FCC 47 CFR PART 15 SUBPART C

TEST REPORT

For

Product Name: Touchstone Wireless Telephony Gateway
Brand Name: ARRIS
Model No.: TG2472G
Series Model: N/A
FCC ID: UIDTG2472
Test Report Number: C141031R01-RPW

Issued for

ARRIS Group, Inc.
3871 Lakefield Drive Suite 300 Suwanee, GA 30024, U.S.A

Issued by

Compliance Certification Services Inc.
Kun shan Laboratory
No.10 Weiye Rd., Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China
TEL: 86-512-57355888
FAX: 86-512-57370818

TESTING CERT #2541.01

Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	November 14, 2014	C141031R01-RPW	ALL	N/A
01	November 25, 2014	C141031R01-RPW	P45	Update test data and test plot

TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION

Product Name:	Touchstone Wireless Telephony Gateway
Trade Name:	ARRIS
Model Name:	TG2472G
Series Model:	N/A
Applicant Discrepancy:	Initial
Device Category:	Mobile Device
Date of Test:	December 2, 2013~December,29 2013 and March 20, 2014~ March 26, 2014 September 26,2014~October 23, 2014 & November 25, 2014
Applicant:	**ARRIS Group, Inc.** 3871 Lakefield Drive Suite 300 Suwanee, GA 30024, U.S.A
Manufacturer:	**ARRIS Group, Inc.** 3871 Lakefield Drive Suite 300 Suwanee, GA 30024, U.S.A
Application Type:	Certification

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart C	No non-compliance noted

We hereby certify that:

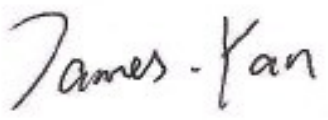
The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4: 2009 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.247.

The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:

Jeff.Fang
RF Manager
Compliance Certification Service Inc.

Tested by:



James.Yan
Test Engineer
Compliance Certification Service Inc.

2. EUT DESCRIPTION

Product Name:	Touchstone Wireless Telephony Gateway
Brand Name:	ARRIS
Model Name:	TG2472G
Series Model:	N/A
Model Discrepancy:	N/A
Power Adapter Power Rating :	Input: AC ~115V 60Hz 0.7A
Frequency Range:	2.4G:2412MHz-2462MHz
Transmit Power:	IEEE 802.11b mode: 29.87 dBm IEEE 802.11g mode: 29.82 dBm draft 802.11n Standard-20 MHz Channel mode: 28.83 dBm draft 802.11n Wide-40 MHz Channel mode: 28.19 dBm
Modulation Technique:	802.11b mode: DSSS (1,2,5.5 and 11 Mbps) 802.11g mode: DSSS /OFDM (6,9,12,18,24,36,48 and 54 Mbps) 802.11n Standard-20 MHz Channel mode: OFDM (6.5,13,19.5,26,39,52,58.5 and 65 Mbps) 802.11n Wide-40 MHz Channel mode: OFDM (13.5,27,40.5,54,81,108,121.5 and 135 Mbps)
Number of Channels:	IEEE 802.11b/g/n HT20 mode: 11 Channels IEEE 802.11n HT40 mode: 7 Channels
Antenna Specification:	Dipole antennas for 2.4GHz Gain 5.40 dBi and Dipole antennas for 5 GHz Gain 3.50 dBi
	Dipole antennas for 2.4GHz Gain 3.20 dBi and Dipole antennas for 5 GHz Gain 5.20 dBi

Remark:

1.The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.

2.This submittal(s) (test report) is intended for ***FCC ID: UIDTG2472*** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 2009and FCC CFR 47 15.207, 15.209 and 15.247.

3.1. EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2. EUT EXERCISE

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

3.3. GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 2009 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4 2009.

3.4.FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

3.5. DESCRIPTION OF TEST MODES

The EUT transmitting and receiving with three antennas simultaneously working at a/b/g/n/c mode, so 3x3 configuration was used for all testing in this report.

The worst-case data rates are determined to be as follows for each mode based on investigation by measuring the average power, peak power and PPSD across all data rates, bandwidths, and modulations.

The worst-case data rates:
IEEE802.11b mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 11Mbps data rate was chosen for full testing.

IEEE802.11g mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 54Mbps data rate was chosen for full testing.

Draft 802.11gn Standard-20 MHz Channel mode:

Channel Low (2412MHz)

Channel Mid (2437MHz)

Channel High (2462MHz) with 65Mbps data rate was chosen for full testing.

Draft 802.11gn Wide-40 MHz Channel mode:

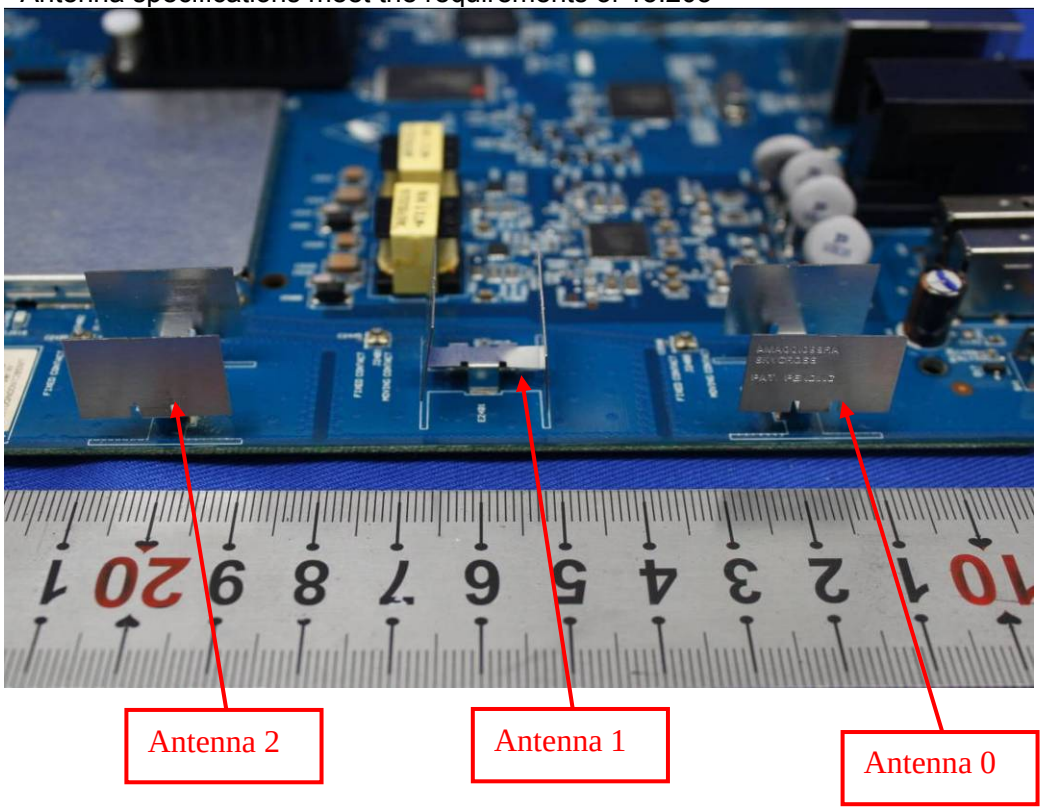
Channel Low (2422MHz)

Channel Mid (2437MHz)

Channel High (2452MHz) with 135Mbps data rate was chosen for full testing.

3.6.ANTENNA DESCRIPTION

Antenna specifications meet the requirements of 15.203



4. INSTRUMENT CALIBRATION

4.1.MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

Equipment Used for Emissions Measurement

Conducted Emissions Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY44020154	2015-4-9
Detector negative	Agilent	8473B	MY42240176	2015-8-11
OSCILLOSCOPE	Agilent	DSO6104A	MY44002585	2015-3-16
Peak and Avg Power Sensor	Agilent	E9327A	US40441788	2015-3-17
EPM-P Series Power Meter	Agilent	E4416A	GB41292714	2015-3-17
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	N.C.R
DC POWER SUPPLY	GW instek	GPS-3303C	E903131	N.C.R
Temp. / Humidity Chamber	Kingson	THS-M1	242	2015-1-22
Test Software	EZ-EMC			

977 Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY44020154	2014-11-13
EMI Test Receiver	R&S	ESCI	101378	2015-1-22
Pre-Amplfier	MINI	ZFL-1000VH2	d041703	2015-1-22
Pre-Amplfier	Miteq	JS41-00101800-32-10P	1675713	2015-1-22
Bilog Antenna	Sunol	JB1	A062604	2015-3-6
Horn-antenna	SCHWARZBECK	BBHA9120D	D:266	2015-3-7
Turn Table	CT	CT123	4165	N.C.R
Antenna Tower	CT	CTERG23	3256	N.C.R
Controller	CT	CT1OO	95637	N.C.R
Test Software	EZ-EMC			

Conducted Emission				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI TEST RECEIVER	R&S	ESCI	100781	2015-3-16
V (V-LISN)	SCHWARZBECK	NNLK 8129	8129-143	N.C.R
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	05012	2015-3-16
Pulse LIMITER	R&S	ESH3-Z2	100524	2015-9-24
Test Software	EZ-EMC			

Remark: *The measurement uncertainty is less than +/- 2.81dB, which is evaluated as per the NAMAS NIS 81 and CISPR/A/291/CDV.*

Expanded Uncertainty (95% CONFIDENCE INTERVAL): K=2

5. FACILITIES AND ACCREDITATIONS

5.1. FACILITIES

All measurement facilities used to collect the measurement data are located at
CCS China Kunshan Lab at 10#Weiye Rd, Innovation Park Eco. & Tec. Development Zone

Kunshan city JiangSu, (215300), CHINA.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 2009 and CISPR Publication 22.

5.2. EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5.3. LABORATORY ACCREDITATIONS AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 200581-0 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, IC5743 for 10m chamber 10m, IC5743 for 10m chamber 3m.

5.4.TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	47 CFR FCC Part 15/18 (using ANSI C63.4 :2009)；VCCI V3; CNS 13438; CNS 13439; CNS 13803; CISPR 11; EN 55011; CISPR 13; EN 55013; CISPR 22:2005; CISPR 22:1997 +A1 :2000+A2 :2002；EN 55022:2006; EN55022 :1998 +A1 :2001+A2 :2003；EN 61000-6-3 (excluding discontinuous interference); EN 61000-6-4; AS/NZS CISPR 22; CAN/CSA-CEI/IEC CISPR 22；EN 61000-3-2；EN 61000-3-3；EN550024； EN 61000-4-2; EN 61000-4-3；EN61000-4-4；EN 61000-4-5； EN 61000-4-6；IEC 61000-4-8；EN 61000-4-11; IEC61000-3-2；IEC61000-3-3；IEC 61000-4-2； IEC 61000-4-3；IEC 61000-4-4； IEC 61000-4-5；IEC 61000-4-6；IEC 61000-4-8；IEC 61000-4-11; EN 300 220-3; EN 300 328; EN 300 330-2; EN 300 440-1; EN 300-440-2; EN 300 893; EN 301 489-01; EN 301 489-3; EN 301 489-07; EN 301 489-17；47 CFR FCC Part 15, 22, 24	ACCREDITED TESTING CERT #2541.01
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	93105, 90471
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	VCCI R-1600 C-1707 G-216

** No part of this report may be used to claim or imply product endorsement by A2LA or any agency of the US Government.*

6. SETUP OF EQUIPMENT UNDER TEST

6.1.SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

6.2.SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID
1.	Notebook	DELL	E5430	CN8YYW1	N/A

Remark:

2. *All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.*
3. *Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.*

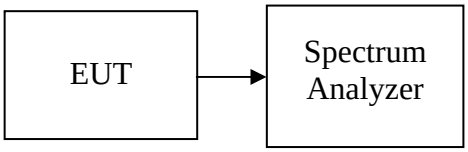
4. FCC PART 15.247 REQUIREMENTS

4.1.6DB BANDWIDTH

LIMIT

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500 kHz.

Test Configuration



TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the selected span. The VBW is set to 3 times the RBW. The sweep time is occupied.

TEST RESULTS

No non-compliance noted

Test Data

IEEE 802.11b mode /Chain 0

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	10.146	>500	PASS
Mid	2437	10.108		PASS
High	2462	10.097		PASS

IEEE 802.11b mode /Chain 1

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	9.638	>500	PASS
Mid	2437	10.199		PASS
High	2462	10.100		PASS

IEEE 802.11b mode /Chain 2

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	10.086	>500	PASS
Mid	2437	10.114		PASS
High	2462	10.094		PASS

IEEE 802.11g mode /Chain 0

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.398	>500	PASS
Mid	2437	16.429		PASS
High	2462	16.404		PASS

IEEE 802.11g mode /Chain 1

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.466	>500	PASS
Mid	2437	16.383		PASS
High	2462	16.405		PASS

IEEE 802.11g mode /Chain 2

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.438	>500	PASS
Mid	2437	16.386		PASS
High	2462	16.399		PASS

draft 802.11n Standard-20 MHz Channel mode / Chain 0

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.415	>500	PASS
Mid	2437	17.623		PASS
High	2462	17.616		PASS

draft 802.11n Standard-20 MHz Channel mode / Chain 1

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.351	>500	PASS
Mid	2437	17.620		PASS
High	2462	17.222		PASS

draft 802.11n Standard-20 MHz Channel mode / Chain 2

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.603	>500	PASS
Mid	2437	17.620		PASS
High	2462	17.609		PASS

draft 802.11n wide-40 MHz Channel mode / Chain 0

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2422	35.754	>500	PASS
Mid	2437	36.119		PASS
High	2452	35.792		PASS

draft 802.11n wide-40 MHz Channel mode / Chain 1

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2422	36.305	>500	PASS
Mid	2437	35.843		PASS
High	2452	35.799		PASS

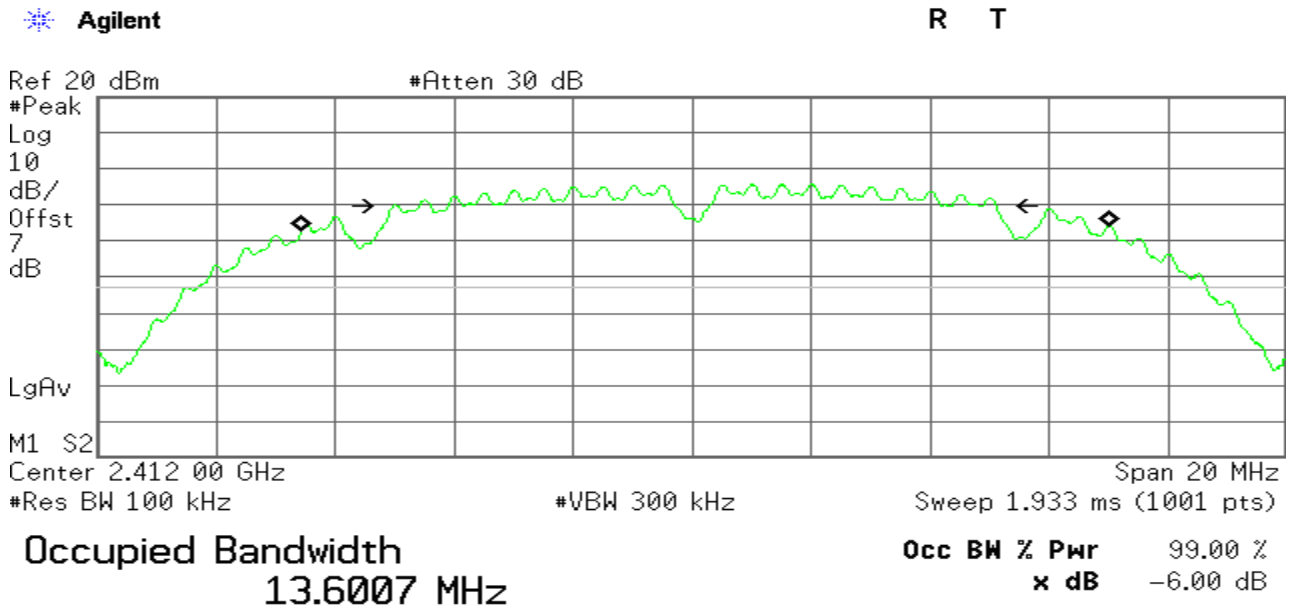
draft 802.11n wide-40 MHz Channel mode / Chain 2

Channel	Frequency (MHz)	Bandwidth (MHz)	Limit (kHz)	Result
Low	2422	35.949	>500	PASS
Mid	2437	36.423		PASS
High	2452	36.397		PASS

Test Plot

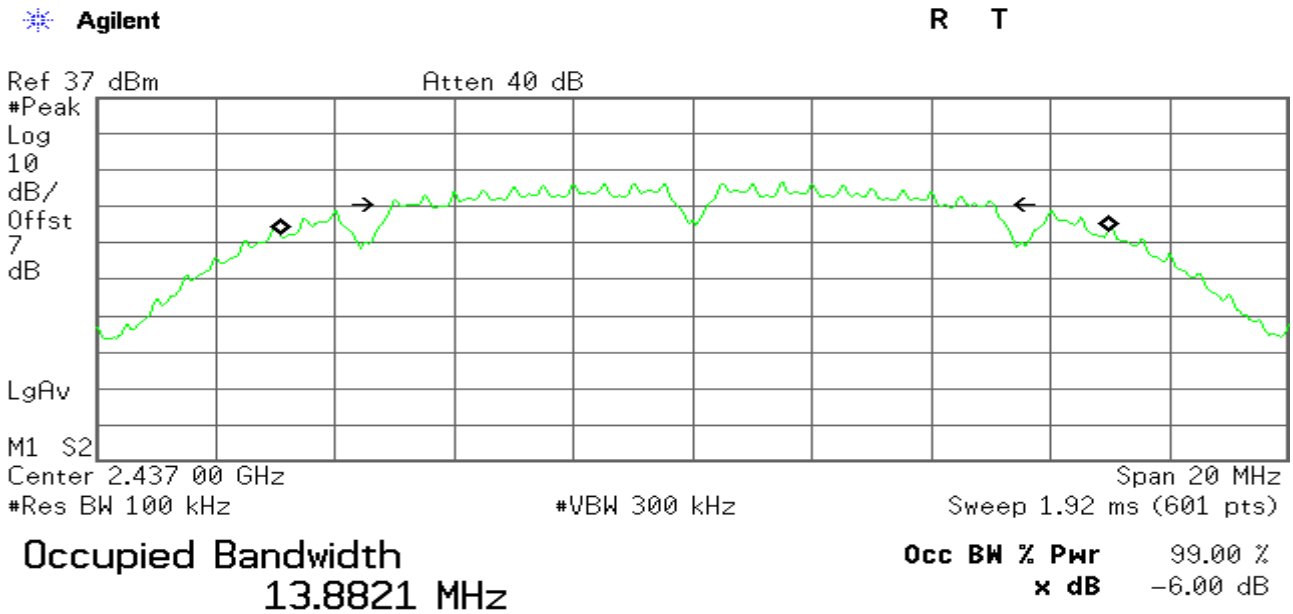
IEEE 802.11b MODE /Chain 0

6dB Bandwidth (CH Low)



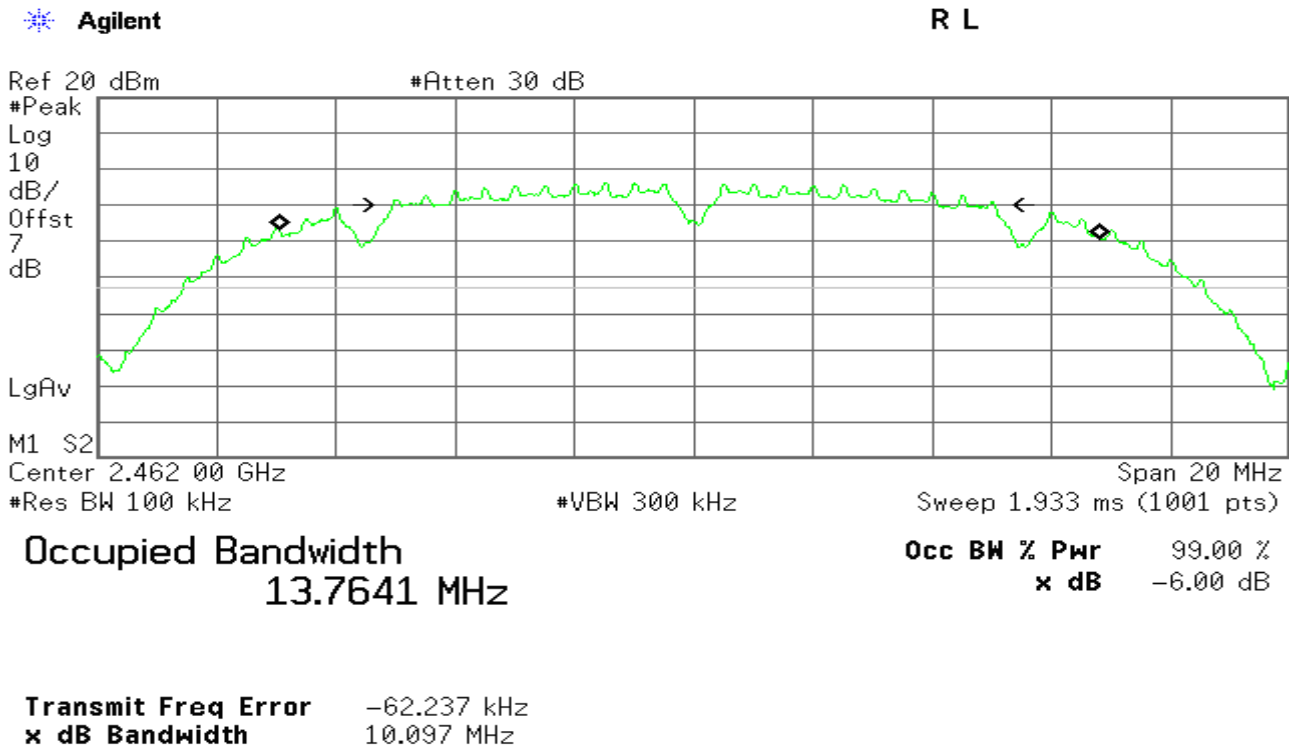
Transmit Freq Error 228.016 kHz
x dB Bandwidth 10.146 MHz

6dB Bandwidth (CH Mid)



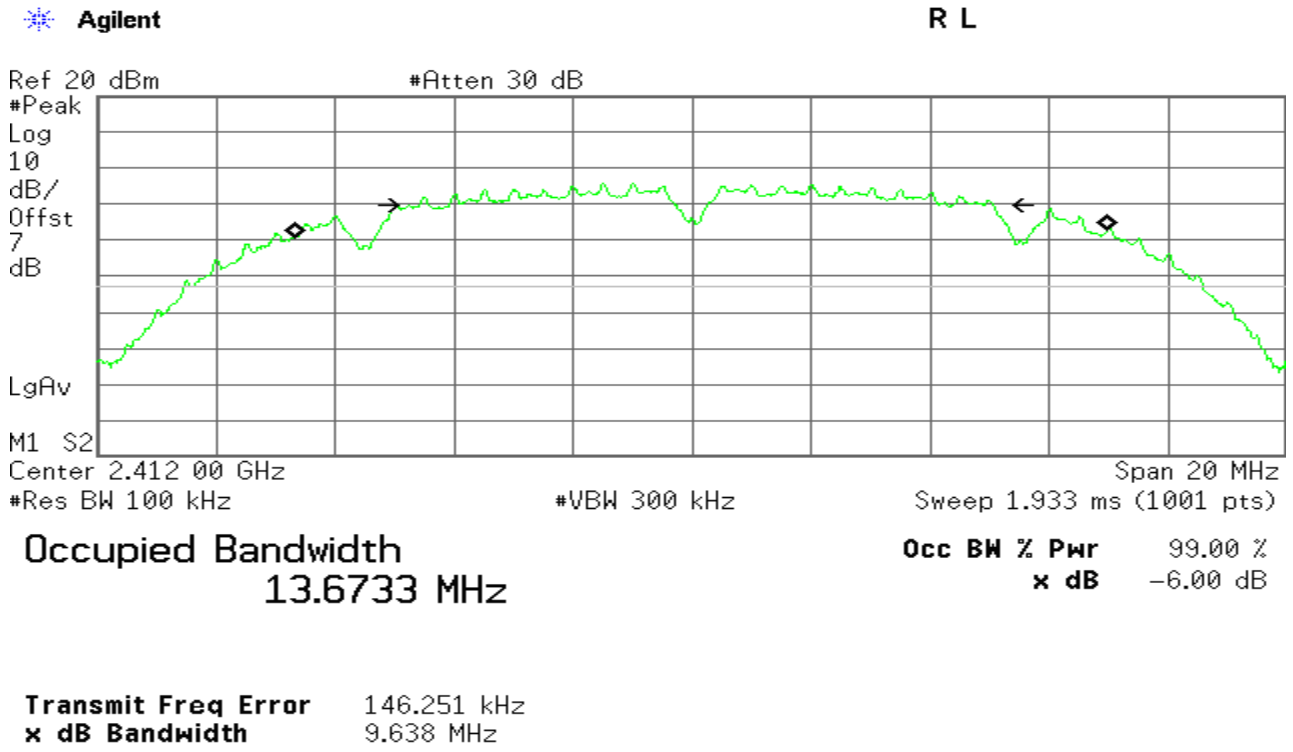
Transmit Freq Error 28.839 kHz
x dB Bandwidth 10.108 MHz

6dB Bandwidth (CH High)

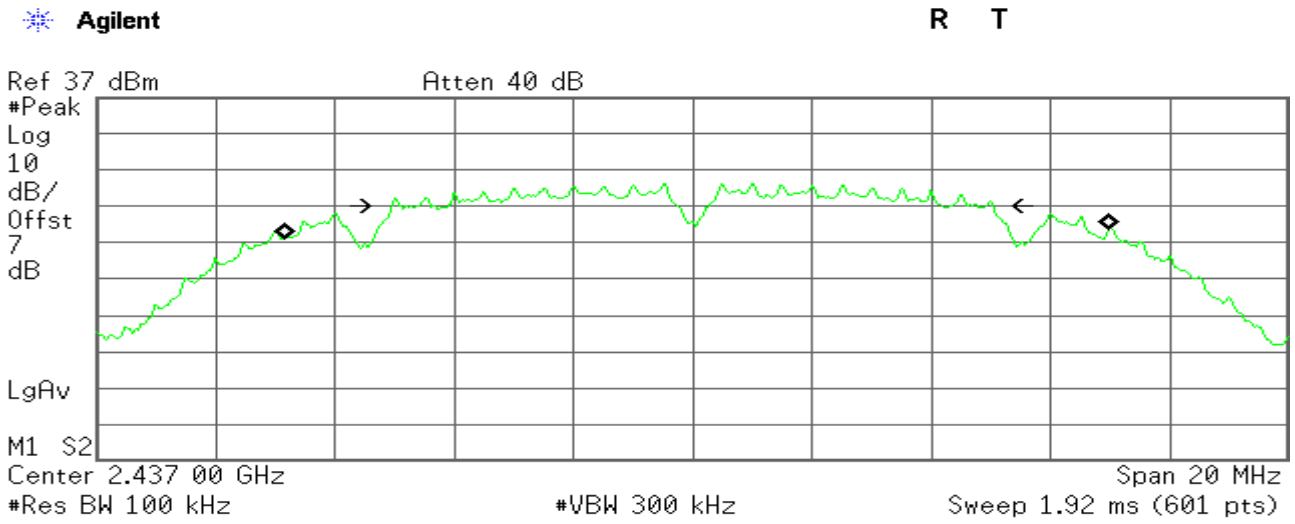


IEEE 802.11b MODE /Chain 1

6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

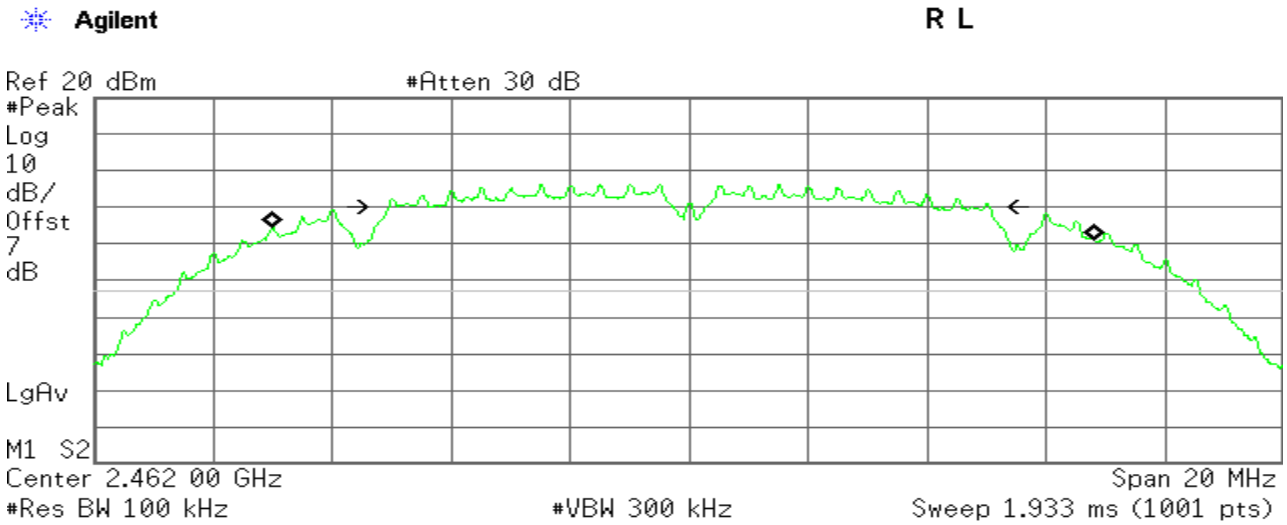


Occupied Bandwidth
13.8031 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 64.584 kHz
x dB Bandwidth 10.099 MHz

6dB Bandwidth (CH High)



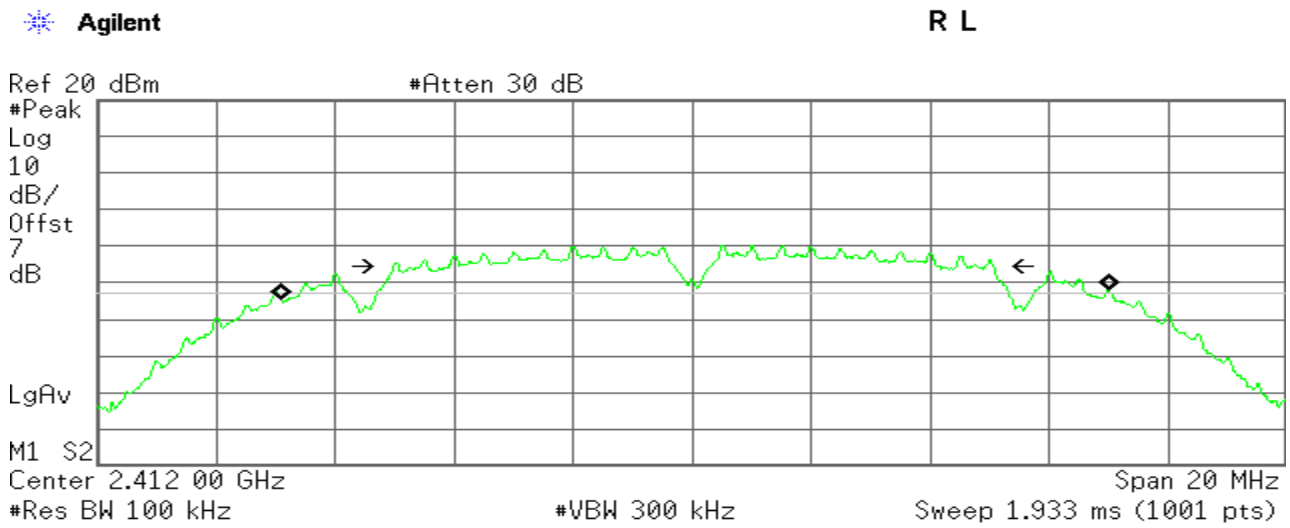
Occupied Bandwidth
13.8169 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error -92.927 kHz
x dB Bandwidth 10.100 MHz

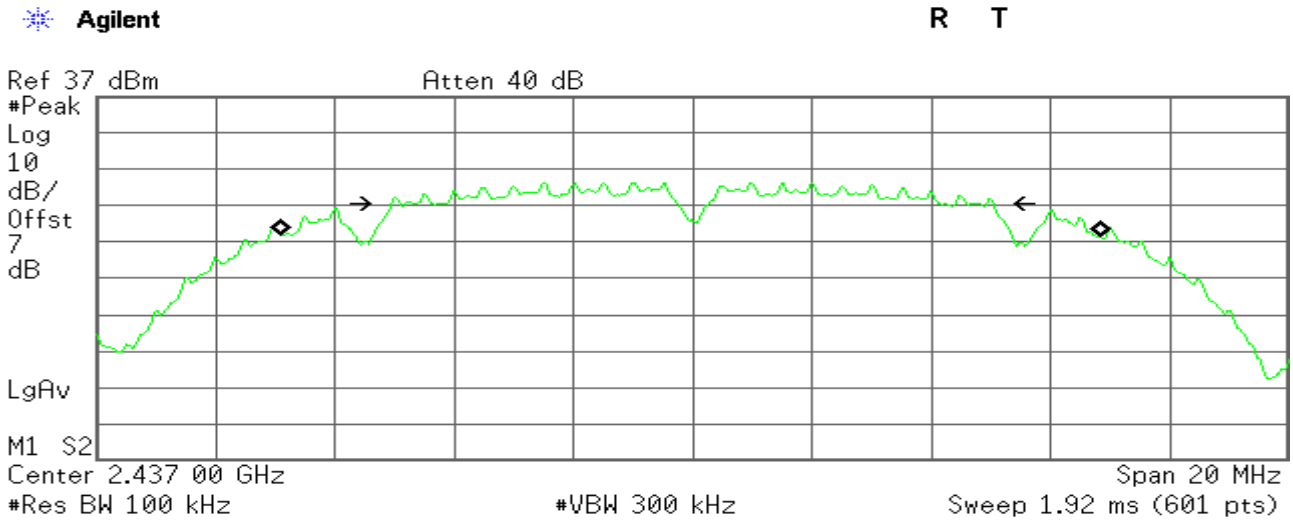
IEEE 802.11b MODE /Chain 2

6dB Bandwidth (CH Low)



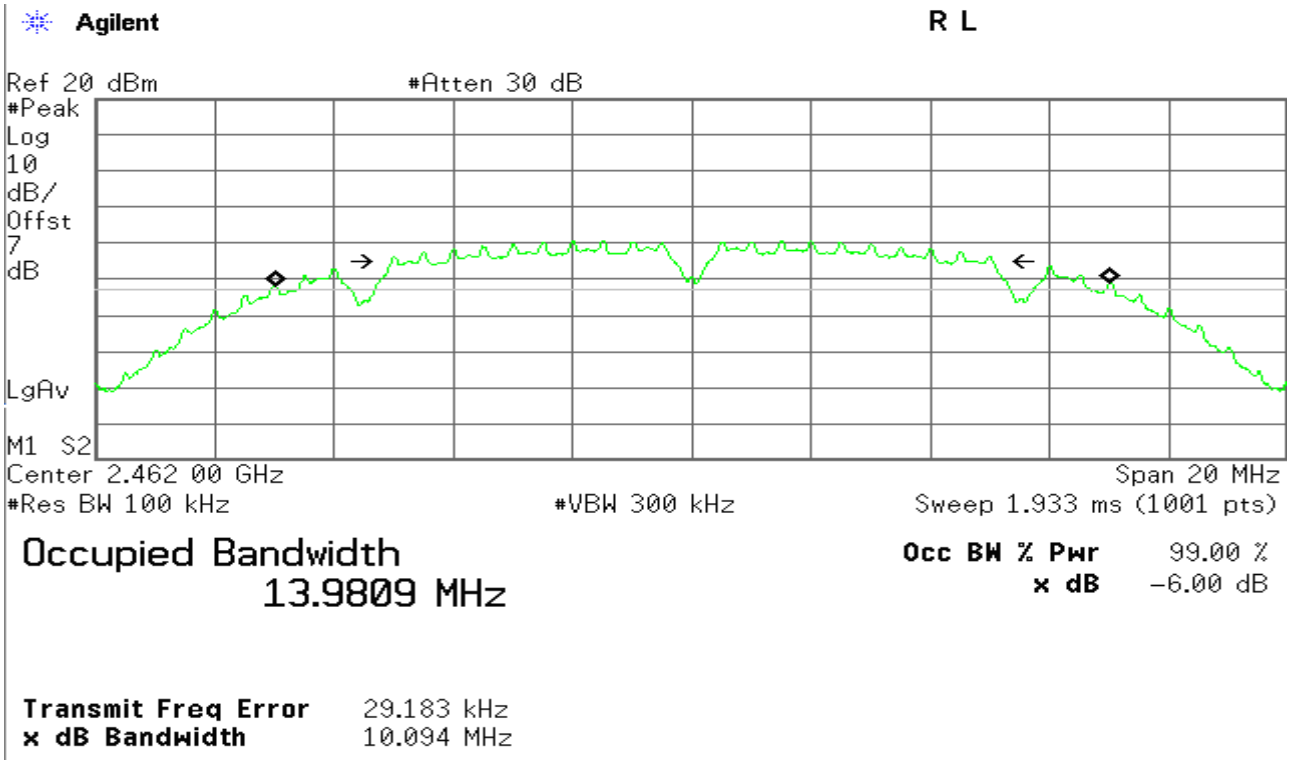
Transmit Freq Error 61.402 kHz
x dB Bandwidth 10.086 MHz

6dB Bandwidth (CH Mid)



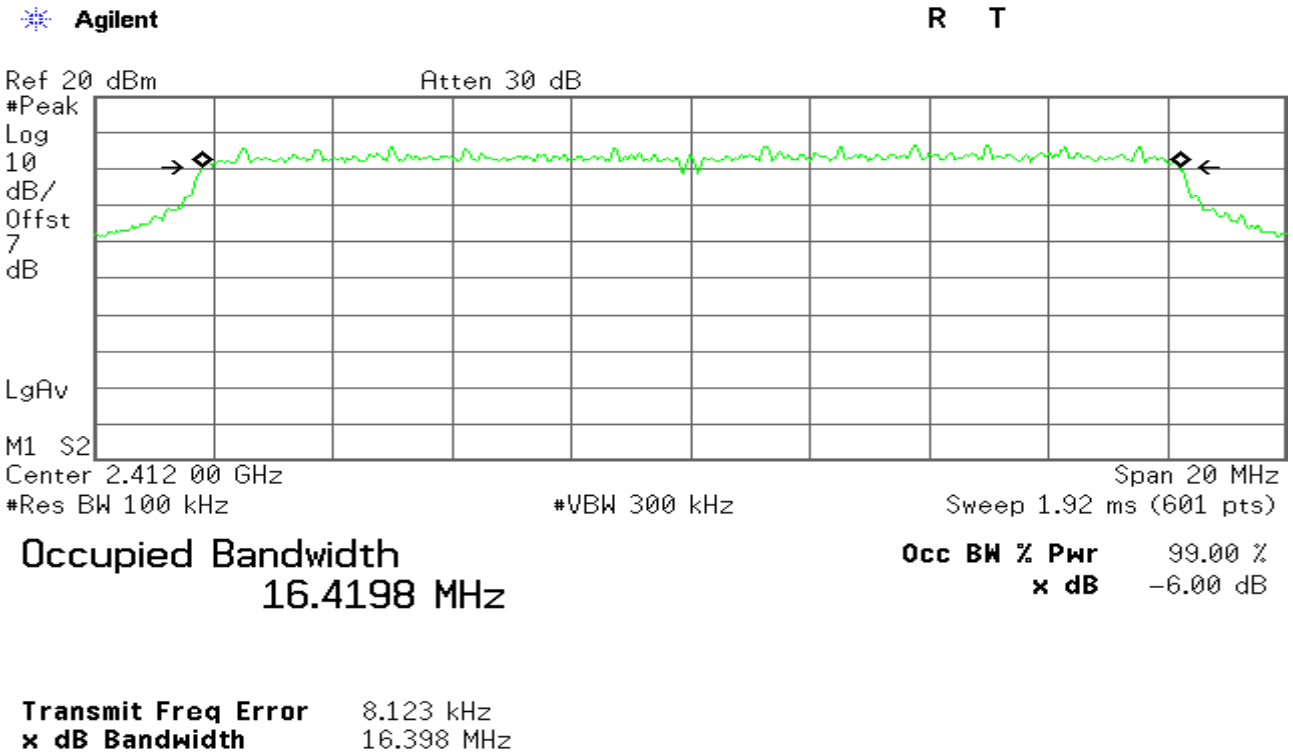
Transmit Freq Error -23.526 kHz
x dB Bandwidth 10.114 MHz

6dB Bandwidth (CH High)

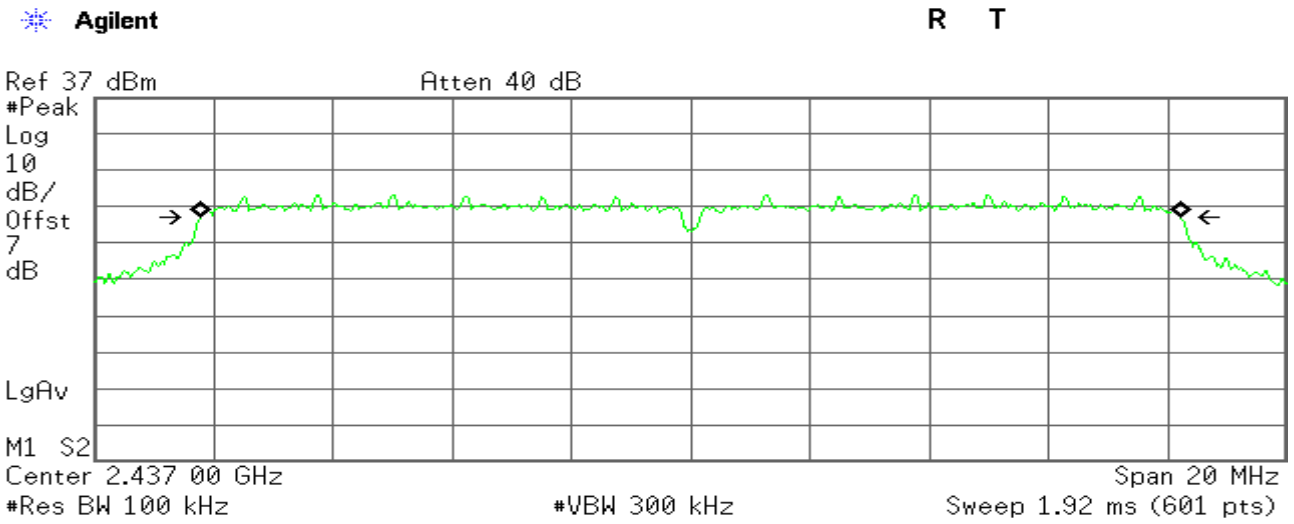


IEEE 802.11g MODE /Chain 0

6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

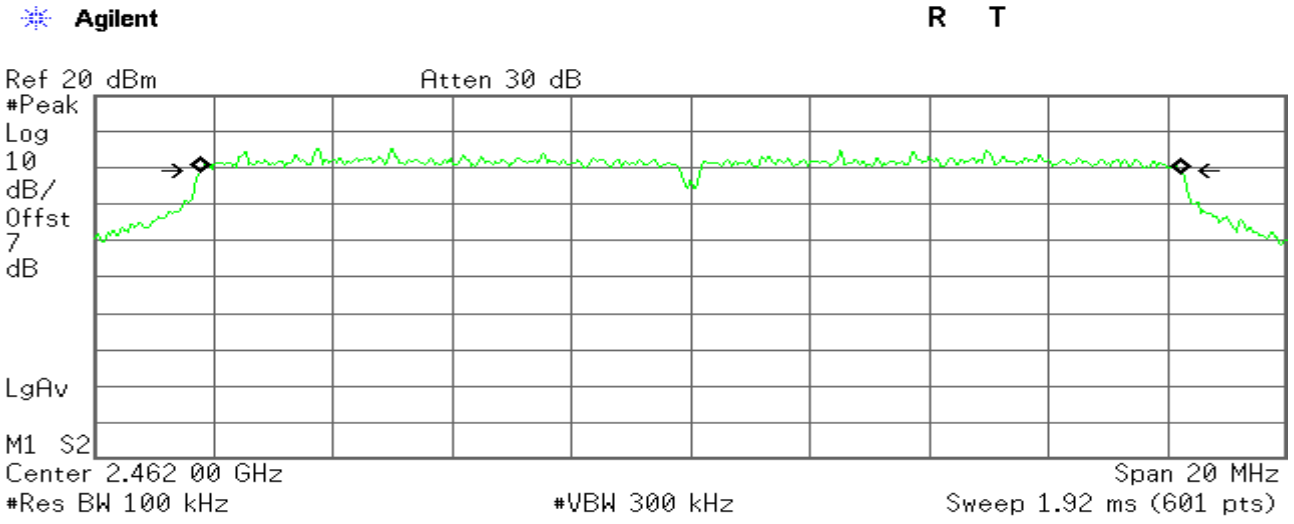


Occupied Bandwidth
16.4587 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 2.077 kHz
x dB Bandwidth 16.429 MHz

6dB Bandwidth (CH High)



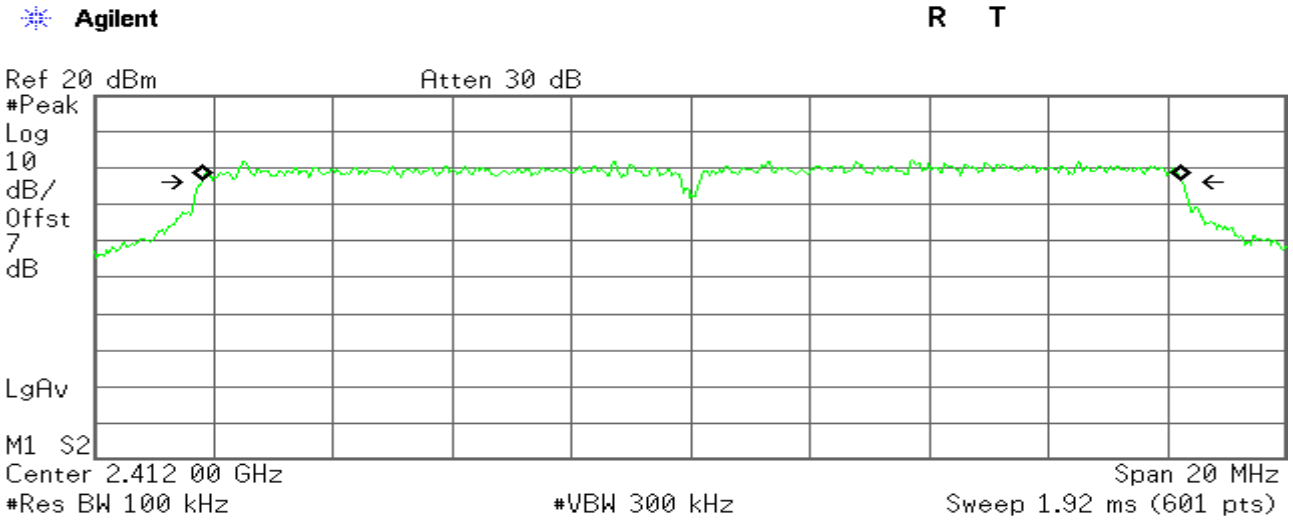
Occupied Bandwidth
16.4525 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error -1.734 kHz
x dB Bandwidth 16.404 MHz

IEEE 802.11g MODE /Chain 1

6dB Bandwidth (CH Low)

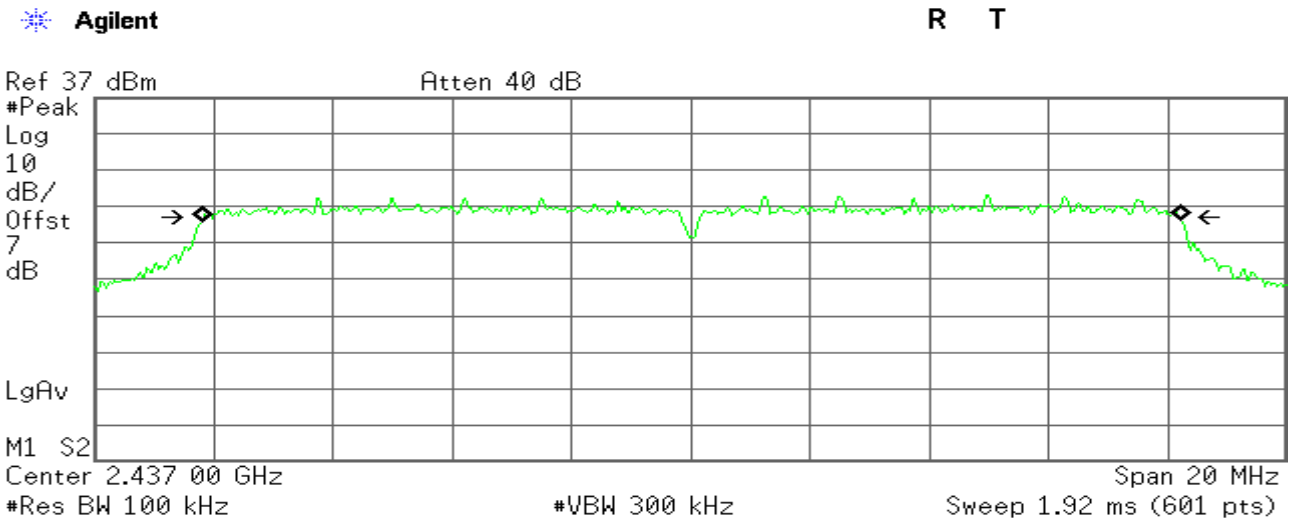


Occupied Bandwidth
16.4251 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 18.971 kHz
x dB Bandwidth 16.466 MHz

6dB Bandwidth (CH Mid)

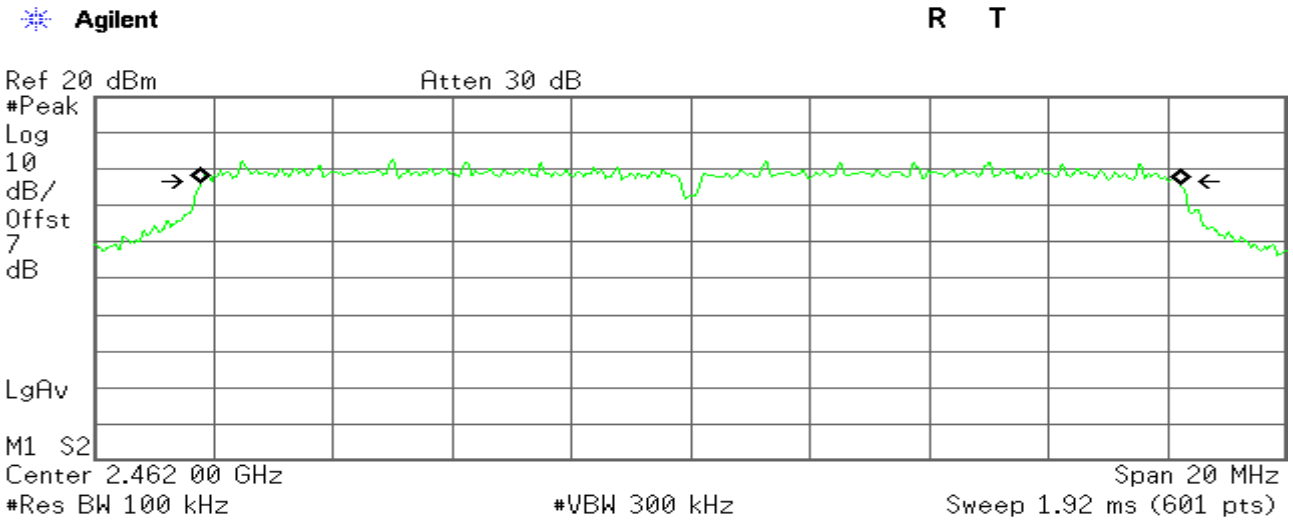


Occupied Bandwidth
16.4391 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

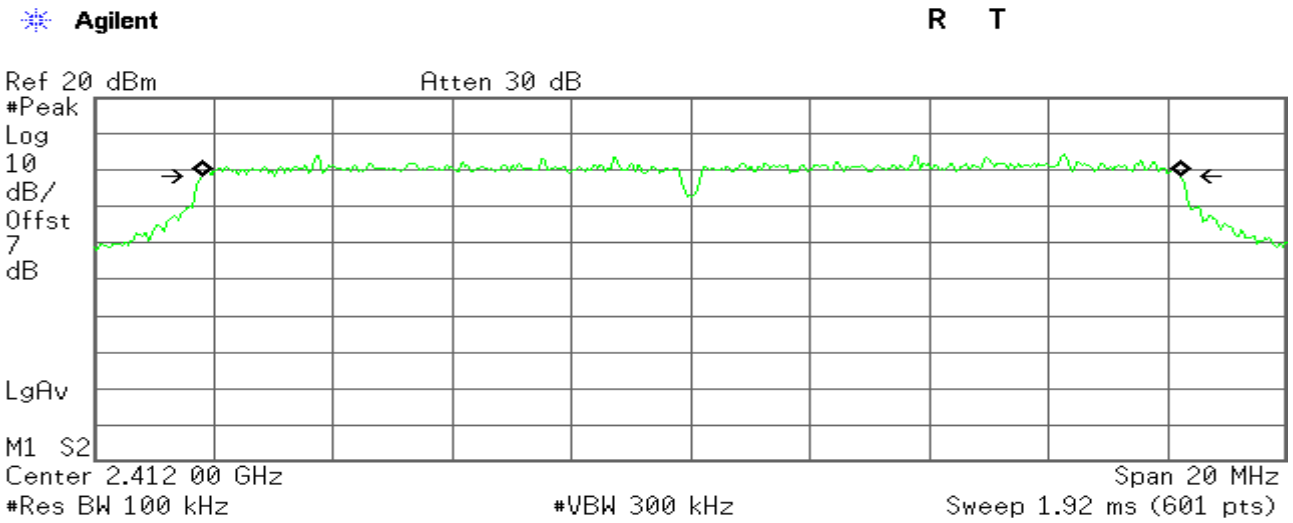
Transmit Freq Error 7.386 kHz
x dB Bandwidth 16.383 MHz

6dB Bandwidth (CH High)

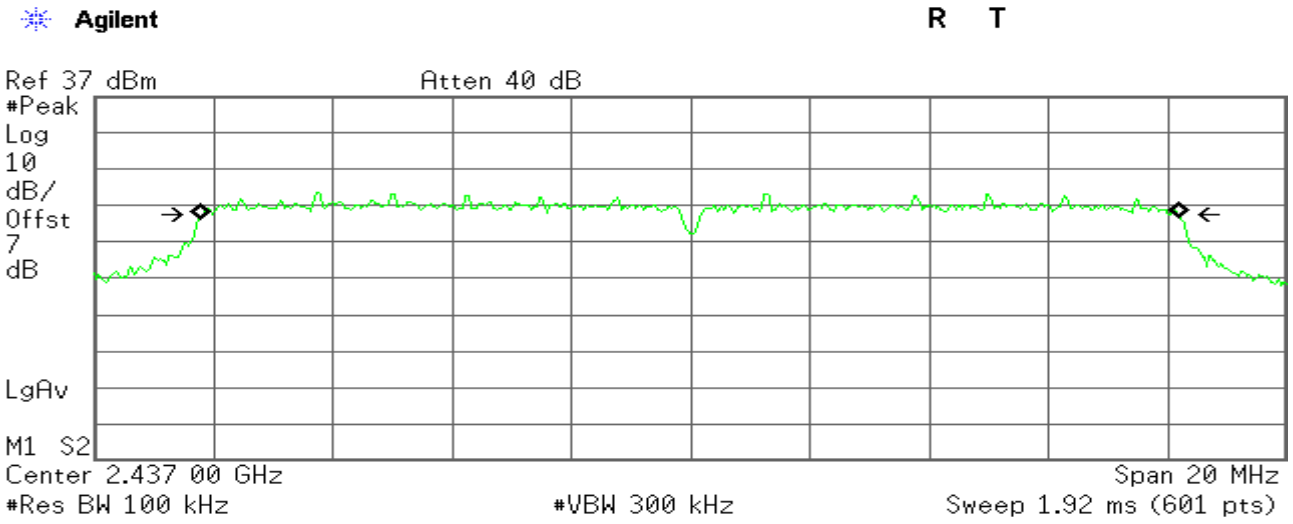


IEEE 802.11g MODE /Chain 2

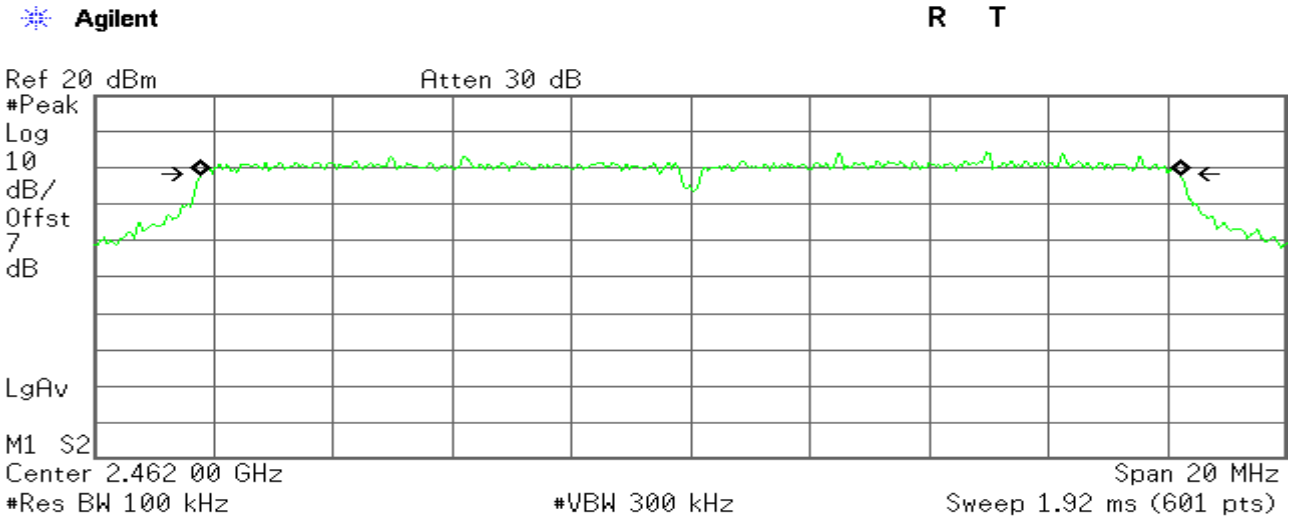
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

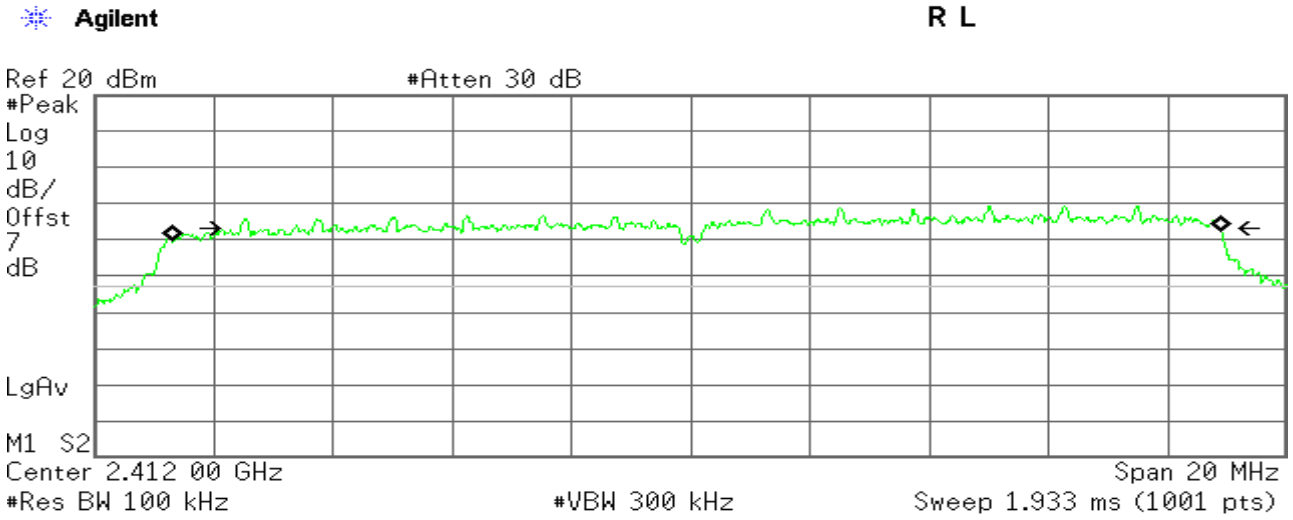


6dB Bandwidth (CH High)



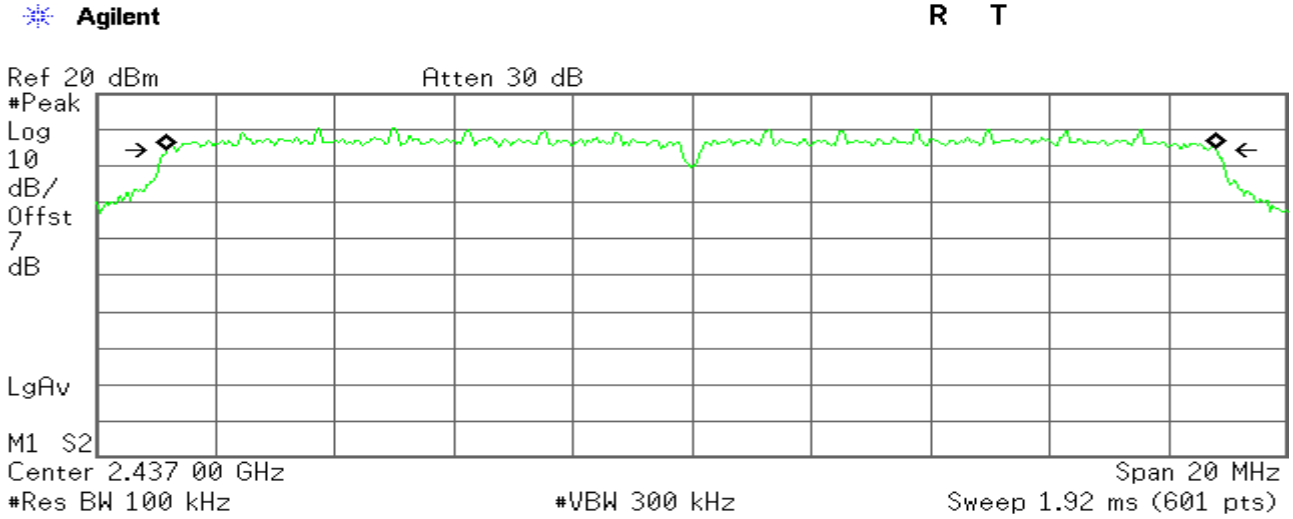
draft 802.11n Standard-20 MHz Channel mode / Chain 0

6dB Bandwidth (CH Low)



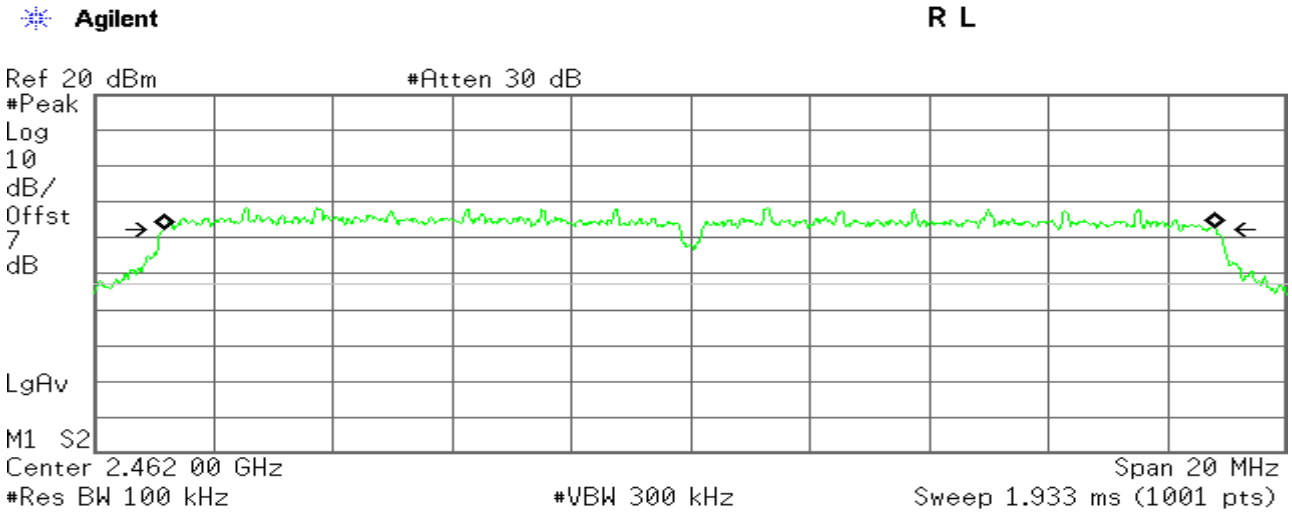
Transmit Freq Error	94.008 kHz
x dB Bandwidth	16.415 MHz

6dB Bandwidth (CH Mid)



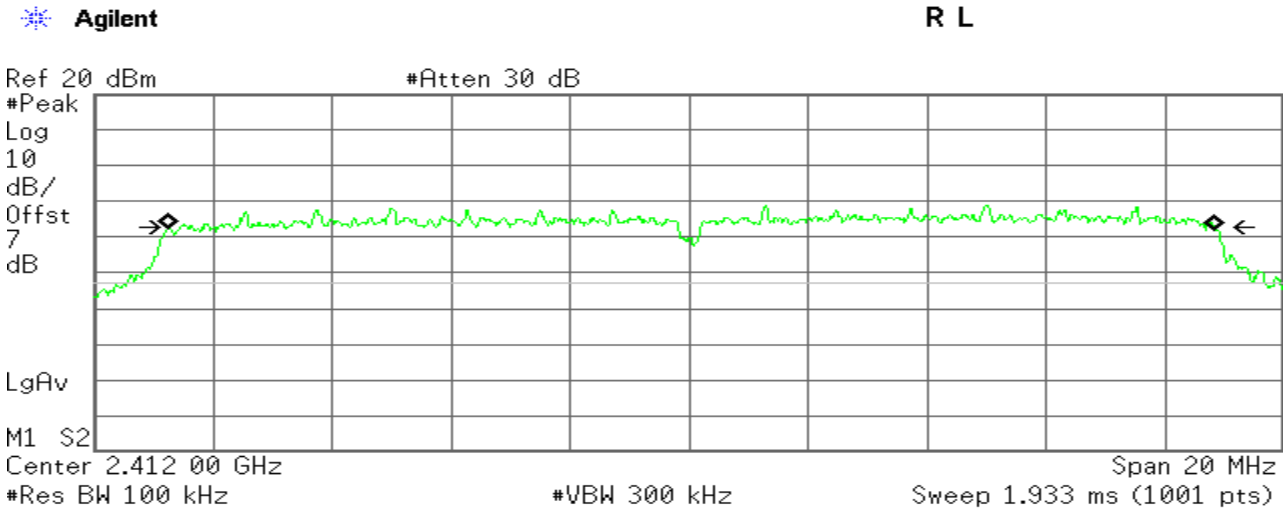
Transmit Freq Error	-17.421 kHz
x dB Bandwidth	17.623 MHz

6dB Bandwidth (CH High)

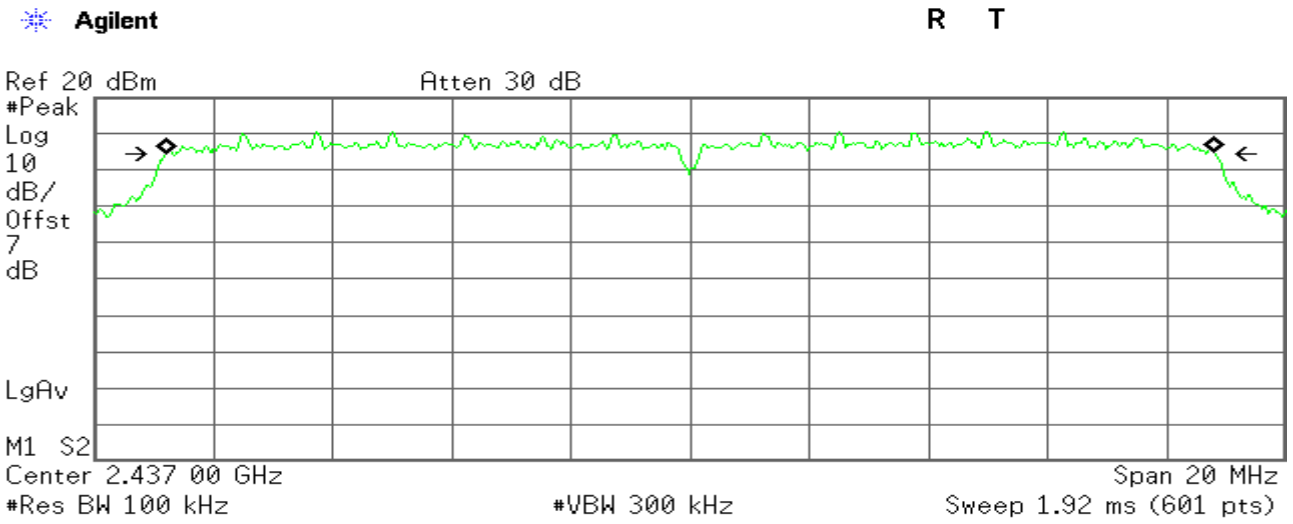


draft 802.11n Standard-20 MHz Channel mode / Chain 1

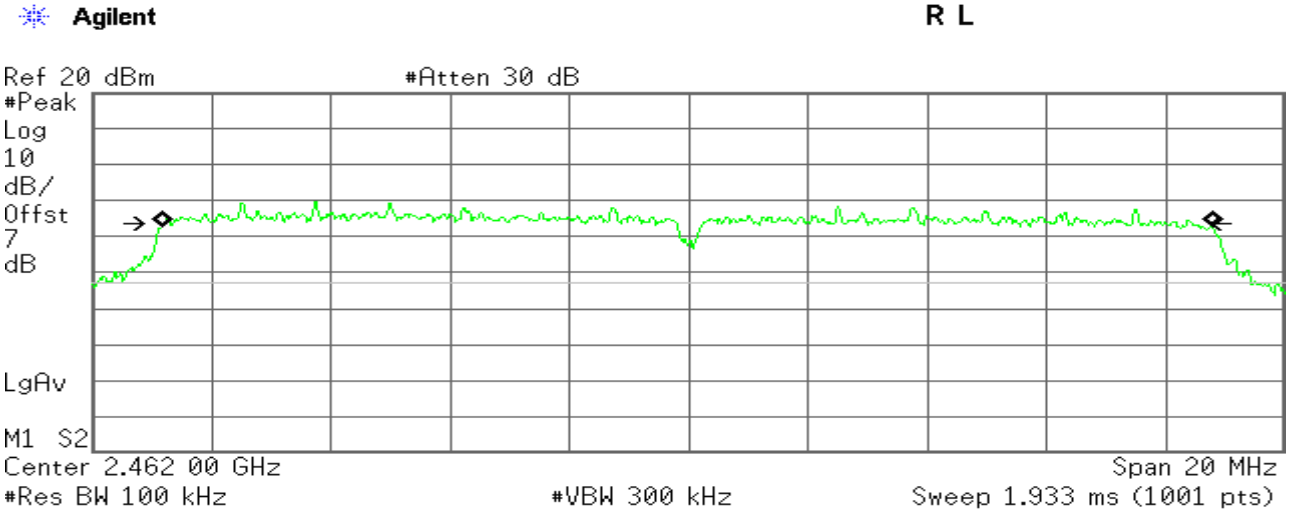
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

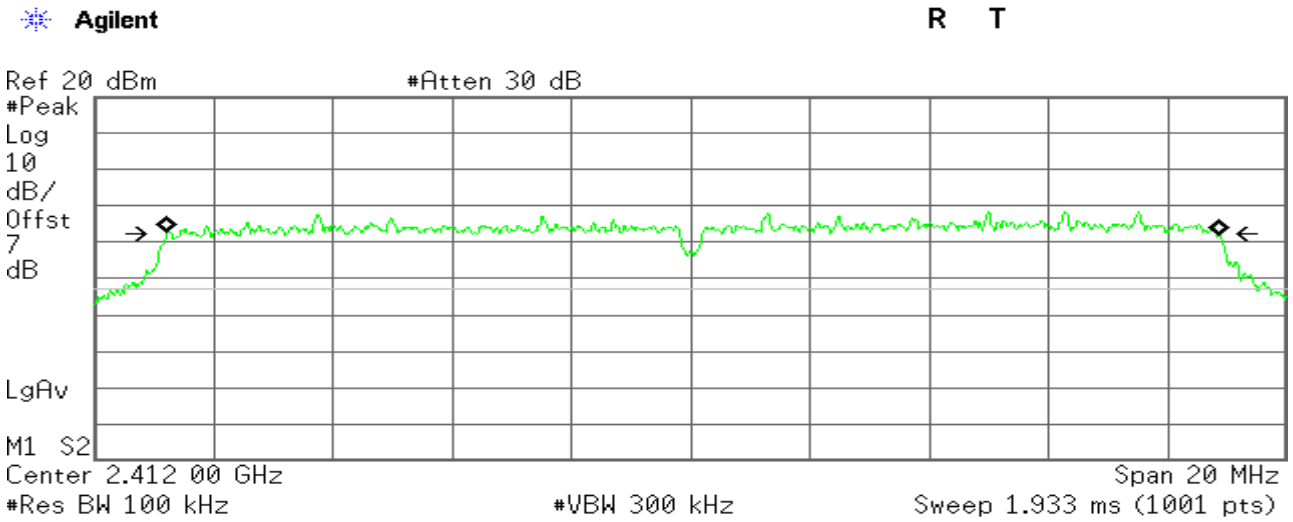


6dB Bandwidth (CH High)



draft 802.11n Standard-20 MHz Channel mode / Chain 2

6dB Bandwidth (CH Low)

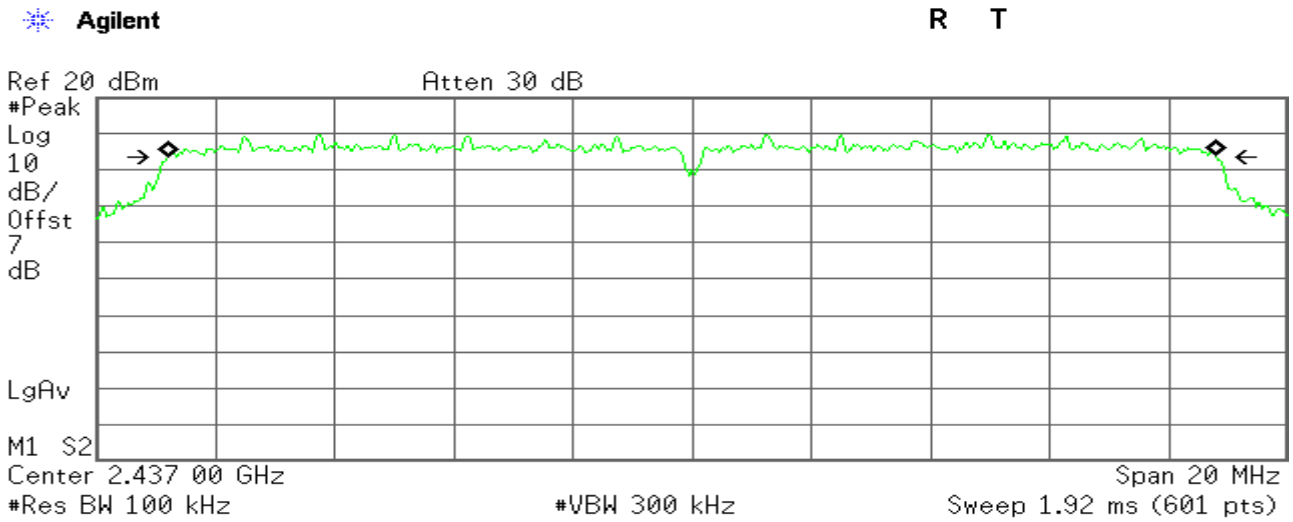


Occupied Bandwidth
17.6276 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

Transmit Freq Error 42.758 kHz
x dB Bandwidth 17.603 MHz

6dB Bandwidth (CH Mid)

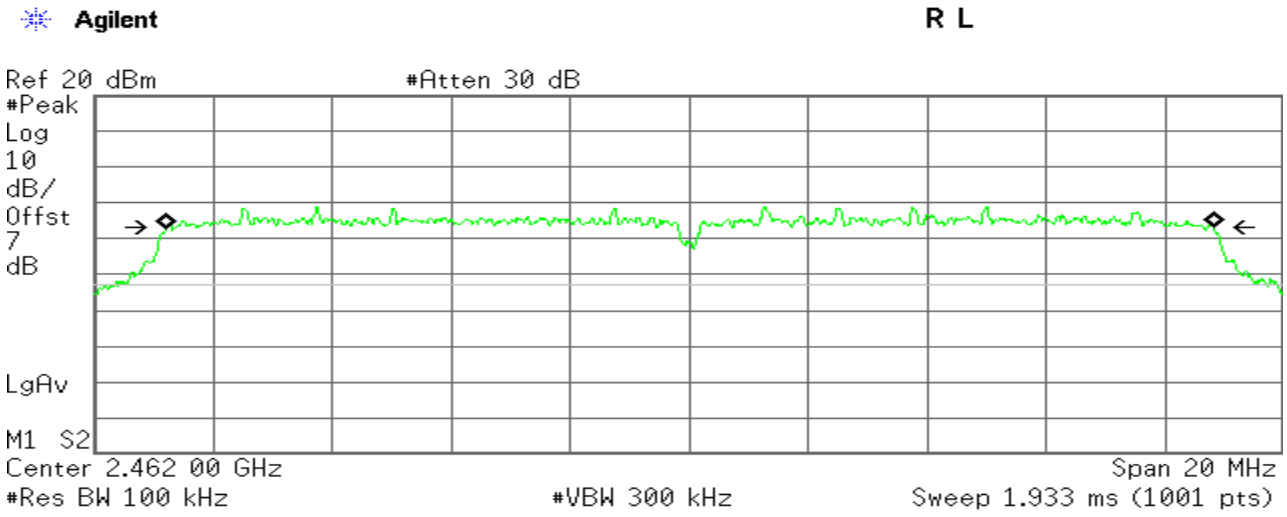


Occupied Bandwidth
17.6125 MHz

Occ BW % Pwr 99.00 %
x dB -6.00 dB

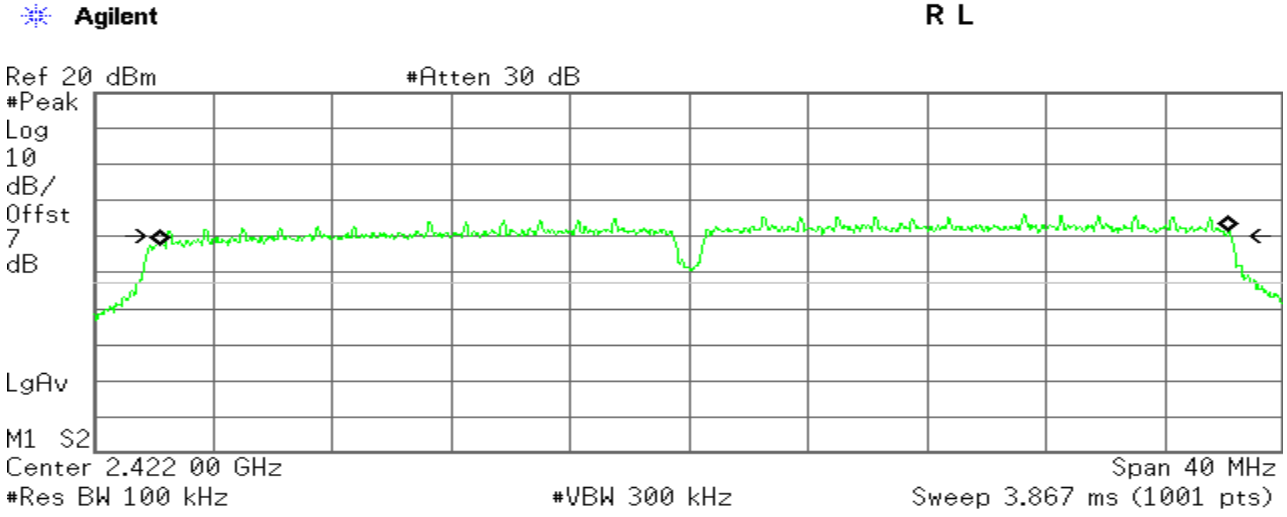
Transmit Freq Error -3.189 kHz
x dB Bandwidth 17.620 MHz

6dB Bandwidth (CH High)

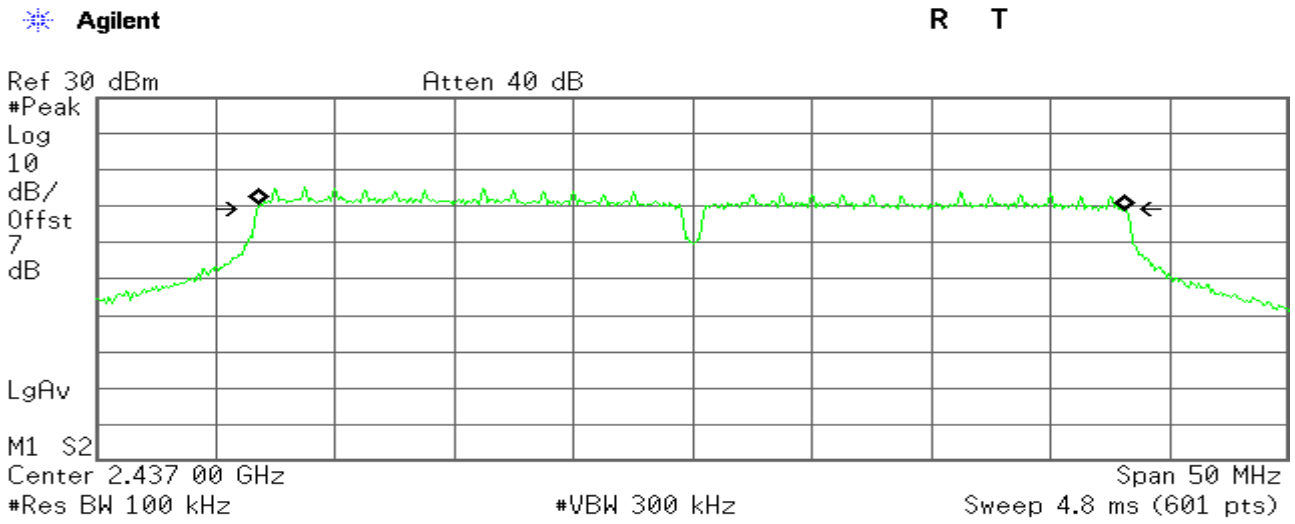


draft 802.11n Standard-40 MHz Channel mode / Chain 0

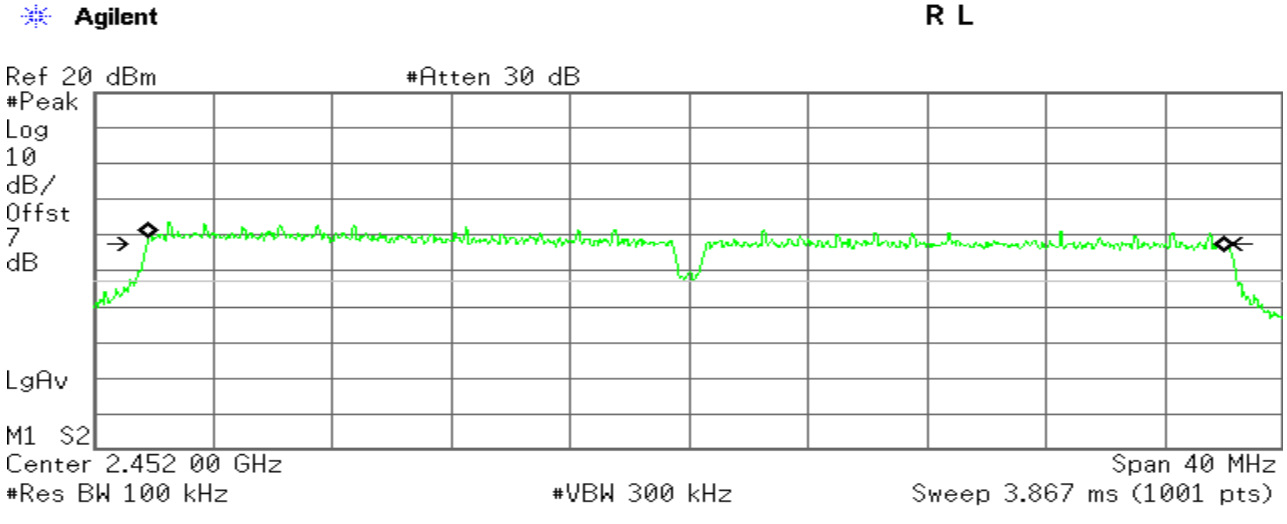
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

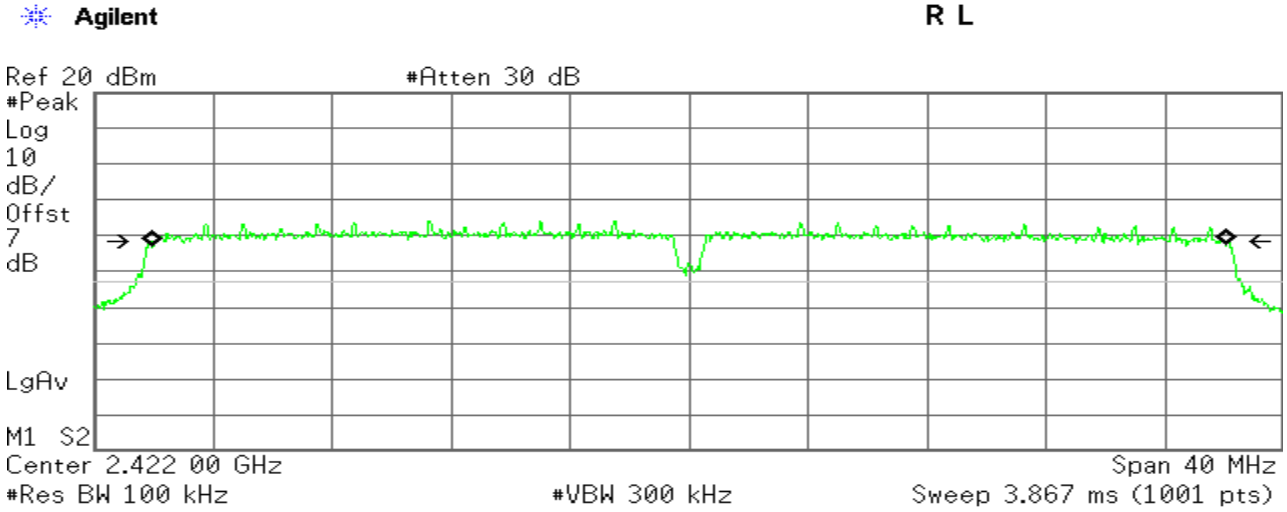


6dB Bandwidth (CH High)



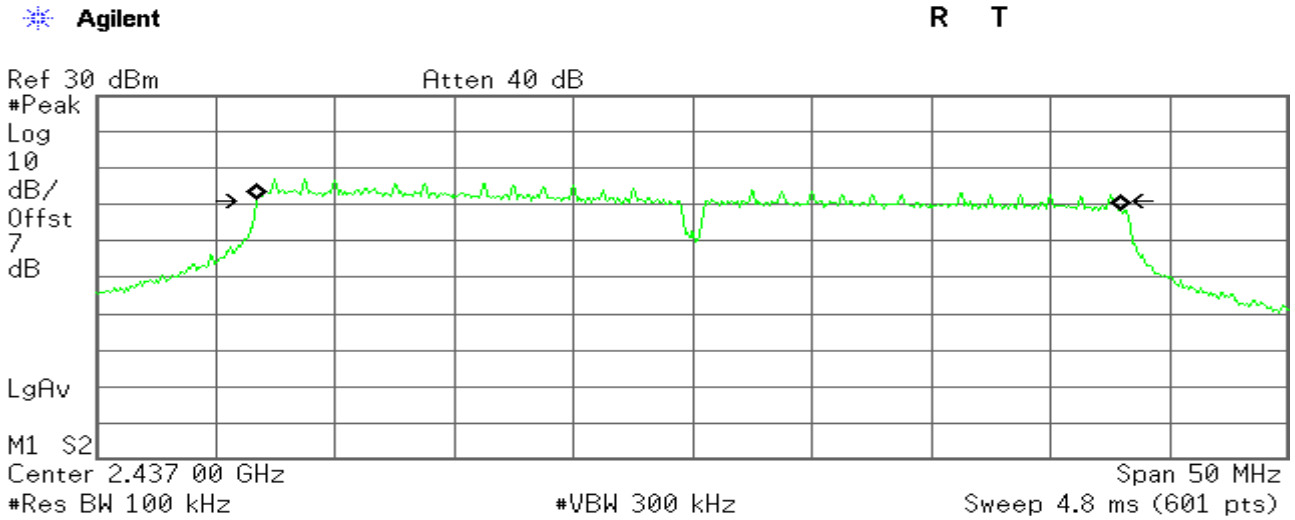
draft 802.11n Standard-40 MHz Channel mode / Chain 1

6dB Bandwidth (CH Low)



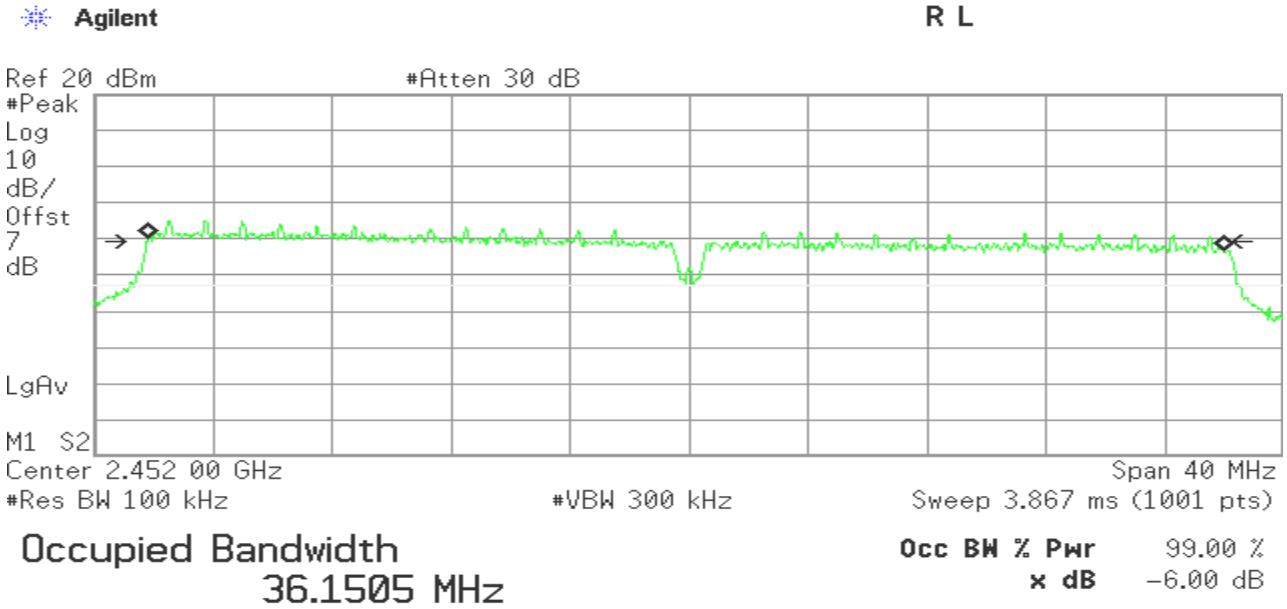
Transmit Freq Error −4.952 kHz
x dB Bandwidth 36.305 MHz

6dB Bandwidth (CH Mid)



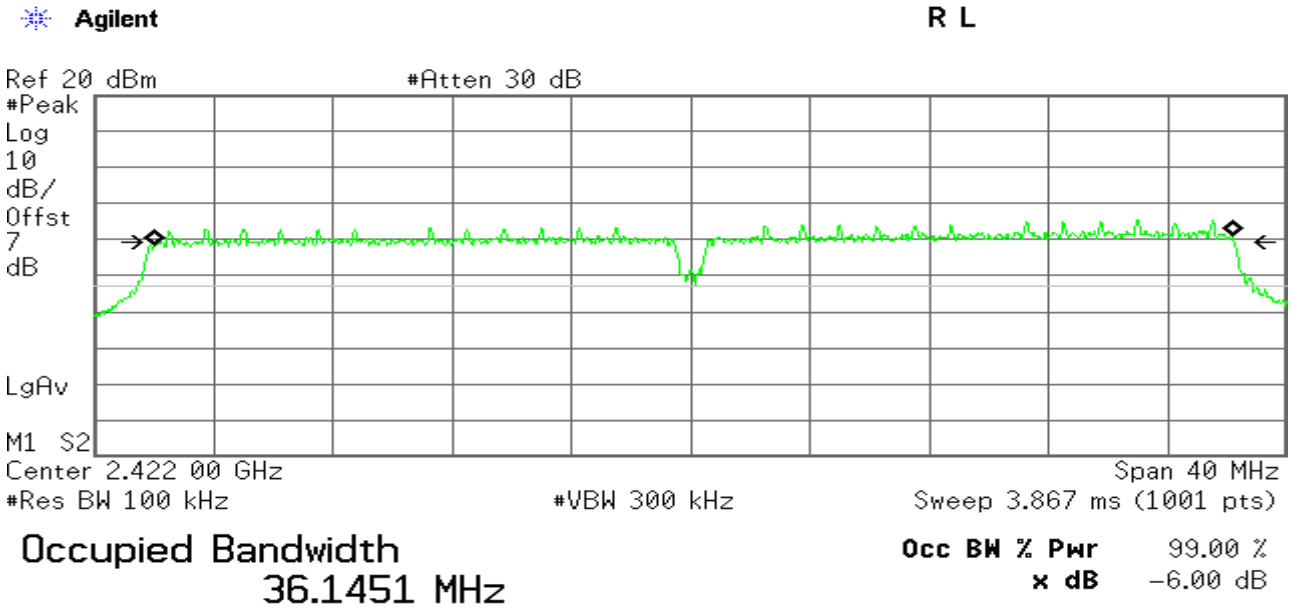
Transmit Freq Error −138.804 kHz
x dB Bandwidth 35.843 MHz

6dB Bandwidth (CH High)

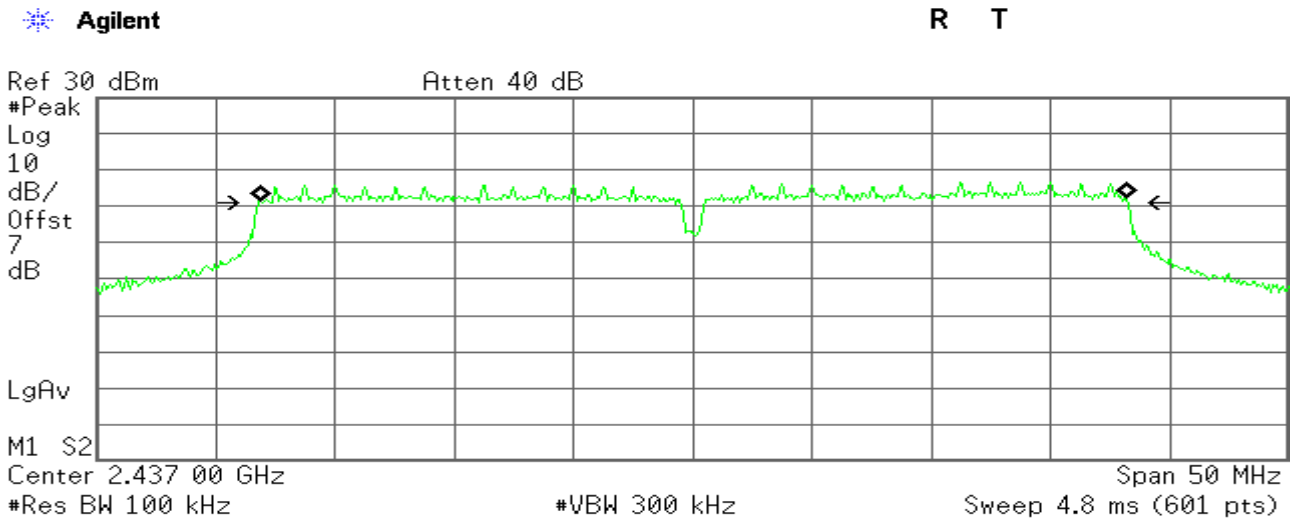


draft 802.11n Standard-40 MHz Channel mode / Chain 2

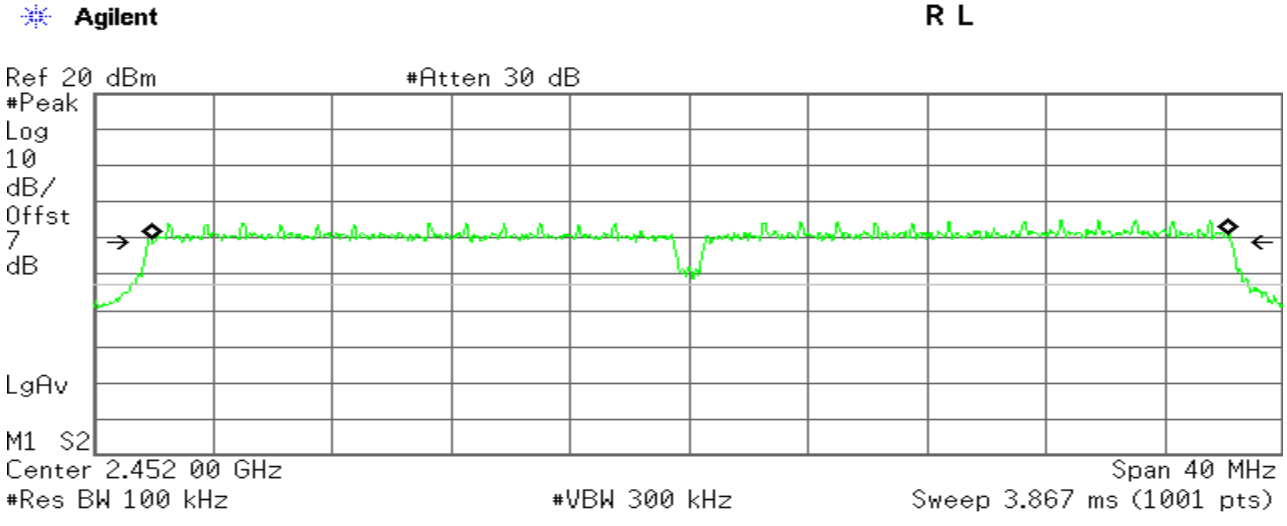
6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)



4.2.PEAK POWER

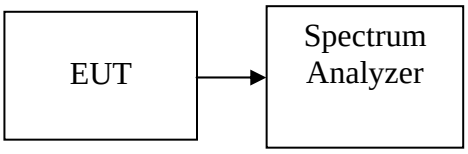
LIMIT

The maximum peak output power of the intentional radiator shall not exceed the following:

1.According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.

2.According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test Configuration



TEST PROCEDURE

This procedure may be used when the maximum available RBW of the measurement instrument is less than the DTS bandwidth.

