FCC 47 CFR PART 15 SUBPART E

TEST REPORT

For

Notebook Computer

Model:

Satellite S5*******-C******, Satellite E5*********-C******,**
Satellite L5*******-C******, Satellite P5*********-C******,**
Satellite Radius L5*******-C******, Satellite Radius P5*********-C******,**
Satellite Fusion L5*******-C******
(* means 0-9; a-z; A-Z; / ; - ; no symbol, or blank for marketing purpose)**

Trade Name: TOSHIBA

Issued to

Pegatron Corporation
5F, NO. 76, LIGONG ST., BEITOU DISTRICT, TAIPEI CITY 112, TAIWAN (R.O.C.)

Issued by

Compliance Certification Services Inc.
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City 24891, Taiwan. (R.O.C.)
http://www.ccsrf.com
service@ccsrf.com
Issued Date: February 25, 2015

Testing Laboratory
1309

Revision History

Rev.		Issue Date		Revisions	Effect Page	Revised By
00		February 25, 2015		Initial Issue	ALL	Kelly Cheng

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1. TEST RESULT CERTIFICATION

Applicant:	Pegatron Corporation 5F, NO. 76, LIGONG ST., BEITOU DISTRICT, TAIPEI CITY 112, TAIWAN (R.O.C.)
Equipment Under Test:	Notebook Computer
Trade Name:	TOSHIBA
Model:	Satellite S5*********-C****** Satellite E5*********-C****** Satellite L5*********-C****** Satellite P5*********-C****** Satellite Radius L5*********-C****** Satellite Radius P5*********-C****** Satellite Fusion L5*********-C****** (* means 0-9; a-z; A-Z; / ; - ; no symbol, or blank for marketing purpose)
Date of Test:	February 10 ~ 14, 2015

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

We hereby certify that:

Compliance Certification Services Inc. tested the above equipment. 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 conducted and radiated emission limits of FCC Rules Part 15.407.

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

Approved by:

Miller Lee
Section Manager
Compliance Certification Services Inc.

Reviewed by:

Angel Cheng
Section Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	Notebook Computer		
Trade Name	TOSHIBA		
Model Number	Satellite S5*********-C****** Satellite E5*********-C****** Satellite L5*********-C****** Satellite P5*********-C****** Satellite Radius L5*********-C****** Satellite Radius P5*********-C****** Satellite Fusion L5*********-C****** (* means 0-9; a-z; A-Z; / ; - ; no symbol, or blank for marketing purpose)		
Model Discrepancy	All the above models are identical except for the designation of model numbers. The suffix of "*" (* means 0-9; a-z; A-Z; / ; - ; no symbol, or blank for marketing purpose) on model number is just for marketing purpose only.		
Received Date	January 23, 2015		
WLAN Manufacturer	Intel	**Model**	7265NGW
Power Supply	1. VDC from Power Adapter Liteon / Model: PA5178U-1ACA I/P: 100-240V, 50-60Hz, 1.7A O/P: 19V, 3.42A 2. Power from Battery TOSHIBA / PA5208U-1BRS Rating 10.8Vdc, 45Wh, 3860mAh		

Operating Frequency Range & Number of Channels

	Mode	Frequency Range (MHz)	Number of Channels
UNII Band I	IEEE 802.11a	5180 – 5240	4 Channels
	IEEE 802.11n HT 20 MHz	5180 – 5240	4 Channels
	IEEE 802.11n HT 40 MHz	5190 ~ 5230	2 Channels
	IEEE 802.11ac VHT 80 MHz	5210	1 Channels
UNII Band II	IEEE 802.11a	5260 - 5320	4 Channels
	IEEE 802.11n HT 20 MHz	5260 - 5320	4 Channels
	IEEE 802.11n HT 40 MHz	5270 ~ 5310	2 Channels
	IEEE 802.11ac VHT 80 MHz	5290	1 Channels
UNII Band III	IEEE 802.11a	5500 ~ 5700	11 Channels
	IEEE 802.11n HT 20 MHz	5500 ~ 5700	11 Channels
	IEEE 802.11n HT 40 MHz	5510 ~ 5670	5 Channels
	IEEE 802.11ac VHT 80 MHz	5530 ~ 5690	3 Channels

Transmit Power

	Mode	Frequency Range (MHz)	Output Power (dBm)	Output Power (w)
UNII Band I	IEEE 802.11a	5180 – 5240	13.51	0.0224
	IEEE 802.11n HT 20 MHz	5180 – 5240	13.47	0.0222
	IEEE 802.11n HT 40 MHz	5190 ~ 5230	13.46	0.0222
	IEEE 802.11ac VHT 80 MHz	5210	13.43	0.0220
UNII Band II	IEEE 802.11a	5260 - 5320	13.41	0.0219
	IEEE 802.11n HT 20 MHz	5260 - 5320	13.44	0.0221
	IEEE 802.11n HT 40 MHz	5270 ~ 5310	13.47	0.0222
	IEEE 802.11ac VHT 80 MHz	5290	13.44	0.0221
UNII Band III	IEEE 802.11a	5500 ~ 5700	13.41	0.0219
	IEEE 802.11n HT 20 MHz	5500 ~ 5700	13.44	0.0221
	IEEE 802.11n HT 40 MHz	5510 ~ 5670	13.42	0.0220
	IEEE 802.11ac VHT 80 MHz	5530 ~ 5690	13.44	0.0221

Modulation Technique	OFDM (QPSK, BPSK, 16-QAM, 64-QAM)

Transmit Data Rate	IEEE 802.11a mode: 54, 48, 36, 24, 18, 12, 9, 6 Mbps IEEE 802.11n HT 20 mode: OFDM (6.5, 7.2, 13, 14.4, 14.44, 19.5, 21.7, 26, 28.89, 28.9, 39, 43.3, 43.33 52, 57.78, 57.8, 58.5, 65.0, 72.2, 78, 86.67, 104, 115.56, 117, 130, 144.44 Mbps) IEEE 802.11n HT 40 mode: OFDM (13.5, 15, 27, 30, 40.5, 45, 54, 60, 81, 90, 108, 120, 121.5, 135, 150, 162, 180, 216, 240, 243, 270, 300 Mbps) IEEE 802.11n HT 80 mode: OFDM (29.3, 58.5, 87.8, 117, 175.5, 234, 263.3, 292.5, 351, 390, 468, 526.5, 585, 702, 780 Mbps)
Antenna Specification	1. PIFA Antenna / Yageo(Metal) ANTA0TP09551WLAN4 (TX1) / 2.14dBi(Worse) ANTA0TP09551WLAN3 (TX2) / 2.00dBi (Worse) 2. PIFA Antenna / Yageo(IMR) ANTA0TP09551WLAN2 (TX1) / -2.48dBi ANTA0TP09551WLAN1 (TX2) / -0.98dBi 3. PIFA Antenna / ACON(Metal) APP6Y-700301 (TX1) /-3.98dBi APP6Y-700302 (TX2) / -3.72dBi 4. PIFA Antenna / ACON(IMR) APP6Y-700249 (TX1) /-0.67dBi APP6Y-700250 (TX2) / -1.50dBi
Antenna Designation	PIFA Antenna

Remark:

1. *The sample selected for test was production product and was provided by manufacturer.*
2. *This submittal(s) (test report) is intended for FCC ID: **VUI-THOR7265** filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*

3. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4: 2009 Radiated testing was performed at an antenna to EUT distance 3 meters.

The tests documented in this report were performed in accordance with ANSI C63.4: 2009 and FCC CFR 47 Part 15.207, 15.209 and 15.407.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed for RF field strength measurement to meet the Commissions requirement, and is operated in a manner intended to generate the maximum emission in a continuous normal application.

3.2 EUT EXERCISE

The EUT is operated in the engineering mode to fix the Tx frequency for the purposes of measurement.

According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is positioned at 0.8 m above the ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4, the conducted emission from the EUT is measured in the frequency range between 0.15 MHz and 30MHz, using the CISPR Quasi-Peak detector mode.

Radiated Emissions

The EUT is placed on the turntable, which is 0.8 m above the ground plane. The turntable is then rotated for 360 degrees to determine the proper orientation for the maximum emission level. The EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission level. And, each emission is to be maximized by changing the horizontal and vertical polarization of the receiving antenna. 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.

3.4FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) 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 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	([2])
13.36 - 13.41	322 - 335.4		

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

[2] Above 38.6

(b) 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.

3.5DESCRIPTION OF TEST MODES

The EUT (model: Satellite S50-C) comes with eight types of antenna (model: ANTA0TP09551WLAN4 (TX1) / ANTA0TP09551WLAN3 (TX2) / ANTA0TP09551WLAN2 (TX1) / ANTA0TP09551WLAN1 (TX2) / APP6Y-700301 (TX1) / APP6Y-700302 (TX2) / APP6Y-700249 (TX1) / APP6Y-700250 (TX2)) for sale. After the preliminary test, the antenna ANTA0TP09551WLAN4 (TX1) / ANTA0TP09551WLAN3 (TX2) were found to emit the worst emissions and therefore had been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting mode was programmed.

After verification, all tests were carried out with the worst case test modes as shown below except radiated spurious emission below 1GHz, which worst case was in normal link mode only.

UNII Band I:

IEEE 802.11a for 5180 ~ 5240MHz:
Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT 20 MHz for 5180 ~ 5240MHz:
Channel Low (5180MHz), Channel Mid (5220MHz) and Channel High (5240MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 40 MHz Channel for 5190 ~ 5230MHz:
Channel Low (5190MHz) and Channel High (5230MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 80 MHz Channel for 5210MHz:
Channel Low(5210MHz) with 29.3Mbps data rate were chosen for full testing.

UNII Band II:

IEEE 802.11a for 5260 ~ 5320MHz:
Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT 20 MHz for 5260 ~ 5320MHz:
Channel Low (5260MHz), Channel Mid (5280MHz) and Channel High (5320MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 40 MHz for 5270 ~ 5310MHz:

Channel Low (5270MHz) and Channel High (5310MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 80 MHz for 5290MHz:

Channel Low (5290MHz) with 29.3Mbps data rate were chosen for full testing.

UNII Band III:

IEEE 802.11a for 5500 ~ 5700MHz:
Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11n HT 20 MHz for 5500 ~ 5700MHz:
Channel Low (5500MHz), Channel Mid (5580MHz) and Channel High (5700MHz) with 6.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 40 MHz for 5510 ~ 5670MHz:
Channel Low (5510MHz), Channel Mid (5590MHz) and Channel High (5670MHz) with 13.5Mbps data rate were chosen for full testing.

IEEE 802.11n HT 80 MHz for 5530 ~ 5690MHz:
Channel Low (5530MHz) and Channel High (5690MHz) with 29.3Mbps data rate were chosen for full testing.

The field strength of spurious emission was measured in the following position: The EUT has Notebook mode, Flat mode, and Tent mode, Stand mode, Tablet X, Y and Z axis modes. The worst emission was found in Notebook mode and the worst case was recorded.

4. INSTRUMENT CALIBRATION

4.1MEASURING 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.

4.2MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: *Each piece of equipment is scheduled for calibration once a year and Loop Antenna is scheduled for calibration once three years.*

Conducted Emissions Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510252	11/23/2015
Thermostatic/Hrgrosatic Chamber	TAICHY	MHG-150LF	930619	10/07/2015
AC Power Source	EXTECH	6205	1140845	N.C.R
DC Power Supply	ABM	8301HD	D011531	N.C.R
Power Meter	Anritsu	ML2495A	1012009	06/03/2015
Power Sensor	Anritsu	MA2411A	0917072	06/03/2015
Spectrum Analyzer	ROHDE&SCHWARZ	FSV40	101073	07/09/2015

Wugu 966 Chamber A				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	US42510268	09/18/2015
EMI Test Receiver	R&S	ESCI	100064	05/30/2015
Bilog Antenna	Sunol Sciences	JB3	A030105	08/19/2015
Horn Antenna	EMCO	3117	00055165	01/26/2016
Horn Antenna	EMCO	3116	26370	12/25/2015
Turn Table	CCS	CC-T-1F	N/A	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R
Pre-Amplifier	MITEQ	1652-3000	1490939	08/09/2016
Pre-Amplifier	EMC	EMC 01265	4035	08/09/2016
Pre-Amplifier	MITEQ	AMF-6F-260400-40-8P	985646	12/25/2015
Coaxial Cable	Huber+Suhner	102	29212/2	12/25/2015
Coaxial Cable	Huber+Suhner	102	29406/2	12/25/2015
Test S/W	EZ-EMC (CCS-3A1RE)			

Conducted Emission room # B				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESCI	101073	09/18/2015
LISN	R&S	ENV216	101054	05/18/2015
LISN	SCHWARZBECK	NSLK 8127	8127-541	11/25/2015
Capacitive Voltage Probe	FCC	F-CVP-1	100185	03/09/2015

Test S/W	CCS-3A1-CE

4.3MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
Powerline Conducted Emission	+/- 1.2575
3M Semi Anechoic Chamber / 30M~200M	+/- 4.0138
3M Semi Anechoic Chamber / 200M~1000M	+/- 3.9483
3M Semi Anechoic Chamber / 1G~8G	+/- 2.5975
3M Semi Anechoic Chamber / 8G~18G	+/- 2.6112
3M Semi Anechoic Chamber / 18G~26G	+/- 2.7389
3M Semi Anechoic Chamber / 26G~40G	+/- 2.9683

***Remark**: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.*

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☒ No.139, Wugong Rd., Wugu Dist., New Taipei City 24891, Taiwan (R.O.C.)
Tel: 886-2-2298-4086 / Fax: 886-2-2298-1470

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)
Tel: 886-2-2299-9720 / Fax: 886-2-2298-4045

☐ No.81-1, Lane 210, Bade 2nd Rd., Luchu Hsiang, Taoyuan Hsien 338, Taiwan
Tel: 886-3-324-0332 / Fax: 886-3-324-5235

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 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: 0824-01 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, IC 2324G-1 for 3M Semi Anechoic Chamber A, 2324G-2 for 3M Semi Anechoic Chamber B.

5.4TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	FCC	3M Semi Anechoic Chamber (FCC MRA: TW1039) to perform FCC Part 15 measurements	FCC MRA: TW1039
Taiwan	TAF	LP0002, RTTE01, FCC Method-47 CFR Part 15 Subpart C, D, E, RSS-210, RSS-310 IDA TS SRD, AS/NZS 4268, AS/NZS 4771, TS 12.1 & 12,2, ETSI EN 300 440-1, ETSI EN 300 440-2, ETSI EN 300 328, ETSI EN 300 220-1, ETSI EN 300 220-2, ETSI EN 301 893, ETSI EN 301 489-1/3/7/17 FCC OET Bulletin 65 + Supplement C, EN 50360, EN 50361, EN 50371, RSS 102, EN 50383, EN 50385, EN 50392, IEC 62209, CNS 14958-1, CNS 14959 FCC Method –47 CFR Part 15 Subpart B IEC / EN 61000-3-2, IEC / EN 61000-3-3, IEC / EN 61000-4-2/3/4/5/6/8/11	TAF Testing Laboratory 1309
Canada	Industry Canada	3M Semi Anechoic Chamber (IC 2324G-1 / IC 2324G-2) to perform	Canada IC 2324G-1 IC 2324G-2

** 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 I for the actual connections between EUT and support equipment.

6.2 SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	FCC ID	Data Cable	Power Cord
	N/A						

Remark:

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

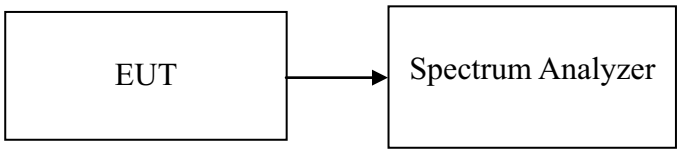
7. FCC PART 15 REQUIREMENTS

7.126 DB EMISSION BANDWIDTH

LIMIT

According to §15.303(c), for purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Compliance with the emissions limits is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

Test Configuration



TEST PROCEDURE

1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low-loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as RBW > 1%EBW, VBW > RBW, Span >26dB bandwidth, and Sweep = auto.
4. Mark the peak frequency and –26dB (upper and lower) frequency.
5. Repeat until all the rest channels were investigated.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	24.396	16.8328
Mid	5220	23.622	16.7944
High	5240	22.929	16.8540

Test mode: IEEE 802.11n HT 20 mode / 5180 ~ 5240MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	22.411	17.8111
Mid	5220	21.855	17.8560
High	5240	22.727	17.8278

Test mode: IEEE 802.11n HT 20 mode / 5180 ~ 5240MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	22.740	17.8987
Mid	5220	22.439	17.8597
High	5240	21.781	17.8246

Test mode: IEEE 802.11n HT 40 mode / 5190 ~ 5230MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	42.017	36.2767
High	5230	40.995	36.2606

Test mode: IEEE 802.11n HT 40 mode/ 5190 ~ 5230MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	40.929	36.1719
High	5230	42.149	36.1668

Test mode: IEEE 802.11ac HT 80 mode/ 5210MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5270	102.960	76.0192

Test mode: IEEE 802.11ac HT 80 mode/ 5210MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5270	107.273	75.9763

Test mode: IEEE 802.11a mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	22.310	16.8577
Mid	5280	23.759	16.9115
High	5320	23.649	16.8736

Test mode: IEEE 802.11n HT 20 mode / 5260 ~ 5320MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	22.843	17.9116
Mid	5280	22.898	17.7972
High	5320	22.542	17.8402

Test mode: IEEE 802.11n HT 20 mode / 5260 ~ 5320MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	23.092	17.8295
Mid	5280	21.692	17.7876
High	5320	22.645	17.7933

Test mode: IEEE 802.11n HT 40 mode / 5270 ~ 5310MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	42.621	36.3174
High	5310	43.010	36.2964

Test mode: IEEE 802.11n HT 40 mode/ 5270 ~ 5310MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	41.855	36.1674
High	5310	41.261	36.1654

Test mode: IEEE 802.11ac HT 80 mode/ 5290MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5270	85.874	75.7802

Test mode: IEEE 802.11ac HT 80 mode/ 5290MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Mid	5270	102.643	75.7356

Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	24.121	16.8520
Mid	5580	23.706	16.8409
High	5700	23.622	16.9130

Test mode: IEEE 802.11n HT 20 mode / 5500 ~ 5700MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	22.248	17.8593
Mid	5580	21.461	17.8516
High	5700	22.170	17.8032

Test mode: IEEE 802.11n HT 20 mode / 5500 ~ 5700MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	25.120	18.0439
Mid	5580	24.296	17.8993
High	5700	21.753	17.7901

Test mode: IEEE 802.11n HT 40 mode / 5510 ~ 5670MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	41.449	36.1069
Mid	5550	49.002	36.3183
High	5670	47.908	36.4020

Test mode: IEEE 802.11n HT 40 mode / 5510 ~ 5670MHz / Chain 1

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	47.302	36.3751
Mid	5550	49.646	36.3724
High	5670	45.749	36.2256

Test mode: IEEE 802.11ac HT 80 mode / 5530 ~ 5690MHz / Chain 0

Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	121.134	75.8542
High	5690 (Band III)	104.6	75.7467
High	5690 (Band IV)	12	-

Remark:
Band III = 116.6(mark2 – mark3)
Band IV = mark2 – mark3

Test mode: IEEE 802.11ac HT 80 mode / 5530 ~ 5690MHz / Chain 1

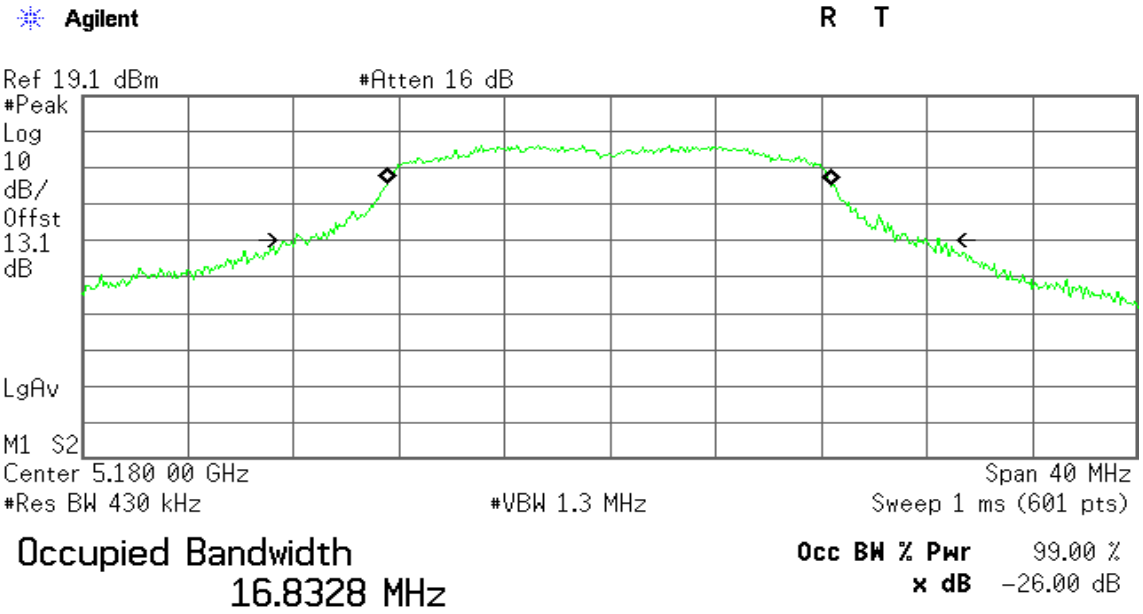
Channel	Frequency (MHz)	26db Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	131.790	76.0491
High	5690 (Band III)	96.6	75.7323
High	5690 (Band IV)	8	-

Remark:
Band III = 104.6MHz – (mark2 – mark3)
Band IV = mark2 – mark3

Test Plot

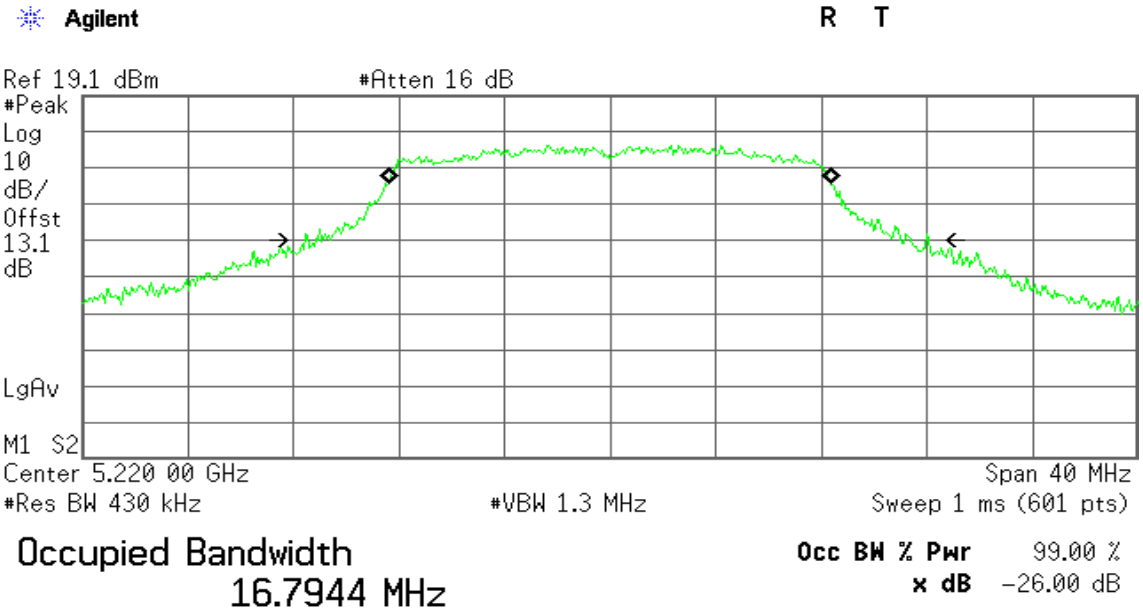
IEEE 802.11a for 5180 ~ 5240MHz

CH Low



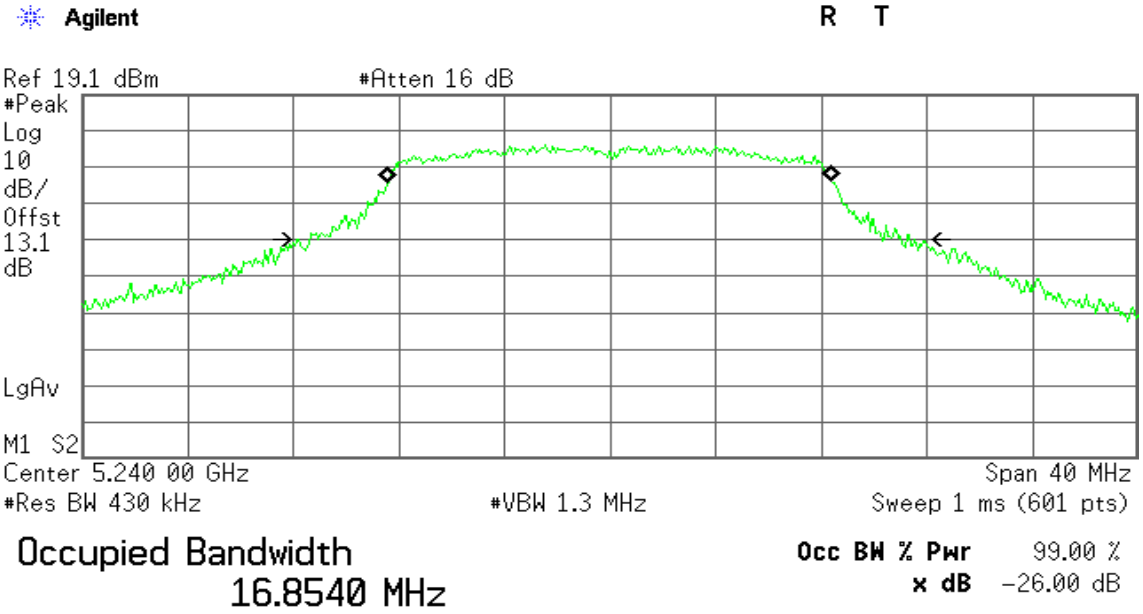
Transmit Freq Error -26.172 kHz
x dB Bandwidth 24.396 MHz

CH Mid



Transmit Freq Error -18.299 kHz
x dB Bandwidth 23.622 MHz

CH High



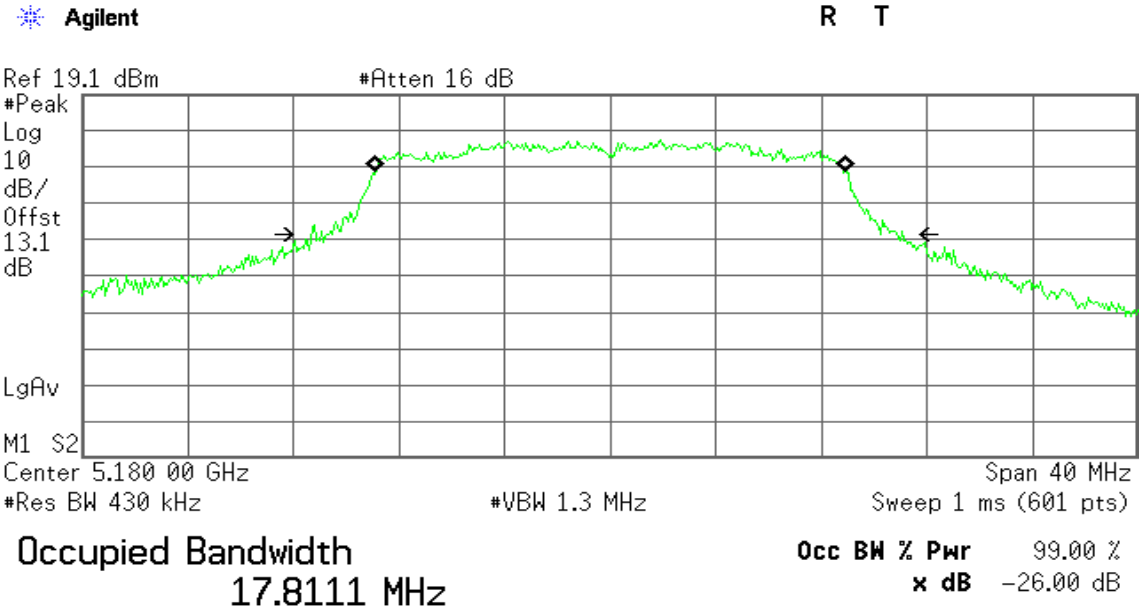
Occupied Bandwidth
16.8540 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -18.515 kHz
x dB Bandwidth 22.929 MHz

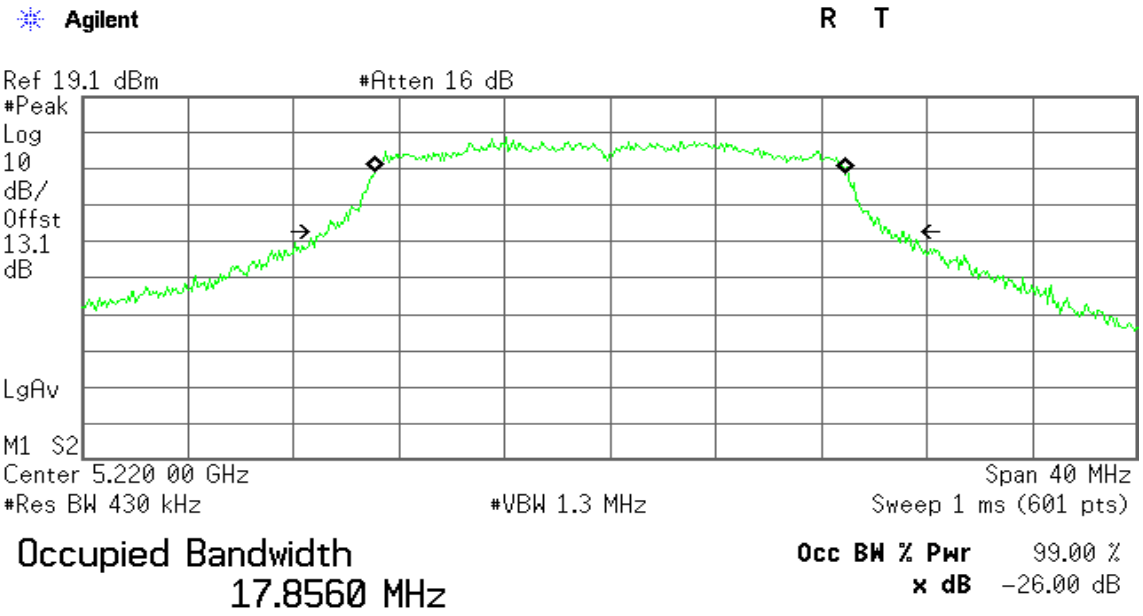
IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz / Chain 0

CH Low



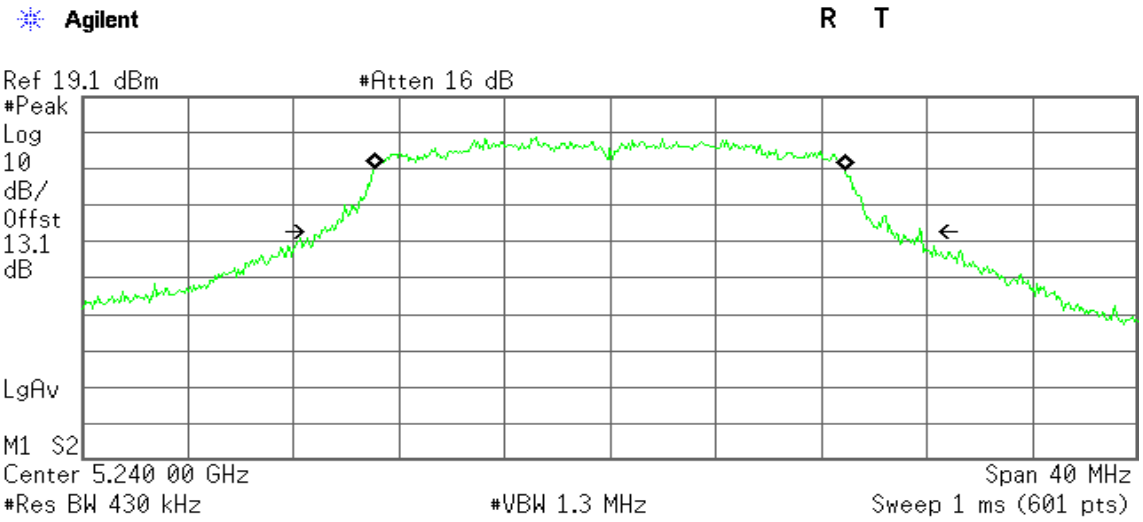
Transmit Freq Error -5.024 kHz
x dB Bandwidth 22.411 MHz

CH Mid



Transmit Freq Error 2.696 kHz
x dB Bandwidth 21.855 MHz

CH High



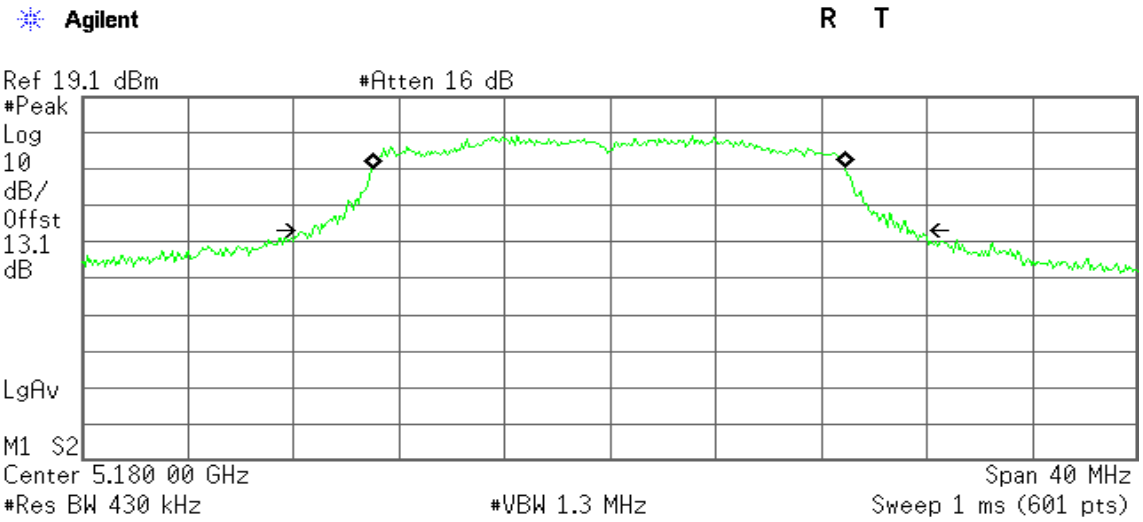
Occupied Bandwidth
17.8278 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -4.381 kHz
x dB Bandwidth 22.727 MHz

IEEE 802.11n HT 20 mode / 5180 ~ 5240MHz / Chain 1

CH Low

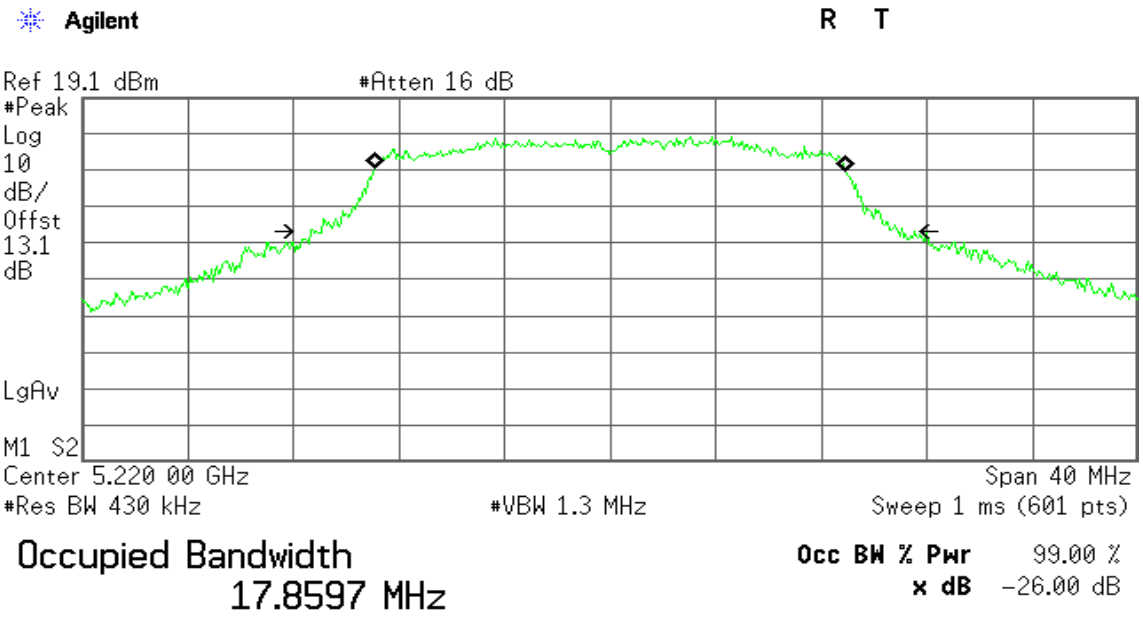


Occupied Bandwidth
17.8987 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

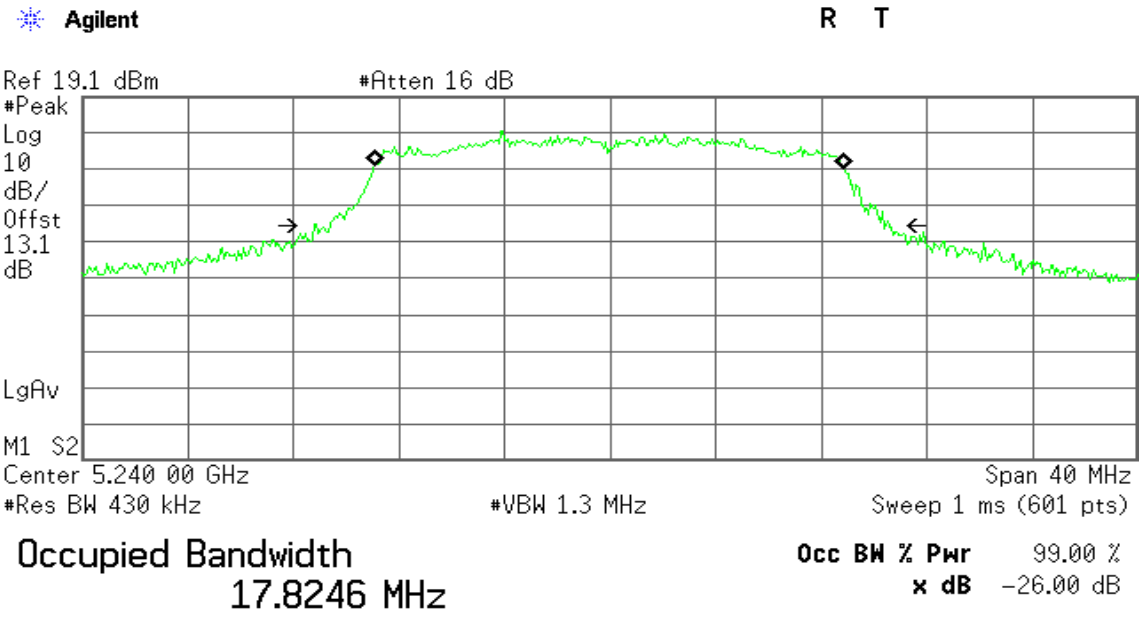
Transmit Freq Error -31.228 kHz
x dB Bandwidth 22.740 MHz

CH Mid



Transmit Freq Error 4.428 kHz
x dB Bandwidth 22.439 MHz

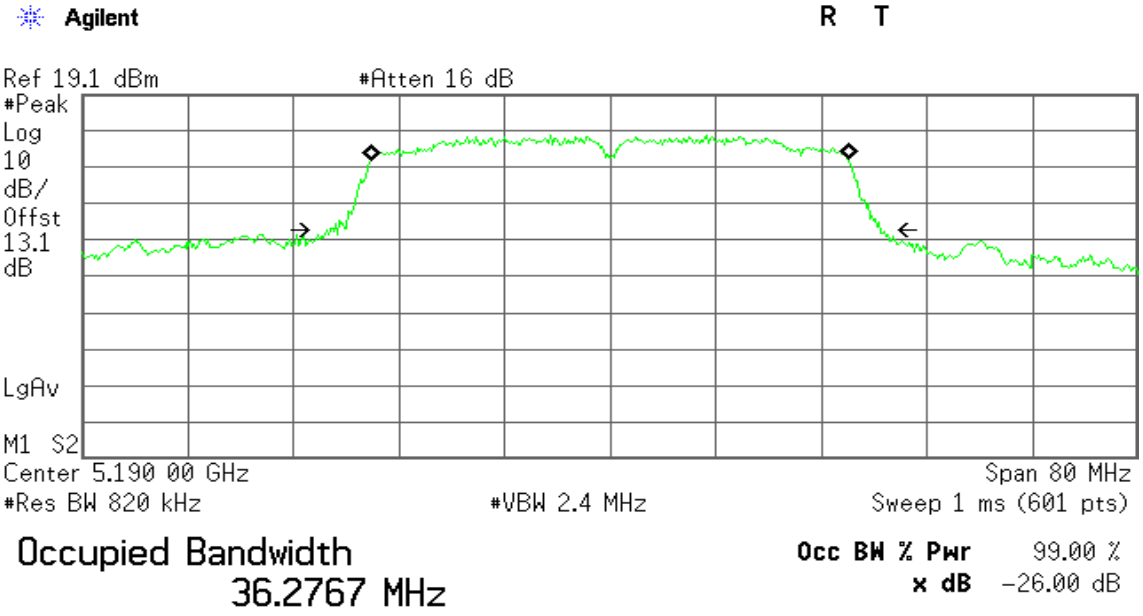
CH High



Transmit Freq Error -19.207 kHz
x dB Bandwidth 21.784 MHz

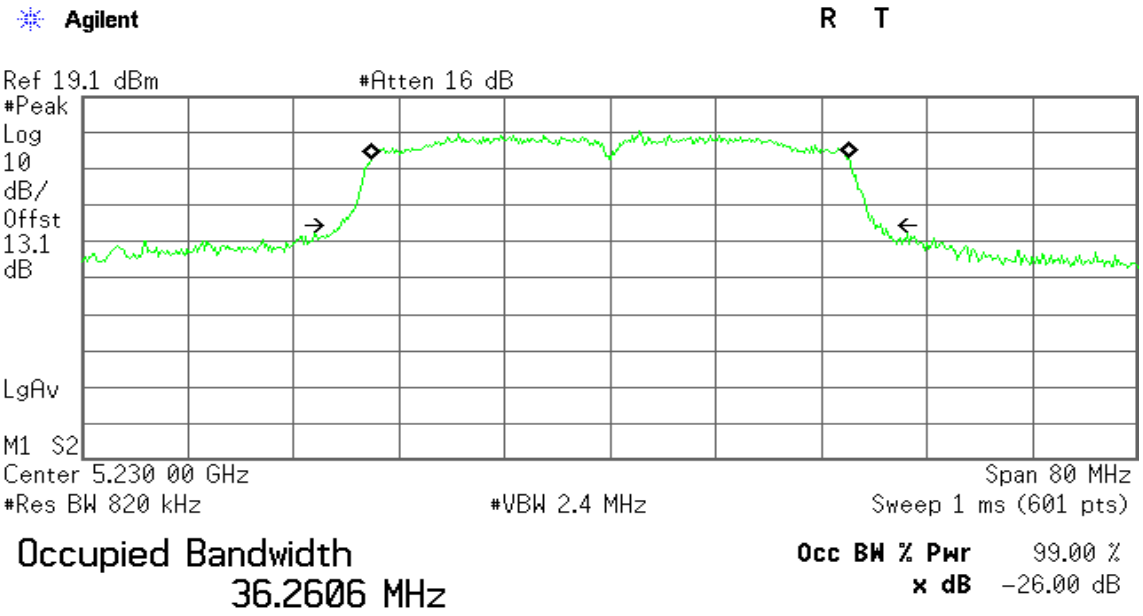
IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 0

CH Low



Transmit Freq Error	-59.486 kHz
x dB Bandwidth	42.017 MHz

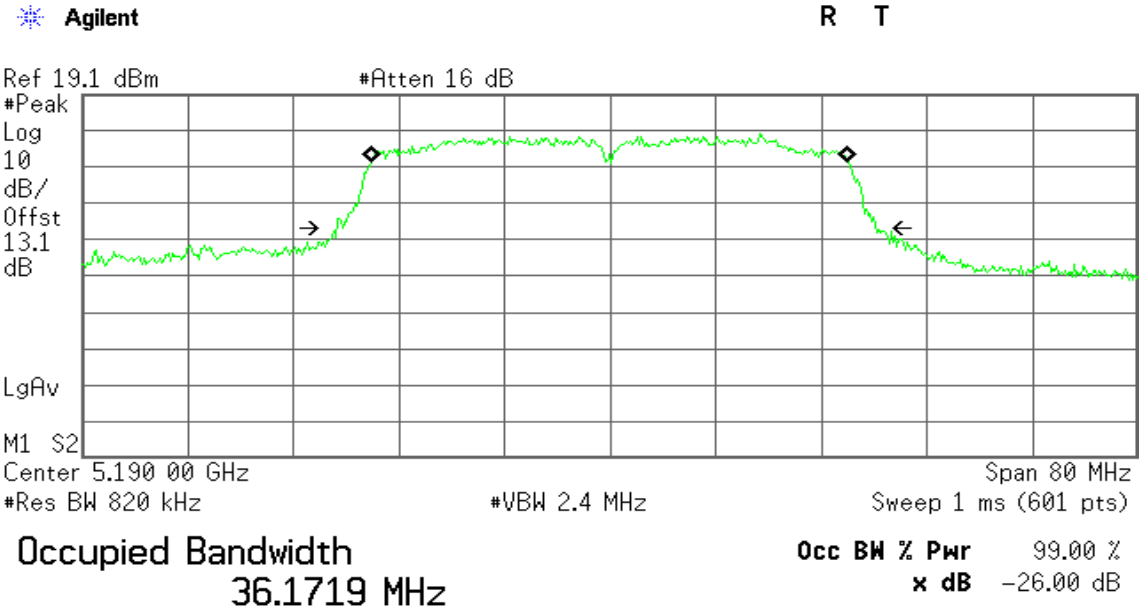
CH High



Transmit Freq Error	-44.475 kHz
x dB Bandwidth	40.995 MHz

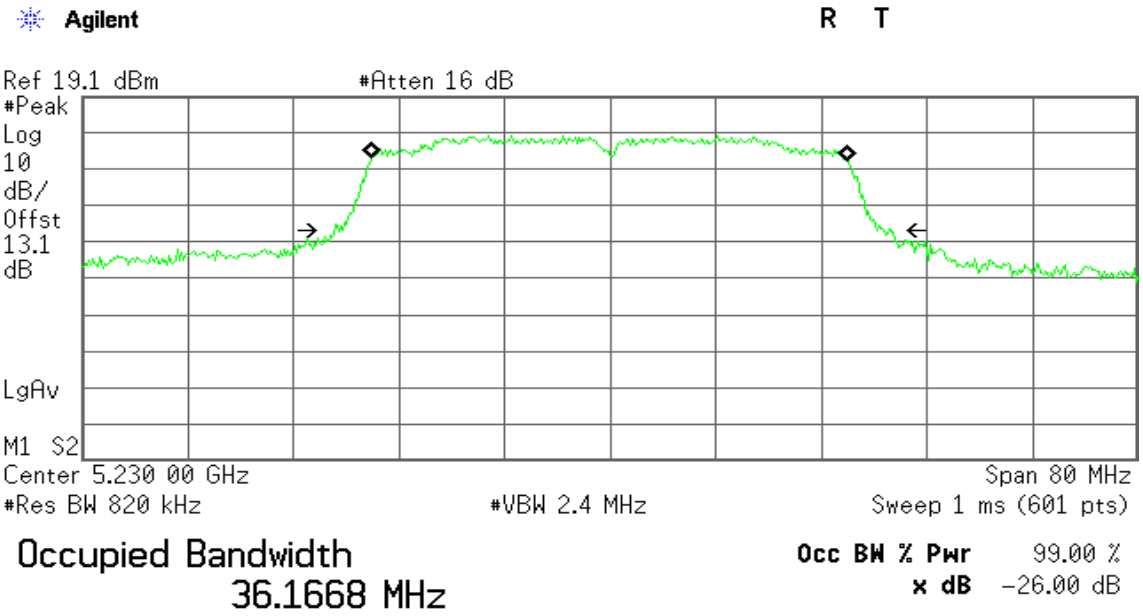
IEEE 802.11n HT 40 mode / 5190 ~ 5230MHz / Chain 1

CH Low



Transmit Freq Error -43.597 kHz
x dB Bandwidth 40.929 MHz

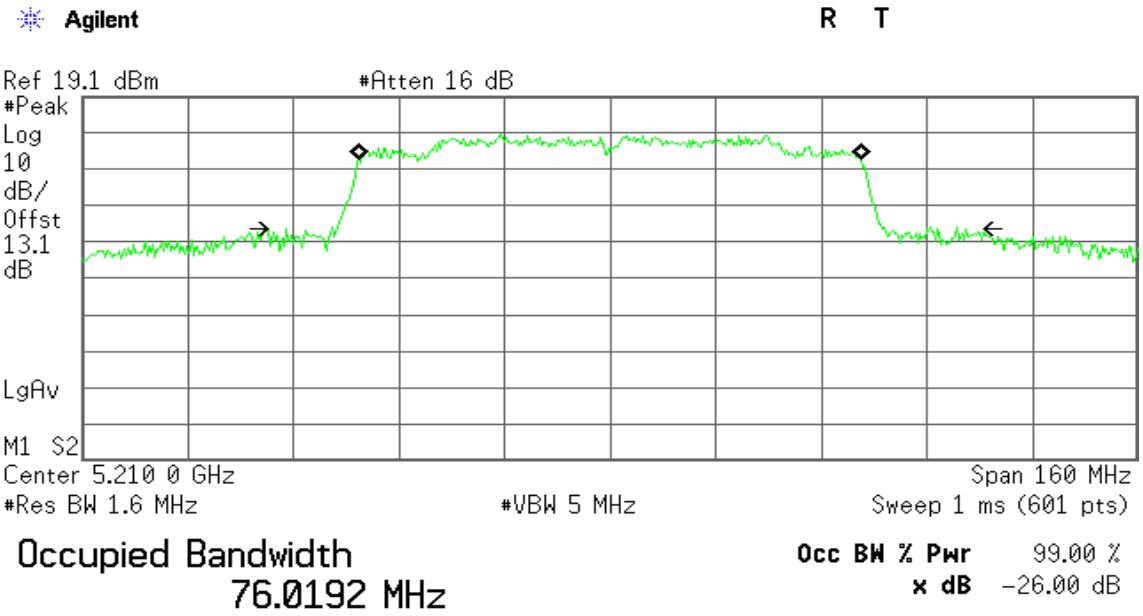
CH High



Transmit Freq Error -42.012 kHz
x dB Bandwidth 42.149 MHz

IEEE 802.11ac HT 80 MHz mode / 5210MHz / Chain 0

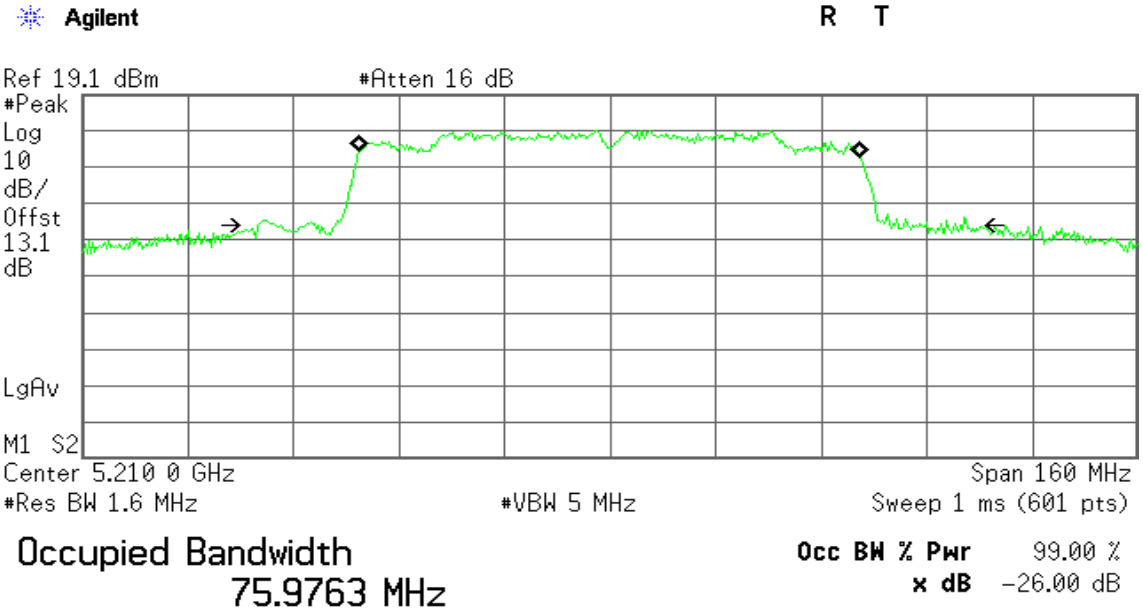
CH Mid



Transmit Freq Error 9.387 kHz
x dB Bandwidth 102.960 MHz

IEEE 802.11n HT 80 MHz mode / 5210MHz / Chain 1

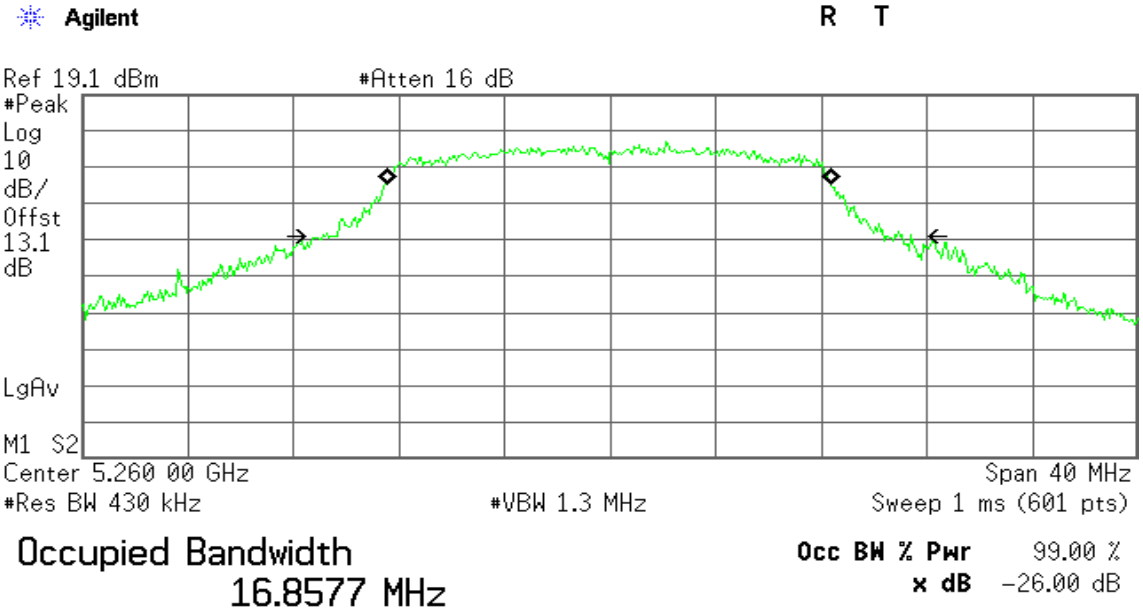
CH Mid



Transmit Freq Error -83.996 kHz
x dB Bandwidth 107.273 MHz

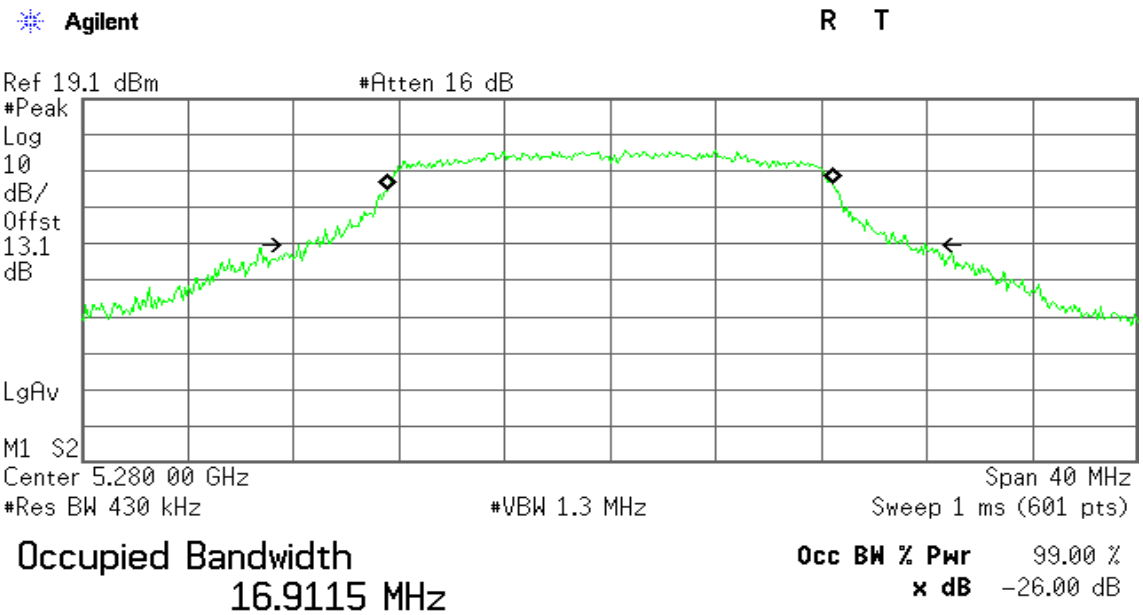
IEEE 802.11a mode / 5260 ~ 5320MHz

CH Low



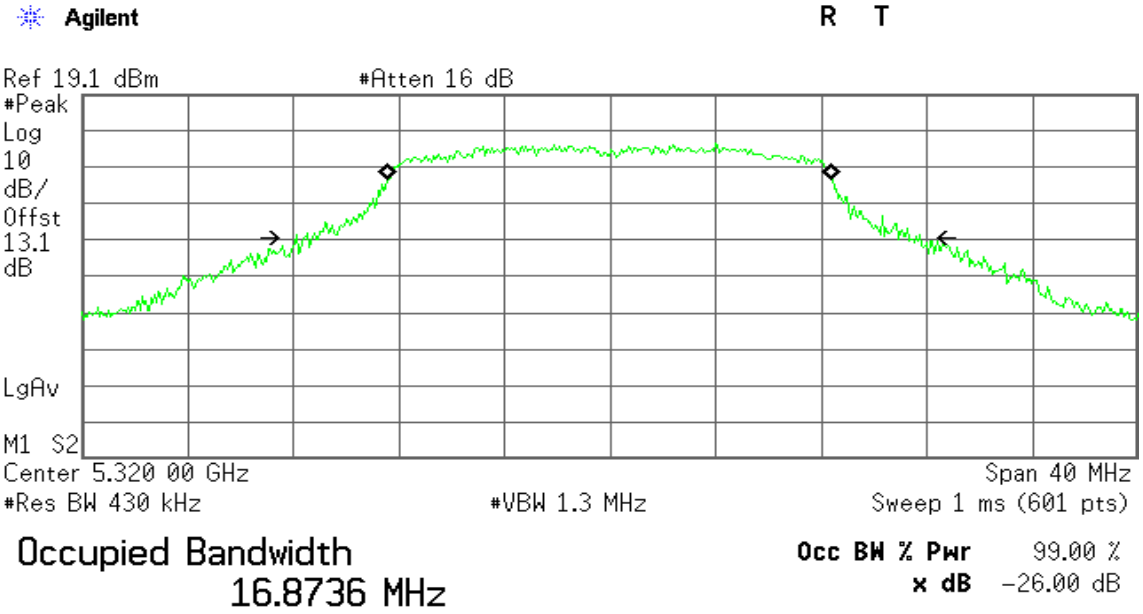
Transmit Freq Error -35.480 kHz
x dB Bandwidth 22.310 MHz

