FCC/ IC Radio Test Report

For

Prepared by

Product Name: Wireless AP

Brand Name: Aerohive

Model No.: HiveAP 141, HiveAP 121

FCC ID: WBV-HIVEAP1X1

IC: 7774A-HIVEAP1X1

Series Model: N/A

Test Report Number:
C131118R01-RPB

Issued for

Aerohive Networks, Inc.

330 Gibraltar Drive, Sunnyvale, CA 94089

Issued by

Compliance Certification Services Inc.

Kun shan Laboratory

No.10 Weiye Rd., Innovation park, Eco&Tec,
Development Zone, Kunshan City, Jiangsu, China

TEL: 86-512-57355888

FAX: 86-512-57370818

ACCREDITED
TESTING CERT #2541.01

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1 TEST RESULT CERTIFICATION

Product Name:	Wireless AP
Trade Name:	Aerohive
Model Name.:	HiveAP 141, HiveAP 121
Series Model:	N/A
Applicant Discrepancy:	Initial
Device Category:	Production unit
Date of Test:	November 8, 2013~November 18 2013
Applicant:	**Aerohive Networks, Inc.** 330 Gibraltar Drive, Sunnyvale, CA 94089
Manufacturer:	**Aerohive Networks, Inc.** 330 Gibraltar Drive, Sunnyvale, CA 94089
Application Type:	Certification

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart E	No non-compliance noted
Canada RSS-210：2010	No non-compliance noted

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4:2009 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.207, 15.209, 15.407and KDB 789033 – 20120926.
The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:

Test by: Blent.Wang

Compliance Certification Services Inc.

Reviewed by:

Approved by: Jeff.Fang

Compliance Certification Services Inc.

2 EUT DESCRIPTION

Product Name:	Wireless AP
Brand Name:	Aerohive
Model Name:	HiveAP 141, HiveAP 121
Series Model:	N/A
Model Discrepancy:	N/A
Power Adapter Power Rating :	Description Model:PA1024-2HU Input: 100~240Vac 50/60Hz 0.6A Output:DC12Vac 2.0A
POE Power Rating :	Brand: CISCO Model: DPSN-35FBA Input: 100-240Vac~0.8A, 50/60Hz Output: 48V,0.55A
Frequency Range :	802.11a mode:5.26~5.32 GHz and 5.5~5.7 GHz 802.11an Standard-20 MHz Channel mode: 5.26~5.32 GHz and 5.5~5.7 GHz 802.11an Wide-40 MHz Channel mode: 5.27~5.31 GHz and 5.51~5.67GHz
Transmit Power :	802.11a mode: 12.97dBm 802.11an Standard-20 MHz Channel mode: 16.13 dBm 802.11an Wide-40 MHz Channel mode: 16.29 dBm (the EUT transmittin and receiving with two antennas simultaneously working at n mode)
Modulation Technique :	**802.11a mode:** 54, 48, 36, 24, 18, 12, 9, 6 Mbps **802.11n Standard-20 MHz Channel 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) **802.11n Wide-40 MHz Channel 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)
Number of Channels :	**802.11a mode:** 5260 ~ 5320 MHz: 4 CH 5500 ~ 5700 MHz: 11 CH **802.11n Standard-20 MHz Channel mode:** 5260 ~ 5320 MHz: 4 CH 5500 ~ 5700 MHz: 11 CH **802.11n Standard-40 MHz Channel mode:** 5270 ~ 5310 MHz: 2 CH 5510 ~ 5670 MHz: 5 CH
Antenna Gain :	AP141: 3.00 dBi AP121: 6.00 dBi
Antenna Type :	AP141:dipole Antenna (external antenna) AP121:PCB dipole Antenna (internal antenna)

Operation Frequency:

UNLICENSED NATIONAL INFORMATION INFRASTRUCTURE (U-NII)	
CHANNEL	**MHz**
52	5260（802.11a mode/802.11n Standard-20 MHz Channel mode）
54	5270（802.11n Standard-40 MHz Channel mode）
56	5280（802.11a mode/802.11n Standard-20 MHz Channel mode）
60	5300（802.11a mode/802.11n Standard-20 MHz Channel mode）
62	5310（802.11n Standard-40 MHz Channel mode）
64	5320（802.11a mode/802.11n Standard-20 MHz Channel mode）
100	5500（802.11a mode/802.11n Standard-20 MHz Channel mode）
102	5510（802.11n Standard-40 MHz Channel mode）
104	5520（802.11a mode/802.11n Standard-20 MHz Channel mode）
108	5540（802.11a mode/802.11n Standard-20 MHz Channel mode）
110	5550（802.11n Standard-40 MHz Channel mode）
112	5560（802.11a mode/802.11n Standard-20 MHz Channel mode）
116	5580（802.11a mode/802.11n Standard-20 MHz Channel mode）
132	5660（802.11a mode/802.11n Standard-20 MHz Channel mode）
134	5670（802.11n Standard-40 MHz Channel mode）
136	5680（802.11a mode/802.11n Standard-20 MHz Channel mode）
140	5700（802.11a mode/802.11n Standard-20 MHz Channel mode）

Remark:

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for FCC ID: WBV-HIVEAP1X1 filing to comply with Section 15.407 of the FCC Part 15, Subpart E Rules.
3. This submittal(s) (test report) is intended for IC: 7774A-HIVEAP1X1 filing to comply with Canada RSS-210 Rules.

3 TEST METHODOLOGY

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

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 13.3 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 13.4 of ANSI C63.4.

3.4. FCC 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	4.50 - 5.15
0.495 - 0.505 [1]	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960.0 - 1240	7.25 - 7.75
4.125 - 4.128	25.50 - 25.67	1300 - 1427	8.025 - 8.500
4.17725 - 4.17775	37.50 - 38.25	1435.0 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73.00 - 74.60	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.80 - 75.20	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108.00 - 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	149.90 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 – 2500.0	17.7 - 21.4
8.37625 - 8.38675	156.70 - 156.90	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.1700	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.20	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358.0	36.43 - 36.5[2]
12.57675 - 12.57725	322.0- 335.4	3600 - 4400	
13.36 - 13.41			

[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.

3.5. DESCRIPTION OF TEST MODES

EUT Configure Mode	Description	Modulation Technology	Modulation Type
AP121	26dB Bandwidth and 99% Bandwidth	OFDM	BPSK
AP121	Maximum conducted output power	OFDM	BPSK
AP121,AP141	Band edges measurement	OFDM	BPSK
AP121	Peak Power Spectral Density	OFDM	BPSK
AP121	Peak excursion	OFDM	BPSK
AP121,AP141	Radiated undesirable emission	OFDM	BPSK
AP121	Conducted undesirable emission	OFDM	BPSK
AP121	Frequency Stability measurement	OFDM	BPSK
AP121	Powerline conducted emission	OFDM	BPSK

The EUT transmitting and receiving with one (chain 0) antenna working at a mode, so one antenna working configuration was used for a mode testing in this report.

The EUT transmitting and receiving with two antennas simultaneously working at n mode, so 2x2 configuration was used for all testing in this report.

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.

6 channels are provided for 802.11a, 802.11n(20MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260MHz	100	5500MHz
60	5300MHz	108	5540MHz
64	5320MHz	140	5700MHz

5 channel are provided for 802.11n(40MHz):

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270MHz	110	5550MHz
62	5310MHz	134	5670MHz
102	5510MHz		

4 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.

4.1. MEASUREMENT EQUIPMENT USED

Conducted Emissions Test Site				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY44020154	2014-11-13
Temp. / Humidity Chamber	TERCHY	MHK-120AK	X30109	2014-01-24
AC Power Source	EXTECH	6605	1570106	N.C.R
DC power supply	AGILENT	E3632A	MY50340053	N.C.R

977 Chamber				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI Test Receiver	R&S	ESI26	100068	2014-09-27
Pre-Amplfier	MITEQ	JS41-00101800-32-10P	1675713	2014-04-26
Bilog Antenna	Sunol	JB1	A062604	2014-05-01
Horn-antenna	SCHWARZBECK	BBHA9120D	D:266	2014-10-15
Horn-antenna	SCHWARZBECK	BBHA 9170	9170-515	2014-02-21
Amplifier	MITEQ	AMF-6F-260400-40-8P	1037496	2014-04-26
Turn Table	CT	CT123	4165	N.C.R
Antenna Tower	CT	CTERG23	3256	N.C.R
Controller	CT	CT1OO	95637	N.C.R
Test Software	EZ-EMC			

Conducted Emission				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
EMI TEST RECEIVER	R&S	ESCI	100781	2014-03-13
V (V-LISN)	SCHWARZBECK	NNLK 8129	8129-143	N.C.R
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	05012	2014-03-13
Pulse LIMITER	R&S	ESH3-Z2	100524	2014-03-13
Test Software	EZ-EMC			

Remark: *Each piece of equipment is scheduled for calibration once a year.*

4.2. MEASUREMENT UNCERTAINTY

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in accordance with TR 100 028-1 [2] and shall correspond to an expansion factor (coverage factor) k = 1,96 or k = 2 (which provide confidence levels of respectively 95 % and 95,45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Table 6 is based on such expansion factors.

Table 6: Maximum measurement uncertainty

Parameter	UNCERTAINTY
Radio frequency	±0.8 × 10-7
RF power, conducted	0.2054
Maximum frequency deviation: -within 300 Hz and 6 kHz of audio frequency	1.3%
-within 6 kHz and 25 kHz of audio frequency	0.65 dB
Adjacent channel power	0.2054
Conducted spurious emission of transmitter, valid up to 6 GHz	0.2892
Conducted emission of receivers	+1.2/-1.1 dB
Radiated emission of transmitter, valid up to 6 GHz	±3.94 dB
Radiated emission of receiver, valid up to 6 GHz	±3.94 dB
RF level uncertainty for a given BER	±0.3 dB
Temperature	0.1979
Humidity	±1 %

5 FACILITIES AND ACCREDITATIONS

5.1. FACILITIES

All measurement facilities used to collect the measurement data are located at
☒ **No.10Weiye Rd., Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.**
The sites are constructed in conformance with the requirements of ANSI C63.4:2003 and CISPR Publication 22. All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

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 preselectors 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. TABLE OF ACCREDITATIONS AND LISTINGS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

USA	A2LA
China	CNAS

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	Industry Canada
Japan	VCCI
Taiwan	BSMI
USA	FCC

Copies of granted accreditation certificates are available for downloading from our web site, http://www.ccsrf.com.

6 SETUP OF EQUIPMENT UNDER TEST

6.1. SETUP CONFIGURATION OF EUT

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

6.2. SUPPORT EQUIPMENT

No.	Equipment	Model No.	Serial No.
1	Notebook	dell	E5430

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

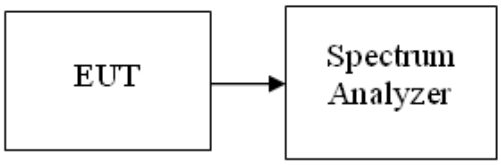
7.1. 99% AND 26 DB EMISSION BANDWIDTH

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

5250~5350MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5260	21.375	16.559
Mid	5300	21.025	16.567
High	5320	21.645	16.640

5470~5725MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5500	21.282	16.610
Mid	5540	21.504	16.626
High	5700	21.273	16.559

Test mode: 802.11n Standard-20 MHz Channel mode / Chain 0

5250~5350MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5260	23.058	17.854
Mid	5300	22.980	17.832
High	5320	23.057	17.854

5470~5725MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5500	22.425	17.785
Mid	5540	22.484	17.764
High	5700	22.854	17.862

Test mode: 802.11n Standard-20 MHz Channel mode / Chain 1

5250~5350MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5260	23.374	17.836
Mid	5300	22.660	17.805
High	5320	23.161	17.777

5470~5725MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5500	23.000	17.780
Mid	5540	22.978	17.872
High	5700	22.865	17.783

Test mode: 802.11n Wide-40 MHz Channel mode / Chain 0

5250~5350MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5270	42.931	36.138
High	5310	45.558	36.565

5470~5725MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5510	44.335	36.232
Mid	5550	44.483	36.463
High	5670	43.493	36.289

Test mode: 802.11n Wide-40 MHz Channel mode / Chain 1

5250~5350MHz

Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5270	43.593	36.204
High	5310	44.336	36.180

5470~5725MHz

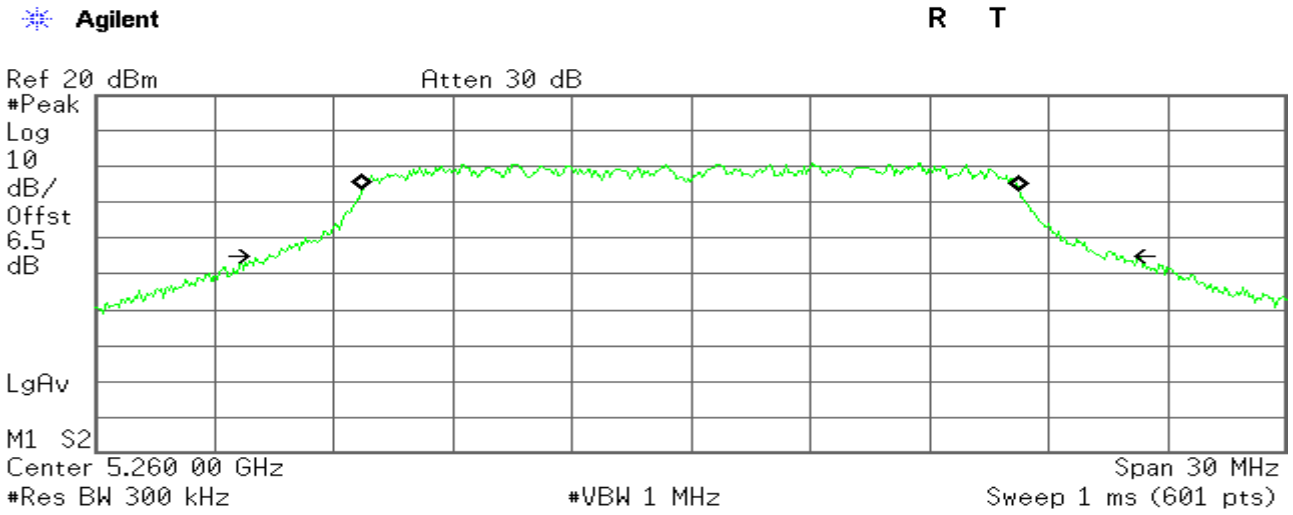
Channel	Frequency (MHz)	Bandwidth (B) (MHz)	99% Occupied Bandwidth（MHz）
Low	5510	44.464	36.207
Mid	5550	43.799	36.175
High	5670	44.255	36.216

Test Plot

IEEE 802.11a mode:

5250~5350MHz

CH Low

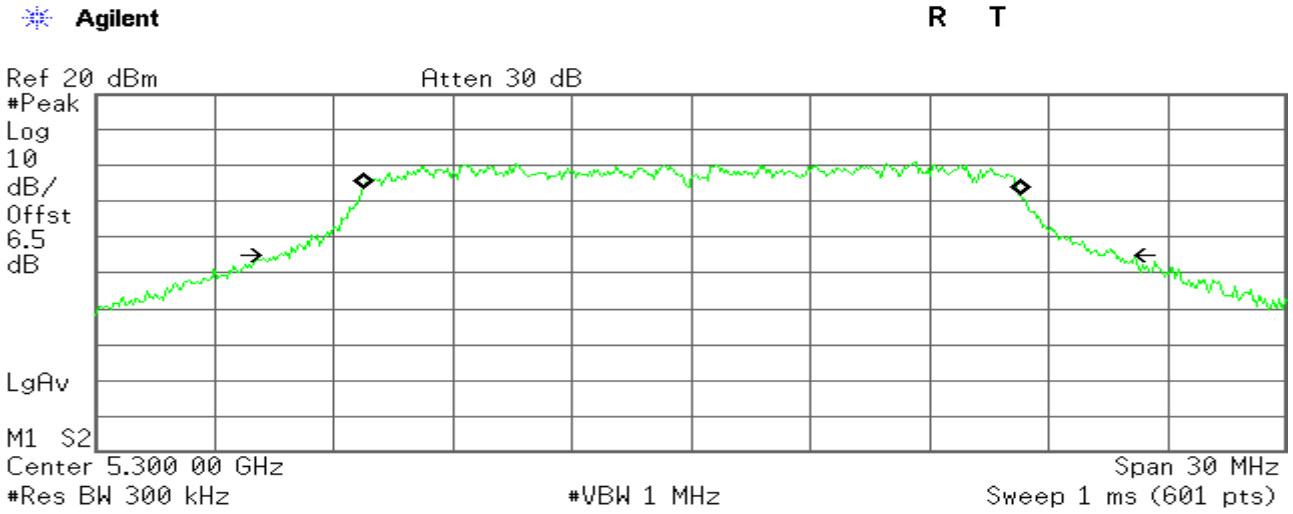


Occupied Bandwidth
16.5589 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -14.643 kHz
x dB Bandwidth 21.375 MHz

CH Mid

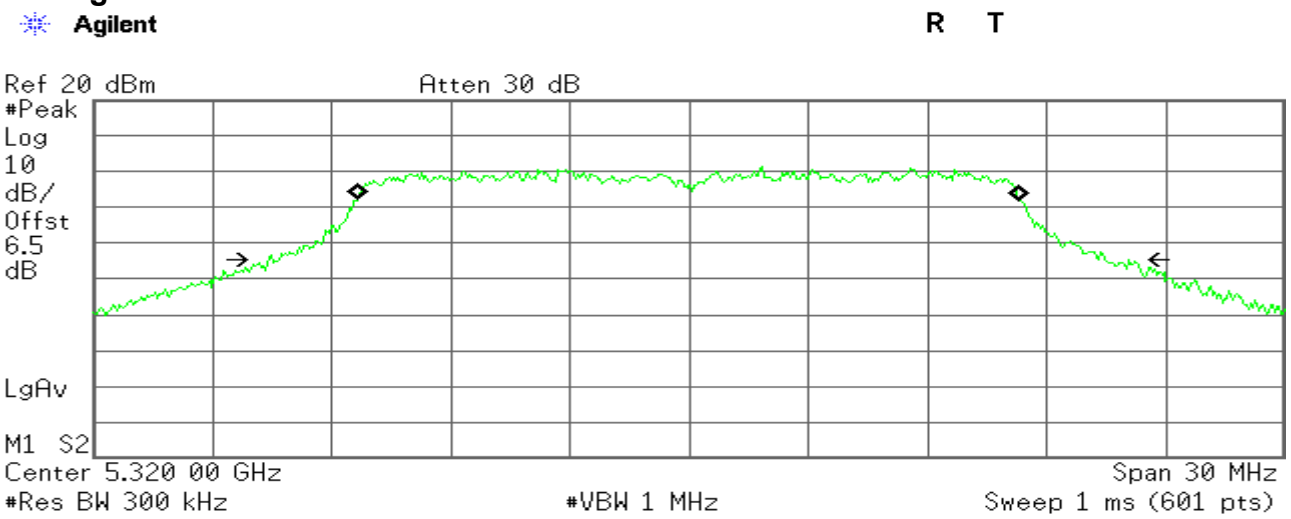


Occupied Bandwidth
16.5673 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 7.728 kHz
x dB Bandwidth 21.025 MHz

CH High



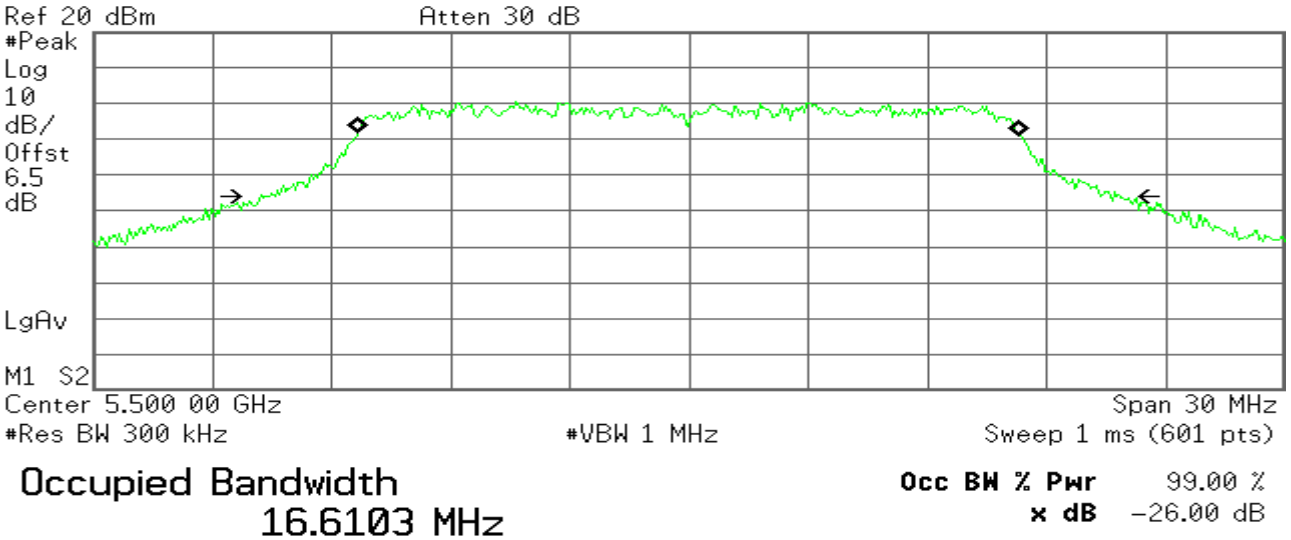
Occupied Bandwidth
16.6404 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -18.958 kHz
x dB Bandwidth 21.645 MHz

5470~5725MHz

CH Low

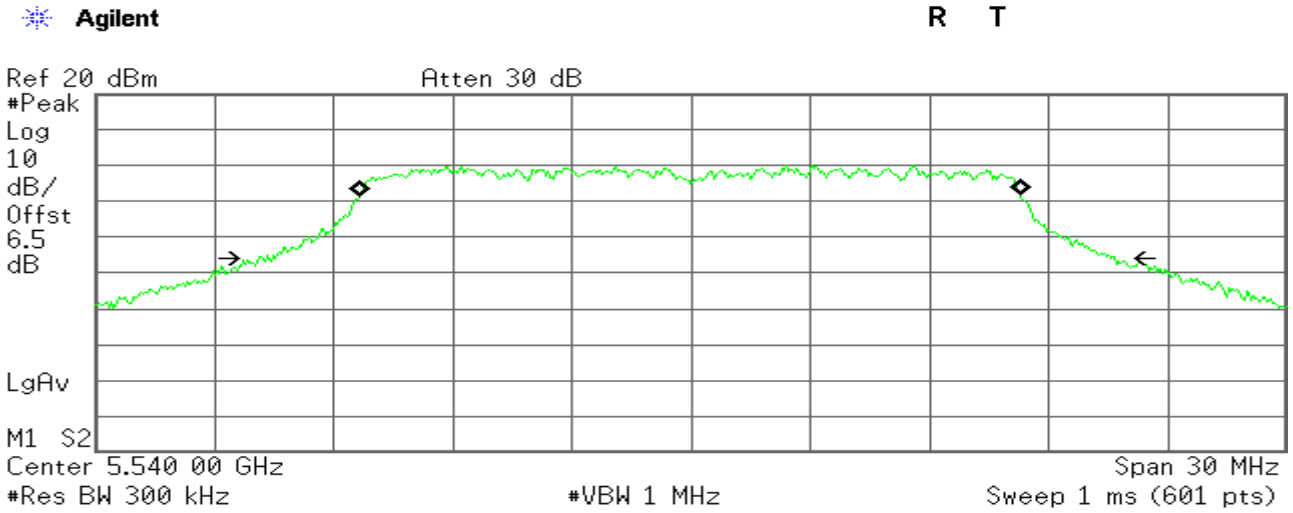


Occupied Bandwidth
16.6103 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -39.618 kHz
x dB Bandwidth 21.282 MHz

CH Mid

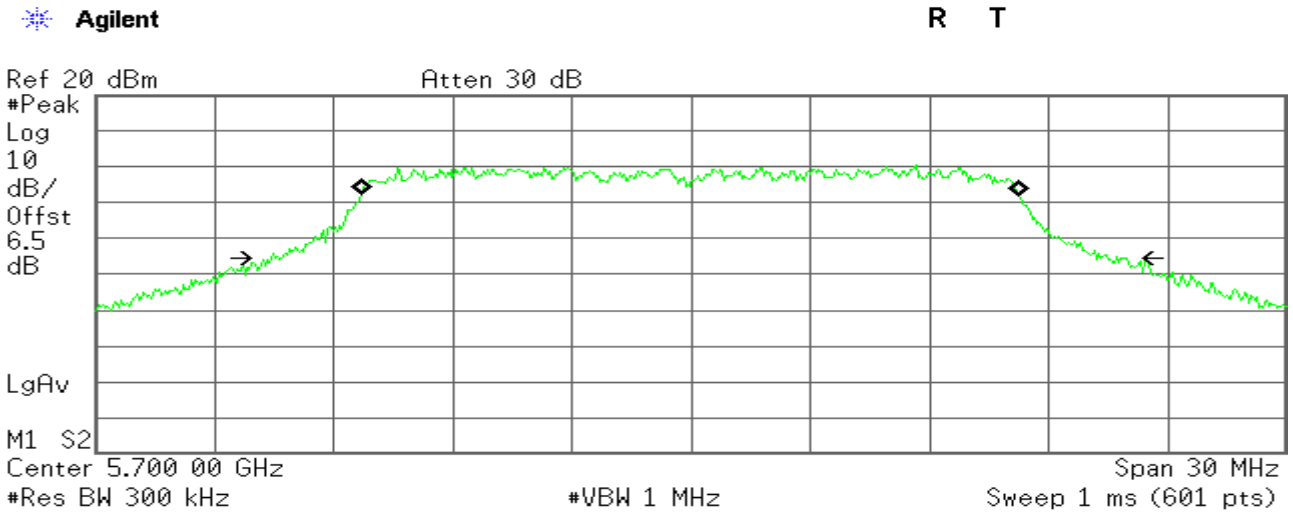


Occupied Bandwidth
16.6264 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -23.491 kHz
x dB Bandwidth 21.504 MHz

CH High



Occupied Bandwidth
16.5587 MHz

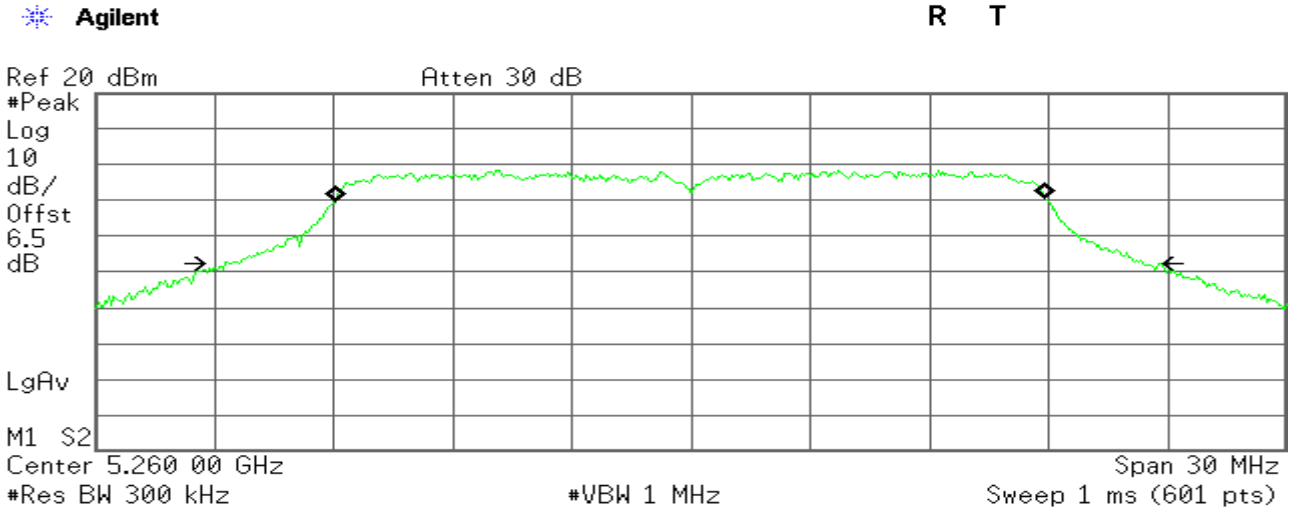
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -26.887 kHz
x dB Bandwidth 21.273 MHz

802.11n Standard-20 MHz Channel mode / Chain 0

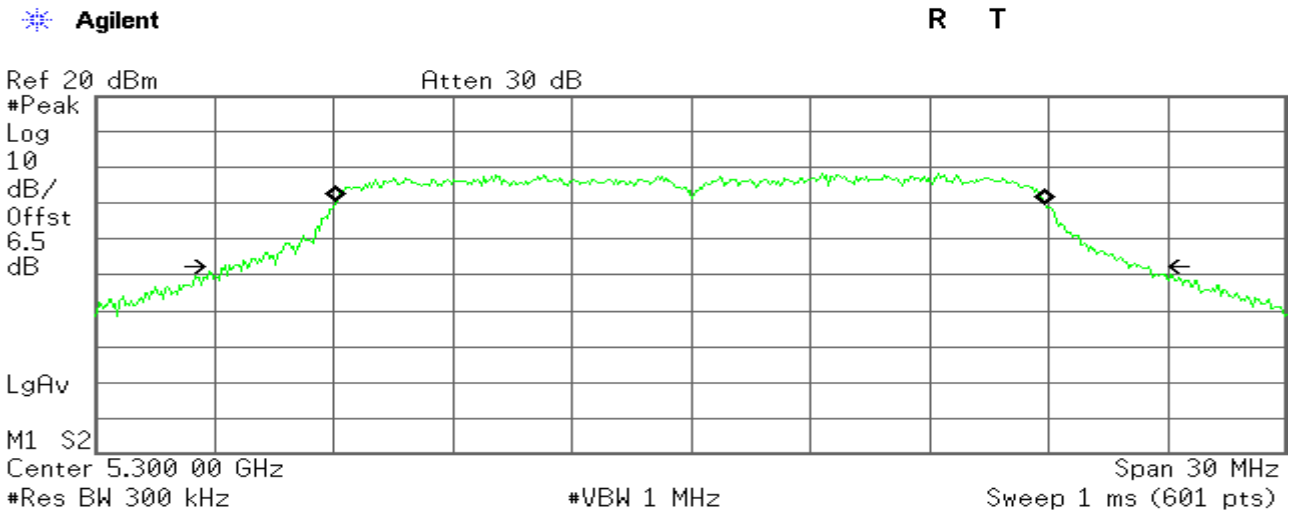
5250~5350MHz

CH Low



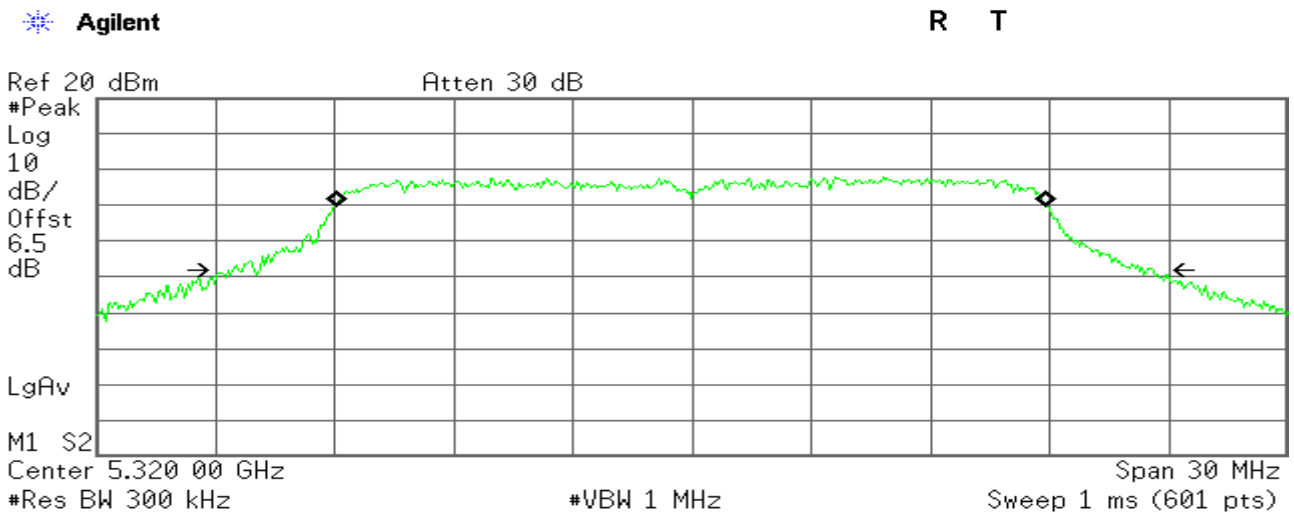
Transmit Freq Error −10.516 kHz
x dB Bandwidth 23.058 MHz

CH Mid



Transmit Freq Error −8.354 kHz
x dB Bandwidth 22.980 MHz

CH High



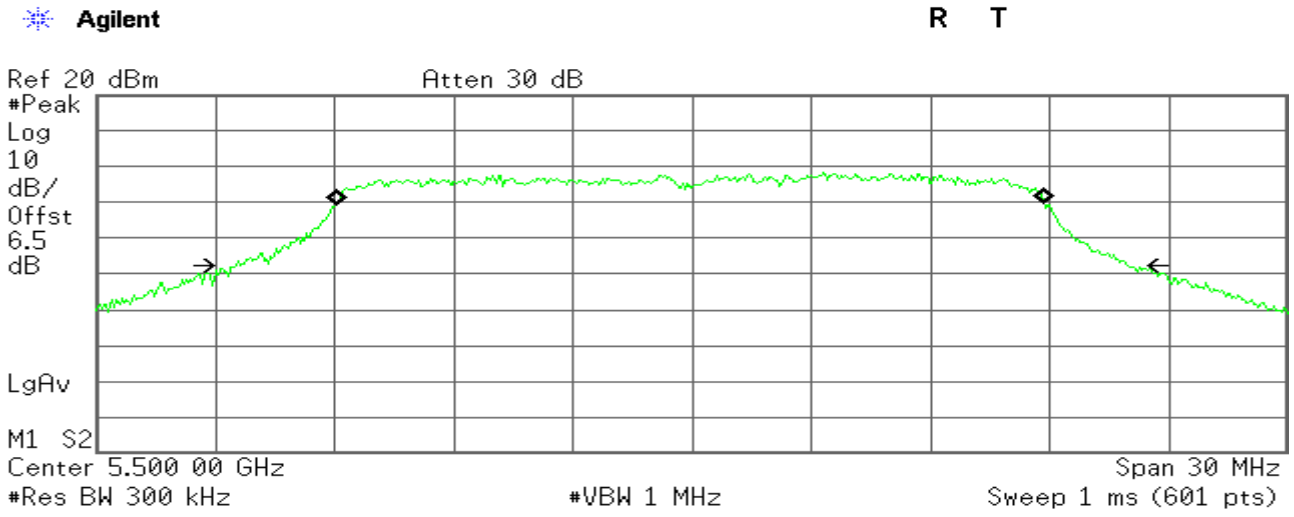
Occupied Bandwidth
17.8544 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -26.981 kHz
x dB Bandwidth 23.057 MHz

5470~5725MHz

CH Low

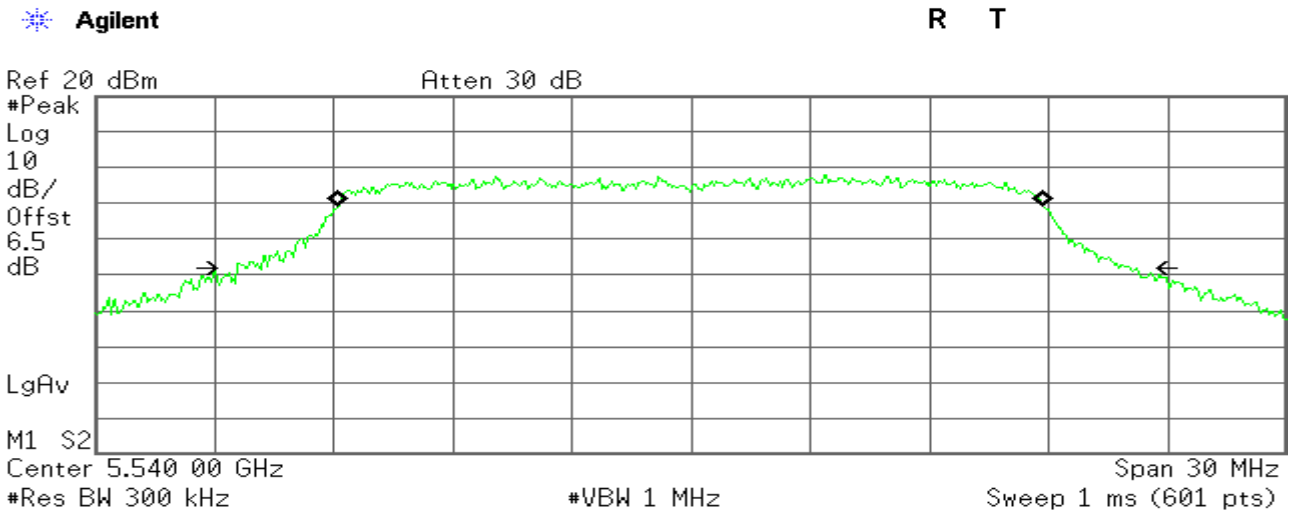


Occupied Bandwidth
17.7854 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -33.896 kHz
x dB Bandwidth 22.425 MHz

CH Mid

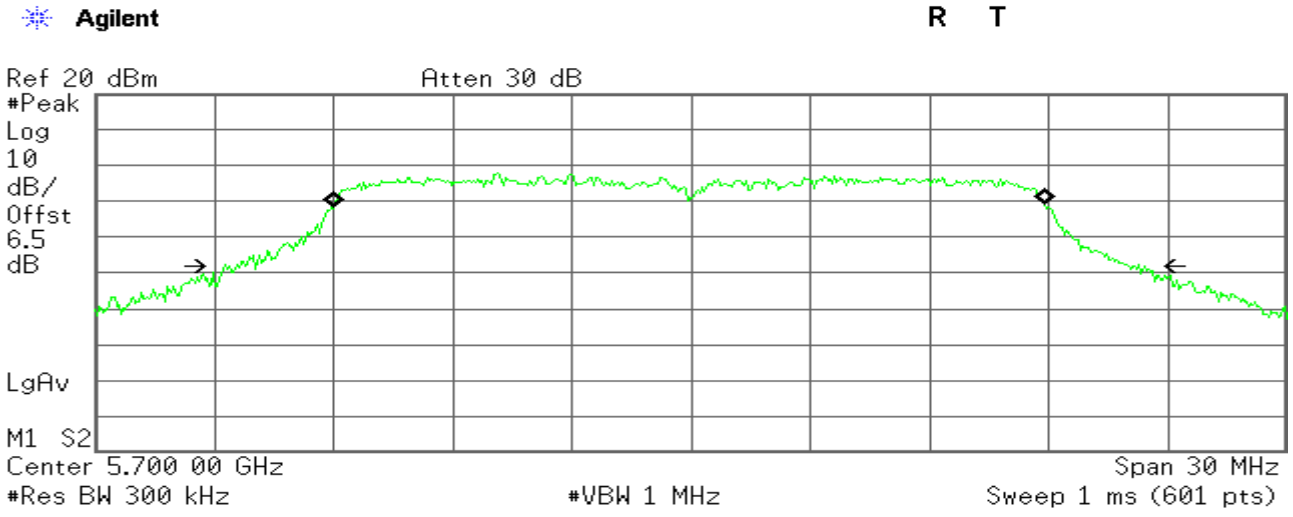


Occupied Bandwidth
17.7637 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -24.301 kHz
x dB Bandwidth 22.484 MHz

CH High



Occupied Bandwidth
17.8617 MHz

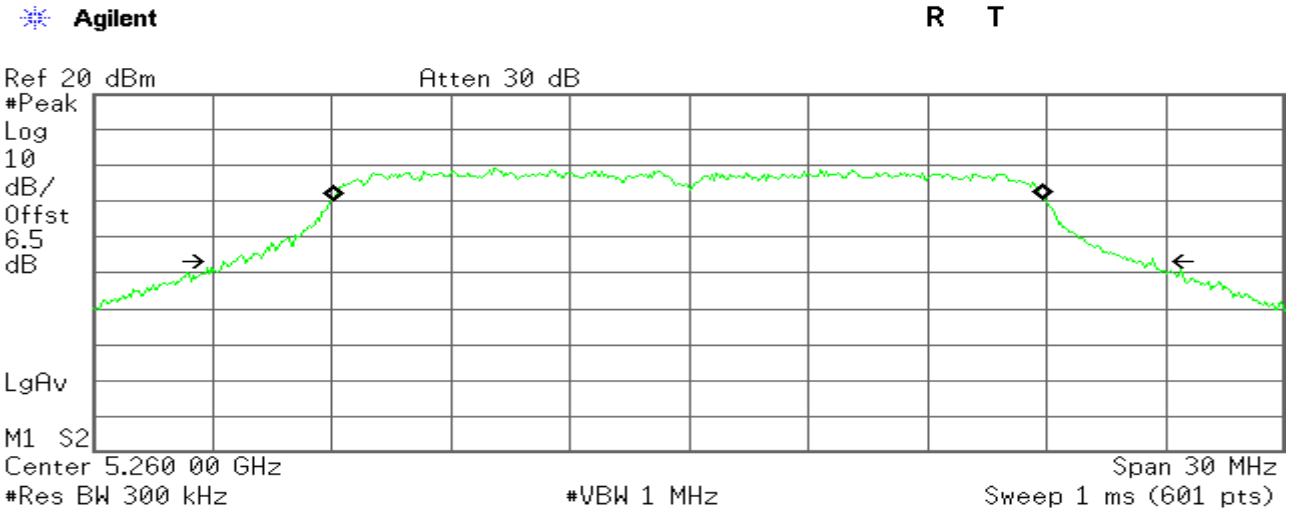
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -34.426 kHz
x dB Bandwidth 22.854 MHz

802.11n Standard-20 MHz Channel mode / Chain 1

5250~5350MHz

CH Low

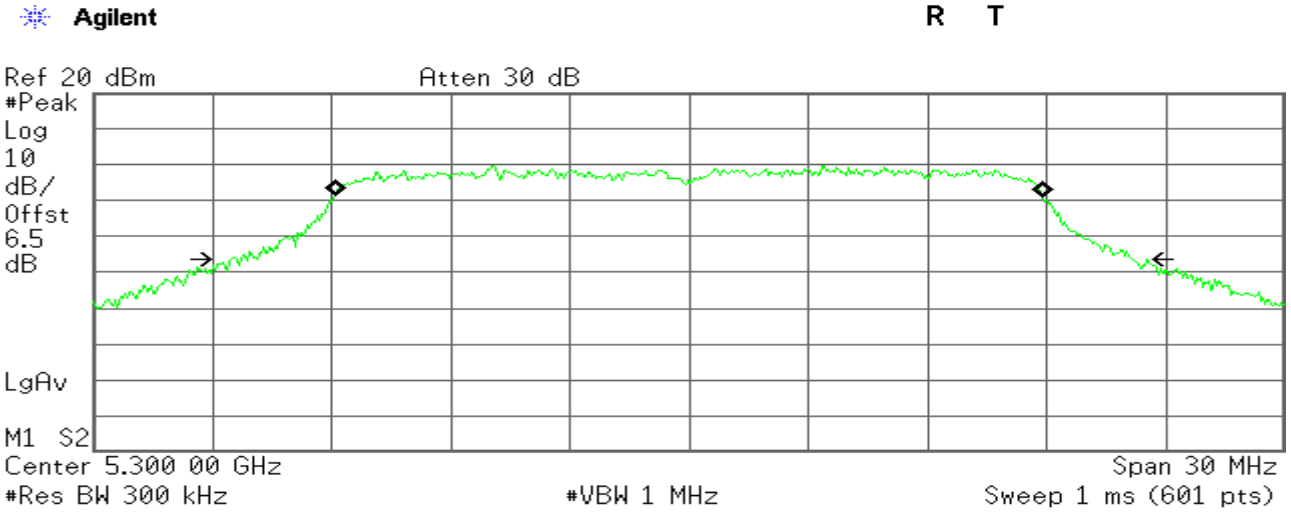


Occupied Bandwidth
17.8359 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -26.612 kHz
x dB Bandwidth 23.374 MHz

CH Mid

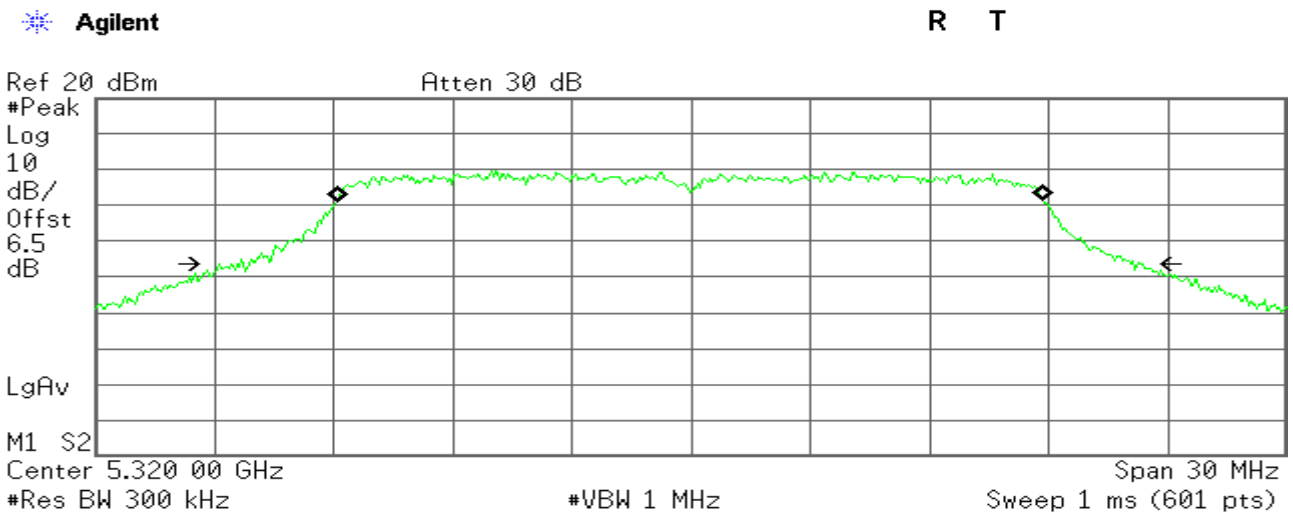


Occupied Bandwidth
17.8051 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -5.226 kHz
x dB Bandwidth 22.660 MHz

CH High



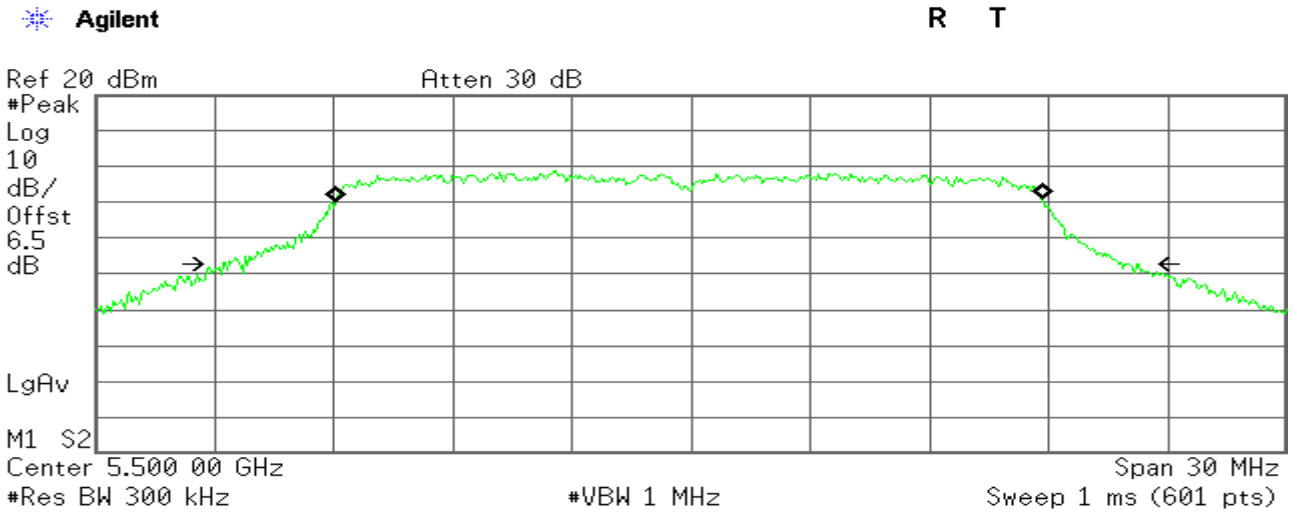
Occupied Bandwidth
17.7769 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -29.023 kHz
x dB Bandwidth 23.161 MHz