1. Set the RBW = 1 MHz.
2. Set the VBW ≥ 3 RBW
3. Set the span ≥ 1.5 x DTS bandwidth.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select peak detector). If the instrument does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS bandwidth.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: 802.11b mode

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Chain 2 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	2412	22.60	22.90	22.13	27.33	30.00
Mid	2437	25.36	25.12	24.80	29.87	30.00
High	2462	22.62	23.18	22.45	27.53	30.00

Test mode: 802.11g mode

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Chain 2 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	2412	21.84	19.44	19.74	25.25	30.00
Mid	2437	25.12	24.82	25.20	29.82	30.00
High	2462	20.65	19.29	19.13	24.52	30.00

Test mode: draft 802.11n Standard-20 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Chain 2 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	2412	18.07	17.87	16.95	22.43	30.00
Mid	2437	24.40	23.35	24.34	28.83	30.00
High	2462	17.92	17.67	17.33	22.42	30.00

Test mode: draft 802.11n Wide-40 MHz Channel mode

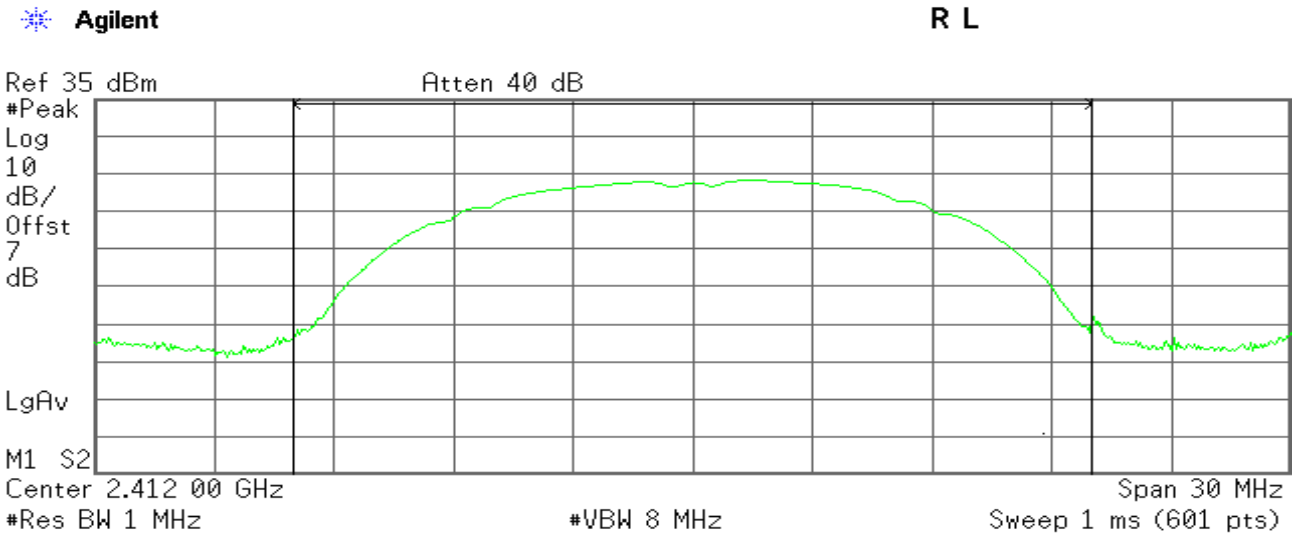
Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Chain 2 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	2422	16.8	15.54	16.23	20.99	30.00
Mid	2437	23.75	23.64	22.81	28.19	30.00
High	2452	14.65	14.72	16.46	20.13	30.00

Remark: *Total Output Power (dBm) = 10*LOG(10^(Chain 0 Output Power / 10)+10^(Chain 1 Output Power /10) +10^(Chain 2 Output Power /10)))*

Test Plot

IEEE 802.11b mode/ Chain 0

Peak Power (CH Low)



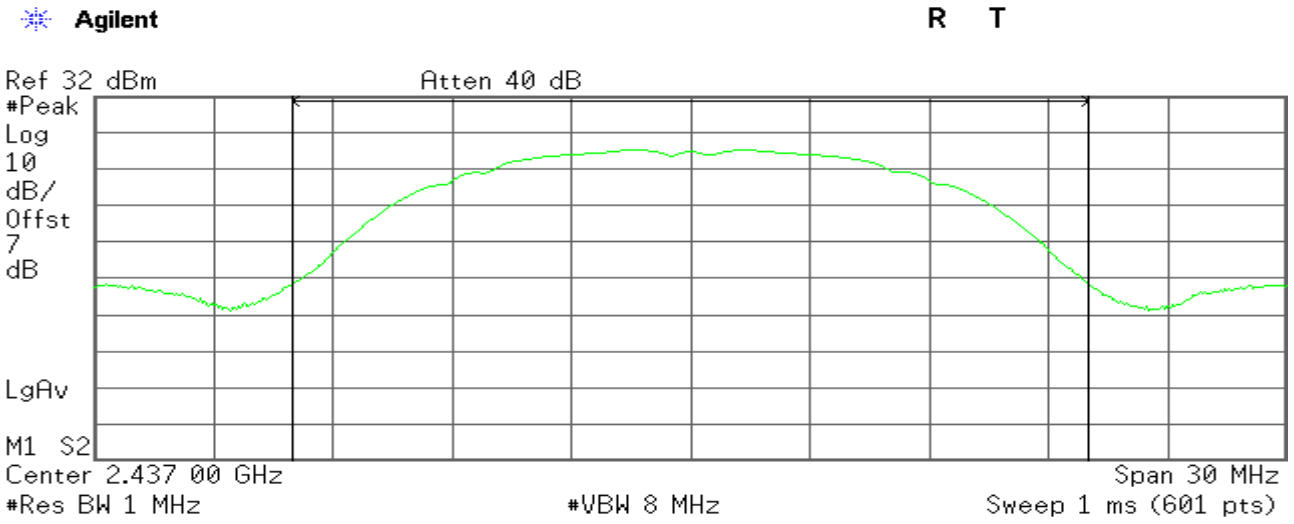
Channel Power

22.60 dBm /20.0000 MHz

Power Spectral Density

8.59 dBm/MHz

Peak Power (CH Mid)



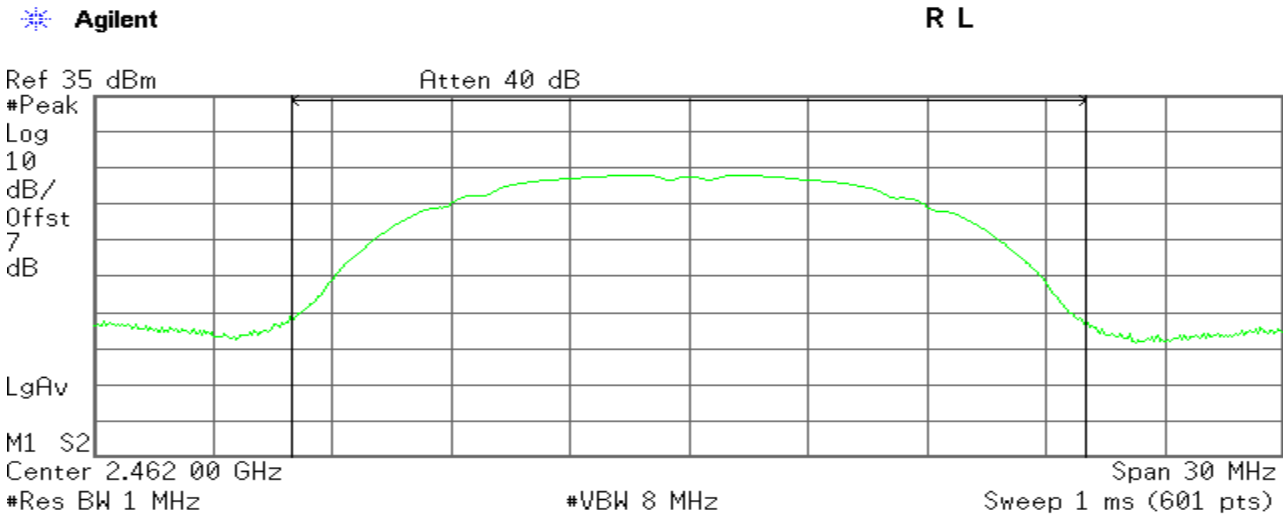
Channel Power

25.36 dBm /20.0000 MHz

Power Spectral Density

12.51 dBm/MHz

Peak Power (CH High)



Channel Power

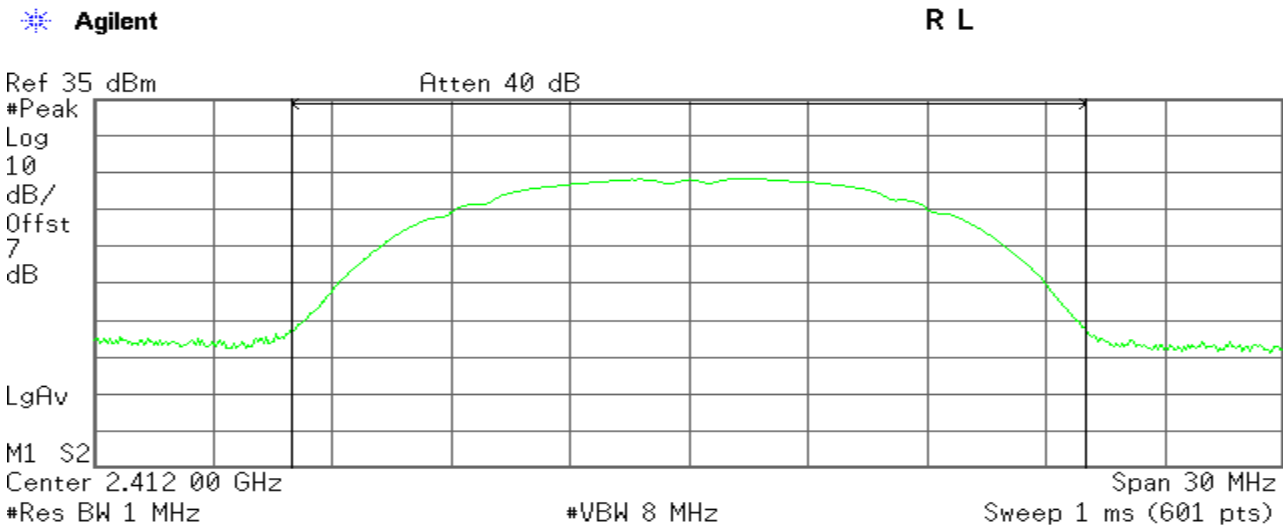
22.62 dBm /20.0000 MHz

Power Spectral Density

8.61 dBm/MHz

IEEE 802.11b mode/ Chain 1

Peak Power (CH Low)



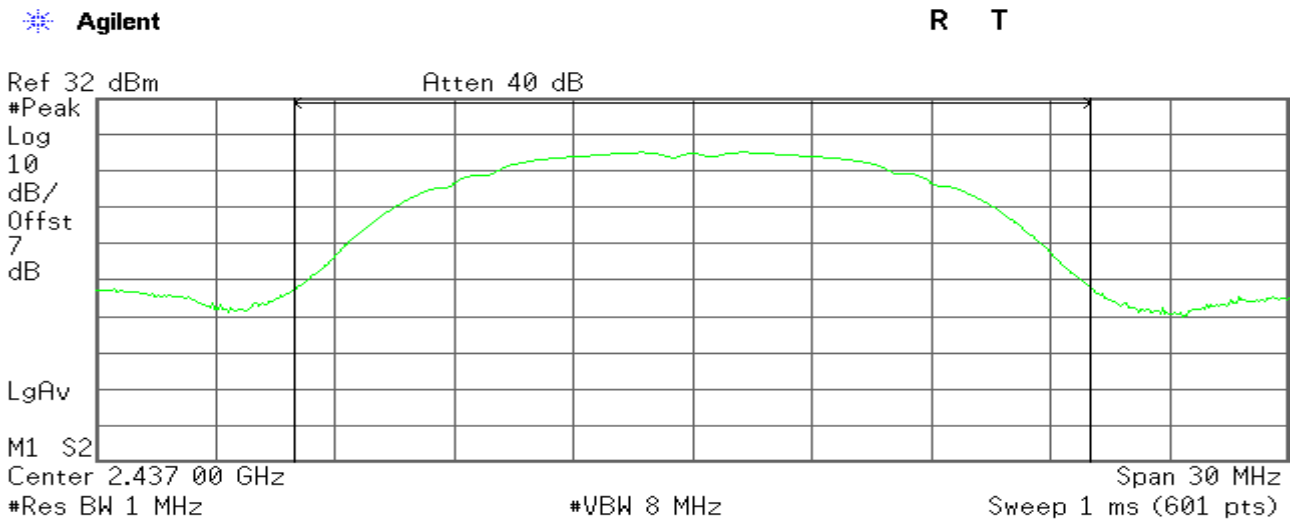
Channel Power

22.90 dBm /20.0000 MHz

Power Spectral Density

8.89 dBm/MHz

Peak Power (CH Mid)



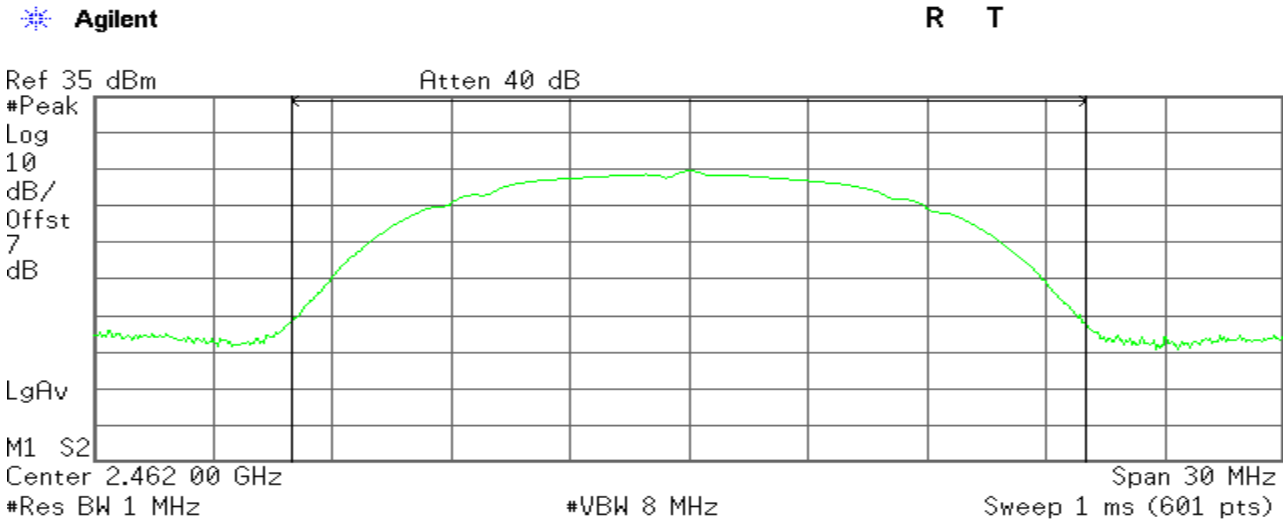
Channel Power

25.12 dBm /20.0000 MHz

Power Spectral Density

12.22 dBm/MHz

Peak Power (CH High)



Channel Power

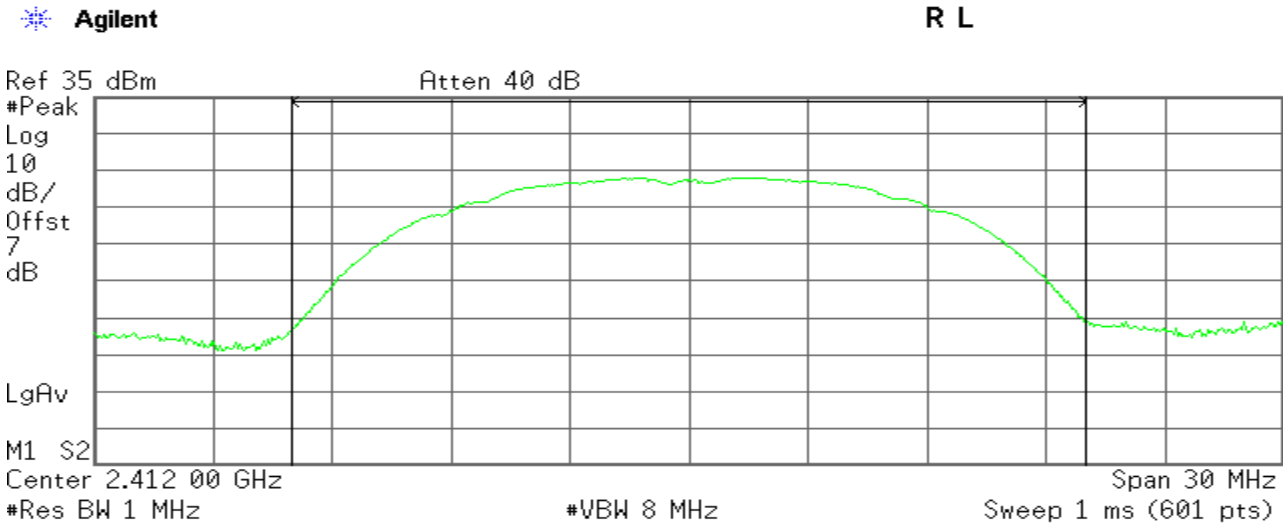
23.18 dBm /20.0000 MHz

Power Spectral Density

9.17 dBm/MHz

IEEE 802.11b mode/ Chain 2

Peak Power (CH Low)



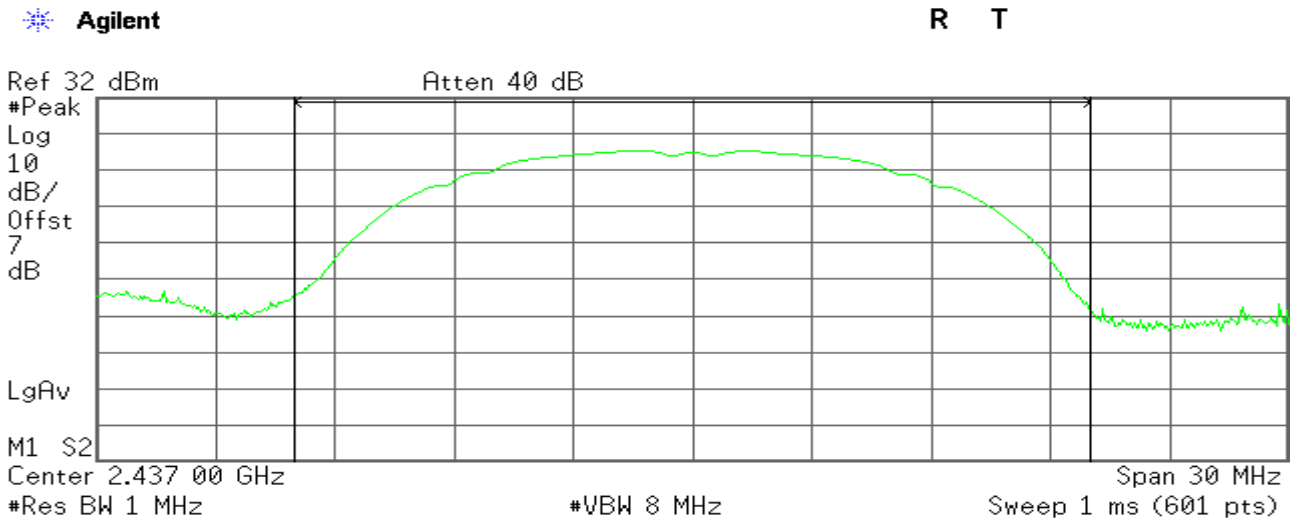
Channel Power

22.13 dBm /20.0000 MHz

Power Spectral Density

8.12 dBm/MHz

Peak Power (CH Mid)



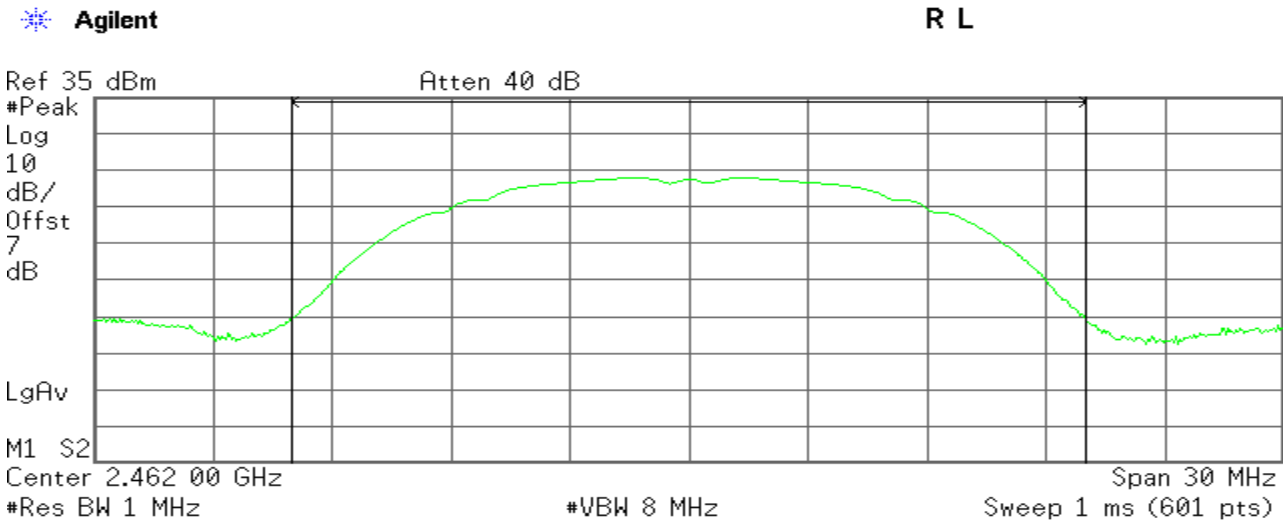
Channel Power

24.80 dBm /20.0000 MHz

Power Spectral Density

12.01 dBm/MHz

Peak Power (CH High)



Channel Power

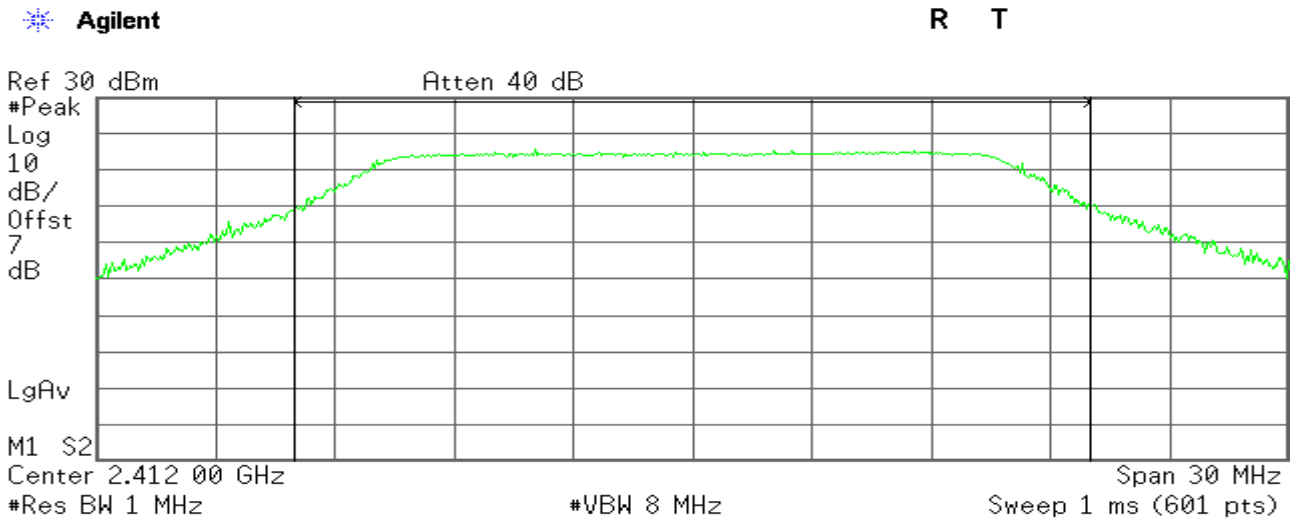
22.45 dBm /20.0000 MHz

Power Spectral Density

8.44 dBm/MHz

IEEE 802.11g mode /Chain 0

Peak Power (CH Low)



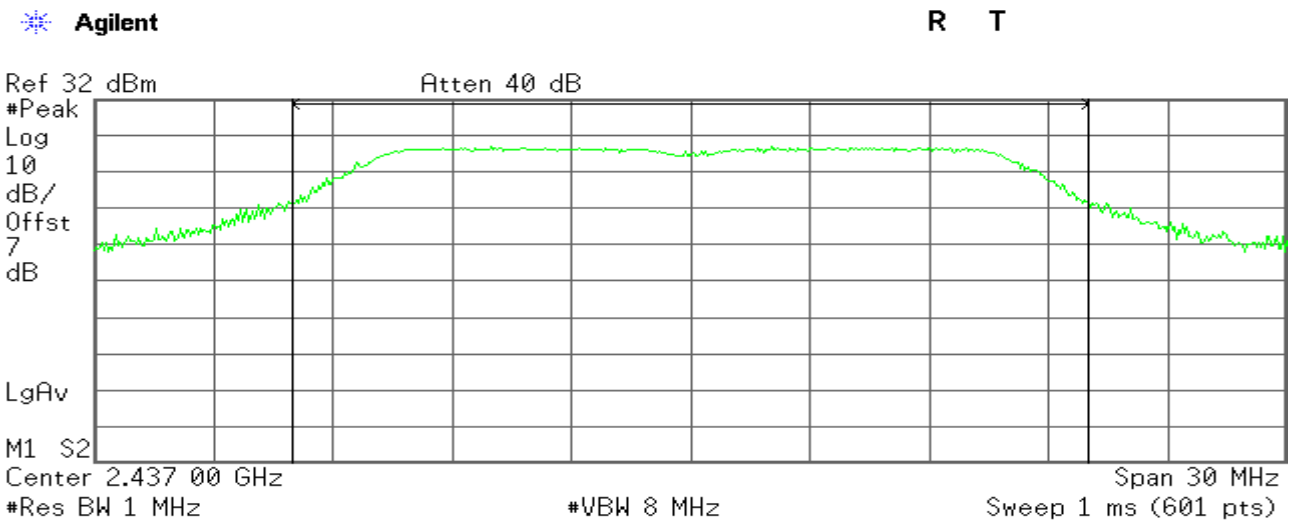
Channel Power

21.84 dBm /20.0000 MHz

Power Spectral Density

-51.17 dBm/Hz

Peak Power (CH Mid)



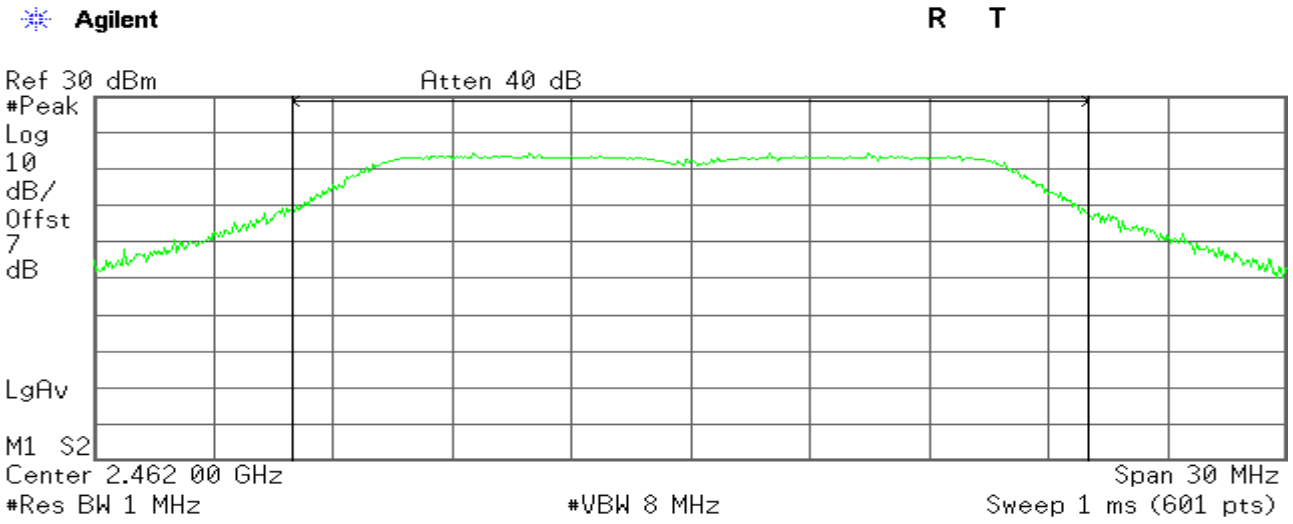
Channel Power

25.12 dBm /20.0000 MHz

Power Spectral Density

12.12 dBm/MHz

Peak Power (CH High)



Channel Power

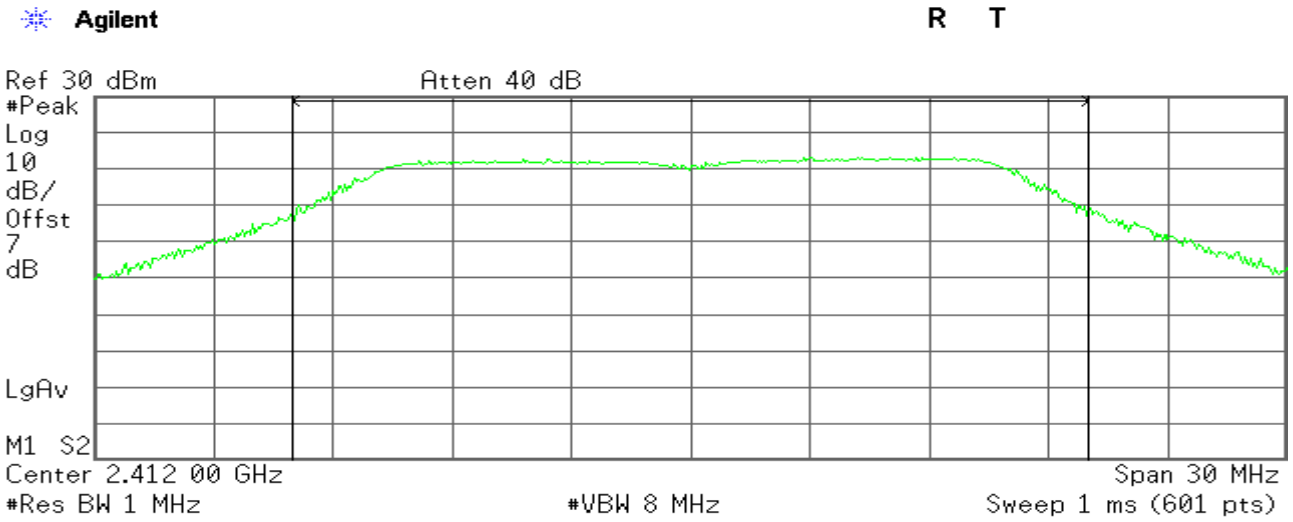
20.65 dBm /20.0000 MHz

Power Spectral Density

-52.36 dBm/Hz

IEEE 802.11g mode /Chain 1

Peak Power (CH Low)



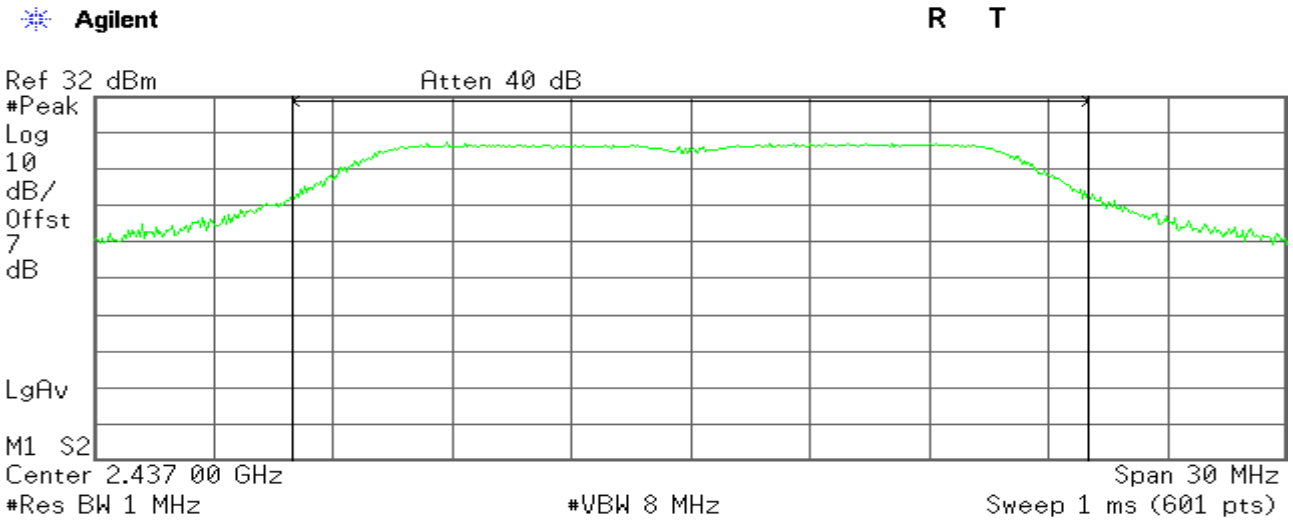
Channel Power

19.44 dBm /20.0000 MHz

Power Spectral Density

-53.57 dBm/Hz

Peak Power (CH Mid)



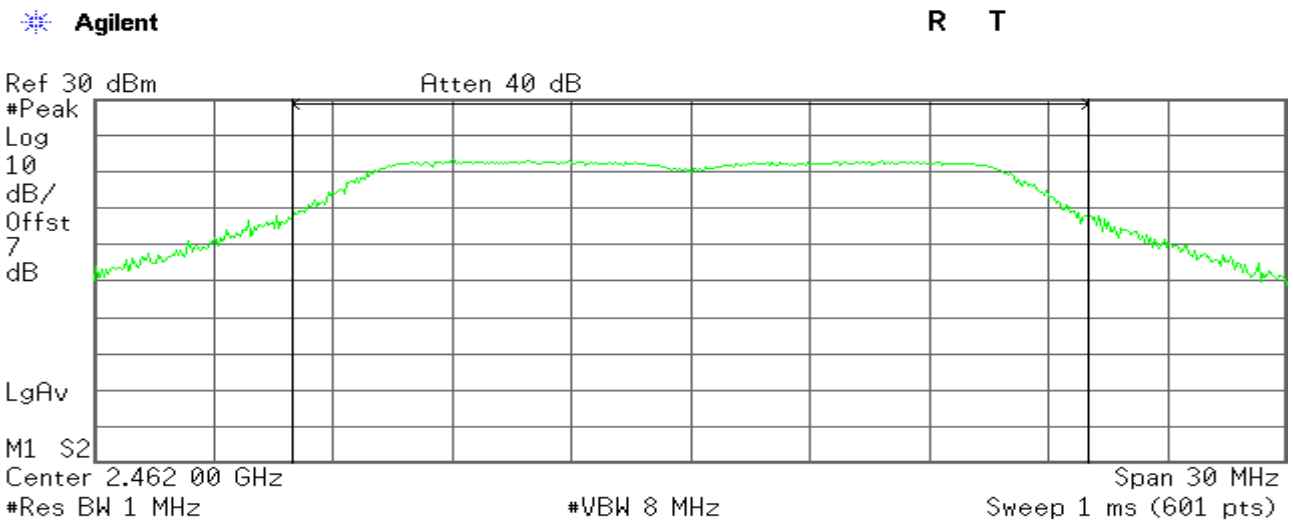
Channel Power

24.82 dBm /20.0000 MHz

Power Spectral Density

12.16 dBm/MHz

Peak Power (CH High)



Channel Power

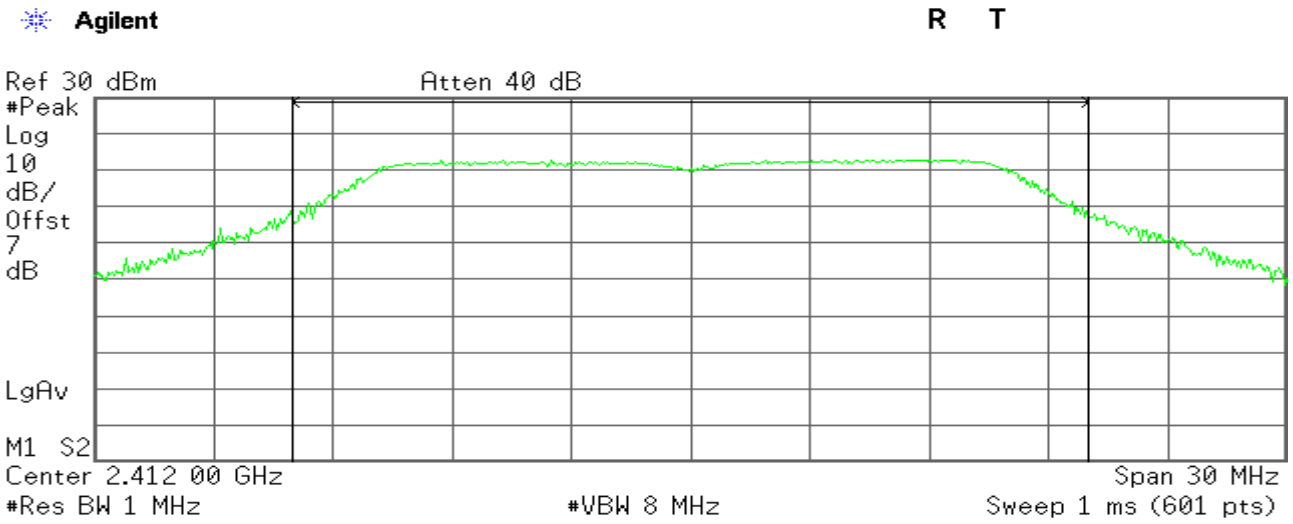
19.29 dBm /20.0000 MHz

Power Spectral Density

-53.72 dBm/Hz

IEEE 802.11g mode /Chain 2

Peak Power (CH Low)



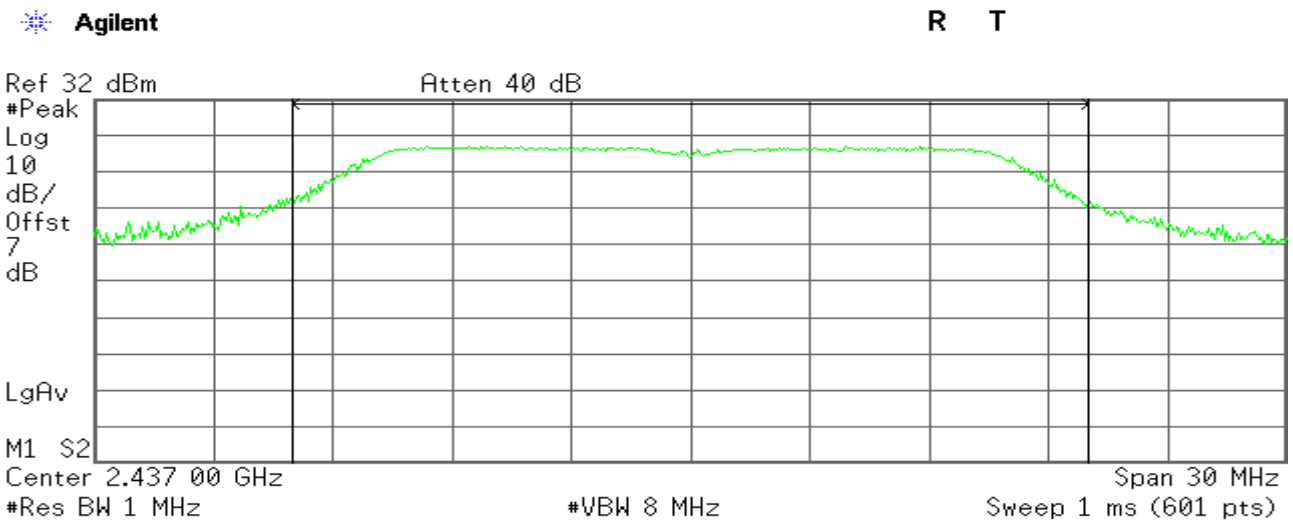
Channel Power

19.74 dBm /20.0000 MHz

Power Spectral Density

-53.27 dBm/Hz

Peak Power (CH Mid)



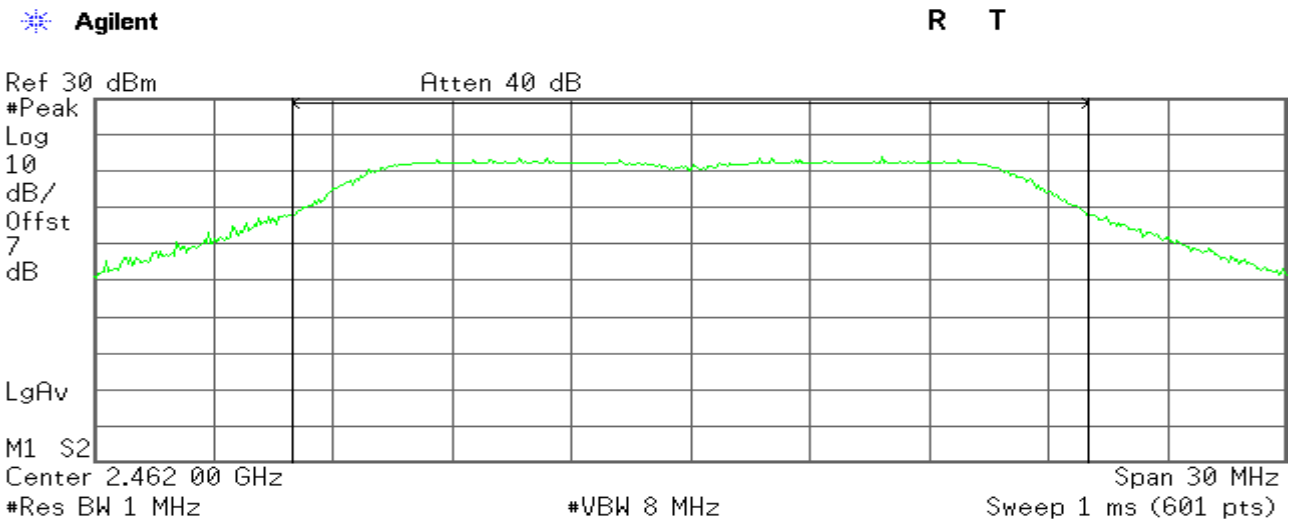
Channel Power

25.20 dBm /20.0000 MHz

Power Spectral Density

12.24 dBm/MHz

Peak Power (CH High)



Channel Power

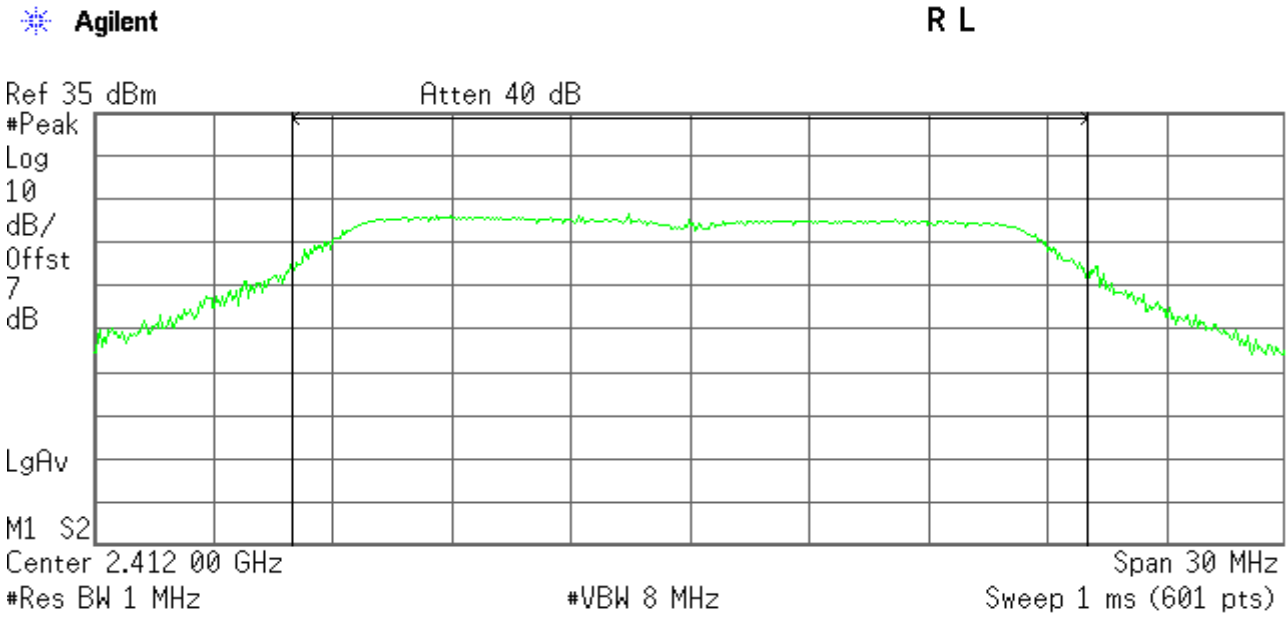
19.13 dBm /20.0000 MHz

Power Spectral Density

-53.88 dBm/Hz

draft 802.11n Standard-20 MHz Channel mode / Chain 0

Peak Power (CH Low)



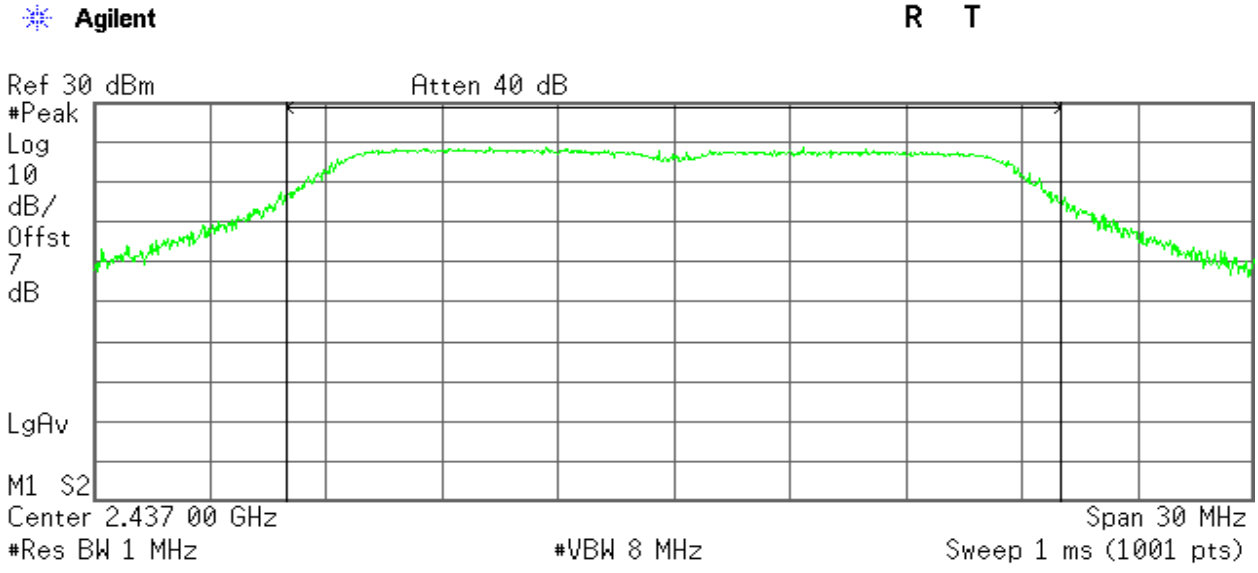
Channel Power

18.07 dBm /20.0000 MHz

Power Spectral Density

5.06 dBm/MHz

Peak Power (CH Mid)



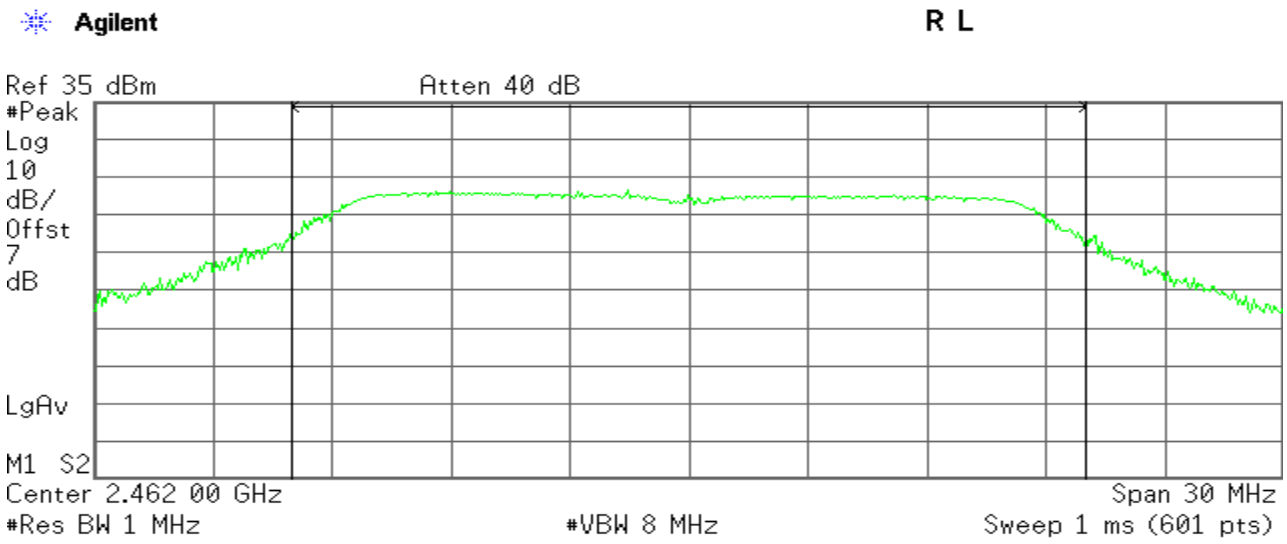
Channel Power

24.40 dBm /20.0000 MHz

Power Spectral Density

11.39 dBm/MHz

Peak Power (CH High)



Channel Power

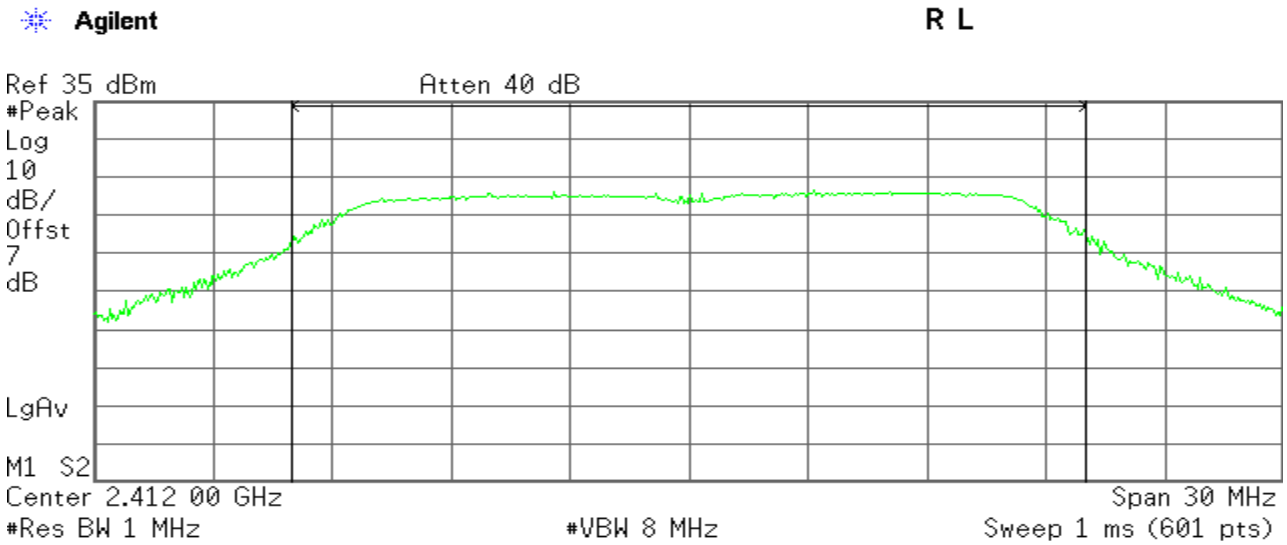
17.92 dBm /20.0000 MHz

Power Spectral Density

4.91 dBm/MHz

draft 802.11n Standard-20 MHz Channel mode / Chain 1

Peak Power (CH Low)



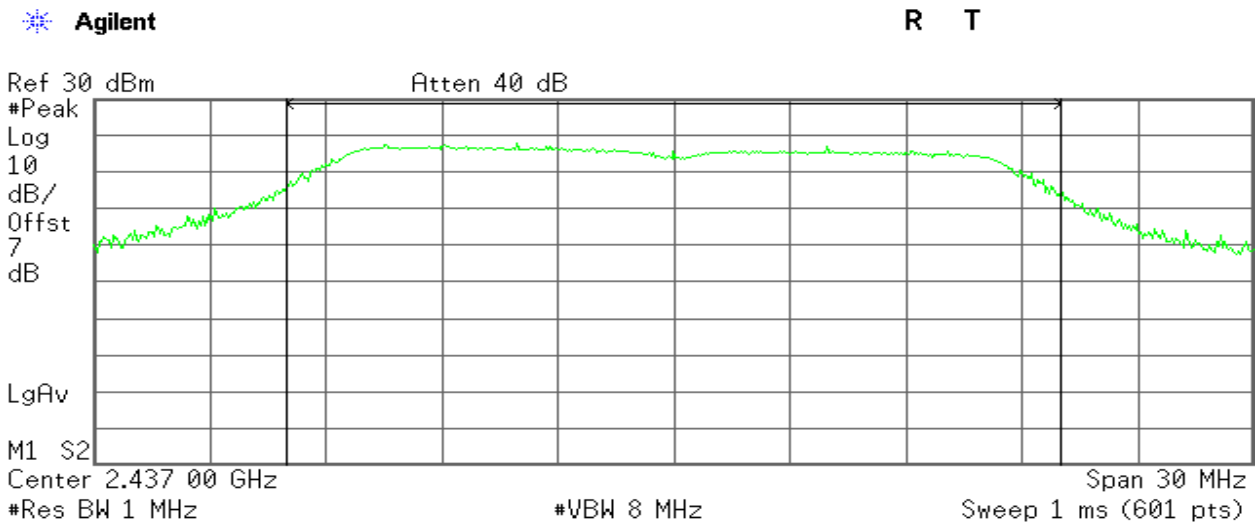
Channel Power

17.87 dBm /20.0000 MHz

Power Spectral Density

4.86 dBm/MHz

Peak Power (CH Mid)



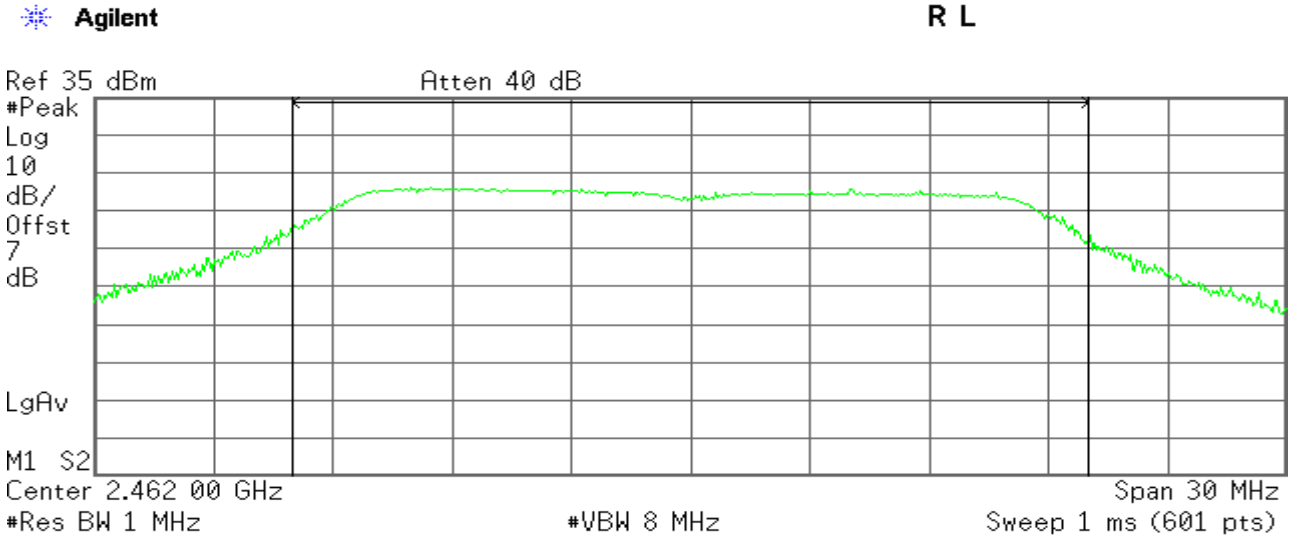
Channel Power

23.35 dBm /20.0000 MHz

Power Spectral Density

10.34 dBm/MHz

Peak Power (CH High)



Channel Power

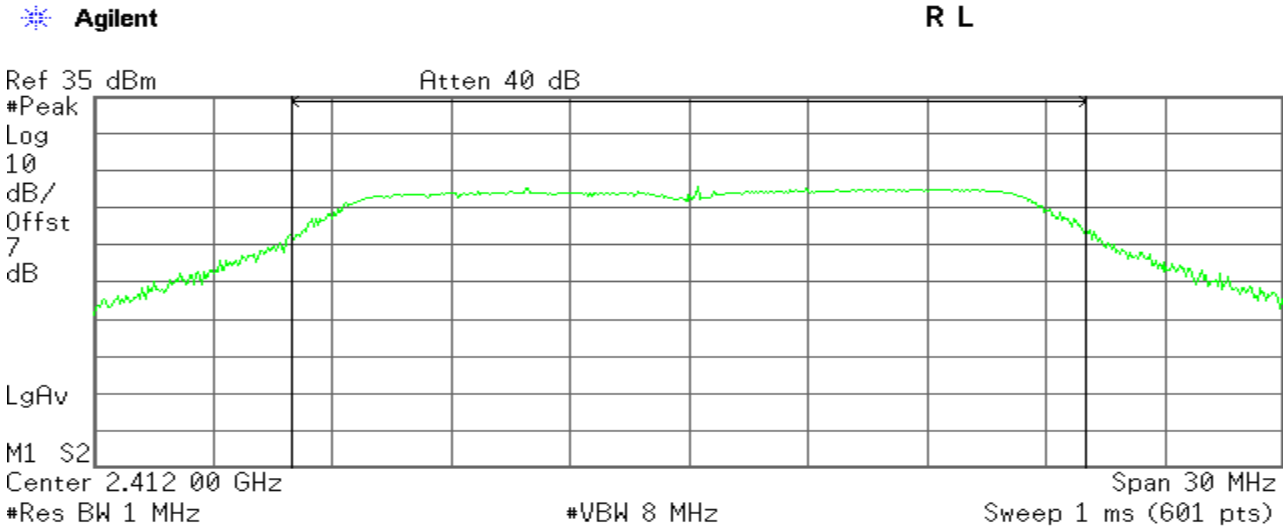
17.67 dBm /20.0000 MHz

Power Spectral Density

4.66 dBm/MHz

draft 802.11n Standard-20 MHz Channel mode / Chain 2

Peak Power (CH Low)



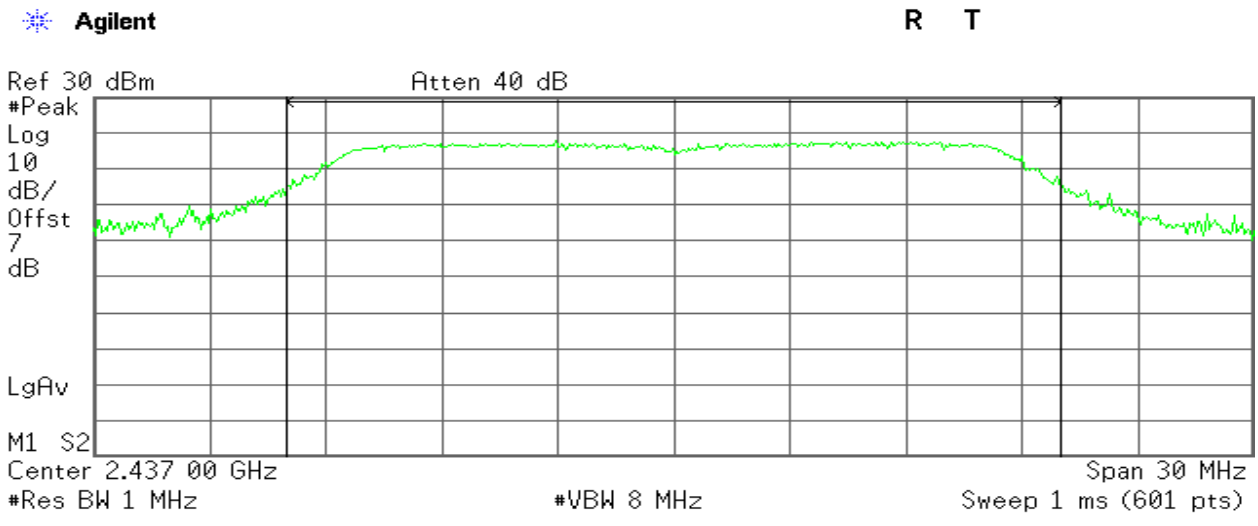
Channel Power

16.95 dBm /20.0000 MHz

Power Spectral Density

3.94 dBm/MHz

Peak Power (CH Mid)



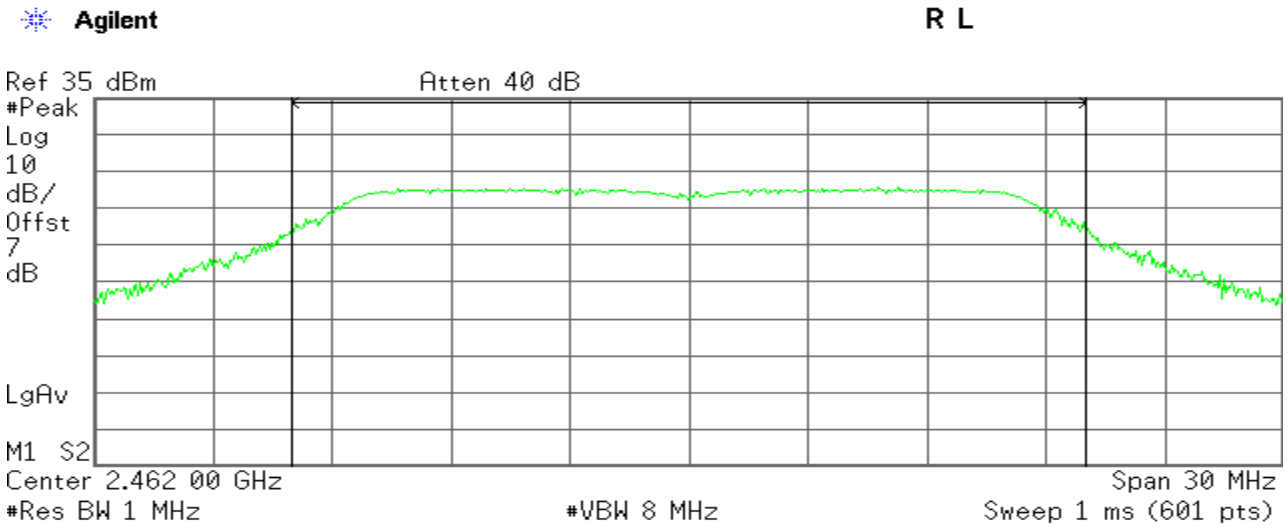
Channel Power

24.34 dBm /20.0000 MHz

Power Spectral Density

11.33 dBm/MHz

Peak Power (CH High)



Channel Power

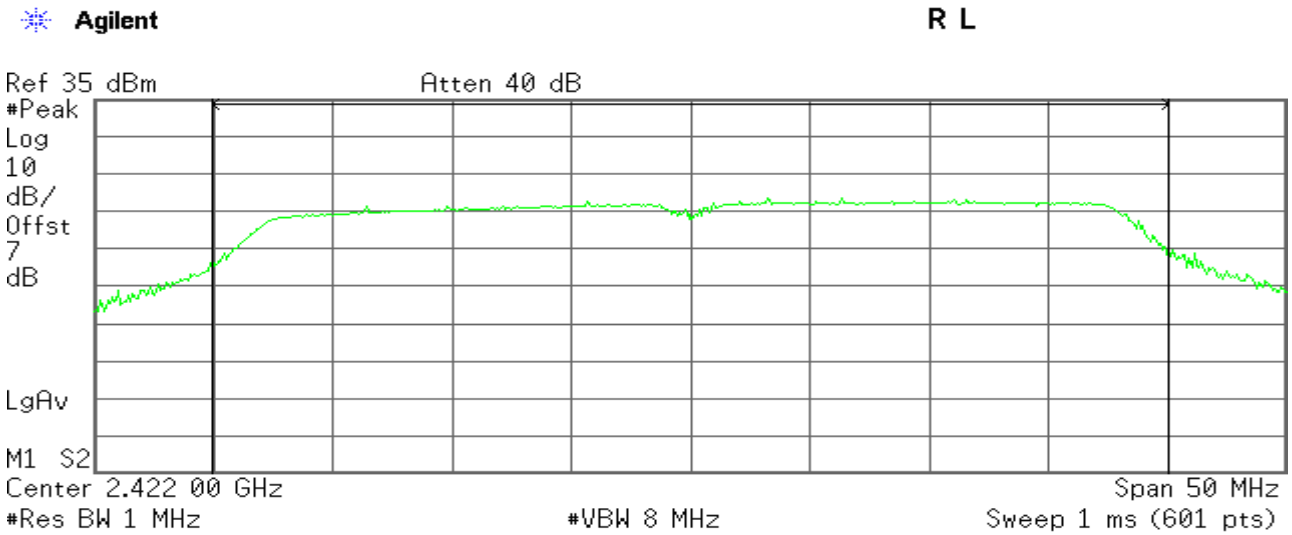
17.33 dBm /20.0000 MHz

Power Spectral Density

4.32 dBm/MHz

draft 802.11n wide-40 MHz Channel mode / Chain 0

Peak Power (CH Low)



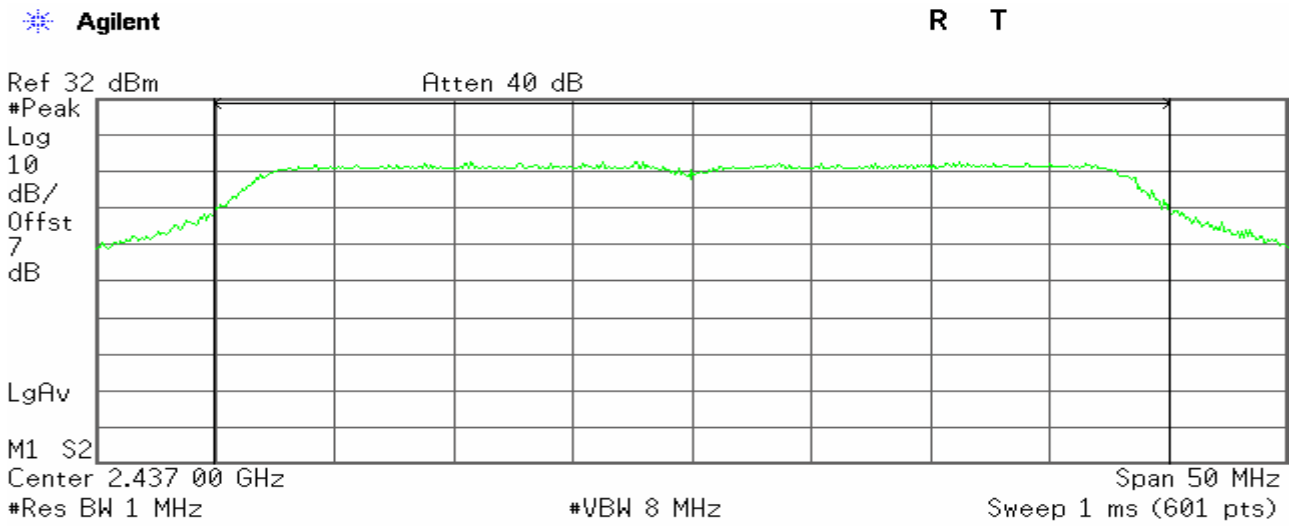
Channel Power

16.80 dBm /40.0000 MHz

Power Spectral Density

0.78 dBm/MHz

Peak Power (CH Mid)



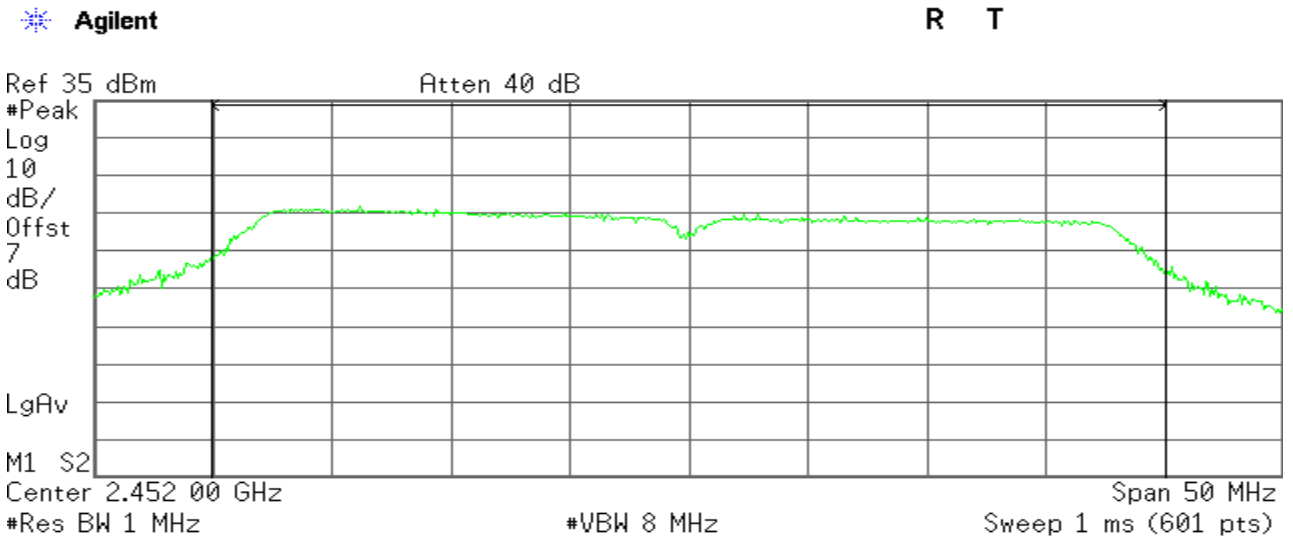
Channel Power

23.75 dBm /40.0000 MHz

Power Spectral Density

7.73 dBm/MHz

Peak Power (CH High)



Channel Power

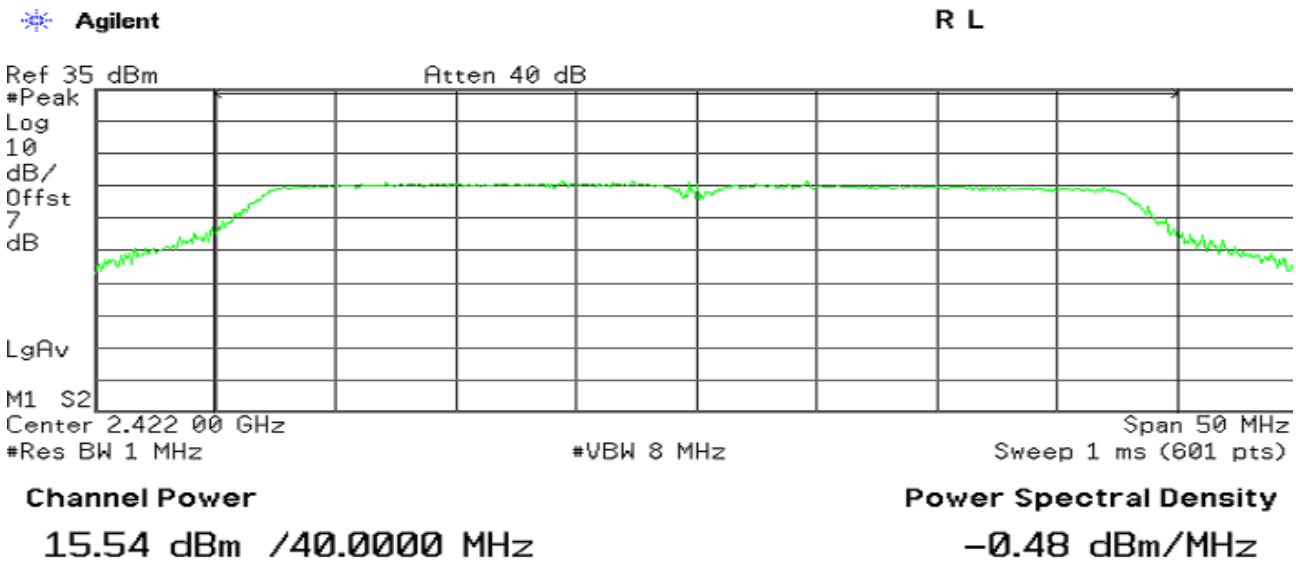
14.65 dBm /40.0000 MHz

Power Spectral Density

−1.37 dBm/MHz

draft 802.11n wide-40 MHz Channel mode / Chain 1

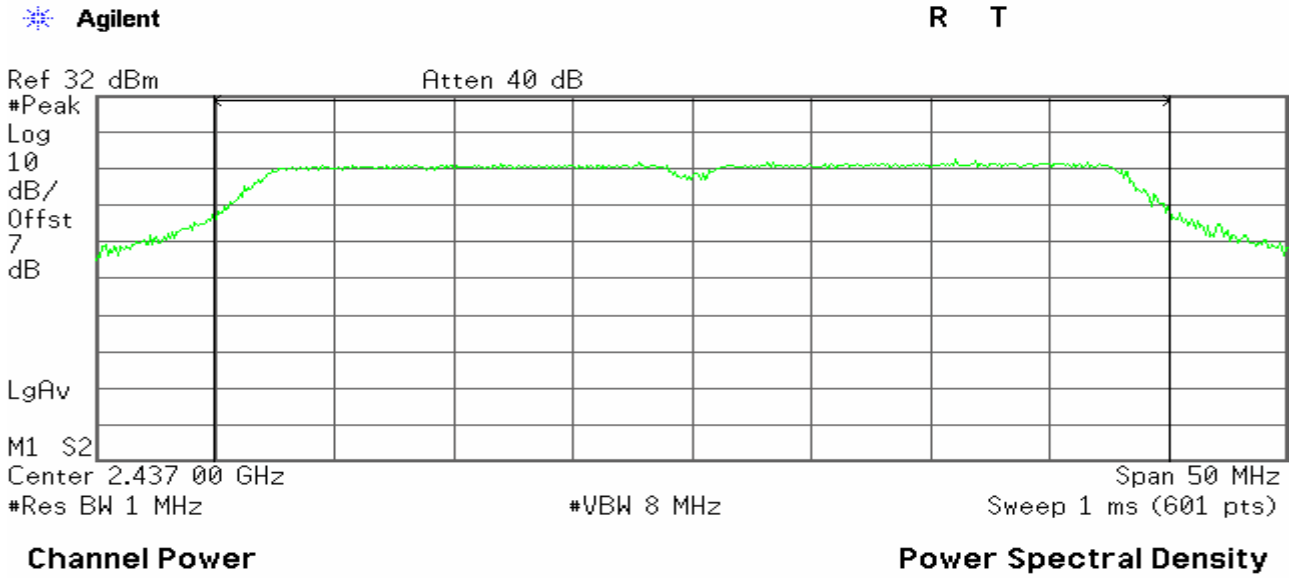
Peak Power (CH Low)



Channel Power
15.54 dBm /40.0000 MHz

Power Spectral Density
−0.48 dBm/MHz

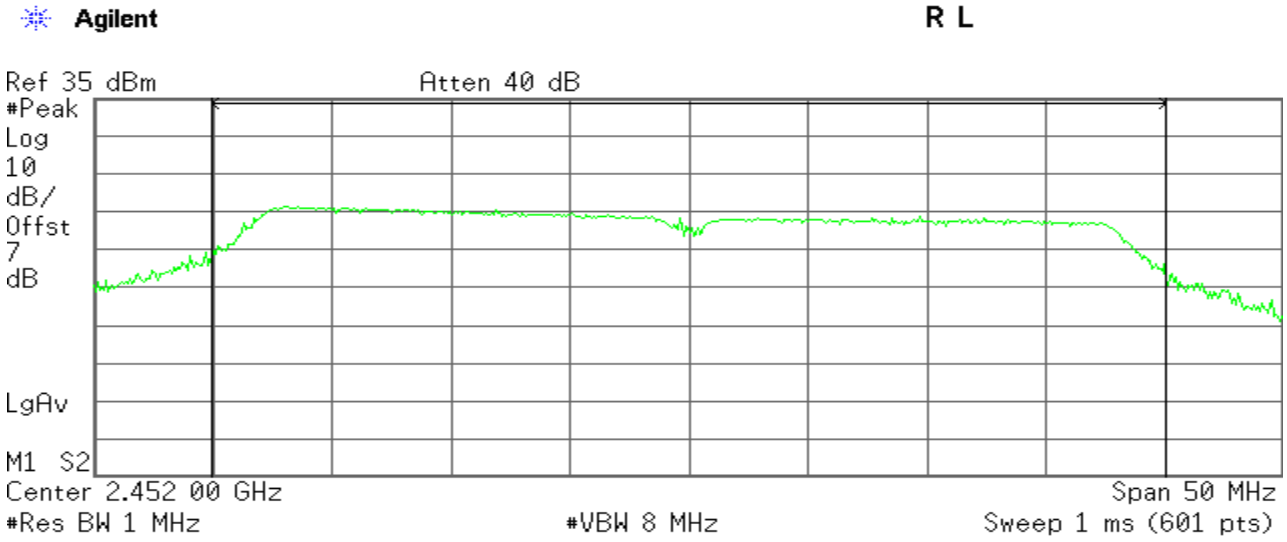
Peak Power (CH Mid)



Channel Power
23.64 dBm /40.0000 MHz

Power Spectral Density
7.62 dBm/MHz

Peak Power (CH High)



Channel Power

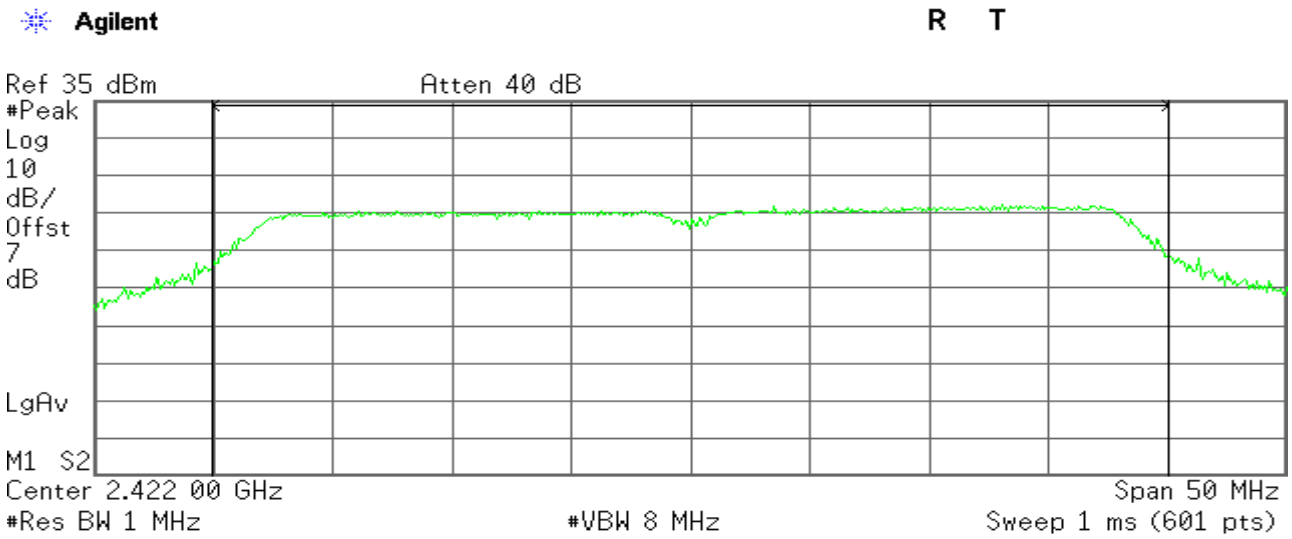
14.72 dBm /40.0000 MHz

Power Spectral Density

-1.30 dBm/MHz

draft 802.11n wide-40 MHz Channel mode / Chain 2

Peak Power (CH Low)



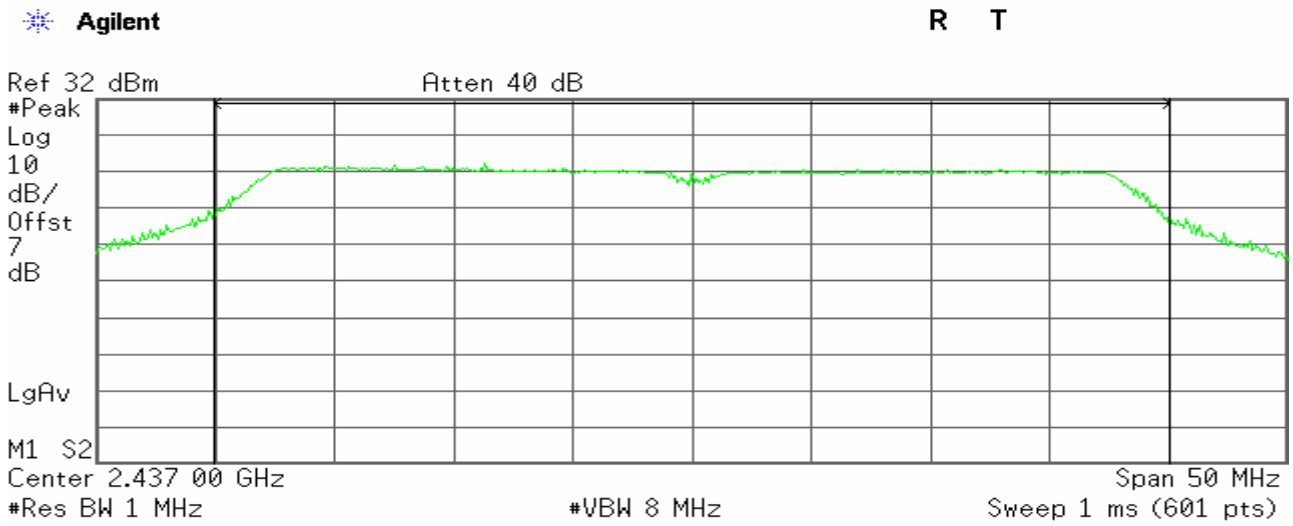
Channel Power

16.23 dBm /40.0000 MHz

Power Spectral Density

0.21 dBm/MHz

Peak Power (CH Mid)



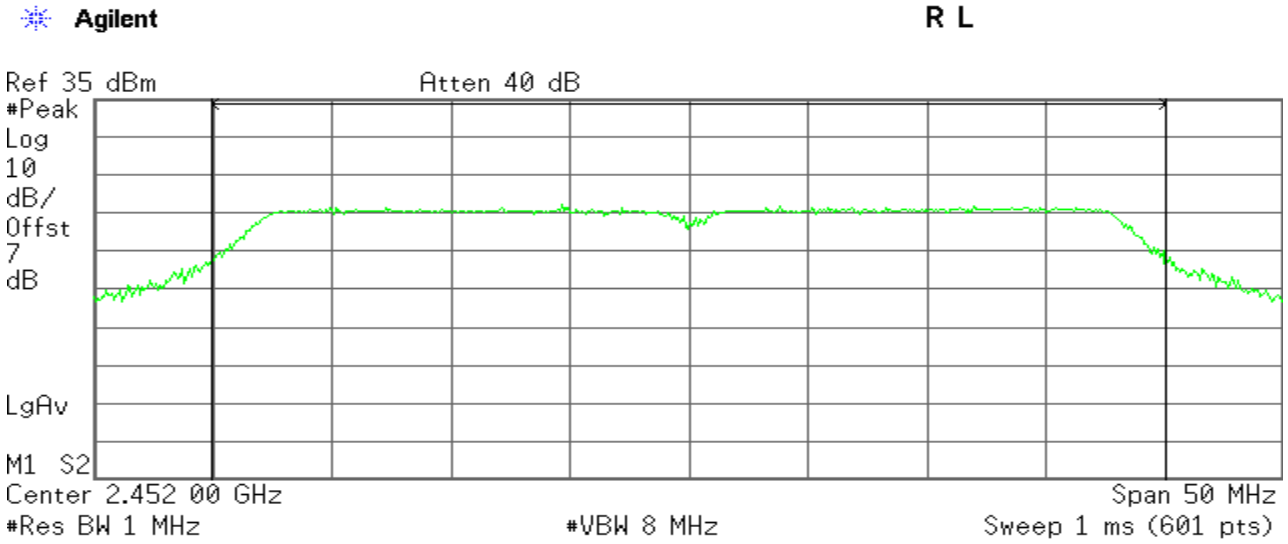
Channel Power

22.81 dBm /40.0000 MHz

Power Spectral Density

6.70 dBm/MHz

Peak Power (CH High)



Channel Power

16.46 dBm /40.0000 MHz

Power Spectral Density

0.44 dBm/MHz

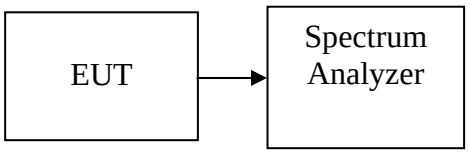
4.3.PEAK POWER SPECTRAL DENSITY

LIMIT

1.According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

2.According to §15.247(f), the digital modulation operation of the hybrid system, with the frequency hopping turned off, shall comply with the power density requirements of paragraph (d) of this section.

Test Configuration



TEST PROCEDURE

1.Place the EUT on the table and set it in transmitting mode.
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

2.Set the spectrum analyzer as RBW = 3 kHz, VBW = 10 kHz, Span = 1.5 times the DTS bandwidth, Sweep = auto

3.Record the max reading.

4.Repeat the above procedure until the measurements for all frequencies are completed.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: 802.11b mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Chain2 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	2412	-5.60	-4.87	-5.14	-0.42	8.00	PASS
Mid	2437	-0.52	-1.68	-0.32	3.97	8.00	PASS
High	2462	-4.30	-5.72	-4.08	0.13	8.00	PASS

Test mode: 802.11g mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Chain2 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	2412	1.16	-9.45	-9.51	1.85	8.00	PASS
Mid	2437	-4.05	-4.59	-4.06	0.55	8.00	PASS
High	2462	-7.06	-8.83	-9.89	-3.66	8.00	PASS

Test mode: draft 802.11n Standard-20 MHz Channel mode

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Chain2 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	2412	-9.00	-11.67	-11.22	-5.69	8.00	PASS
Mid	2437	-2.34	-3.30	-3.33	1.81	8.00	PASS
High	2462	-12.18	-11.51	-12.26	-7.20	8.00	PASS

Test mode: draft 802.11n Wide-40 MHz Channel mode

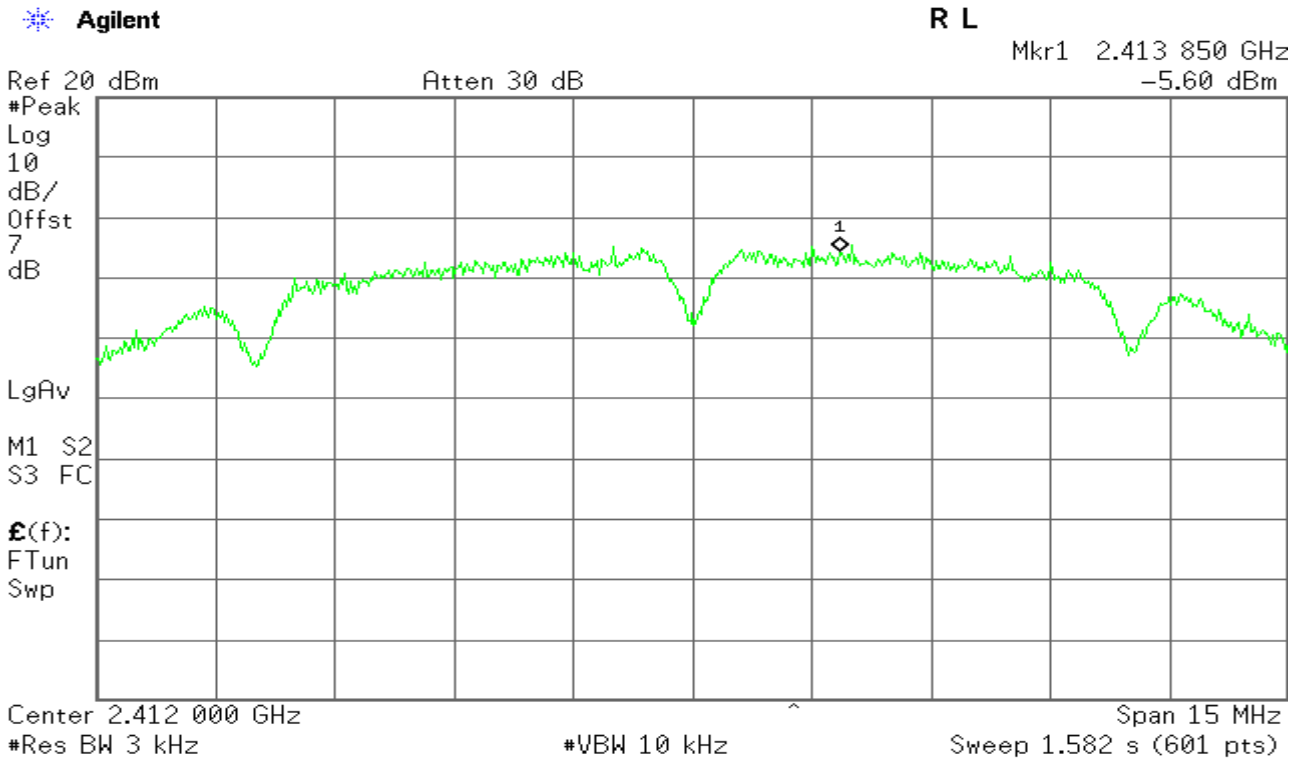
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Chain2 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	2422	-14.39	-16.41	-15.76	-10.67	8.00	PASS
Mid	2437	-8.23	-8.43	-9.70	-3.97	8.00	PASS
High	2452	-15.91	-15.41	-15.64	-10.88	8.00	PASS

Remark: *Total PPSD (dBm) = 10*LOG(10^(Chain 0 PPSD / 10)+10^(Chain 1 PPSD /10)+10^(Chain 2 PPSD /10)))*

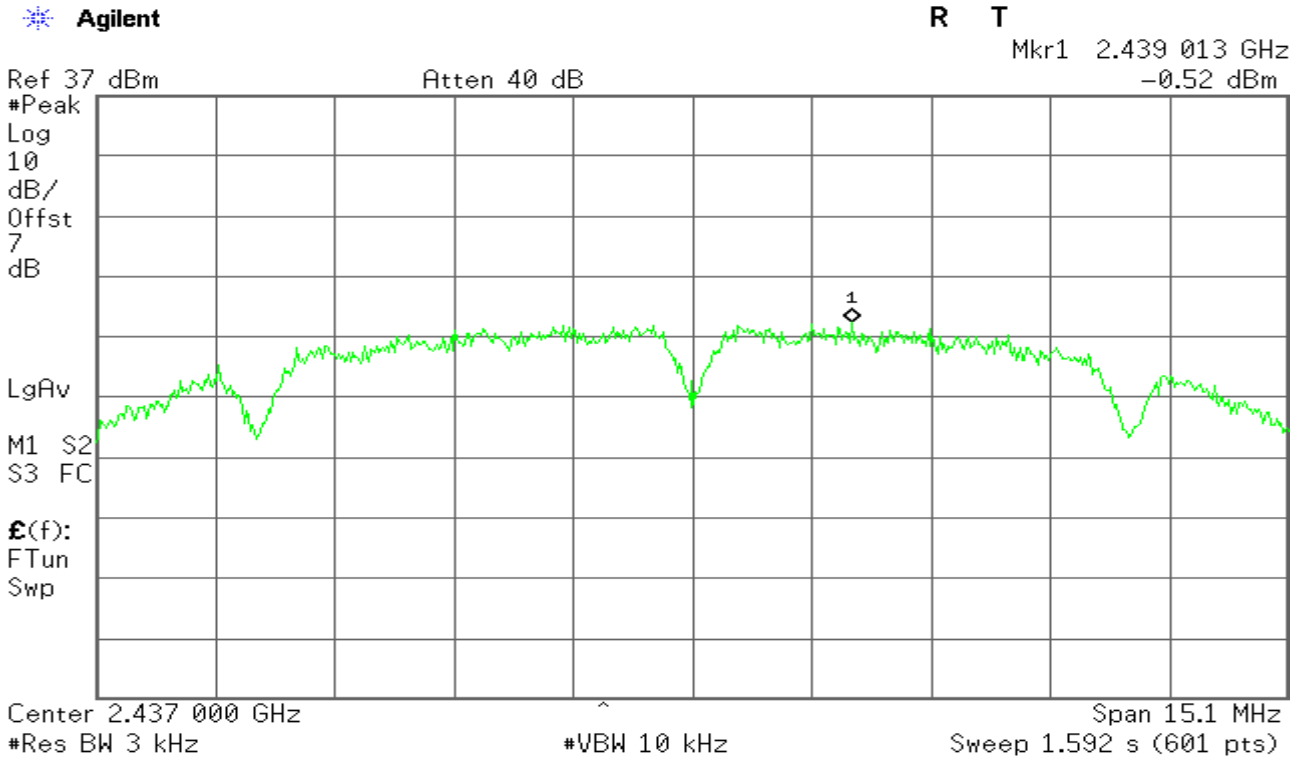
Test Plot

IEEE 802.11b mode/Chain 0

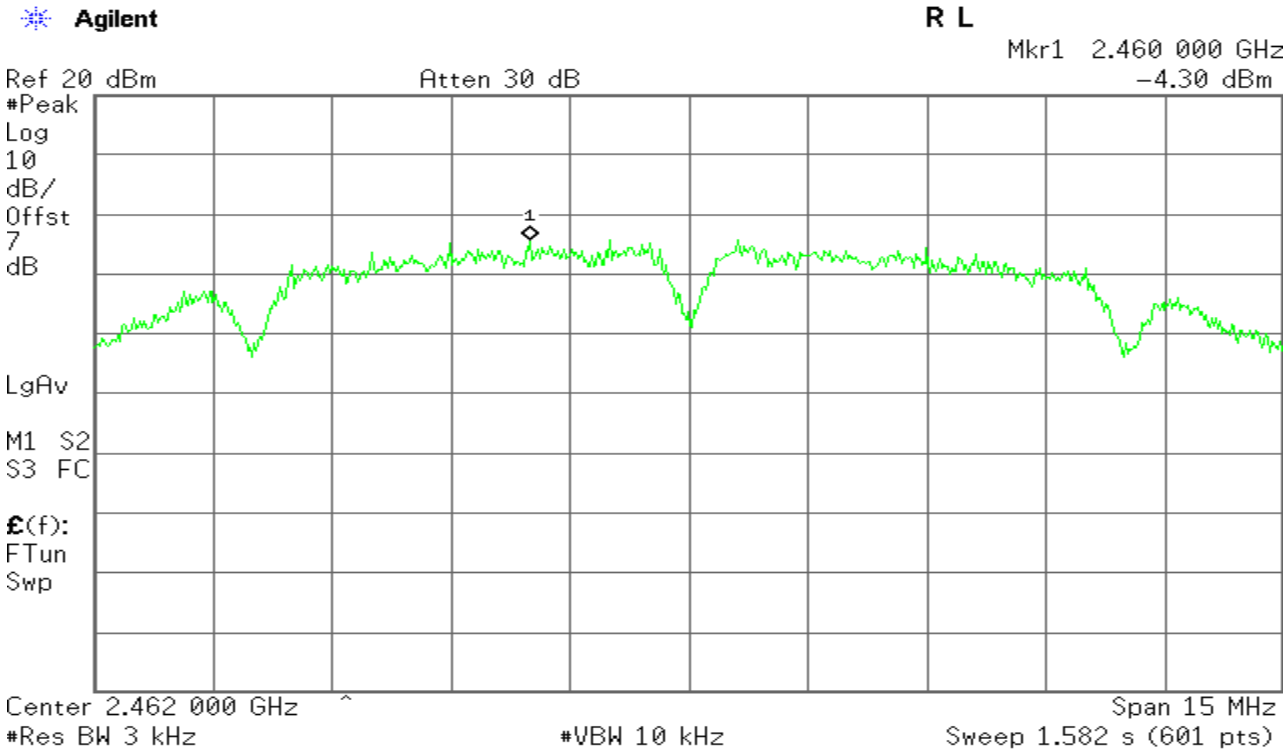
PPSD (CH Low)



PPSD (CH Mid)

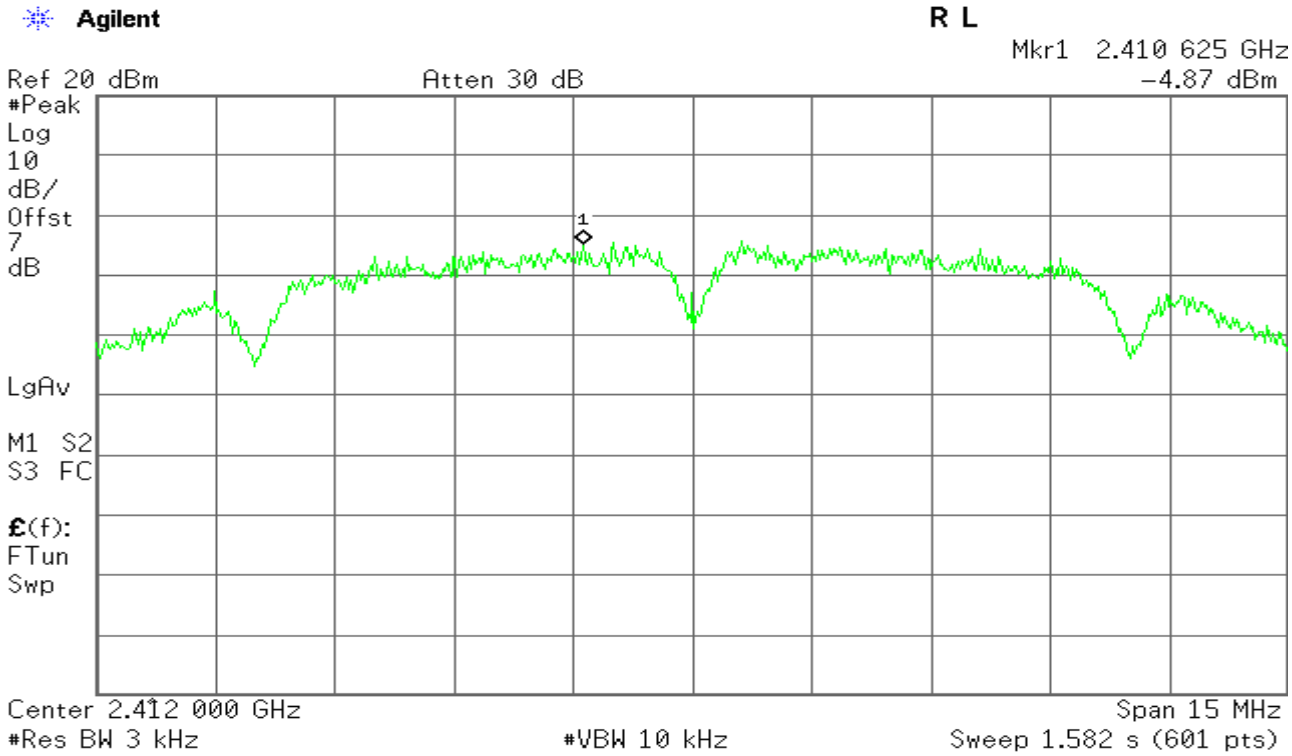


PPSD (CH High)

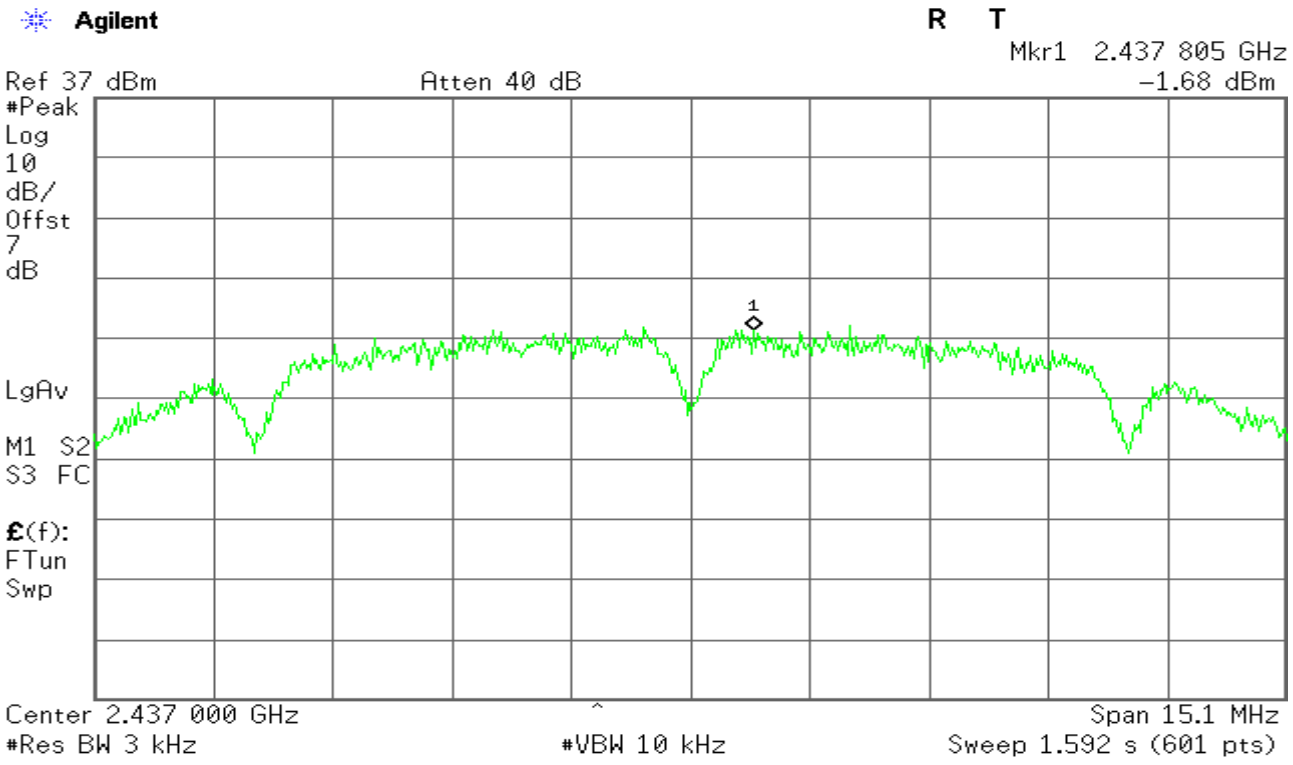


IEEE 802.11b mode/Chain 1

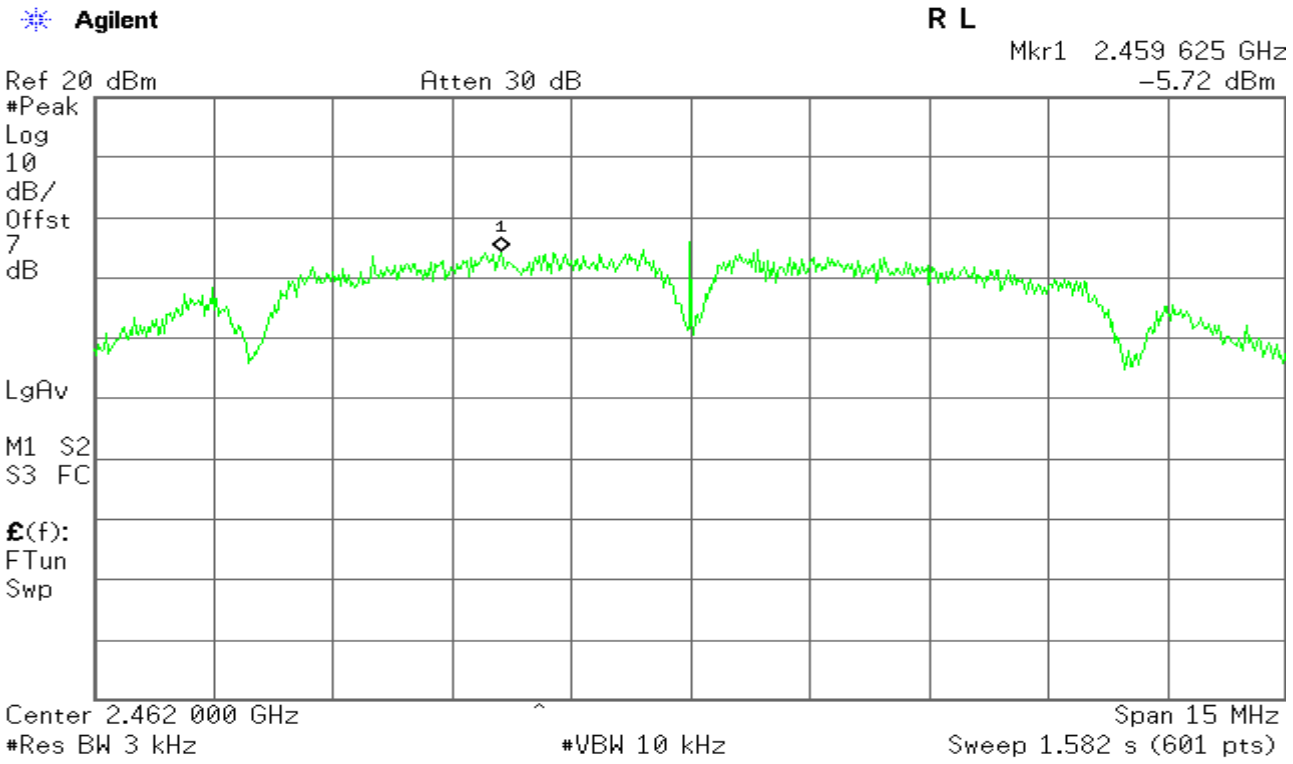
PPSD (CH Low)



PPSD (CH Mid)

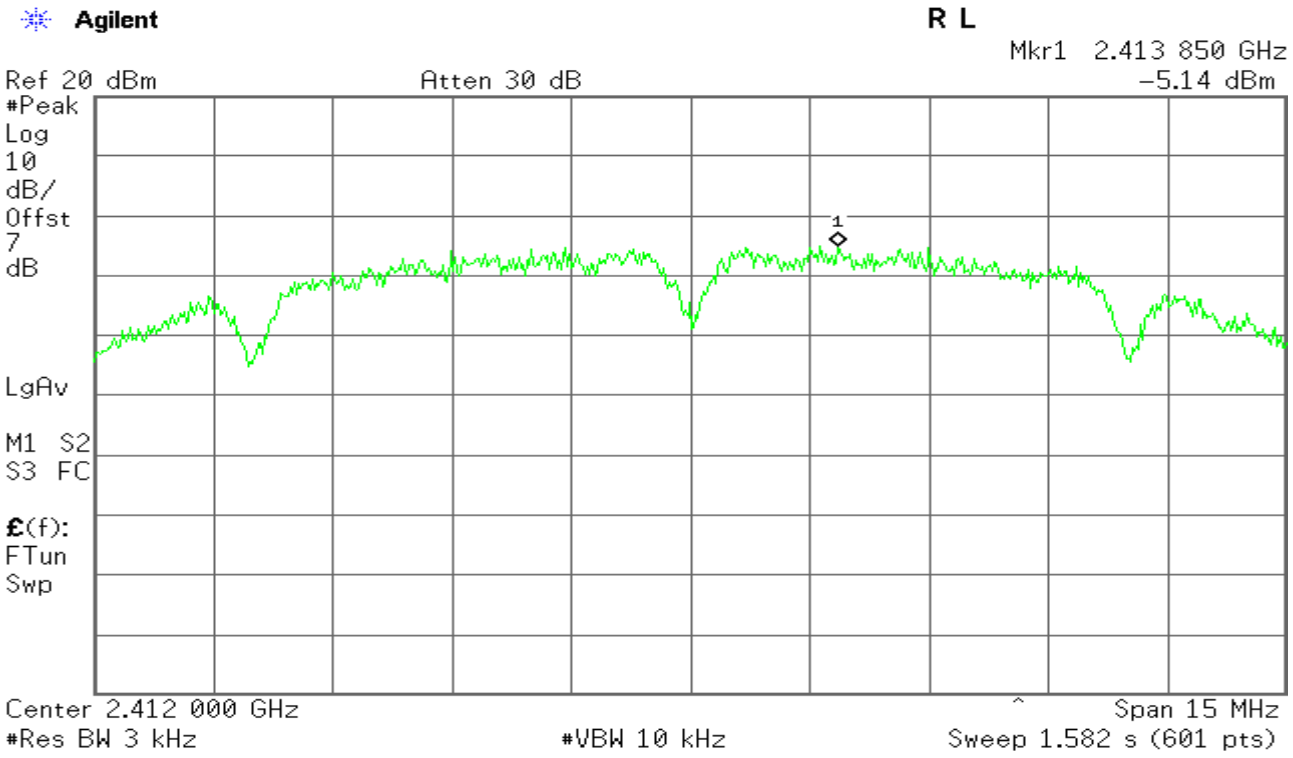


PPSD (CH High)

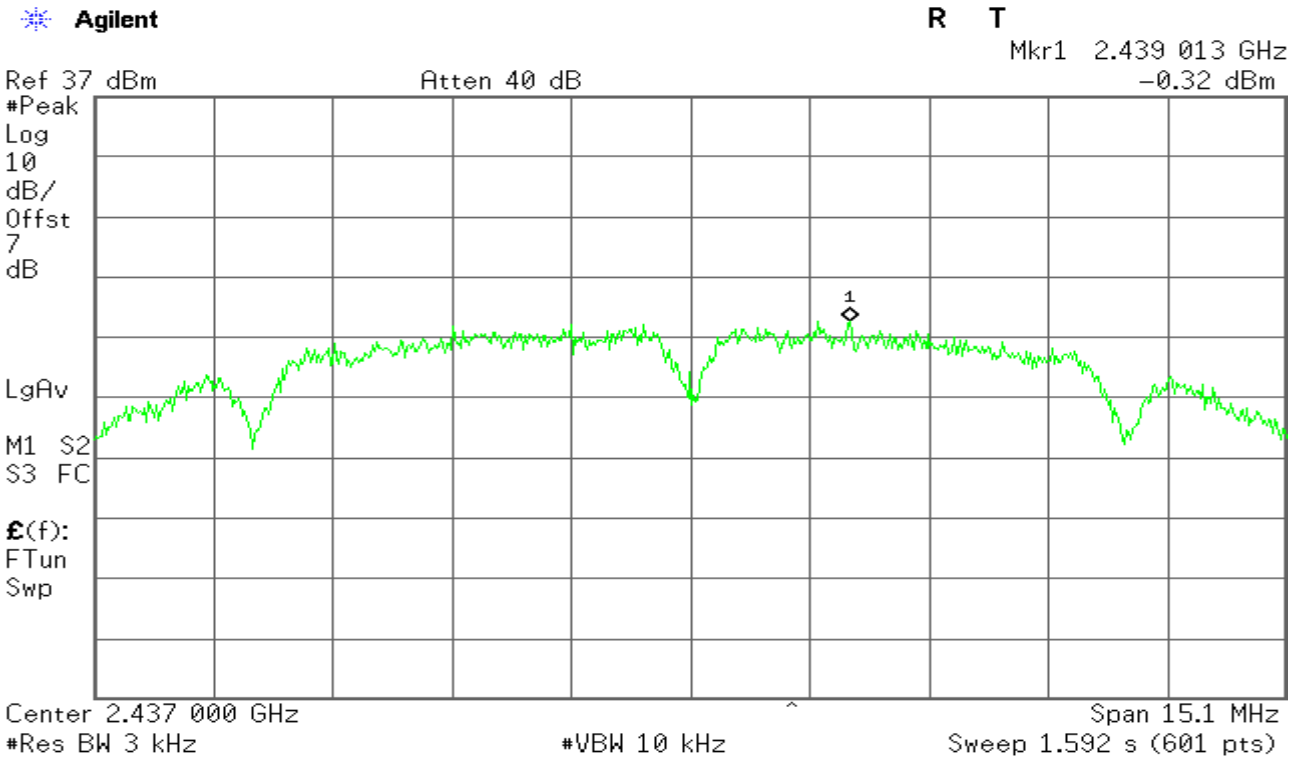


IEEE 802.11b mode/Chain 2

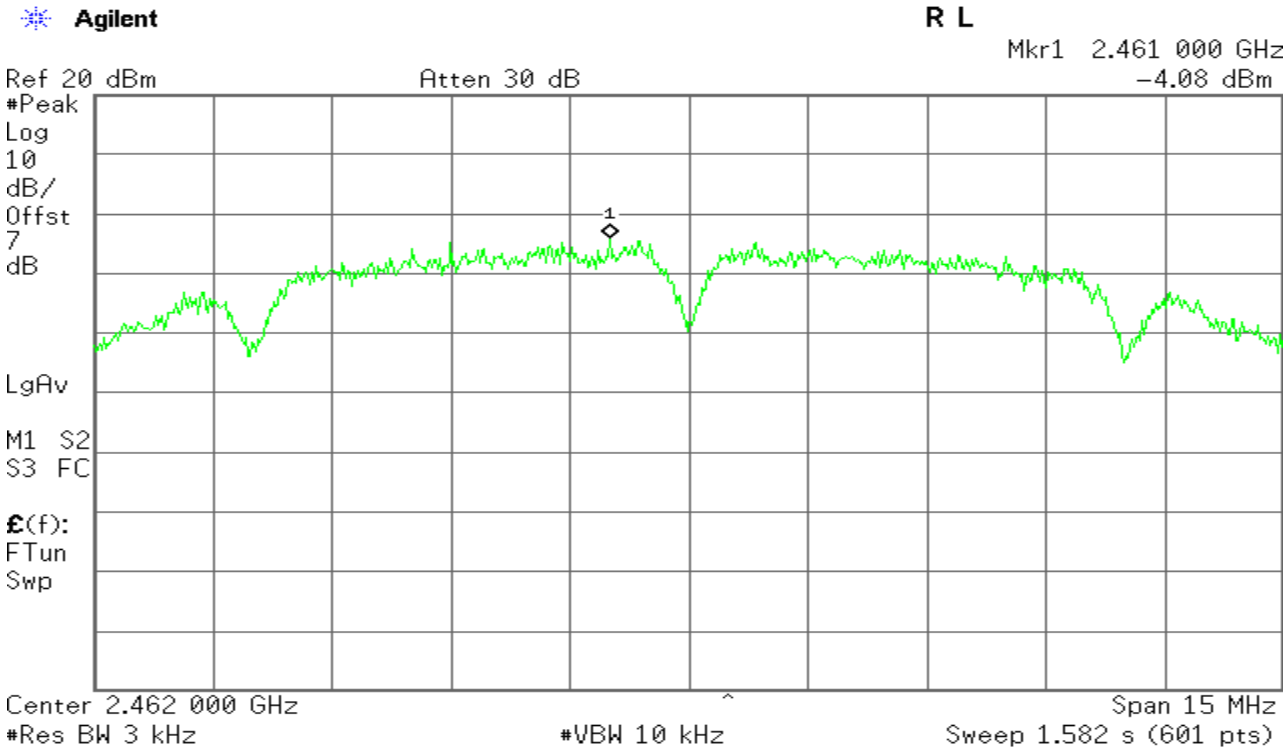
PPSD (CH Low)



PPSD (CH Mid)