CH Mid



Transmit Freq Error 5.411 kHz
x dB Bandwidth 23.759 MHz

CH High



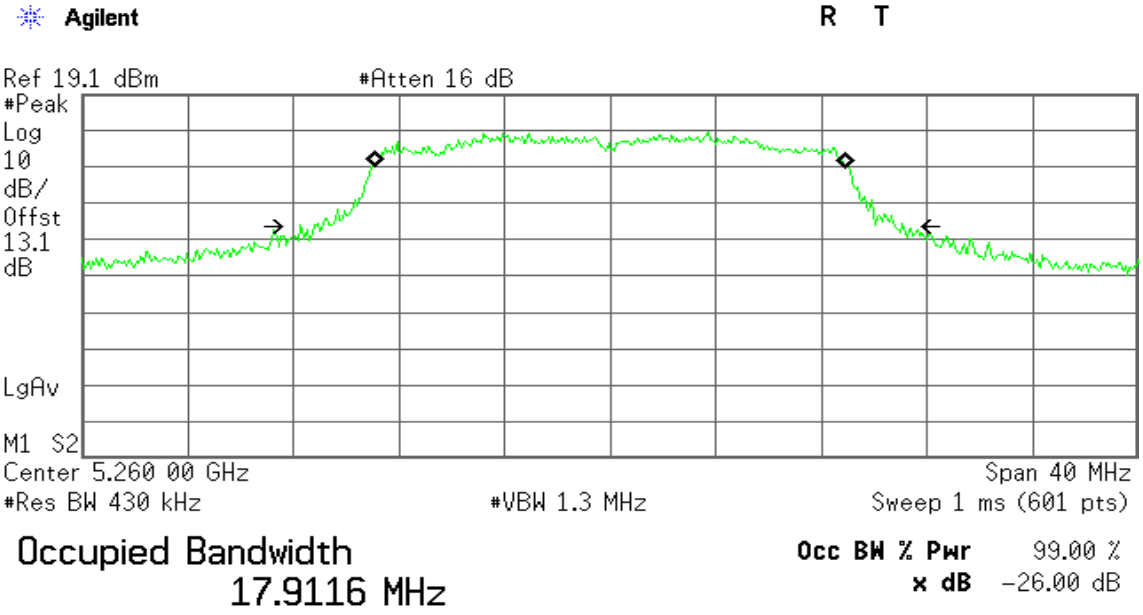
Occupied Bandwidth
16.8736 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -18.609 kHz
x dB Bandwidth 23.649 MHz

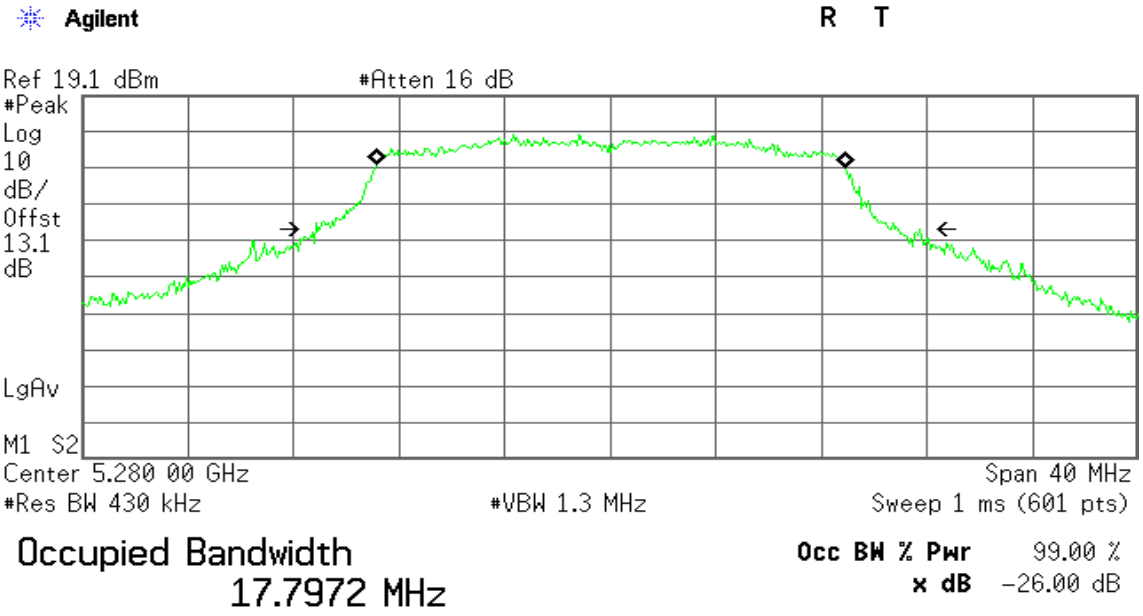
IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz / Chain 0

CH Low



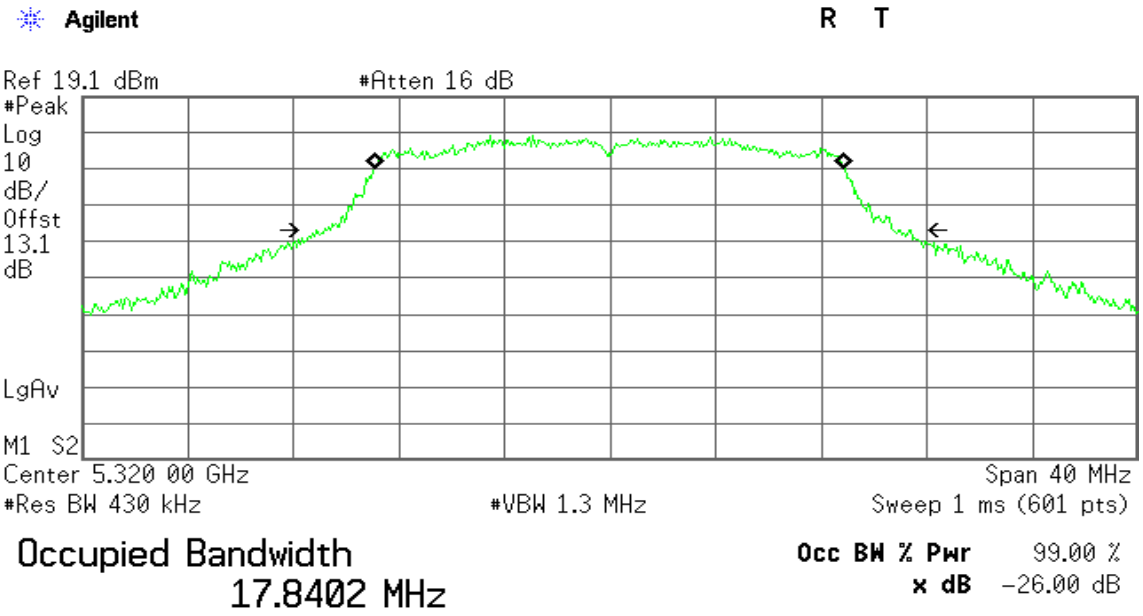
Transmit Freq Error	2.328 kHz
x dB Bandwidth	22.843 MHz

CH Mid



Transmit Freq Error	12.629 kHz
x dB Bandwidth	22.898 MHz

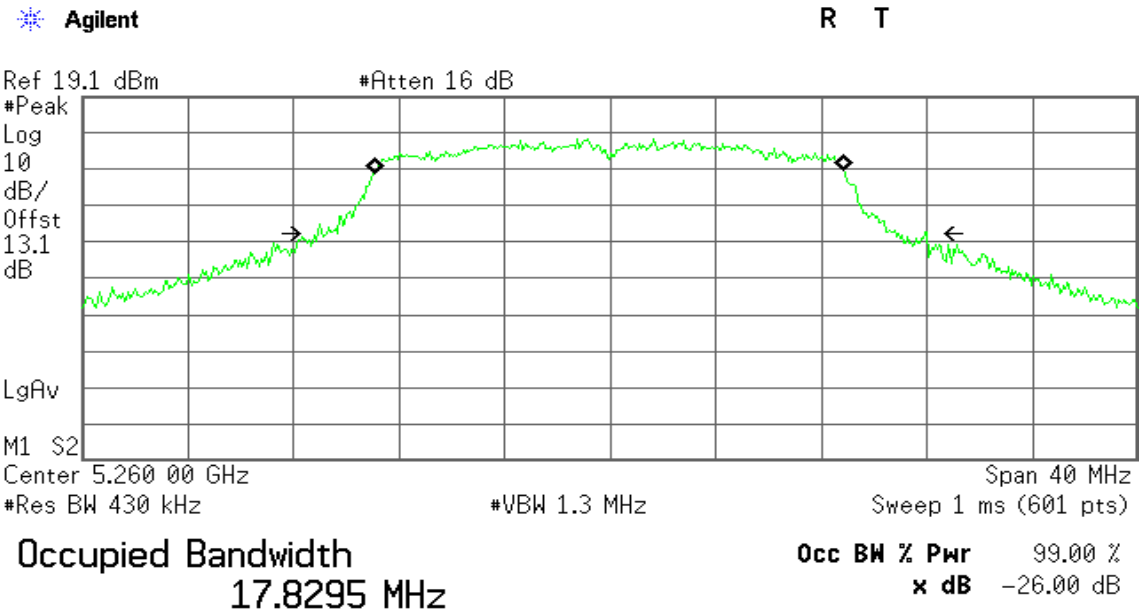
CH High



Transmit Freq Error −38.653 kHz
x dB Bandwidth 22.542 MHz

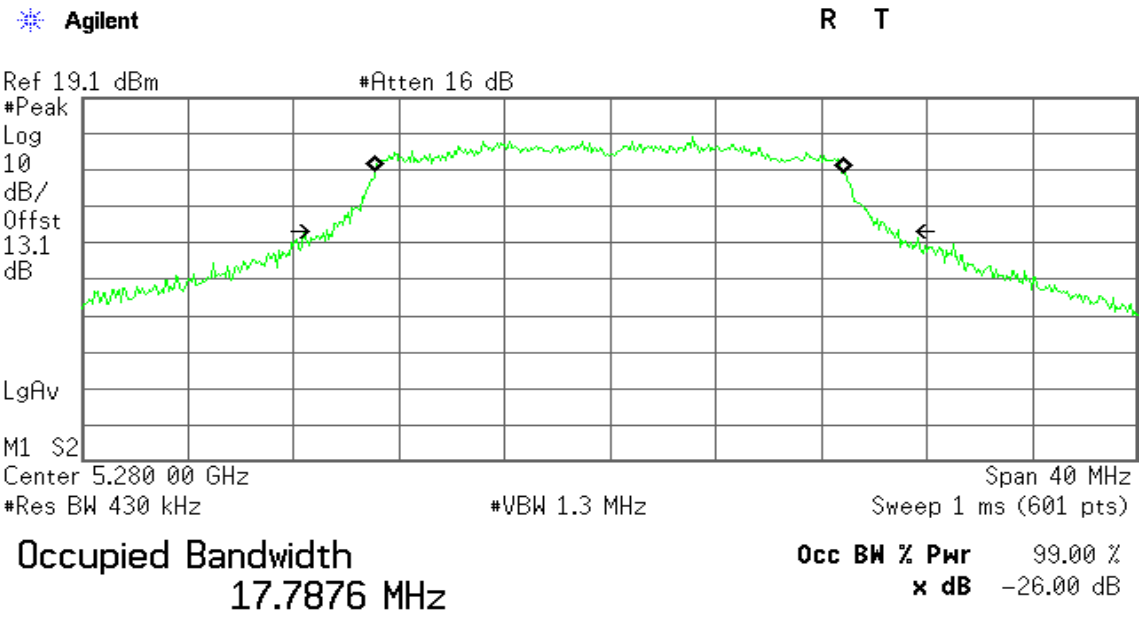
IEEE 802.11n HT 20 mode / 5260 ~ 5320MHz / Chain 1

CH Low



Transmit Freq Error −21.760 kHz
x dB Bandwidth 23.092 MHz

CH Mid

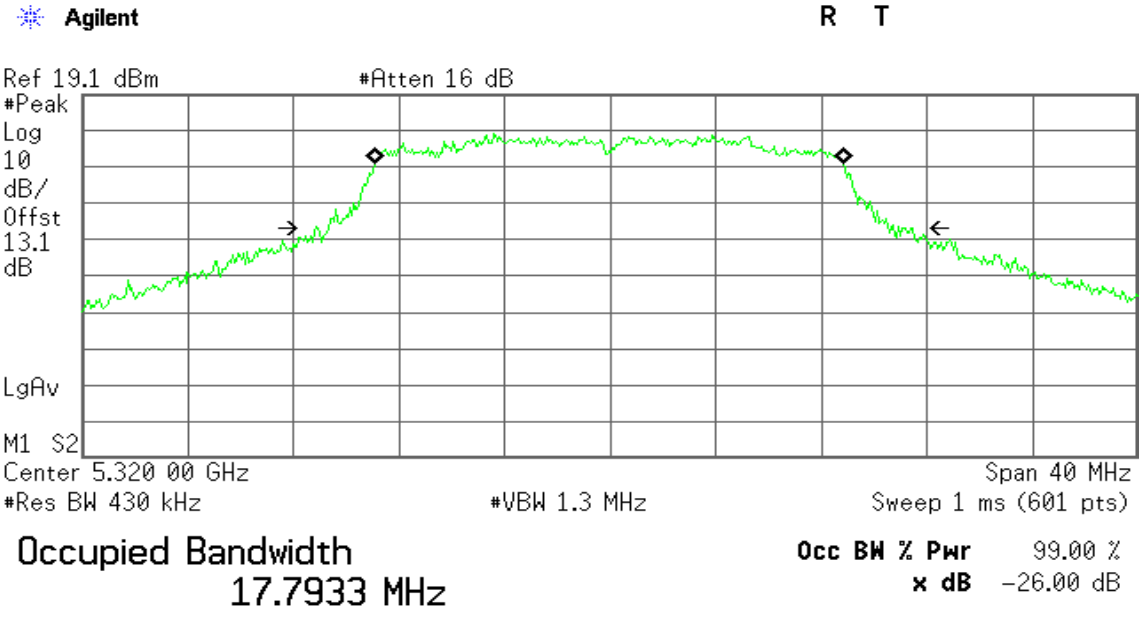


Occupied Bandwidth
17.7876 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -17.329 kHz
x dB Bandwidth 21.692 MHz

CH High



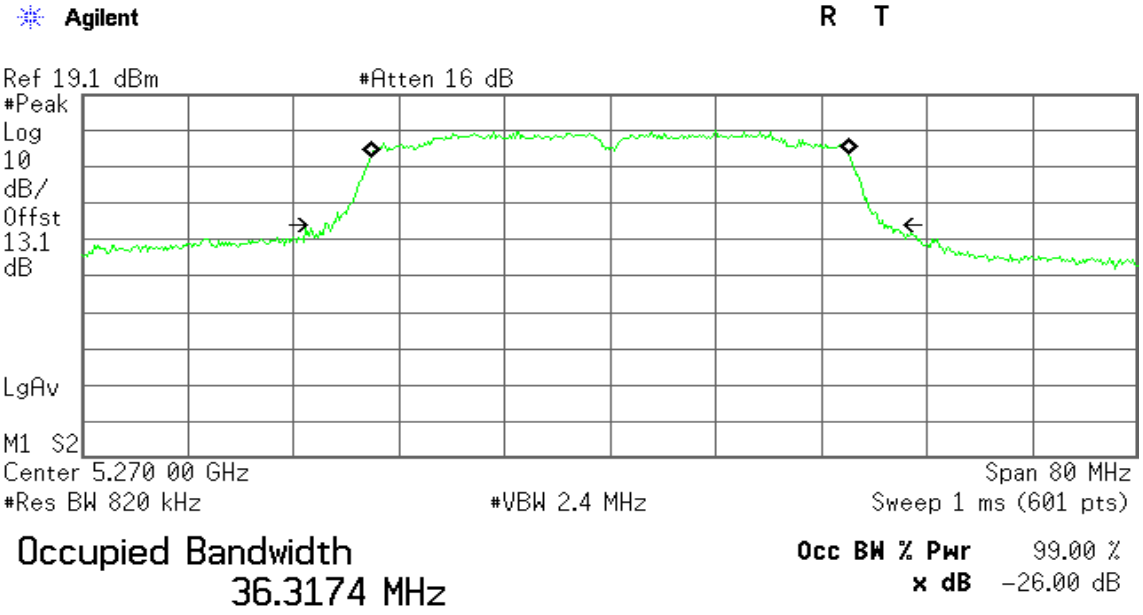
Occupied Bandwidth
17.7933 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -21.225 kHz
x dB Bandwidth 22.645 MHz

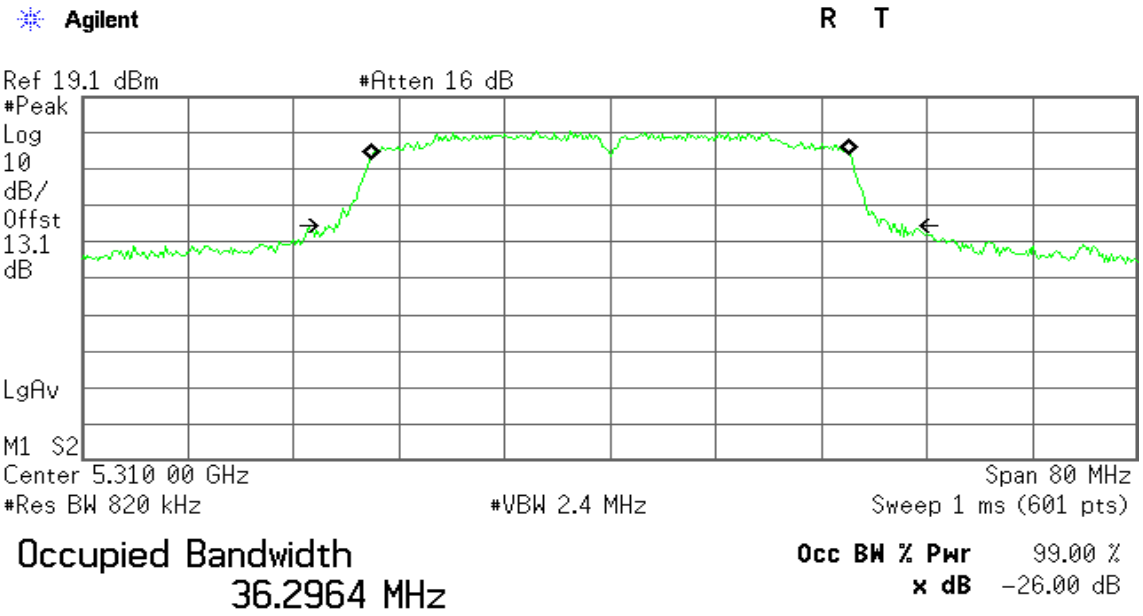
IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 0

CH Low



Transmit Freq Error -25.010 kHz
x dB Bandwidth 42.621 MHz

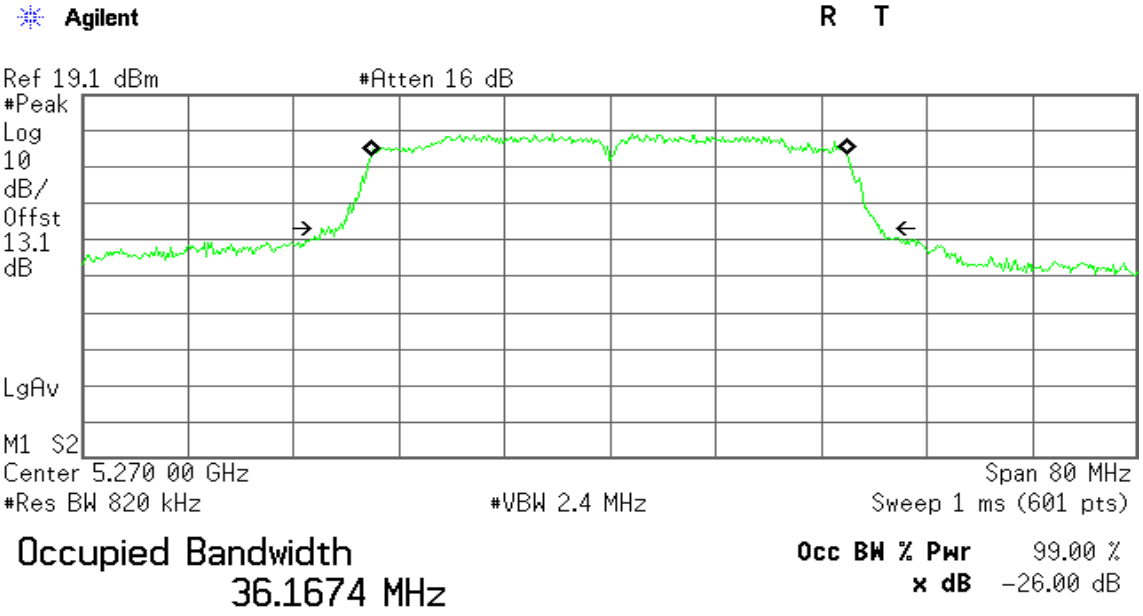
CH High



Transmit Freq Error 22.484 kHz
x dB Bandwidth 43.010 MHz

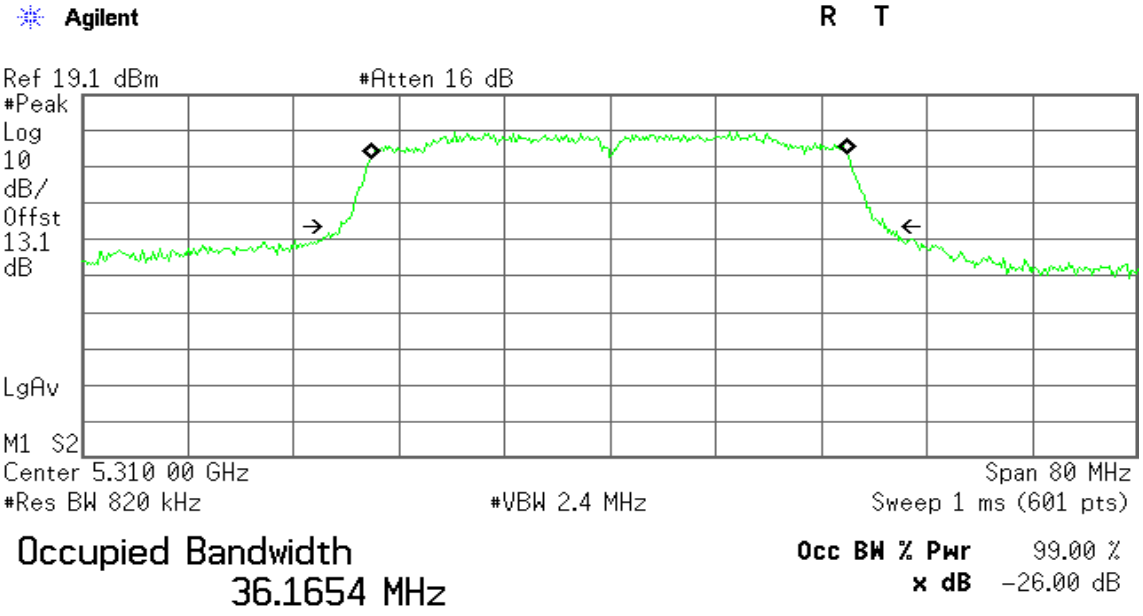
IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 1

CH Low



Transmit Freq Error −61.410 kHz
x dB Bandwidth 41.855 MHz

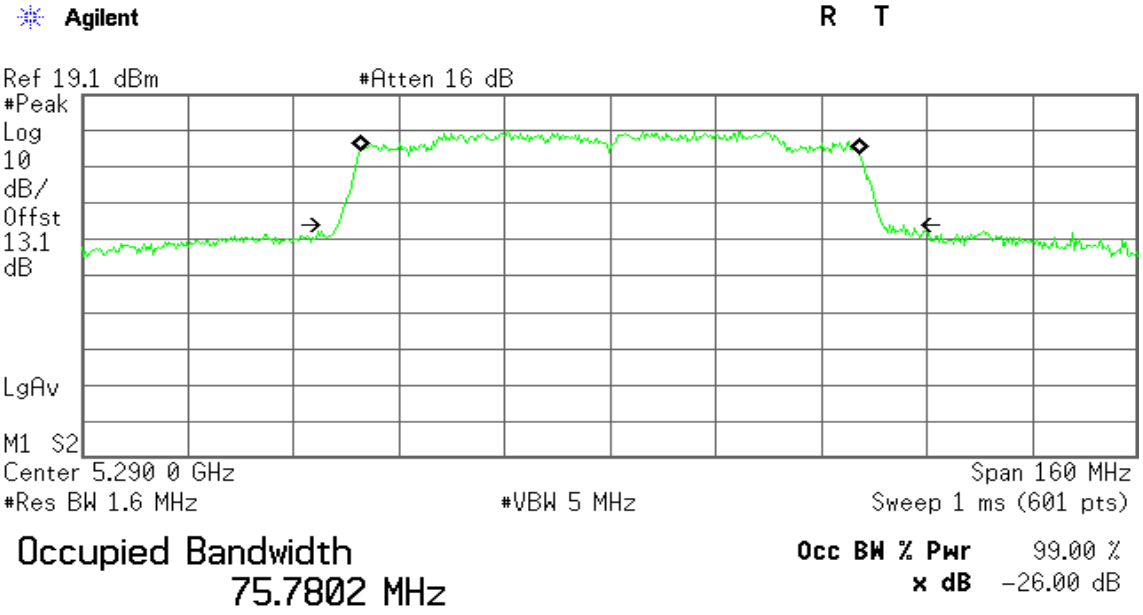
CH High



Transmit Freq Error −35.653 kHz
x dB Bandwidth 41.261 MHz

IEEE 802.11n HT 80 MHz mode / 5290MHz / Chain 0

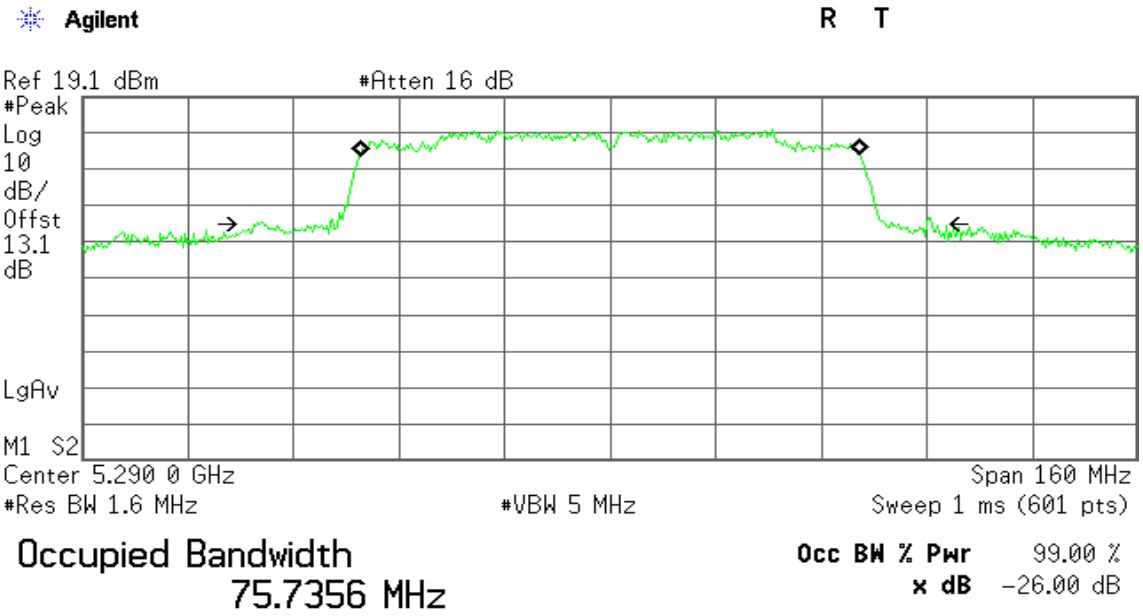
CH Mid



Transmit Freq Error -43.728 kHz
x dB Bandwidth 85.874 MHz

IEEE 802.11n HT 80 MHz mode / 5290MHz / Chain 1

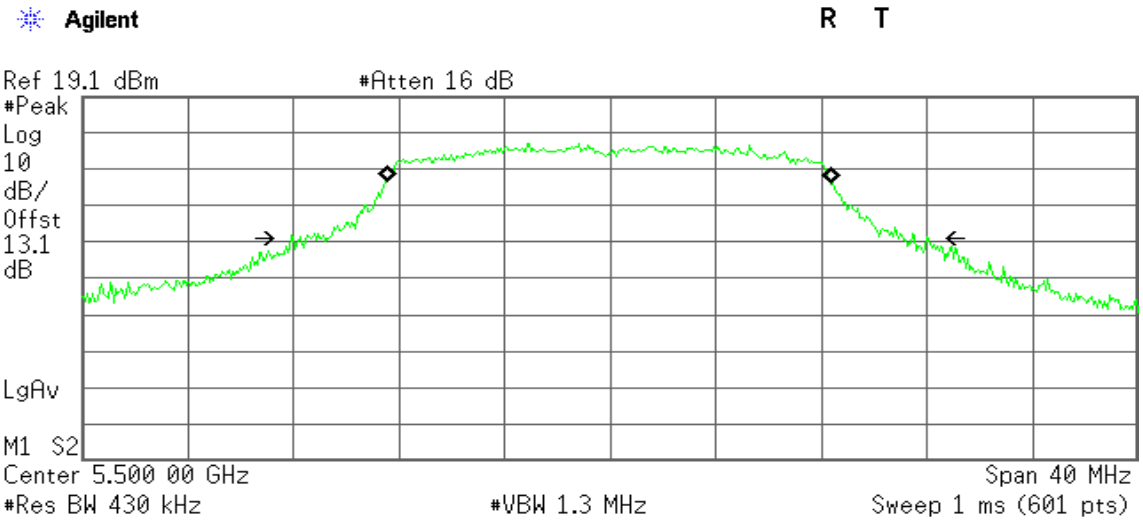
CH Mid



Transmit Freq Error -4.173 kHz
x dB Bandwidth 102.643 MHz

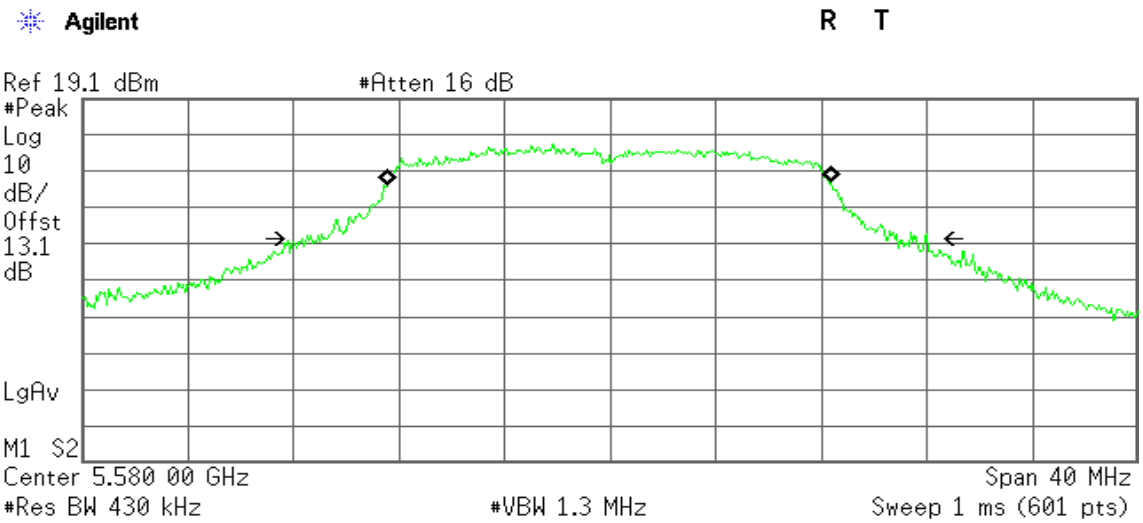
Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

CH Low



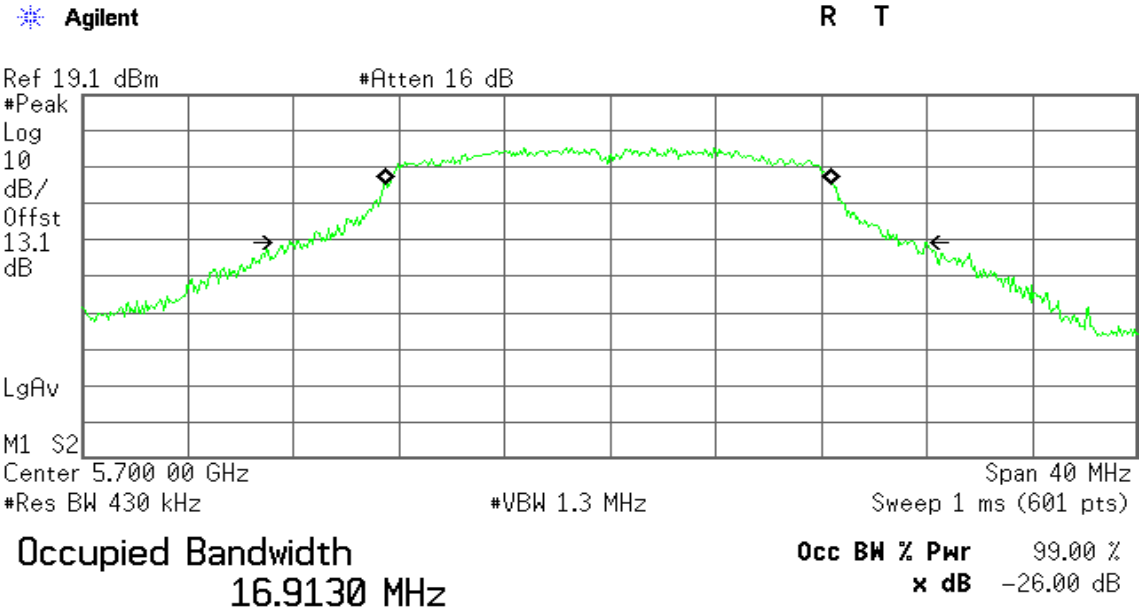
Transmit Freq Error	-35.101 kHz
x dB Bandwidth	24.121 MHz

CH Mid



Transmit Freq Error	-37.993 kHz
x dB Bandwidth	23.706 MHz

CH High



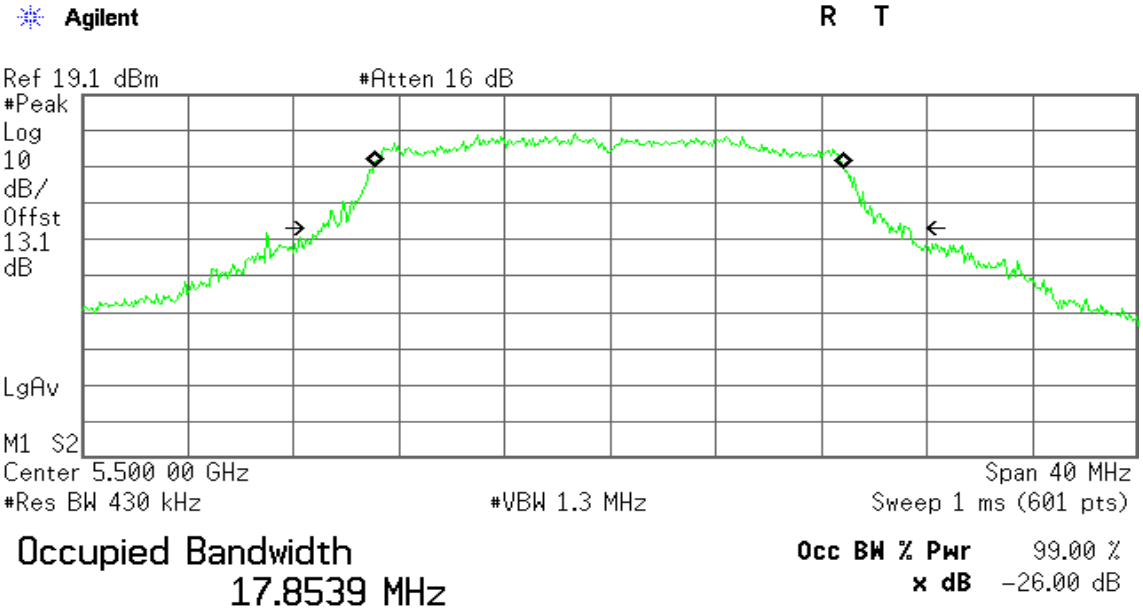
Occupied Bandwidth
16.9130 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -47.191 kHz
x dB Bandwidth 23.622 MHz

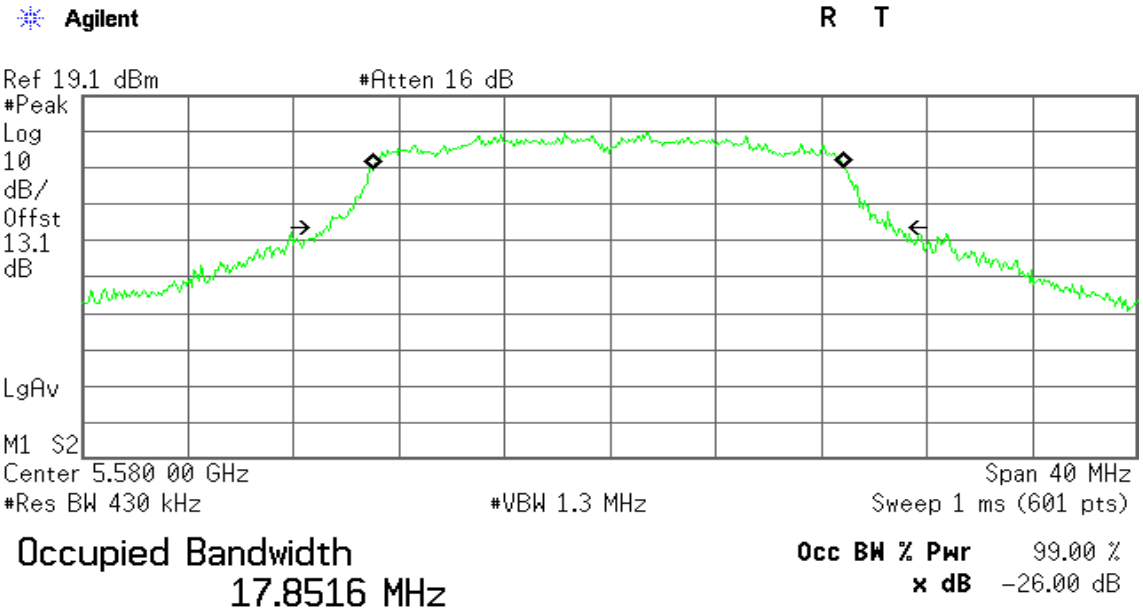
IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 0

CH Low



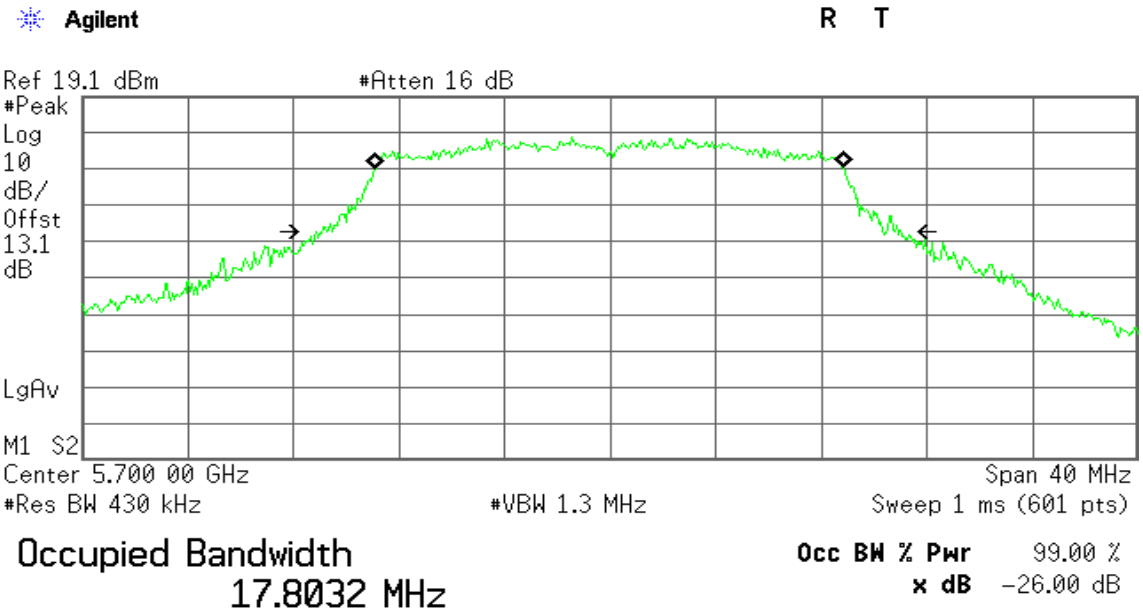
Transmit Freq Error -34.931 kHz
x dB Bandwidth 22.248 MHz

CH Mid



Transmit Freq Error -58.778 kHz
x dB Bandwidth 21.461 MHz

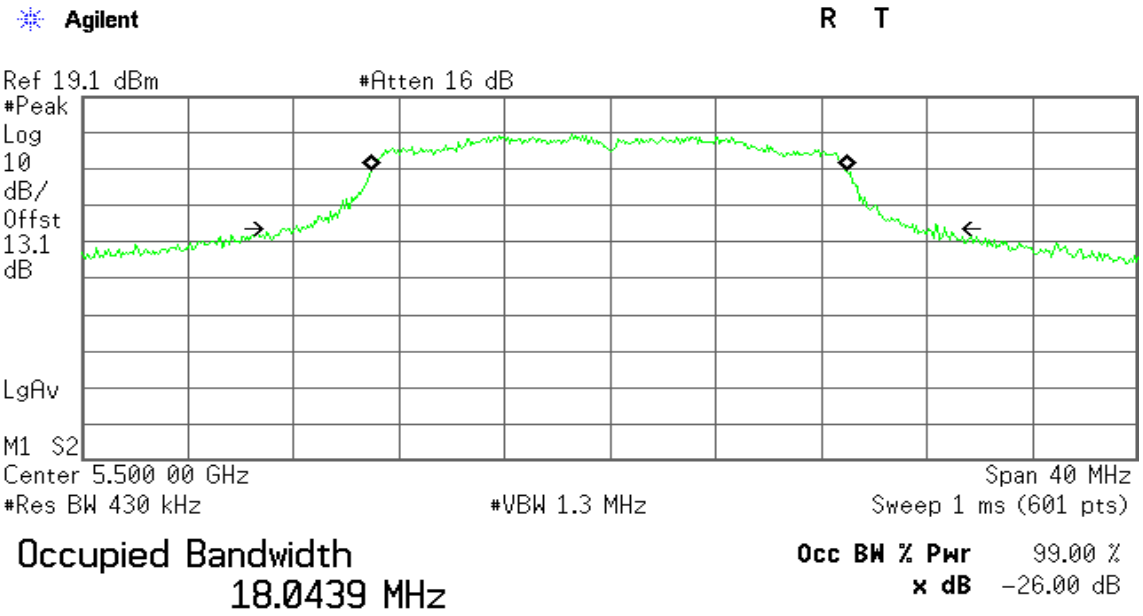
CH High



Transmit Freq Error -40.800 kHz
x dB Bandwidth 22.170 MHz

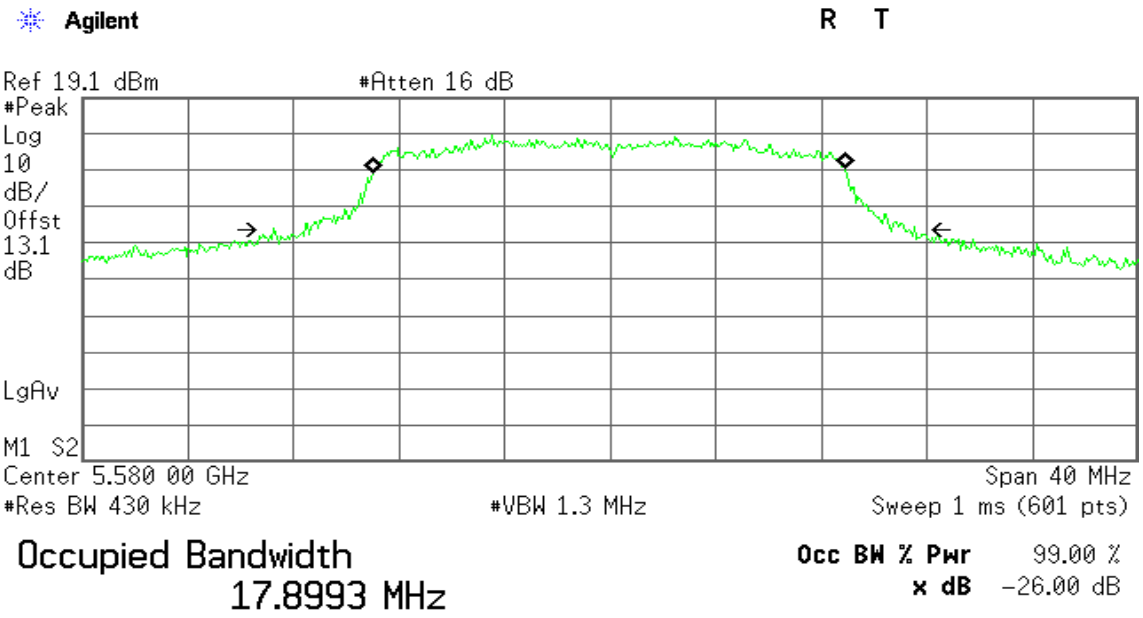
IEEE 802.11n HT 20 MHz mode / 5500 ~ 5700MHz / Chain 1

CH Low



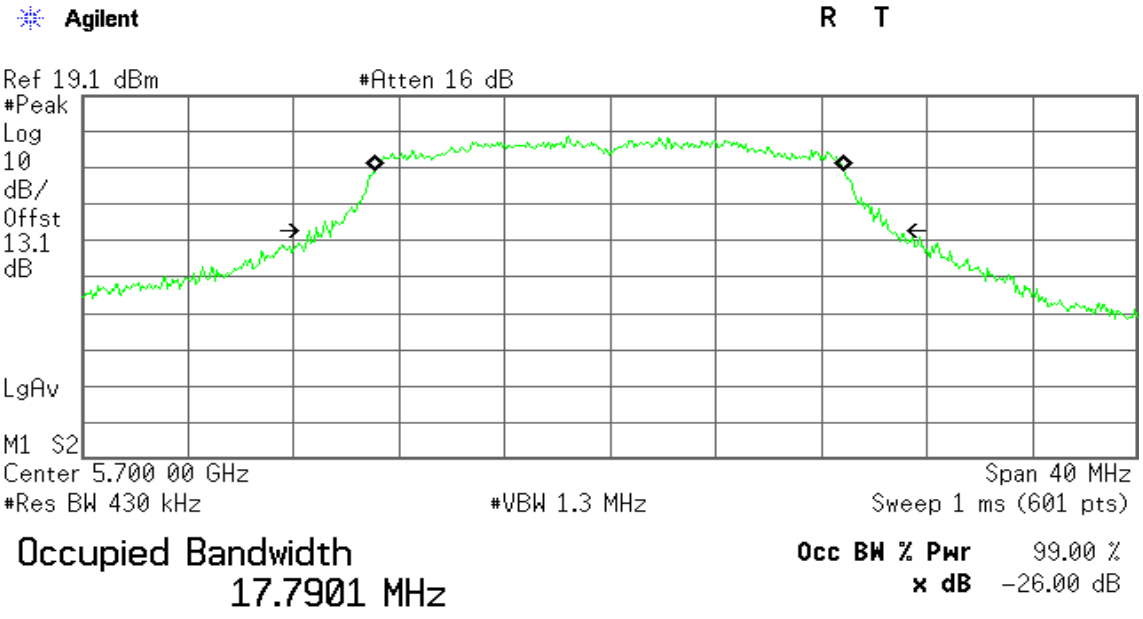
Transmit Freq Error -30.965 kHz
x dB Bandwidth 25.120 MHz

CH Mid



Transmit Freq Error -44.733 kHz
x dB Bandwidth 24.296 MHz

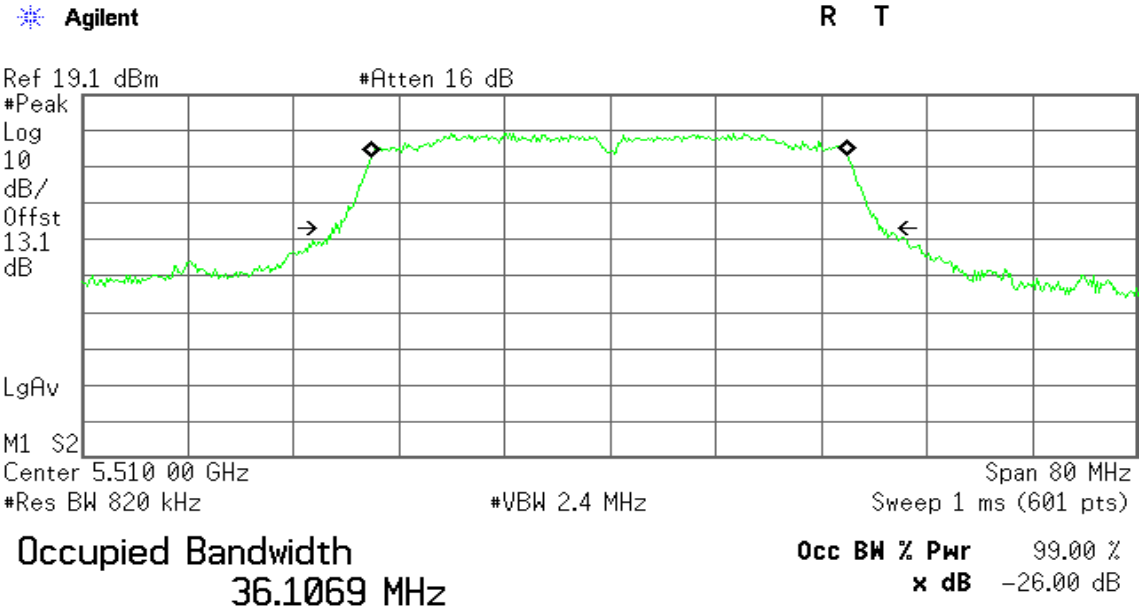
CH High



Transmit Freq Error -31.841 kHz
x dB Bandwidth 21.753 MHz

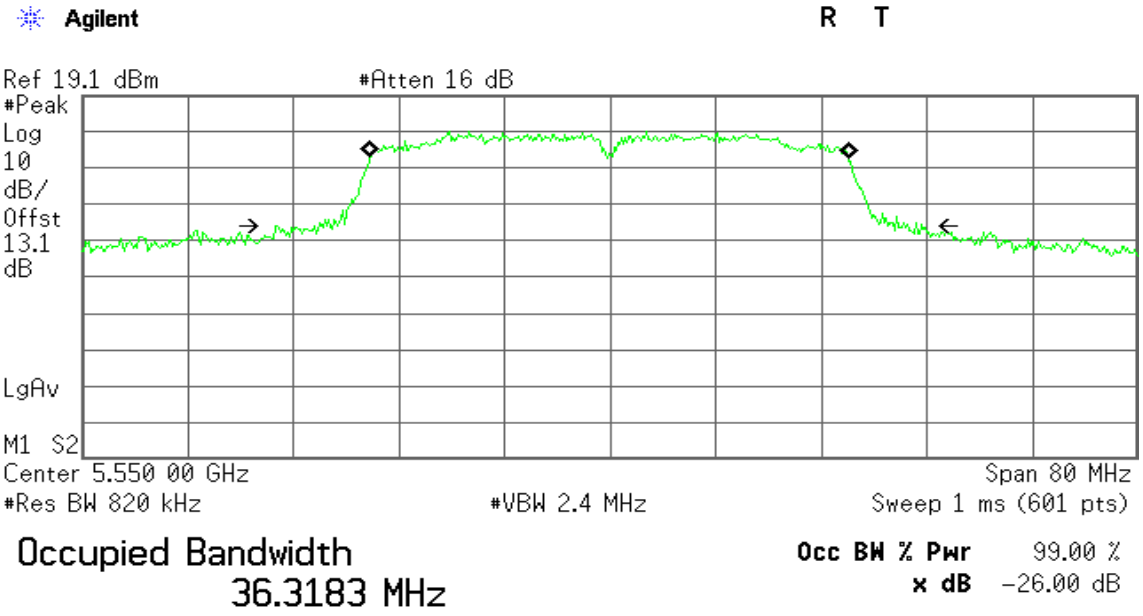
IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 0