5470~5725MHz

CH Low

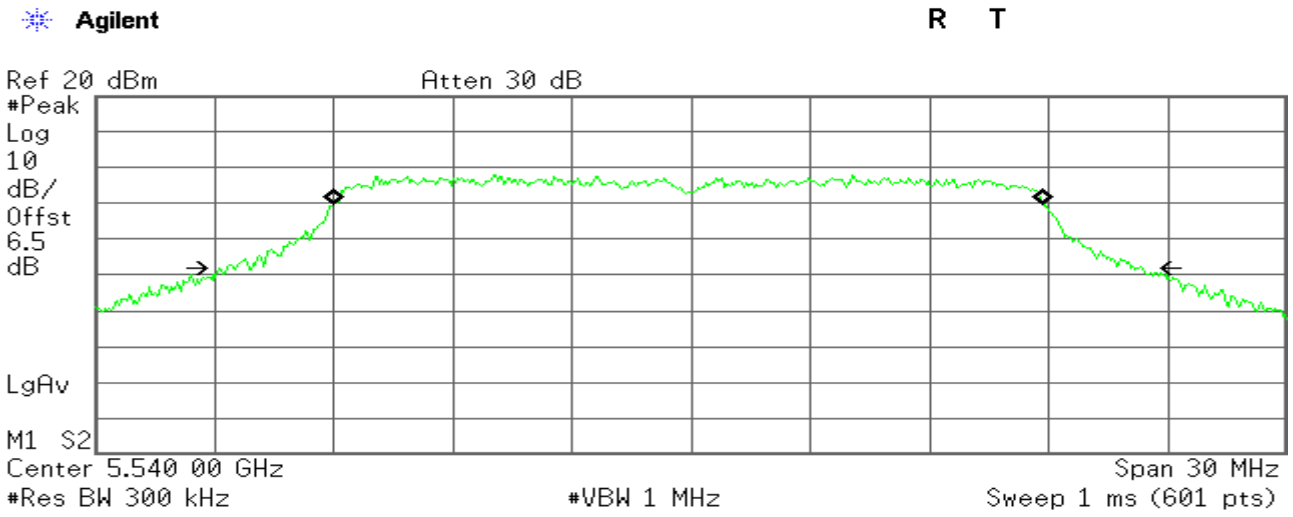


Occupied Bandwidth
17.7795 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -63.424 kHz
x dB Bandwidth 23.000 MHz

CH Mid

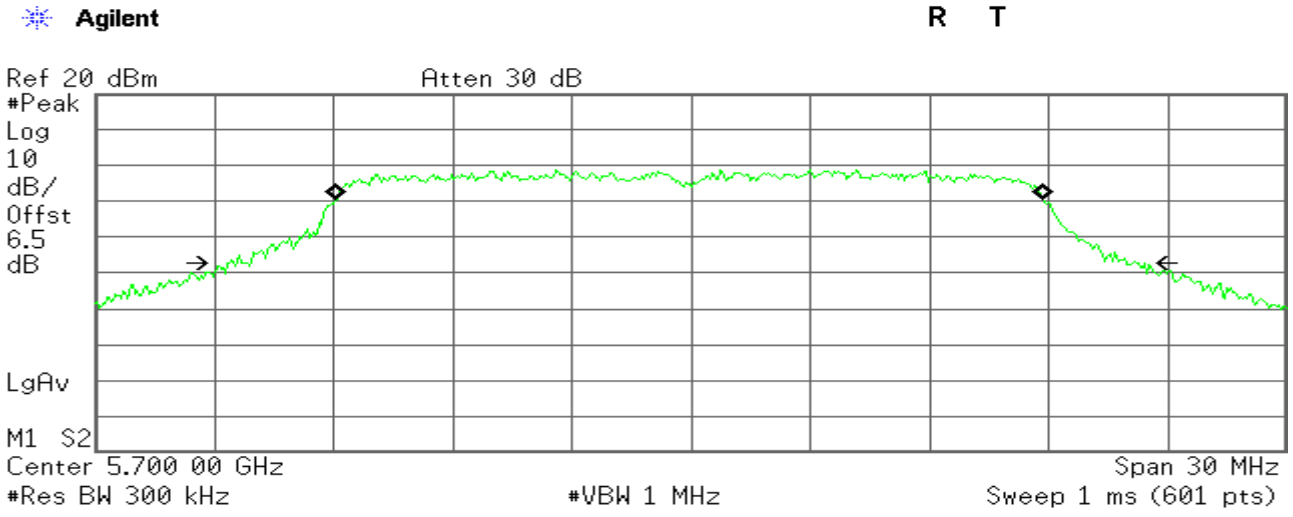


Occupied Bandwidth
17.8718 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -62.179 kHz
x dB Bandwidth 22.978 MHz

CH High



Occupied Bandwidth
17.7826 MHz

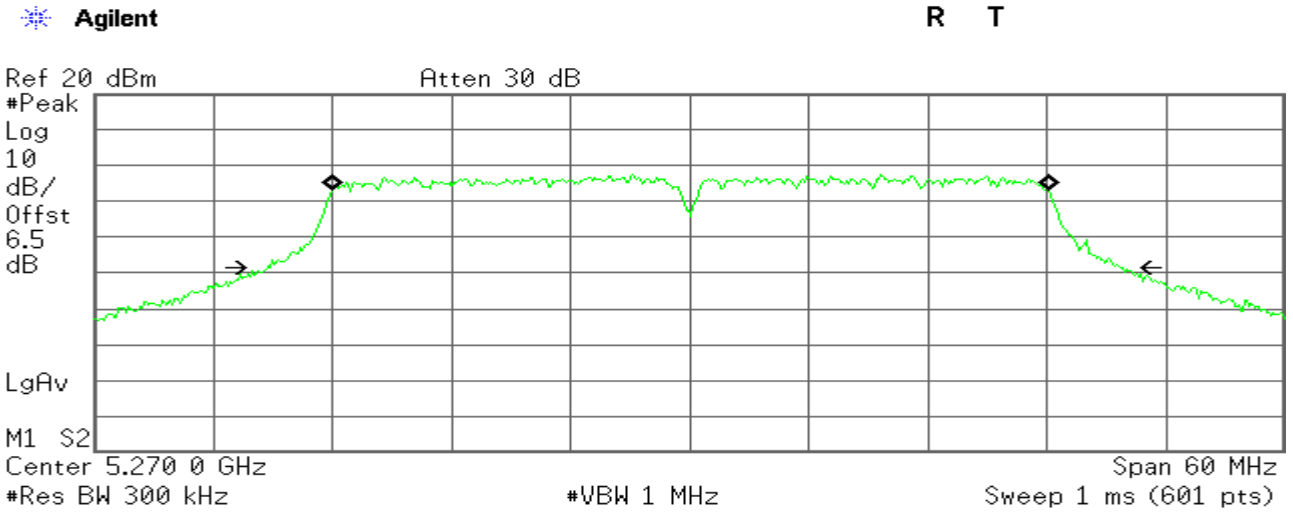
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -43.922 kHz
x dB Bandwidth 22.865 MHz

802.11n Wide-40 MHz Channel mode / Chain 0

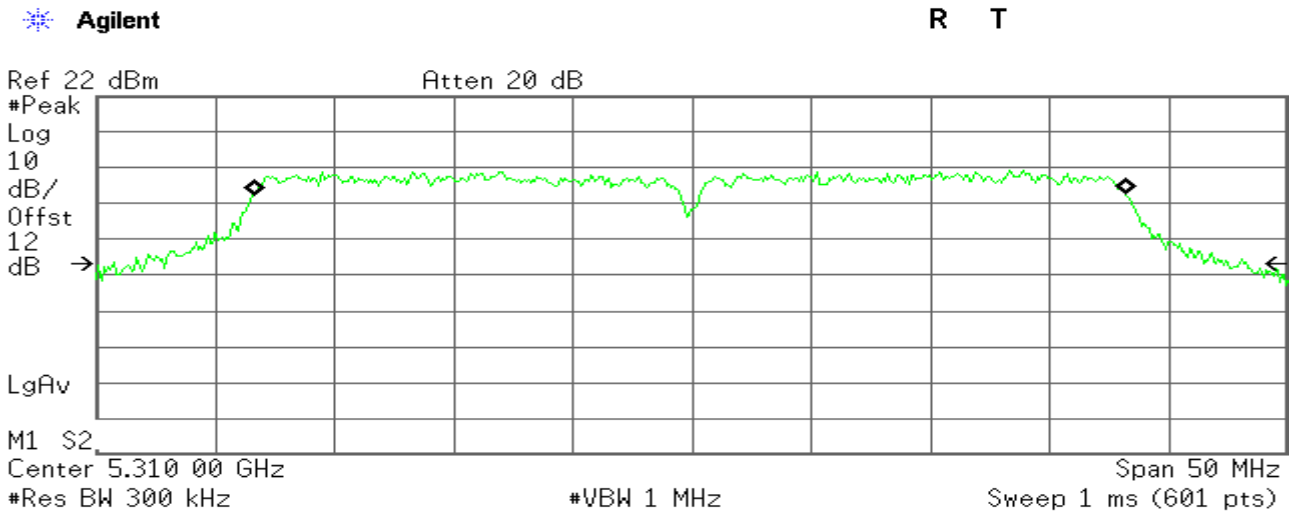
5250~5350MHz

CH Low



Transmit Freq Error 44.545 kHz
x dB Bandwidth 42.931 MHz

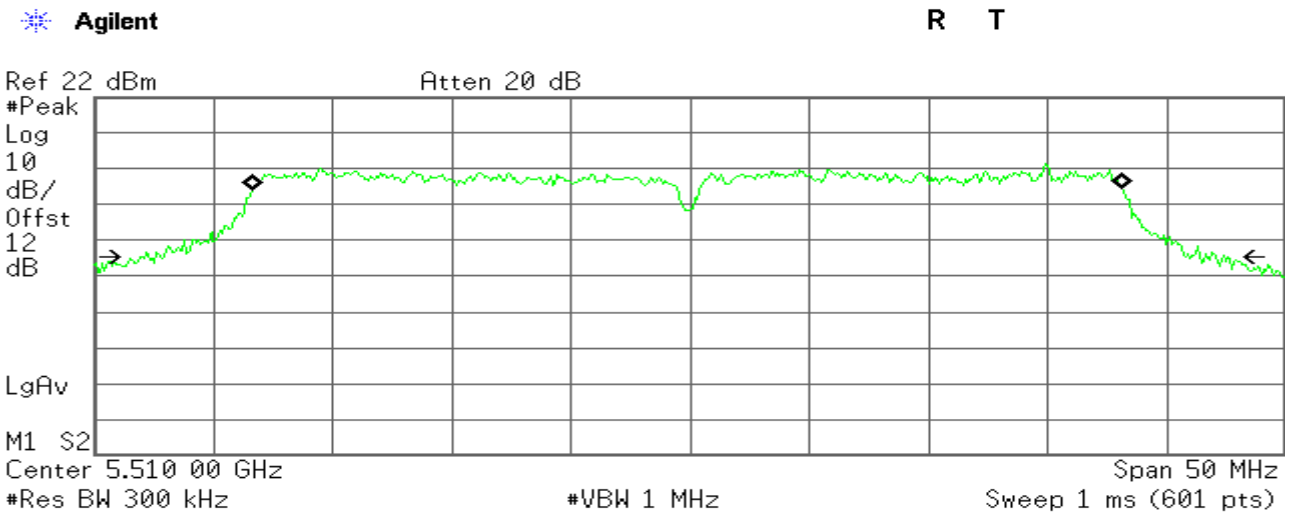
CH High



Transmit Freq Error -91.508 kHz
x dB Bandwidth 45.558 MHz

5470~5725MHz

CH Low

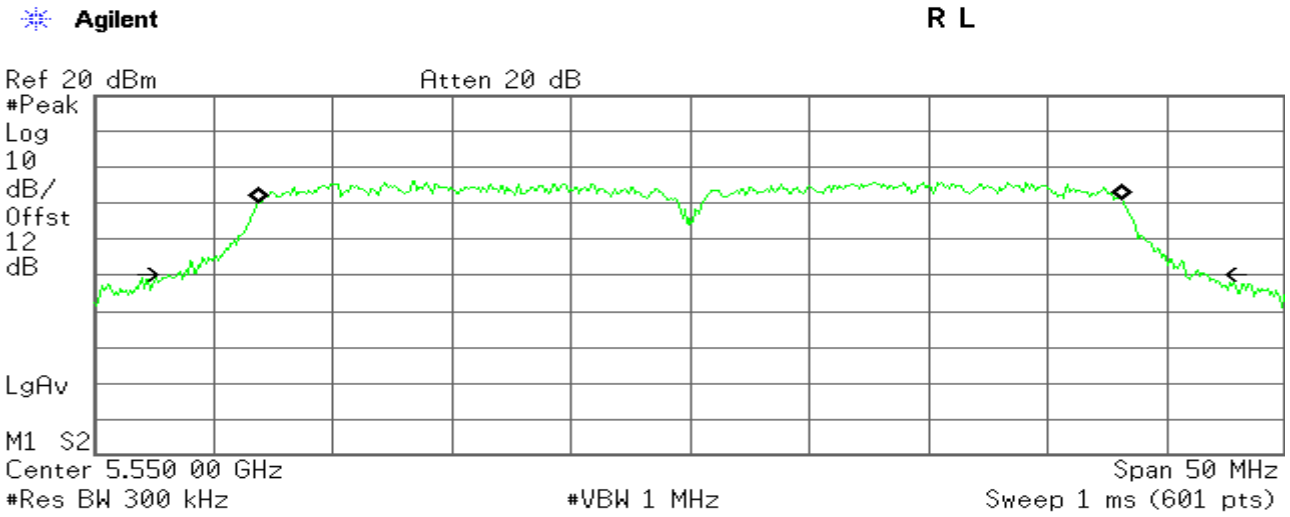


Occupied Bandwidth
36.2322 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -122.581 kHz
x dB Bandwidth 44.335 MHz

CH Mid

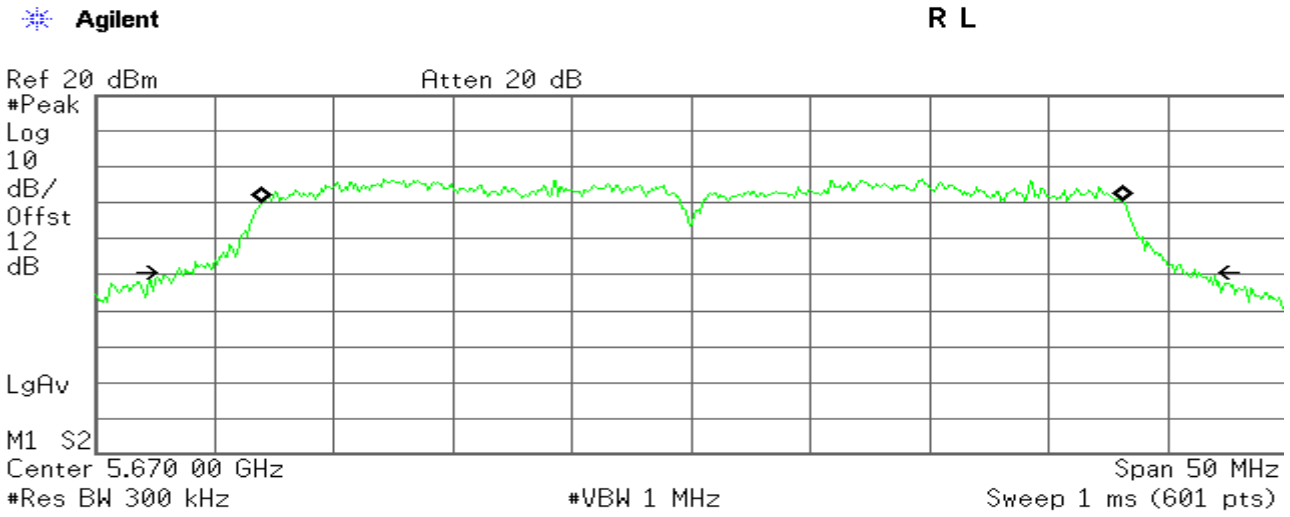


Occupied Bandwidth
36.4633 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 29.263 kHz
x dB Bandwidth 44.483 MHz

CH High

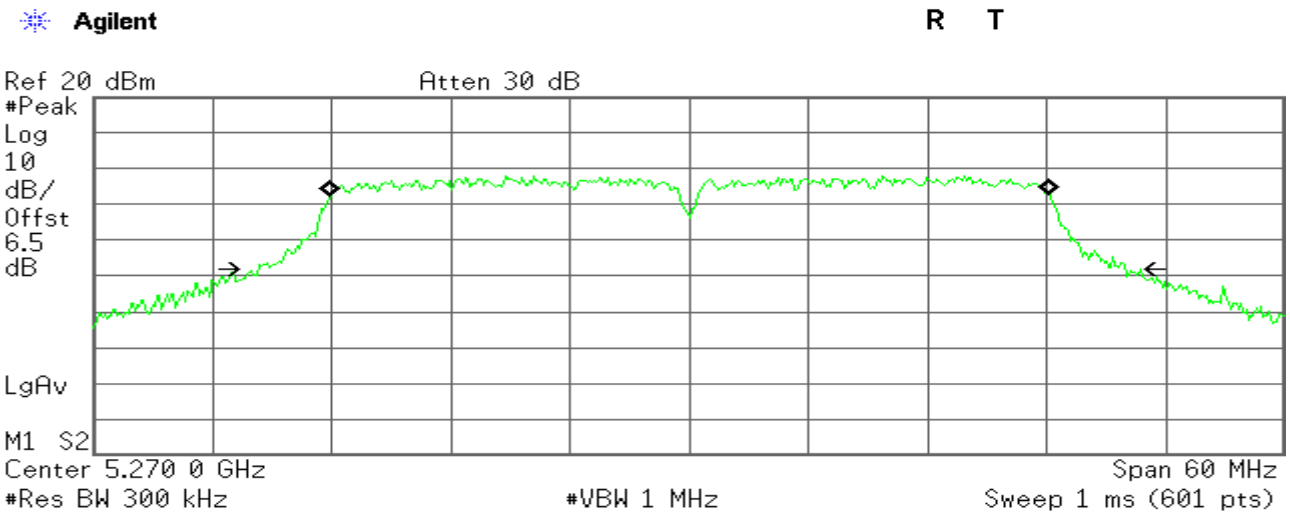


Transmit Freq Error	34.991 kHz
x dB Bandwidth	43.493 MHz

802.11n Wide-40 MHz Channel mode / Chain 1

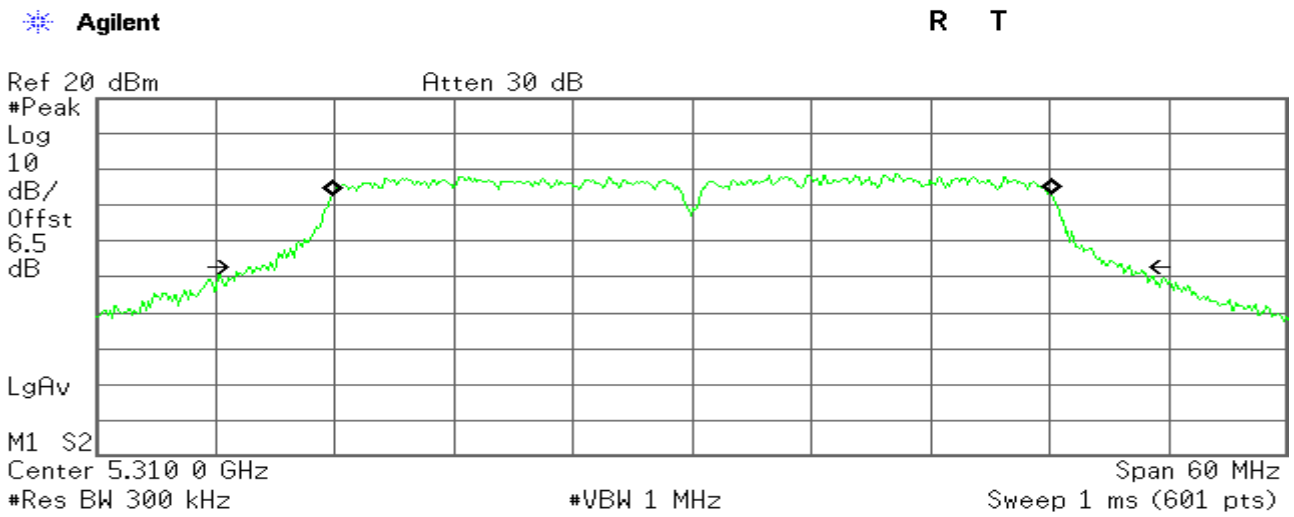
5250~5350MHz

CH Low



Transmit Freq Error	31.818 kHz
x dB Bandwidth	43.593 MHz

CH High



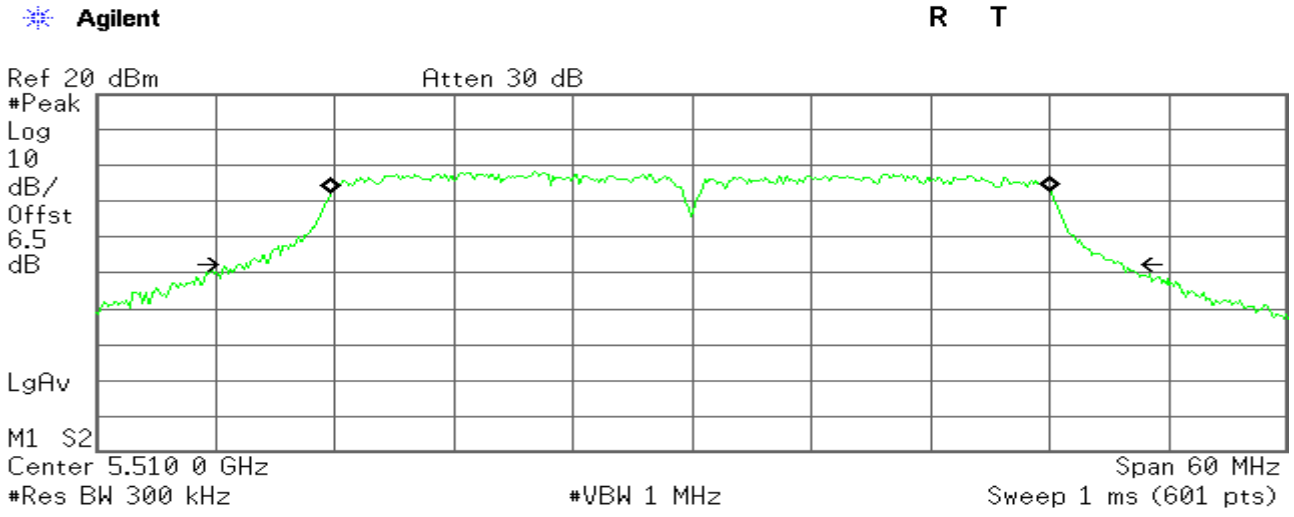
Occupied Bandwidth
36.1796 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -12.089 kHz
x dB Bandwidth 44.336 MHz

5470~5725MHz

CH Low

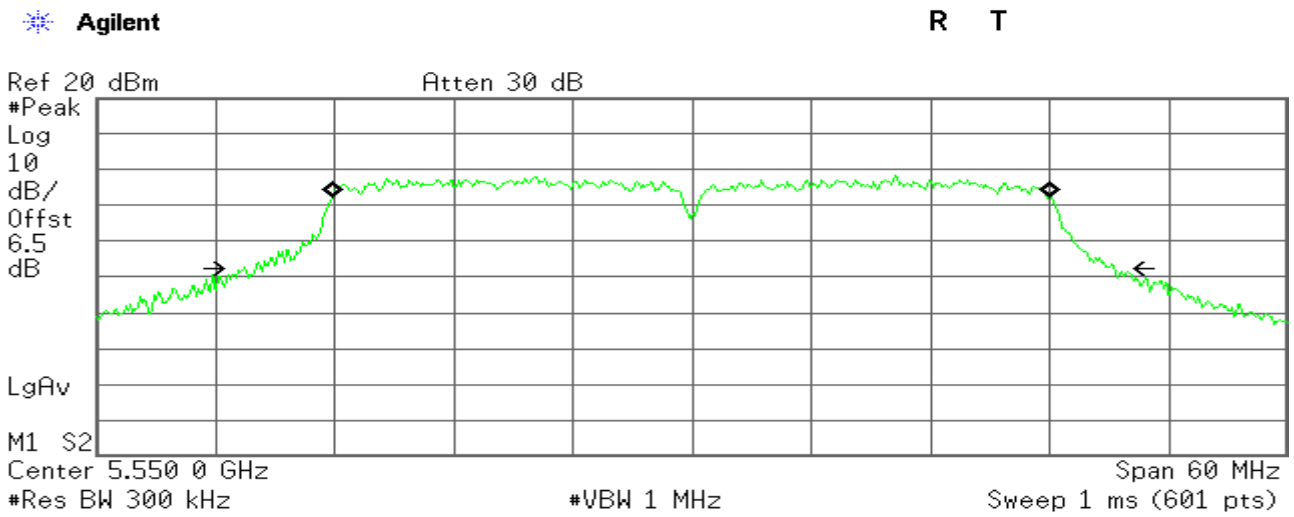


Occupied Bandwidth
36.2070 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -90.030 kHz
x dB Bandwidth 44.464 MHz

CH Mid

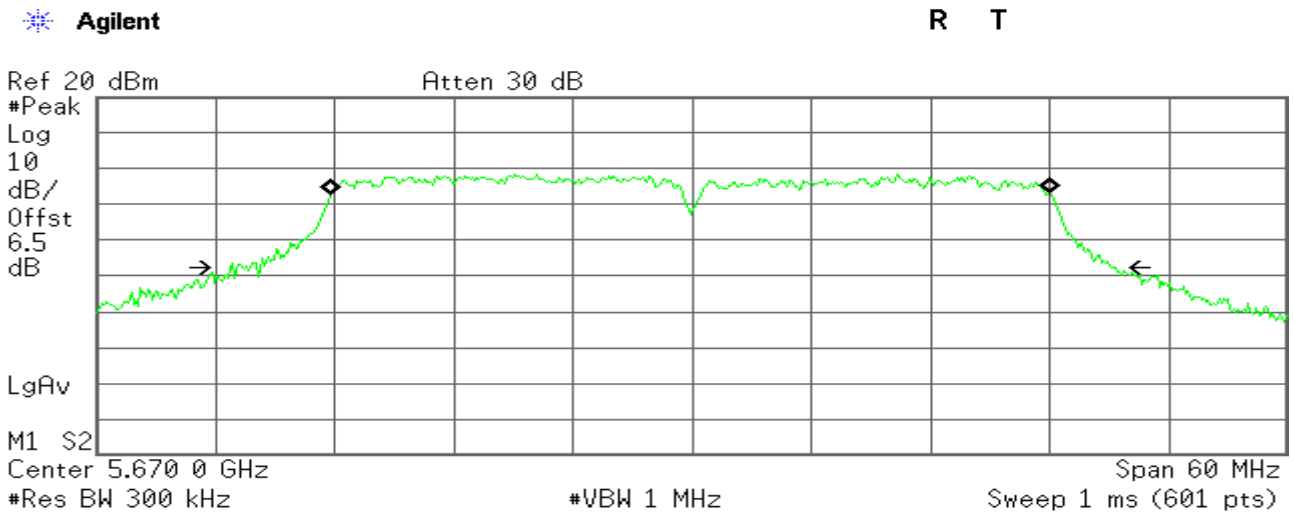


Occupied Bandwidth
36.1749 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -37.562 kHz
x dB Bandwidth 43.799 MHz

CH High



Occupied Bandwidth
36.2161 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -62.407 kHz
x dB Bandwidth 44.255 MHz

7.2. MAXIMUM 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 50 mW or 4 dBm + 10log B, 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 or 11 dBm + 10log B, where B is the 26 dB emission bandwidth in MHz.

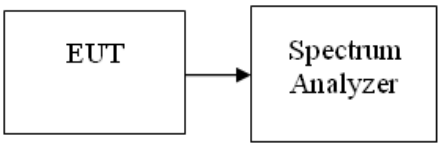
If transmitting antennas of directional gain greater than 6dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

The peak power shall not exceed the limit as follow:

Test Configuration

The EUT was connected to a spectrum analyzer through a 50Ω RF cable.

TEST PROCEDURE



Set span to encompass the entire emission bandwidth (EBW) of the signal.

Set RBW = 1 MHz / Set VBW = 3 MHz.

Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode. Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run”.·Trace average 100 traces in power averaging mode. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer’s band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode

5250~5350MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5260	12.92	24.00
Mid	5300	**12.97**	24.00
High	5320	12.67	24.00

5470~5725MHz

Channel	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5500	12.21	24.00
Mid	5540	11.54	24.00
High	5700	11.91	24.00

Test mode: 802.11n Standard-20 MHz Channel mode

5250~5350MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5260	10.84	11.25	14.06	24.00
Mid	5300	10.75	11.55	14.18	24.00
High	5320	12.74	13.46	**16.13**	24.00

Total maximum conducted power Chain 0+Chain 1:

Maximum Conducted Output Power(dBm)=10log(10^(chain0outputpower/10)+ 10^(chain1outputpower/10))

5470~5725MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5500	12.41	12.83	15.64	24.00
Mid	5550	11.54	12.80	15.23	24.00
High	5700	11.84	11.31	14.59	24.00

Total maximum conducted power Chain 0+Chain 1:
Maximum Conducted Output Power(dBm)=10log(10^(chain0outputpower/10)+ 10^(chain1outputpower/10))

Test mode: 802.11n Wide-40 MHz Channel mode

5250~5350MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5270	12.84	13.67	**16.29**	24.00
High	5310	12.00	13.96	16.10	24.00

Total maximum conducted power Chain 0+Chain 1:
Maximum Conducted Output Power(dBm)=10log(10^(chain0outputpower/10)+ 10^(chain1outputpower/10))

5470~5725MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5510	12.20	13.53	15.93	24.00
Mid	5550	12.53	13.15	15.86	24.00
High	5670	12.03	13.31	15.73	24.00

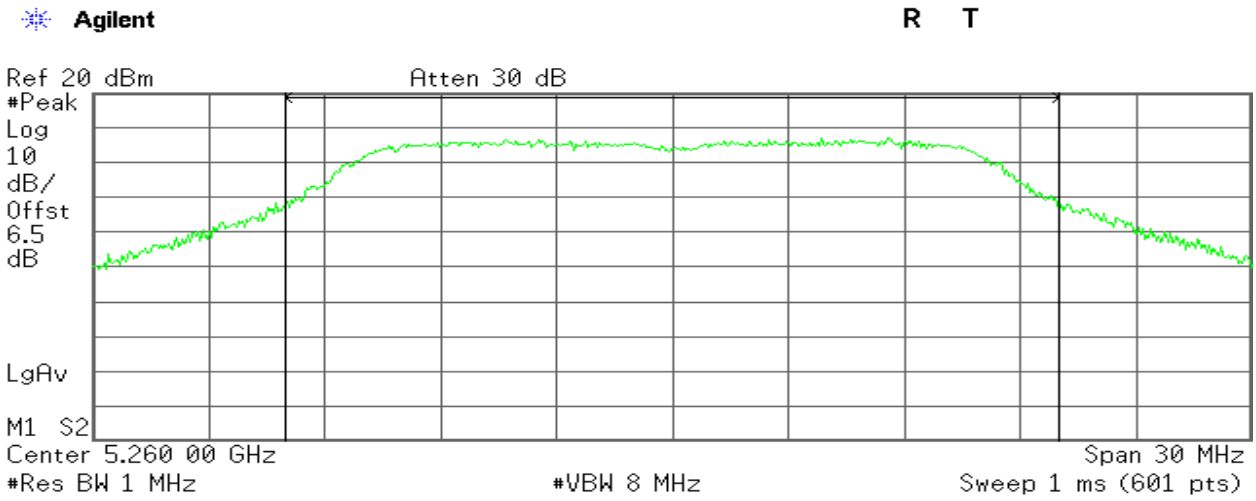
Total maximum conducted power Chain 0+Chain 1:
Maximum Conducted Output Power(dBm)=10log(10^(chain0outputpower/10)+ 10^(chain1outputpower/10))

Test Plot

Test mode: IEEE 802.11a mode:

5250~5350MHz

CH Low



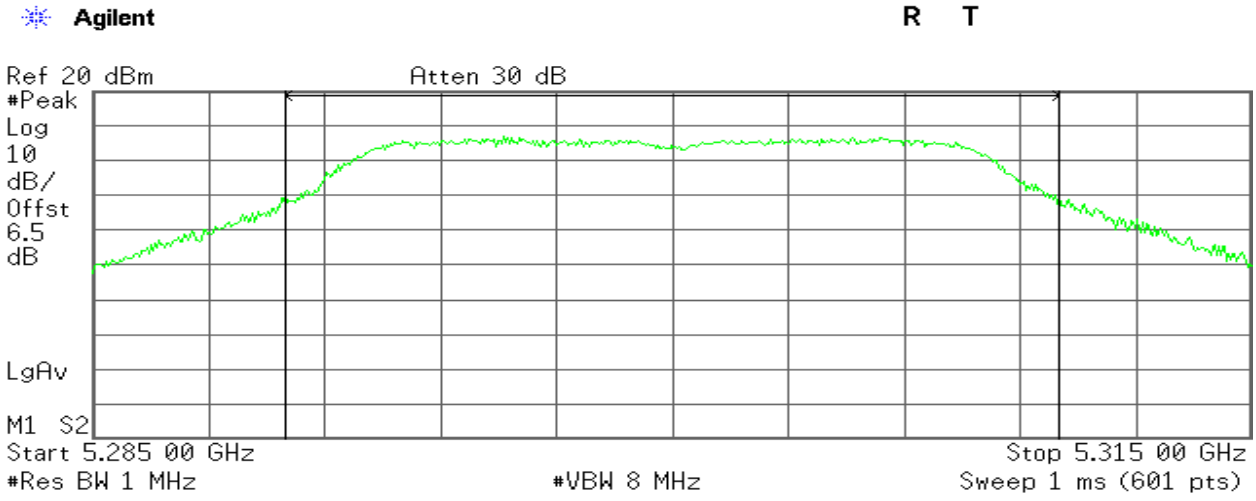
Channel Power

12.92 dBm /20.0000 MHz

Power Spectral Density

-0.09 dBm/MHz

CH Mid



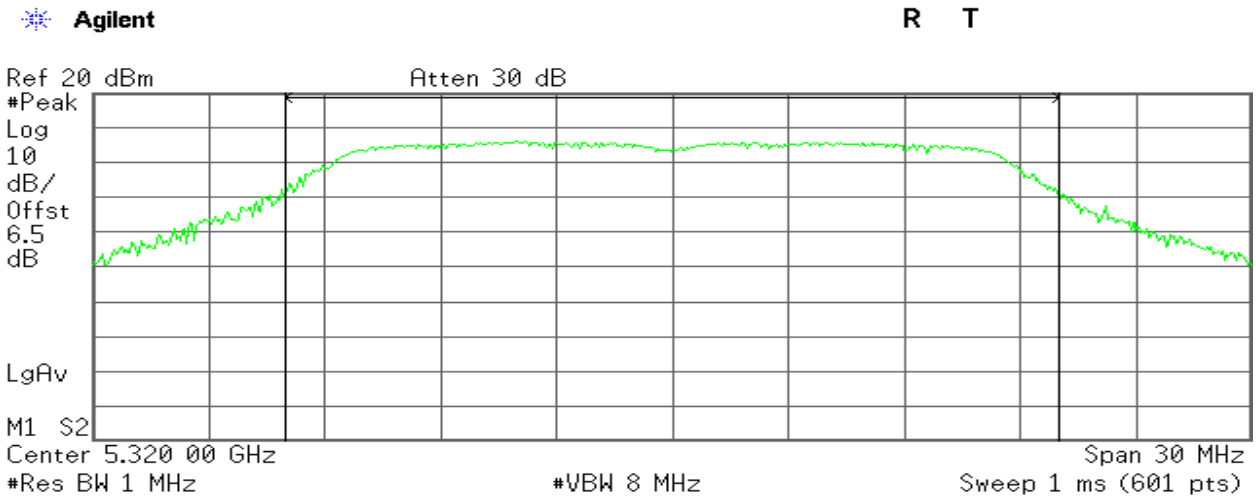
Channel Power

12.97 dBm /20.0000 MHz

Power Spectral Density

-0.04 dBm/MHz

CH High



Channel Power

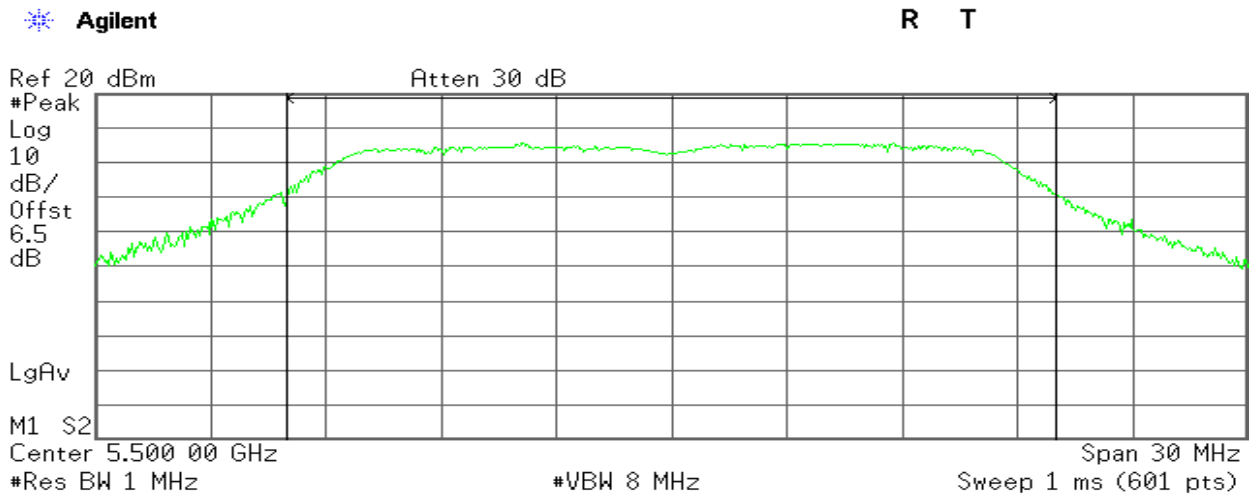
12.67 dBm /20.0000 MHz

Power Spectral Density

-0.34 dBm/MHz

5470~5725MHz

CH Low



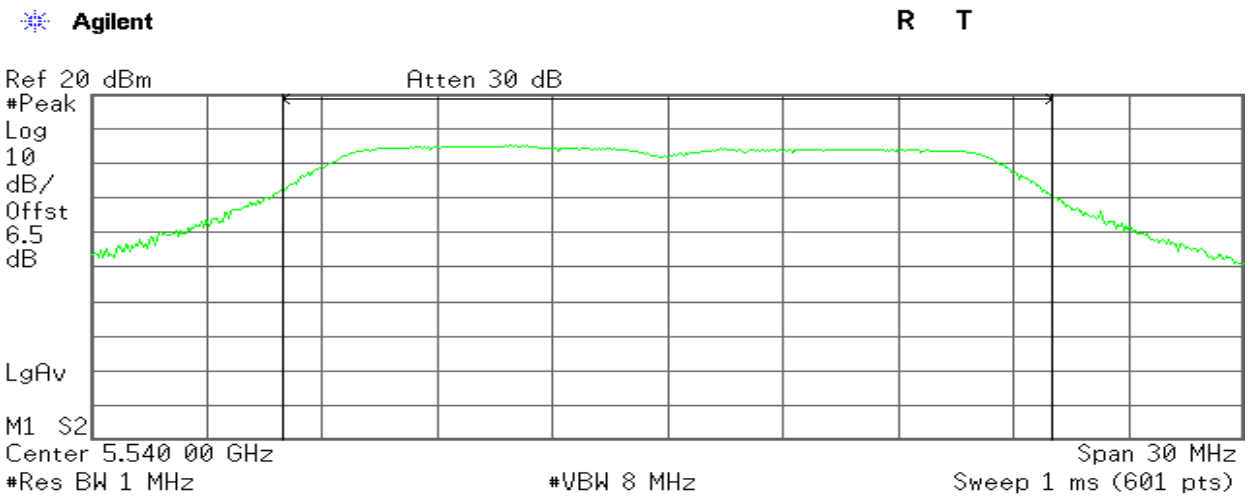
Channel Power

12.21 dBm /20.0000 MHz

Power Spectral Density

-0.80 dBm/MHz

CH Mid



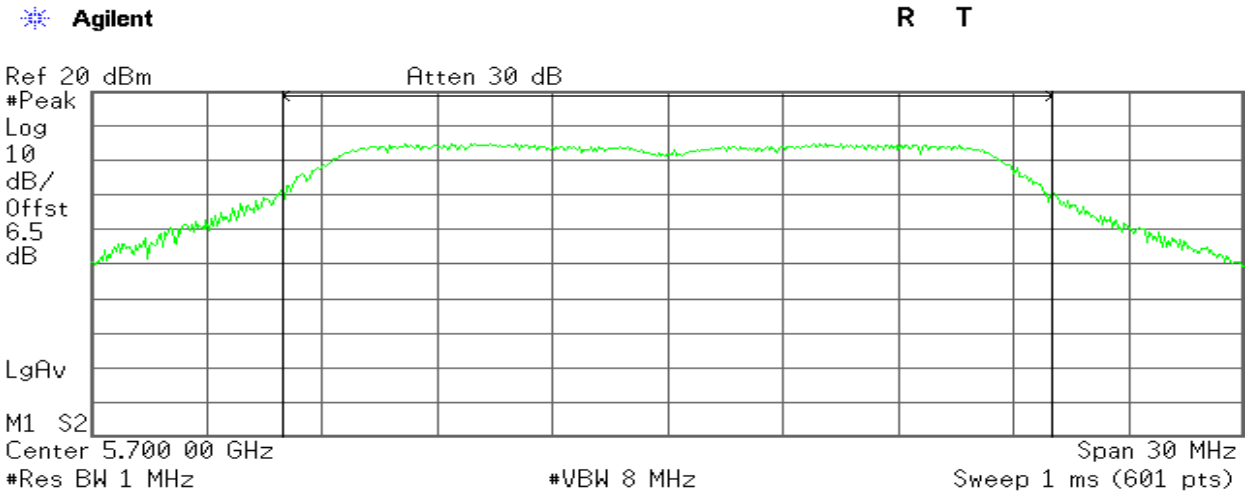
Channel Power

11.54 dBm /20.0000 MHz

Power Spectral Density

-1.47 dBm/MHz

CH High



Channel Power

11.91 dBm /20.0000 MHz

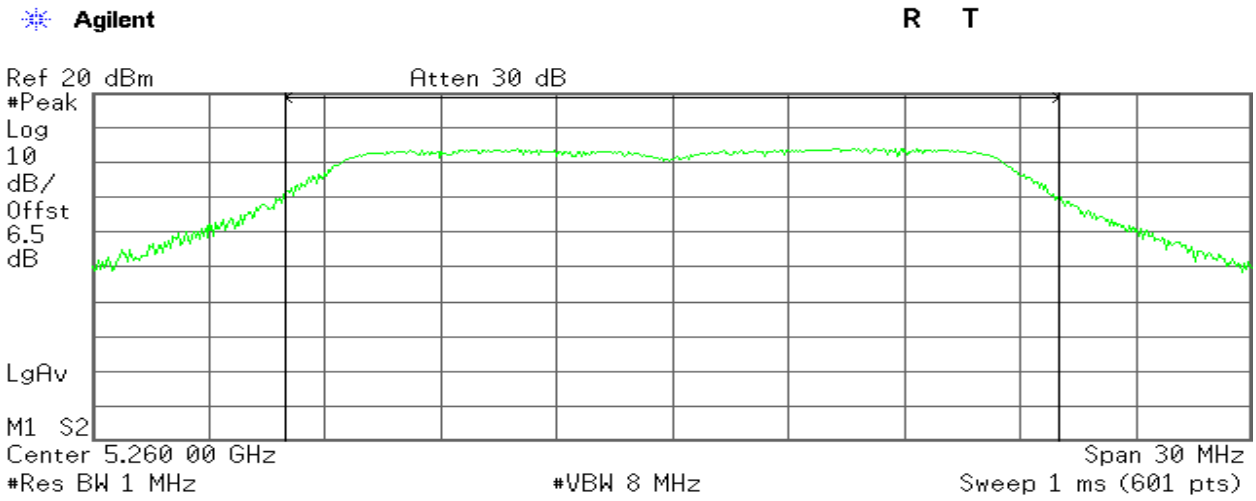
Power Spectral Density

-1.10 dBm/MHz

Test mode: 802.11n Standard-20 MHz Channel mode / Chain 0:

5250~5350MHz

CH Low



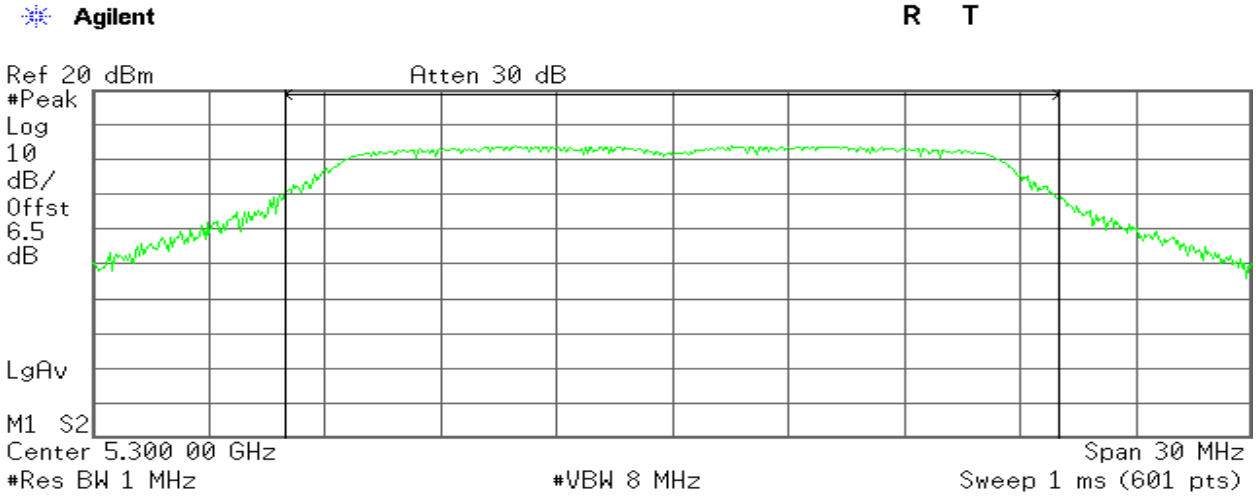
Channel Power

10.84 dBm /20.0000 MHz

Power Spectral Density

-2.17 dBm/MHz

CH Mid



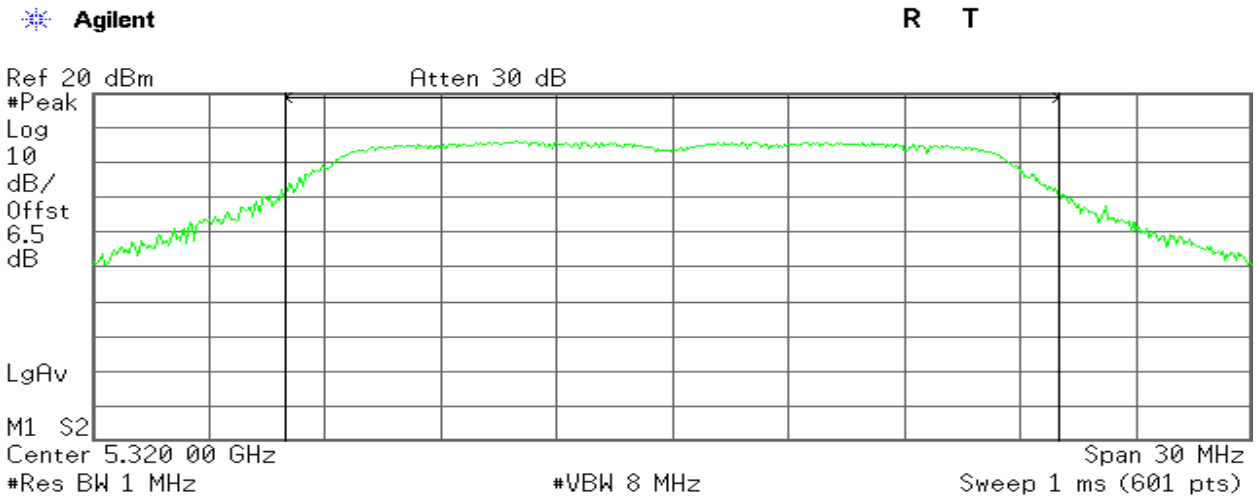
Channel Power

10.75 dBm /20.0000 MHz

Power Spectral Density

-2.26 dBm/MHz

CH High



Channel Power

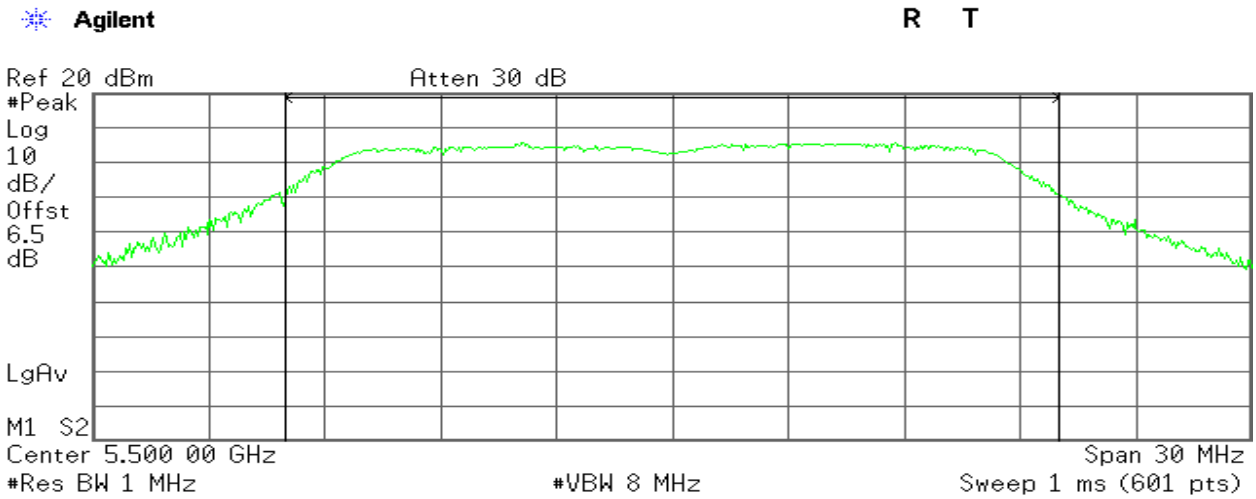
12.74 dBm /20.0000 MHz

Power Spectral Density

-0.27 dBm/MHz

5470~5725MHz

CH Low



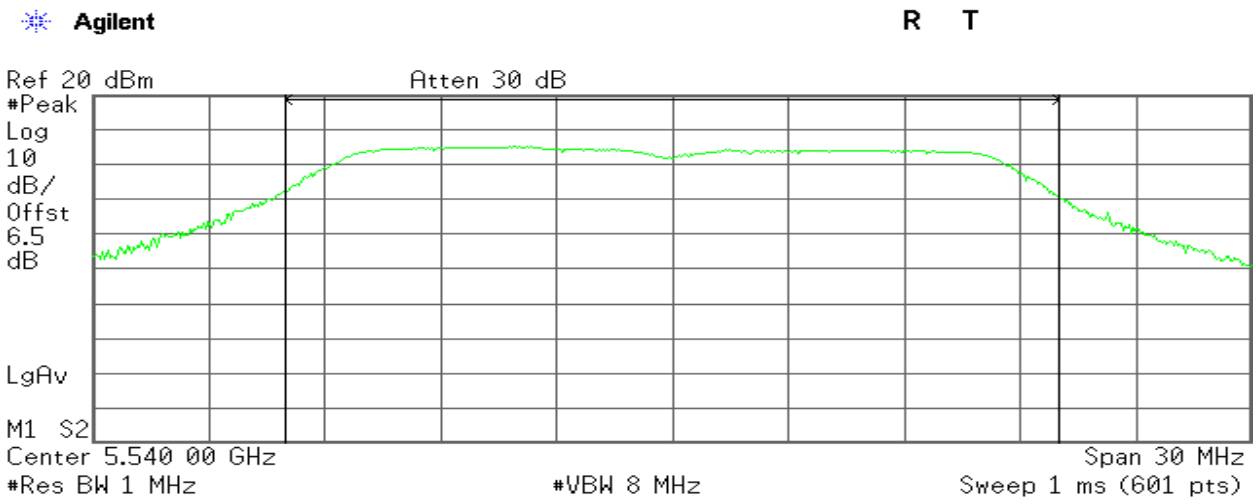
Channel Power

12.41 dBm /20.0000 MHz

Power Spectral Density

-0.60 dBm/MHz

CH Mid



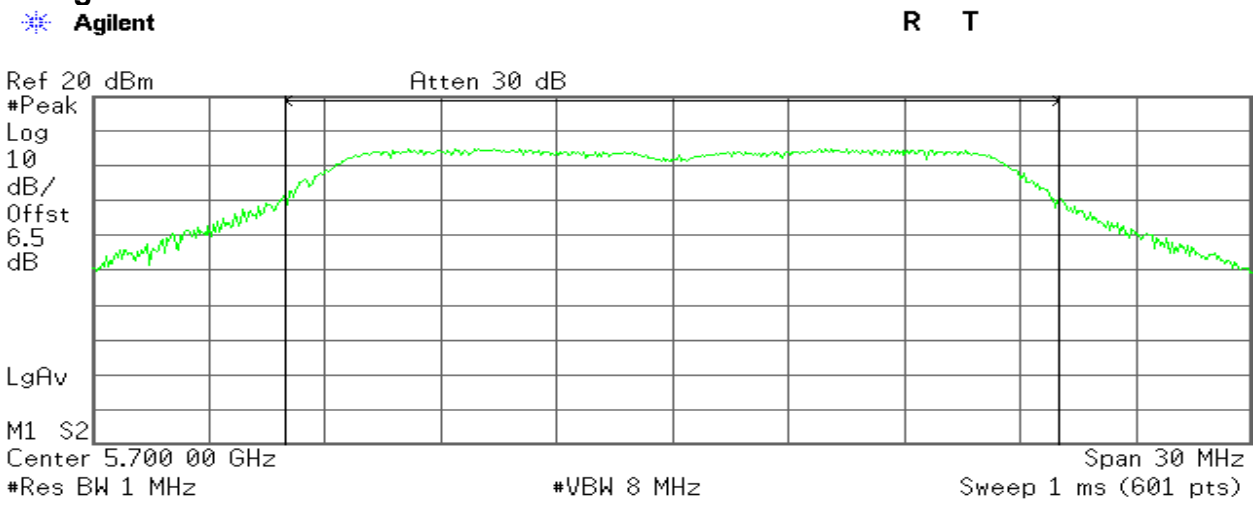
Channel Power

11.54 dBm /20.0000 MHz

Power Spectral Density

−1.47 dBm/MHz

CH High



Channel Power

11.84 dBm /20.0000 MHz

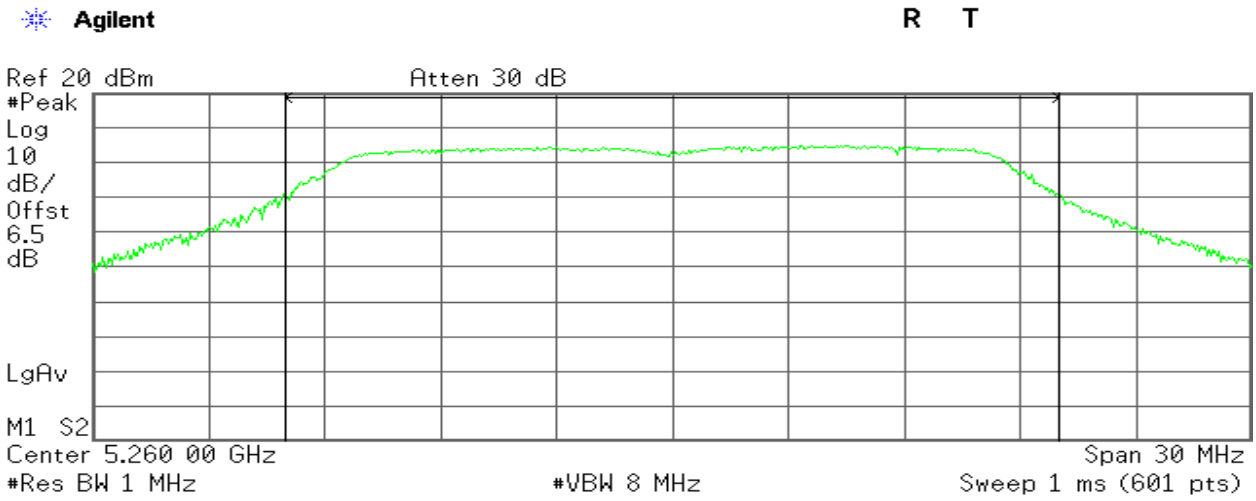
Power Spectral Density

−1.17 dBm/MHz

Test mode: 802.11n Standard-20 MHz Channel mode / Chain 1:

5250~5350MHz

CH Low



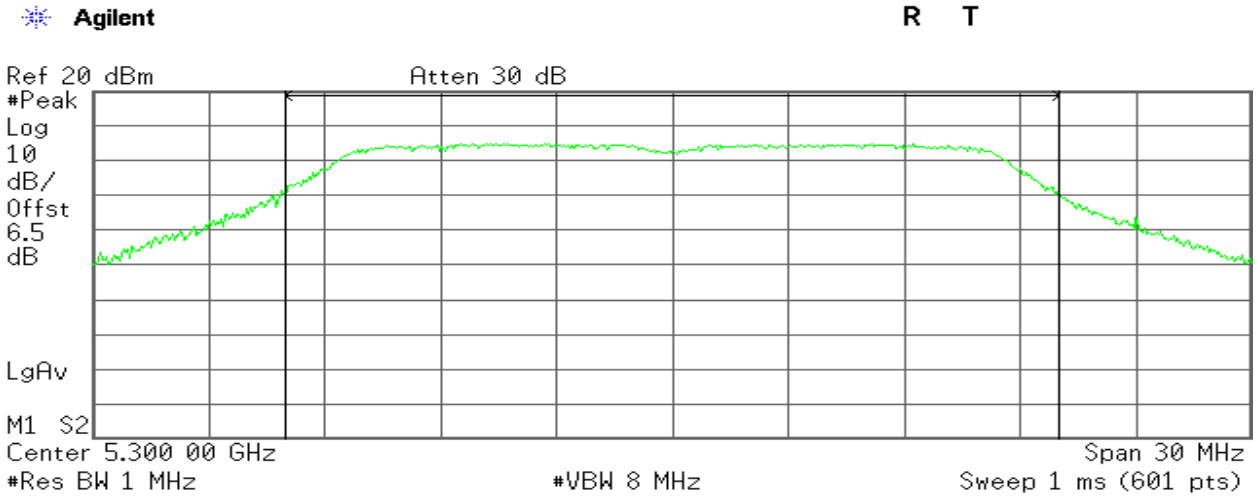
Channel Power

11.25 dBm /20.0000 MHz

Power Spectral Density

-1.76 dBm/MHz

CH Mid



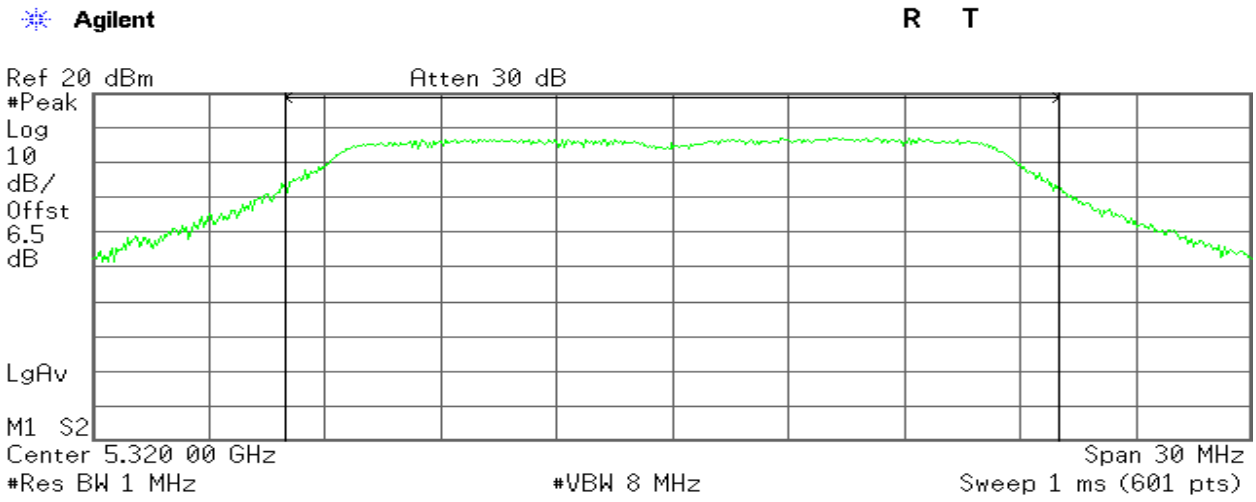
Channel Power

11.55 dBm /20.0000 MHz

Power Spectral Density

-1.46 dBm/MHz

CH High



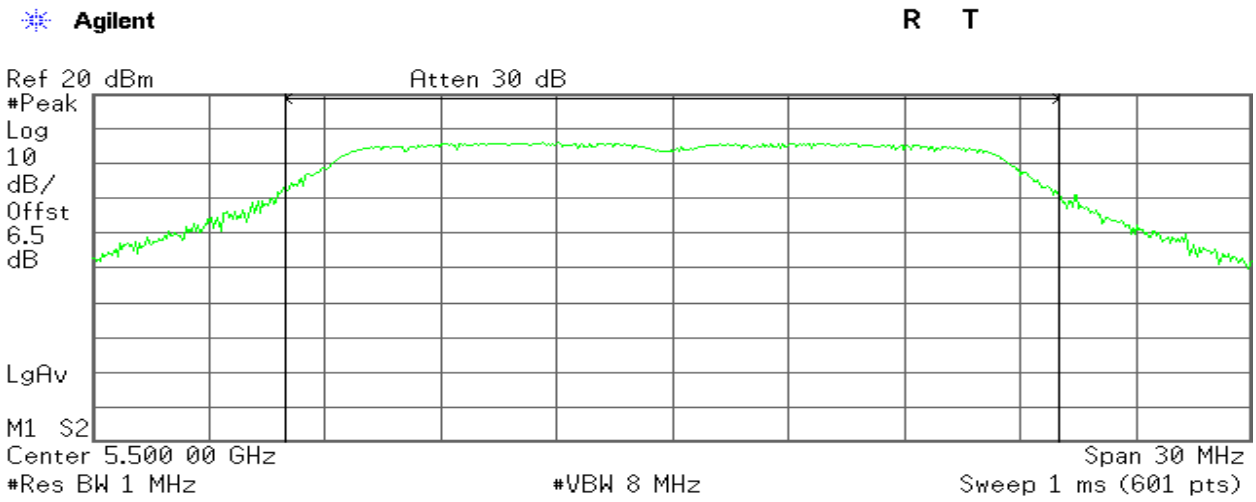
Channel Power

13.46 dBm /20.0000 MHz

Power Spectral Density

0.45 dBm/MHz

5470~5725MHz
CH Low



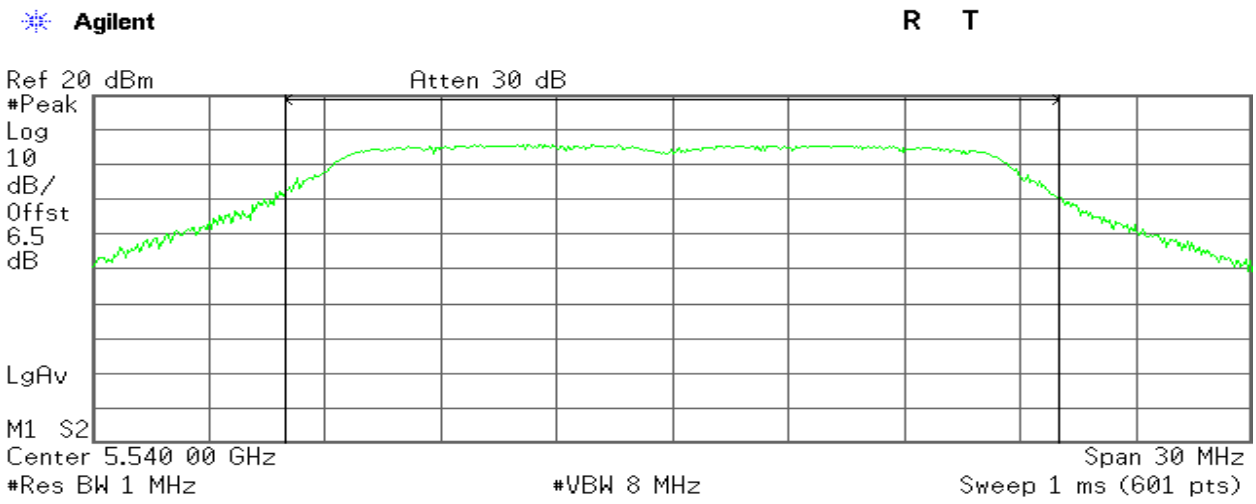
Channel Power

12.83 dBm /20.0000 MHz

Power Spectral Density

-0.18 dBm/MHz

CH Mid



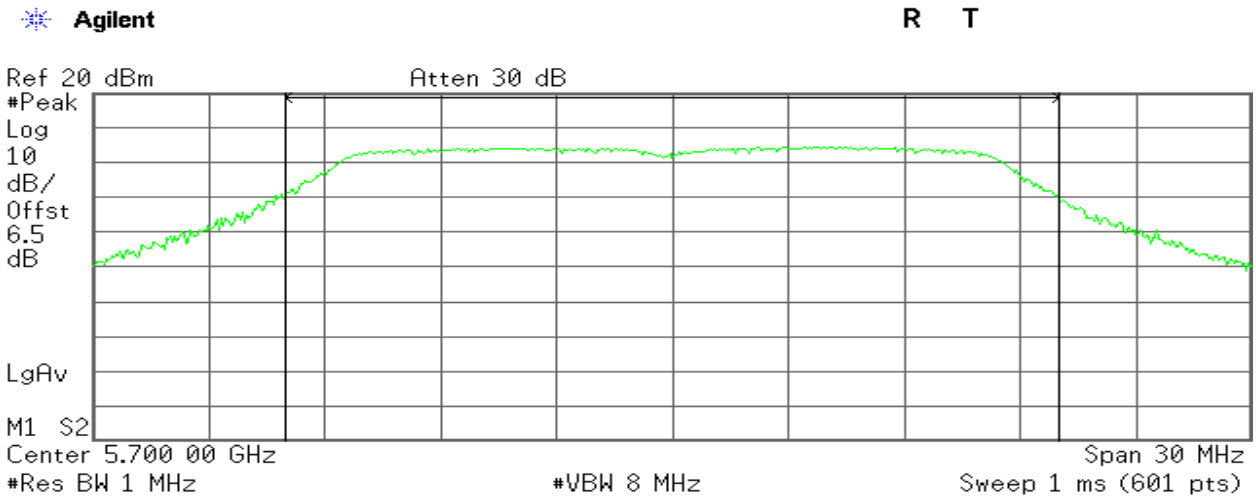
Channel Power

12.80 dBm /20.0000 MHz

Power Spectral Density

-0.21 dBm/MHz

CH High



Channel Power

11.31 dBm /20.0000 MHz

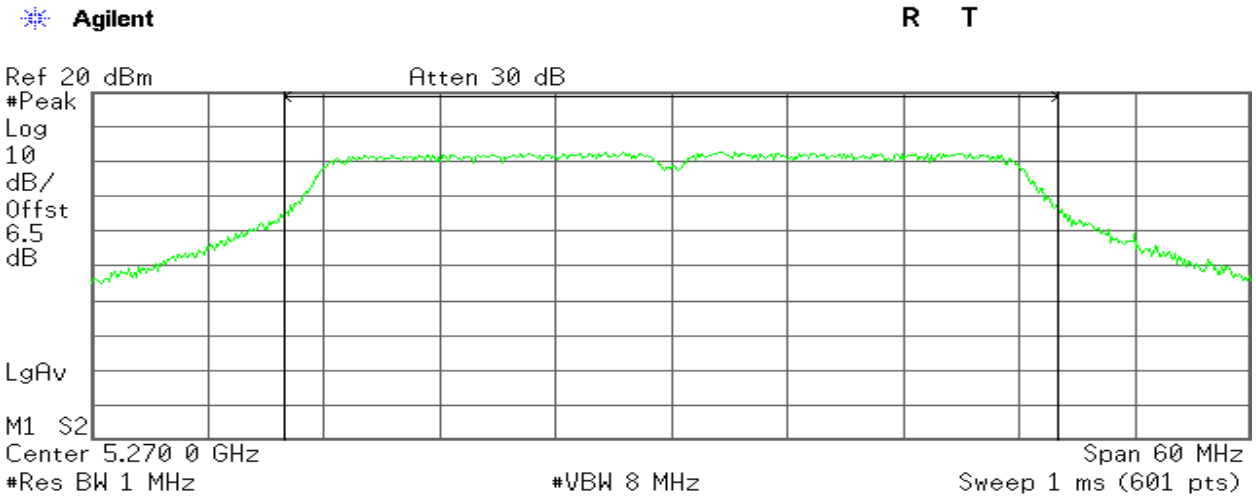
Power Spectral Density

-1.70 dBm/MHz

Test mode: 802.11n Wide-40 MHz Channel mode / Chain 0:

5250~5350MHz

CH Low



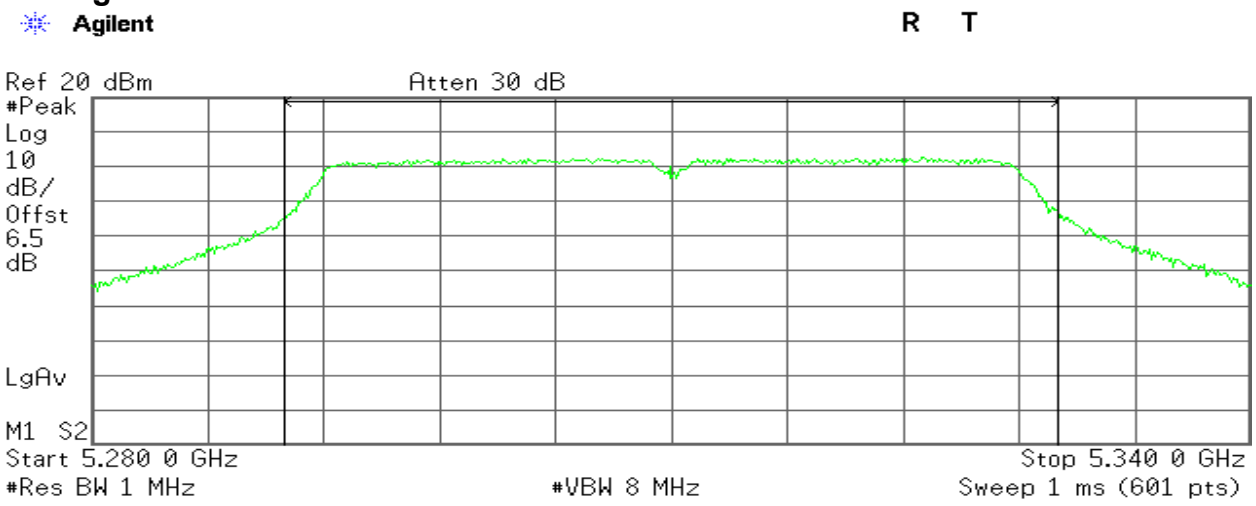
Channel Power

12.84 dBm /40.0000 MHz

Power Spectral Density

-3.18 dBm/MHz

CH High



Channel Power

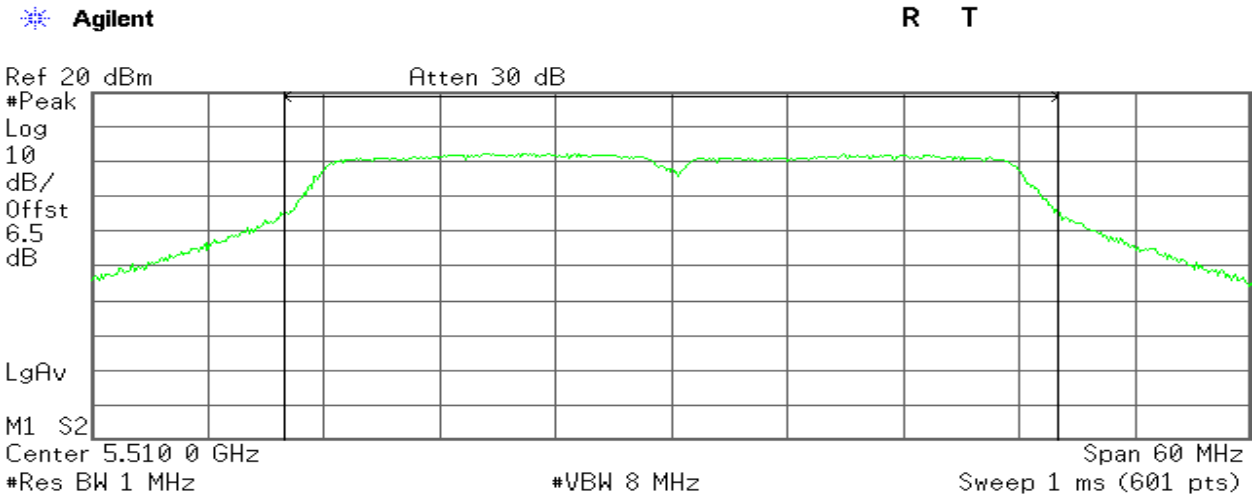
12.00 dBm /40.0000 MHz

Power Spectral Density

-4.02 dBm/MHz

5470~5725MHz

CH Low



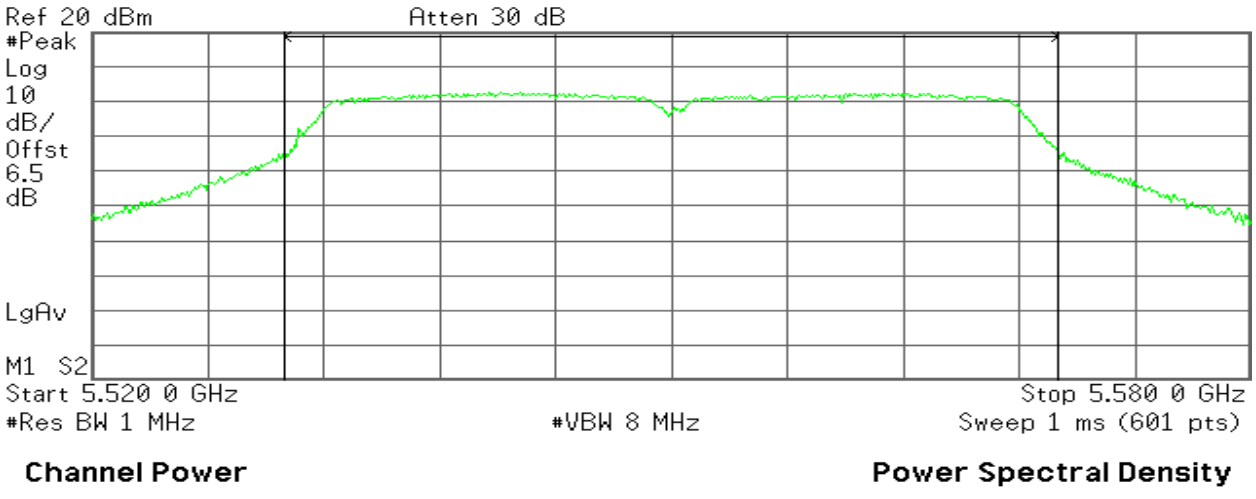
Channel Power

12.20 dBm /40.0000 MHz

Power Spectral Density

-3.82 dBm/MHz

CH Mid



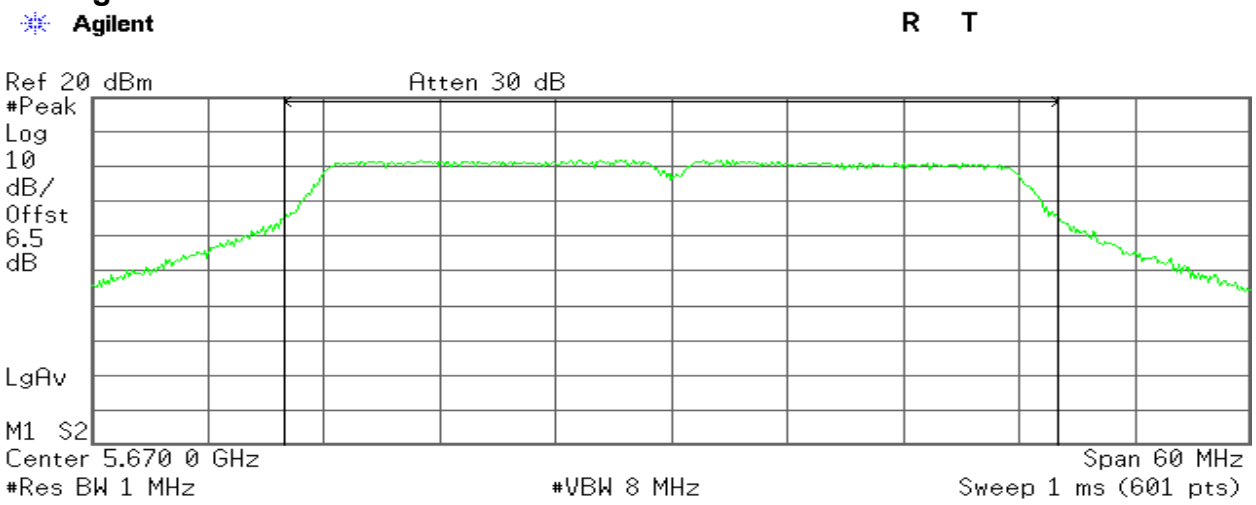
Channel Power

12.53 dBm /40.0000 MHz

Power Spectral Density

-3.49 dBm/MHz

CH High



Channel Power

12.03 dBm /40.0000 MHz

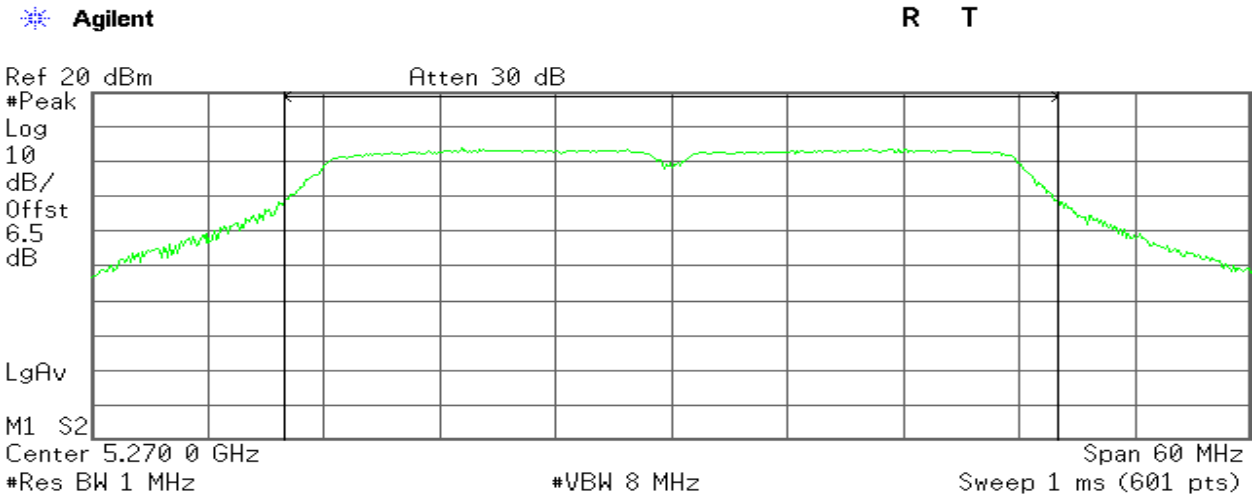
Power Spectral Density

-4.00 dBm/MHz

Test mode: 802.11n Wide-40 MHz Channel mode / Chain 1:

5250~5350MHz

CH Low



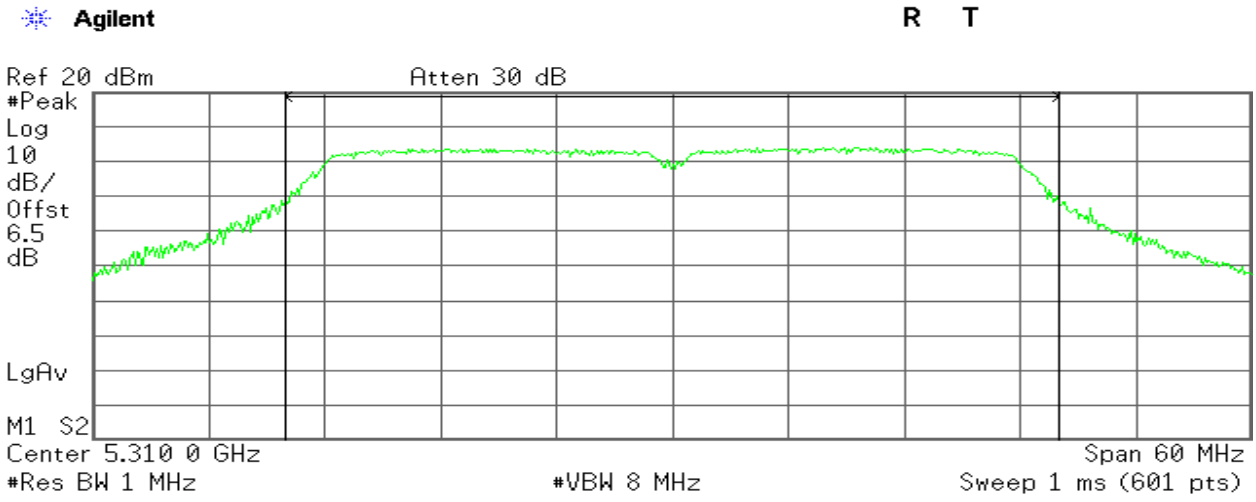
Channel Power

13.67 dBm /40.0000 MHz

Power Spectral Density

-2.35 dBm/MHz

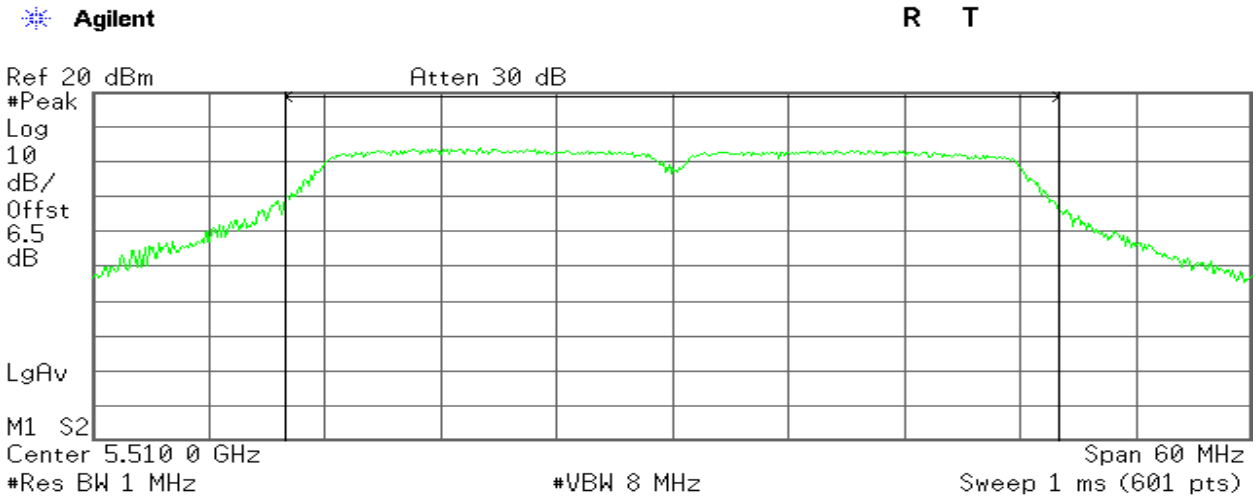
CH High



Channel Power
13.96 dBm /40.0000 MHz

Power Spectral Density
-2.06 dBm/MHz

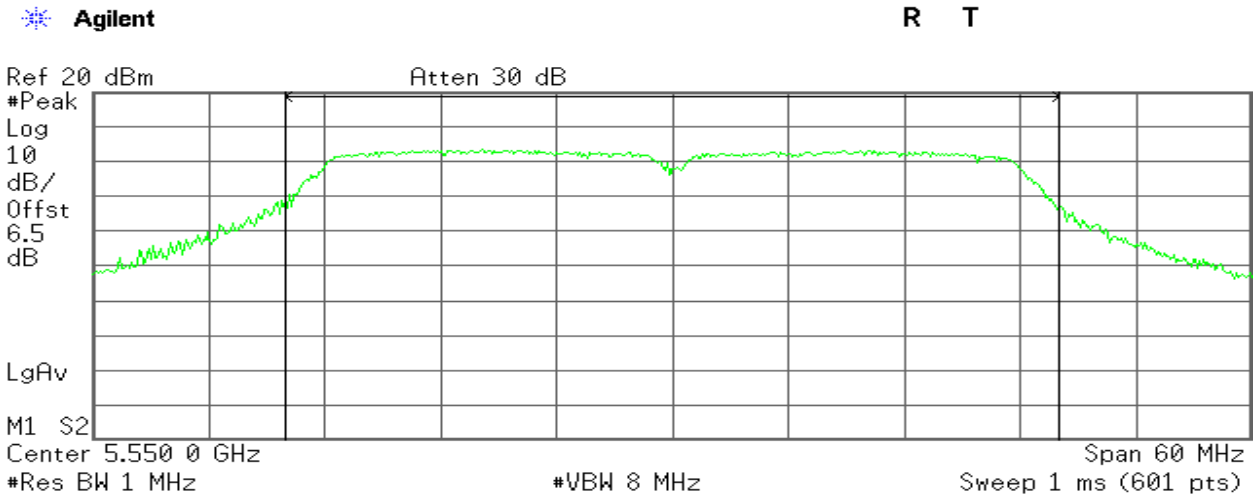
5470~5725MHz
CH Low



Channel Power
13.53 dBm /40.0000 MHz

Power Spectral Density
-2.50 dBm/MHz

CH Mid



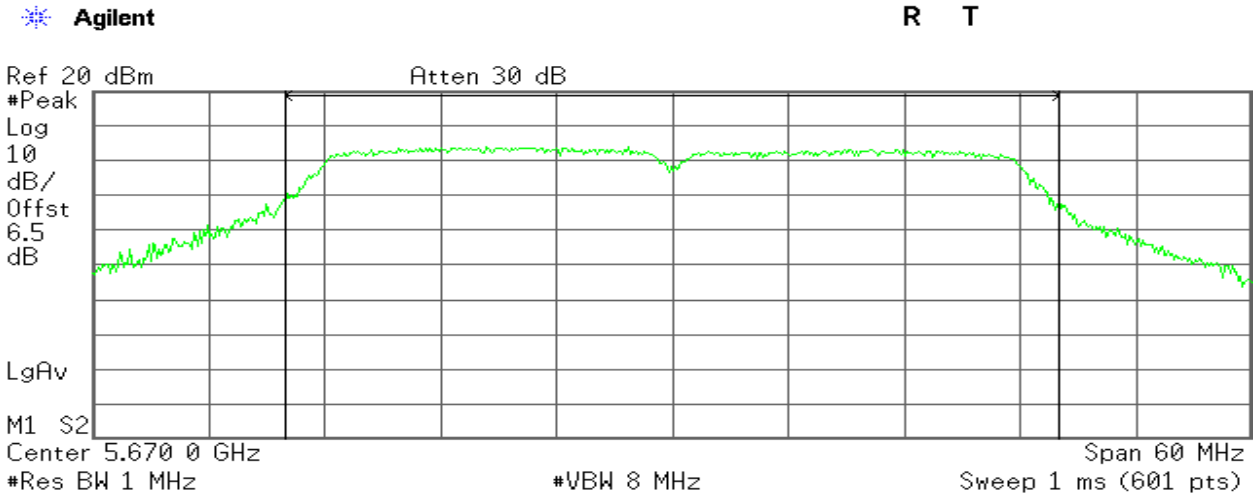
Channel Power

13.15 dBm /40.0000 MHz

Power Spectral Density

-2.87 dBm/MHz

CH High



Channel Power

13.31 dBm /40.0000 MHz

Power Spectral Density

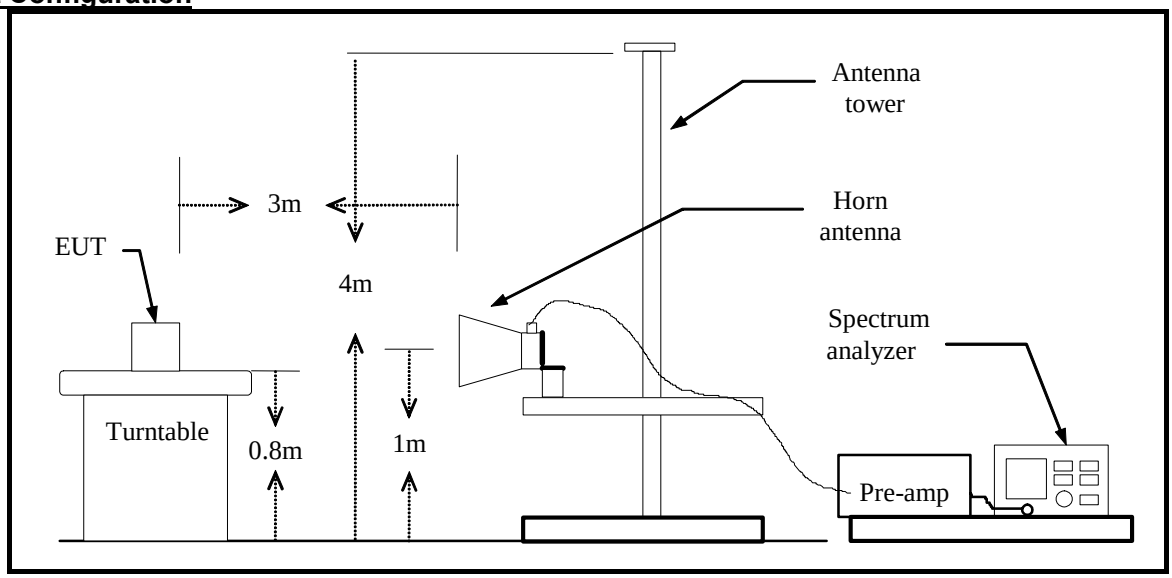
-2.71 dBm/MHz

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

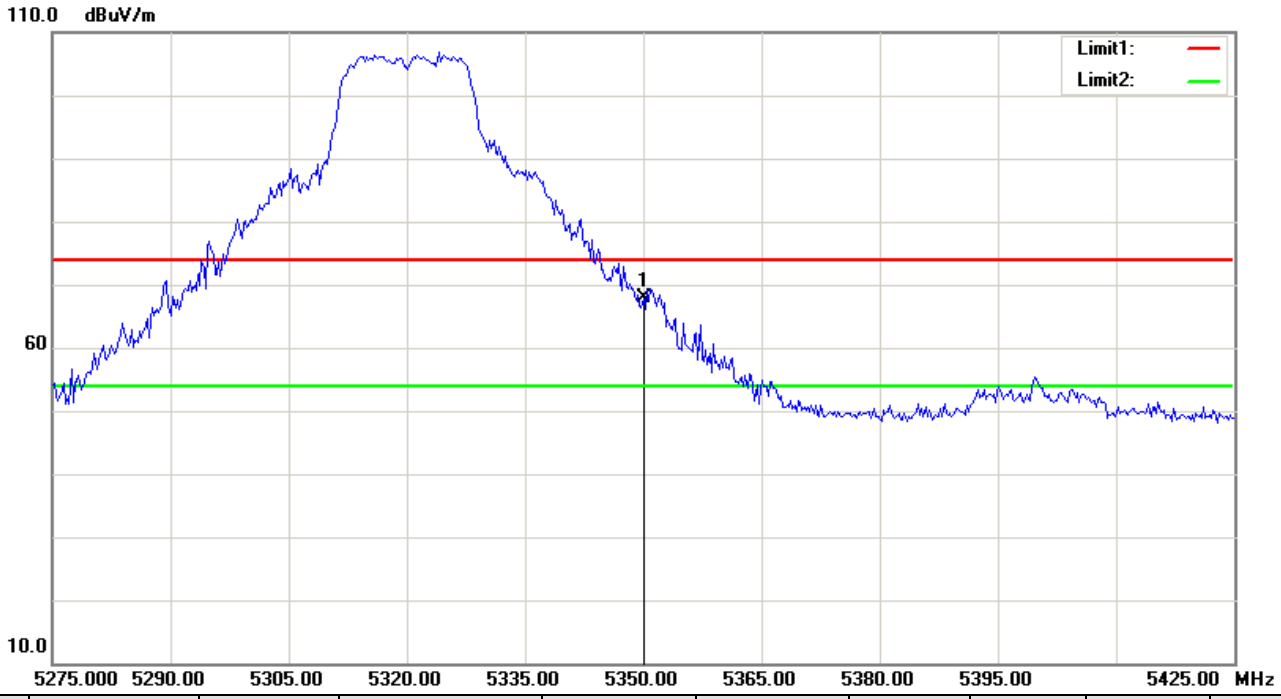
1. The EUT is placed on a turntable, which is 0.8m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the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

TEST RESULTS

Refer to attach spectrum analyzer data chart.