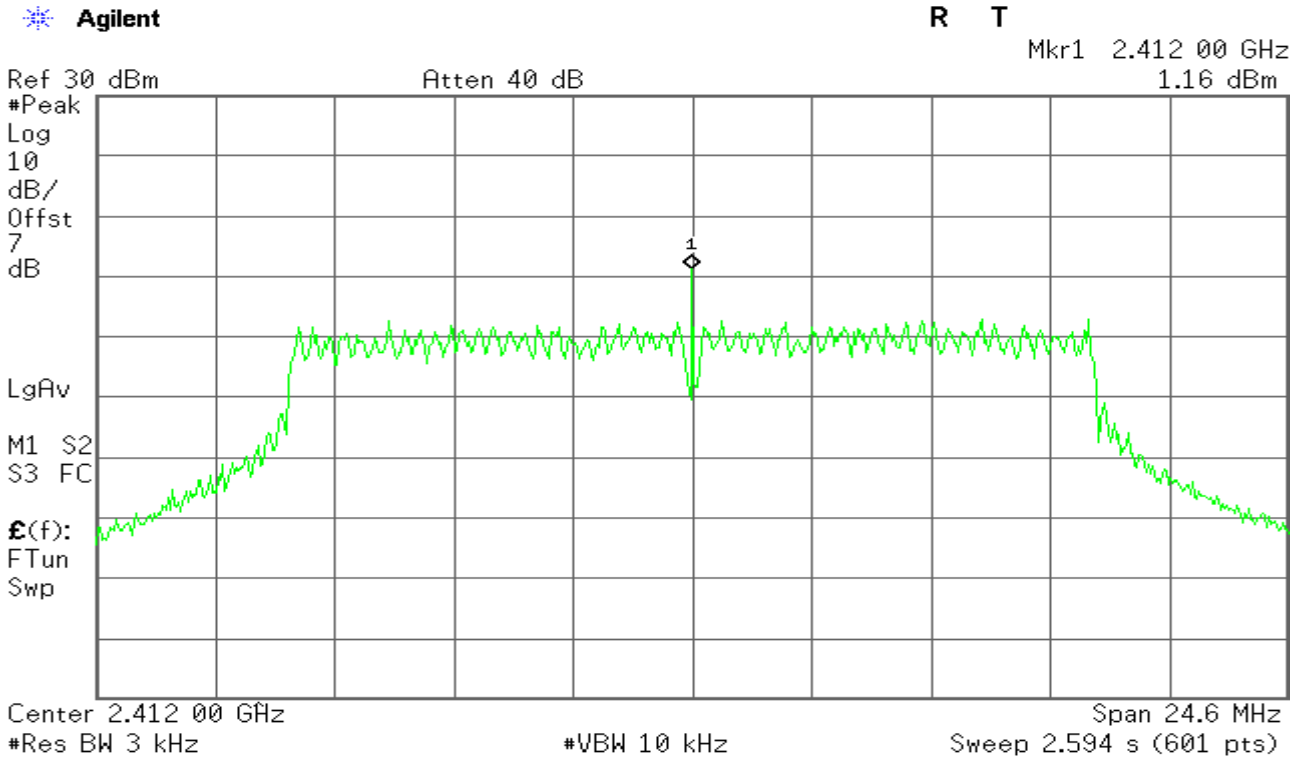


PPSD (CH High)

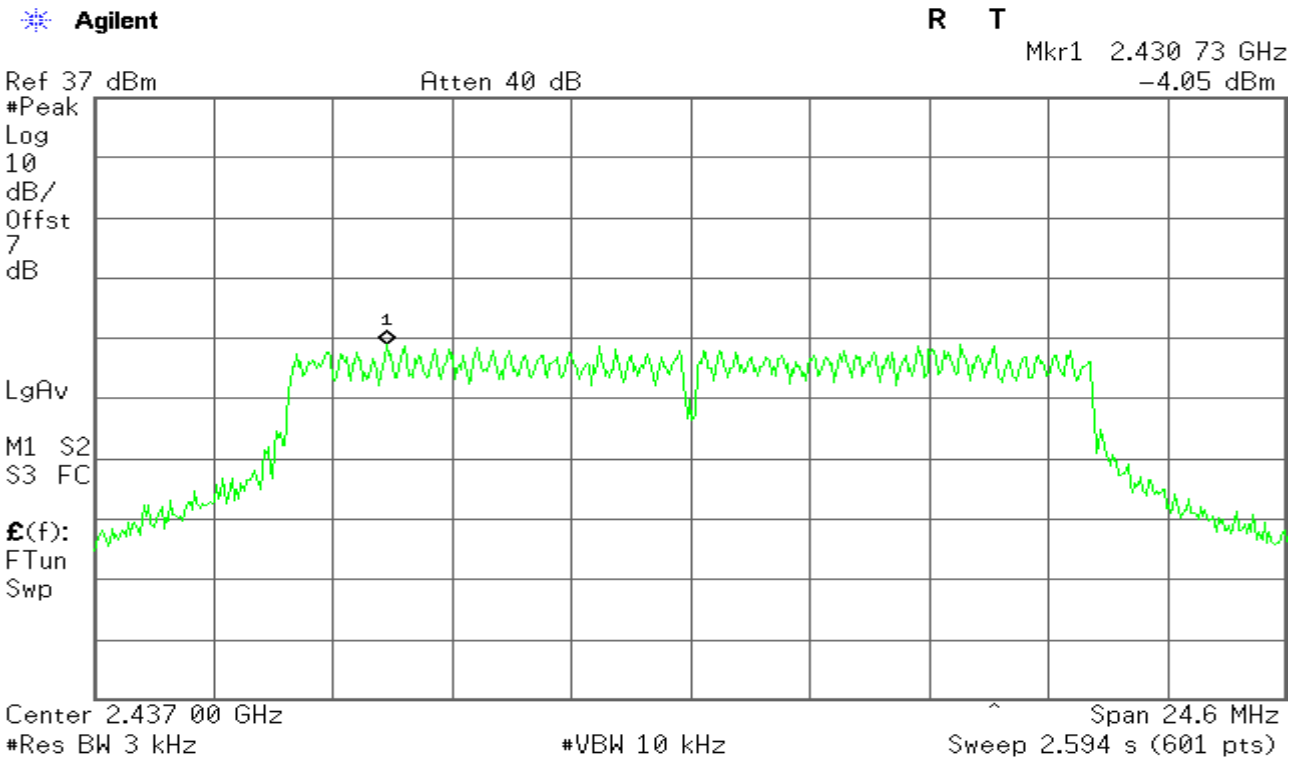


IEEE 802.11g mode/Chain 0

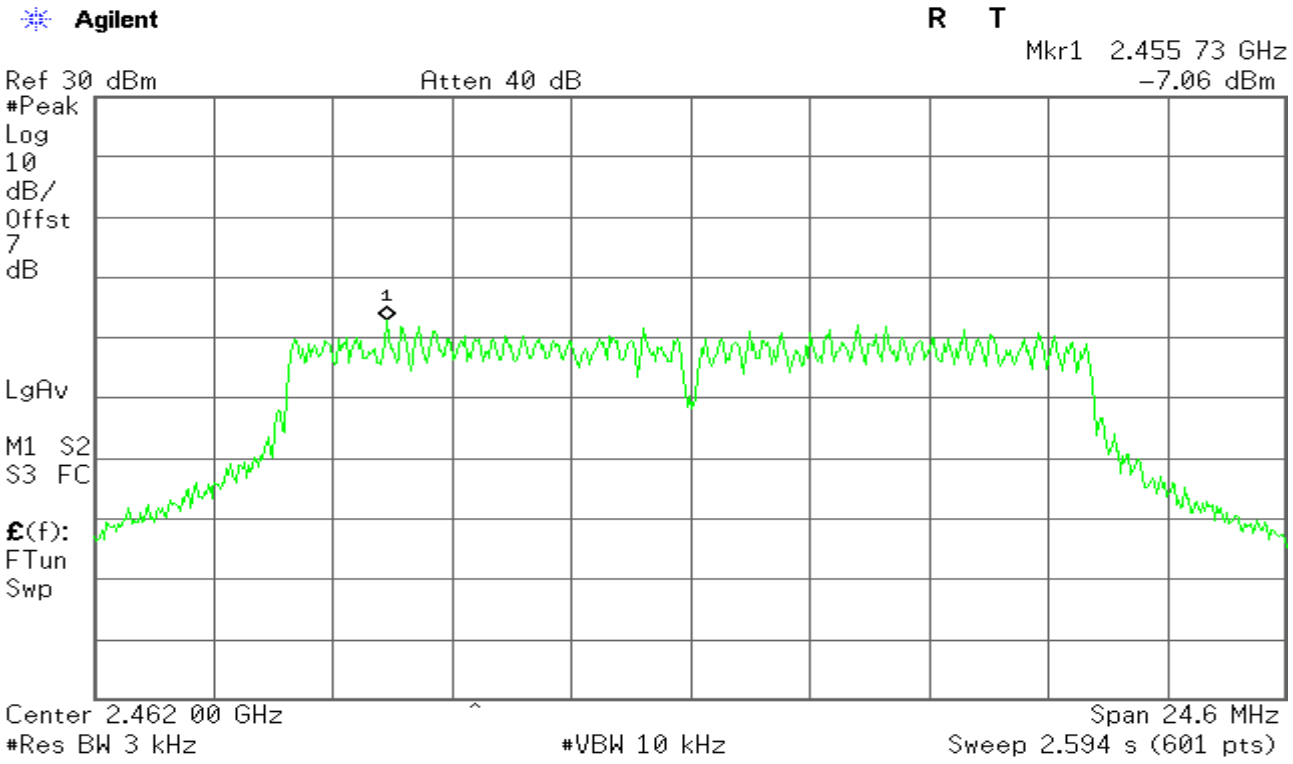
PPSD (CH Low)



PPSD (CH Mid)

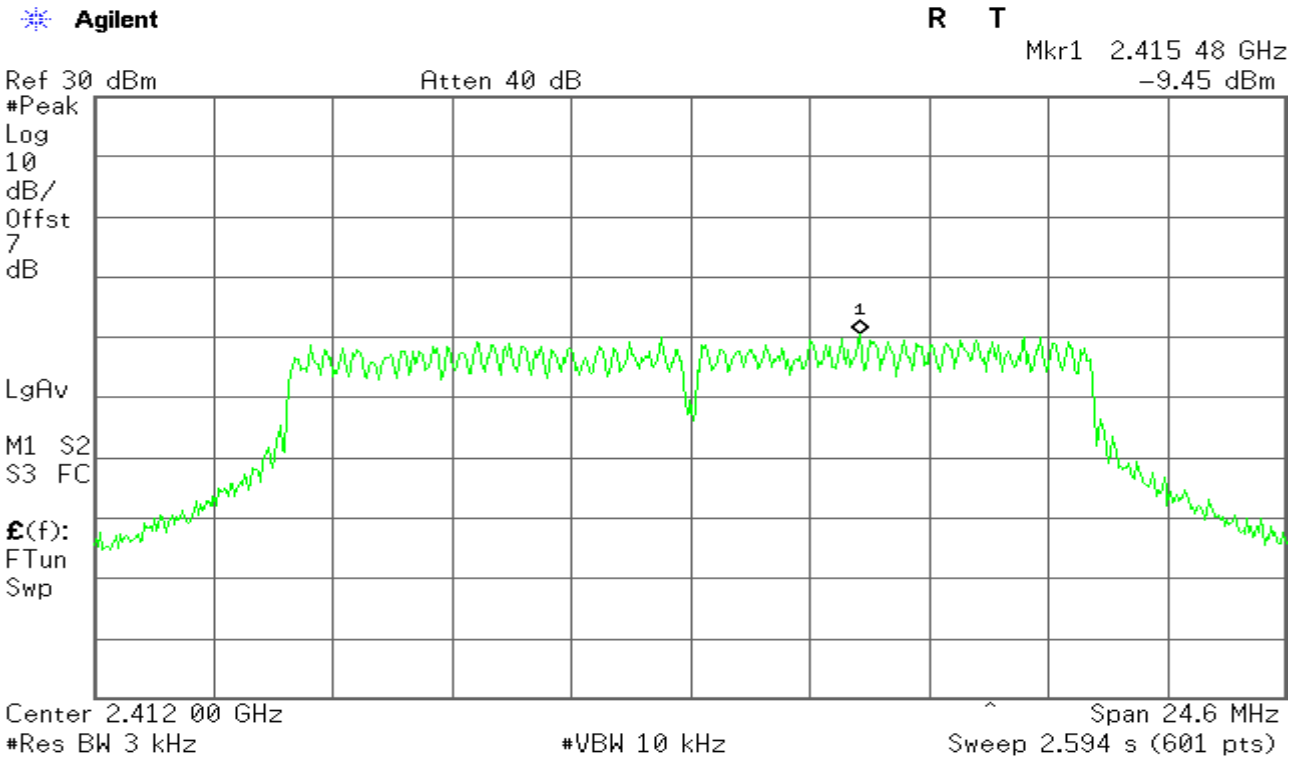


PPSD (CH High)

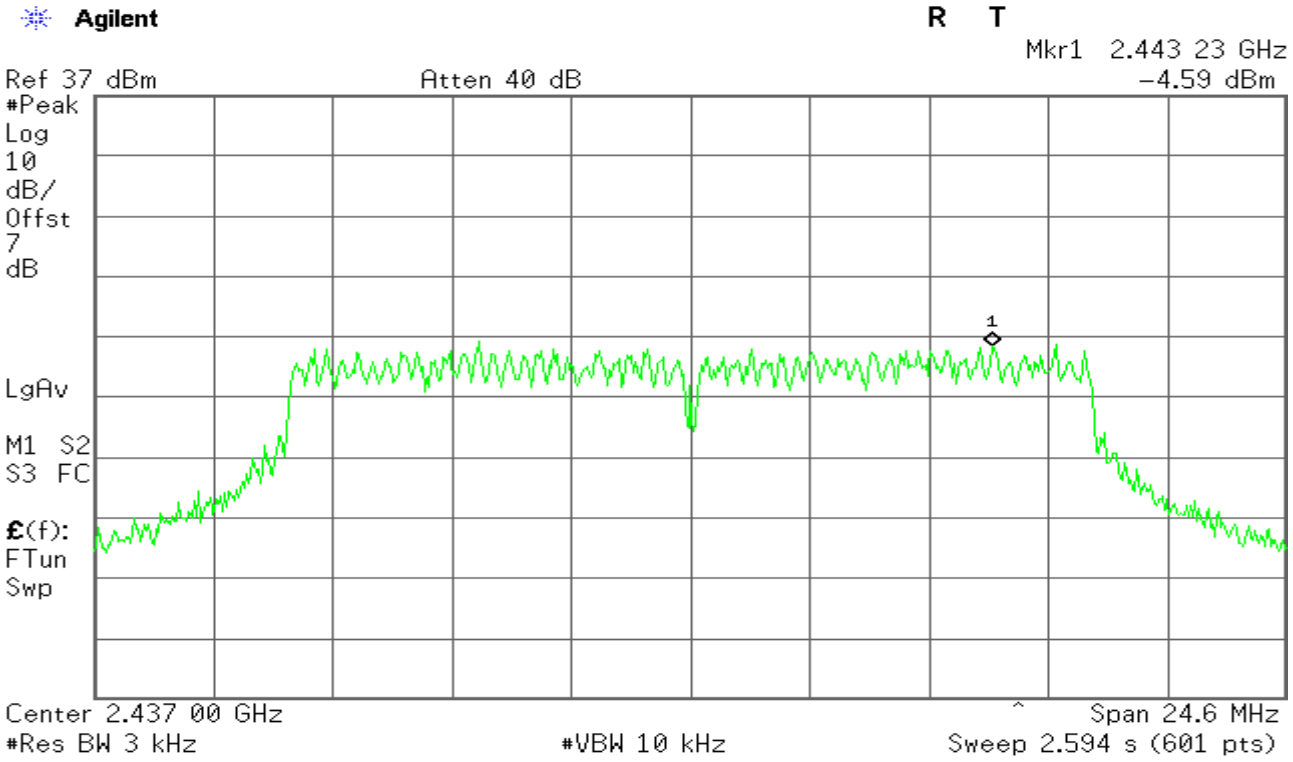


IEEE 802.11g mode/Chain 1

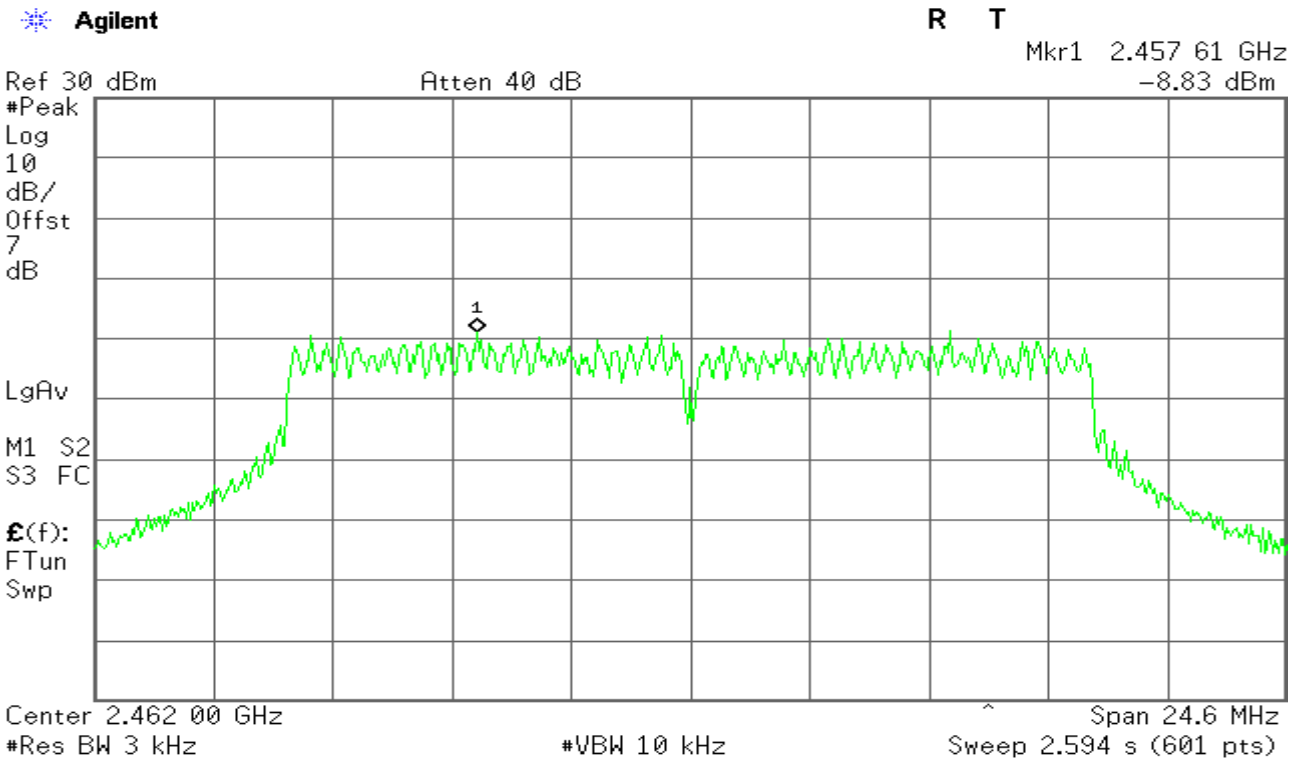
PPSD (CH Low)



PPSD (CH Mid)

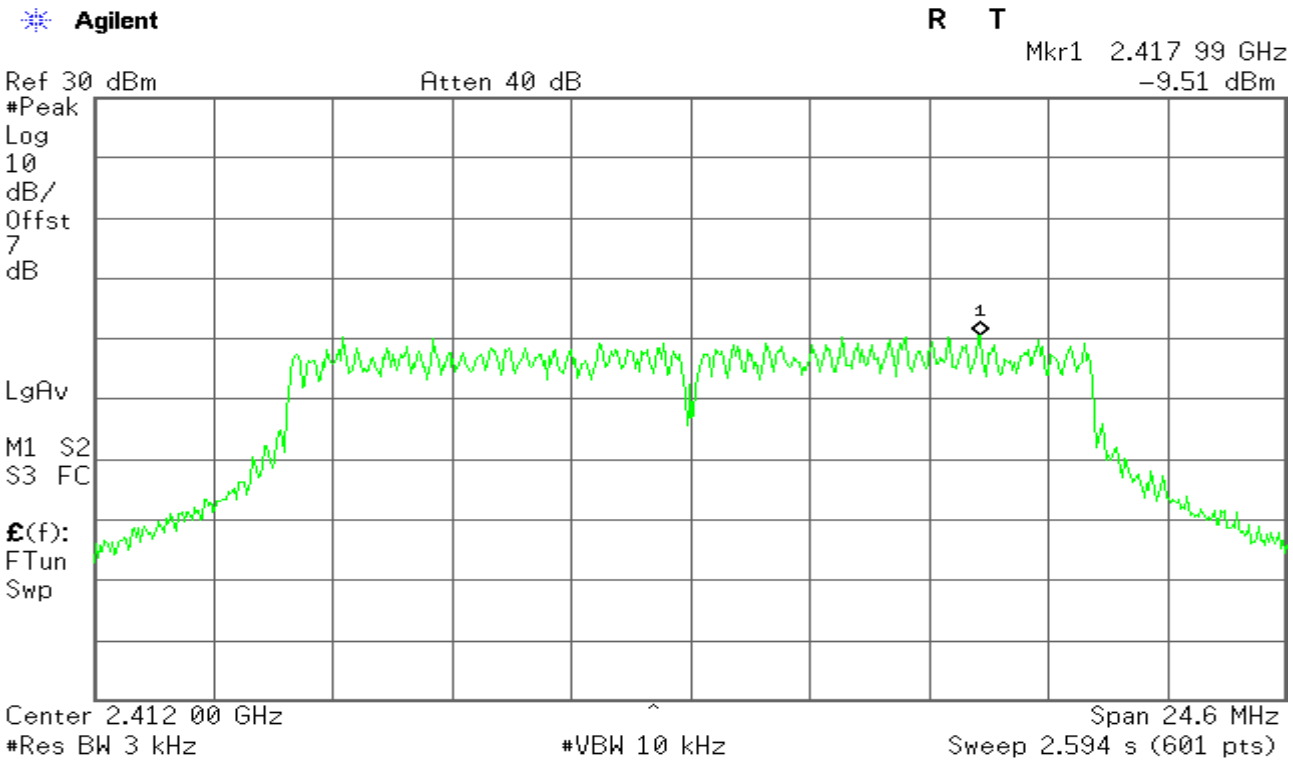


PPSD (CH High)

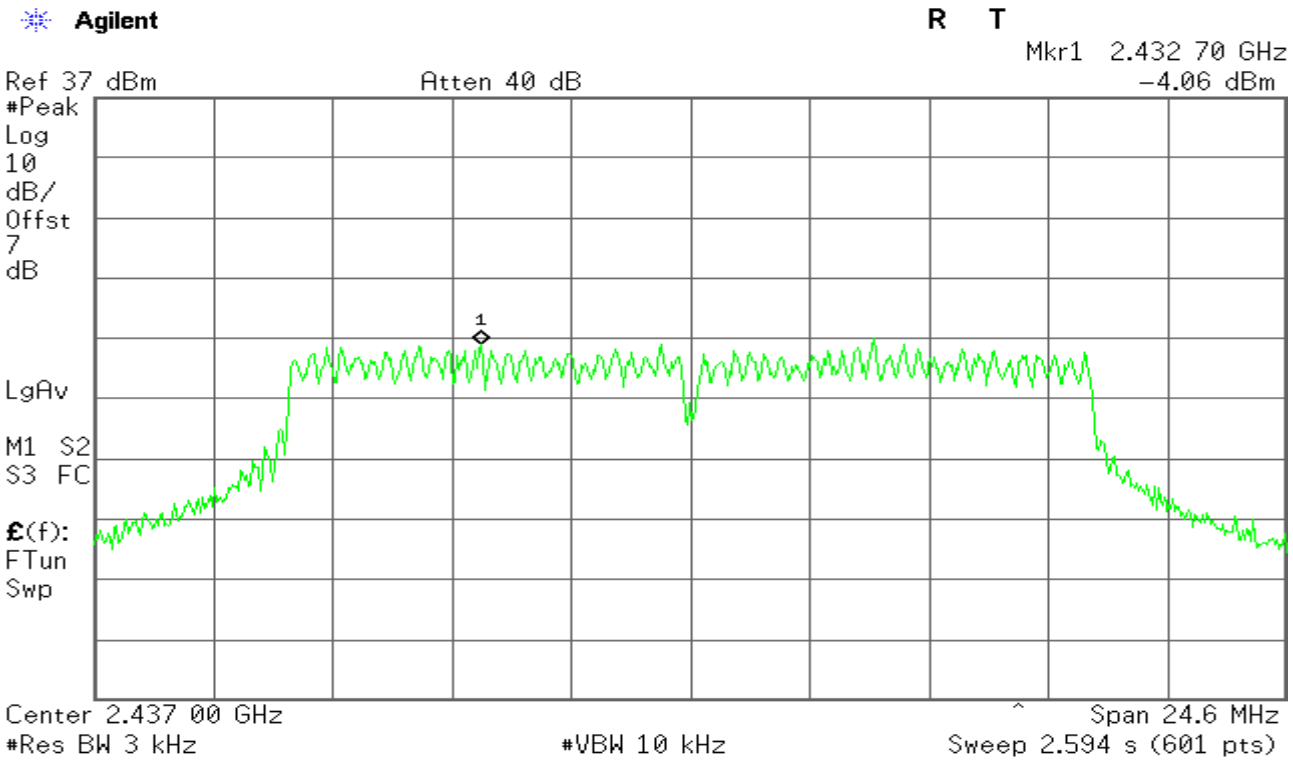


IEEE 802.11g mode/Chain 2

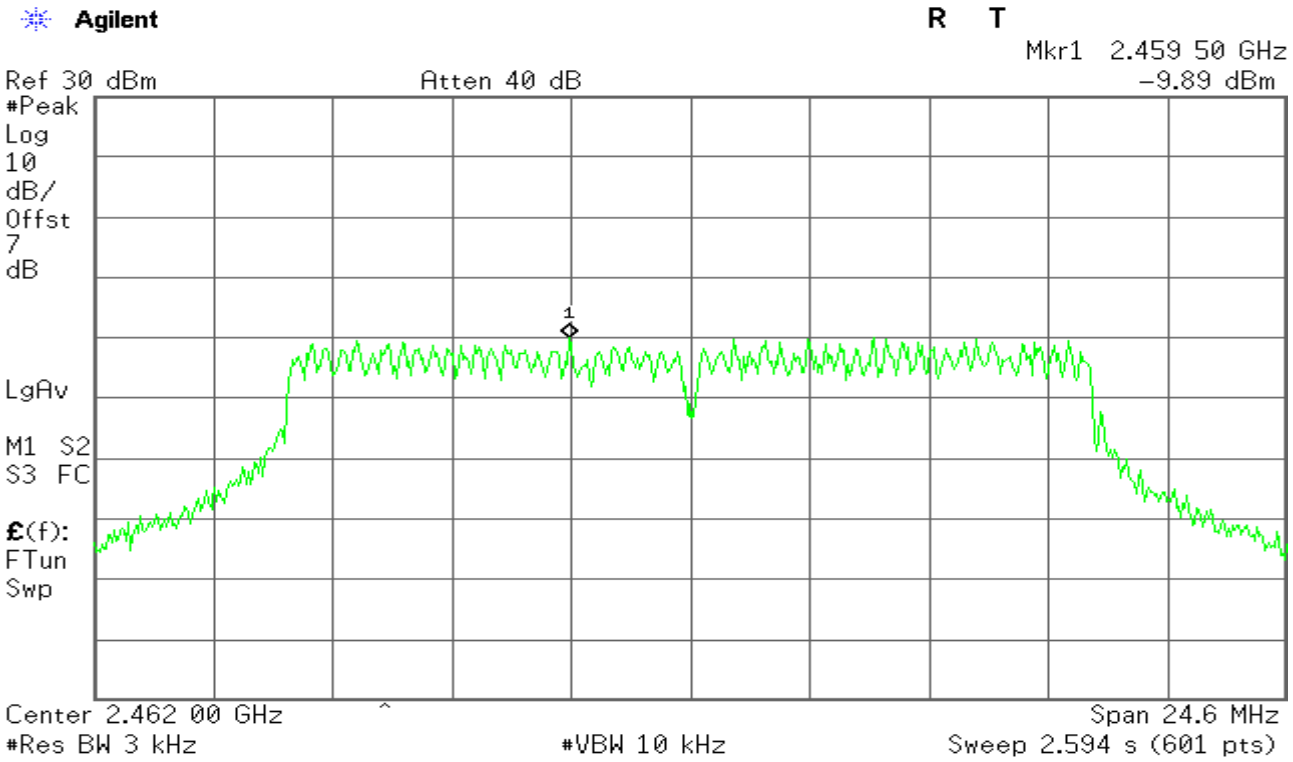
PPSD (CH Low)



PPSD (CH Mid)

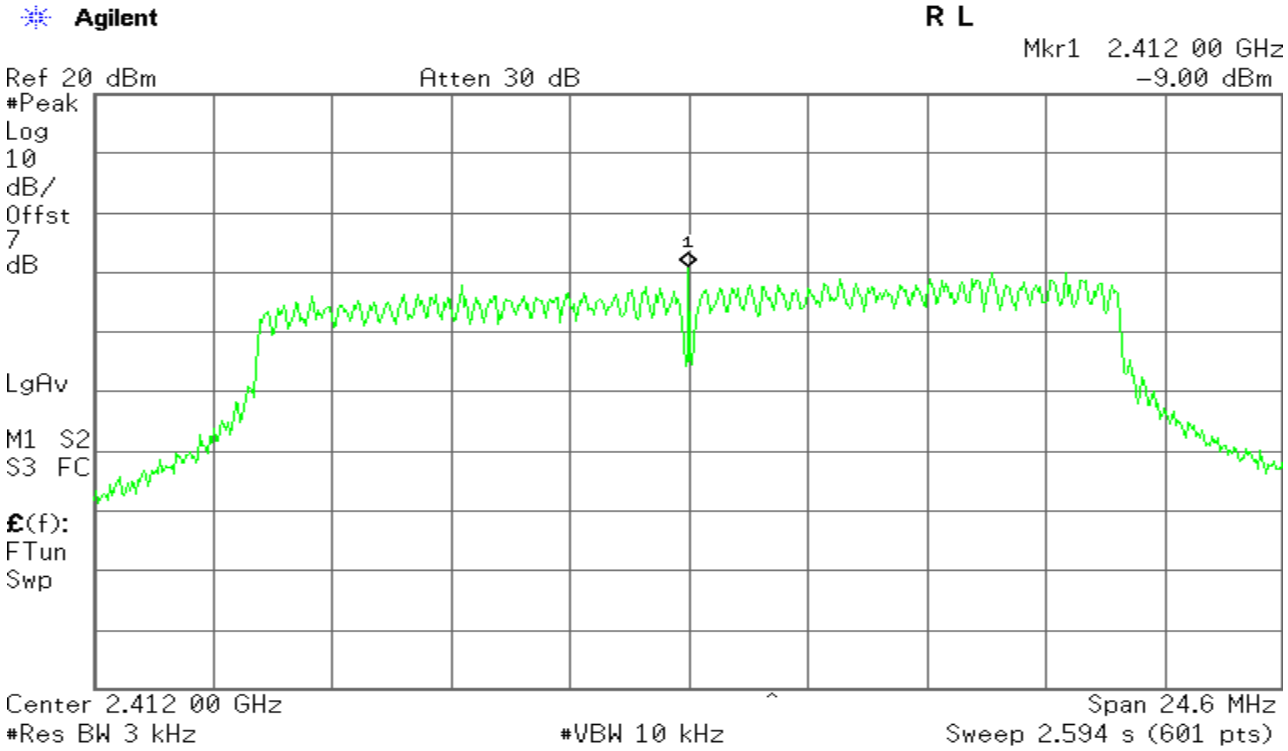


PPSD (CH High)

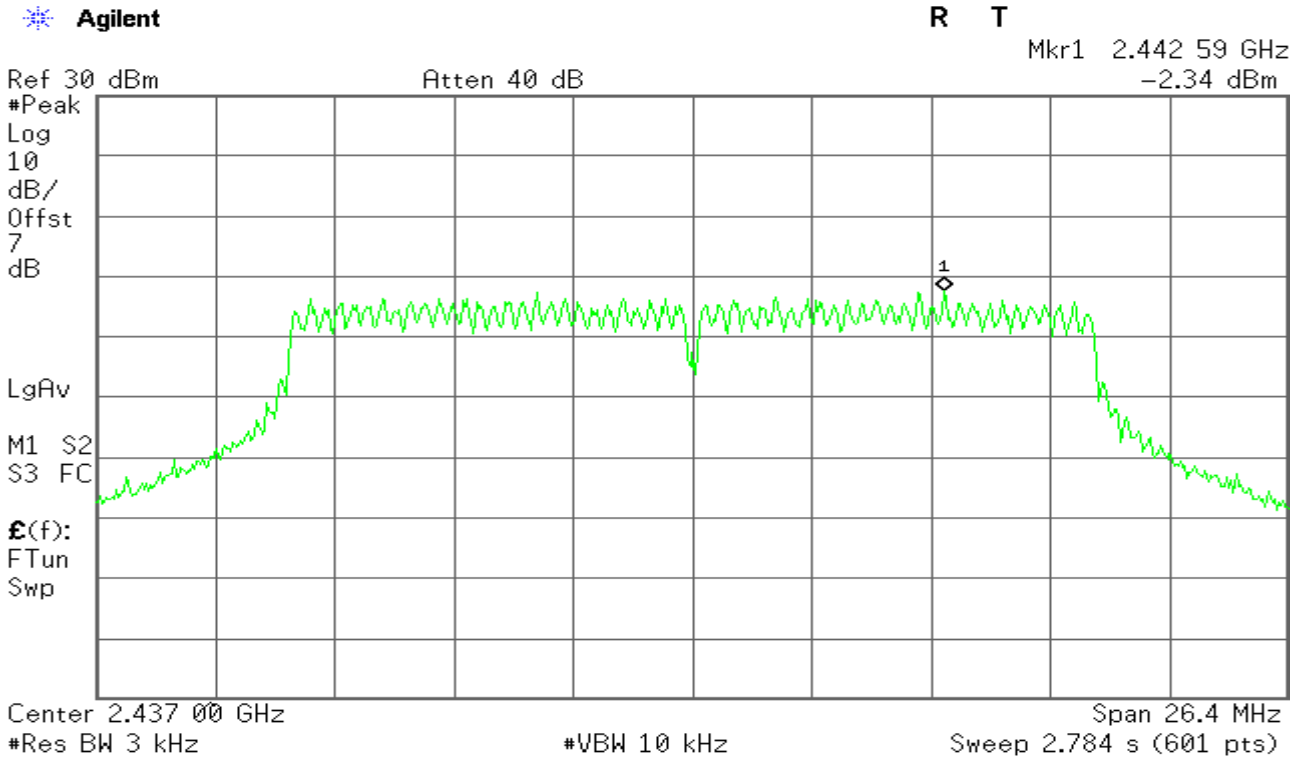


draft 802.11n Standard-20 MHz Channel mode / Chain 0

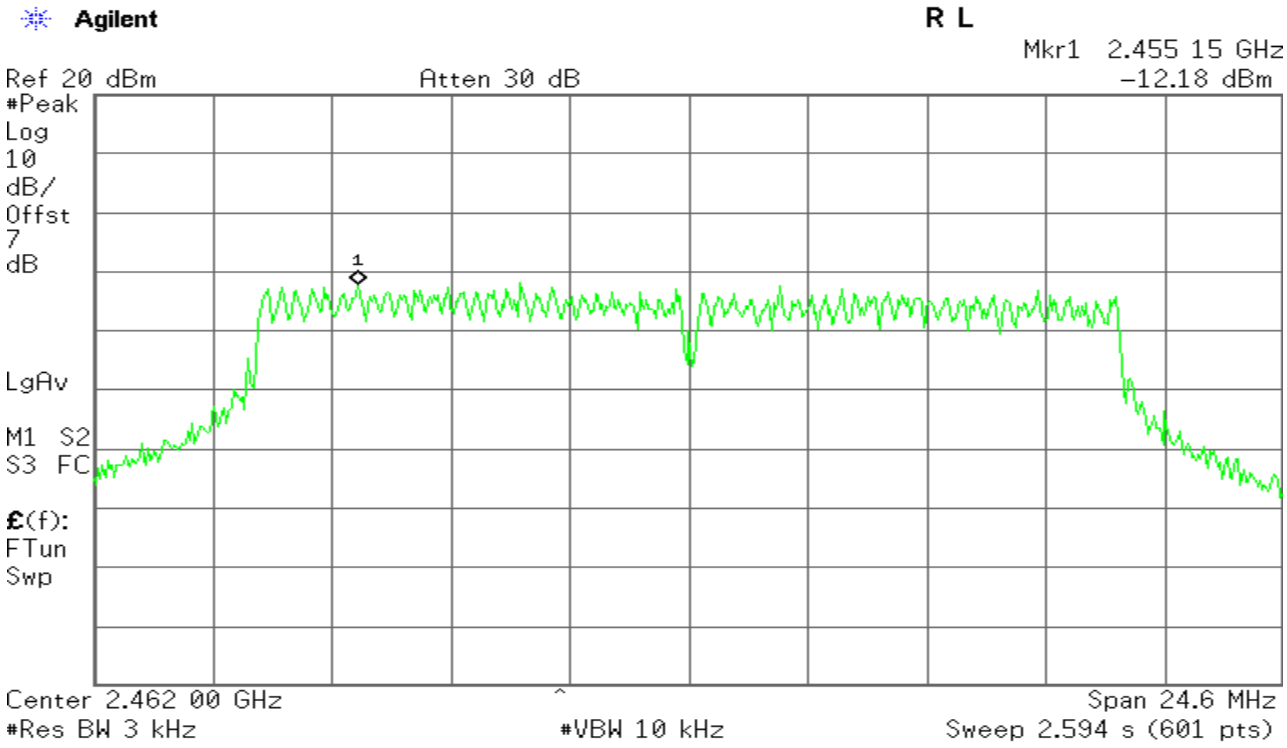
PPSD (CH Low)



PPSD (CH Mid)

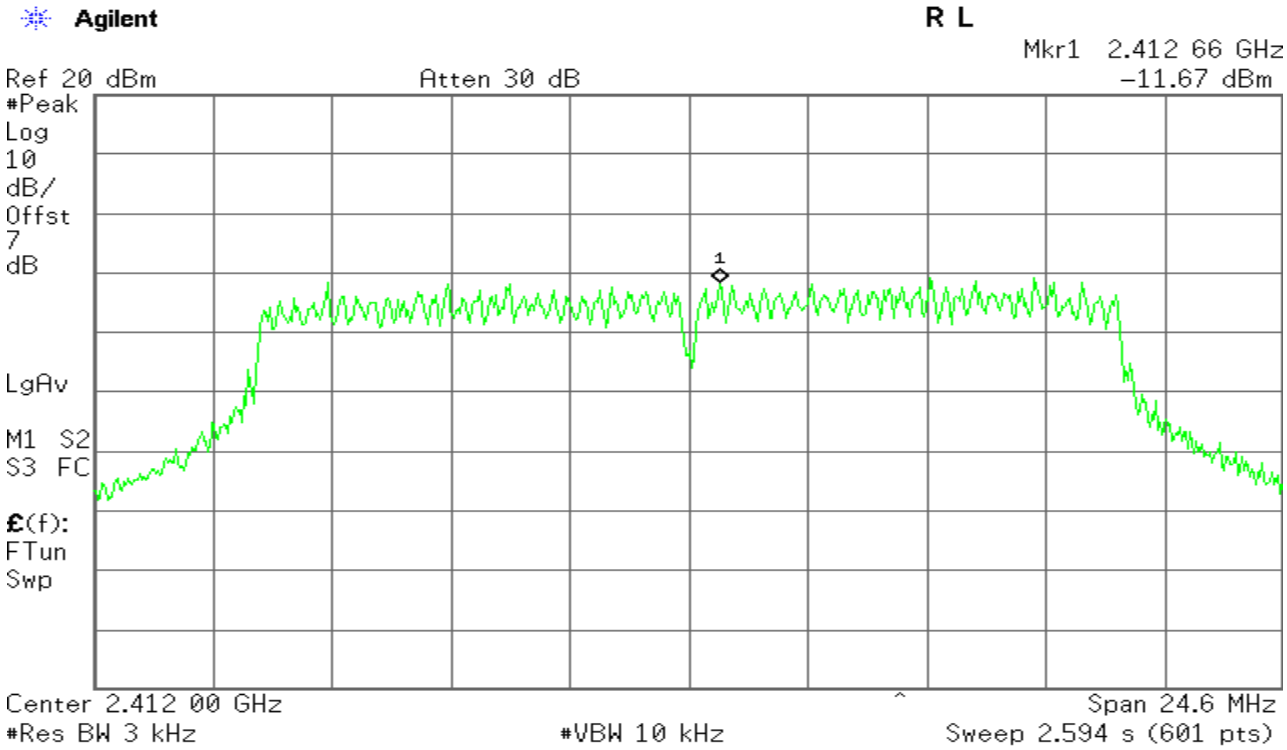


PPSD (CH High)

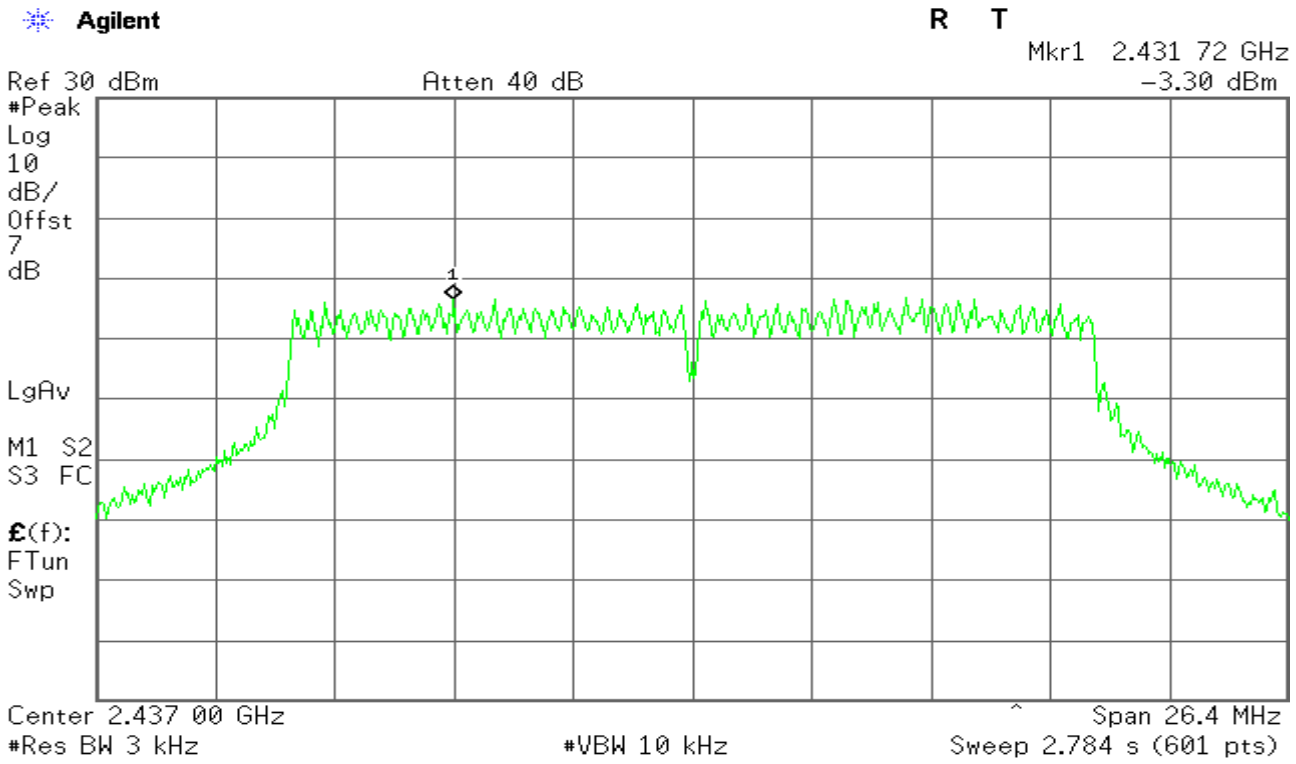


draft 802.11n Standard-20 MHz Channel mode / Chain 1

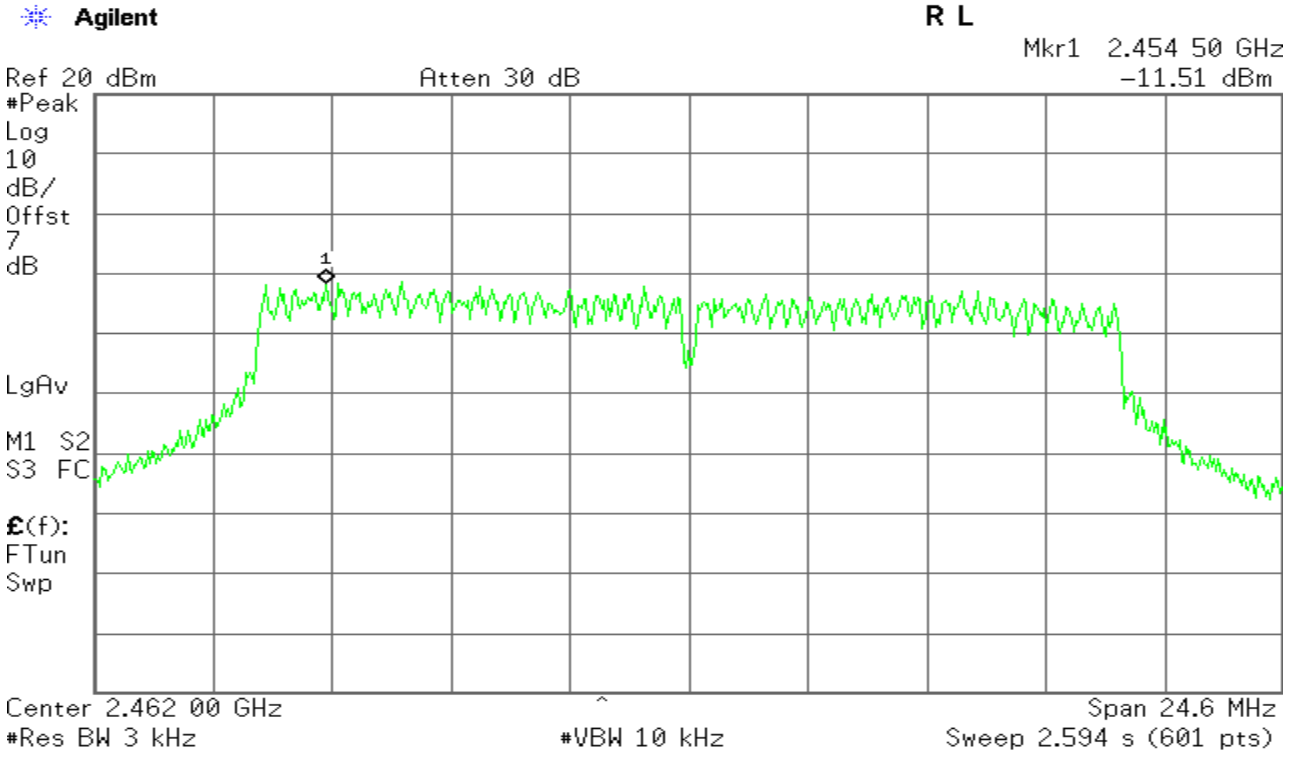
PPSD (CH Low)



PPSD (CH Mid)



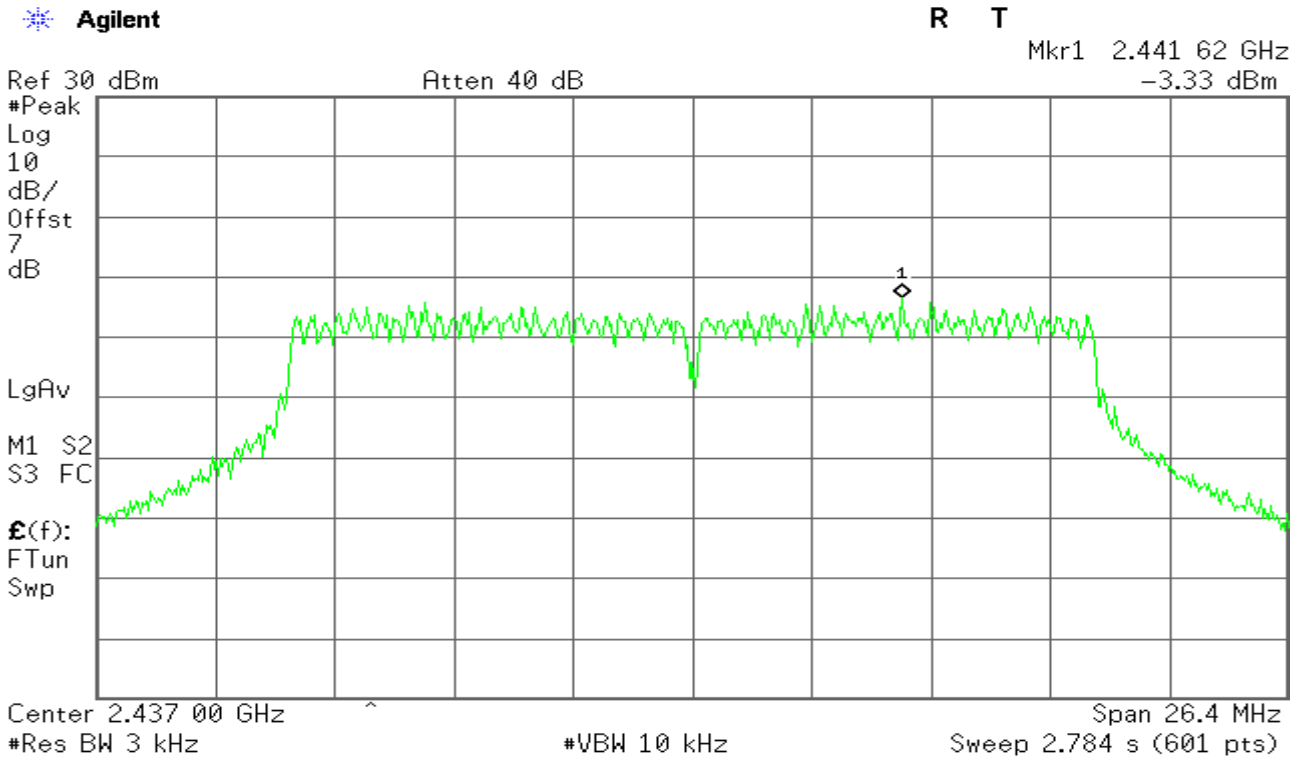
PPSD (CH High)



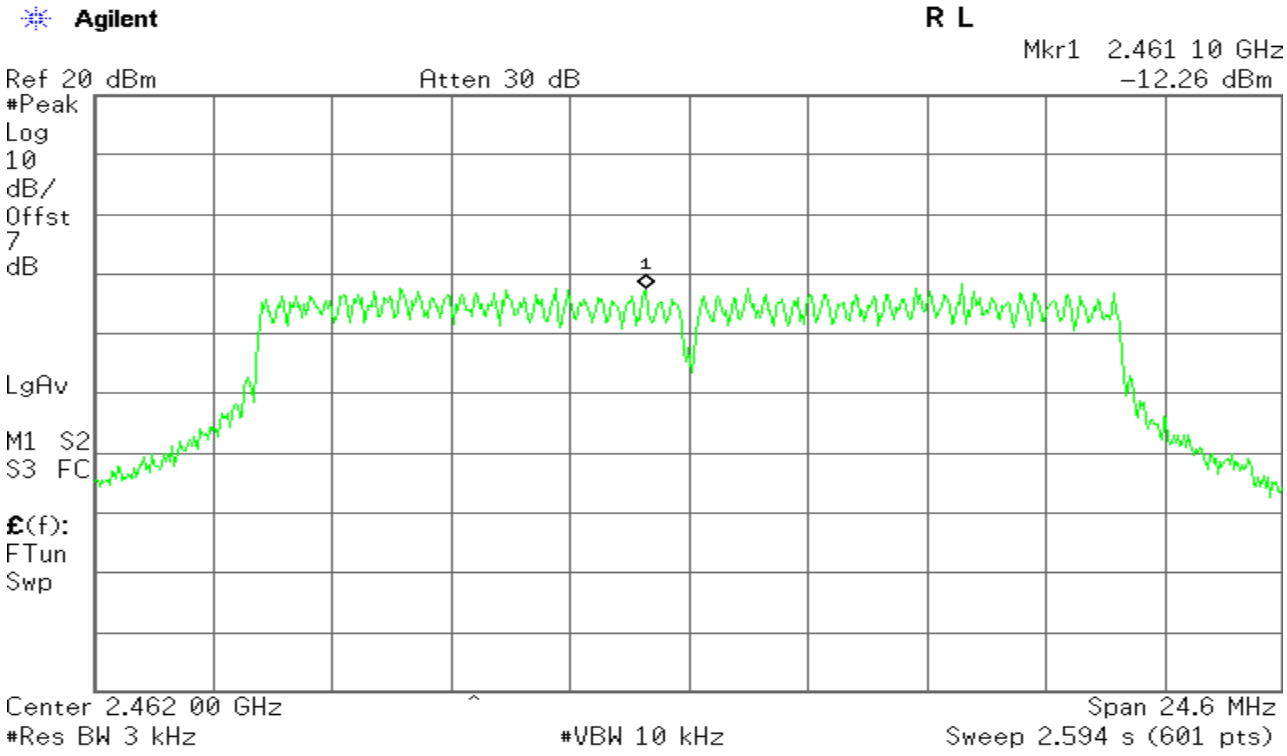
draft 802.11n Standard-20 MHz Channel mode / Chain 2

PPSD (CH Low)

PPSD (CH Mid)

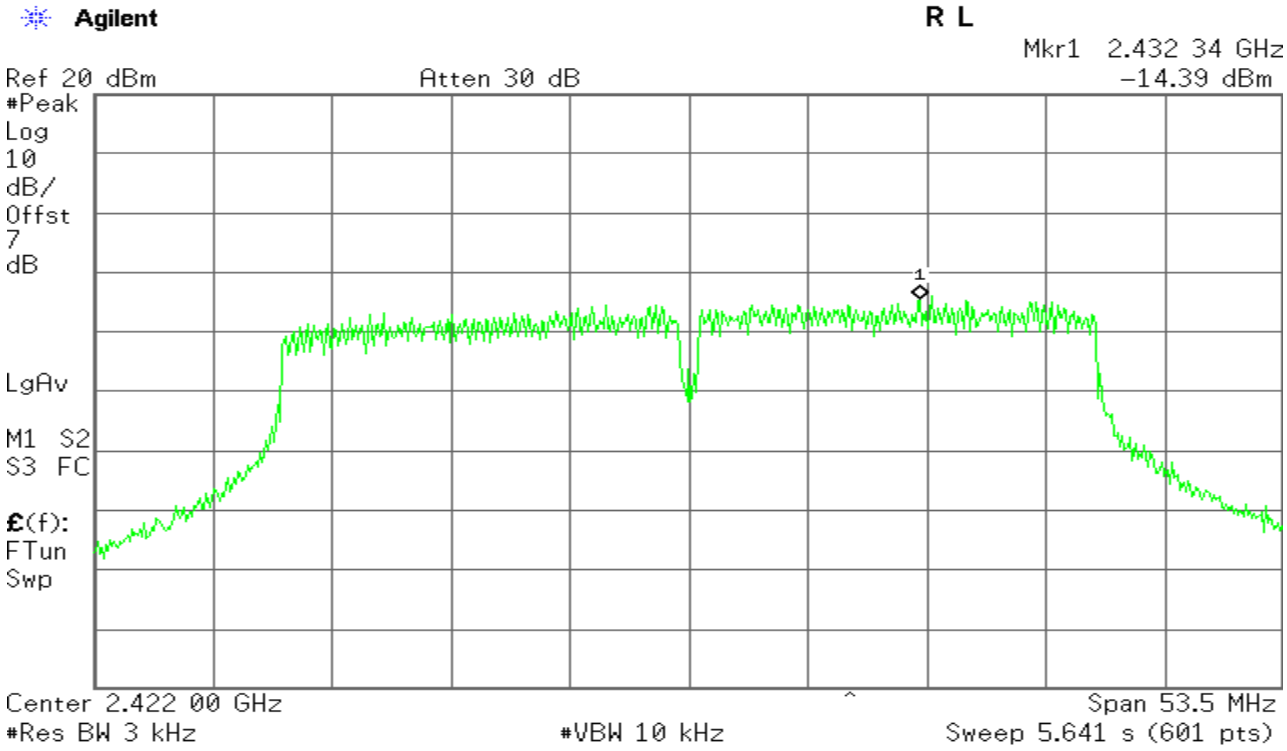


PPSD (CH High)

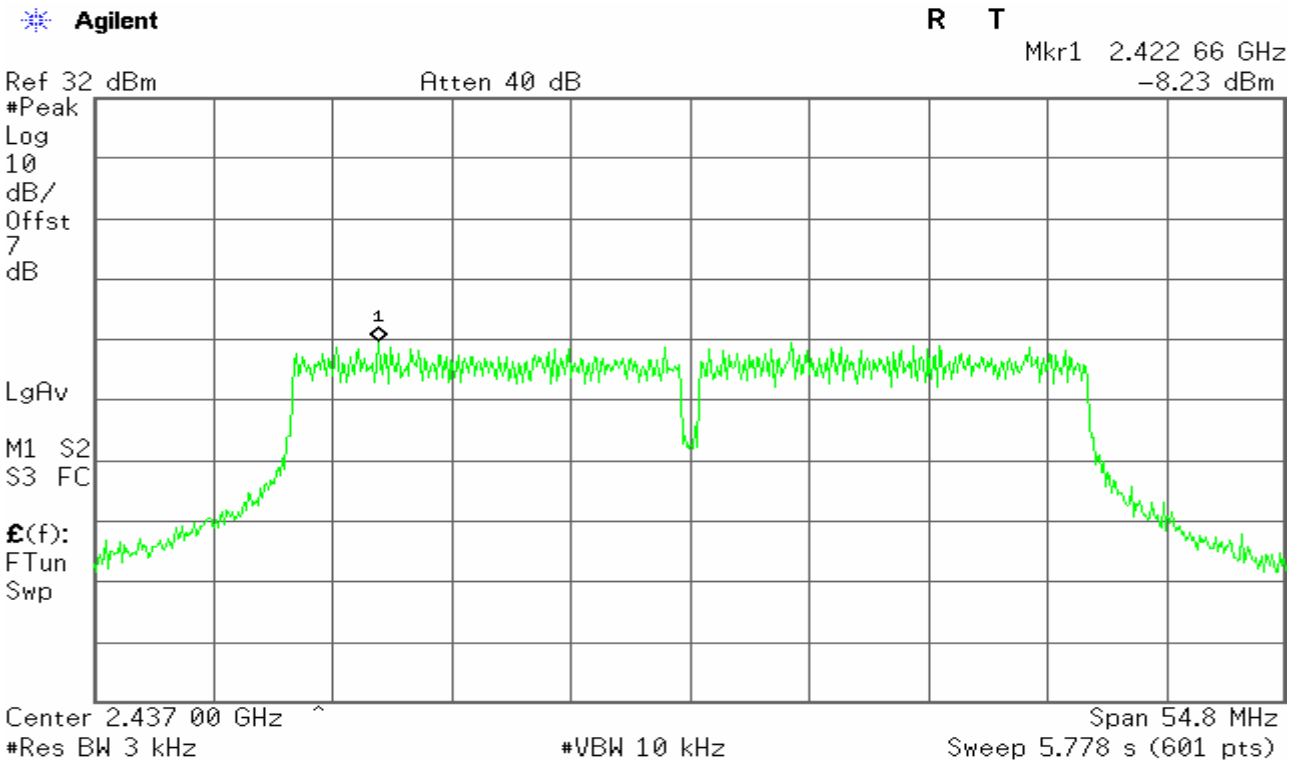


draft 802.11n wide-40 MHz Channel mode / Chain 0

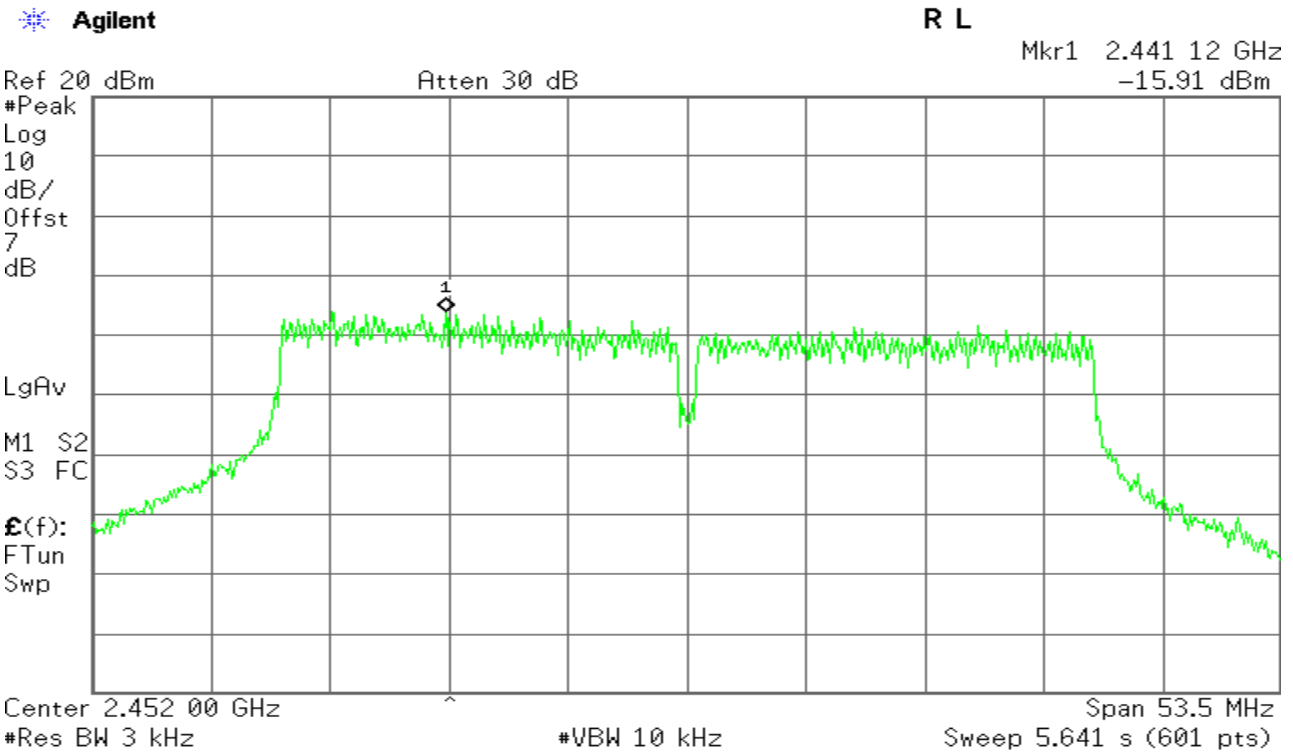
PPSD (CH Low)



PPSD (CH Mid)

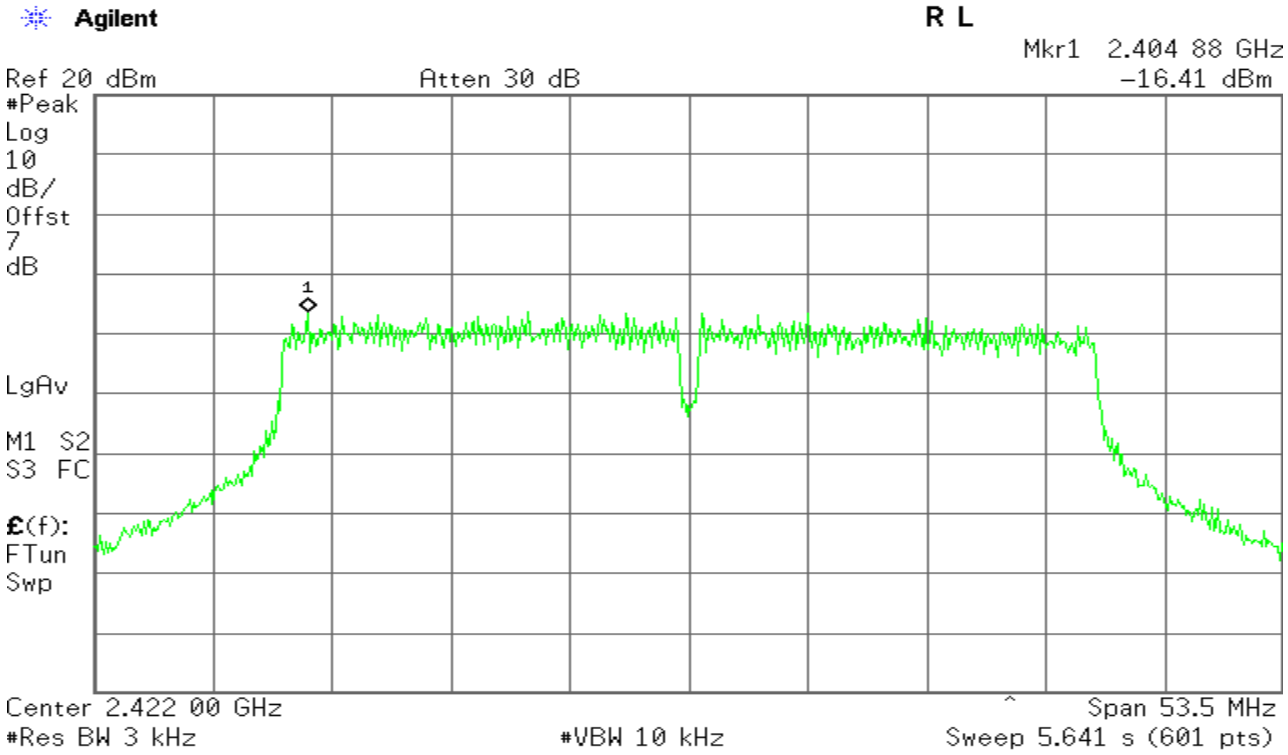


PPSD (CH High)

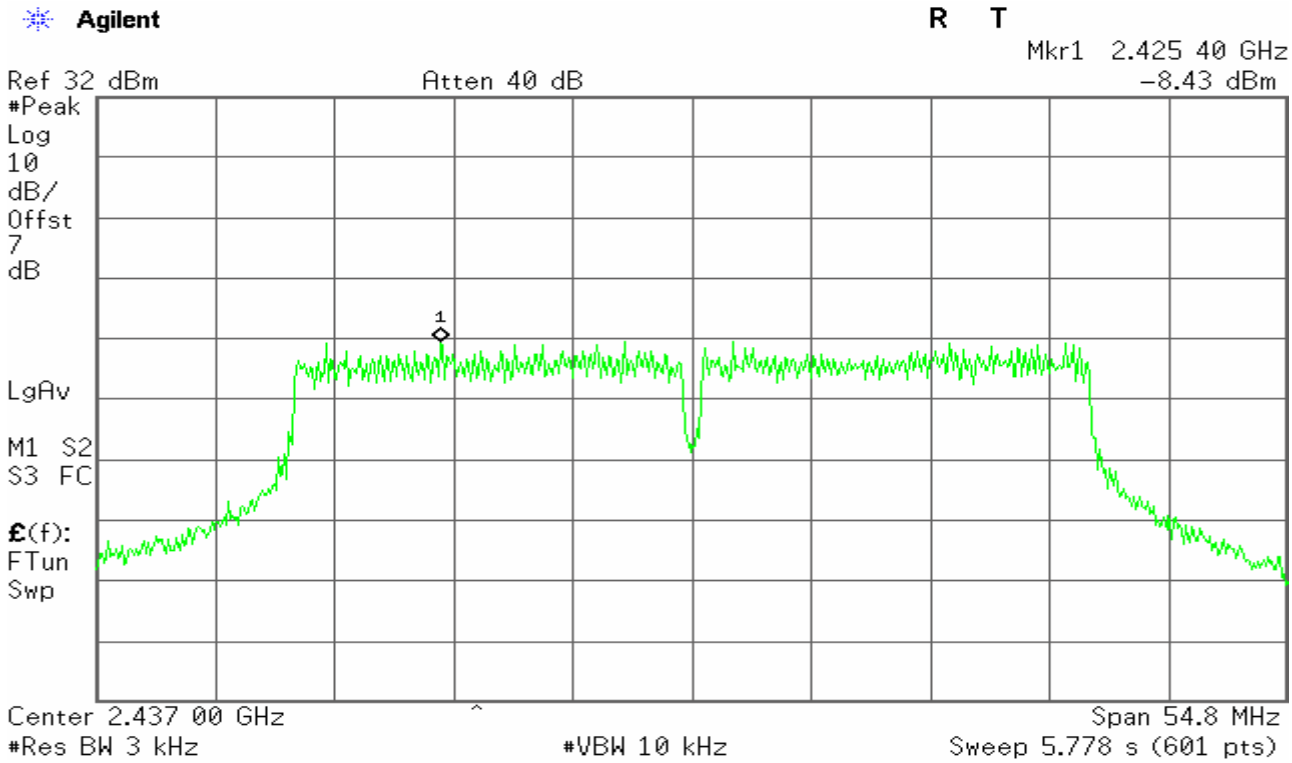


draft 802.11n wide-40 MHz Channel mode / Chain 1

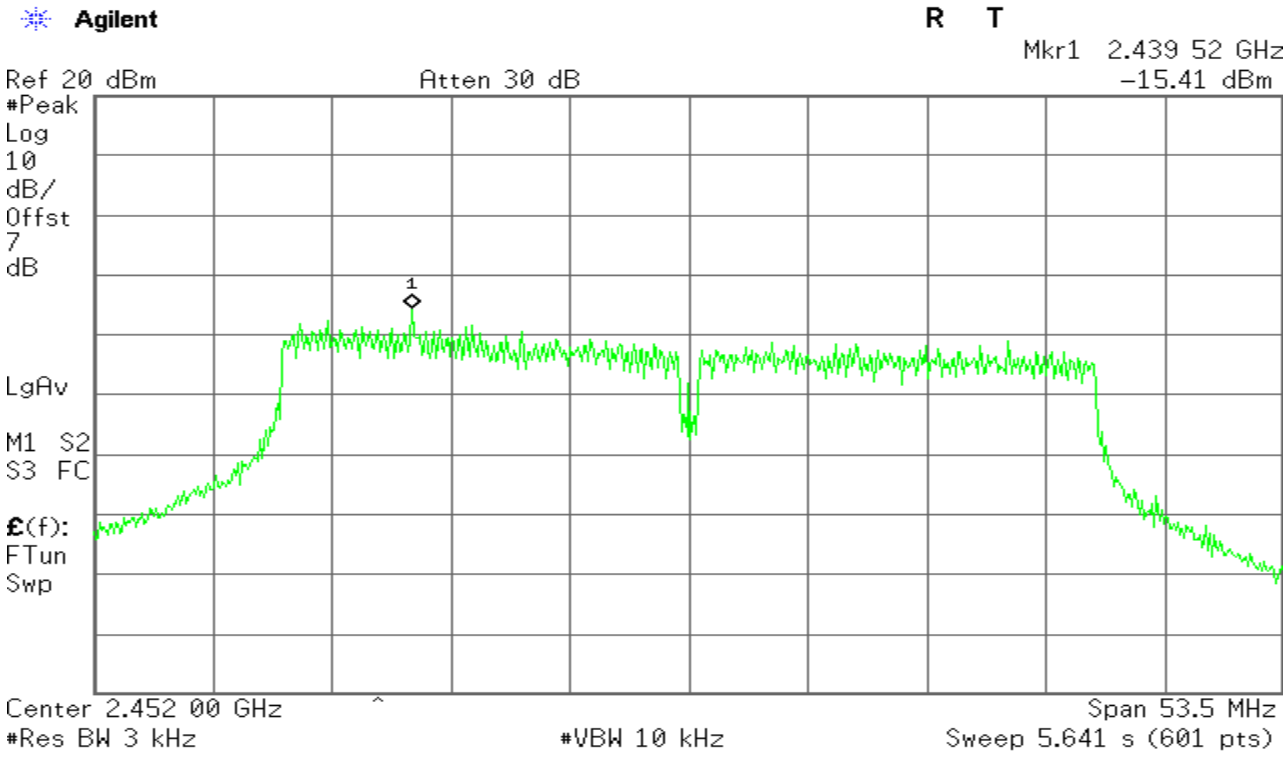
PPSD (CH Low)



PPSD (CH Mid)

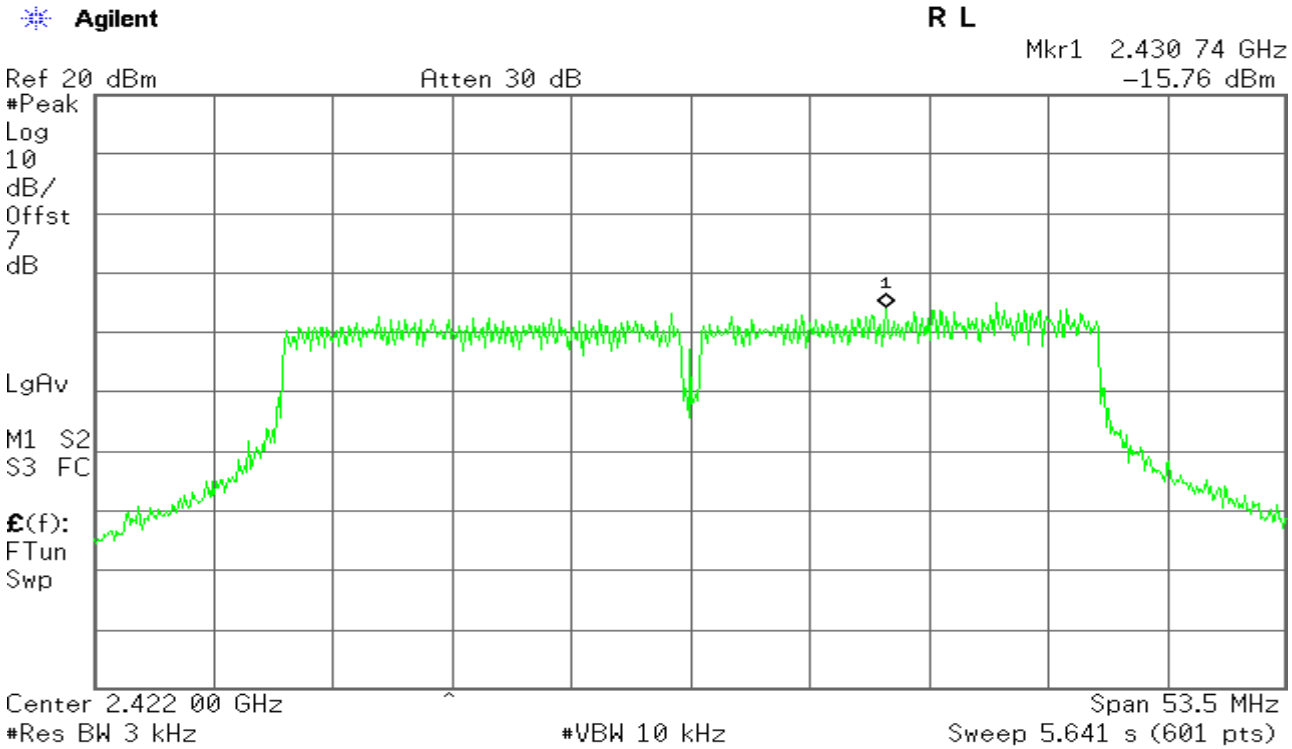


PPSD (CH High)

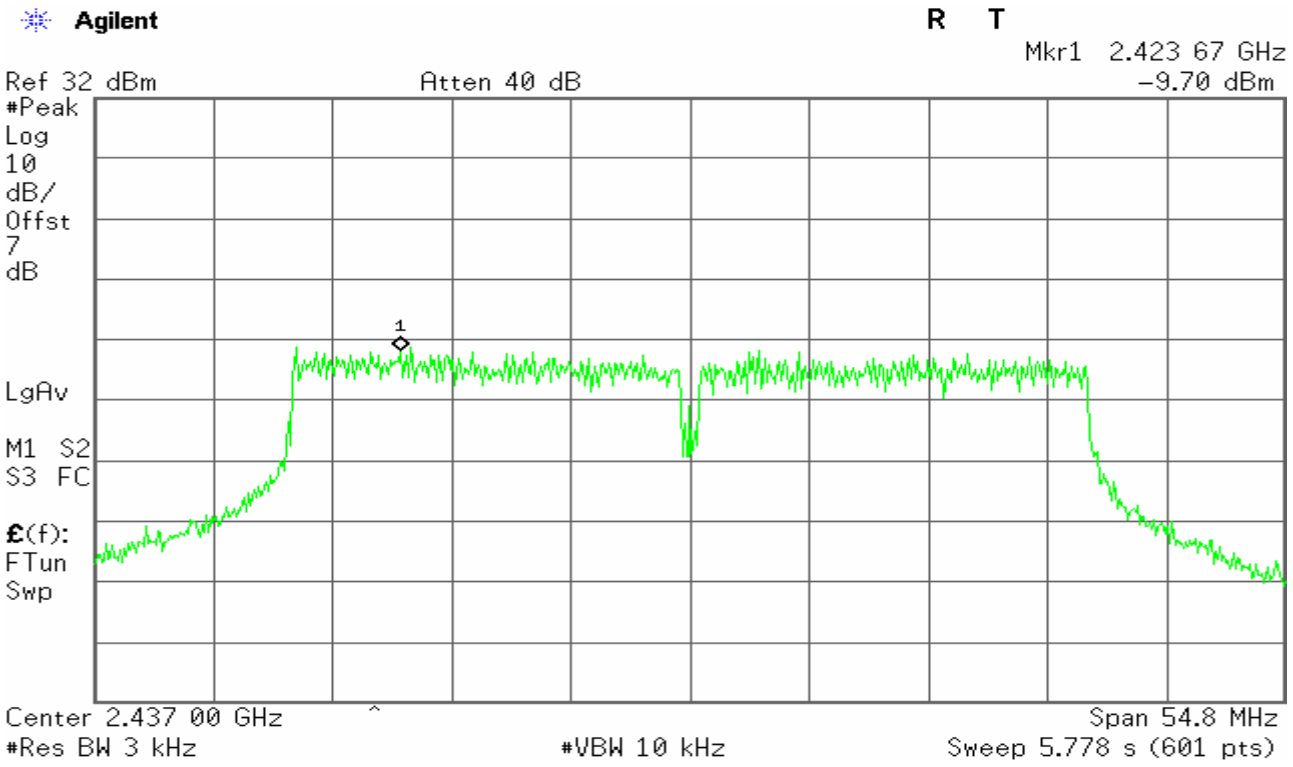


draft 802.11n wide-40 MHz Channel mode / Chain 2

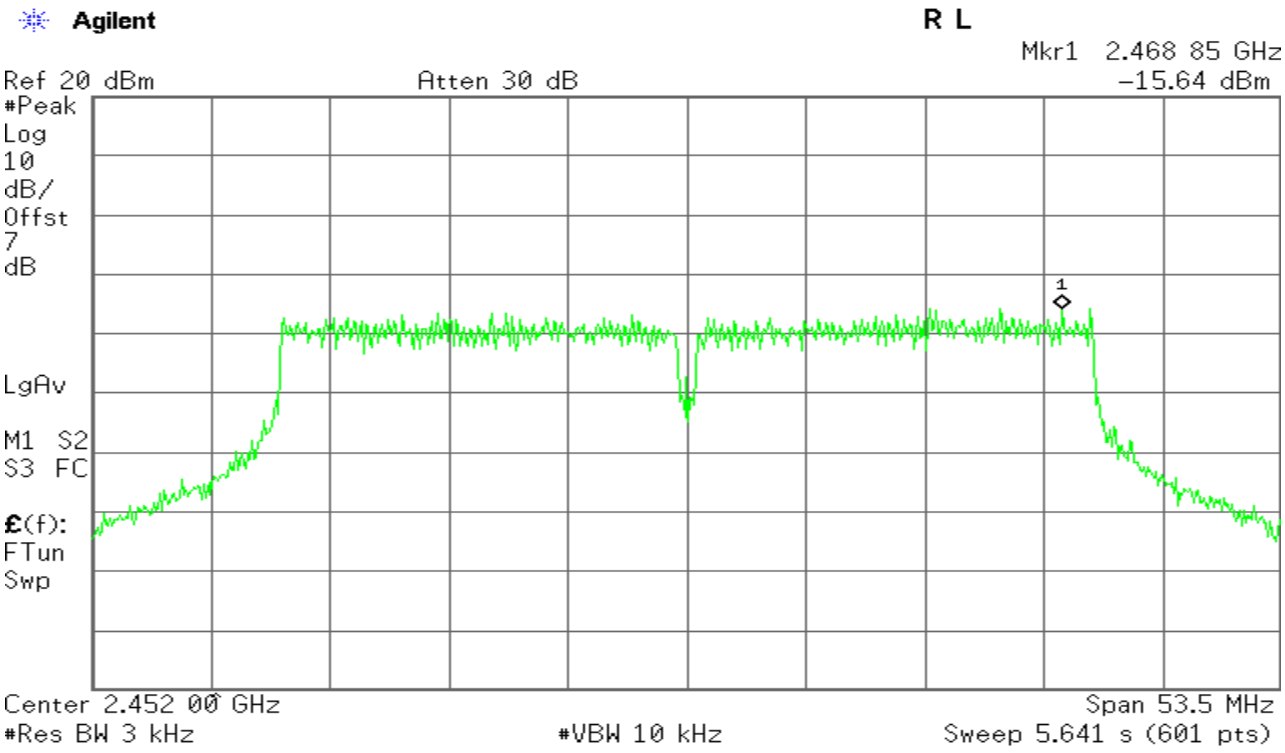
PPSD (CH Low)



PPSD (CH Mid)



PPSD (CH High)



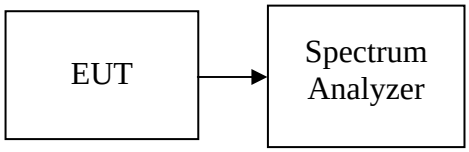
4.4.SPURIOUS EMISSIONS

Conducted Measurement

LIMIT

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in 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. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in 15.209(a) (see Section 15.205(c)).

Test Configuration



TEST PROCEDURE

Conducted RF measurements of the transmitter output were made to confirm that the EUT antenna port conducted emissions meet the specified limit and to identify any spurious signals that require further investigation or measurements on the radiated emissions site.

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

Measurements are made over the 30MHz to 40GHz range with the transmitter set to the lowest, middle, and highest channels.

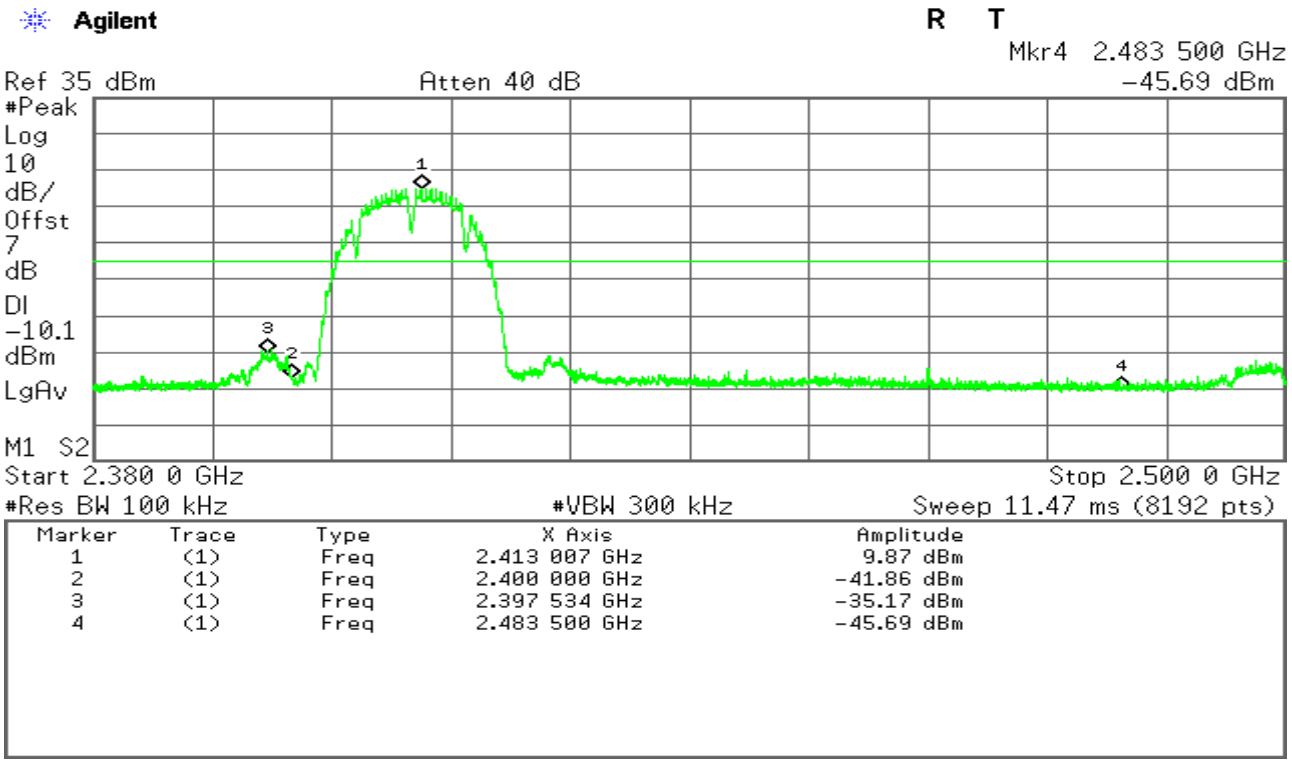
TEST RESULTS

No non-compliance noted

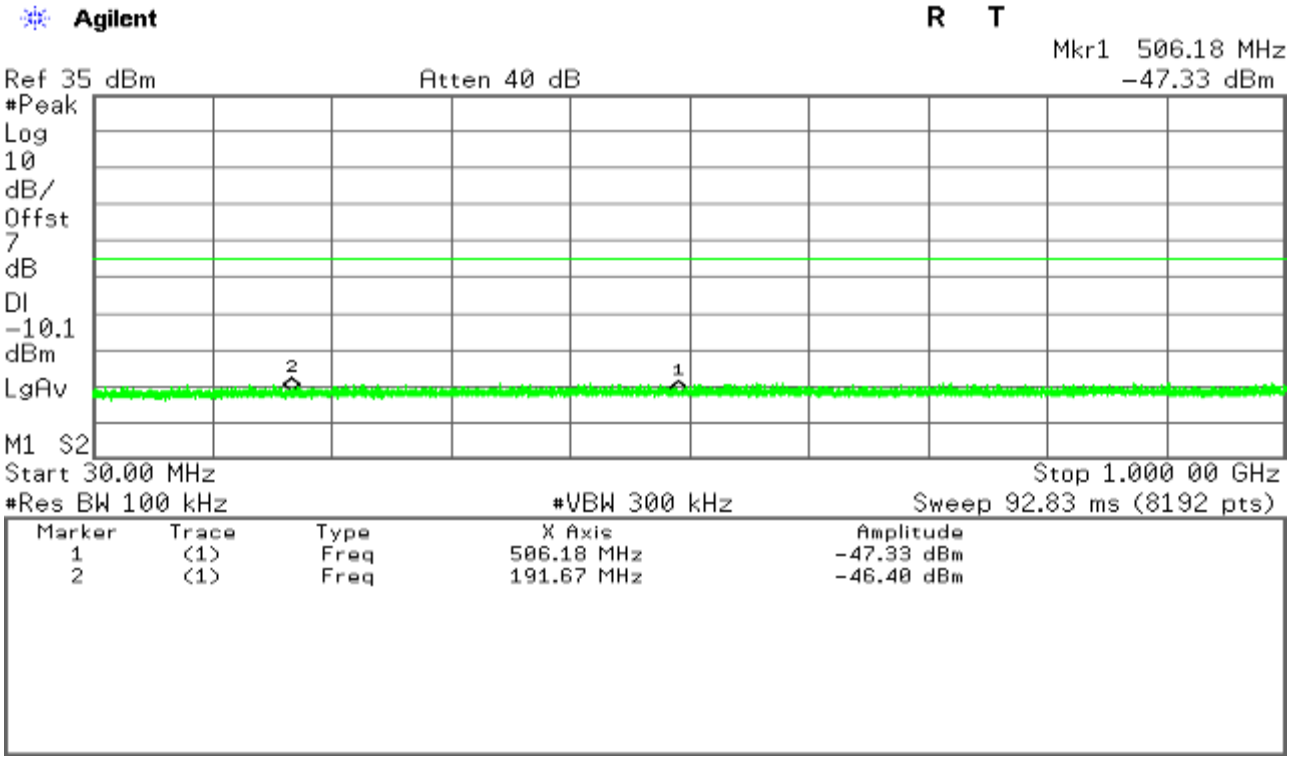
Test Plot
OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

IEEE 802.11b mode/Chain 0

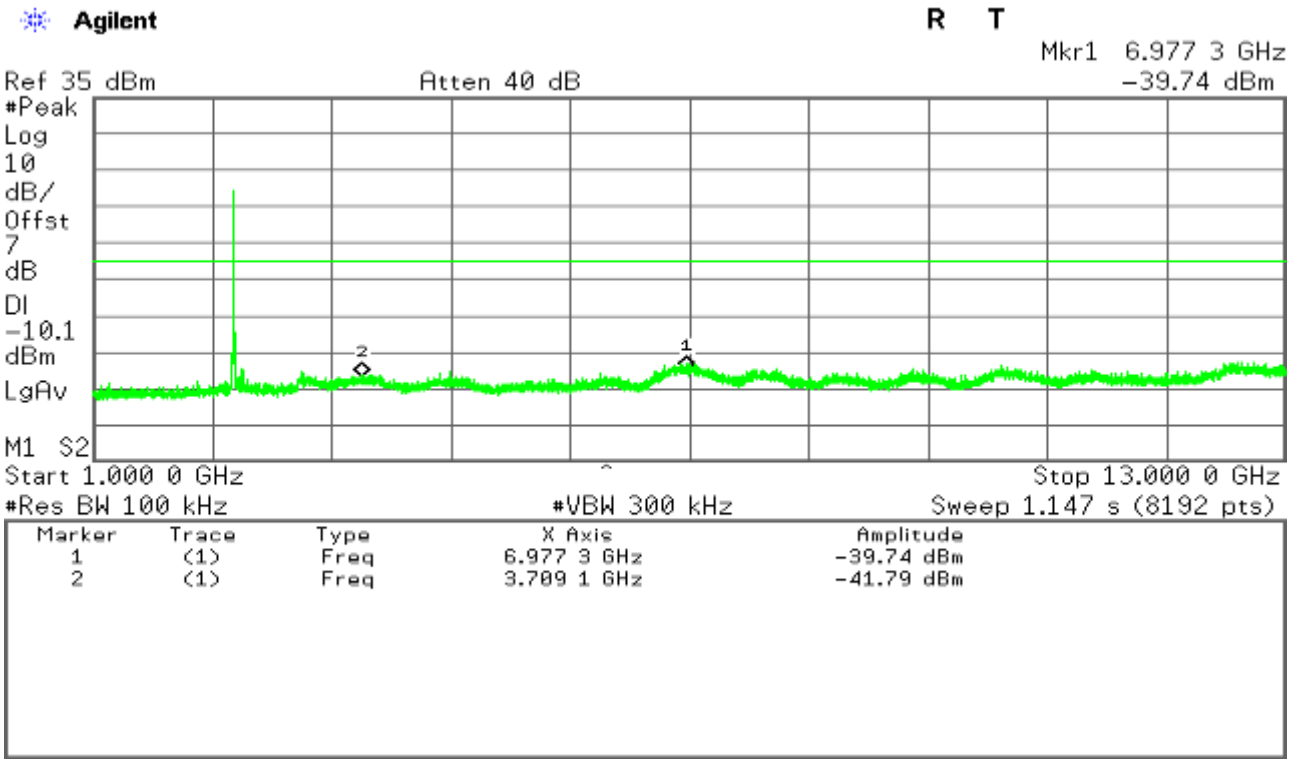
CH Low

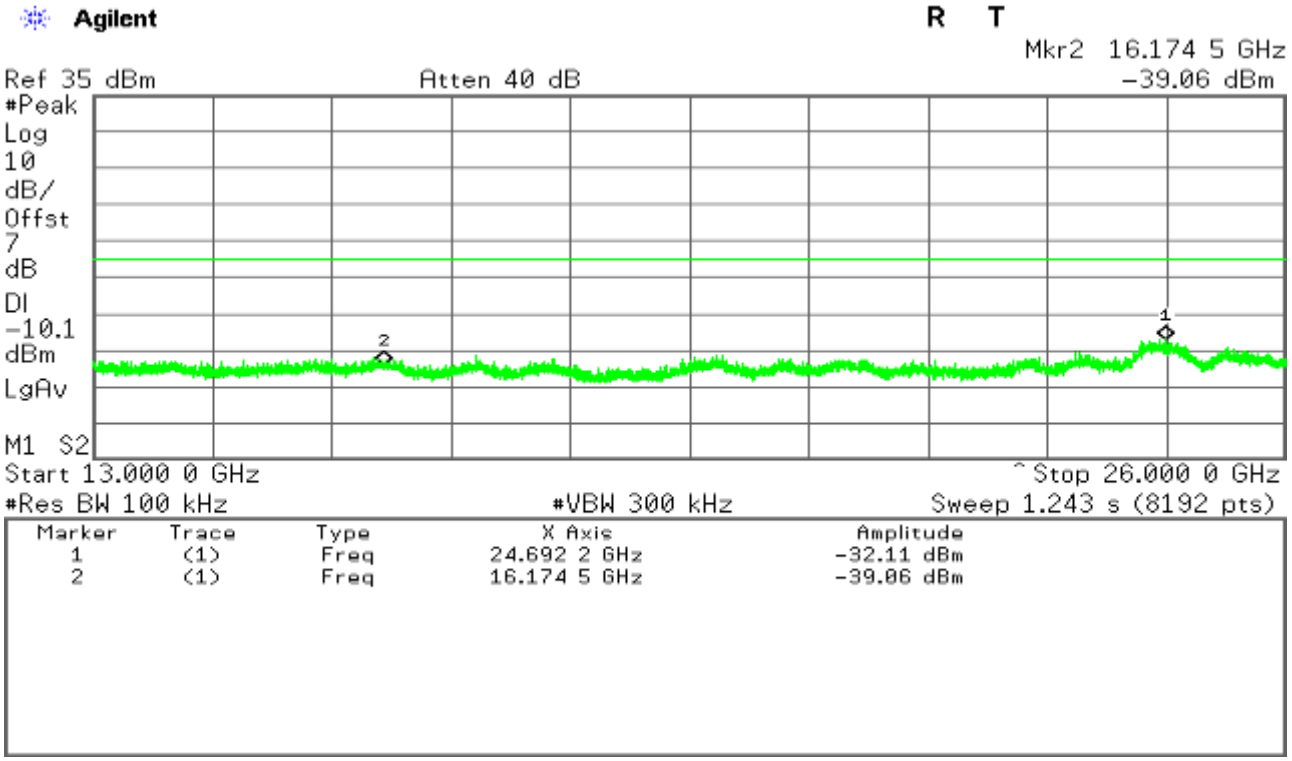


Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.413 007 GHz	9.87 dBm
2	(1)	Freq	2.400 000 GHz	-41.86 dBm
3	(1)	Freq	2.397 534 GHz	-35.17 dBm
4	(1)	Freq	2.483 500 GHz	-45.69 dBm

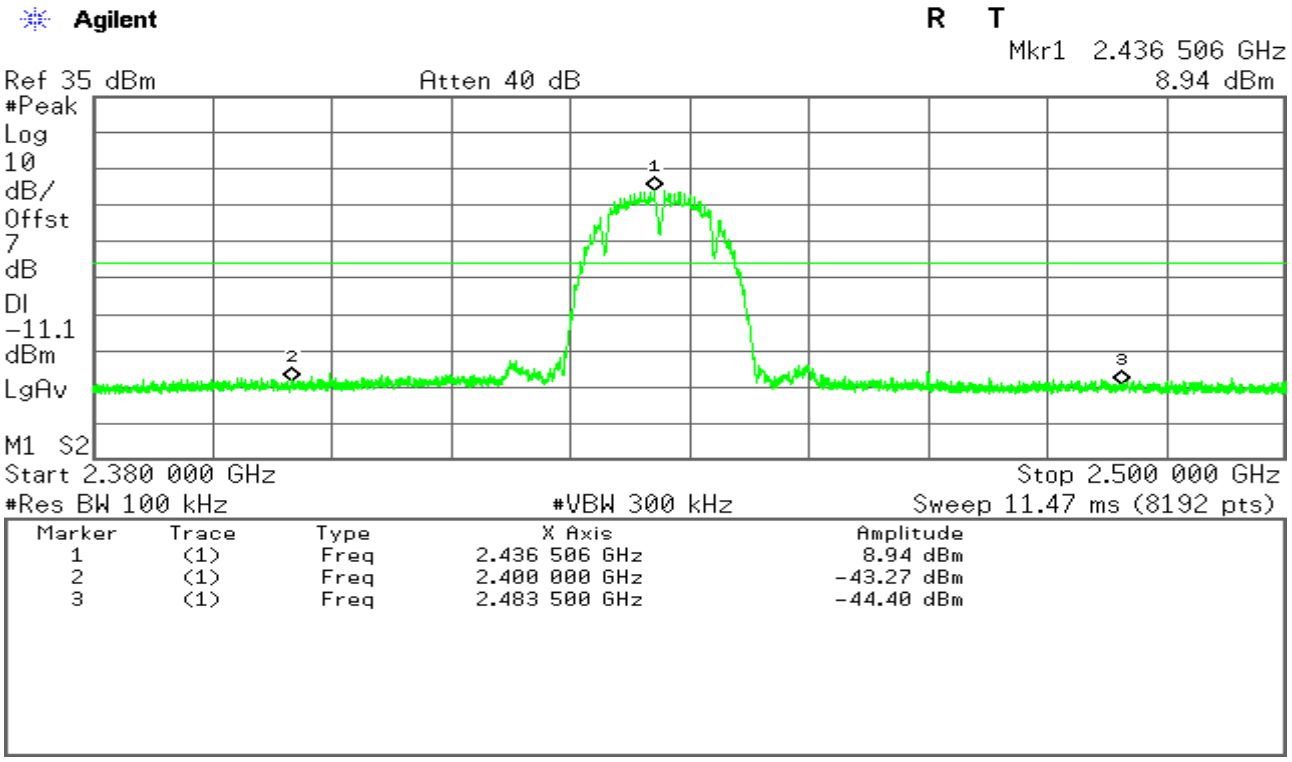


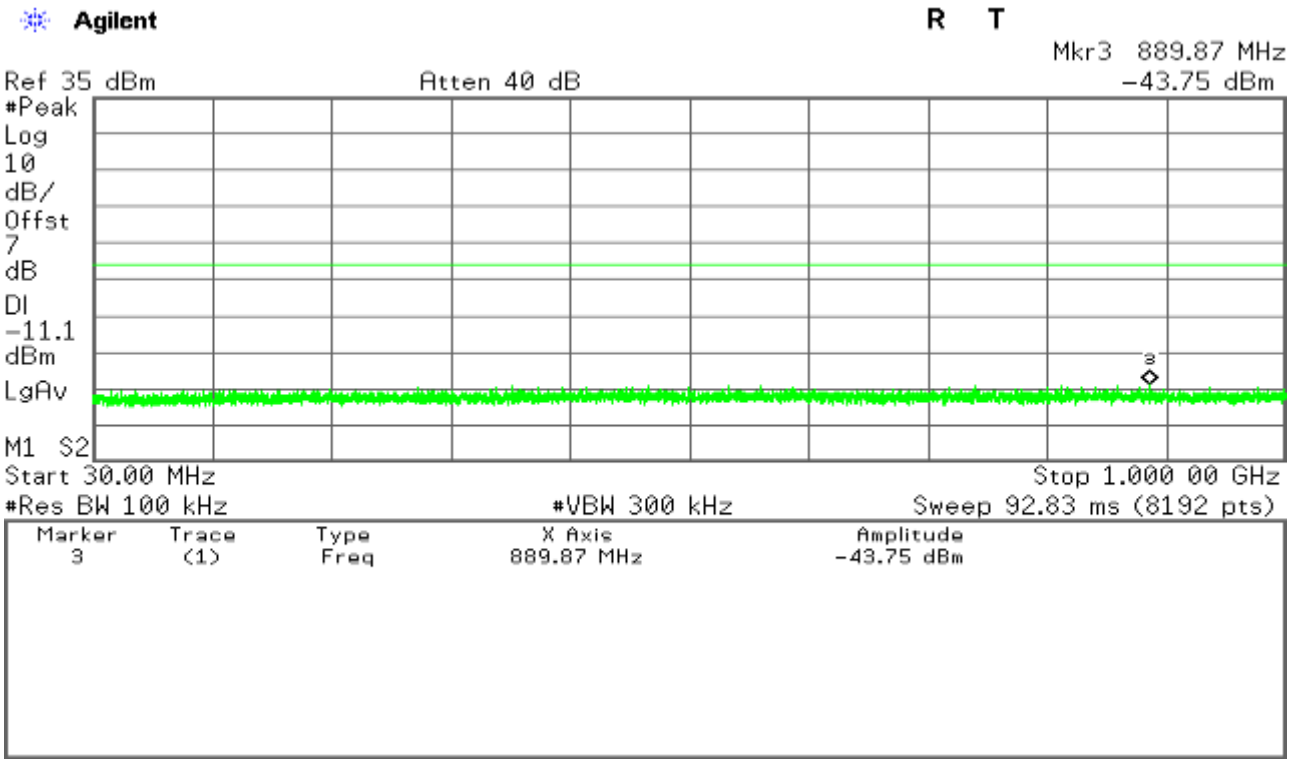
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	506.18 MHz	-47.33 dBm
2	(1)	Freq	191.67 MHz	-46.40 dBm