CH Low



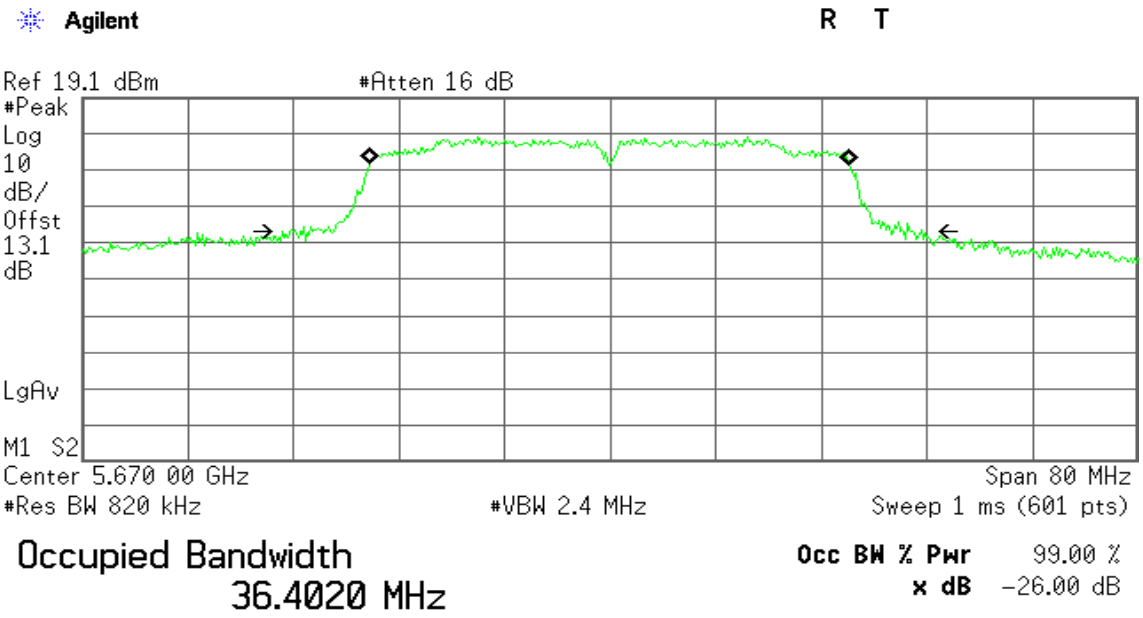
Transmit Freq Error -37.048 kHz
x dB Bandwidth 41.449 MHz

CH Mid



Transmit Freq Error -61.676 kHz
x dB Bandwidth 49.002 MHz

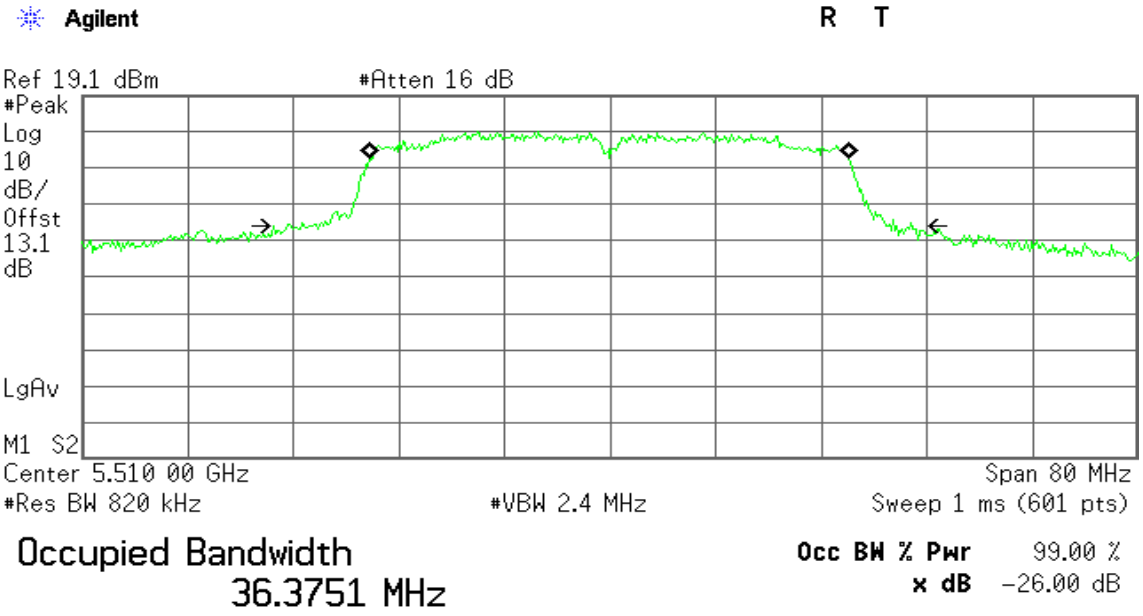
CH High



Transmit Freq Error -50.869 kHz
x dB Bandwidth 47.908 MHz

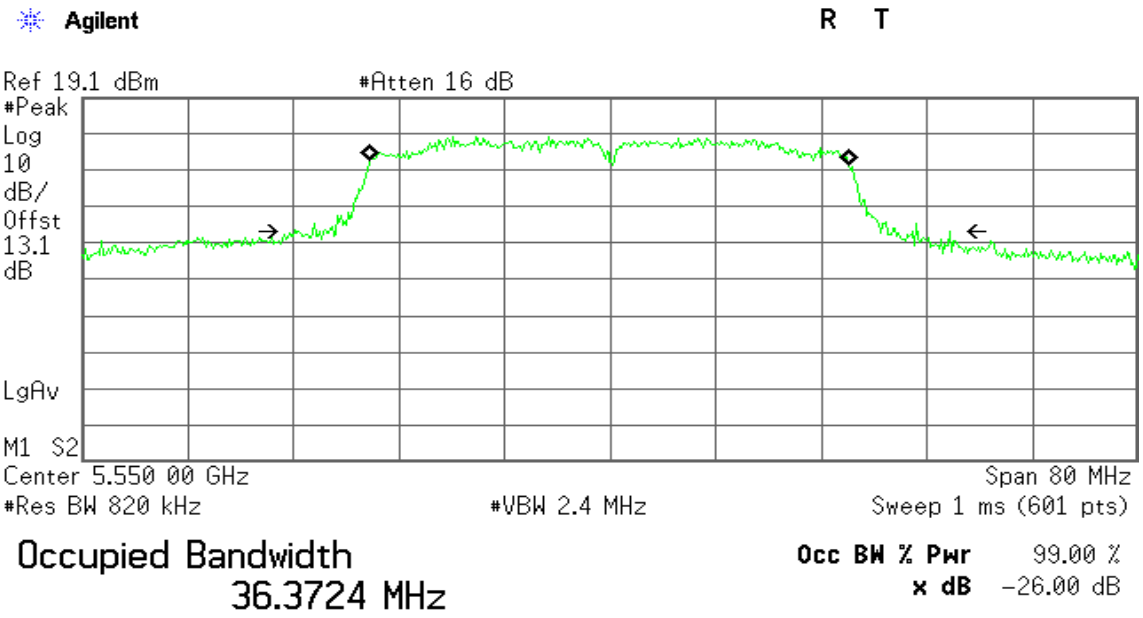
IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 1

CH Low



Transmit Freq Error -111.505 kHz
x dB Bandwidth 47.302 MHz

CH Mid

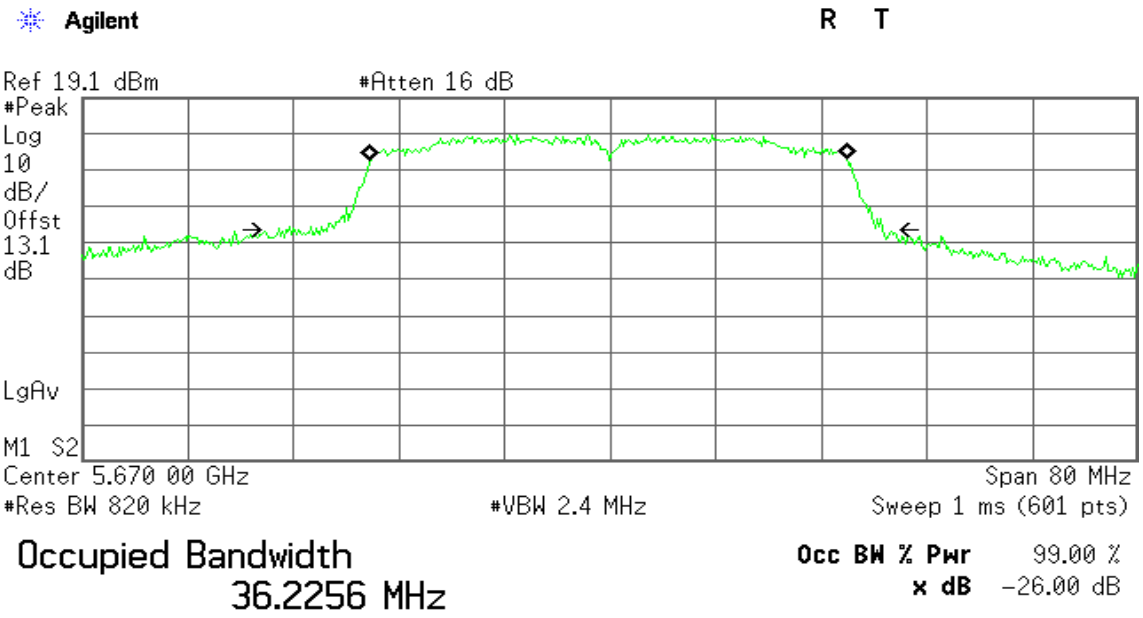


Occupied Bandwidth
36.3724 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -58.748 kHz
x dB Bandwidth 49.646 MHz

CH High



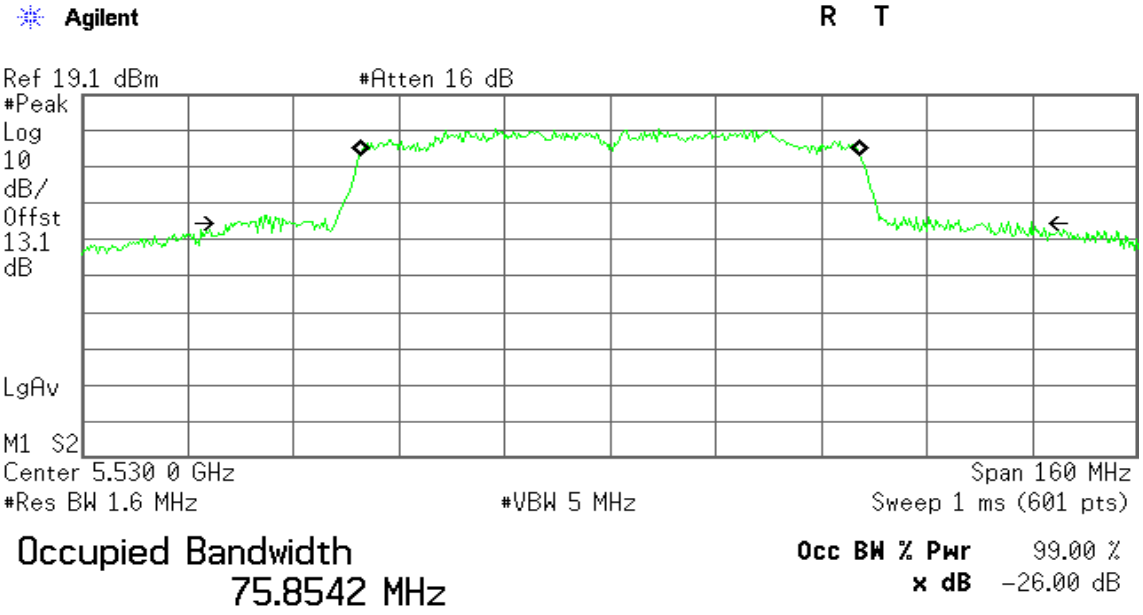
Occupied Bandwidth
36.2256 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -90.399 kHz
x dB Bandwidth 45.749 MHz

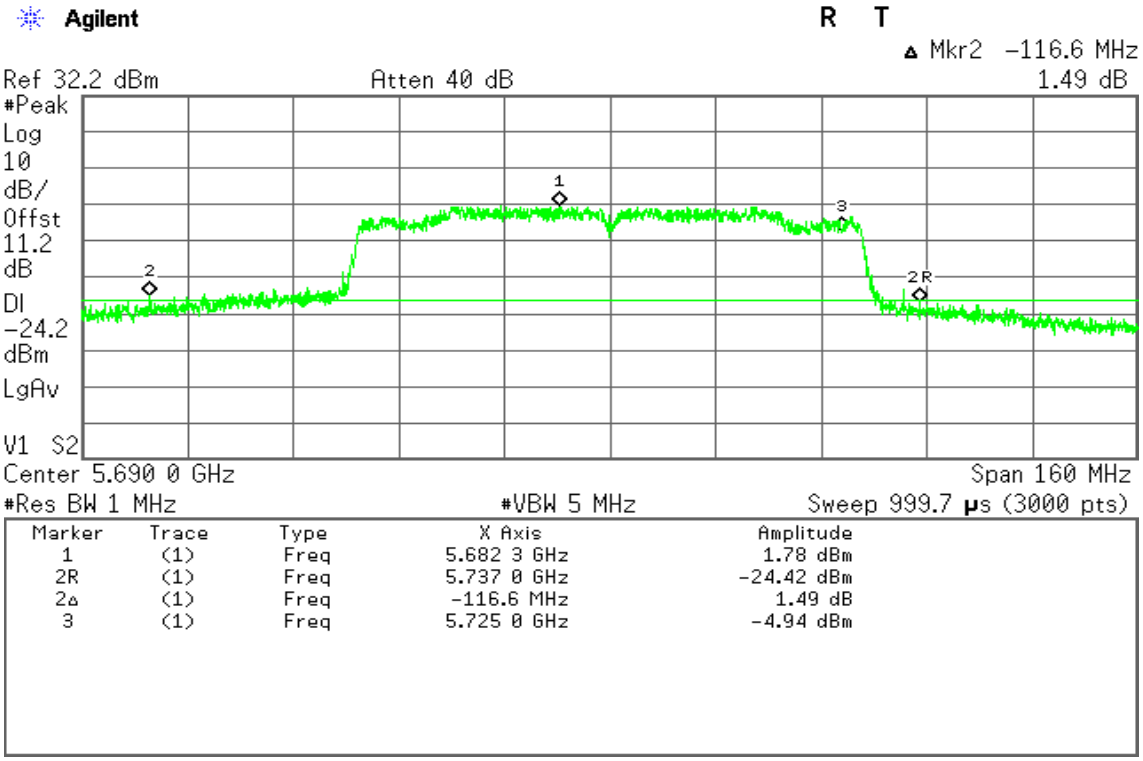
IEEE 802.11n HT 80 MHz mode / 5530 ~ 5690MHz / Chain 0

CH Low



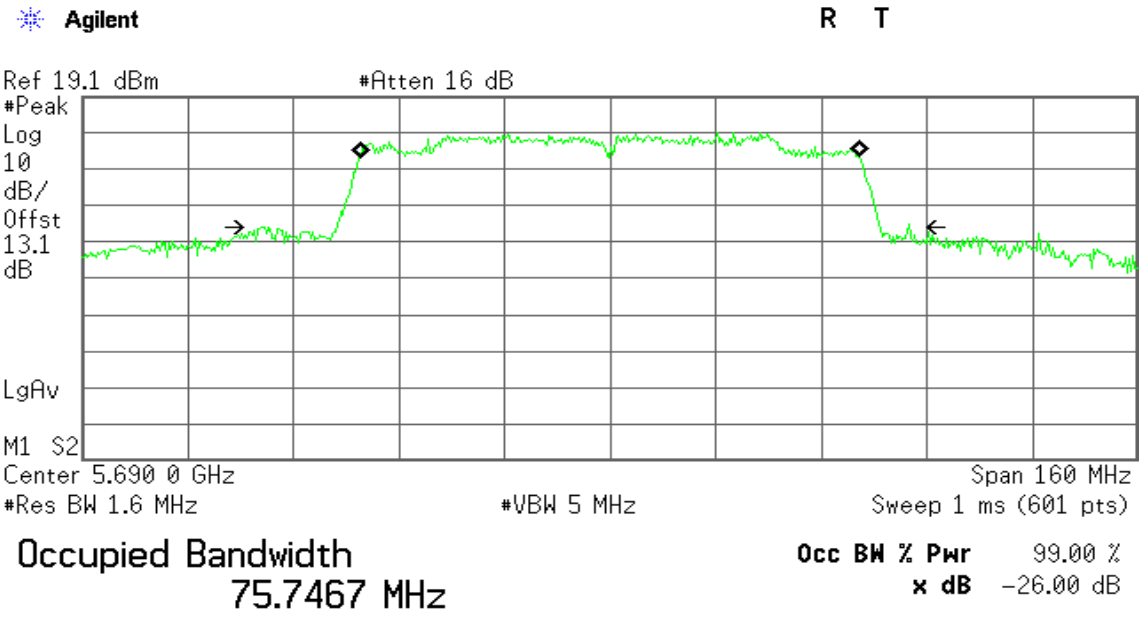
Transmit Freq Error	38.214 kHz
x dB Bandwidth	121.134 MHz

CH High(Band III & Band IV)



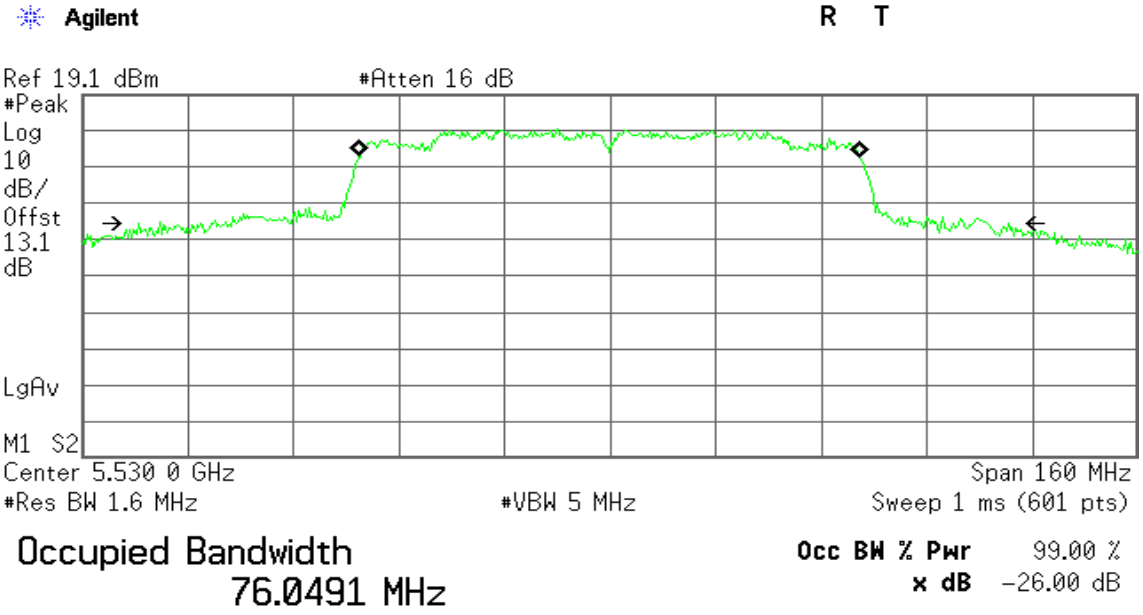
IEEE 802.11ac VHT 80 MHz mode / 5690MHz

For 99% Bandwidth



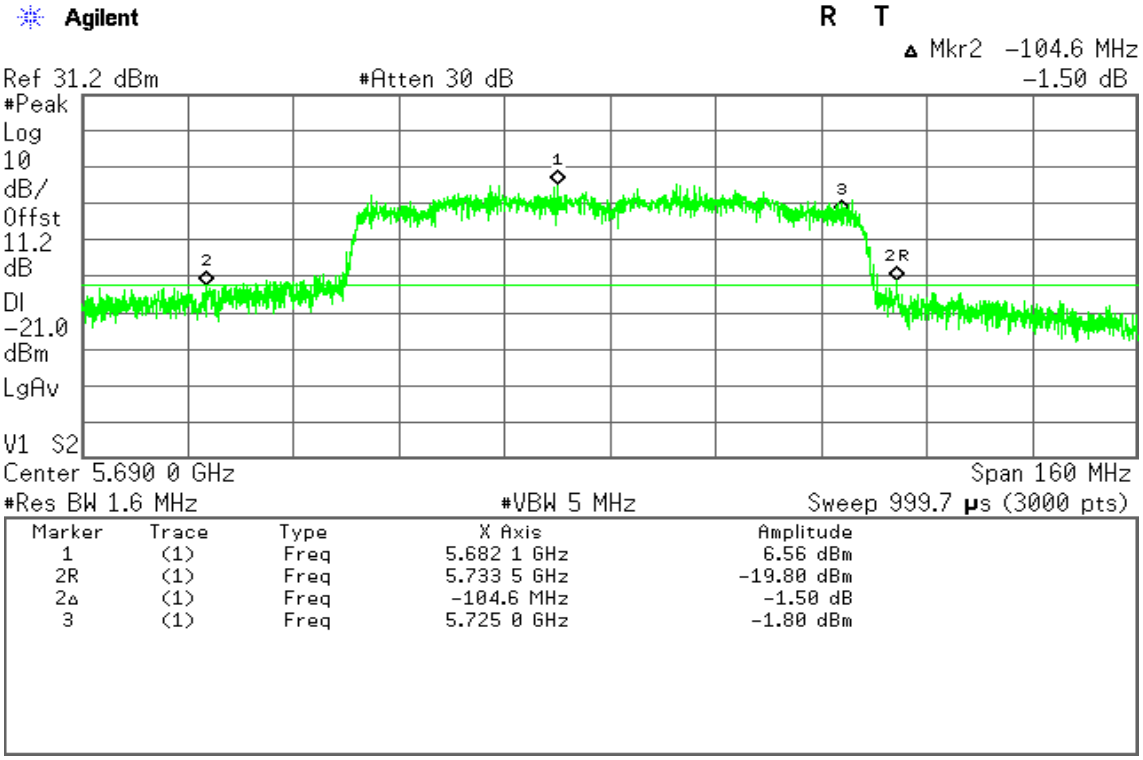
IEEE 802.11n HT 80 MHz mode / 5530 ~ 5690MHz / Chain 1

CH Low



Transmit Freq Error −122.310 kHz
x dB Bandwidth 131.790 MHz

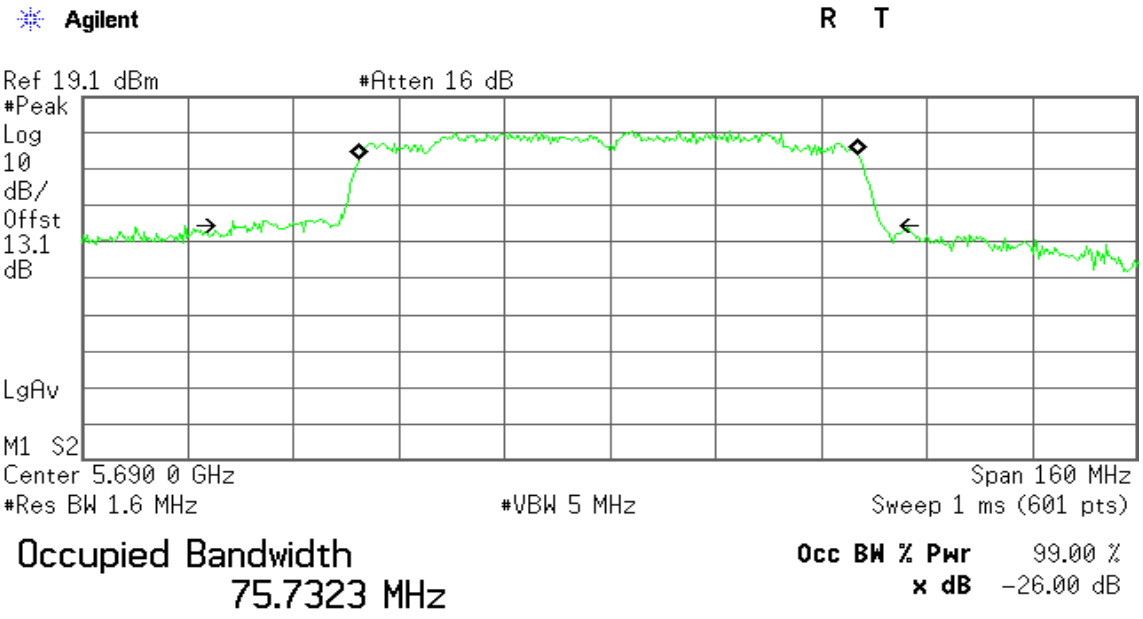
CH High(Band III & Band IV)



Marker	Trace	Type	X Axis	Amplitude
1	(1)	Freq	5.682 1 GHz	6.56 dBm
2R	(1)	Freq	5.733 5 GHz	-19.80 dBm
2Δ	(1)	Freq	-104.6 MHz	-1.50 dB
3	(1)	Freq	5.725 0 GHz	-1.80 dBm

IEEE 802.11ac VHT 80 MHz mode / 5690MHz

For 99% Bandwidth



Transmit Freq Error	-154.767 kHz
x dB Bandwidth	98.497 MHz

7.2MAXIMUM CONDUCTED OUTPUT POWER

LIMIT

According to §15.407(a),

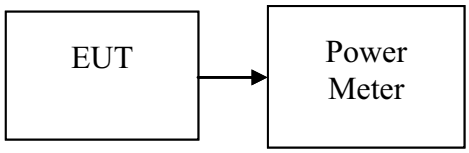
(1) For the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 250 mW, where B is the 26 dB emission bandwidth in MHz.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW, where B is the 26 dB emission bandwidth in MHz.

If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Specified Limit of the Maximum Output PowerTest Configuration

The EUT was connected to a Power Meter through a 50Ω RF cable



TEST PROCEDURE

The transmitter output is connected to the Power Meter. The Power Meter is set to the avg power detection. The EUT is configured to transmit continuously.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5180	**13.51**	24.00
Mid	5220	13.29	24.00
High	5240	13.46	24.00

Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5180	10.42	10.32	13.38	24.00
Mid	5220	10.35	10.30	13.34	24.00
High	5240	10.47	10.45	**13.47**	24.00

Test mode: IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5190	10.16	10.41	13.30	24.00
High	5230	10.47	10.42	**13.46**	24.00

Test mode: IEEE 802.11n HT 80 MHz mode / 5210MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Mid	5210	10.44	10.39	**13.43**	24.00

Test mode: IEEE 802.11a mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5260	13.39	24.00
Mid	5280	**13.41**	24.00
High	5320	13.29	24.00

Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5260	10.47	10.36	13.43	24.00
Mid	5280	10.42	10.38	13.41	24.00
High	5320	10.42	10.43	**13.44**	24.00

Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5270	10.44	10.47	**13.47**	24.00
High	5310	10.36	10.37	13.38	24.00

Test mode: IEEE 802.11n HT 80 MHz mode / 5290MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Mid	5290	10.42	10.43	**13.44**	24.00

Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5500	**13.41**	24.00
Mid	5580	13.37	24.00
High	5700	13.31	24.00

Test mode: IEEE 802.11n HT 20 MHz Channel mode/ 5500 ~ 5700MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5500	10.42	10.43	**13.44**	24.00
Mid	5580	10.45	10.33	13.40	24.00
High	5700	9.87	10.44	13.18	24.00

Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5510	10.41	10.41	**13.42**	24.00
Mid	5550	10.41	10.31	13.37	24.00
High	5670	10.38	10.39	13.40	24.00

Test mode: IEEE 802.11n HT 80 MHz mode / 5530 ~ 5690MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5530	10.42	10.39	13.42	24.00
High	5690	9.36	11.28	**13.44 (Band III)**	24.00
High	5690	-6.05	-4.47	-2.18 (Band IV)	30.00

7.3 BAND EDGES MEASUREMENT

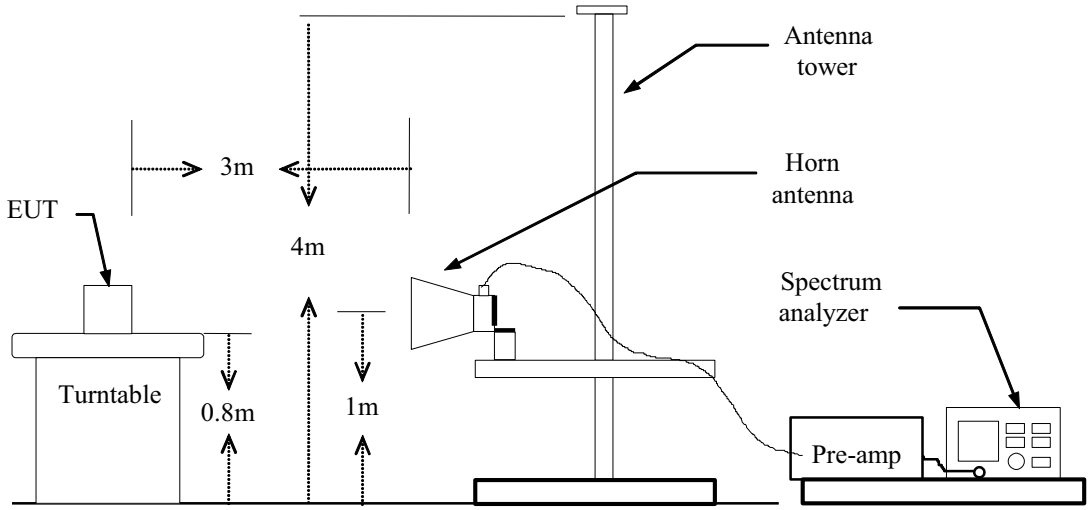
LIMIT

According to §15.407(b)

(1) The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.

(2) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

Test Configuration



TEST PROCEDURE

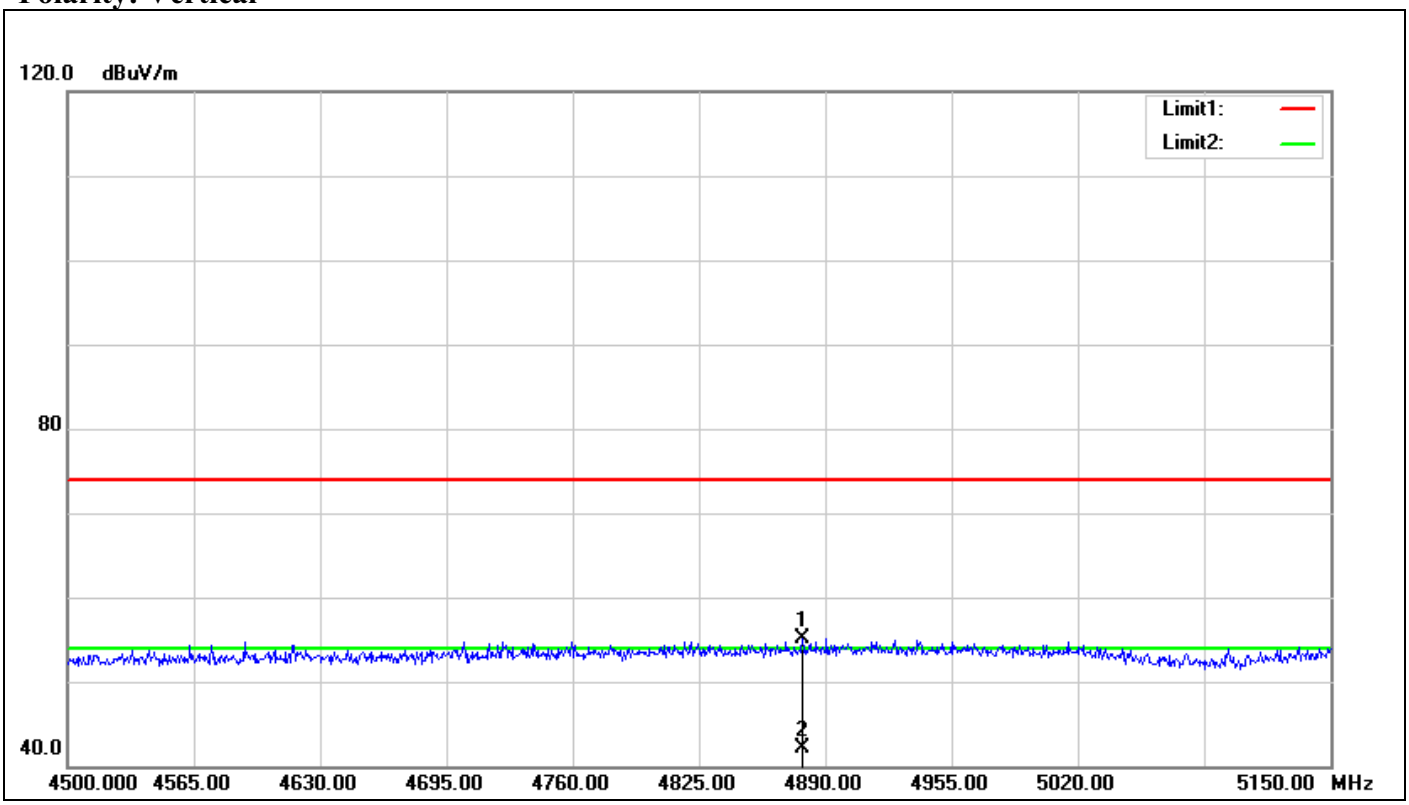
1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
   (a) PEAK: RBW=1MHz / VBW=3MHz / Sweep=AUTO
   (b) AVERAGE: RBW=1MHz,
   if duty cycle≧98%, VBW=10Hz.
   if duty cycle<98% VBW=1/T.
   IEEE 802.11b mode: ≧98%, VBW=10Hz
   IEEE 802.11g mode: ≧98%, VBW=10Hz
   IEEE 802.11n HT 20 MHz mode: ≧98%, VBW=10Hz
   IEEE 802.11n HT 40 MHz mode: 96%=VBW 2kHz
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

TEST RESULTS

Refer to attach spectrum analyzer data chart.

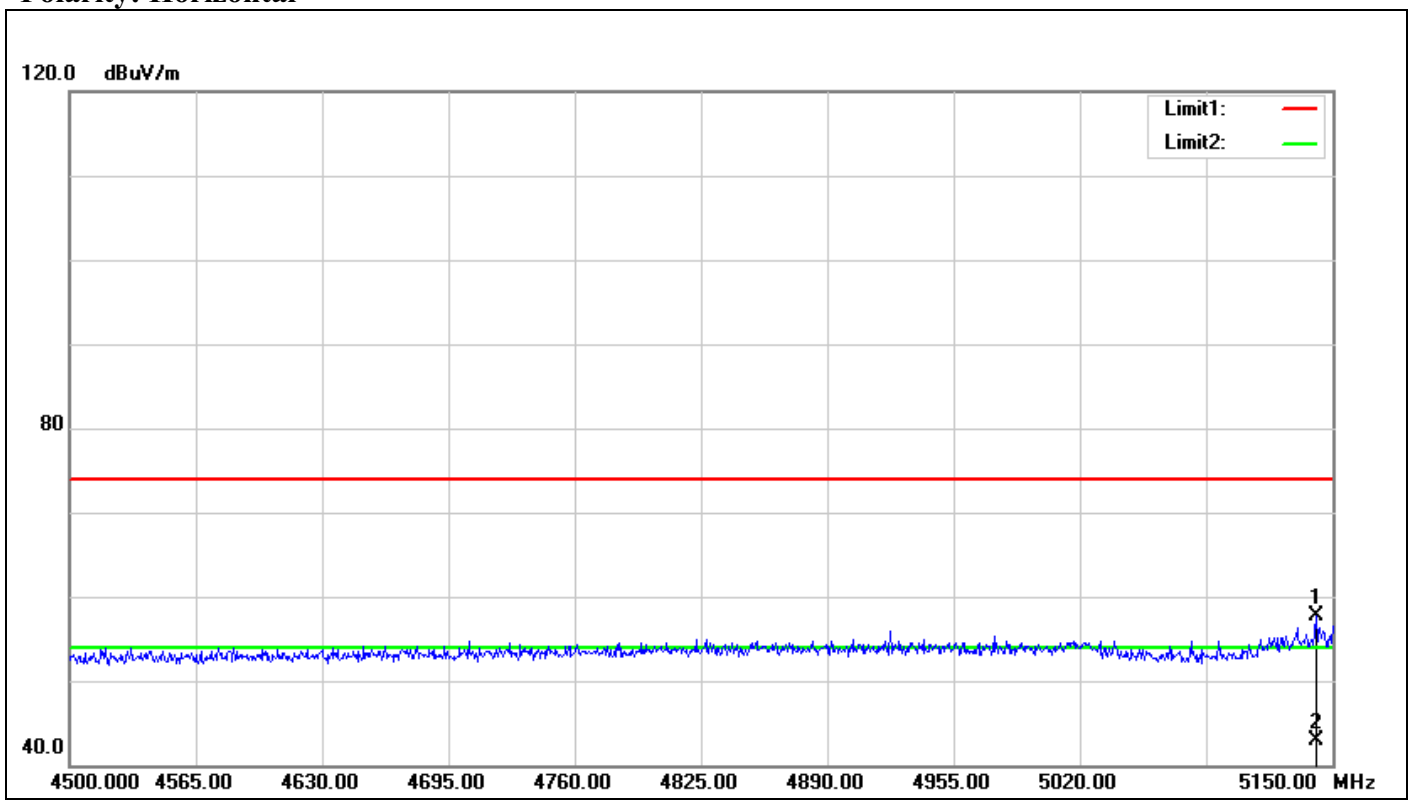
Band Edges (IEEE 802.11a mode / CH 5180 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	4878.300	51.17	3.92	55.09	74.00	-18.91	100	64	peak
2	4878.300	38.16	3.92	42.08	54.00	-11.92	100	64	AVG

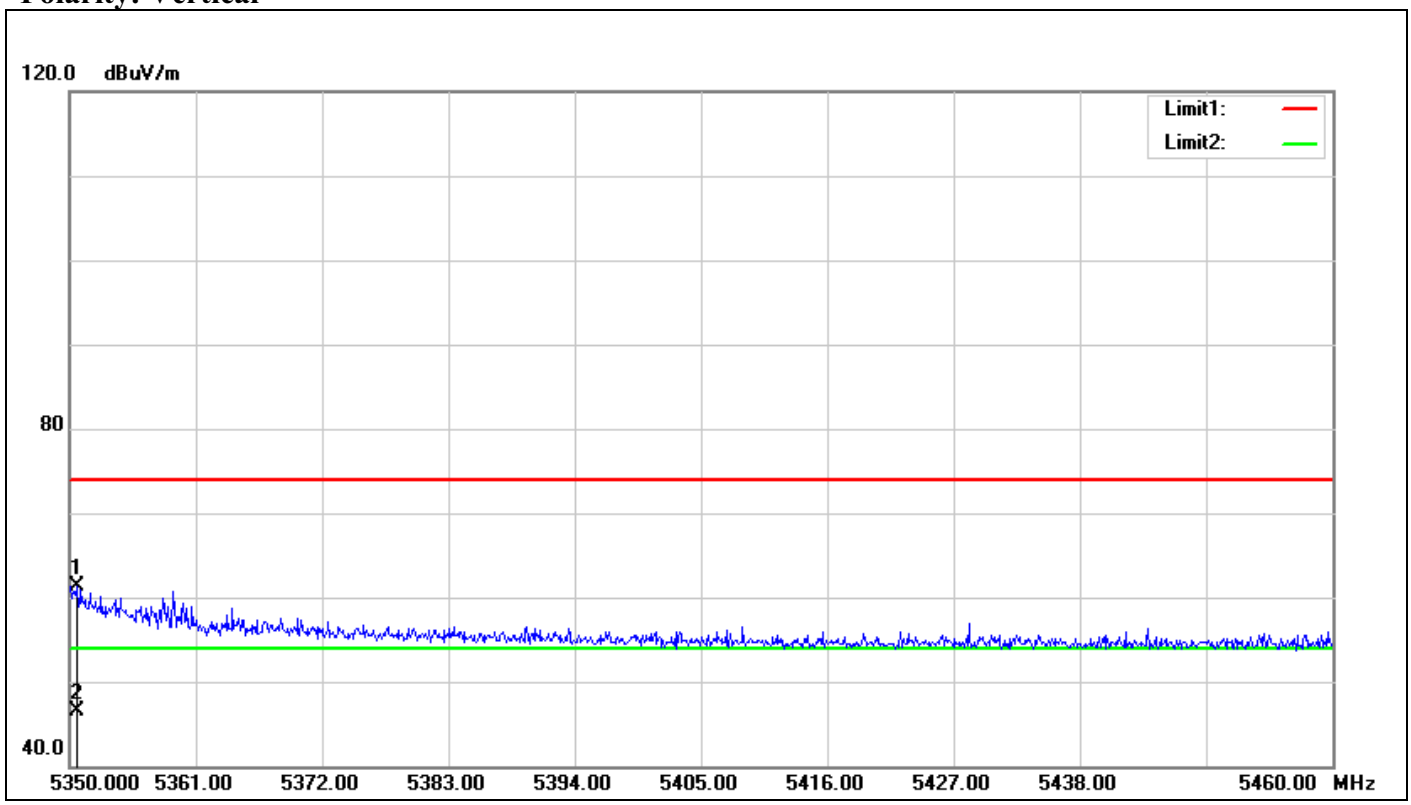
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5141.550	54.63	2.98	57.61	74.00	-16.39	100	105	peak
2	5141.550	39.99	2.98	42.97	54.00	-11.03	100	105	AVG

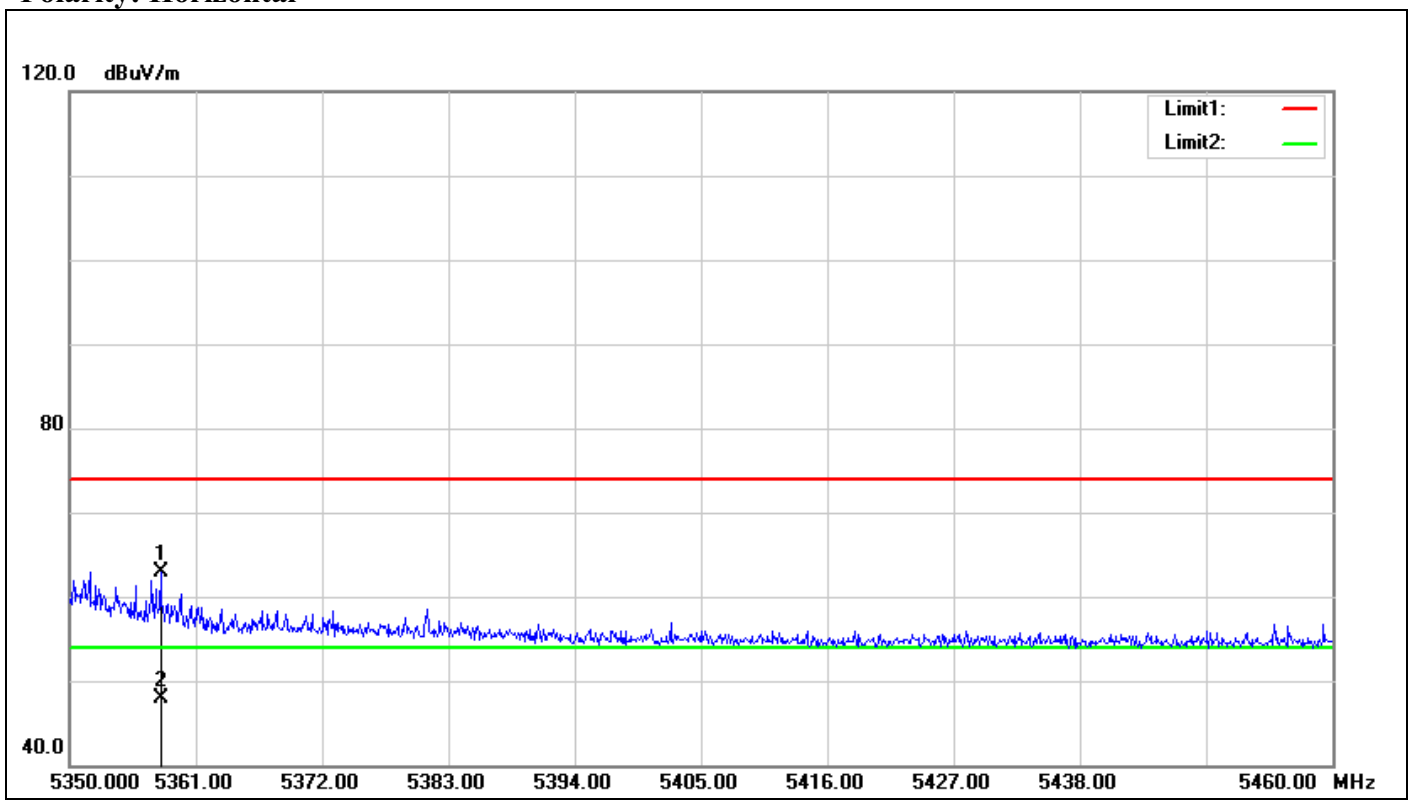
Band Edges (IEEE 802.11a mode / CH 5320 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.660	56.02	5.32	61.34	74.00	-12.66	100	2	peak
2	5350.660	41.26	5.32	46.58	54.00	-7.42	100	2	AVG

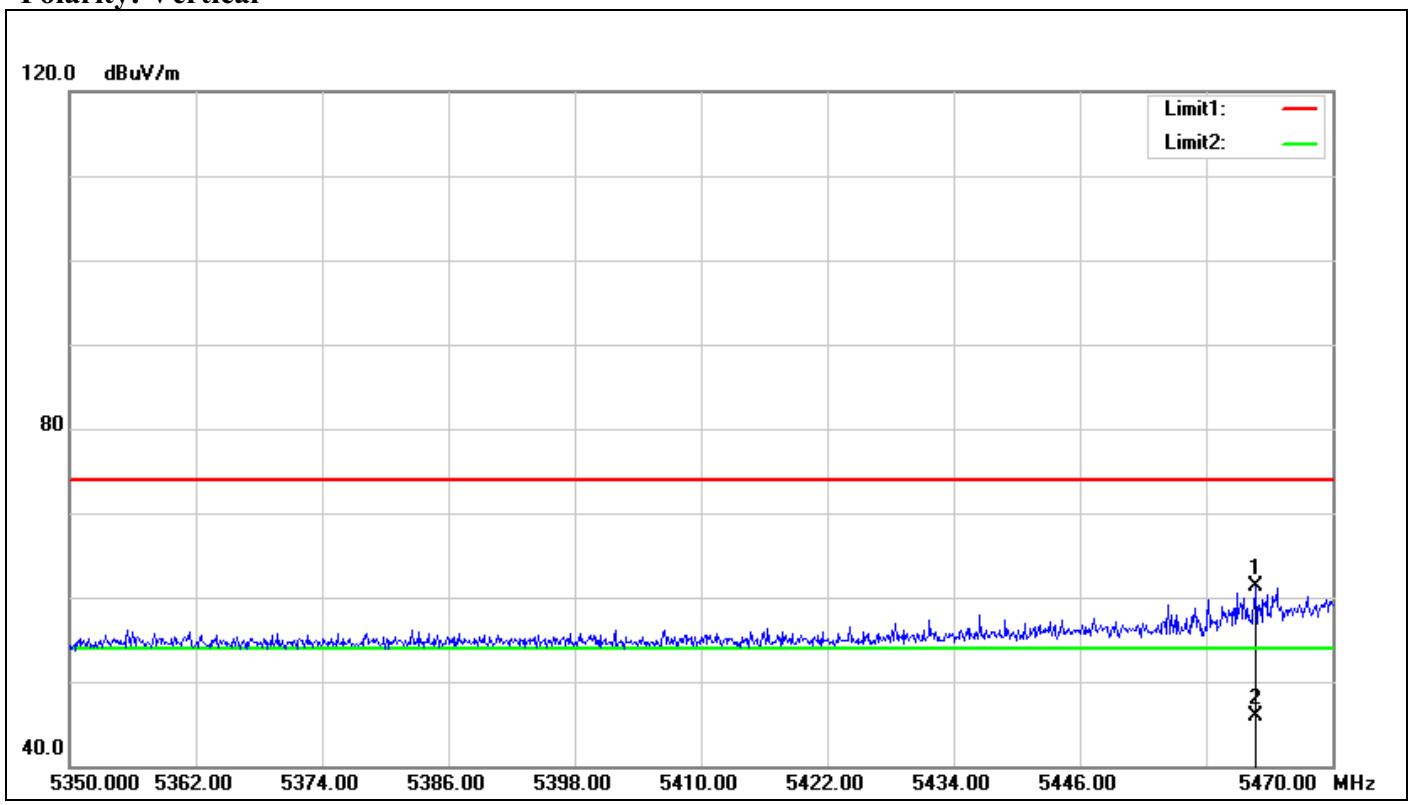
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5357.920	57.50	5.37	62.87	74.00	-11.13	100	294	peak
2	5357.920	42.55	5.37	47.92	54.00	-6.08	100	294	AVG

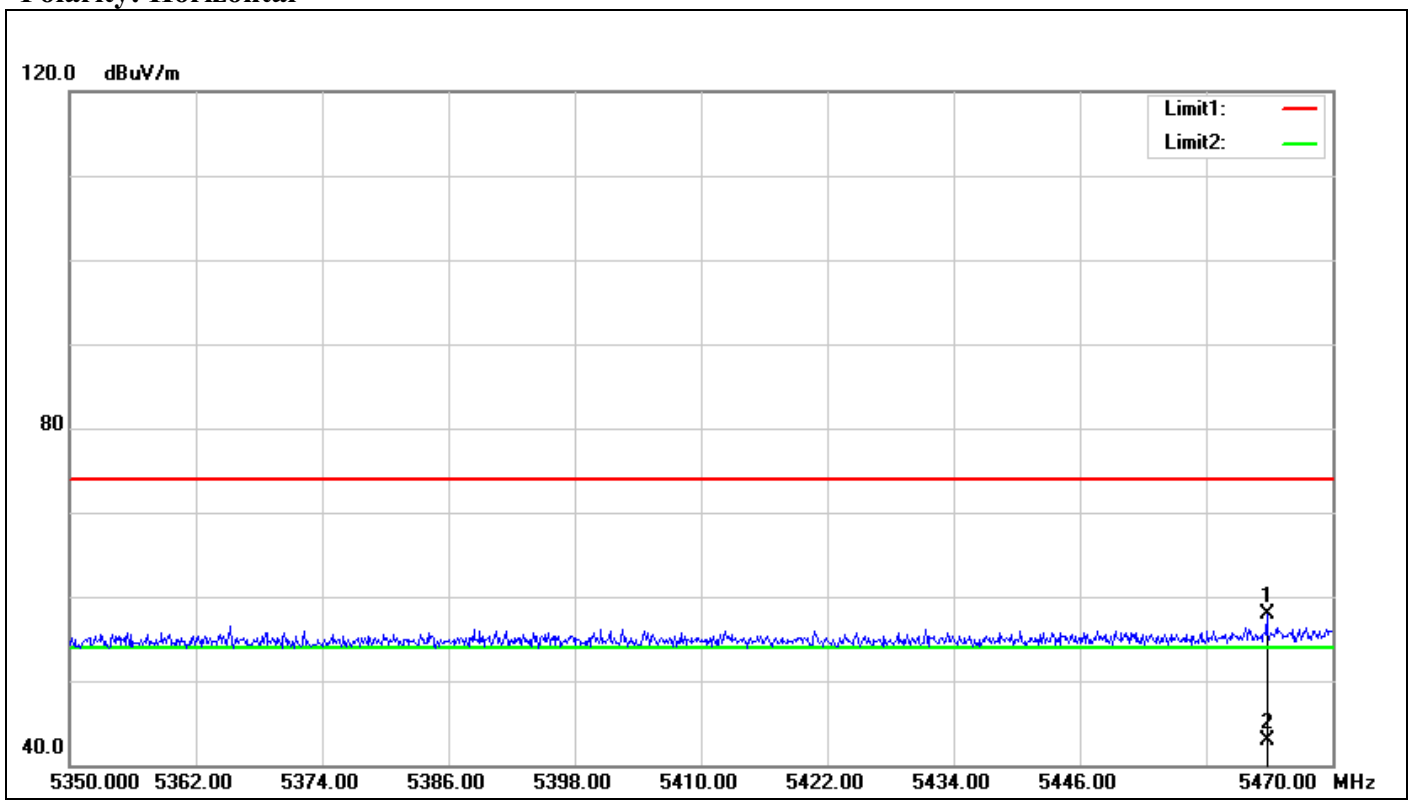
Band Edges (IEEE 802.11a mode / CH 5500 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5462.680	55.91	5.43	61.34	74.00	-12.66	100	230	peak
2	5462.680	40.53	5.43	45.96	54.00	-8.04	100	230	AVG

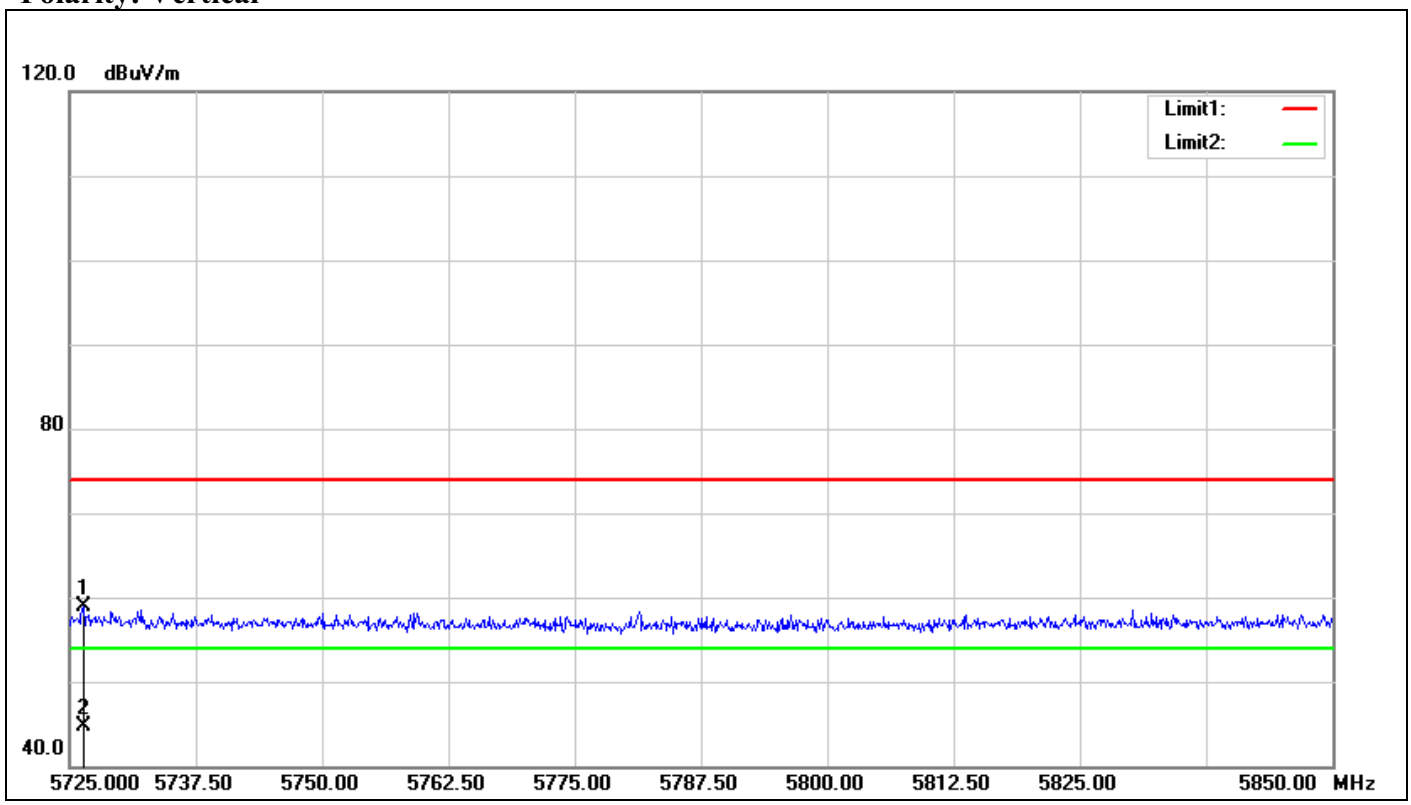
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5463.760	52.50	5.42	57.92	74.00	-16.08	100	281	peak
2	5463.760	37.43	5.42	42.85	54.00	-11.15	100	281	AVG