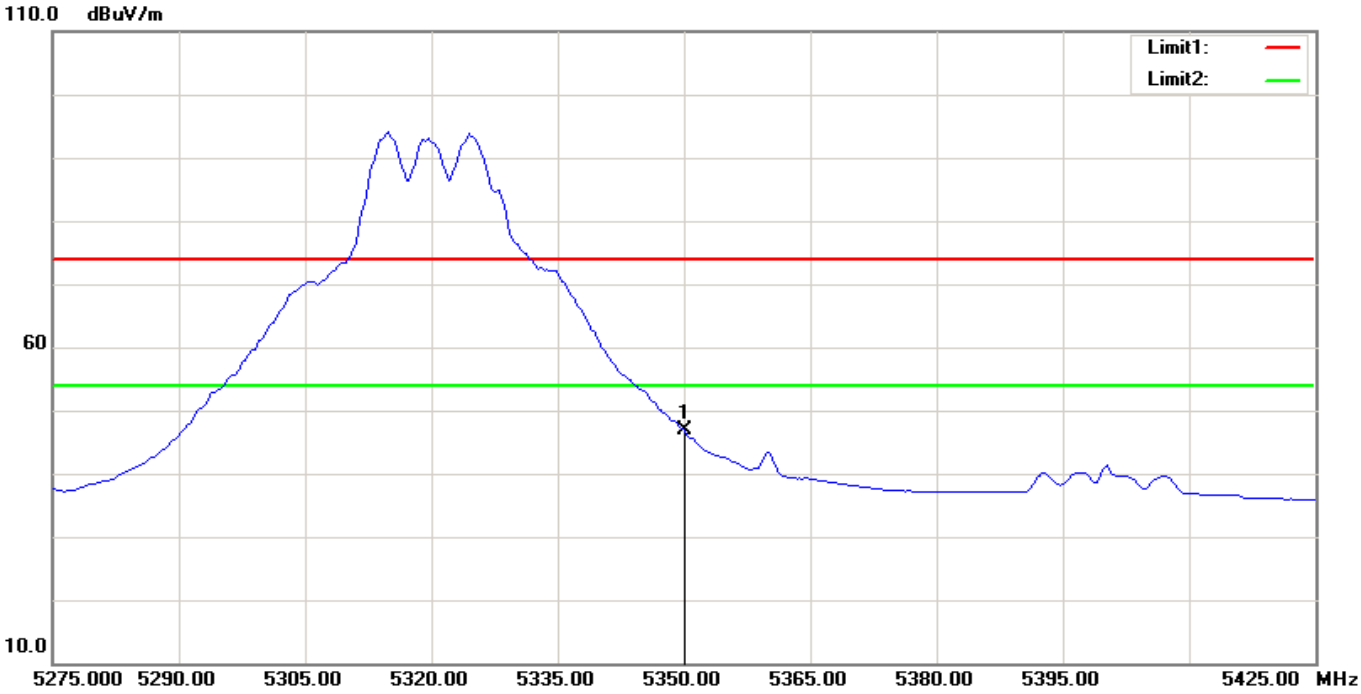
Band Edges (802.11a mode 5320MHz) For AP121

Detector mode: Peak **Polarity: Vertical**



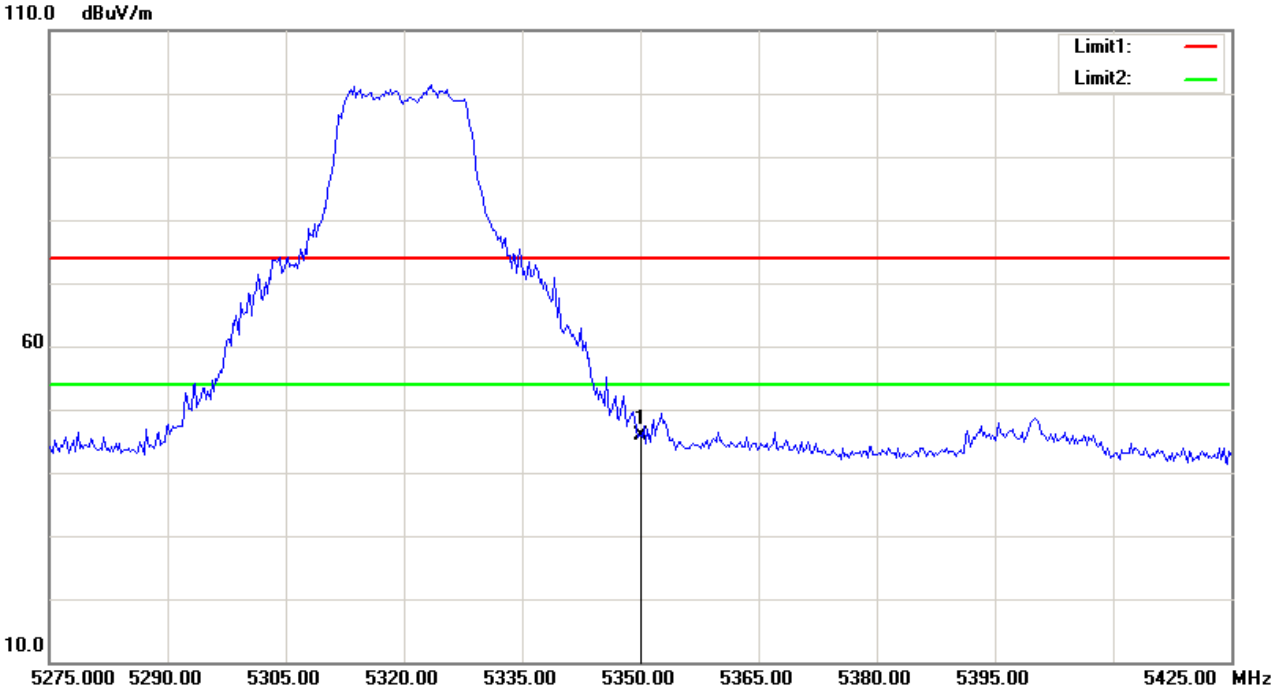
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	74.77	-6.97	67.80	74.00	-6.20	100	21	peak

Detector mode: Average **Polarity: Vertical**



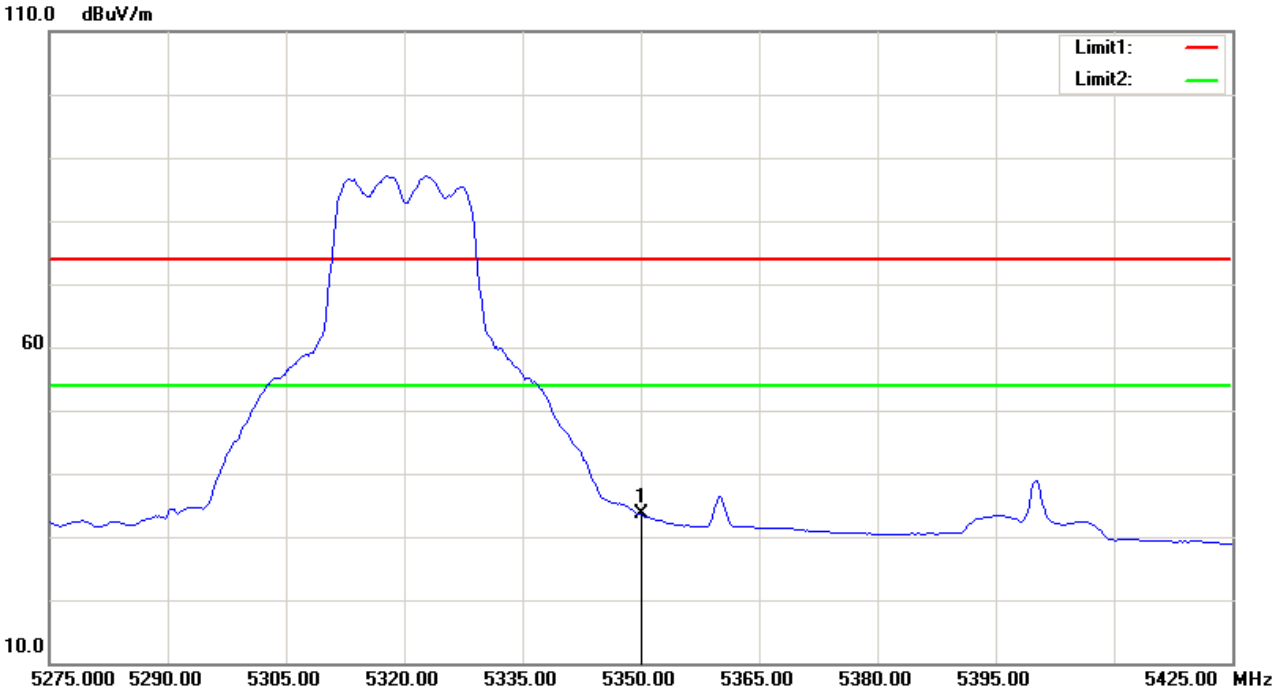
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	53.77	-6.97	46.80	54.00	-7.20	100	21	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	52.84	-6.97	45.87	74.00	-28.13	100	4	peak

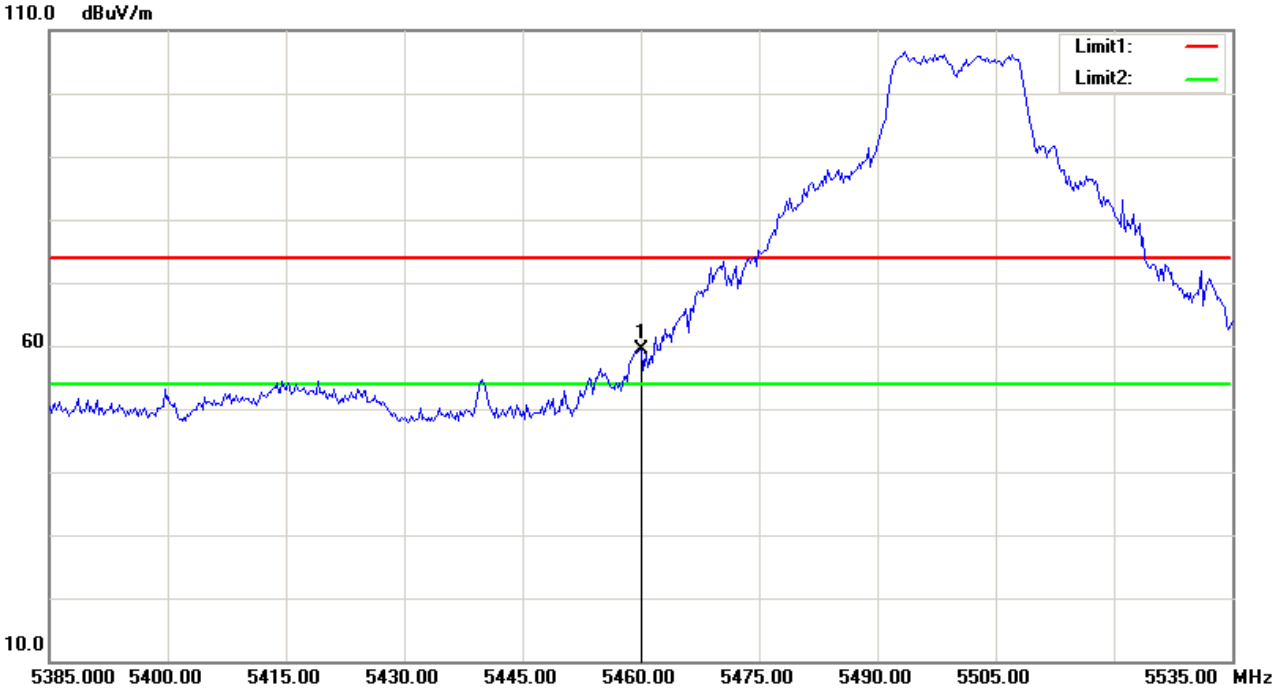
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	40.48	-6.97	33.51	54.00	-20.49	100	4	AVG

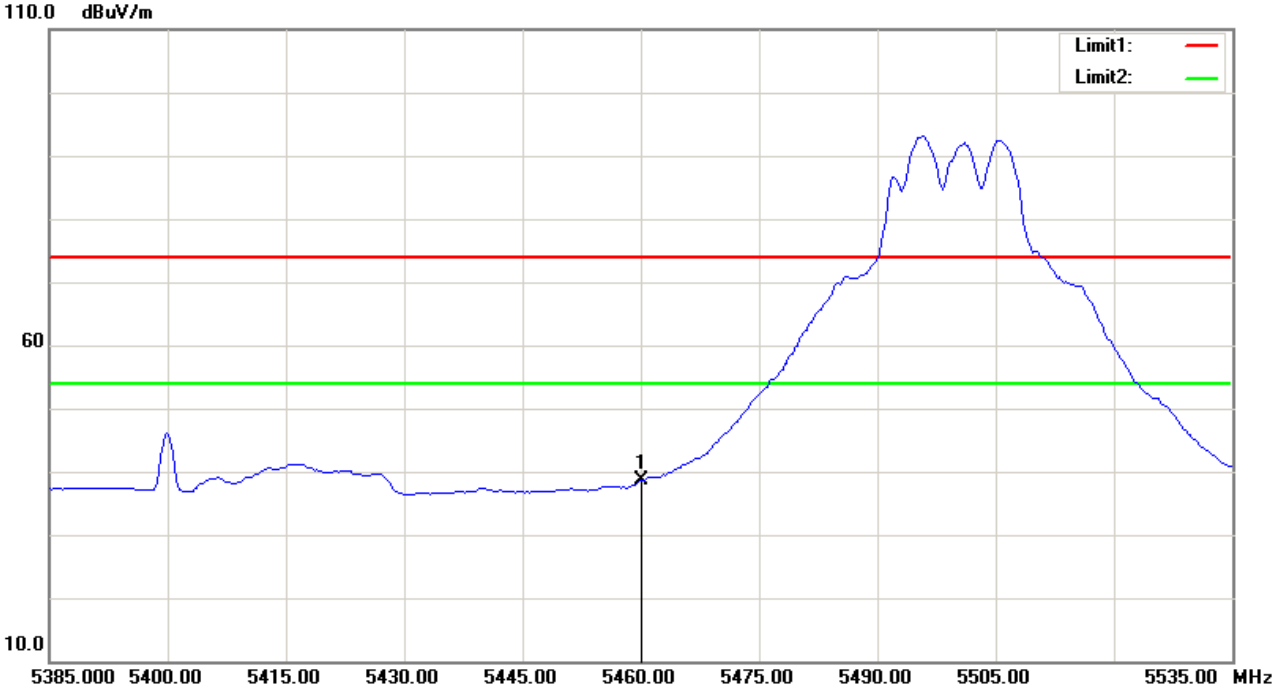
Band Edges (802.11a 5500MHz) For AP121

Detector mode: Peak **Polarity: Vertical**



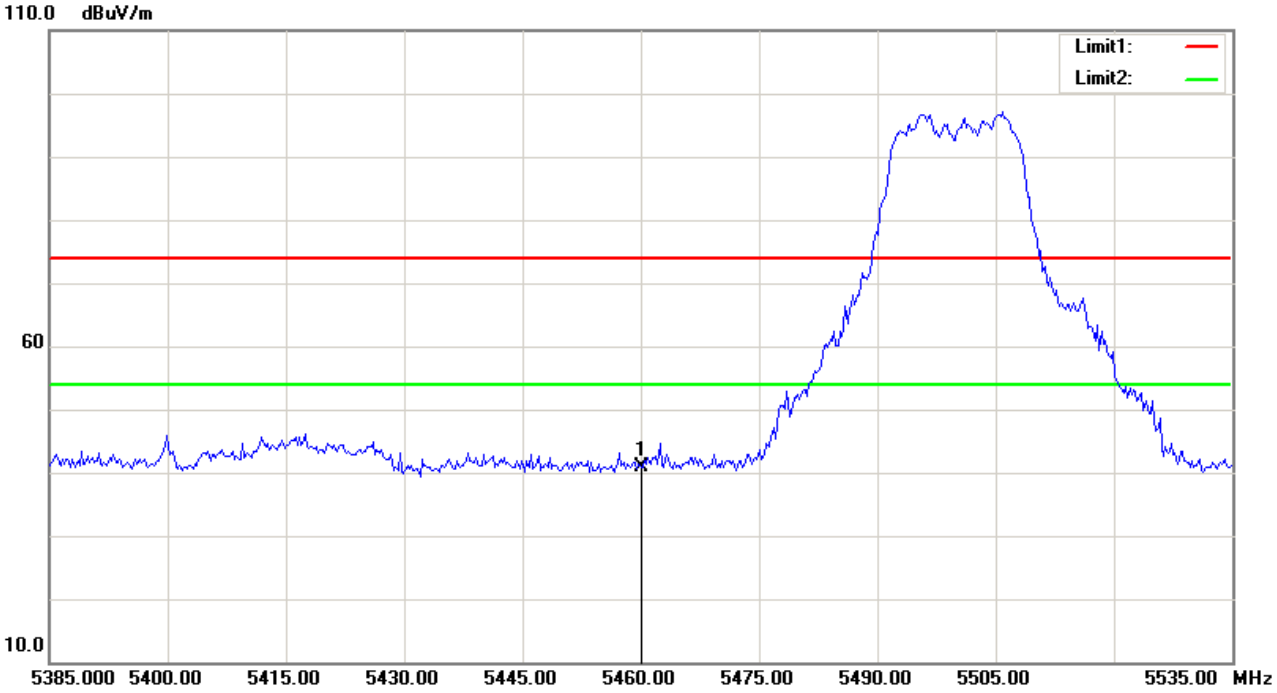
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	66.30	-6.94	59.36	74.00	-14.64	100	0	peak

Detector mode: Average **Polarity: Vertical**



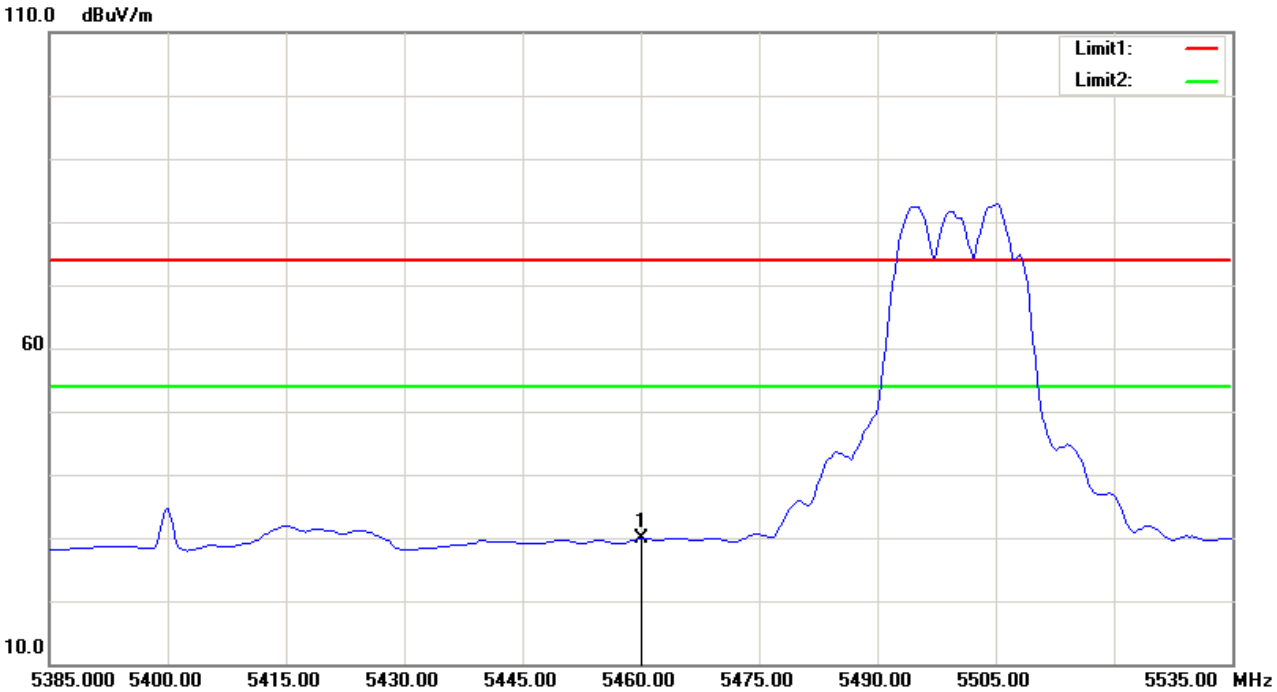
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	45.63	-6.94	38.69	54.00	-15.31	100	0	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	47.75	-6.94	40.81	74.00	-33.19	100	301	peak

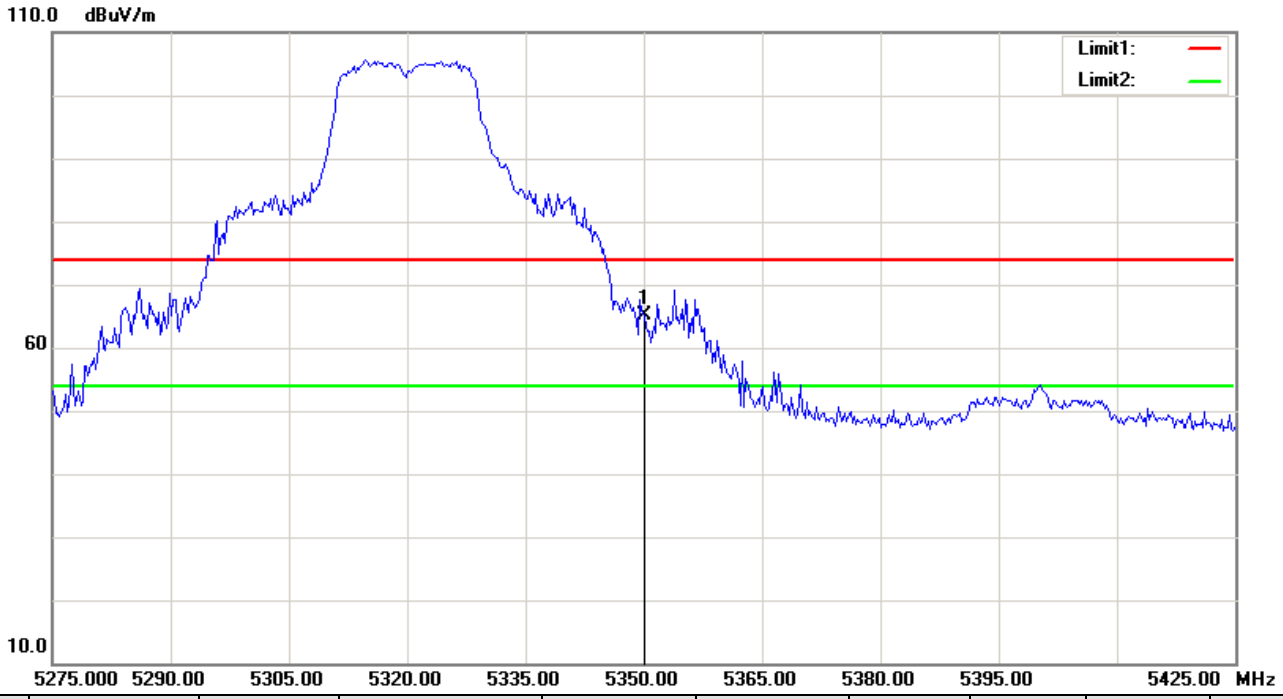
Detector mode: Average **Polarity: Horizontal**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	36.83	-6.94	29.89	54.00	-24.11	100	301	AVG

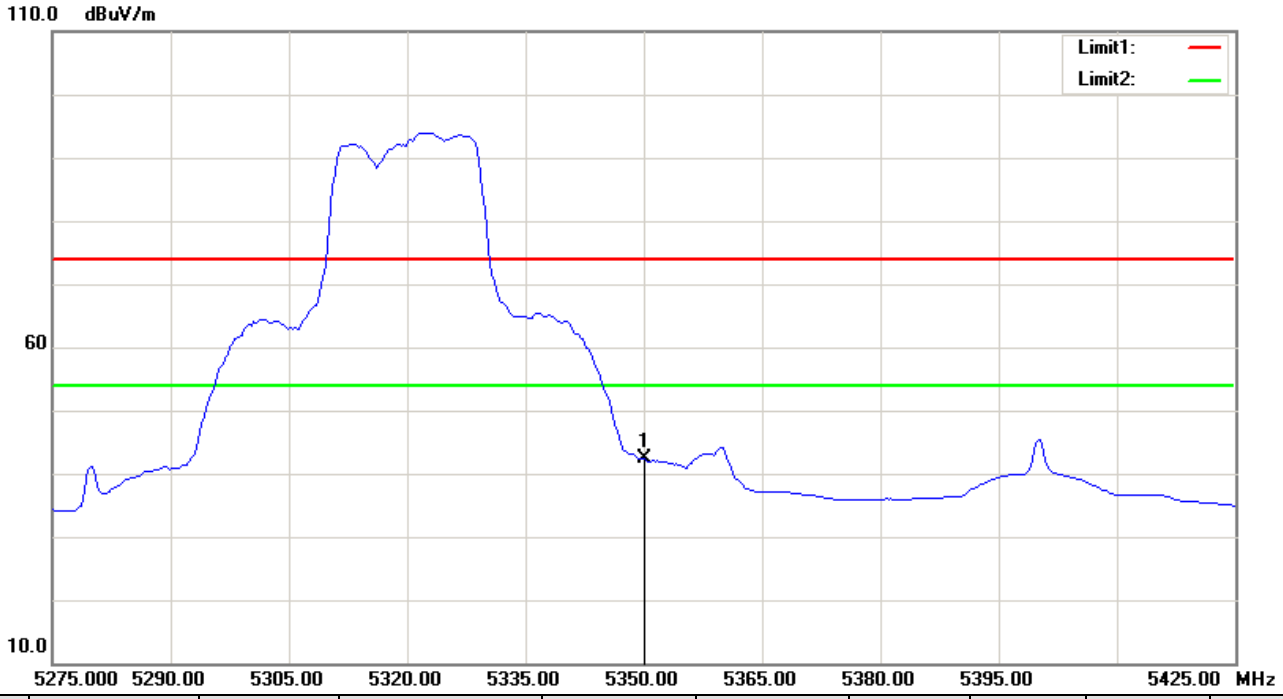
Band Edges (802.11n Standard-20 MHz Channel mode / 5320MHz) For AP121

Detector mode: Peak **Polarity: Vertical**



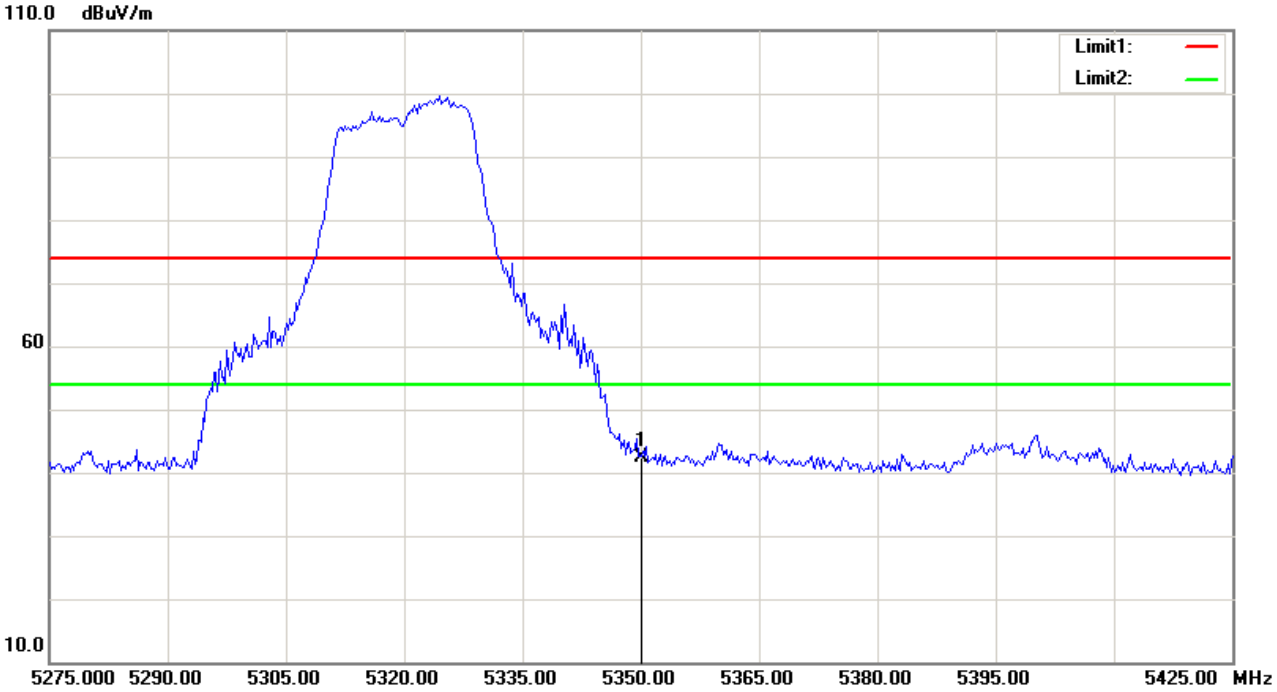
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	72.01	-6.97	65.04	74.00	-8.96	100	349	peak

Detector mode: Average **Polarity: Vertical**



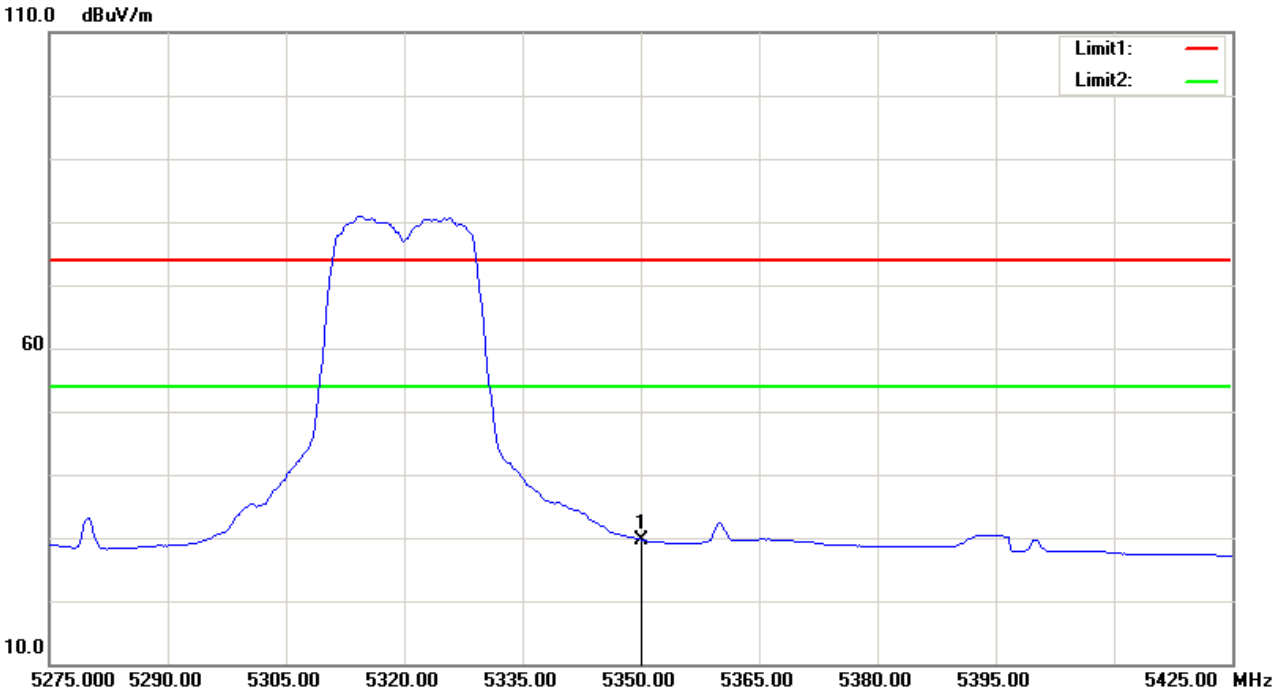
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	49.37	-6.97	42.40	54.00	-11.60	100	349	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	49.47	-6.97	42.50	74.00	-31.50	100	343	peak

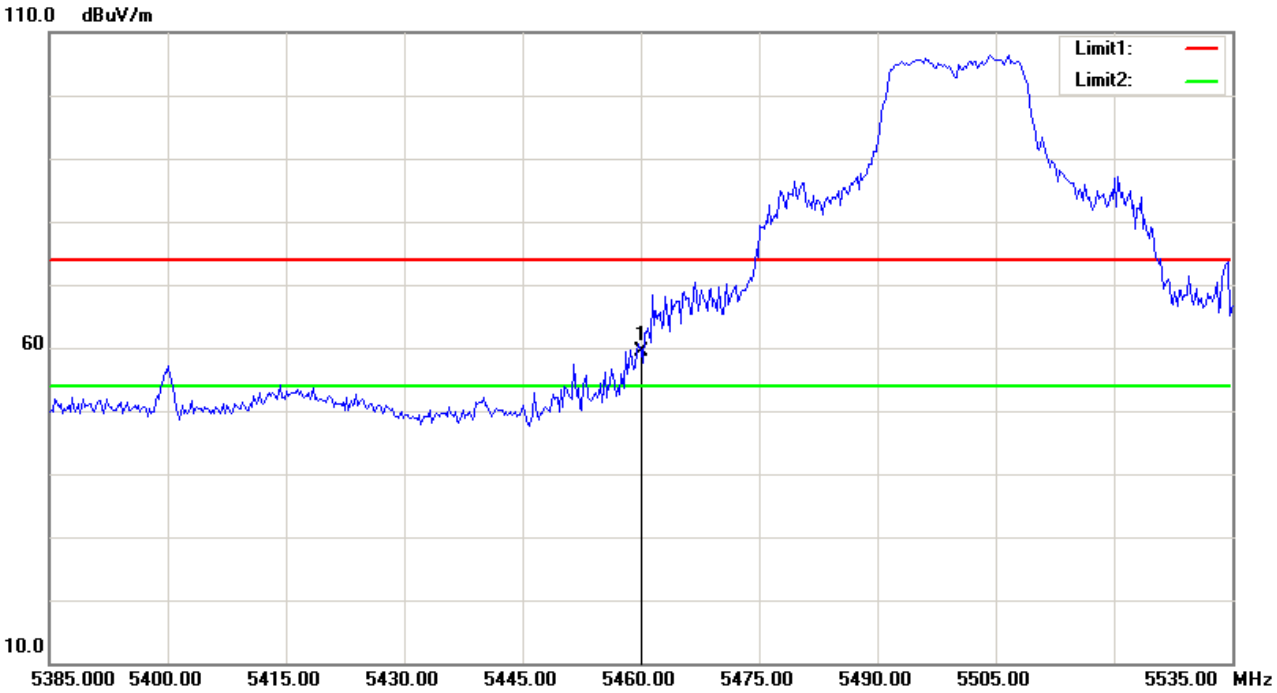
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	36.70	-6.97	29.73	54.00	-24.27	100	343	AVG

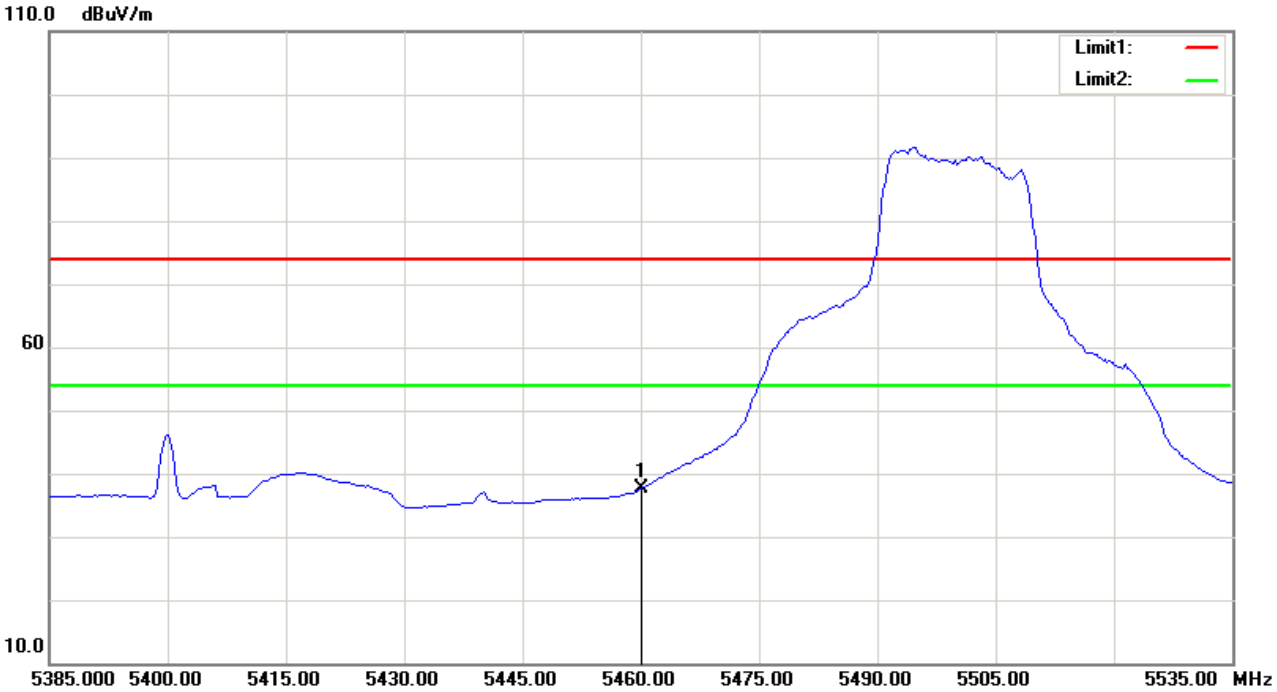
Band Edges (802.11n Standard-20 MHz Channel mode / 5500MHz) For AP121

Detector mode: Peak **Polarity: Vertical**



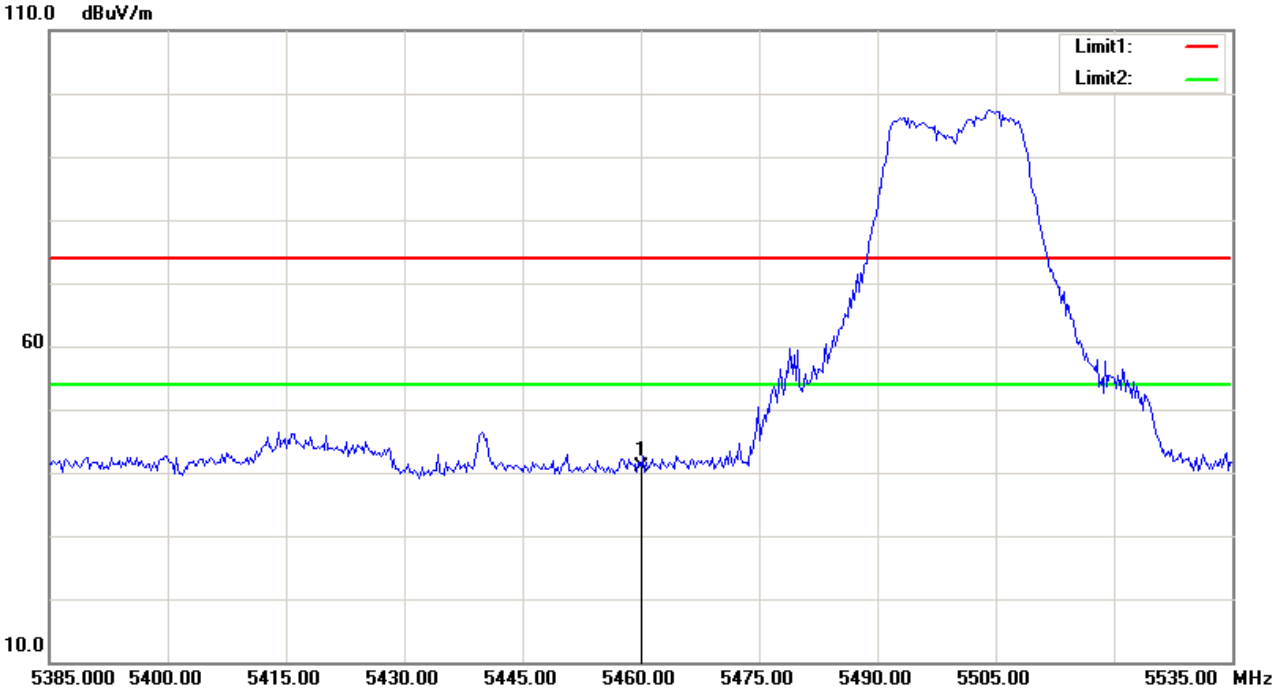
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	66.20	-6.94	59.26	74.00	-14.74	100	18	peak

Detector mode: Average **Polarity: Vertical**



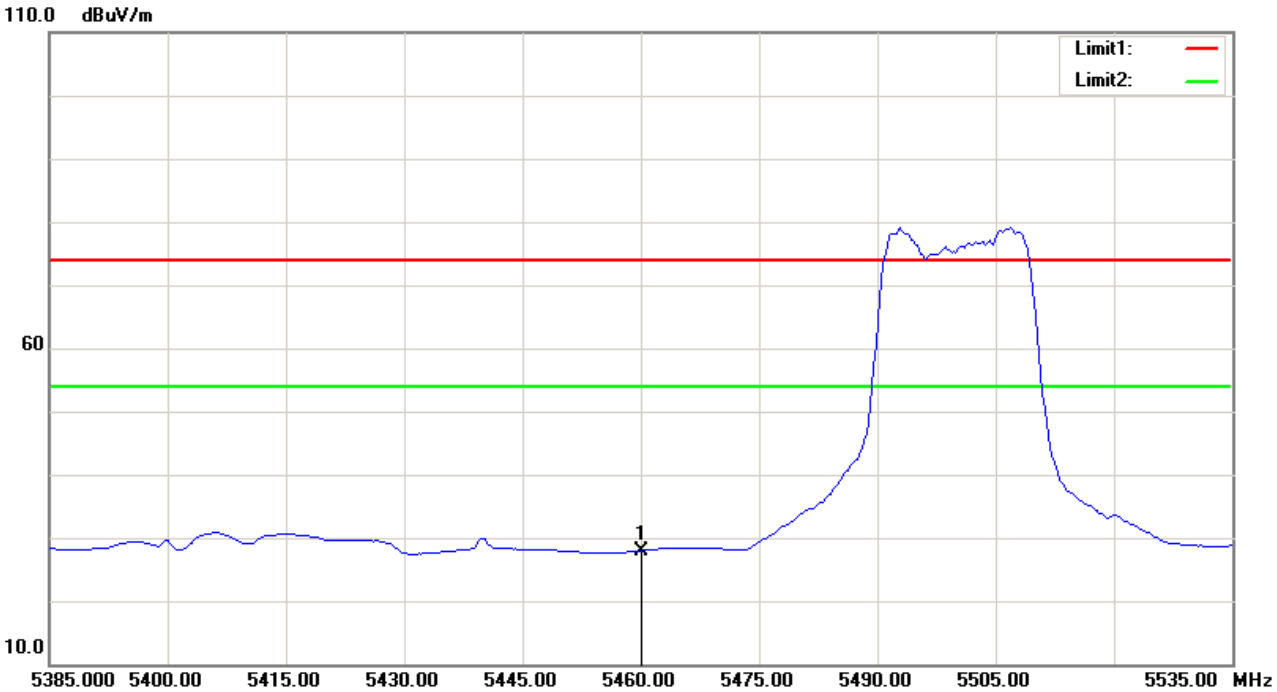
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	44.53	-6.94	37.59	54.00	-16.41	100	18	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	47.88	-6.94	40.94	74.00	-33.06	100	280	peak

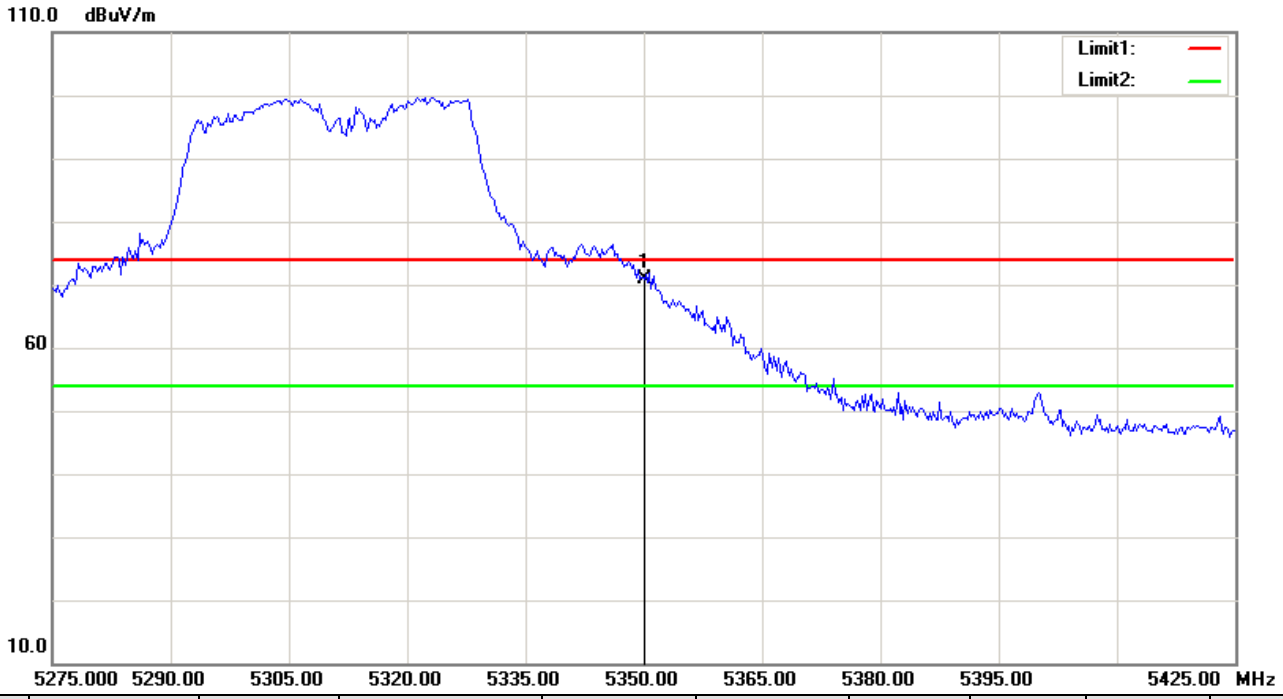
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	34.93	-6.94	27.99	54.00	-26.01	100	280	AVG

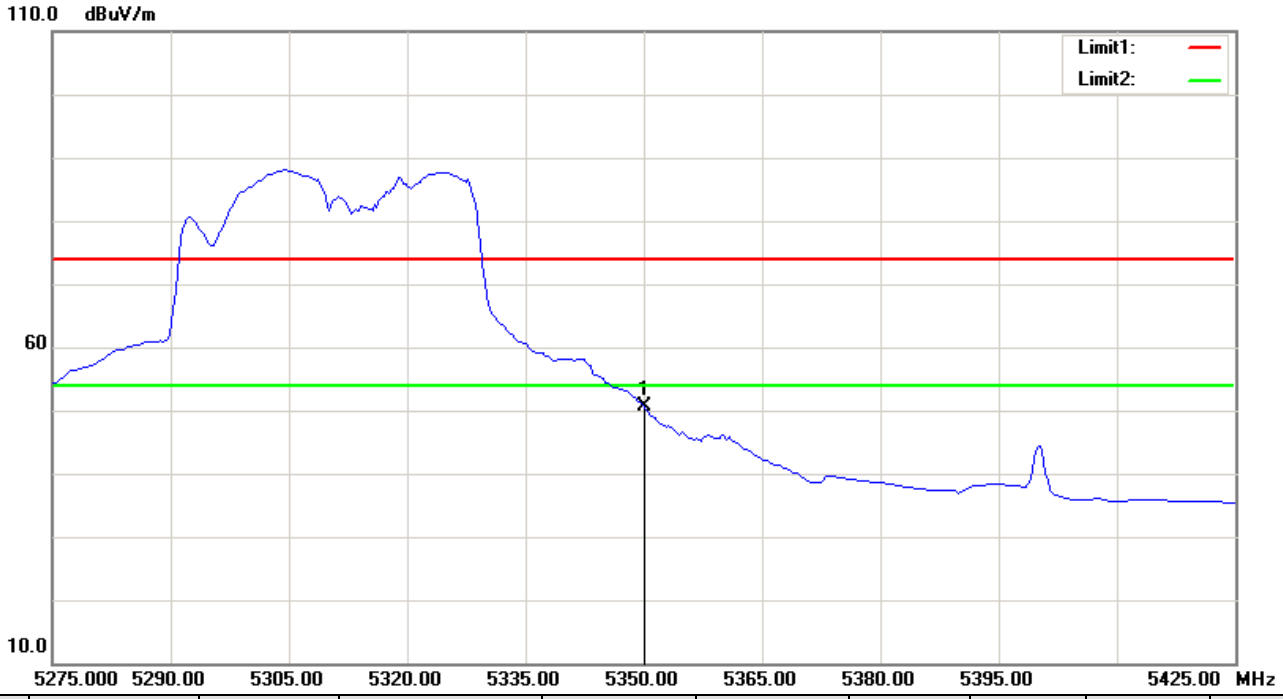
Band Edges (802.11n Wide-40 MHz Channel mode / 5310) For AP121

Detector mode: Peak **Polarity: Vertical**



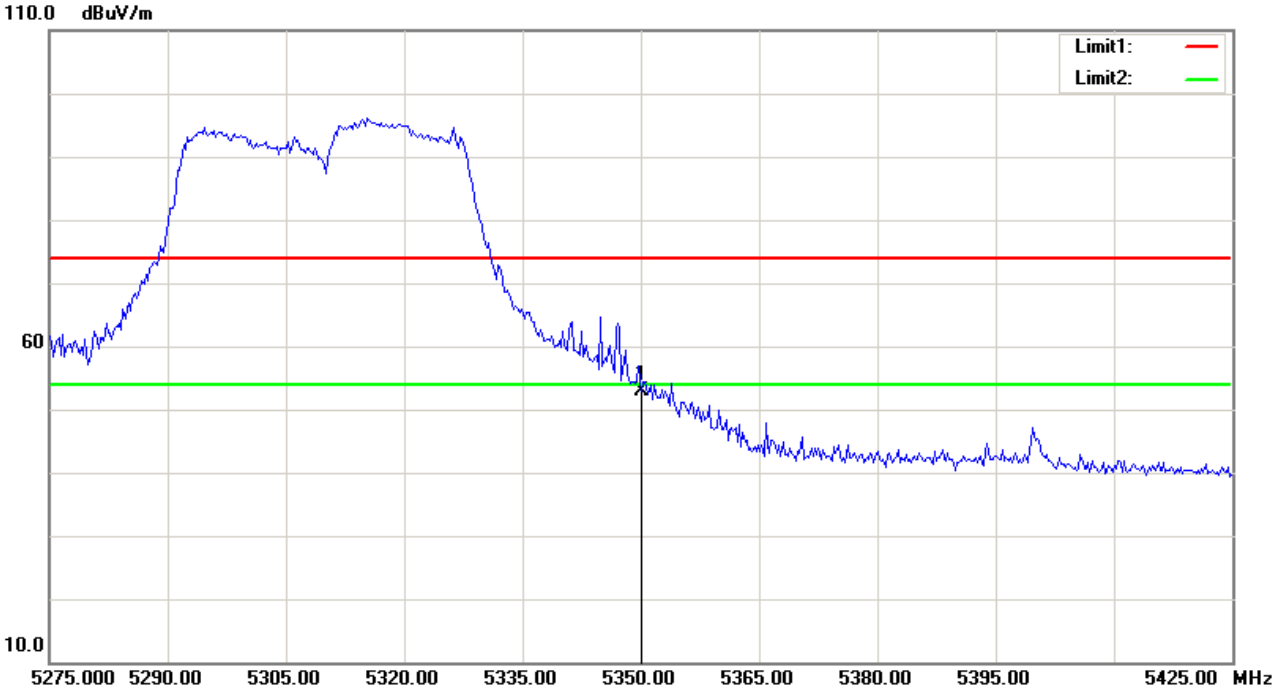
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	77.96	-6.97	70.99	74.00	-3.01	100	348	peak

Detector mode: Average **Polarity: Vertical**



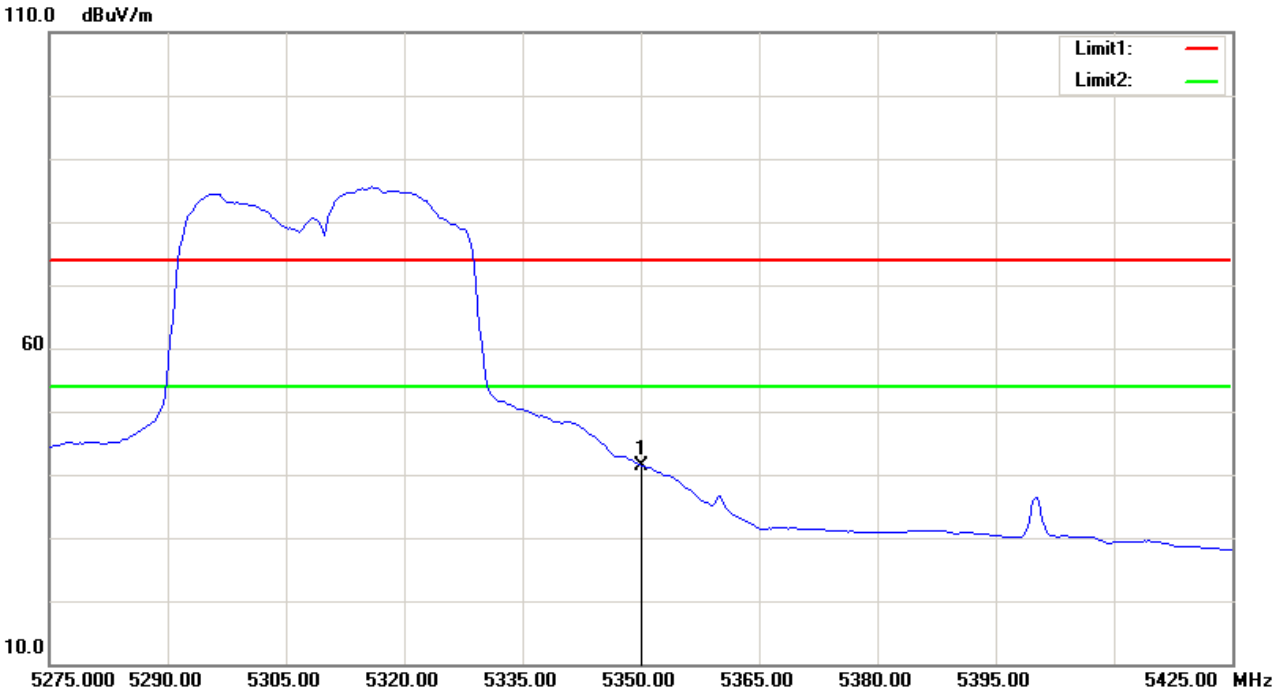
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	57.55	-6.97	50.58	54.00	-3.42	100	348	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	59.92	-6.97	52.95	74.00	-21.05	100	348	peak