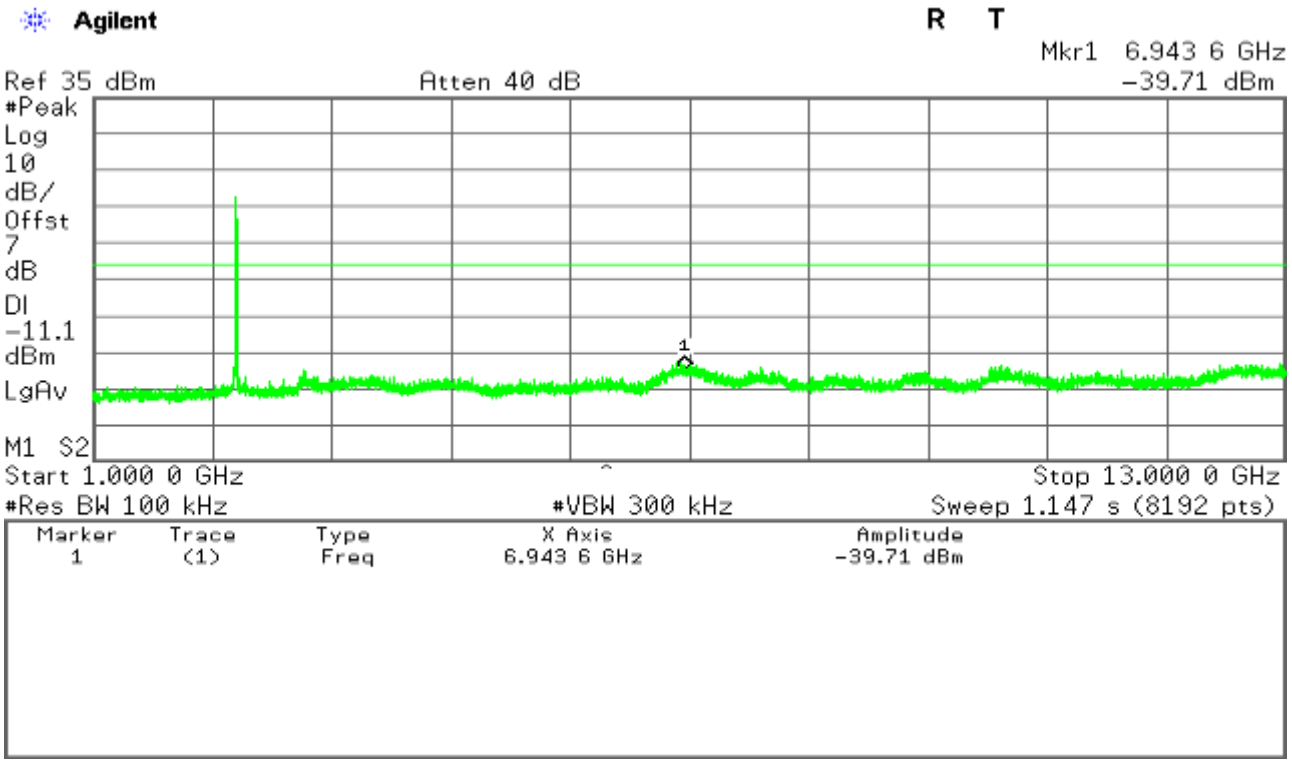


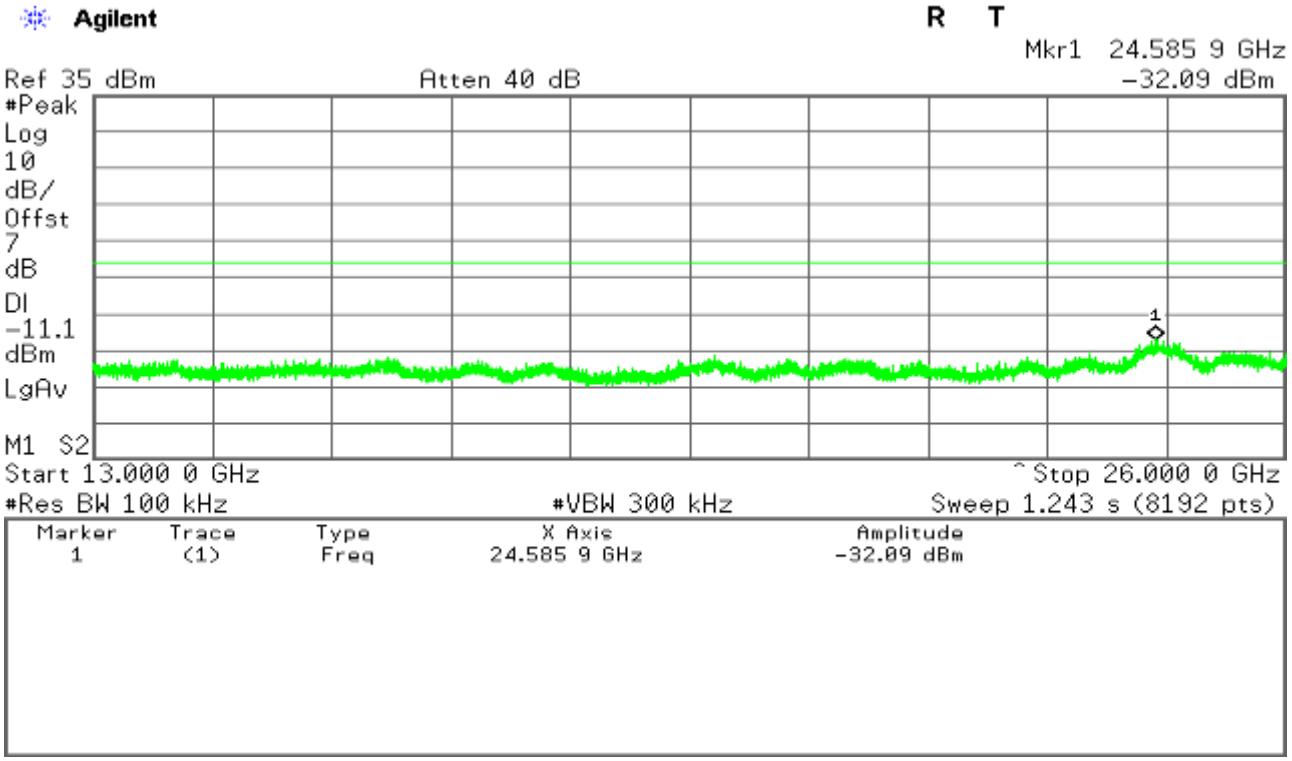


CH Mid

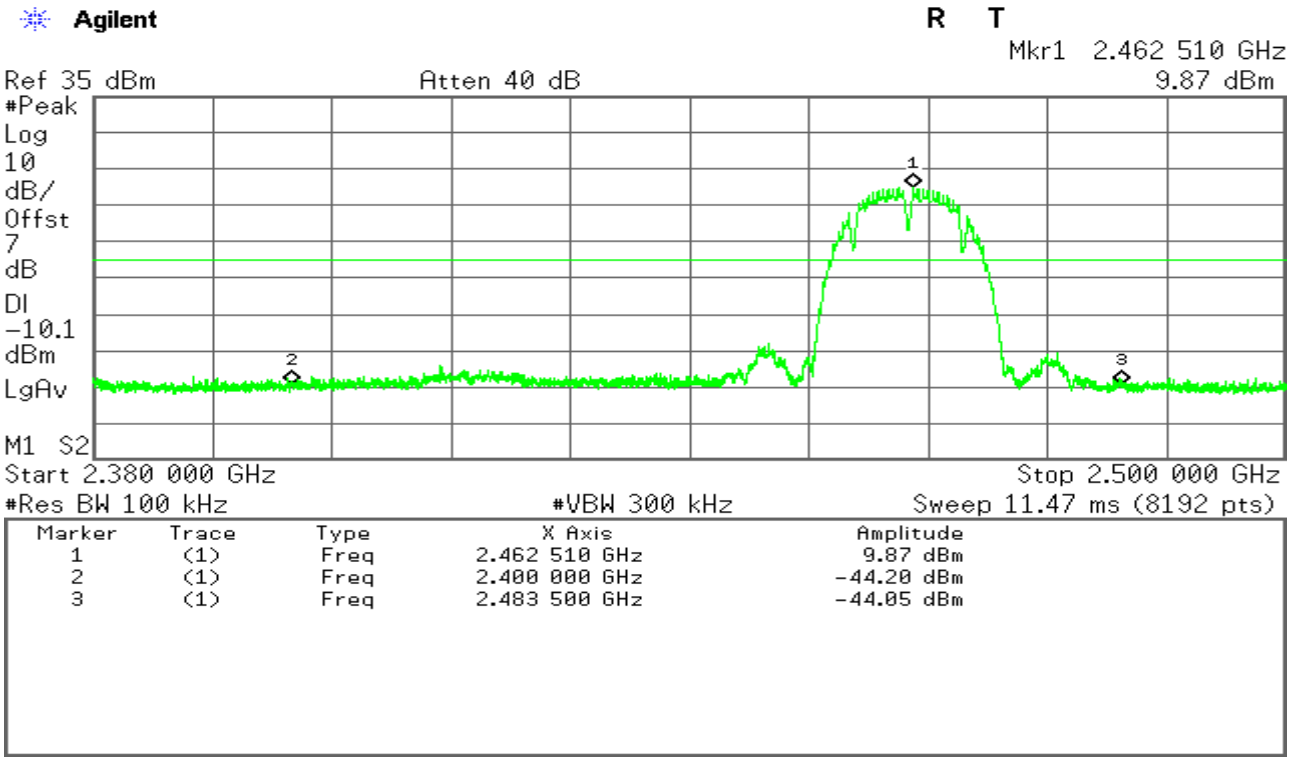


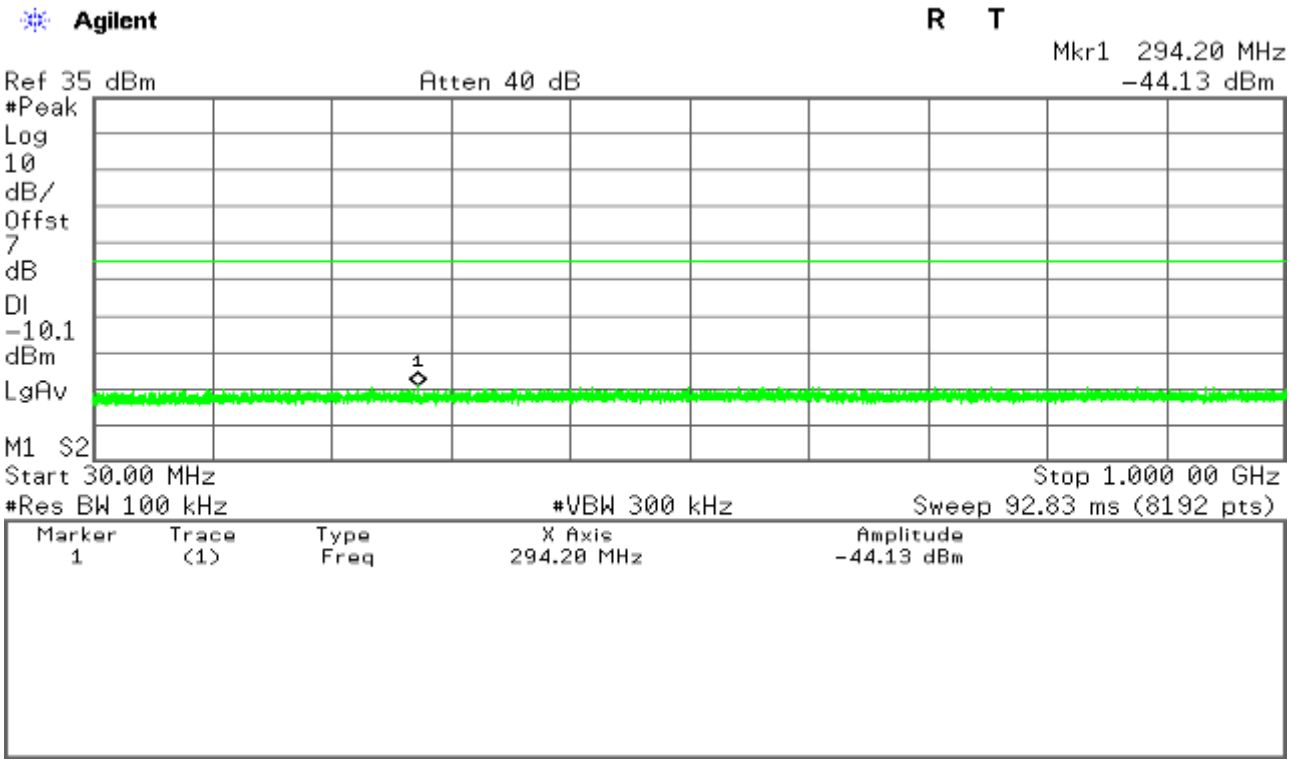


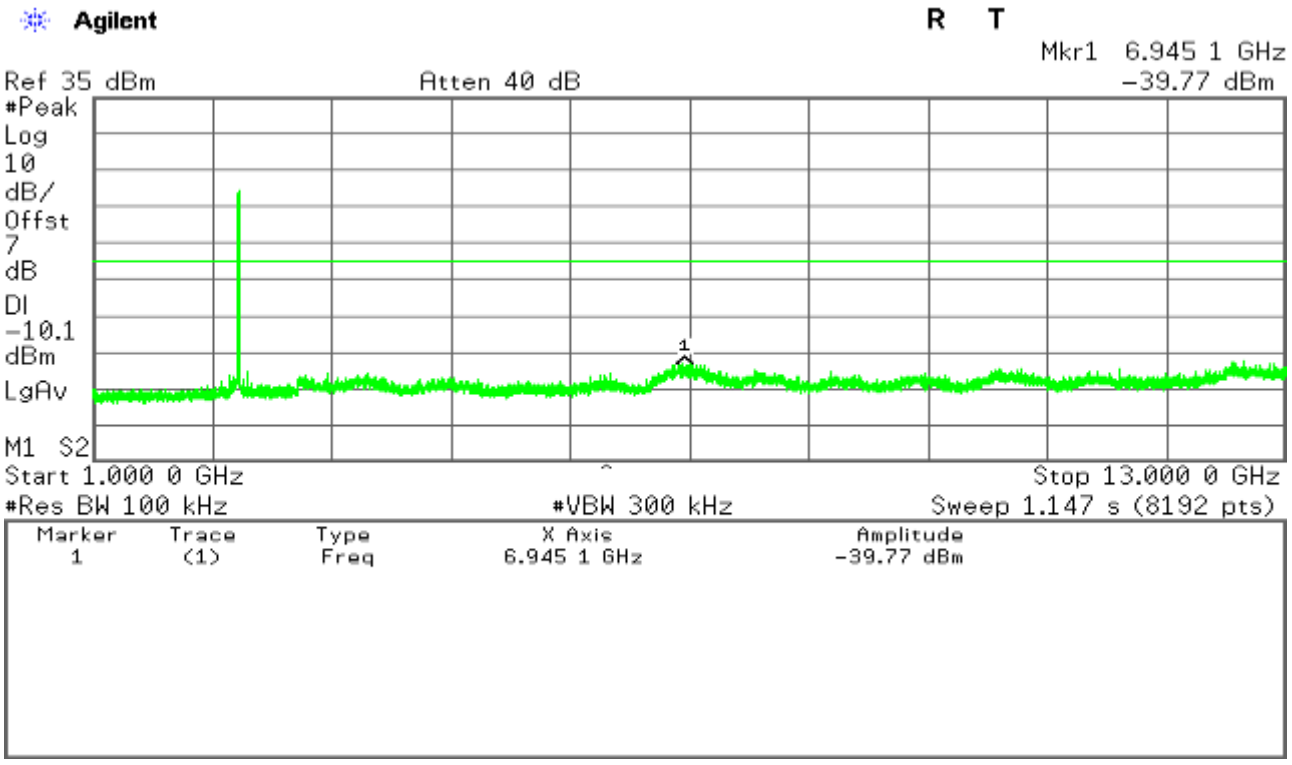


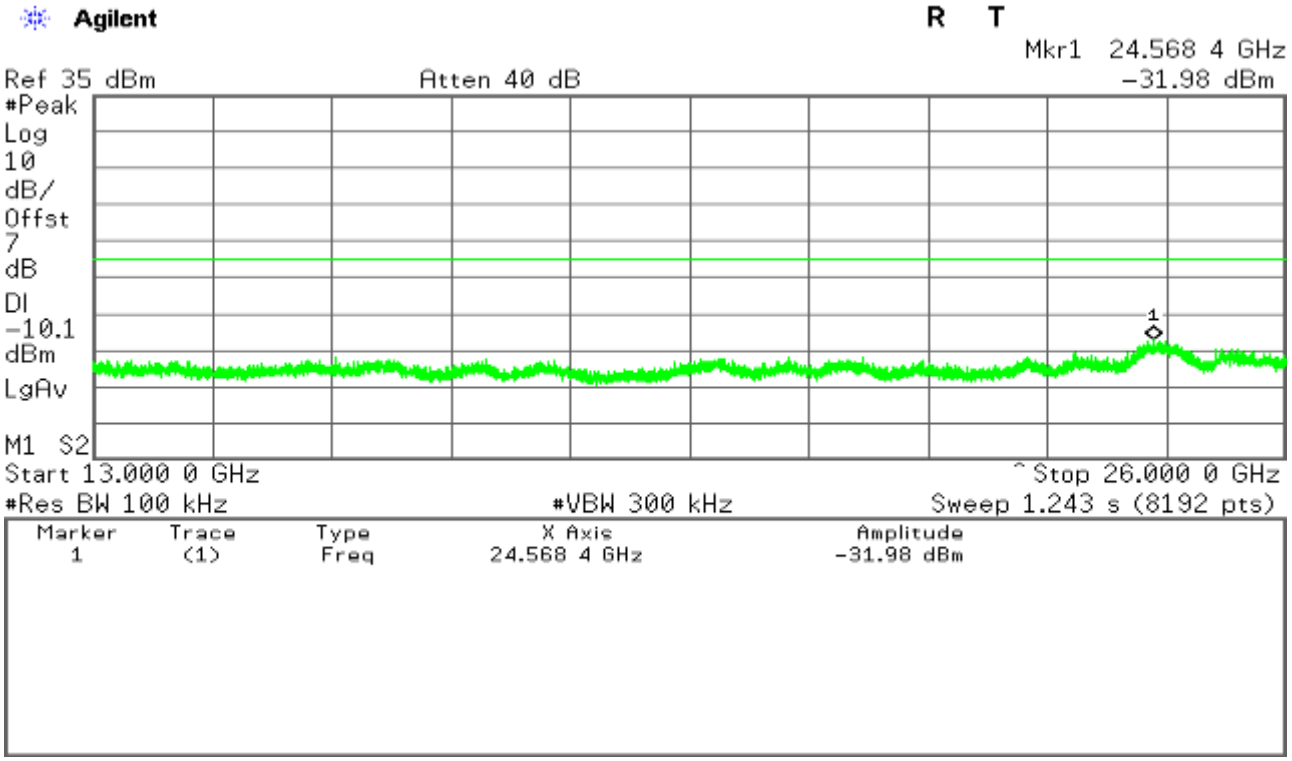


CH High



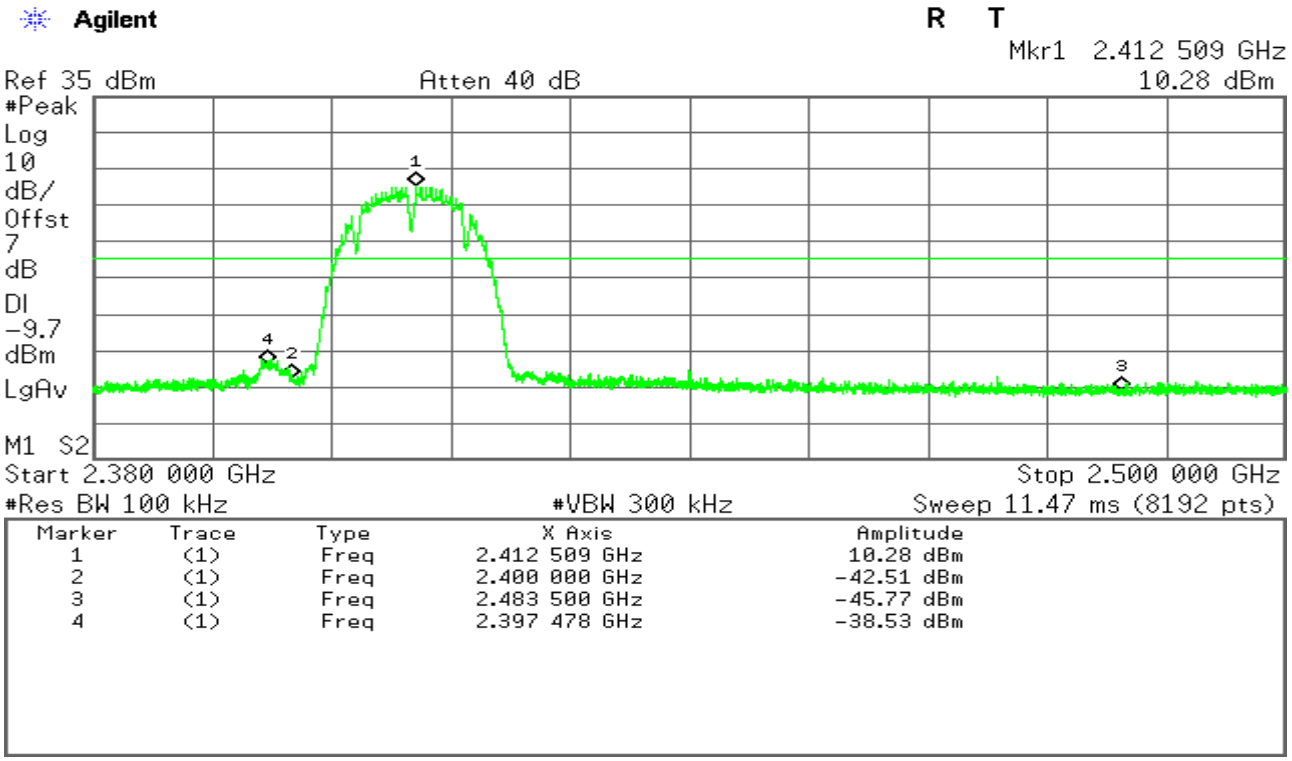


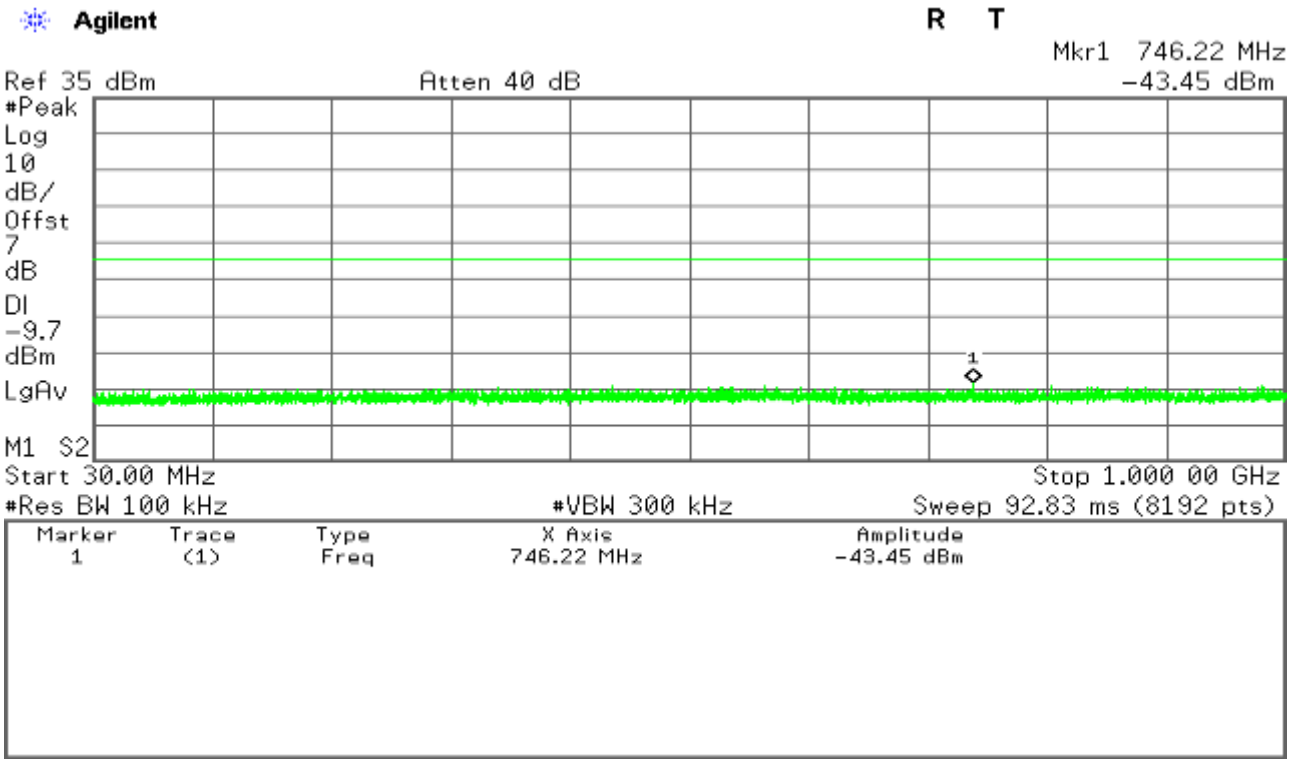


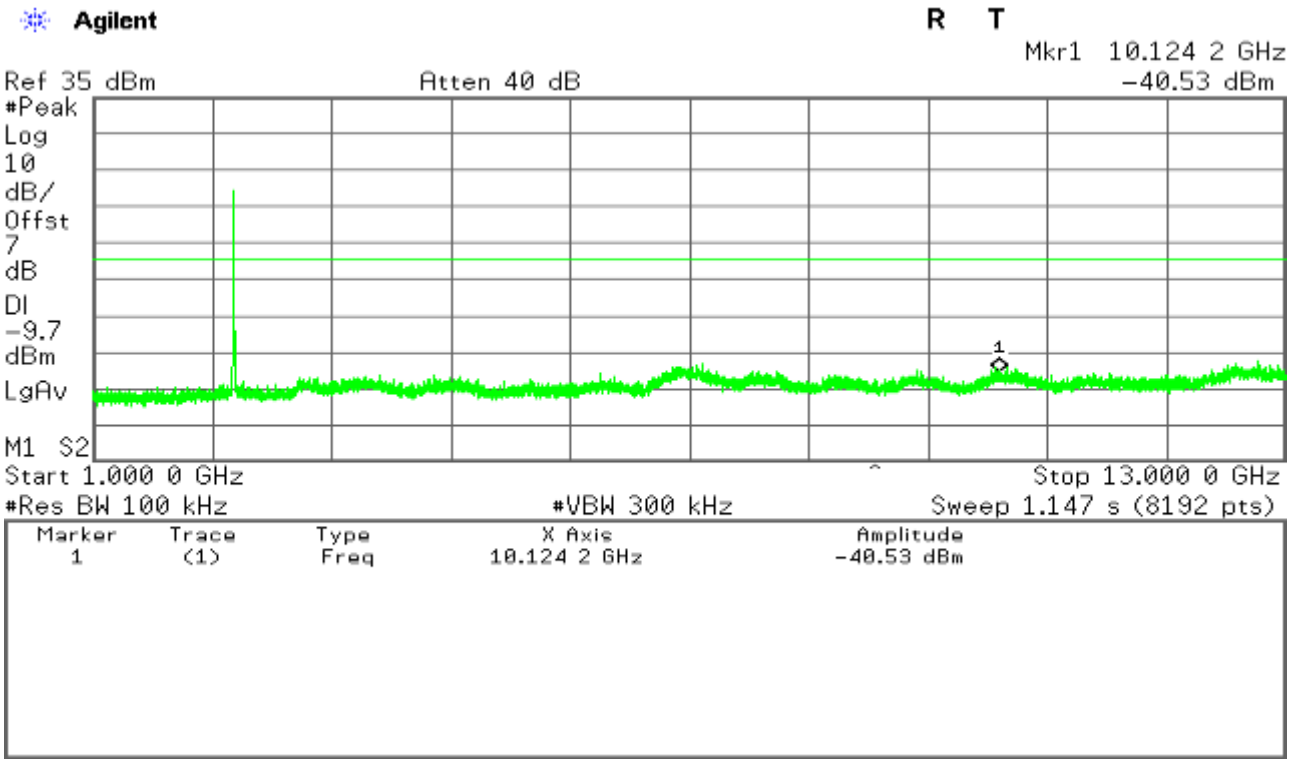


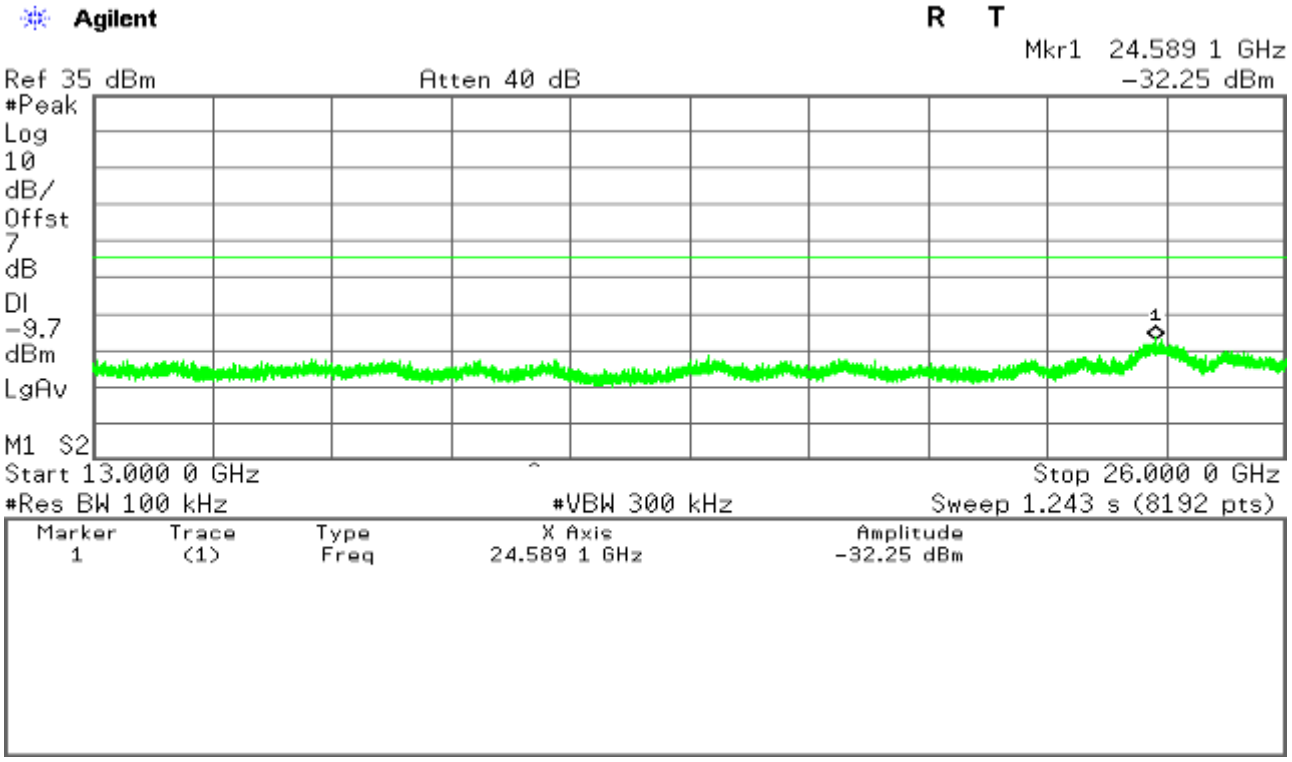
IEEE 802.11b mode/Chain 1

CH Low

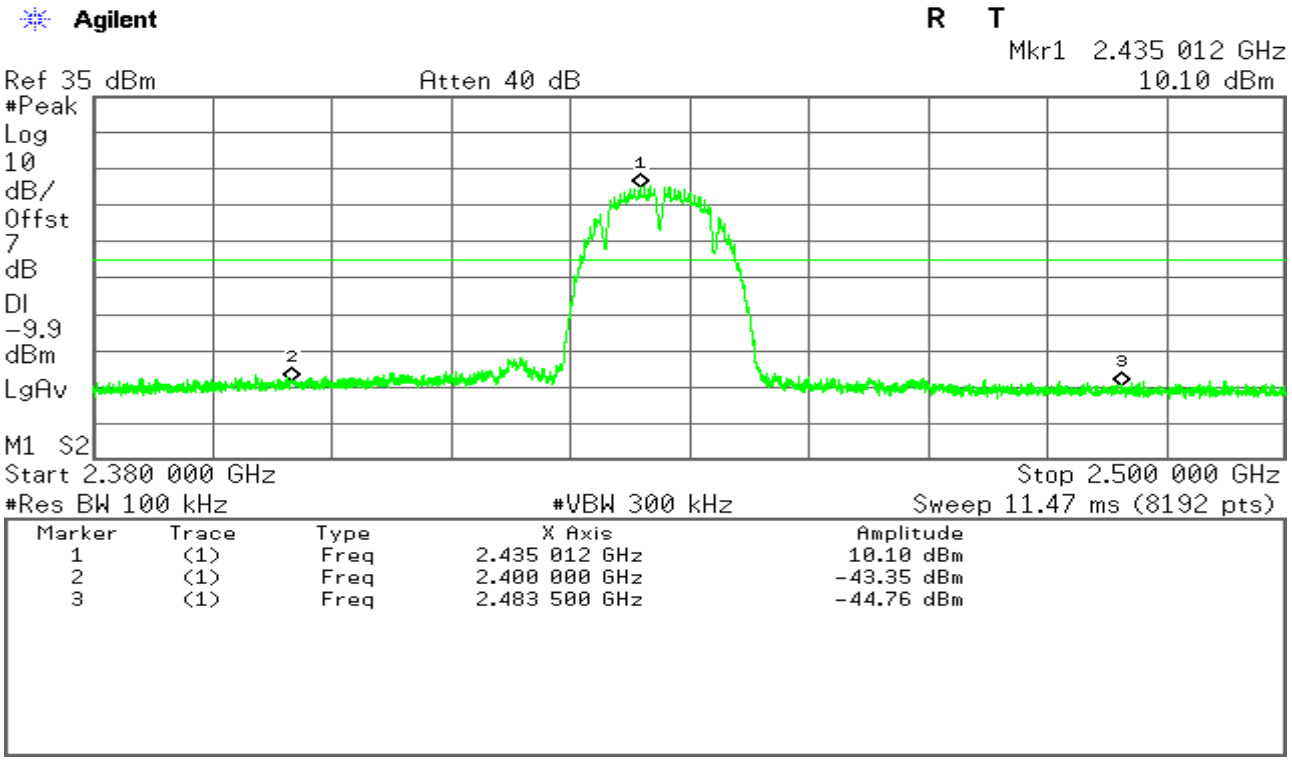


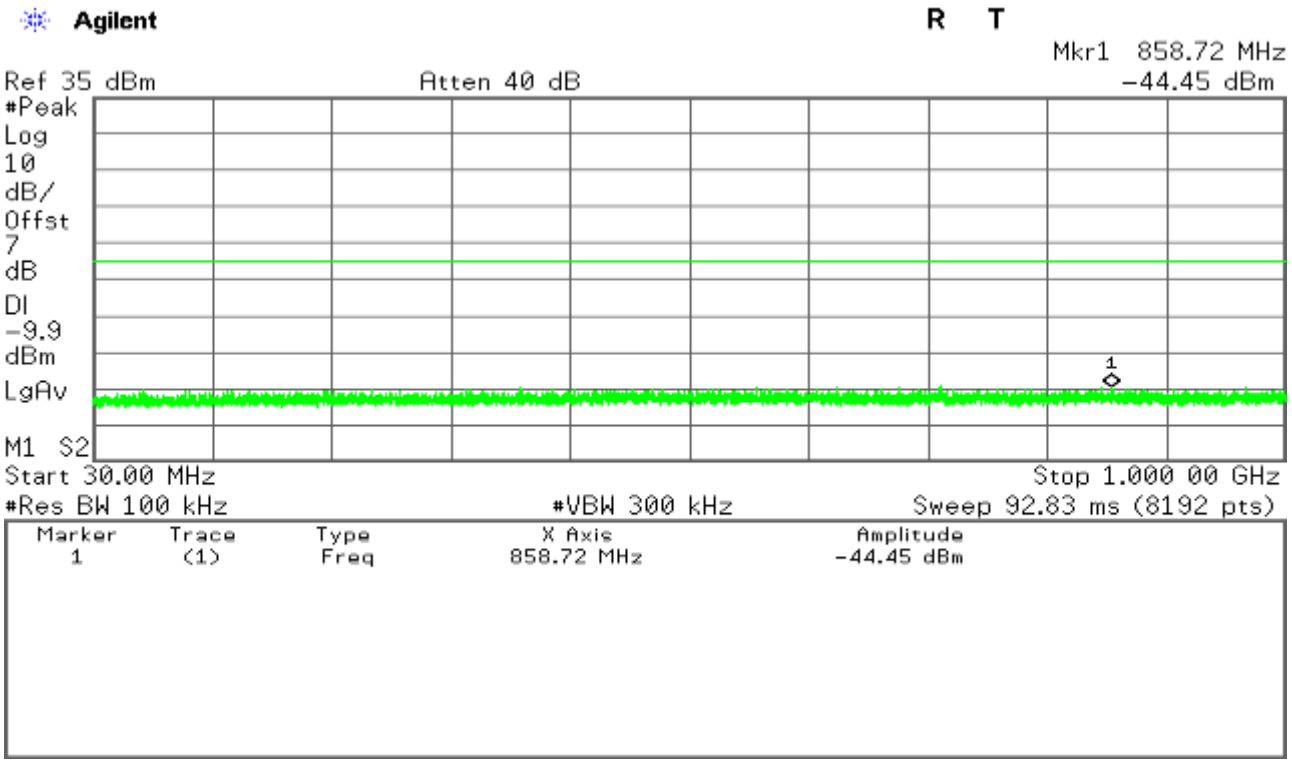


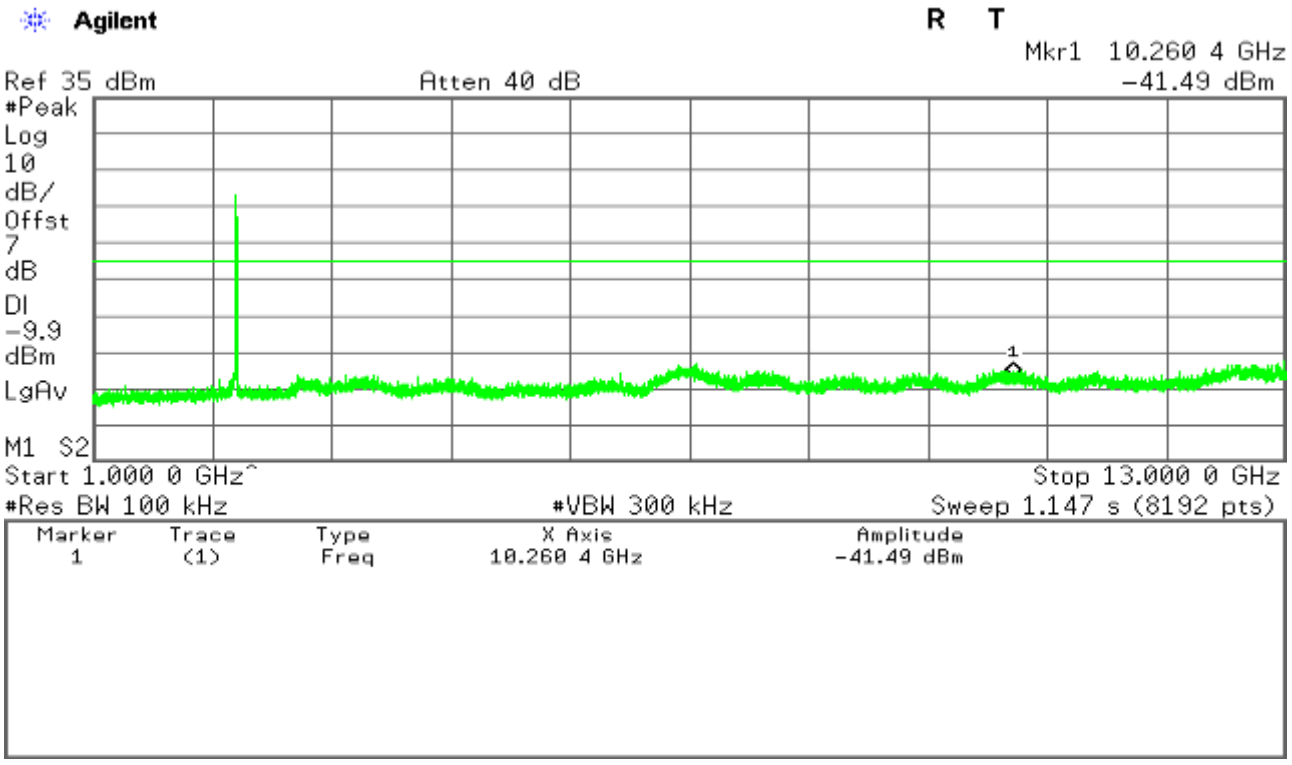


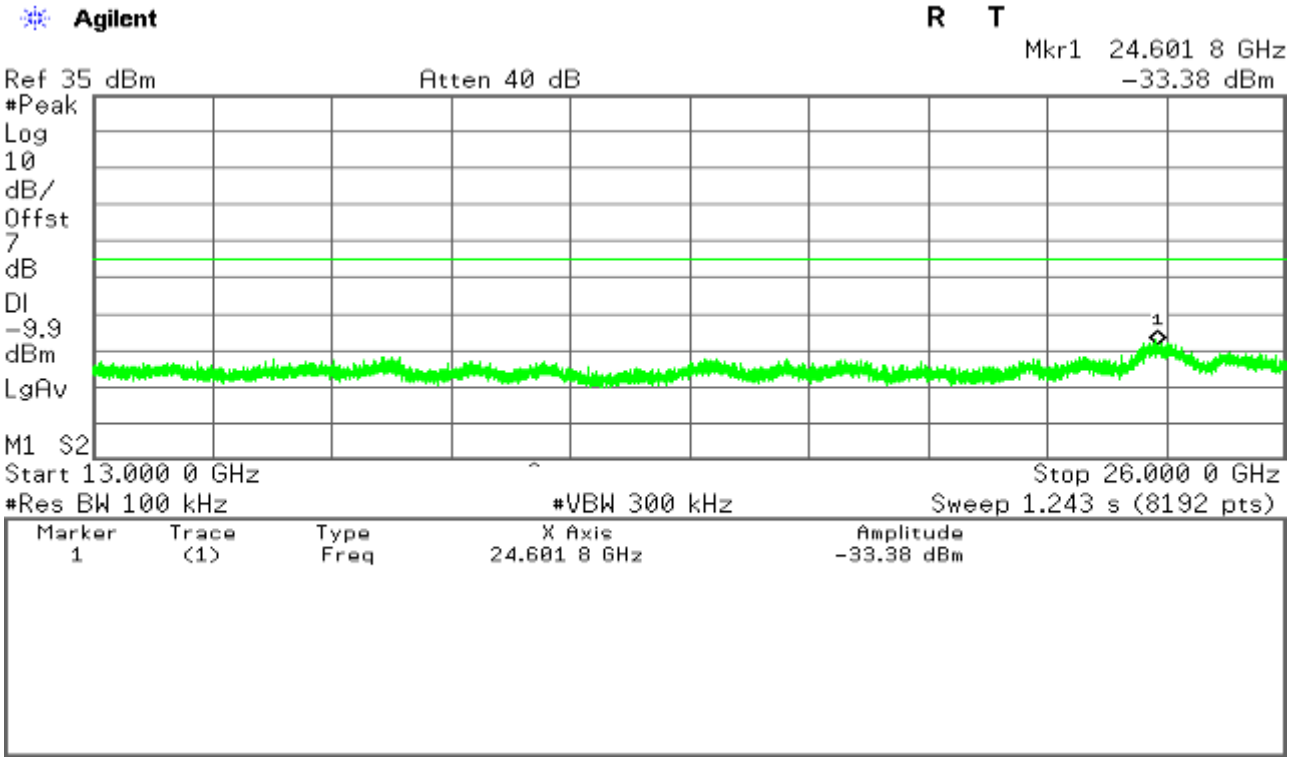


CH Mid

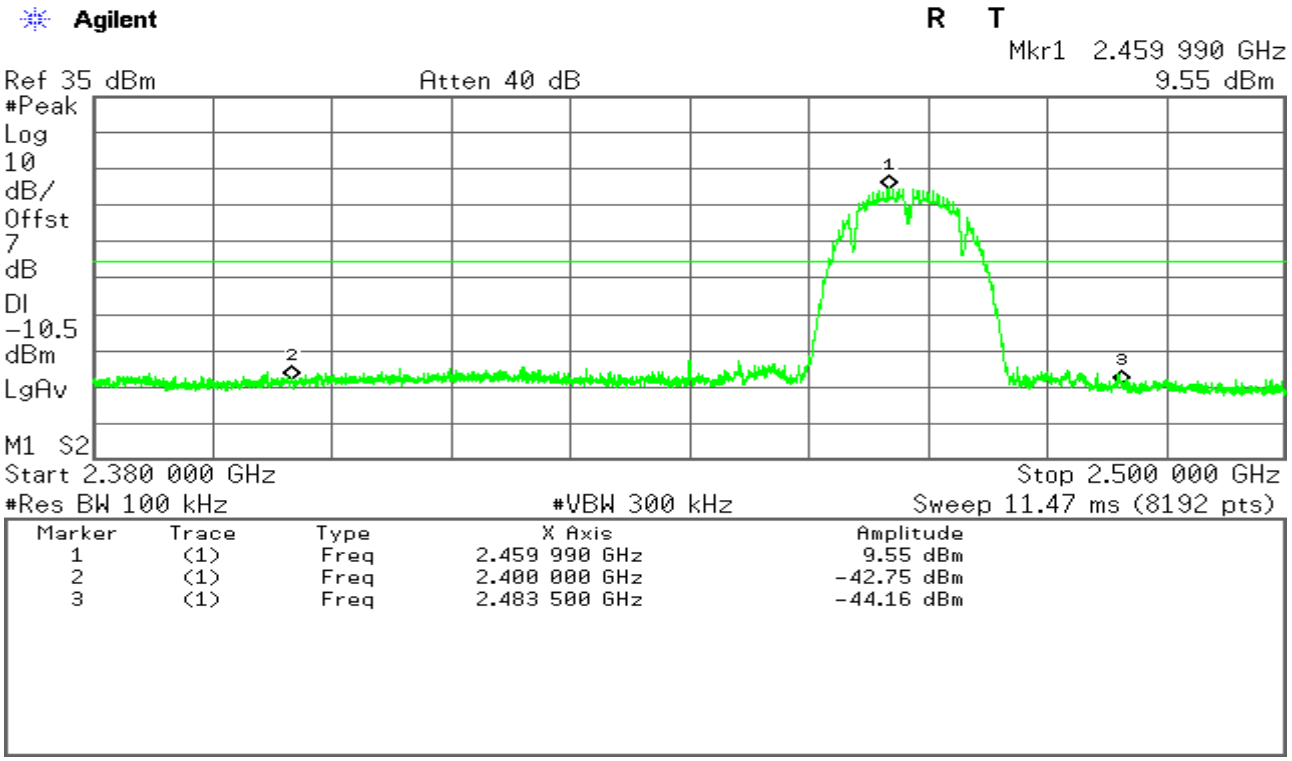


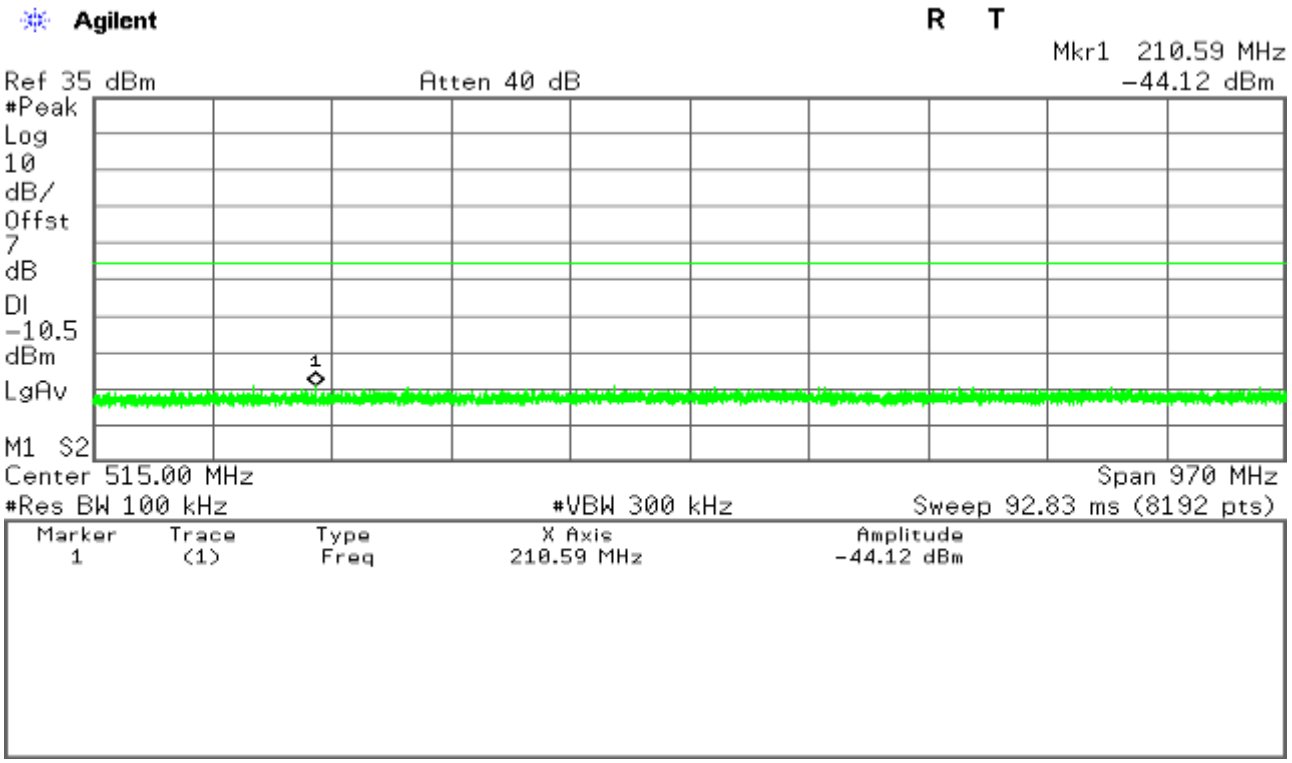


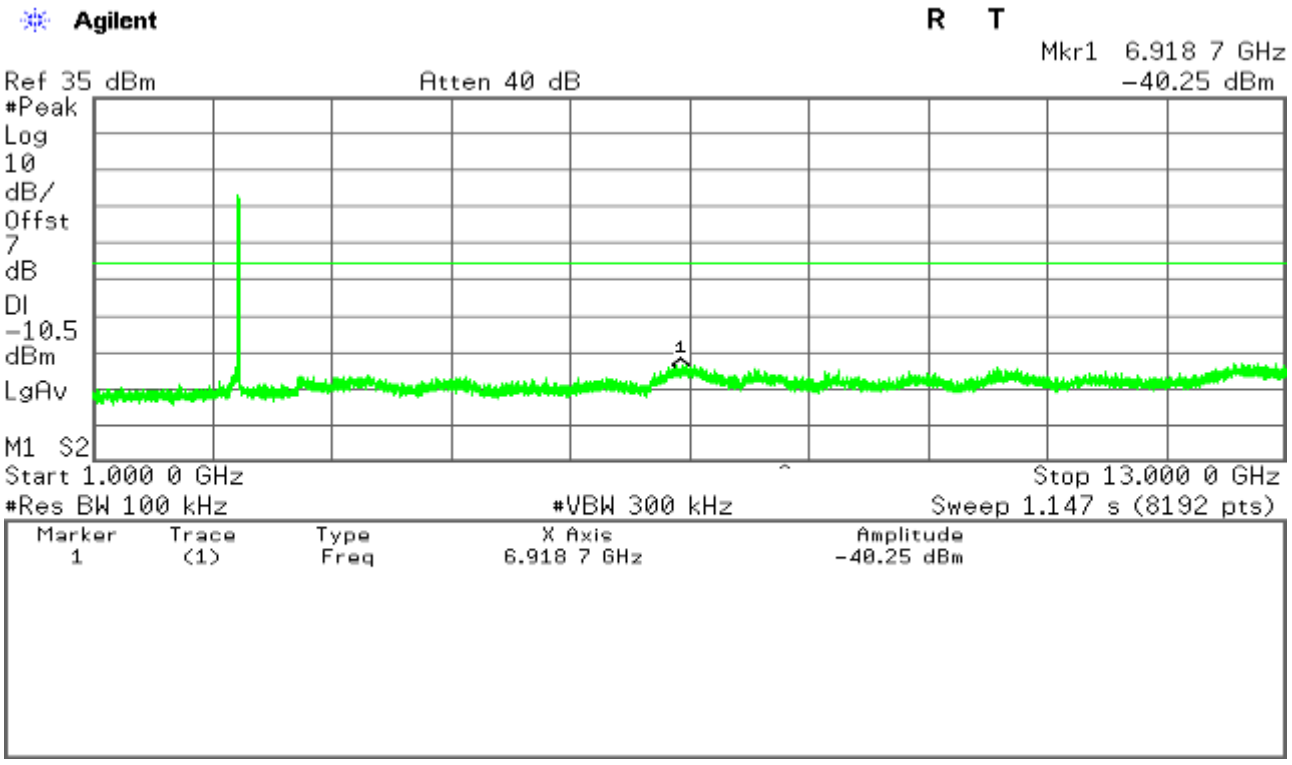


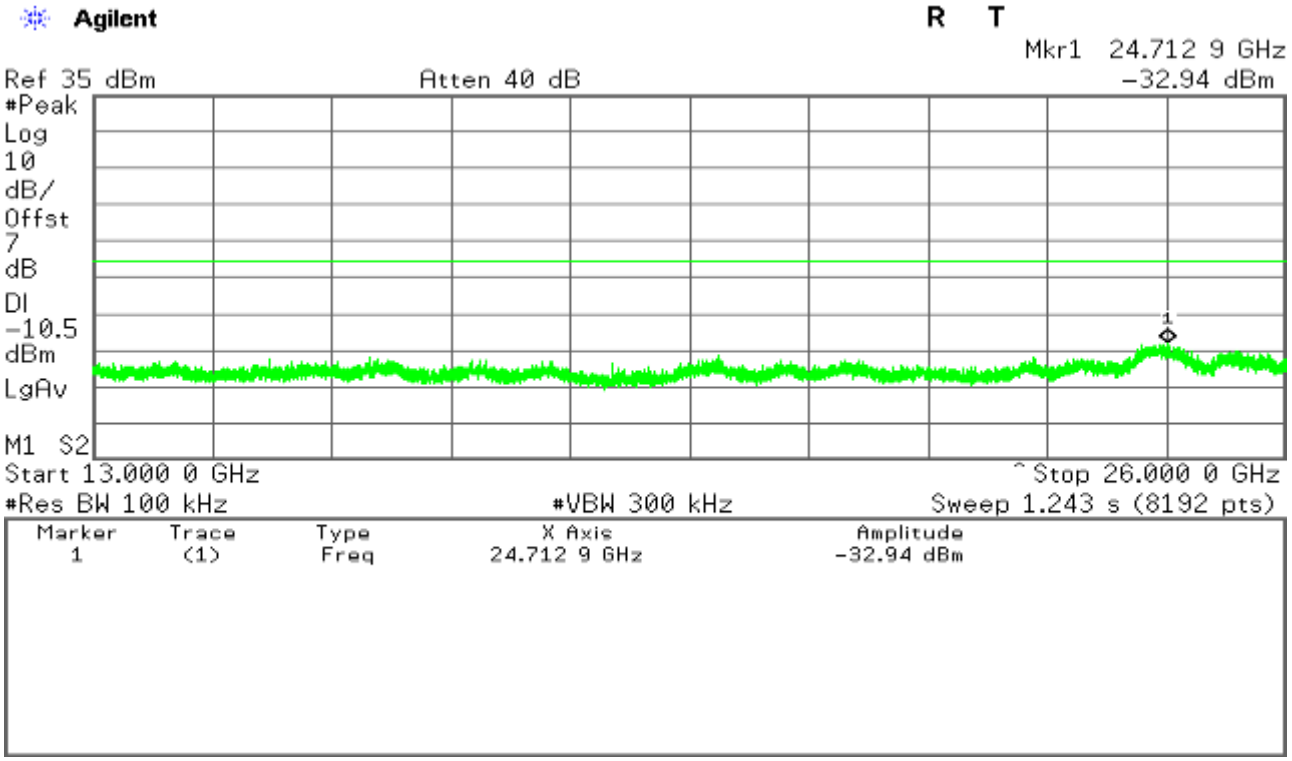


CH High



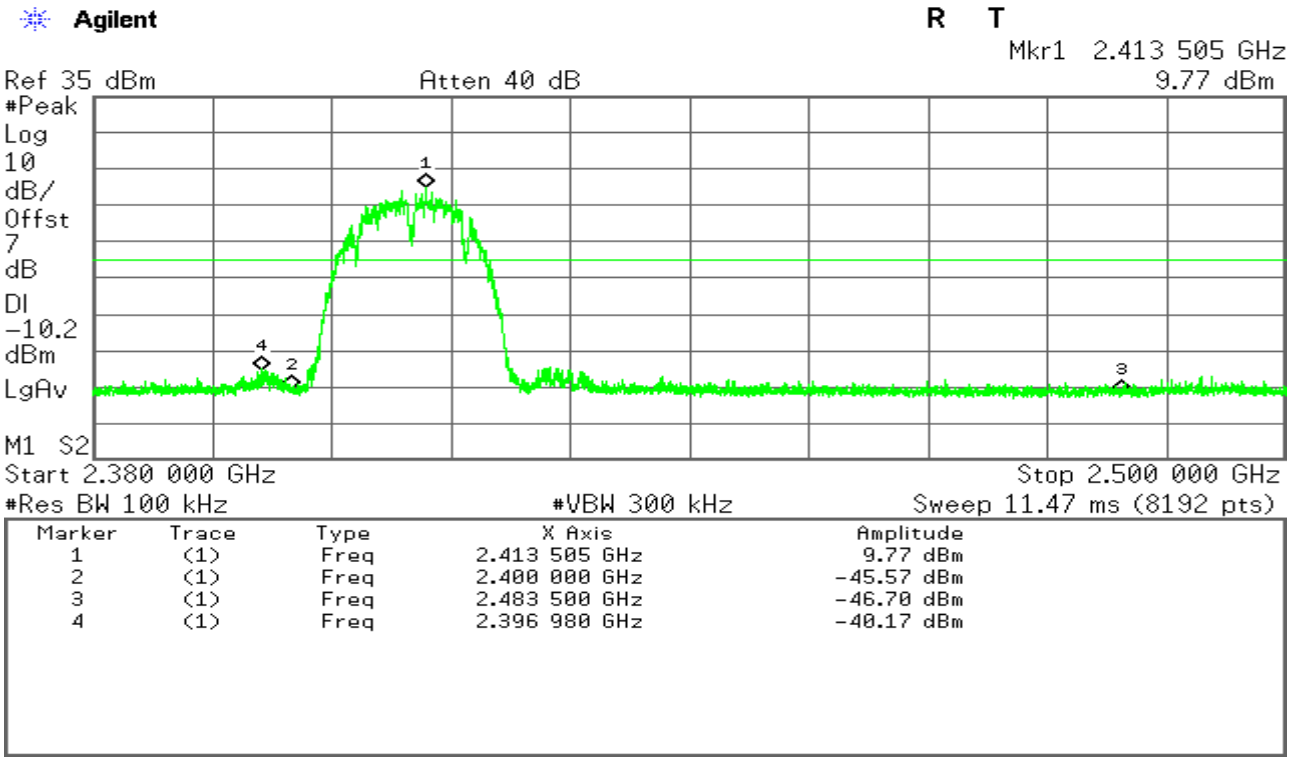


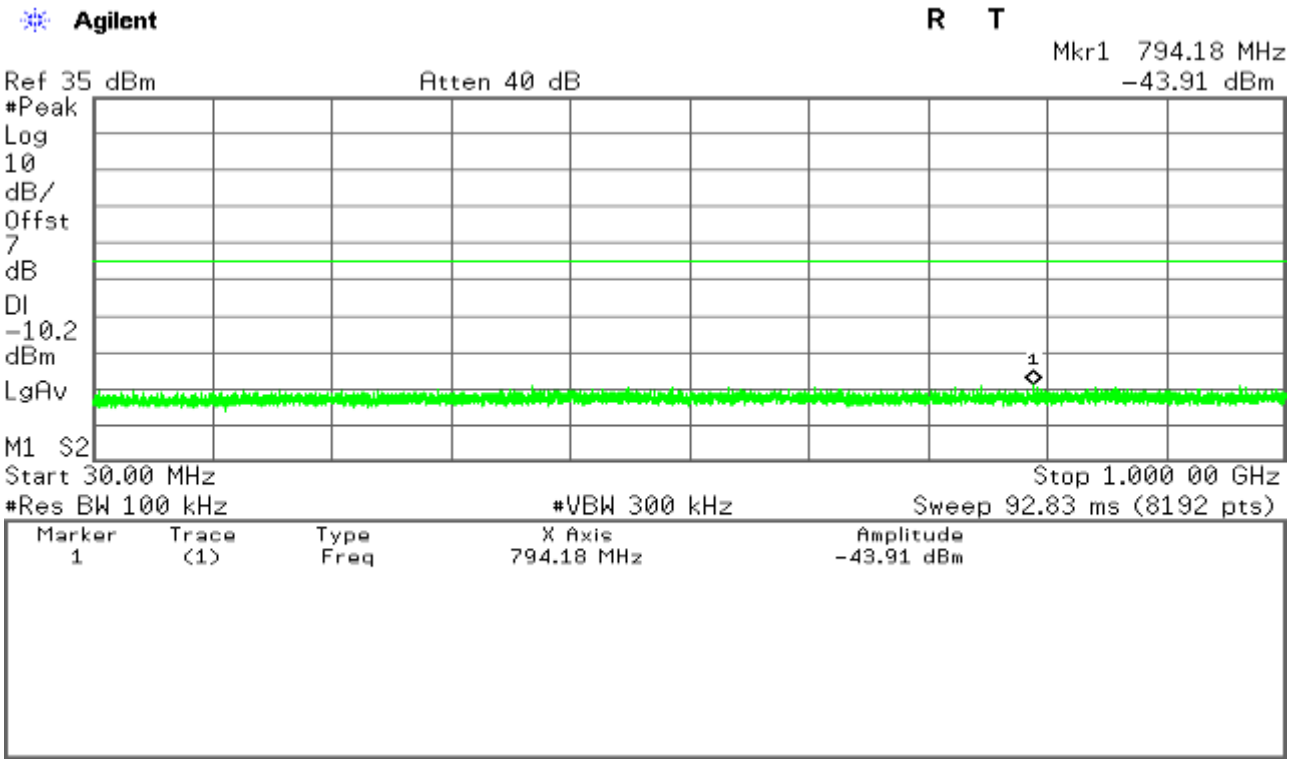


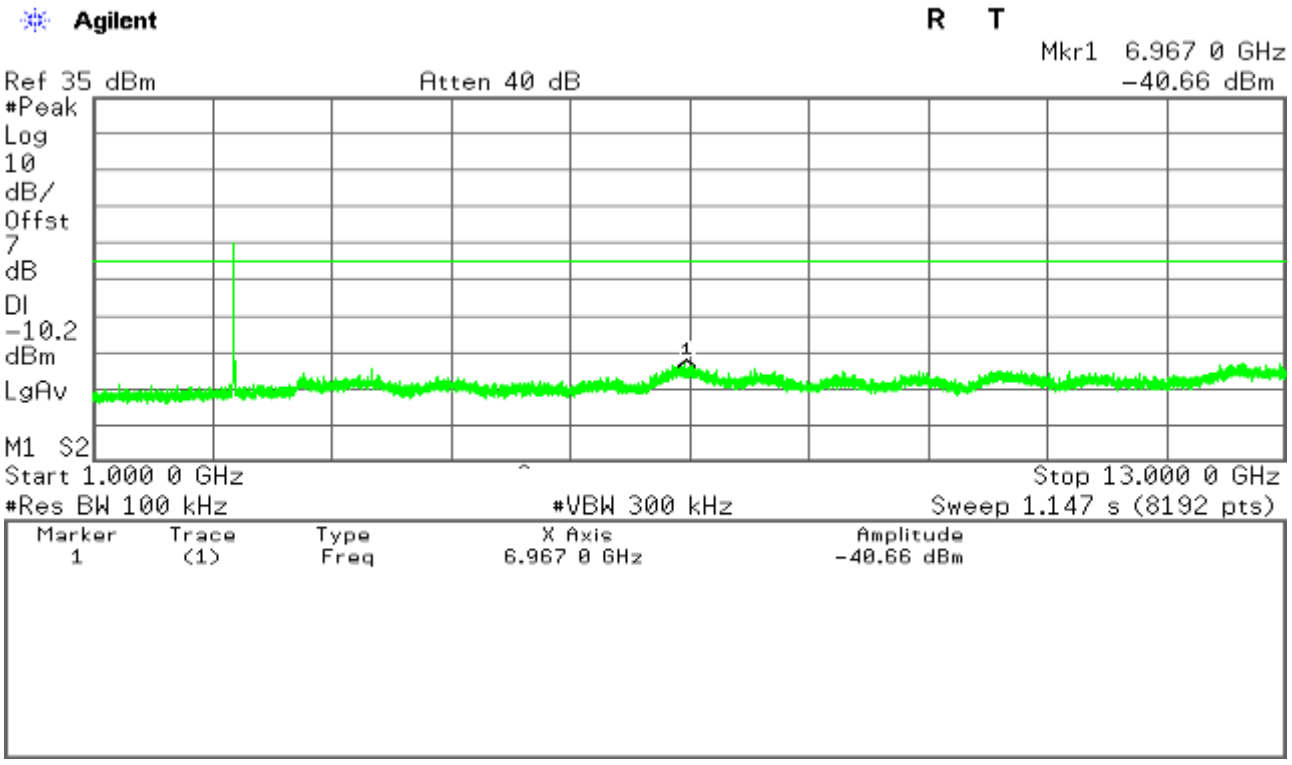


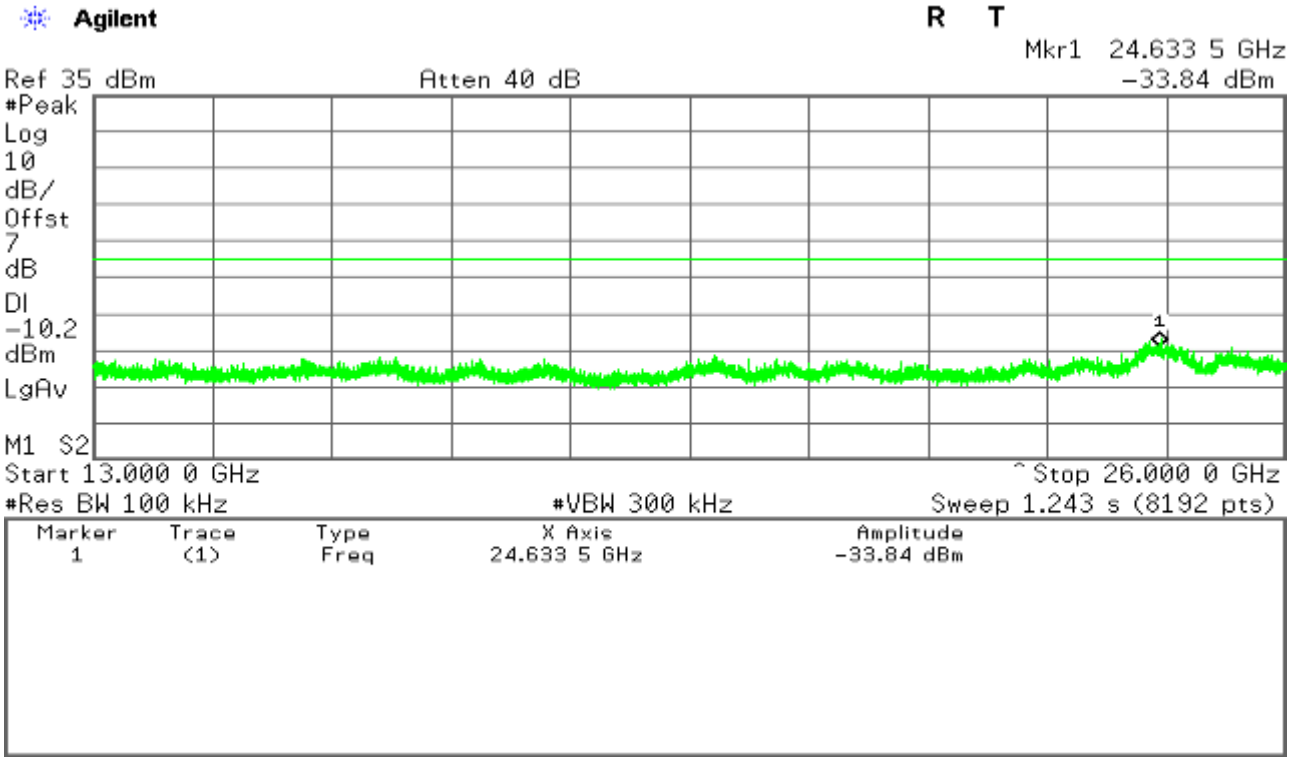
IEEE 802.11b mode/Chain 2

CH Low

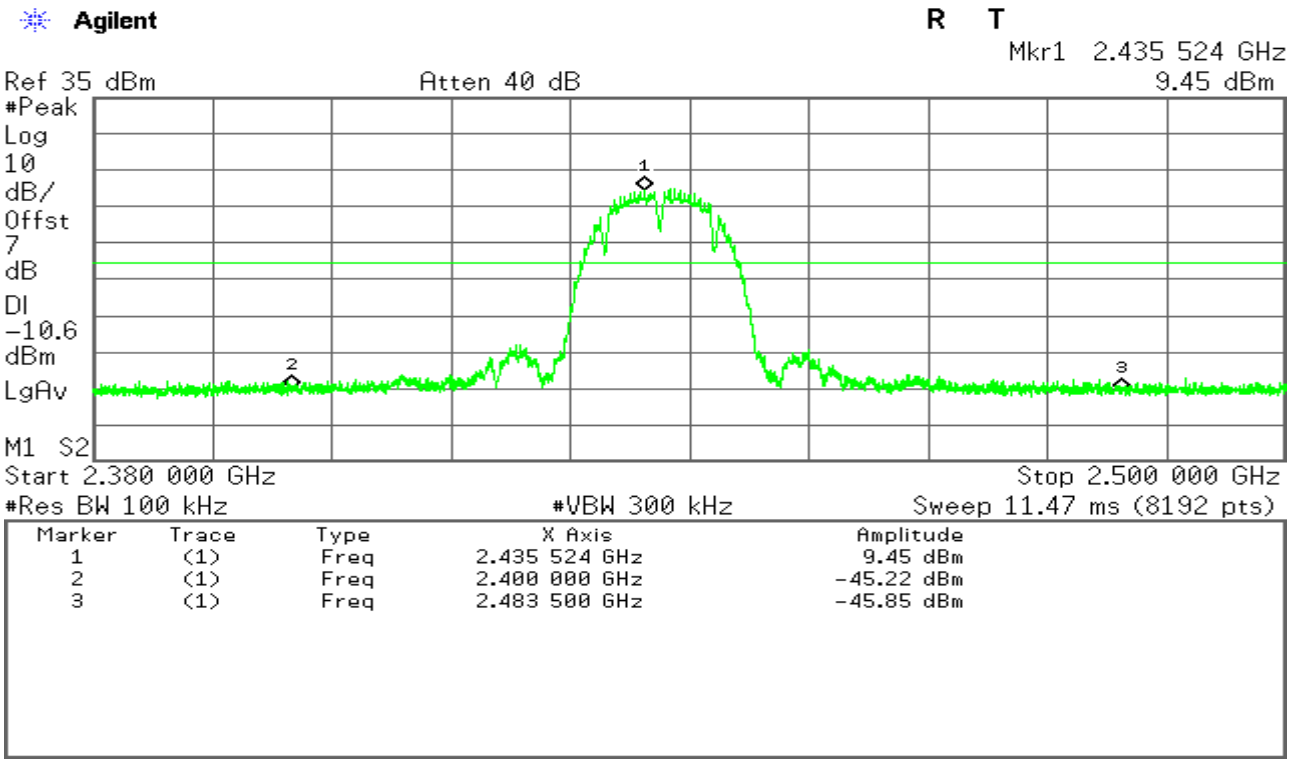


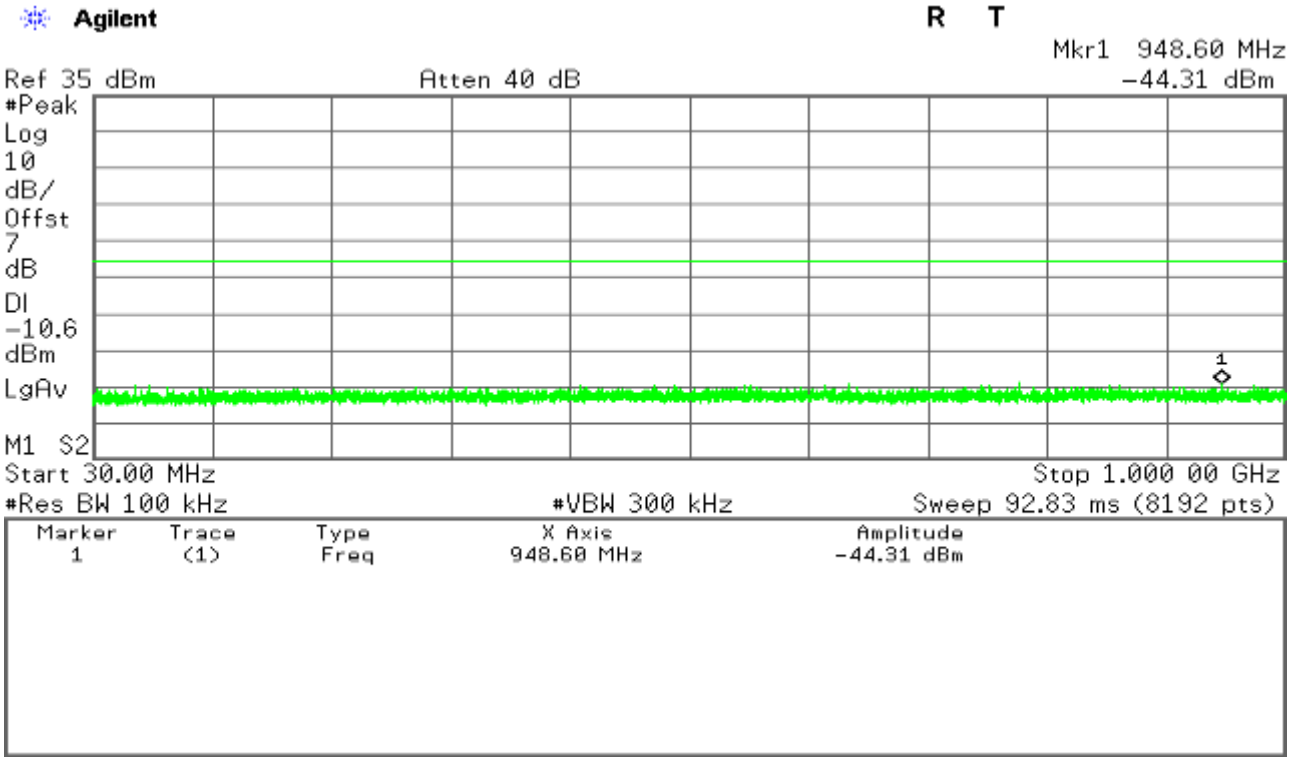


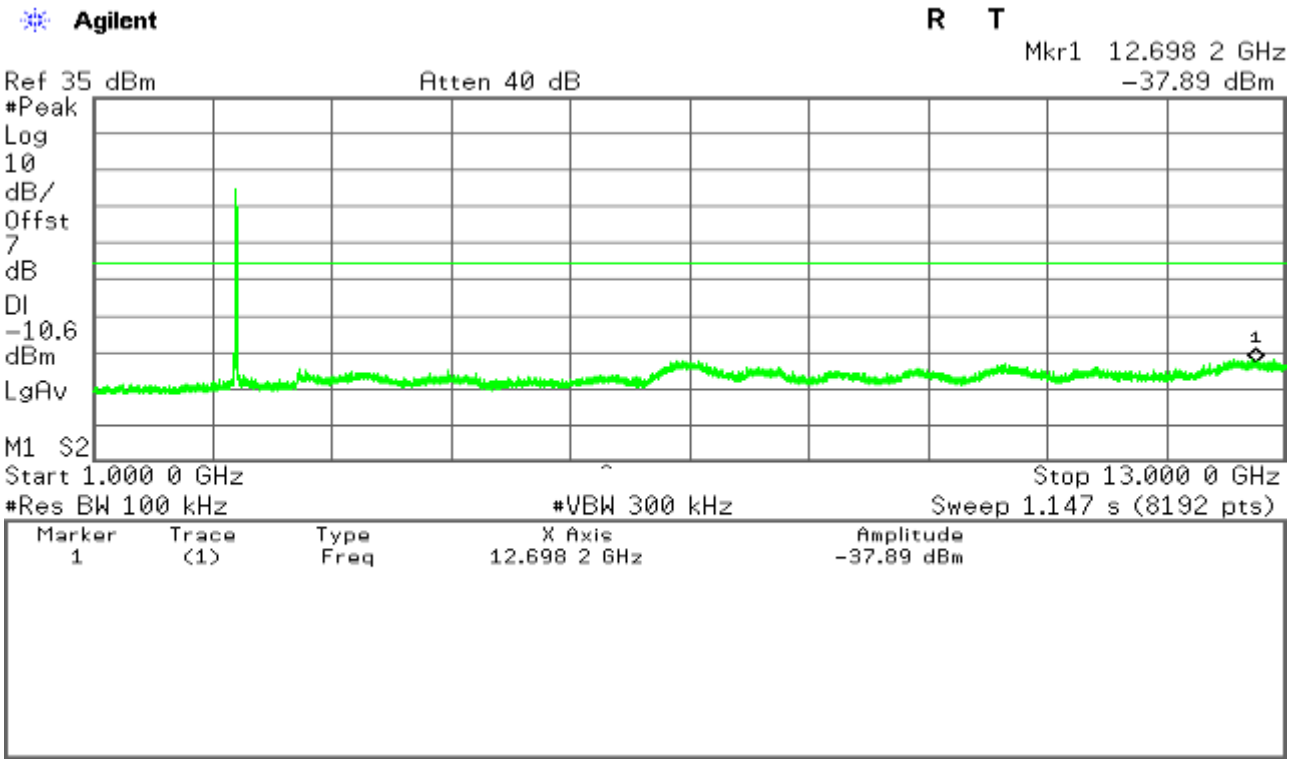


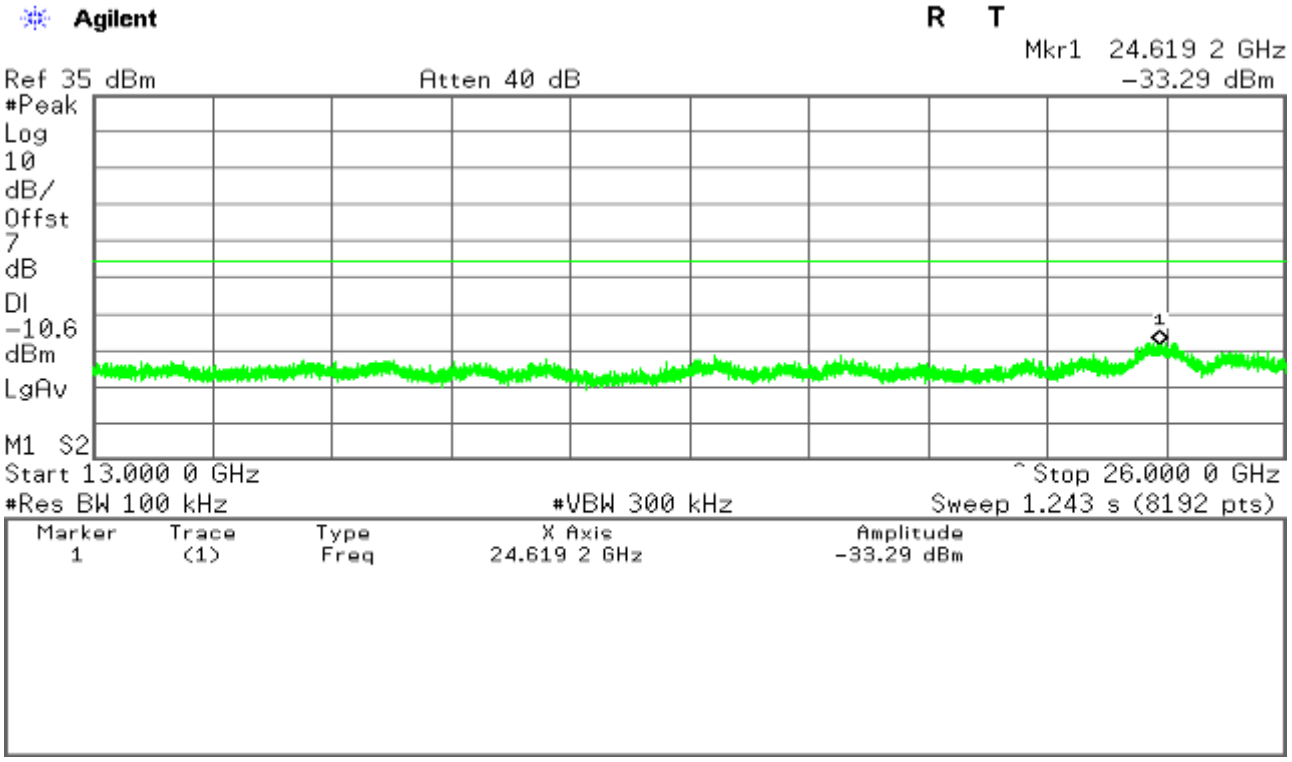


CH Mid

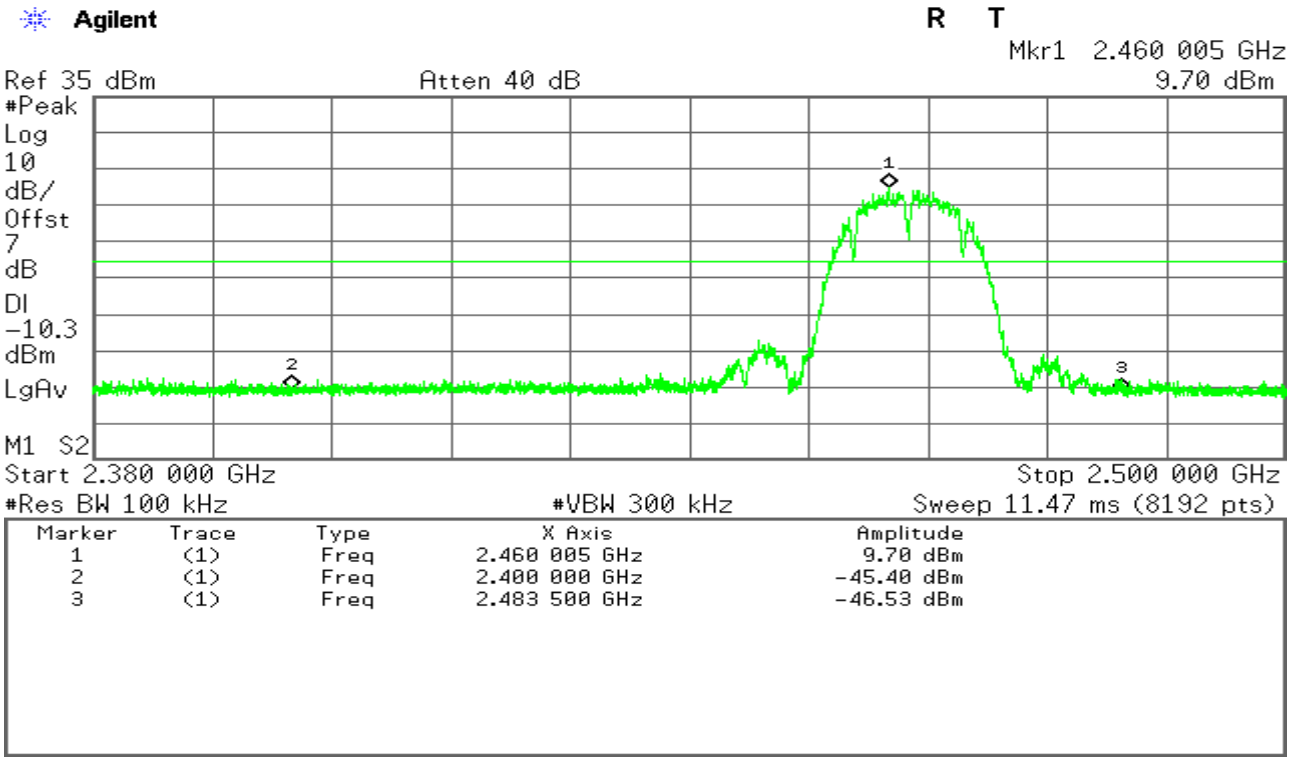


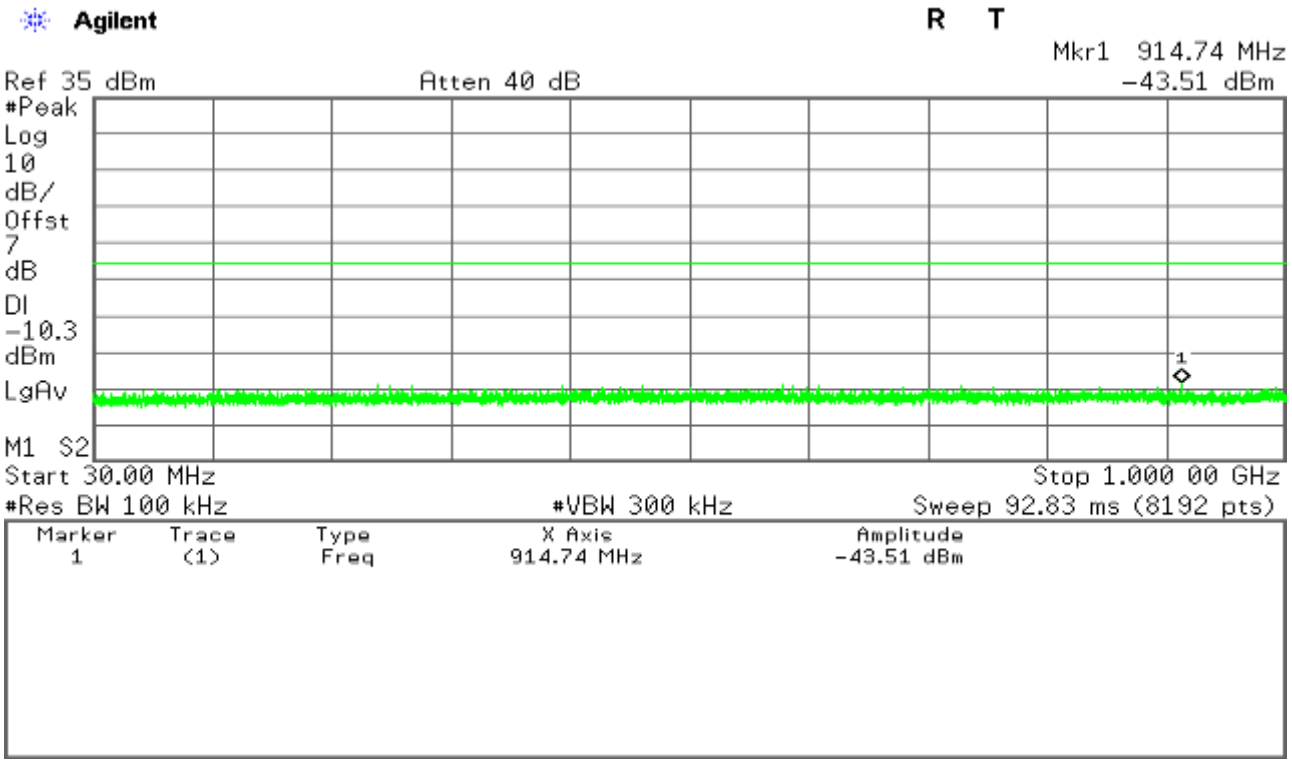


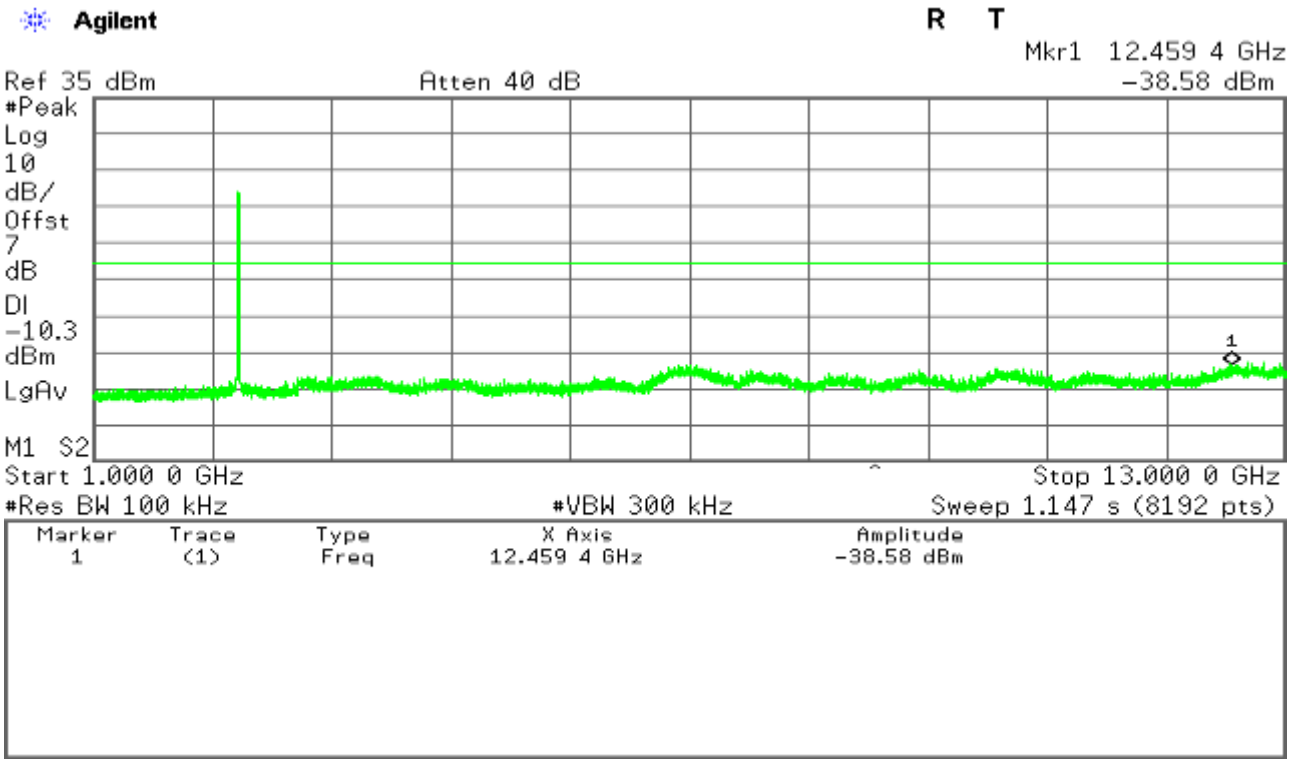


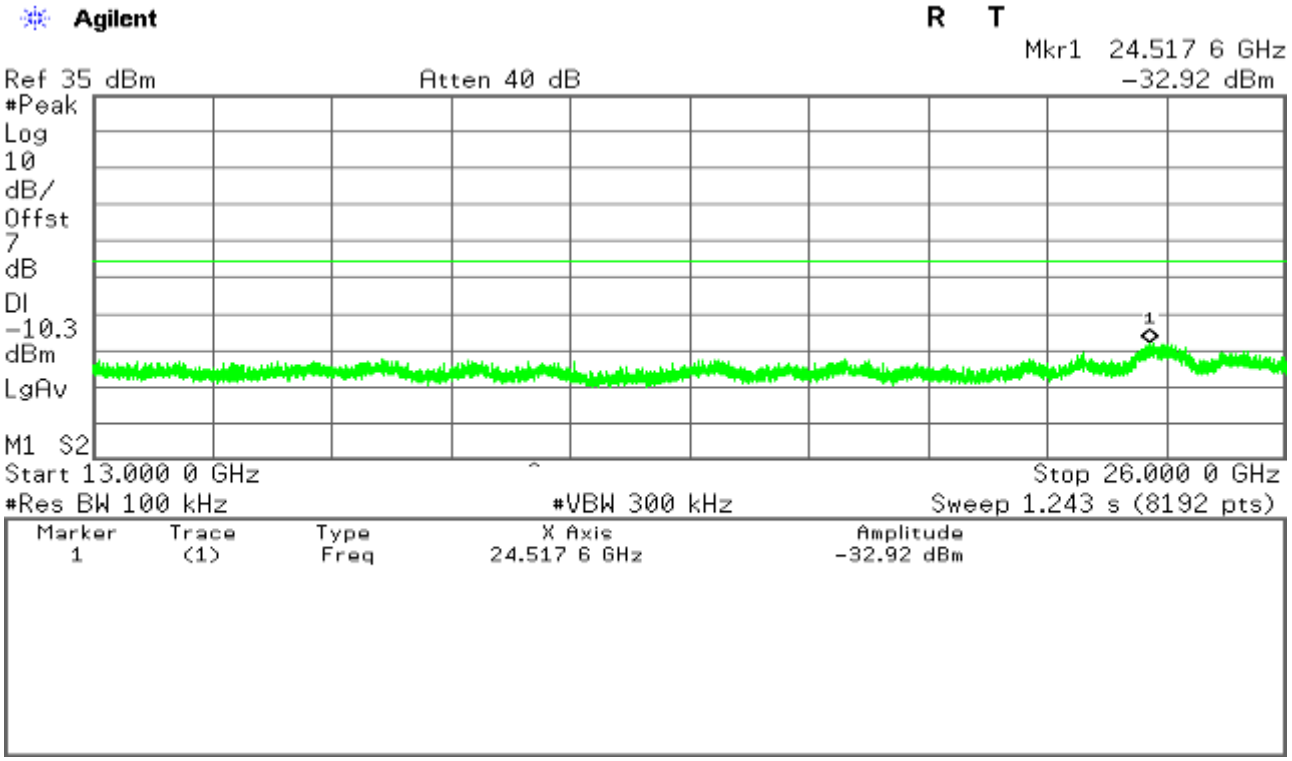


CH High



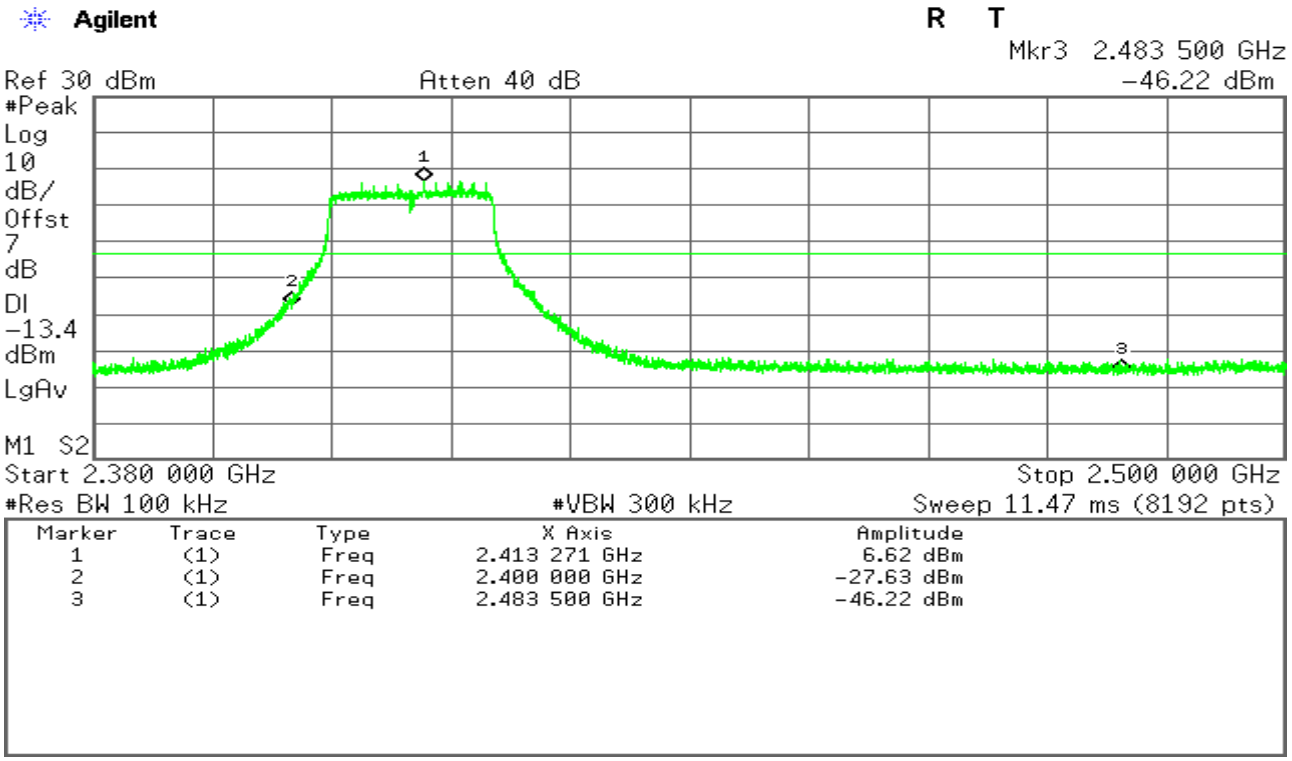




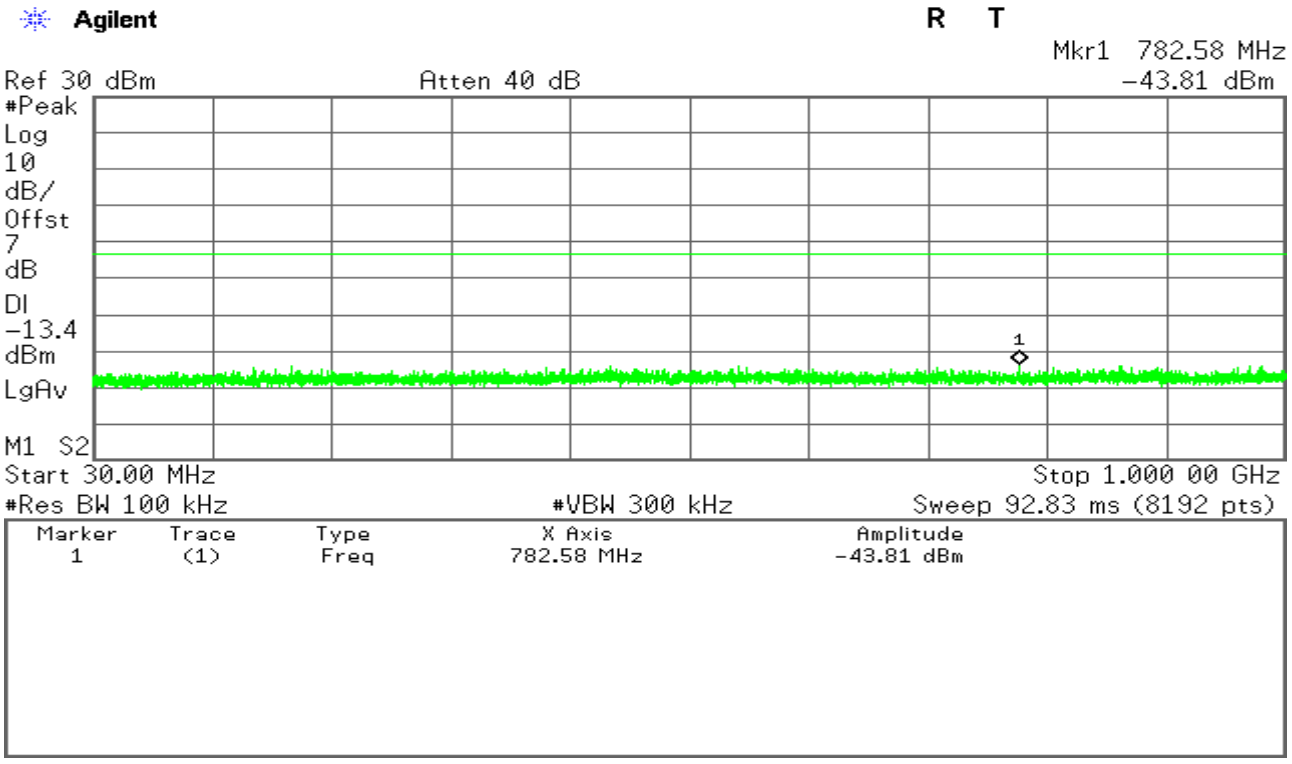


IEEE 802.11g mode/Chain 0

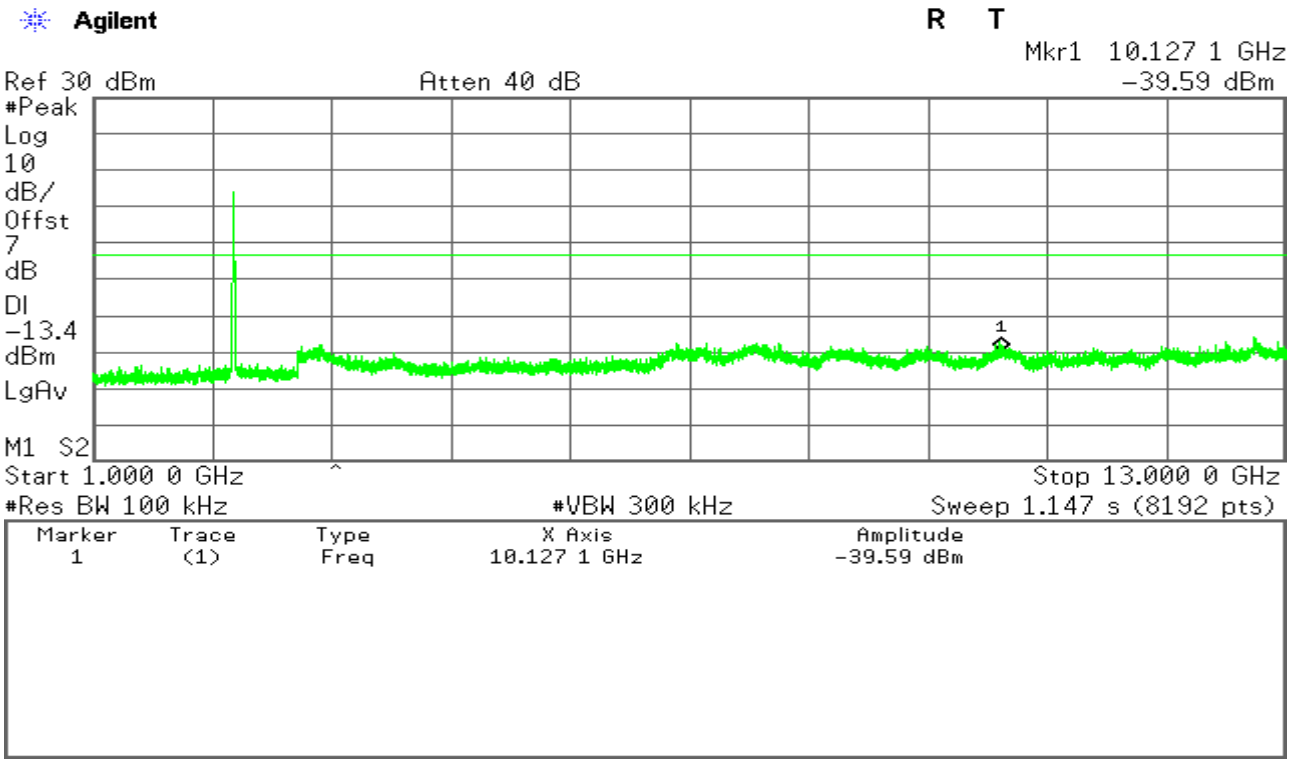
CH Low

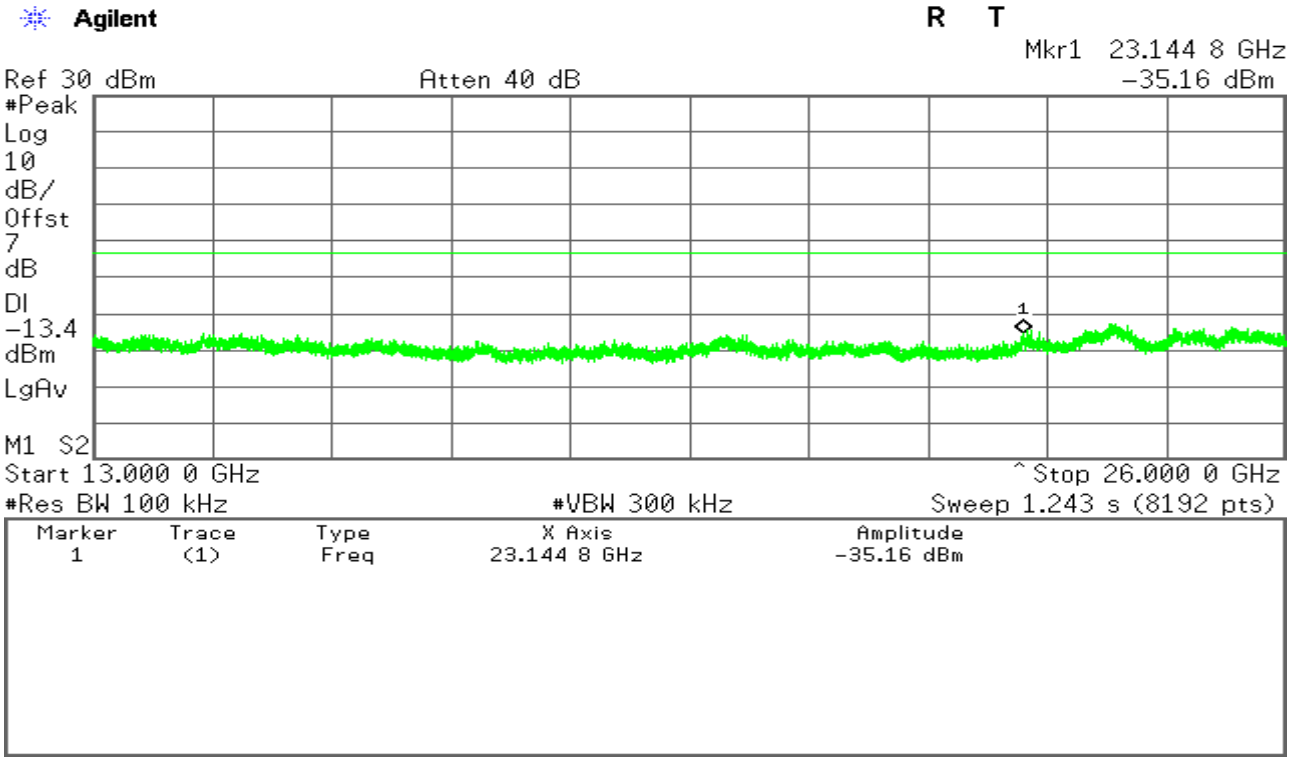


Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.413 271 GHz	6.62 dBm
2	(1)	Freq	2.400 000 GHz	-27.63 dBm
3	(1)	Freq	2.483 500 GHz	-46.22 dBm

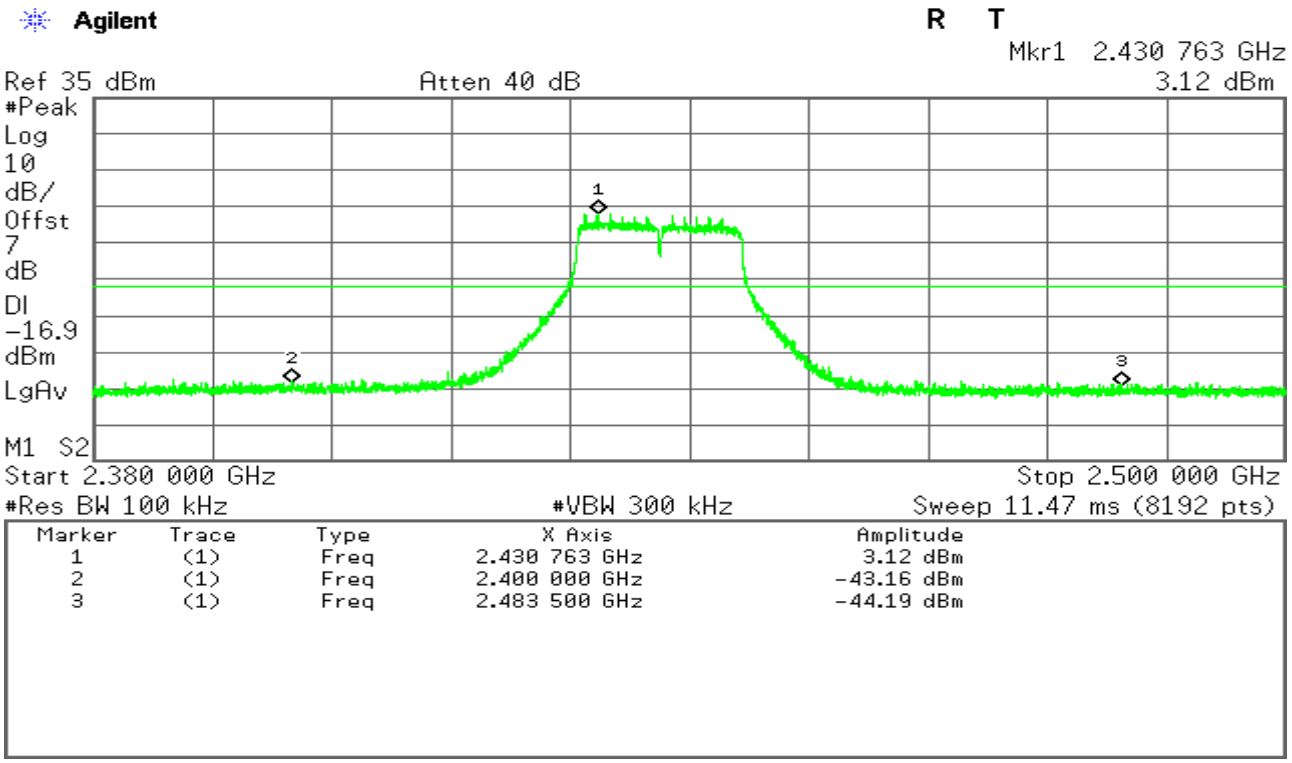


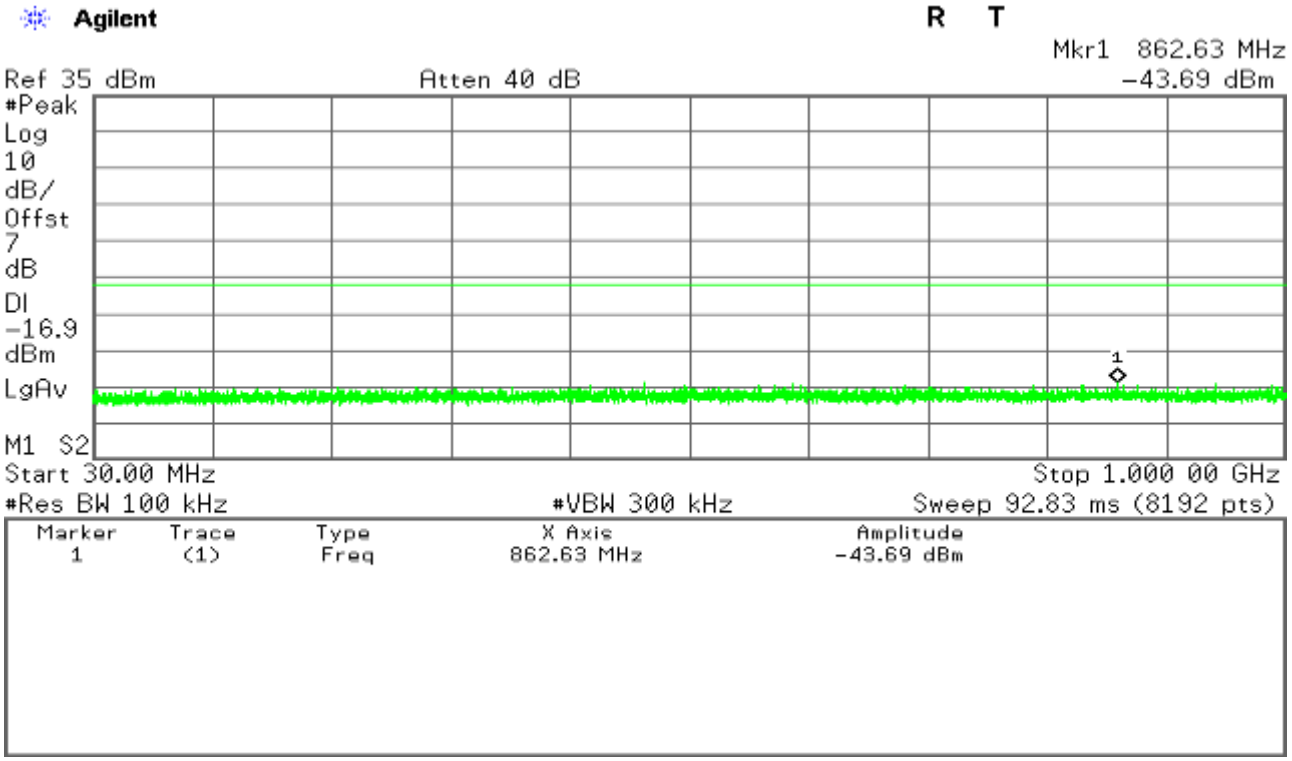
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	782.58 MHz	-43.81 dBm