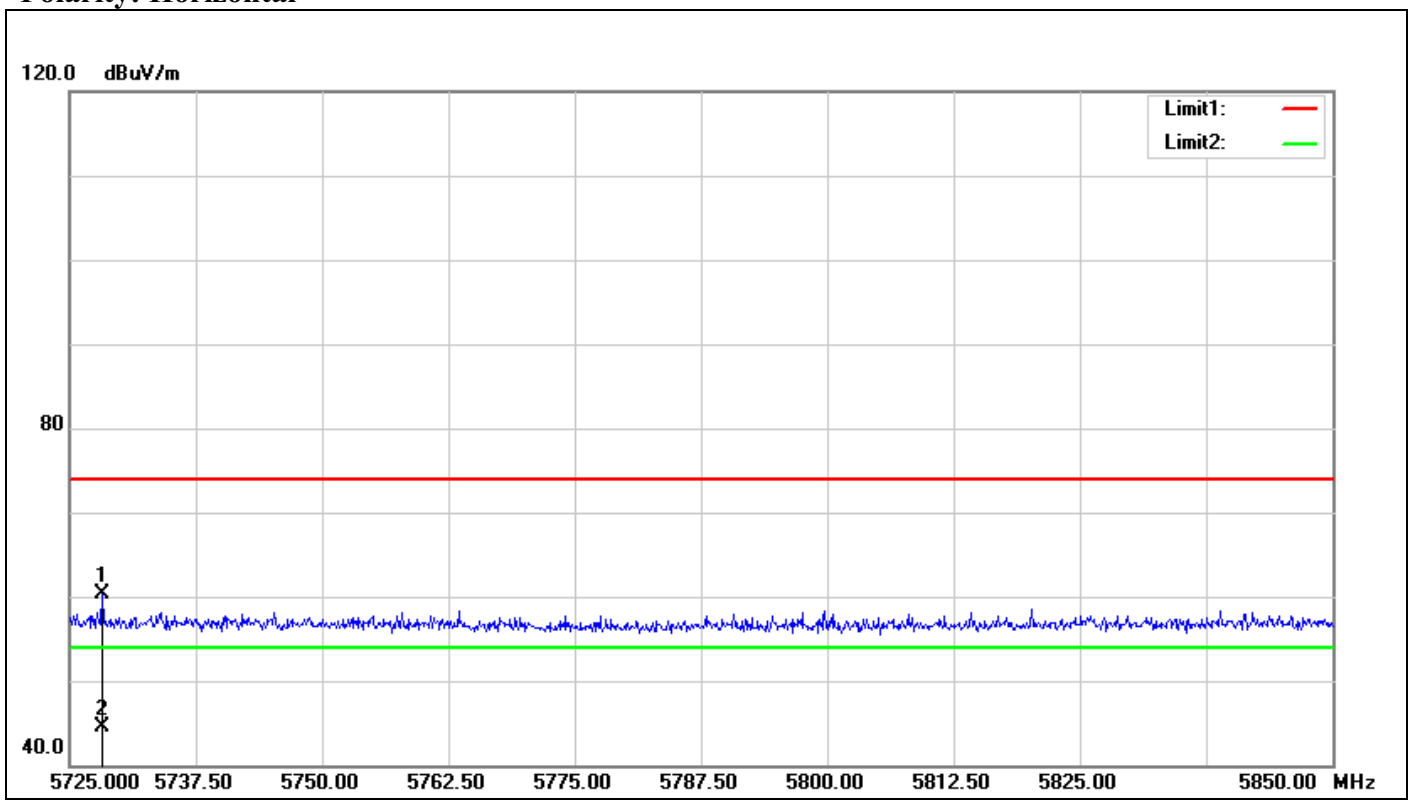
Band Edges (IEEE 802.11a mode / CH 5700 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5726.375	52.77	6.21	58.98	74.00	-15.02	100	266	peak
2	5726.375	38.58	6.21	44.79	54.00	-9.21	100	266	AVG

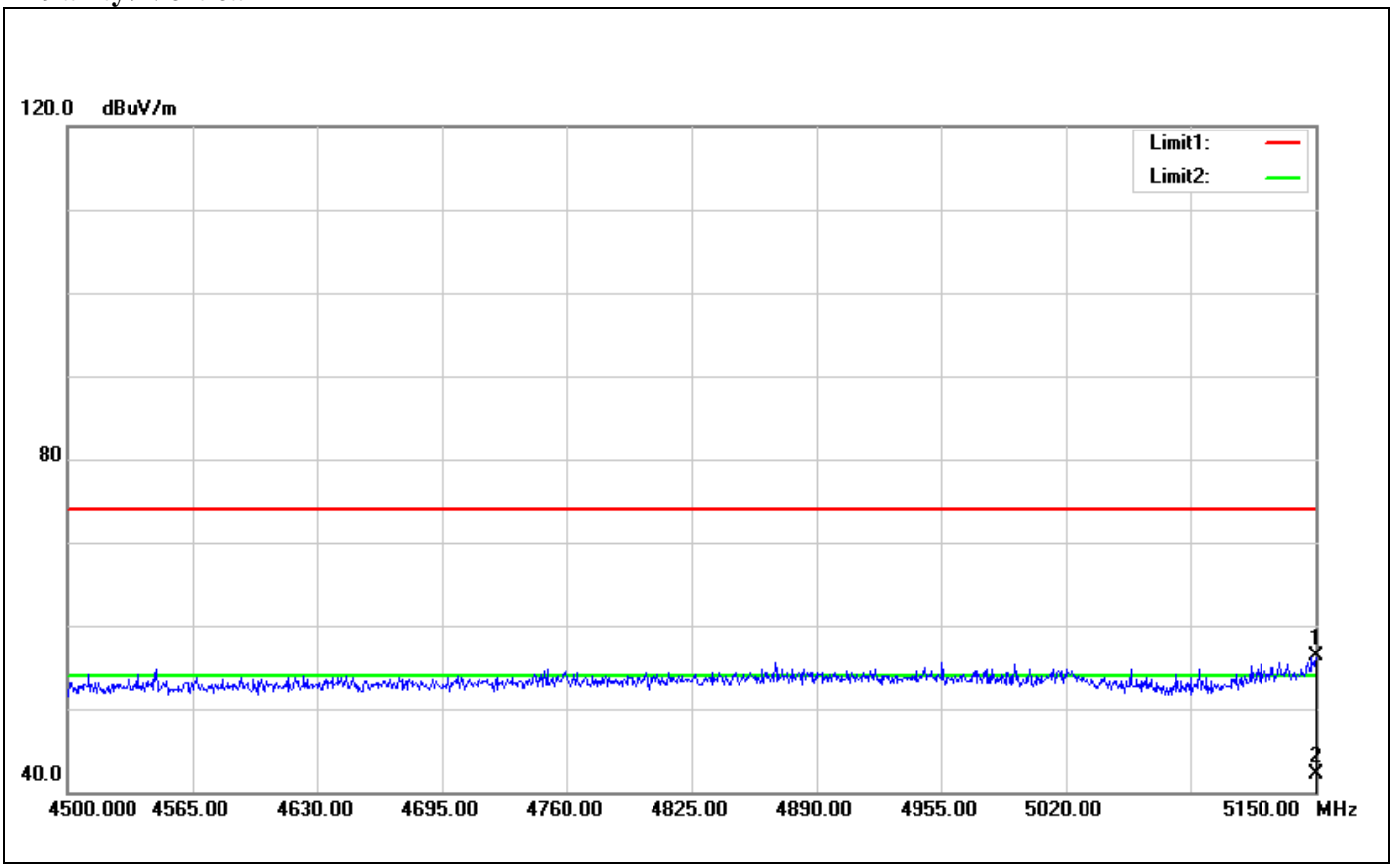
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (°)	Remark
1	5728.250	53.99	6.22	60.21	74.00	-13.79	100	108	peak
2	5728.250	38.27	6.22	44.49	54.00	-9.51	100	108	AVG

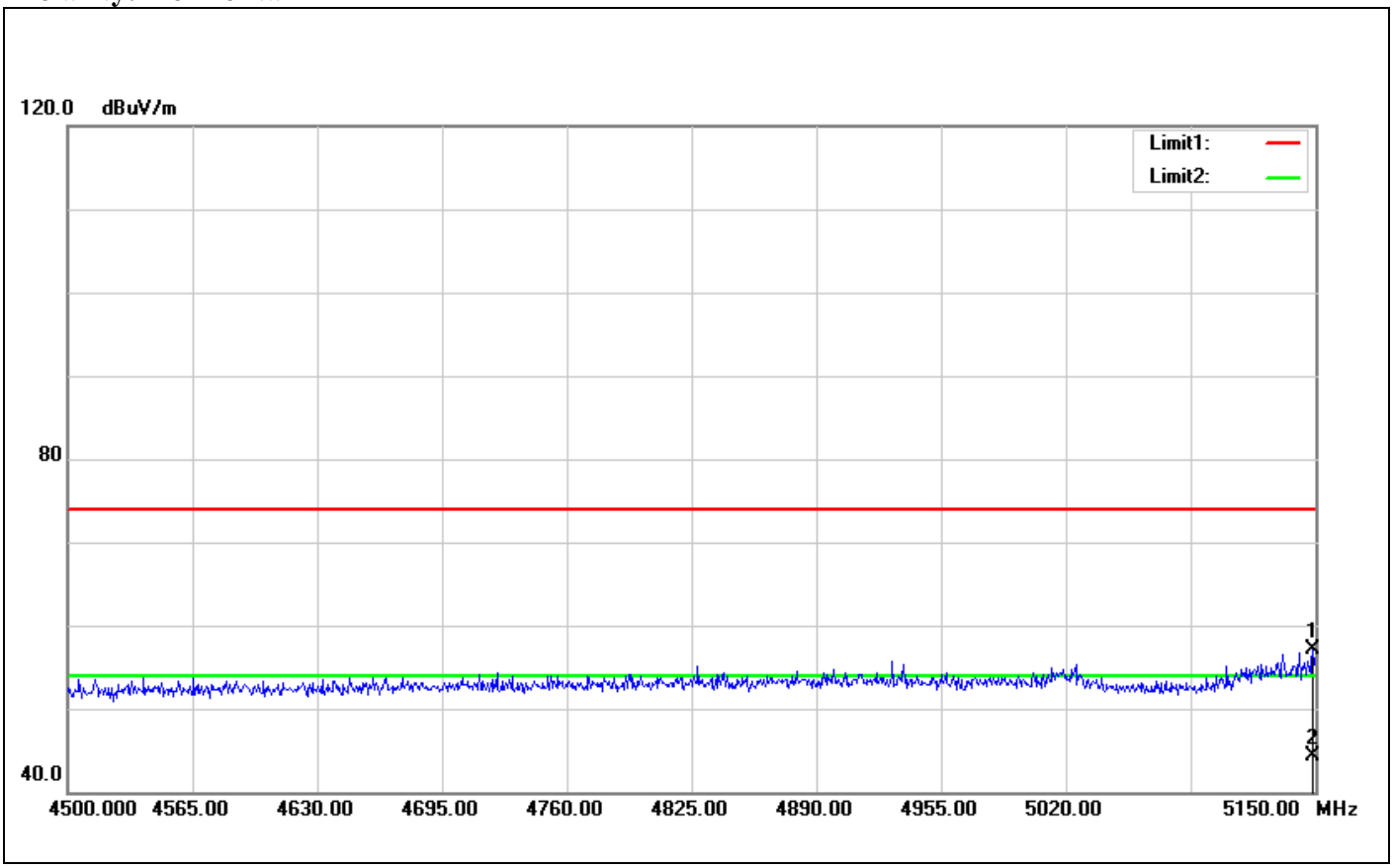
Band Edges (IEEE 802.11n HT 20 MHz mode / CH 5180 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5150.000	53.23	3.04	56.27	74.00	-17.73	100	119	peak
2	5150.000	39.09	3.04	42.13	54.00	-11.87	100	119	AVG

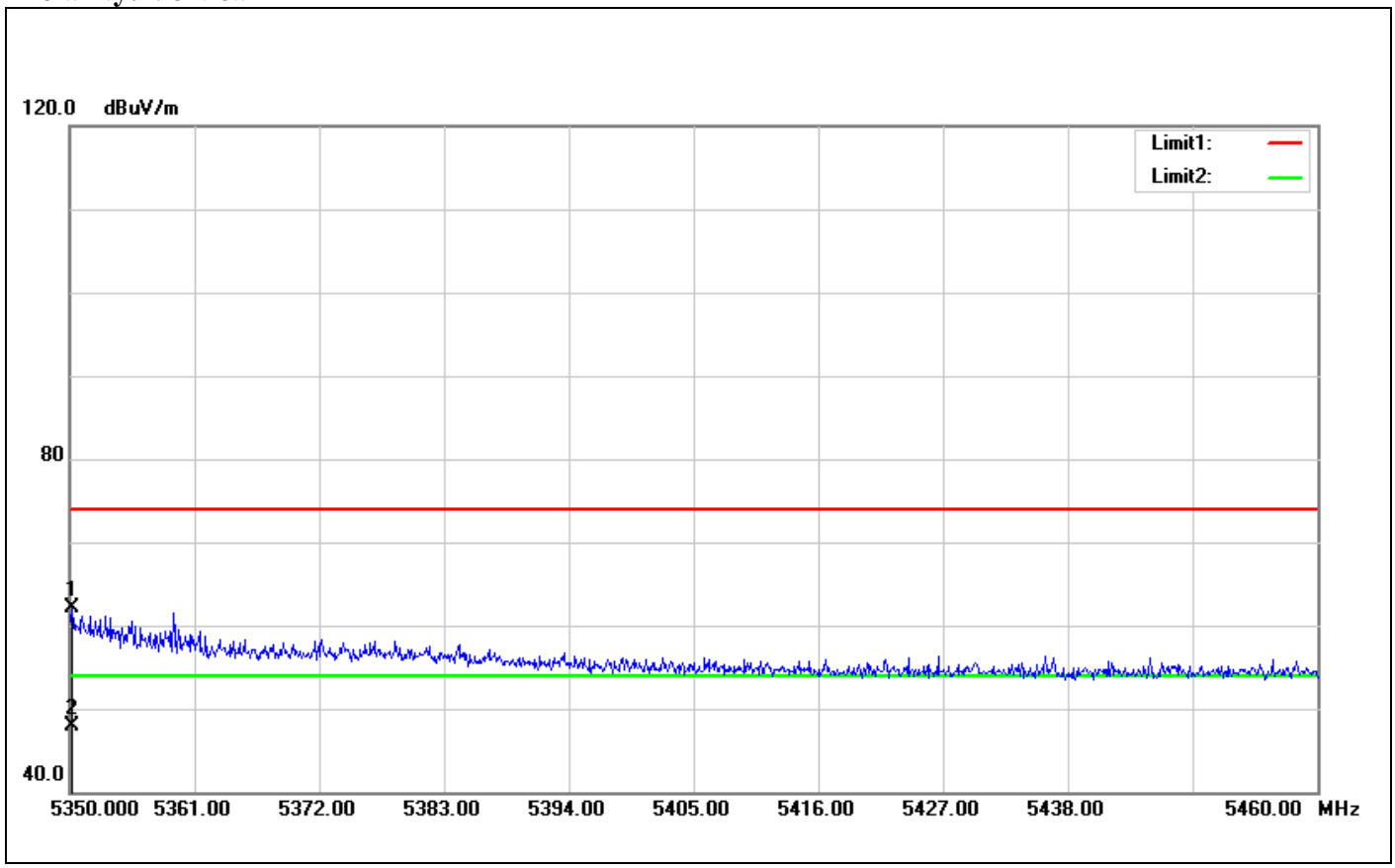
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5148.700	54.00	3.03	57.03	74.00	-16.97	100	123	peak
2	5148.700	41.31	3.03	44.34	54.00	-9.66	100	123	AVG

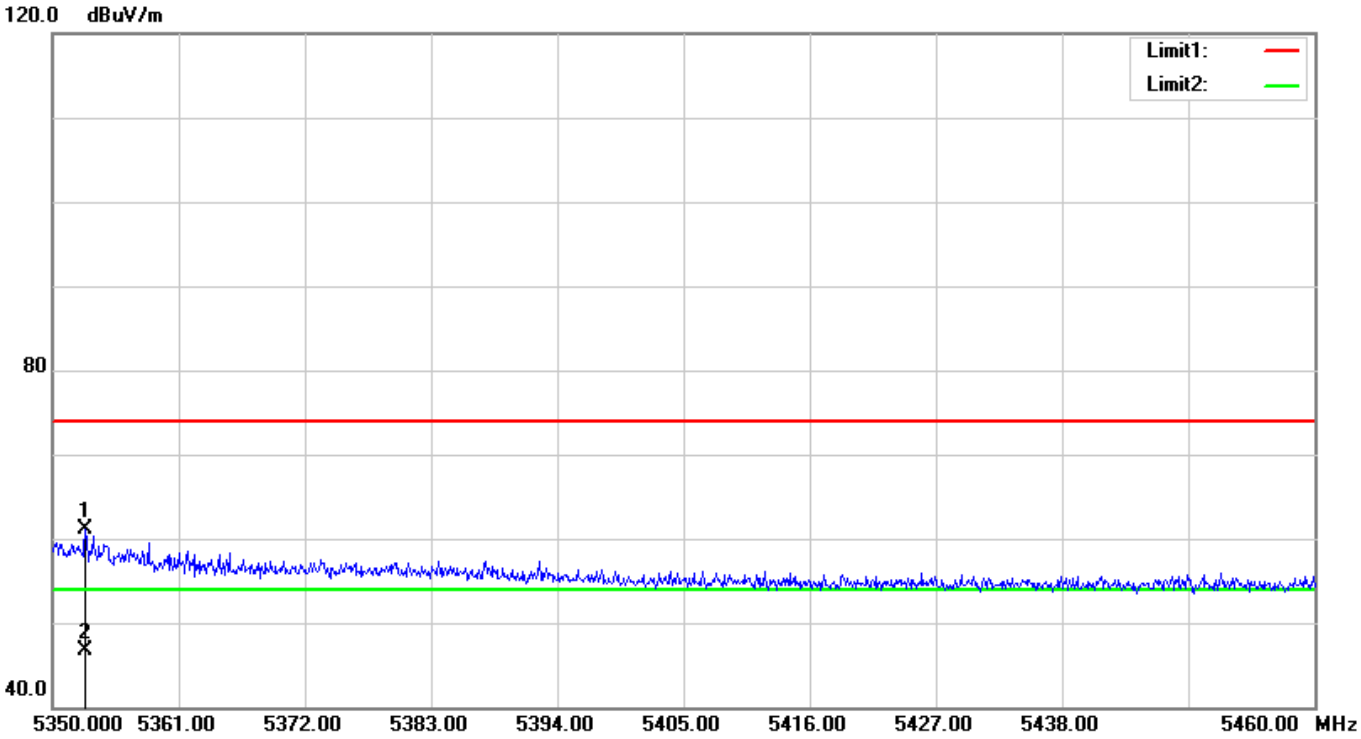
Band Edges (IEEE 802.11n HT 20 MHz mode / CH 5320 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.220	56.70	5.31	62.01	74.00	-11.99	100	194	peak
2	5350.220	42.65	5.31	47.96	54.00	-6.04	100	194	AVG

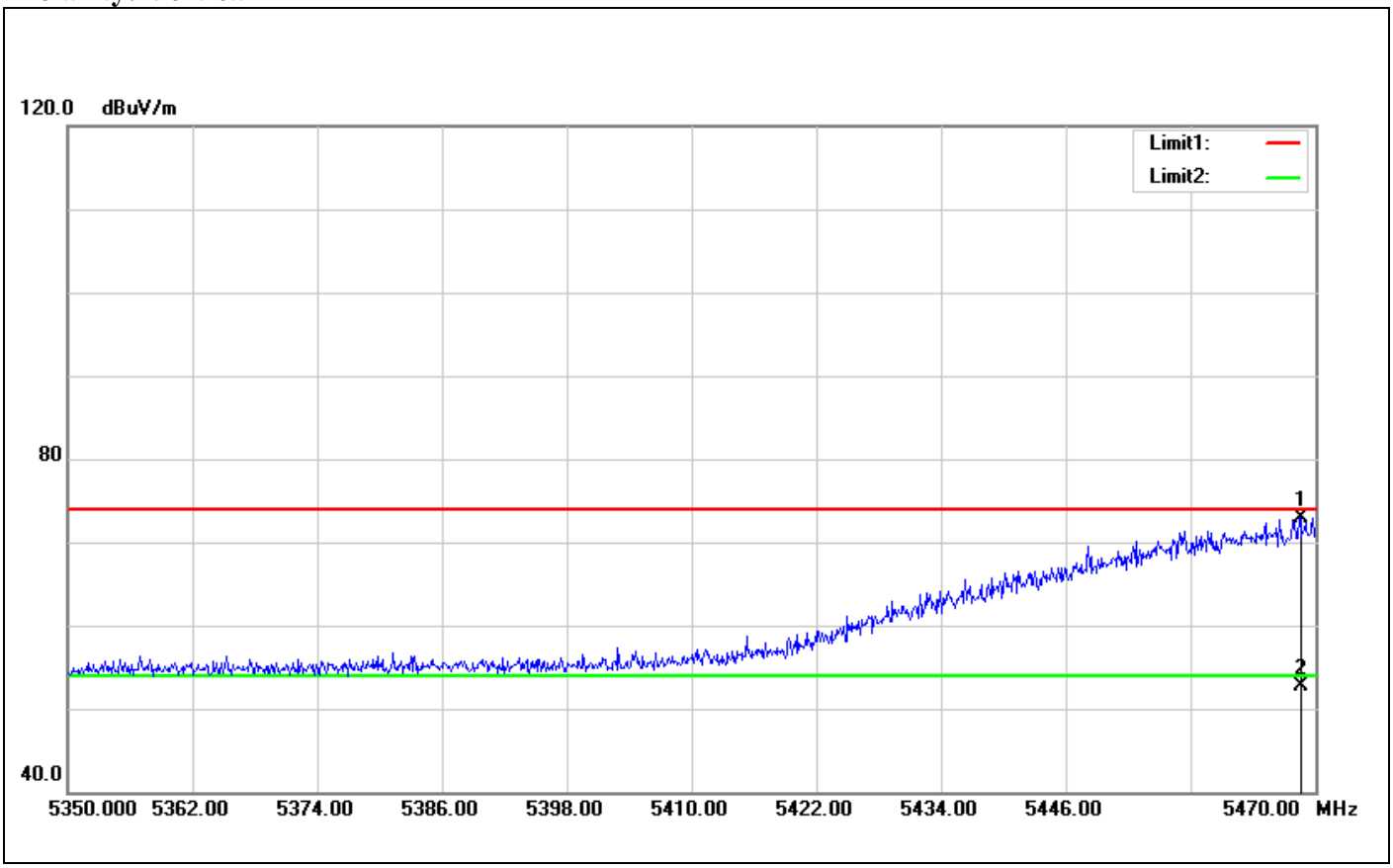
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5352.860	55.79	5.33	61.12	74.00	-12.88	100	229	peak
2	5352.860	41.34	5.33	46.67	54.00	-7.33	100	229	AVG

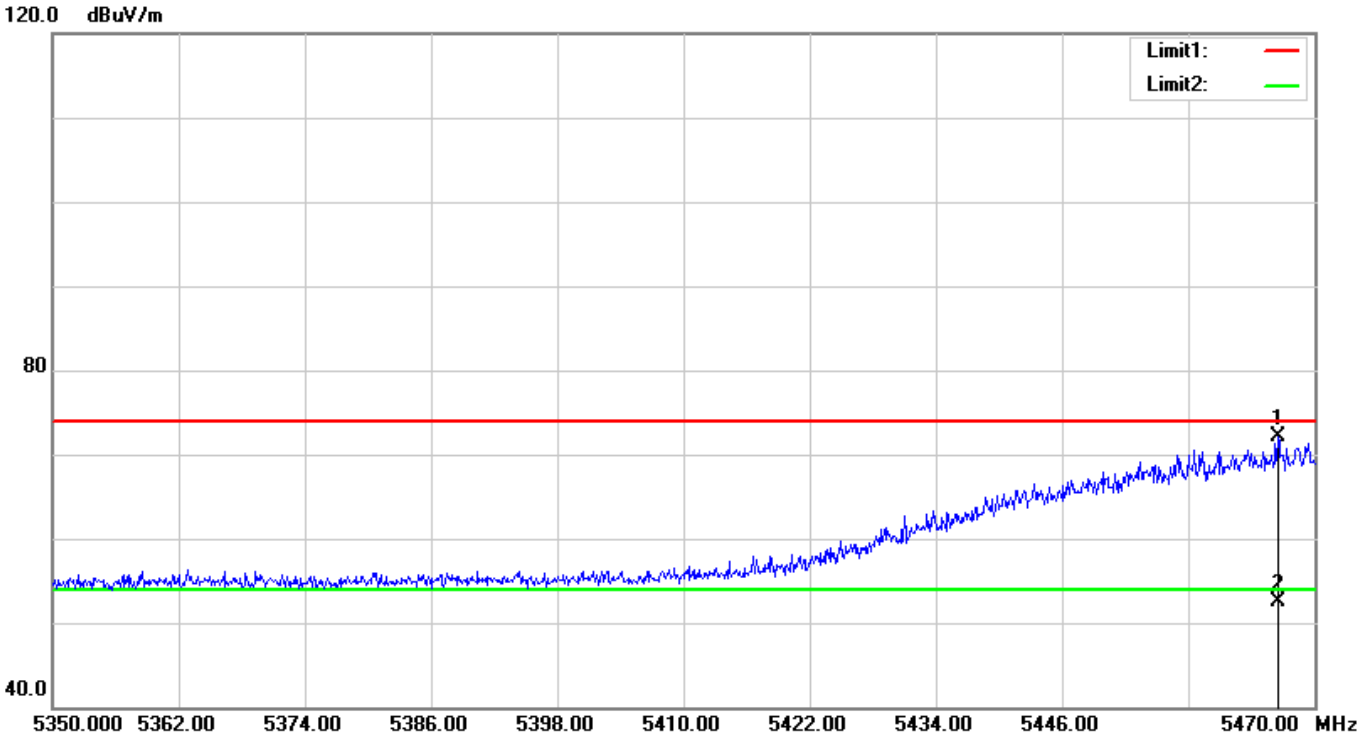
Band Edges (IEEE 802.11n HT 20 MHz mode / CH 5500 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5468.560	67.42	5.40	72.82	74.00	-1.18	100	282	peak
2	5468.560	47.39	5.40	52.79	54.00	-1.21	100	282	AVG

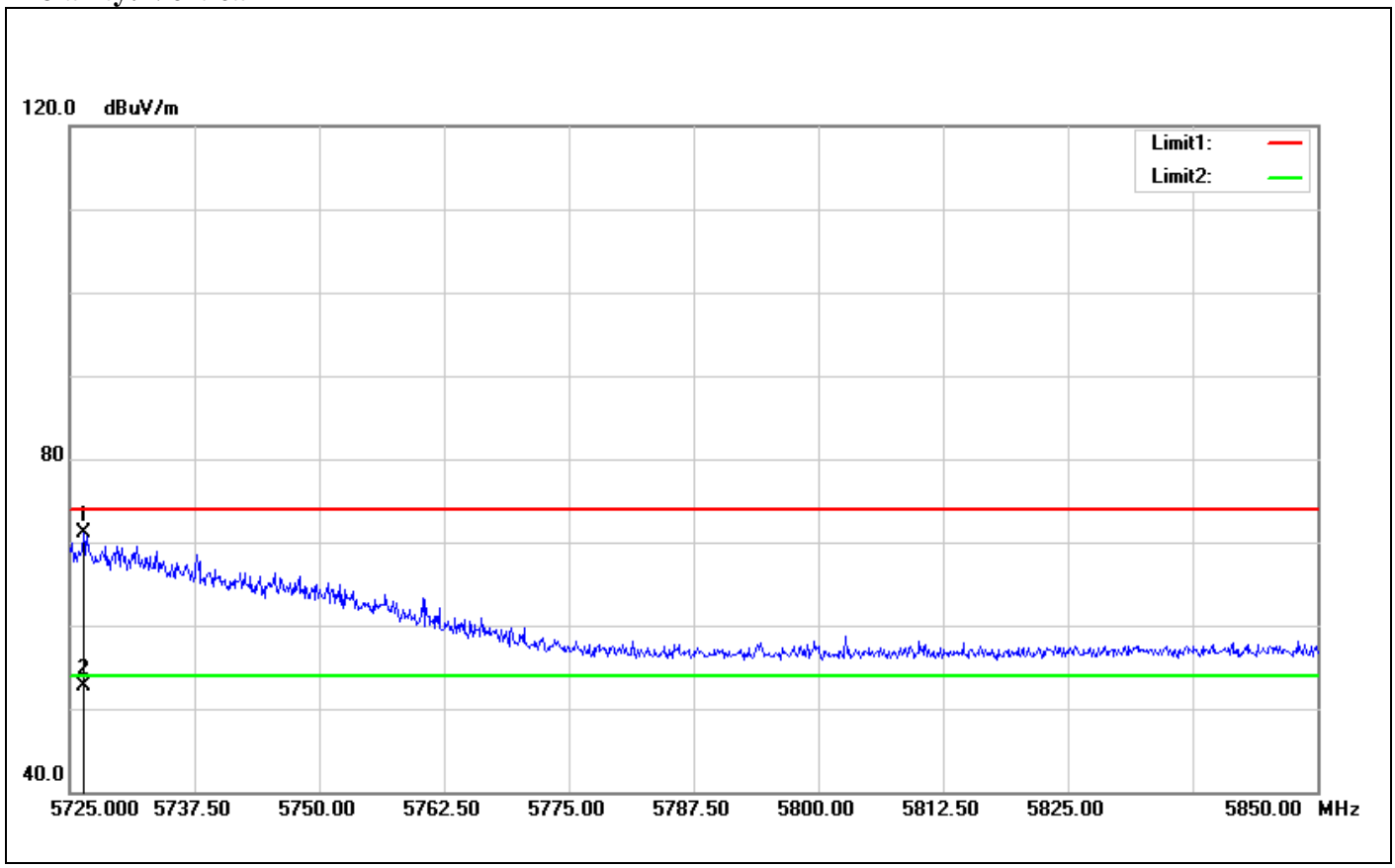
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5466.520	66.63	5.41	72.04	74.00	-1.96	100	49	peak
2	5466.520	47.00	5.41	52.41	54.00	-1.59	100	49	AVG

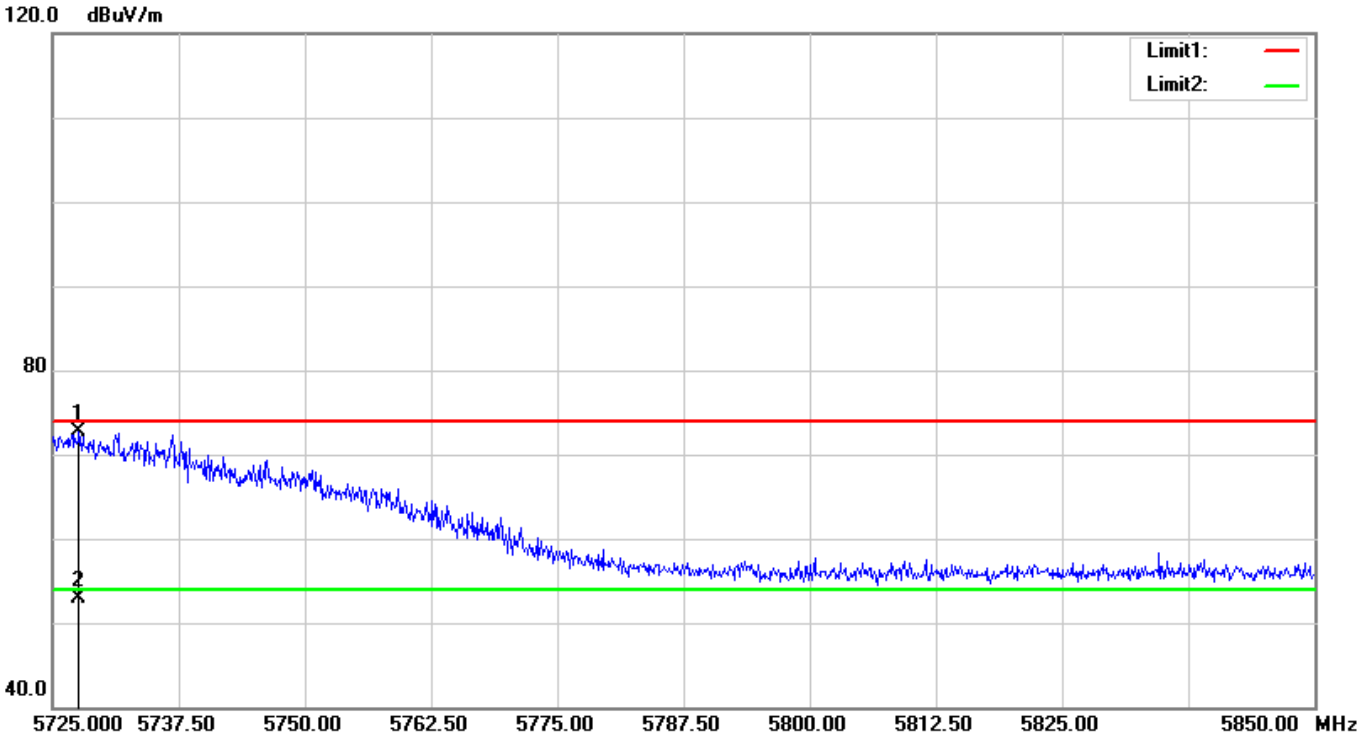
Band Edges (IEEE 802.11n HT 20 MHz mode / CH 5700 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5726.375	64.85	6.21	71.06	74.00	-2.94	100	360	peak
2	5726.375	46.44	6.21	52.65	54.00	-1.35	100	360	AVG

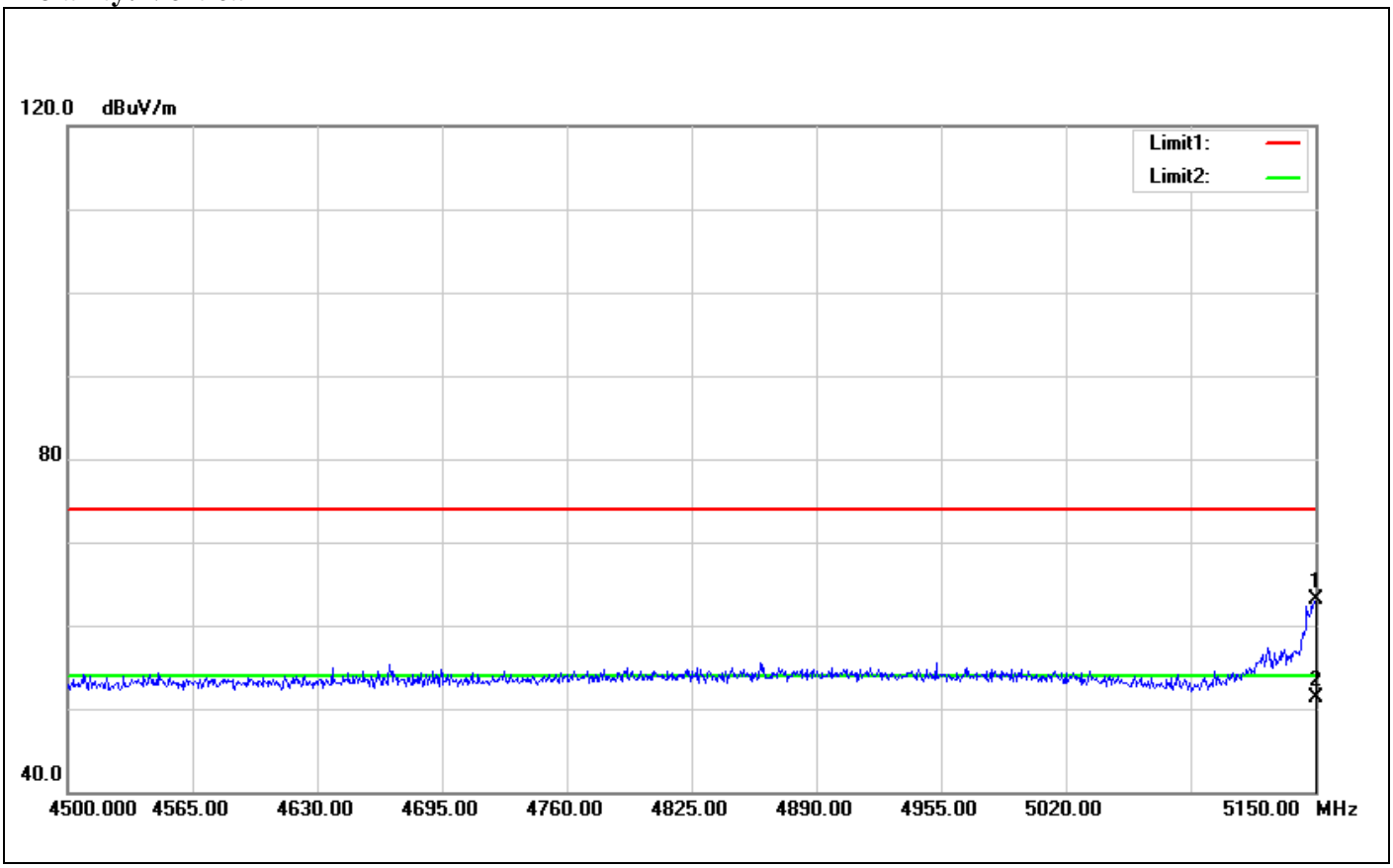
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5727.625	66.42	6.22	72.64	74.00	-1.36	100	204	peak
2	5727.625	46.71	6.22	52.93	54.00	-1.07	100	204	AVG

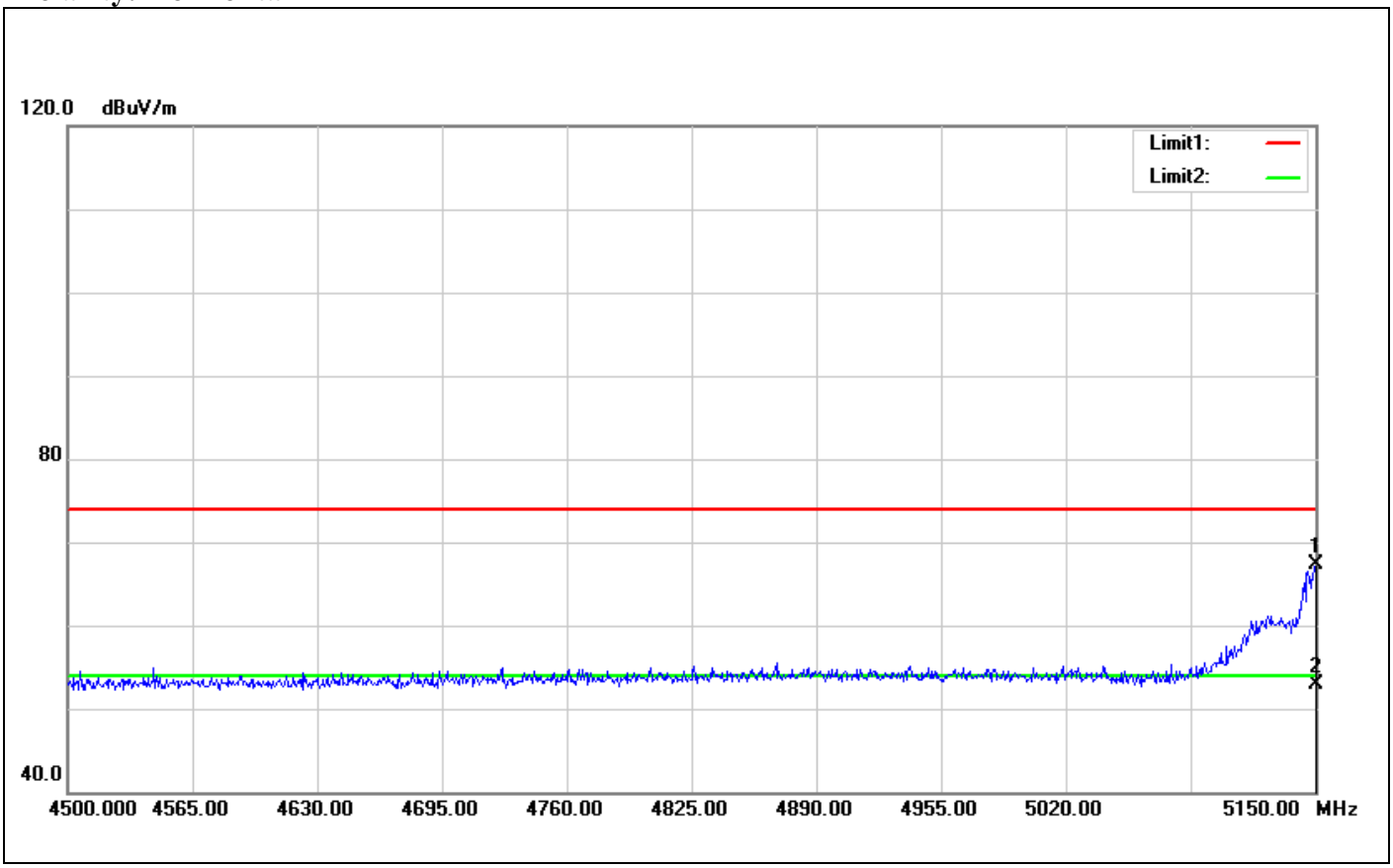
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5190 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5150.000	60.10	3.04	63.14	74.00	-10.86	100	196	peak
2	5150.000	48.36	3.04	51.40	54.00	-2.60	100	196	AVG

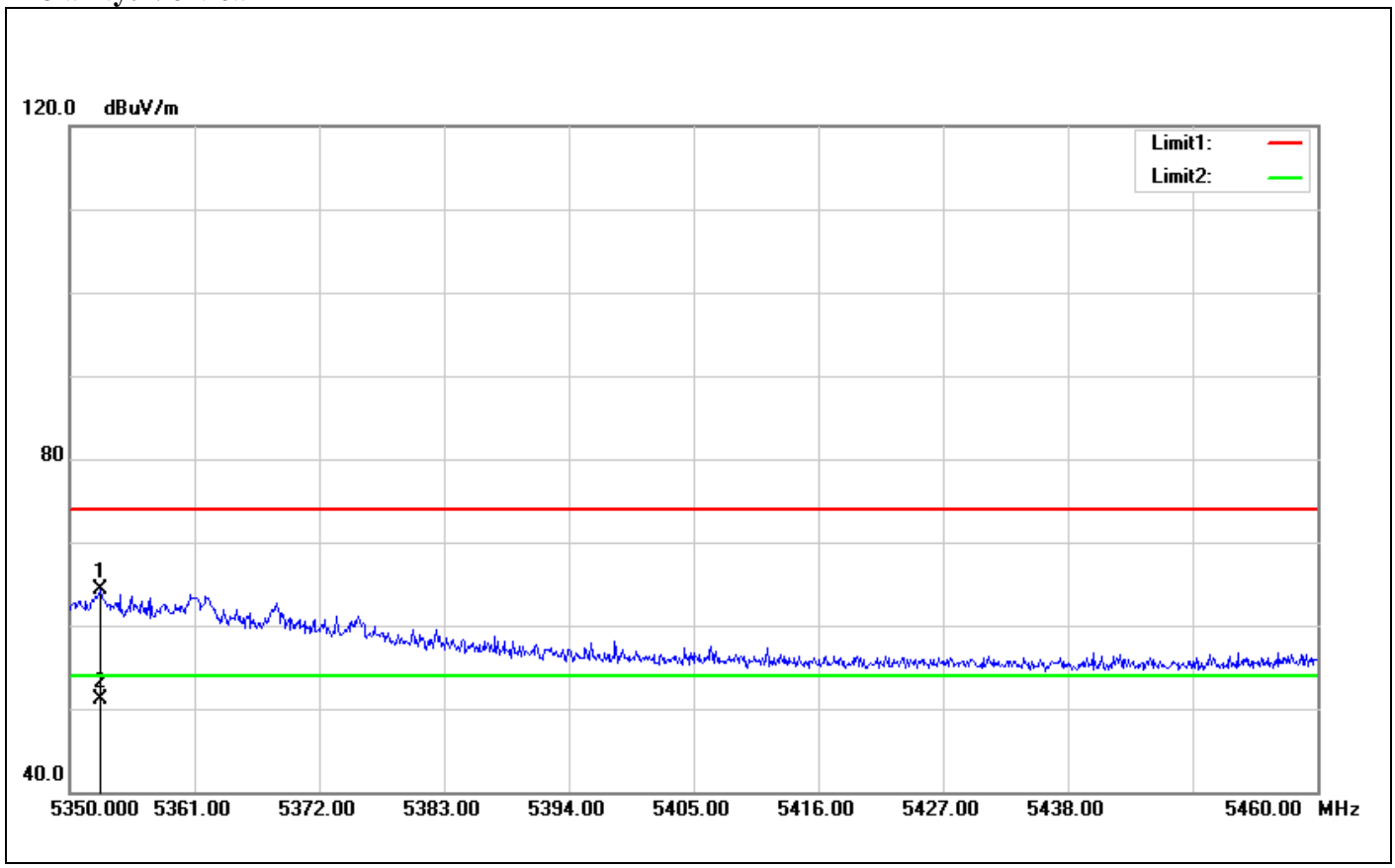
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5150.000	64.27	3.04	67.31	74.00	-6.69	100	161	peak
2	5150.000	49.84	3.04	52.88	54.00	-1.12	100	161	AVG

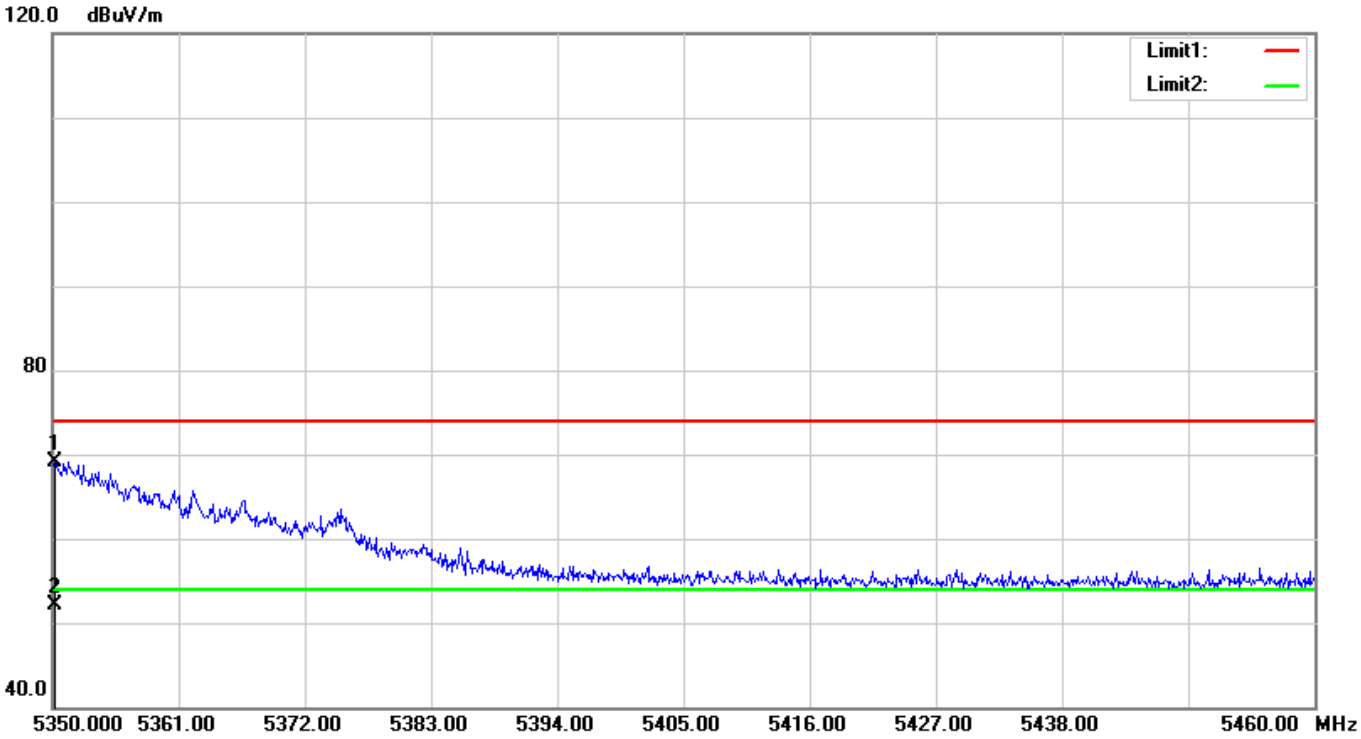
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5310 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5352.640	59.00	5.33	64.33	74.00	-9.67	100	184	peak
2	5352.640	45.78	5.33	51.11	54.00	-2.89	100	184	AVG

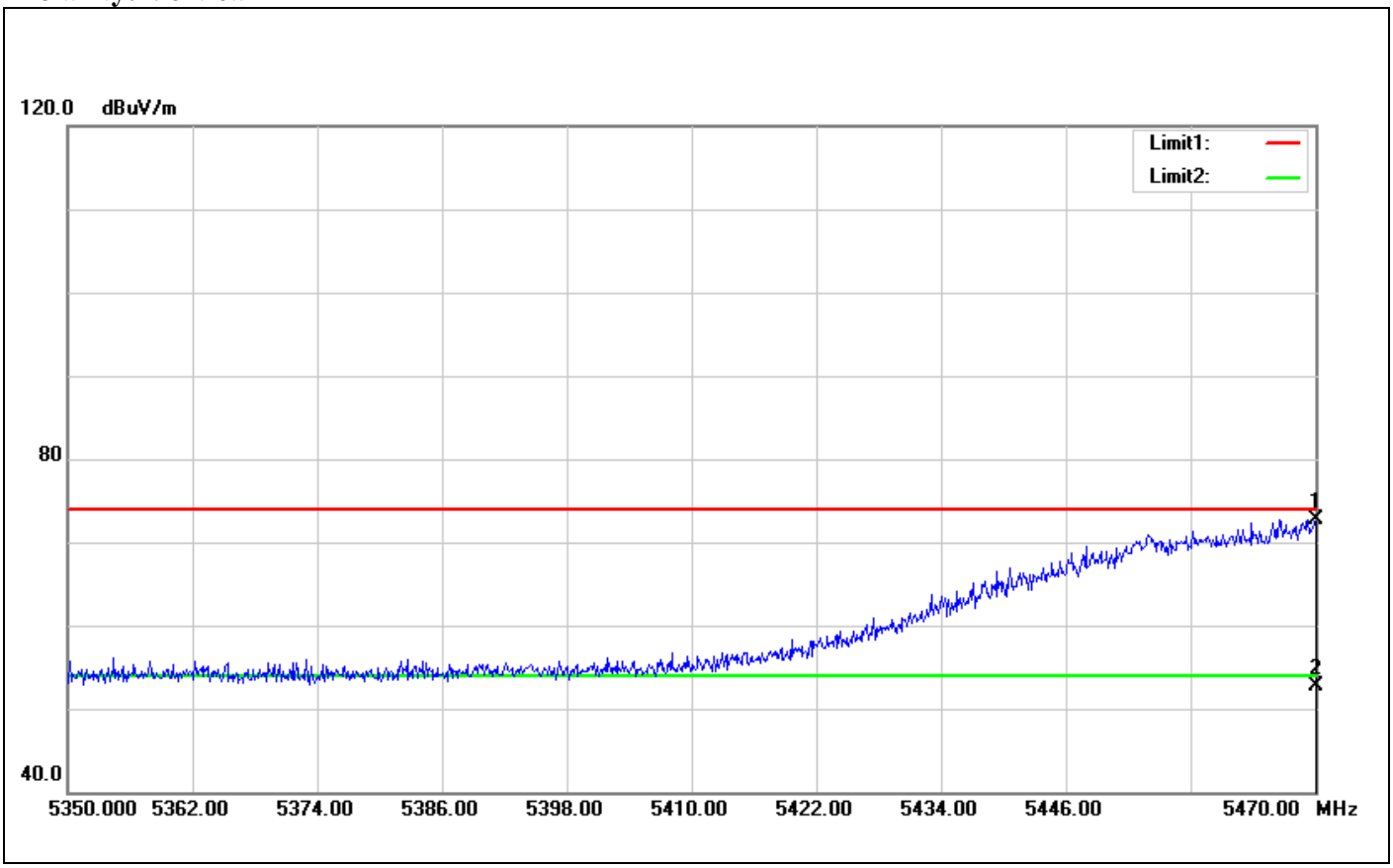
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5350.220	63.78	5.31	69.09	74.00	-4.91	100	333	peak
2	5350.220	46.80	5.31	52.11	54.00	-1.89	100	333	AVG

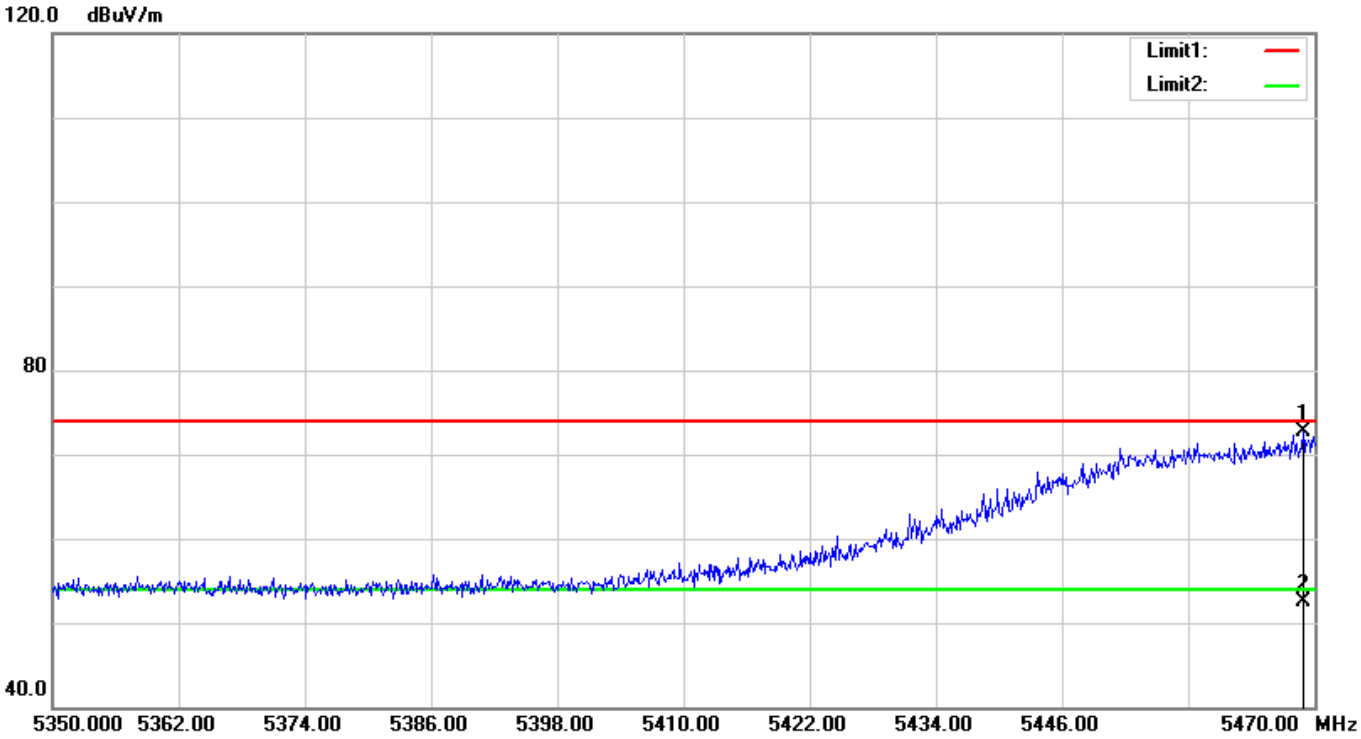
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5510 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5470.000	67.37	5.39	72.76	74.00	-1.24	100	182	peak
2	5470.000	47.33	5.39	52.72	54.00	-1.28	100	182	AVG

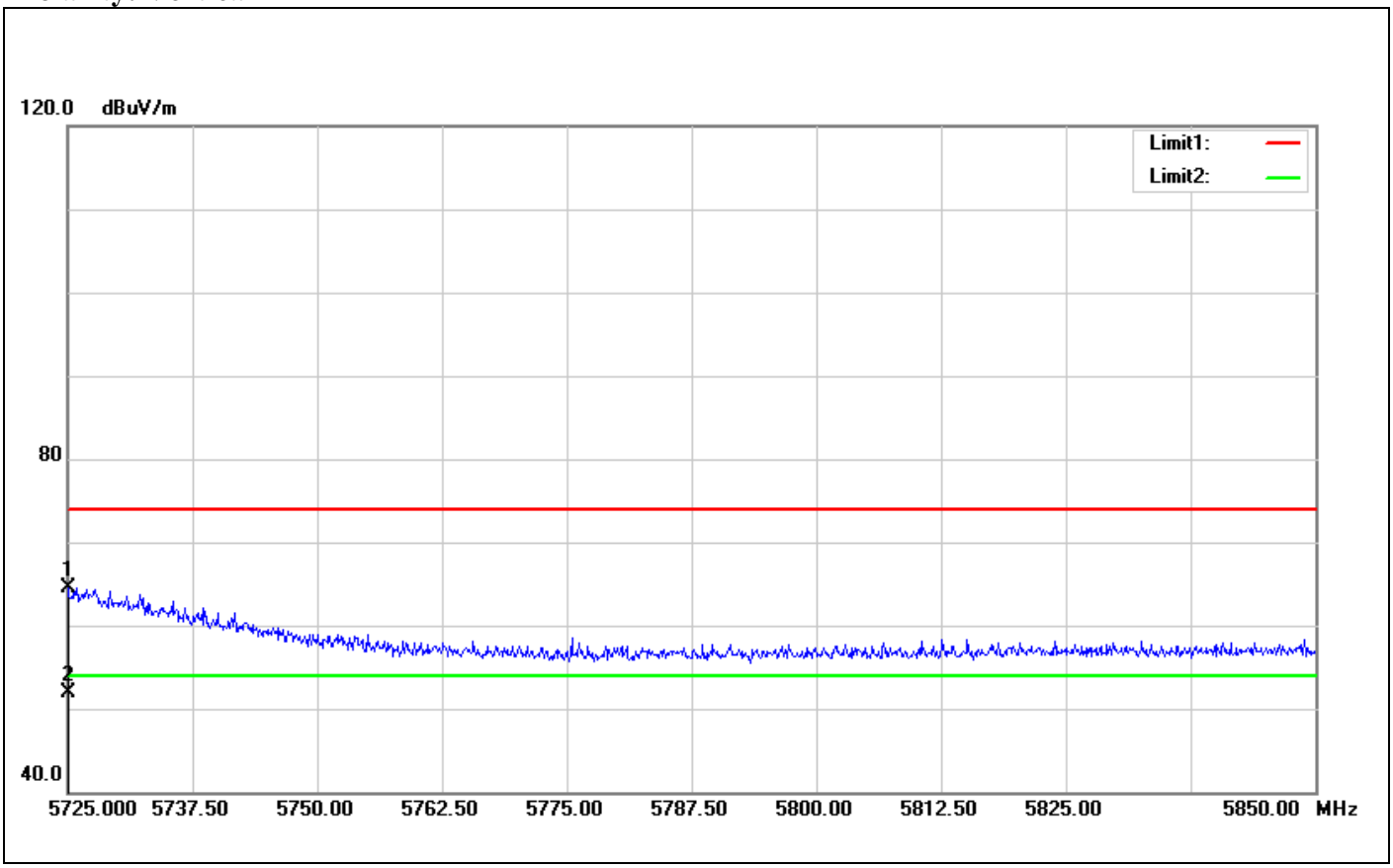
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5468.920	67.34	5.40	72.74	74.00	-1.26	100	182	peak
2	5468.920	47.01	5.40	52.41	54.00	-1.59	100	182	AVG

