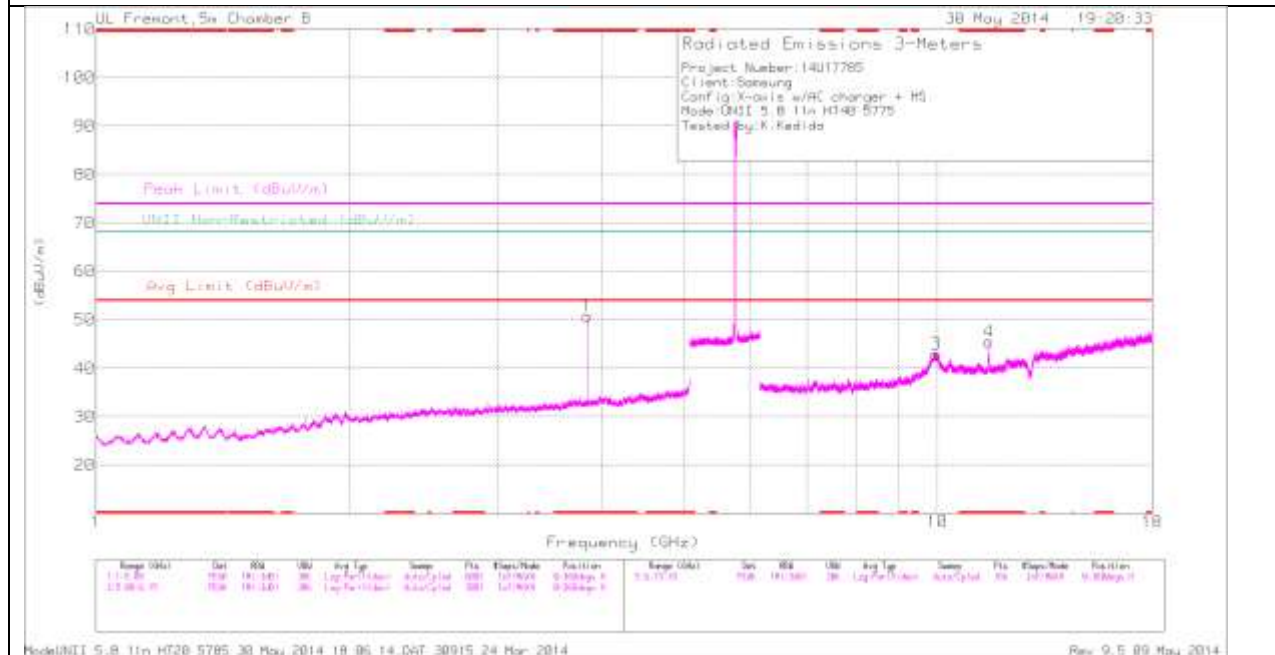
PK - Peak detector

Frequenc y (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Ampl/Cbl/F tr/Pad (dB)	DC Corr (dB)	Correcte d Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non- Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.883	49.32	PK2	33.8	-31.4	0	51.72	-	-	74	-22.28	-	-	207	239	H
* 3.883	45.33	MAV1	33.8	-31.4	.3	48.03	54	-5.97	-	-	-	-	207	239	H
* 3.883	46.47	PK2	33.8	-31.4	0	48.87	-	-	74	-25.13	-	-	266	236	V
* 3.883	41	MAV1	33.8	-31.4	.3	43.7	54	-10.3	-	-	-	-	266	236	V
* 11.649	38.41	PK2	38.1	-22.5	0	54.01	-	-	74	-19.99	-	-	94	222	V
* 11.649	26.53	MAV1	38.1	-22.5	.3	42.43	54	-11.57	-	-	-	-	94	222	V