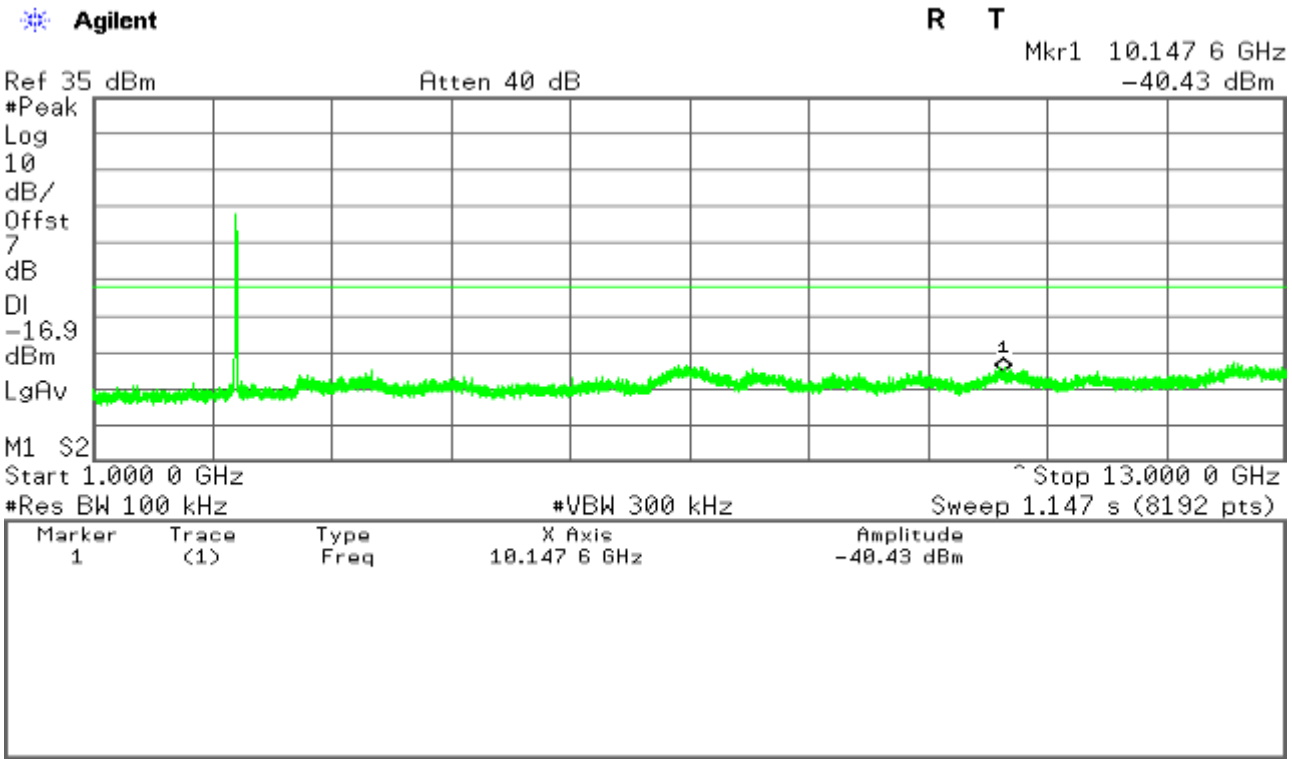


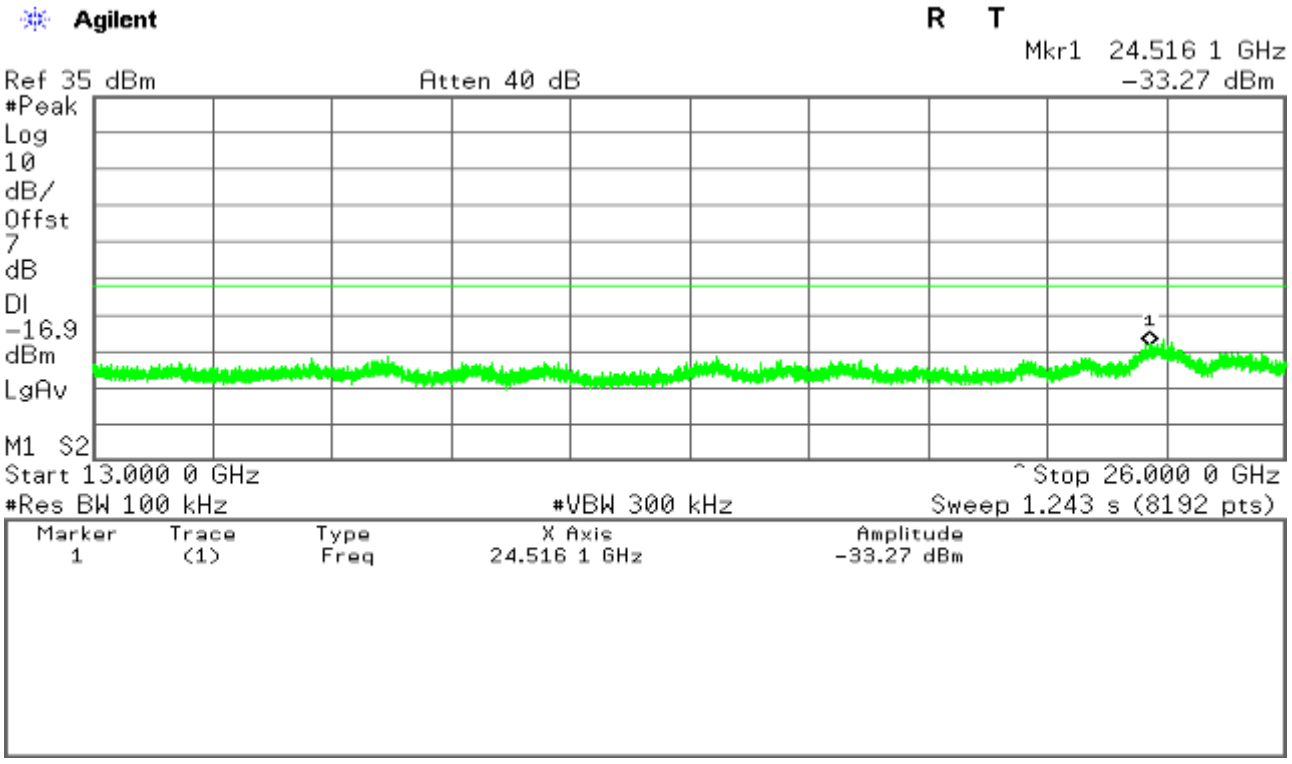


CH Mid

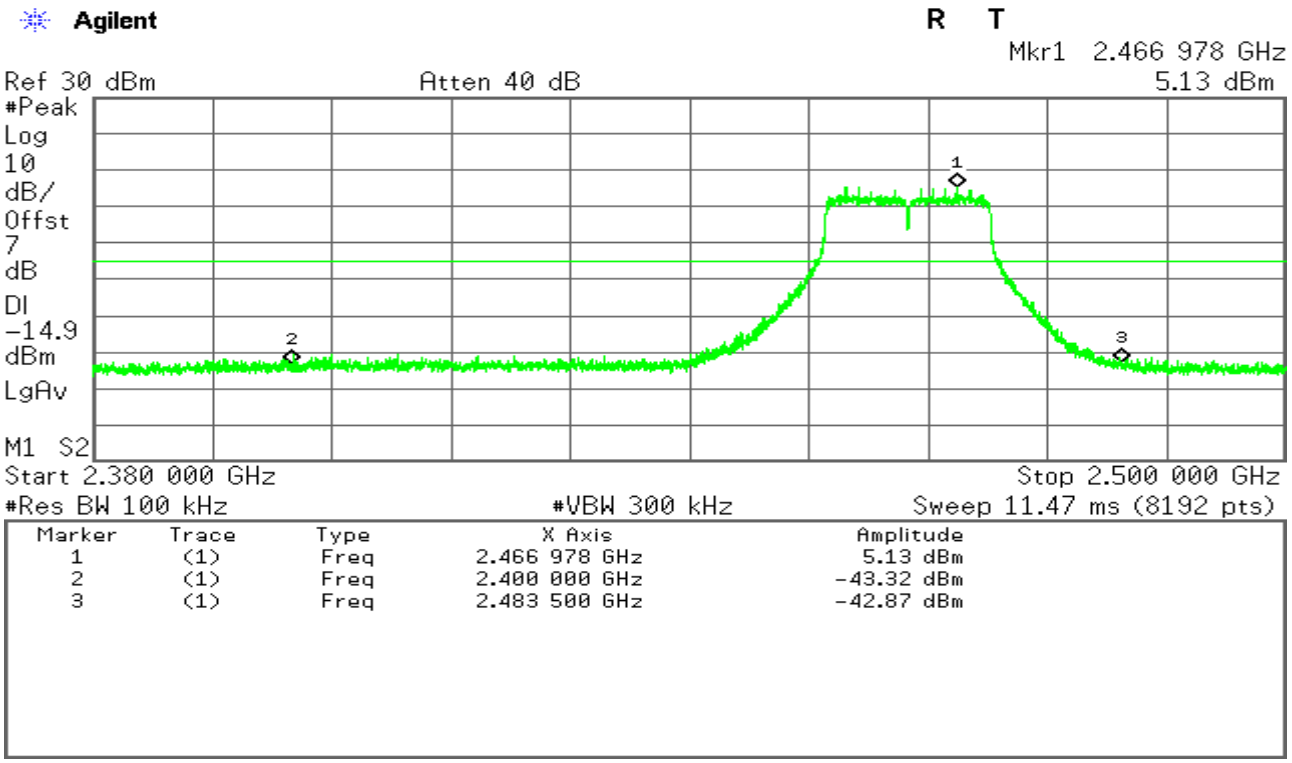


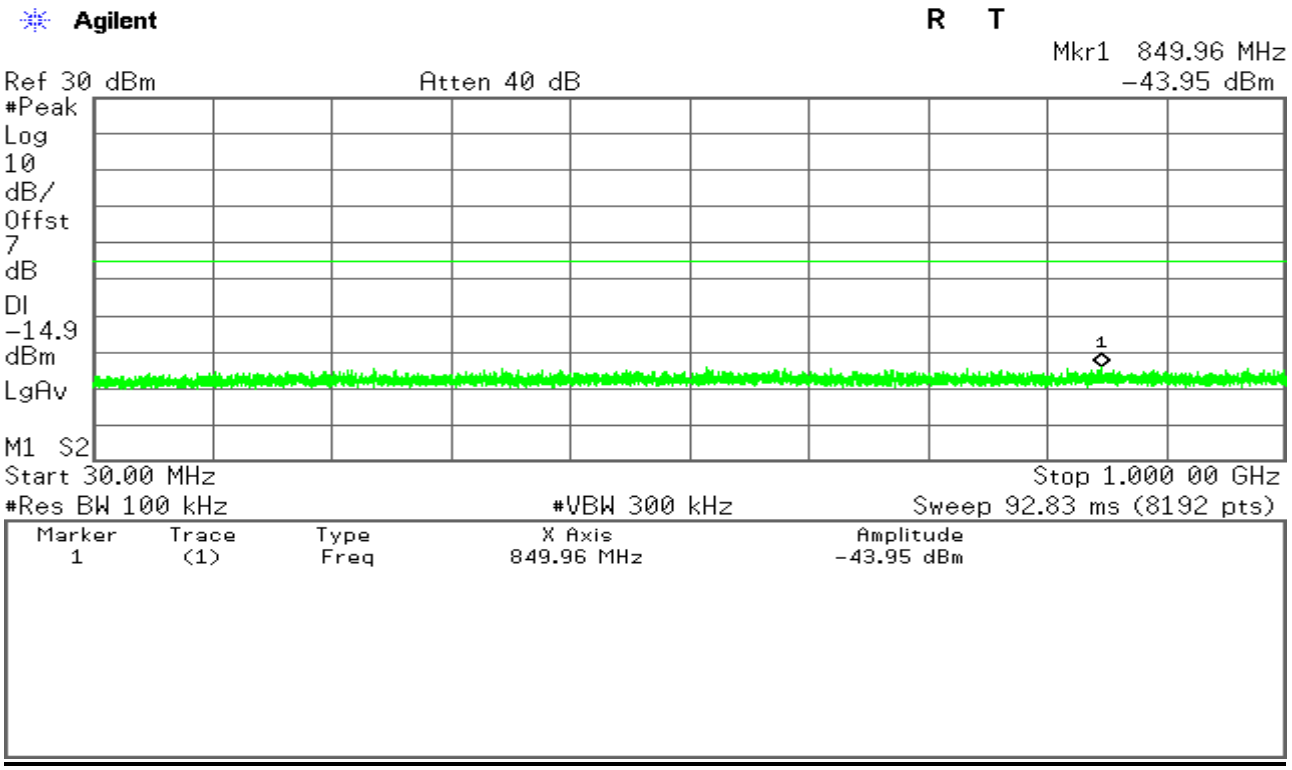


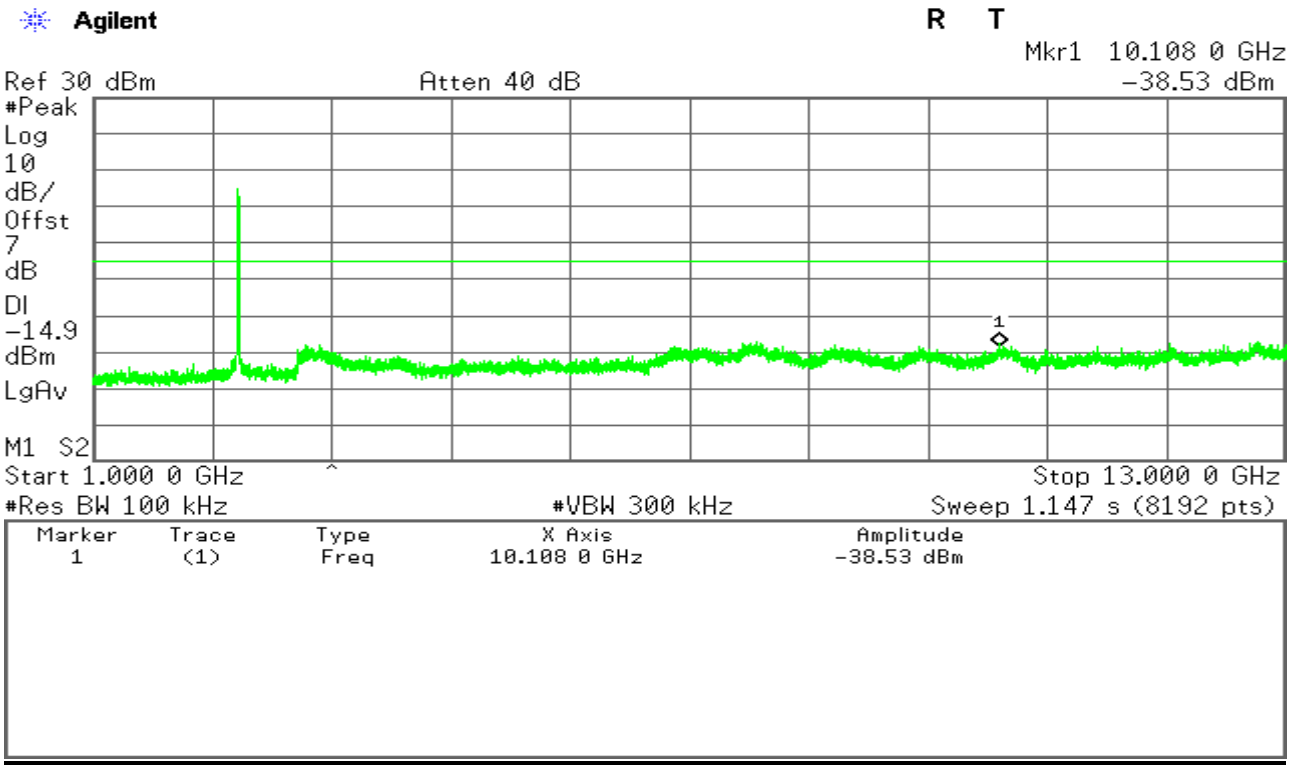


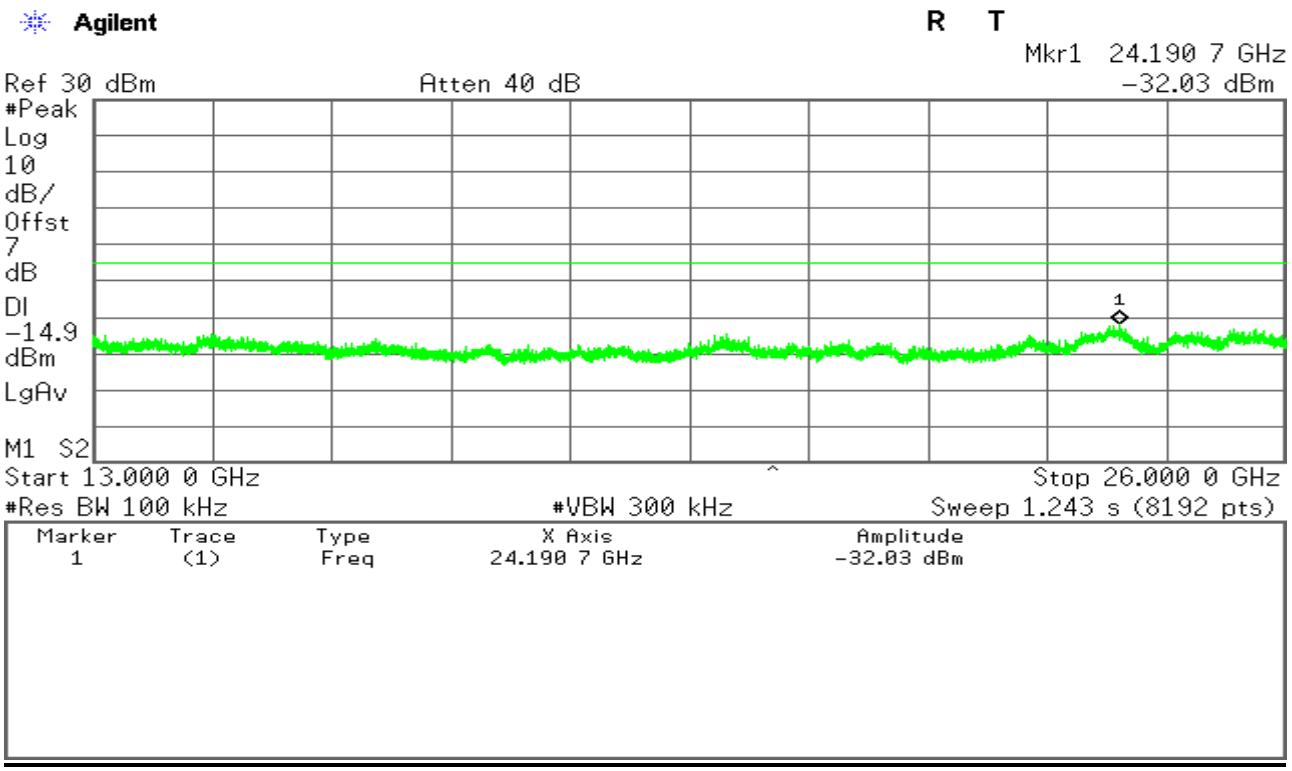


CH High



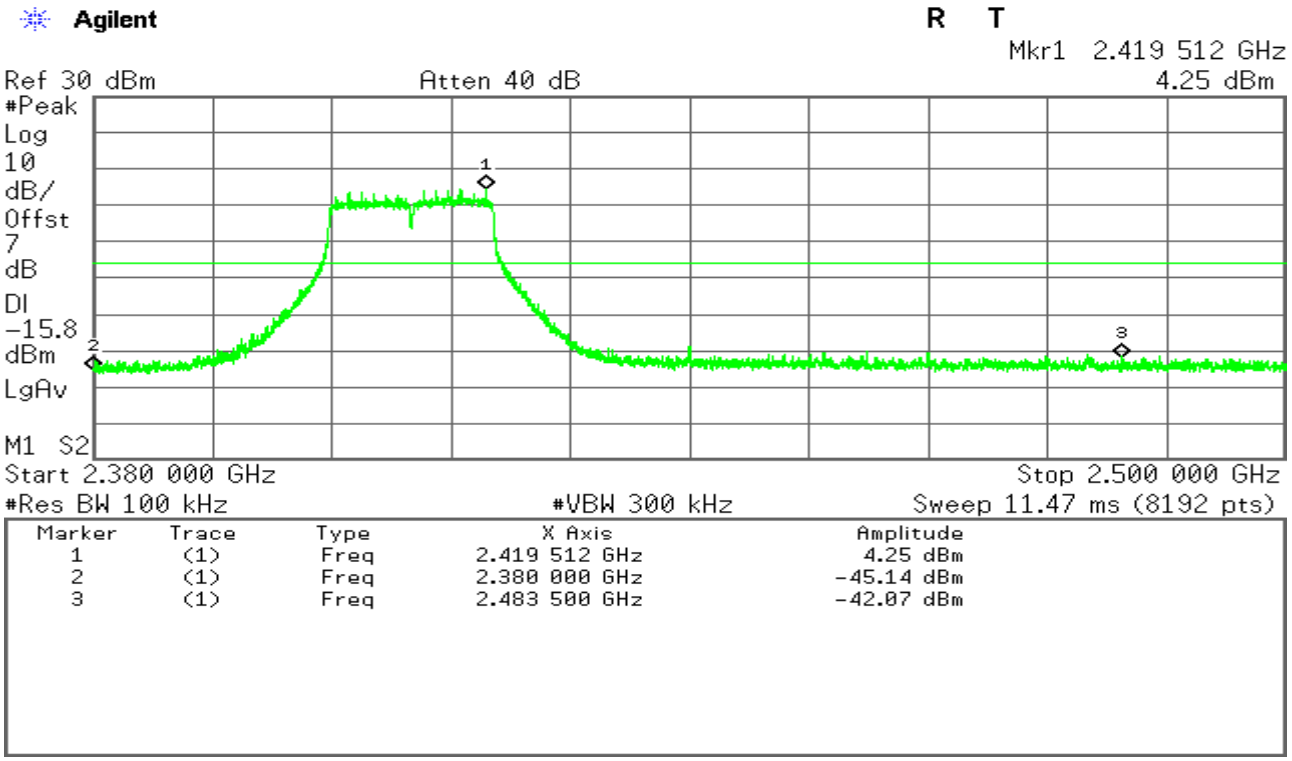


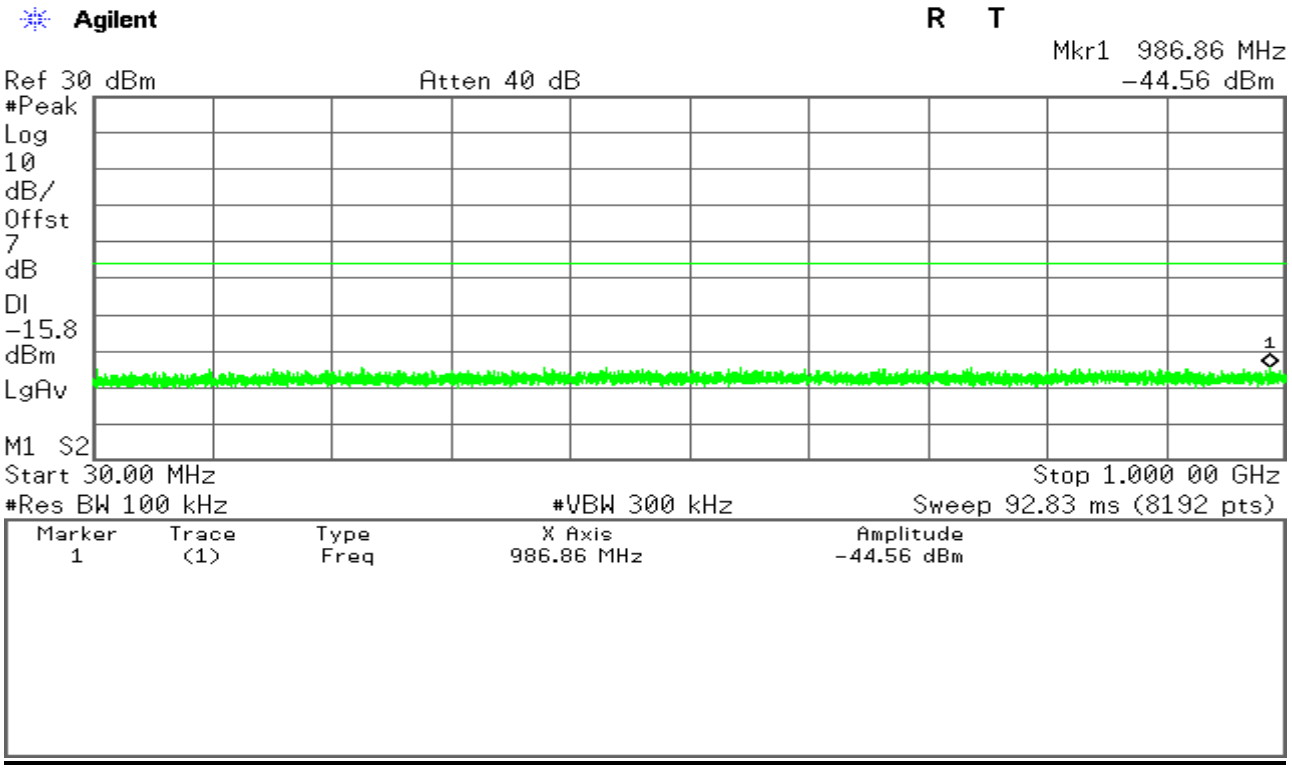


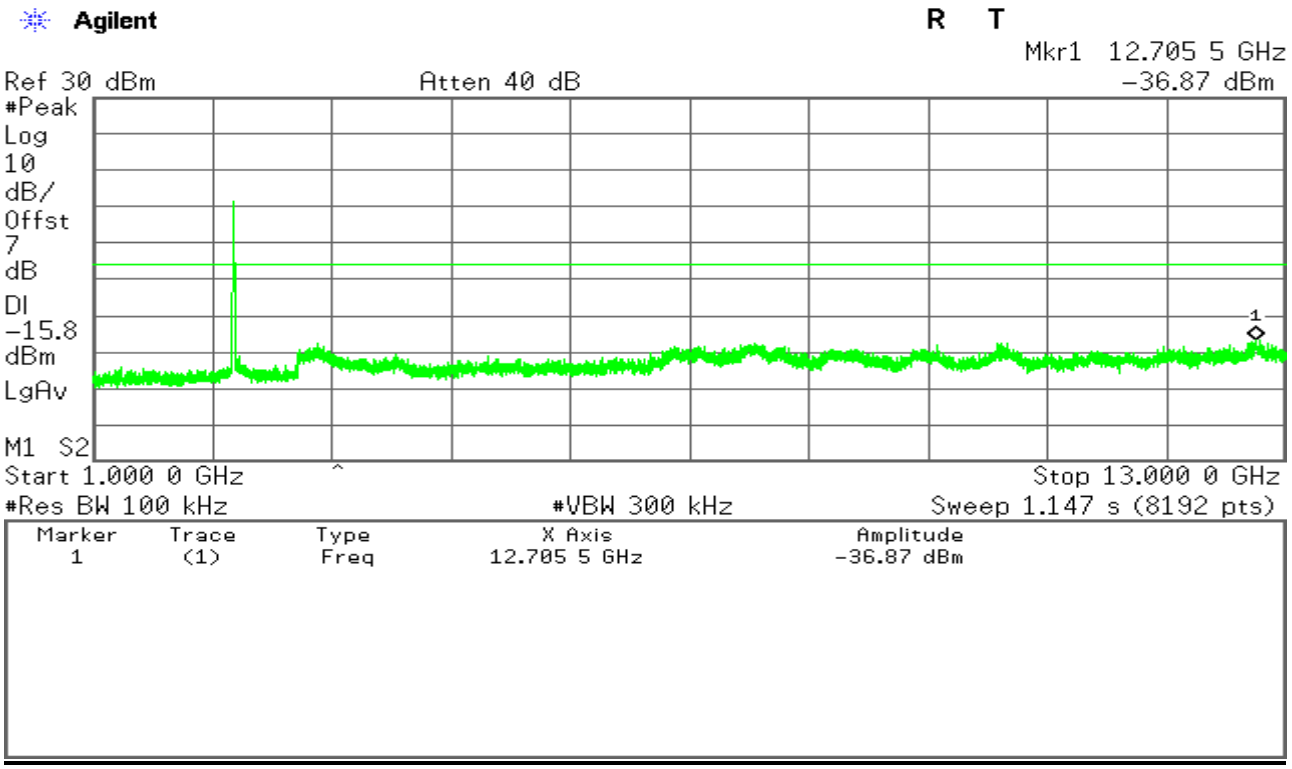


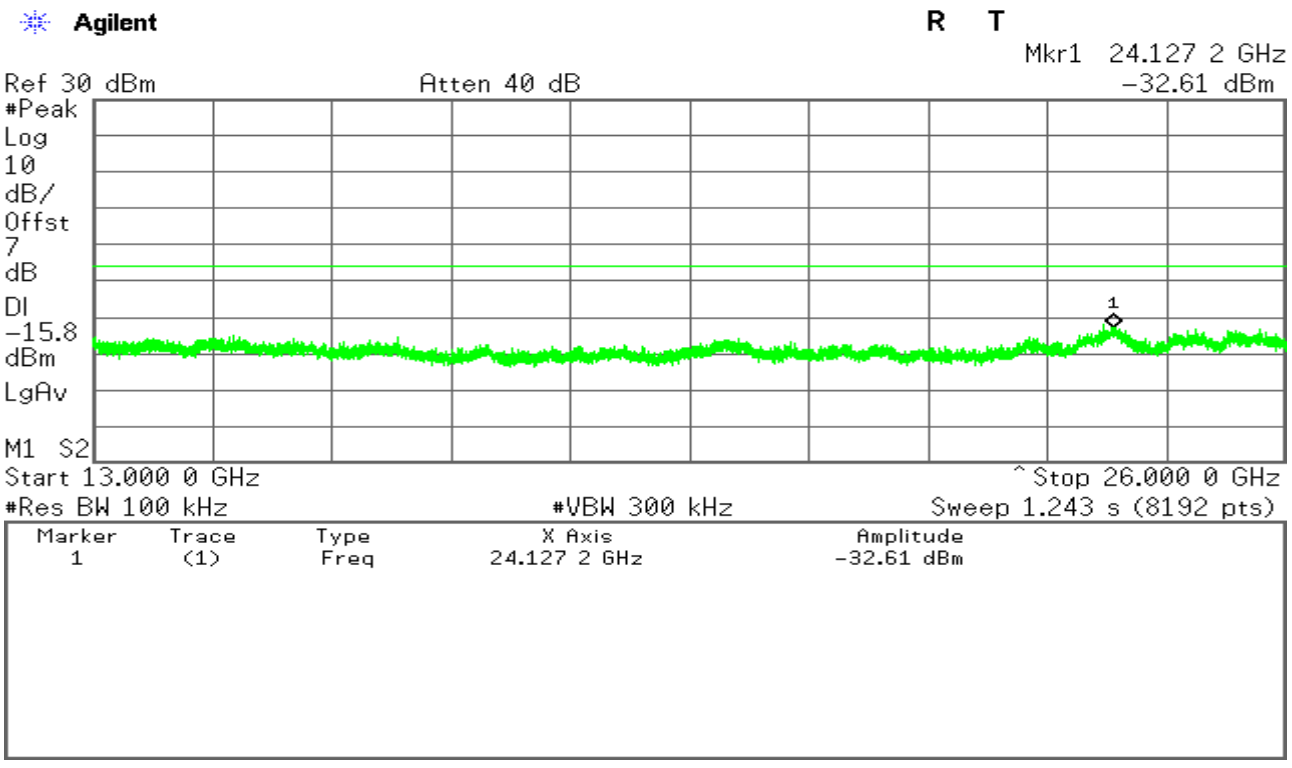
IEEE 802.11g mode/Chain 1

CH Low

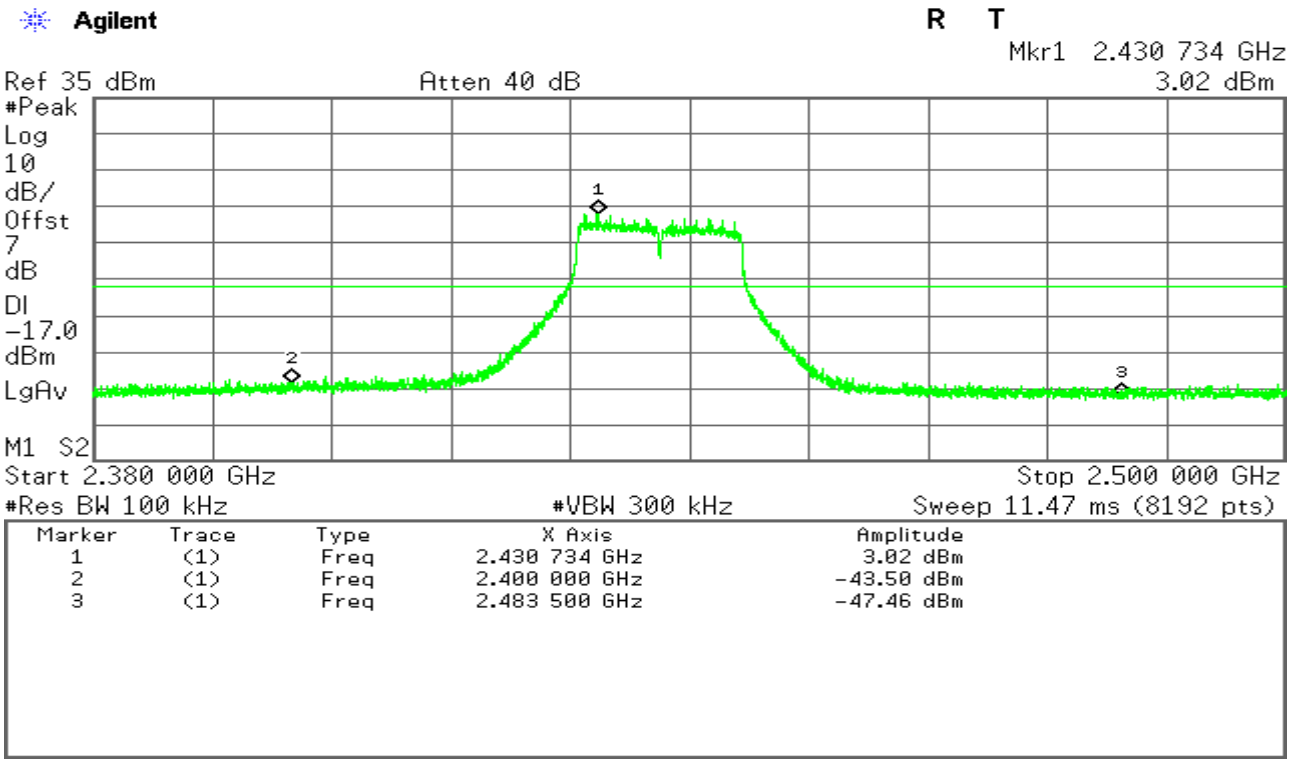


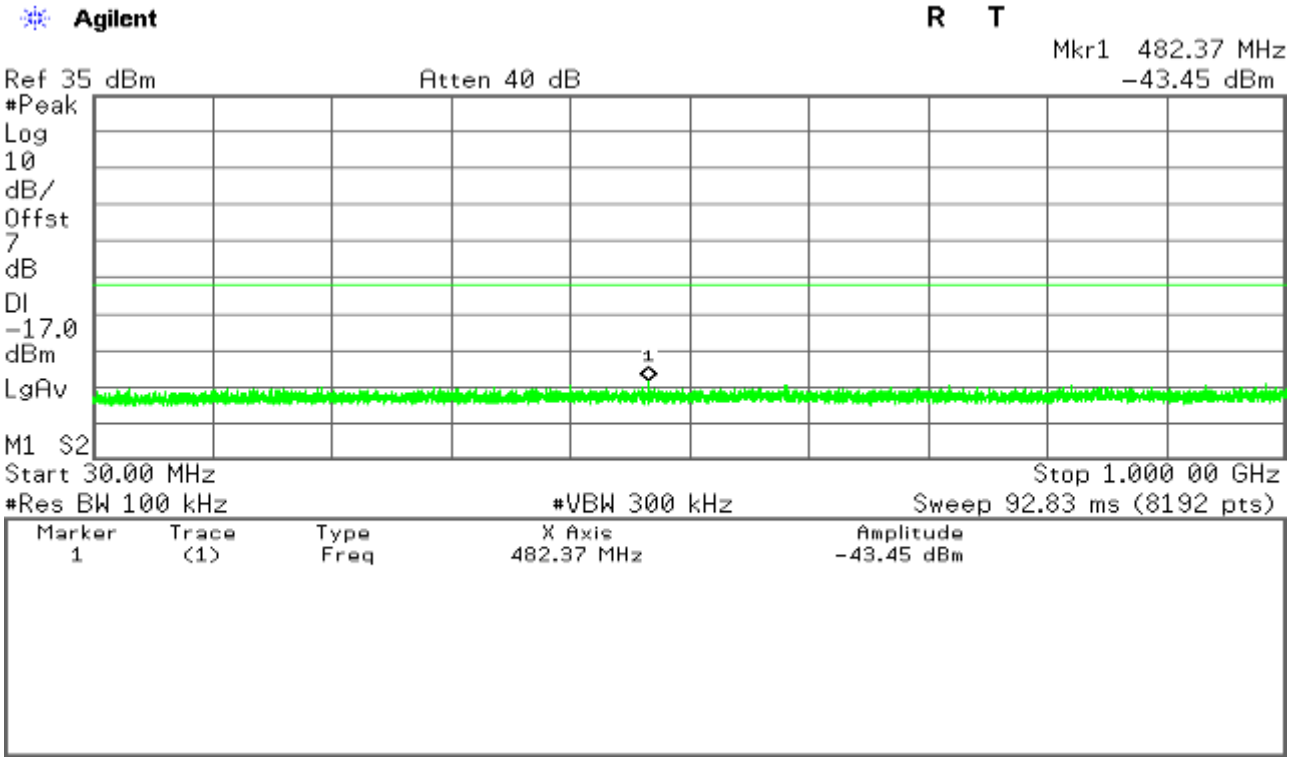


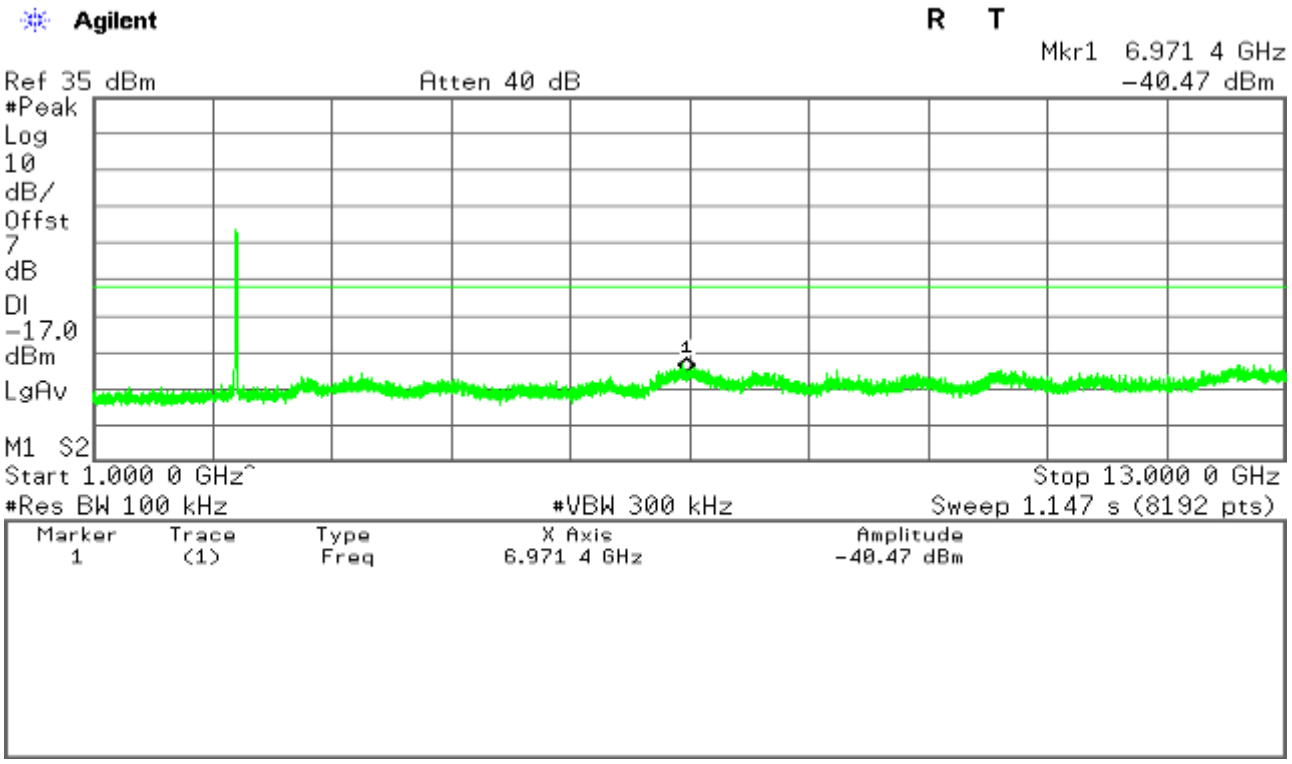


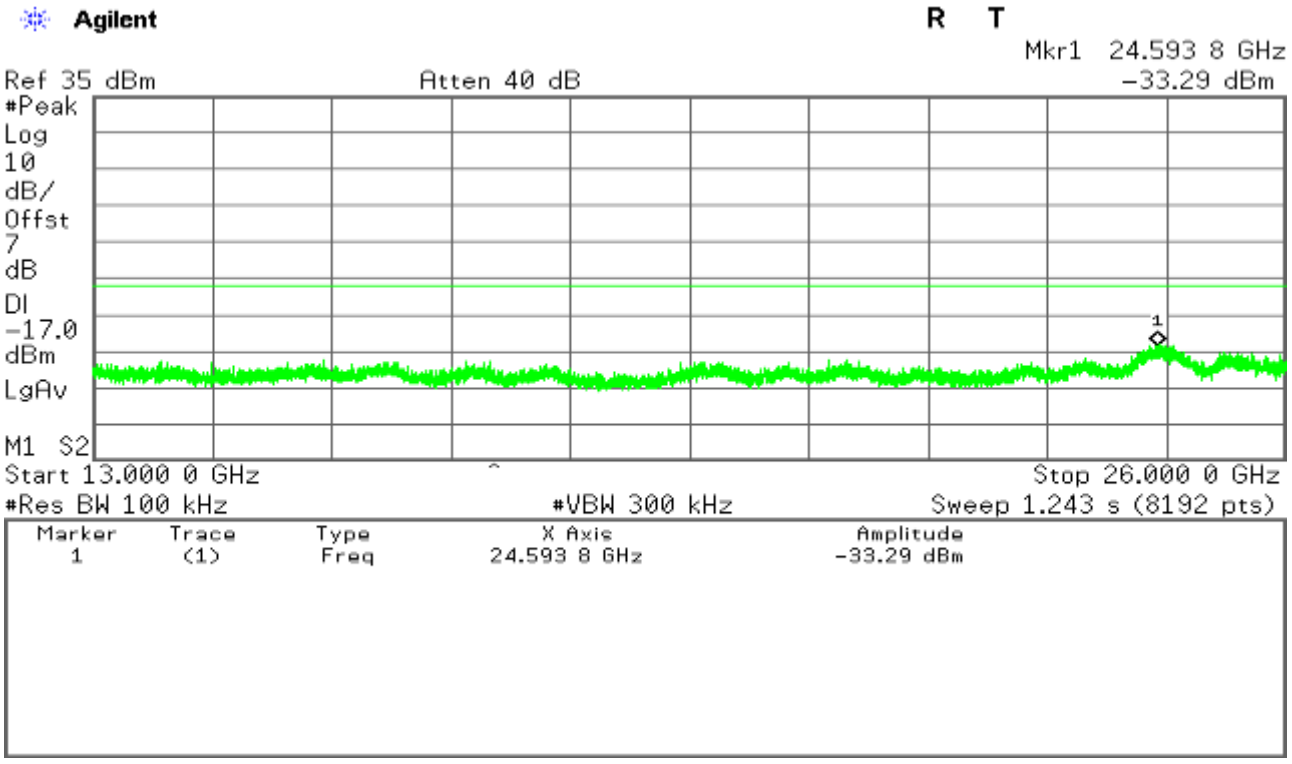


CH Mid

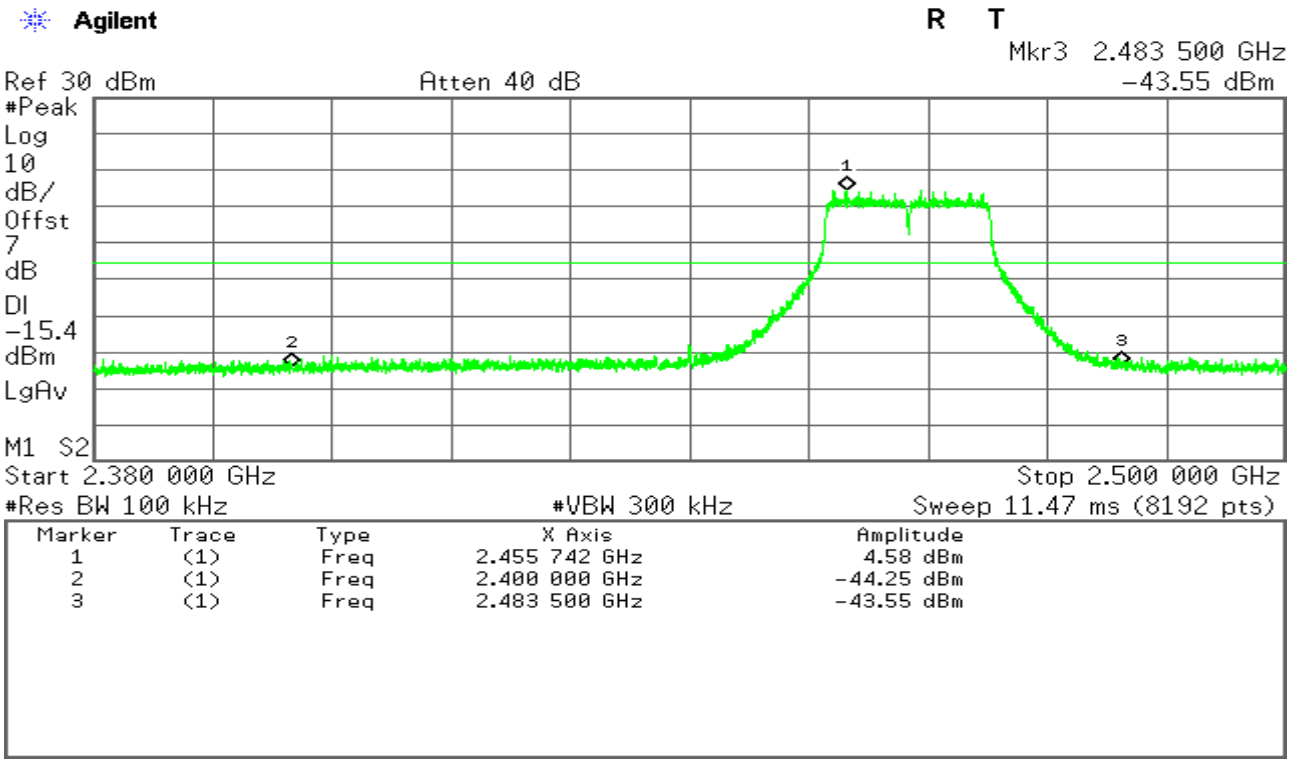


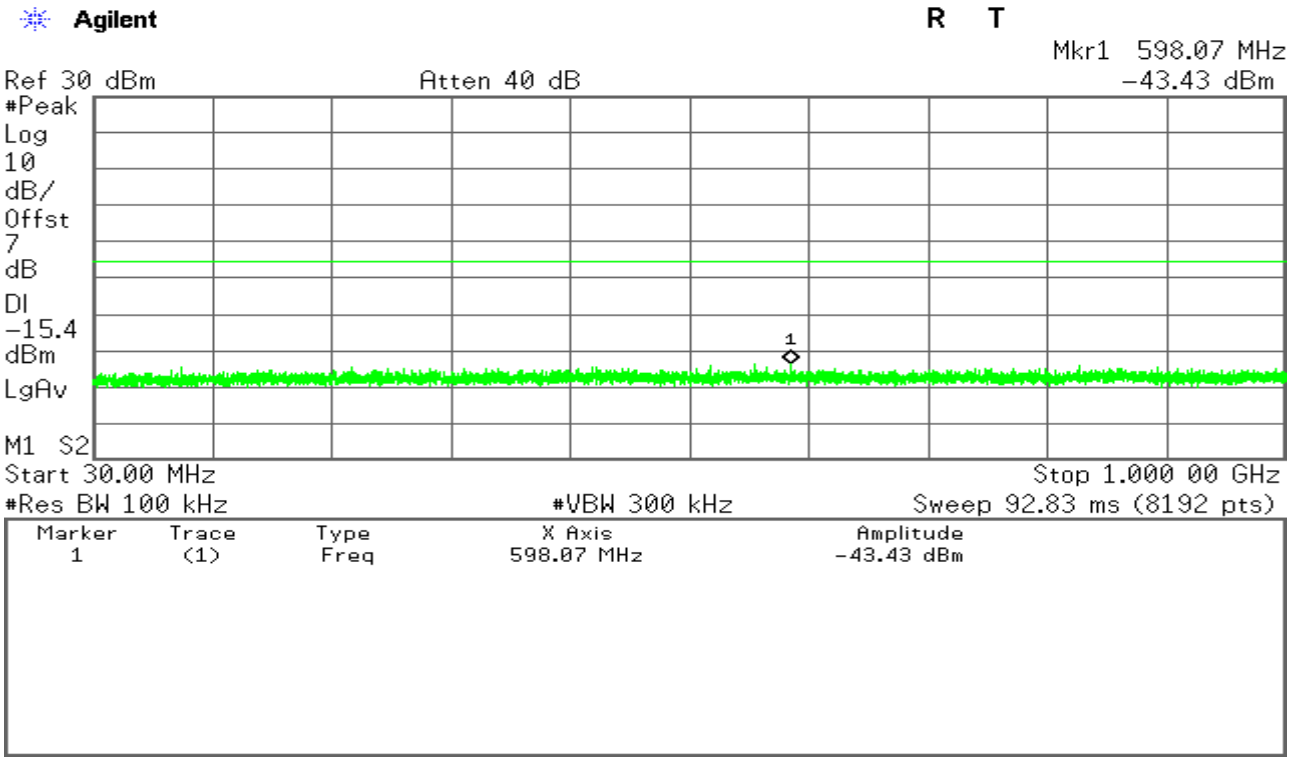


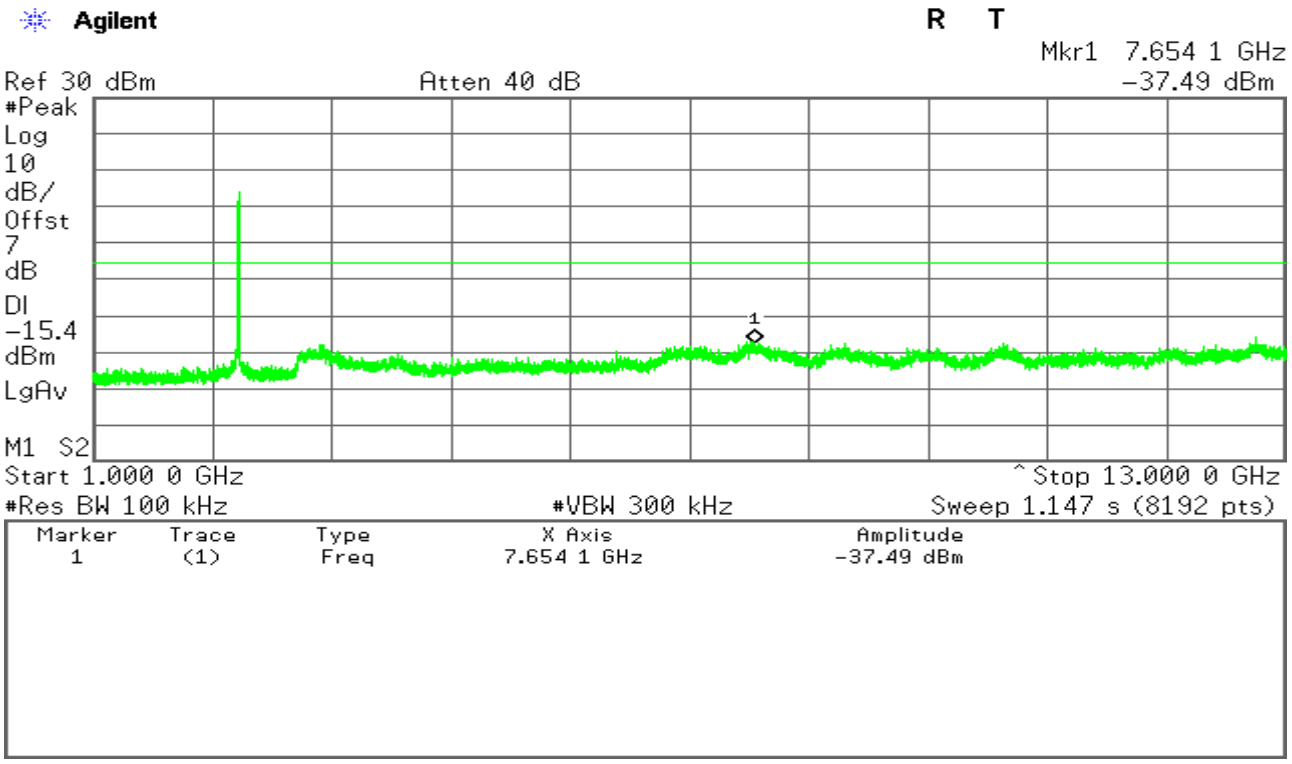


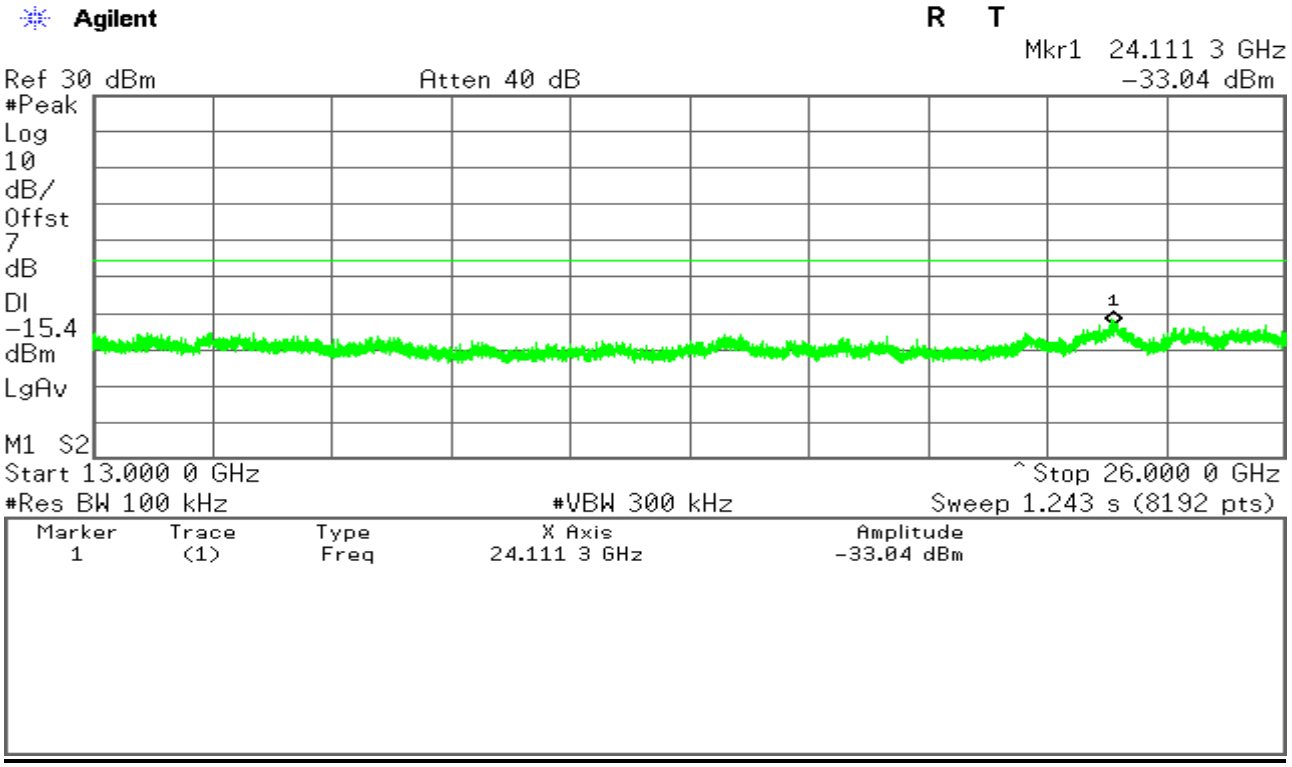


CH High



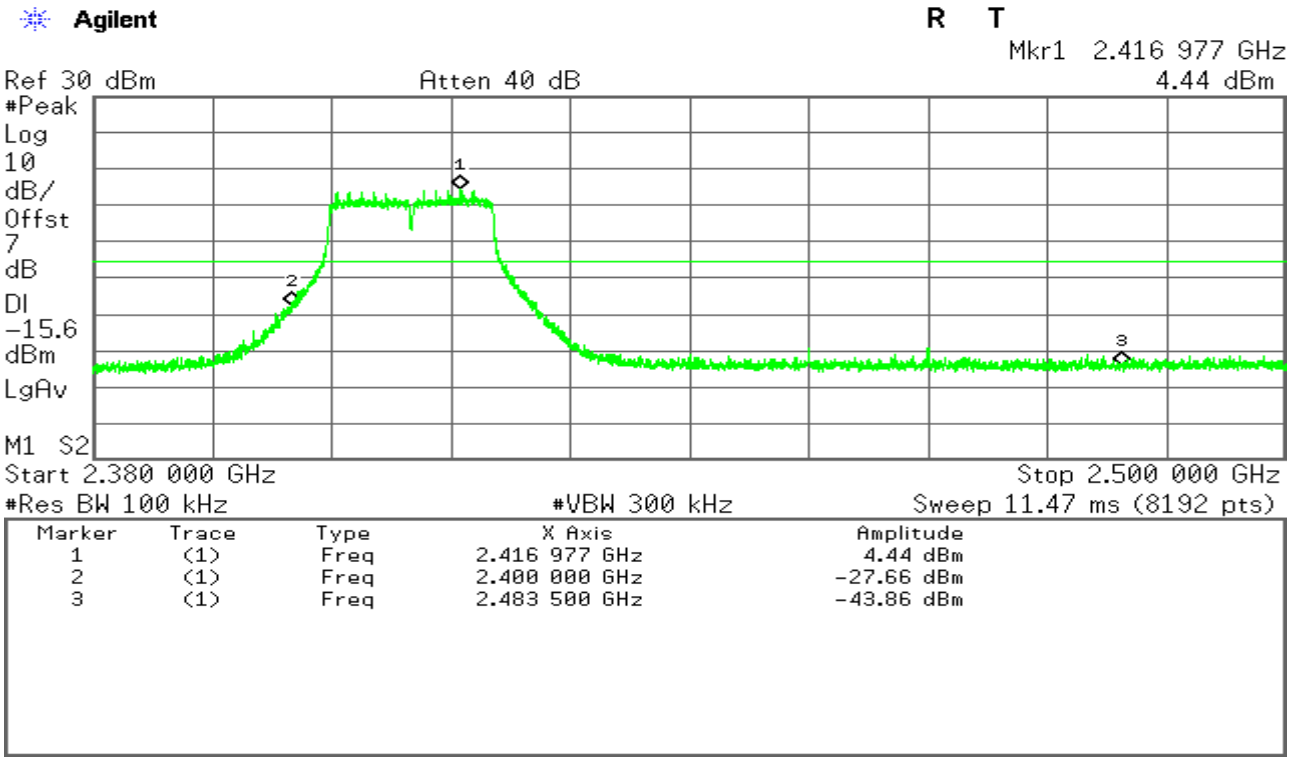




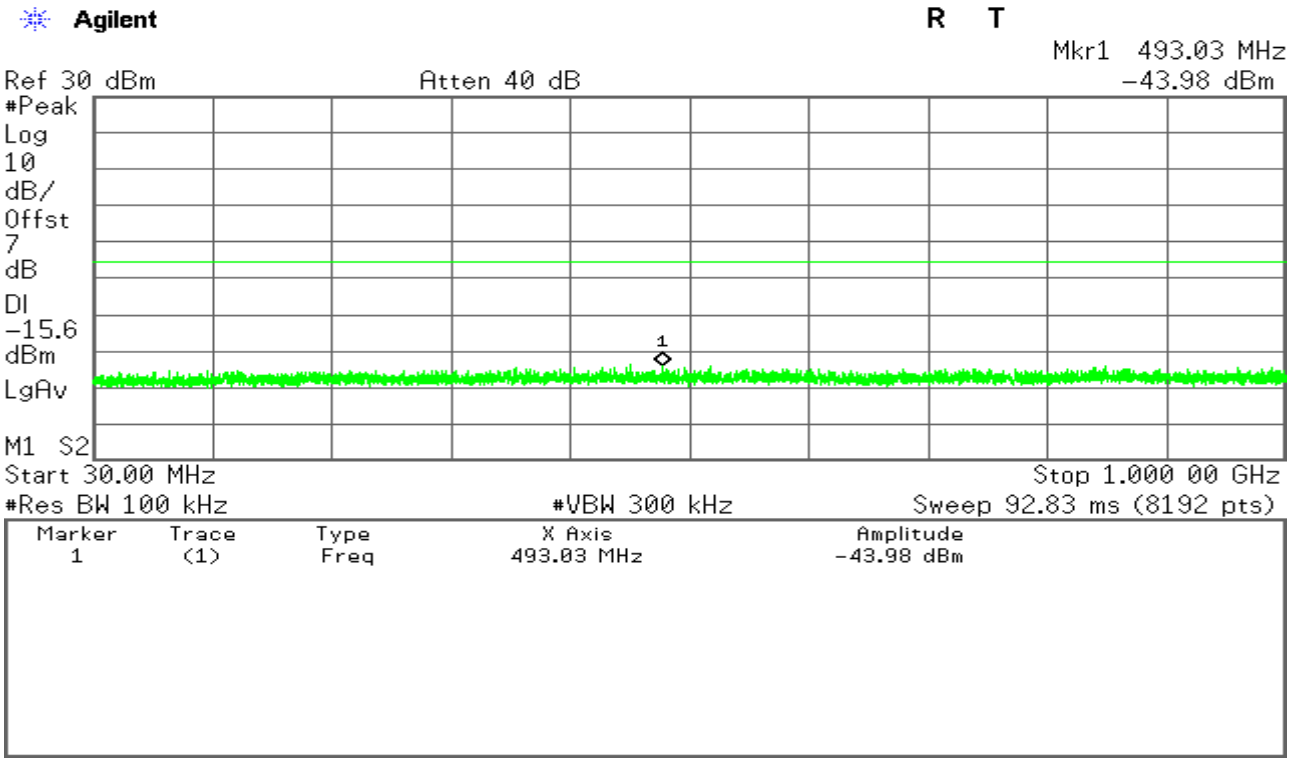


IEEE 802.11g mode/Chain 2

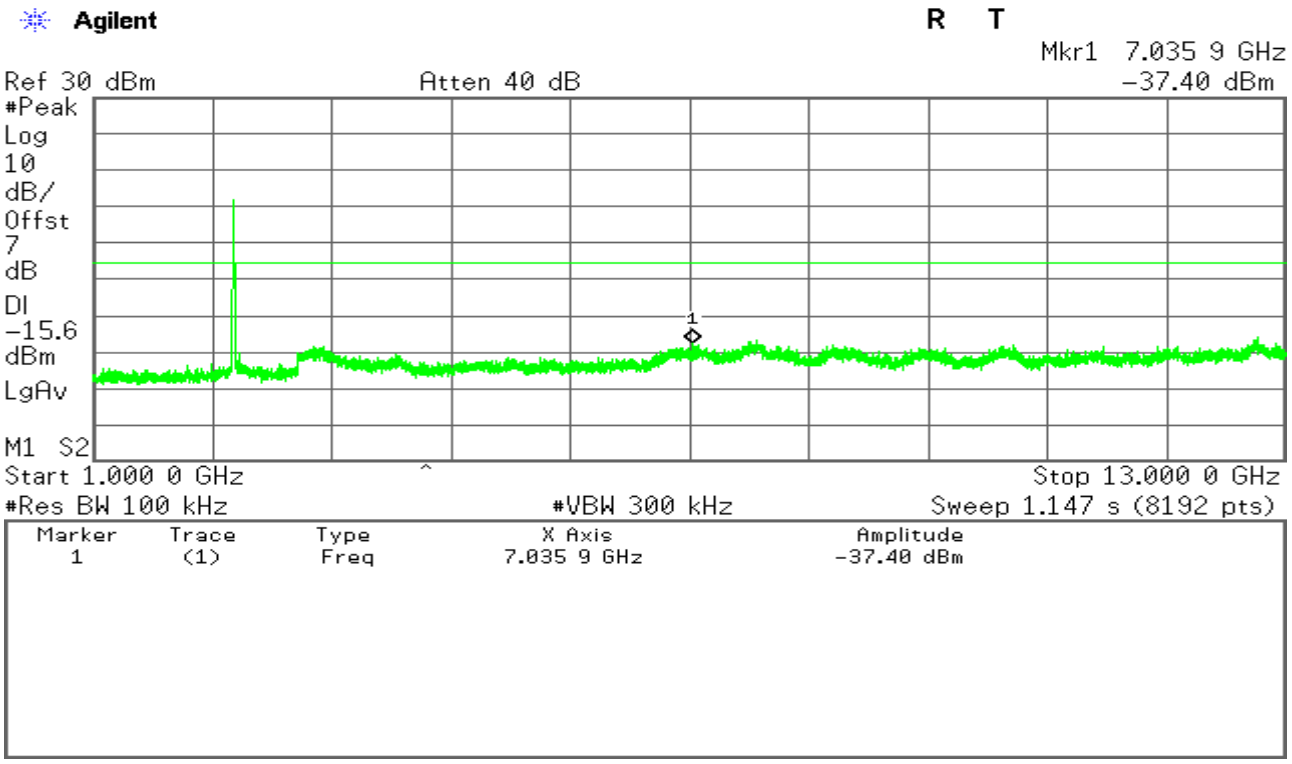
CH Low

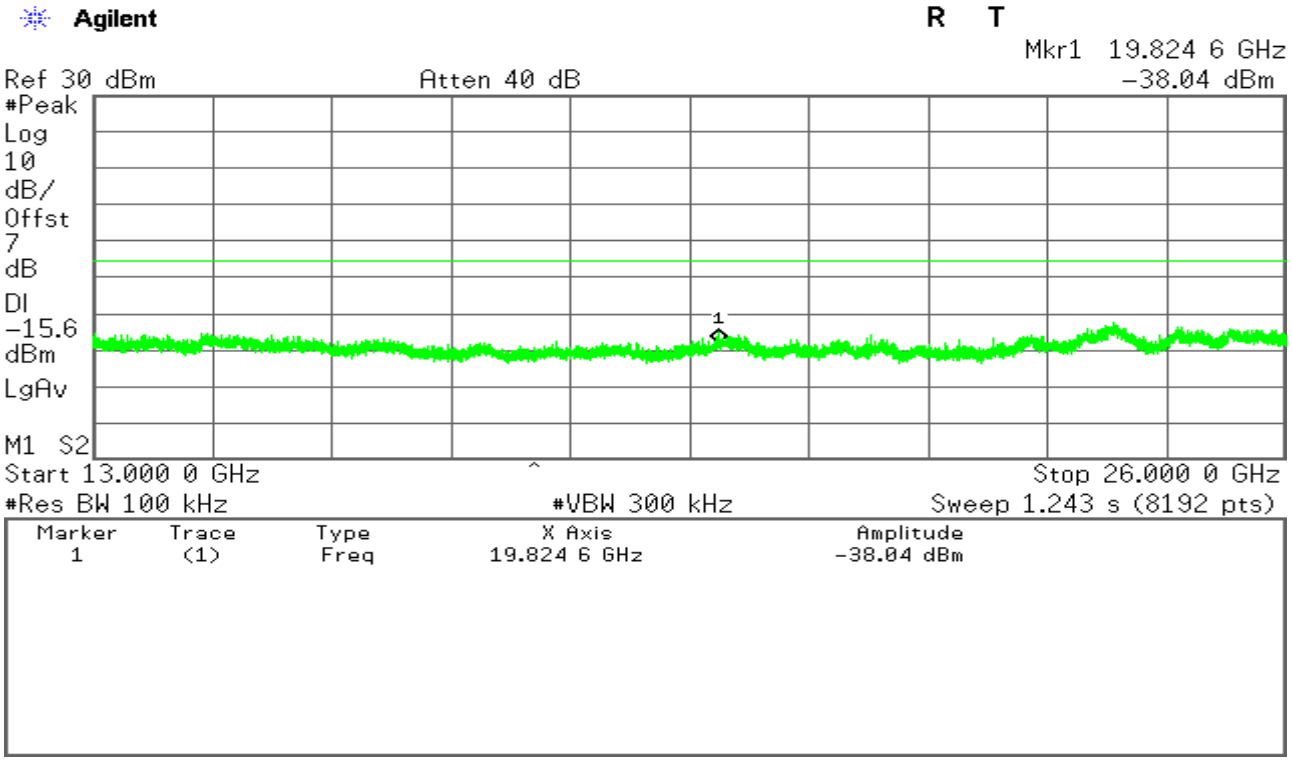


Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	2.416 977 GHz	4.44 dBm
2	(1)	Freq	2.400 000 GHz	-27.66 dBm
3	(1)	Freq	2.483 500 GHz	-43.86 dBm

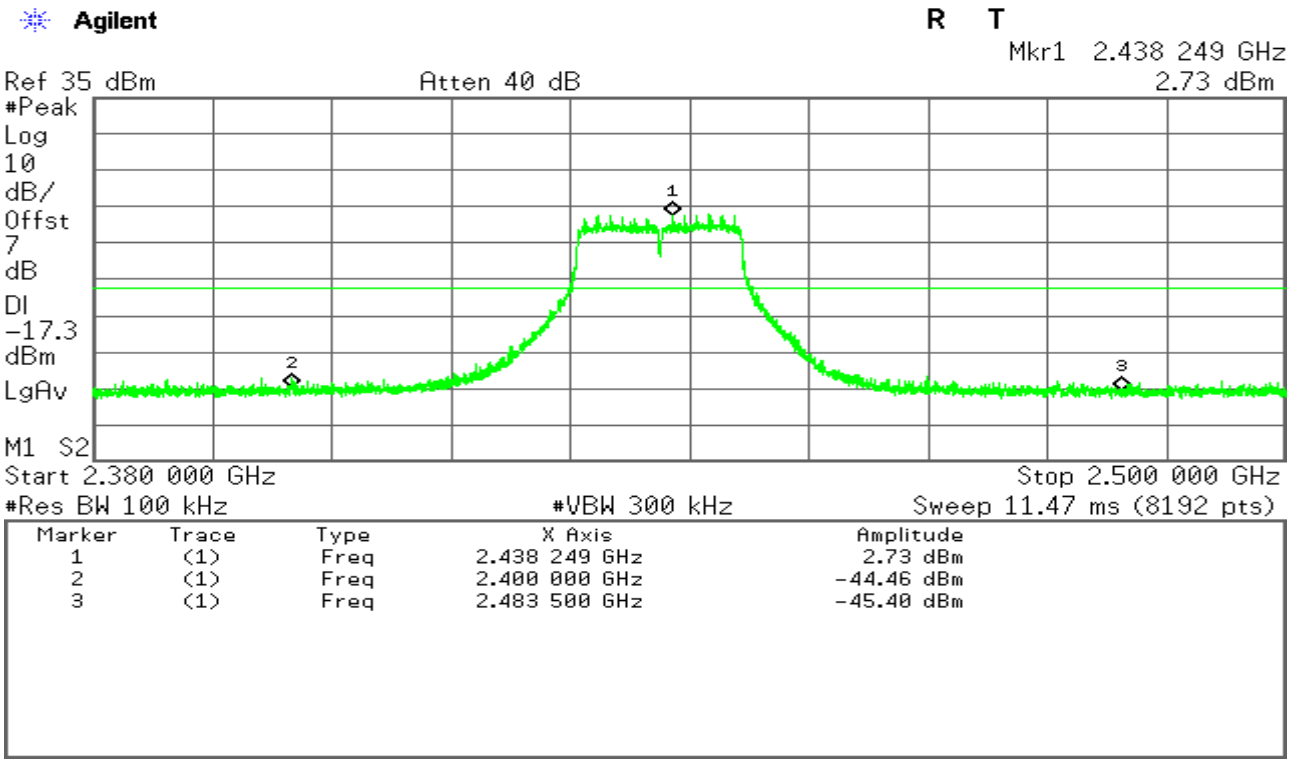


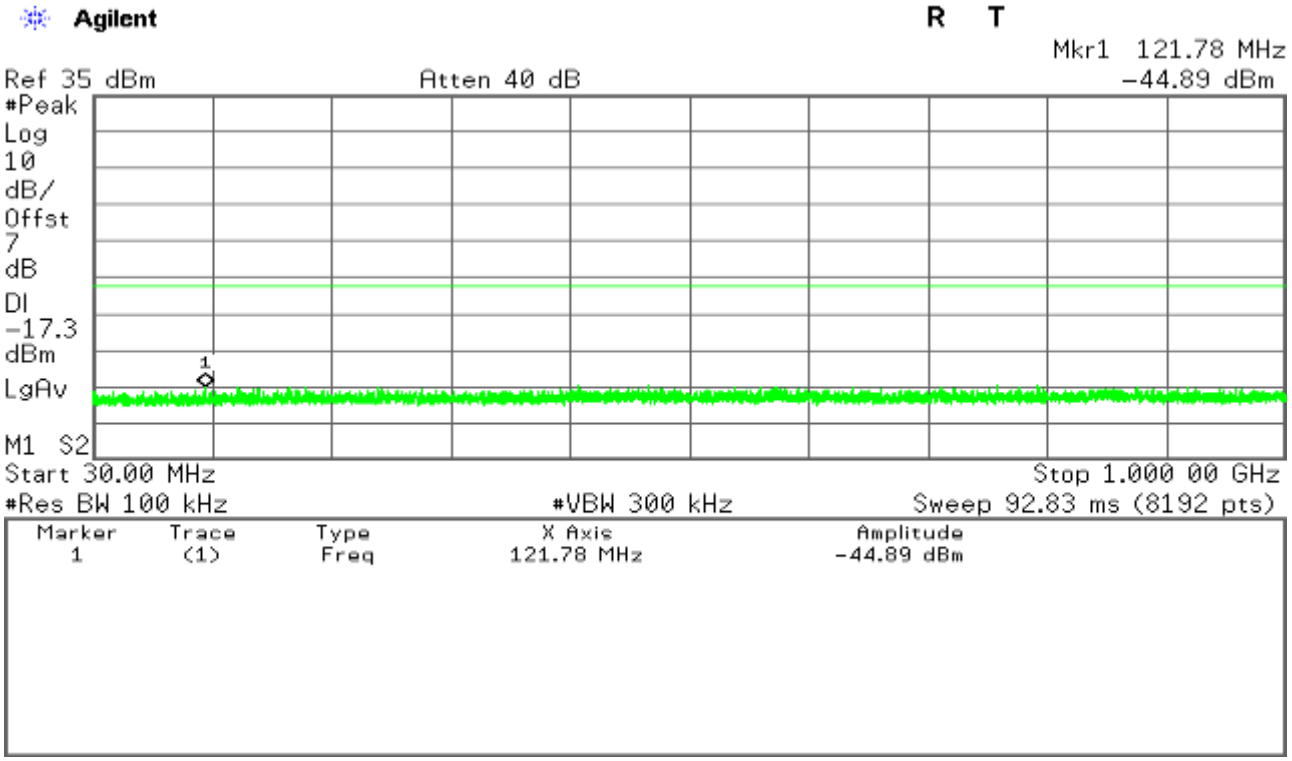
Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	493.03 MHz	-43.98 dBm

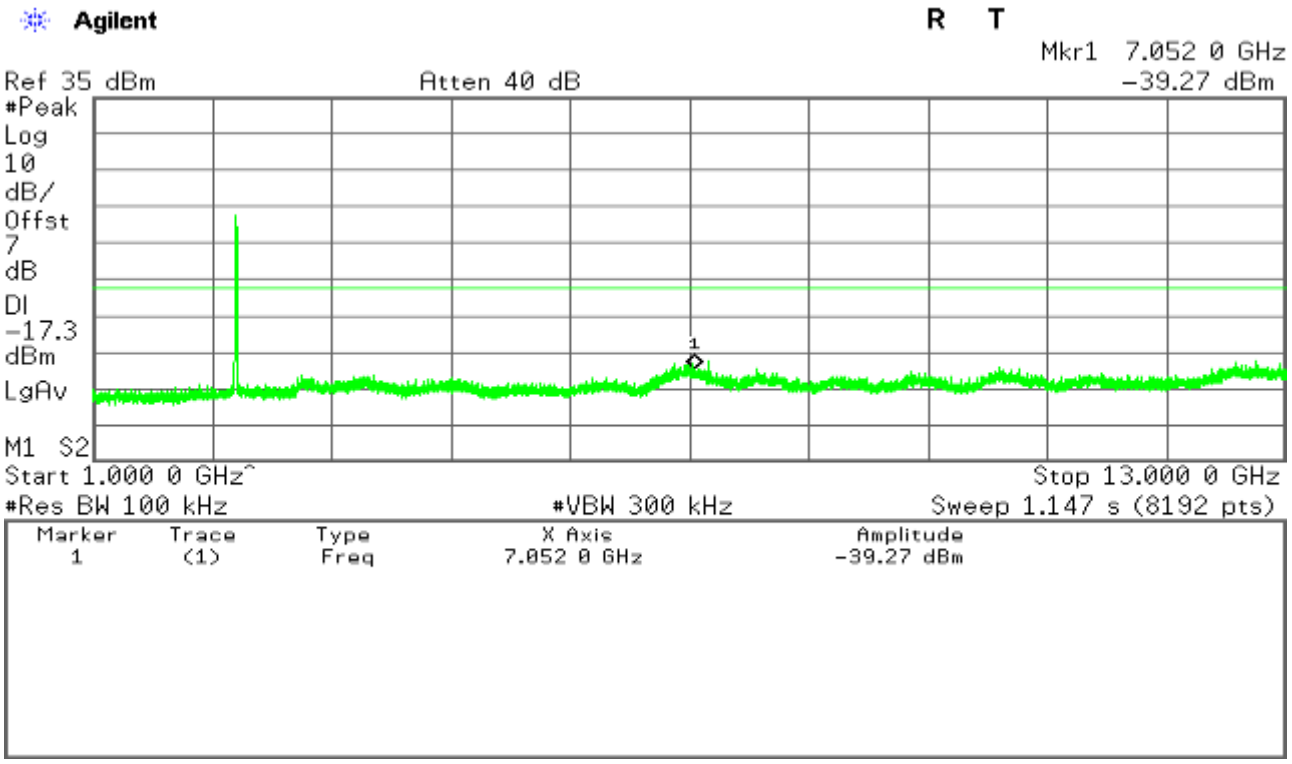


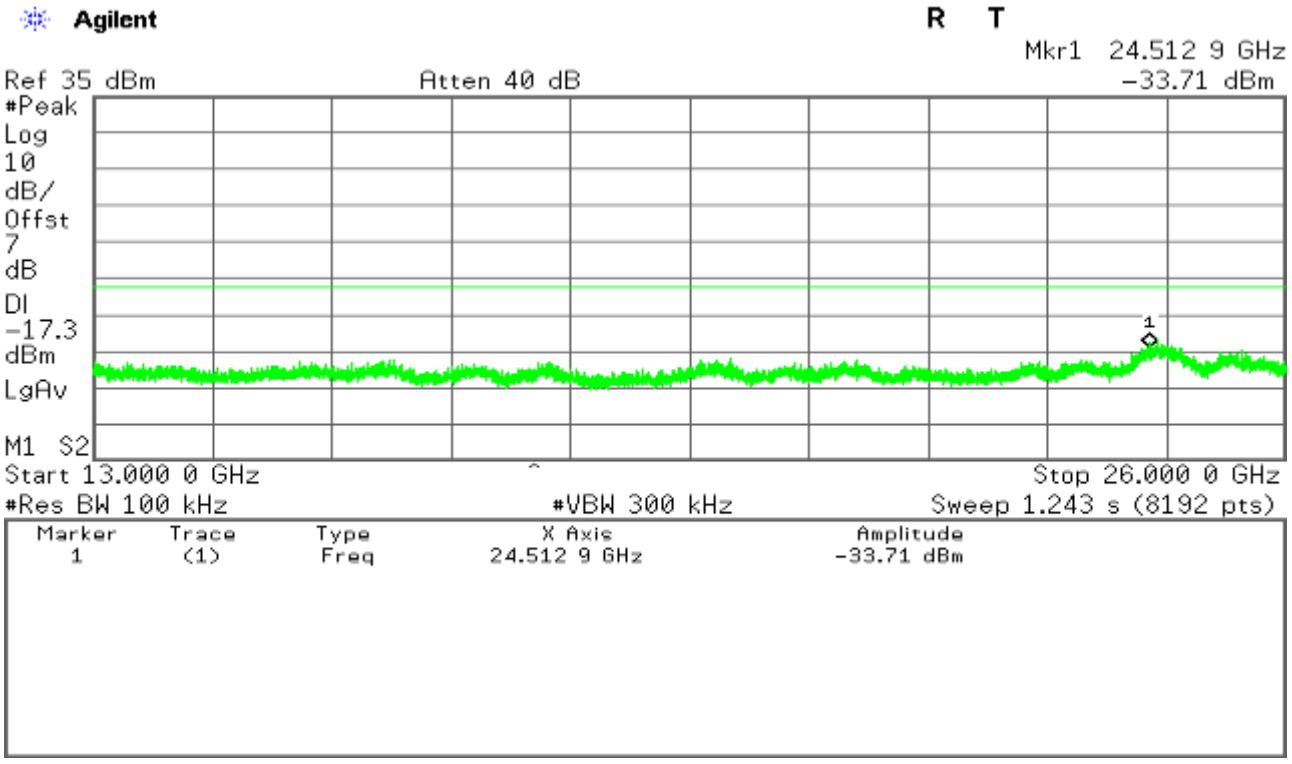


CH Mid

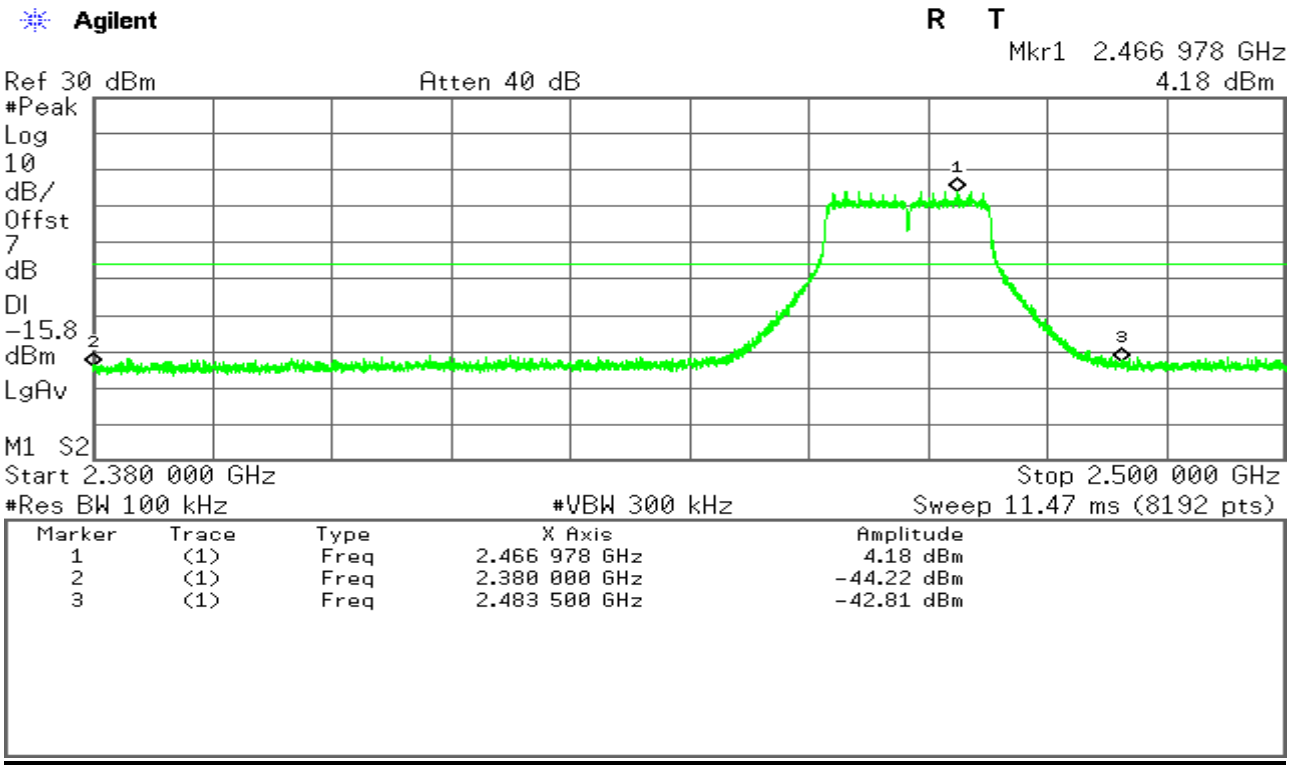


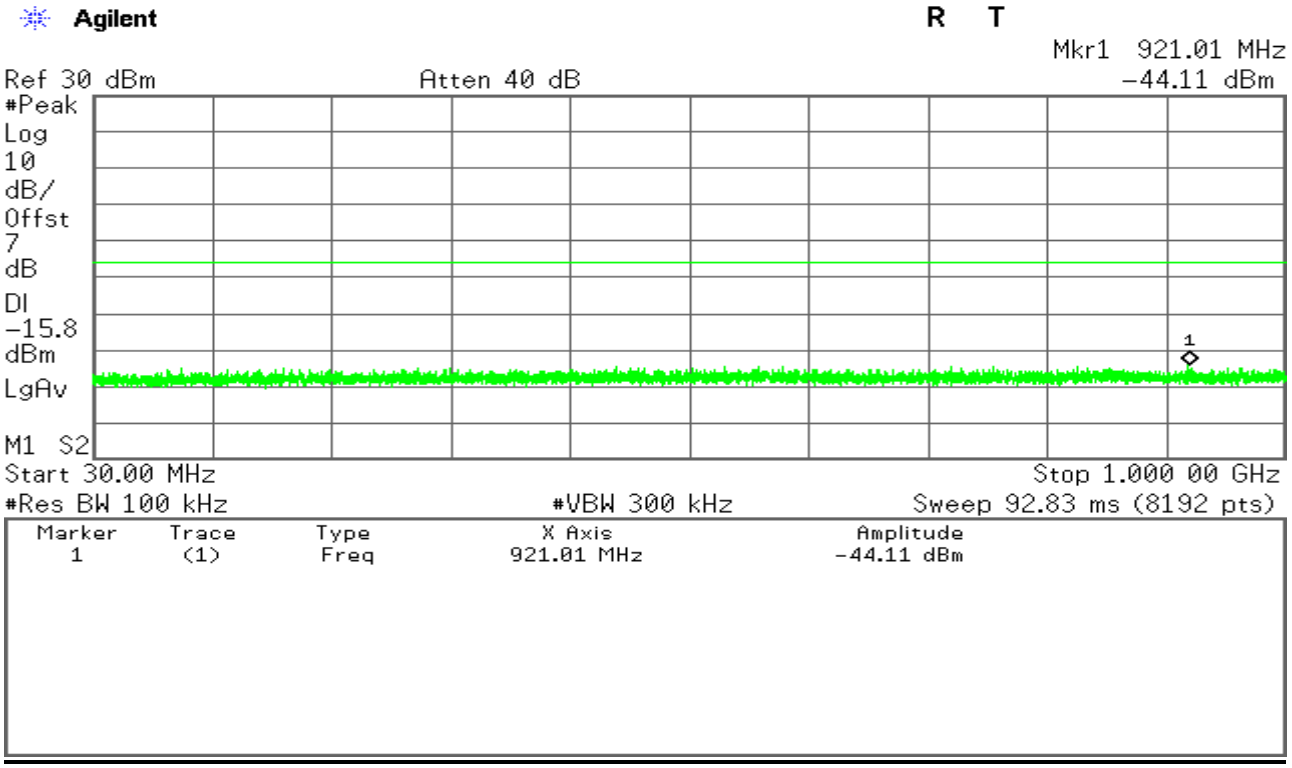


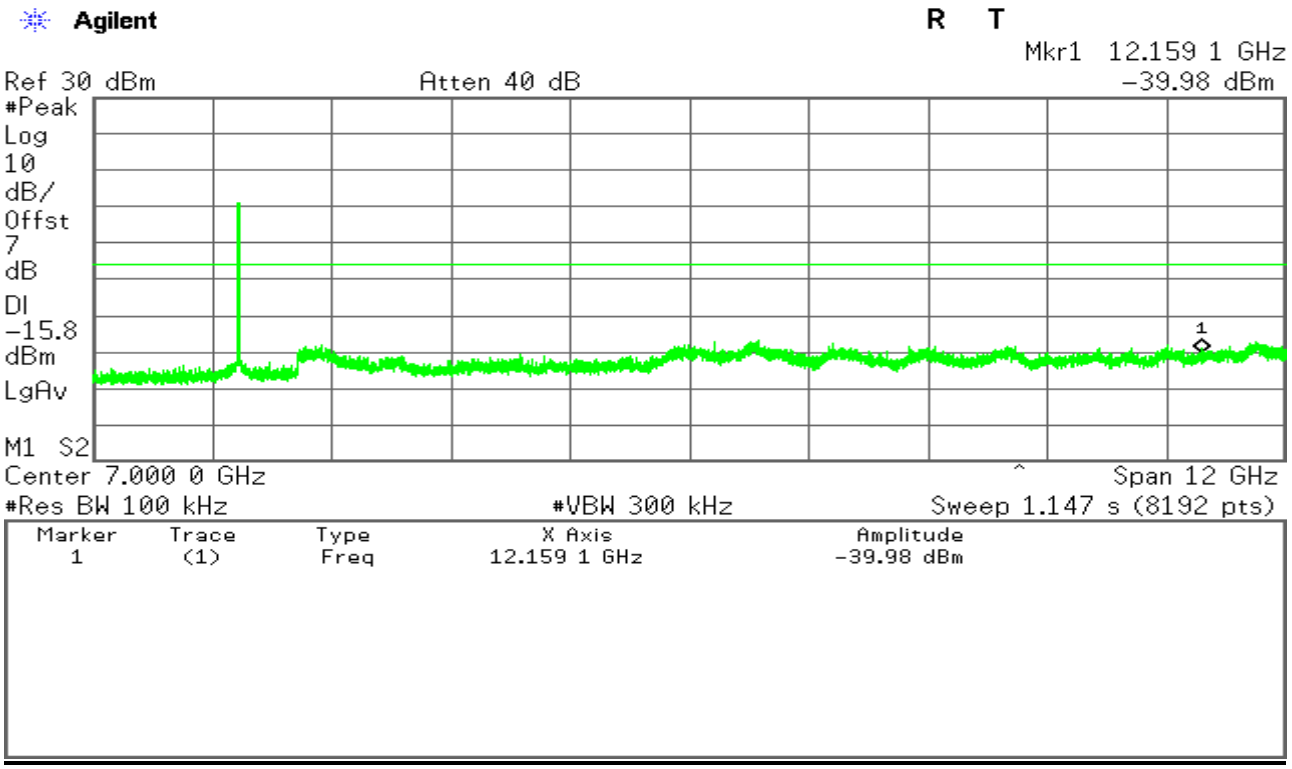


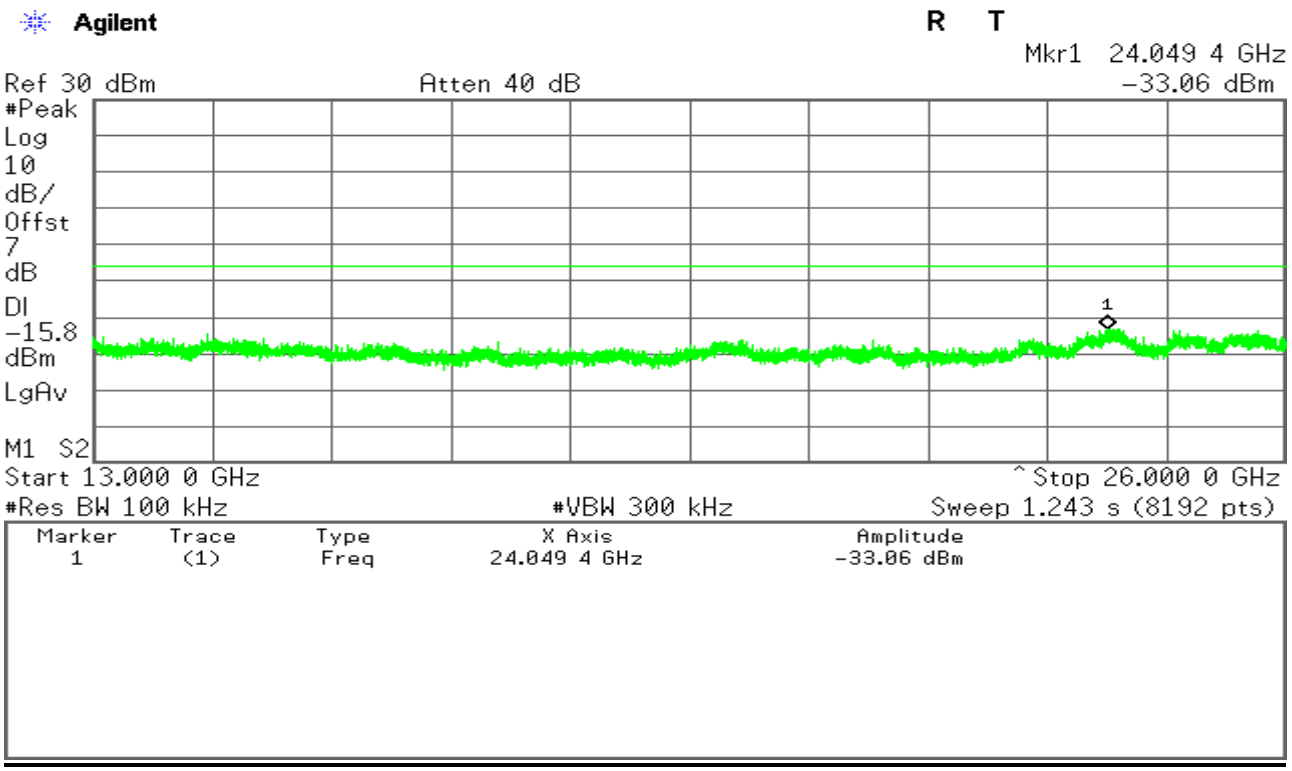


CH High



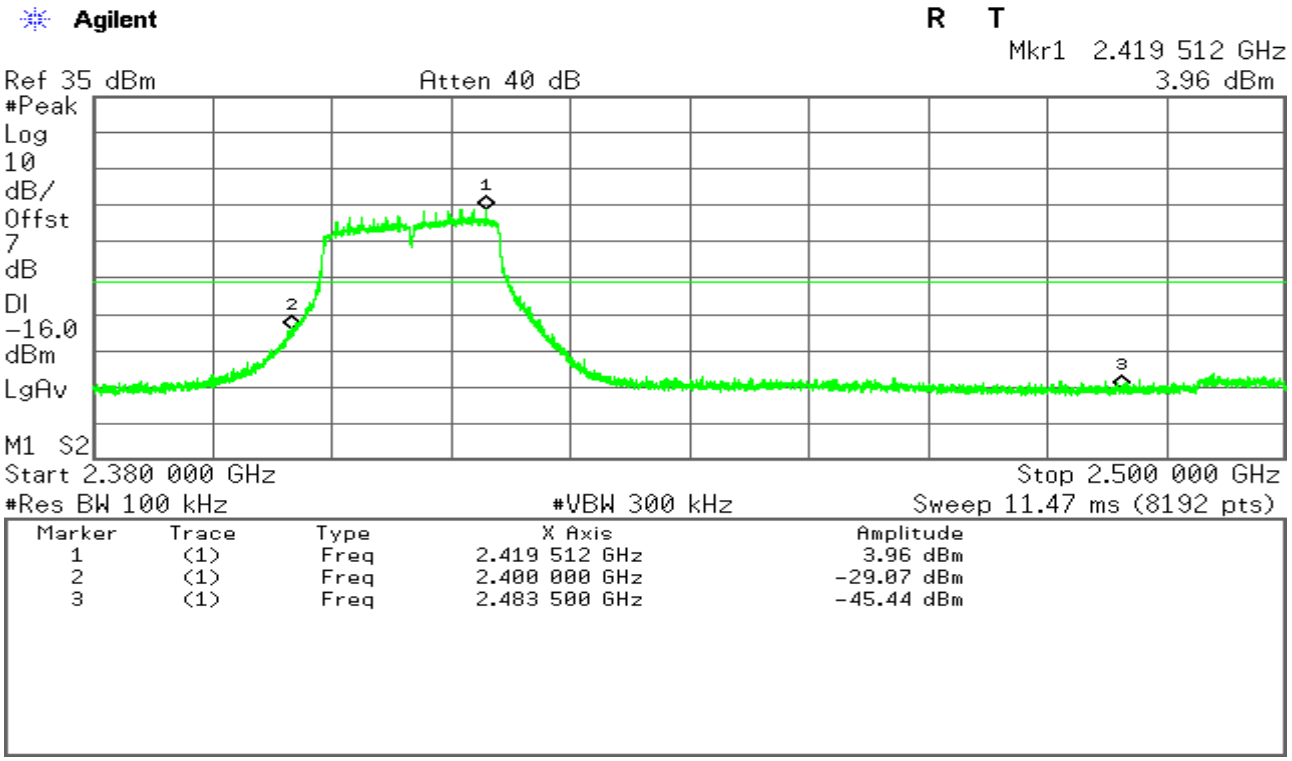


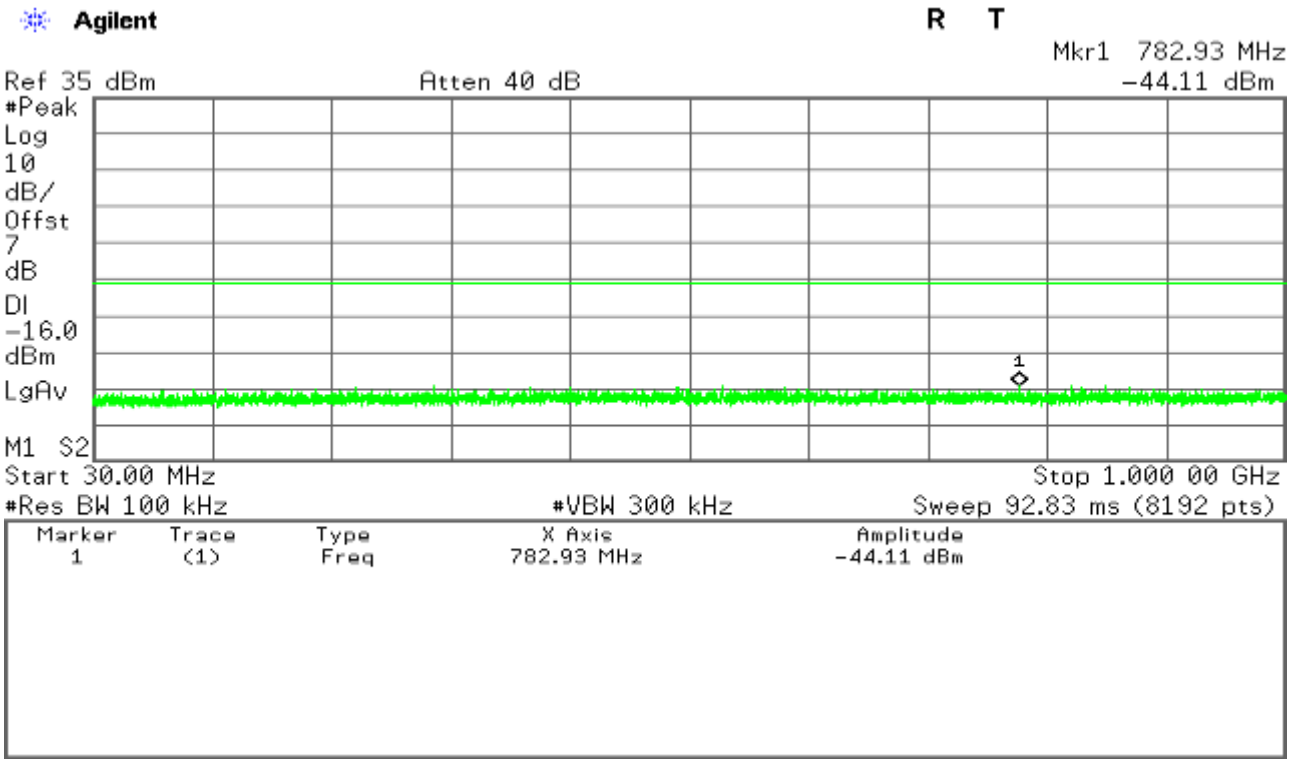


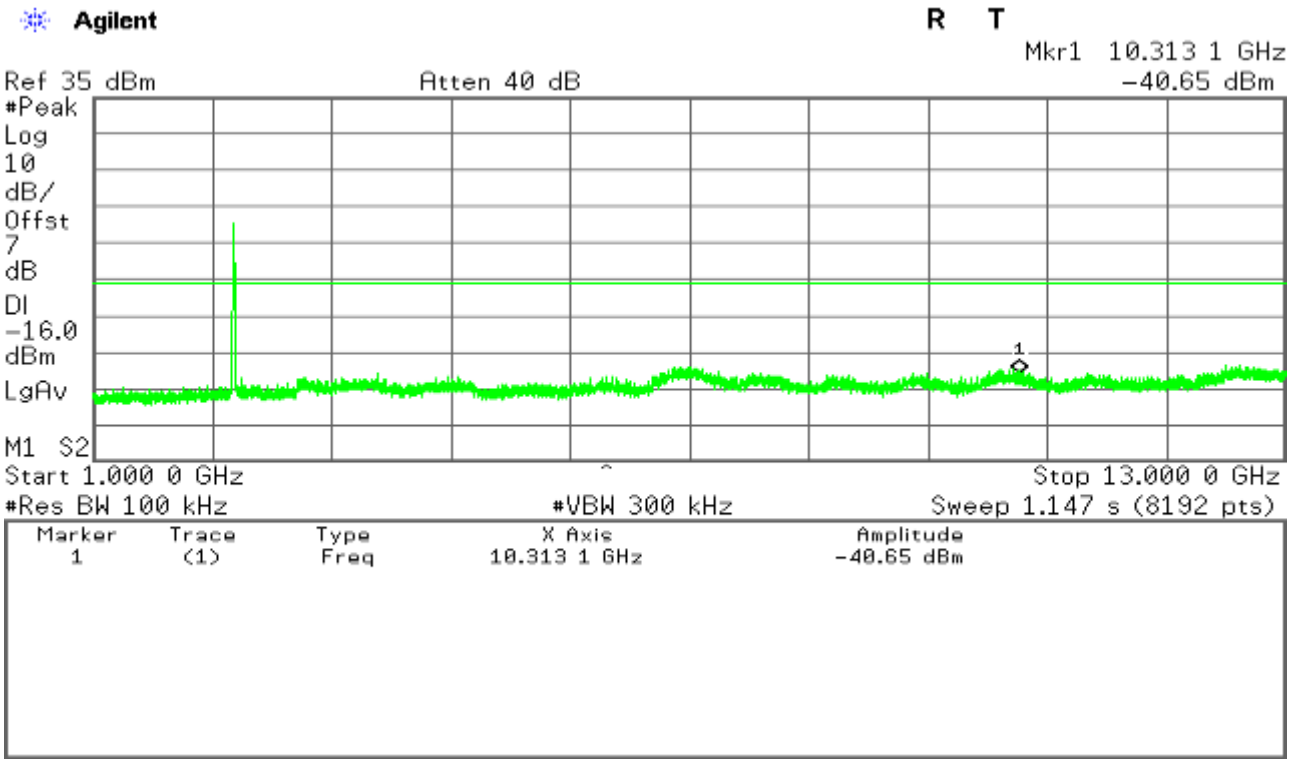


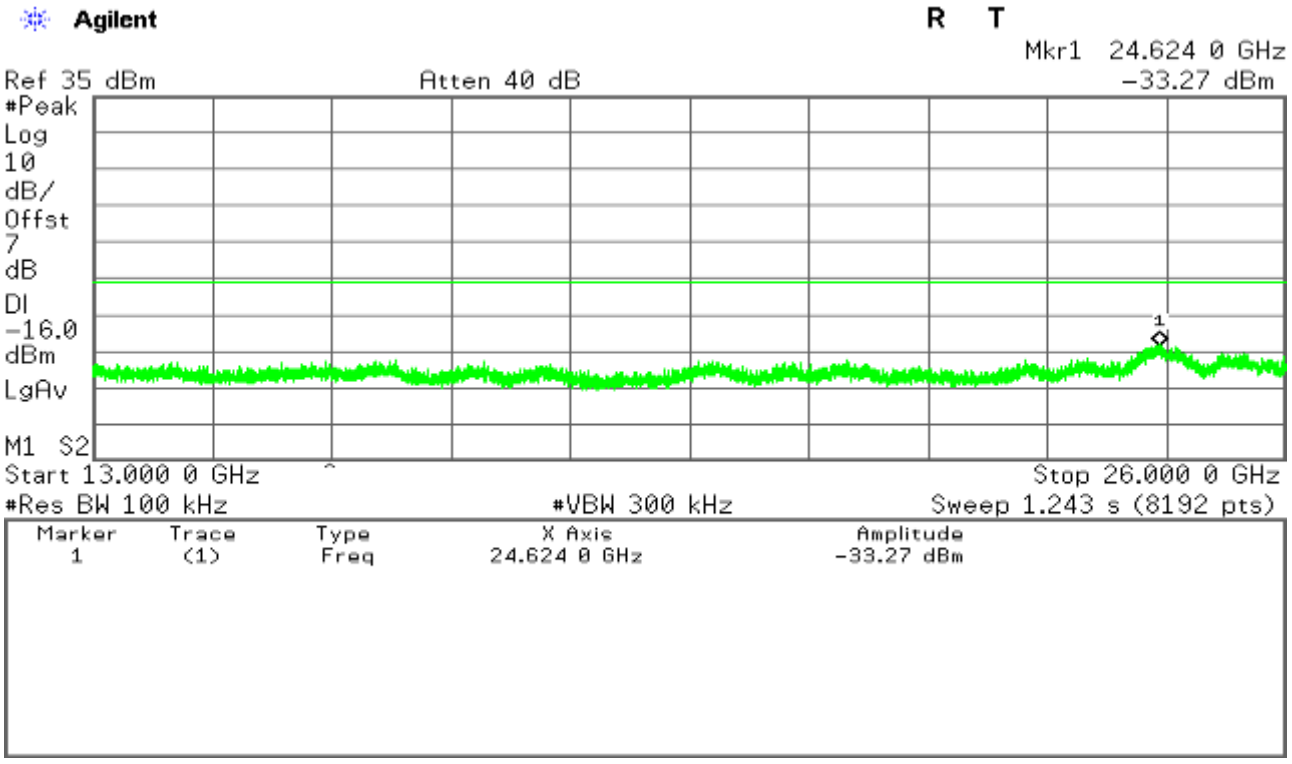
draft 802.11n Standard-20 MHz Channel mode / Chain 0