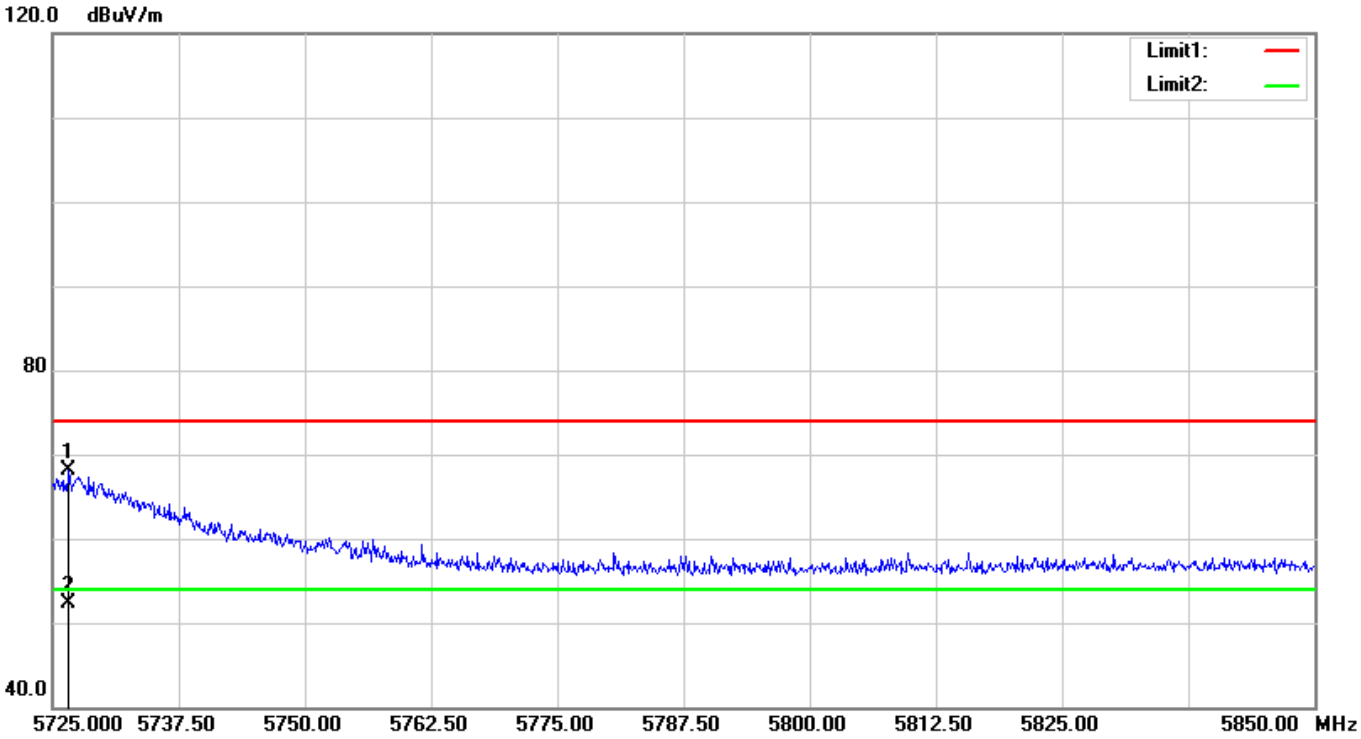
Band Edges (IEEE 802.11n HT 40 MHz mode / CH 5670 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5725.000	58.30	6.21	64.51	74.00	-9.49	100	267	peak
2	5725.000	45.77	6.21	51.98	54.00	-2.02	100	267	AVG

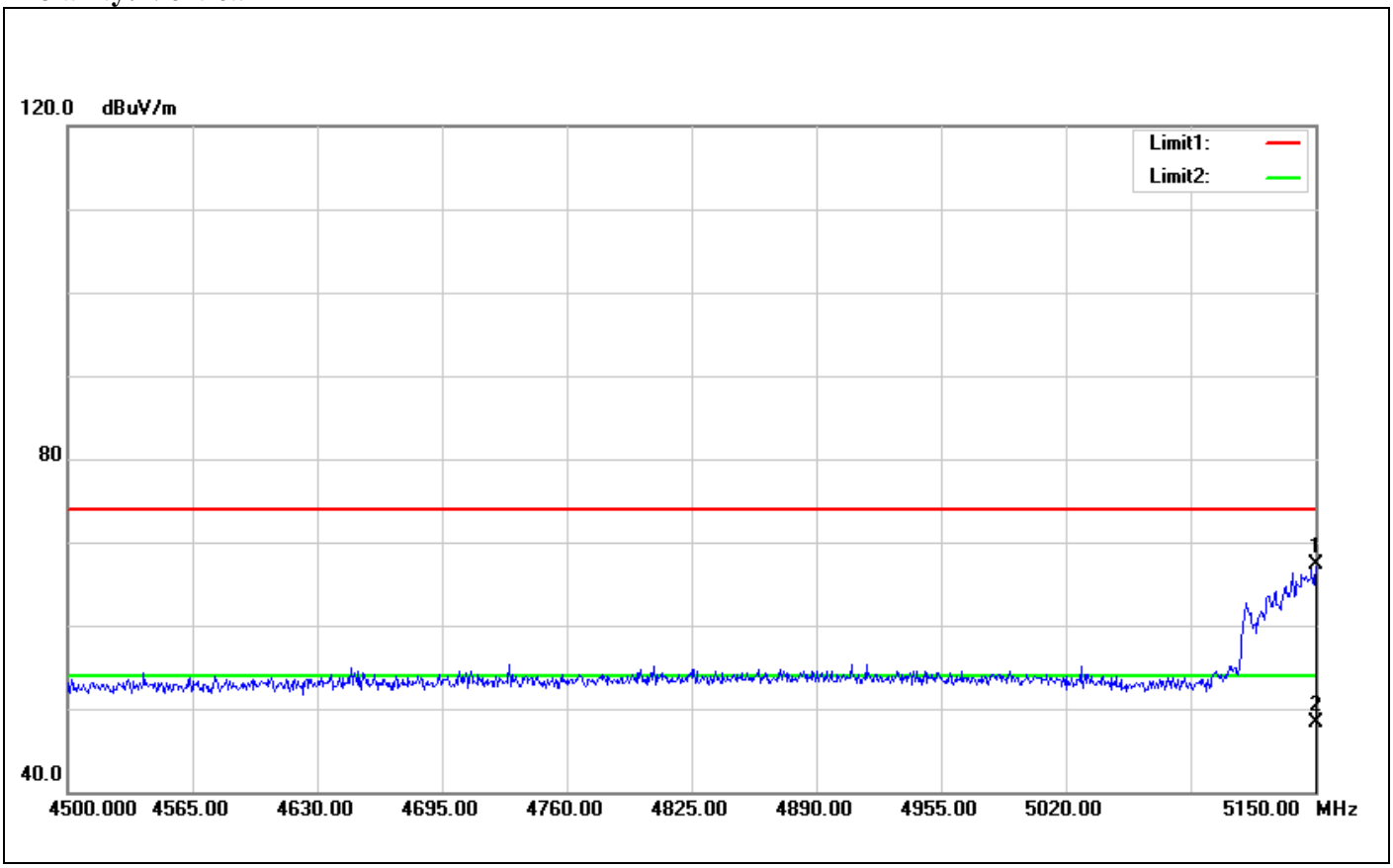
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5726.625	61.86	6.22	68.08	74.00	-5.92	100	210	peak
2	5726.625	46.11	6.22	52.33	54.00	-1.67	100	210	AVG

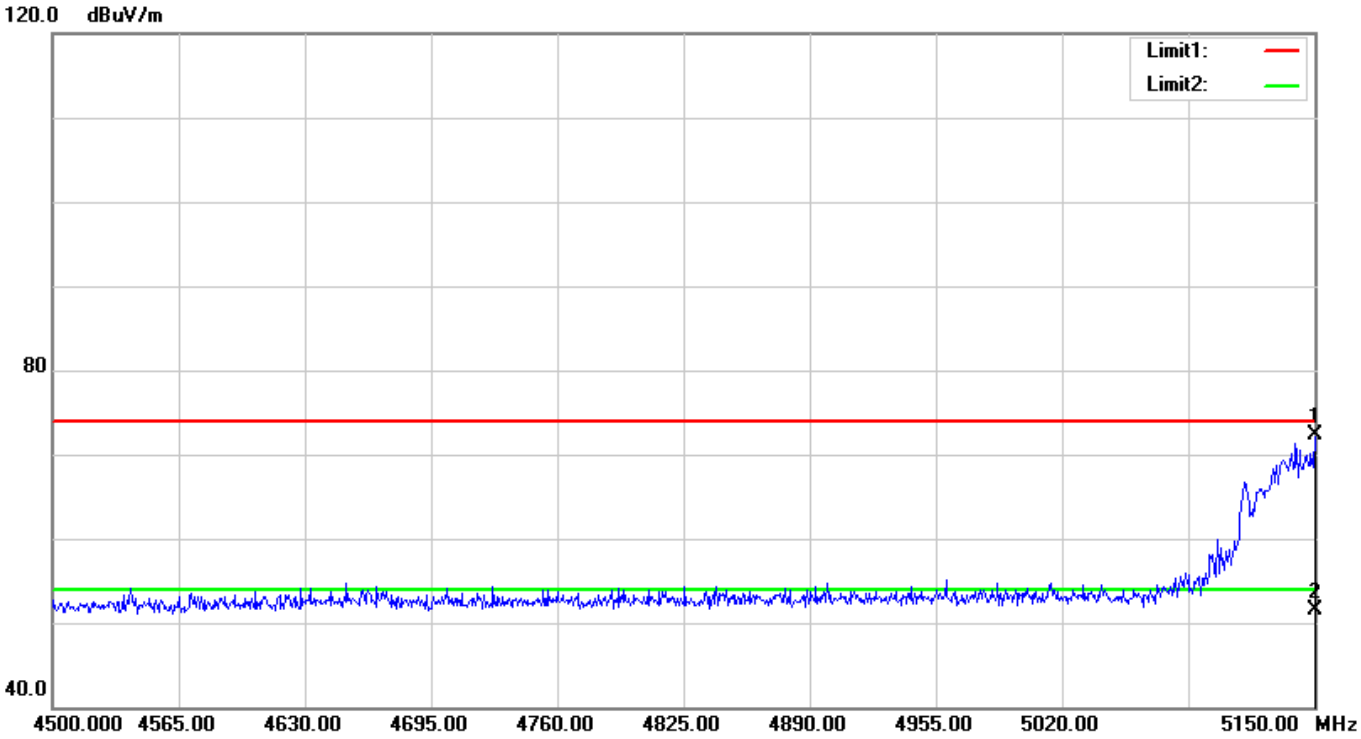
Band Edges (IEEE 802.11n HT 80 MHz mode / CH 5210 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5150.000	64.25	3.04	67.29	74.00	-6.71	100	200	peak
2	5150.000	45.30	3.04	48.34	54.00	-5.66	100	200	AVG

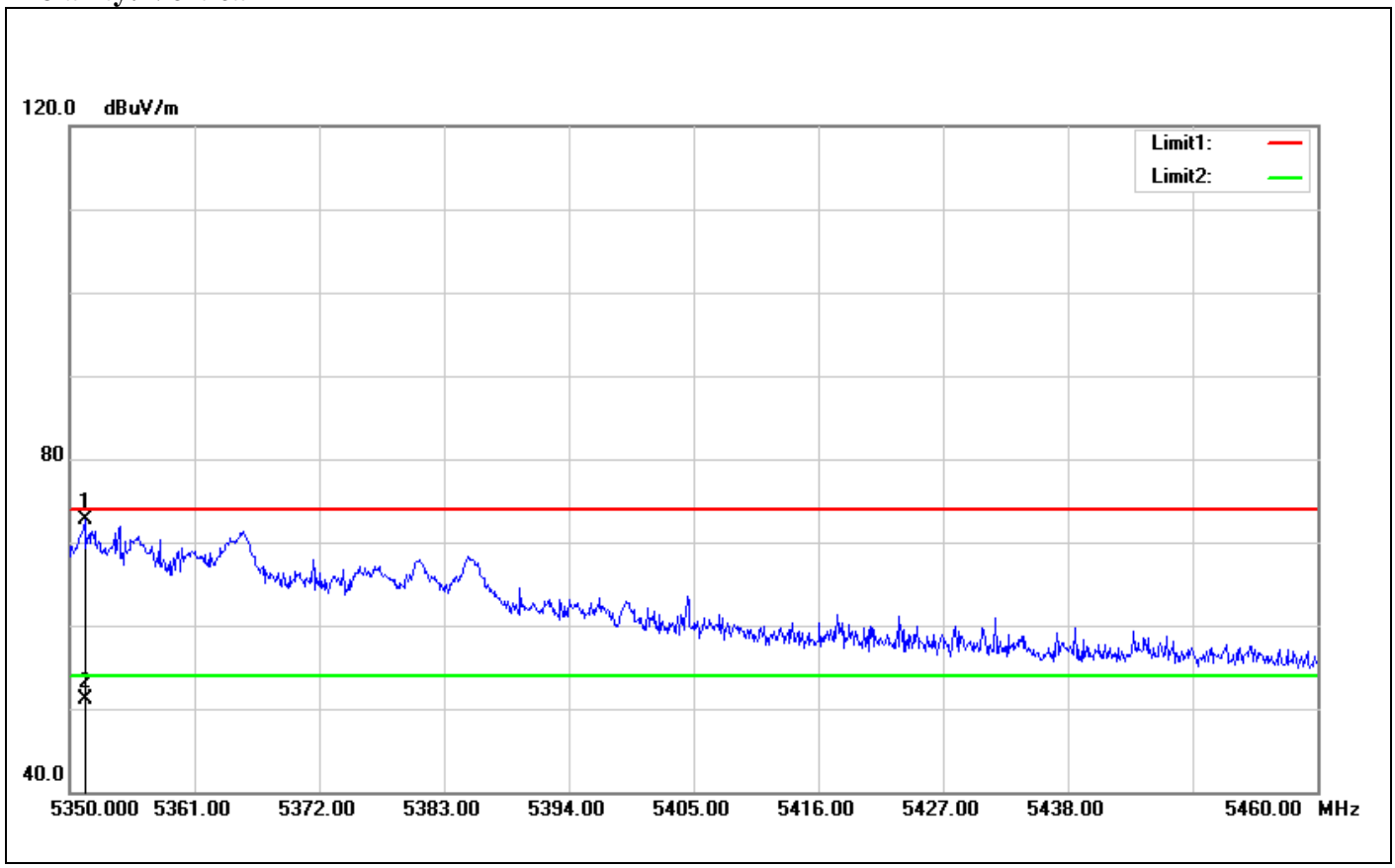
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5150.000	69.20	3.04	72.24	74.00	-1.76	112	178	peak
2	5150.000	48.54	3.04	51.58	54.00	-2.42	112	178	AVG

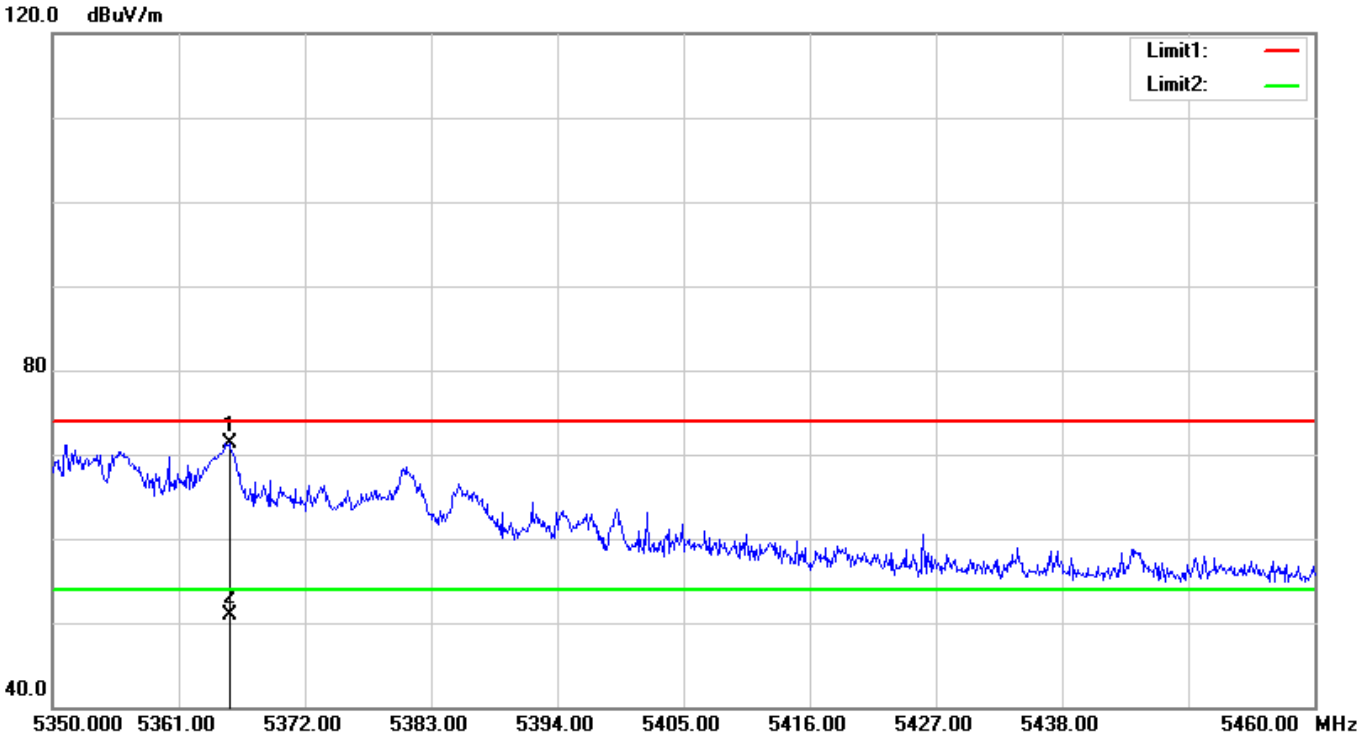
Band Edges (IEEE 802.11n HT 80 MHz mode / CH 5290 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5351.320	67.37	5.32	72.69	74.00	-1.31	100	25	peak
2	5351.320	45.76	5.32	51.08	54.00	-2.92	100	25	AVG

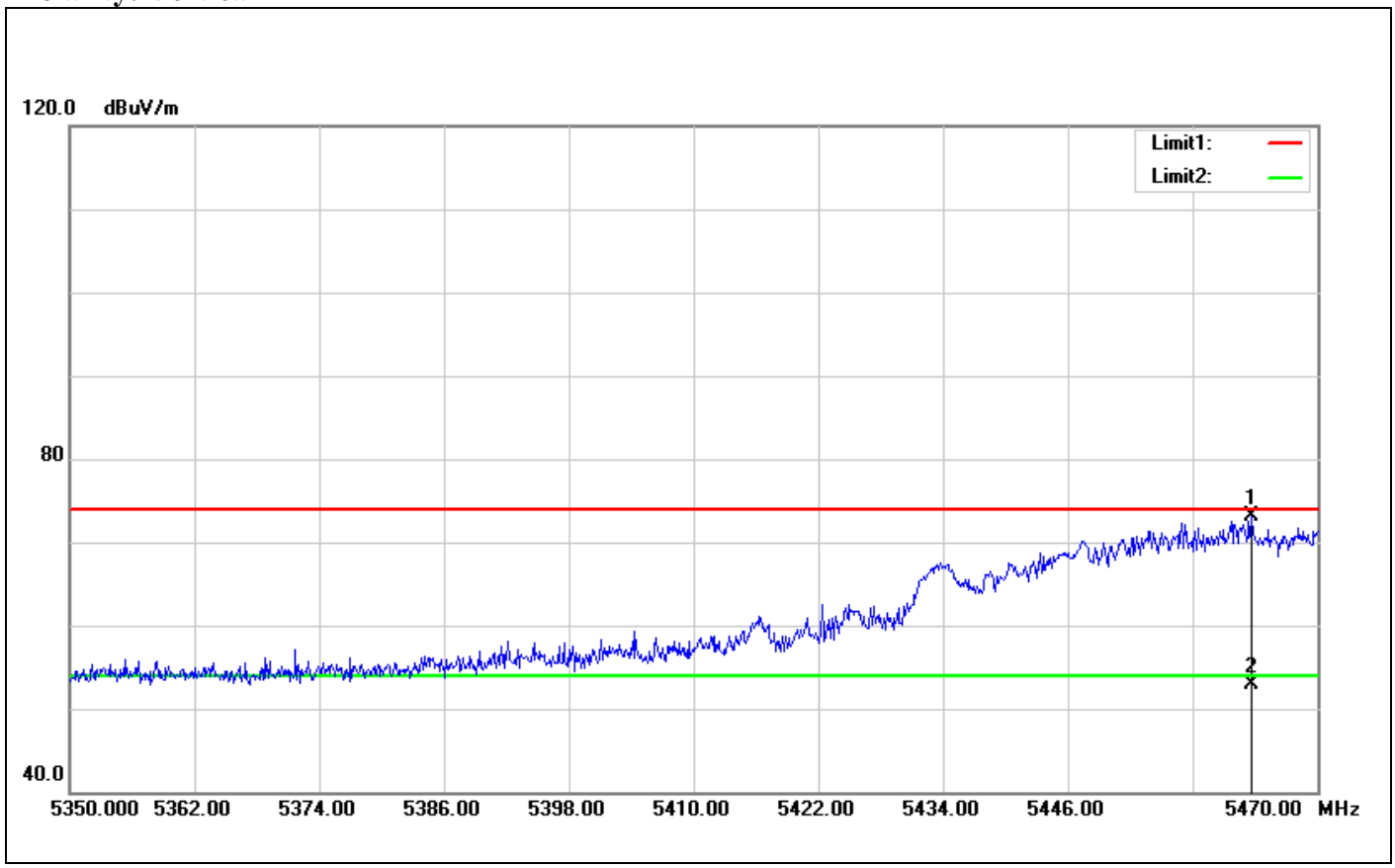
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5365.400	65.91	5.44	71.35	74.00	-2.65	100	69	peak
2	5365.400	45.47	5.44	50.91	54.00	-3.09	100	69	AVG

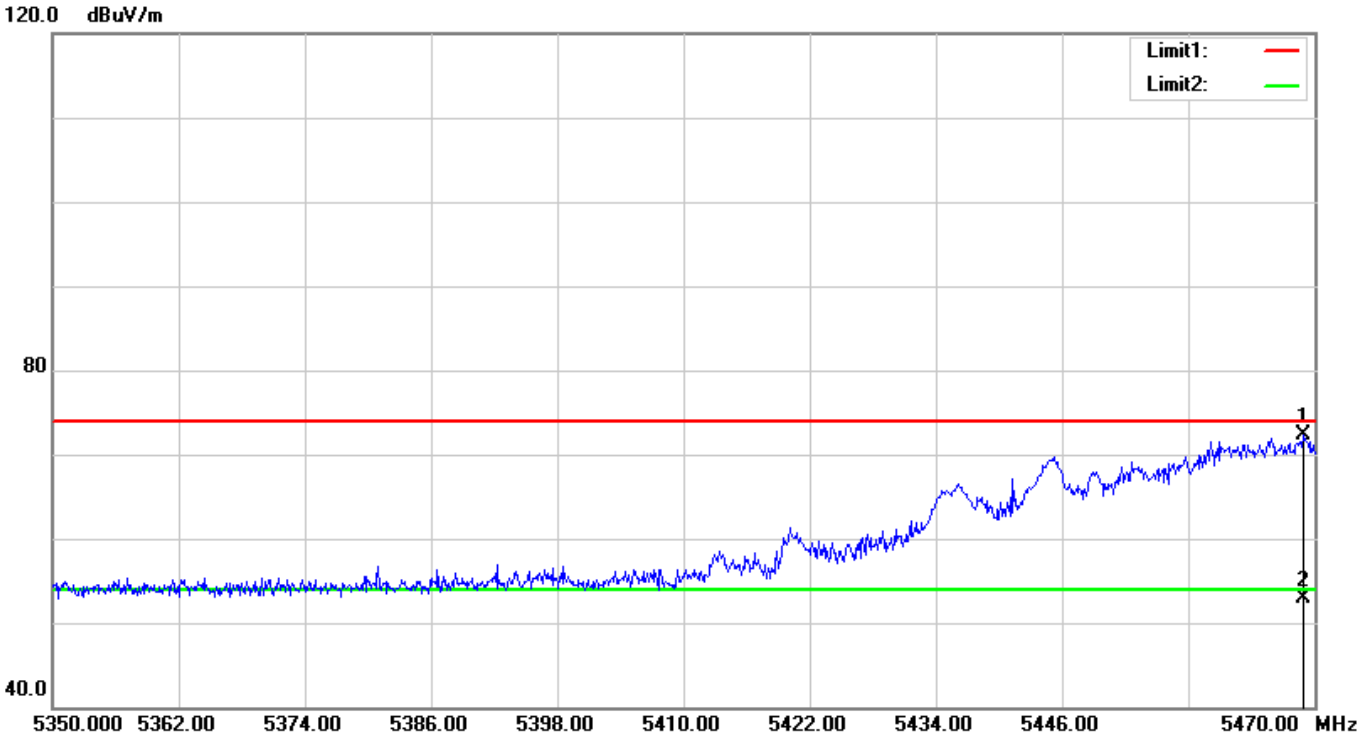
Band Edges (IEEE 802.11n HT 80 MHz mode / CH 5530 MHz)

Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5463.640	67.71	5.42	73.13	74.00	-0.87	100	351	peak
2	5463.640	47.53	5.42	52.95	54.00	-1.05	100	351	AVG

Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(°)	
1	5468.920	66.99	5.40	72.39	74.00	-1.61	100	152	peak
2	5468.920	47.46	5.40	52.86	54.00	-1.14	100	152	AVG

7.4 PEAK POWER SPECTRAL DENSITY

LIMIT

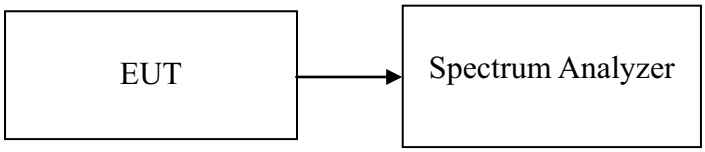
According to §15.407(a)

(1) For the band 5.15-5.25 GHz, the peak power spectral density shall not exceed 4dBm in any 1MHz band.

(2) For the band 5.25-5.35 GHz, the peak power spectral density shall not exceed 11dBm in any 1MHz band.

If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

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 = 1MHz, VBW = 3MHz, Span = 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: IEEE 802.11a mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	2.21	11.00	PASS
Mid	5220	2.51		PASS
High	5240	2.72		PASS

Test mode: IEEE 802.11n HT 20 mode / 5180 ~ 5240MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	2.51	1.62	5.10	11.00	PASS
Mid	5220	2.74	2.19	5.48		PASS
High	5240	2.54	2.81	5.69		PASS

Test mode: IEEE 802.11n HT 40 mode / 5190 ~ 5230MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	5190	0.29	-0.67	2.85	11.00	PASS
High	5230	0.90	-0.28	3.36		PASS

Test mode: IEEE 802.11ac HT 80 MHz mode / 5210MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Mid	5210	-2.19	-2.35	0.74	11.00	PASS

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

Test mode: IEEE 802.11a mode/ 5260 ~ 5320MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5260	2.45	11.00	PASS
Mid	5280	2.47	11.00	PASS
High	5320	3.10	11.00	PASS

Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	5260	3.24	1.57	5.50	11.00	PASS
Mid	5280	3.08	1.46	5.36	11.00	PASS
High	5320	3.50	2.52	6.05	11.00	PASS

Test mode: IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	5270	0.88	-0.27	3.35	11.00	PASS
High	5310	0.85	0.34	3.61	11.00	PASS

Test mode: IEEE 802.11ac HT 80 MHz mode / 5290MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Mid	5290	-2.72	-5.96	-1.03	11.00	PASS

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

Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5500	2.95	11.00	PASS
Mid	5580	3.11	11.00	PASS
High	5700	2.19	11.00	PASS

Test mode: IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	5500	2.95	3.70	6.35	11.00	PASS
Mid	5580	3.75	3.39	6.58	11.00	PASS
High	5700	2.26	3.04	5.68	11.00	PASS

Test mode: IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	5510	1.00	0.35	3.70	11.00	PASS
Mid	5550	0.67	0.18	3.44	11.00	PASS
High	5670	-0.02	-0.03	2.99	11.00	PASS

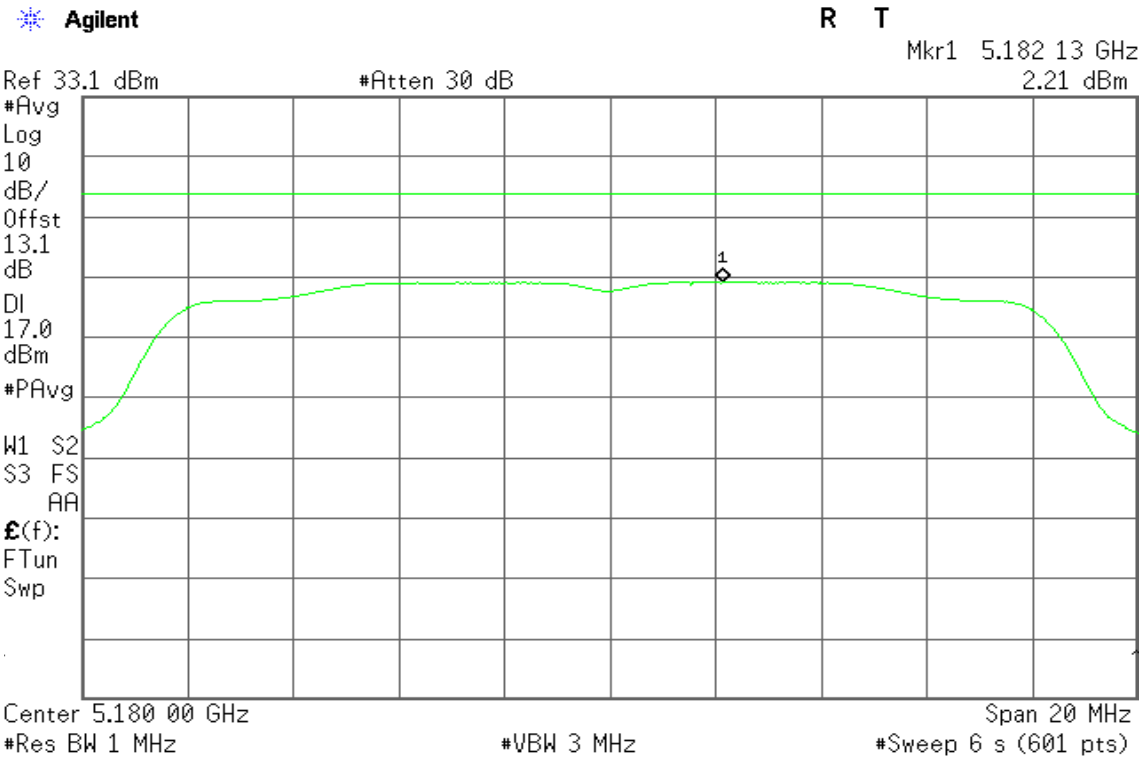
Test mode: IEEE 802.11n HT 80 MHz mode / 5530 ~ 5690MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	PPSD (dBm)	Limit (dBm)	Result
Low	5530	-2.20	-1.98	0.92	11.00	PASS
High	5690 (Band III)	-2.93	-1.43	0.89	11.00	PASS
High	5690 (Band IV)	-13.64	-11.63	-9.51	30.00/500kHz	PASS

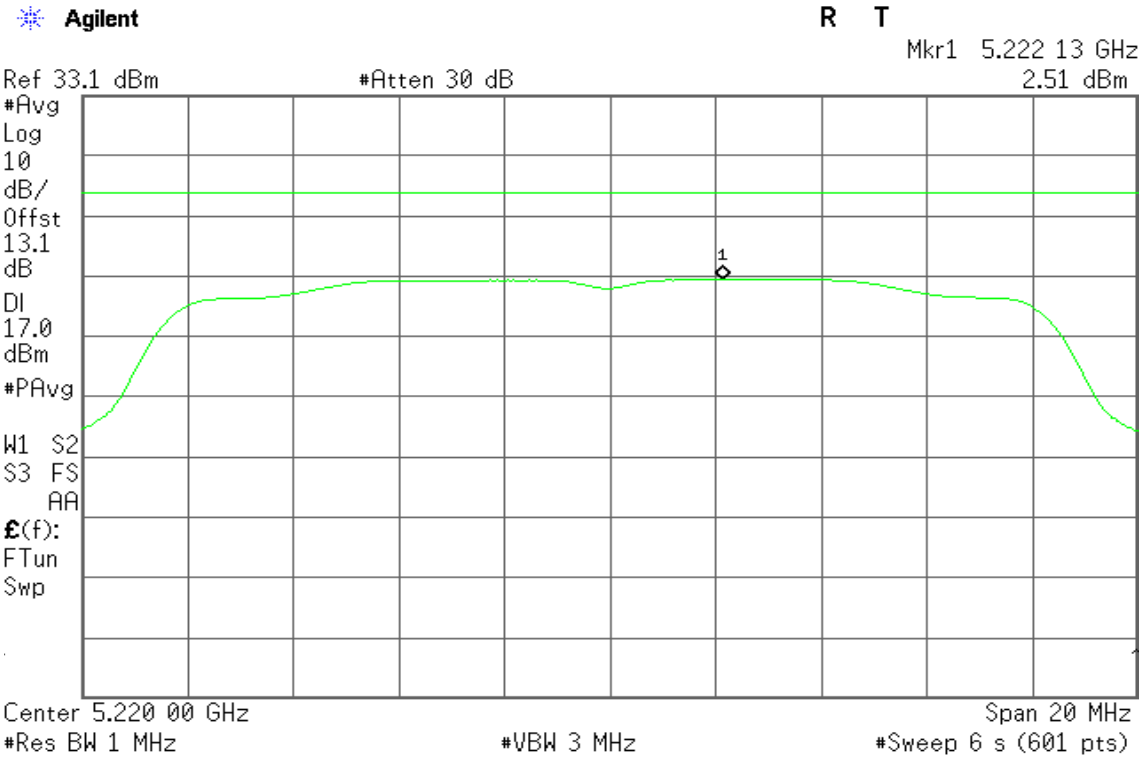
Remark: *Total PPSD (dBm) = 10*LOG(10^(Chain 0 PPSD / 10)+10^(Chain 1 PPSD /10)*

Test Plot
IEEE 802.11a mode / 5180 ~ 5240MHz

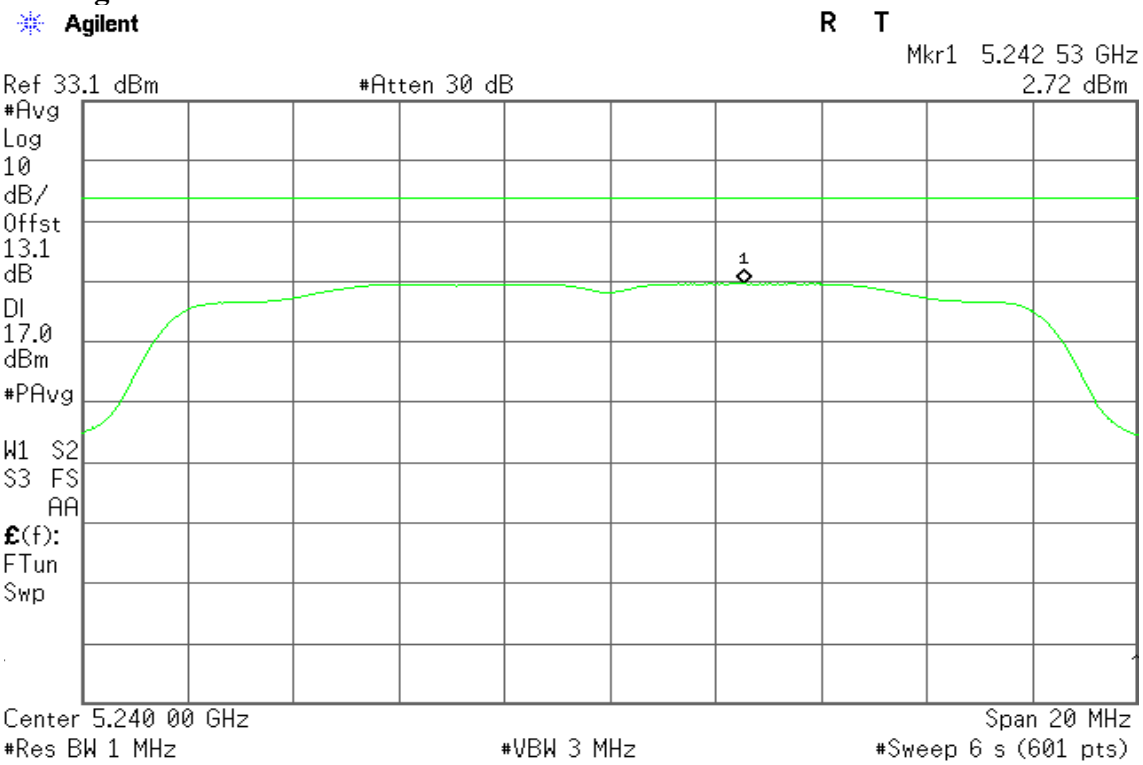
CH Low



CH Mid

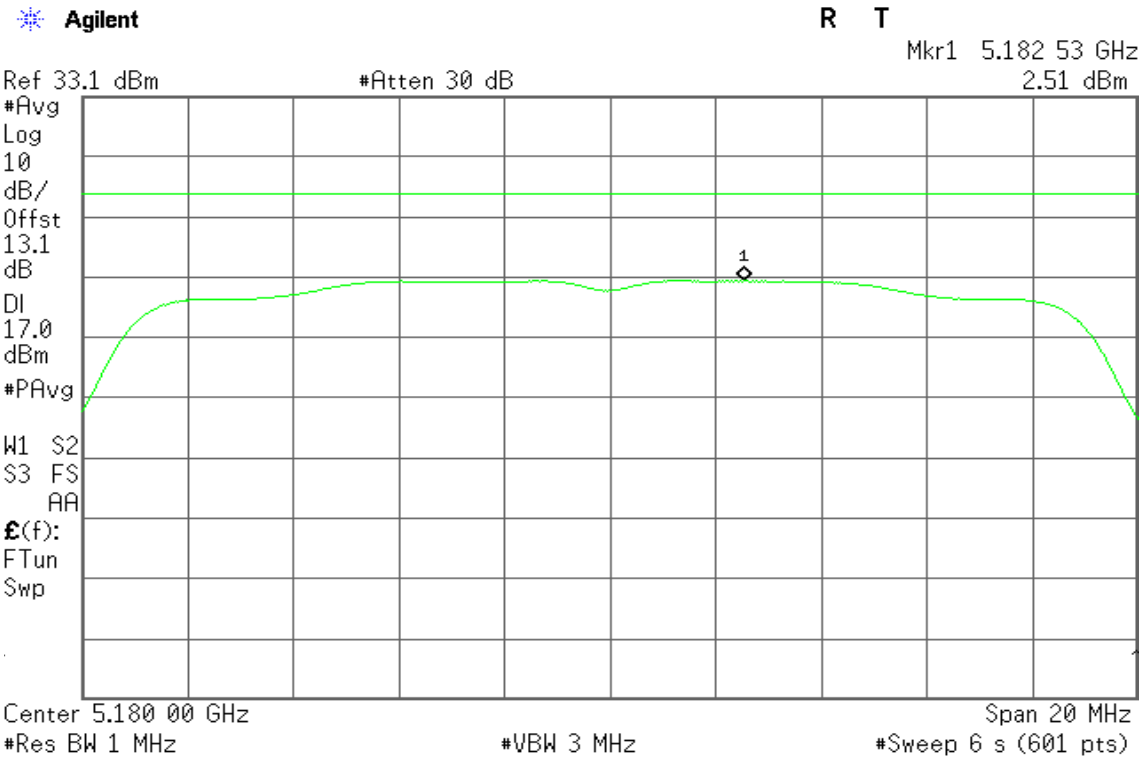


CH High

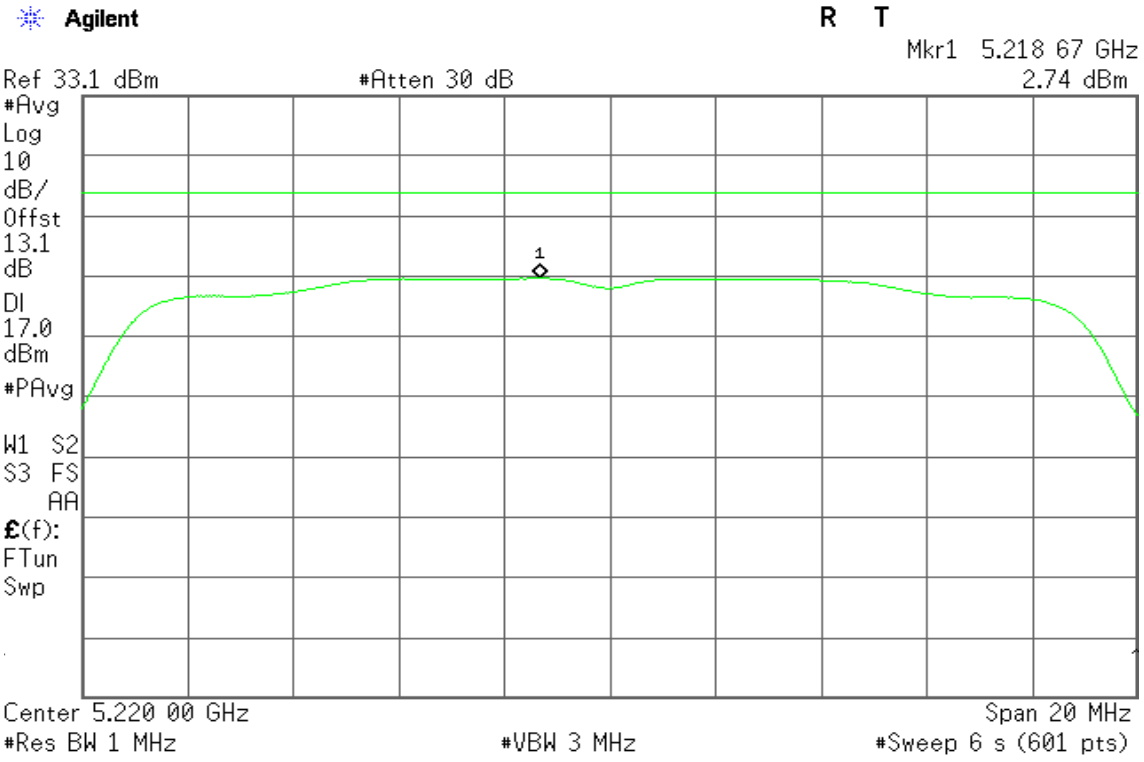

Agilent
R T
Mkr1 5.242 53 GHz
2.72 dBm
Ref 33.1 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
13.1
dB
Dl
17.0
dBm
#PAvg
W1 S2
S3 FS
AA
£(f):
FTun
Swp
1
Center 5.240 00 GHz
Span 20 MHz
#Res BW 1 MHz
#VBW 3 MHz
#Sweep 6 s (601 pts)

IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz / Chain 0

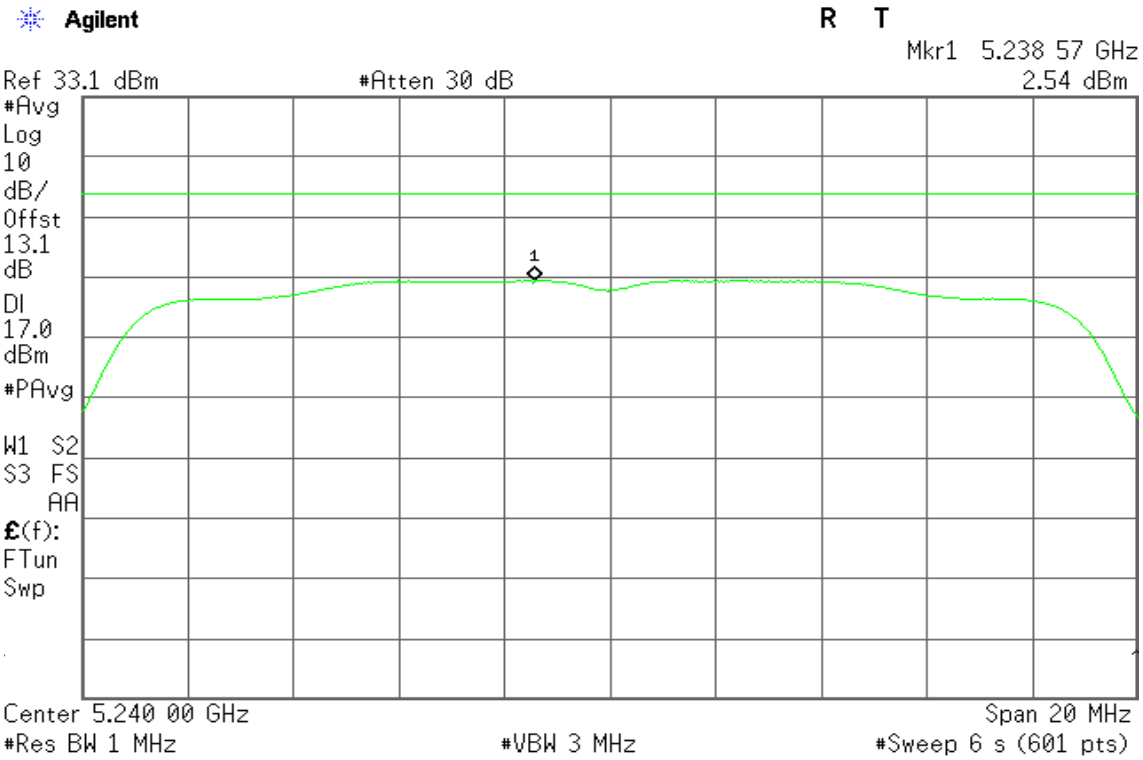
CH Low



CH Mid

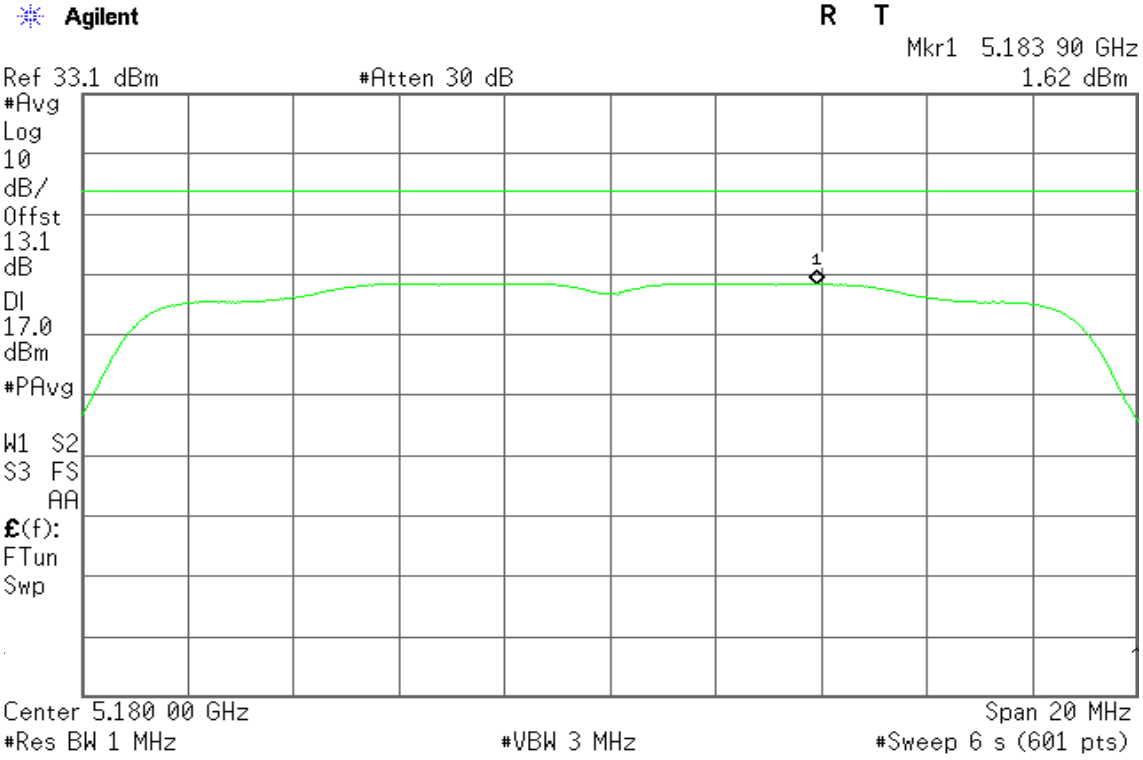


CH High

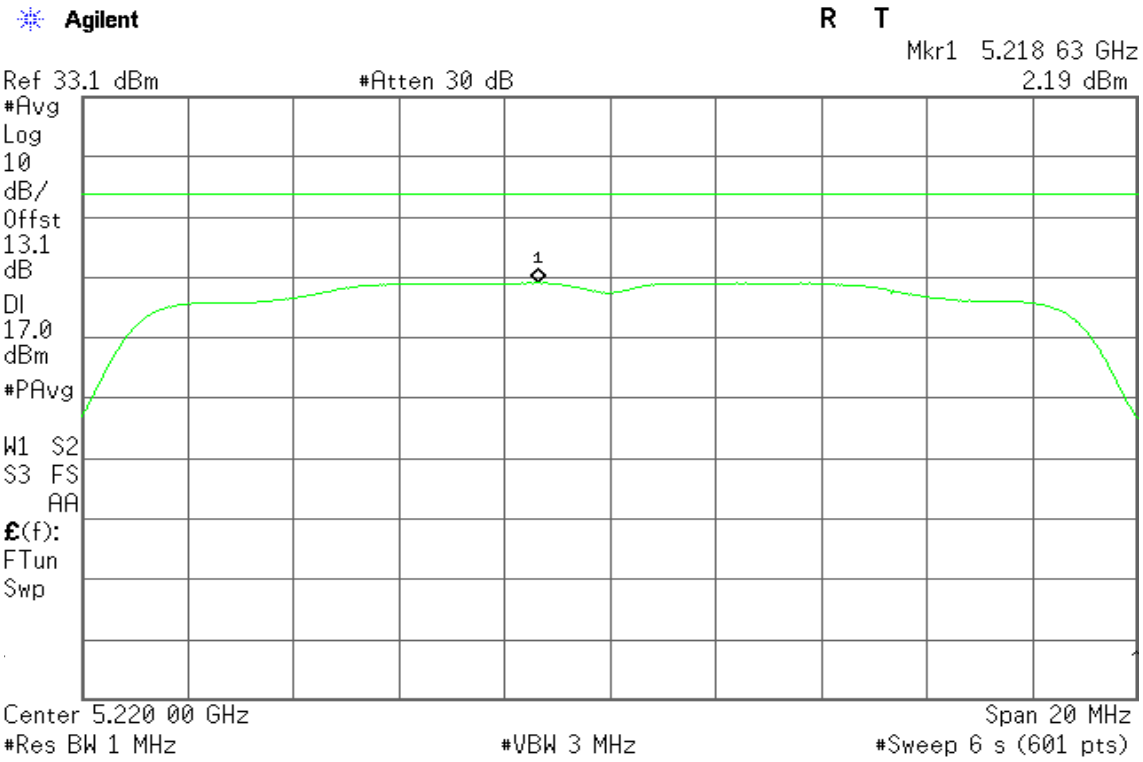


IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz / Chain 1

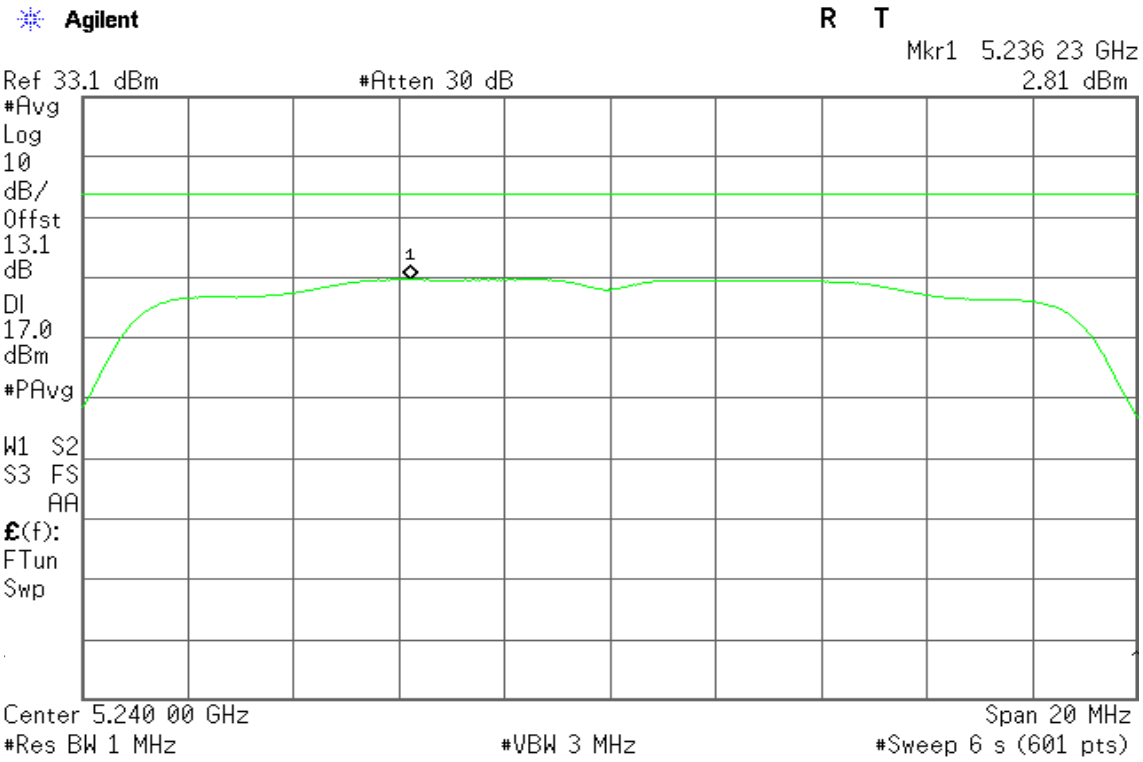
CH Low



CH Mid

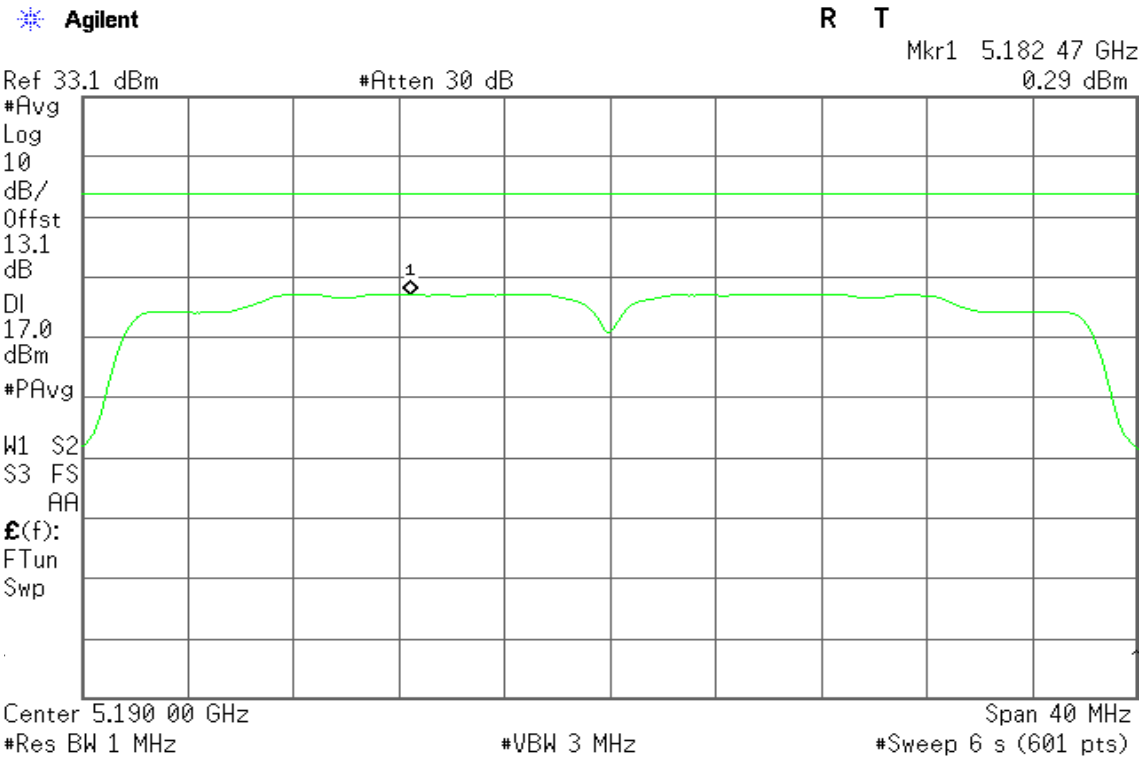


CH High

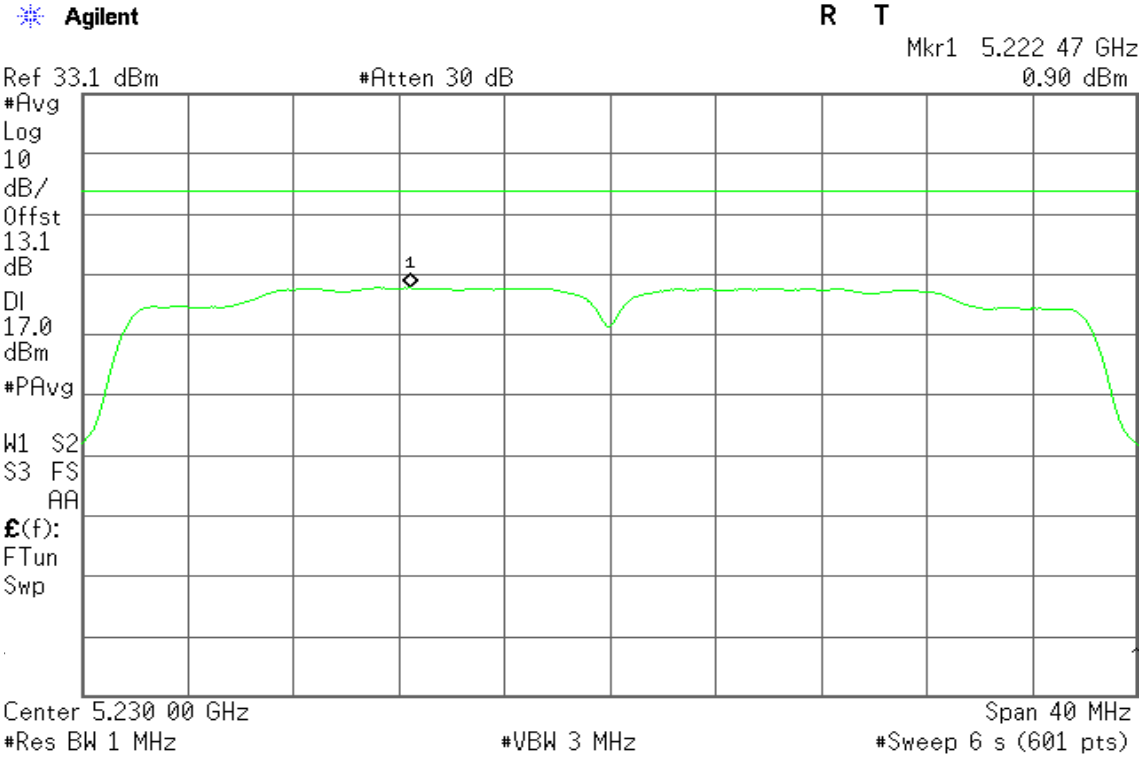


IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 0

CH Low

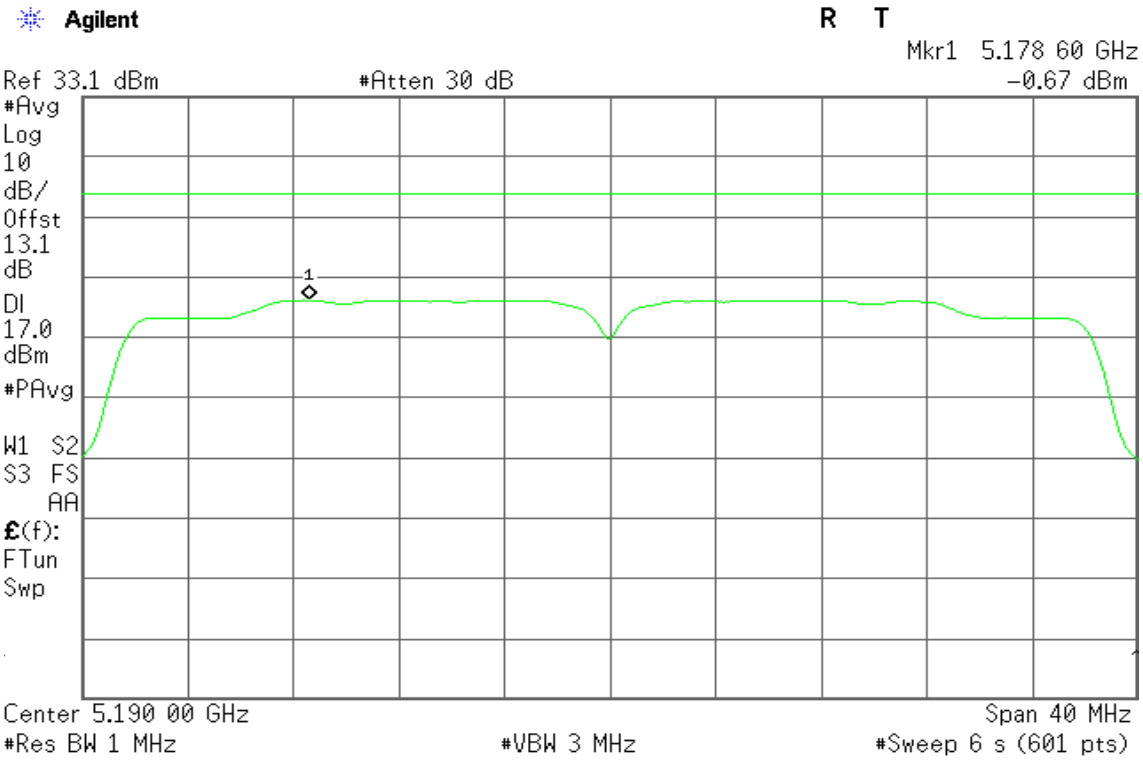


CH High

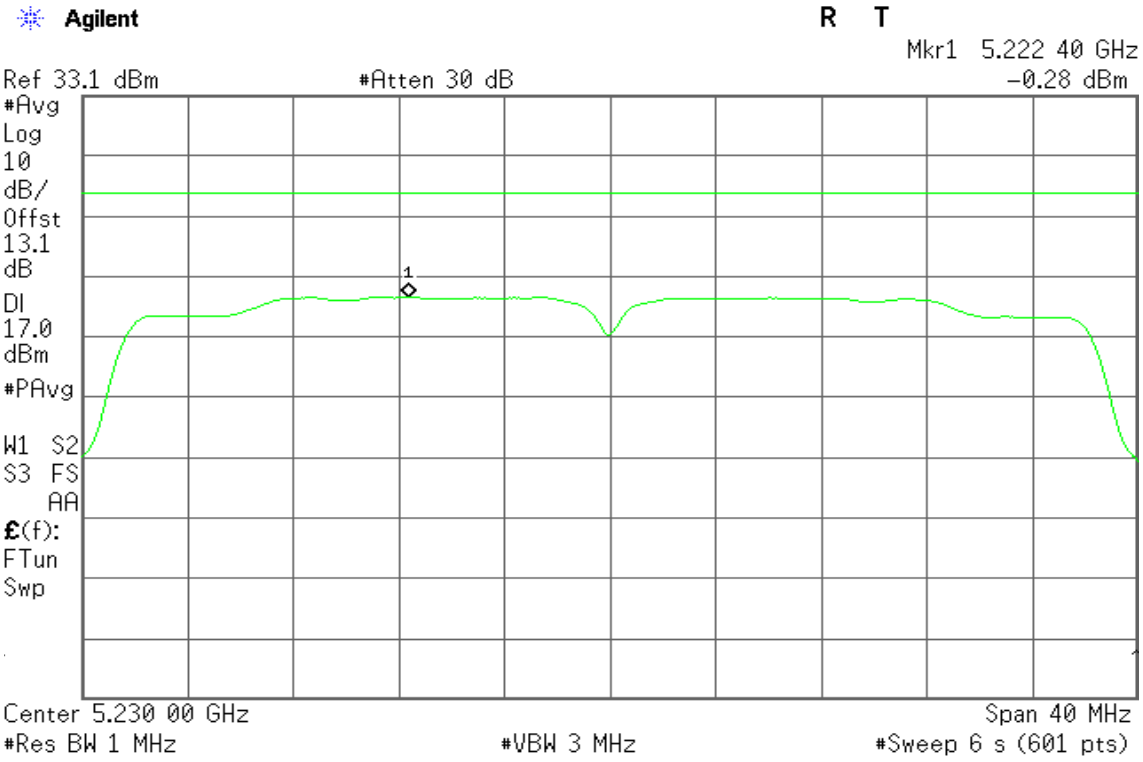


IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / Chain 1

CH Low

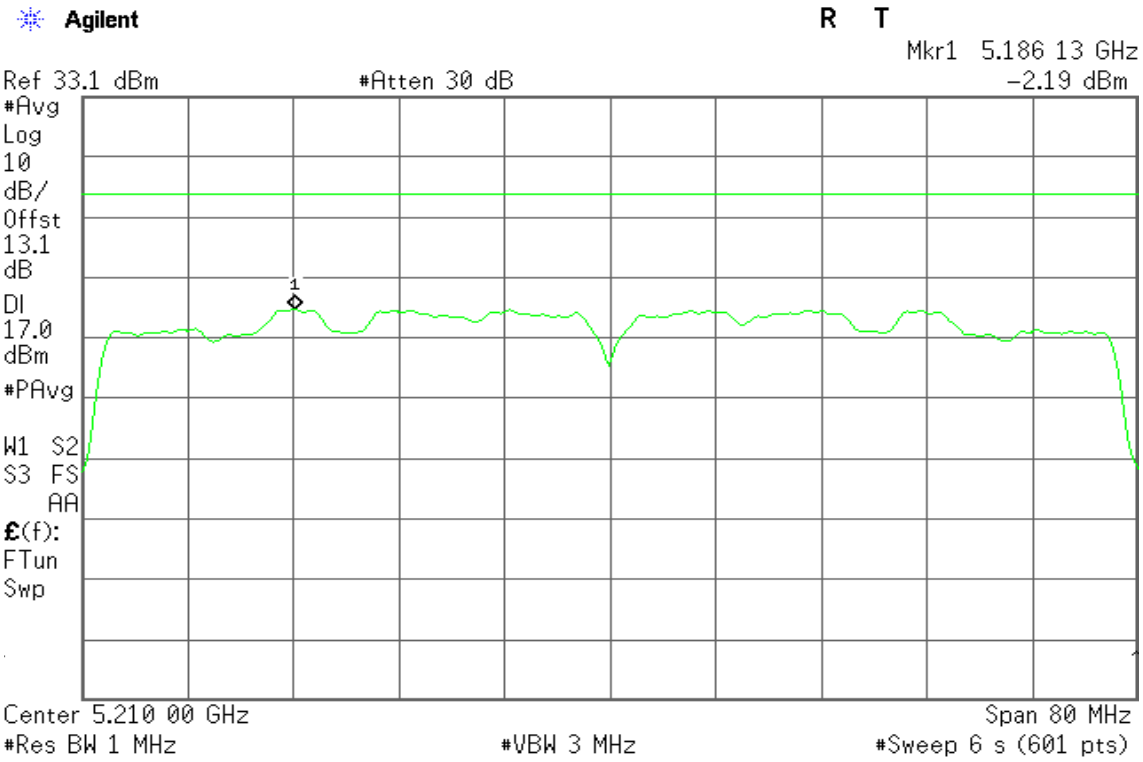


CH High



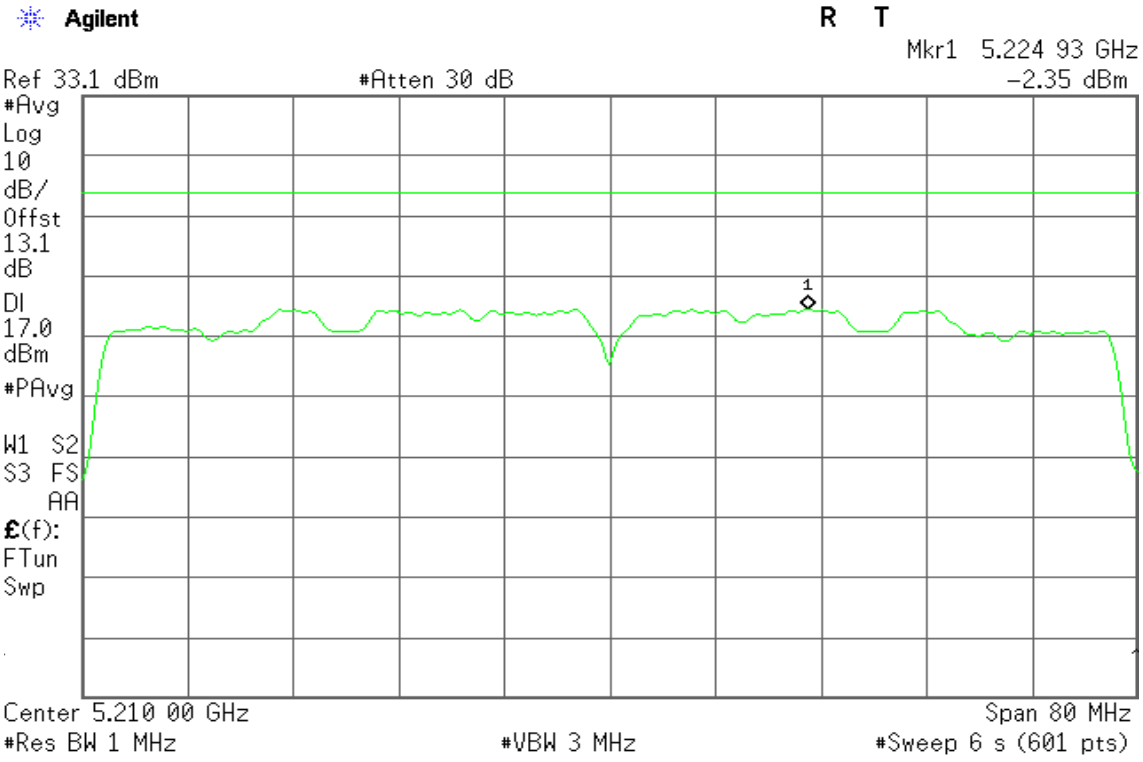
IEEE 802.11n HT 80 MHz mode / 5210MHz / Chain 0

CH Mid



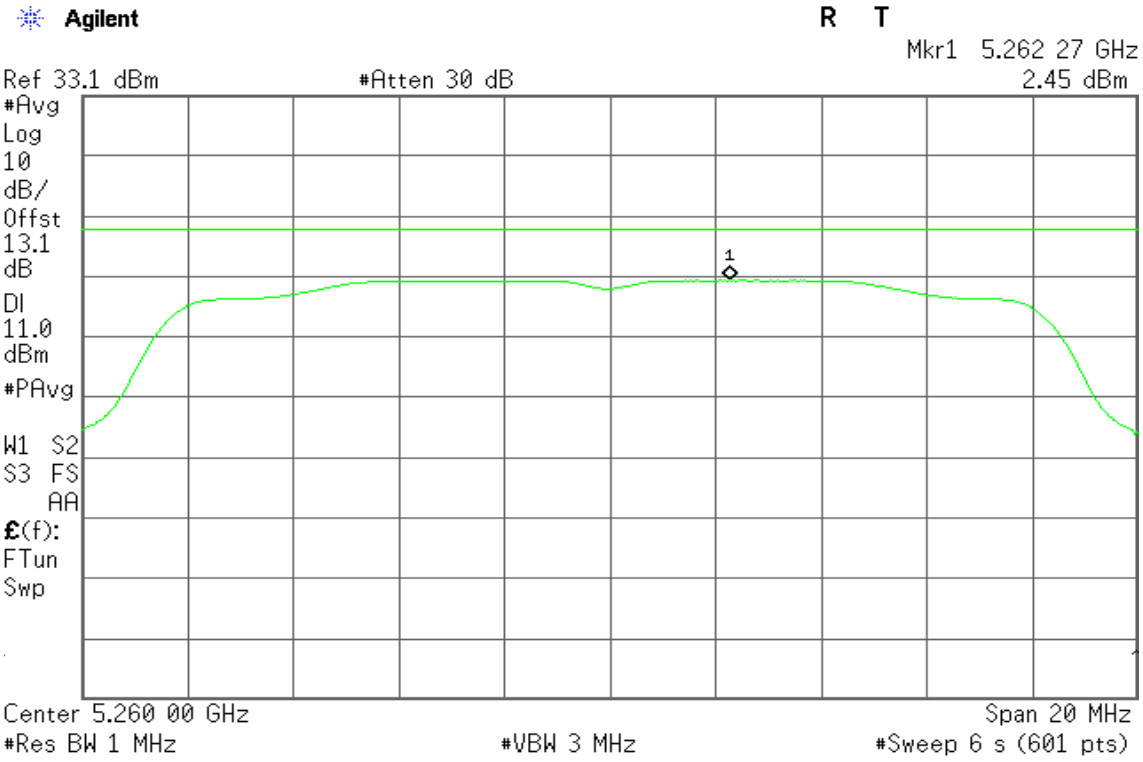
IEEE 802.11n HT 80 MHz mode / 5210MHz / Chain 1

CH Mid

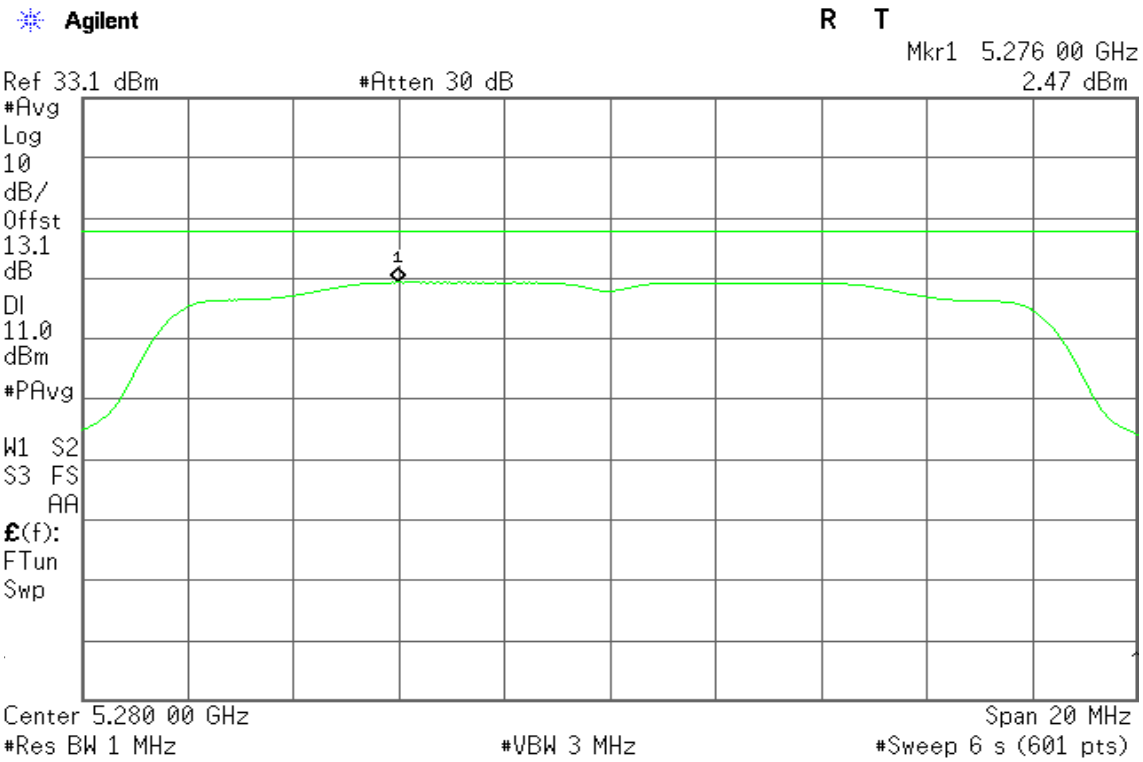


IEEE 802.11a mode / 5260 ~ 5320MHz

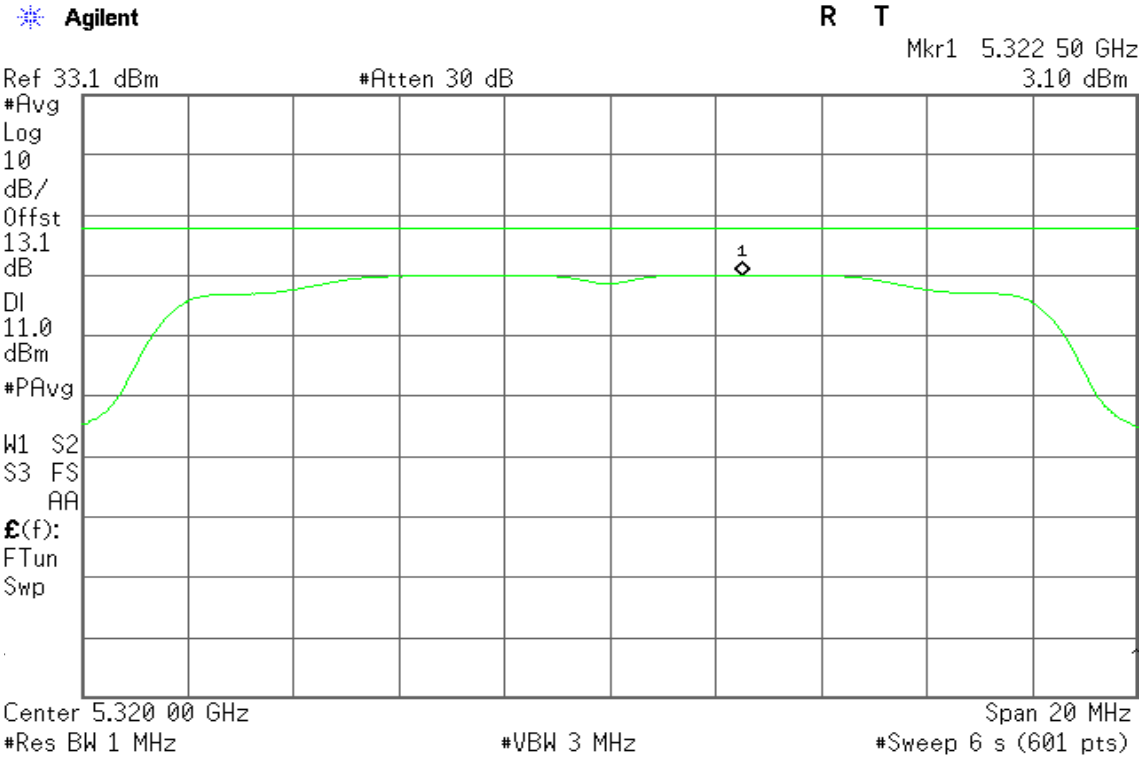
CH Low



CH Mid

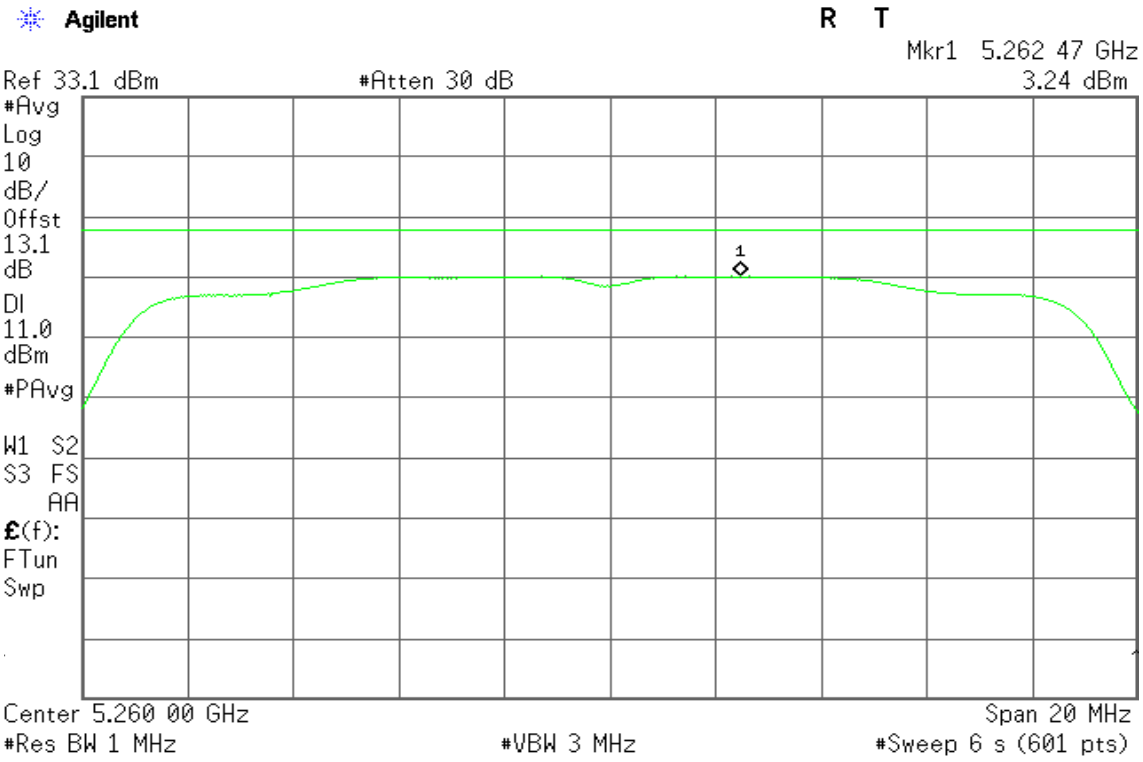


CH High

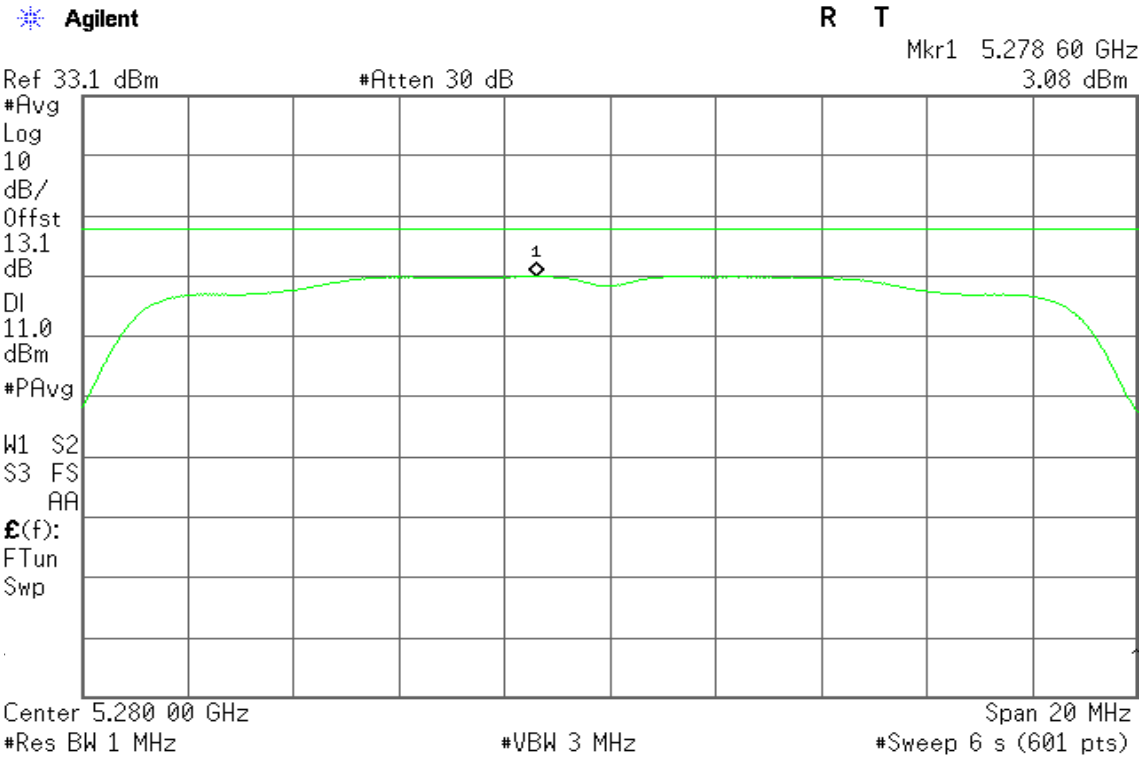

Agilent
R T
Mkr1 5.322 50 GHz
3.10 dBm
Ref 33.1 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
13.1
dB
Dl
11.0
dBm
#PAvg
W1 S2
S3 FS
AA
£(f):
FTun
Swp
1
Center 5.320 00 GHz
Span 20 MHz
#Res BW 1 MHz
#VBW 3 MHz
#Sweep 6 s (601 pts)

IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz / Chain 0

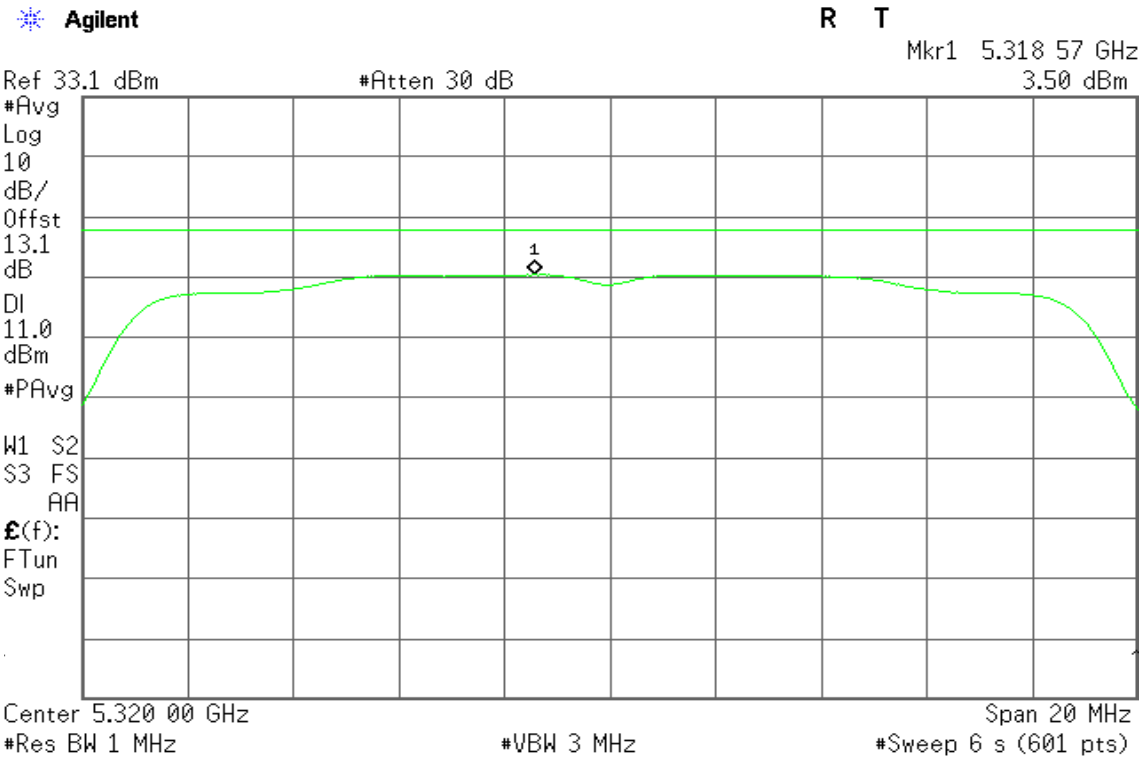
CH Low



CH Mid

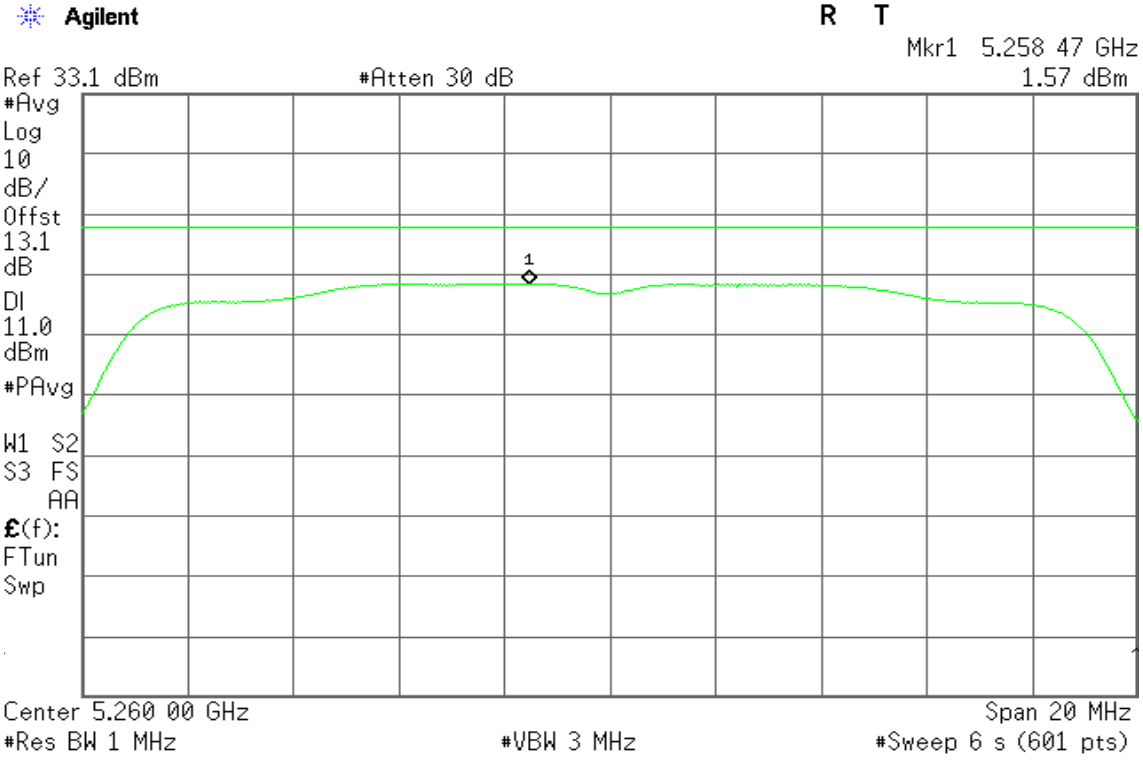


CH High

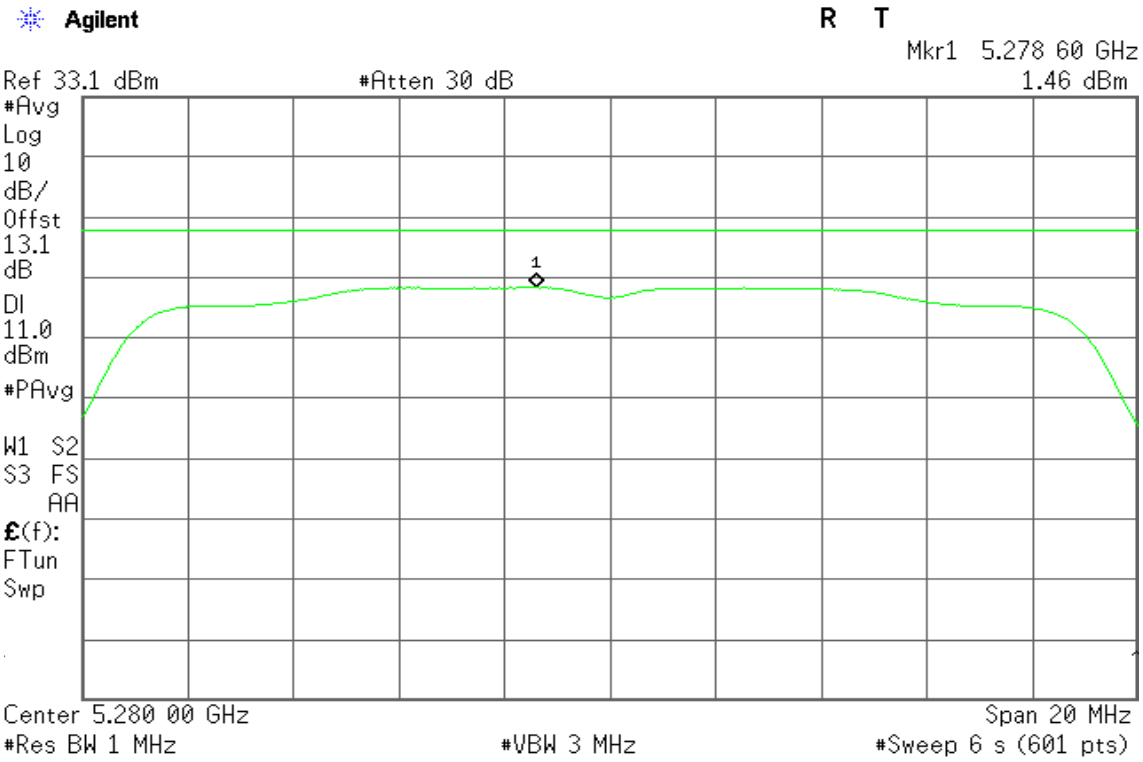


IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz / Chain 1

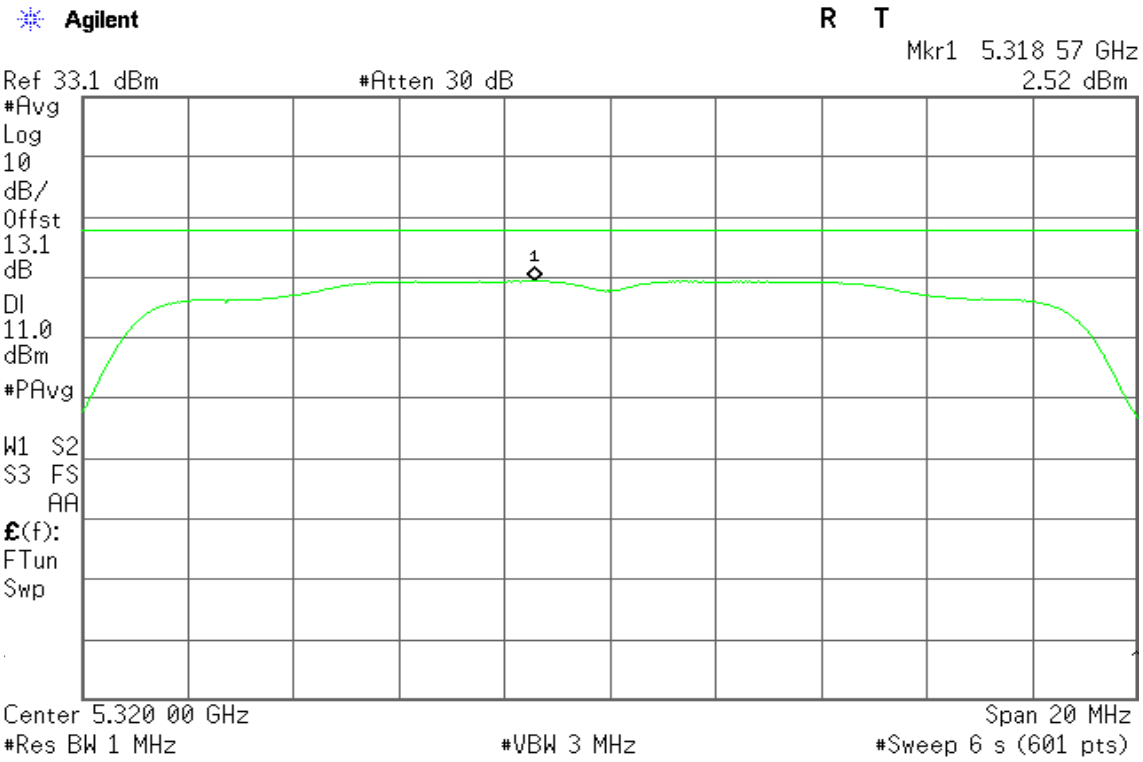
CH Low



CH Mid

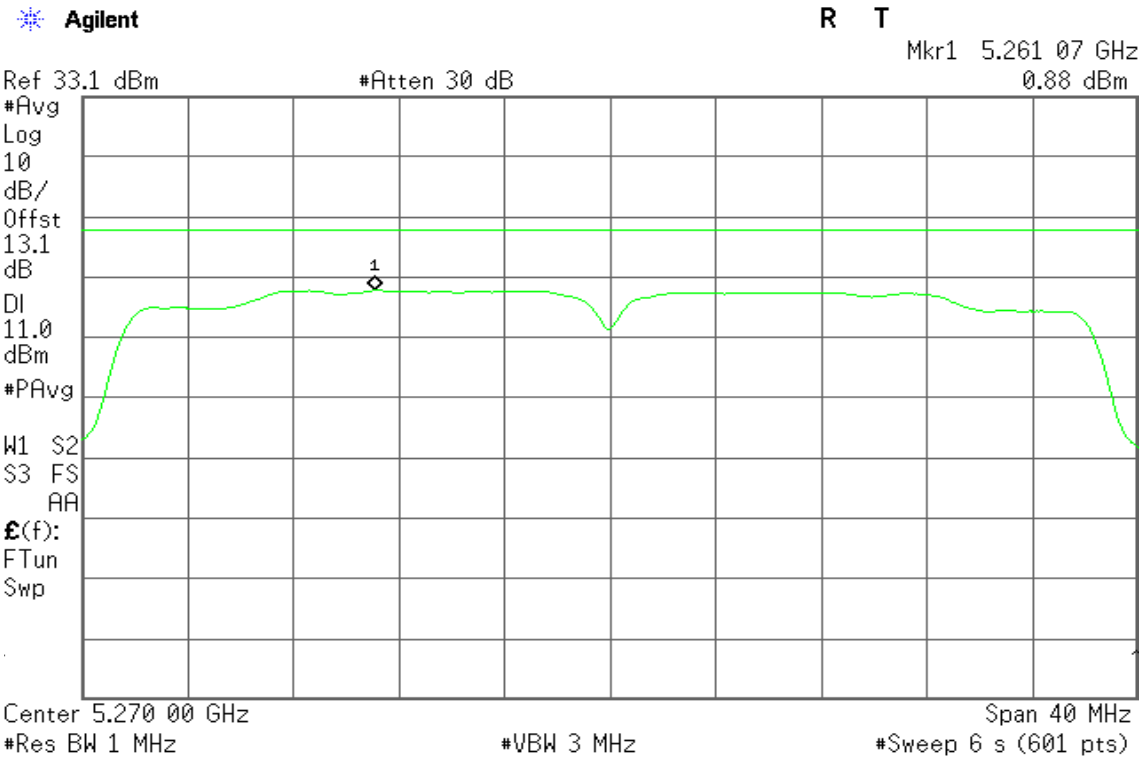


CH High

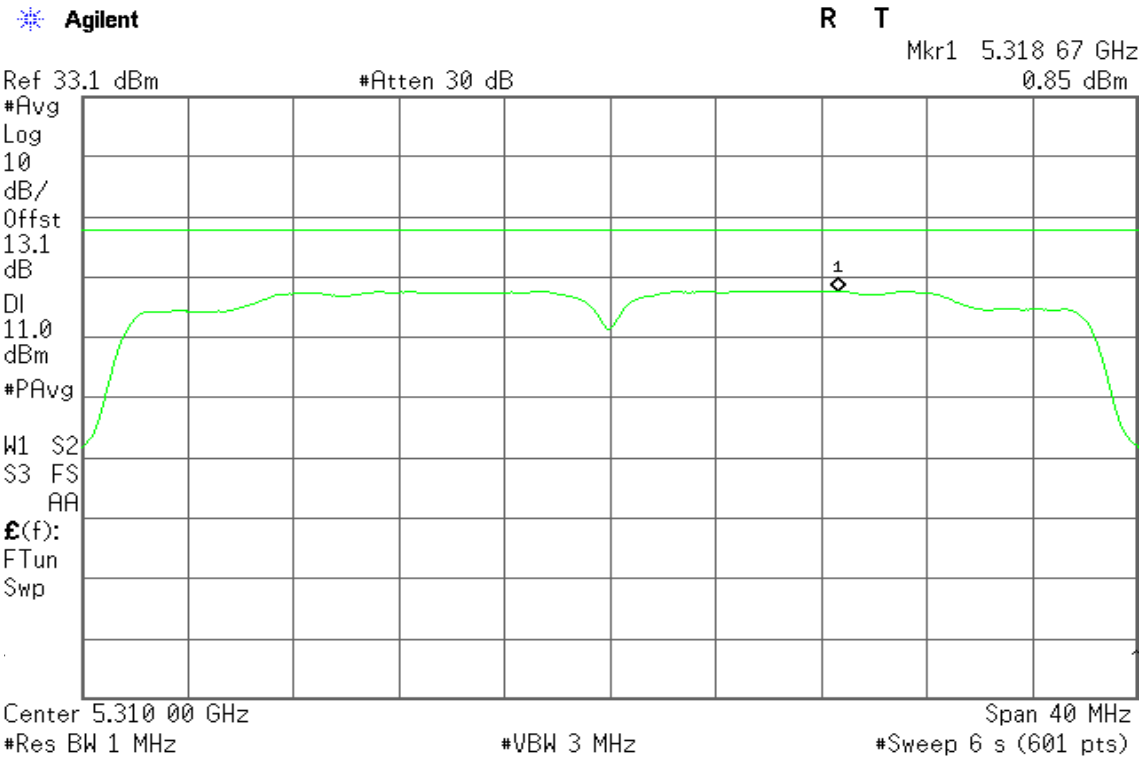


IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 0

CH Low

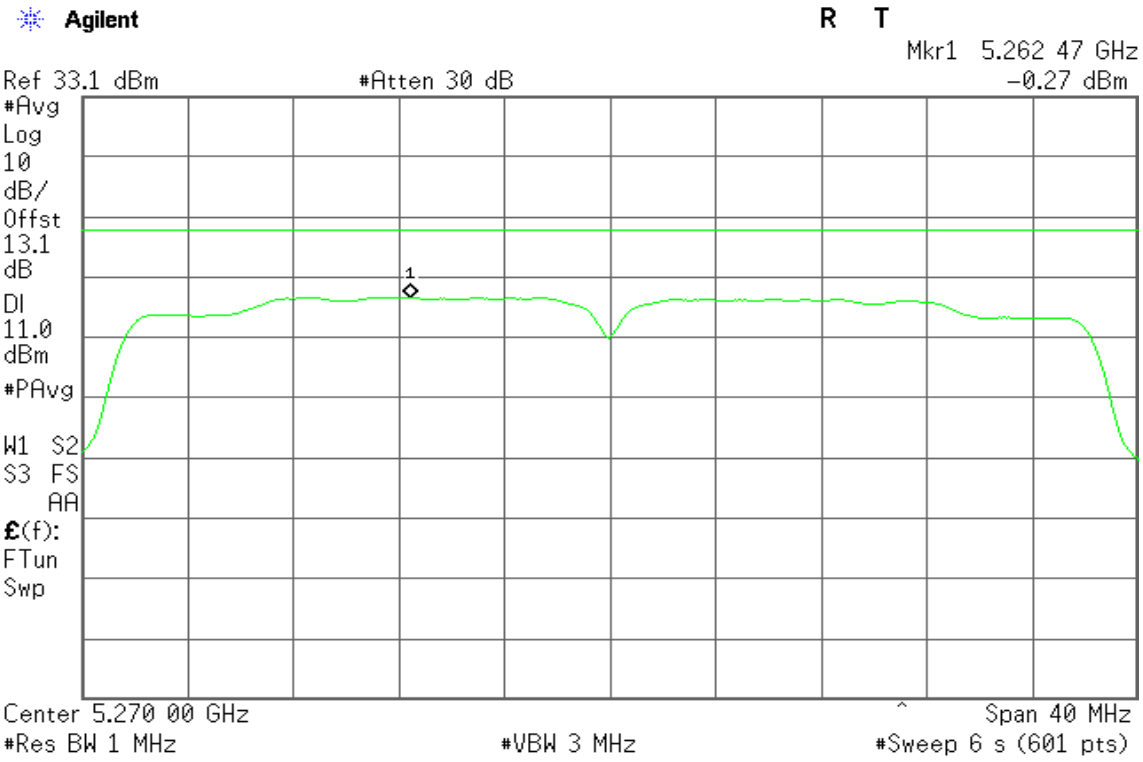


CH High

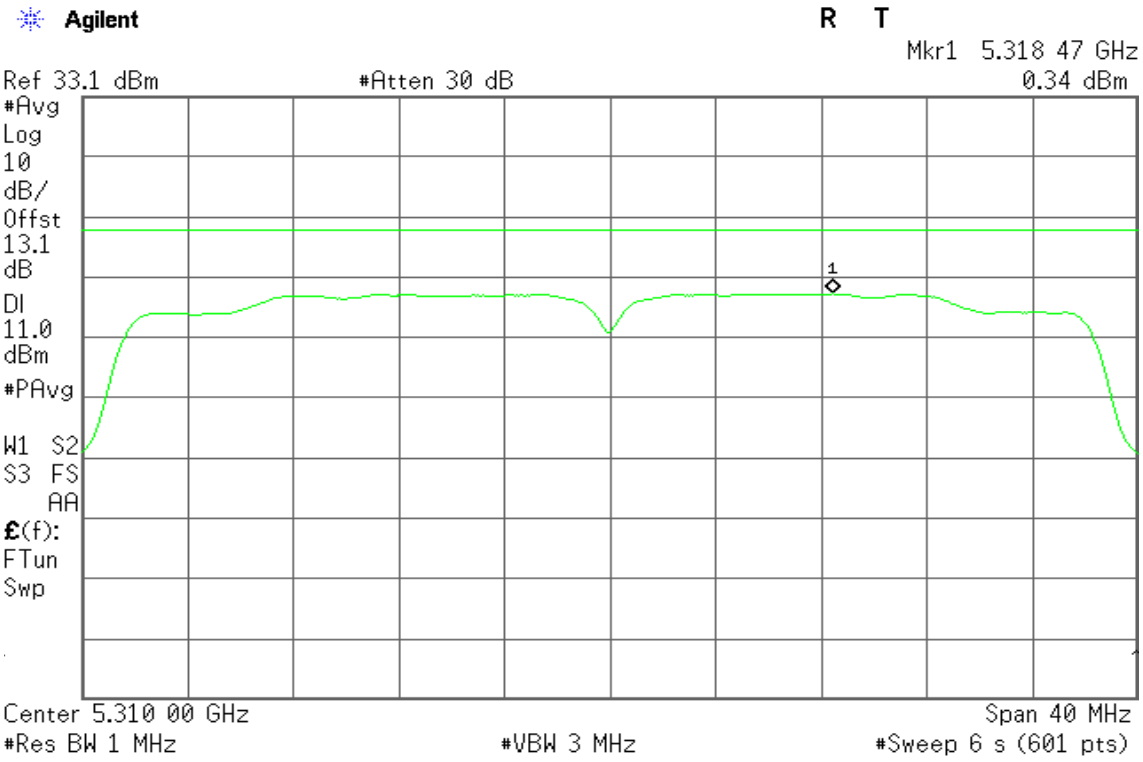


IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / Chain 1

CH Low

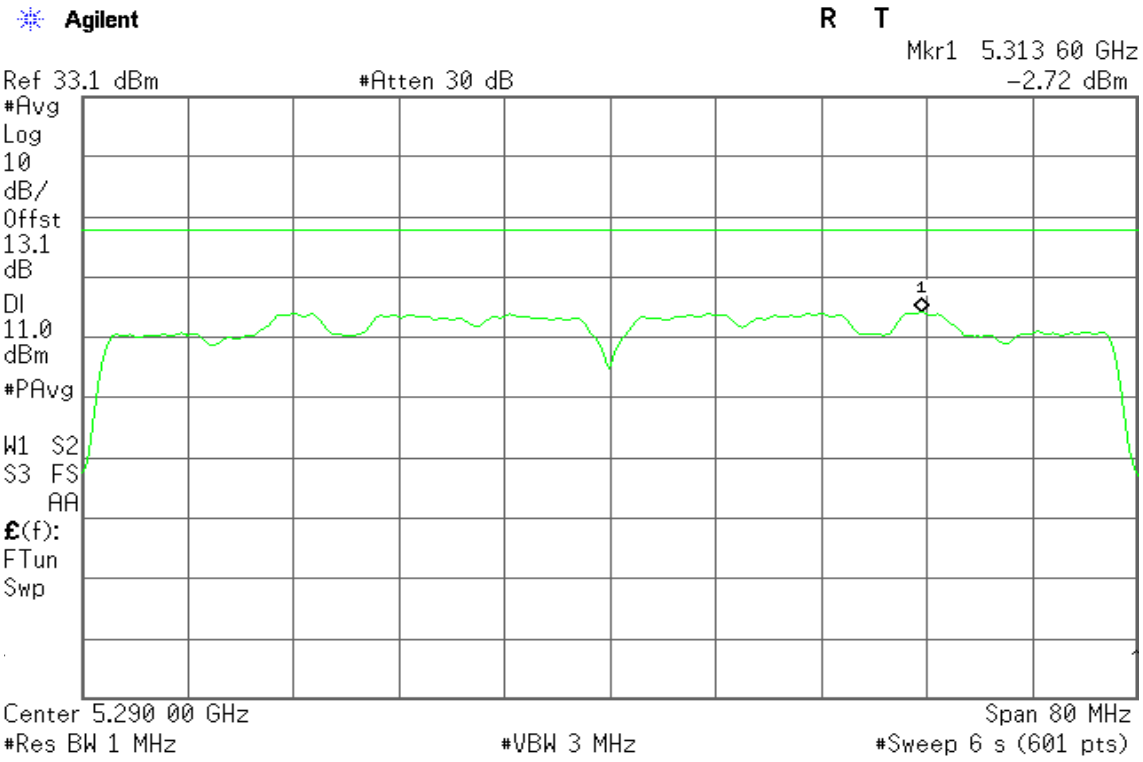


CH High



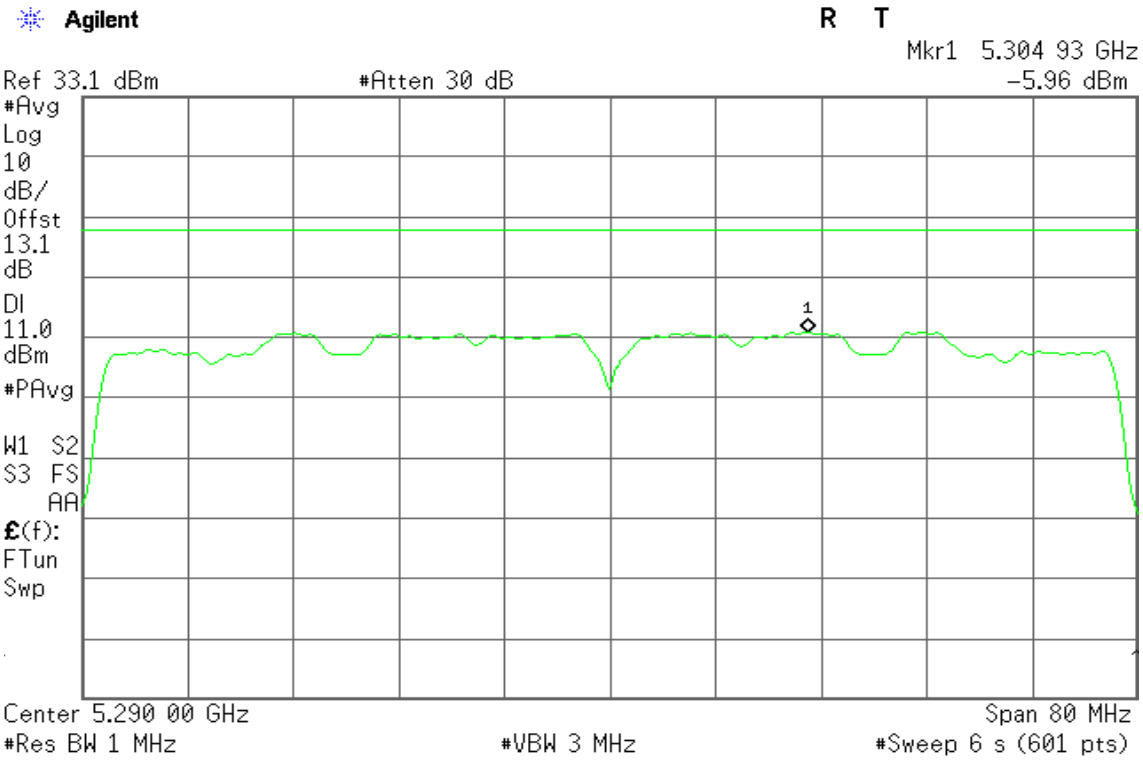
IEEE 802.11n HT 80 MHz mode / 5290MHz / Chain 0