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

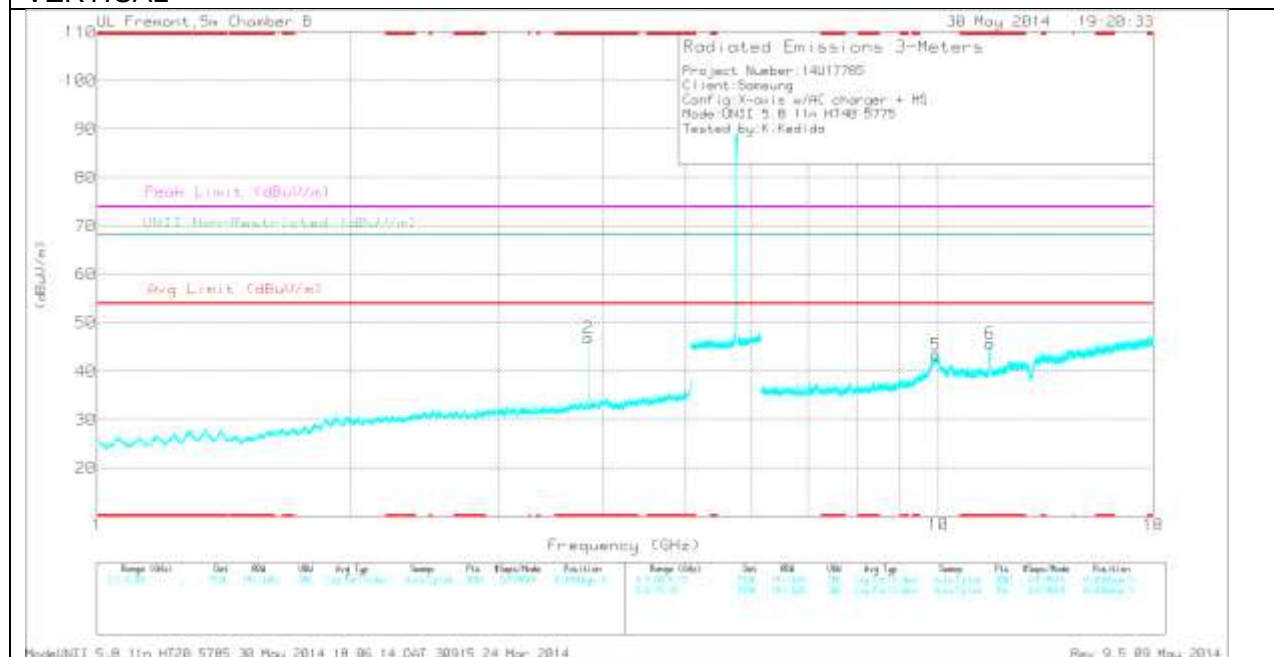
11.2.6. TX ABOVE 1 GHz 802.11n HT40 CDD MODE IN THE 5.8 GHz BAND **HARMONICS AND SPURIOUS EMISSIONS**

MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

MID CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.837	48.17	PK	33.7	-31.1	0	50.77	-	-	74	-23.23	-	-	0-360	99	H
2	* 3.837	44.3	PK	33.7	-31.1	0	46.9	-	-	74	-27.1	-	-	0-360	202	V
4	* 11.511	29.46	PK	38.1	-22	0	45.56	-	-	74	-28.44	-	-	0-360	201	H
6	* 11.51	29.8	PK	38.1	-22.1	0	45.8	-	-	74	-28.2	-	-	0-360	202	V
5	9.919	30.56	PK	37	-24.1	0	43.46	-	-	-	-	68.2	-24.74	0-360	202	V
3	9.968	29.97	PK	37	-24	0	42.97	-	-	-	-	68.2	-25.23	0-360	201	H