CH Low

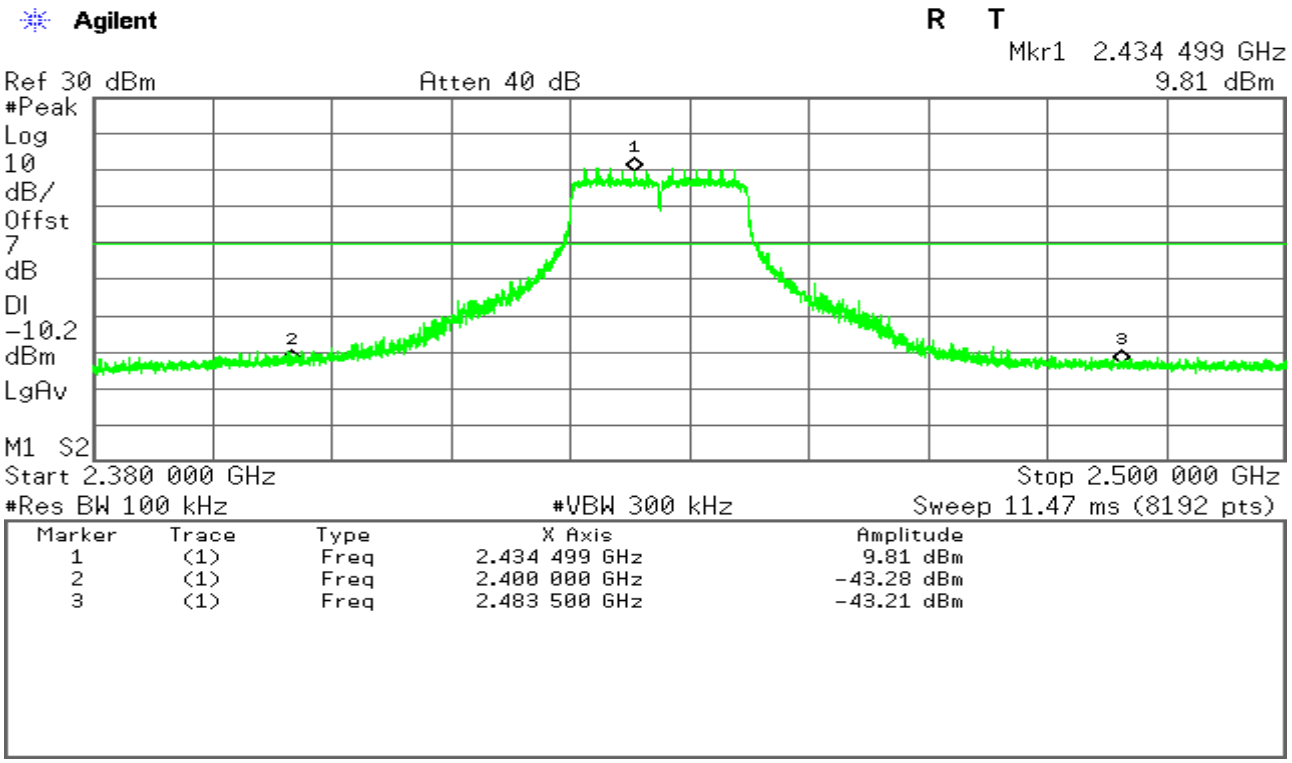


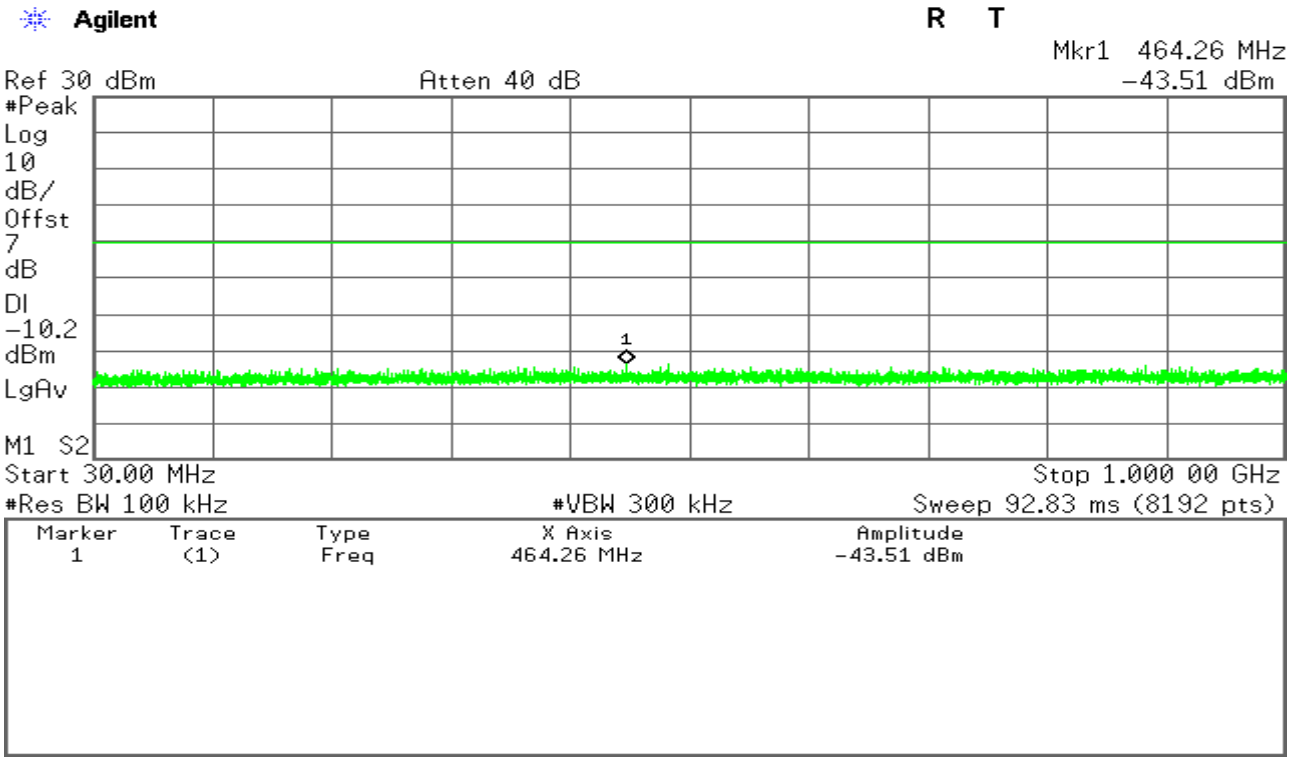


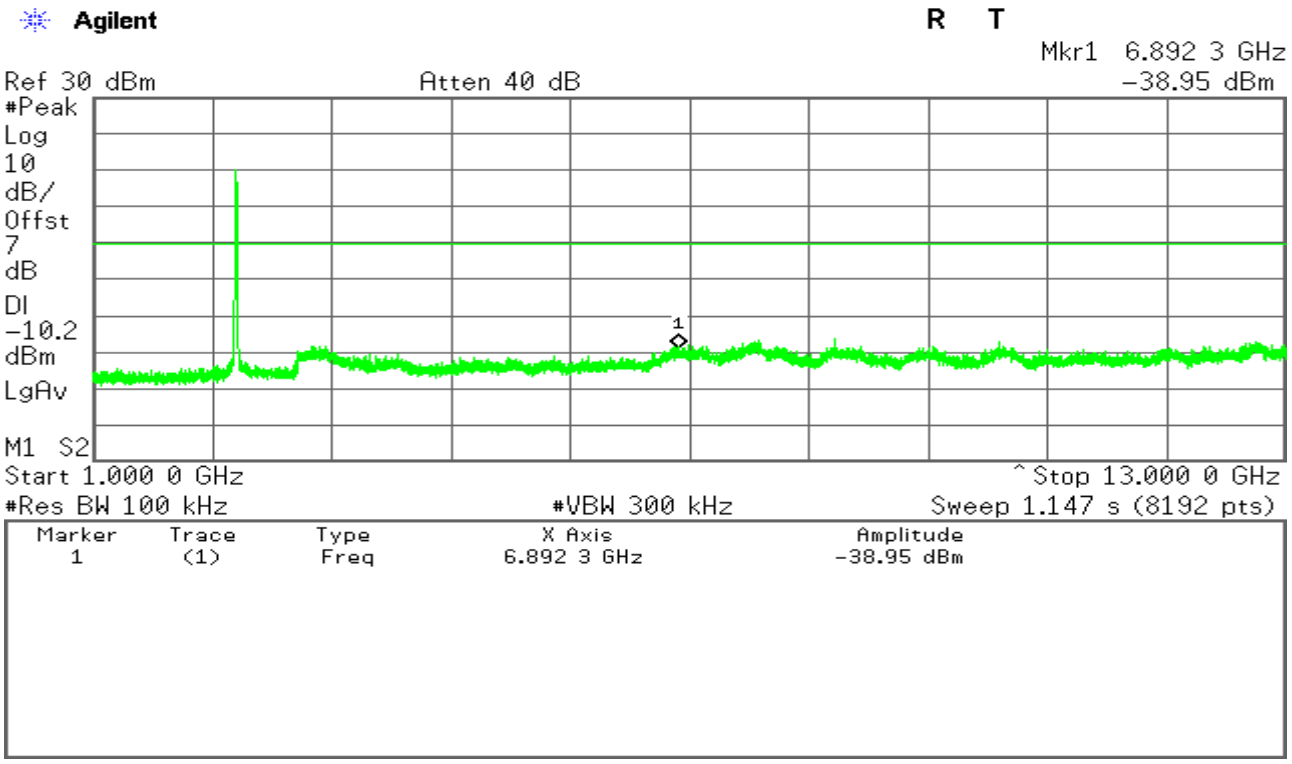


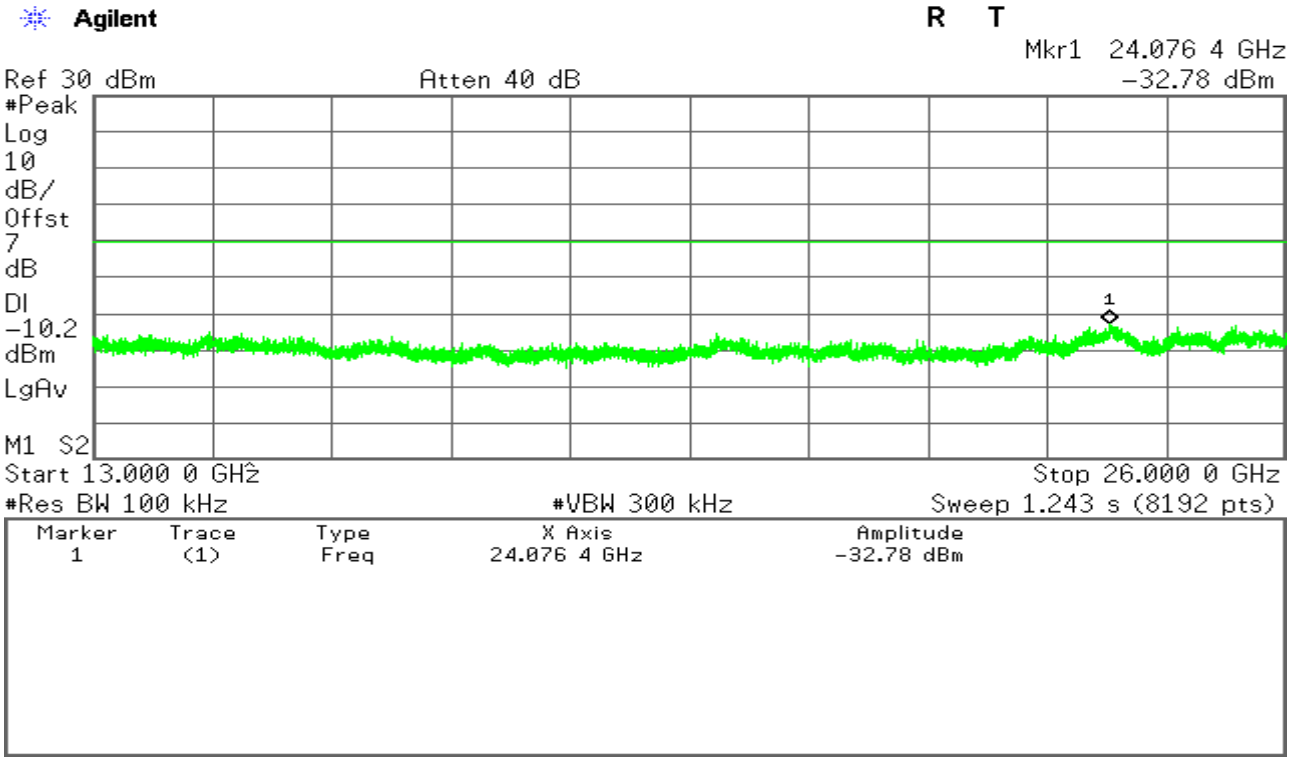


CH Mid

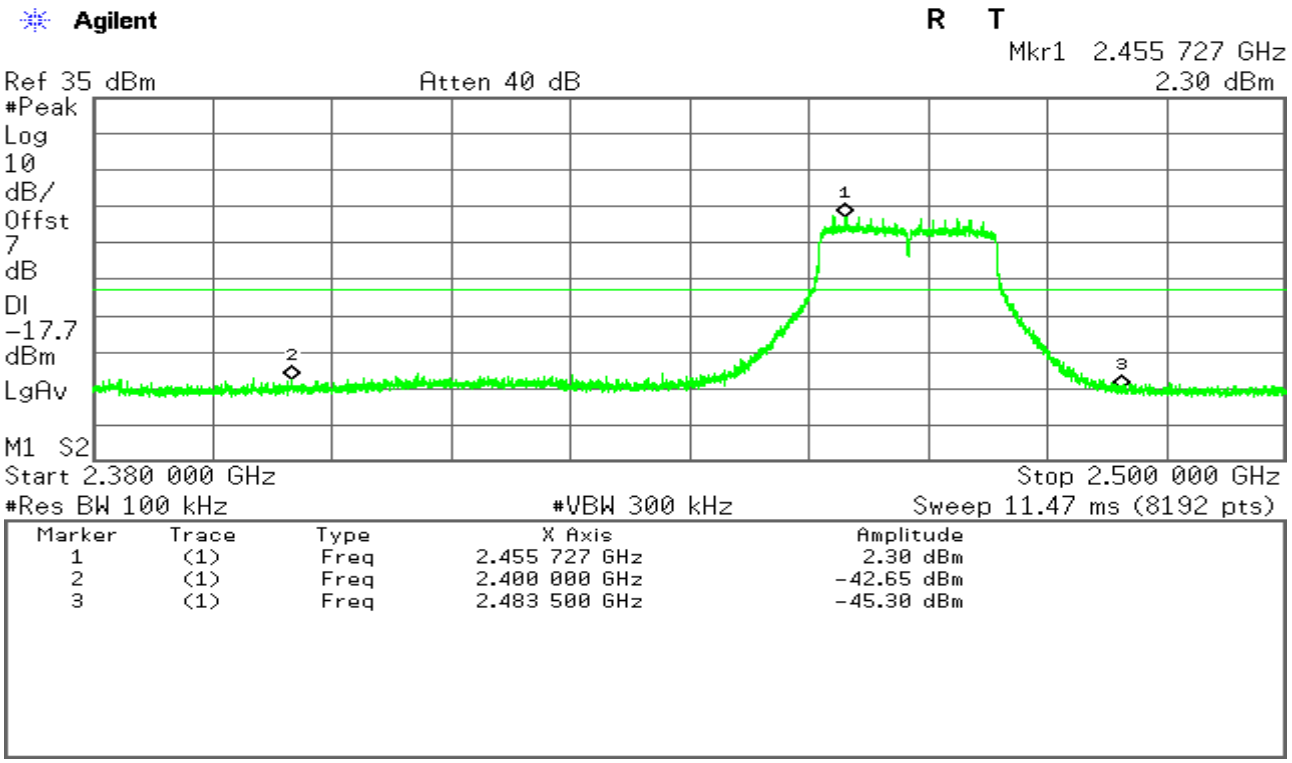


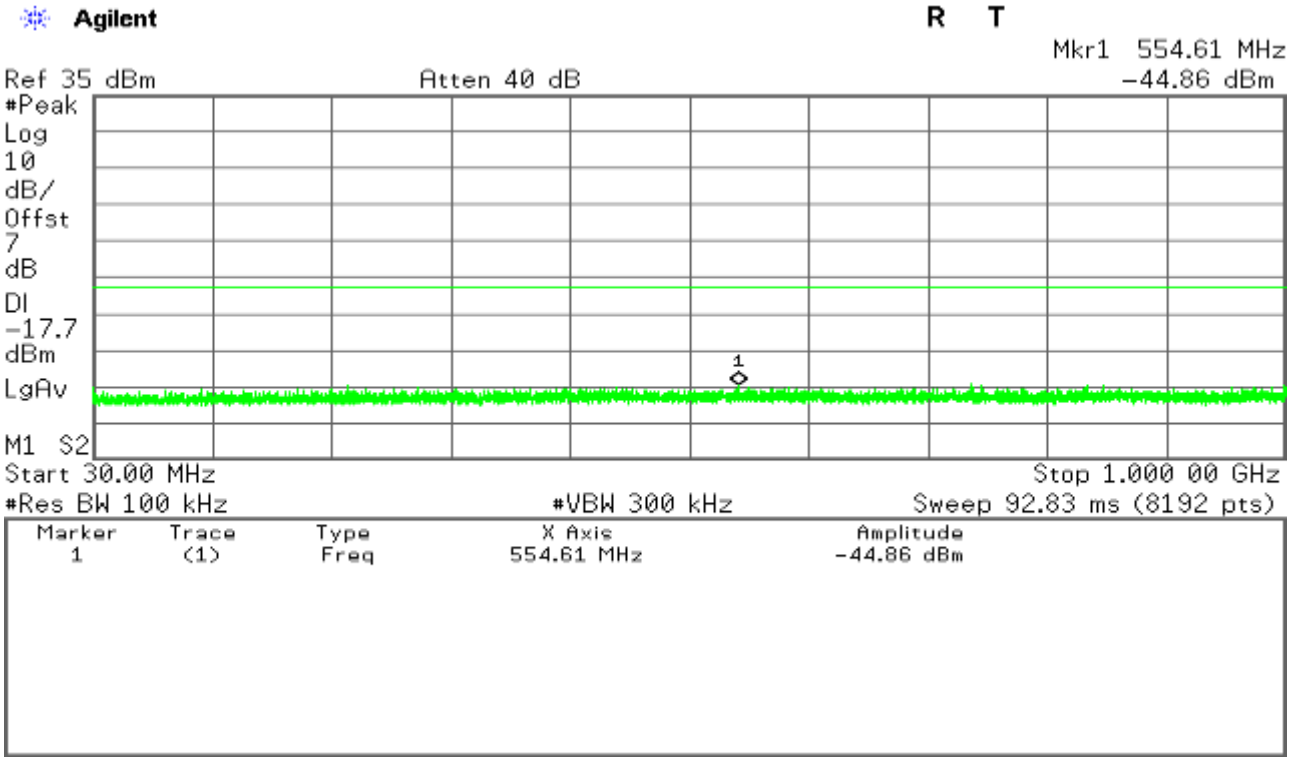


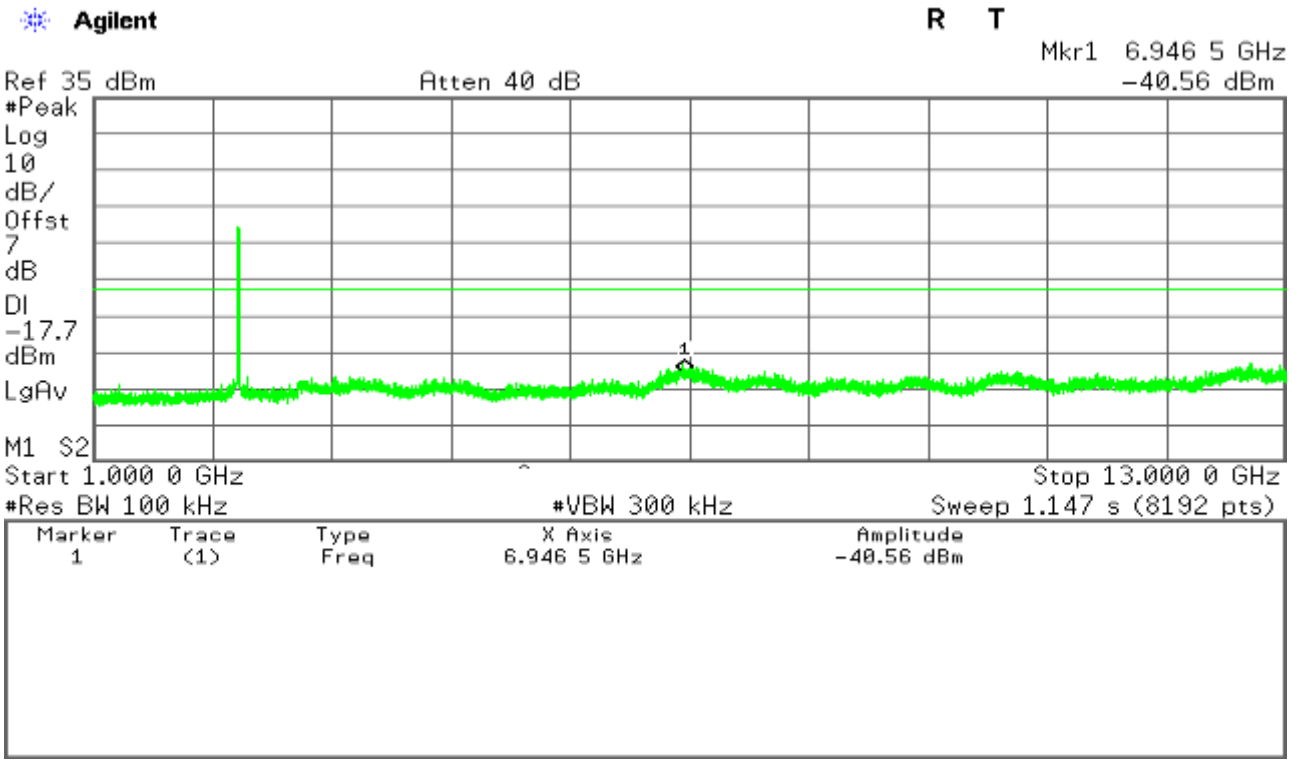


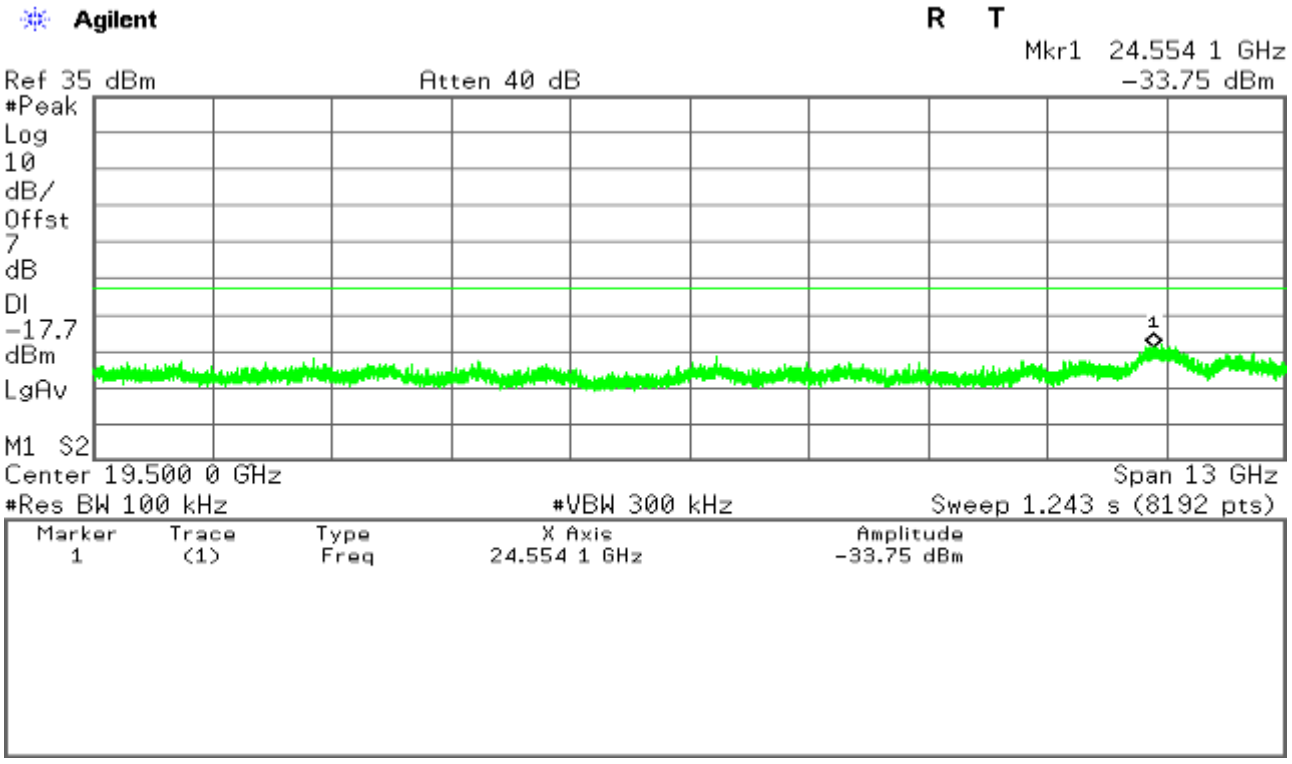


CH High



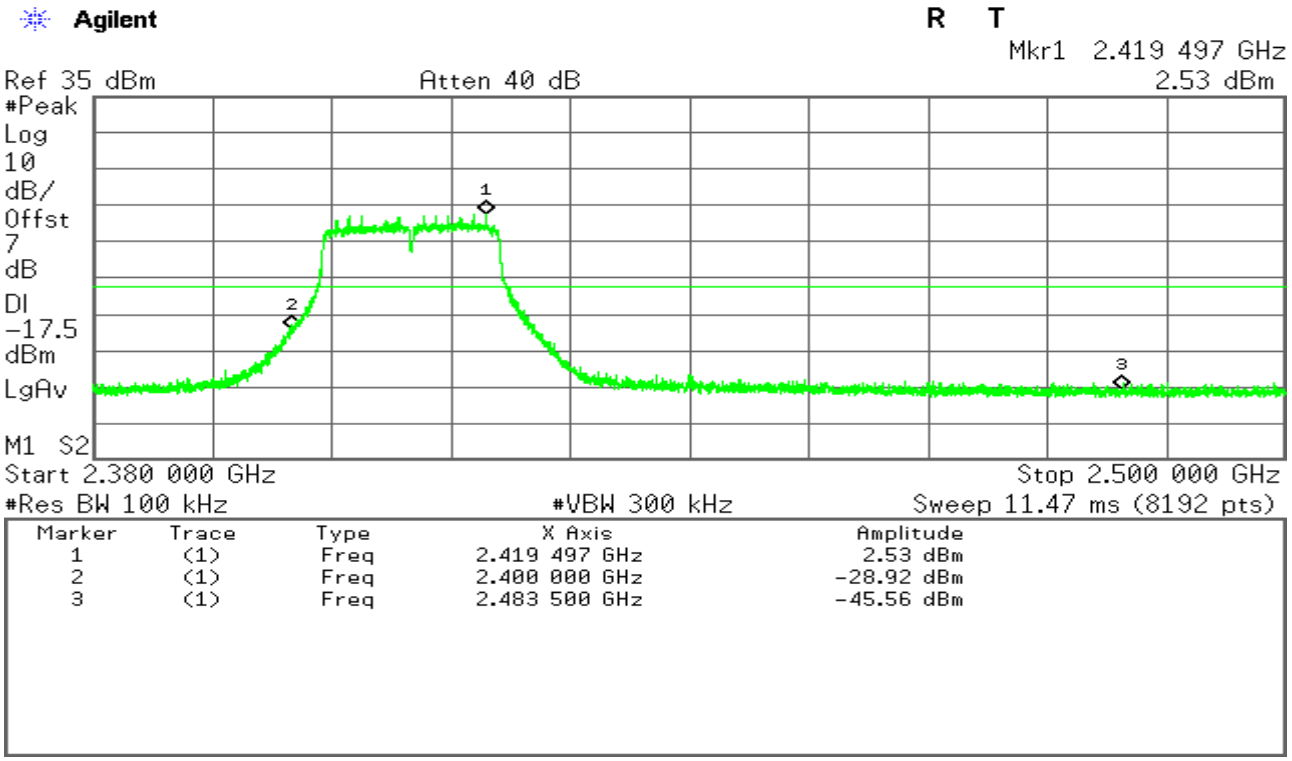


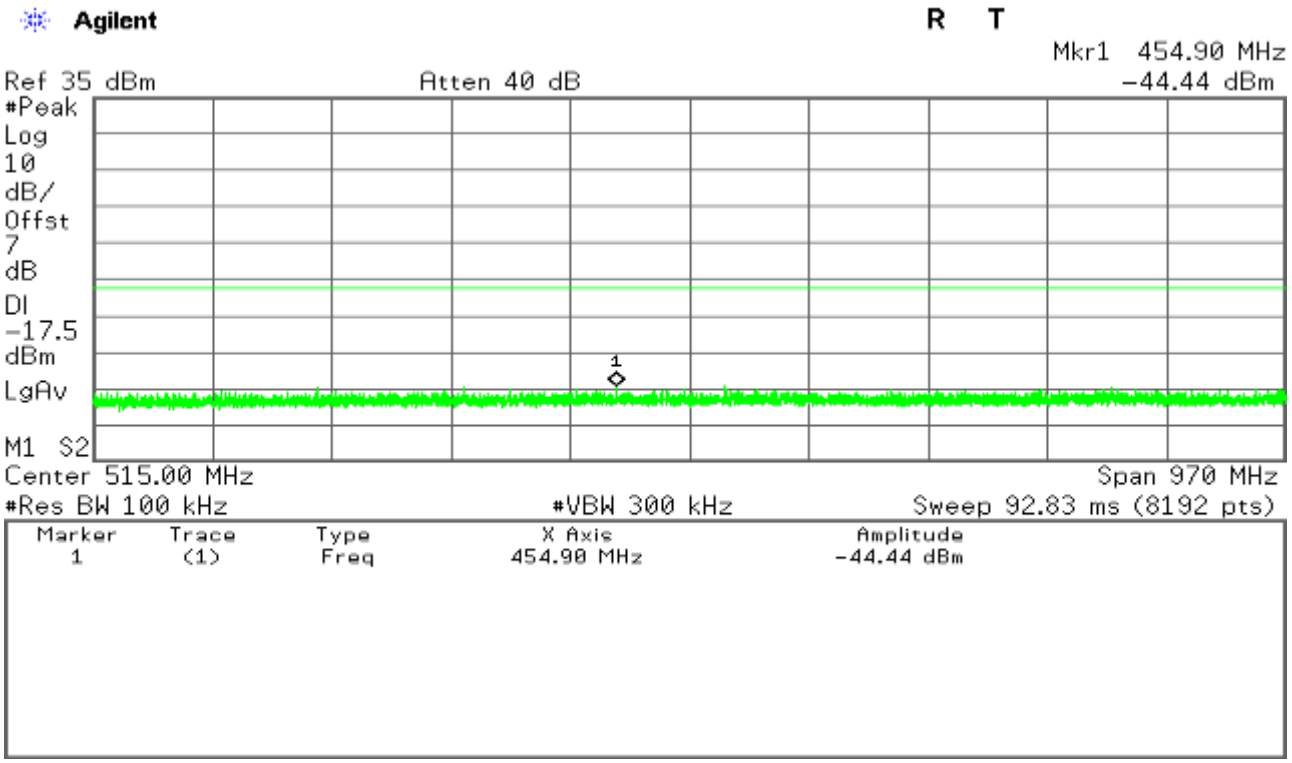


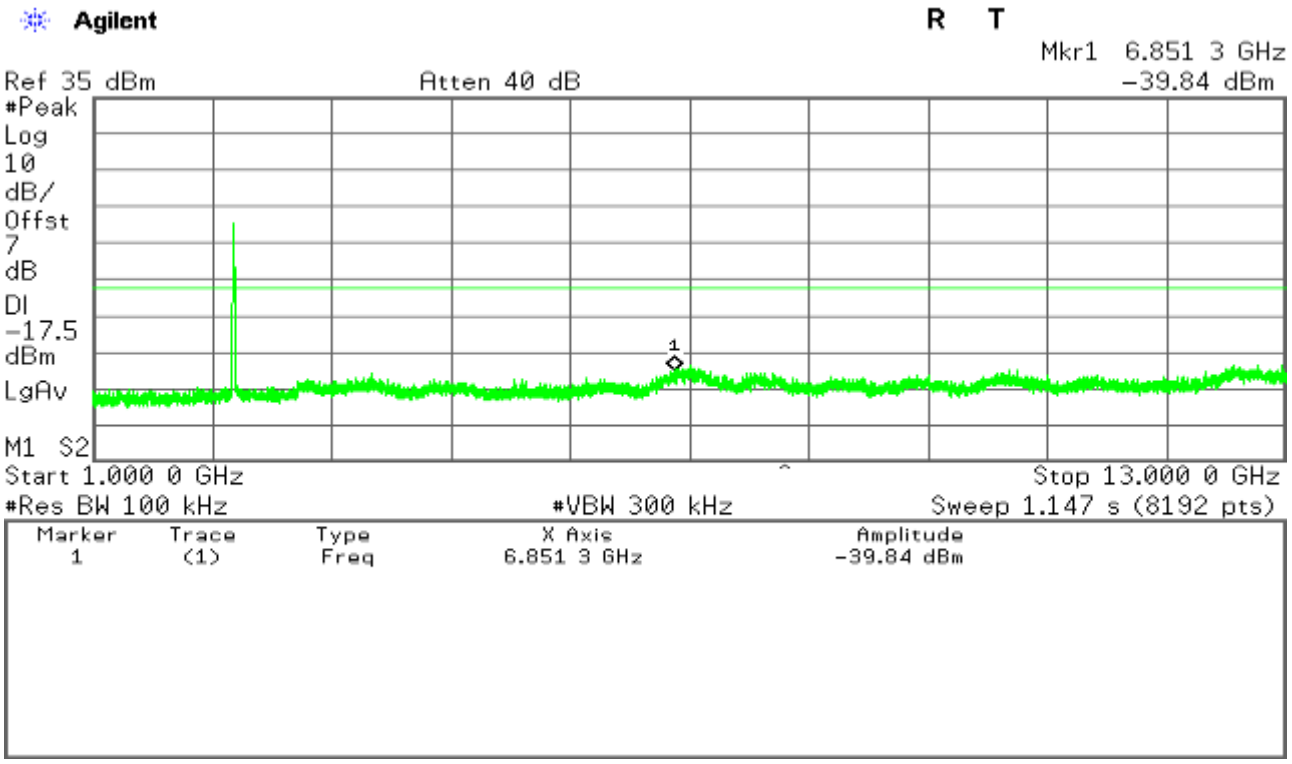


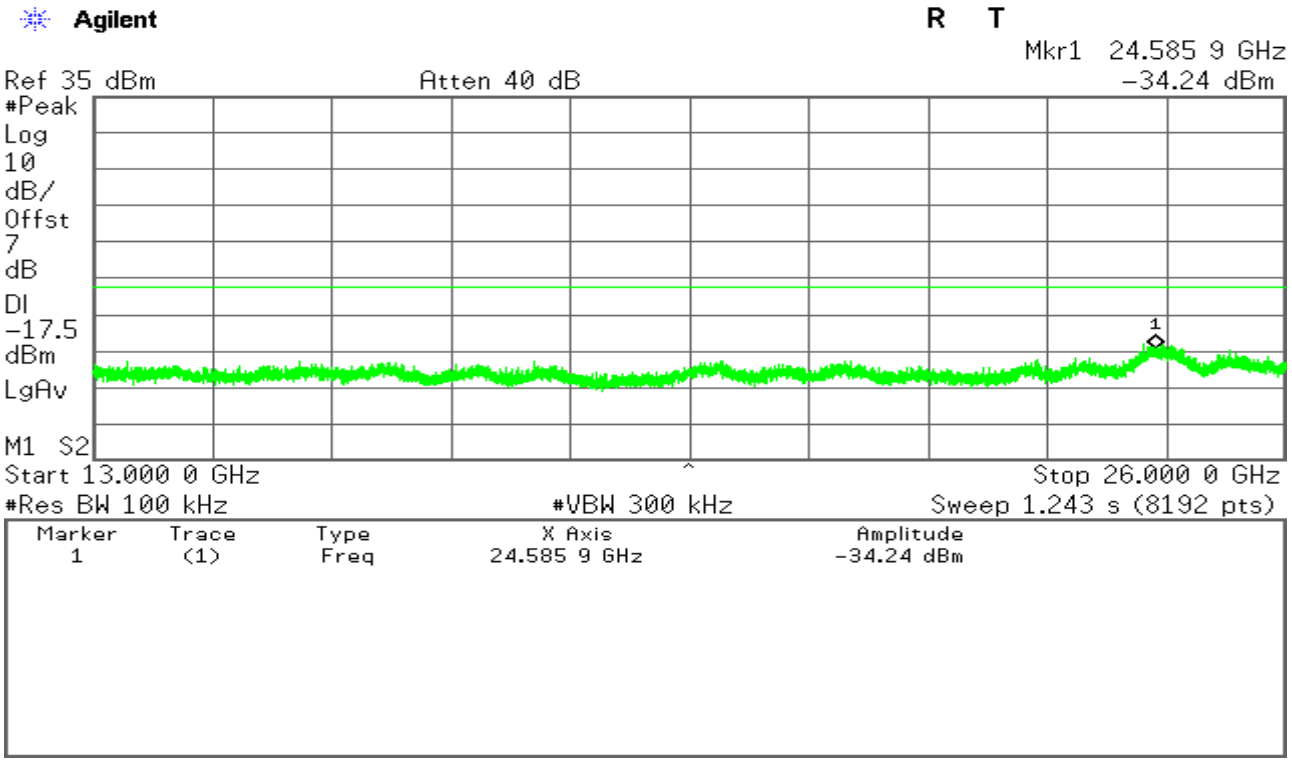
draft 802.11n Standard-20 MHz Channel mode / Chain 1

CH Low

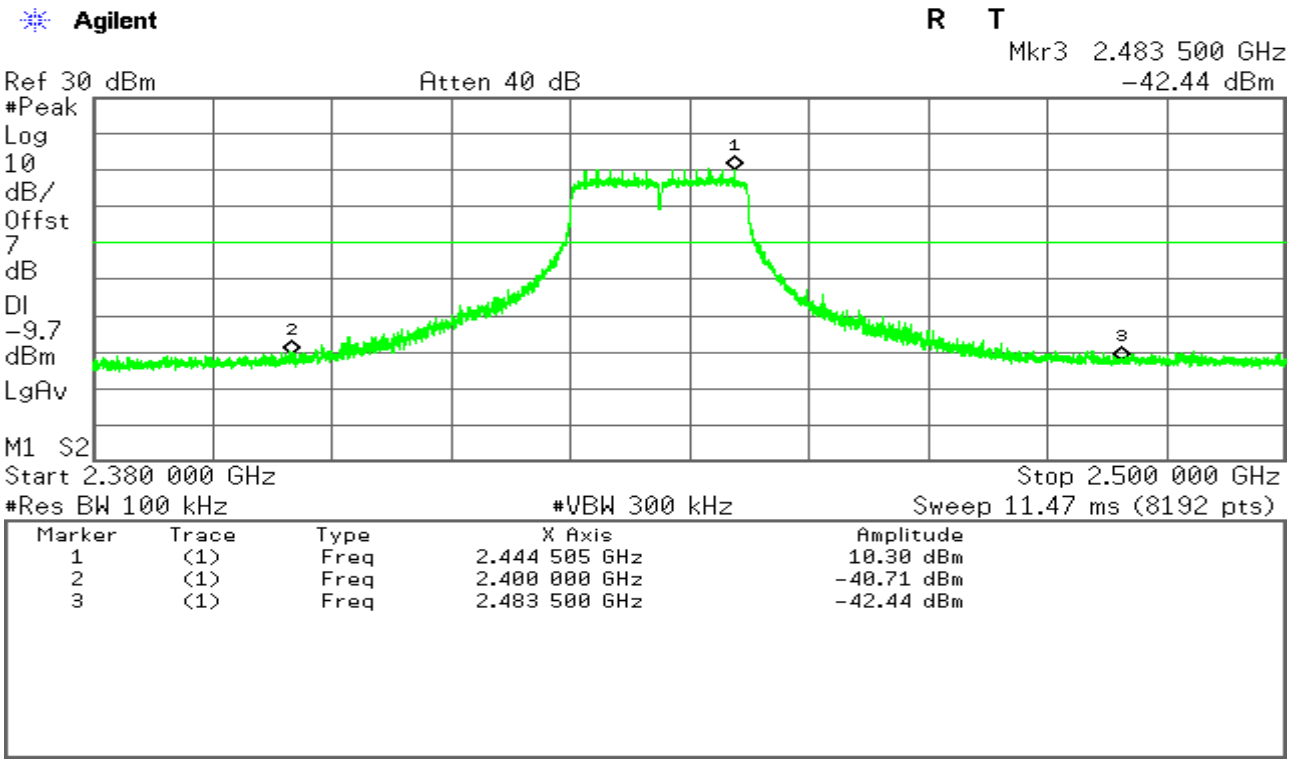


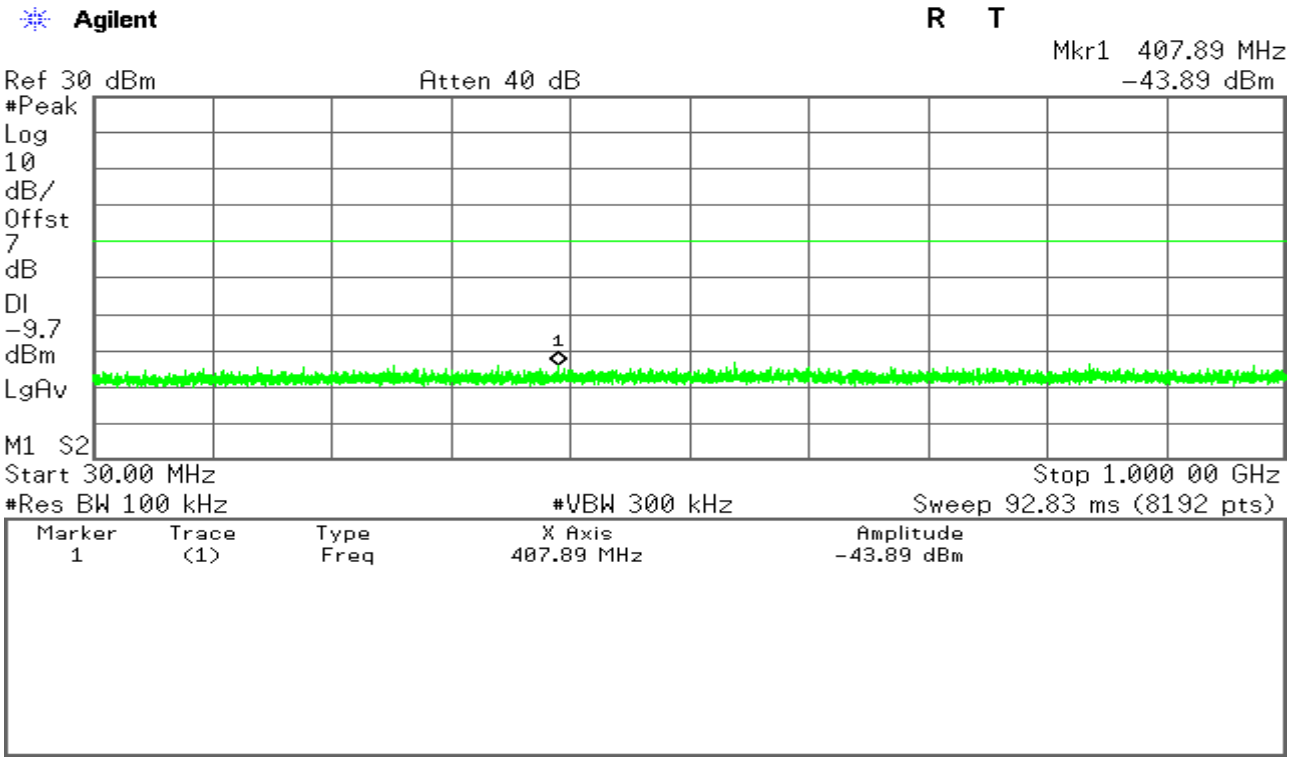


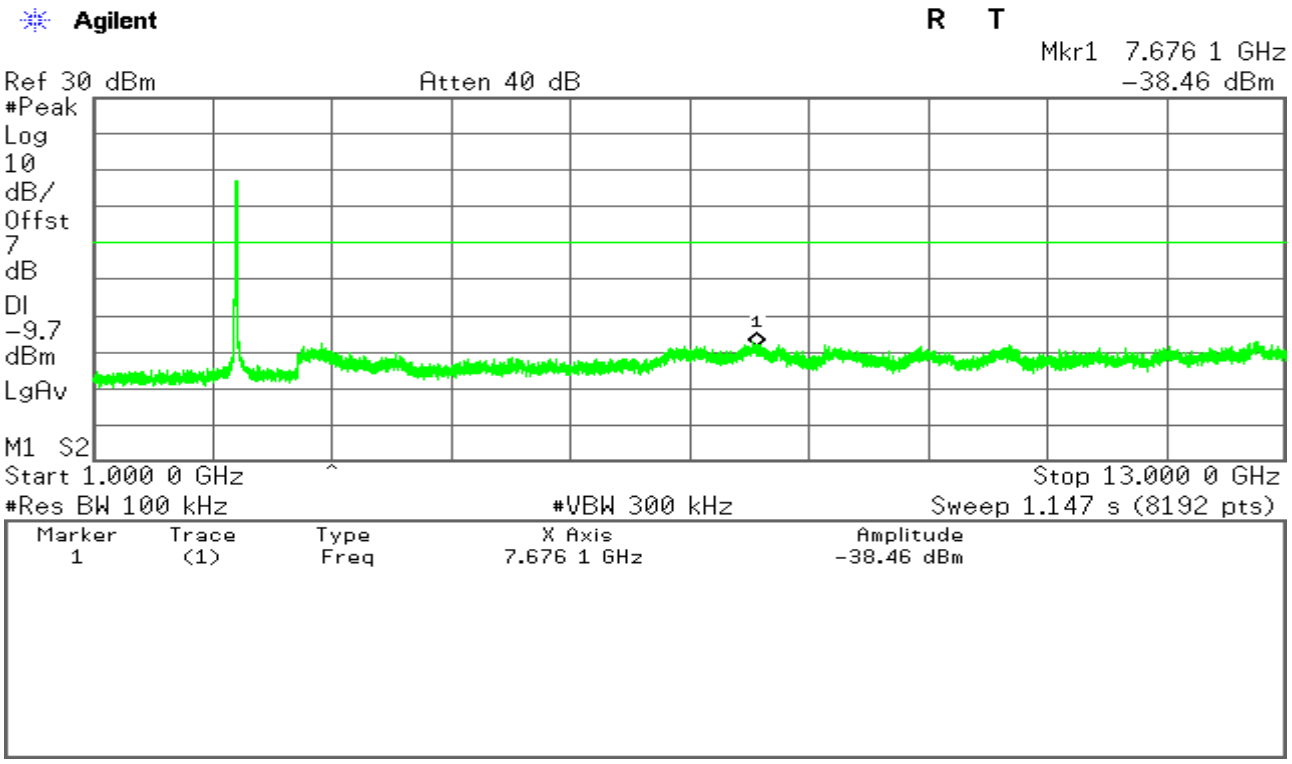


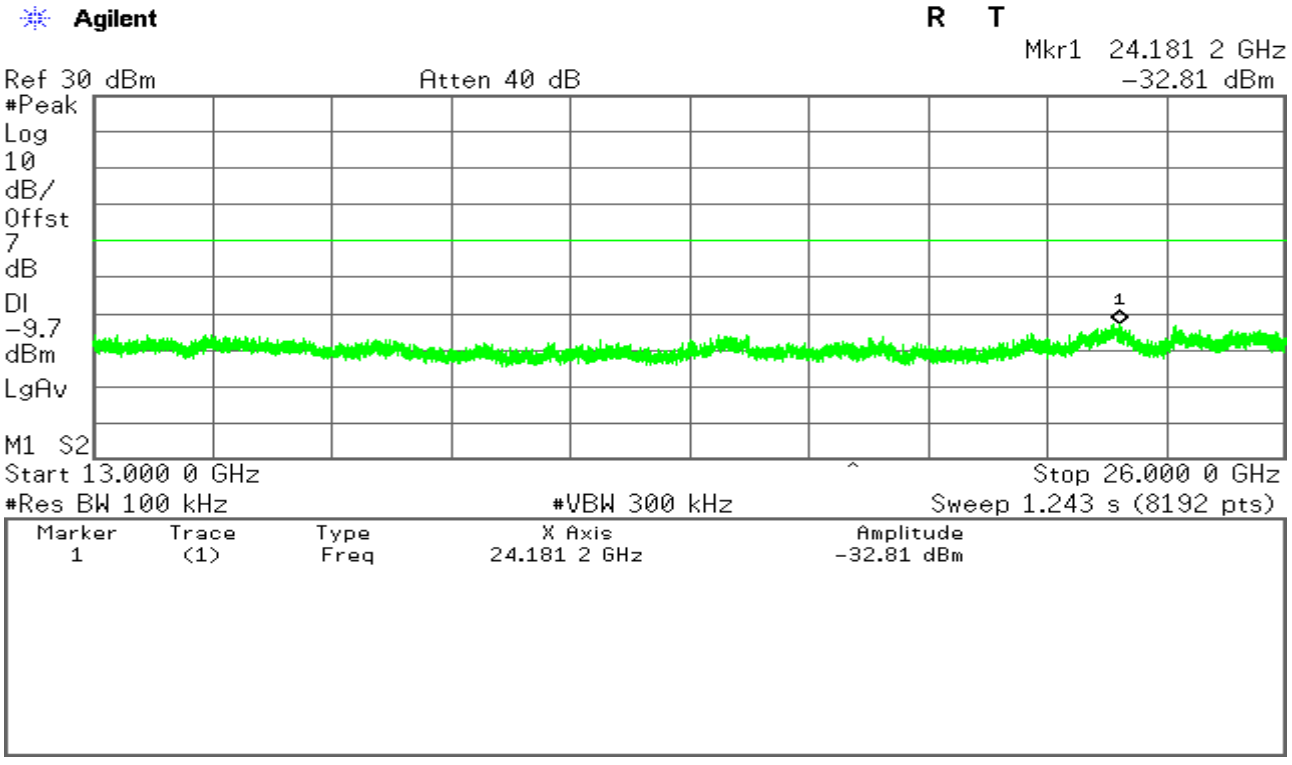


CH Mid

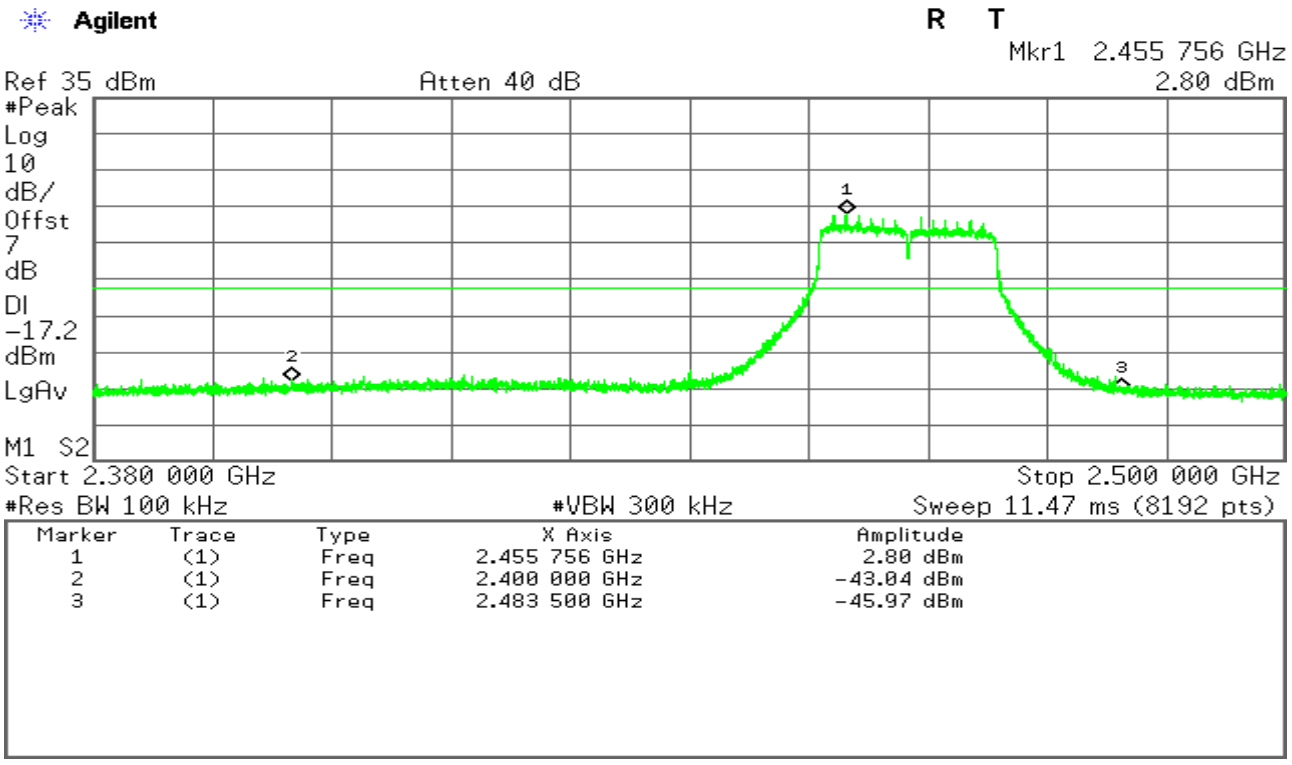


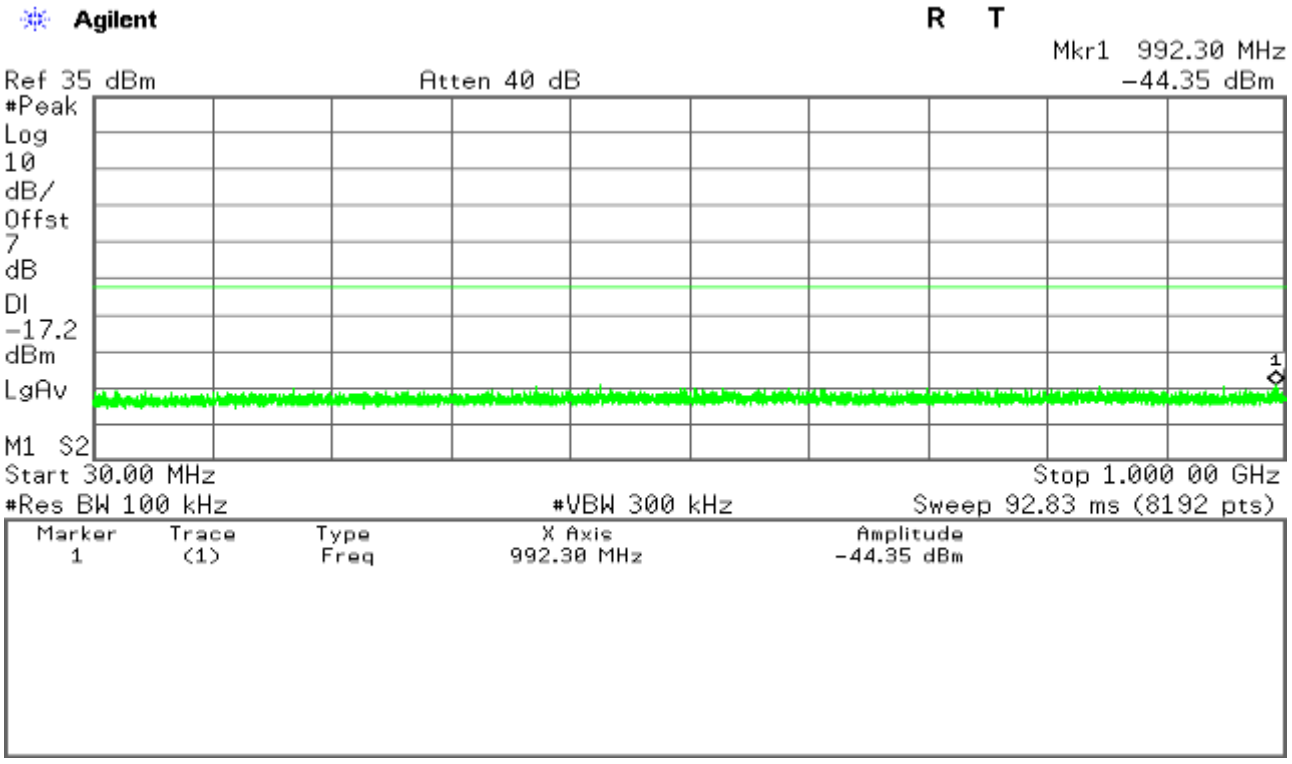


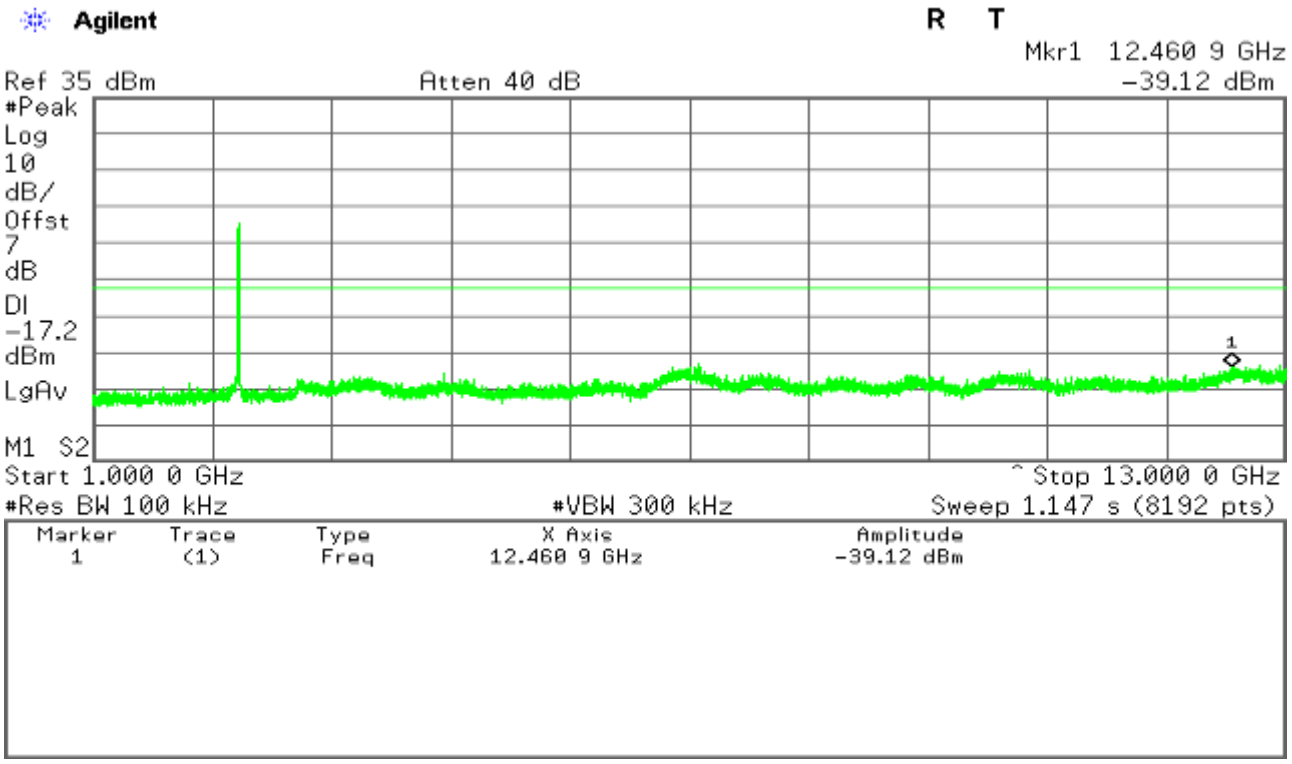


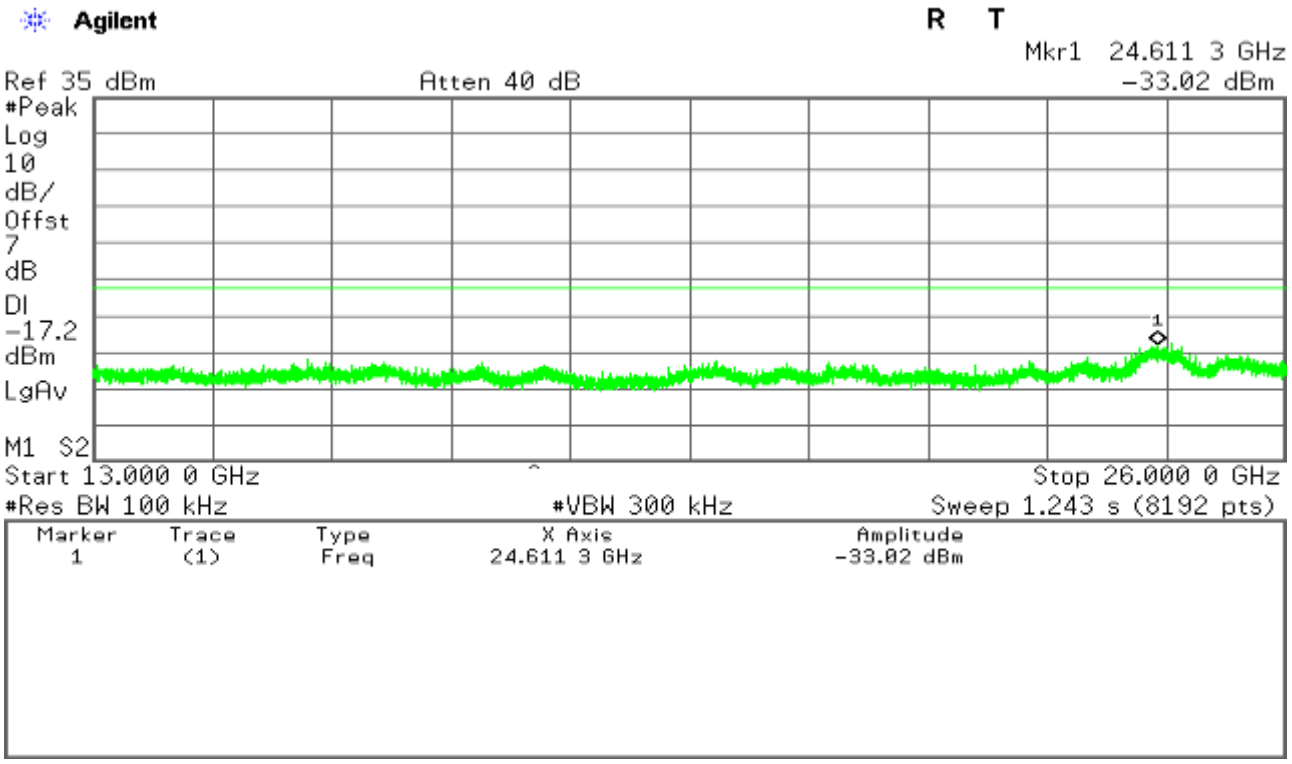


CH High



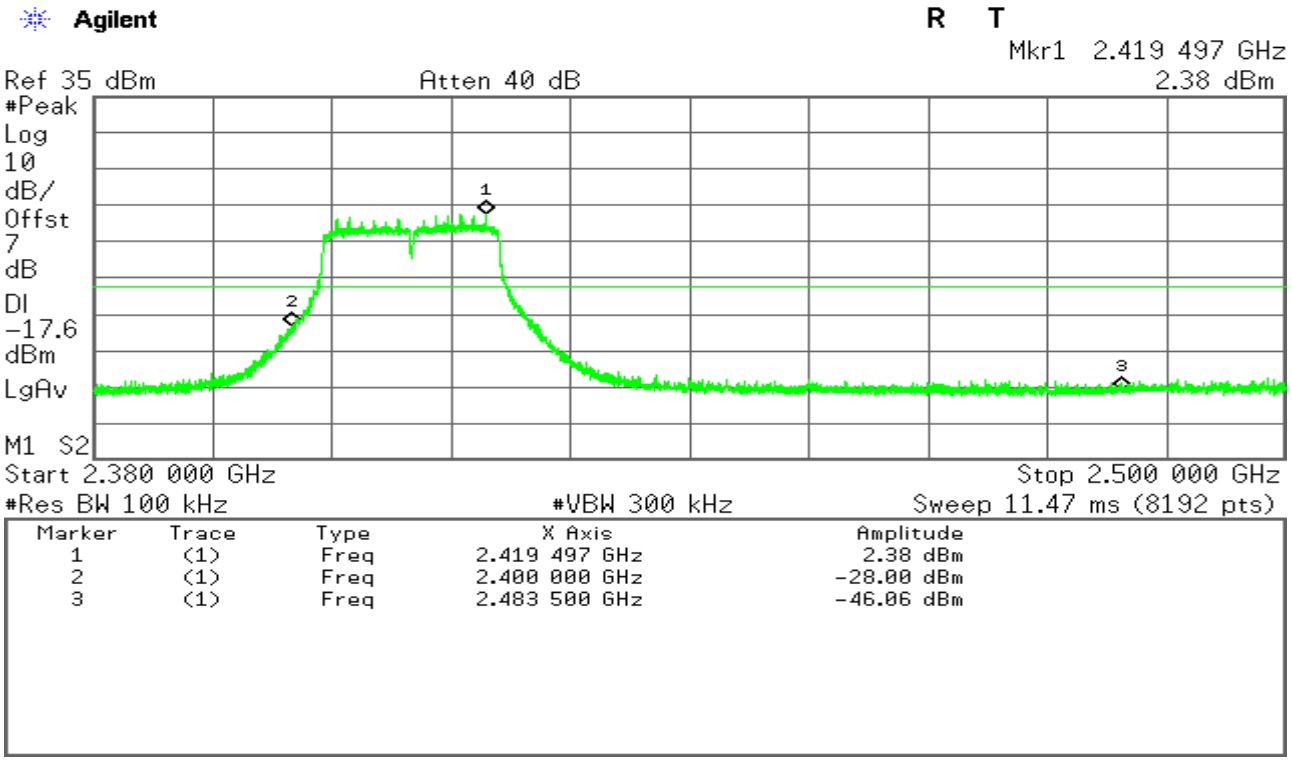


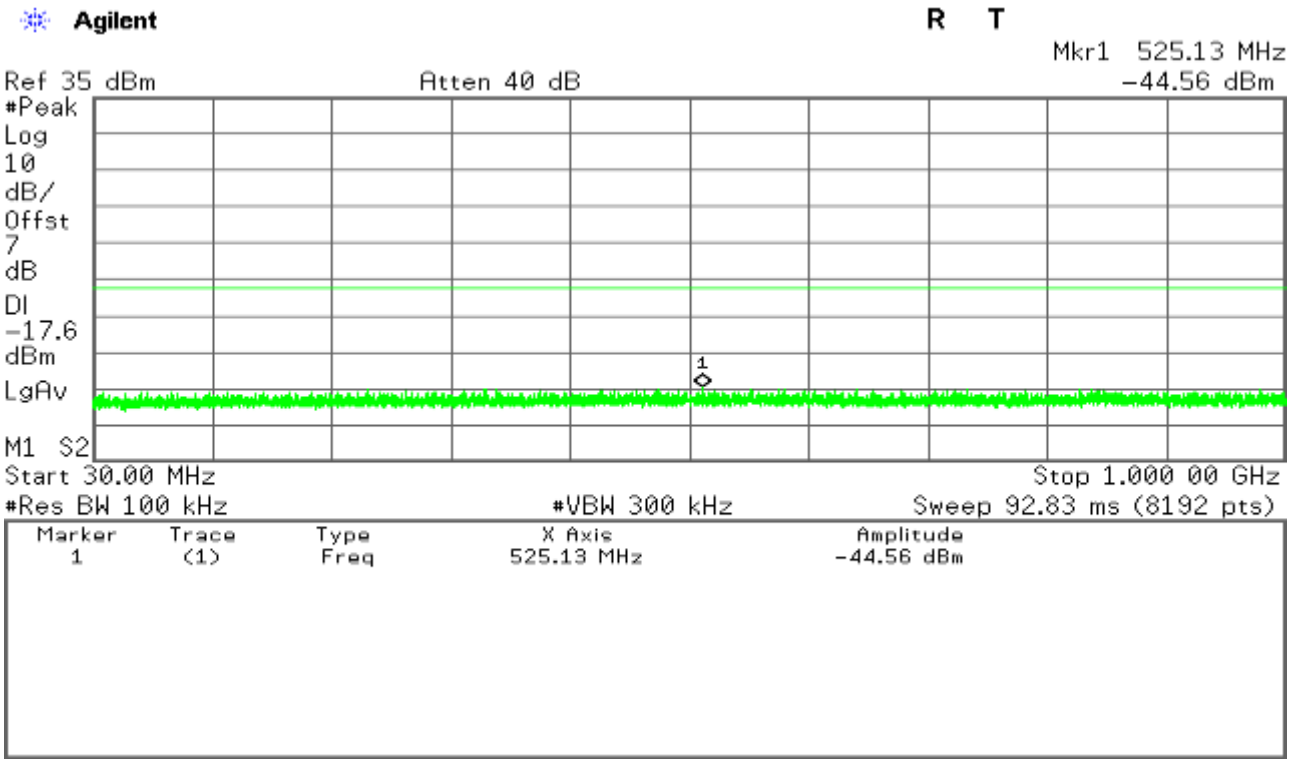


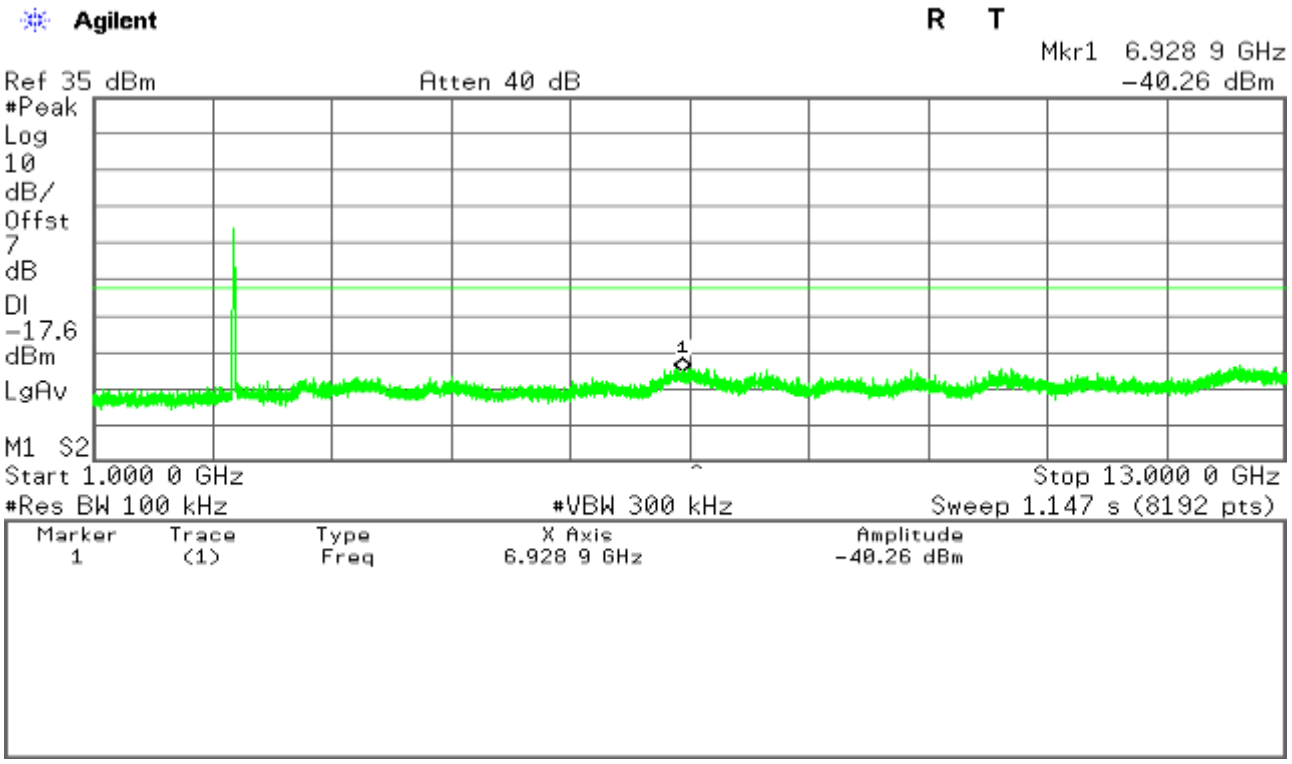


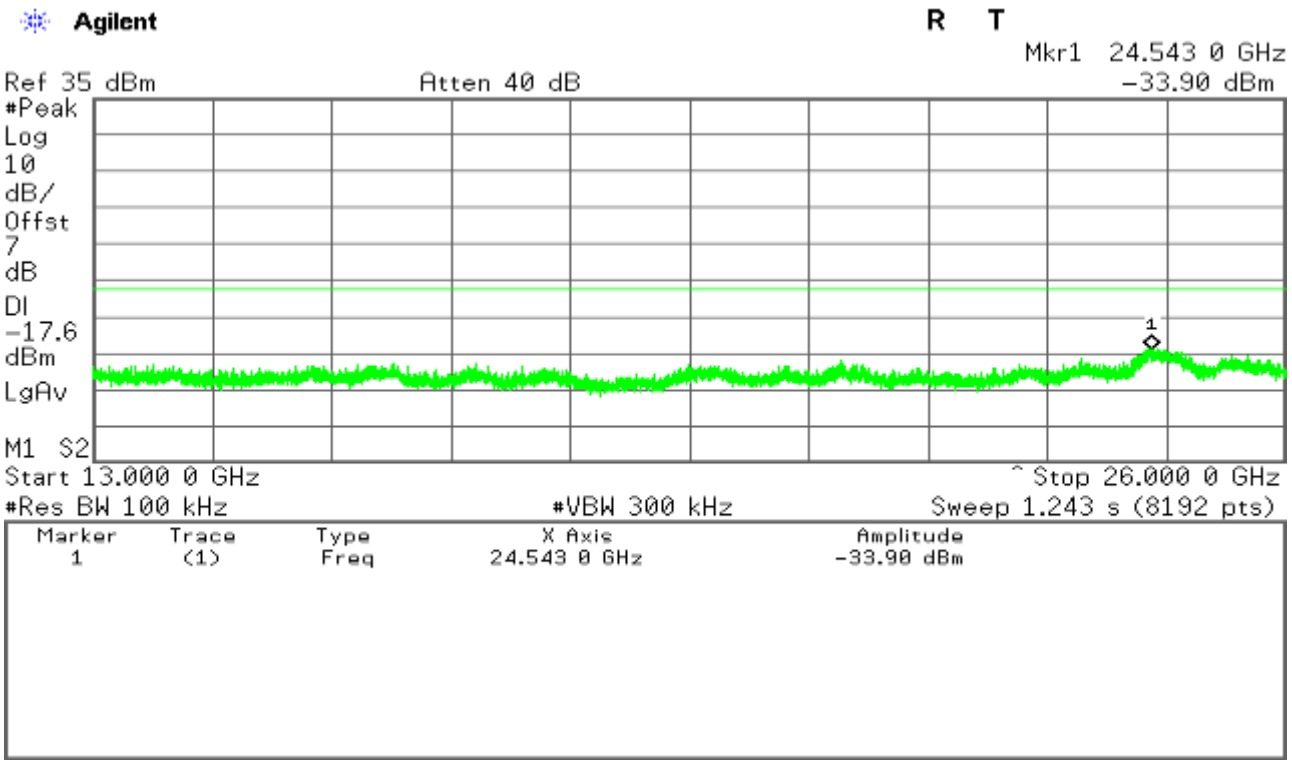
draft 802.11n Standard-20 MHz Channel mode / Chain 2

CH Low

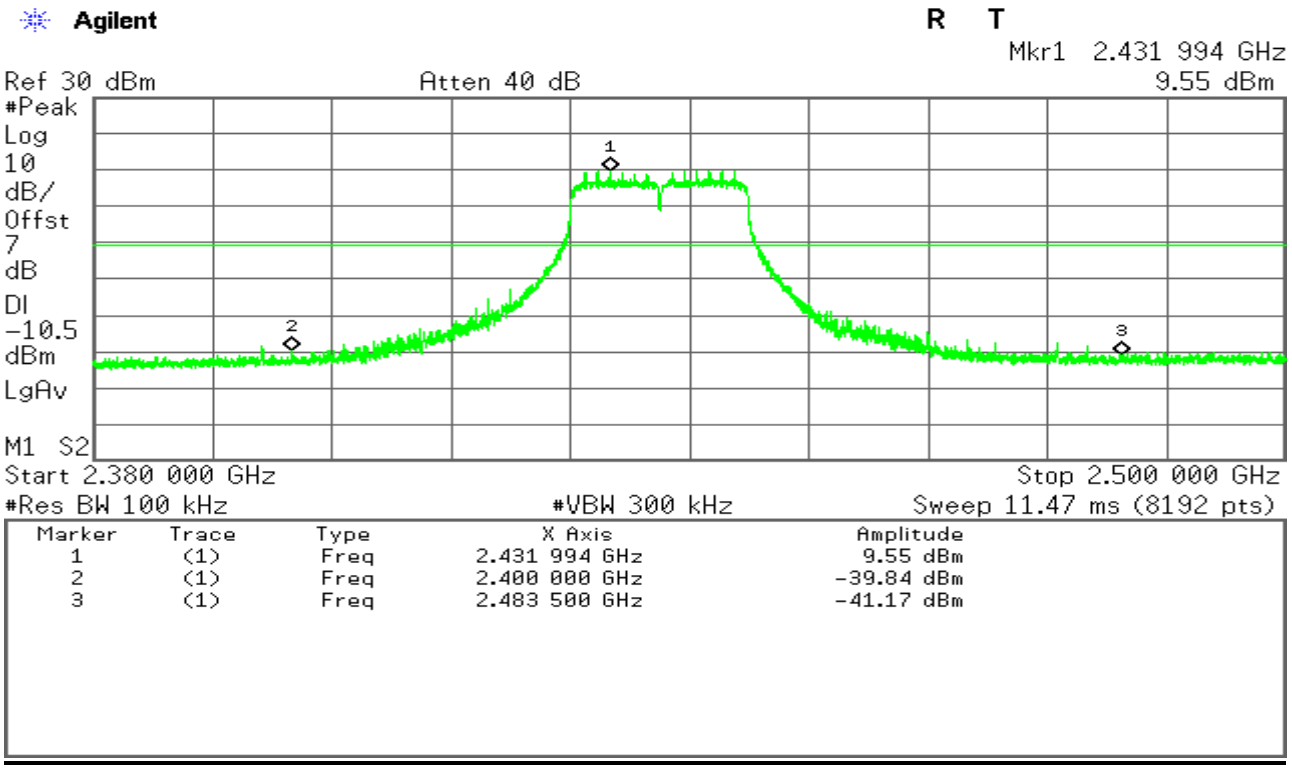


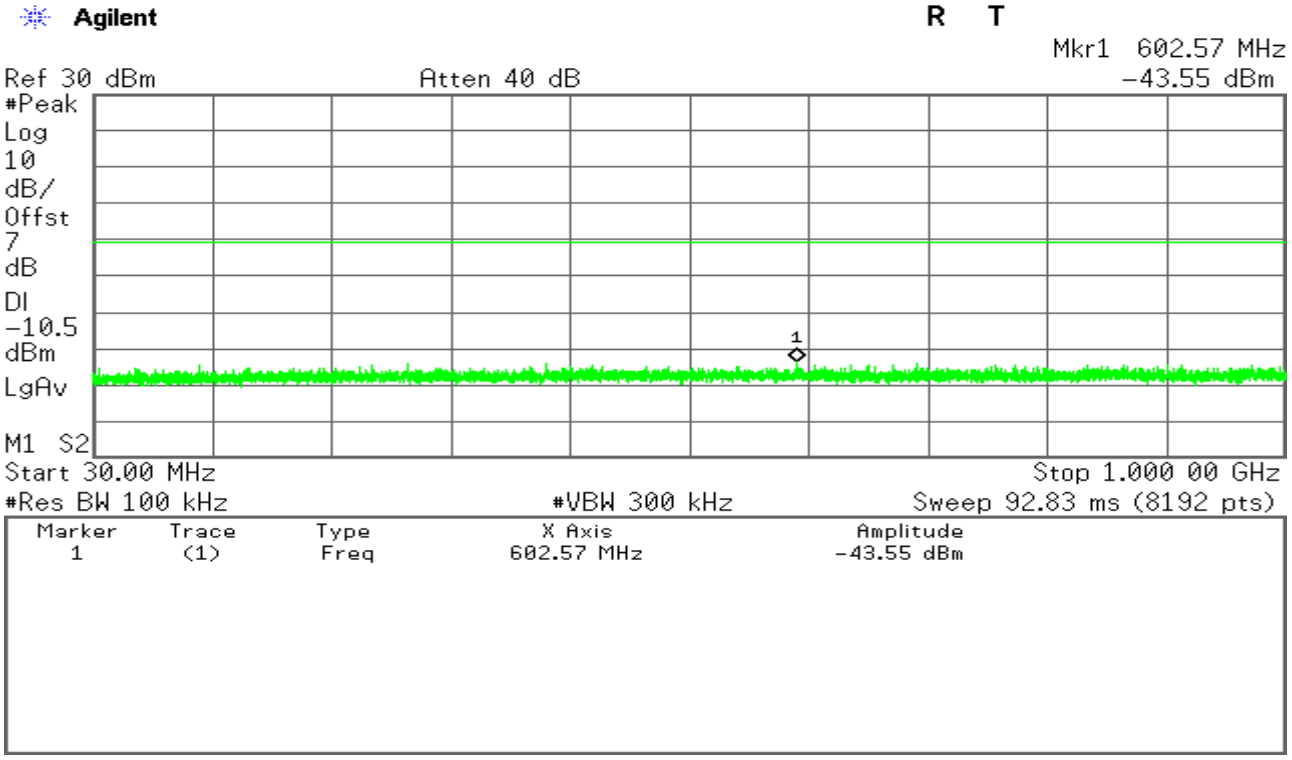


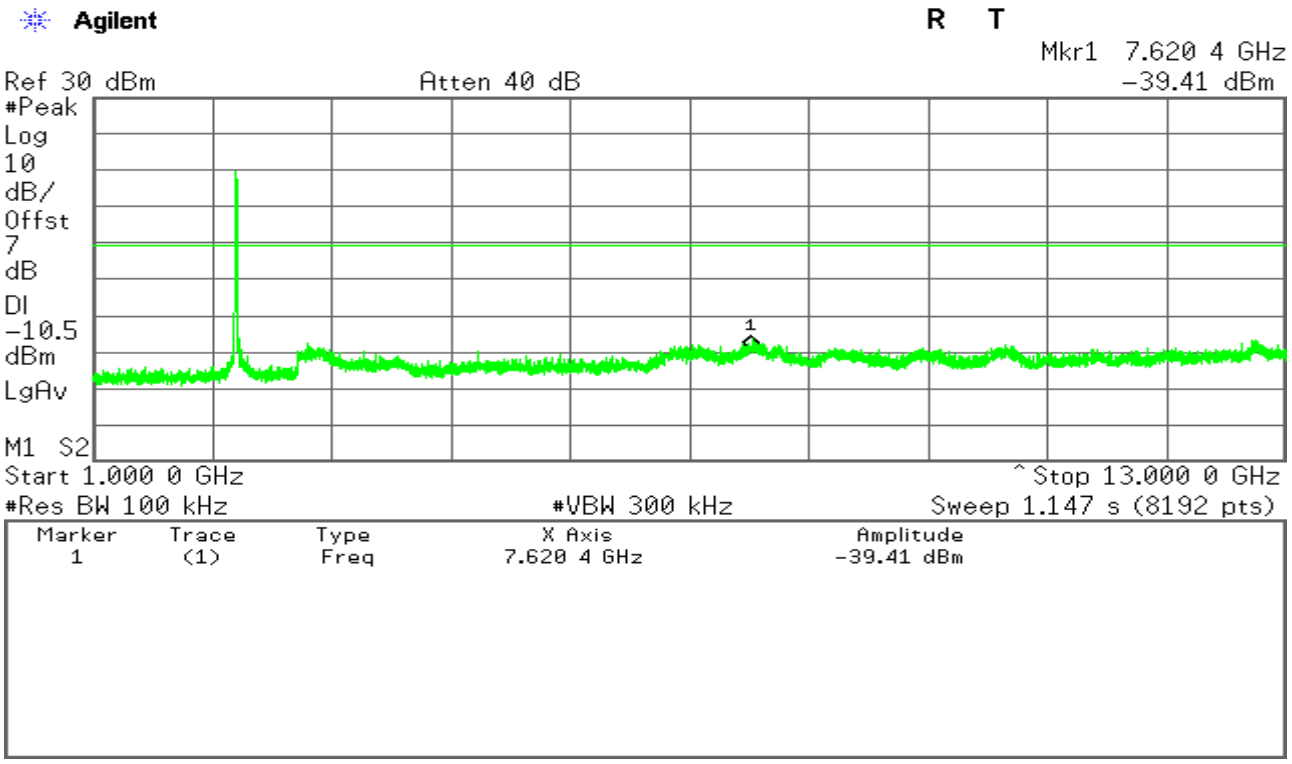


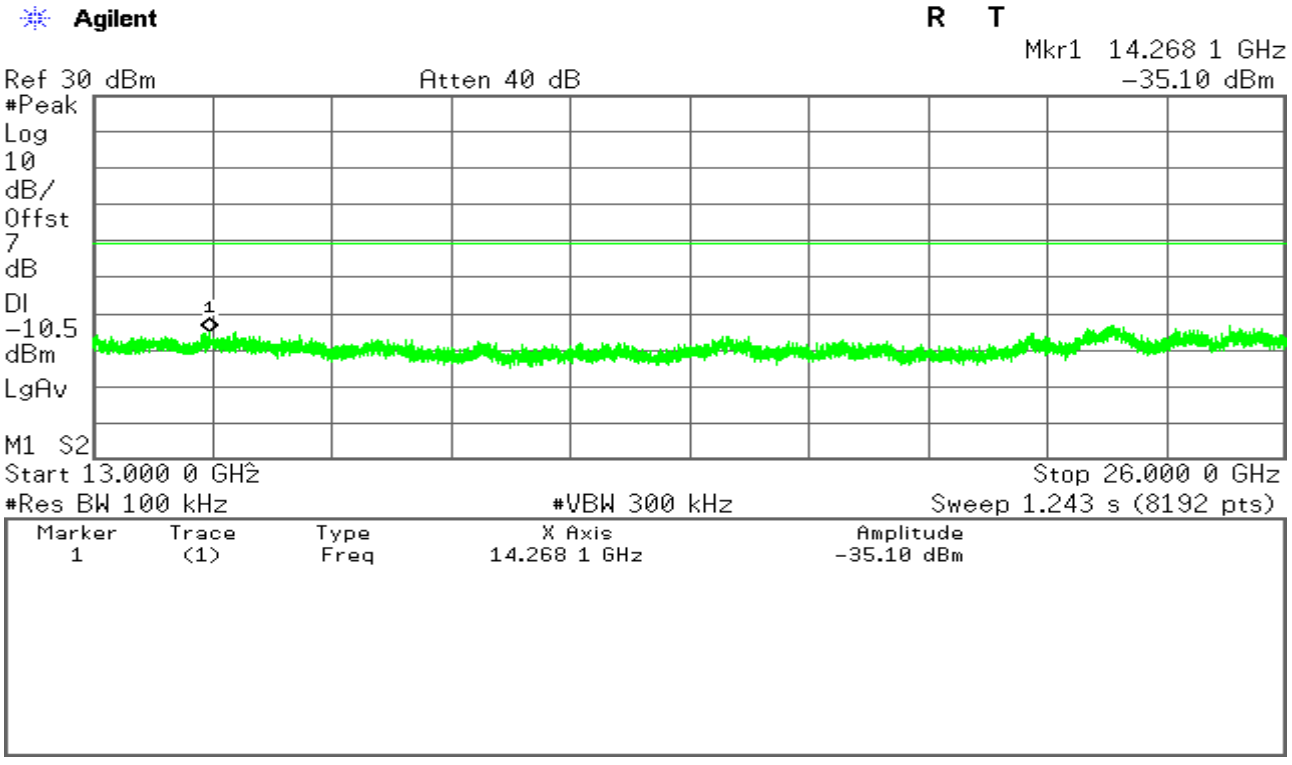


CH Mid

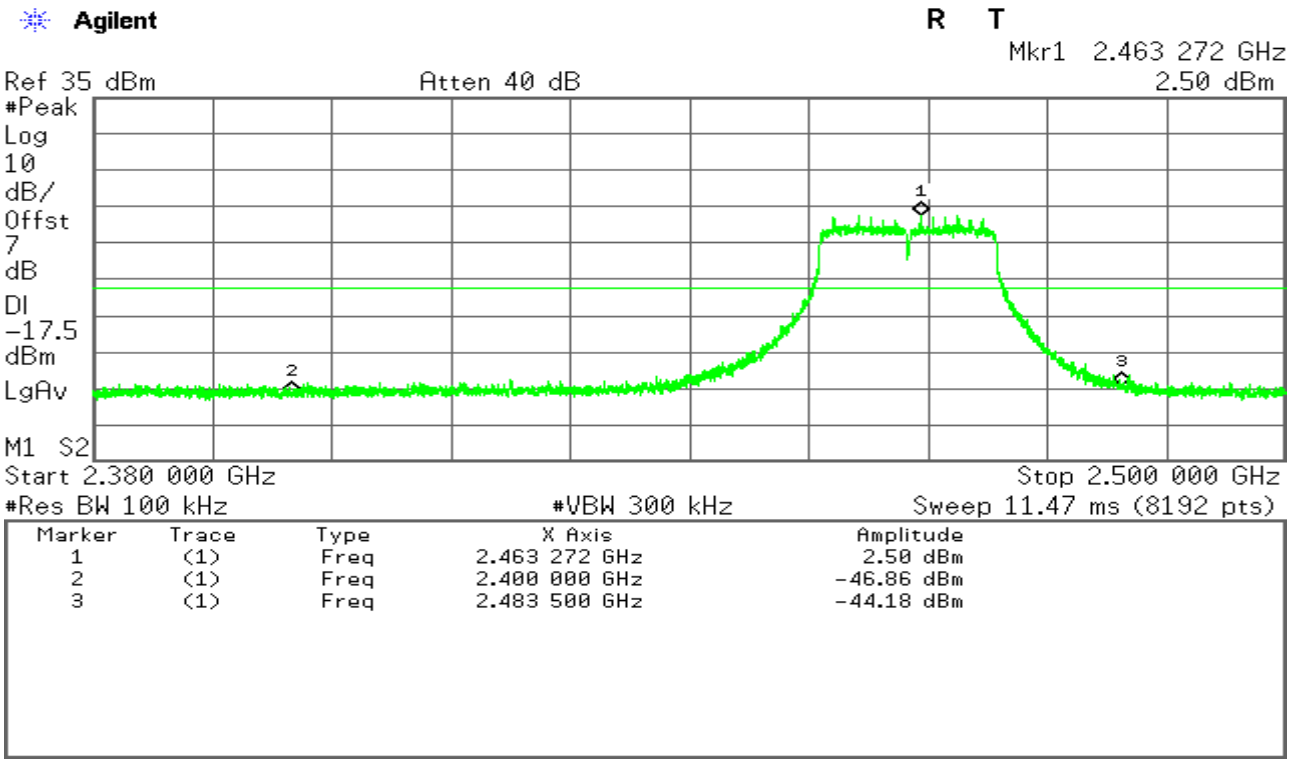


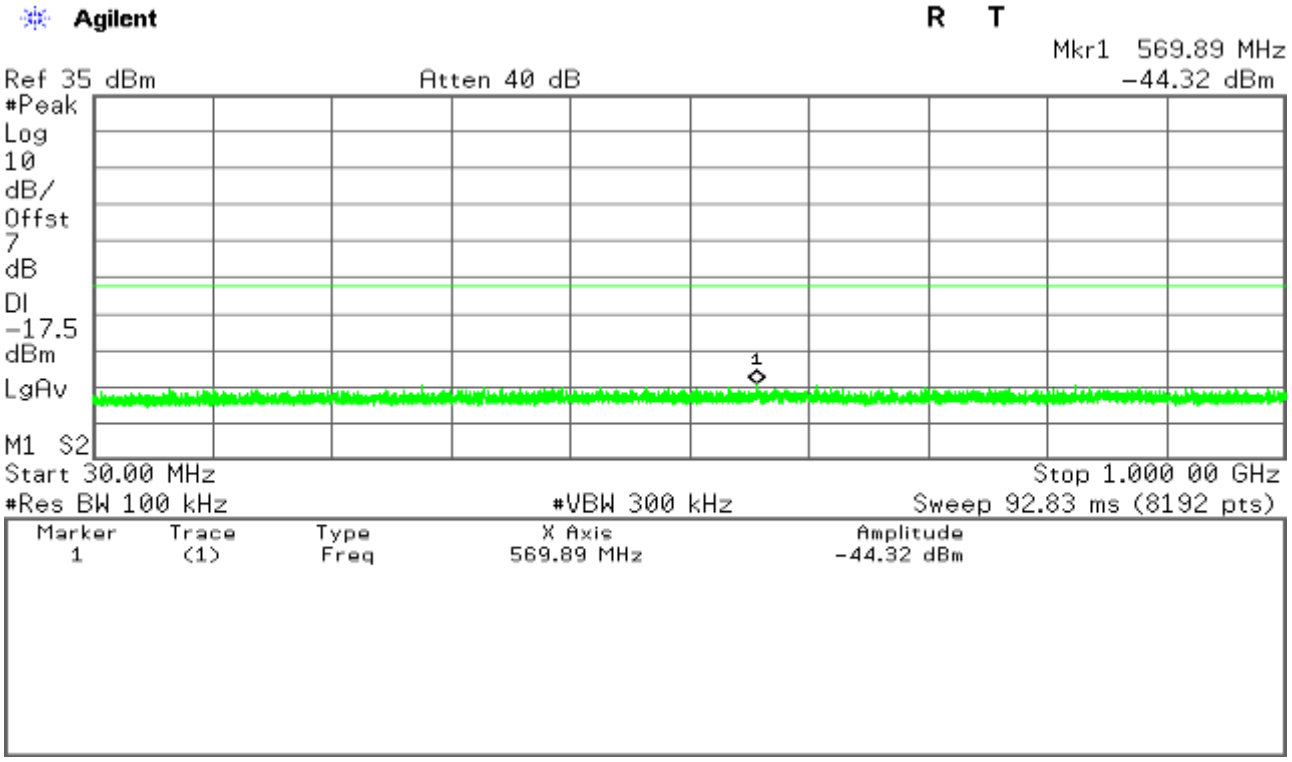


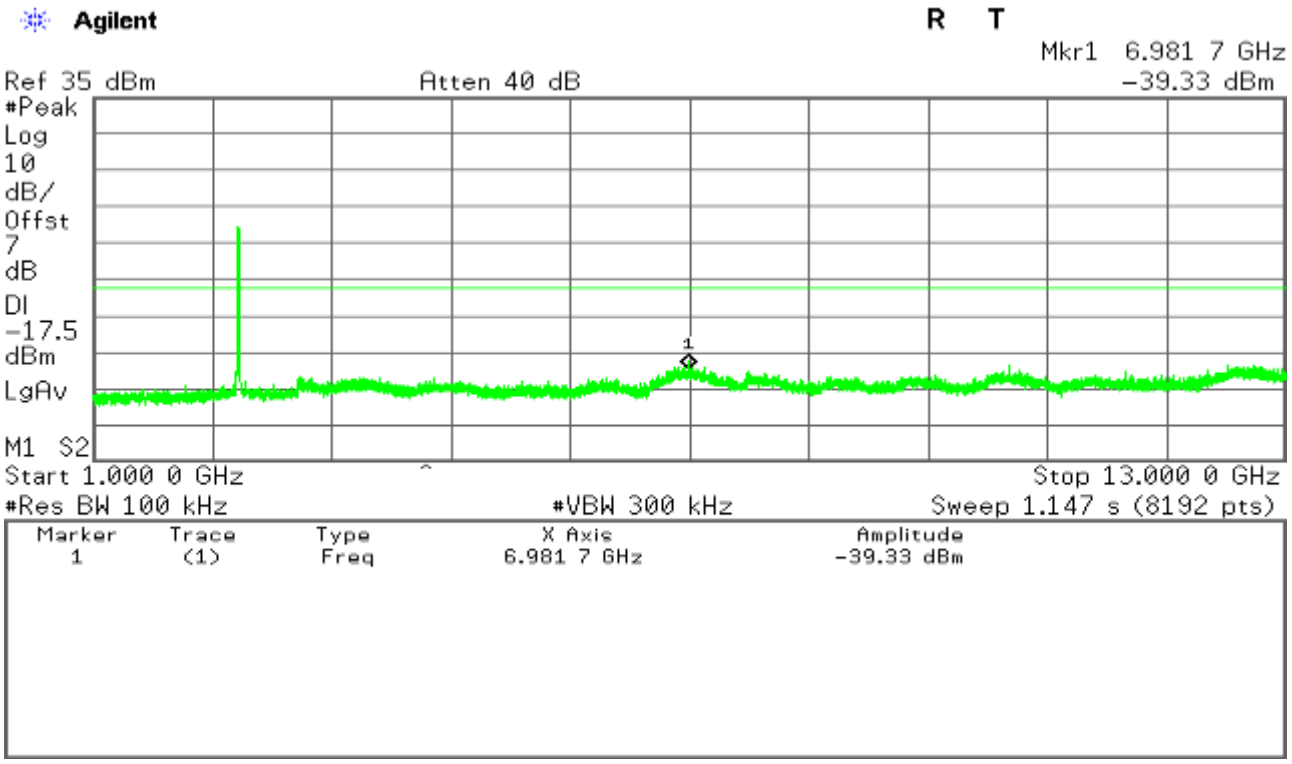


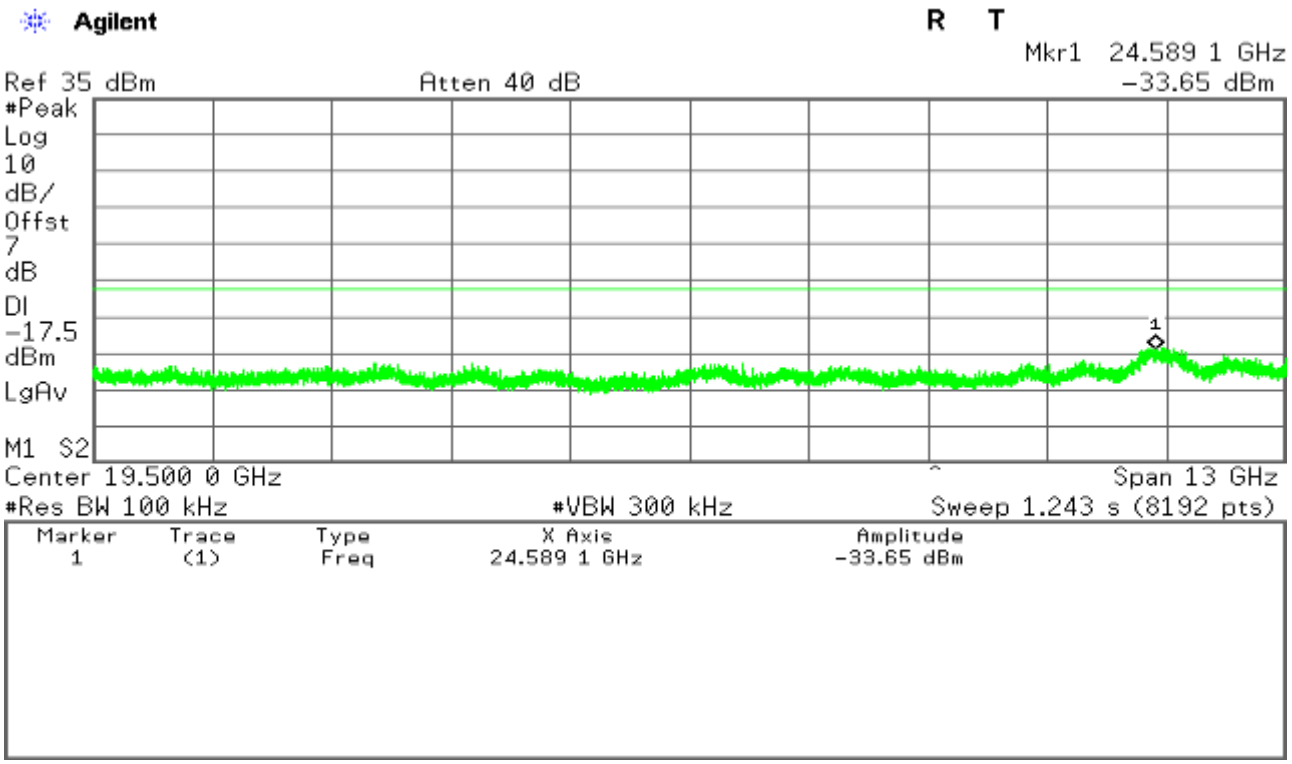


CH High



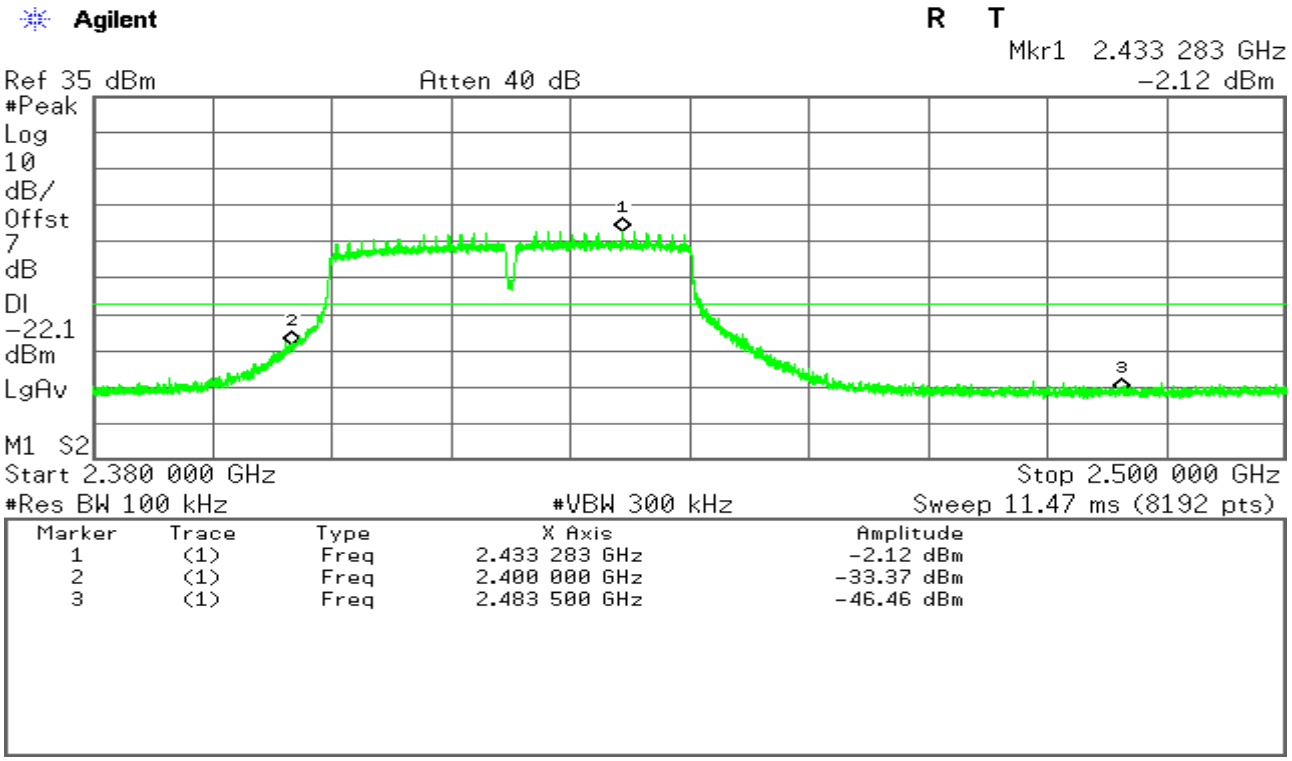


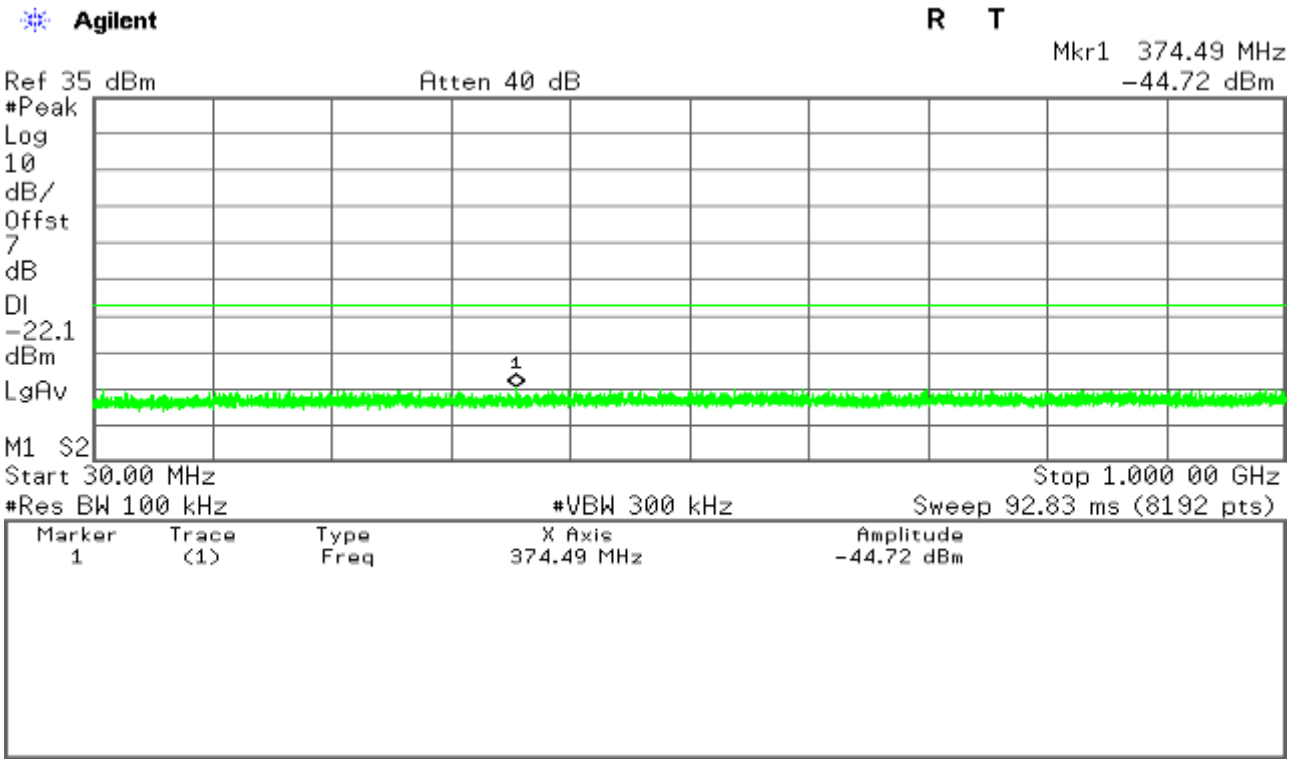


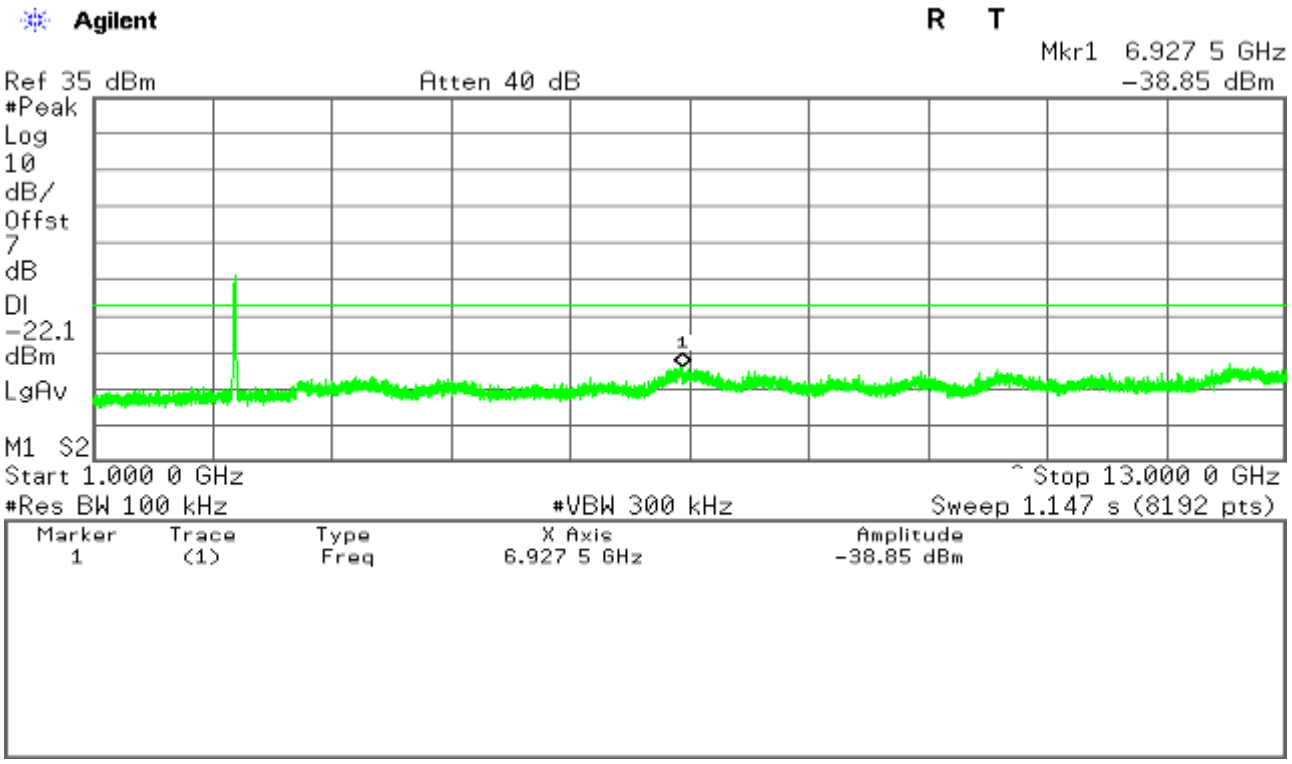


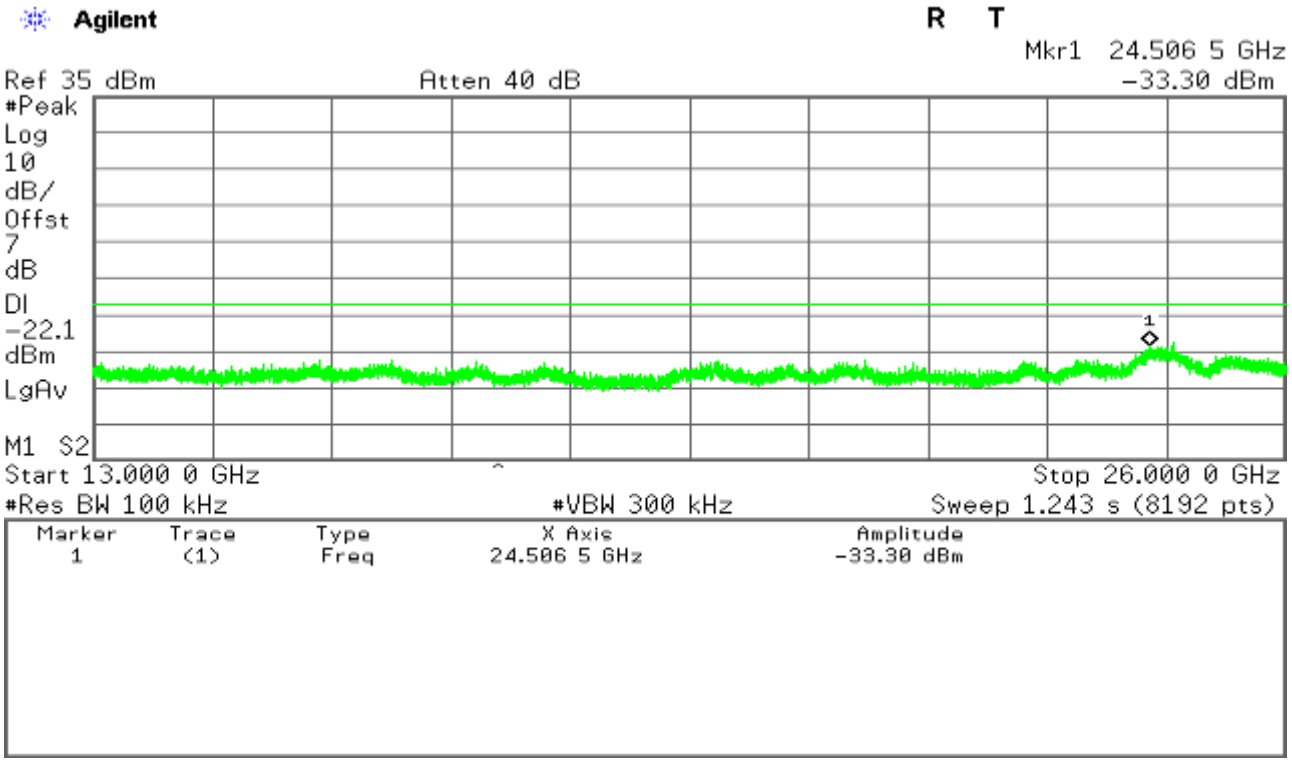
draft 802.11n wide-40 MHz Channel mode / Chain 0