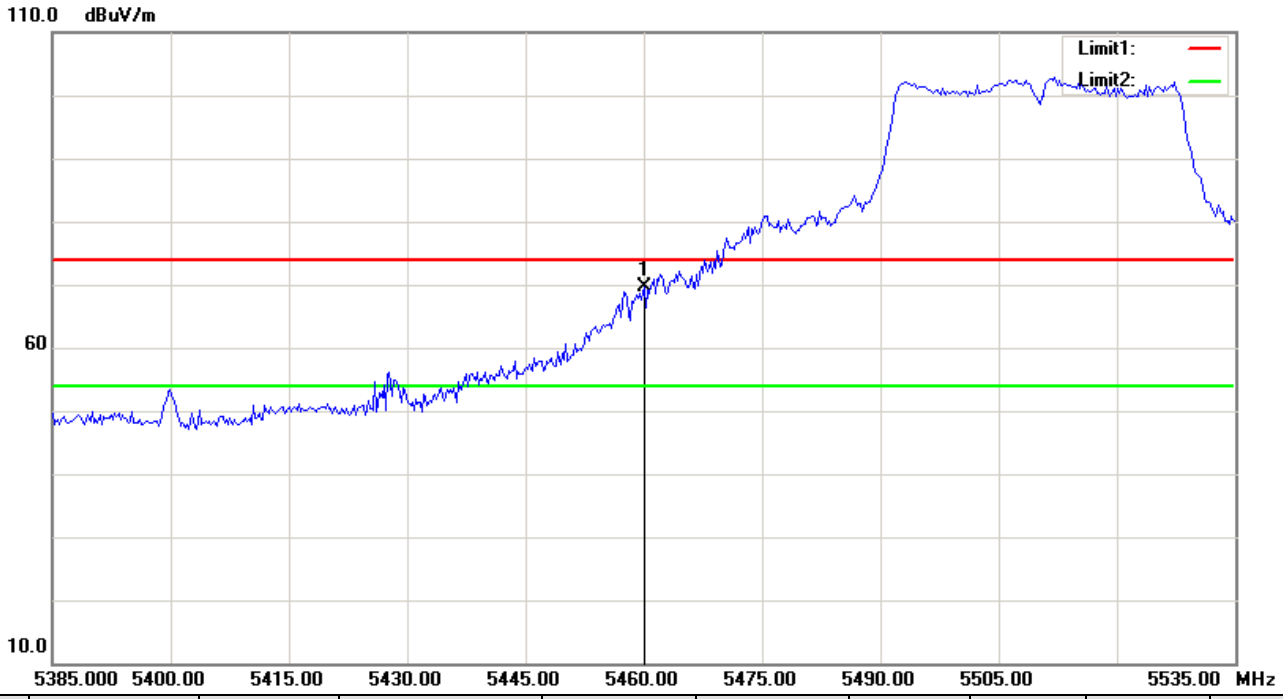
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	48.47	-6.97	41.50	54.00	-12.50	100	348	AVG

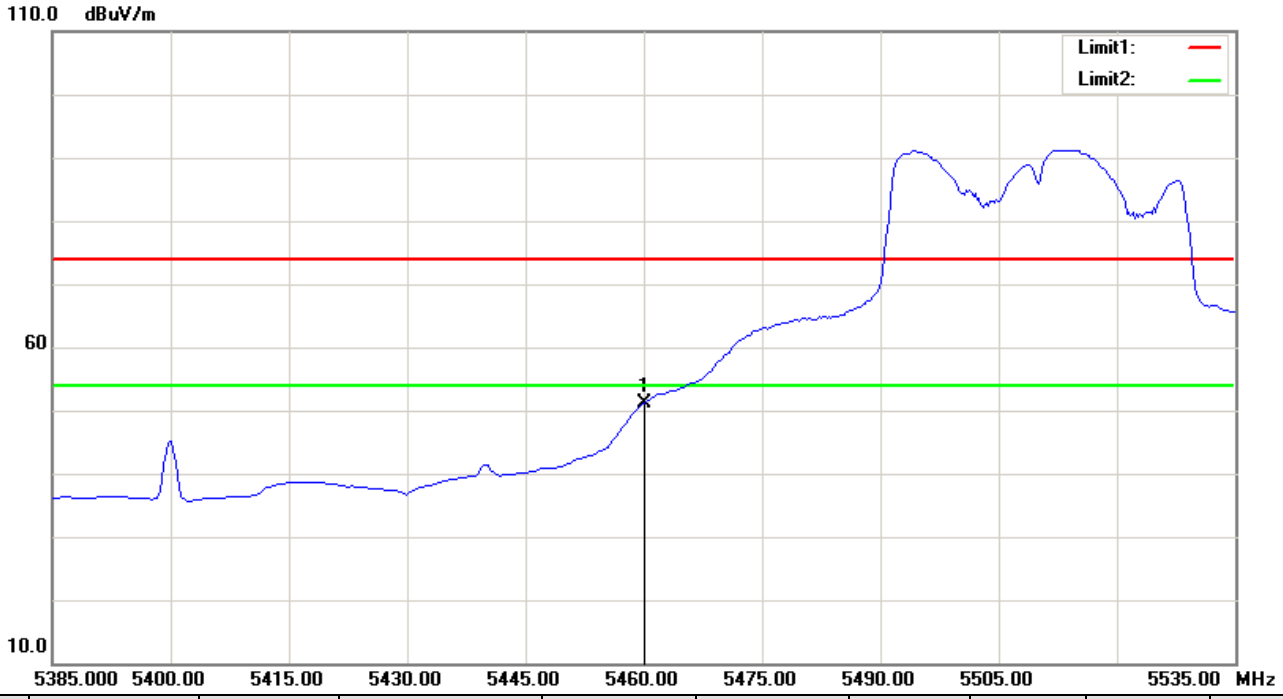
Band Edges (802.11n Standard-40 MHz Channel mode / 5510MHz) For AP121

Detector mode: Peak **Polarity: Vertical**



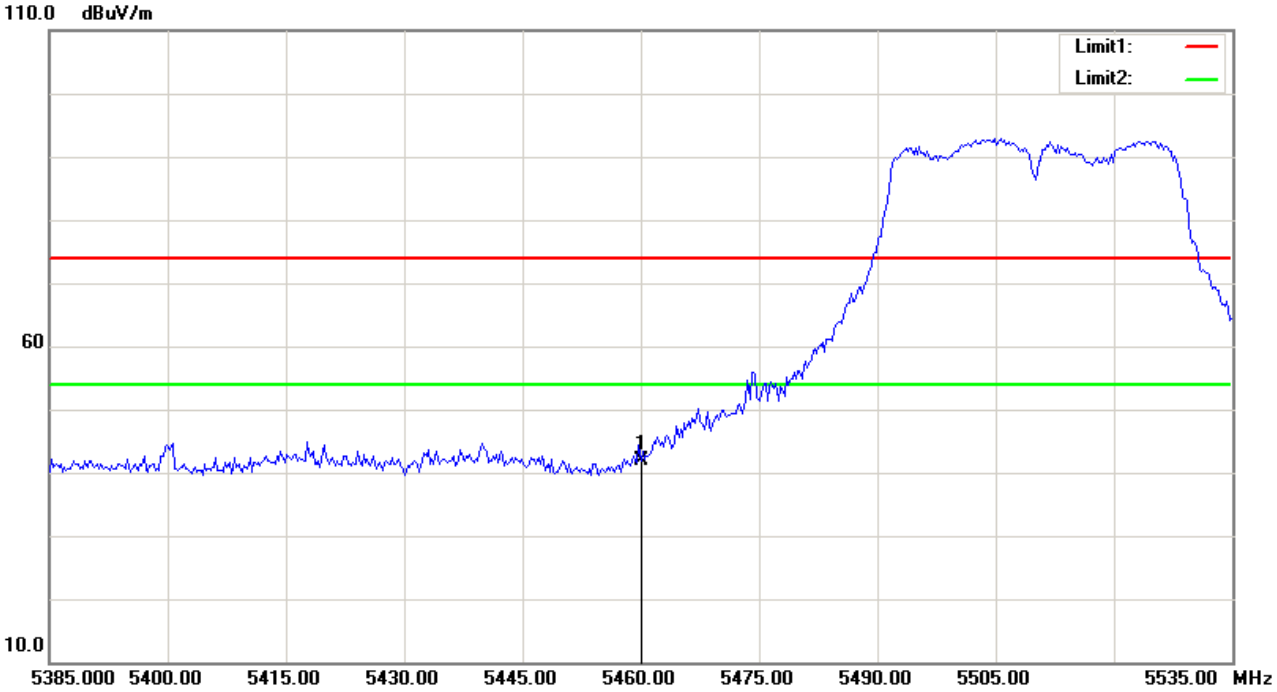
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	76.53	-6.94	69.59	74.00	-4.41	100	326	peak

Detector mode: Average **Polarity: Vertical**



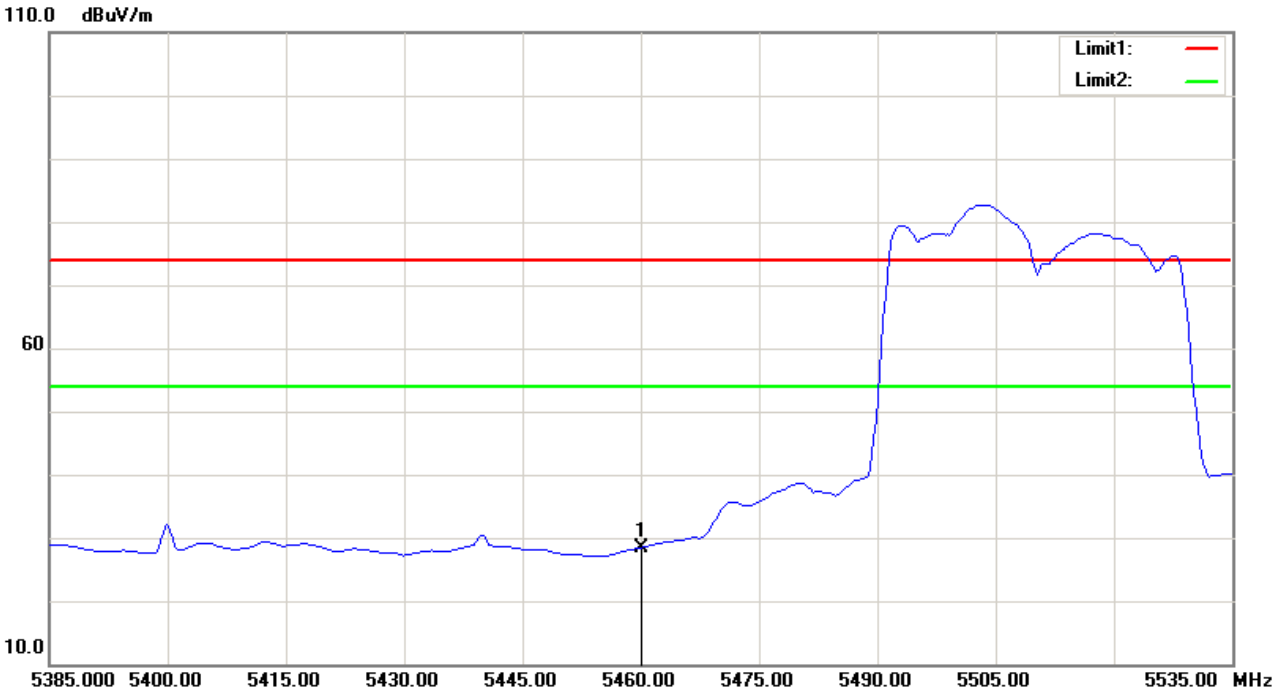
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	58.09	-6.94	51.15	54.00	-2.85	100	326	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	48.94	-6.94	42.00	74.00	-32.00	100	12	peak

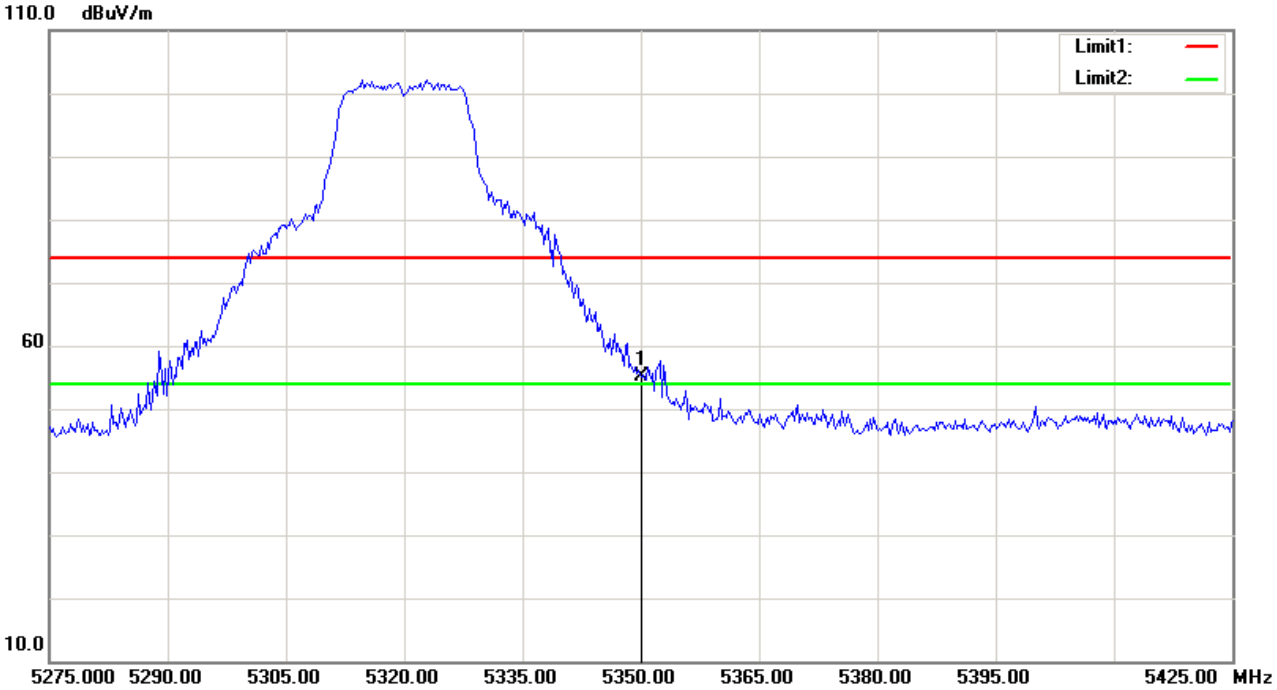
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	35.38	-6.94	28.44	54.00	-25.56	100	12	AVG

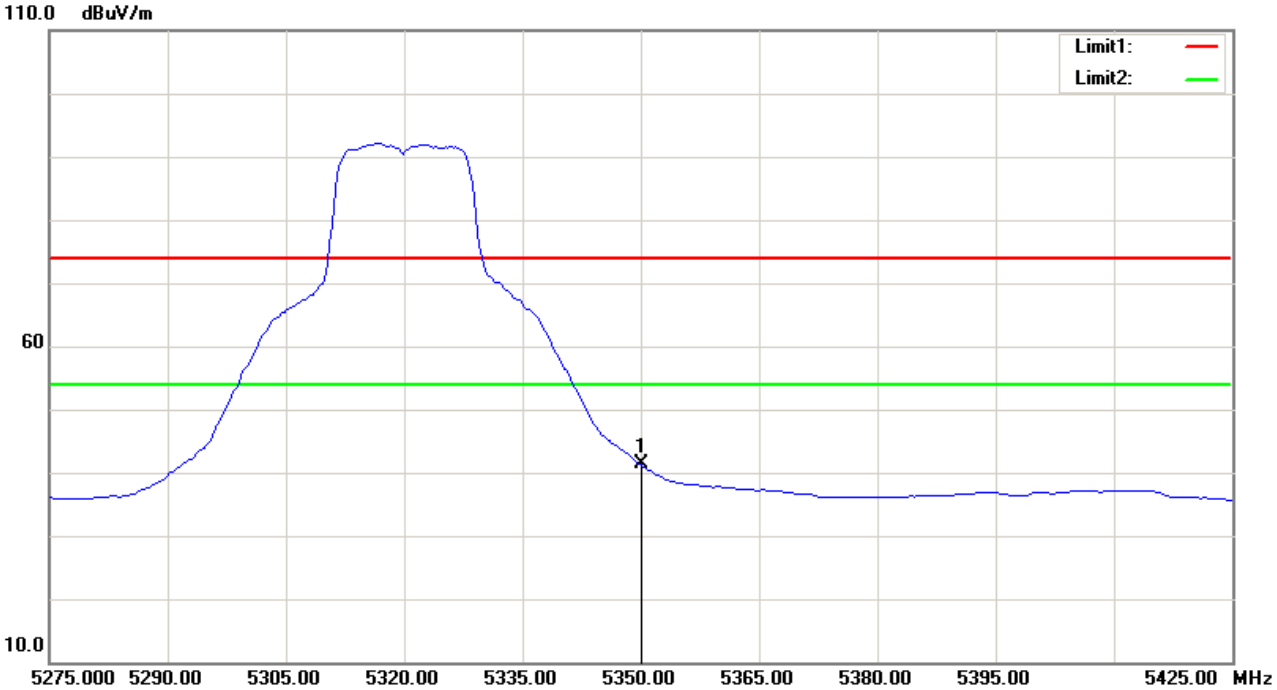
Band Edges (802.11a mode 5320MHz) For AP141

Detector mode: Peak **Polarity: Vertical**



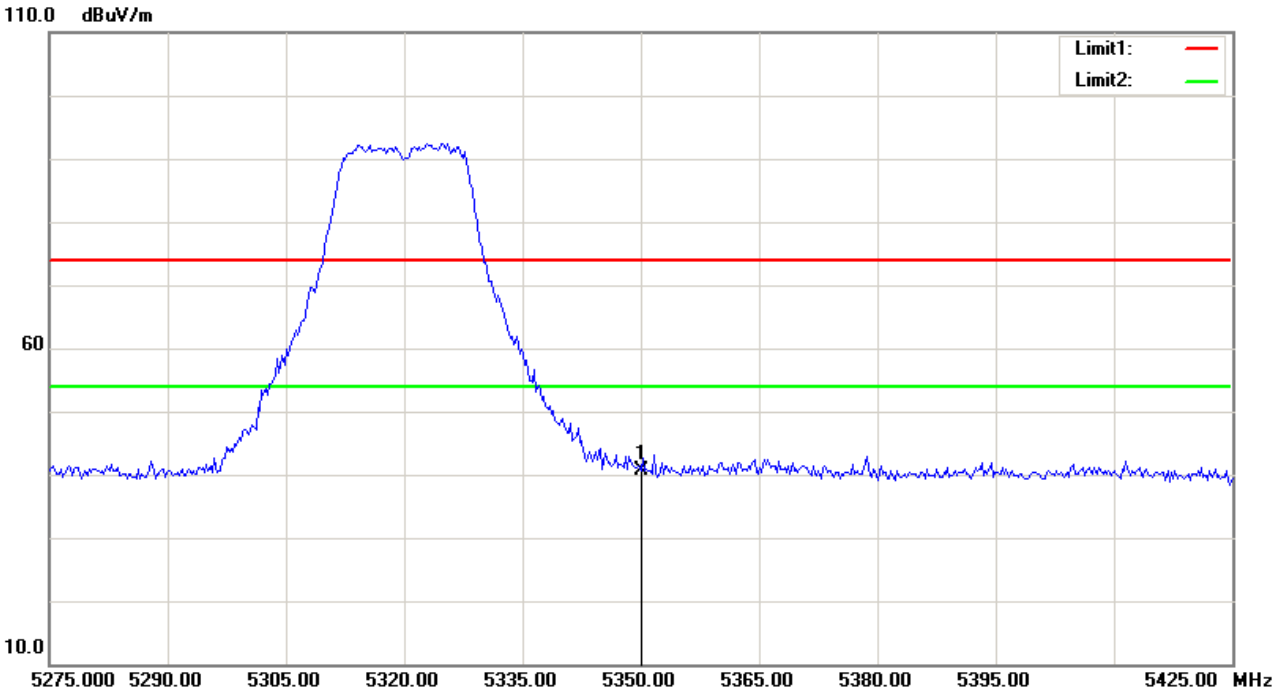
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	62.18	-6.97	55.21	74.00	-18.79	100	95	peak

Detector mode: Average **Polarity: Vertical**



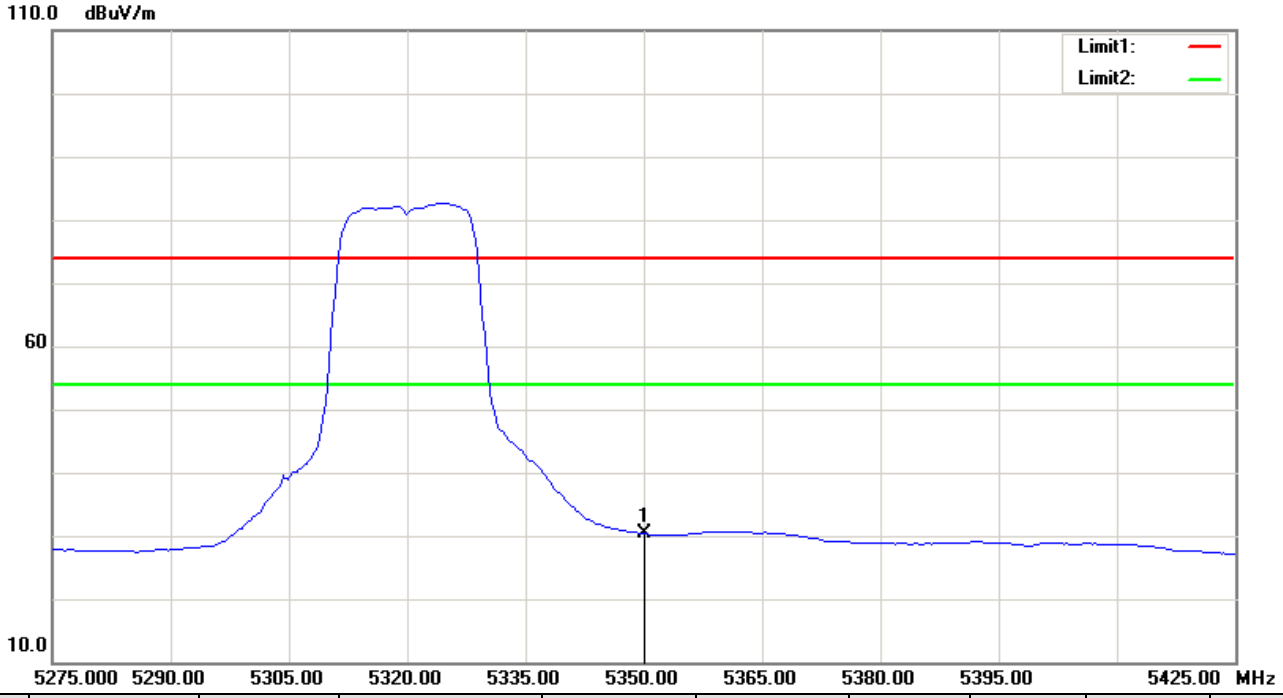
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	48.23	-6.97	41.26	54.00	-12.74	100	95	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	47.58	-6.97	40.61	74.00	-33.39	100	54	peak

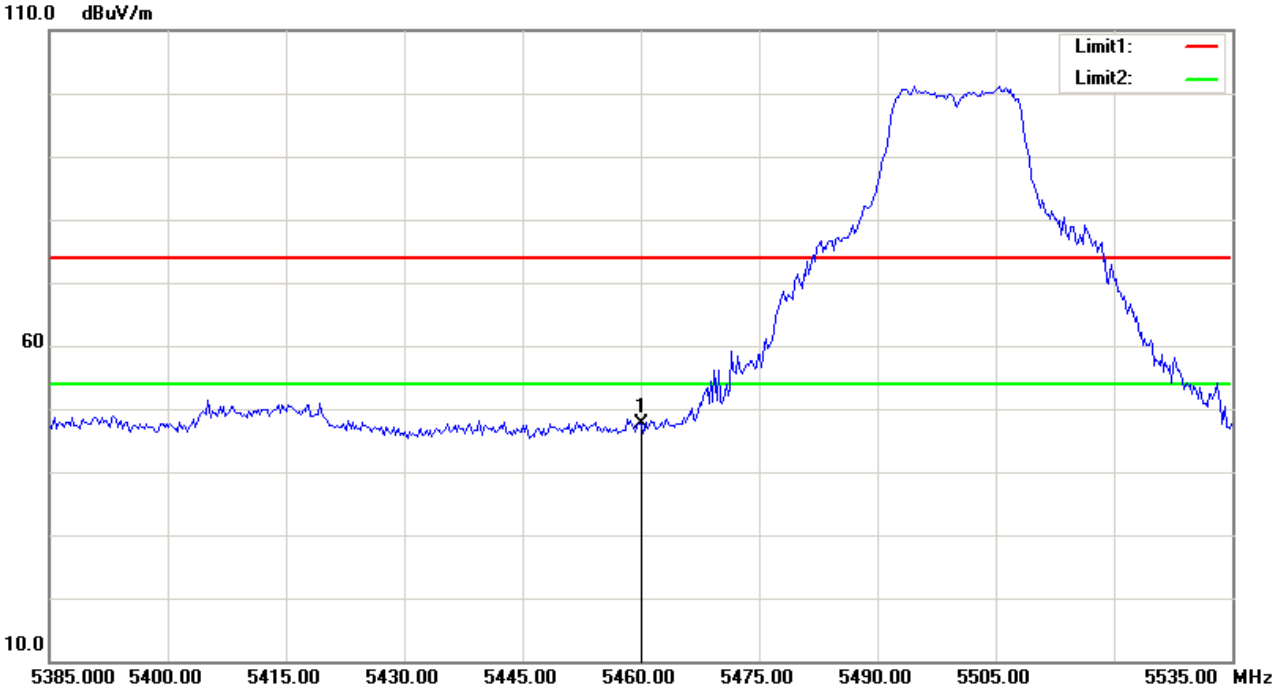
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	37.24	-6.97	30.27	54.00	-23.73	100	54	AVG

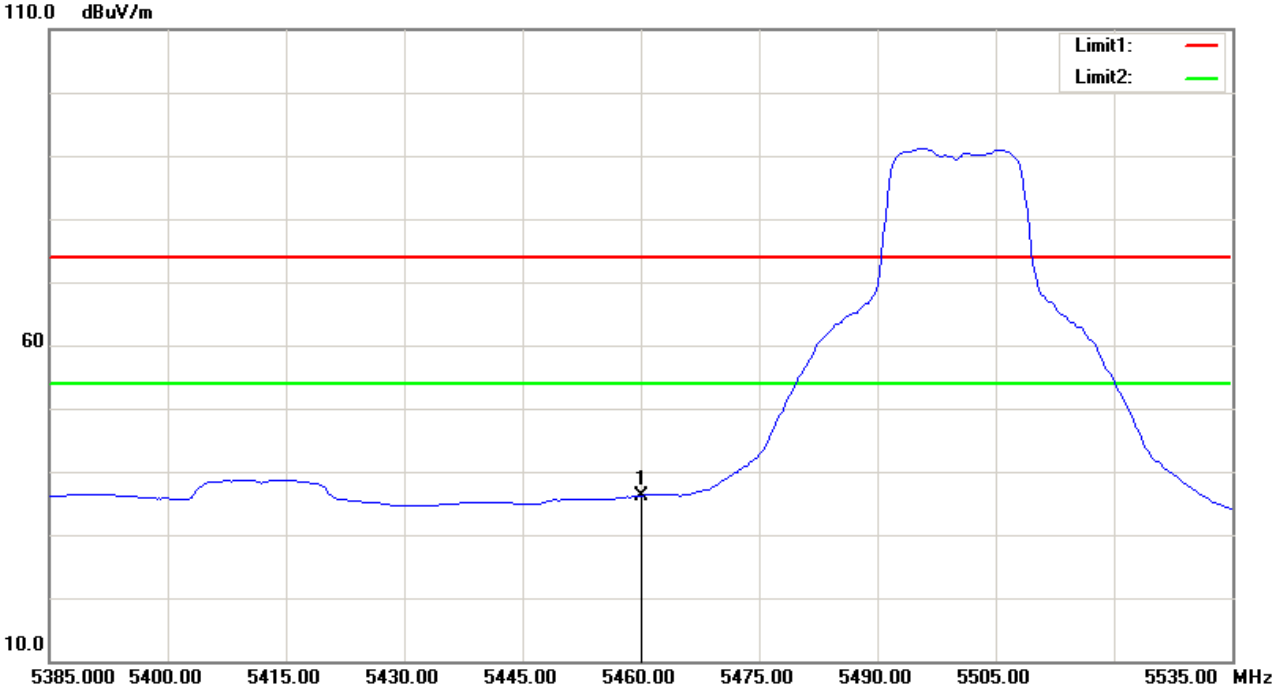
Band Edges (802.11a 5500MHz) For AP141

Detector mode: Peak **Polarity: Vertical**



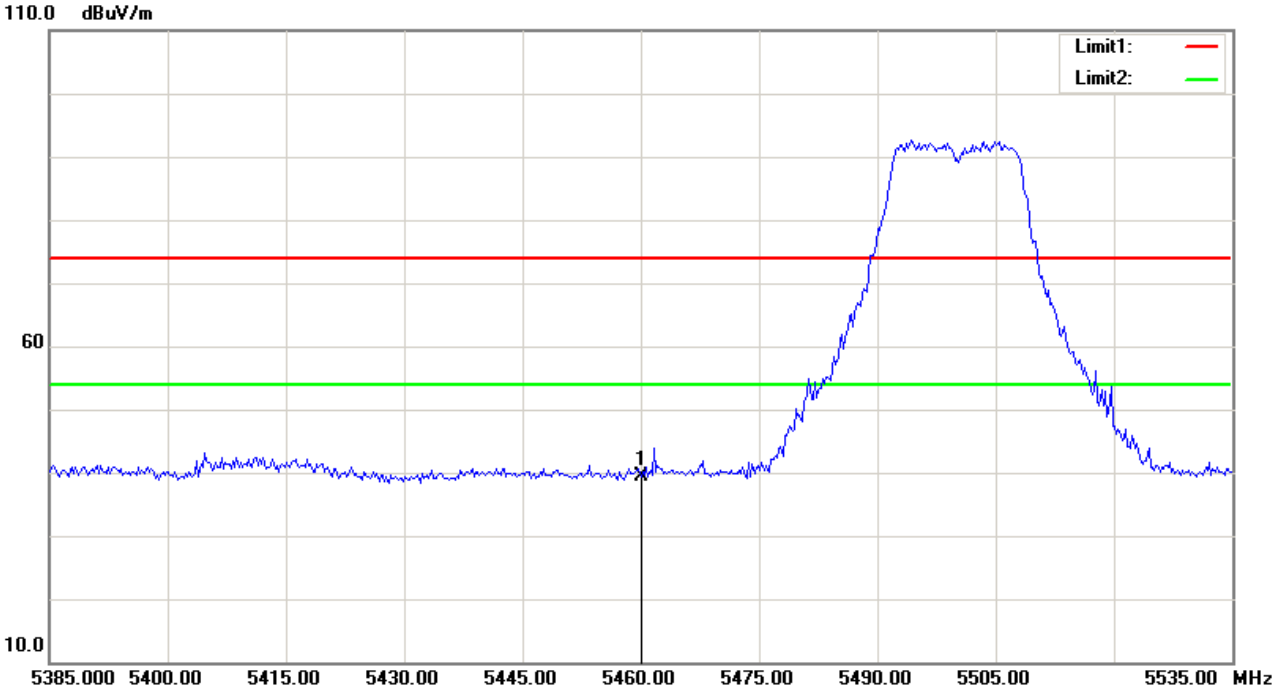
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	54.50	-6.94	47.56	74.00	-26.44	100	358	peak

Detector mode: Average **Polarity: Vertical**



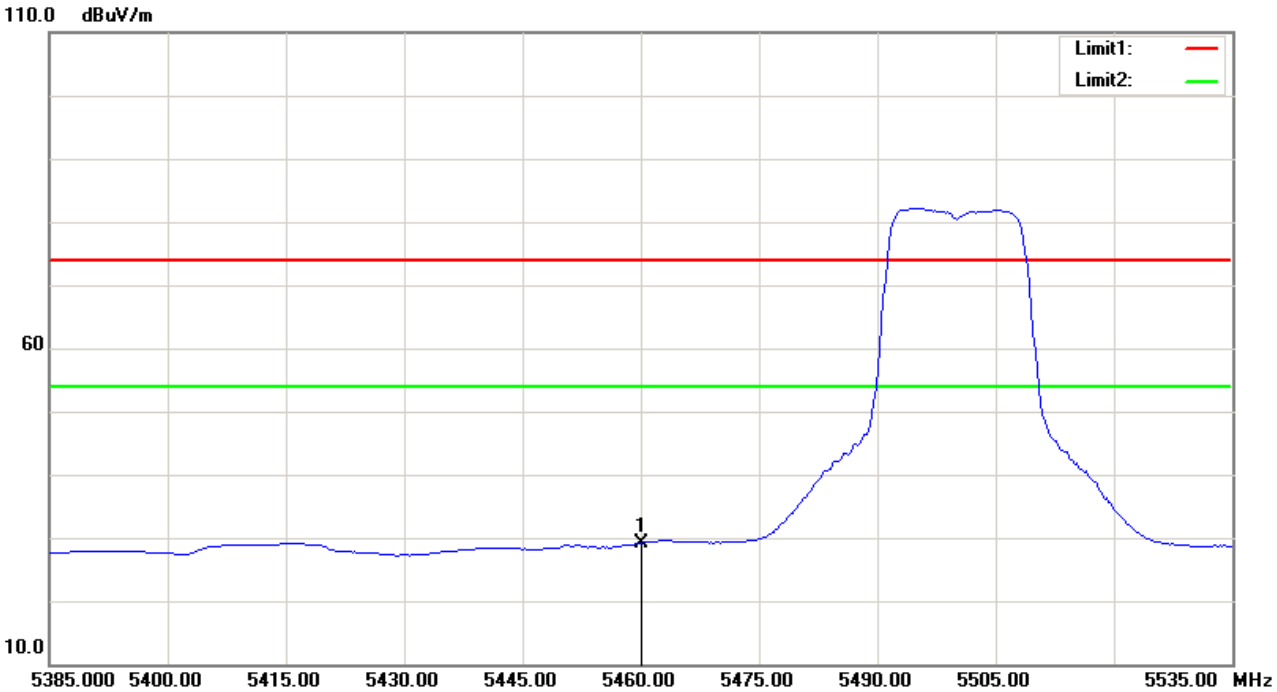
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	43.09	-6.94	36.15	54.00	-17.85	100	358	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	46.42	-6.94	39.48	74.00	-34.52	101	56	peak

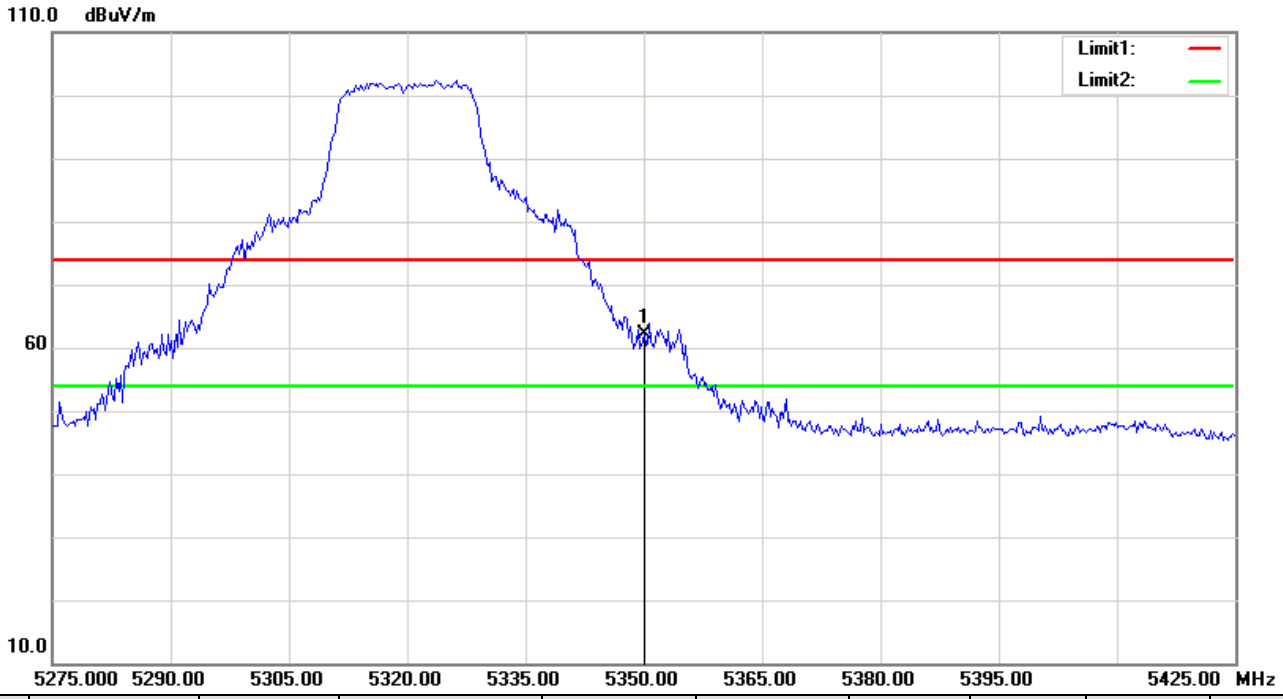
Detector mode: Average **Polarity: Horizontal**



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	36.13	-6.94	29.19	54.00	-24.81	101	56	AVG

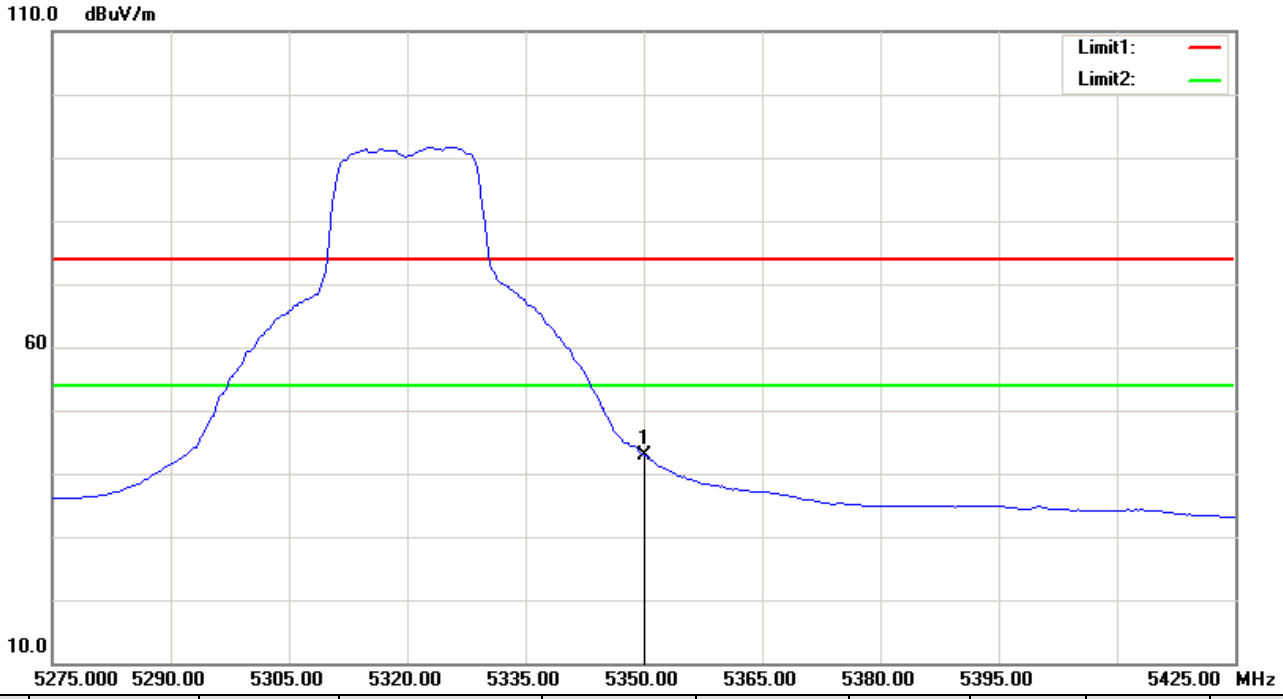
Band Edges (802.11n Standard-20 MHz Channel mode / 5320MHz) For AP141

Detector mode: Peak **Polarity: Vertical**



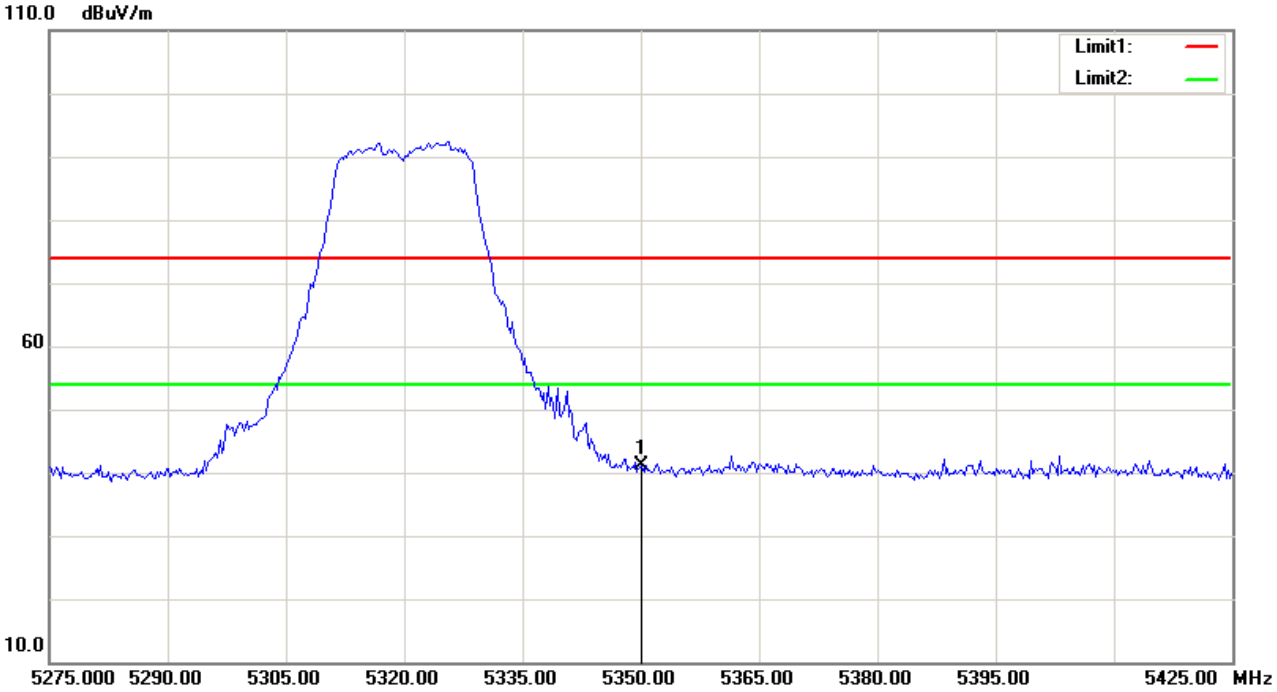
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	69.02	-6.97	62.05	74.00	-11.95	100	98	peak

Detector mode: Average **Polarity: Vertical**



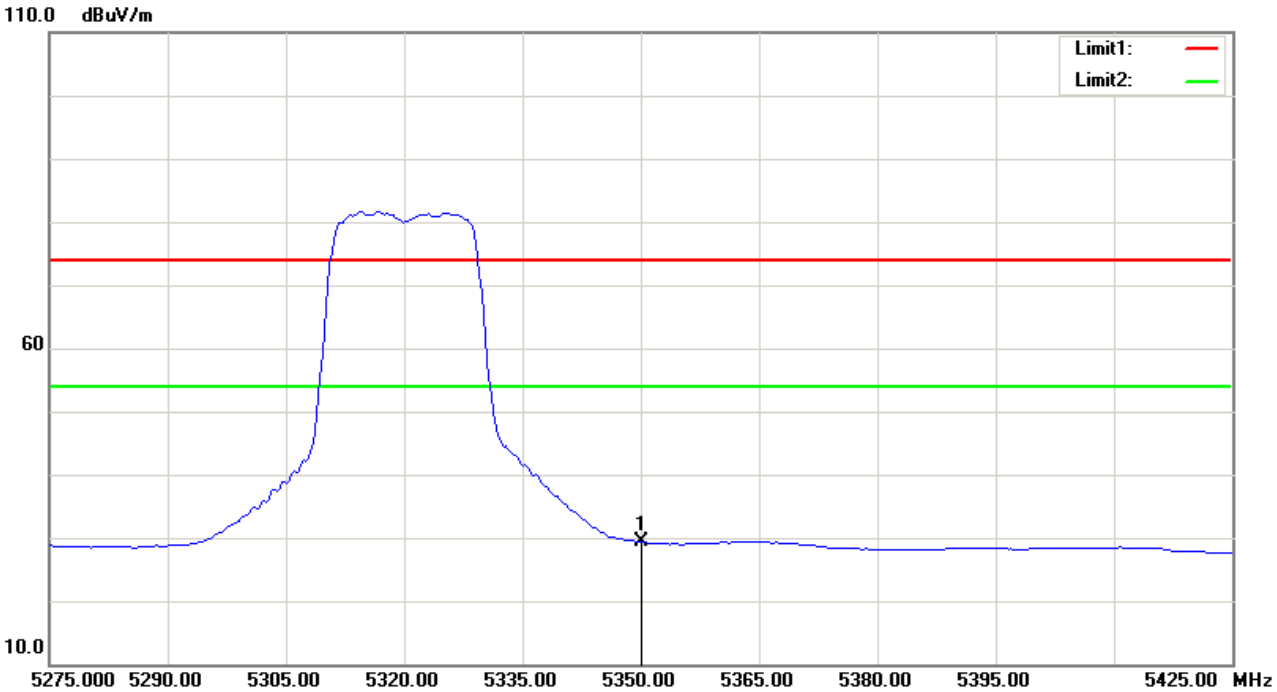
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	49.86	-6.97	42.89	54.00	-11.11	100	98	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	48.15	-6.97	41.18	74.00	-32.82	100	308	peak

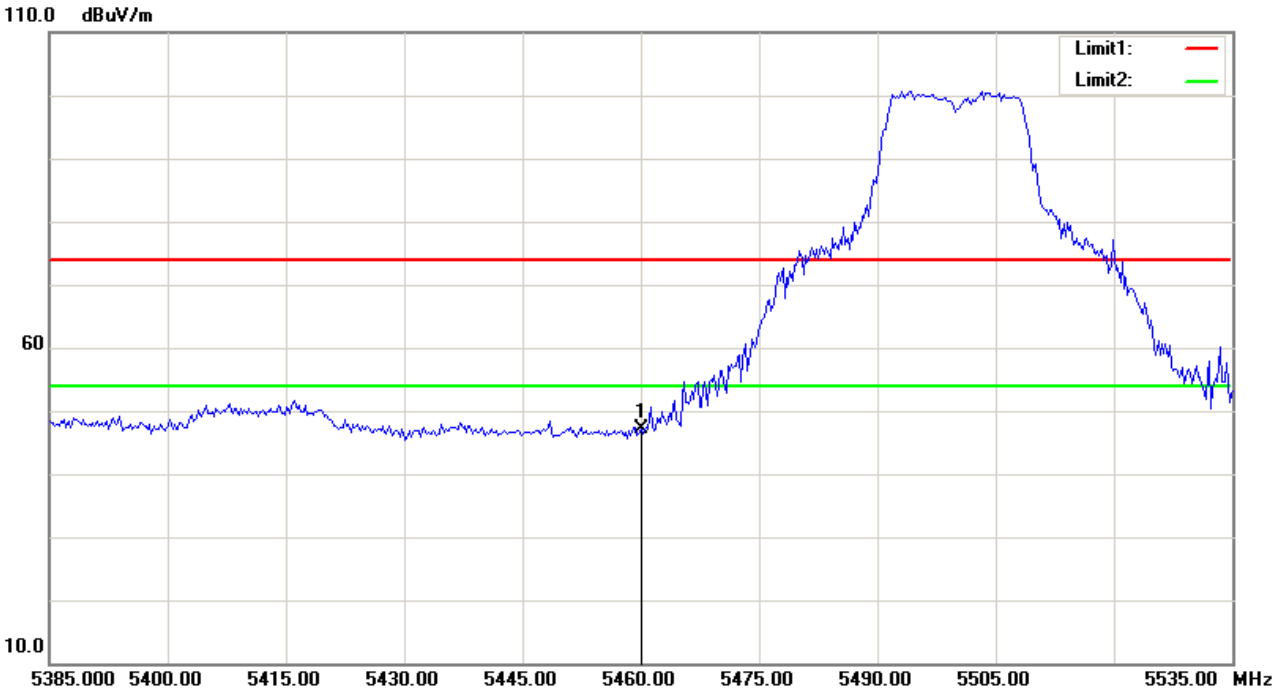
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	36.27	-6.97	29.30	54.00	-24.70	100	308	AVG