PK - Peak detector

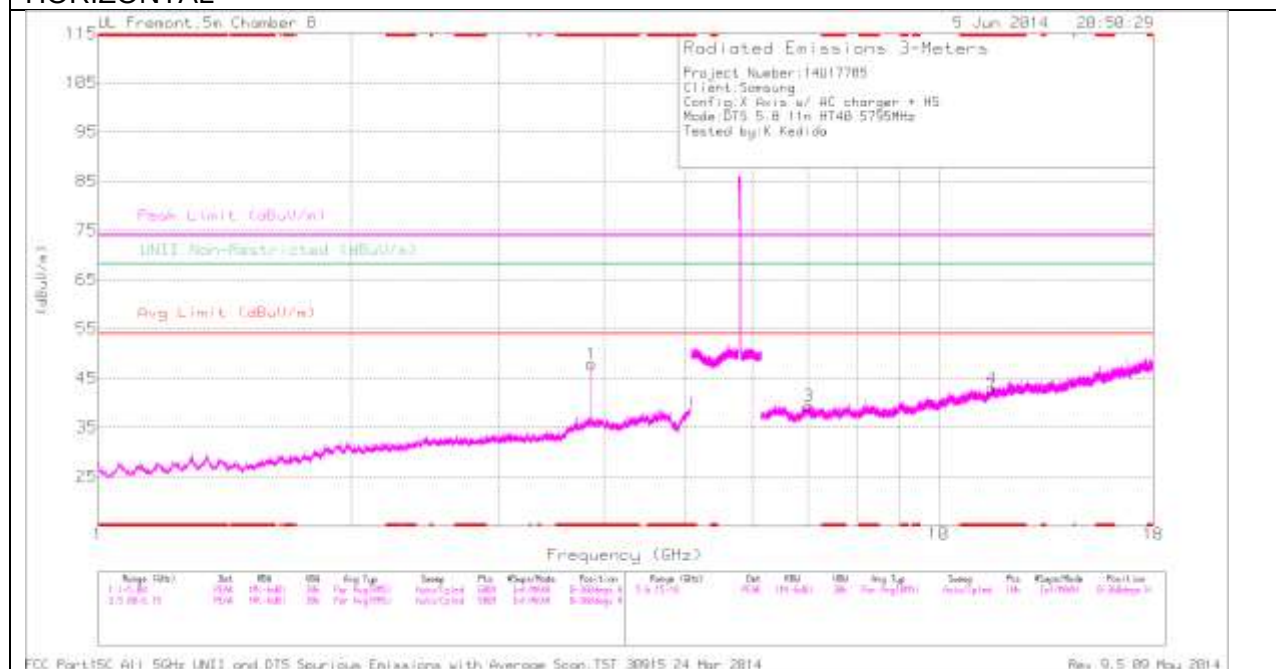
Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dB/m)	Amp/Cbl/Filtr/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.837	53.47	PK2	33.7	-31.1	0	56.07	-	-	74	-17.93	-	-	164	215	H
* 3.837	50.05	MAV1	33.7	-31.1	1.1	53.75	54	-25	-	-	-	-	164	215	H
* 3.837	49.31	PK2	33.7	-31.1	0	51.91	-	-	74	-22.09	-	-	89	258	V
* 3.837	45.17	MAV1	33.7	-31.1	1.1	48.87	54	-5.13	-	-	-	-	89	258	V
* 11.515	39.83	PK2	38.1	-21.8	0	56.13	-	-	74	-17.87	-	-	313	208	V
* 11.511	27.57	MAV1	38.1	-22	1.1	44.77	54	-9.23	-	-	-	-	313	208	V

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

PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 40GHz; 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 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

HIGH CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dBm)	Ampl/Cb/IF Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.863	45.65	PK	33.7	-31.5	0	47.85	-	-	74	-26.15	-	-	0-360	101	H
2	* 3.863	39.88	PK	33.7	-31.5	0	42.08	-	-	74	-31.92	-	-	0-360	201	V
4	* 11.568	26.67	PK	38.1	-21.9	0	42.87	-	-	74	-31.13	-	-	0-360	101	H
6	* 11.591	28.64	PK	38.1	-22.1	0	44.64	-	-	74	-29.36	-	-	0-360	201	V
5	6.952	30.98	PK	35.6	-27.3	0	39.28	-	-	-	-	68.2	-28.92	0-360	100	V
3	7.004	30.71	PK	35.6	-27	0	39.31	-	-	-	-	68.2	-28.89	0-360	201	H