CH Low

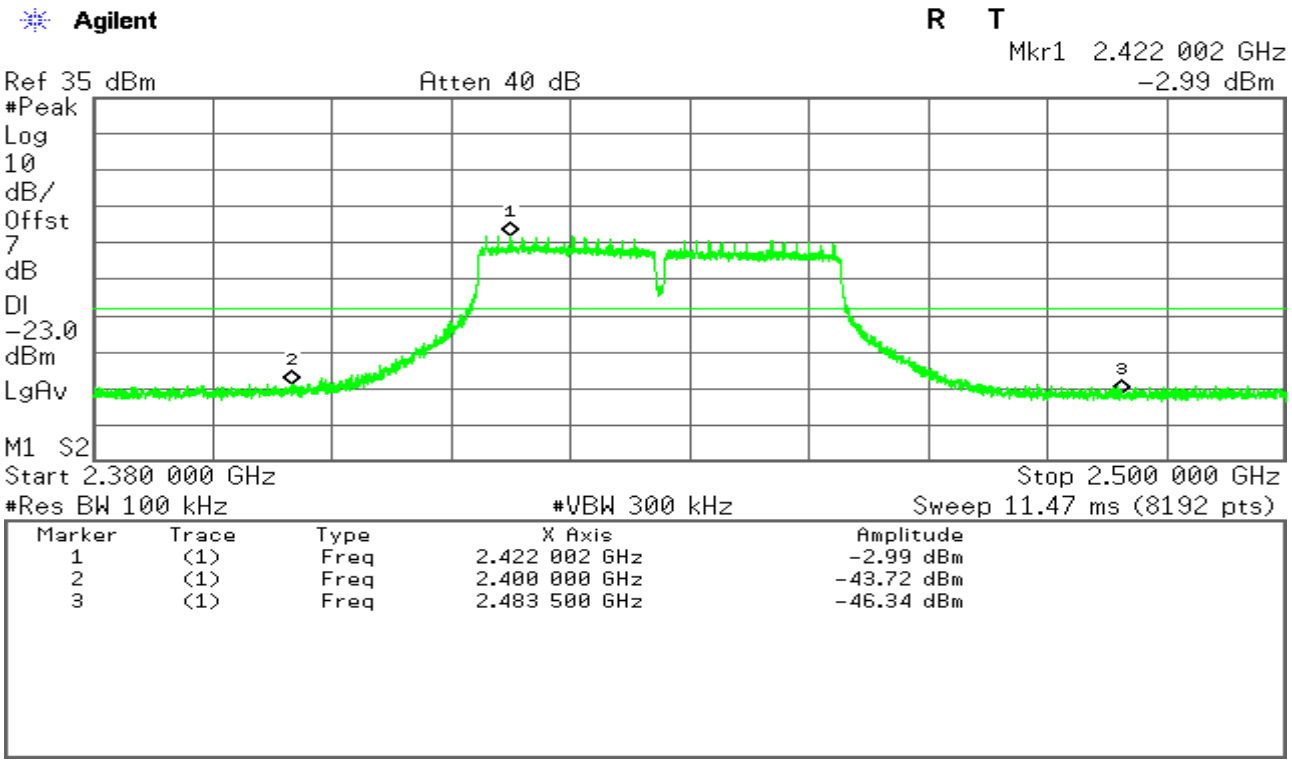


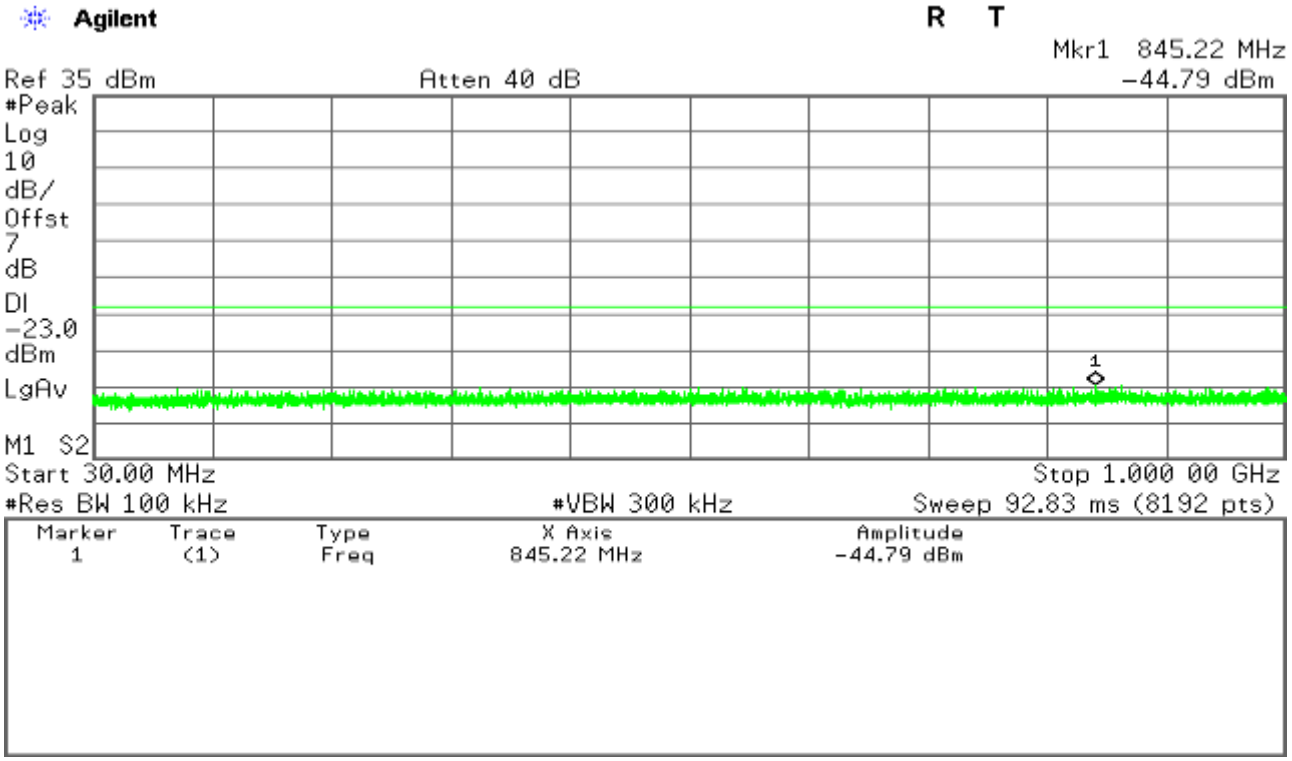


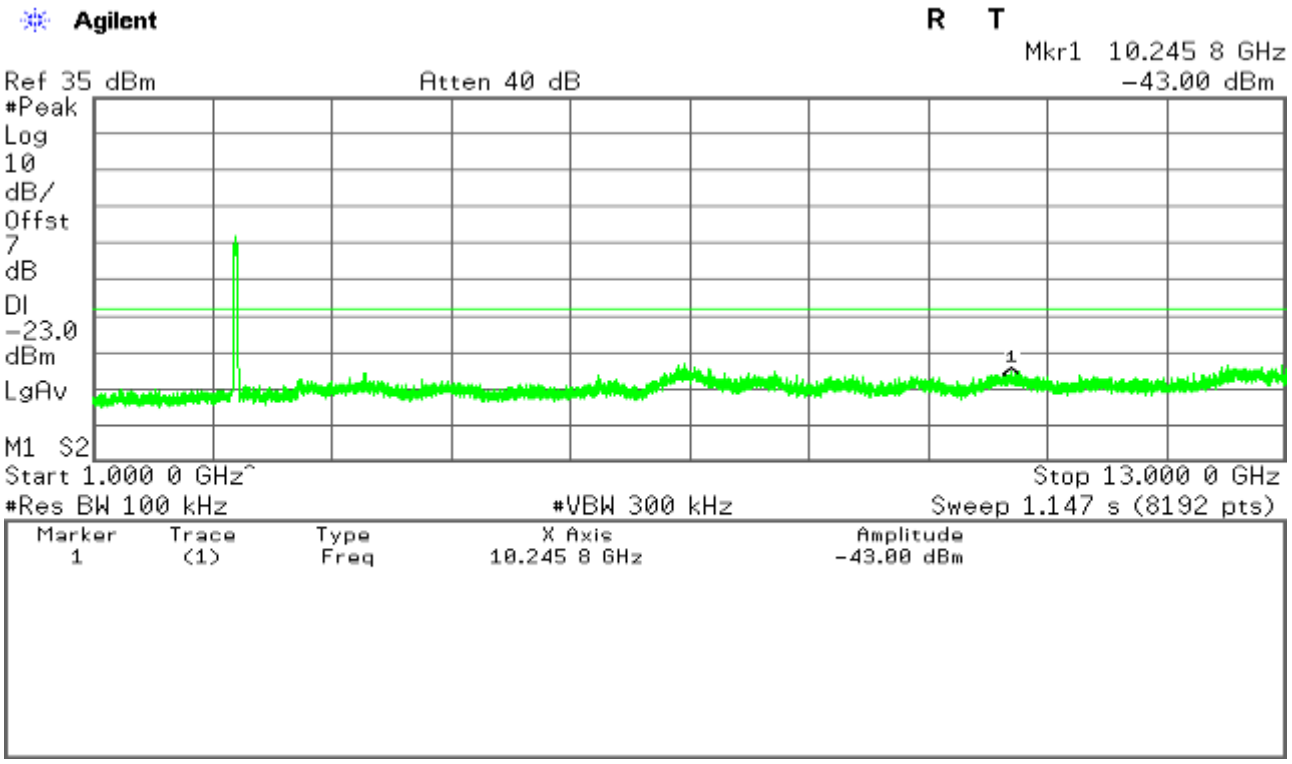


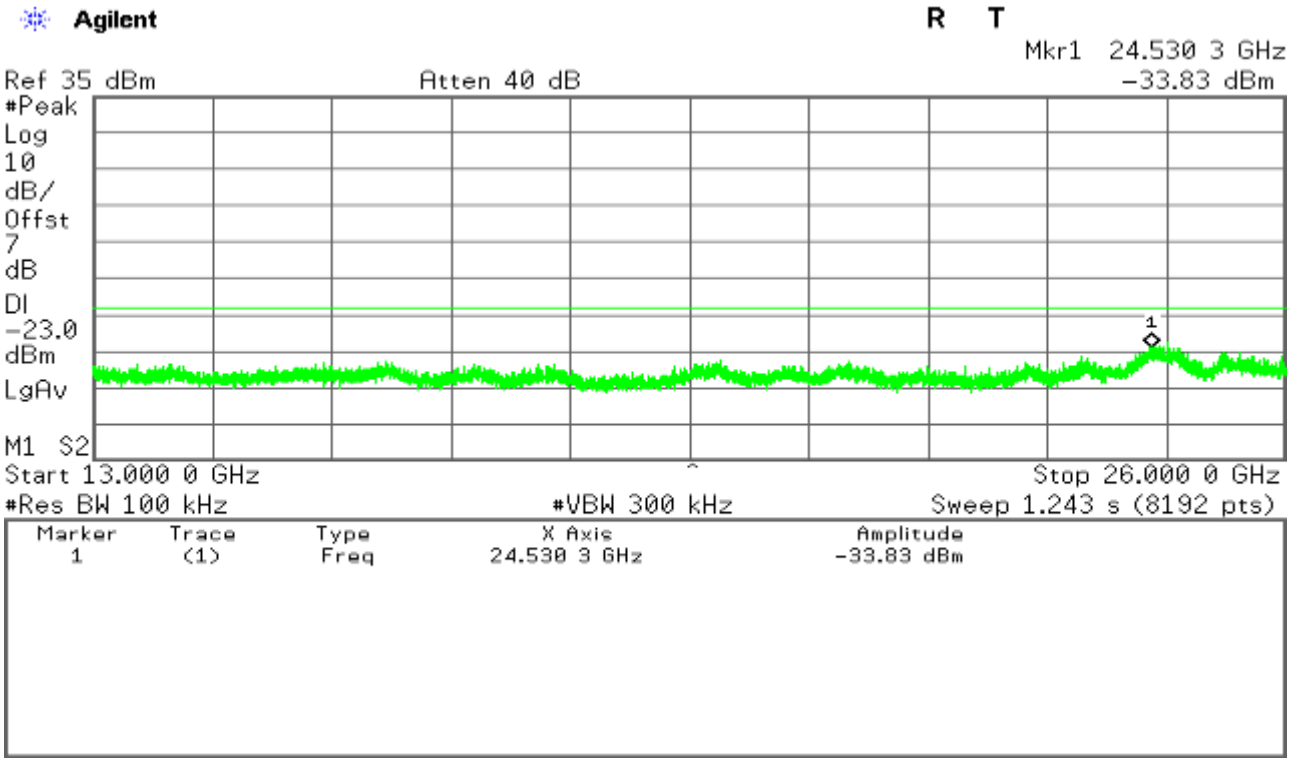


CH Mid

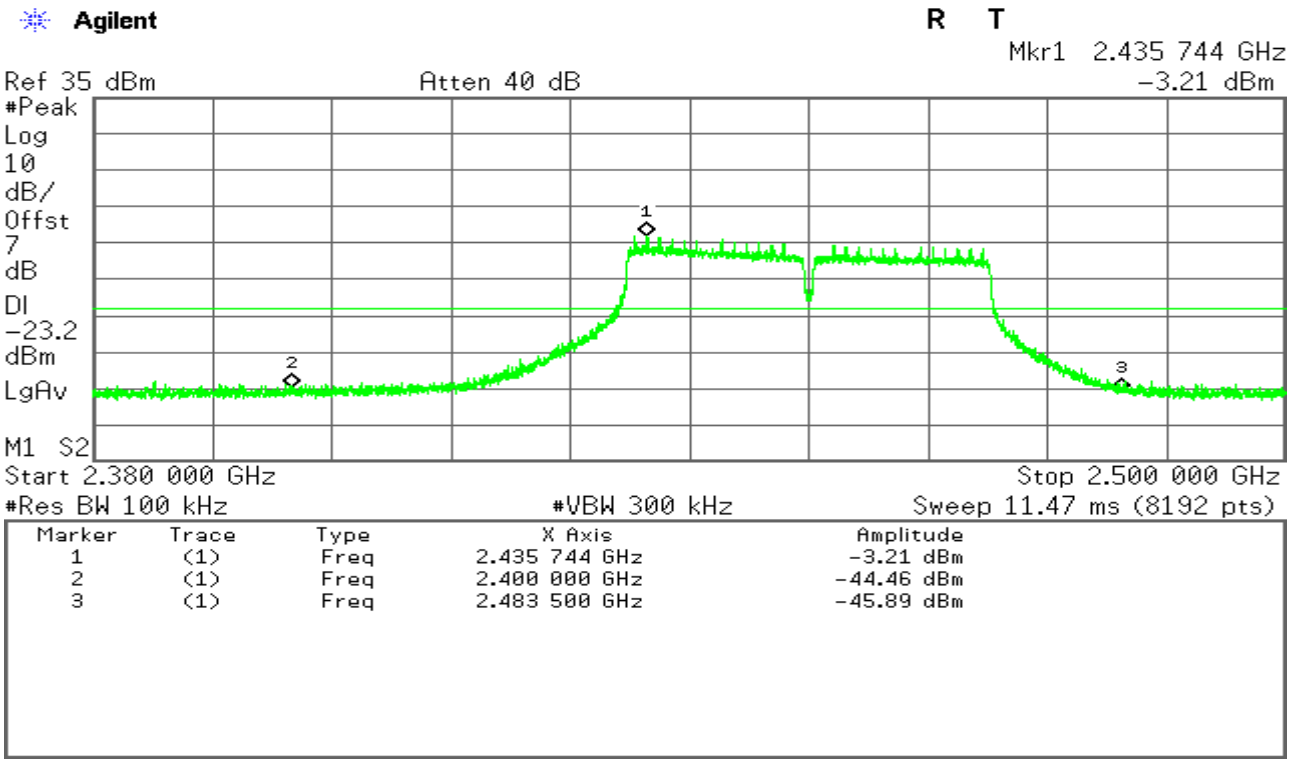


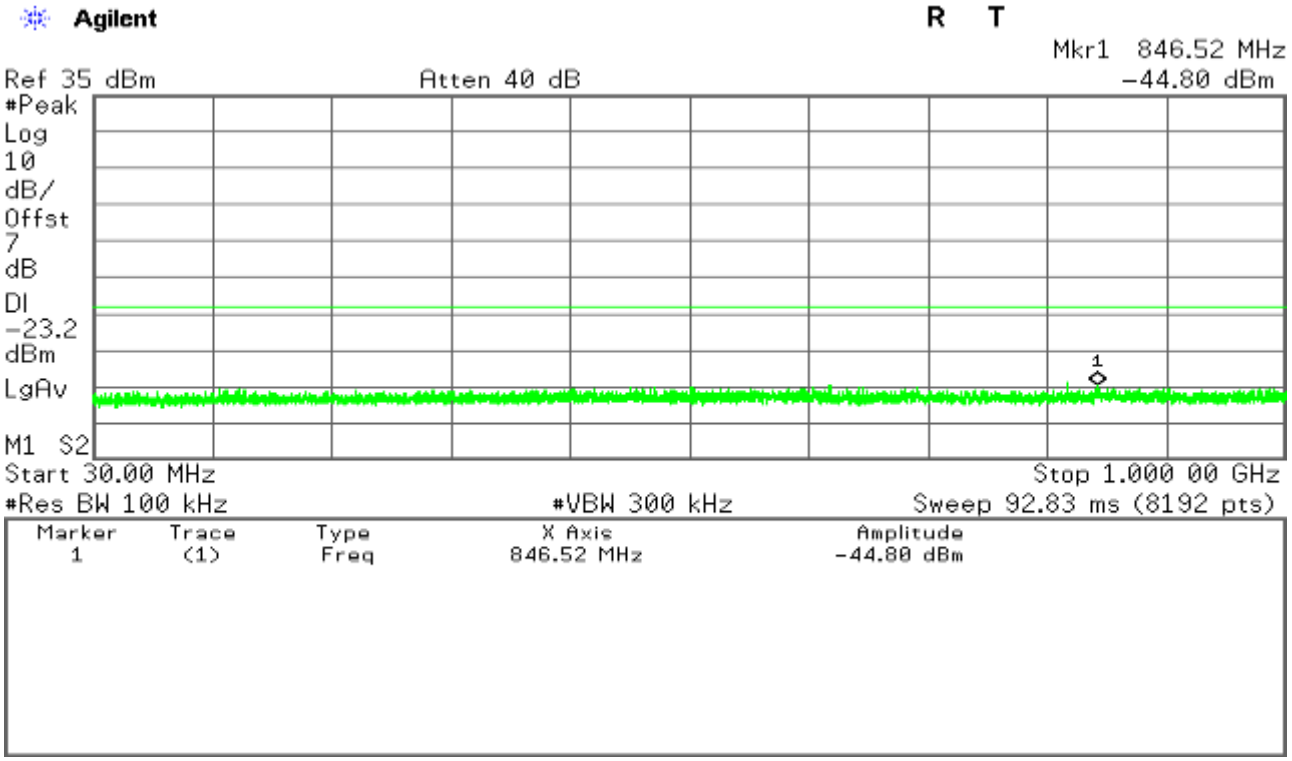


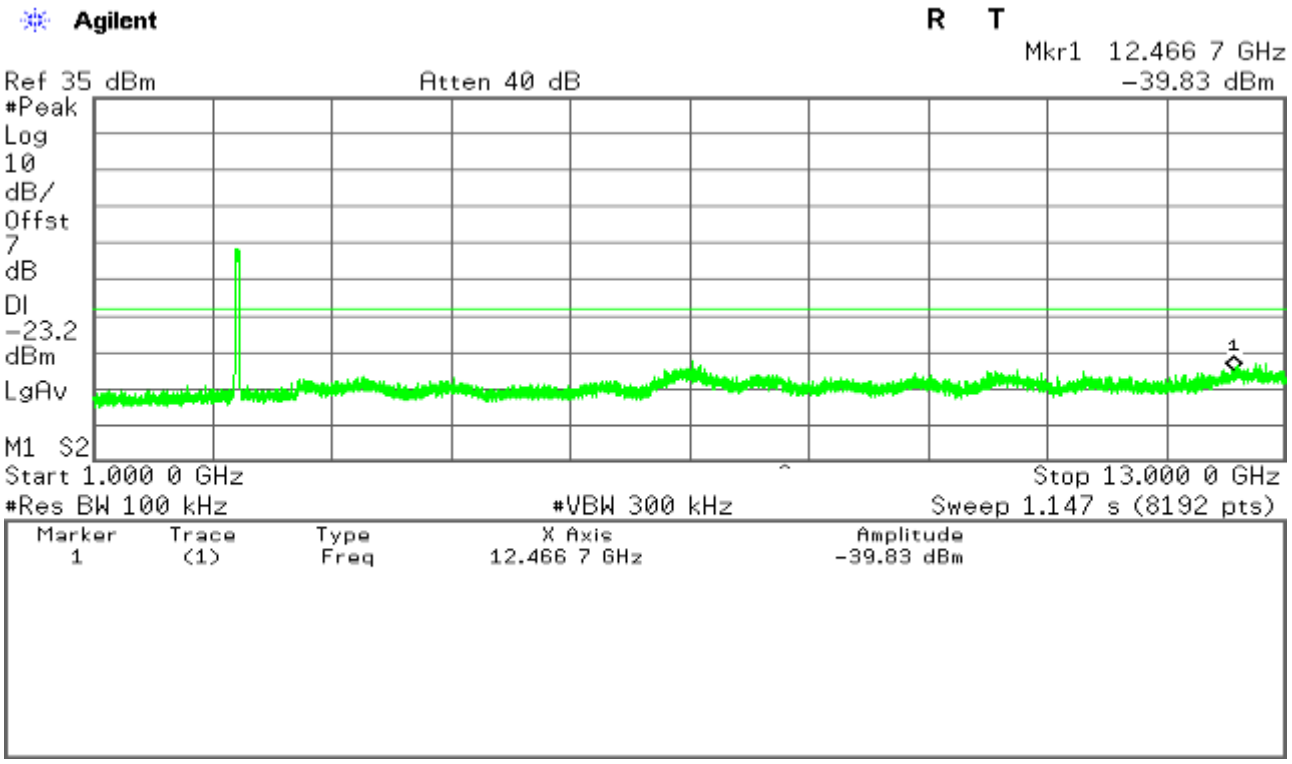


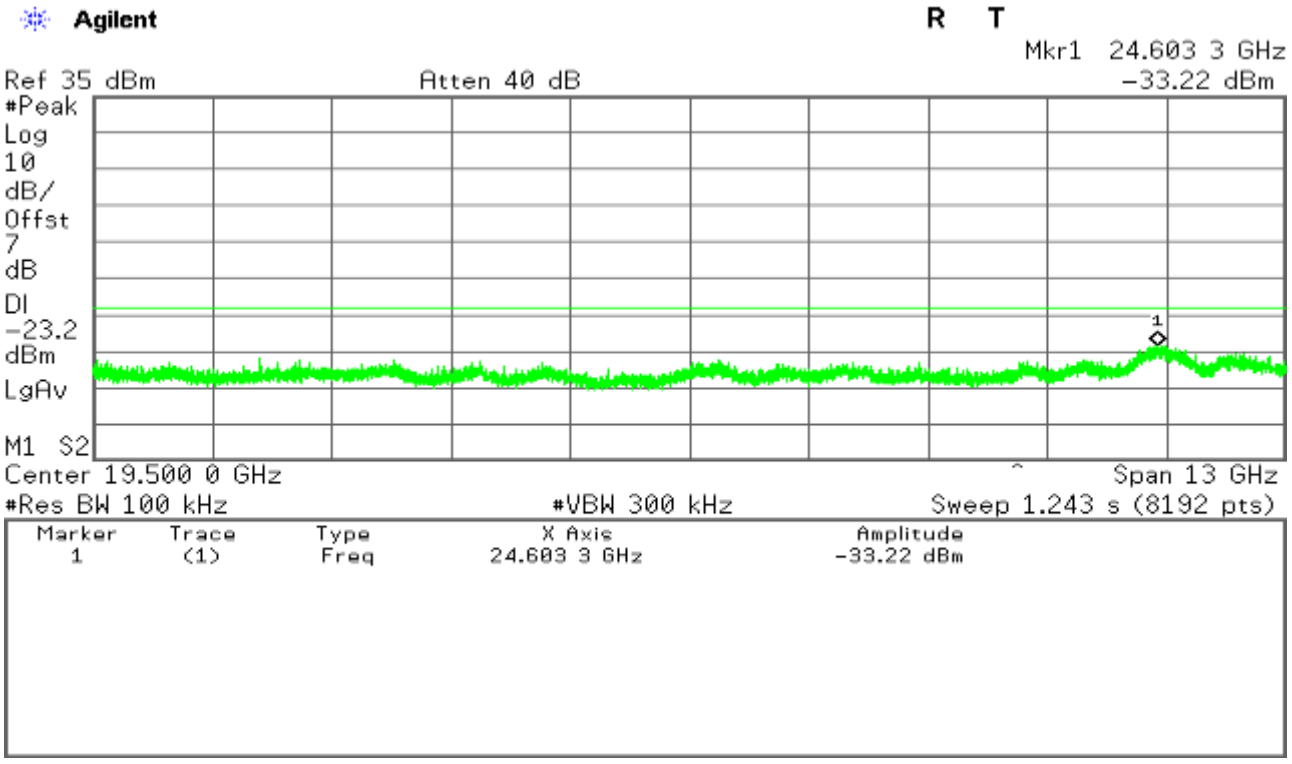


CH High



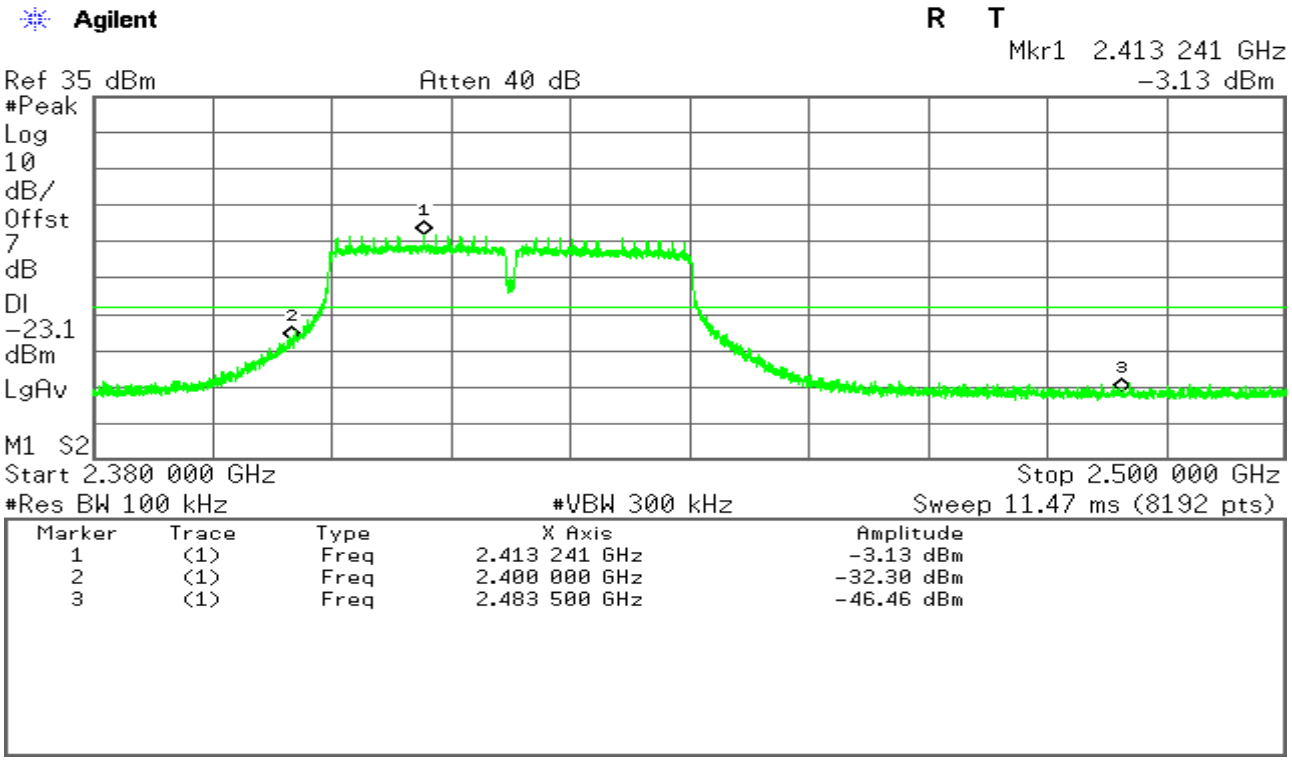


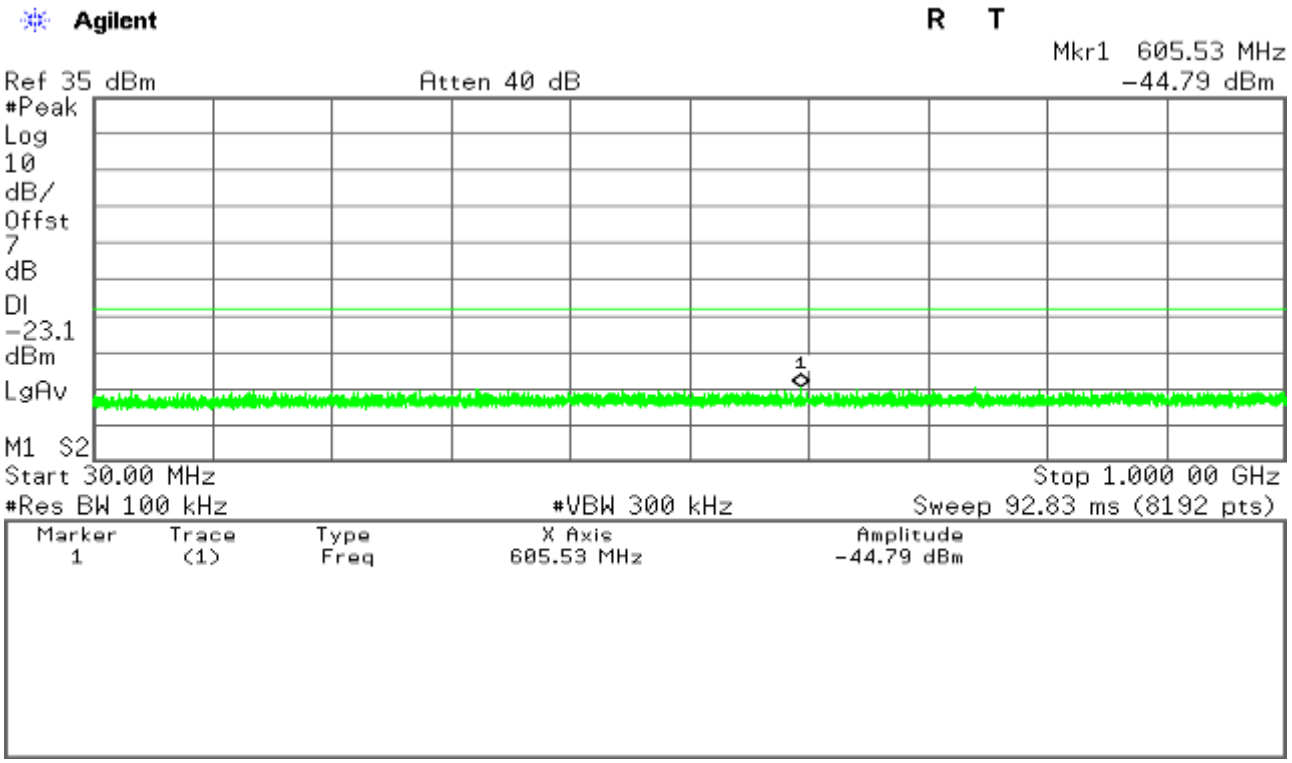


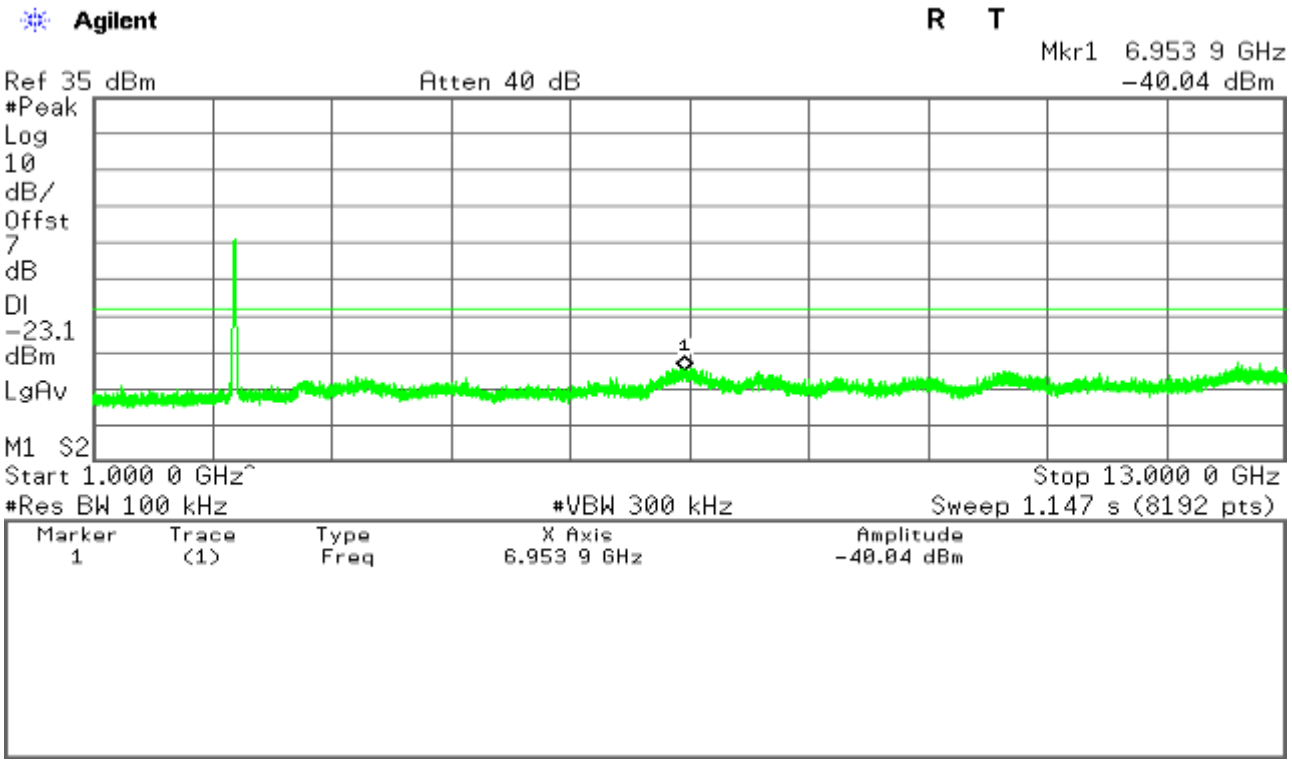


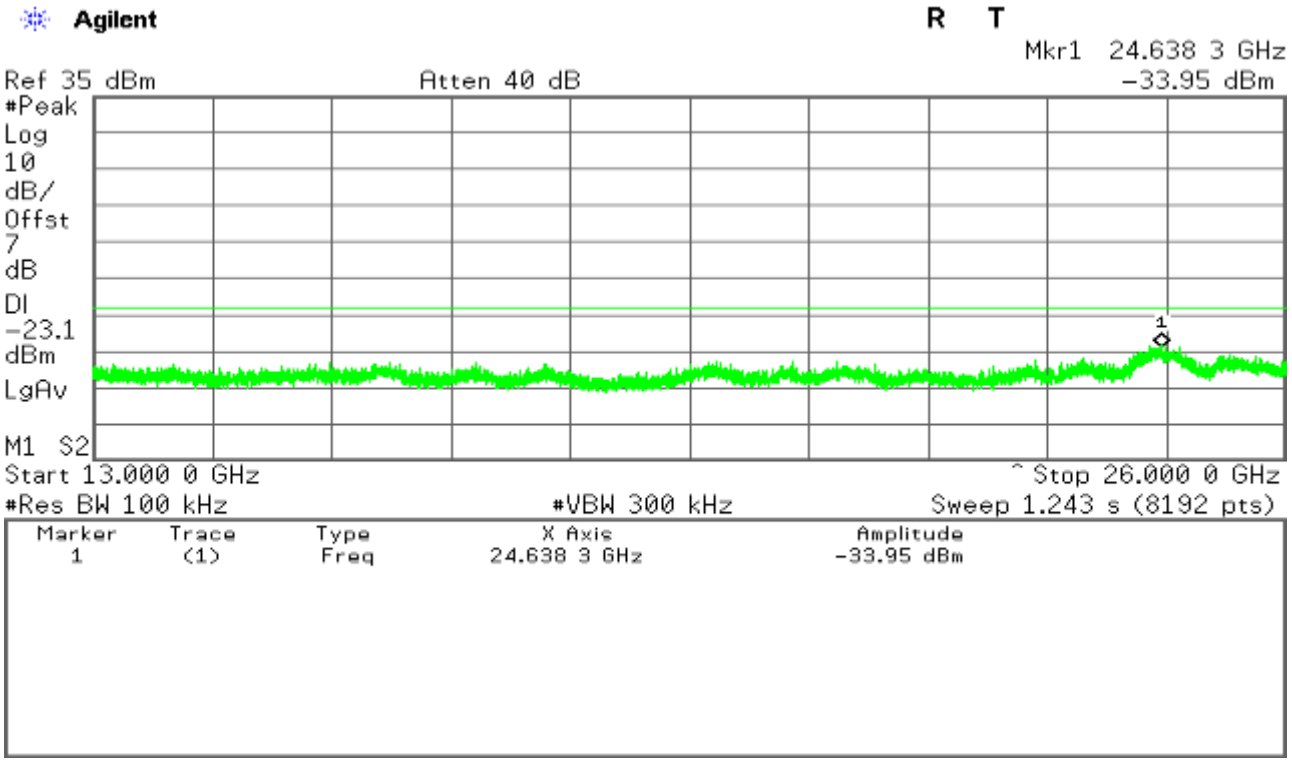
draft 802.11n wide-40 MHz Channel mode / Chain 1

CH Low

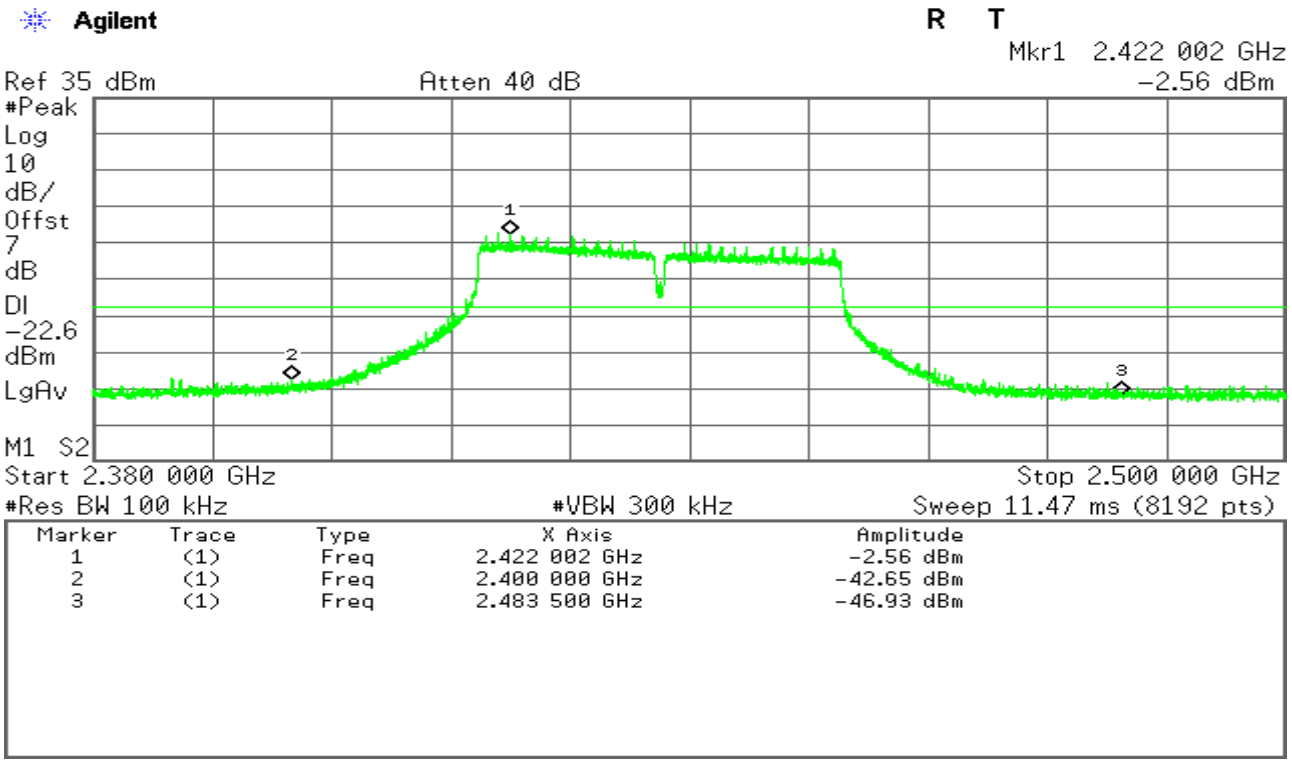


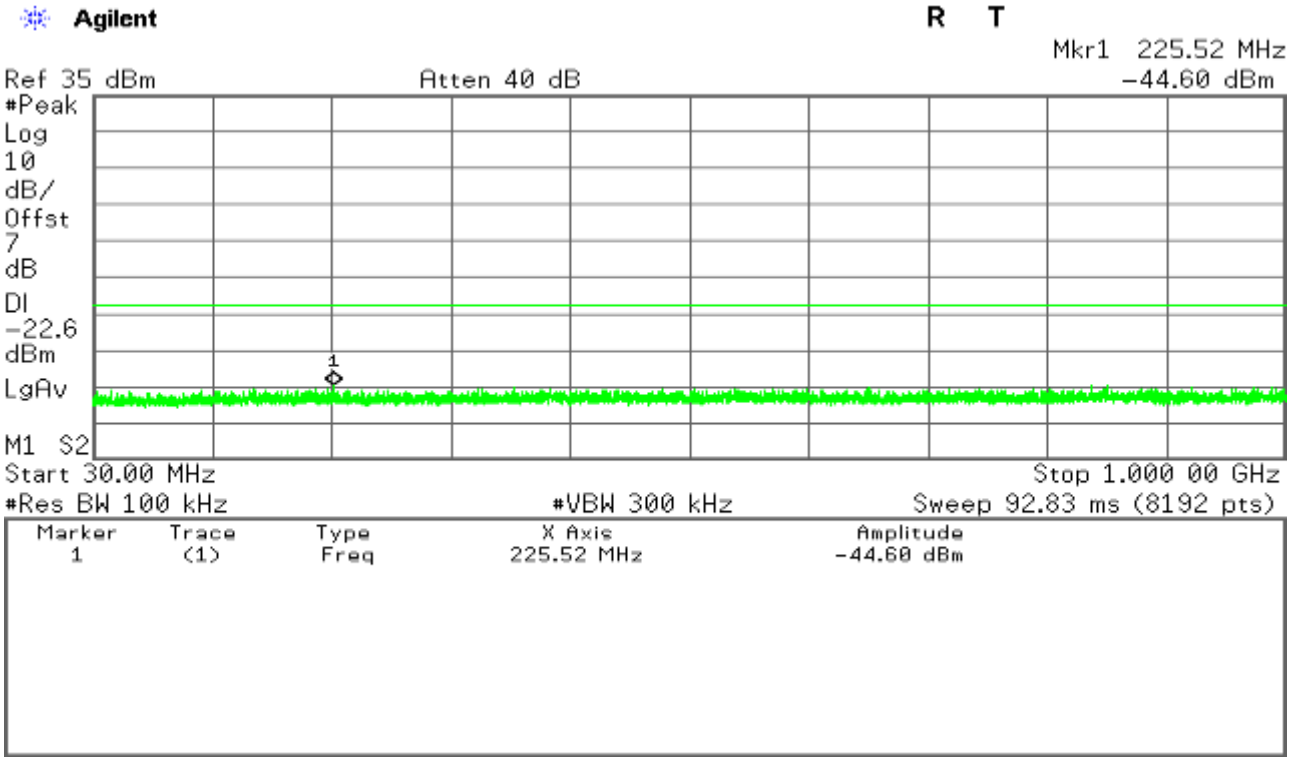


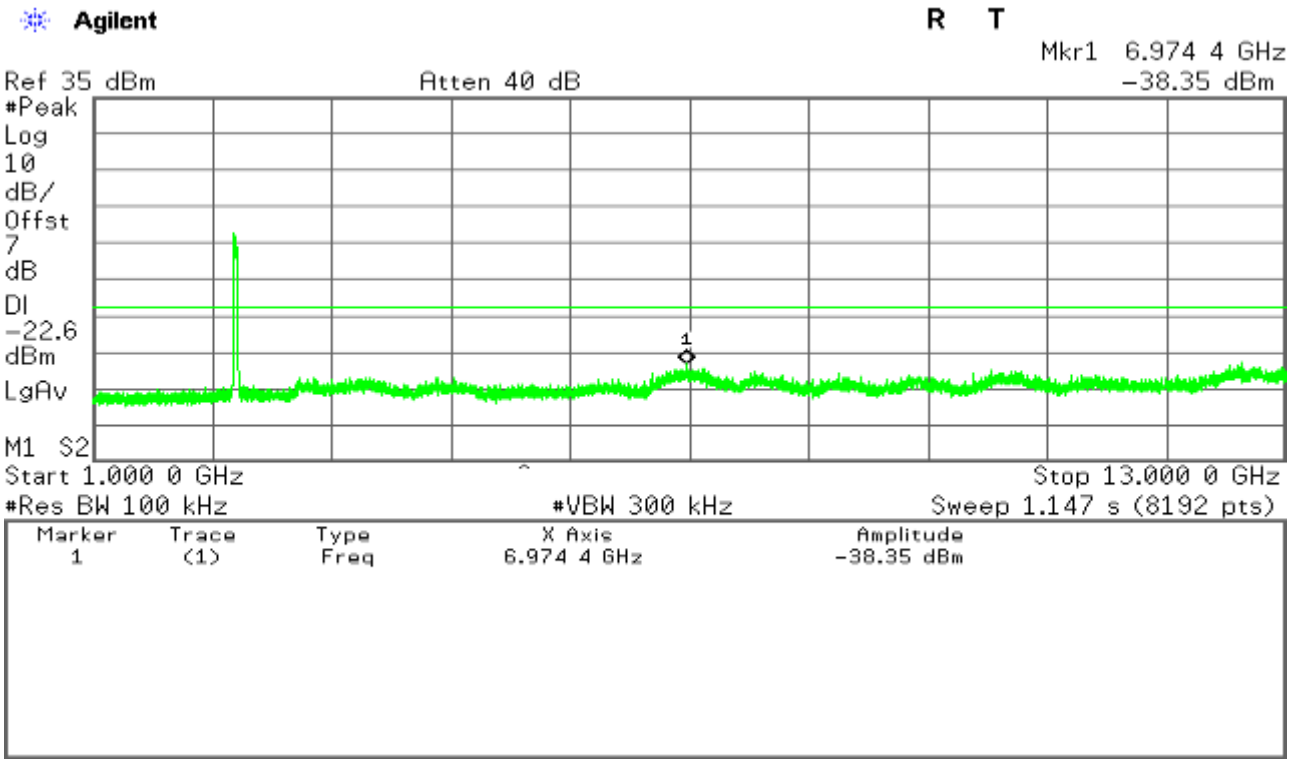


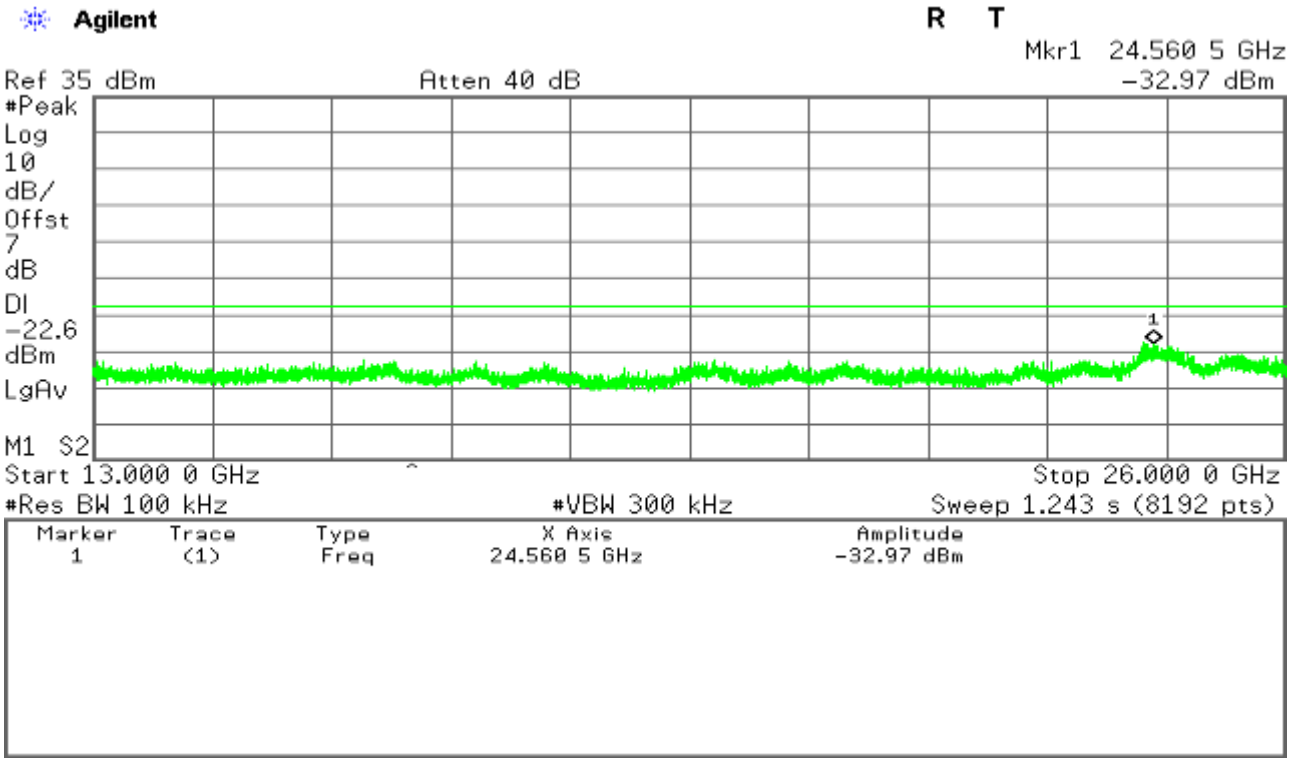


CH Mid

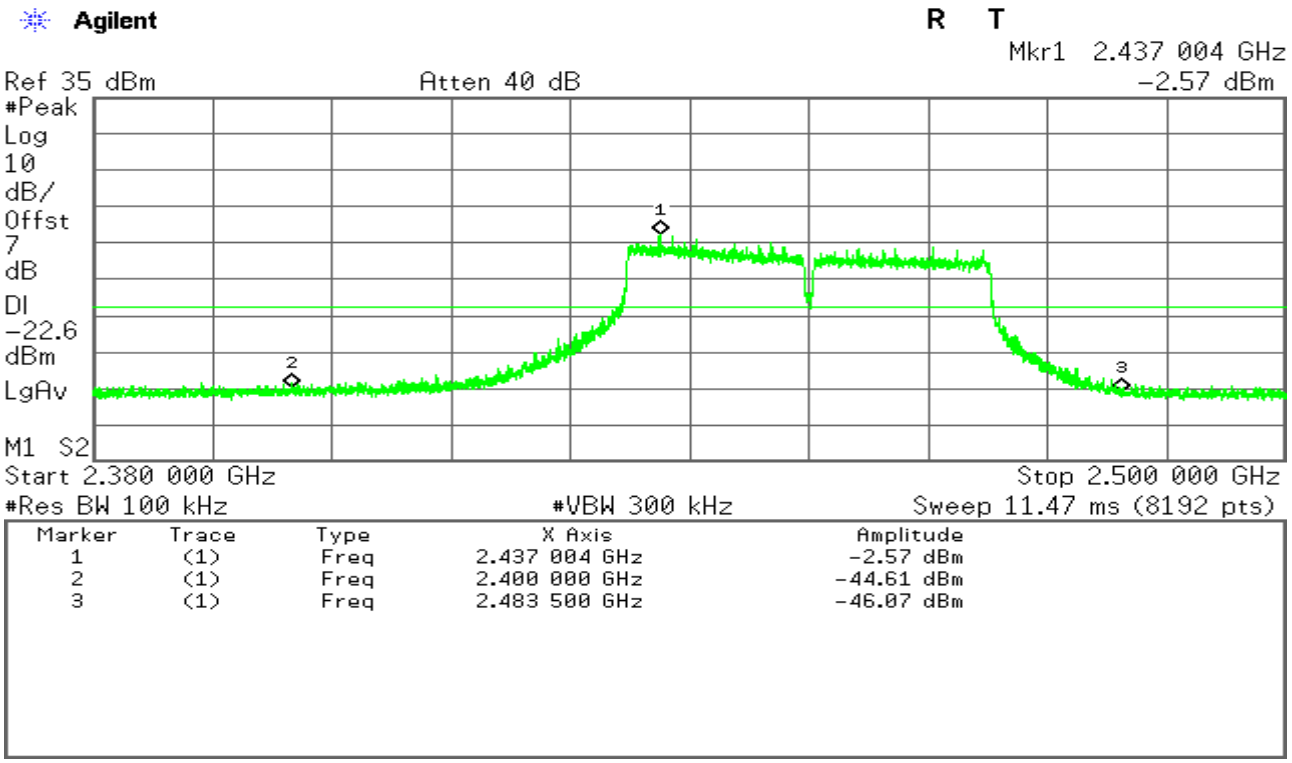


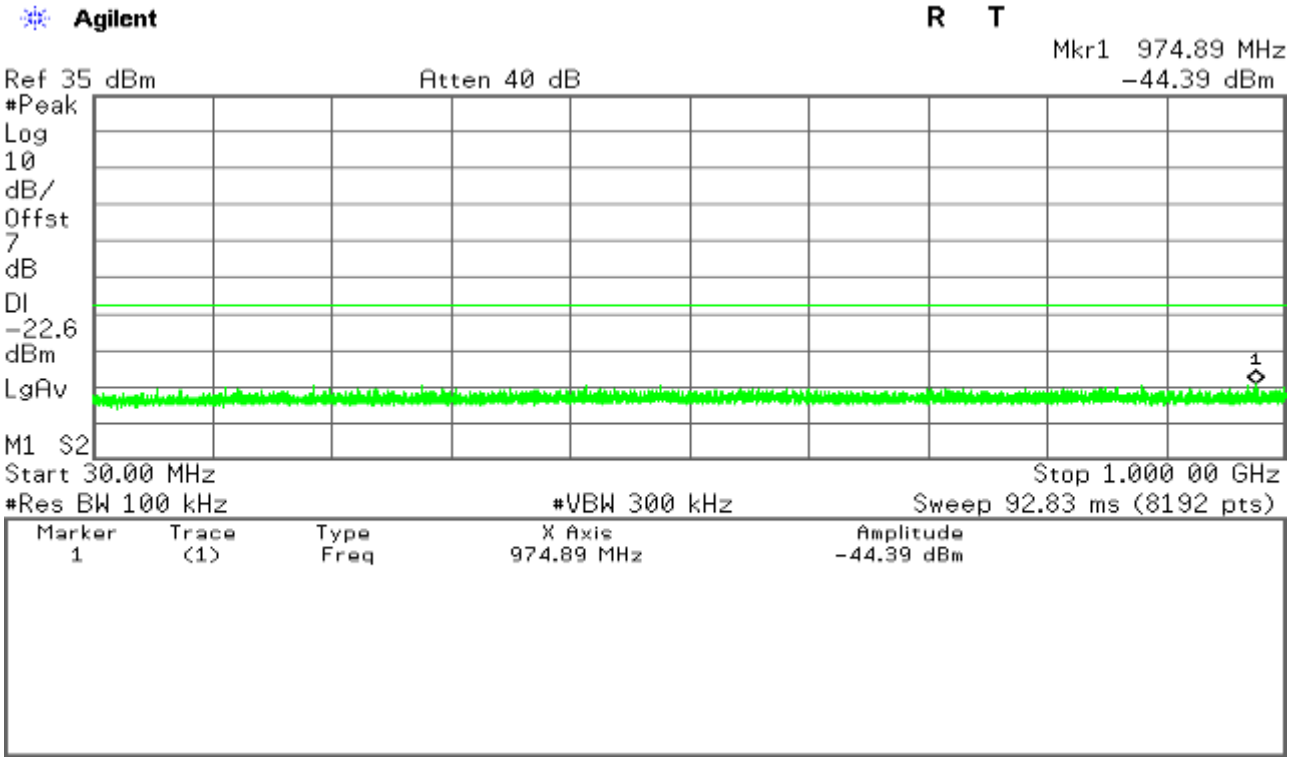


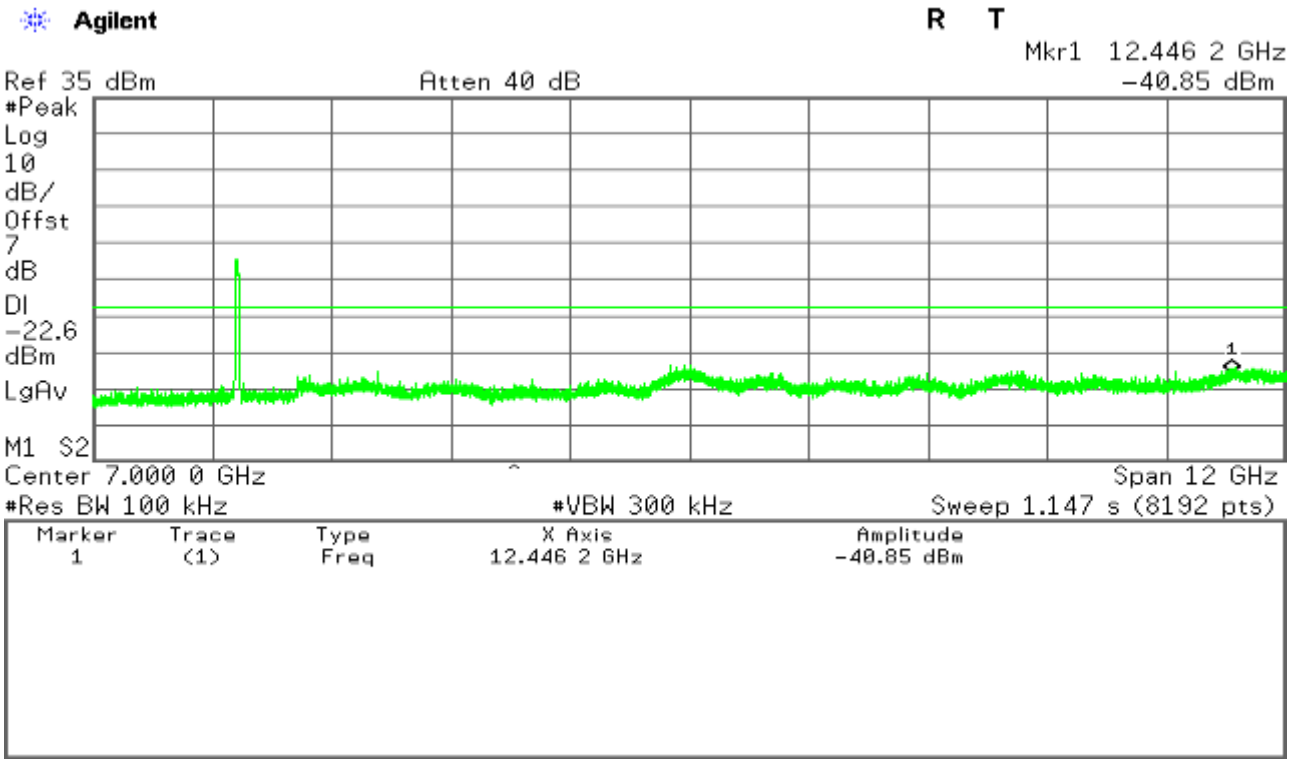


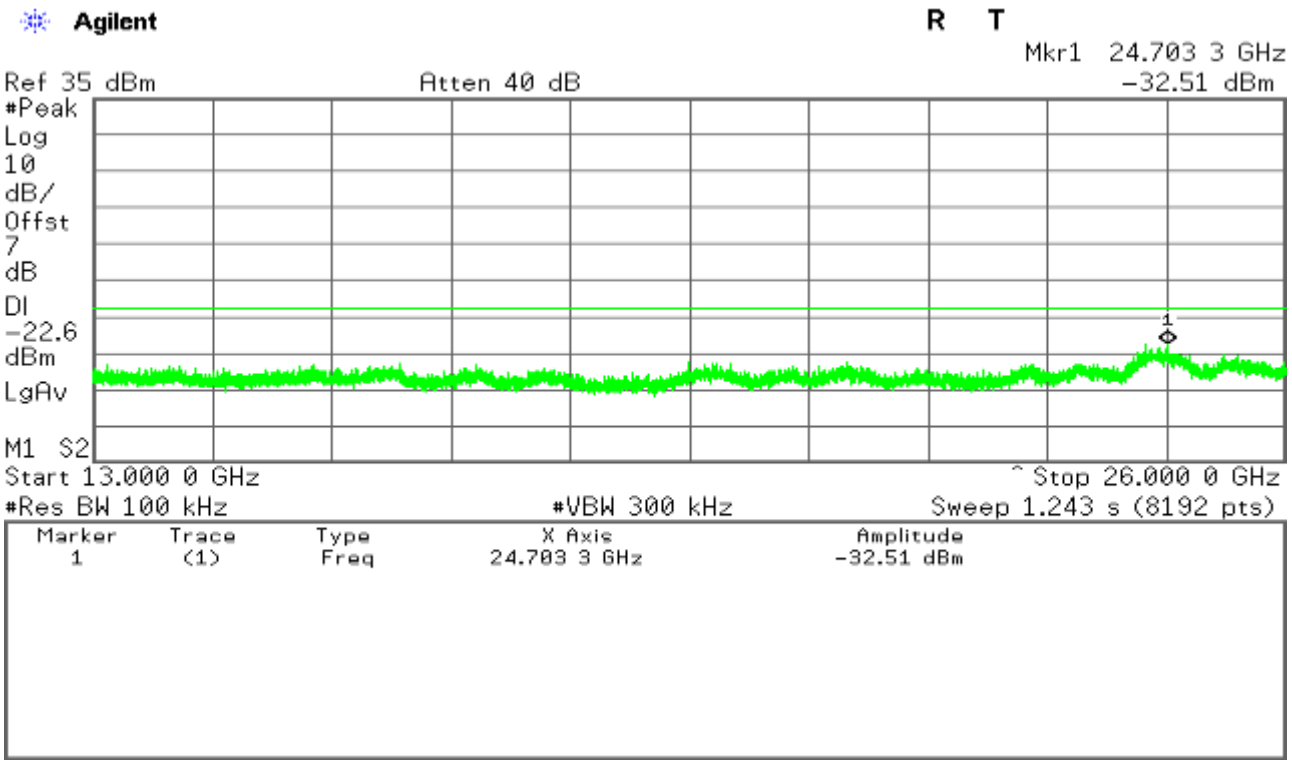


CH High



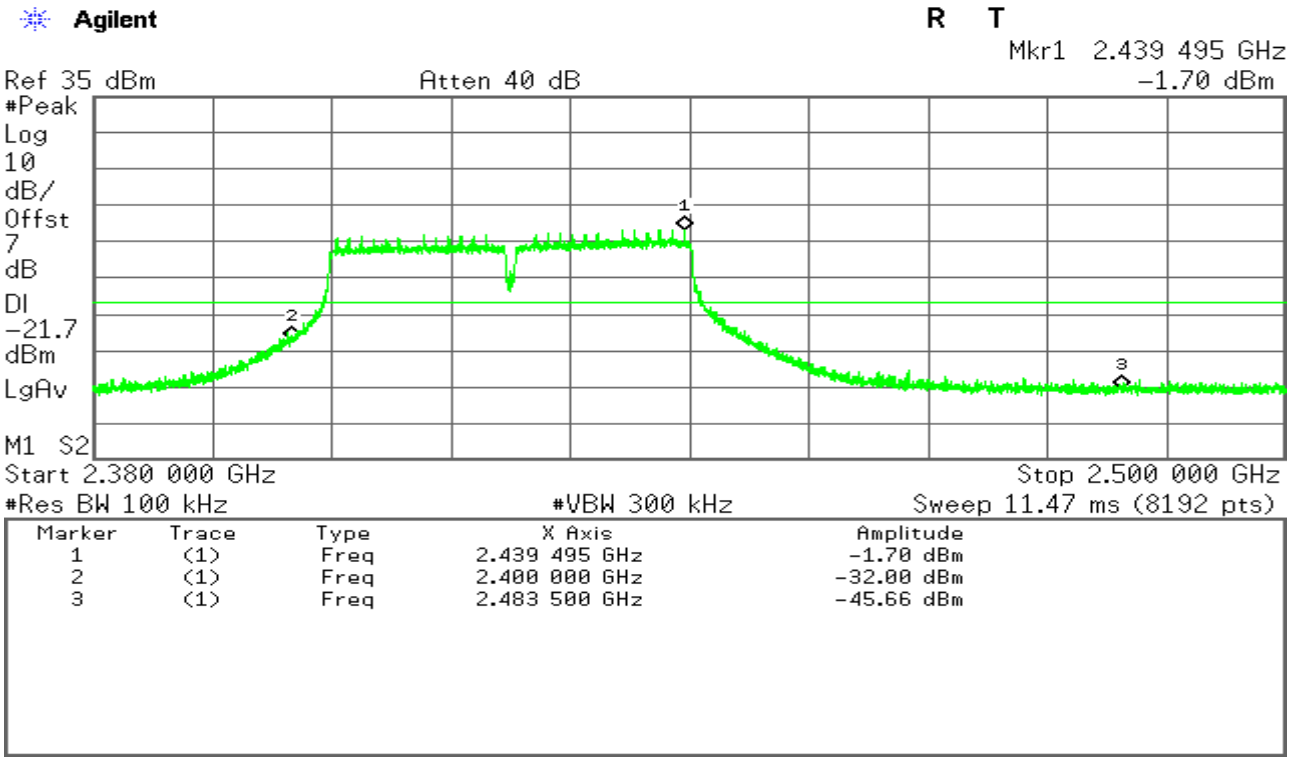


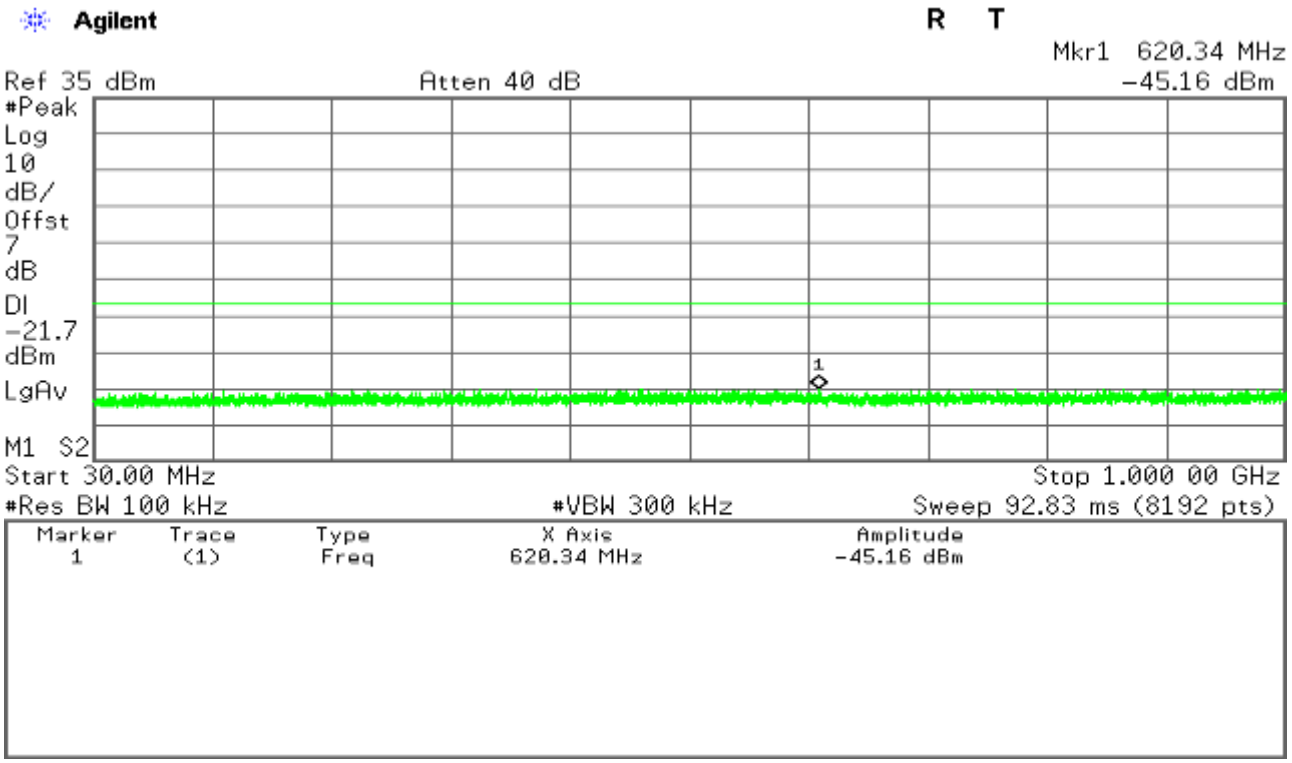


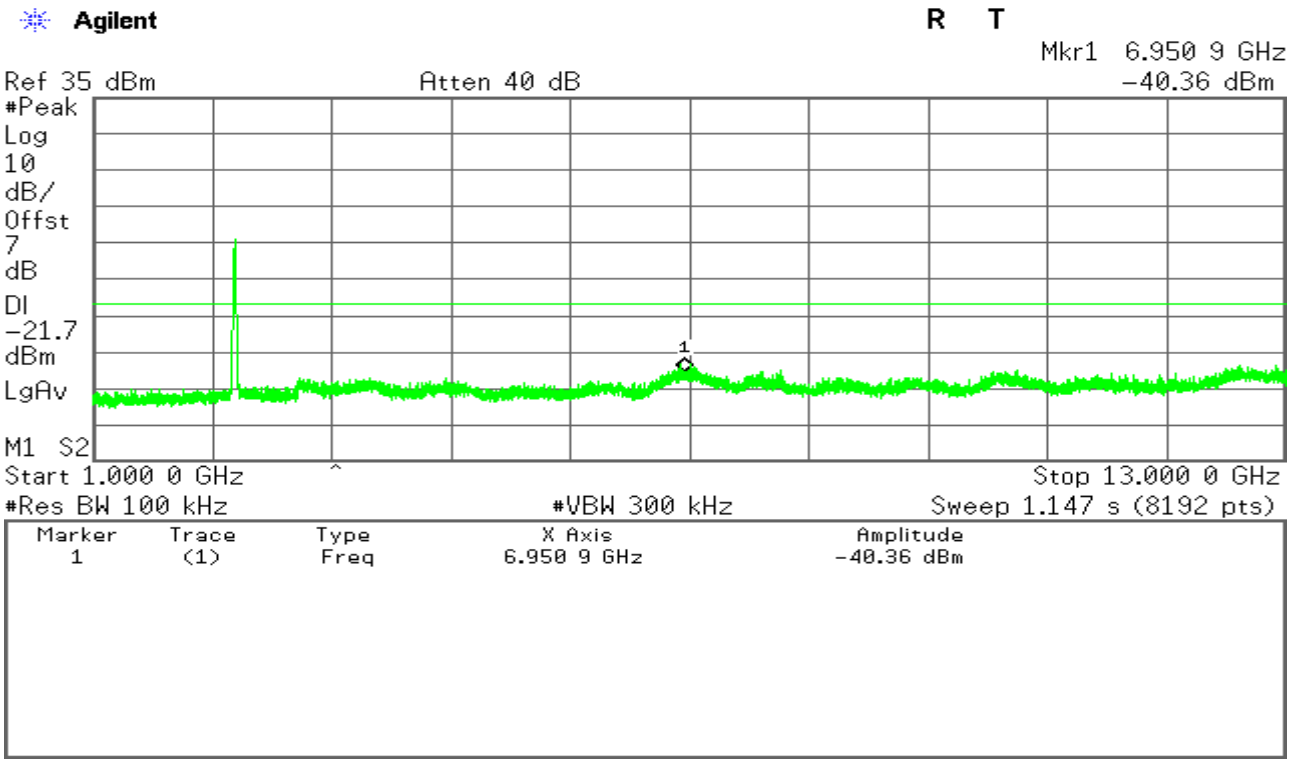


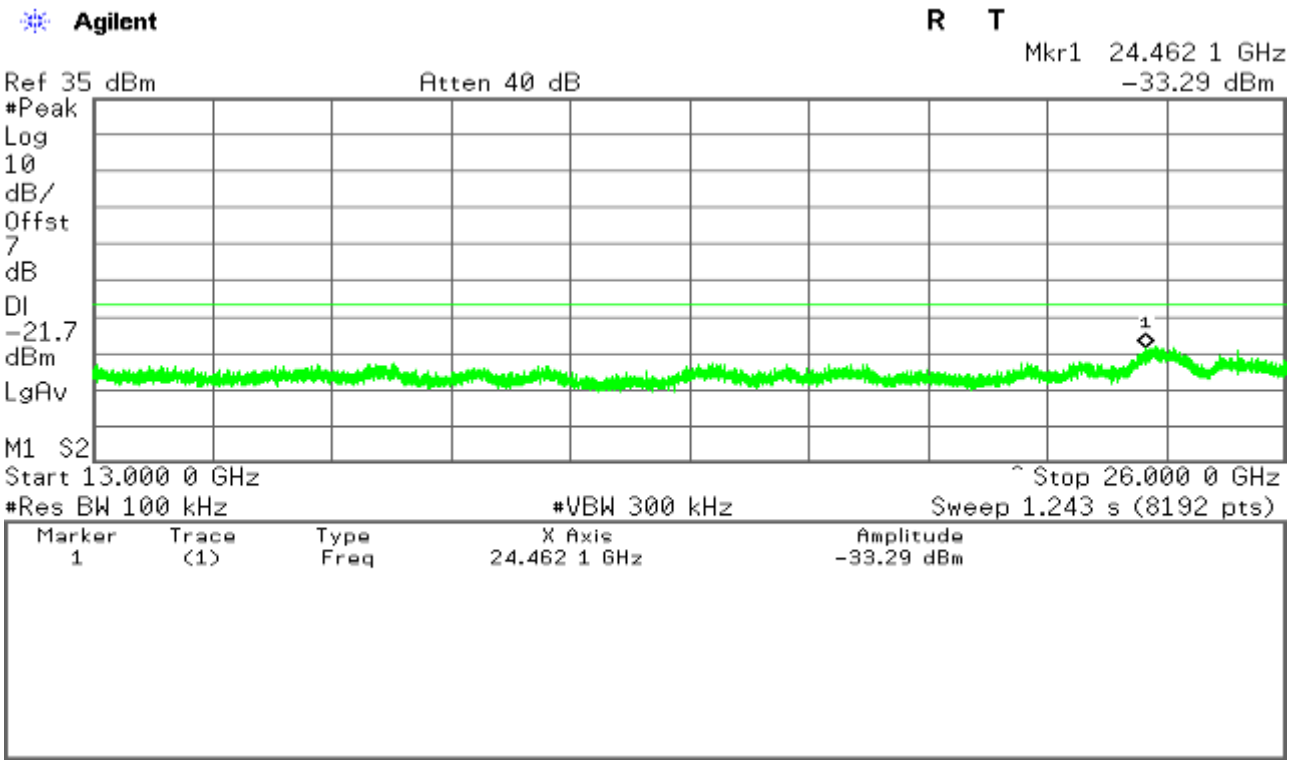
draft 802.11n wide-40 MHz Channel mode / Chain 2

CH Low

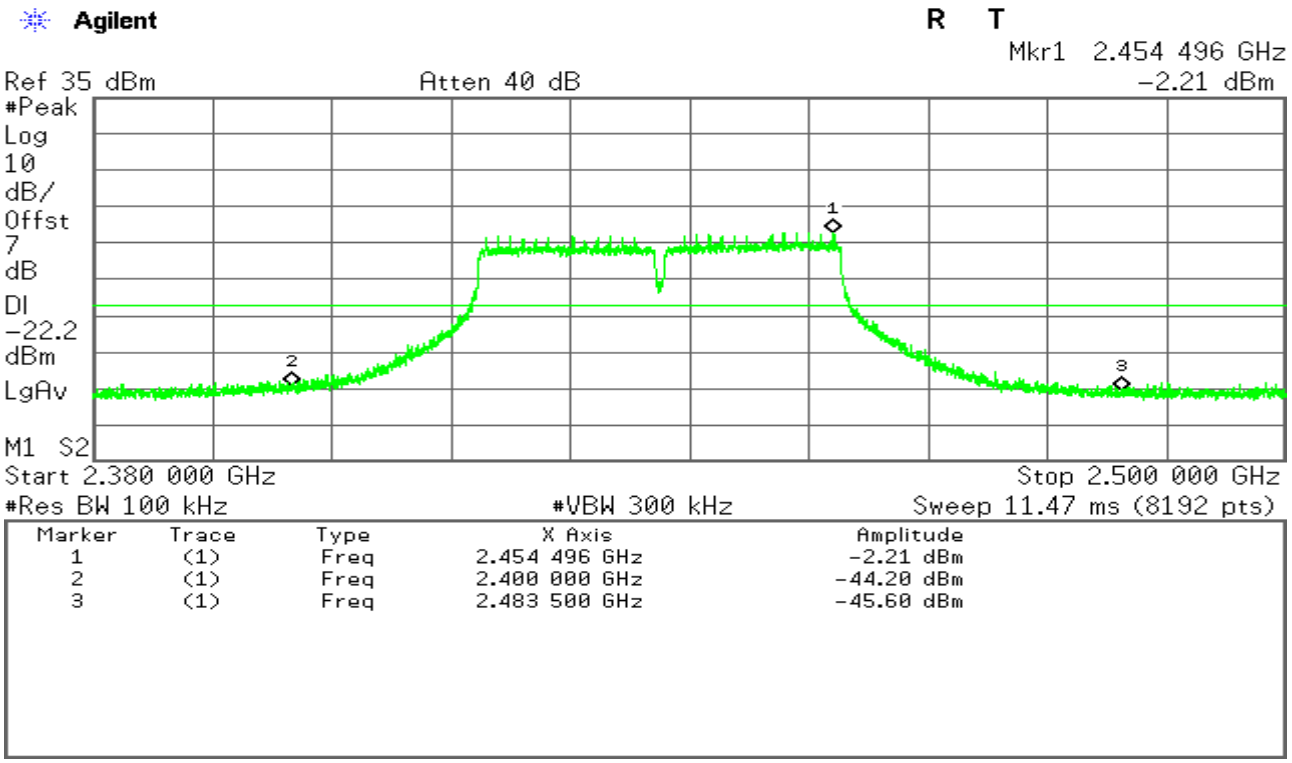


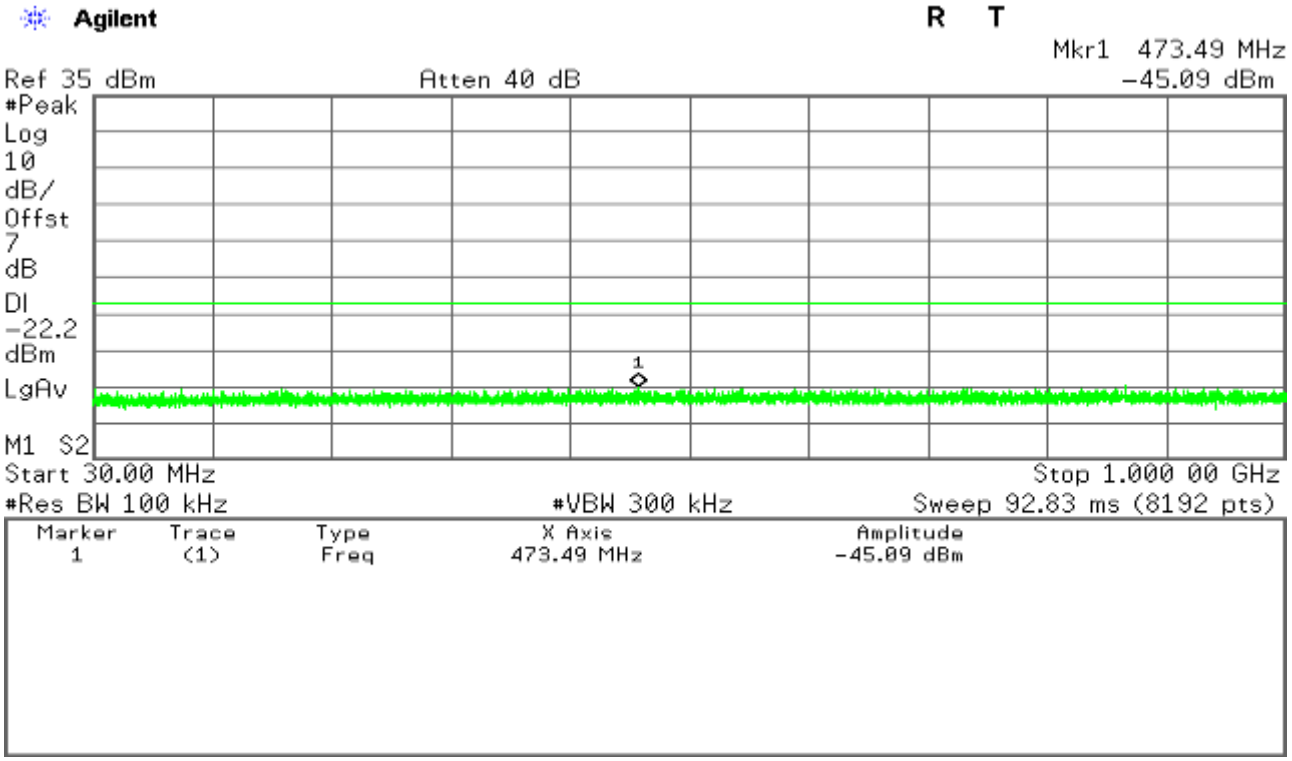


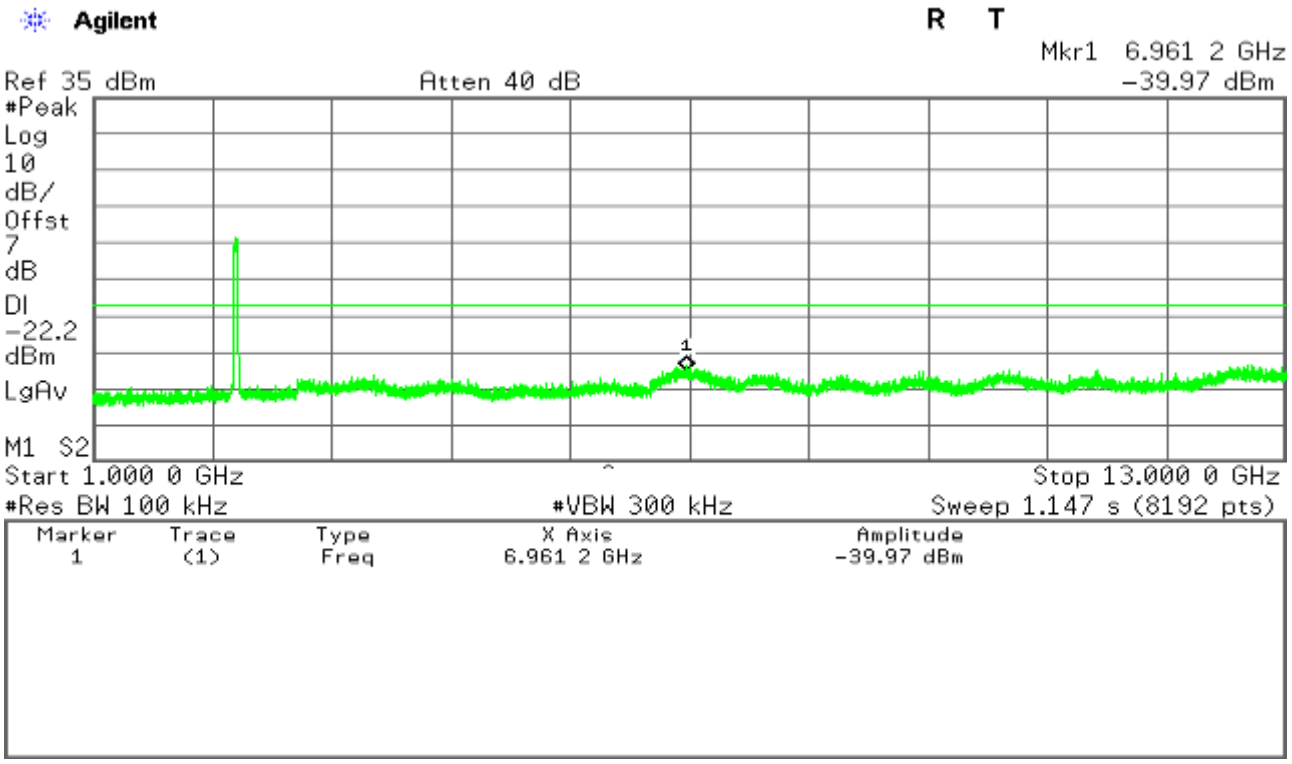


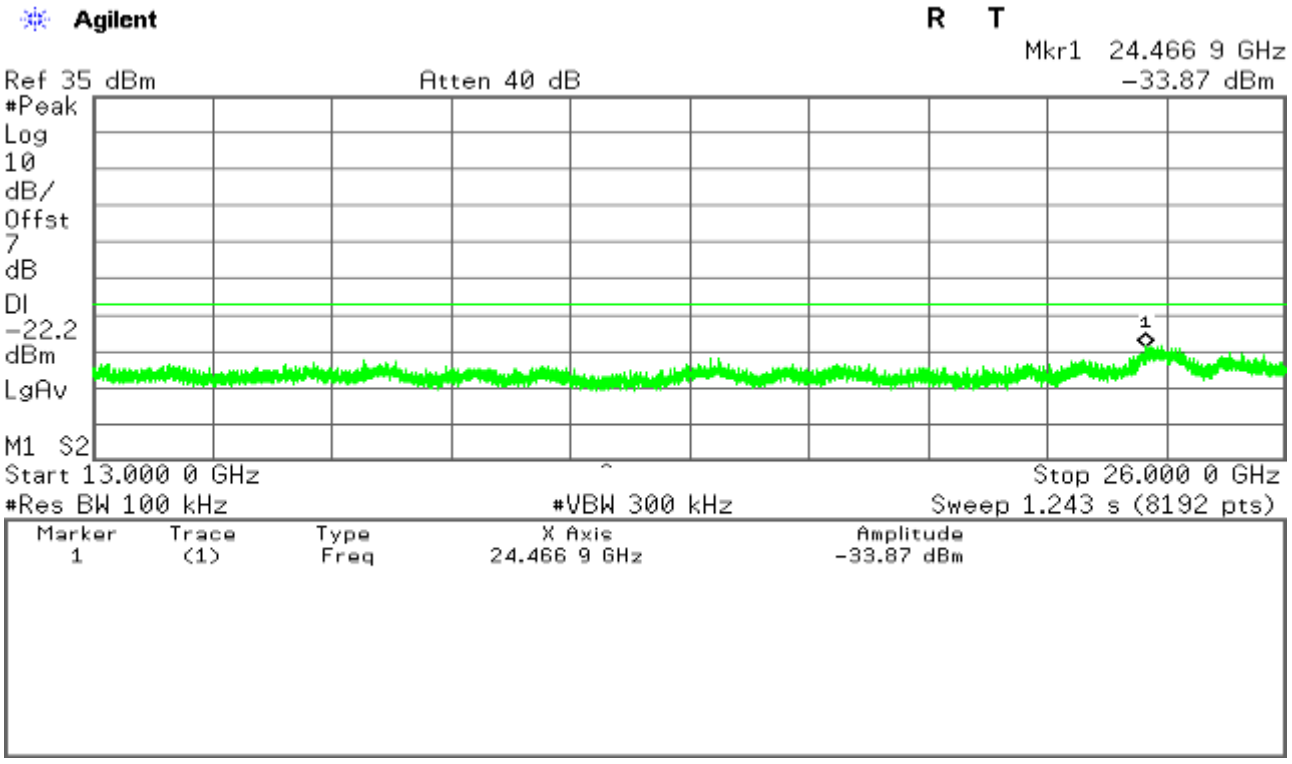


CH Mid

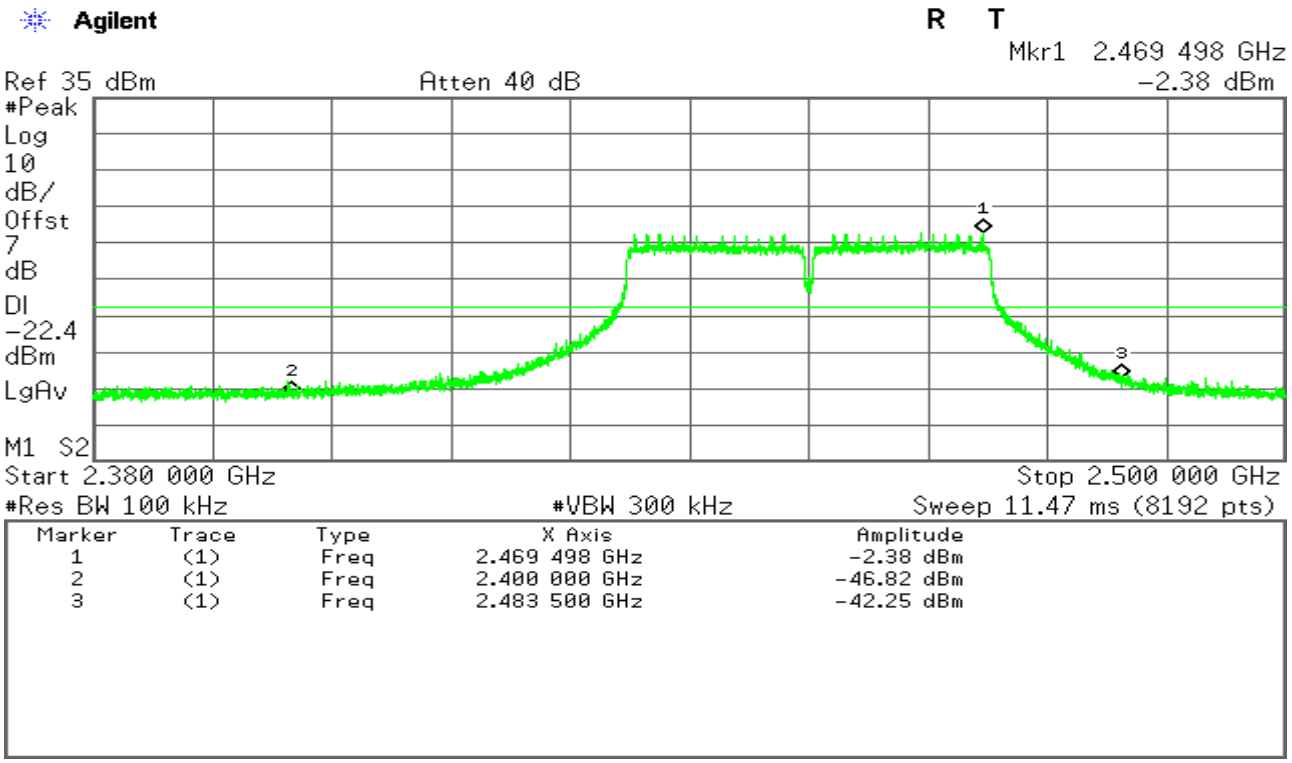


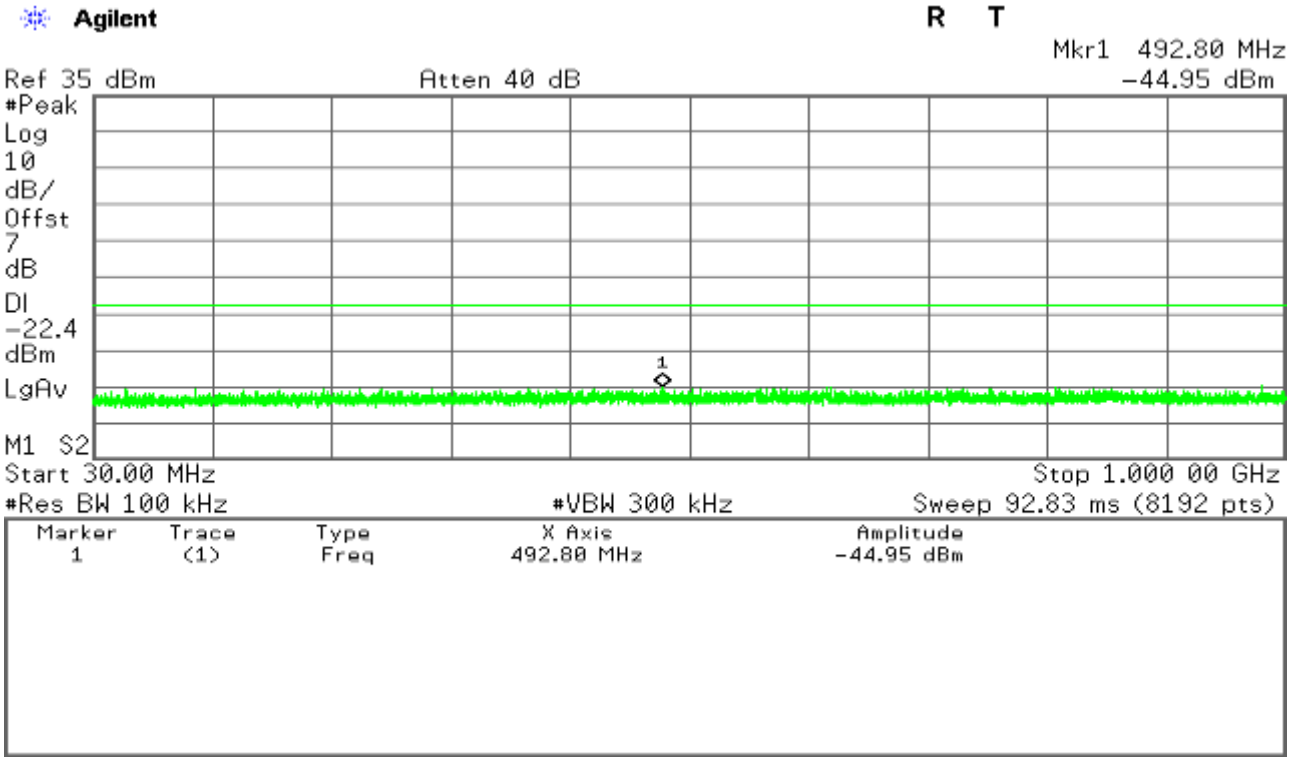


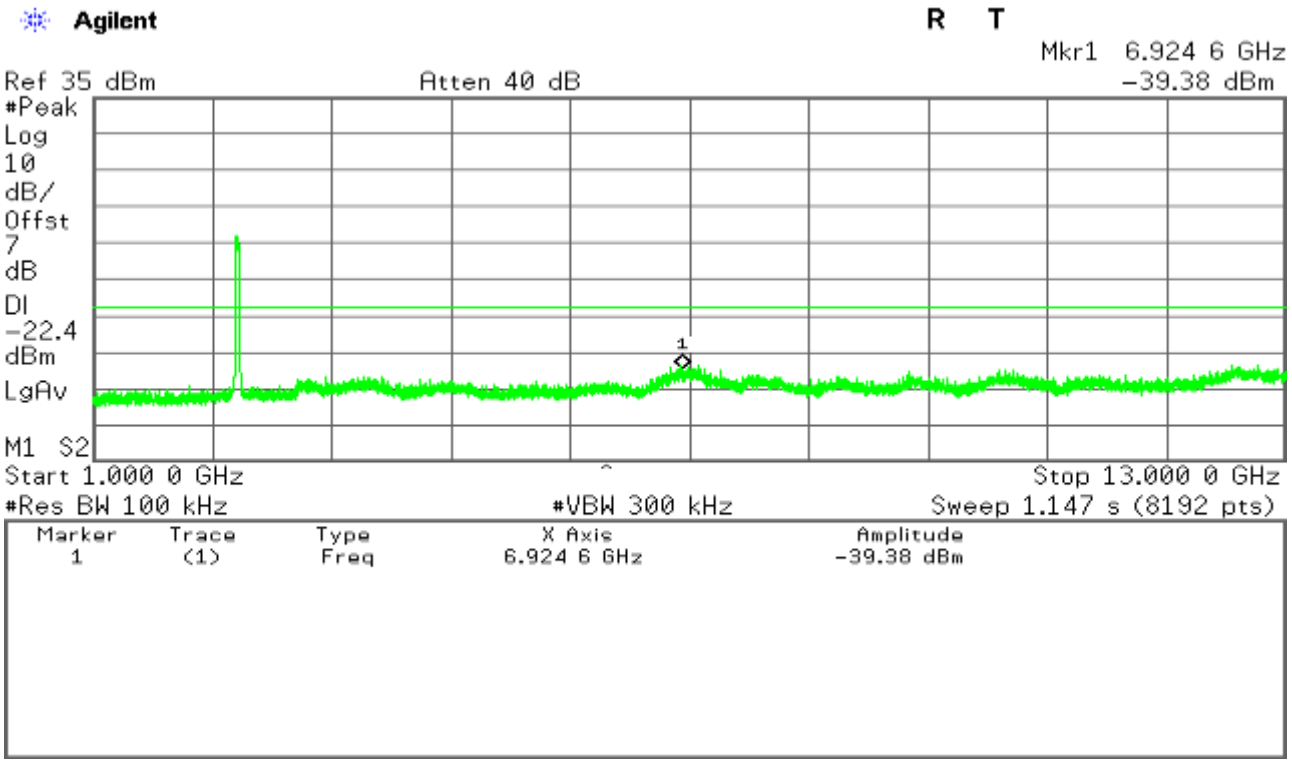


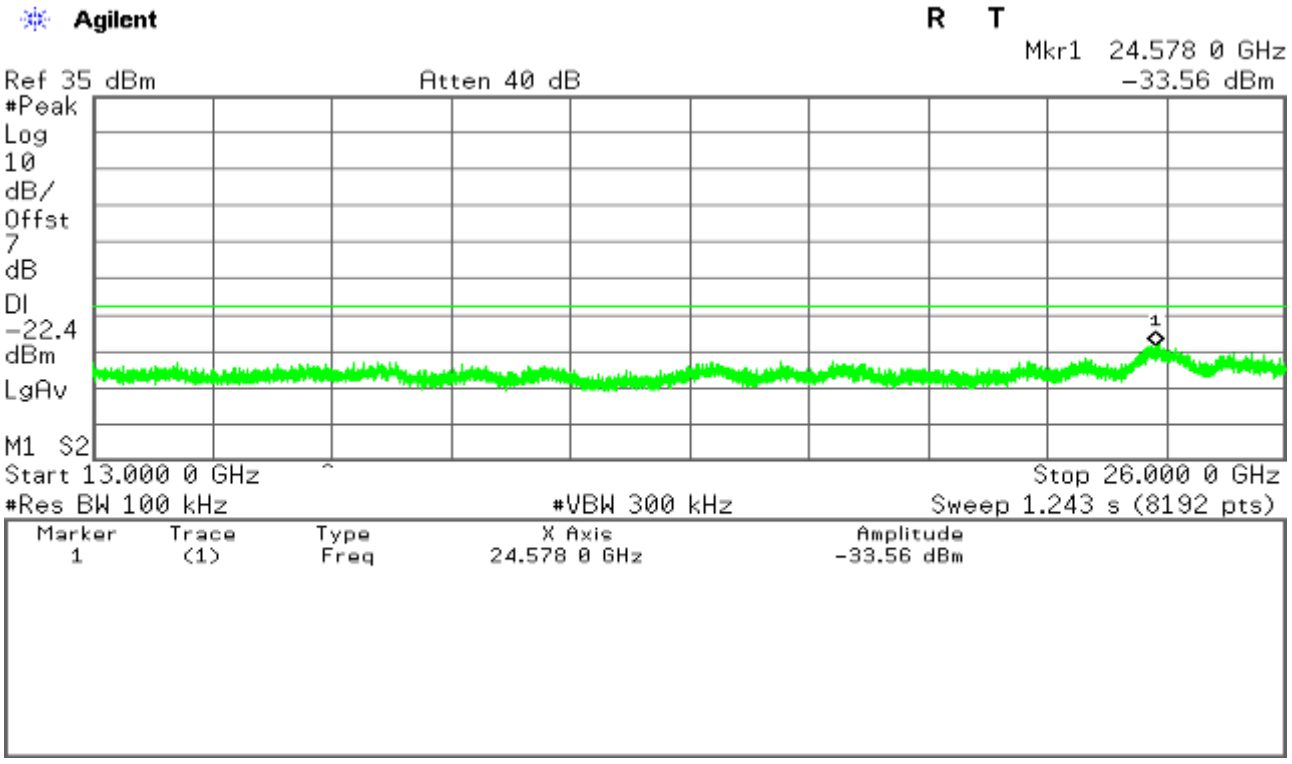


CH High









4.5.RADIATED EMISSIONS

LIMIT

Radiated emissions from 9 kHz to 25 GHz were measured according to the methods defines in ANSI C63.4-2009. The EUT was placed, 0.8 meter above the ground plane, as shown in section 5.6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions

1. According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

FREQUENCIES(MHz)	FIELD STRENGTH (microvolts/meter)	MEASUREMENT DISTANCE(meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

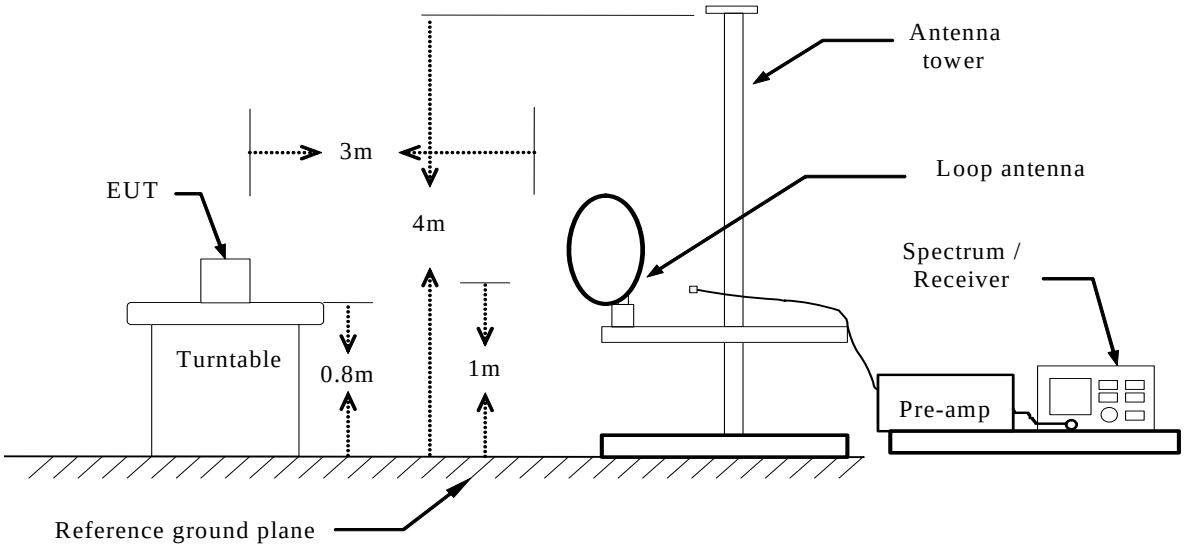
Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.*

2.In the emission table above, the tighter limit applies at the band edges.