CH Mid



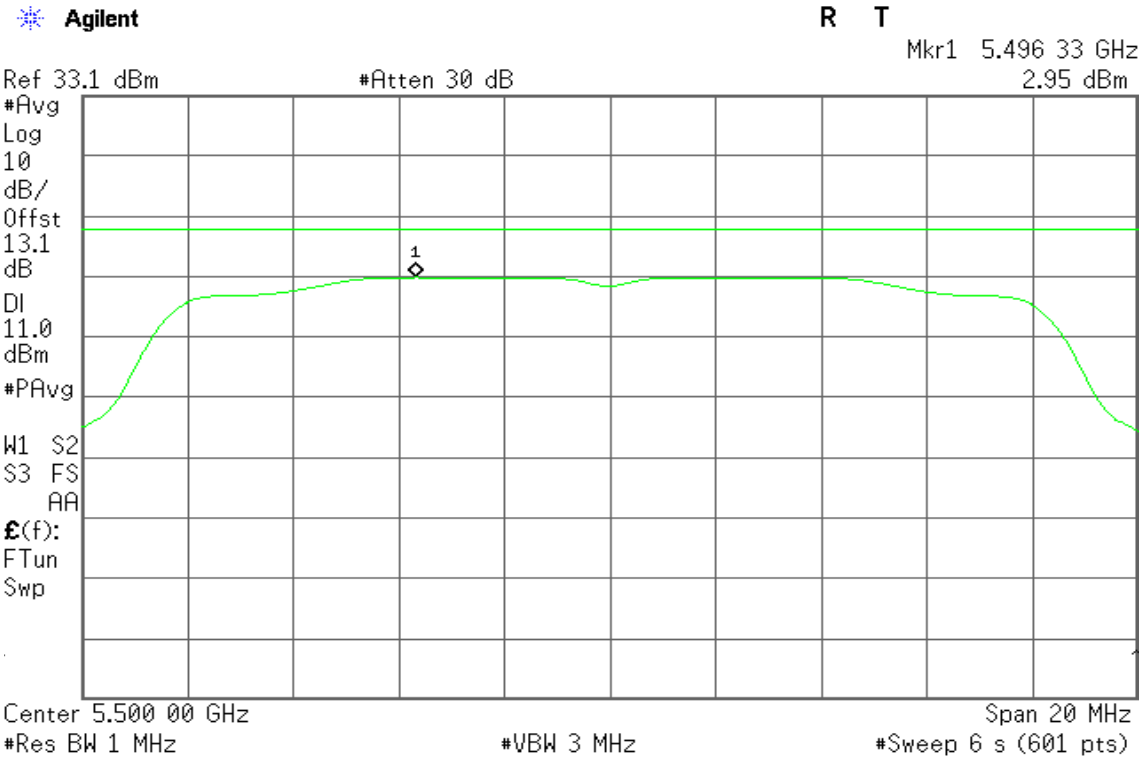
IEEE 802.11n HT 80 MHz mode / 5290MHz / Chain 1

CH Mid

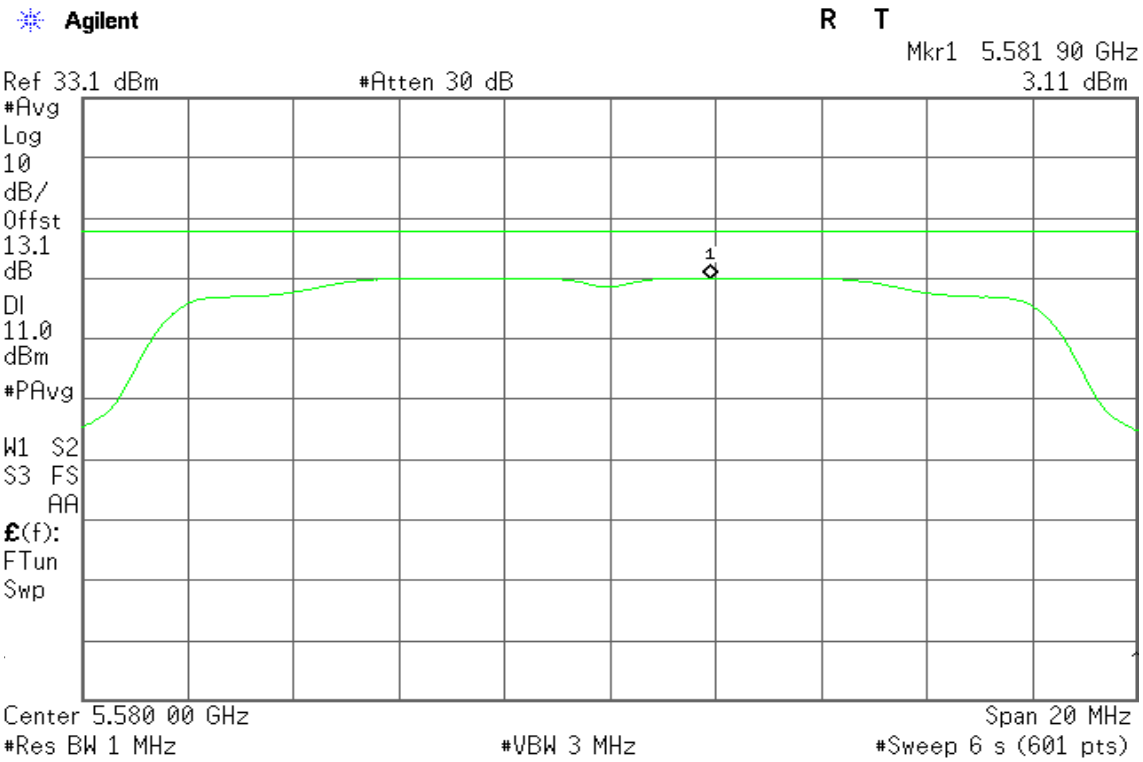


Test mode: IEEE 802.11a mode / 5500 ~ 5700MHz

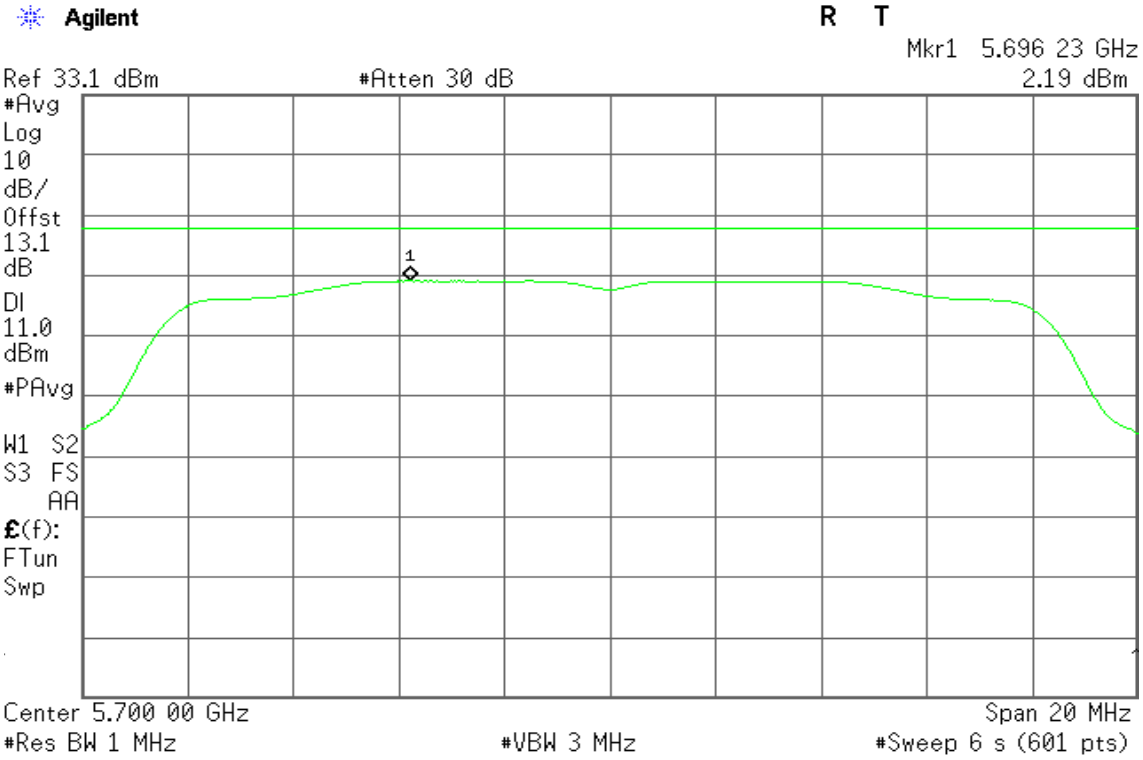
CH Low



CH Mid

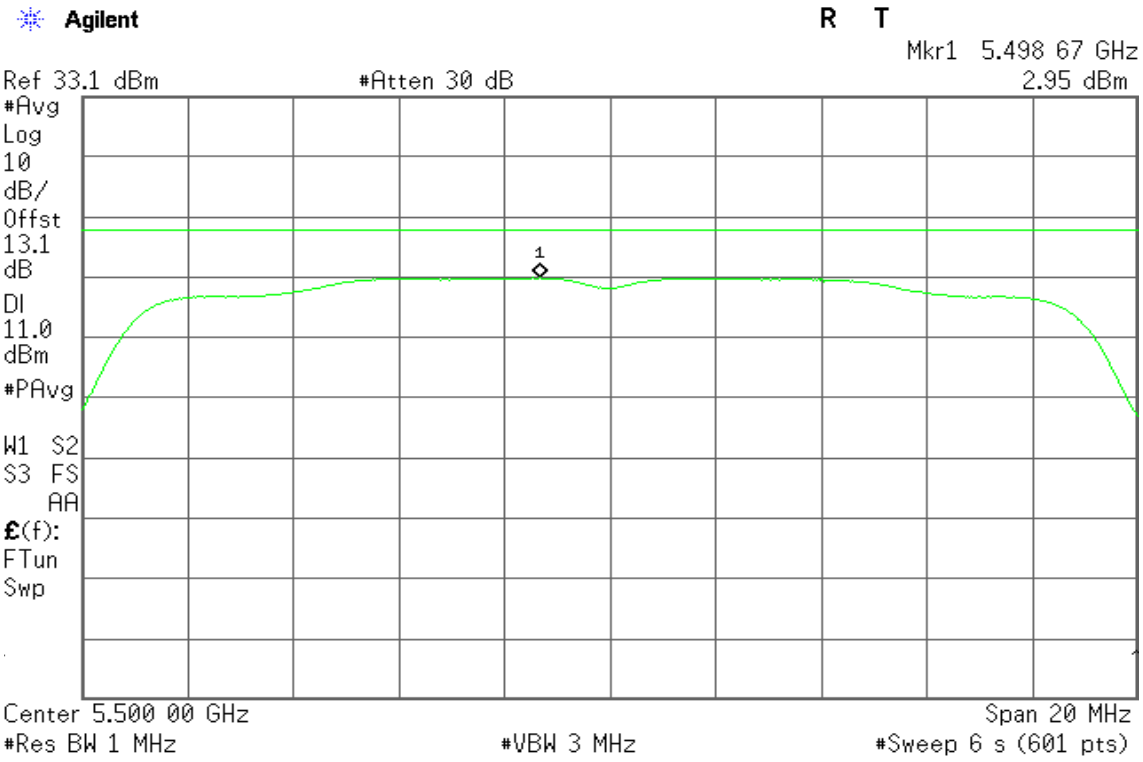


CH High

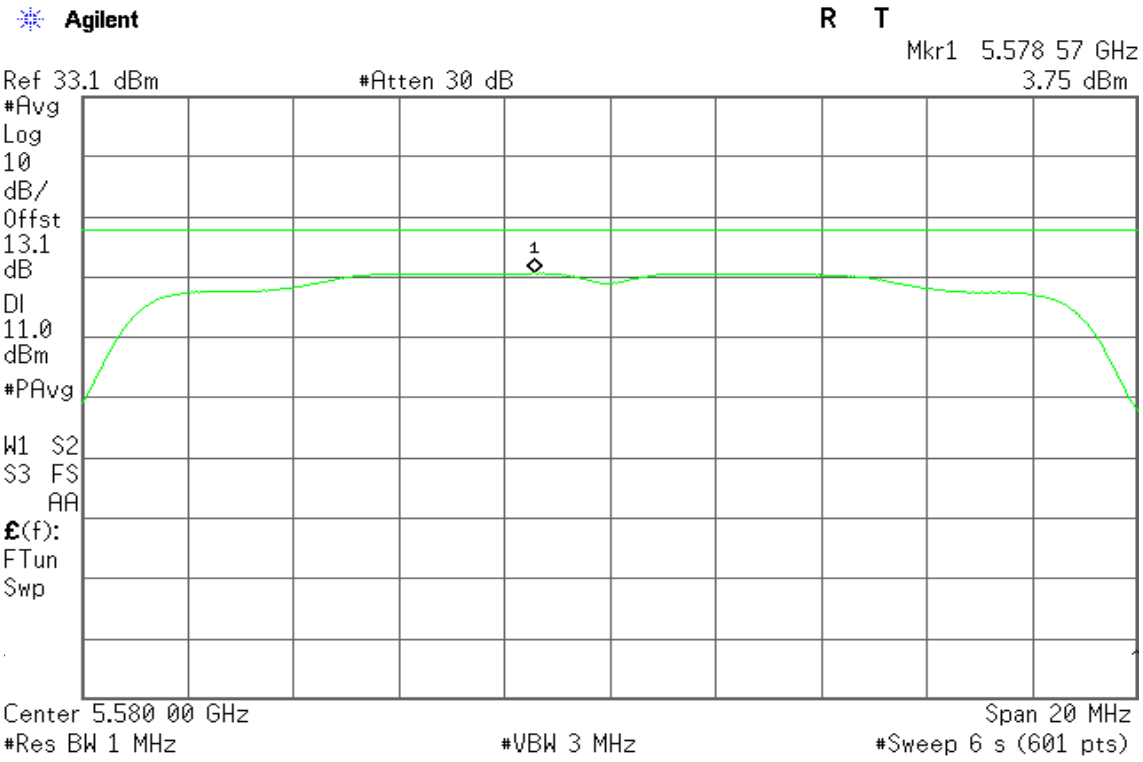

Agilent
R T
Mkr1 5.696 23 GHz
2.19 dBm
Ref 33.1 dBm
#Atten 30 dB
#Avg
Log
10
dB/
Offst
13.1
dB
Dl
11.0
dBm
#PAvg
W1 S2
S3 FS
AA
£(f):
FTun
Swp
1
Center 5.700 00 GHz
Span 20 MHz
#Res BW 1 MHz
#VBW 3 MHz
#Sweep 6 s (601 pts)

IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz / Chain 0

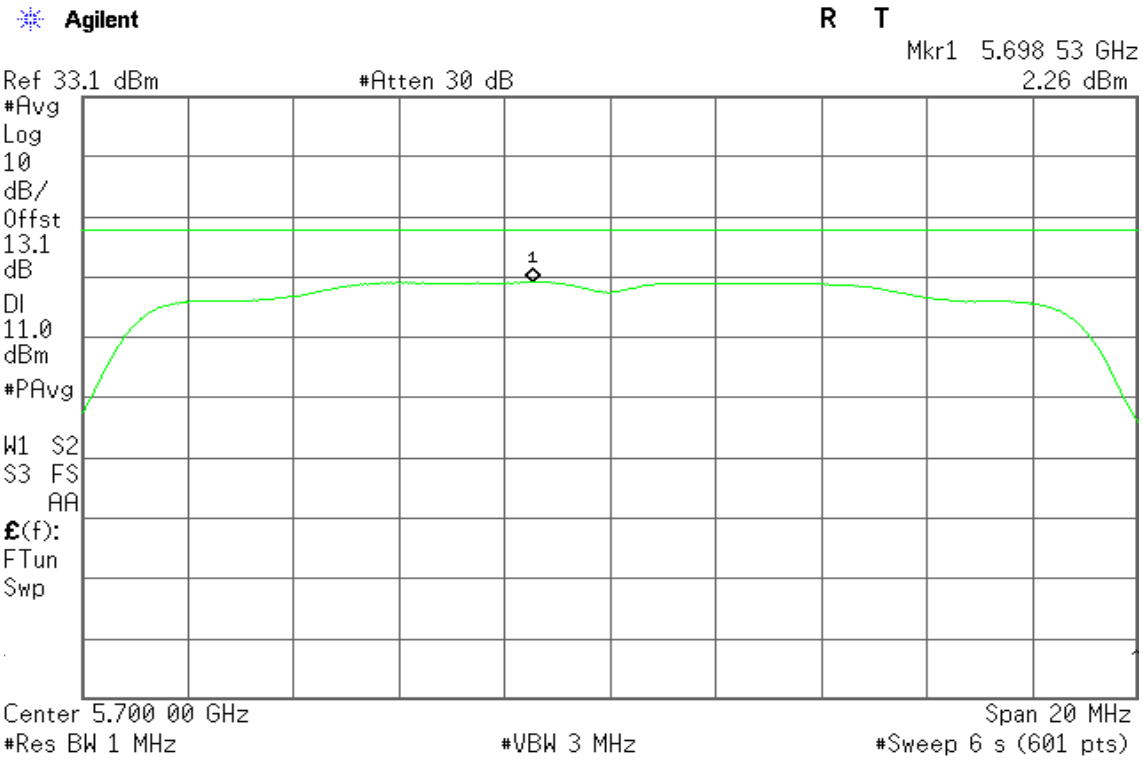
CH Low



CH Mid

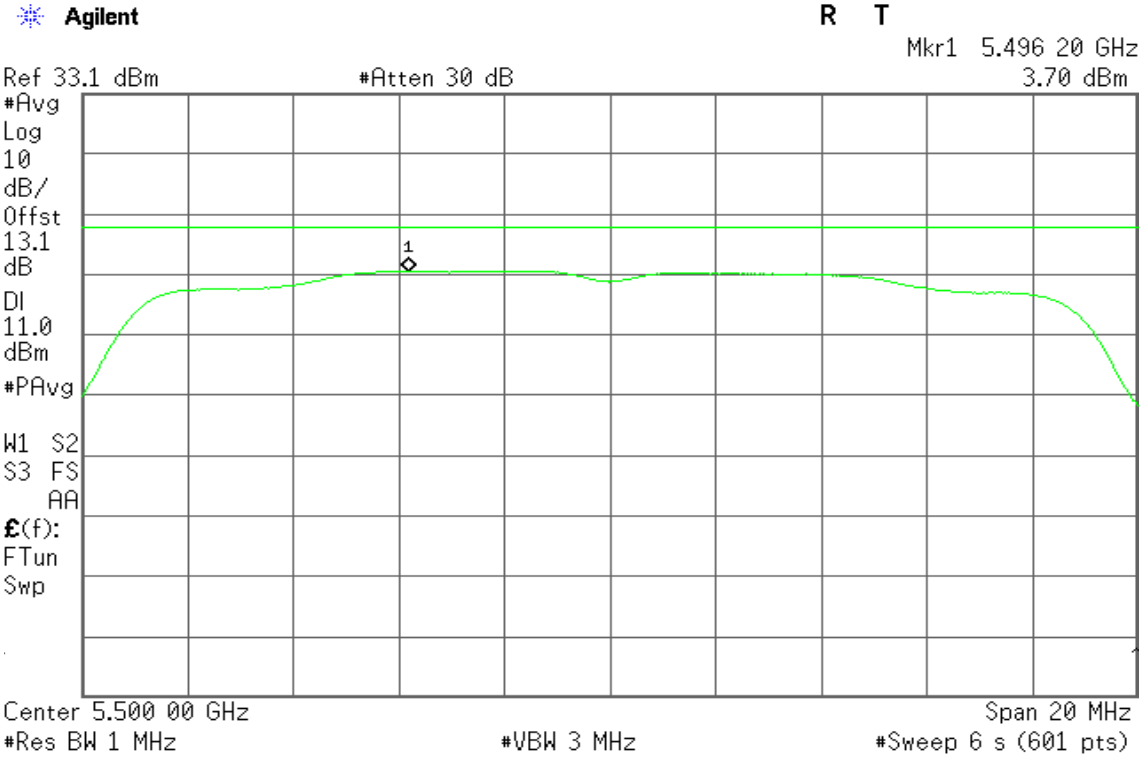


CH High

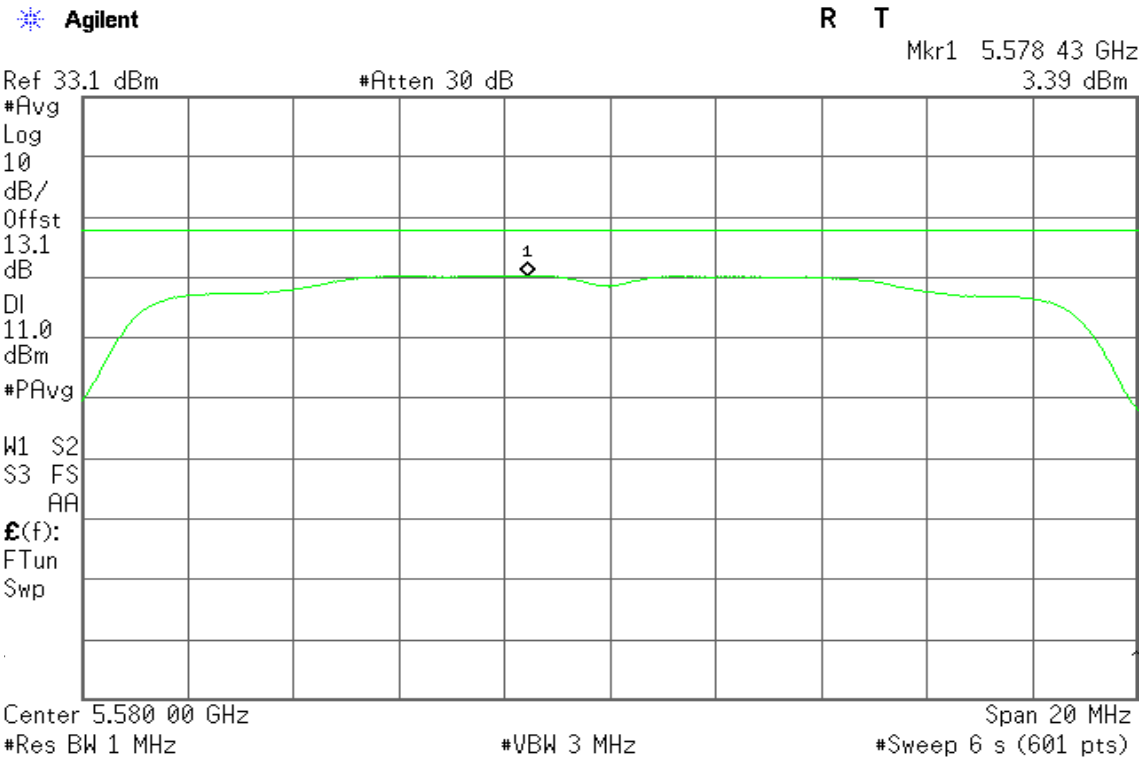


IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz / Chain 1

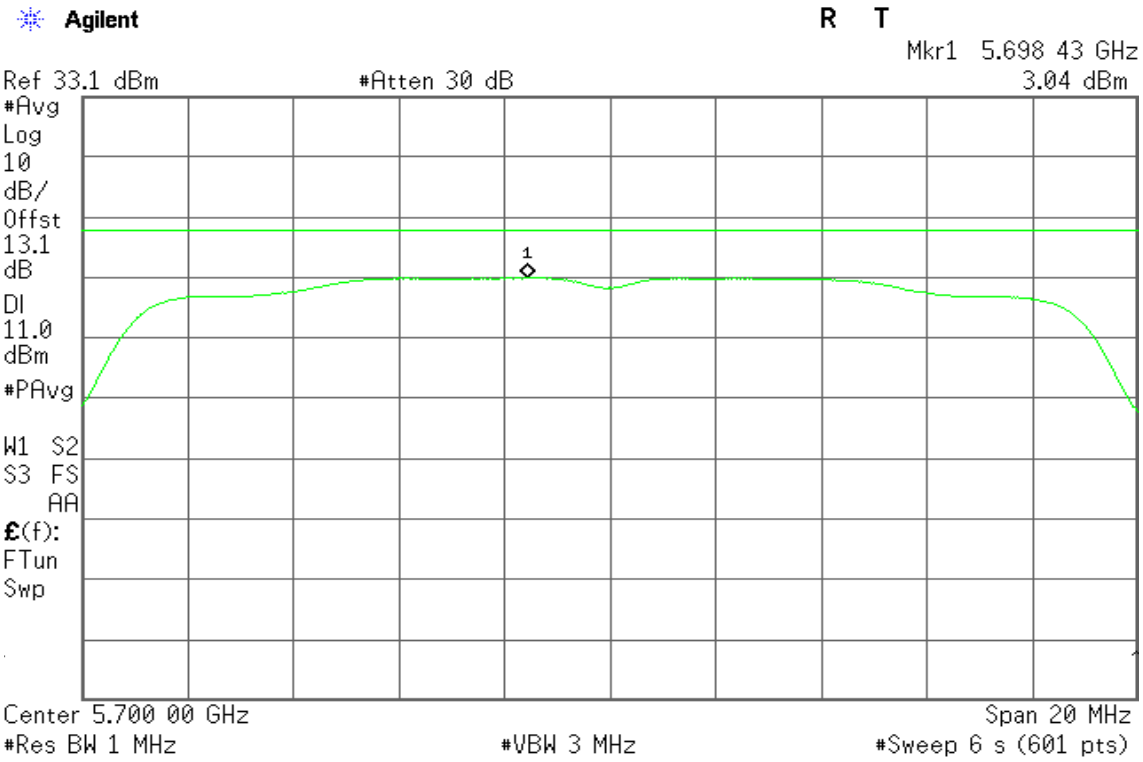
CH Low



CH Mid

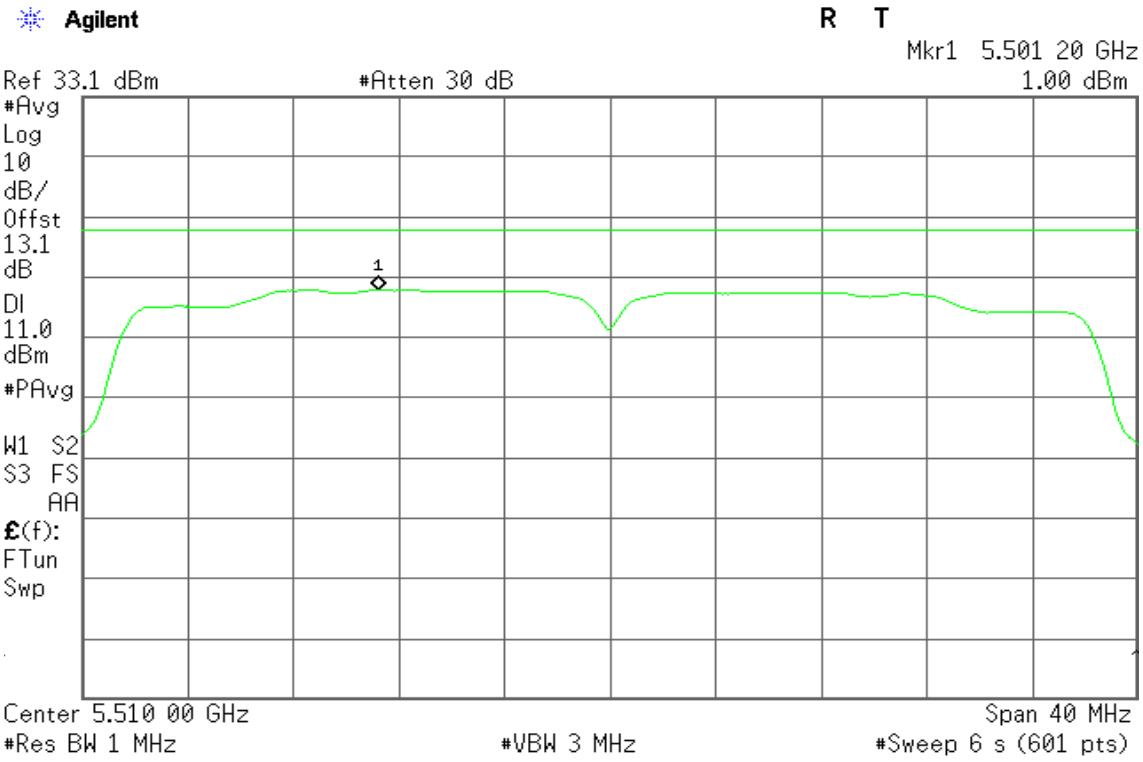


CH High

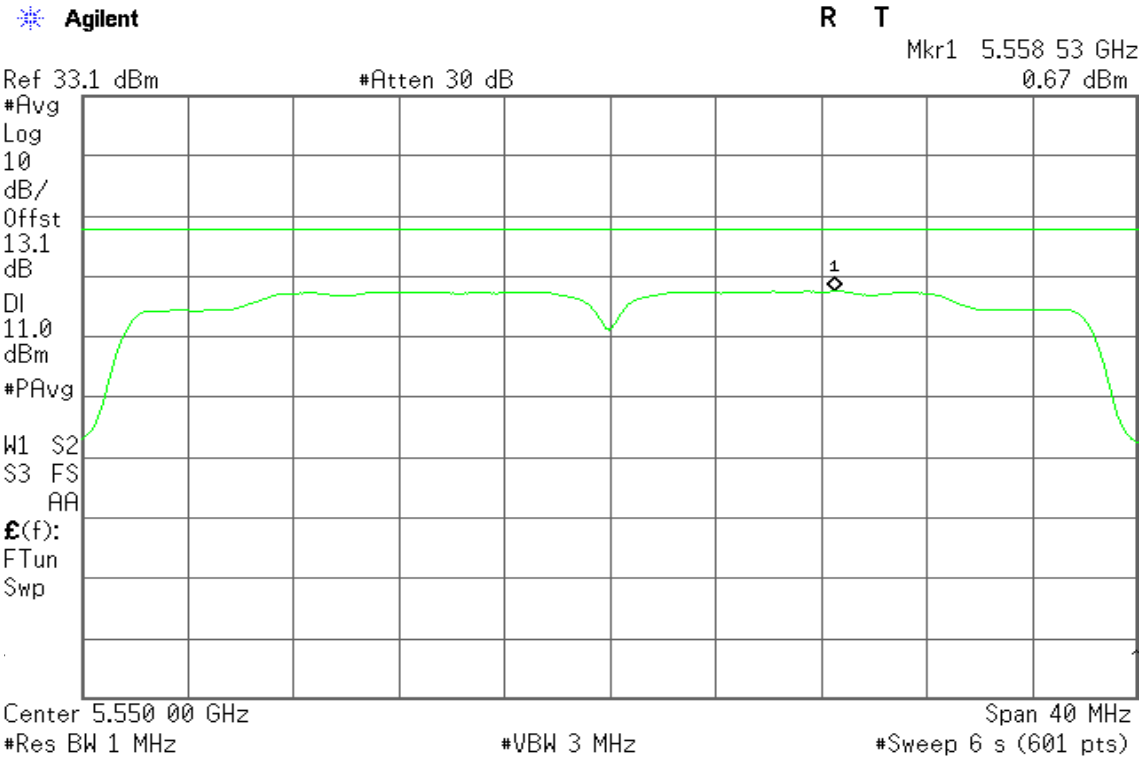


IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 0

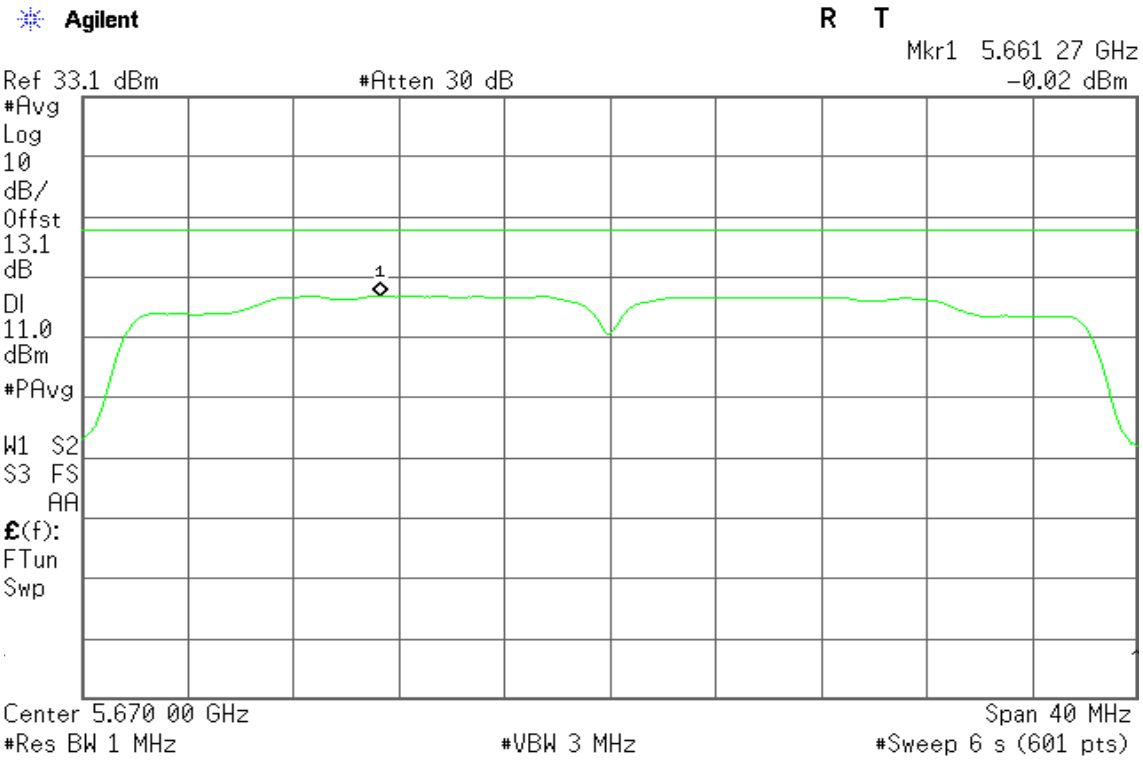
CH Low



CH Mid

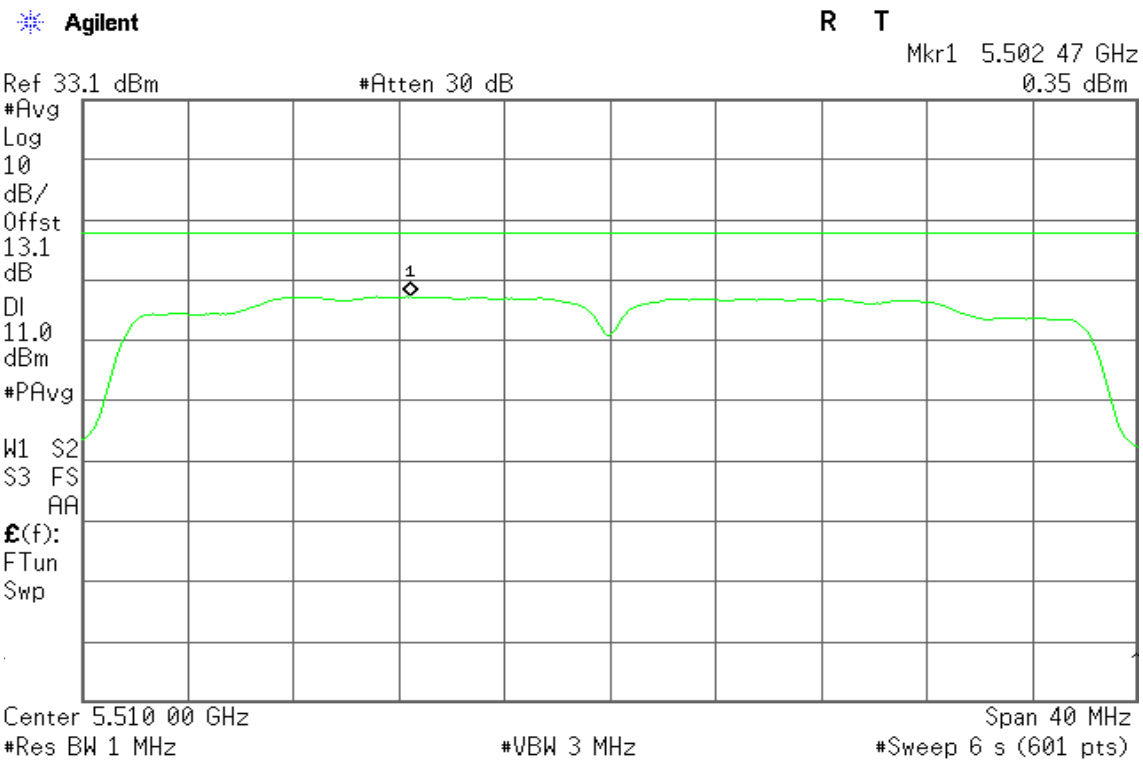


CH High

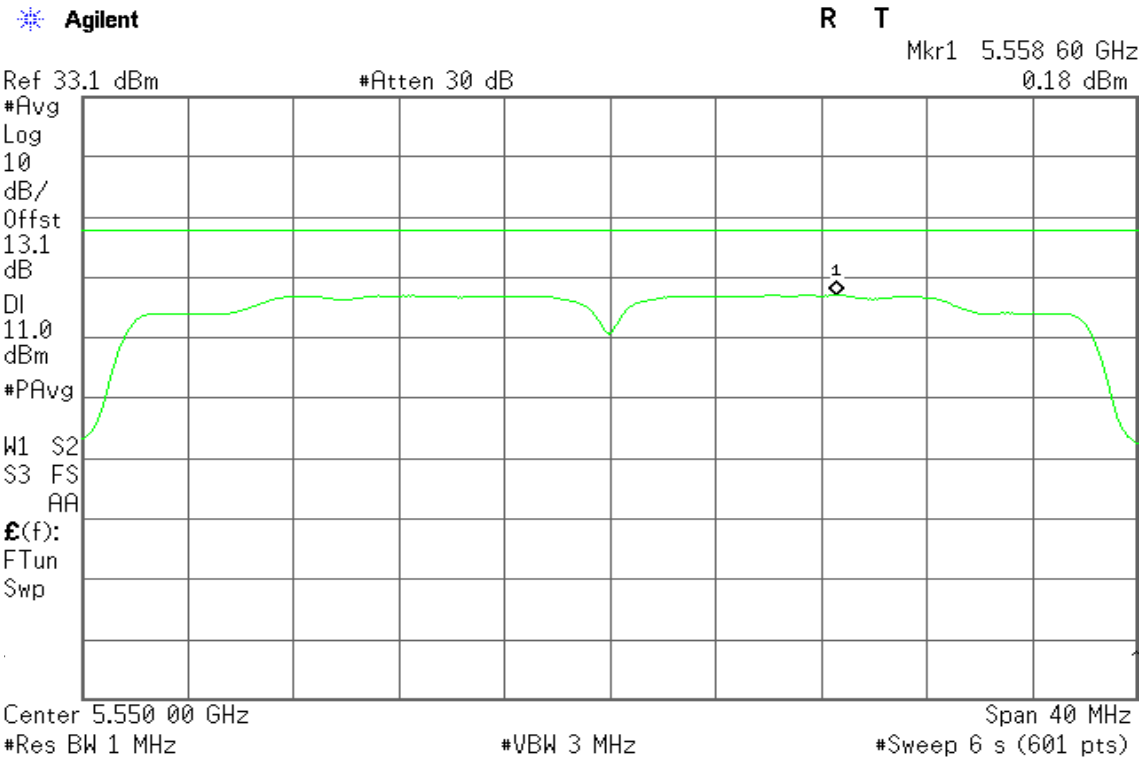


IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / Chain 1

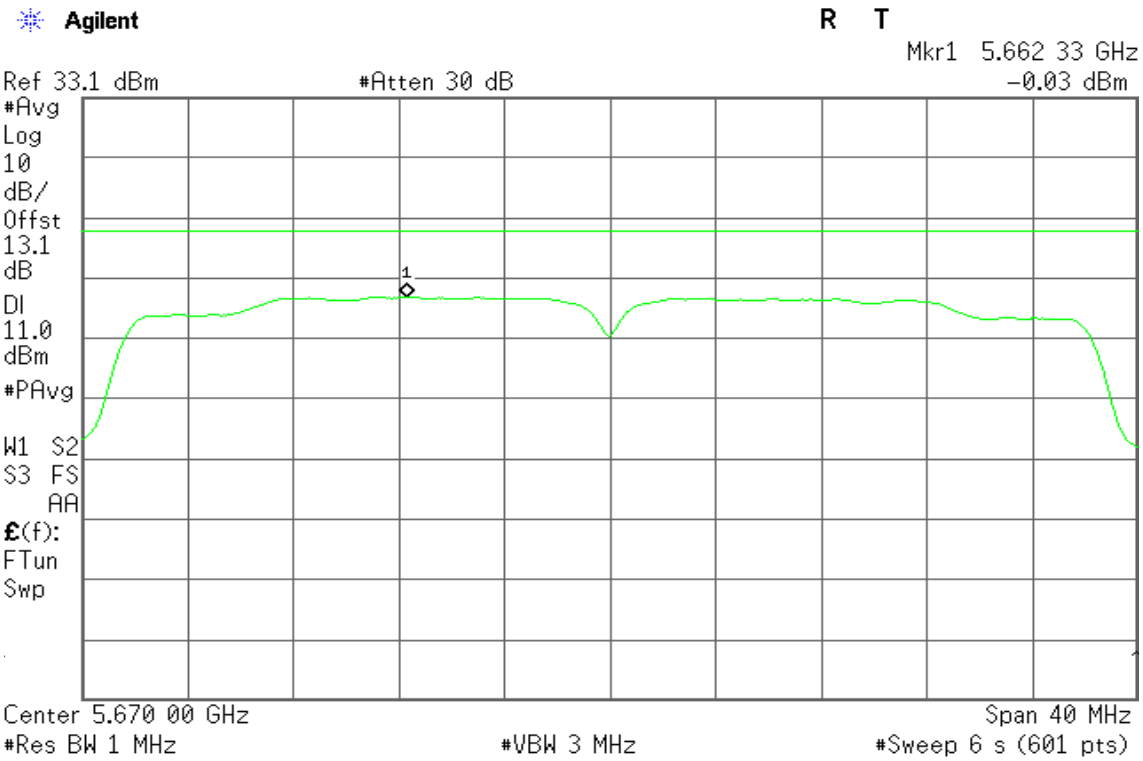
CH Low



CH Mid

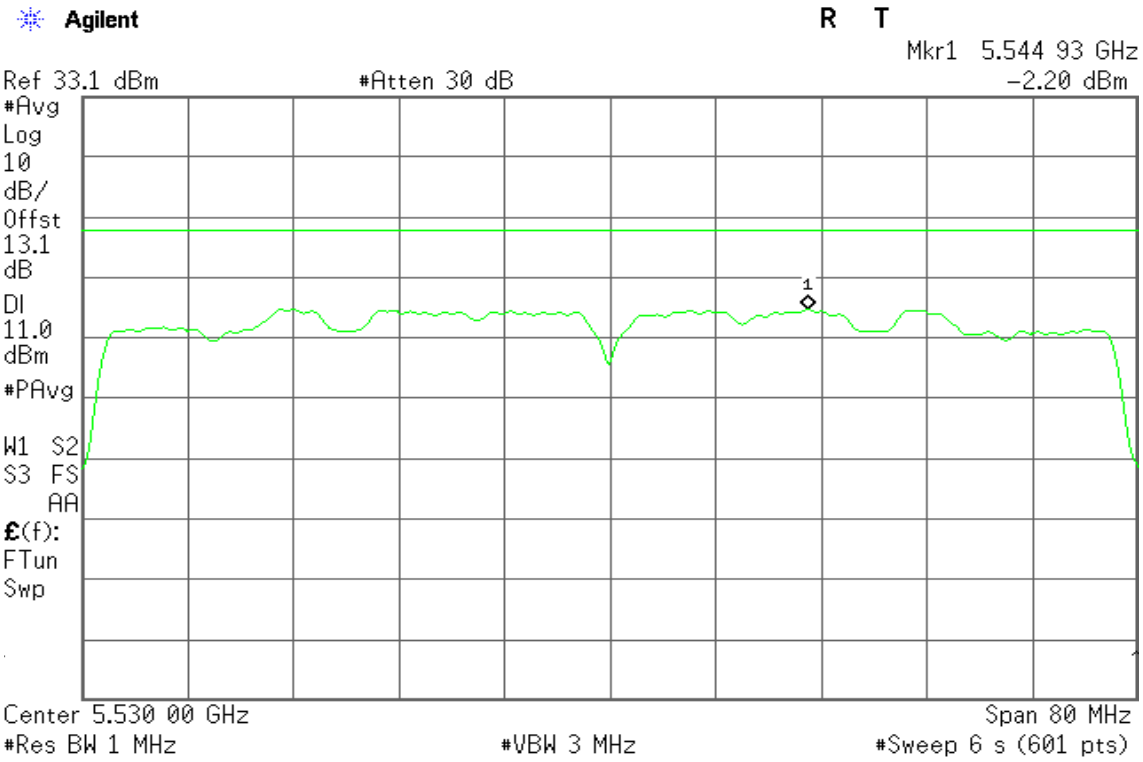


CH High

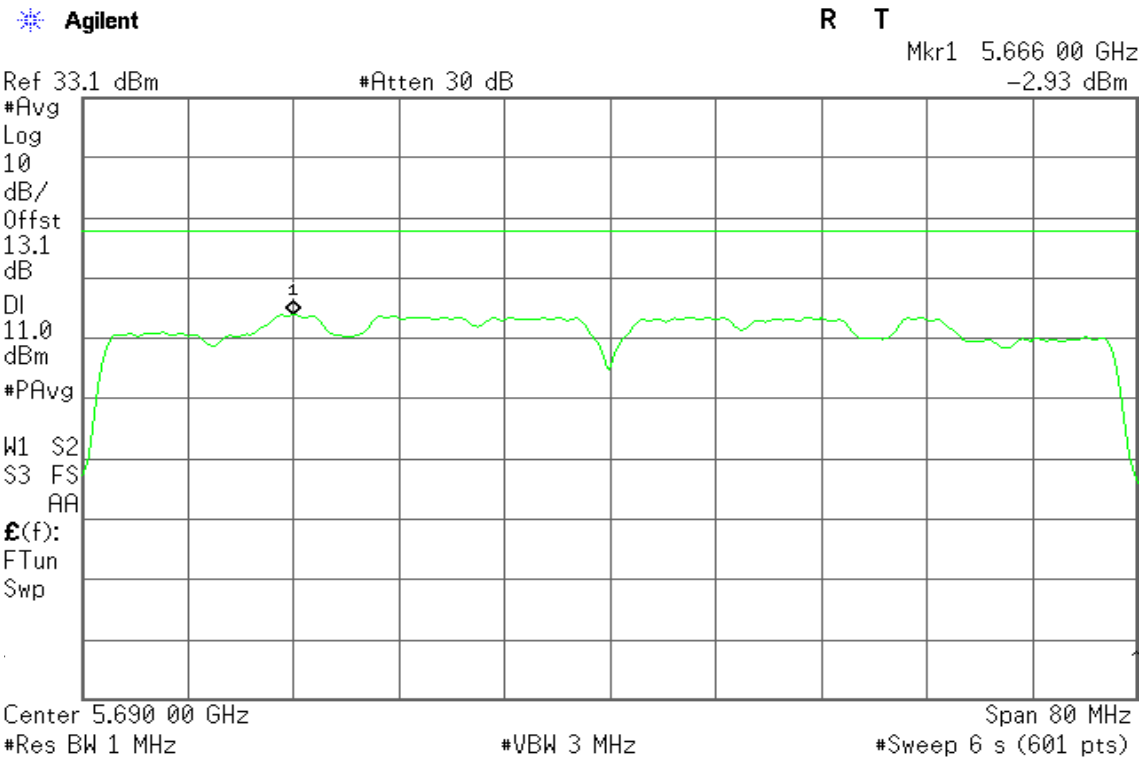


IEEE 802.11ac HT 80 MHz mode / 5530 ~ 5690MHz / Chain 0

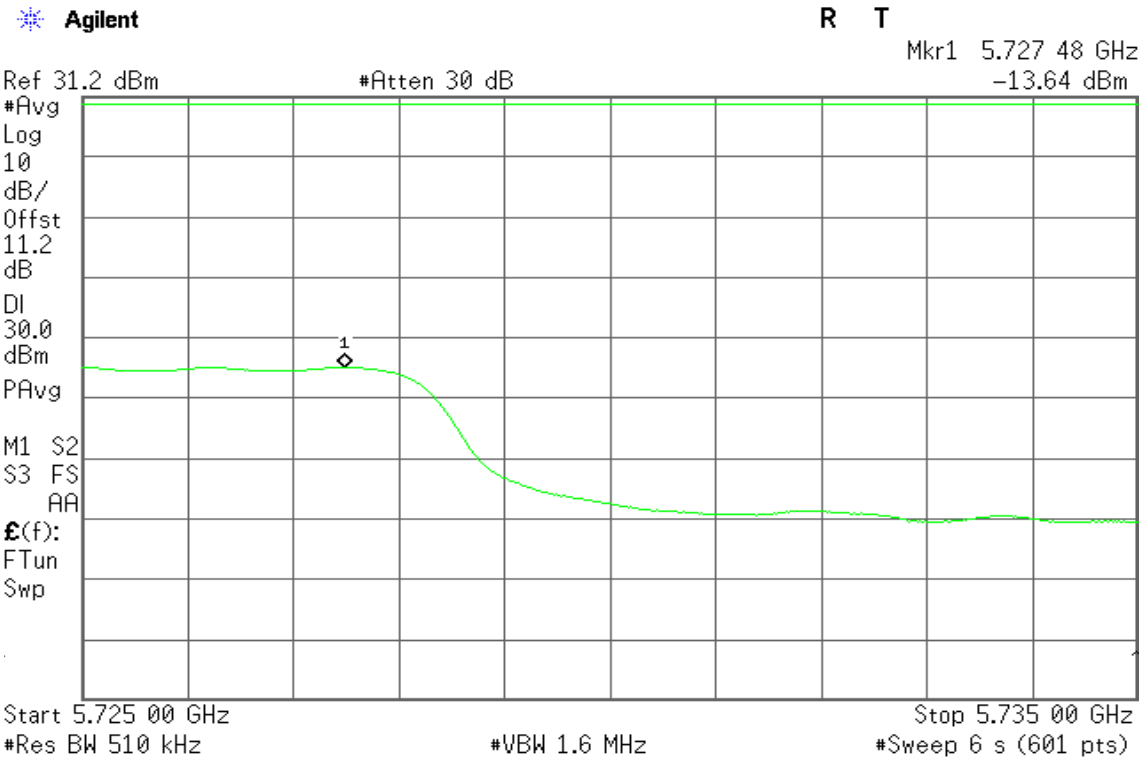
CH Low



CH High (Band III)

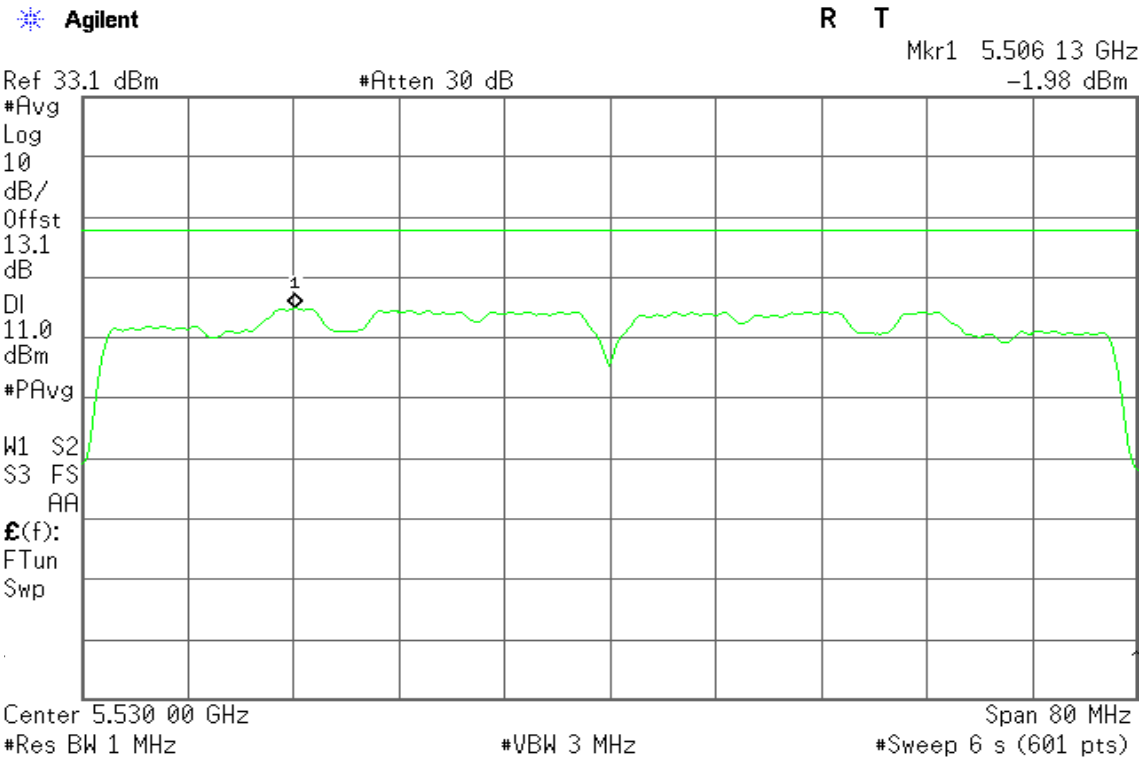


CH High (Band IV)

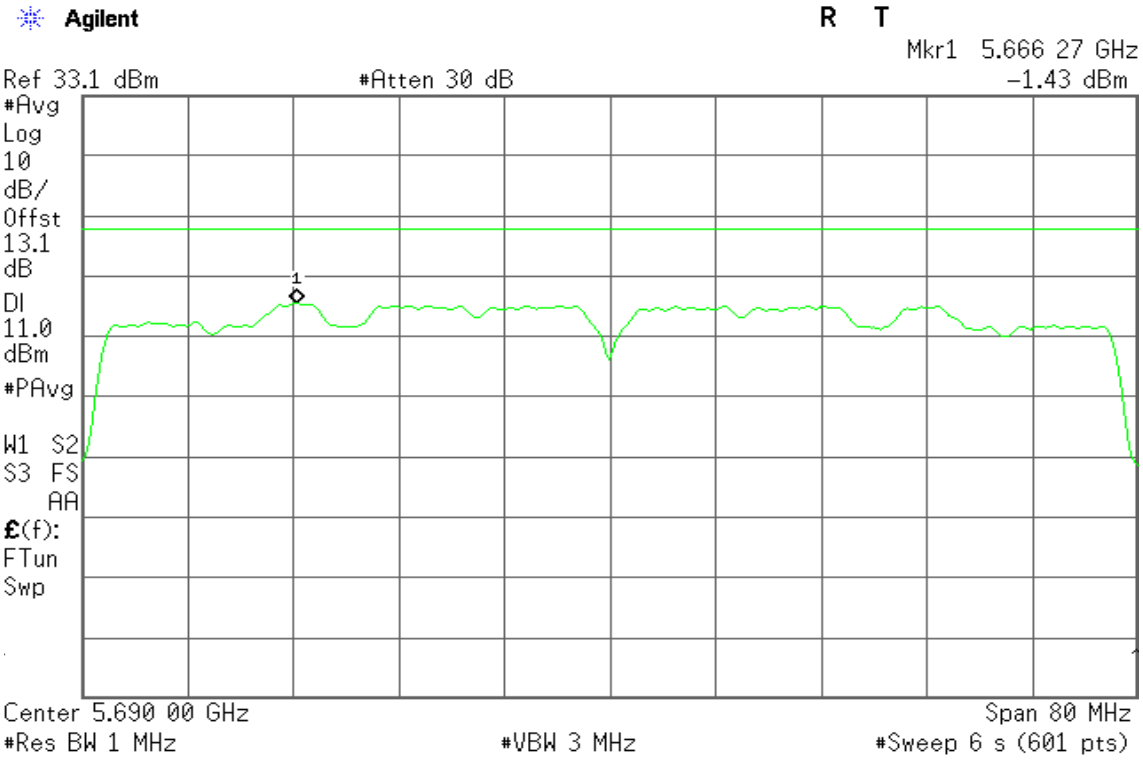


IEEE 802.11ac HT 80 MHz mode / 5530 ~ 5690MHz / Chain 1

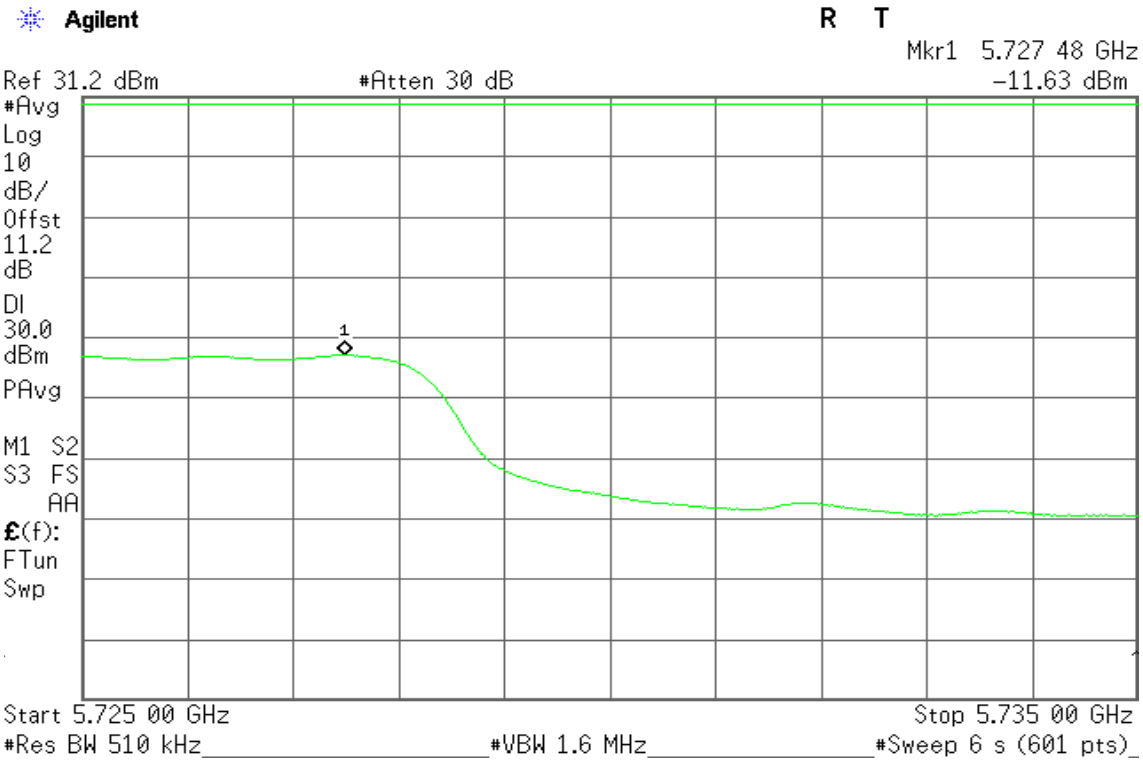
CH Low



CH High (Band III)