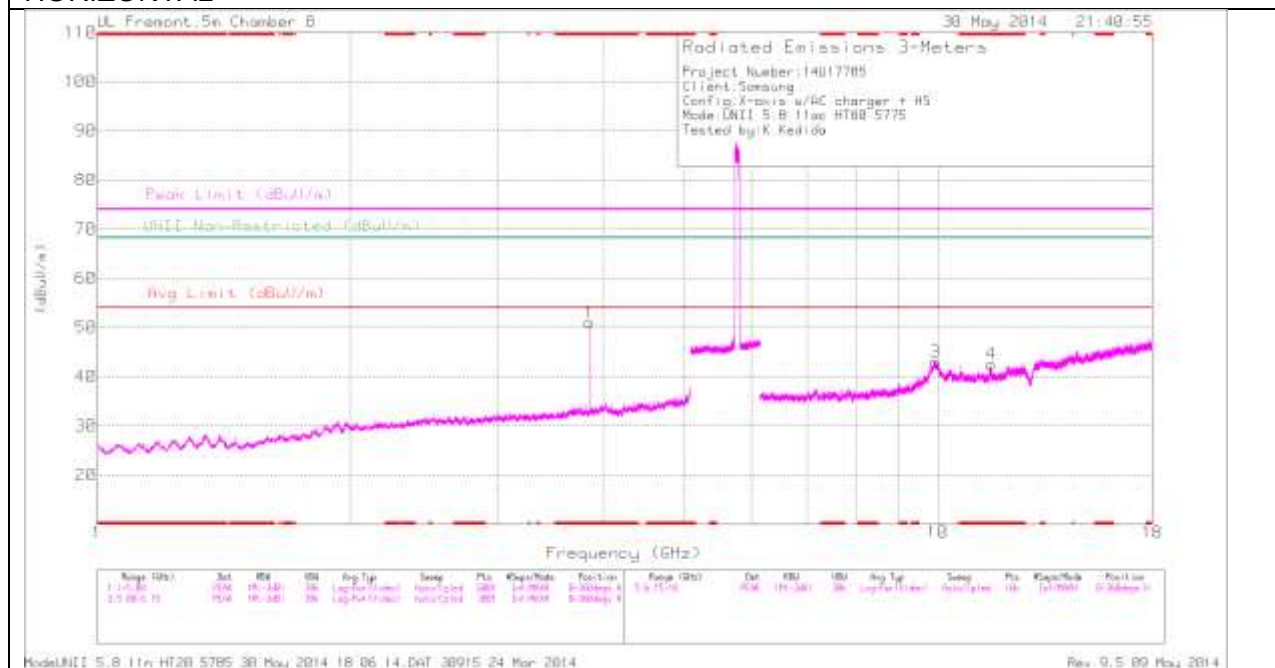
PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dBm)	Ampl/Cb/IF Filter/Pad (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.863	49.94	PK2	33.7	-31.5	0	52.14	-	-	74	-21.86	-	-	207	239	H
* 3.863	45.27	MAV1	33.7	-31.5	1.1	48.57	54	-5.43	-	-	-	-	207	239	H
* 3.863	46.64	PK2	33.7	-31.5	0	48.84	-	-	74	-25.16	-	-	44	224	V
* 3.863	40.3	MAV1	33.7	-31.5	1.1	43.6	54	-18.4	-	-	-	-	44	224	V