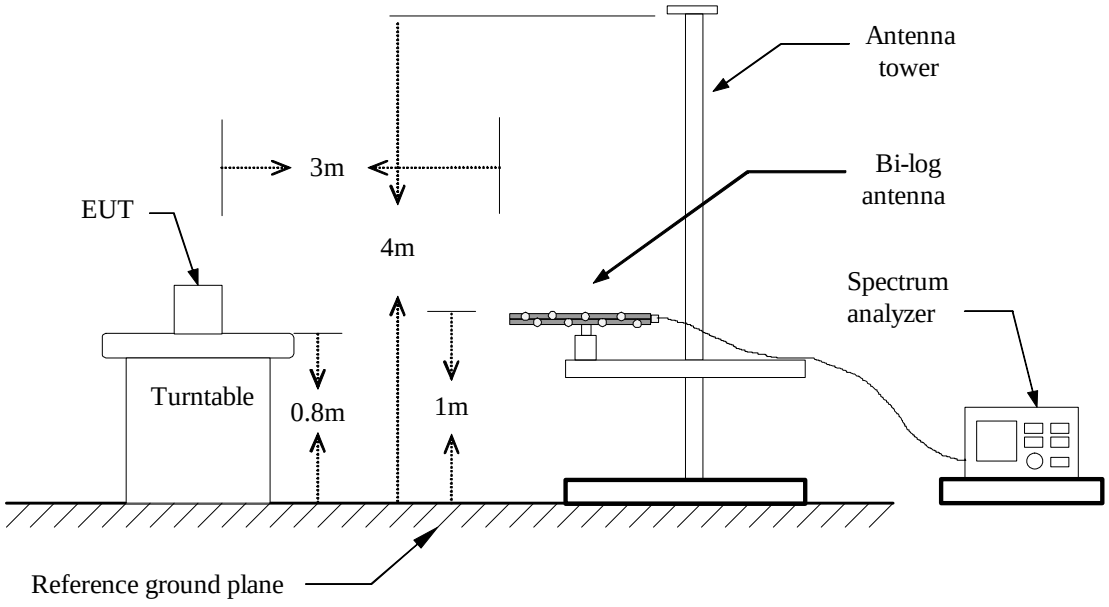
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

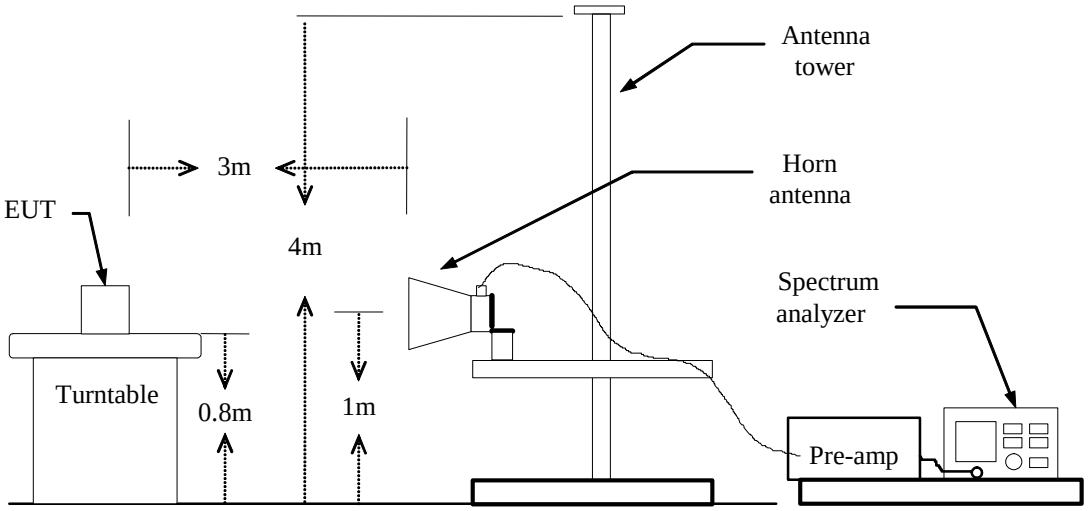
Below 30MHz



Below 1 GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:

   Below 1GHz:

   RBW=100kHz / VBW=300kHz / Sweep=AUTO

   Above 1GHz:

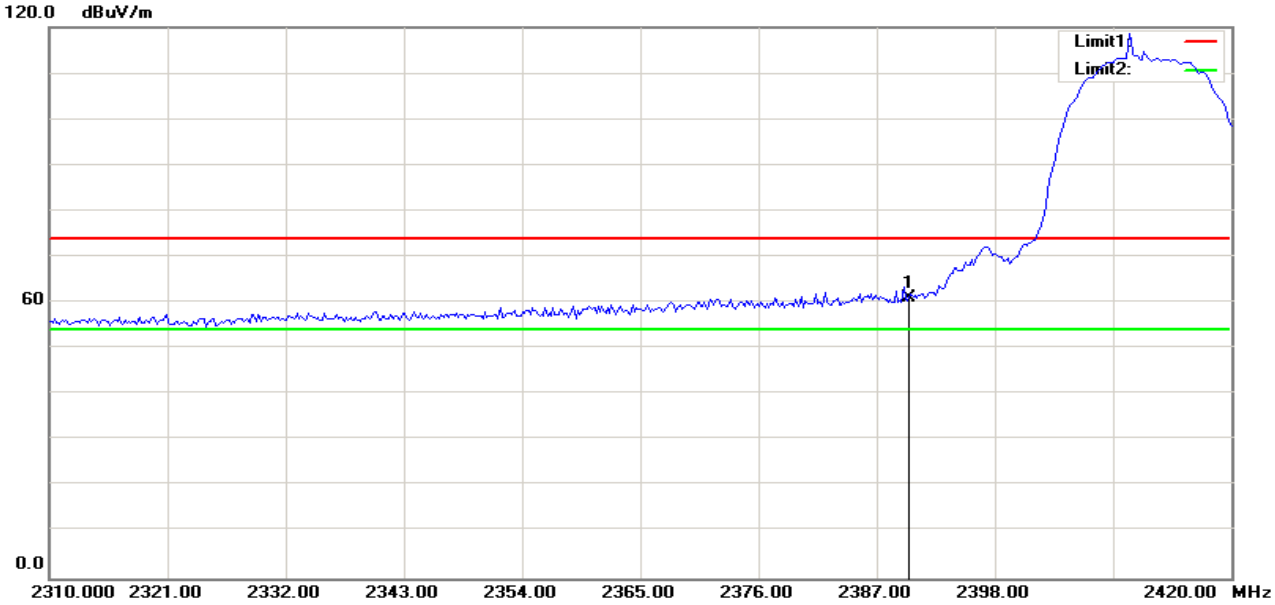
   (a) PEAK: RBW=VBW=1MHz / Sweep=AUTO

   (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.

TEST RESULTS

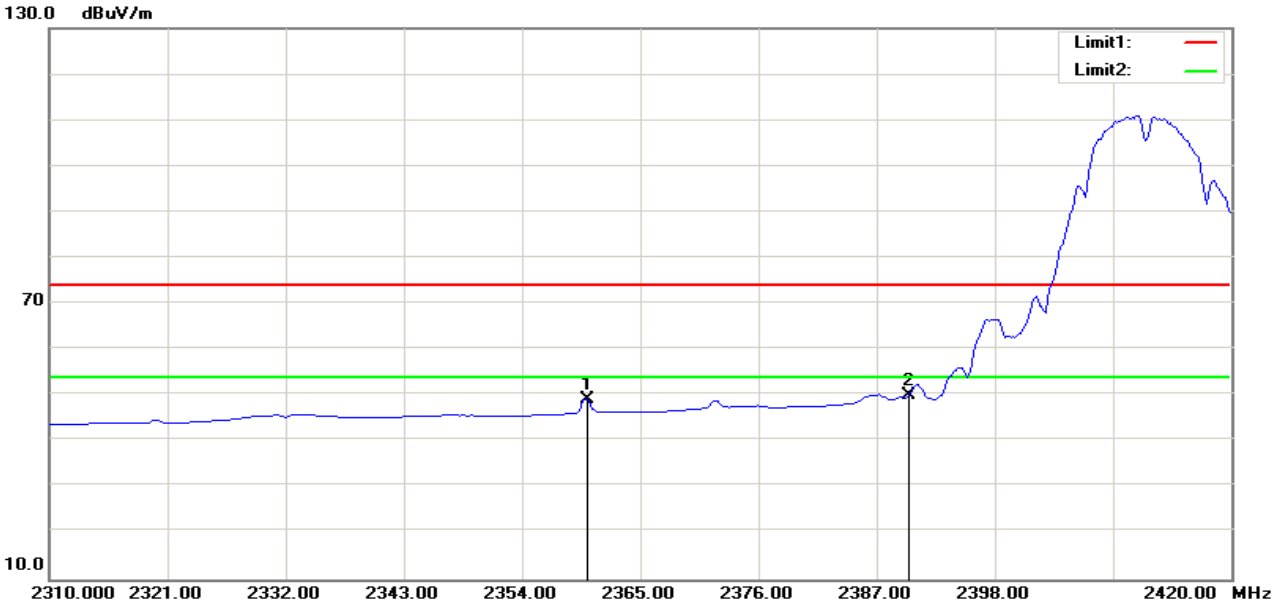
RESTRICTED BANDEDGE (b Mode, Low Channel, Horizontal)

PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	70.52	-9.42	61.10	74.00	-12.90	100	54	peak

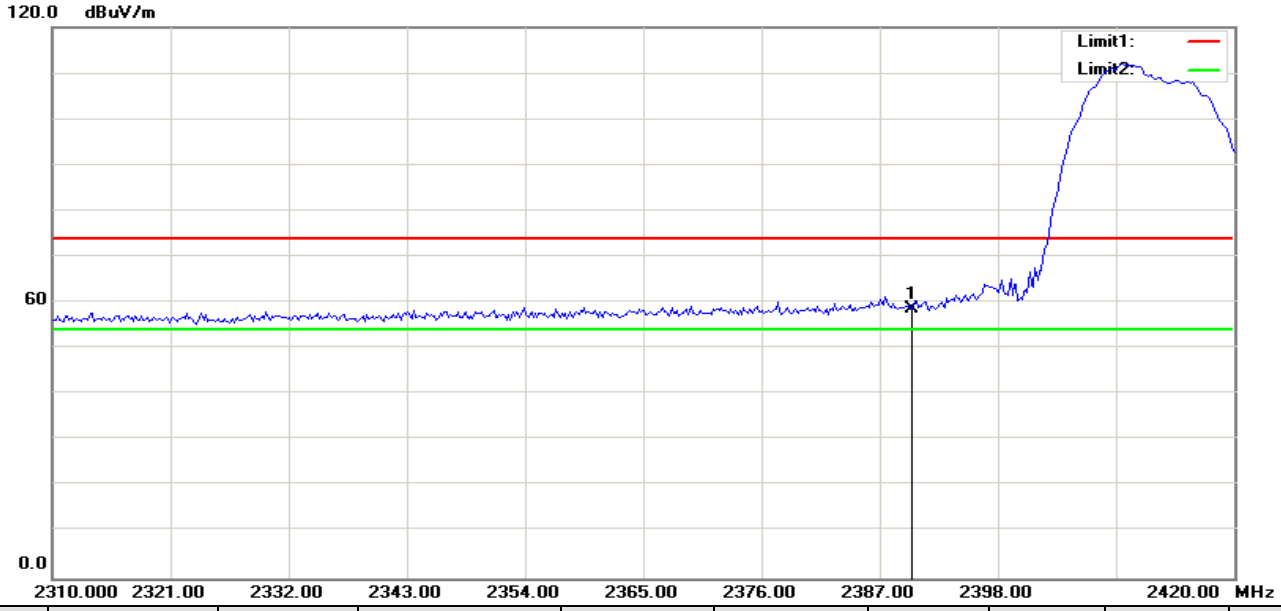
AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2360.064	58.86	-9.58	49.28	54.00	-4.72	100	45	AVG
2	2390.000	59.48	-9.42	50.06	54.00	-3.94	100	265	AVG

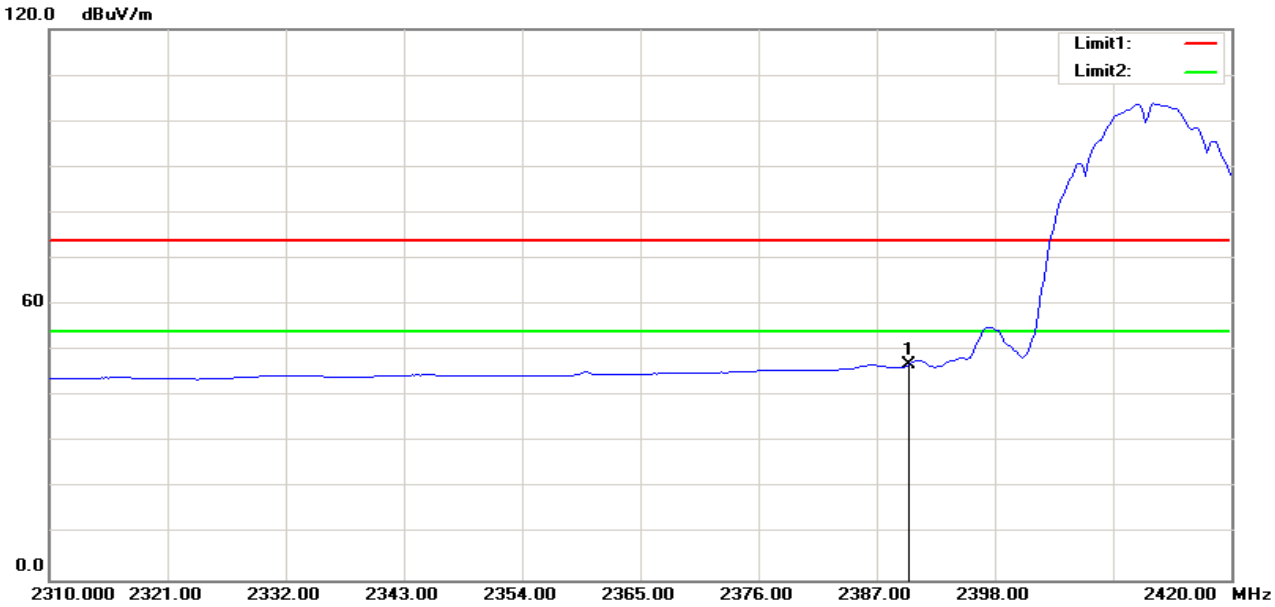
RESTRICTED BANDEDGE (b Mode, Low Channel, Vertical)

PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	67.95	-9.42	58.53	74.00	-15.47	100	238	peak

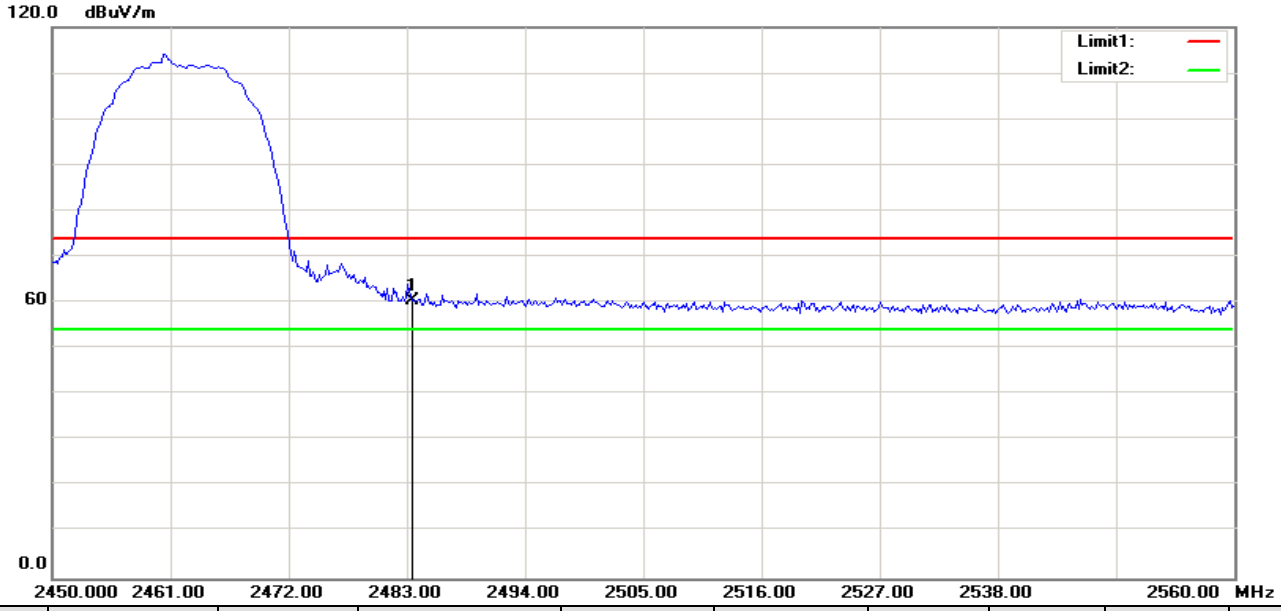
AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	56.31	-9.42	46.89	54.00	-7.11	100	238	AVG

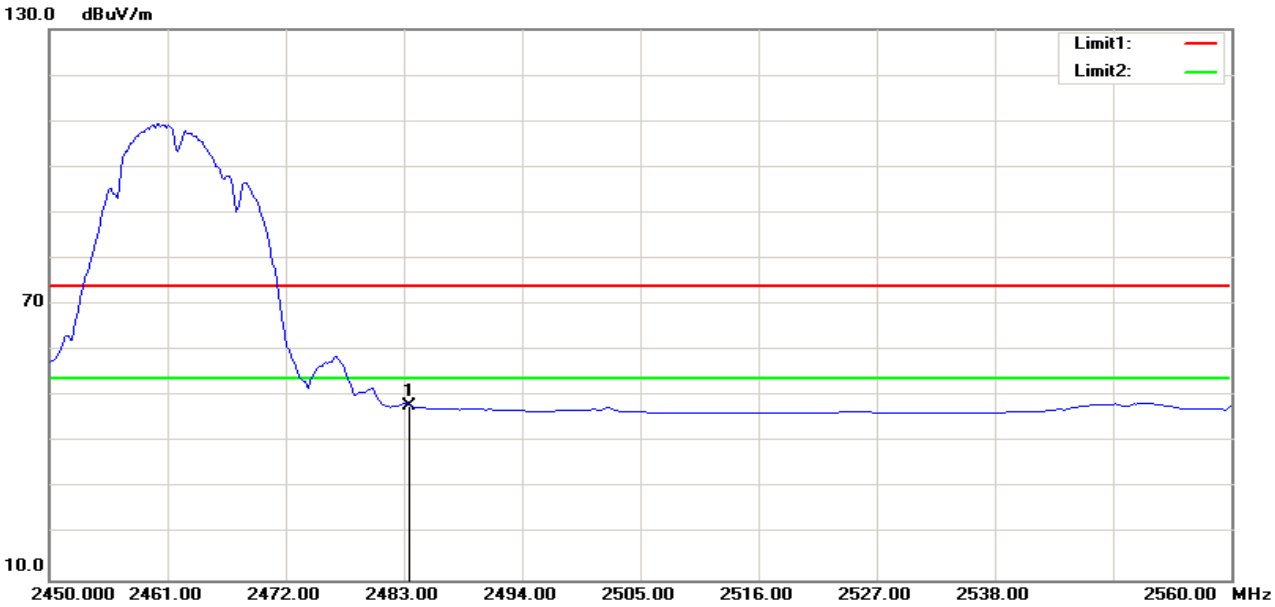
RESTRICTED BANDEDGE (b Mode, High Channel, Horizontal)

PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	69.37	-8.92	60.45	74.00	-13.55	100	65	peak

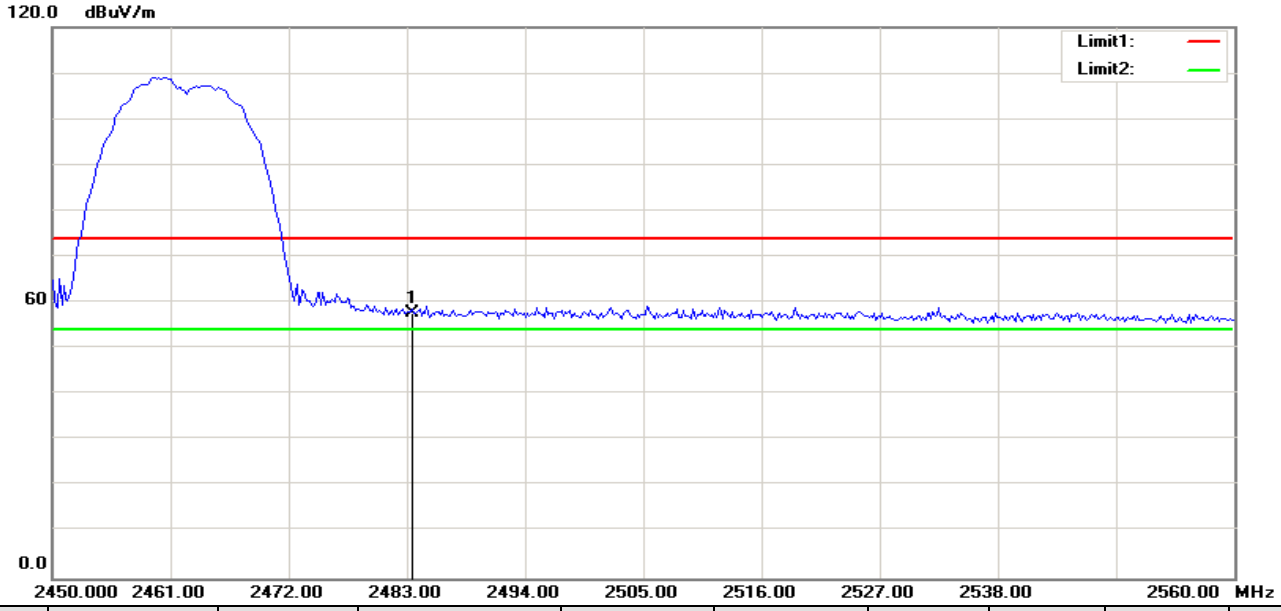
AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	56.96	-8.92	48.04	54.00	-5.96	100	125	AVG

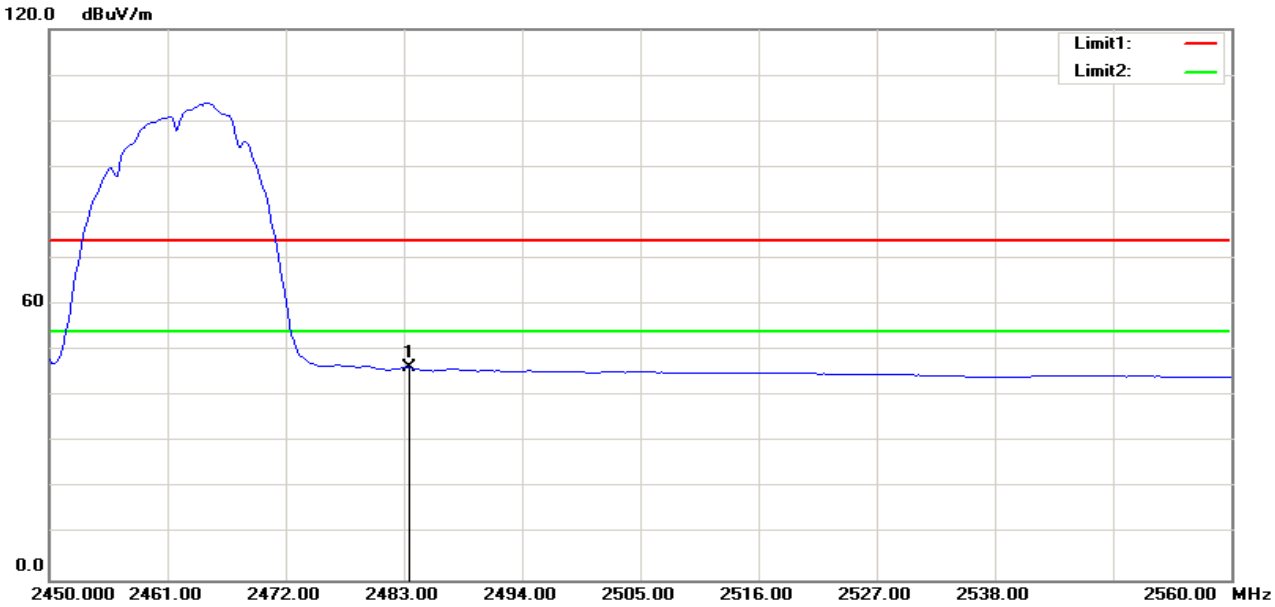
RESTRICTED BANDEDGE (b Mode, High Channel, Vertical)

PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	66.74	-8.92	57.82	74.00	-16.18	100	245	peak

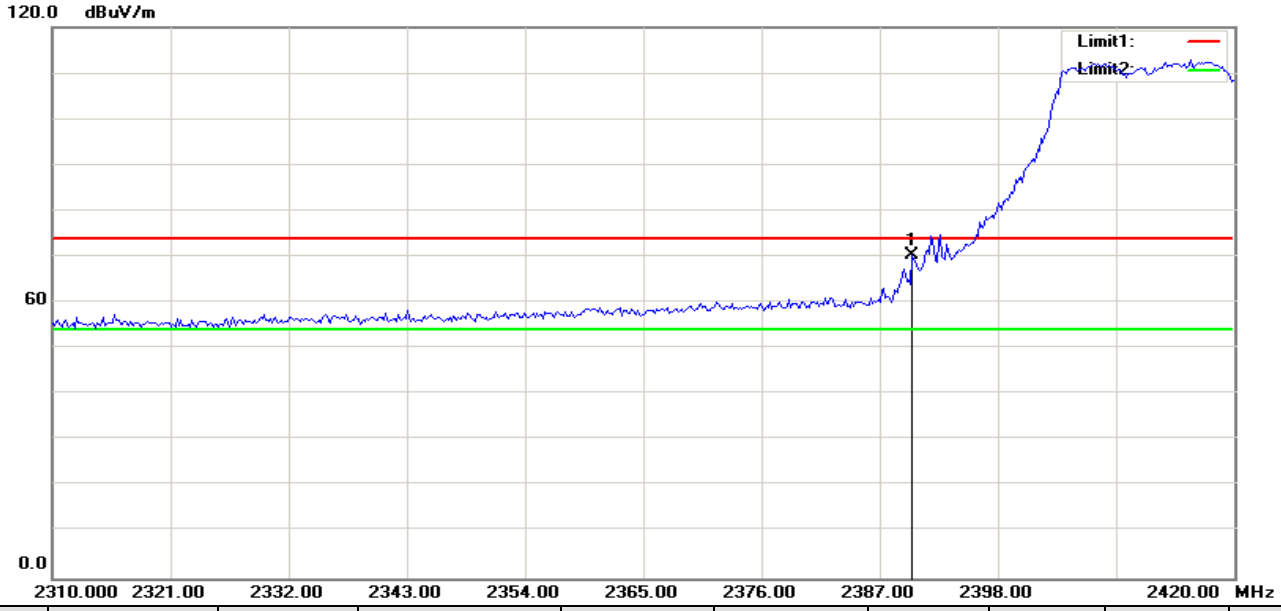
AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	55.18	-8.92	46.26	54.00	-7.74	100	245	AVG

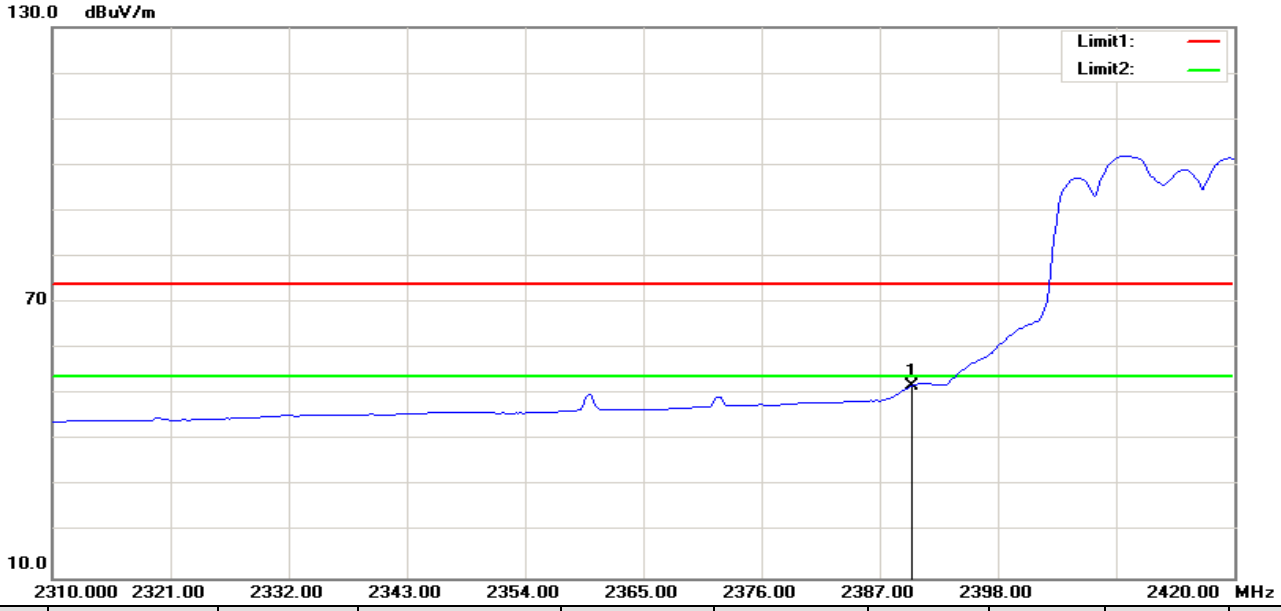
RESTRICTED BANDEDGE (g Mode, Low Channel, Horizontal)

PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	79.64	-9.42	70.22	74.00	-3.78	100	125	peak

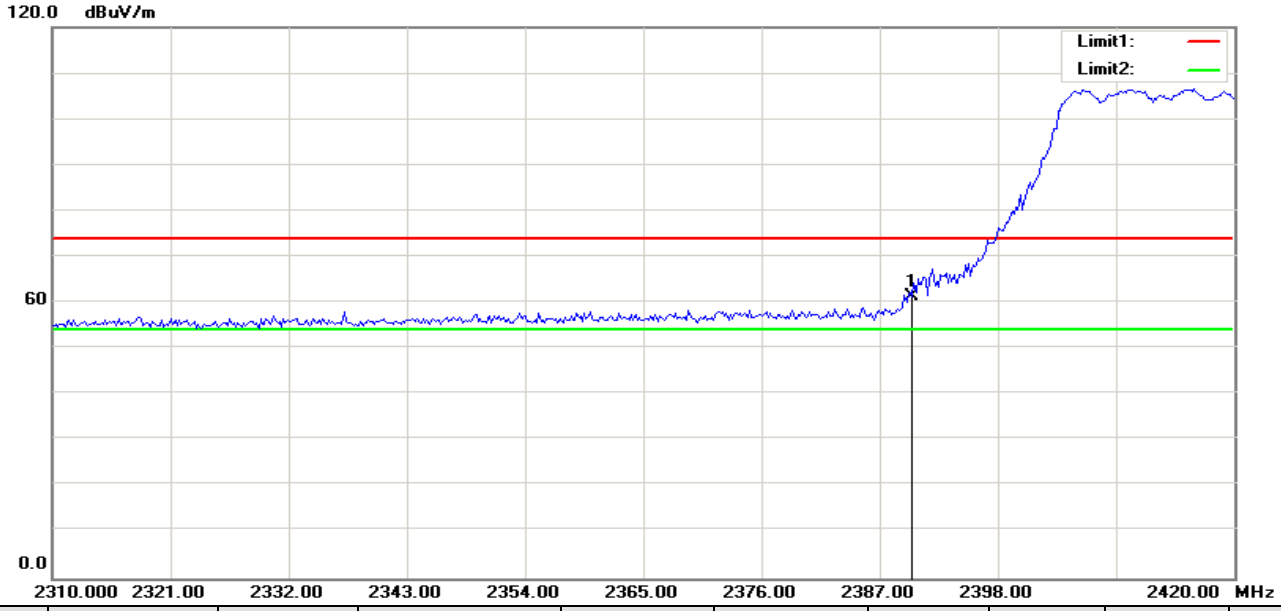
AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	61.40	-9.42	51.98	54.00	-2.02	100	159	AVG

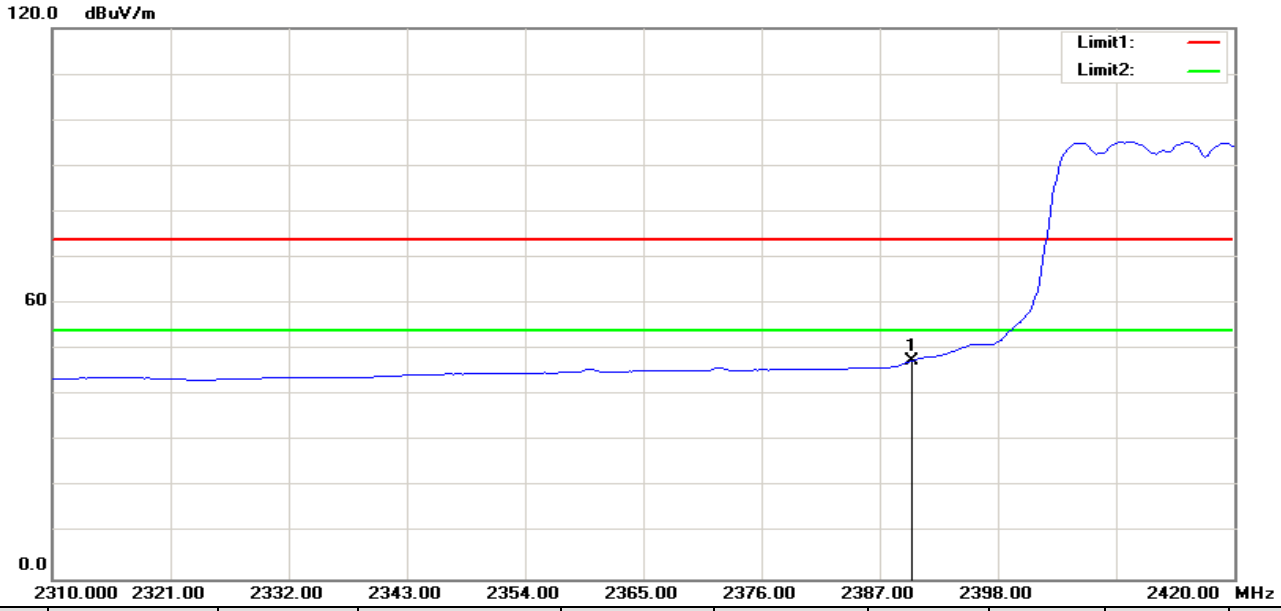
RESTRICTED BANDEDGE (g Mode, Low Channel, Vertical)

PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	70.88	-9.42	61.46	74.00	-12.54	100	344	peak

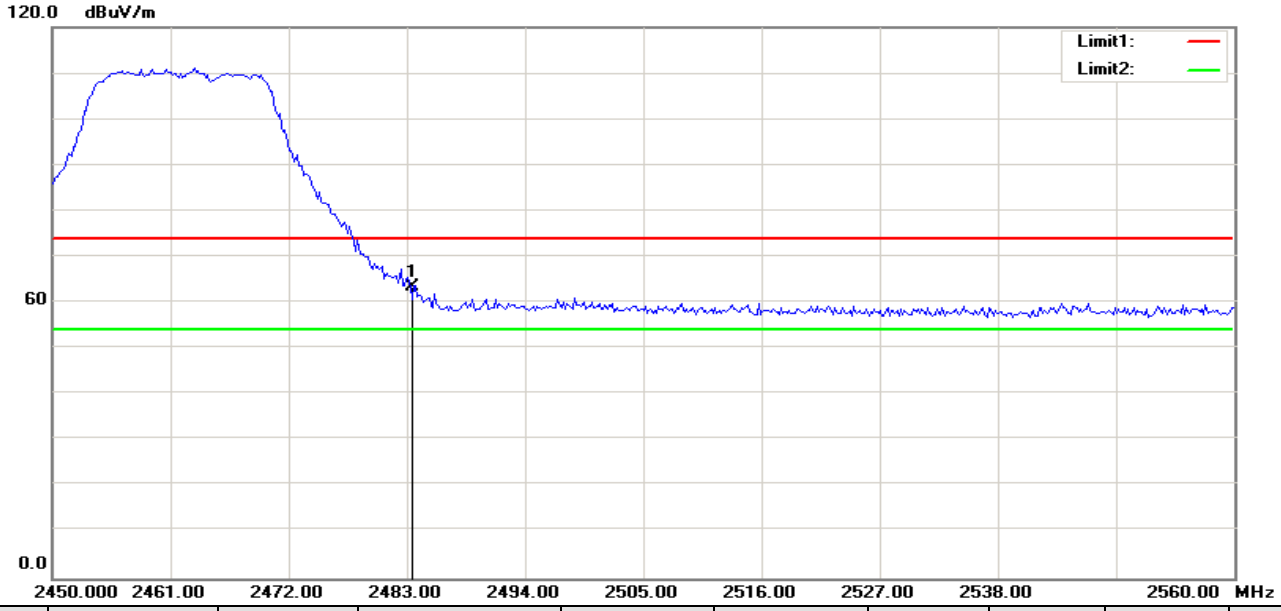
AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2390.000	57.04	-9.42	47.62	54.00	-6.38	100	344	AVG

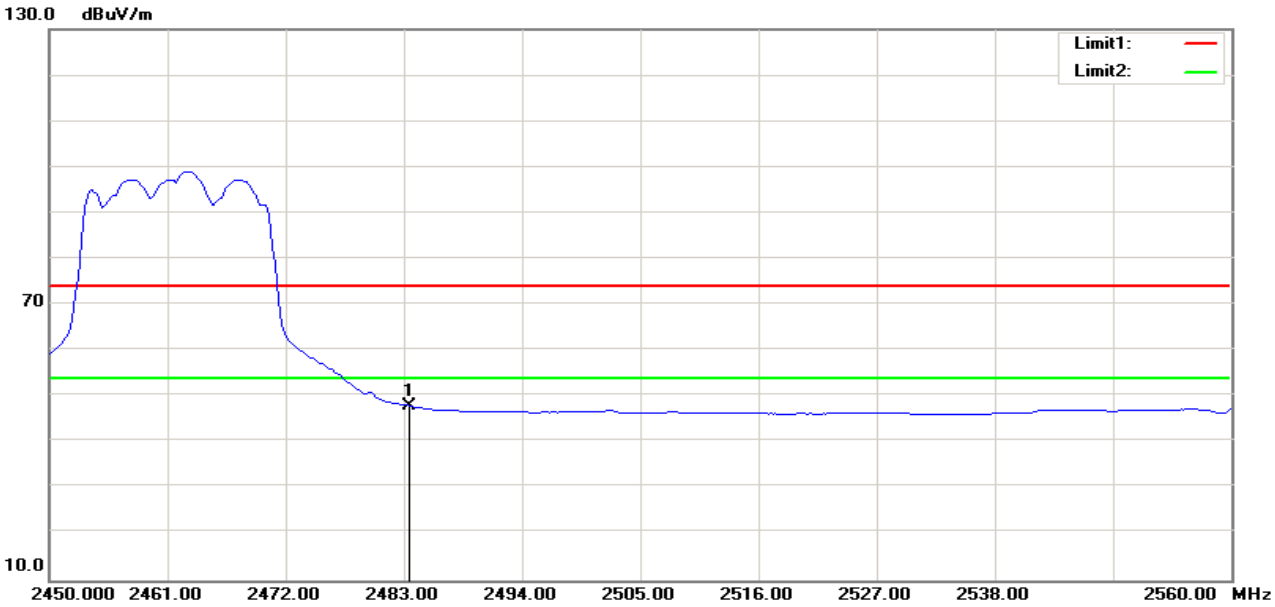
RESTRICTED BANDEDGE (g Mode, High Channel, Horizontal)

PEAK



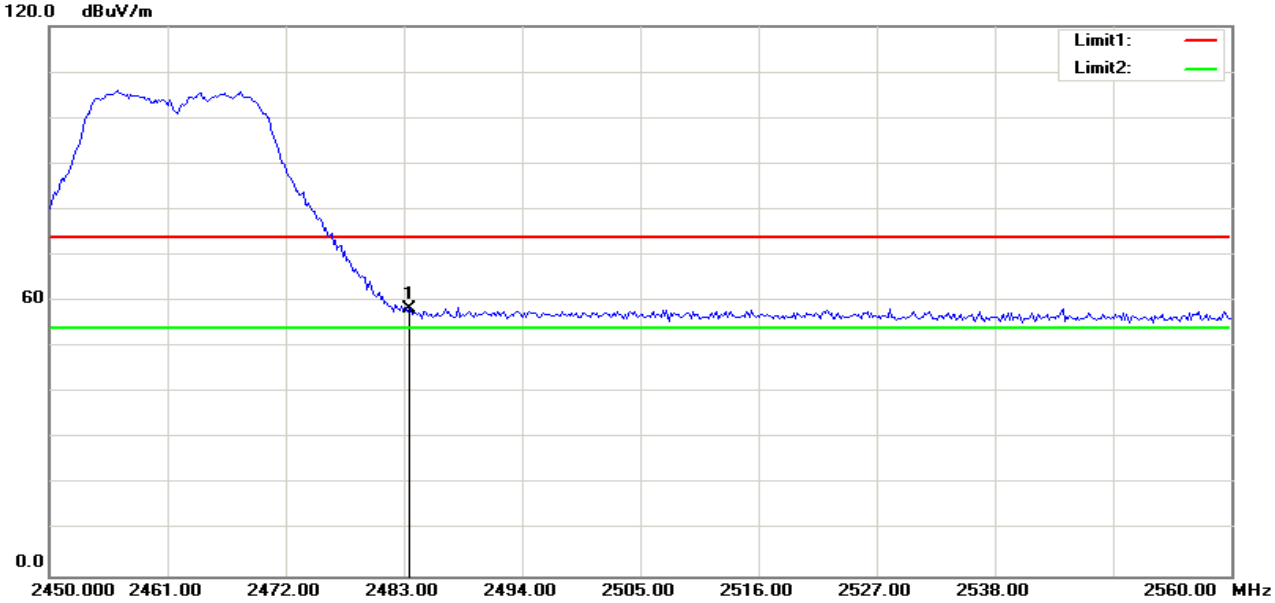
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	72.52	-8.92	63.60	74.00	-10.40	100	323	peak

AVG



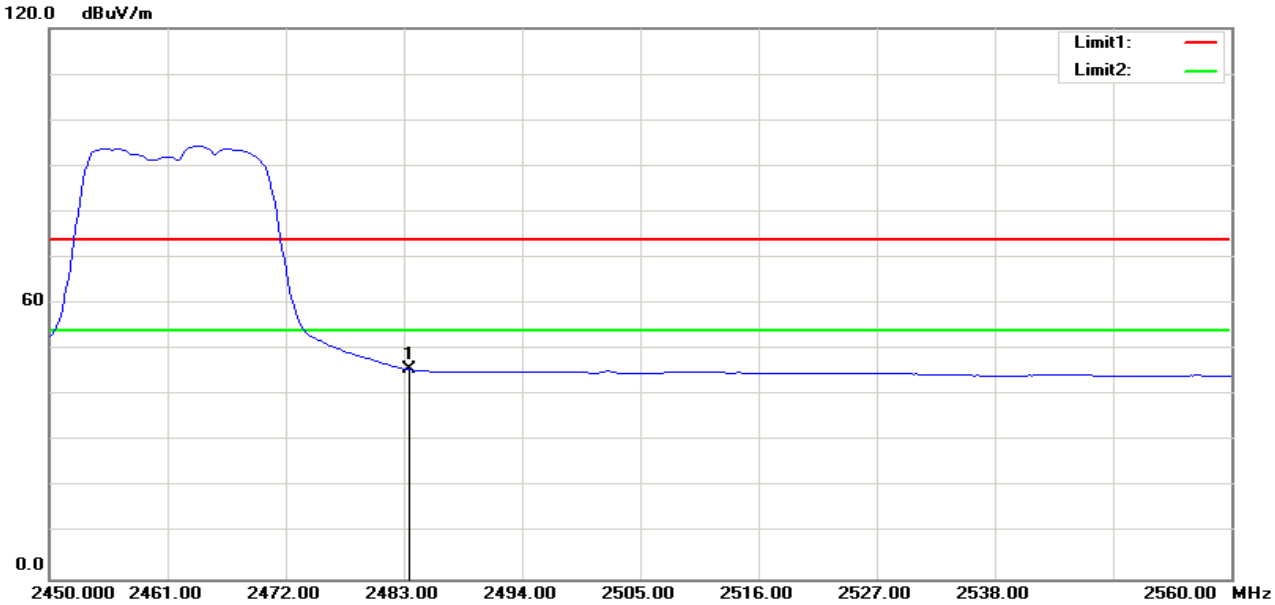
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	56.85	-8.92	47.93	54.00	-6.07	100	164	AVG

RESTRICTED BANDEDGE (g Mode, High Channel, Vertical)
Peak



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	67.21	-8.92	58.29	74.00	-15.71	100	94	peak

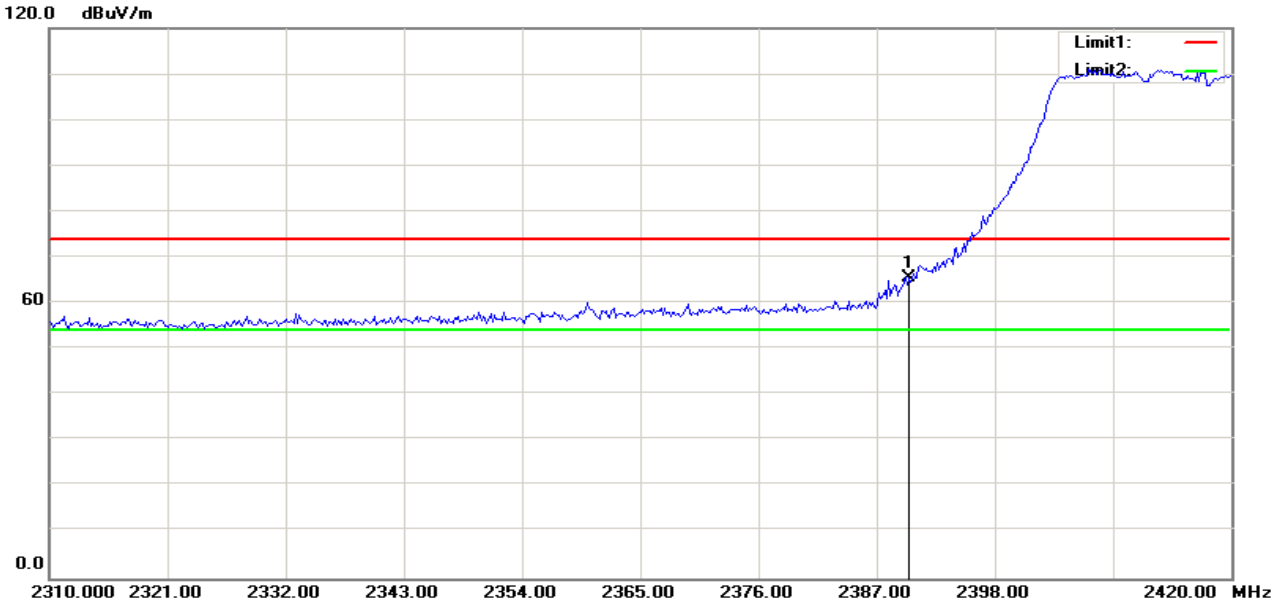
AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	54.59	-8.92	45.67	54.00	-8.33	100	94	AVG

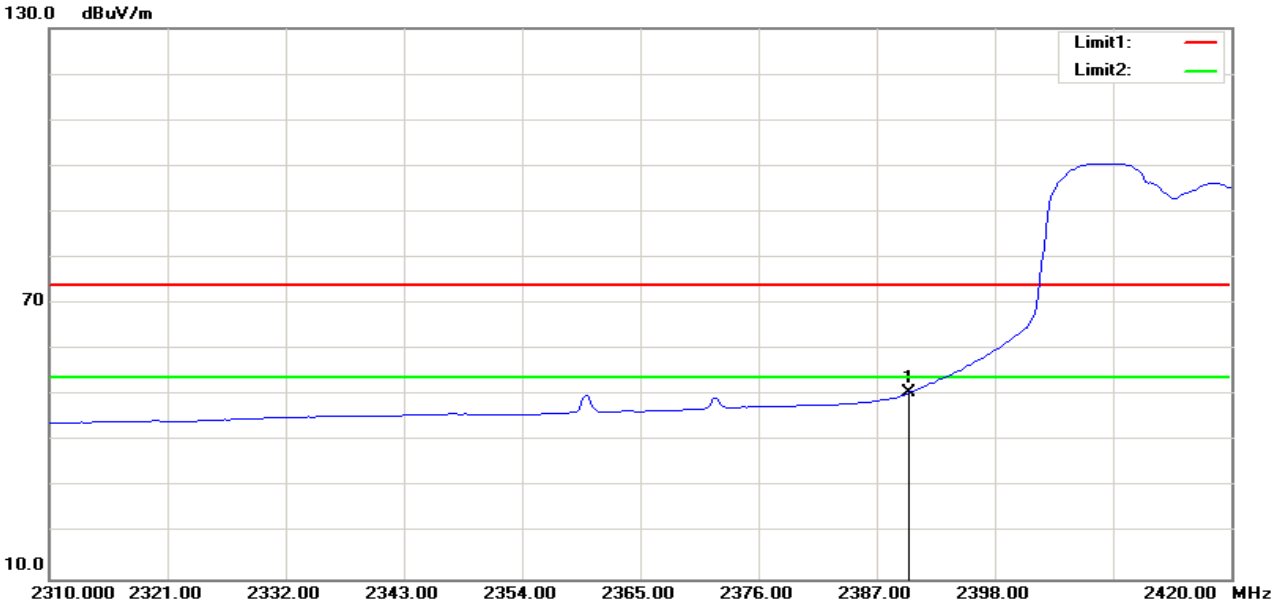
RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, Low Channel, Horizontal)

PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	74.91	-9.42	65.49	74.00	-8.51	100	307	peak

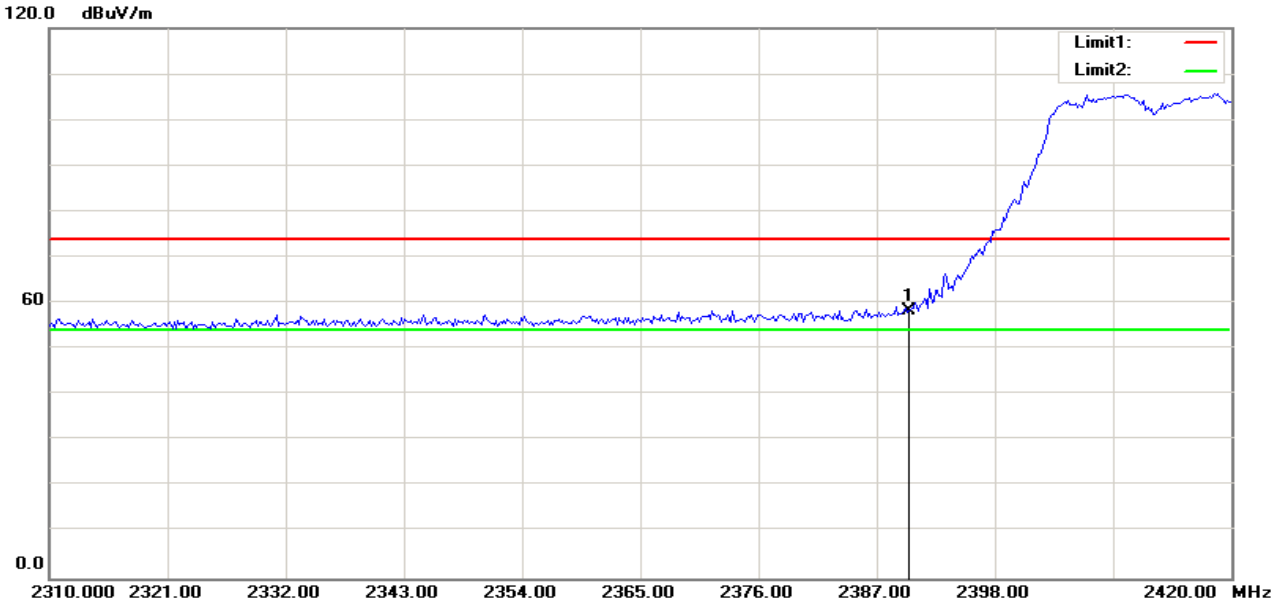
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	60.10	-9.42	50.68	54.00	-3.32	100	187	AVG

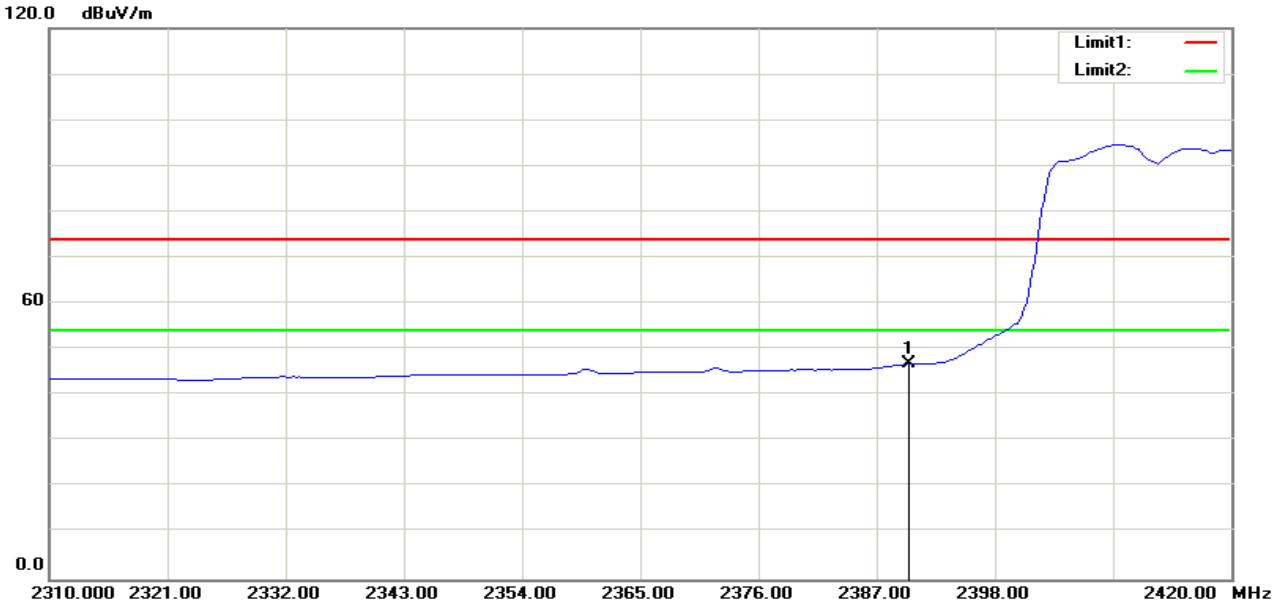
RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, Low Channel, Vertical)

PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	67.63	-9.42	58.21	74.00	-15.79	100	114	peak

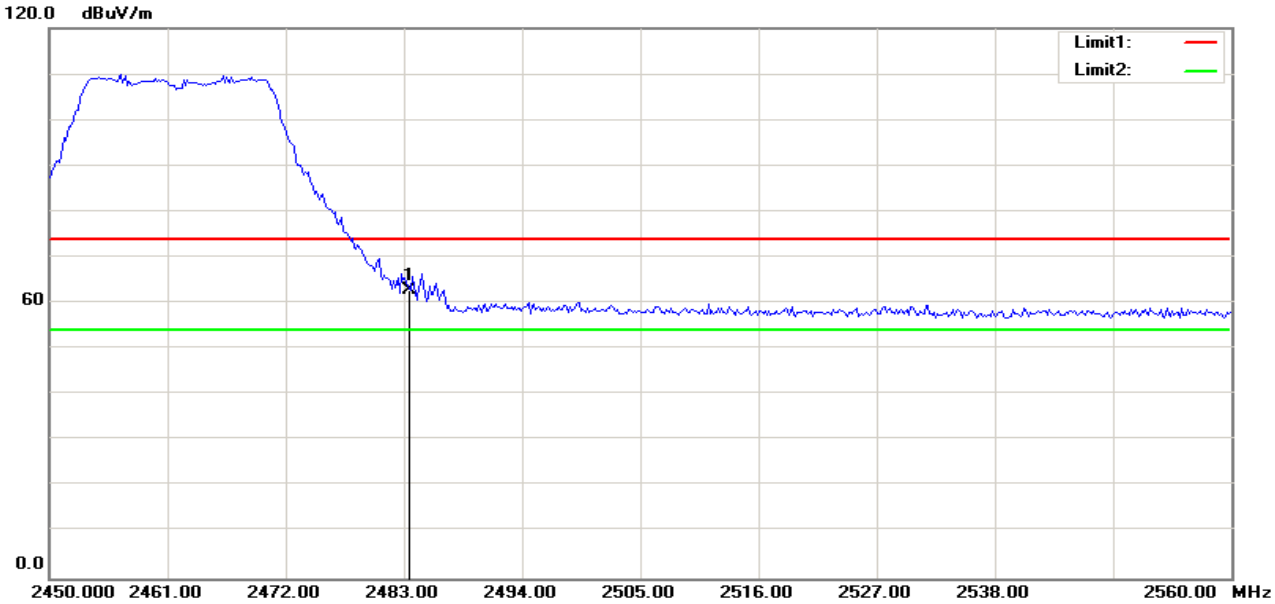
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	56.23	-9.42	46.81	54.00	-7.19	100	114	AVG

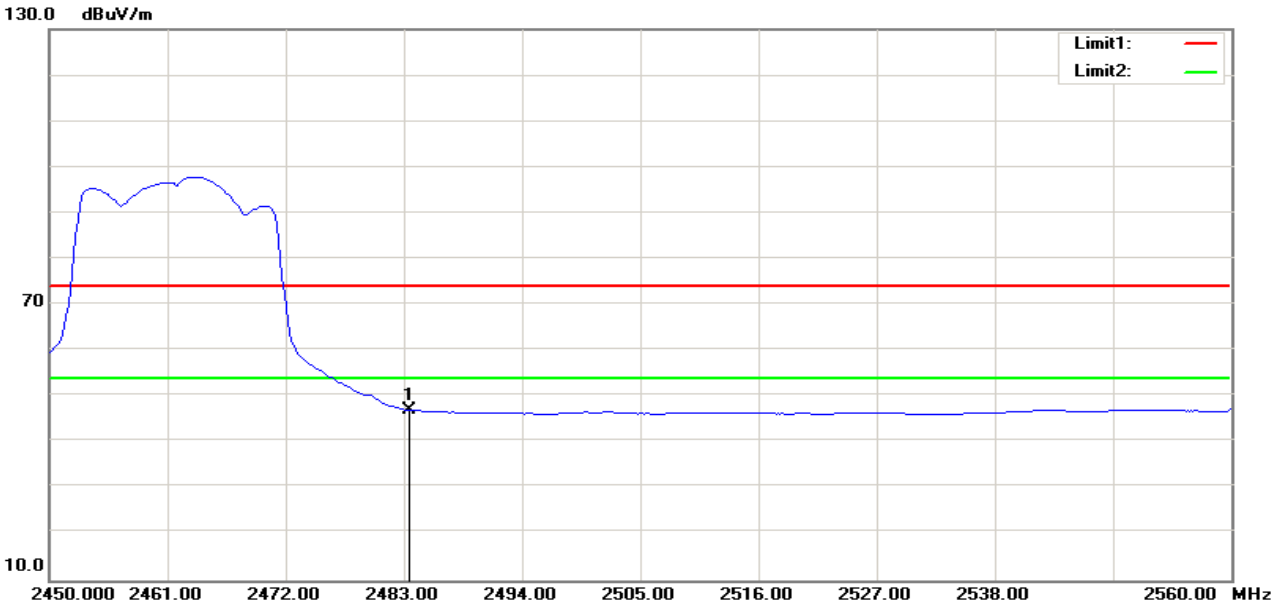
RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, High Channel, Horizontal)

PEAK



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	71.71	-8.92	62.79	74.00	-11.21	100	91	peak

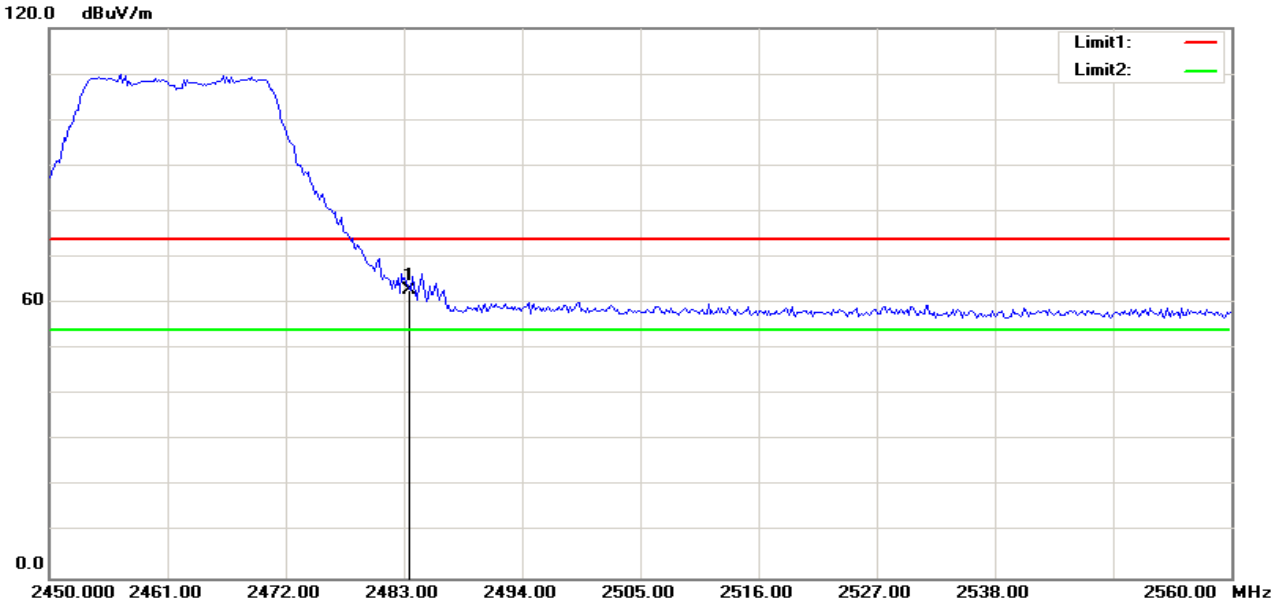
AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	55.91	-8.92	46.99	54.00	-7.01	100	159	AVG

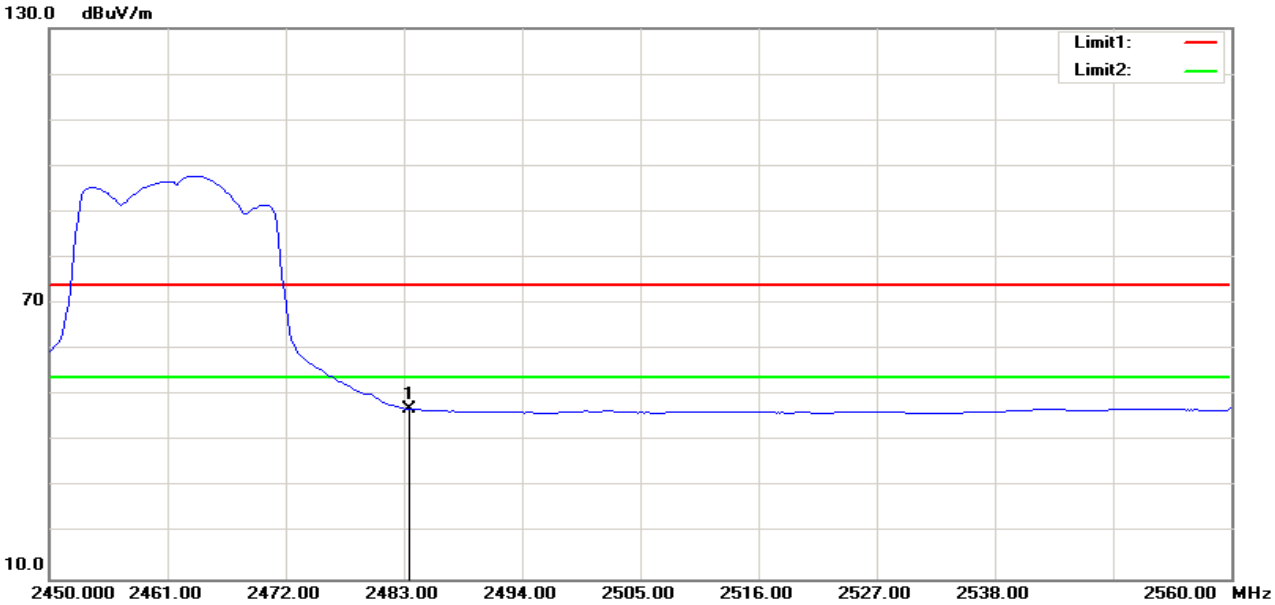
RESTRICTED BANDEDGE (draft 802.11n Standard-20 MHz Channel mode, High Channel, Vertical)

PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	71.71	-8.92	62.79	74.00	-11.21	100	91	peak

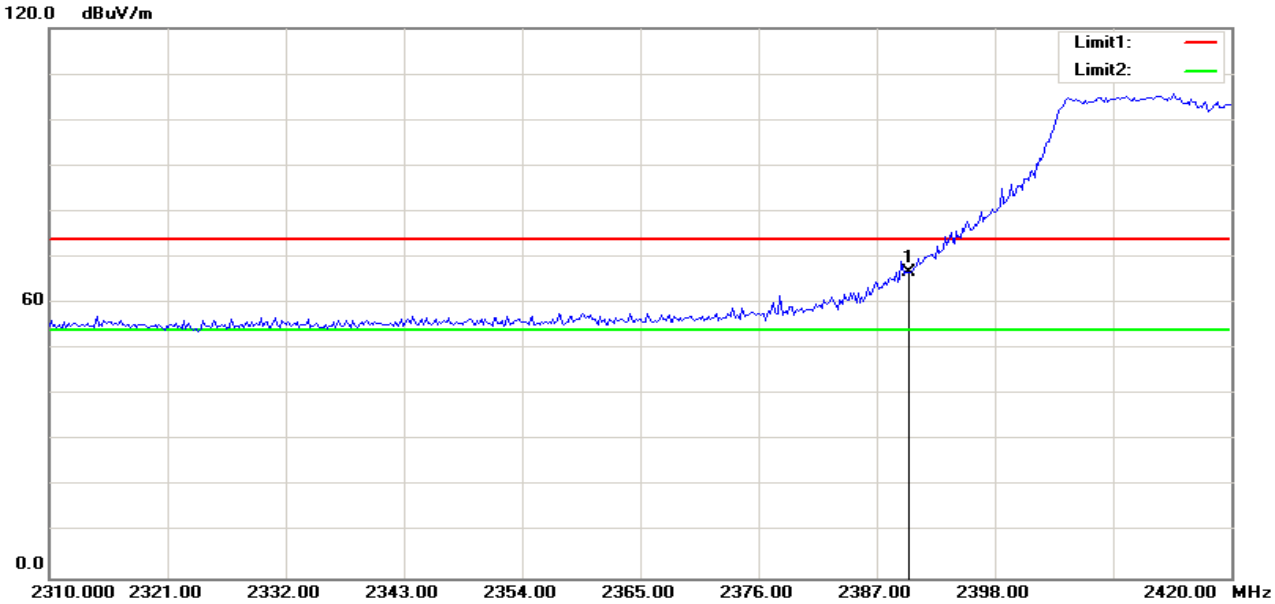
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	55.91	-8.92	46.99	54.00	-7.01	100	47	AVG

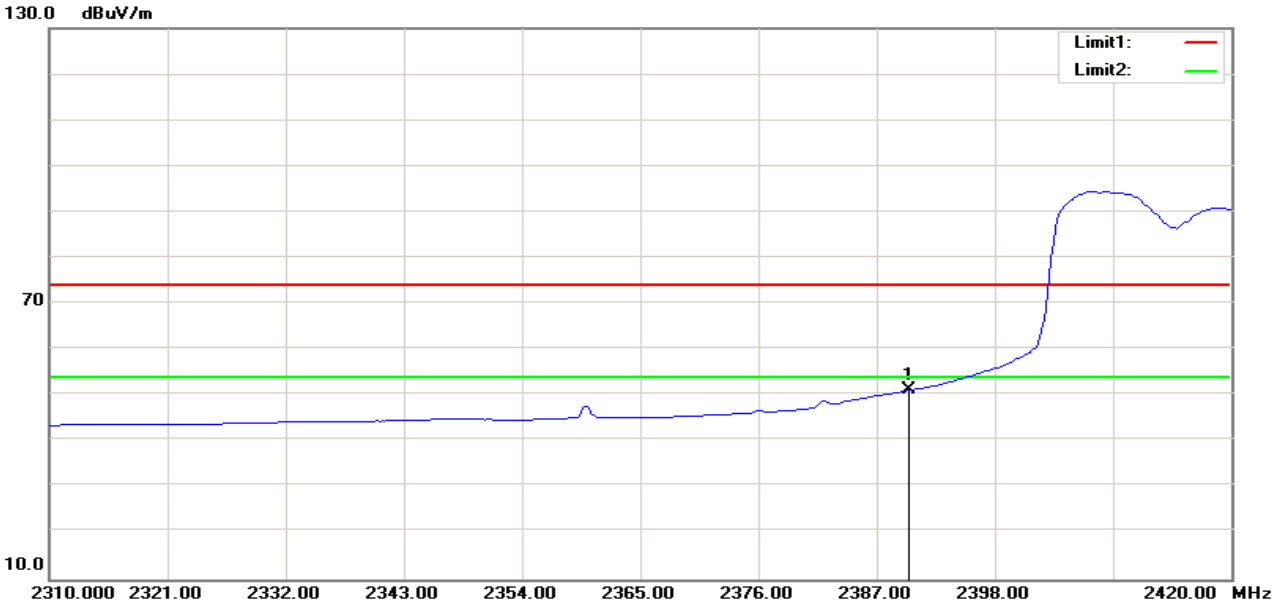
RESTRICTED BANDEDGE (draft 802.11n Wide -40 MHz Channel mode, Low Channel, Horizontal)

PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	76.17	-9.42	66.75	74.00	-7.25	100	57	peak

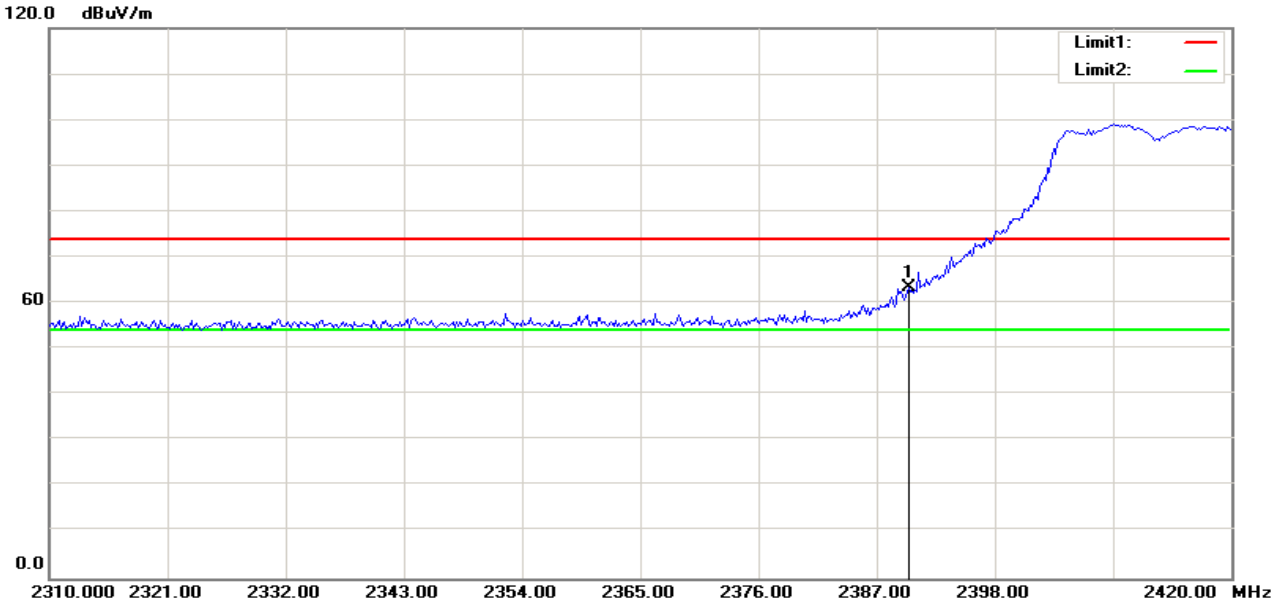
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	60.61	-9.42	51.19	54.00	-2.81	100	159	AVG

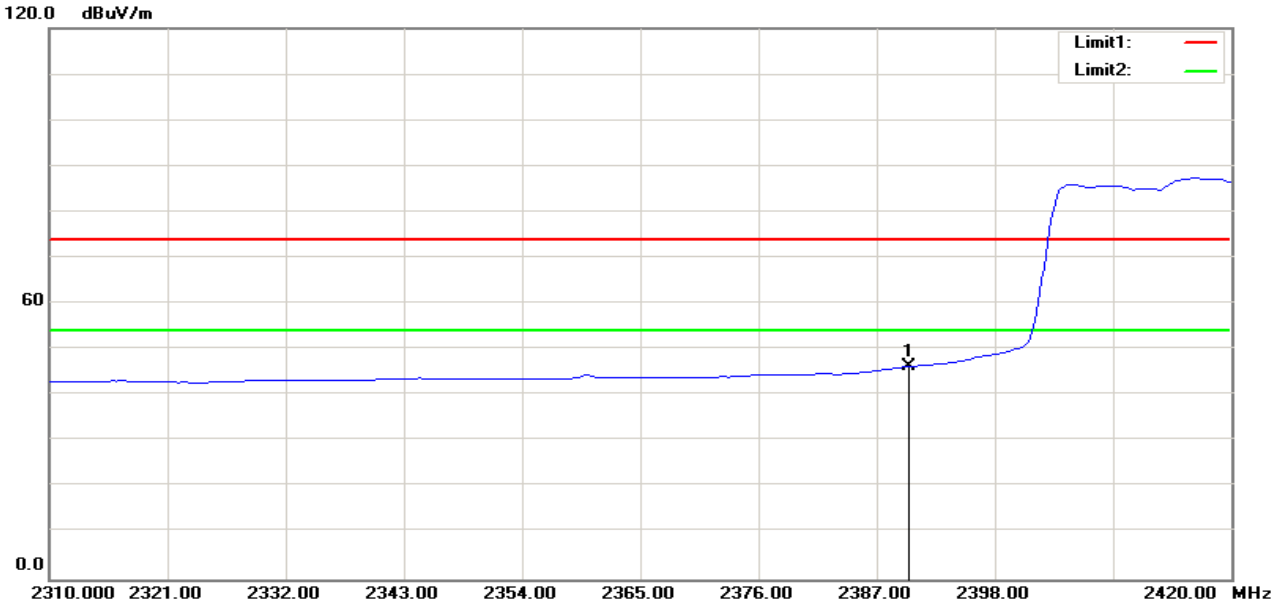
RESTRICTED BANDEDGE (draft 802.11n Wide -40 MHz Channel mode, Low Channel, Vertical)

PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	72.75	-9.42	63.33	74.00	-10.67	100	295	peak

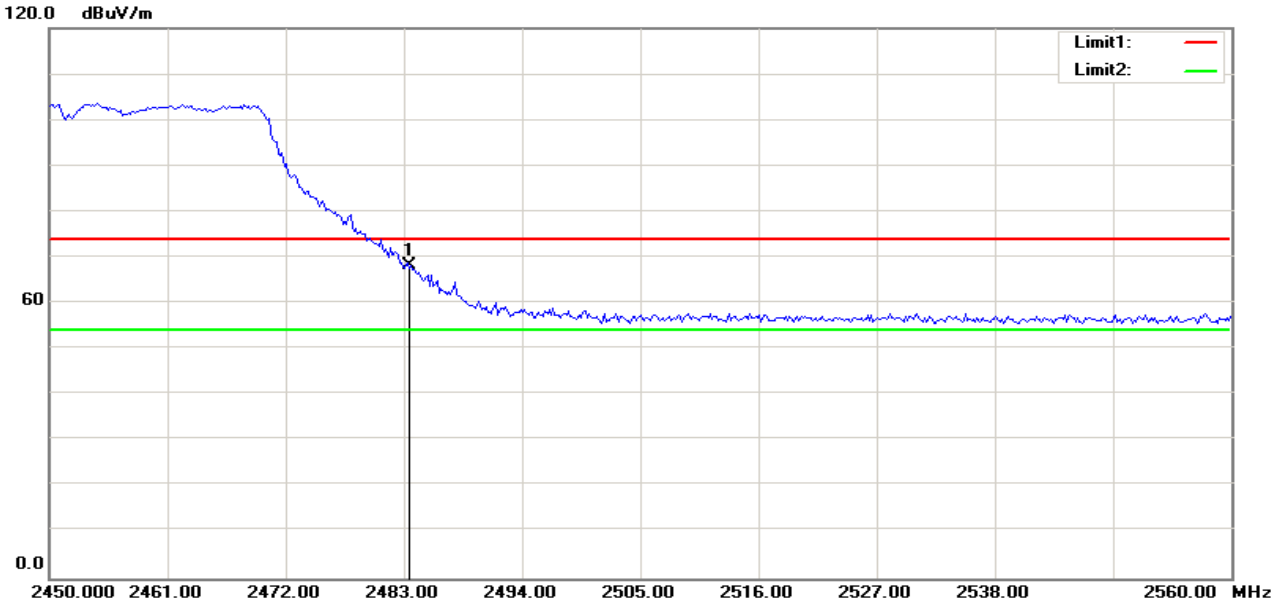
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2390.000	55.77	-9.42	46.35	54.00	-7.65	100	295	AVG

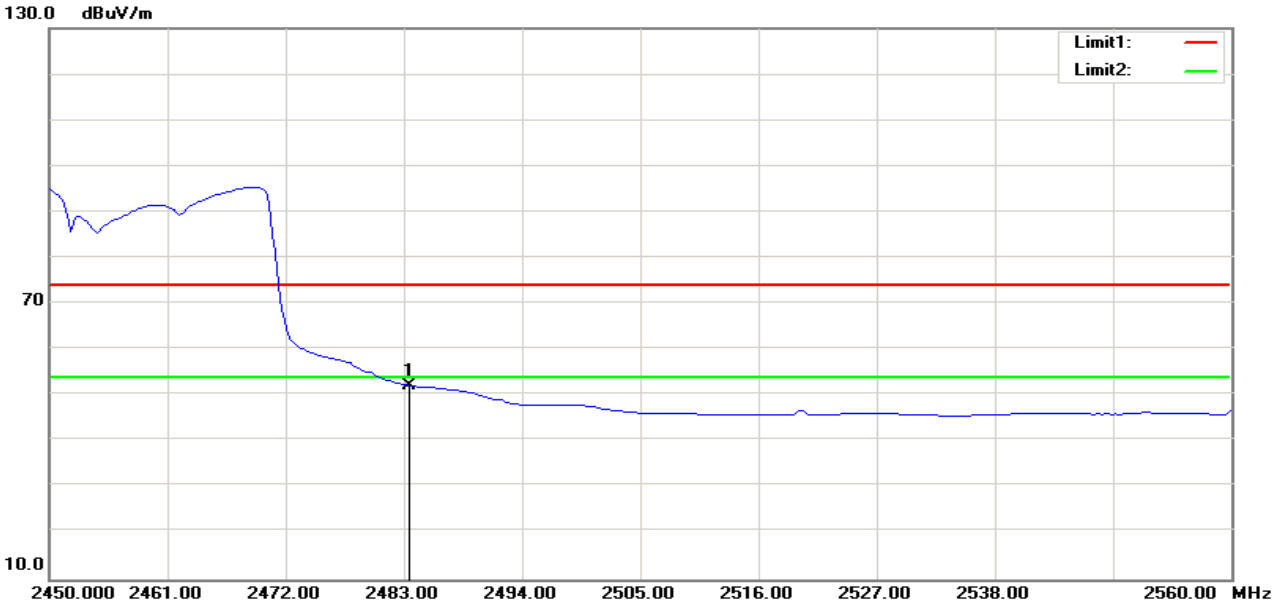
RESTRICTED BANDEDGE (draft 802.11n Wide -40 MHz Channel mode, High Channel, Horizontal)

PEAK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	77.04	-8.92	68.12	74.00	-5.88	100	332	peak

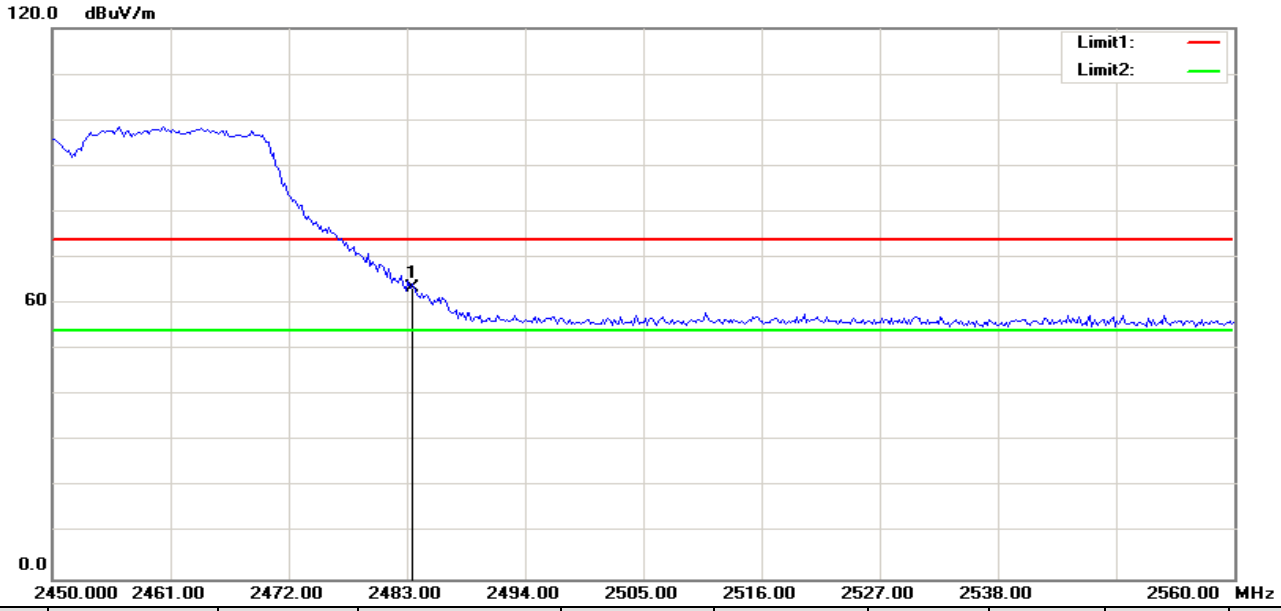
AVG



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2483.500	60.98	-8.92	52.06	54.00	-1.94	100	198	AVG

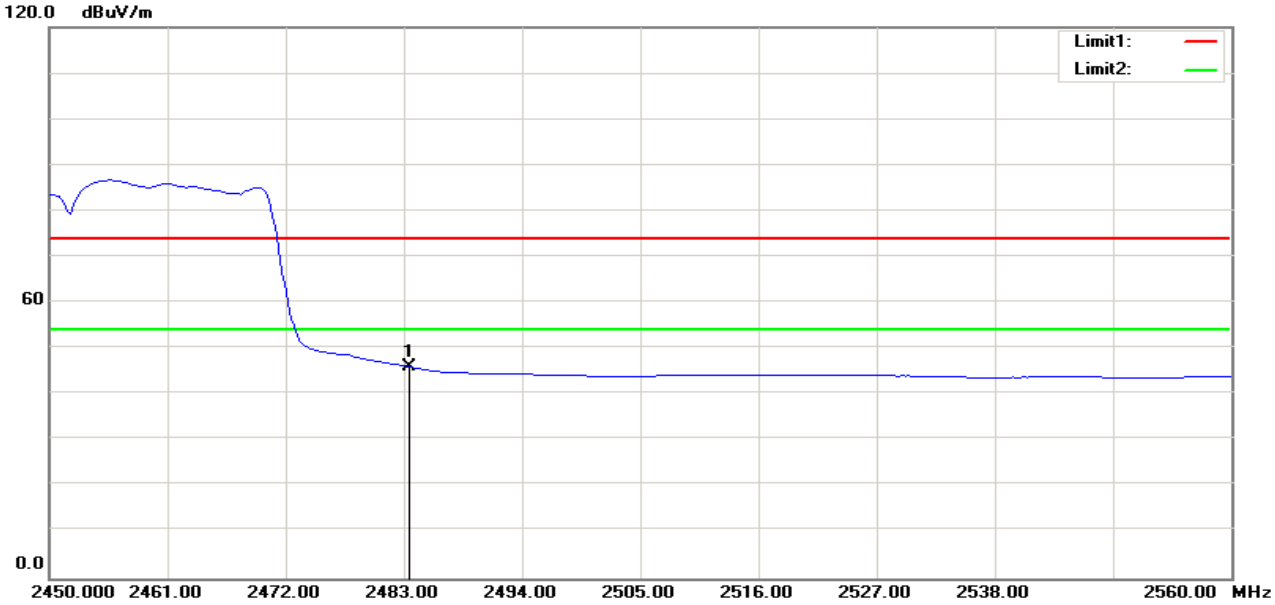
RESTRICTED BANDEDGE (draft 802.11n Wide -40 MHz Channel mode, High Channel, Vertical)

Peak



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	72.28	-8.92	63.36	74.00	-10.64	100	85	peak

AVG



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2483.500	54.90	-8.92	45.98	54.00	-8.02	100	85	AVG

Below 1GHz

Operation Mode: Normal Link **Test Date:** 2014-10-22

Temperature: 22°C **Tested by:** Charly.xue

Humidity: 48% RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
74.6200	V	26.72	9.22	35.94	40.00	-4.06	Peak
102.7500	V	27.59	10.85	38.44	43.50	-5.06	Peak
141.5500	V	20.75	14.81	35.56	43.50	-7.94	Peak
372.4100	V	18.47	17.23	35.70	46.00	-10.30	Peak
749.7400	V	15.34	22.68	38.02	46.00	-7.98	Peak
910.7600	V	15.58	24.34	39.92	46.00	-6.08	Peak
74.6200	H	24.89	9.22	34.11	40.00	-5.89	Peak
145.4300	H	19.26	14.71	33.97	43.50	-9.53	Peak
362.7100	H	18.92	17.00	35.92	46.00	-10.08	Peak
429.6400	H	18.98	18.74	37.72	46.00	-8.28	Peak
800.1800	H	14.66	23.51	38.17	46.00	-7.83	Peak
875.8400	H	14.78	23.73	38.51	46.00	-7.49	Peak

Remark:

1. *Measuring frequencies from 30 MHz to the 1GHz (No emission found between lowest internal used/generated frequency to 30 MH).*
2. *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*
3. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
4. *Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).*

Above 1 GHz

Operation Mode: TX / IEEE 802.11b / CH Low **Test Date:** 2014-10-23

Temperature: 22°C **Tested by:** Charly.xue

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	3370.192	58.91	-7.39	51.52	74.00	-22.48	100	167	peak
2	6394.231	44.20	1.65	45.85	74.00	-28.15	100	47	peak
3	9036.859	41.20	6.78	47.98	74.00	-26.02	100	255	peak
4	11216.346	40.36	12.45	52.81	74.00	-21.19	100	162	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4732.372	47.09	-3.66	43.43	74.00	-30.57	100	200	peak
2	7048.077	42.80	4.12	46.92	74.00	-27.08	100	120	peak
3	9282.051	40.19	7.44	47.63	74.00	-26.37	100	2	peak
4	11488.782	38.88	12.96	51.84	74.00	-22.16	100	162	peak
N/A									

Operation Mode: TX / IEEE 802.11b / CH Mid **Test Date:** 2014-10-23

Temperature: 22°C **Tested by:** Charly.xue

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	3996.795	54.37	-5.42	48.95	74.00	-25.05	100	109	peak
2	6503.205	43.62	1.78	45.40	74.00	-28.60	100	307	peak
3	8955.128	39.90	6.63	46.53	74.00	-27.47	100	281	peak
4	11107.372	38.59	12.24	50.83	74.00	-23.17	100	94	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4977.564	52.49	-2.36	50.13	74.00	-23.87	100	219	peak
2	7211.538	41.69	4.55	46.24	74.00	-27.76	100	336	peak
3	9472.756	40.31	7.95	48.26	74.00	-25.74	100	215	peak
4	12006.410	39.32	12.51	51.83	74.00	-22.17	100	93	peak
N/A									

Operation Mode: TX / IEEE 802.11b / CH High **Test Date:** 2014-10-23

Temperature: 22°C **Tested by:** Charly.xue

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	3860.577	54.68	-5.90	48.78	74.00	-25.22	100	122	peak
2	6285.256	41.93	1.52	43.45	74.00	-30.55	100	232	peak
3	8791.667	40.54	6.46	47.00	74.00	-27.00	100	360	peak
4	11298.077	39.78	12.60	52.38	74.00	-21.62	100	0	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	54.57	-3.23	51.34	74.00	-22.66	100	16	peak
2	7048.077	42.80	4.12	46.92	74.00	-27.08	100	120	peak
3	9363.782	41.29	7.65	48.94	74.00	-25.06	100	28	peak
4	11897.436	40.21	12.59	52.80	74.00	-21.20	100	139	peak
N/A									

Operation Mode: TX / IEEE 802.11g / CH Low **Test Date:** 2014-10-23

Temperature: 24°C **Tested by:** Charly.xue

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	3996.795	54.97	-5.42	49.55	74.00	-24.45	100	107	peak
2	5386.218	44.42	-0.02	44.40	74.00	-29.60	100	204	peak
3	7838.141	40.64	6.25	46.89	74.00	-27.11	100	139	peak
4	10589.744	38.94	10.59	49.53	74.00	-24.47	100	274	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4977.564	52.25	-2.36	49.89	74.00	-24.11	100	221	peak
2	7456.731	41.99	5.20	47.19	74.00	-26.81	100	140	peak
3	9309.295	41.32	7.51	48.83	74.00	-25.17	100	346	peak
4	11434.295	39.66	12.86	52.52	74.00	-21.48	100	87	peak
N/A									

Operation Mode: TX / IEEE 802.11g / CH Mid **Test Date:** 2014-10-23

Temperature: 24°C **Tested by:** Charly.xue

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	3860.577	55.34	-5.90	49.44	74.00	-24.56	100	122	peak
2	5495.192	45.28	0.61	45.89	74.00	-28.11	100	141	peak
3	7729.167	42.25	5.95	48.20	74.00	-25.80	100	3	peak
4	10453.526	40.43	10.12	50.55	74.00	-23.45	100	355	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4814.103	47.59	-3.23	44.36	74.00	-29.64	100	356	peak
2	7375.000	40.94	4.99	45.93	74.00	-28.07	100	202	peak
3	9418.269	40.50	7.80	48.30	74.00	-25.70	100	187	peak
4	11379.808	39.30	12.75	52.05	74.00	-21.95	100	71	peak
N/A									

Operation Mode: TX / IEEE 802.11g / CH High **Test Date:** 2014-10-23

Temperature: 24°C **Tested by:** Charly.xue

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	3370.192	59.16	-7.39	51.77	74.00	-22.23	100	164	peak
2	6394.231	44.48	1.65	46.13	74.00	-27.87	100	228	peak
3	8110.577	41.73	6.58	48.31	74.00	-25.69	100	58	peak
4	10862.180	40.90	11.55	52.45	74.00	-21.55	100	337	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4705.128	43.39	-3.81	39.58	74.00	-34.42	100	360	peak
2	7184.295	42.07	4.48	46.55	74.00	-27.45	100	142	peak
3	9254.808	40.28	7.36	47.64	74.00	-26.36	100	354	peak
4	11270.833	39.46	12.55	52.01	74.00	-21.99	100	276	peak
N/A									

Operation Mode:	TX / draft 802.11gn Standard-20 MHz Channel mode / CH Low	**Test Date:**	2014-10-23
Temperature:	22°C	**Tested by:**	Charly.xue
Humidity:	48 % RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	3370.192	58.44	-7.39	51.05	74.00	-22.95	100	159	peak
2	5004.808	47.79	-2.21	45.58	74.00	-28.42	100	153	peak
3	6775.641	42.56	2.99	45.55	74.00	-28.45	100	163	peak
4	8628.205	42.53	6.29	48.82	74.00	-25.18	100	225	peak
5	10916.667	39.84	11.75	51.59	74.00	-22.41	100	25	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4977.564	53.13	-2.36	50.77	74.00	-23.23	100	222	peak
2	7592.949	42.17	5.58	47.75	74.00	-26.25	100	0	peak
3	9854.167	41.18	8.47	49.65	74.00	-24.35	100	94	peak
4	12006.410	39.83	12.51	52.34	74.00	-21.66	100	173	peak
N/A									

Operation Mode:	TX / draft 802.11gn Standard-20 MHz Channel mode / CH Mid	**Test Date:**	2014-10-23
Temperature:	22°C	**Tested by:**	Charly.xue
Humidity:	48 % RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	3506.410	48.98	-7.15	41.83	74.00	-32.17	100	239	peak
2	6421.474	43.75	1.68	45.43	74.00	-28.57	100	215	peak
3	8846.154	40.09	6.52	46.61	74.00	-27.39	100	292	peak
4	11189.103	40.22	12.40	52.62	74.00	-21.38	100	40	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5032.051	43.51	-2.06	41.45	74.00	-32.55	100	14	peak
2	7511.218	41.50	5.35	46.85	74.00	-27.15	100	235	peak
3	9772.436	40.44	8.37	48.81	74.00	-25.19	100	198	peak
4	11951.923	39.32	12.54	51.86	74.00	-22.14	100	162	peak
N/A									

Operation Mode: TX / draft 802.11gn Standard-20 MHz Channel mode / CH High **Test Date:** 2014-10-23

Temperature: 22°C **Tested by:** Charly.xue

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	3233.974	55.70	-7.62	48.08	74.00	-25.92	100	255	peak
2	6339.744	42.73	1.58	44.31	74.00	-29.69	100	105	peak
3	8764.423	40.81	6.43	47.24	74.00	-26.76	100	114	peak
4	11352.564	38.84	12.70	51.54	74.00	-22.46	100	35	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	4841.346	43.21	-3.08	40.13	74.00	-33.87	100	32	peak
2	7429.487	41.65	5.13	46.78	74.00	-27.22	100	262	peak
3	9963.141	40.27	8.61	48.88	74.00	-25.12	100	239	peak
4	12251.603	37.29	13.24	50.53	74.00	-23.47	100	95	peak
N/A									

Operation Mode: TX / draft 802.11gn Wide-40 MHz Channel mode / CH Low **Test Date:** 2014-10-23

Temperature: 24°C **Tested by:** Charly.xue

Humidity: 48 % RH **Polarity:** Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	3370.192	58.43	-7.39	51.04	74.00	-22.96	100	170	peak
2	3996.795	54.39	-5.42	48.97	74.00	-25.03	100	107	peak
3	5876.603	45.52	1.05	46.57	74.00	-27.43	100	117	peak
4	9227.564	41.52	7.29	48.81	74.00	-25.19	100	259	peak
5	11407.051	40.06	12.81	52.87	74.00	-21.13	100	89	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	2988.782	50.59	-8.04	42.55	74.00	-31.45	100	184	peak
2	5004.808	51.51	-2.21	49.30	74.00	-24.70	100	226	peak
3	7511.218	42.24	5.35	47.59	74.00	-26.41	100	360	peak
4	11243.590	40.41	12.50	52.91	74.00	-21.09	100	171	peak
N/A									

Operation Mode: TX / draft 802.11gn Wide-40 MHz Channel mode / CH Mid
Test Date: 2014-10-23
Temperature: 24°C
Tested by: Charly.xue
Humidity: 48 % RH
Polarity: Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	3370.192	58.19	-7.39	50.80	74.00	-23.20	100	165	peak
2	5004.808	47.84	-2.21	45.63	74.00	-28.37	100	148	peak
3	7756.410	42.06	6.03	48.09	74.00	-25.91	100	239	peak
4	9990.385	41.06	8.65	49.71	74.00	-24.29	100	46	peak
5	12605.769	38.59	14.06	52.65	74.00	-21.35	100	102	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	2443.910	54.09	-9.13	44.96	74.00	-29.04	100	76	peak
2	5004.808	51.75	-2.21	49.54	74.00	-24.46	100	223	peak
3	7701.923	41.92	5.88	47.80	74.00	-26.20	100	42	peak
4	10862.180	40.86	11.55	52.41	74.00	-21.59	100	155	peak
N/A									

Operation Mode: TX / draft 802.11gn Wide-40 MHz Channel mode / CH High
Test Date: 2014-10-23
Temperature: 24°C
Tested by: Charly.xue
Humidity: 48 % RH
Polarity: Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	3370.192	57.11	-7.39	49.72	74.00	-24.28	100	255	peak
2	5740.385	44.22	0.90	45.12	74.00	-28.88	100	359	peak
3	7483.974	43.11	5.28	48.39	74.00	-25.61	100	246	peak
4	9826.923	41.50	8.44	49.94	74.00	-24.06	100	322	peak
5	12660.256	38.98	14.09	53.07	74.00	-20.93	100	66	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	4977.564	51.99	-2.36	49.63	74.00	-24.37	100	228	peak
2	7483.974	42.69	5.28	47.97	74.00	-26.03	100	183	peak
3	10426.282	41.00	10.03	51.03	74.00	-22.97	100	67	peak
4	12605.769	38.85	14.06	52.91	74.00	-21.09	100	261	peak
N/A									

4.6.POWERLINE CONDUCTED EMISSIONS

LIMIT

According to §15.207(a), except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

** Decreases with the logarithm of the frequency.*

Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

TEST PROCEDURE

1.The EUT was placed on a table, which is 0.8m above ground plane.

2.Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

3.Repeat above procedures until all frequency measured were complete.

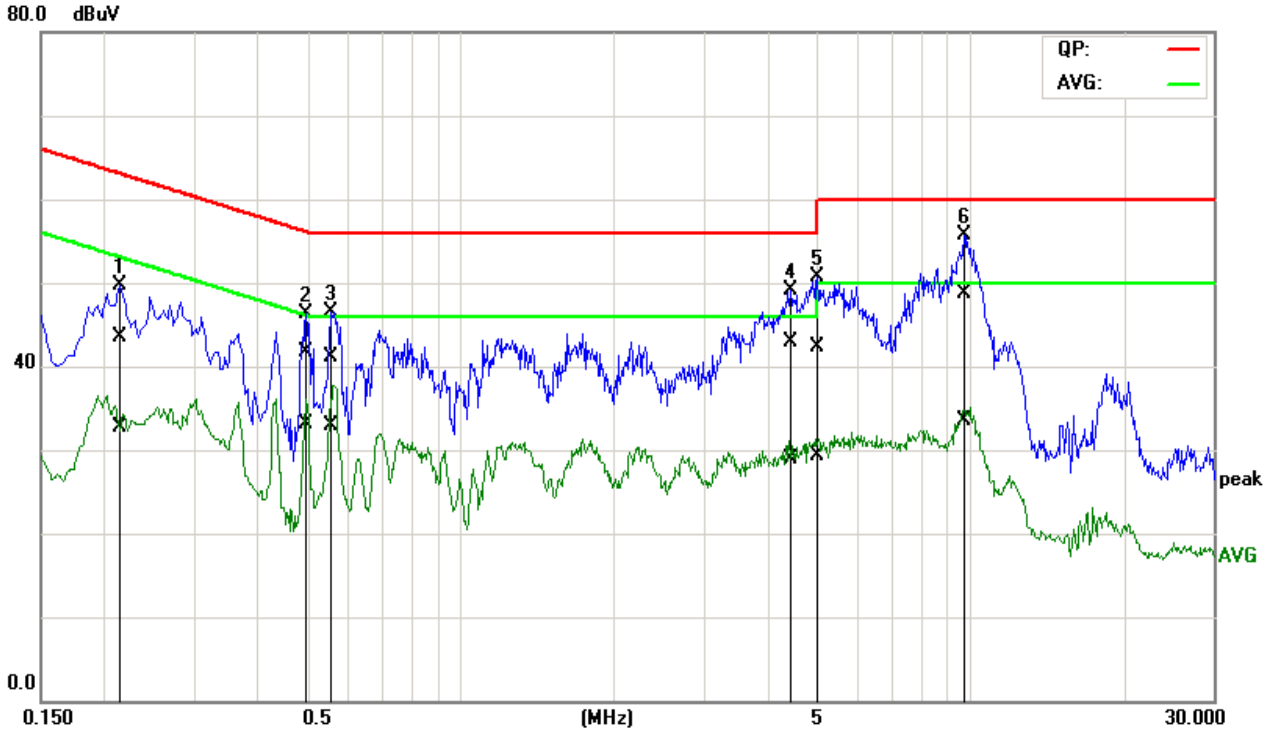
TEST RESULTS

The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Test Data

Job No.:	C140925R01	Date:	2014-10-23
Company:	TG2472G	Time:	15:30:22
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Charly.xue
Line:	L1	Test Voltage:	AC 120V/60Hz
Model:		Description:	

L1

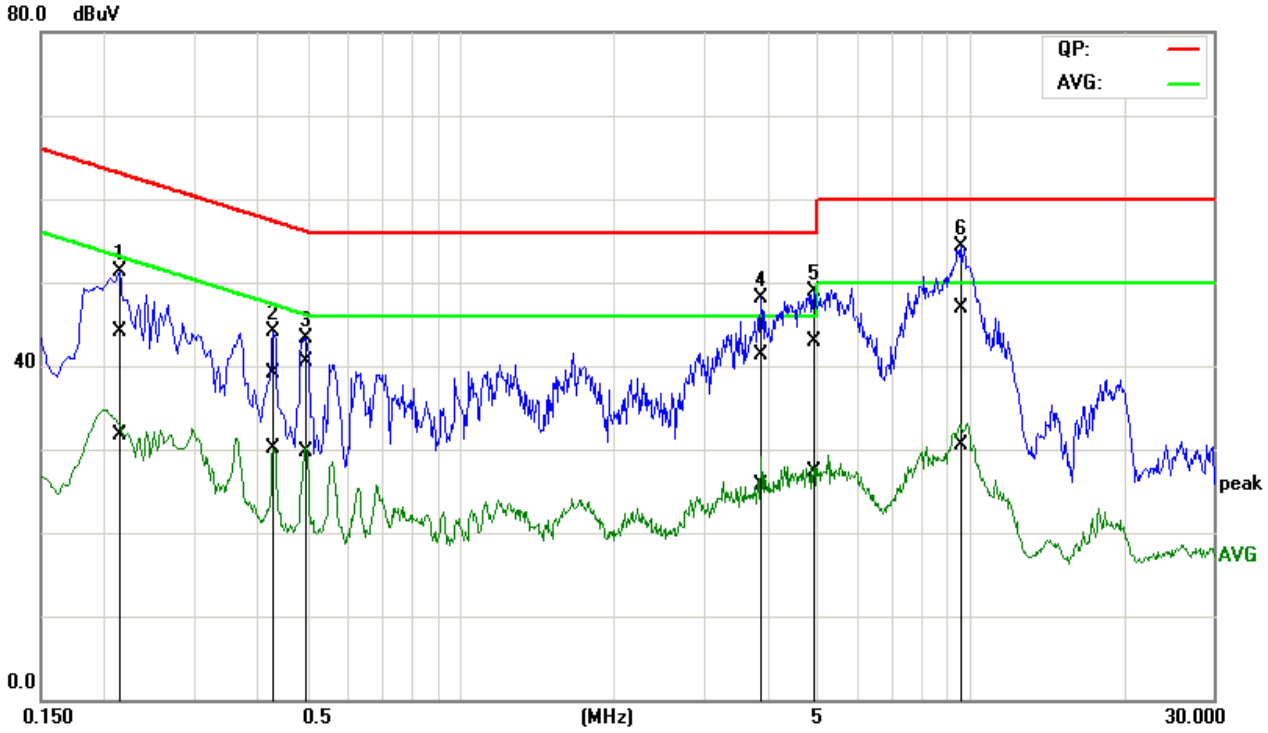


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.2125	23.99	13.09	19.61	43.60	32.70	63.11	53.11	-19.51	-20.41	Pass
2	0.4998	21.89	13.25	19.83	41.72	33.08	56.00	46.00	-14.28	-12.92	Pass
3	0.5525	21.32	13.02	19.83	41.15	32.85	56.00	46.00	-14.85	-13.15	Pass
4	4.4059	22.70	8.66	20.23	42.93	28.89	56.00	46.00	-13.07	-17.11	Pass
5	5.0426	22.09	9.08	20.30	42.39	29.38	60.00	50.00	-17.61	-20.62	Pass
6*	9.7201	28.04	12.78	20.74	48.78	33.52	60.00	50.00	-11.22	-16.48	Pass

Note: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).

Job No.:	C14925R01	Date:	2014-10-23
Company:	TG2472G	Time:	15:33:55
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Charly.xue
Line:	L2	Test Voltage:	AC 120V/60Hz
Model:		Description:	

L2



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.2116	24.36	11.97	19.65	44.01	31.62	63.14	53.14	-19.13	-21.52	Pass
2	0.4288	19.25	10.23	19.80	39.05	30.03	57.28	47.28	-18.23	-17.25	Pass
3	0.4937	20.58	9.80	19.85	40.43	29.65	56.11	46.11	-15.68	-16.46	Pass
4	3.8927	21.04	5.61	20.18	41.22	25.79	56.00	46.00	-14.78	-20.21	Pass
5*	4.9513	22.69	6.99	20.29	42.98	27.28	56.00	46.00	-13.02	-18.72	Pass
6	9.5837	26.14	9.77	20.77	46.91	30.54	60.00	50.00	-13.09	-19.46	Pass

Note: 1. L1 = Line One (Live Line) / L2 = Line Two (Neutral Line).