CH High (Band IV)



7.5RADIATED UNDESIRABLE EMISSION

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:

Frequency (MHz)	Field Strength (μV/m)	Measurement Distance (m)
30-88	100*	3
88-216	150*	3
216-960	200*	3
Above 960	500	3

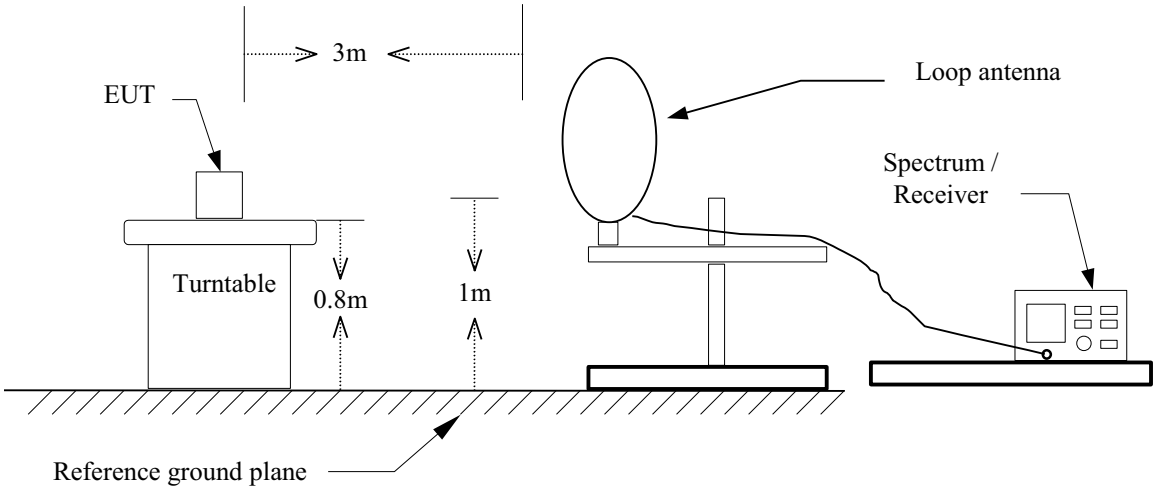
Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of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

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

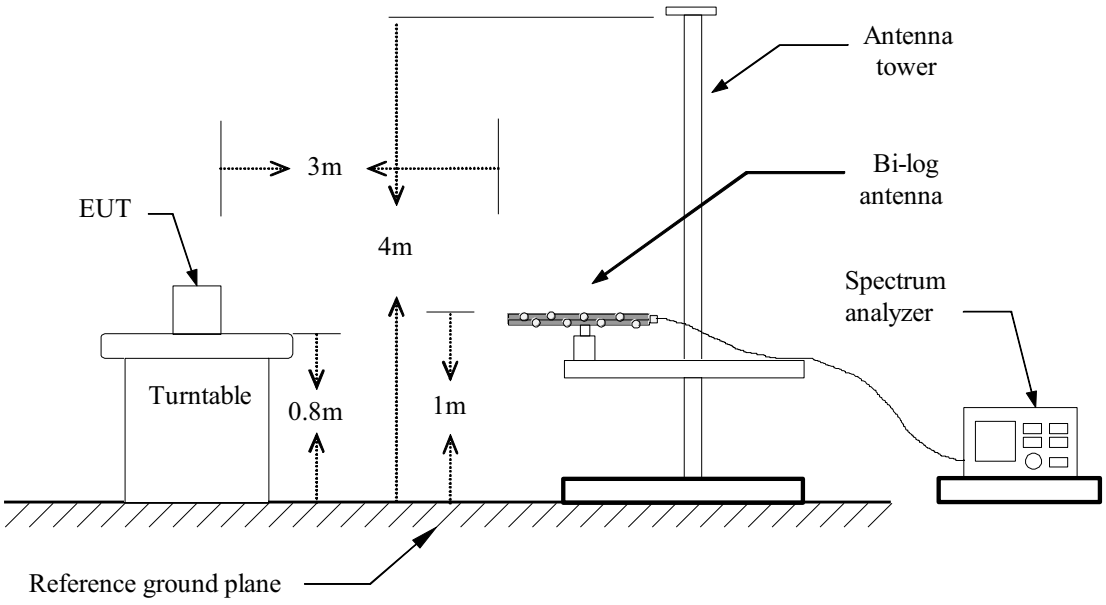
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

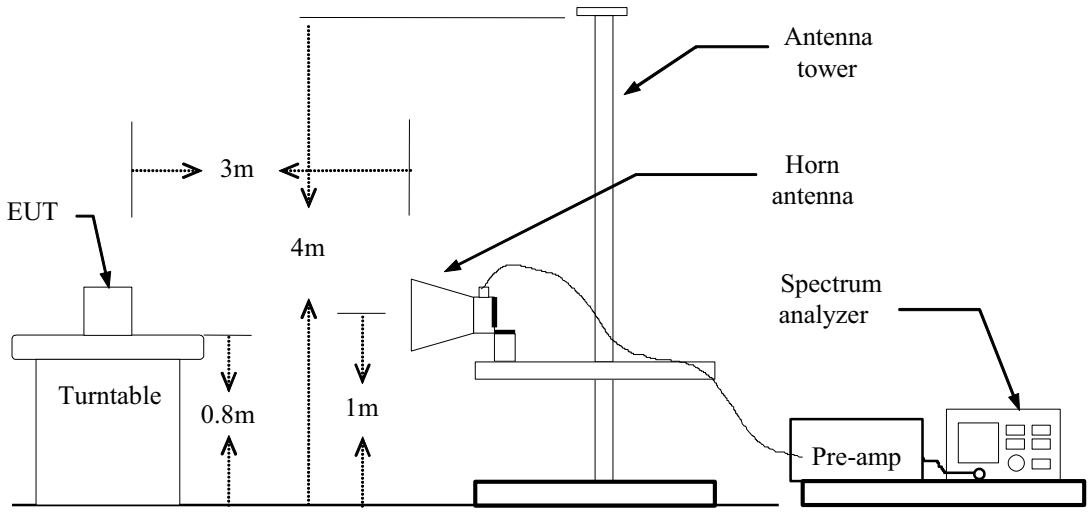
9kHz ~ 30MHz



30MHz ~ 1GHz



Above 1 GHz


Antenna
tower
3m
Horn
antenna
EUT
4m
Spectrum
analyzer
Turntable
0.8m
1m
Pre-amp

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=1MHz / VBW=3MHz / Sweep=AUTO
   (b) AVERAGE: RBW=1MHz,
   if duty cycle≧98%, VBW=10Hz.
   if duty cycle<98% VBW=1/T.
   IEEE 802.11b mode: ≧98%, VBW=10Hz
   IEEE 802.11g mode: ≧98%, VBW=10Hz
   IEEE 802.11n HT 20 MHz mode: ≧98%, VBW=10Hz
   IEEE 802.11n HT 40 MHz mode: 96%=VBW 2kHz

7. Repeat above procedures until the measurements for all frequencies are complete.

TEST RESULTS

Below 1 GHz

Operation Mode: Normal Link **Test Date:** February 13, 2015

Temperature: 24°C **Tested by:** Dennis Li

Humidity: 50% RH **Polarity:** Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
36.7900	47.36	-14.85	32.51	40.00	-7.49	Peak	V
76.5600	52.10	-22.90	29.20	40.00	-10.80	Peak	V
259.8900	33.28	-17.68	15.60	46.00	-30.40	Peak	V
449.0400	35.30	-12.69	22.61	46.00	-23.39	Peak	V
668.2600	30.21	-9.12	21.09	46.00	-24.91	Peak	V
852.5600	28.68	-6.75	21.93	46.00	-24.07	Peak	V
36.7900	45.81	-14.85	30.96	40.00	-9.04	Peak	H
76.5600	48.48	-22.90	25.58	40.00	-14.42	Peak	H
320.0300	42.28	-15.92	26.36	46.00	-19.64	Peak	H
533.4300	33.23	-11.28	21.95	46.00	-24.05	Peak	H
749.7400	29.90	-7.88	22.02	46.00	-23.98	Peak	H
893.3000	29.30	-6.24	23.06	46.00	-22.94	Peak	H

Remark:

1 *Measuring frequencies from 30 MHz to the 1GHz.*

2 *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*

3 *Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.*

4 *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.*

5 *Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).*

Above 1 GHz

Operation Mode:	Tx / IEEE 802.11a mode / 5180 ~ 5240MHz / CH Low	**Test Date:**	February 10, 2015
Temperature:	27°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	57.61	-7.03	50.58	74.00	-23.42	peak	V
N/A							
1399.000	56.84	-7.97	48.87	74.00	-25.13	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11a mode / 5180 ~ 5240MHz / CH Mid	**Test Date:**	February 10, 2015
Temperature:	25°C	**Tested by:**	Dennis Li
Humidity:	50% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1994.000	53.40	-4.91	48.49	74.00	-25.51	peak	V
N/A							
1392.000	57.96	-8.01	49.95	74.00	-24.05	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11a mode / 5180 ~ 5240MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	25°C	**Tested by:**	Dennis Li
Humidity:	50% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	58.49	-7.97	50.52	74.00	-23.48	peak	V
N/A							
1392.000	57.37	-8.01	49.36	74.00	-24.64	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz / CH Low	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	58.33	-7.97	50.36	74.00	-23.64	peak	V
N/A							
1595.000	55.83	-7.03	48.80	74.00	-25.20	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz / CH Mid	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	57.63	-7.97	49.66	74.00	-24.34	peak	V
N/A							
1392.000	58.85	-8.01	50.84	74.00	-23.16	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	57.56	-7.03	50.53	74.00	-23.47	peak	V
N/A							
2001.000	52.99	-4.88	48.11	74.00	-25.89	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / CH Low	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1196.000	58.30	-8.87	49.43	74.00	-24.57	peak	V
N/A							
1392.000	56.22	-8.01	48.21	74.00	-25.79	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
2596.000	50.90	-2.93	47.97	74.00	-26.03	peak	V
N/A							
1392.000	56.82	-8.01	48.81	74.00	-25.19	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode: Tx / IEEE 802.11n HT 80 MHz mode / 5210MHz / CH Mid
Test Date: February 11, 2015
Temperature: 23°C
Tested by: Dennis Li
Humidity: 53% RH
Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	56.50	-7.97	48.53	74.00	-25.47	peak	V
N/A							
1994.000	53.84	-4.91	48.93	74.00	-25.07	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11a mode / 5260 ~ 5320MHz / CH Low	**Test Date:**	February 10, 2015
Temperature:	25°C	**Tested by:**	Dennis Li
Humidity:	50% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1392.000	58.99	-8.01	50.98	74.00	-23.02	peak	V
N/A							
1399.000	58.75	-7.97	50.78	74.00	-23.22	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11a mode / 5260 ~ 5320MHz / CH Mid	**Test Date:**	February 11, 2015
Temperature:	25°C	**Tested by:**	Dennis Li
Humidity:	50% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	57.30	-7.97	49.33	74.00	-24.67	peak	V
N/A							
1399.000	57.19	-7.97	49.22	74.00	-24.78	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11a mode / 5260 ~ 5320MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	25°C	**Tested by:**	Dennis Li
Humidity:	50% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1945.000	54.66	-5.17	49.49	74.00	-24.51	peak	V
N/A							
1595.000	56.49	-7.03	49.46	74.00	-24.54	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz / CH Low	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	56.83	-7.97	48.86	74.00	-25.14	peak	V
N/A							
1399.000	57.44	-7.97	49.47	74.00	-24.53	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz / CH Mid	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	58.99	-7.97	51.02	74.00	-22.98	peak	V
N/A							
1399.000	57.53	-7.97	49.56	74.00	-24.44	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1602.000	56.87	-6.99	49.88	74.00	-24.12	peak	V
N/A							
1392.000	57.99	-8.01	49.98	74.00	-24.02	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / CH Low	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	56.39	-7.97	48.42	74.00	-25.58	peak	V
N/A							
1399.000	58.28	-7.97	50.31	74.00	-23.69	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1602.000	56.82	-6.99	49.83	74.00	-24.17	peak	V
N/A							
1399.000	56.92	-7.97	48.95	74.00	-25.05	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode: Tx / IEEE 802.11n HT 80 MHz mode / 5290 MHz / CH High
Test Date: February 11, 2015
Temperature: 23°C
Tested by: Dennis Li
Humidity: 53% RH
Polarity: Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	56.27	-7.03	49.24	74.00	-24.76	peak	V
N/A							
1273.000	58.90	-8.53	50.37	74.00	-23.63	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11a mode / 5500 ~ 5700MHz / CH Low	**Test Date:**	February 11, 2015
Temperature:	25°C	**Tested by:**	Dennis Li
Humidity:	50% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	57.16	-7.03	50.13	74.00	-23.87	peak	V
N/A							
1399.000	57.84	-7.97	49.87	74.00	-24.13	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11a mode / 5500 ~ 5700MHz /CH Mid	**Test Date:**	February 11, 2015
Temperature:	25°C	**Tested by:**	Dennis Li
Humidity:	50% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	59.96	-7.97	51.99	74.00	-22.01	peak	V
N/A							
1595.000	57.76	-7.03	50.73	74.00	-23.27	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11a mode / 5500 ~ 5700MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	25°C	**Tested by:**	Dennis Li
Humidity:	50% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	59.00	-7.03	51.97	74.00	-22.03	peak	V
N/A							
1392.000	58.85	-8.01	50.84	74.00	-23.16	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz / CH Low	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	58.17	-7.03	51.14	74.00	-22.86	peak	V
N/A							
1595.000	56.72	-7.03	49.69	74.00	-24.31	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz / CH Mid	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1392.000	57.21	-8.01	49.20	74.00	-24.80	peak	V
N/A							
1399.000	57.55	-7.97	49.58	74.00	-24.42	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1952.000	56.44	-5.13	51.31	74.00	-22.69	peak	V
N/A							
1399.000	59.13	-7.97	51.16	74.00	-22.84	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / CH Low	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1392.000	58.12	-8.01	50.11	74.00	-23.89	peak	V
N/A							
1399.000	54.73	-7.97	46.76	74.00	-27.24	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / CH Mid	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1196.000	57.39	-8.87	48.52	74.00	-25.48	peak	V
N/A							
1399.000	56.28	-7.97	48.31	74.00	-25.69	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1595.000	57.45	-7.03	50.42	74.00	-23.58	peak	V
N/A							
1392.000	57.84	-8.01	49.83	74.00	-24.17	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 80 MHz mode / 5530 ~ 5690MHz / CH Low	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1392.000	57.28	-8.01	49.27	74.00	-24.73	peak	V
N/A							
1399.000	57.73	-7.97	49.76	74.00	-24.24	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

Operation Mode:	Tx / IEEE 802.11n HT 80 MHz mode / 5530 ~ 5690MHz / CH High	**Test Date:**	February 11, 2015
Temperature:	23°C	**Tested by:**	Dennis Li
Humidity:	53% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Reading (dBuV)	Correction (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Ant.Pol. (H/V)
1399.000	57.28	-7.97	49.31	74.00	-24.69	peak	V
N/A							
1399.000	58.11	-7.97	50.14	74.00	-23.86	peak	H
N/A							

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *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.*
6. *Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).*

7.6POWERLINE 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 II 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

Operation Mode:	Normal Link	**Test Date:**	February 14, 2015
Temperature:	24°C	**Tested by:**	Ken Tsai
Humidity:	50% RH		

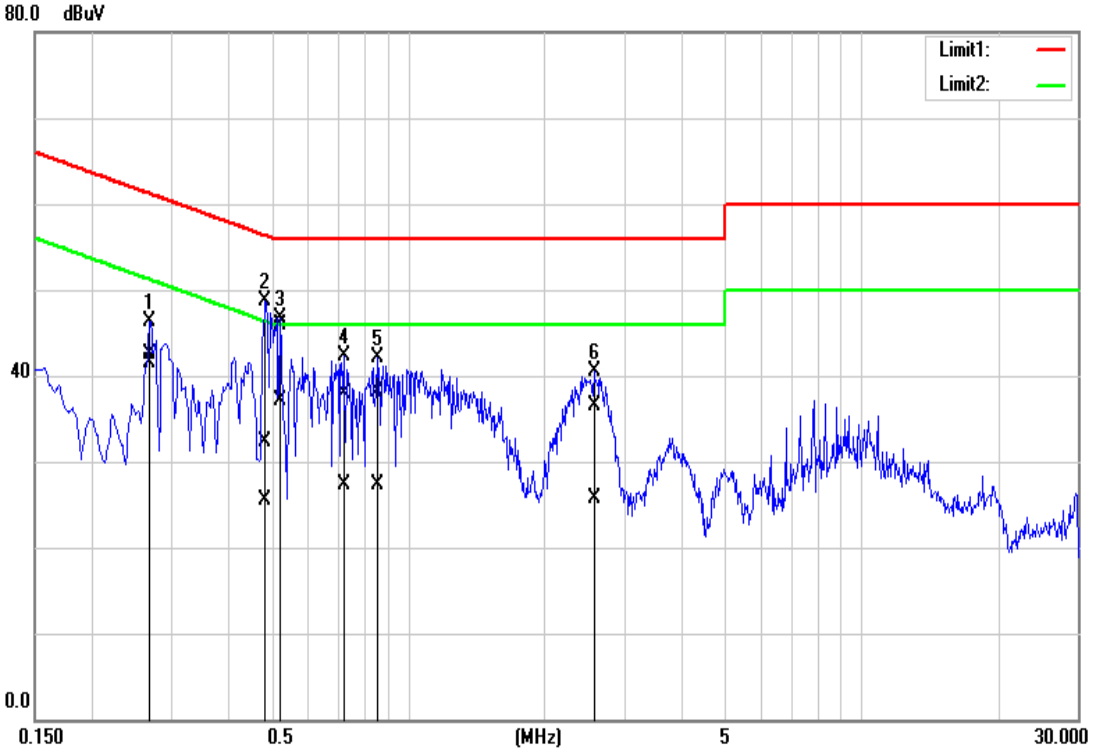
Freq. (MHz)	QP Reading (dBuV)	AV Reading (dBuV)	Corr. factor (dB)	QP Result (dBuV)	AV Result (dBuV)	QP Limit (dBuV)	AV Limit (dBuV)	QP Margin (dB)	AV Margin (dB)	Note
0.2678	33.00	31.98	9.58	42.58	41.56	61.18	51.19	-18.60	-9.63	L1
0.4876	22.71	16.02	9.58	32.29	25.60	56.21	46.21	-23.92	-20.61	L1
0.5197	36.26	27.46	9.58	45.84	37.04	56.00	46.00	-10.16	-8.96	L1
0.7229	28.38	17.64	9.59	37.97	27.23	56.00	46.00	-18.03	-18.77	L1
0.8562	28.61	17.66	9.59	38.20	27.25	56.00	46.00	-17.80	-18.75	L1
2.5752	26.91	16.17	9.60	36.51	25.77	56.00	46.00	-19.49	-20.23	L1
0.2679	32.58	31.73	9.63	42.21	41.36	61.18	51.18	-18.97	-9.82	L2
0.5039	28.72	19.06	9.63	38.35	28.69	56.00	46.00	-17.65	-17.31	L2
0.5917	26.90	17.19	9.63	36.53	26.82	56.00	46.00	-19.47	-19.18	L2
0.7316	22.93	13.73	9.64	32.57	23.37	56.00	46.00	-23.43	-22.63	L2
1.4299	18.52	11.75	9.64	28.16	21.39	56.00	46.00	-27.84	-24.61	L2
2.5111	20.16	12.60	9.65	29.81	22.25	56.00	46.00	-26.19	-23.75	L2

Remark:

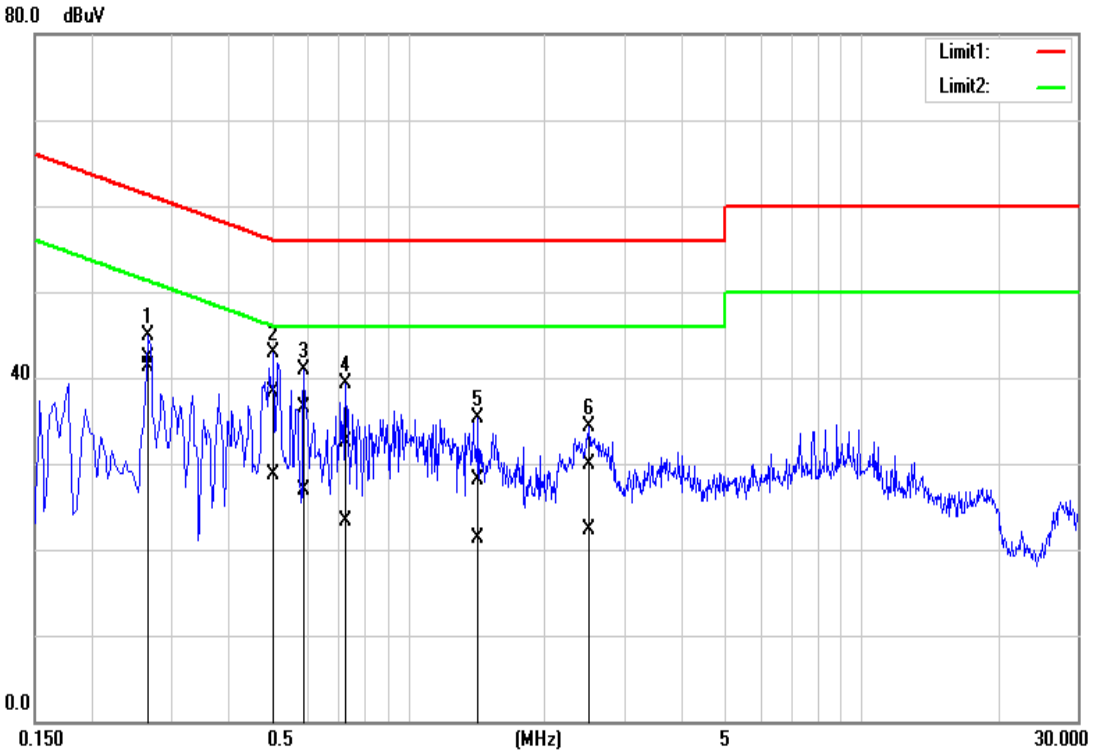
1. *Measuring frequencies from 0.15 MHz to 30MHz.*
2. *The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Quasi-peak detector and average detector.*
3. *The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;*
4. *L1 = Line One (Live Line) / L2 = Line Two (Neutral Line)*

Test Plots

Conducted emissions (Line 1)



Conducted emissions (Line 2)

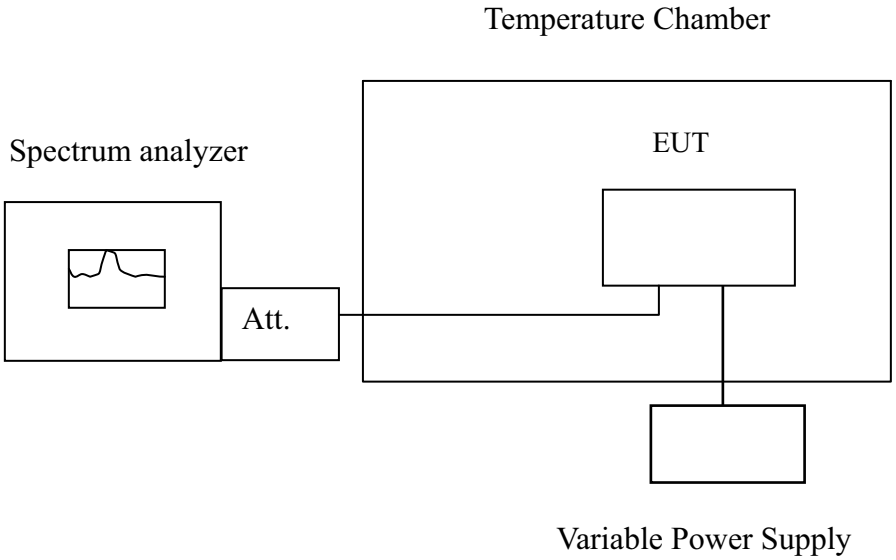


7.7FREQUENCY STABILITY

LIMIT

According to §15.407(g), manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the operational description.

Test Configuration



Remark: *Measurement setup for testing on Antenna connector*

TEST PROCEDURE

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

TEST RESULTS

No non-compliance noted.

IEEE 802.11a mode / 5180 ~ 5240 MHz:

CH Low

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5179.998747	5150~5250	Pass
40	110	5179.992331	5150~5250	Pass
30	110	5179.991543	5150~5250	Pass
20	110	5179.995335	5150~5250	Pass
10	110	5180.006687	5150~5250	Pass
0	110	5180.000781	5150~5250	Pass
-10	110	5180.001266	5150~5250	Pass
-20	110	5180.005054	5150~5250	Pass

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5179.992904	5150~5250	Pass
	110	5179.997442	5150~5250	Pass
	126.5	5180.004323	5150~5250	Pass

CH Mid

Operating Frequency: 5220 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5219.999754	5150~5250	Pass
40	110	5219.999278	5150~5250	Pass
30	110	5220.009793	5150~5250	Pass
20	110	5220.006992	5150~5250	Pass
10	110	5220.007698	5150~5250	Pass
0	110	5220.003622	5150~5250	Pass
-10	110	5219.997850	5150~5250	Pass
-20	110	5220.005751	5150~5250	Pass

Operating Frequency: 5220 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5219.990273	5150~5250	Pass
	110	5219.998074	5150~5250	Pass
	126.5	5219.997065	5150~5250	Pass

CH High

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5240.002741	5150~5250	Pass
40	110	5239.999518	5150~5250	Pass
30	110	5239.998896	5150~5250	Pass
20	110	5240.002327	5150~5250	Pass
10	110	5239.998743	5150~5250	Pass
0	110	5239.996501	5150~5250	Pass
-10	110	5239.992989	5150~5250	Pass
-20	110	5239.991293	5150~5250	Pass

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5240.003367	5150~5250	Pass
	110	5239.993771	5150~5250	Pass
	126.5	5239.990403	5150~5250	Pass

IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240 MHz / Chain 0

CH Low

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5179.997052	5150~5250	Pass
40	110	5180.010956	5150~5250	Pass
30	110	5179.997938	5150~5250	Pass
20	110	5180.008861	5150~5250	Pass
10	110	5179.993905	5150~5250	Pass
0	110	5180.000135	5150~5250	Pass
-10	110	5179.995640	5150~5250	Pass
-20	110	5179.990061	5150~5250	Pass

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5179.998919	5150~5250	Pass
	110	5179.996581	5150~5250	Pass
	126.5	5180.007097	5150~5250	Pass

CH Mid

Operating Frequency: 5220 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5219.997657	5150~5250	Pass
40	110	5220.008103	5150~5250	Pass
30	110	5220.007036	5150~5250	Pass
20	110	5219.993834	5150~5250	Pass
10	110	5220.005733	5150~5250	Pass
0	110	5219.993548	5150~5250	Pass
-10	110	5220.006364	5150~5250	Pass
-20	110	5220.003178	5150~5250	Pass

Operating Frequency: 5220 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5220.009683	5150~5250	Pass
	110	5220.009922	5150~5250	Pass
	126.5	5220.006085	5150~5250	Pass

CH High

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5239.992207	5150~5250	Pass
40	110	5240.002808	5150~5250	Pass
30	110	5240.007746	5150~5250	Pass
20	110	5240.003284	5150~5250	Pass
10	110	5240.000961	5150~5250	Pass
0	110	5240.000870	5150~5250	Pass
-10	110	5240.009078	5150~5250	Pass
-20	110	5239.990614	5150~5250	Pass

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5240.002624	5150~5250	Pass
	110	5240.001583	5150~5250	Pass
	126.5	5239.996657	5150~5250	Pass

IEEE 802.11n HT 20 MHz Channel mode / 5180 ~ 5240 MHz / Chain 1

CH Low

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5179.995507	5150~5250	Pass
40	110	5179.990888	5150~5250	Pass
30	110	5179.995138	5150~5250	Pass
20	110	5179.998159	5150~5250	Pass
10	110	5179.995962	5150~5250	Pass
0	110	5180.002627	5150~5250	Pass
-10	110	5180.001502	5150~5250	Pass
-20	110	5179.996233	5150~5250	Pass

Operating Frequency: 5180 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5179.99129	5150~5250	Pass
	110	5180.004176	5150~5250	Pass
	126.5	5179.998922	5150~5250	Pass

CH Mid

Operating Frequency: 5220 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5220.010698	5150~5250	Pass
40	110	5220.009439	5150~5250	Pass
30	110	5220.003405	5150~5250	Pass
20	110	5220.004518	5150~5250	Pass
10	110	5219.995522	5150~5250	Pass
0	110	5219.993075	5150~5250	Pass
-10	110	5220.009861	5150~5250	Pass
-20	110	5219.996820	5150~5250	Pass

Operating Frequency: 5220 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5220.007667	5150~5250	Pass
	110	5220.010545	5150~5250	Pass
	126.5	5220.001623	5150~5250	Pass

CH High

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5239.992986	5150~5250	Pass
40	110	5239.997078	5150~5250	Pass
30	110	5240.007458	5150~5250	Pass
20	110	5240.001409	5150~5250	Pass
10	110	5239.994459	5150~5250	Pass
0	110	5240.001034	5150~5250	Pass
-10	110	5239.994521	5150~5250	Pass
-20	110	5240.010980	5150~5250	Pass

Operating Frequency: 5240 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5240.000635	5150~5250	Pass
	110	5240.005353	5150~5250	Pass
	126.5	5240.006514	5150~5250	Pass

IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230 MHz / Chain 0

CH Low

Operating Frequency: 5190 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5189.999287	5150~5250	Pass
40	110	5189.993082	5150~5250	Pass
30	110	5190.001658	5150~5250	Pass
20	110	5189.995463	5150~5250	Pass
10	110	5189.999961	5150~5250	Pass
0	110	5189.991510	5150~5250	Pass
-10	110	5189.997998	5150~5250	Pass
-20	110	5189.997166	5150~5250	Pass

Operating Frequency: 5190 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5190.002695	5150~5250	Pass
	110	5190.002371	5150~5250	Pass
	126.5	5190.000461	5150~5250	Pass

CH High

Operating Frequency: 5230 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5229.995382	5150~5250	Pass
40	110	5229.997647	5150~5250	Pass
30	110	5229.998744	5150~5250	Pass
20	110	5229.996519	5150~5250	Pass
10	110	5230.004142	5150~5250	Pass
0	110	5230.001434	5150~5250	Pass
-10	110	5230.010862	5150~5250	Pass
-20	110	5229.996809	5150~5250	Pass

Operating Frequency: 5230 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5230.008294	5150~5250	Pass
	110	5230.003975	5150~5250	Pass
	126.5	5230.003955	5150~5250	Pass

IEEE 802.11n HT 40 MHz mode / 5190 ~ 5230 MHz / Chain 1

CH Low

Operating Frequency: 5190 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5189.993742	5150~5250	Pass
40	110	5189.991392	5150~5250	Pass
30	110	5190.007769	5150~5250	Pass
20	110	5189.993298	5150~5250	Pass
10	110	5190.010917	5150~5250	Pass
0	110	5189.996132	5150~5250	Pass
-10	110	5190.003406	5150~5250	Pass
-20	110	5190.008117	5150~5250	Pass

Operating Frequency: 5190 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5189.993896	5150~5250	Pass
	110	5189.996915	5150~5250	Pass
	126.5	5190.000109	5150~5250	Pass

CH High

Operating Frequency: 5230 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5230.010904	5150~5250	Pass
40	110	5229.993814	5150~5250	Pass
30	110	5230.006974	5150~5250	Pass
20	110	5229.997399	5150~5250	Pass
10	110	5229.992858	5150~5250	Pass
0	110	5230.004014	5150~5250	Pass
-10	110	5230.004101	5150~5250	Pass
-20	110	5229.996328	5150~5250	Pass

Operating Frequency: 5230 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5230.006097	5150~5250	Pass
	110	5229.999446	5150~5250	Pass
	126.5	5230.004489	5150~5250	Pass

IEEE 802.11n HT 80 MHz mode / 5210 MHz / Chain 0

CH Mid

Operating Frequency: 5210 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5210.000364	5150~5250	Pass
40	110	5209.990277	5150~5250	Pass
30	110	5210.010557	5150~5250	Pass
20	110	5210.006386	5150~5250	Pass
10	110	5209.998668	5150~5250	Pass
0	110	5209.995287	5150~5250	Pass
-10	110	5209.993152	5150~5250	Pass
-20	110	5209.992831	5150~5250	Pass

Operating Frequency: 5210 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5209.99882	5150~5250	Pass
	110	5209.991976	5150~5250	Pass
	126.5	5210.001682	5150~5250	Pass

IEEE 802.11n HT 80 MHz mode / 5210 MHz / Chain 1

Operating Frequency: 5210 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5210.003018	5150~5250	Pass
40	110	5209.994883	5150~5250	Pass
30	110	5210.008781	5150~5250	Pass
20	110	5210.004433	5150~5250	Pass
10	110	5209.993011	5150~5250	Pass
0	110	5210.010458	5150~5250	Pass
-10	110	5209.998305	5150~5250	Pass
-20	110	5210.007247	5150~5250	Pass

Operating Frequency: 5210 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5209.99198	5150~5250	Pass
	110	5209.998074	5150~5250	Pass
	126.5	5209.993276	5150~5250	Pass

IEEE 802.11a mode / 5260 ~ 5320 MHz:

CH Low

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5260.009996	5250~5350	Pass
40	110	5260.002509	5250~5350	Pass
30	110	5260.008231	5250~5350	Pass
20	110	5259.997100	5250~5350	Pass
10	110	5259.993493	5250~5350	Pass
0	110	5259.998270	5250~5350	Pass
-10	110	5259.990616	5250~5350	Pass
-20	110	5259.990772	5250~5350	Pass

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5259.993903	5250~5350	Pass
	110	5259.998192	5250~5350	Pass
	126.5	5260.00997	5250~5350	Pass

CH Mid

Operating Frequency: 5280 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5280.009467	5250~5350	Pass
40	110	5279.991690	5250~5350	Pass
30	110	5280.003531	5250~5350	Pass
20	110	5279.991796	5250~5350	Pass
10	110	5280.008570	5250~5350	Pass
0	110	5280.001794	5250~5350	Pass
-10	110	5279.991523	5250~5350	Pass
-20	110	5280.009907	5250~5350	Pass

Operating Frequency: 5280 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5280.001372	5250~5350	Pass
	110	5279.990919	5250~5350	Pass
	126.5	5279.999257	5250~5350	Pass

CH High

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5320.005396	5250~5350	Pass
40	110	5320.001360	5250~5350	Pass
30	110	5320.006892	5250~5350	Pass
20	110	5320.005983	5250~5350	Pass
10	110	5320.005120	5250~5350	Pass
0	110	5320.006148	5250~5350	Pass
-10	110	5320.002410	5250~5350	Pass
-20	110	5319.995069	5250~5350	Pass

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5320.003718	5250~5350	Pass
	110	5319.993775	5250~5350	Pass
	126.5	5319.998237	5250~5350	Pass

IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320 MHz / Chain 0

CH Low

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5259.996210	5250~5350	Pass
40	110	5259.994880	5250~5350	Pass
30	110	5259.998932	5250~5350	Pass
20	110	5260.000710	5250~5350	Pass
10	110	5260.000838	5250~5350	Pass
0	110	5260.006533	5250~5350	Pass
-10	110	5260.001126	5250~5350	Pass
-20	110	5260.000684	5250~5350	Pass

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5259.994324	5250~5350	Pass
	110	5260.003269	5250~5350	Pass
	126.5	5260.001335	5250~5350	Pass

CH Mid

Operating Frequency: 5280 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5279.990479	5250~5350	Pass
40	110	5279.997022	5250~5350	Pass
30	110	5280.009151	5250~5350	Pass
20	110	5280.003416	5250~5350	Pass
10	110	5280.003354	5250~5350	Pass
0	110	5280.007121	5250~5350	Pass
-10	110	5280.008569	5250~5350	Pass
-20	110	5280.004317	5250~5350	Pass

Operating Frequency: 5280 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5280.007807	5250~5350	Pass
	110	5279.994535	5250~5350	Pass
	126.5	5279.998749	5250~5350	Pass

CH High

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5320.009641	5250~5350	Pass
40	110	5320.008797	5250~5350	Pass
30	110	5319.991722	5250~5350	Pass
20	110	5320.010530	5250~5350	Pass
10	110	5320.006416	5250~5350	Pass
0	110	5319.996784	5250~5350	Pass
-10	110	5320.010280	5250~5350	Pass
-20	110	5320.005480	5250~5350	Pass

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5319.997377	5250~5350	Pass
	110	5319.998438	5250~5350	Pass
	126.5	5320.000585	5250~5350	Pass

IEEE 802.11n HT 20 MHz Channel mode / 5260 ~ 5320 MHz / Chain 1

CH Low

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5259.997297	5250~5350	Pass
40	110	5259.995224	5250~5350	Pass
30	110	5260.008191	5250~5350	Pass
20	110	5259.991691	5250~5350	Pass
10	110	5260.003345	5250~5350	Pass
0	110	5260.003812	5250~5350	Pass
-10	110	5259.993049	5250~5350	Pass
-20	110	5259.994696	5250~5350	Pass

Operating Frequency: 5260 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5259.995213	5250~5350	Pass
	110	5259.993976	5250~5350	Pass
	126.5	5260.005912	5250~5350	Pass

CH Mid

Operating Frequency: 5280 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5280.000865	5250~5350	Pass
40	110	5279.999872	5250~5350	Pass
30	110	5280.010974	5250~5350	Pass
20	110	5280.006349	5250~5350	Pass
10	110	5279.990554	5250~5350	Pass
0	110	5280.005068	5250~5350	Pass
-10	110	5279.997224	5250~5350	Pass
-20	110	5280.010760	5250~5350	Pass

Operating Frequency: 5280 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5279.999421	5250~5350	Pass
	110	5279.998426	5250~5350	Pass
	126.5	5280.004208	5250~5350	Pass

CH High

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5320.003372	5250~5350	Pass
40	110	5320.003628	5250~5350	Pass
30	110	5319.995080	5250~5350	Pass
20	110	5319.994623	5250~5350	Pass
10	110	5319.996677	5250~5350	Pass
0	110	5319.994880	5250~5350	Pass
-10	110	5319.990231	5250~5350	Pass
-20	110	5319.997853	5250~5350	Pass

Operating Frequency: 5320 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5320.002043	5250~5350	Pass
	110	5320.002098	5250~5350	Pass
	126.5	5319.992602	5250~5350	Pass

IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310 MHz / Chain 0

CH Low

Operating Frequency: 5270 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5269.993931	5250~5350	Pass
40	110	5270.002972	5250~5350	Pass
30	110	5270.008192	5250~5350	Pass
20	110	5270.002854	5250~5350	Pass
10	110	5269.991350	5250~5350	Pass
0	110	5270.010897	5250~5350	Pass
-10	110	5270.005678	5250~5350	Pass
-20	110	5270.005486	5250~5350	Pass

Operating Frequency: 5270 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5270.000003	5250~5350	Pass
	110	5270.007204	5250~5350	Pass
	126.5	5270.005863	5250~5350	Pass

CH High

Operating Frequency: 5310 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5310.010623	5250~5350	Pass
40	110	5310.000721	5250~5350	Pass
30	110	5309.995266	5250~5350	Pass
20	110	5309.990897	5250~5350	Pass
10	110	5310.005133	5250~5350	Pass
0	110	5310.003086	5250~5350	Pass
-10	110	5309.994467	5250~5350	Pass
-20	110	5310.002862	5250~5350	Pass

Operating Frequency: 5310 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5309.995095	5250~5350	Pass
	110	5310.008104	5250~5350	Pass
	126.5	5309.998397	5250~5350	Pass

IEEE 802.11n HT 40 MHz mode / 5270 ~ 5310 MHz / Chain 1

CH Low

Operating Frequency: 5270 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5270.000993	5250~5350	Pass
40	110	5270.002209	5250~5350	Pass
30	110	5270.000691	5250~5350	Pass
20	110	5270.003505	5250~5350	Pass
10	110	5269.998897	5250~5350	Pass
0	110	5270.007348	5250~5350	Pass
-10	110	5270.010582	5250~5350	Pass
-20	110	5270.008301	5250~5350	Pass

Operating Frequency: 5270 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5270.007833	5250~5350	Pass
	110	5269.999219	5250~5350	Pass
	126.5	5269.991911	5250~5350	Pass

CH High

Operating Frequency: 5310 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5310.000708	5250~5350	Pass
40	110	5309.992949	5250~5350	Pass
30	110	5310.010842	5250~5350	Pass
20	110	5310.004657	5250~5350	Pass
10	110	5309.999997	5250~5350	Pass
0	110	5310.008193	5250~5350	Pass
-10	110	5310.008350	5250~5350	Pass
-20	110	5310.008312	5250~5350	Pass

Operating Frequency: 5310 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5309.994407	5250~5350	Pass
	110	5309.994658	5250~5350	Pass
	126.5	5310.003326	5250~5350	Pass

IEEE 802.11n HT 80 MHz mode / 5290 MHz / Chain 0

CH Mid

Operating Frequency: 5290 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5289.990230	5150~5250	Pass
40	110	5289.993775	5150~5250	Pass
30	110	5289.996447	5150~5250	Pass
20	110	5289.991269	5150~5250	Pass
10	110	5289.993466	5150~5250	Pass
0	110	5289.992683	5150~5250	Pass
-10	110	5290.010053	5150~5250	Pass
-20	110	5290.007543	5150~5250	Pass

Operating Frequency: 5290 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5289.990411	5150~5250	Pass
	110	5290.00037	5150~5250	Pass
	126.5	5290.000779	5150~5250	Pass

IEEE 802.11n HT 80 MHz mode / 5290 MHz / Chain 1

Operating Frequency: 5290 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5290.007359	5150~5250	Pass
40	110	5289.996213	5150~5250	Pass
30	110	5289.990028	5150~5250	Pass
20	110	5290.007582	5150~5250	Pass
10	110	5290.010714	5150~5250	Pass
0	110	5290.007000	5150~5250	Pass
-10	110	5289.994674	5150~5250	Pass
-20	110	5289.997334	5150~5250	Pass

Operating Frequency: 5290 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5289.9902	5150~5250	Pass
	110	5289.9903	5150~5250	Pass
	126.5	5289.998863	5150~5250	Pass

IEEE 802.11a mode / 5500 ~ 5700 MHz:

CH Low

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5499.990280	5470~5725	Pass
40	110	5499.995526	5470~5725	Pass
30	110	5500.001856	5470~5725	Pass
20	110	5499.991857	5470~5725	Pass
10	110	5499.993048	5470~5725	Pass
0	110	5500.003498	5470~5725	Pass
-10	110	5499.991157	5470~5725	Pass
-20	110	5499.990280	5470~5725	Pass

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5500.009168	5470~5725	Pass
	110	5499.993643	5470~5725	Pass
	126.5	5500.001068	5470~5725	Pass

CH Mid

Operating Frequency: 5580 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5580.004542	5470~5725	Pass
40	110	5579.999229	5470~5725	Pass
30	110	5580.003060	5470~5725	Pass
20	110	5580.008361	5470~5725	Pass
10	110	5580.000968	5470~5725	Pass
0	110	5579.996642	5470~5725	Pass
-10	110	5580.008888	5470~5725	Pass
-20	110	5580.005888	5470~5725	Pass

Operating Frequency: 5580 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5579.995286	5470~5725	Pass
	110	5580.006405	5470~5725	Pass
	126.5	5580.009491	5470~5725	Pass

CH High

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5699.996158	5470~5725	Pass
40	110	5700.002645	5470~5725	Pass
30	110	5700.010752	5470~5725	Pass
20	110	5700.000219	5470~5725	Pass
10	110	5700.006820	5470~5725	Pass
0	110	5699.992600	5470~5725	Pass
-10	110	5700.001841	5470~5725	Pass
-20	110	5700.007947	5470~5725	Pass

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5699.997006	5470~5725	Pass
	110	5700.009139	5470~5725	Pass
	126.5	5699.994235	5470~5725	Pass

IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700 MHz / Chain 0

CH Low

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5499.996251	5470~5725	Pass
40	110	5499.999946	5470~5725	Pass
30	110	5500.000593	5470~5725	Pass
20	110	5499.992409	5470~5725	Pass
10	110	5499.997394	5470~5725	Pass
0	110	5499.991026	5470~5725	Pass
-10	110	5499.998646	5470~5725	Pass
-20	110	5500.008241	5470~5725	Pass

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5500.001641	5470~5725	Pass
	110	5499.995295	5470~5725	Pass
	126.5	5499.995073	5470~5725	Pass

CH Mid

Operating Frequency: 5580 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5579.997146	5470~5725	Pass
40	110	5580.002803	5470~5725	Pass
30	110	5579.991034	5470~5725	Pass
20	110	5580.002047	5470~5725	Pass
10	110	5579.994310	5470~5725	Pass
0	110	5579.991524	5470~5725	Pass
-10	110	5580.002287	5470~5725	Pass
-20	110	5580.002604	5470~5725	Pass

Operating Frequency: 5580 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5579.994965	5470~5725	Pass
	110	5579.998045	5470~5725	Pass
	126.5	5579.998549	5470~5725	Pass

CH High

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5700.006240	5470~5725	Pass
40	110	5700.002669	5470~5725	Pass
30	110	5700.002943	5470~5725	Pass
20	110	5700.001297	5470~5725	Pass
10	110	5699.998891	5470~5725	Pass
0	110	5699.992333	5470~5725	Pass
-10	110	5699.999631	5470~5725	Pass
-20	110	5700.004571	5470~5725	Pass

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	99	5699.990213	5470~5725	Pass
	110	5699.994558	5470~5725	Pass
	121	5700.004759	5470~5725	Pass

IEEE 802.11n HT 20 MHz Channel mode / 5500 ~ 5700 MHz / Chain 1

CH Low

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5500.008553	5470~5725	Pass
40	110	5500.000052	5470~5725	Pass
30	110	5500.006928	5470~5725	Pass
20	110	5500.003221	5470~5725	Pass
10	110	5500.009902	5470~5725	Pass
0	110	5499.992760	5470~5725	Pass
-10	110	5499.994158	5470~5725	Pass
-20	110	5500.004887	5470~5725	Pass

Operating Frequency: 5500 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	93.5	5499.999798	5470~5725	Pass
	110	5499.99111	5470~5725	Pass
	126.5	5500.010676	5470~5725	Pass

CH Mid

Operating Frequency: 5580 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5579.993443	5470~5725	Pass
40	110	5580.002710	5470~5725	Pass
30	110	5580.002365	5470~5725	Pass
20	110	5579.997306	5470~5725	Pass
10	110	5579.995236	5470~5725	Pass
0	110	5579.996653	5470~5725	Pass
-10	110	5580.002877	5470~5725	Pass
-20	110	5579.994919	5470~5725	Pass

Operating Frequency: 5580 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5579.990604	5470~5725	Pass
	110	5579.99355	5470~5725	Pass
	126.5	5580.003462	5470~5725	Pass

CH High

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5700.005541	5470~5725	Pass
40	110	5699.997480	5470~5725	Pass
30	110	5700.008347	5470~5725	Pass
20	110	5699.995661	5470~5725	Pass
10	110	5699.997426	5470~5725	Pass
0	110	5699.996021	5470~5725	Pass
-10	110	5700.002796	5470~5725	Pass
-20	110	5700.001979	5470~5725	Pass

Operating Frequency: 5700 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	99	5700.00798	5470~5725	Pass
	110	5700.003543	5470~5725	Pass
	121	5699.99726	5470~5725	Pass

IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670 MHz / Chain 0

CH Low

Operating Frequency: 5510 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5509.994213	5470~5725	Pass
40	110	5509.999018	5470~5725	Pass
30	110	5510.004077	5470~5725	Pass
20	110	5510.002248	5470~5725	Pass
10	110	5510.005888	5470~5725	Pass
0	110	5509.995032	5470~5725	Pass
-10	110	5510.002833	5470~5725	Pass
-20	110	5510.006973	5470~5725	Pass

Operating Frequency: 5510 MHz				
Environment Temperature (oC)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5509.997016	5470~5725	Pass
	110	5510.005	5470~5725	Pass
	126.5	5509.999835	5470~5725	Pass

CH Mid

Operating Frequency: 5550 MHz				
Environment Temperature (^{o}C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5550.004344	5470~5725	Pass
40	110	5550.010937	5470~5725	Pass
30	110	5549.993229	5470~5725	Pass
20	110	5550.006268	5470~5725	Pass
10	110	5549.998226	5470~5725	Pass
0	110	5550.000870	5470~5725	Pass
-10	110	5550.008534	5470~5725	Pass
-20	110	5549.993795	5470~5725	Pass

Operating Frequency: 5550 MHz				
Environment Temperature (oC)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5550.002281	5470~5725	Pass
	110	5549.999593	5470~5725	Pass
	126.5	5550.003474	5470~5725	Pass

CH High

Operating Frequency: 5670 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5670.004056	5470~5725	Pass
40	110	5669.993785	5470~5725	Pass
30	110	5670.005300	5470~5725	Pass
20	110	5670.010310	5470~5725	Pass
10	110	5670.010471	5470~5725	Pass
0	110	5670.009928	5470~5725	Pass
-10	110	5670.006982	5470~5725	Pass
-20	110	5670.001022	5470~5725	Pass

Operating Frequency: 5670 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5670.006255	5470~5725	Pass
	110	5669.994081	5470~5725	Pass
	126.5	5670.007775	5470~5725	Pass

IEEE 802.11n HT 40 MHz mode / 5510 ~ 5670 MHz / Chain 1

CH Low

Operating Frequency: 5510 MHz				
Environment Temperature (^{o}C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5509.994458	5470~5725	Pass
40	110	5509.996817	5470~5725	Pass
30	110	5510.004848	5470~5725	Pass
20	110	5509.997980	5470~5725	Pass
10	110	5510.003214	5470~5725	Pass
0	110	5509.998668	5470~5725	Pass
-10	110	5510.010912	5470~5725	Pass
-20	110	5510.000987	5470~5725	Pass

Operating Frequency: 5510 MHz				
Environment Temperature (oC)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5510.00455	5470~5725	Pass
	110	5509.99965	5470~5725	Pass
	126.5	5510.003187	5470~5725	Pass

CH Mid

Operating Frequency: 5550 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5550.007115	5470~5725	Pass
40	110	5549.998942	5470~5725	Pass
30	110	5549.995131	5470~5725	Pass
20	110	5549.992497	5470~5725	Pass
10	110	5549.994438	5470~5725	Pass
0	110	5550.007243	5470~5725	Pass
-10	110	5549.997057	5470~5725	Pass
-20	110	5550.010371	5470~5725	Pass

Operating Frequency: 5550 MHz				
Environment Temperature (oC)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5549.993039	5470~5725	Pass
	110	5549.995808	5470~5725	Pass
	126.5	5550.001132	5470~5725	Pass

CH High

Operating Frequency: 5670 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5669.991026	5470~5725	Pass
40	110	5670.007327	5470~5725	Pass
30	110	5670.006359	5470~5725	Pass
20	110	5670.009740	5470~5725	Pass
10	110	5670.004187	5470~5725	Pass
0	110	5669.994099	5470~5725	Pass
-10	110	5669.995440	5470~5725	Pass
-20	110	5669.996358	5470~5725	Pass

Operating Frequency: 5670 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5670.009444	5470~5725	Pass
	110	5669.992822	5470~5725	Pass
	126.5	5670.010552	5470~5725	Pass

IEEE 802.11n HT 80 MHz mode / 5530 ~ 5690 MHz / Chain 0

CH Low

Operating Frequency: 5530 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5530.002155	5470~5725	Pass
40	110	5529.992381	5470~5725	Pass
30	110	5530.006451	5470~5725	Pass
20	110	5529.995086	5470~5725	Pass
10	110	5530.006879	5470~5725	Pass
0	110	5530.000278	5470~5725	Pass
-10	110	5529.994138	5470~5725	Pass
-20	110	5530.004901	5470~5725	Pass

Operating Frequency: 5530 MHz				
Environment Temperature (oC)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5530.0039	5470~5725	Pass
	110	5530.005601	5470~5725	Pass
	126.5	5529.993512	5470~5725	Pass

CH High

Operating Frequency: 5690 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
50	110	5690.006852	5470~5725	Pass
40	110	5689.991690	5470~5725	Pass
30	110	5689.992326	5470~5725	Pass
20	110	5690.008121	5470~5725	Pass
10	110	5689.994021	5470~5725	Pass
0	110	5690.006347	5470~5725	Pass
-10	110	5689.999627	5470~5725	Pass
-20	110	5689.996741	5470~5725	Pass

Operating Frequency: 5690 MHz				
Environment Temperature (°C)	Voltage (V)	Measured Frequency (MHz)	Limit Range	Test Result
20	99	5689.994969	5470~5725	Pass
	110	5689.991137	5470~5725	Pass
	121	5689.996227	5470~5725	Pass

IEEE 802.11n HT 80 MHz mode / 5530 ~ 5690 MHz / Chain 1

CH Low

Operating Frequency: 5530 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5530.007012	5470~5725	Pass
40	110	5529.990436	5470~5725	Pass
30	110	5529.991065	5470~5725	Pass
20	110	5530.002134	5470~5725	Pass
10	110	5530.009719	5470~5725	Pass
0	110	5530.009793	5470~5725	Pass
-10	110	5529.994624	5470~5725	Pass
-20	110	5530.002341	5470~5725	Pass

Operating Frequency: 5530 MHz				
Environment Temperature (oC)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	93.5	5530.005178	5470~5725	Pass
	110	5530.006828	5470~5725	Pass
	126.5	5530.002298	5470~5725	Pass

CH High

Operating Frequency: 5690 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
50	110	5690.010080	5470~5725	Pass
40	110	5689.995886	5470~5725	Pass
30	110	5690.004169	5470~5725	Pass
20	110	5690.001355	5470~5725	Pass
10	110	5690.005477	5470~5725	Pass
0	110	5690.002339	5470~5725	Pass
-10	110	5690.005159	5470~5725	Pass
-20	110	5690.010348	5470~5725	Pass

Operating Frequency: 5690 MHz				
Environment Temperature (°C)	**Voltage (V)**	**Measured Frequency (MHz)**	**Limit Range**	**Test Result**
20	99	5689.99497	5470~5725	Pass
	110	5690.007586	5470~5725	Pass
	121	5690.000985	5470~5725	Pass