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

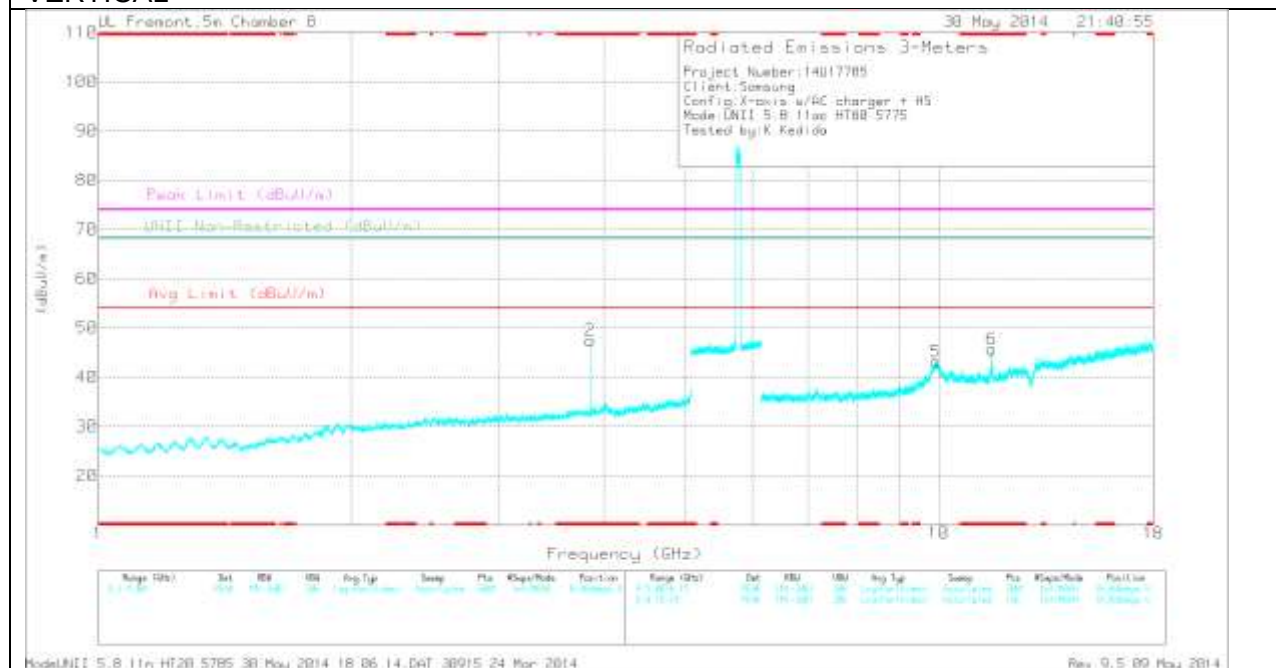
11.2.7. TX ABOVE 1 GHz 802.11ac HT80 CDD MODE IN THE 5.8 GHz BAND **HARMONICS AND SPURIOUS EMISSIONS**

HORIZONTAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

VERTICAL



Note: Emission was scanned up to 40GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

CHANNEL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dBm)	Amp/Cbl/Filtr/Pad (dB)	Fixture Corr (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 3.85	48.56	PK	33.7	-31.3	0	0	50.96	-	-	74	-23.04	-	-	0-360	99	H
2	* 3.85	45.06	PK	33.7	-31.3	0	0	47.46	-	-	74	-26.54	-	-	0-360	202	V
4	* 11.576	26.47	PK	38.1	-22	0	0	42.57	-	-	74	-31.43	-	-	0-360	202	H
6	* 11.564	29.47	PK	38.1	-21.9	0	0	45.67	-	-	74	-28.33	-	-	0-360	202	V
5	9.918	30.25	PK	37	-24.1	0	0	43.15	-	-	-	-	68.2	-25.05	0-360	202	V
3	9.931	29.89	PK	37	-23.9	0	0	42.99	-	-	-	-	68.2	-25.21	0-360	99	H

PK - Peak detector

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T345 (dBm)	Amp/Cbl/Filtr/Pad (dB)	Fixture Corr (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	UNII Non-Restricted (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 3.85	52.25	PK2	33.7	-31.3	0	0	54.65	-	-	74	-19.35	-	-	171	212	H
* 3.85	49.49	MAv1	33.7	-31.3	0	1.8	53.69	54	-0.31	-	-	-	-	171	212	H
* 11.565	37.56	PK2	38.1	-21.9	0	0	53.76	-	-	74	-20.24	-	-	315	208	V
* 11.571	26.89	MAv1	38.1	-21.9	0	1.8	44.89	54	-9.11	-	-	-	-	315	208	V

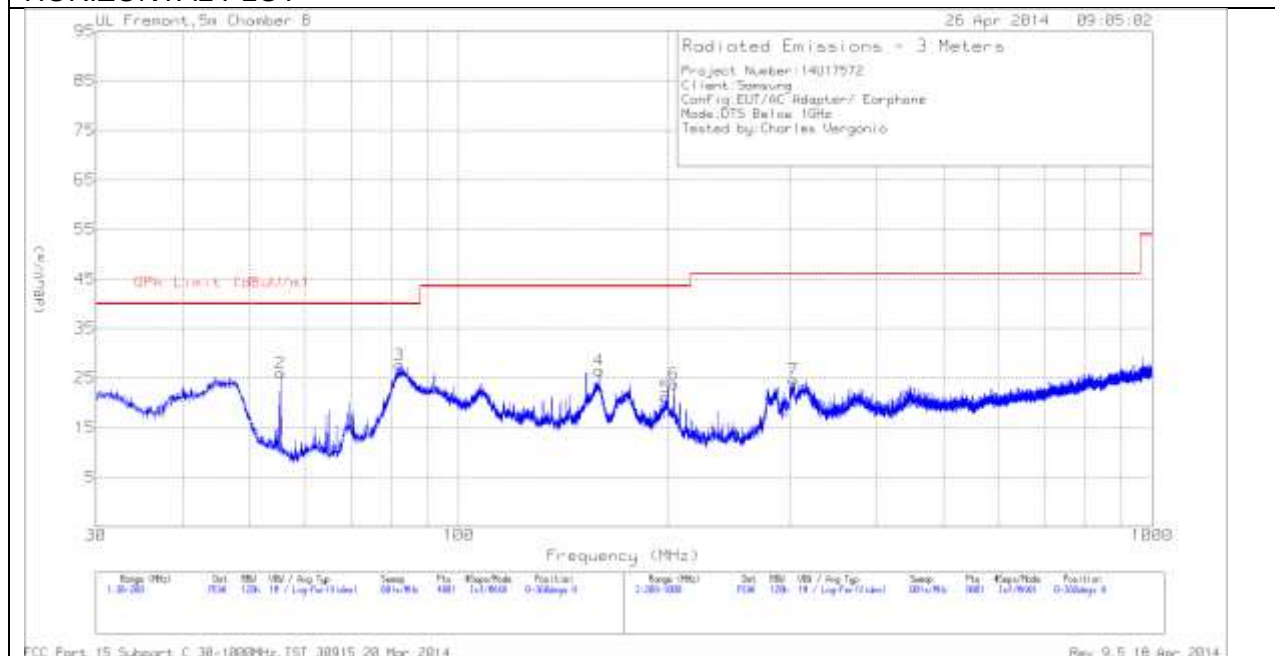
* - indicates frequency in CFR15.205/IC7.2.2 Restricted Band

RMS - RMS detection

11.3. WORST-CASE BELOW 1 GHz

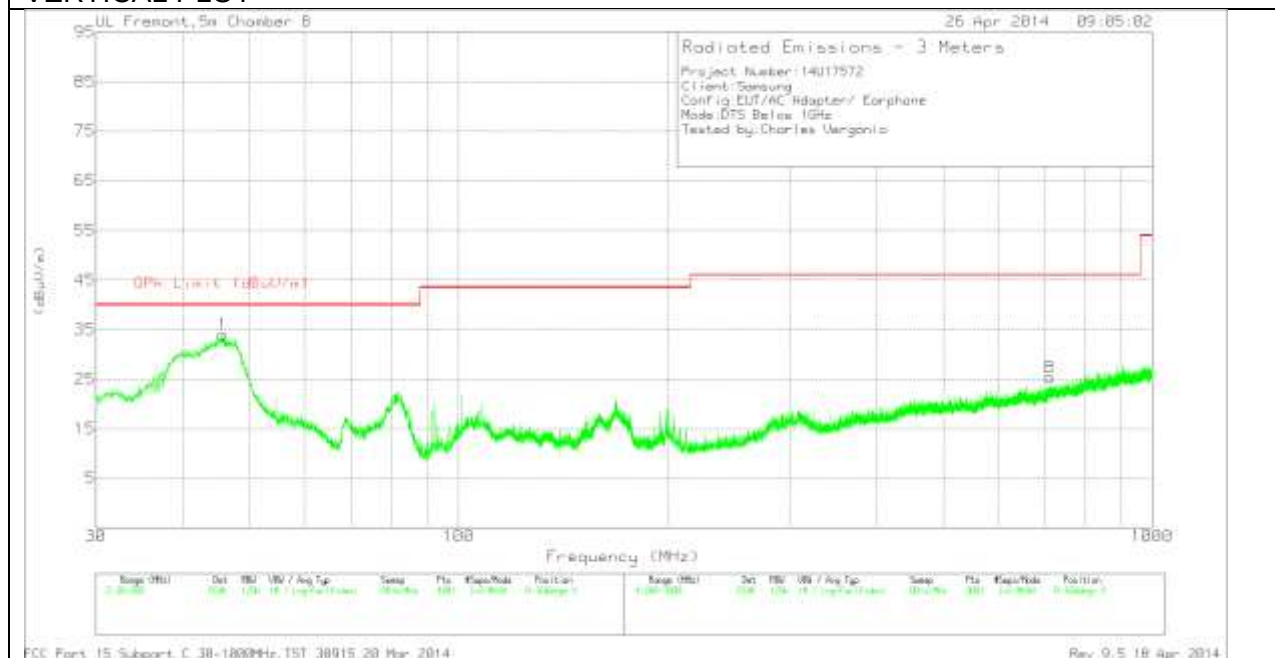
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



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

VERTICAL PLOT



Below 1G Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T477 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	45.725	52.96	PK	9.7	-28.7	33.96	40	-6.04	0-360	101	V
2	55.33	47.58	PK	7	-28.6	25.98	40	-14.02	0-360	400	H
3	82.19	48.31	PK	7.5	-28.2	27.61	40	-12.39	0-360	400	H
4	159.37	41.6	PK	12.2	-27.3	26.5	43.52	-17.02	0-360	100	H
5	199.1075	35.81	PK	12.3	-27	21.11	43.52	-22.41	0-360	200	H
6	204.5	39.5	PK	11.2	-26.9	23.8	43.52	-19.72	0-360	200	H
7	304.1	37.37	PK	13.3	-26	24.67	46.02	-21.35	0-360	101	H
8	711.3	29.72	PK	20.2	-24.6	25.32	46.02	-20.7	0-360	200	V

PK - Peak detector

12. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

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 C63.4 2009.

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

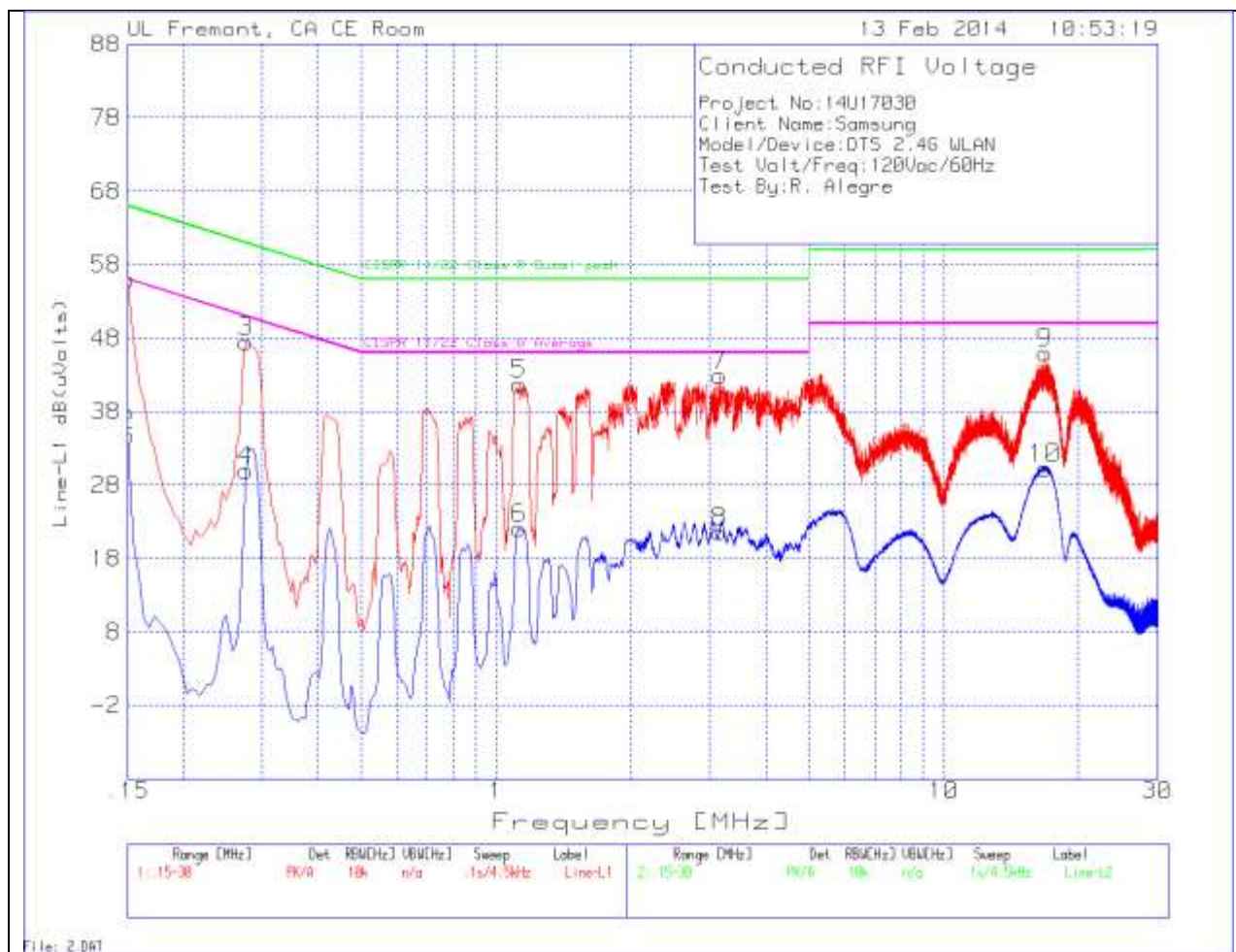
Line-L1 .15 - 30MHz

Trace Markers										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L1 (dB)	LC Cables 1&3 (dB)	Corrected Reading dB(uVolts)	CISPR 11/22 Class B Quasi-peak	Margin to Limit (dB)	CISPR 11/22 Class B Average	Margin to Limit (dB)
1	.15	54.6	PK	1.4	0	56	66	-10	-	-
2	.15	33.31	Av	1.4	0	34.71	-	-	56	-21.29
3	.276	46.89	PK	.6	0	47.49	60.9	-13.41	-	-
4	.276	29.4	Av	.6	0	30	-	-	50.9	-20.9
5	1.1265	41.5	PK	.2	0	41.7	56	-14.3	-	-
6	1.1265	21.88	Av	.2	0	22.08	-	-	46	-23.92
7	3.1515	42.55	PK	.2	.1	42.85	56	-13.15	-	-
8	3.1515	21.34	Av	.2	.1	21.64	-	-	46	-24.36
9	16.827	45.52	PK	.3	.2	46.02	60	-13.98	-	-
10	16.827	29.76	Av	.3	.2	30.26	-	-	50	-19.74

Line-L2 .15 - 30MHz

Trace Markers										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T24 IL L2 (dB)	LC Cables 2&3 (dB)	Corrected Reading dB(uVolts)	CISPR 11/22 Class B Quasi-peak	Margin to Limit (dB)	CISPR 11/22 Class B Average	Margin to Limit (dB)
11	.15	39.93	PK	1.5	0	41.43	66	-24.57	-	-
12	.15	13.87	Av	1.5	0	15.37	-	-	56	-40.63
13	.2715	34.98	PK	.7	0	35.68	61.1	-25.42	-	-
14	.2715	14.15	Av	.7	0	14.85	-	-	51.1	-36.25
15	.708	34.23	PK	.3	0	34.53	56	-21.47	-	-
16	.708	15.56	Av	.3	0	15.86	-	-	46	-30.14
17	4.9515	41.23	PK	.2	.1	41.53	56	-14.47	-	-
18	4.9515	21.72	Av	.2	.1	22.02	-	-	46	-23.98
19	17.1105	51.25	PK	.3	.2	51.75	60	-8.25	-	-
20	17.1105	35.59	Av	.3	.2	36.09	-	-	50	-13.91
21	19.473	48.15	PK	.3	.2	48.65	60	-11.35	-	-
22	19.473	31.31	Av	.3	.2	31.81	-	-	50	-18.19

LINE 1 RESULTS



LINE 2 RESULTS