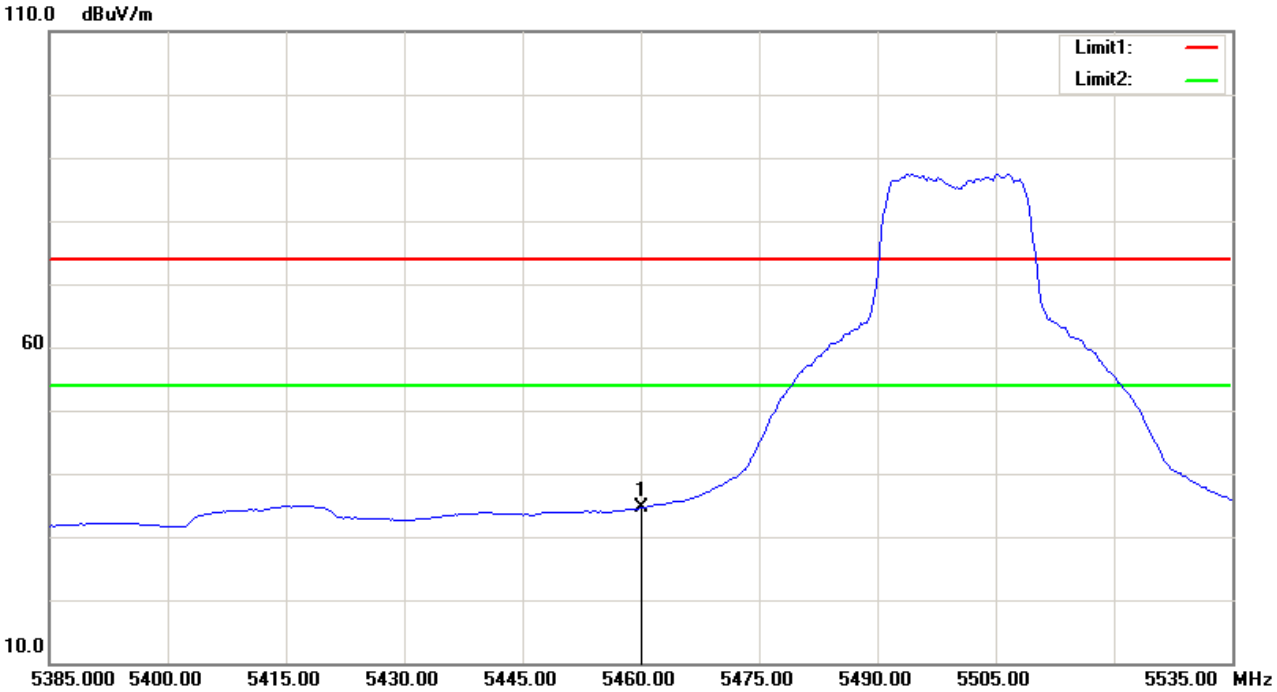
Band Edges (802.11n Standard-20 MHz Channel mode / 5500MHz) For AP141

Detector mode: Peak **Polarity: Vertical**



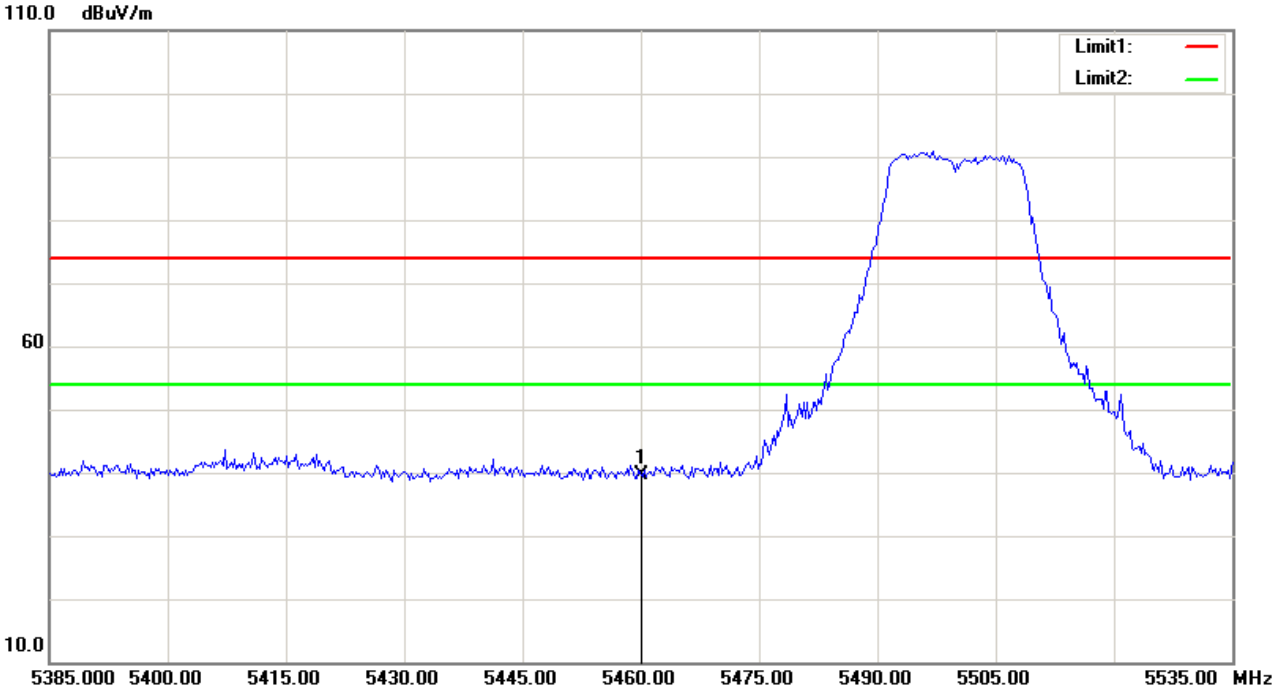
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	54.03	-6.94	47.09	74.00	-26.91	101	360	peak

Detector mode: Average **Polarity: Vertical**



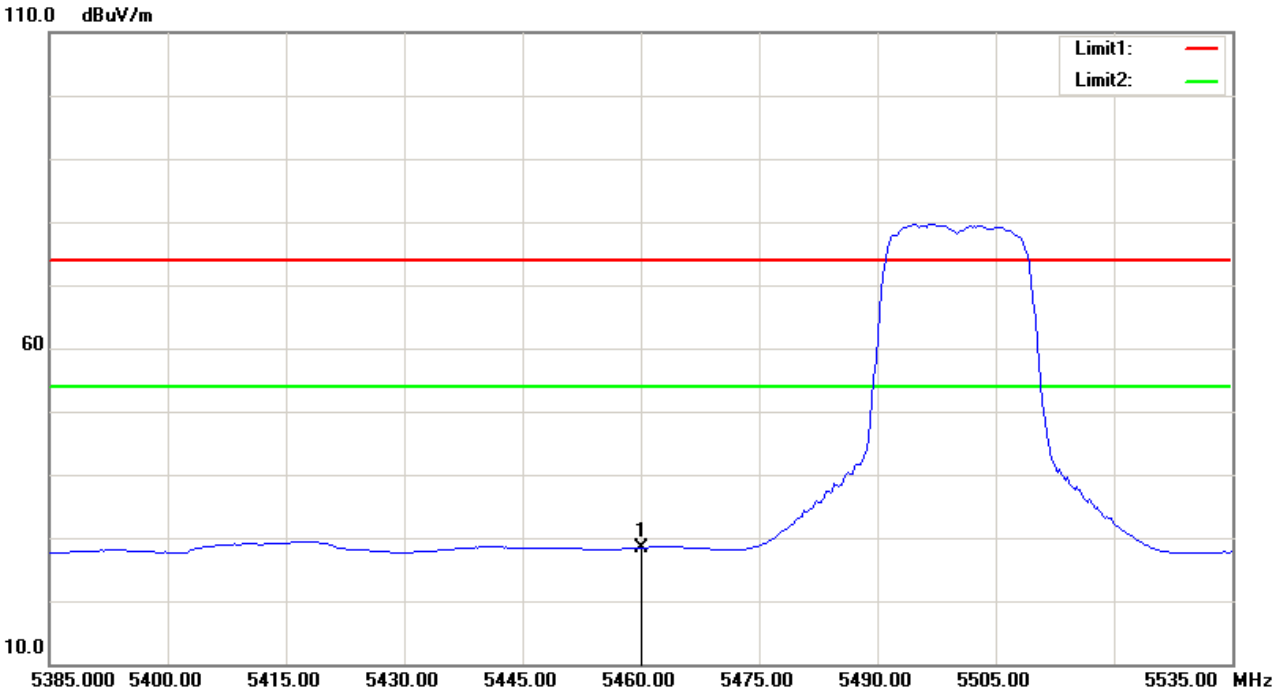
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	41.53	-6.94	34.59	54.00	-19.41	101	360	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	46.59	-6.94	39.65	74.00	-34.35	100	41	peak

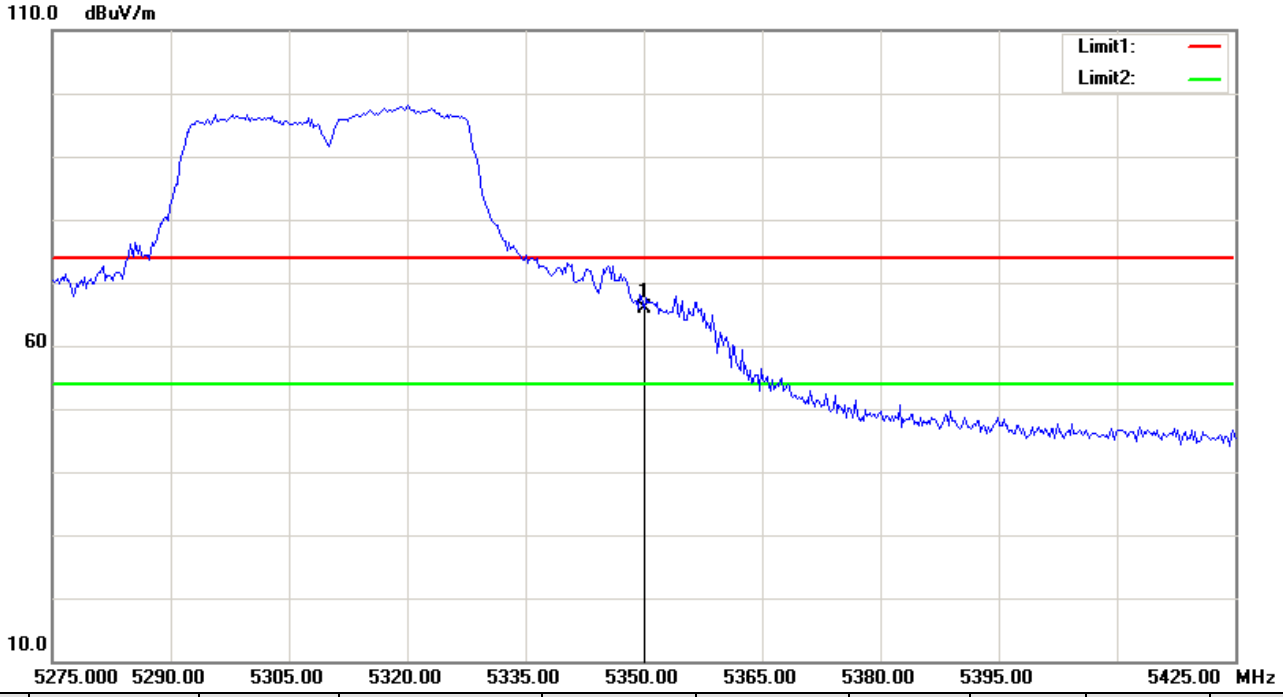
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	35.34	-6.94	28.40	54.00	-25.60	100	41	AVG

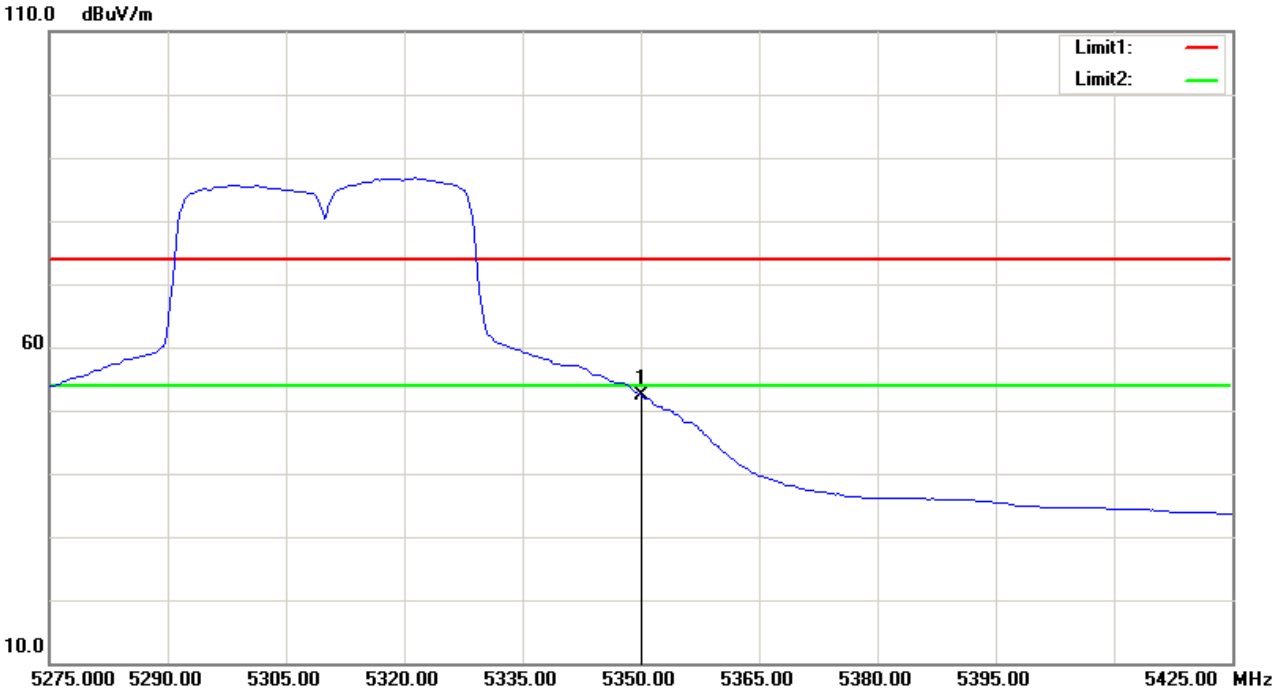
Band Edges (802.11n Wide-40 MHz Channel mode / 5310) For AP141

Detector mode: Peak **Polarity: Vertical**



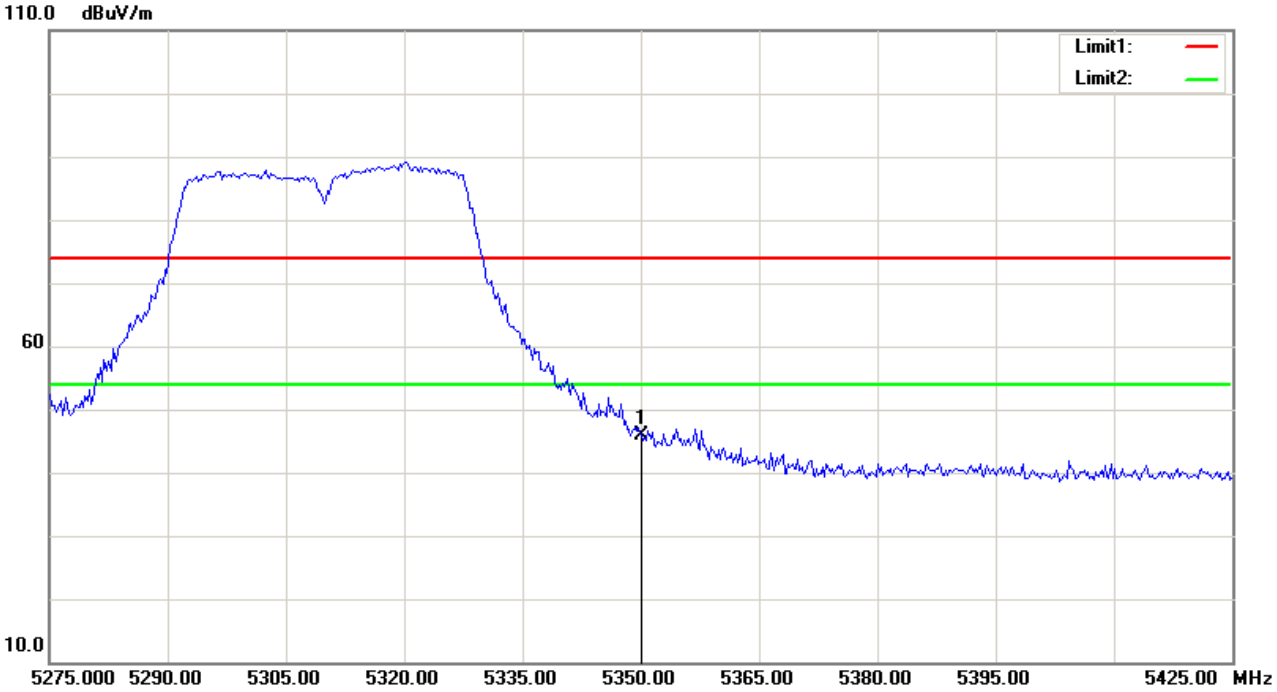
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	72.96	-6.97	65.99	74.00	-8.01	100	97	peak

Detector mode: Average **Polarity: Vertical**



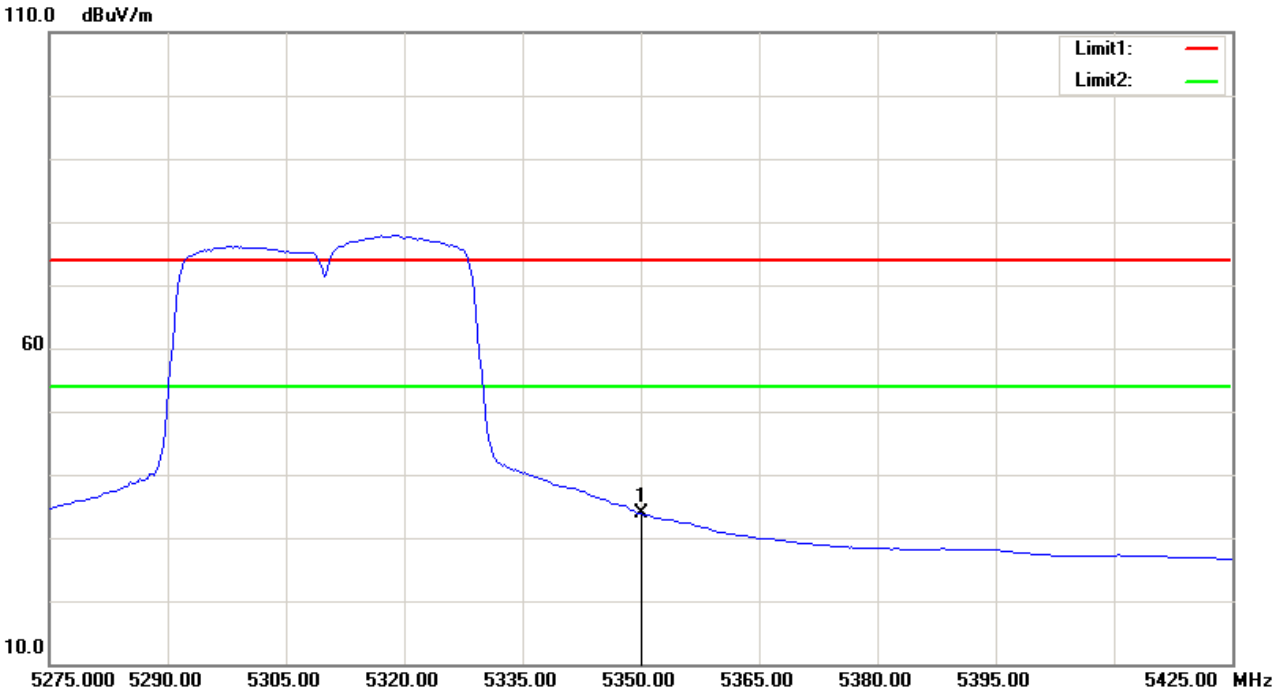
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5350.000	59.36	-6.97	52.39	54.00	-1.61	100	97	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	52.97	-6.97	46.00	74.00	-28.00	100	349	peak

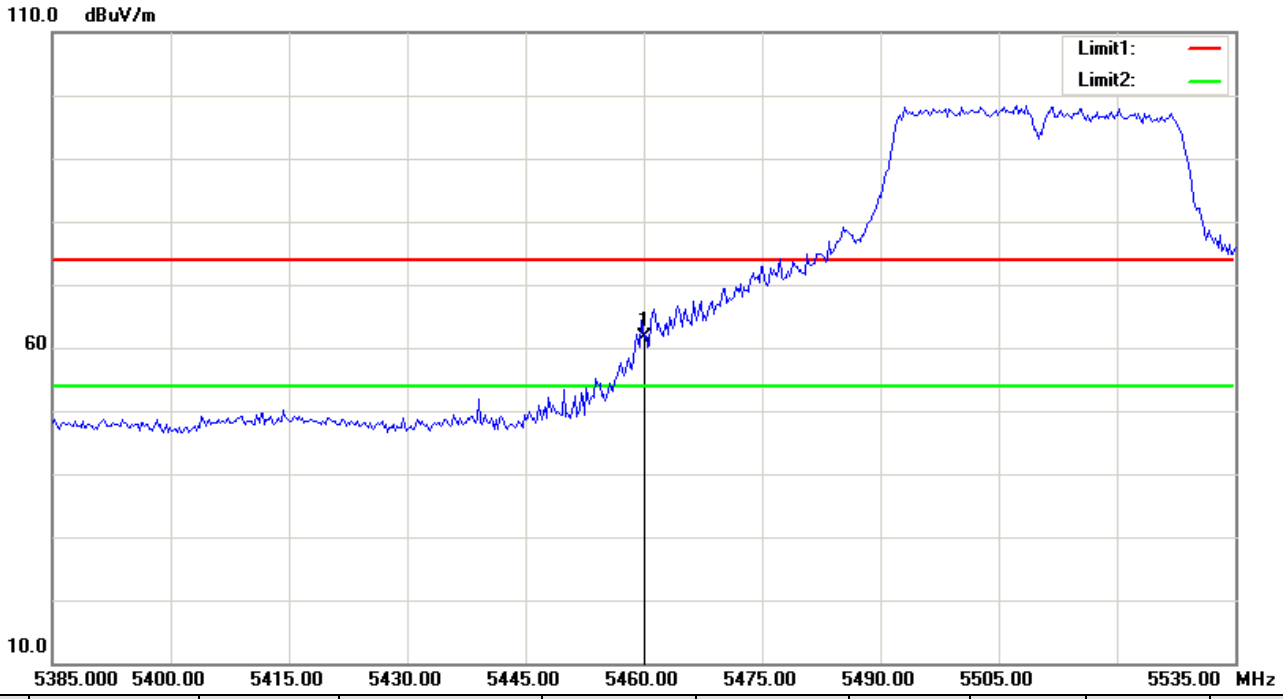
Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5350.000	40.75	-6.97	33.78	54.00	-20.22	100	349	AVG

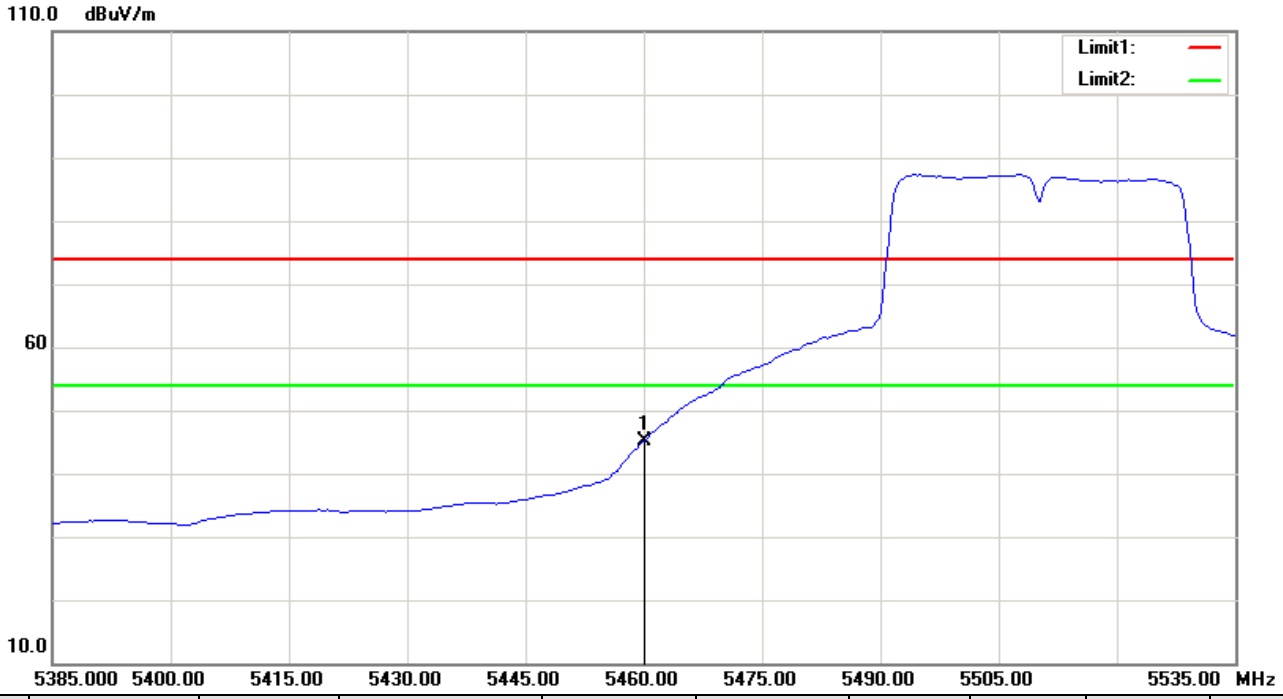
Band Edges (802.11n Standard-40 MHz Channel mode / 5510MHz) For AP141

Detector mode: Peak **Polarity: Vertical**



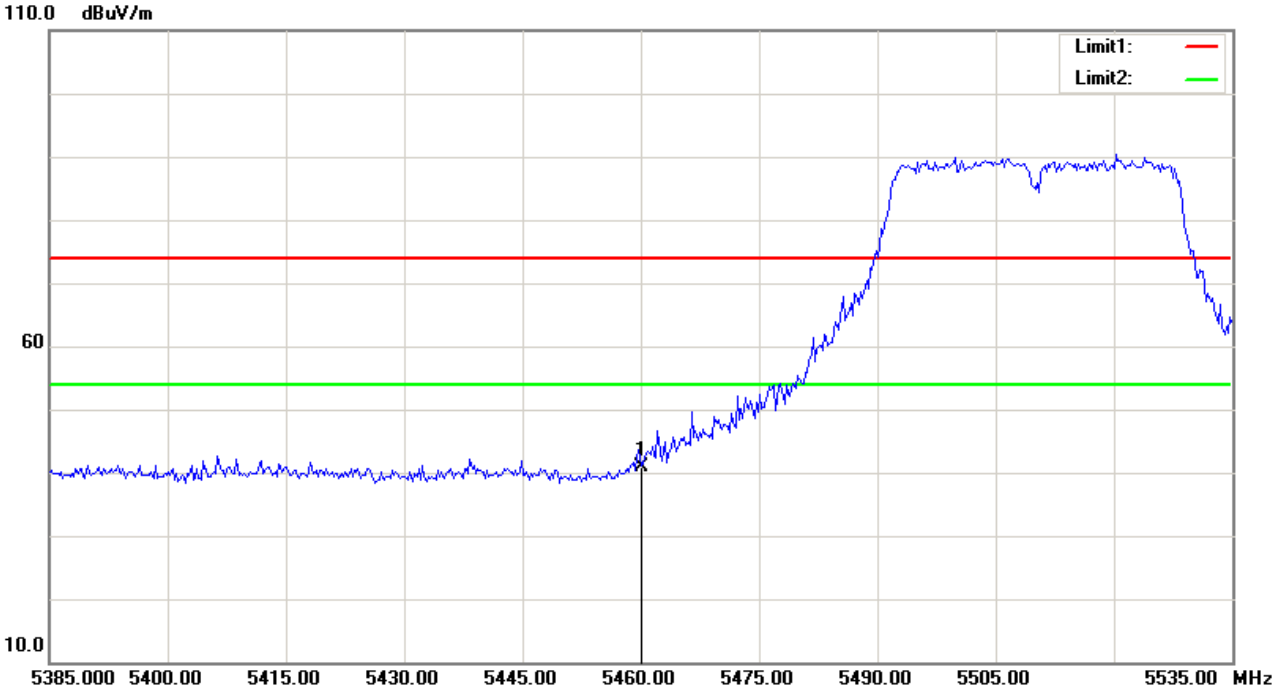
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	68.67	-6.94	61.73	74.00	-12.27	100	269	peak

Detector mode: Average **Polarity: Vertical**



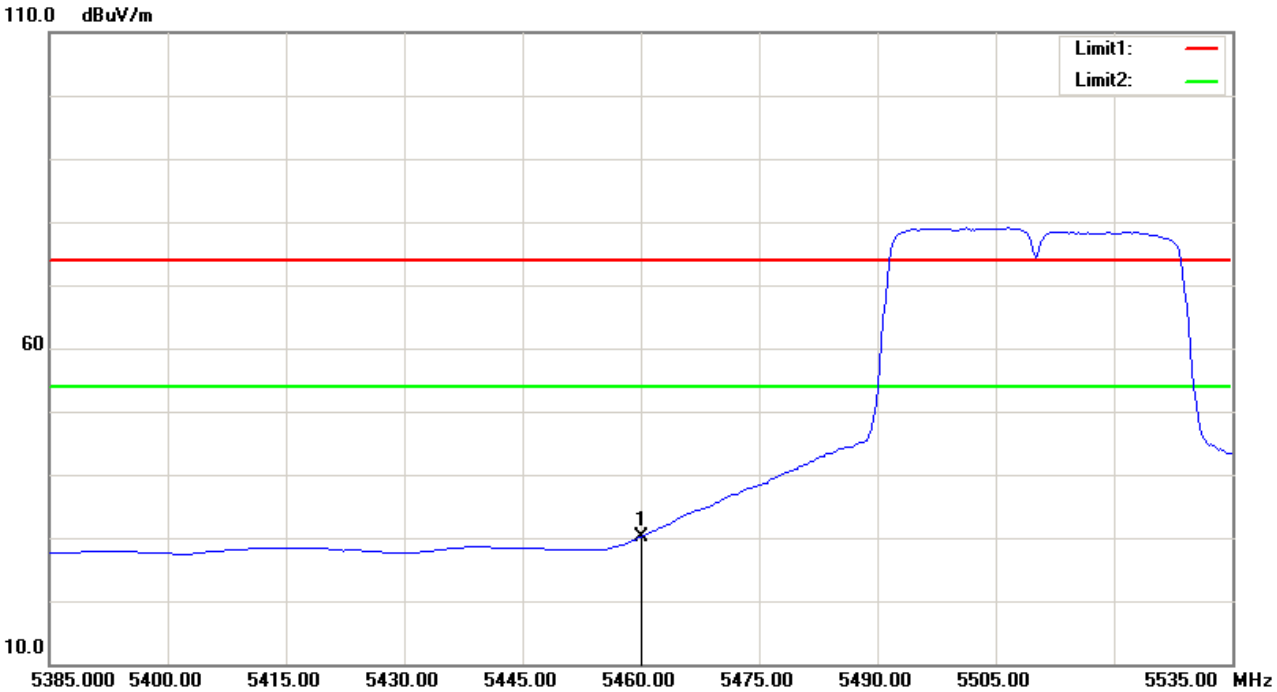
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5460.000	52.14	-6.94	45.20	54.00	-8.80	100	269	AVG

Detector mode: Peak **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	47.94	-6.94	41.00	74.00	-33.00	100	56	peak

Detector mode: Average **Polarity: Horizontal**



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5460.000	37.12	-6.94	30.18	54.00	-23.82	100	56	AVG

7.4. PEAK POWER SPECTRAL DENSITY

LIMIT

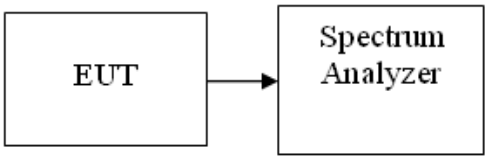
According to §15.407(a),

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

For the band 5.25-5.35 GHz and 5.47-5.725 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

5250~5350MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5260	8.27	11.00	PASS
Mid	5300	7.60	11.00	PASS
High	5320	7.40	11.00	PASS

5470~5725MHz

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5500	7.11	11.00	PASS
Mid	5540	6.59	11.00	PASS
High	5700	6.47	11.00	PASS

Test mode: 802.11n Standard-20 MHz Channel mode

5250~5350MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	CF (dB)	Total PPSD (dBm)	Limit (dBm)	Result
Low	5260	5.72	4.51	3.01	8.73	11.00	PASS
Mid	5300	4.85	5.51	3.01	8.52	11.00	PASS
High	5320	4.69	7.00	3.01	10.01	11.00	PASS

Total PPSD Chain 0+Chain 1:

Total PPSD (dBm)= CF was accounted for the number of data streams being used, 10*Log(N) per KDB 662911; where N is number of outputs.

5470~5725MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	CF (dB)	Total PPSD (dBm)	Limit (dBm)	Result
Low	5500	4.45	6.40	3.01	9.41	11.00	PASS
Mid	5540	3.51	6.01	3.01	9.02	11.00	PASS
High	5700	3.85	5.37	3.01	8.38	11.00	PASS

Total PPSD Chain 0+Chain 1:

Total PPSD (dBm)= CF was accounted for the number of data streams being used, 10*Log(N) per KDB 662911; where N is number of outputs.

Test mode: 802.11n Wide-40 MHz Channel mode

5250~5350MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	CF (dB)	Total PPSD (dBm)	Limit (dBm)	Result
Low	5270	3.30	3.51	3.01	6.52	11.00	PASS
Mid	5310	3.96	4.31	3.01	7.32	11.00	PASS

Total PPSD Chain 0+Chain 1:

Total PPSD (dBm)= CF was accounted for the number of data streams being used, 10*Log(N) per KDB 662911; where N is number of outputs.

5470~5725MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	CF (dB)	Total PPSD (dBm)	Limit (dBm)	Result
Low	5510	2.47	3.73	3.01	6.74	11.00	PASS
Mid	5550	3.31	3.68	3.01	6.69	11.00	PASS
High	5670	3.78	4.34	3.01	7.35	11.00	PASS

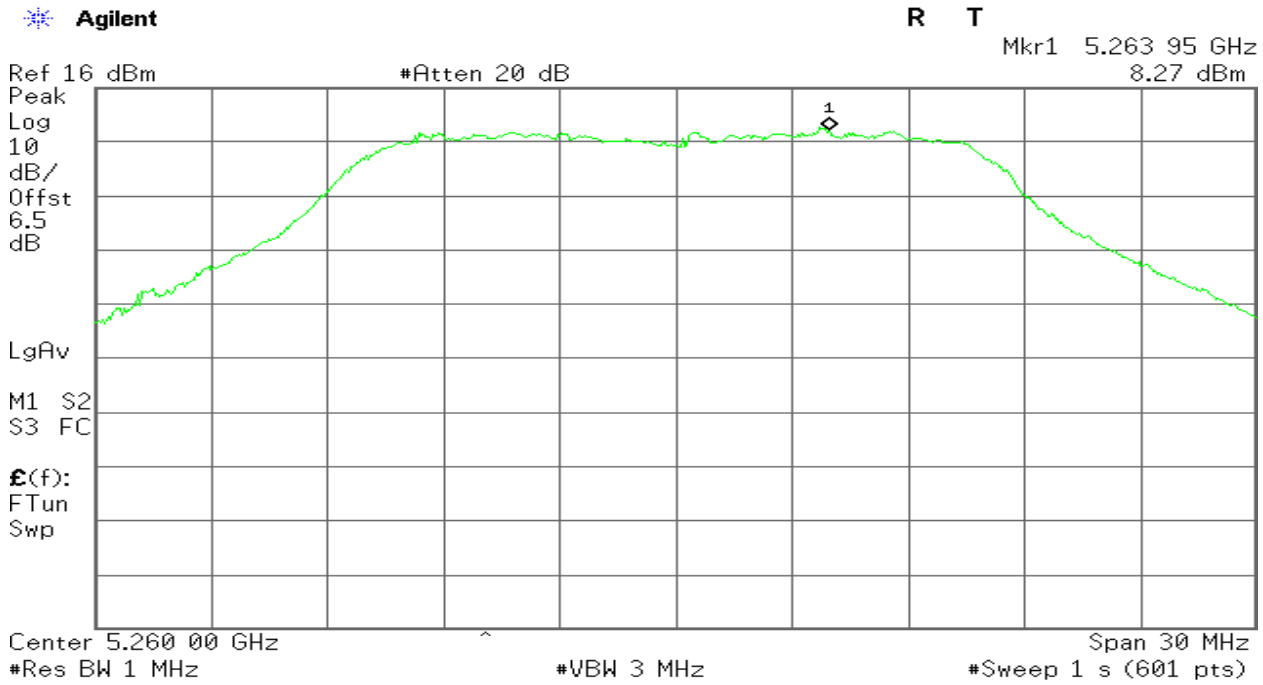
Total PPSD (dBm)= CF was accounted for the number of data streams being used, 10*Log(N) per KDB 662911; where N is number of outputs.

Test Plot

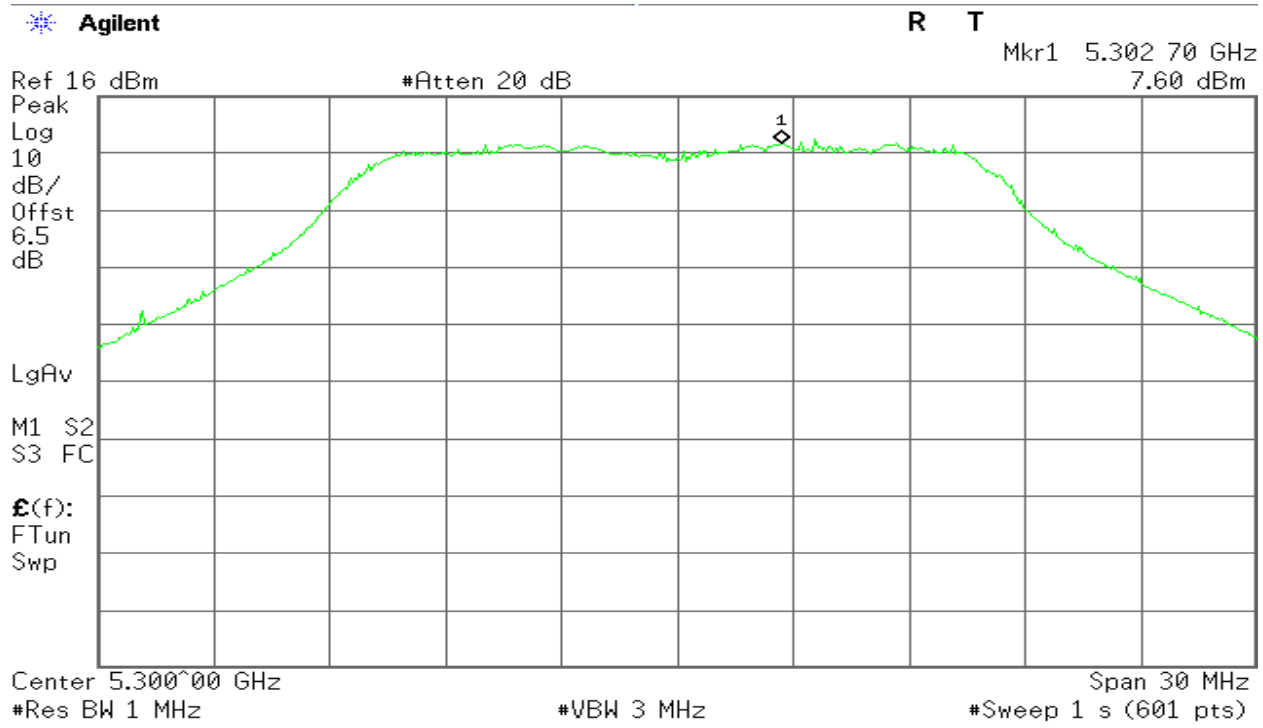
Test mode: IEEE 802.11a mode:

5250~5350MHz

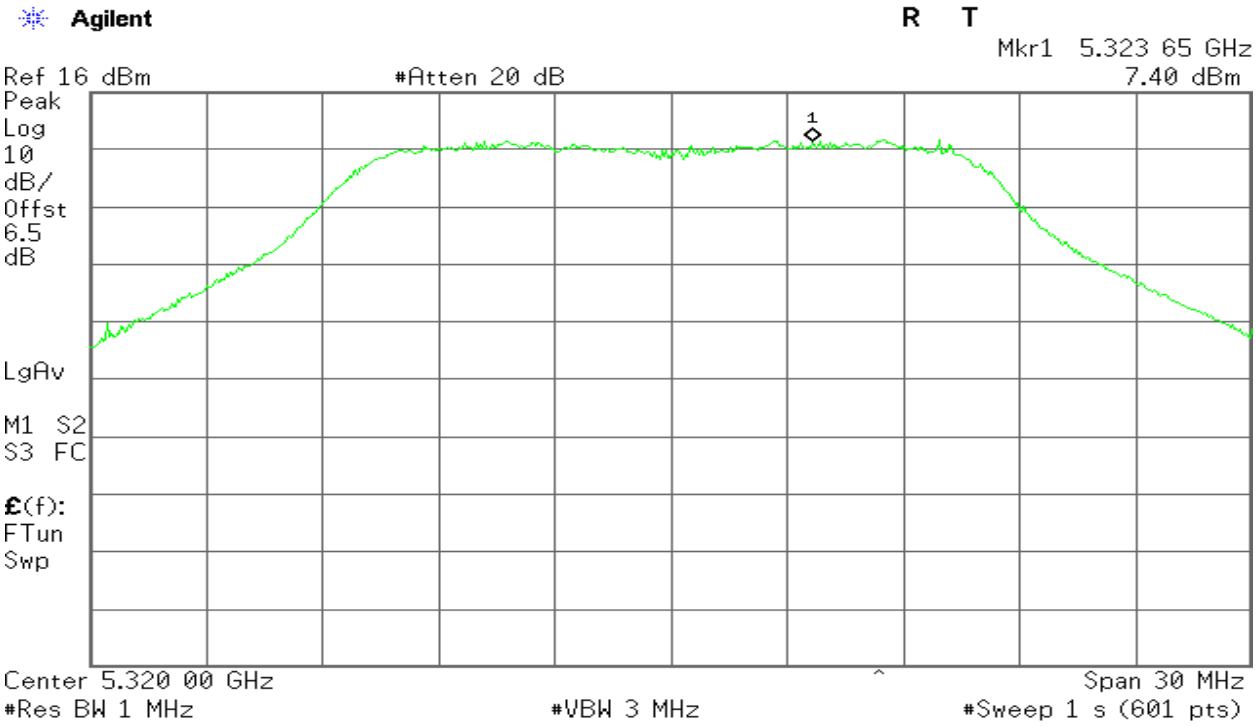
CH Low



CH Mid

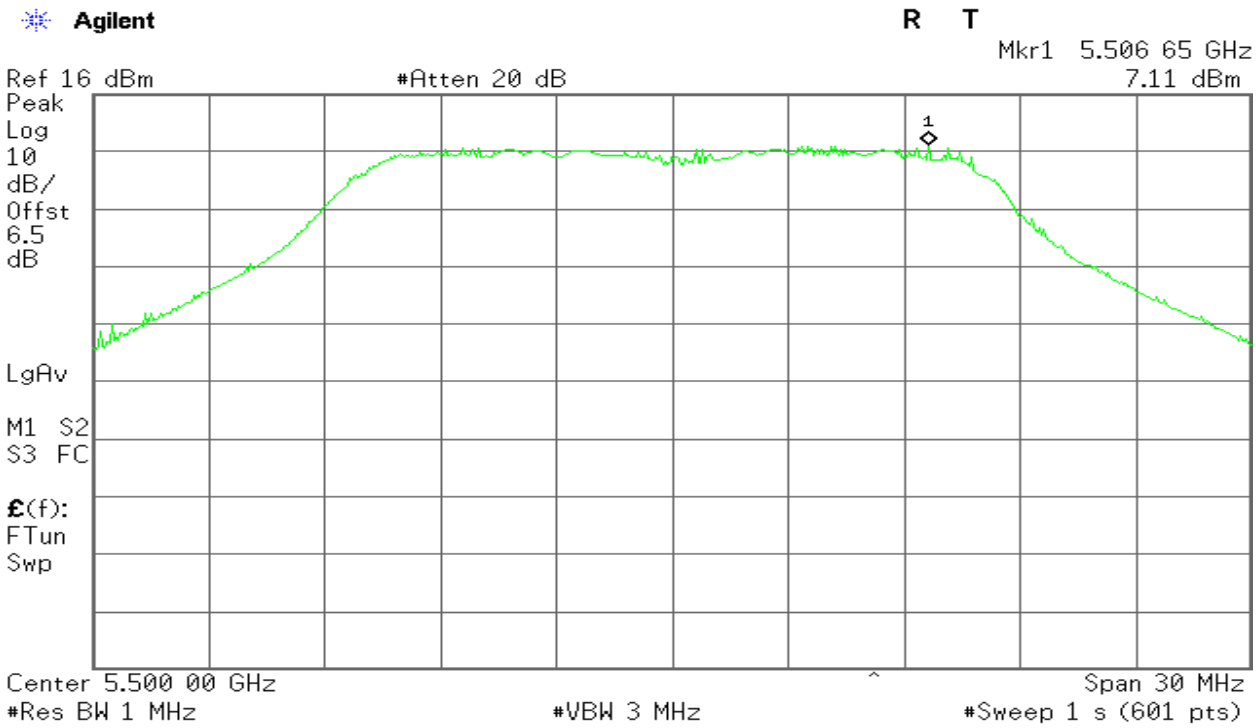


CH High

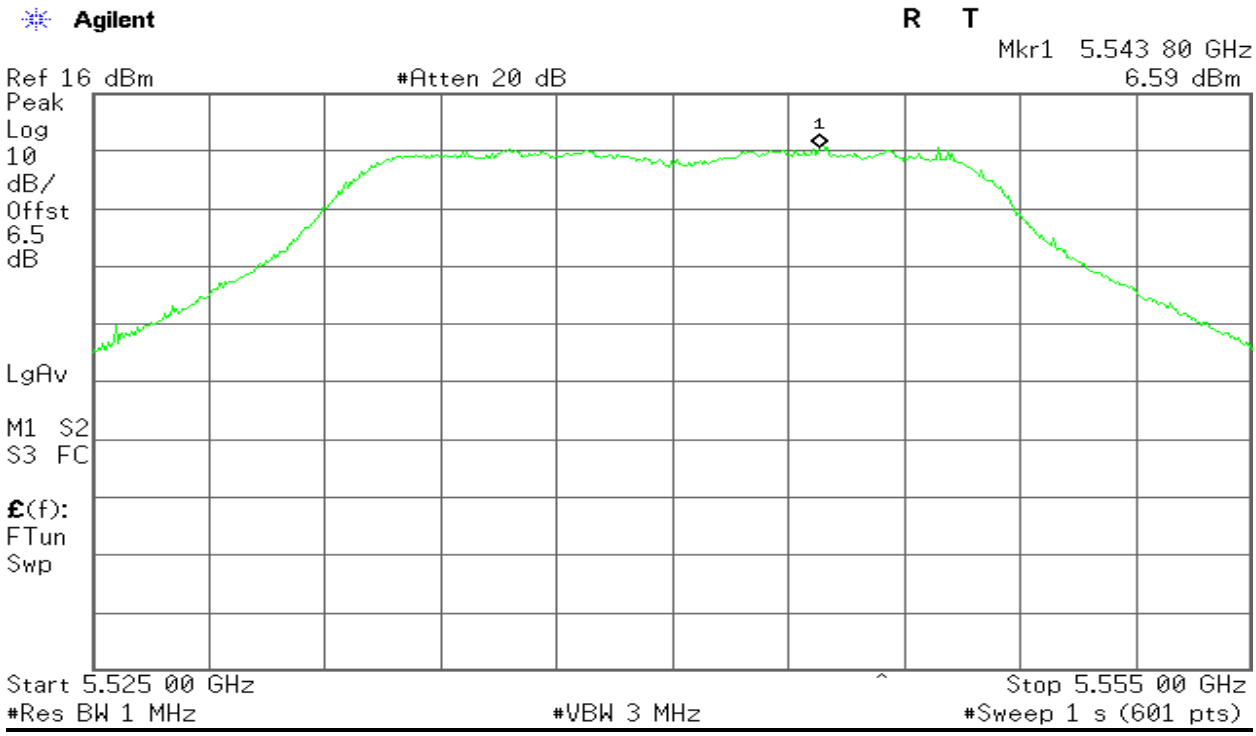


5470~5725MHz

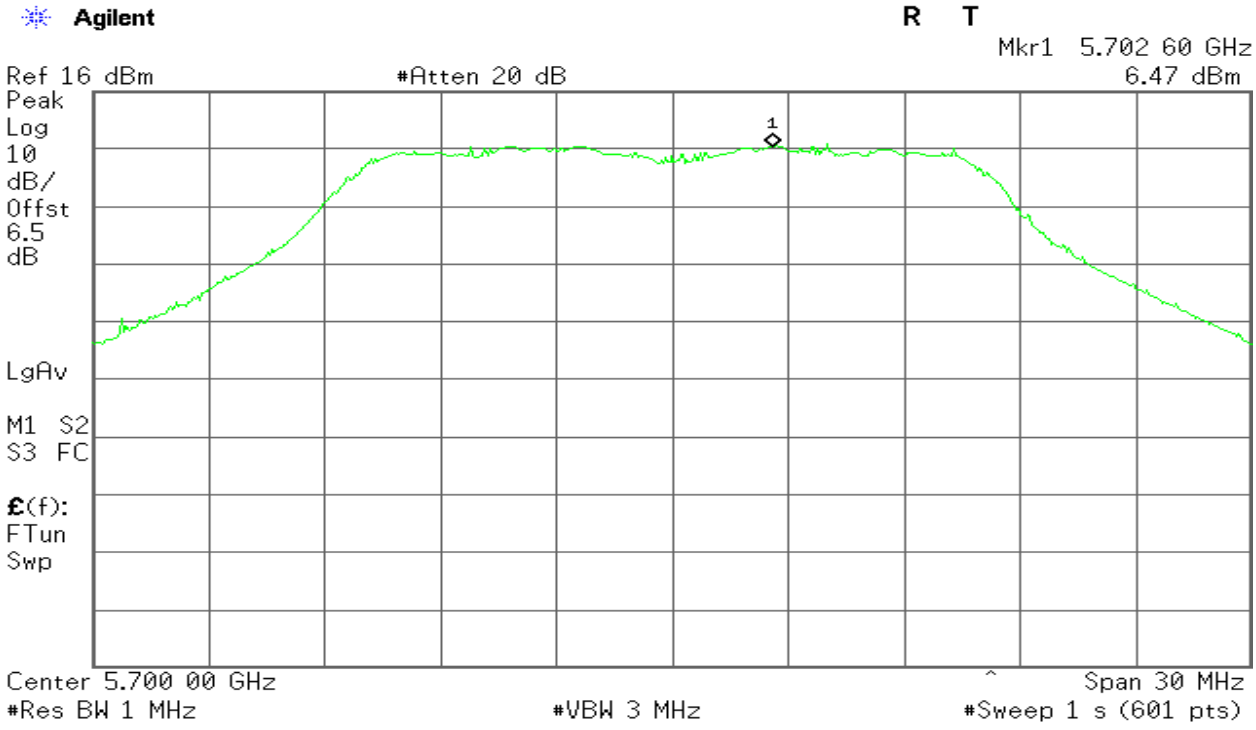
CH Low



CH Mid



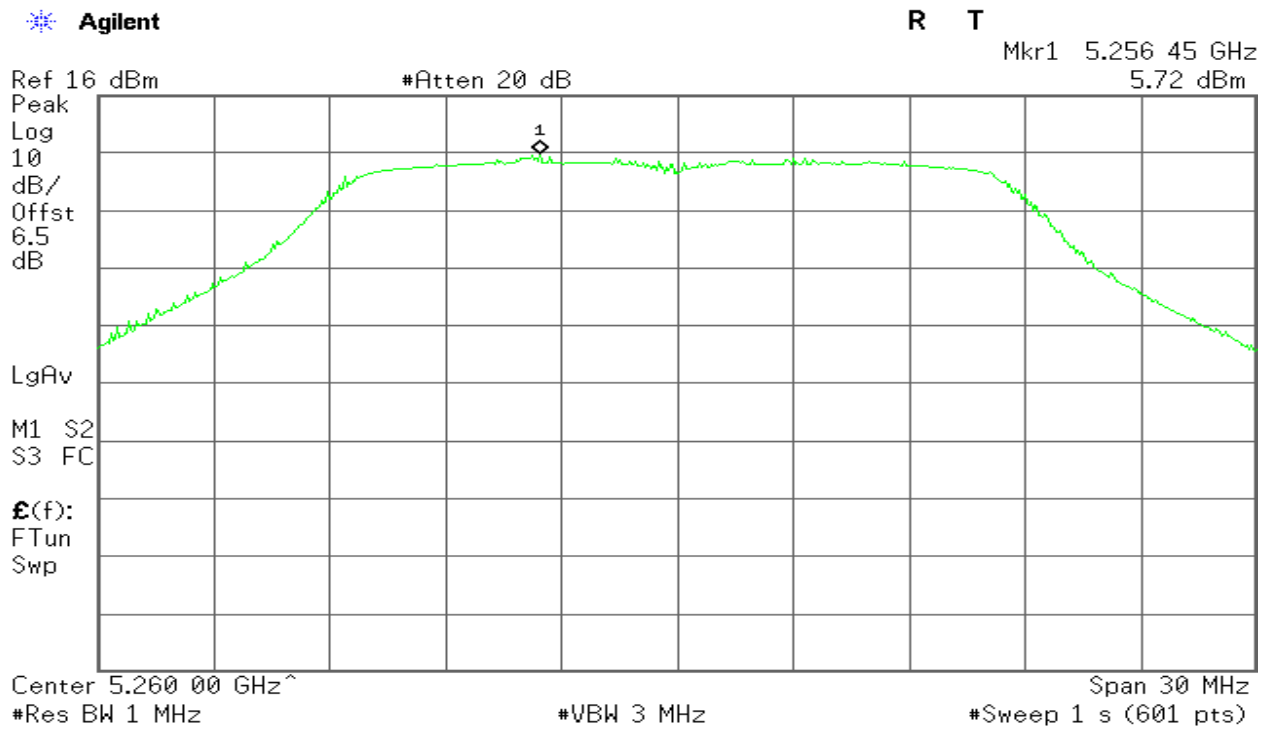
CH High



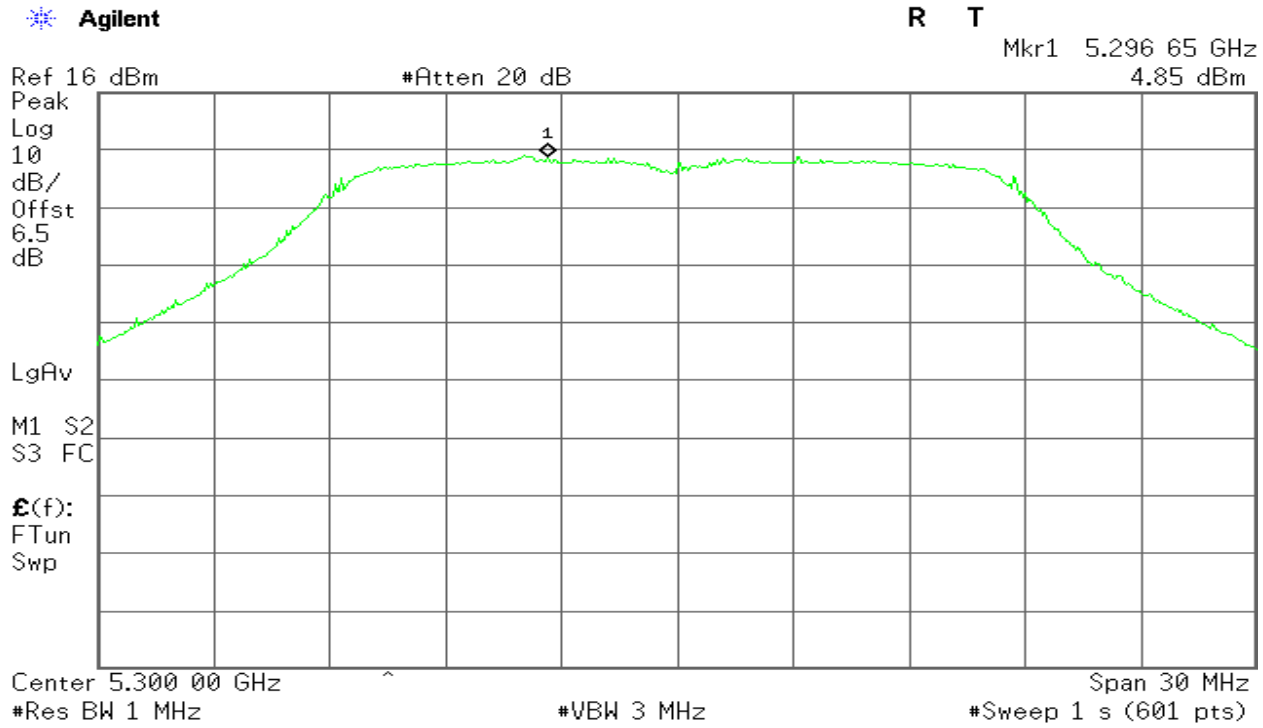
Test mode: 802.11n Standard-20 MHz Channel mode / Chain 0:

5250~5350MHz

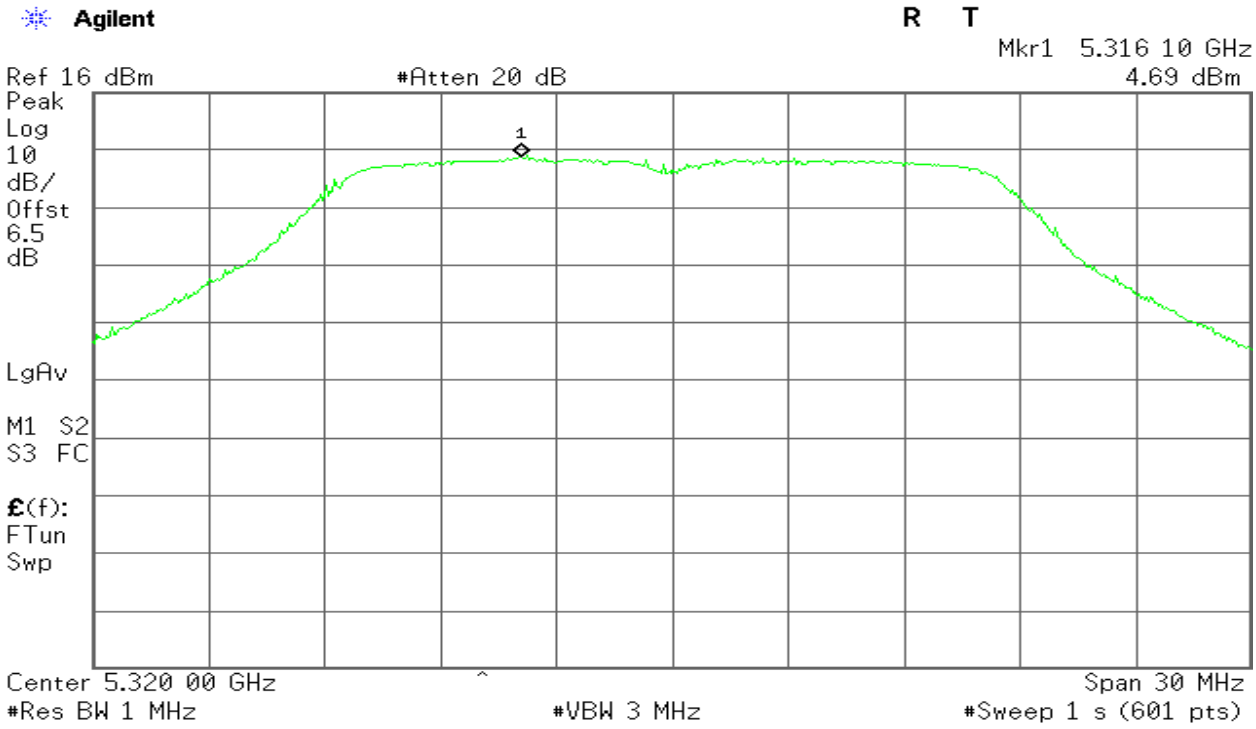
CH Low



CH Mid

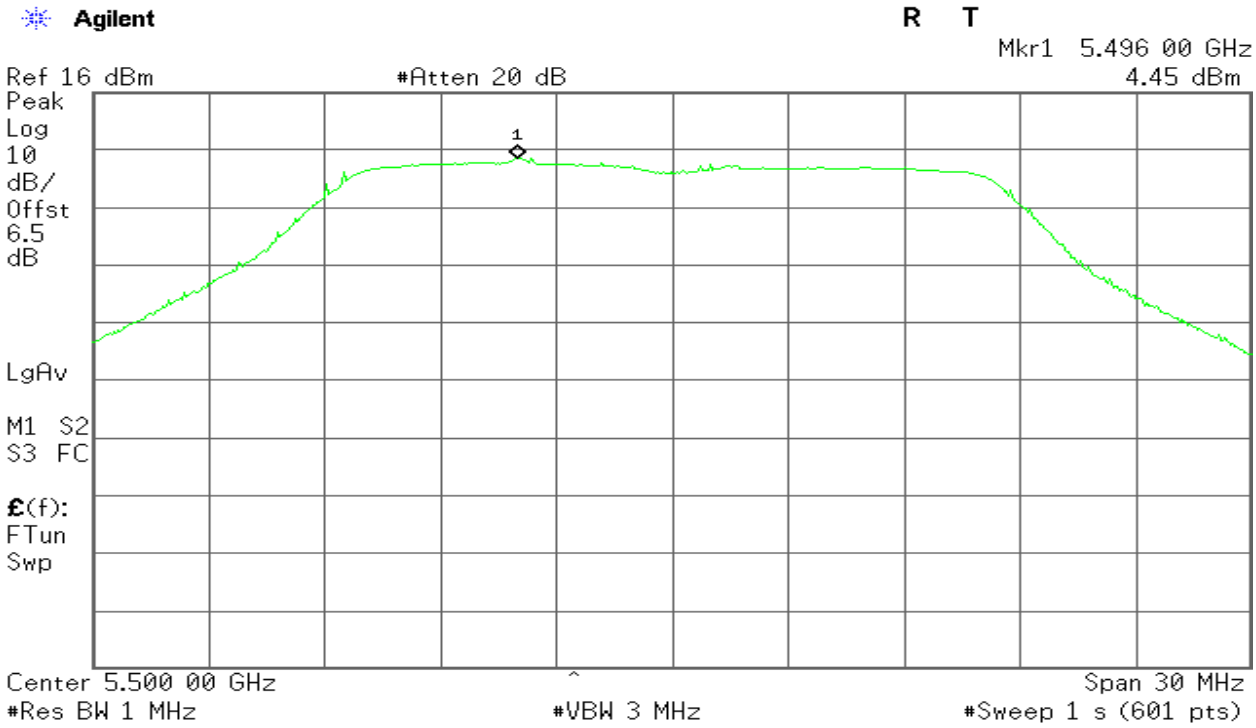


CH High

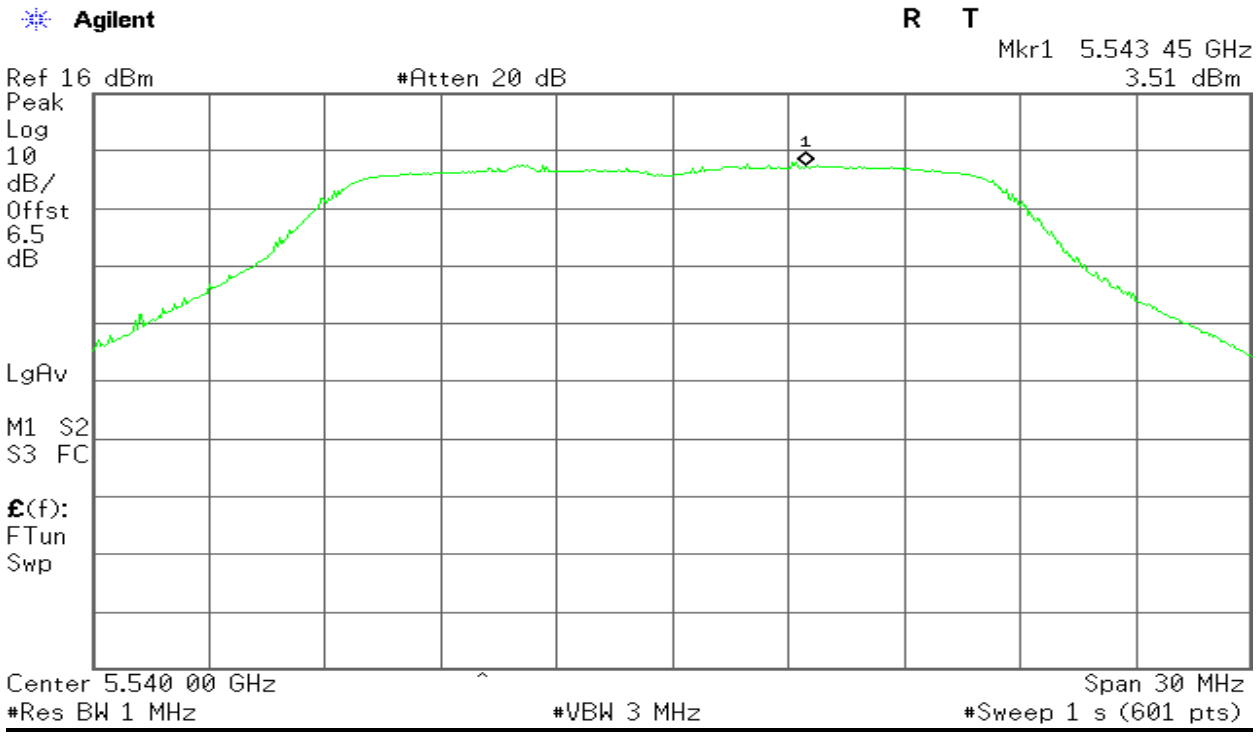


5470~5725MHz

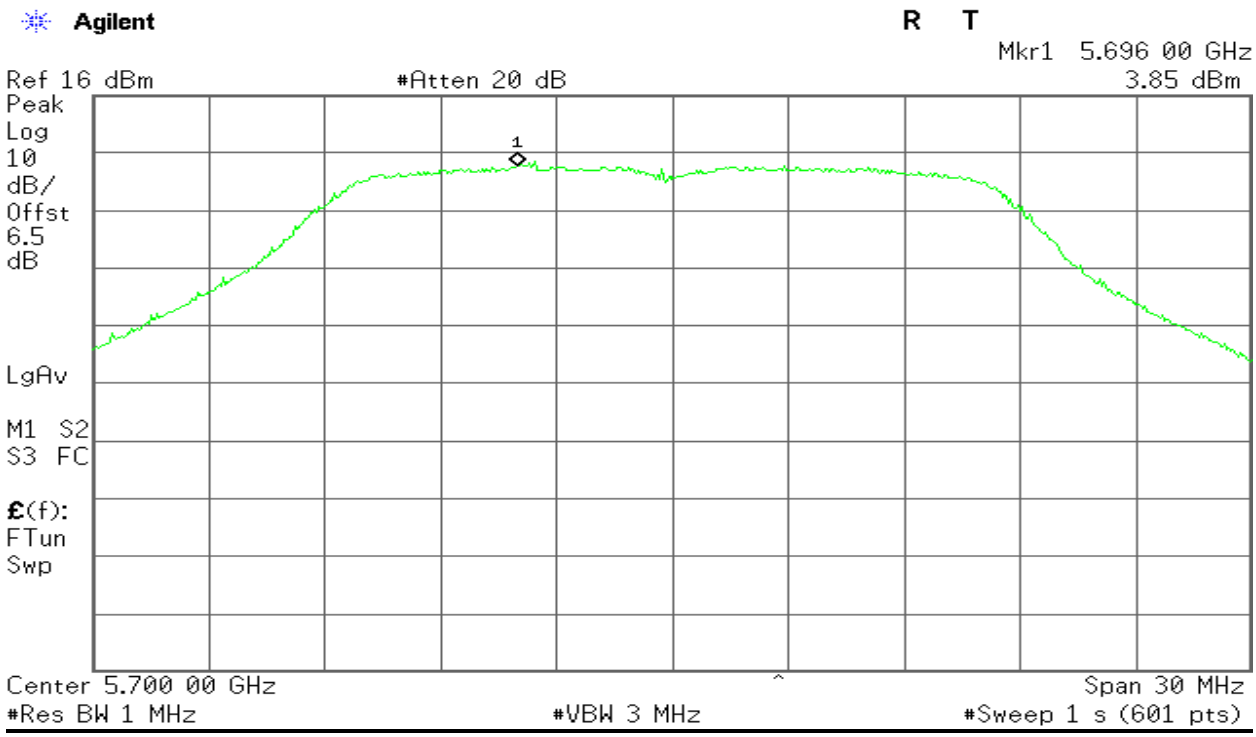
CH Low



CH Mid



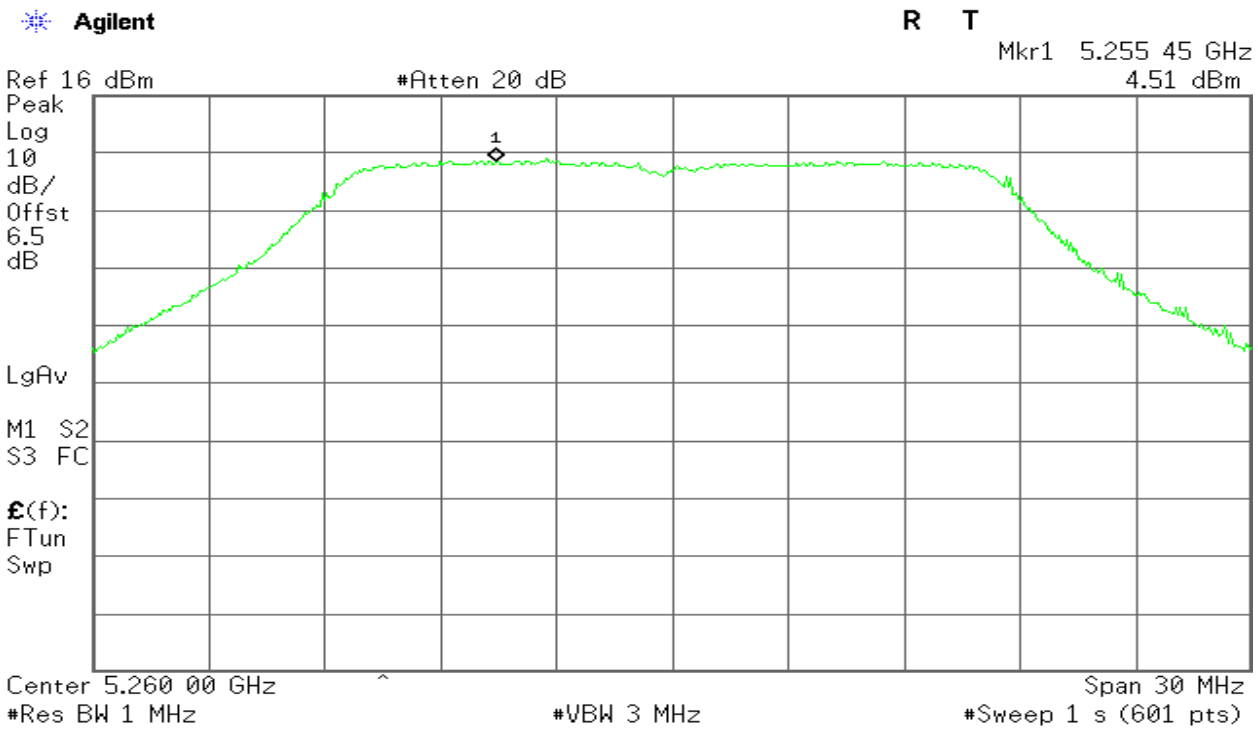
CH High



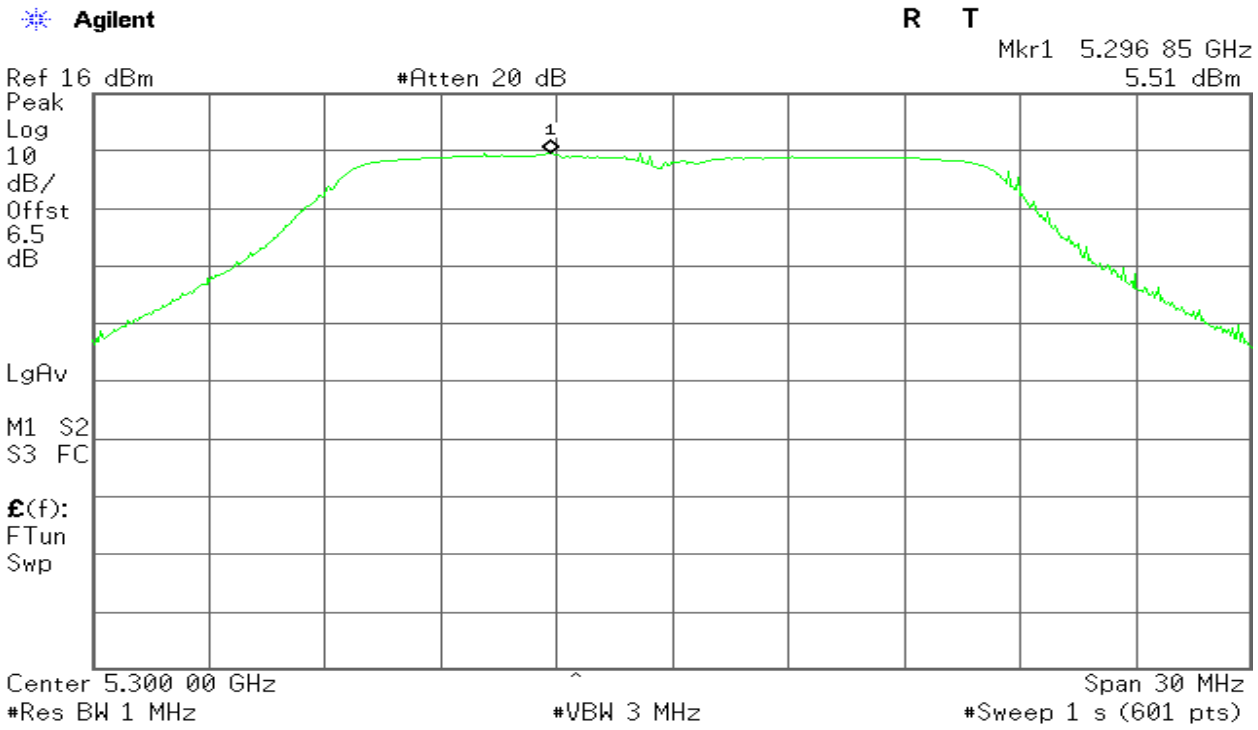
Test mode: 802.11n Standard-20 MHz Channel mode / Chain 1:

5250~5350MHz

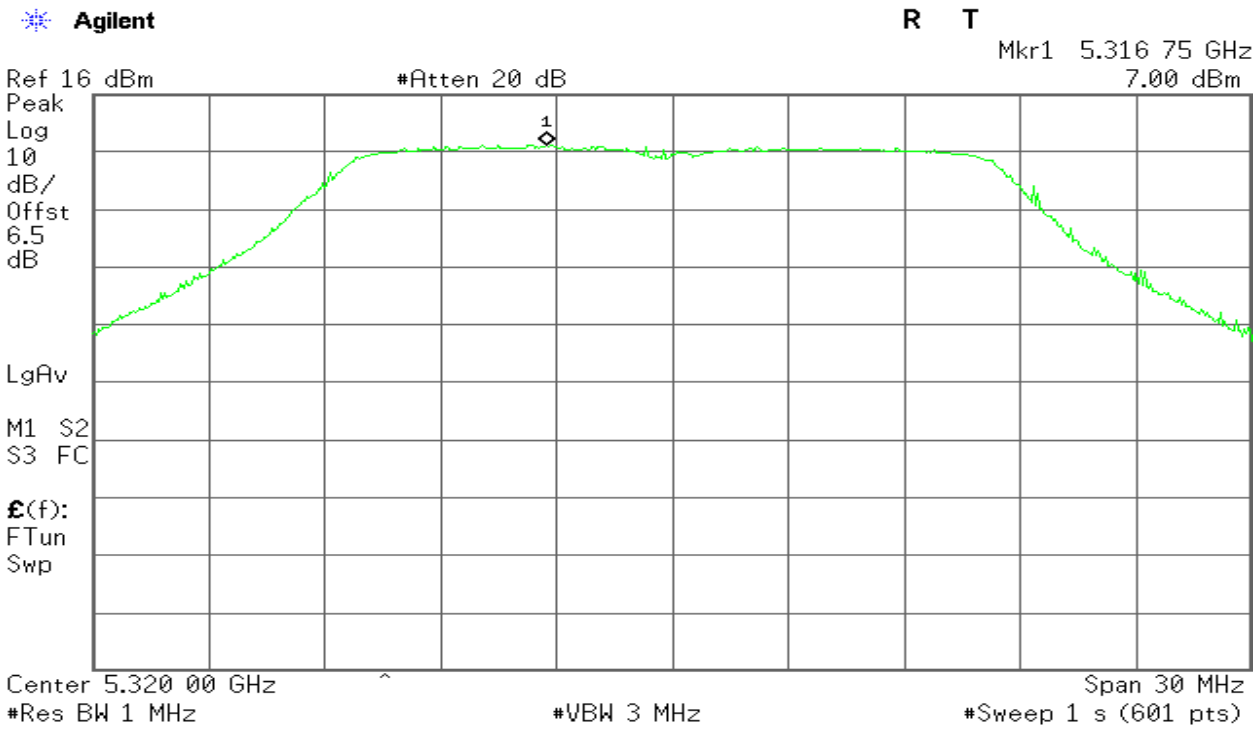
CH Low



CH Mid

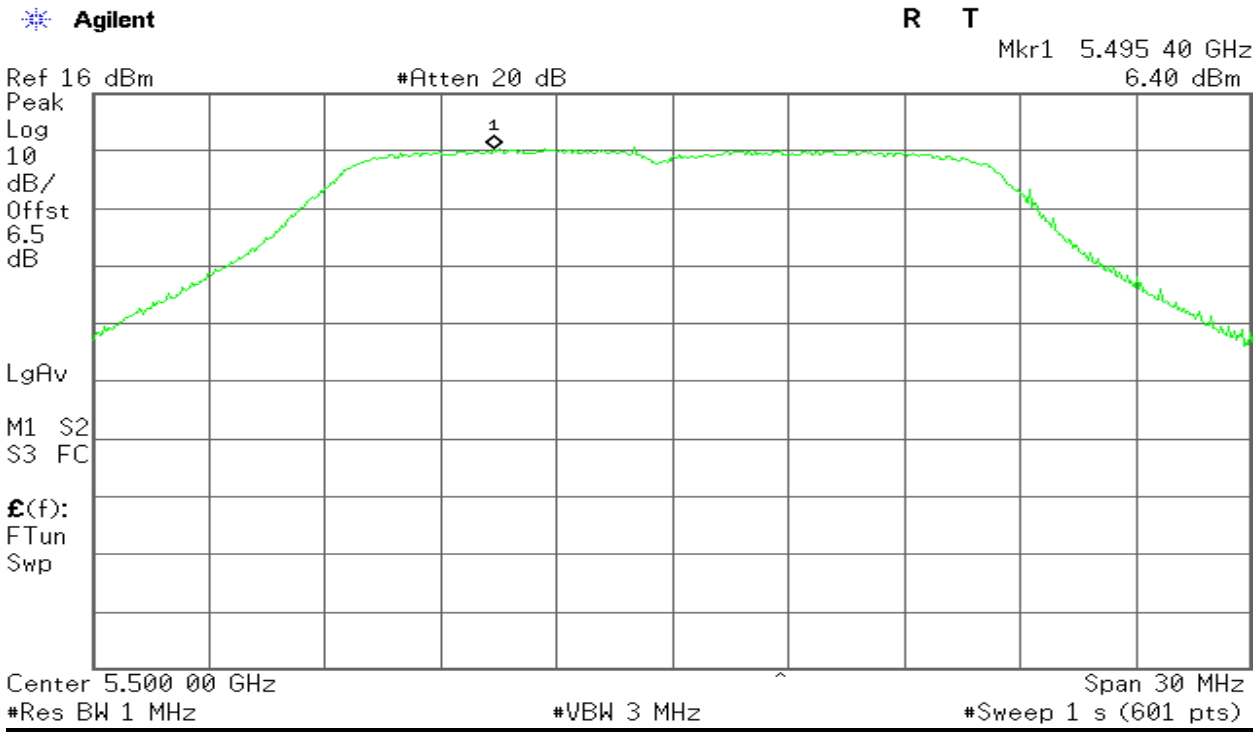


CH High

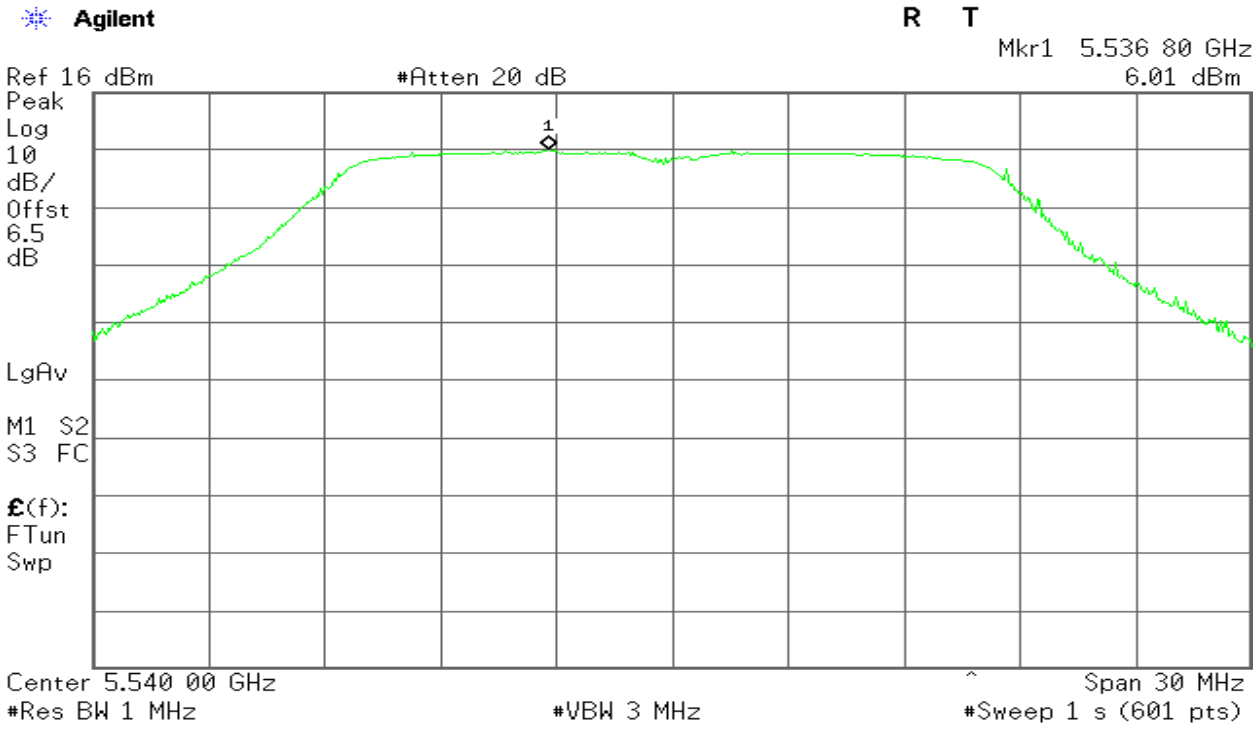


5470~5725MHz

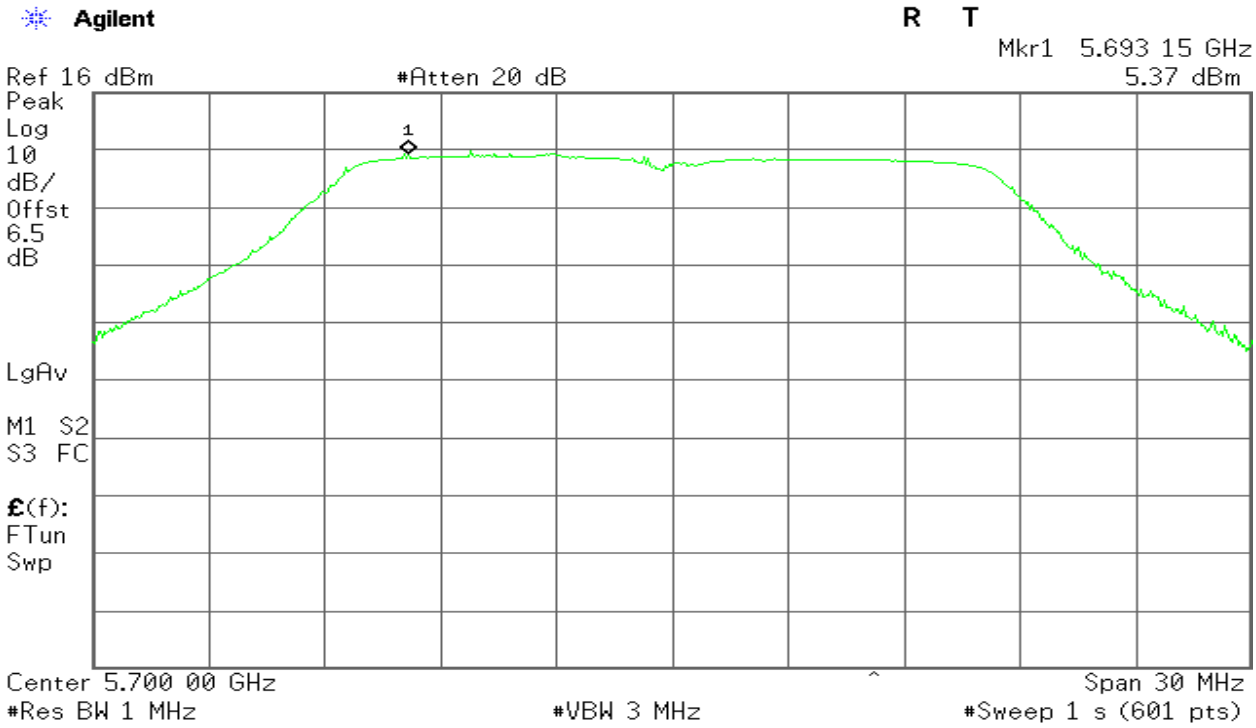
CH Low



CH Mid



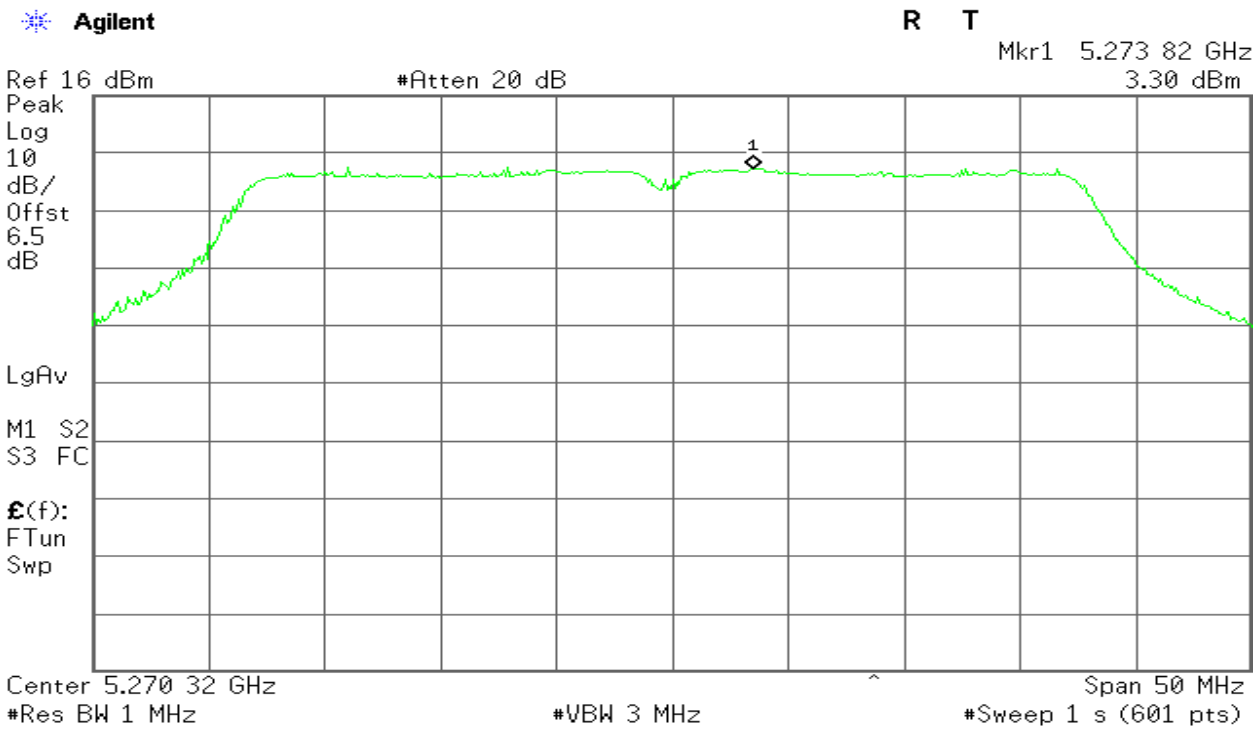
CH High



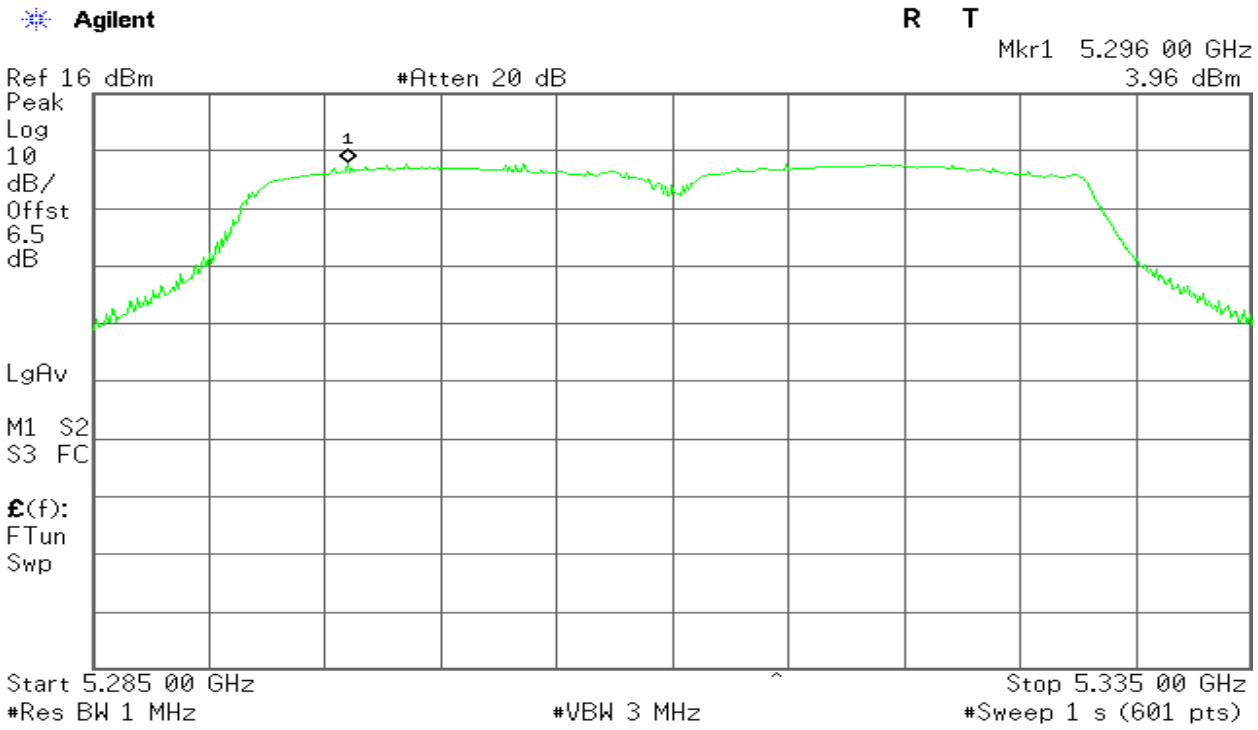
Test mode: 802.11n Wide-40 MHz Channel mode / Chain 0:

5250~5350MHz

CH Low

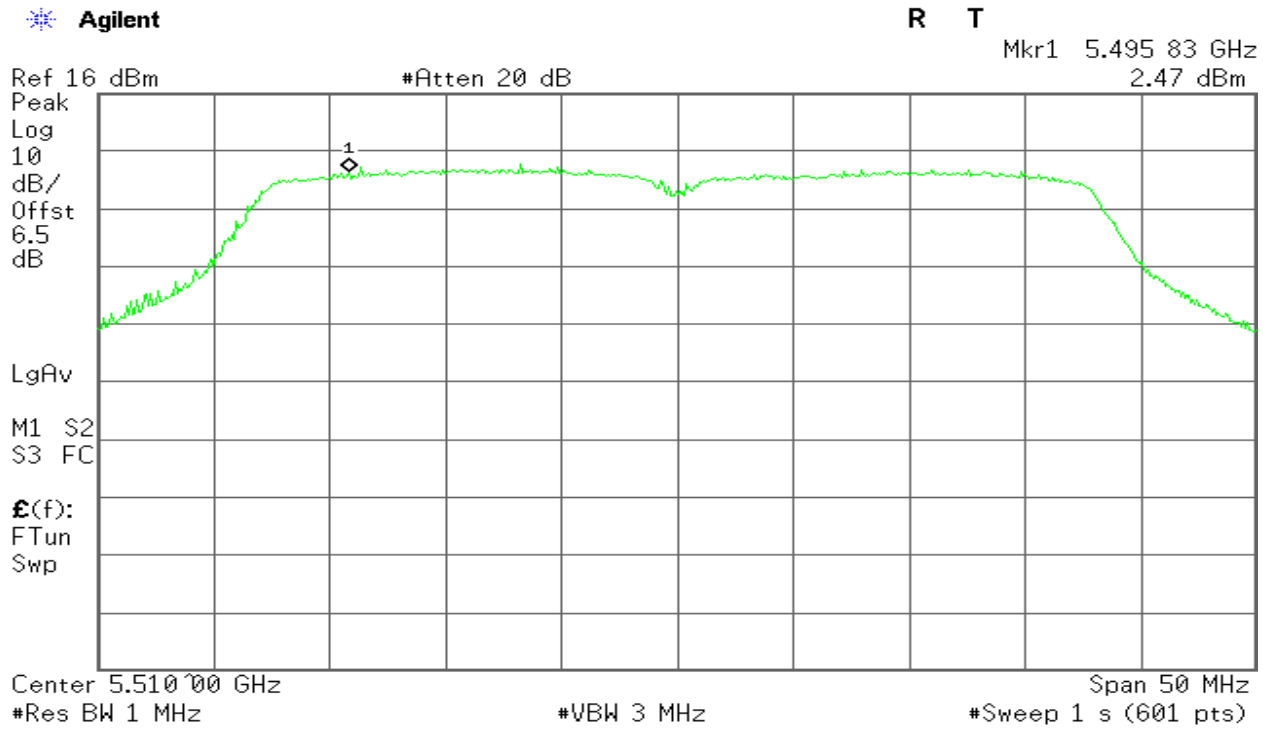


CH High

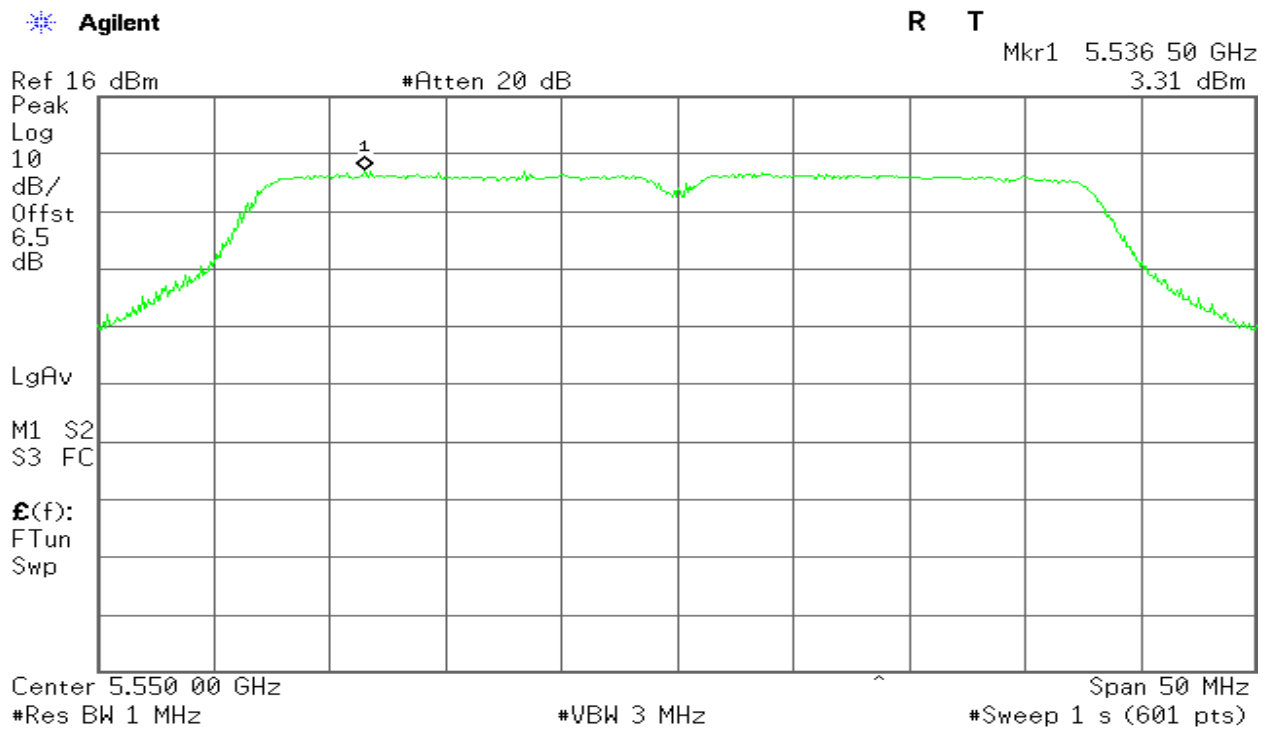


5470~5725MHz

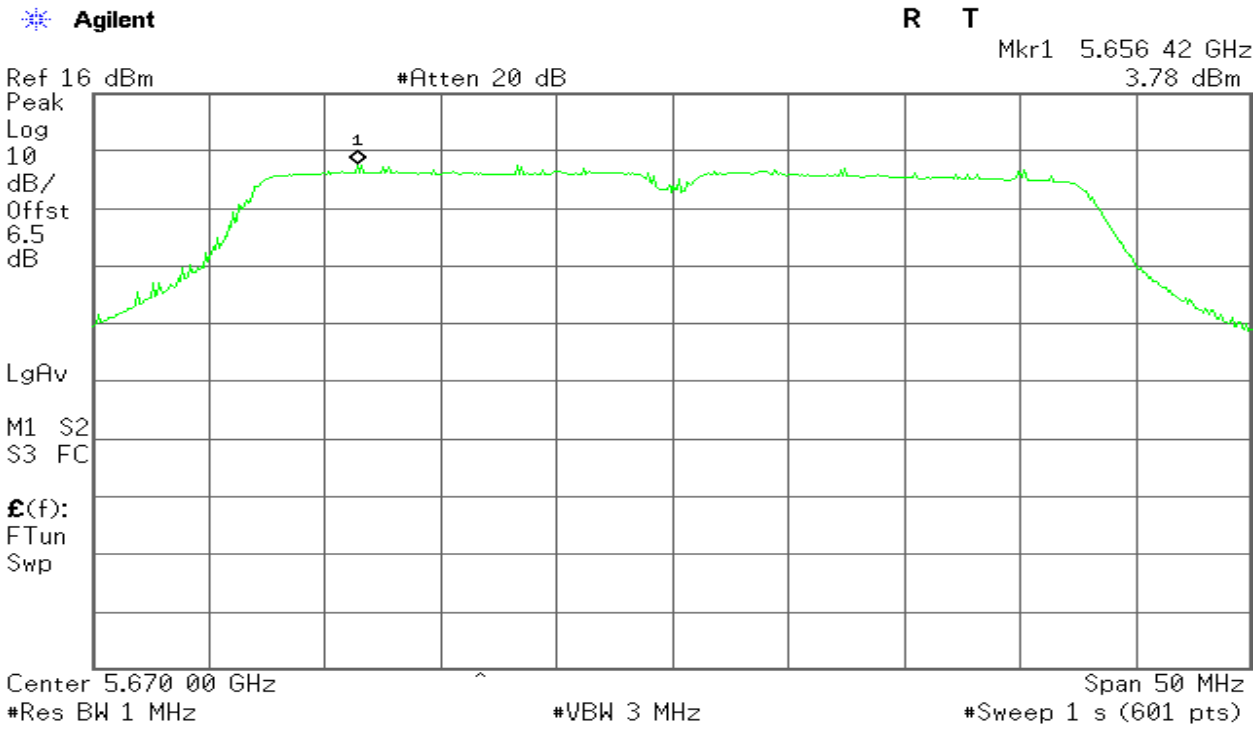
CH Low



CH Mid



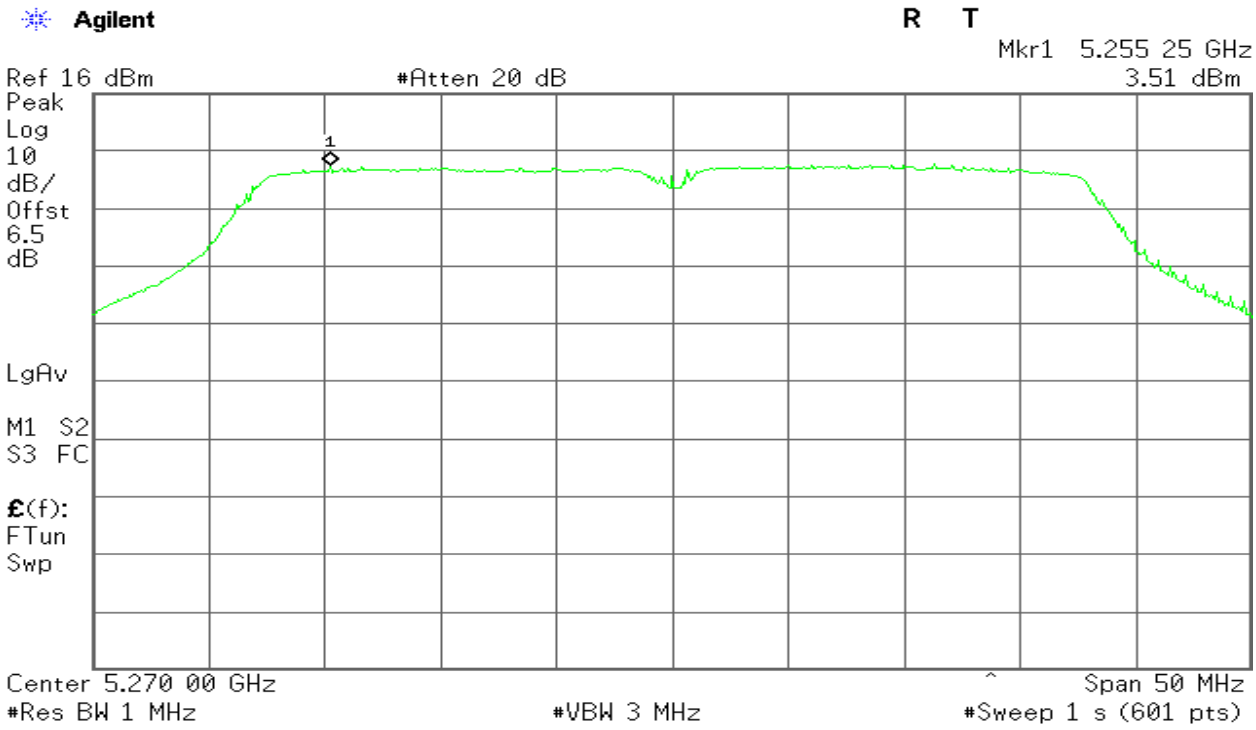
CH High



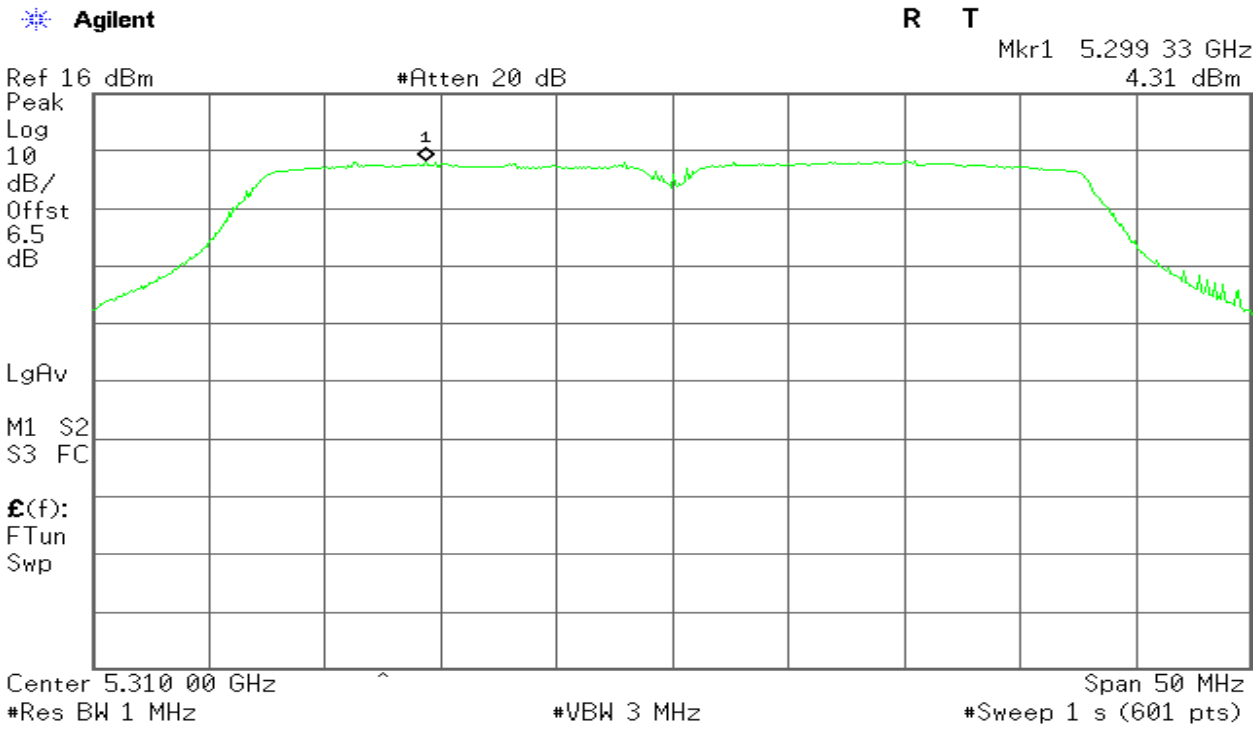
Test mode: 802.11n Wide-40 MHz Channel mode / Chain 1:

5250~5350MHz

CH Low

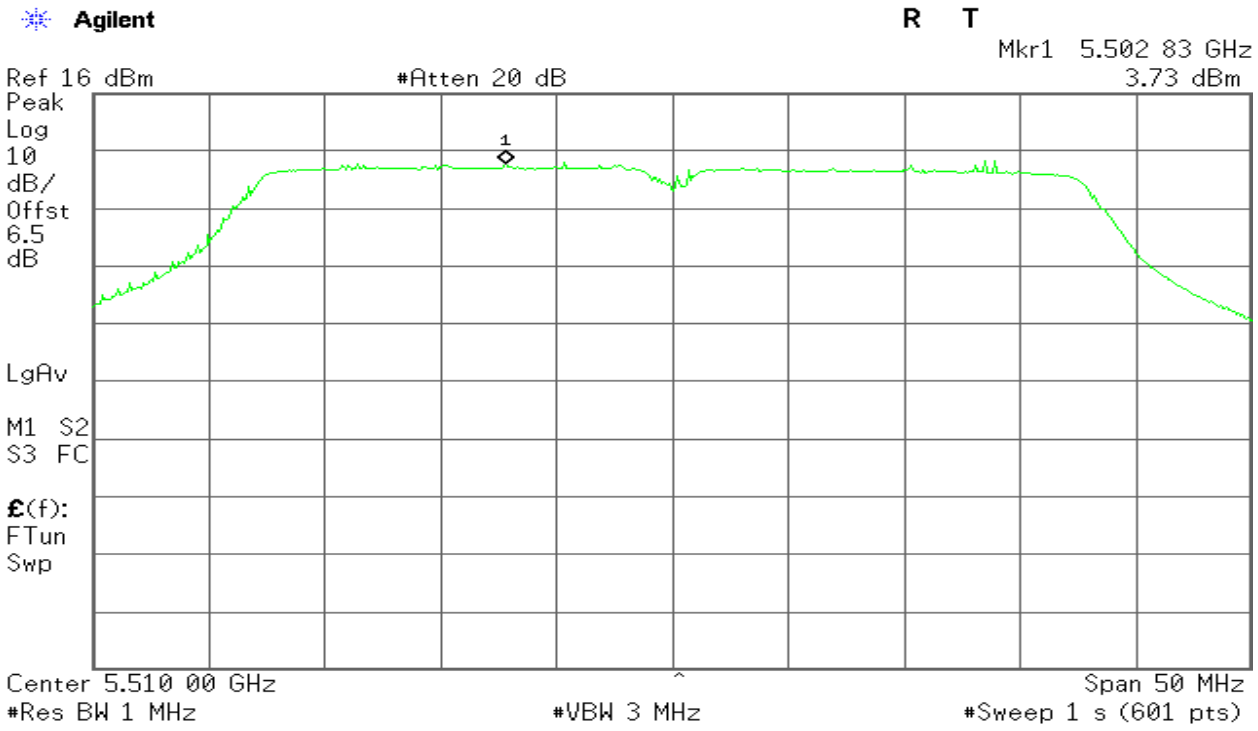


CH High

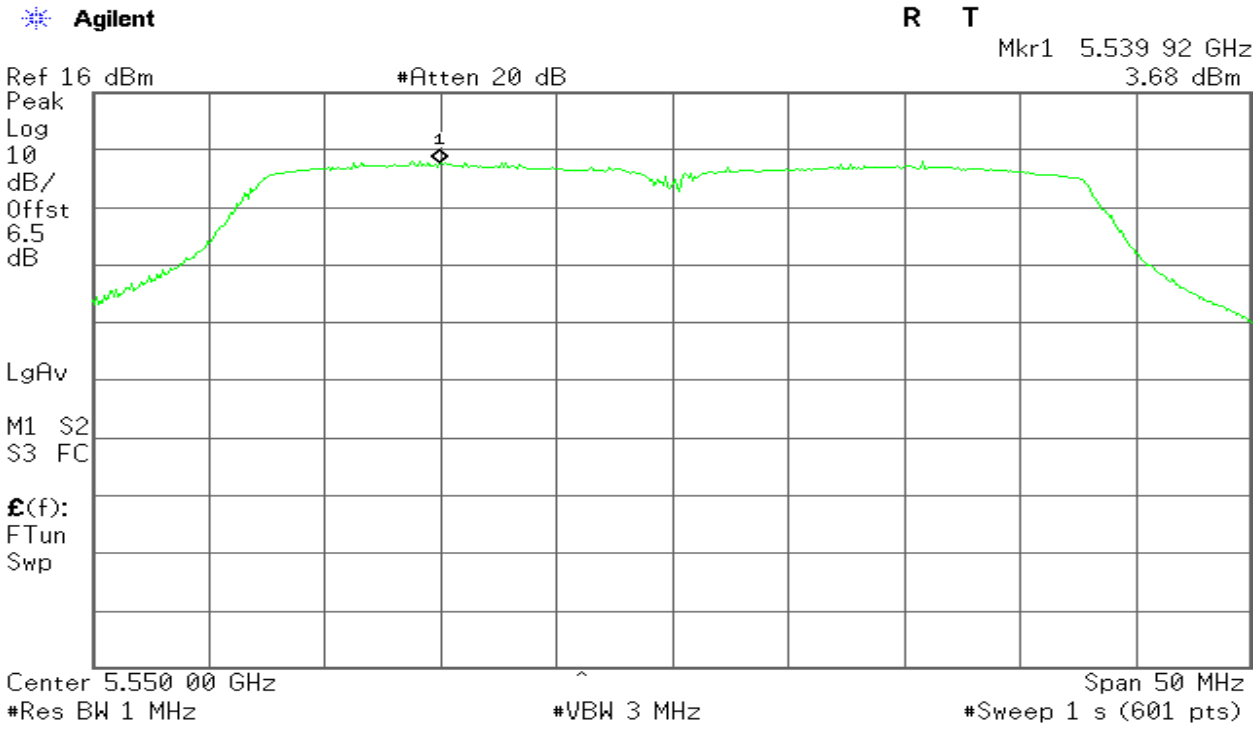


5470~5725MHz

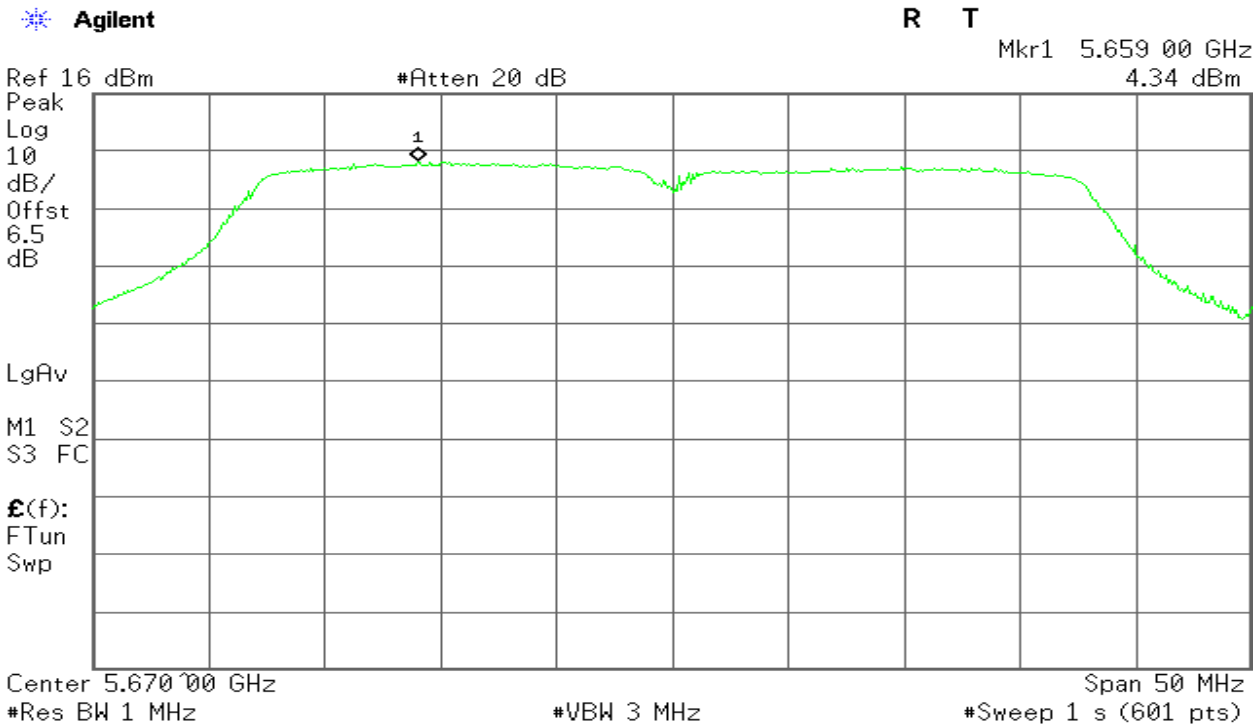
CH Low



CH Mid



CH High

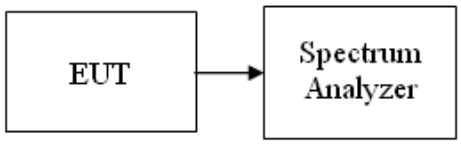


7.5. PEAK EXCURSION

LIMIT

According to §15.407(a)(6), the ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Test Configuration



TEST PROCEDURE

The test is performed in accordance with <FCC Public Notice: APPENDIX A Guidelines for Assessing Unlicensed National Information Infrastructure (U-NII) Devices> – Part 15, Subpart E, August 2002.

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to spectrum.
3. Trace A, Set RBW =1MHz, VBW = 3MHz, Span >26dB bandwidth, Max. hold.
4. Delta Mark trace A Maximum frequency and trace B same frequency.
5. Repeat the above procedure until measurements for all frequencies were complete.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode

5250~5350MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5260	8.29	13.00	-4.71	PASS
Mid	5300	7.60	13.00	-5.40	PASS
High	5320	7.81	13.00	-5.19	PASS

5470~5725MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5500	8.87	13.00	-4.13	PASS
Mid	5540	8.32	13.00	-4.68	PASS
High	5700	8.34	13.00	-4.66	PASS

Test mode: 802.11n Standard-20 MHz Channel mode / Chain 0

5250~5350MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5260	8.32	13.00	-4.68	PASS
Mid	5300	7.70	13.00	-5.30	PASS
High	5320	7.51	13.00	-5.49	PASS

5470~5725MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5500	7.73	13.00	-5.27	PASS
Mid	5540	7.63	13.00	-5.37	PASS
High	5700	8.40	13.00	-4.60	PASS

Test mode: 802.11n Standard-20 MHz Channel mode / Chain 1

5250~5350MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5260	7.75	13.00	-5.25	PASS
Mid	5300	8.00	13.00	-5.00	PASS
High	5320	7.73	13.00	-5.27	PASS

5470~5725MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5500	7.86	13.00	-5.14	PASS
Mid	5540	7.36	13.00	-5.64	PASS
High	5700	7.90	13.00	-5.10	PASS

Test mode: 802.11n Wide-40 MHz Channel mode / Chain 0

5250~5350MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5270	7.60	13.00	-5.40	PASS
High	5310	7.41	13.00	-5.59	PASS

5470~5725MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5510	8.18	13.00	-4.82	PASS
Mid	5550	7.79	13.00	-5.21	PASS
High	5670	4.73	13.00	-8.27	PASS

Test mode: 802.11n Wide-40 MHz Channel mode / Chain 1

5250~5350MHz

Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5270	8.05	13.00	-4.95	PASS
High	5310	7.58	13.00	-5.42	PASS

5470~5725MHz

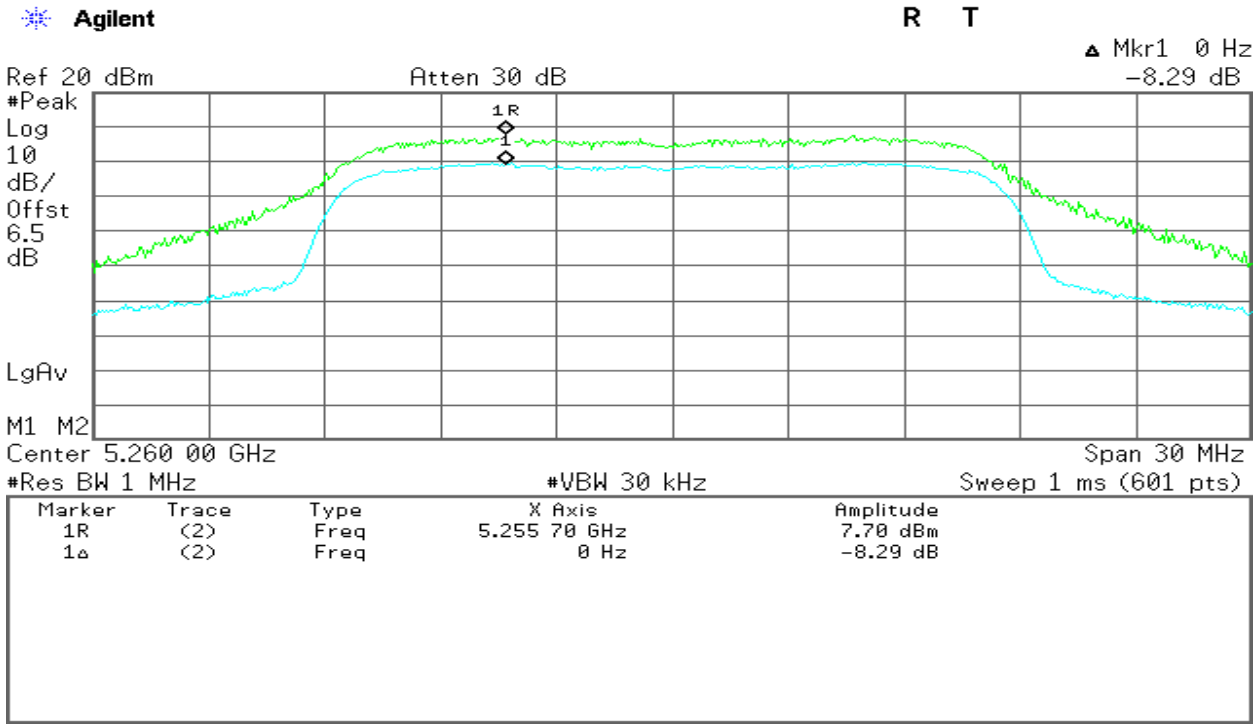
Channel	Frequency (MHz)	Peak Excursion (dB)	Limit (dB)	Margin (dB)	Result
Low	5510	7.83	13.00	-5.17	PASS
Mid	5550	7.71	13.00	-5.29	PASS
High	5670	7.21	13.00	-5.79	PASS

Test Plot

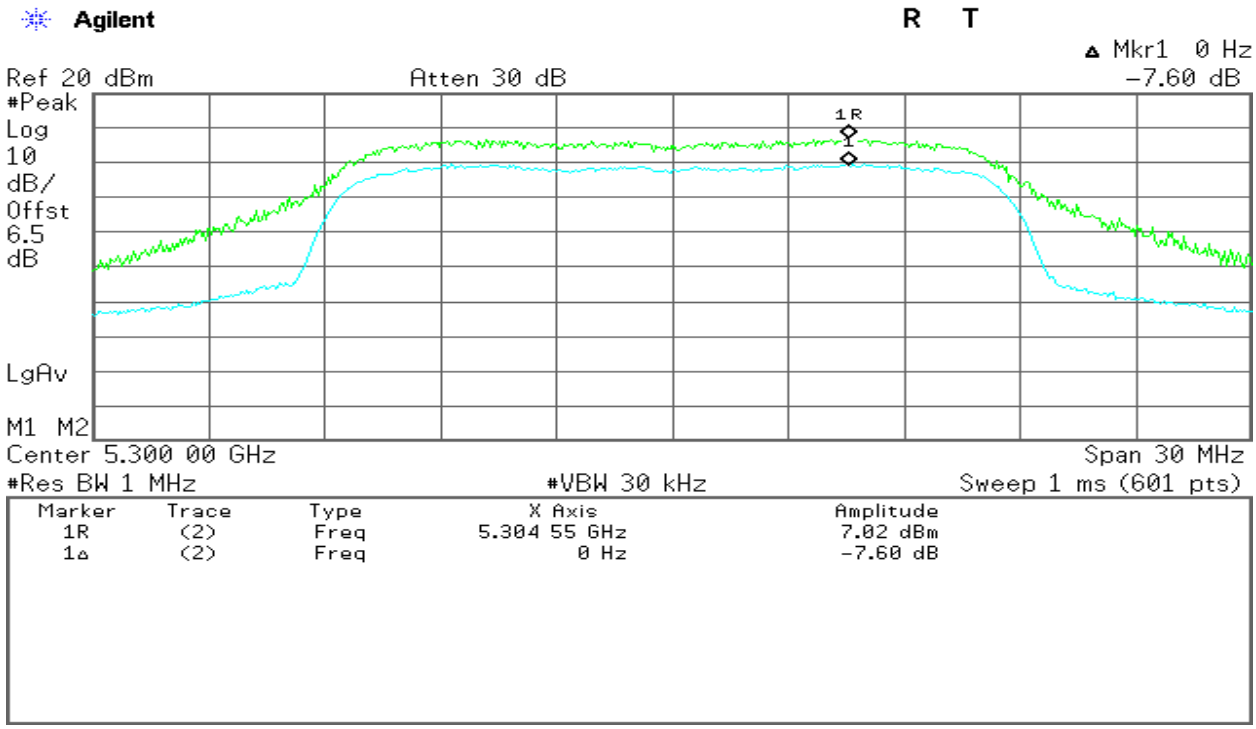
Test mode: IEEE 802.11a mode:

5250~5350MHz

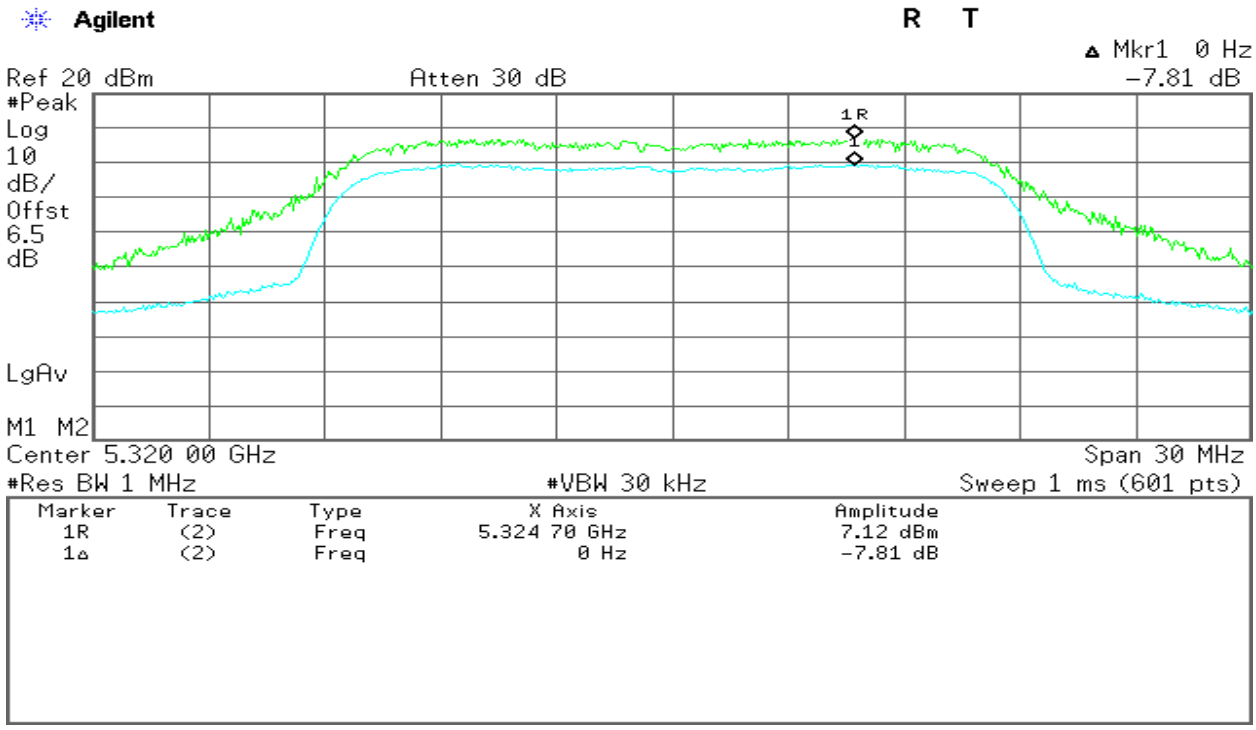
CH Low



CH Mid

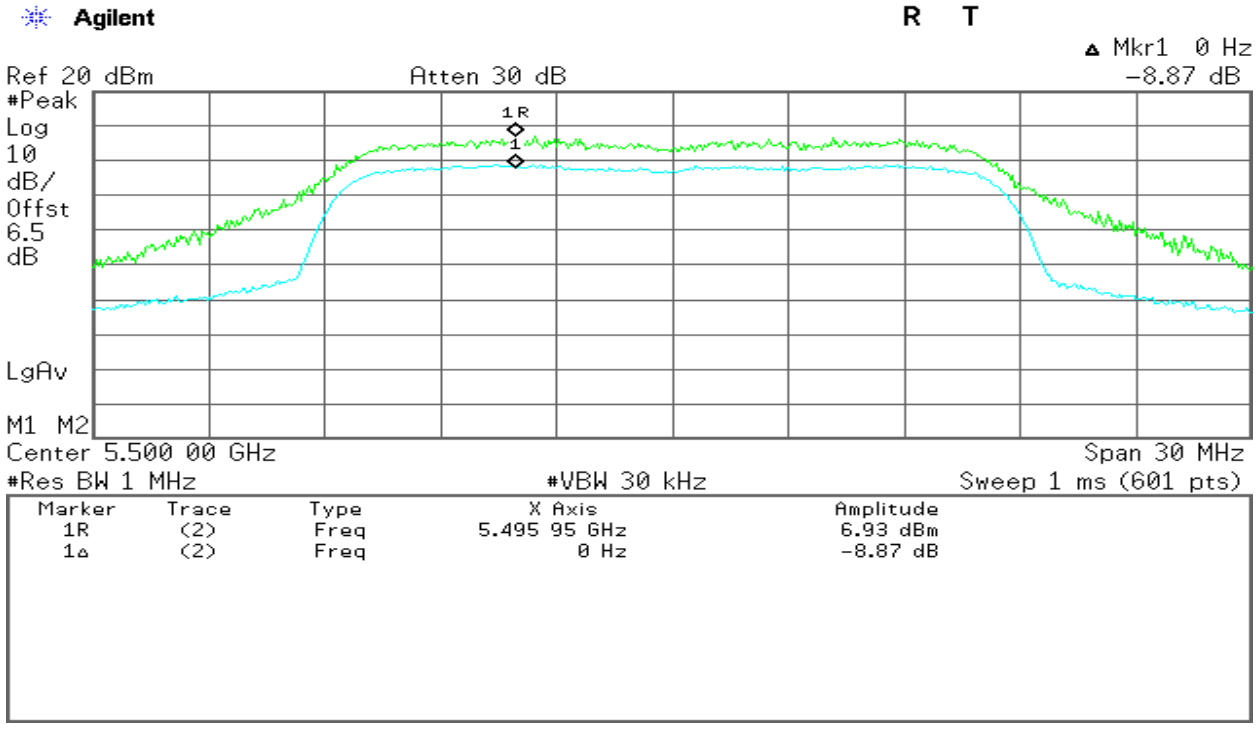


CH High

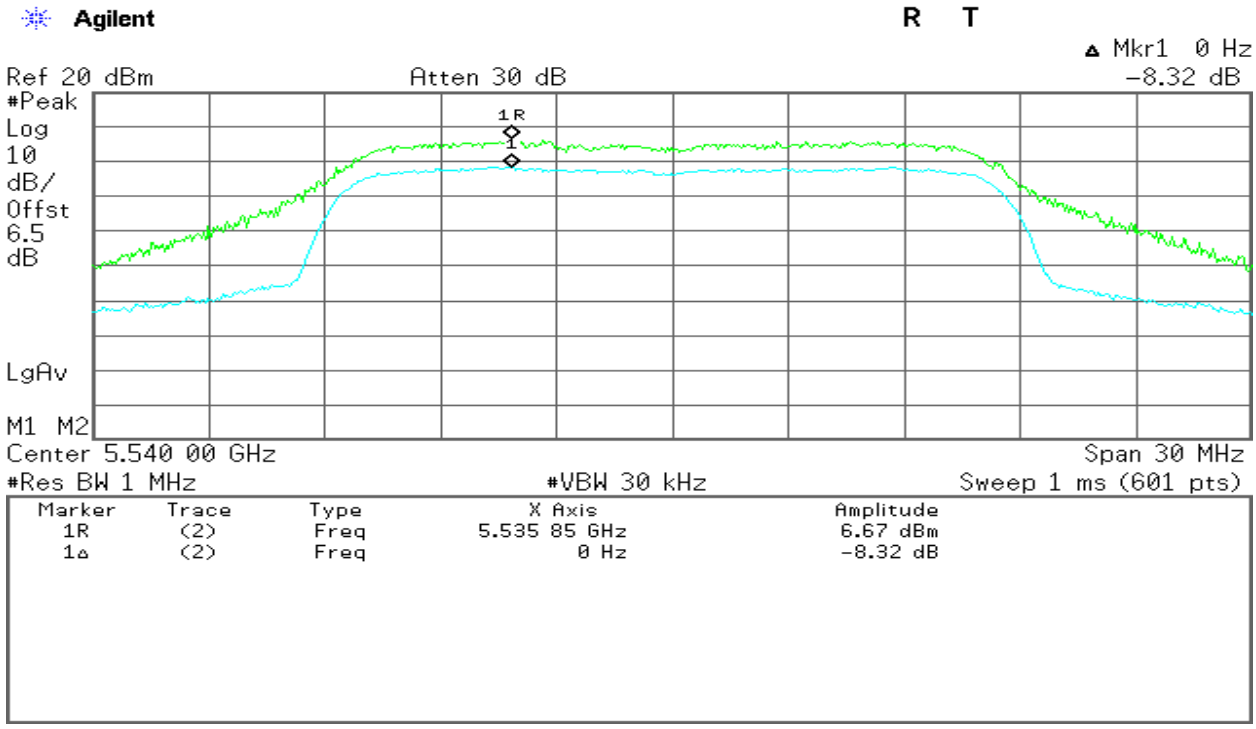


5470~5725MHz

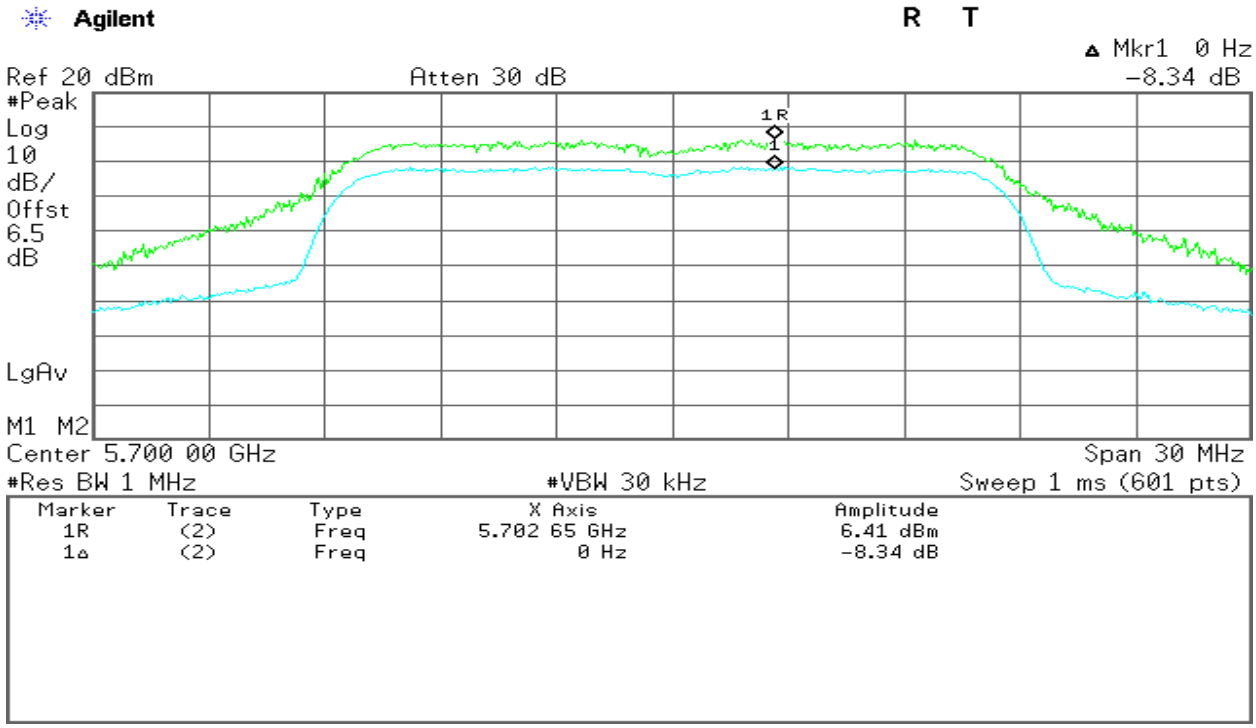
CH Low



CH Mid



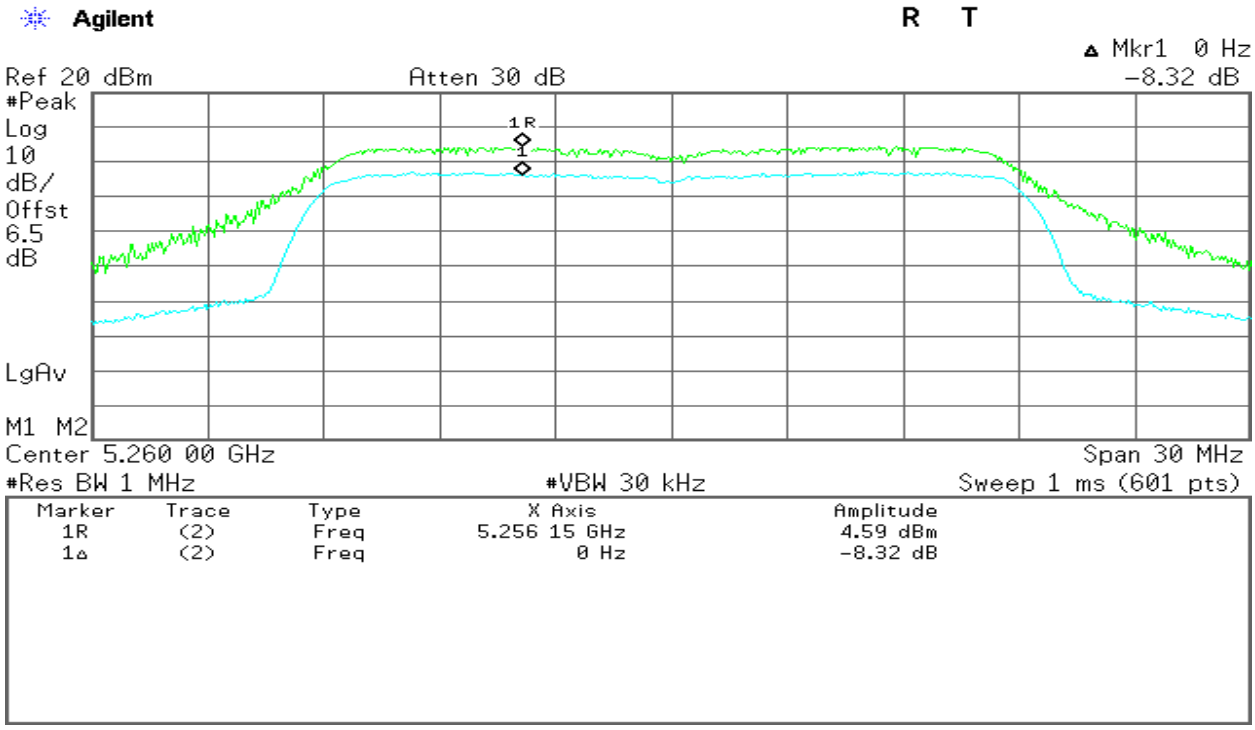
CH High



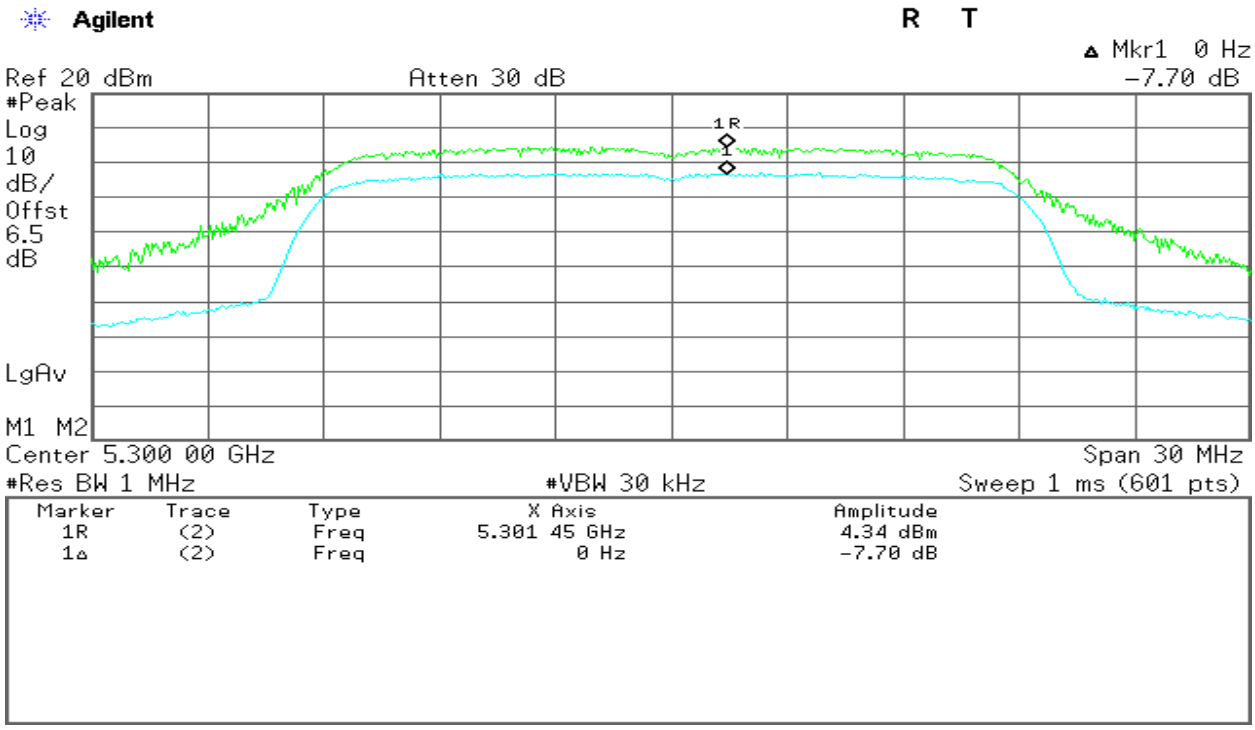
Test mode: 802.11n Standard-20 MHz Channel mode / Chain 0:

5250~5350MHz

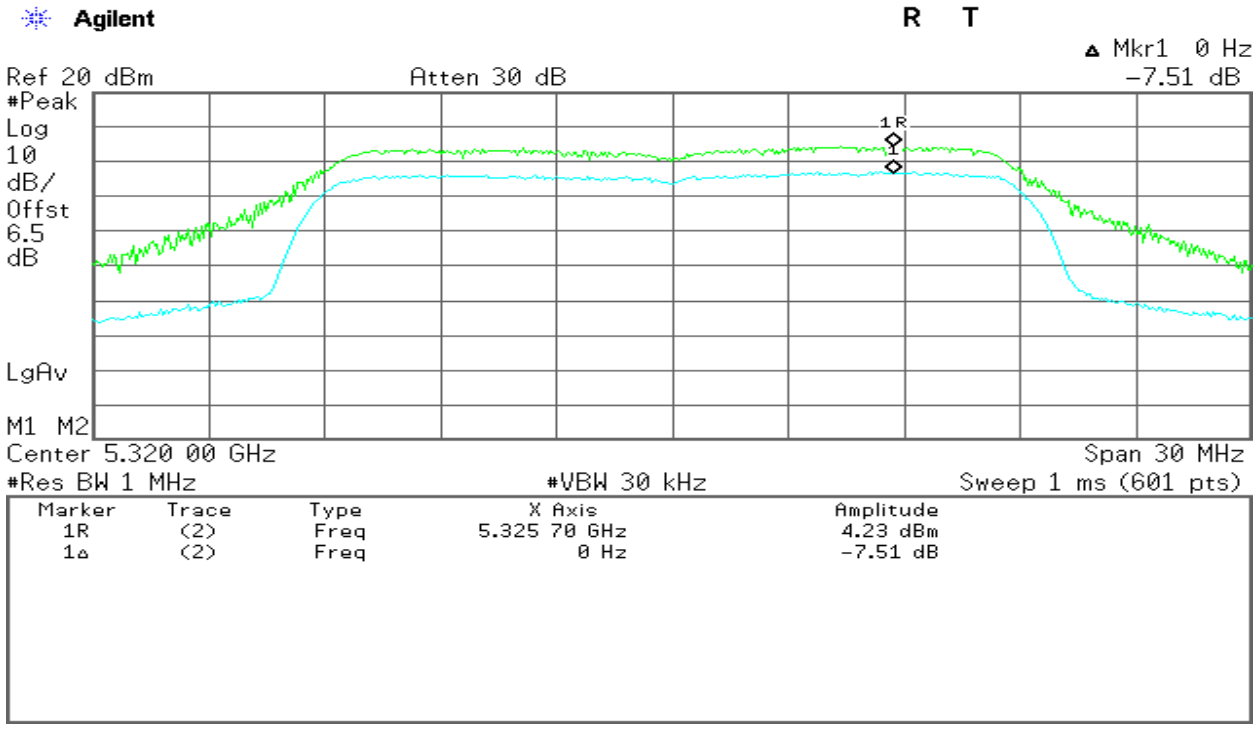
CH Low



CH Mid

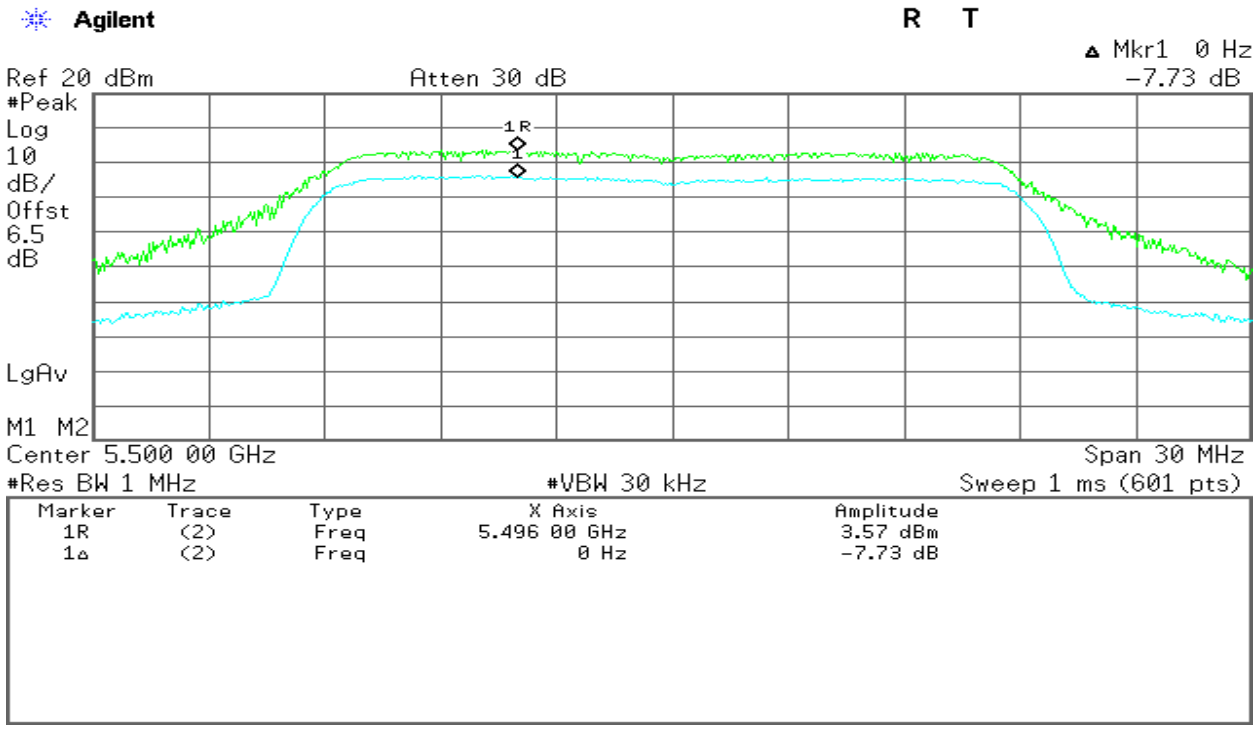


CH High

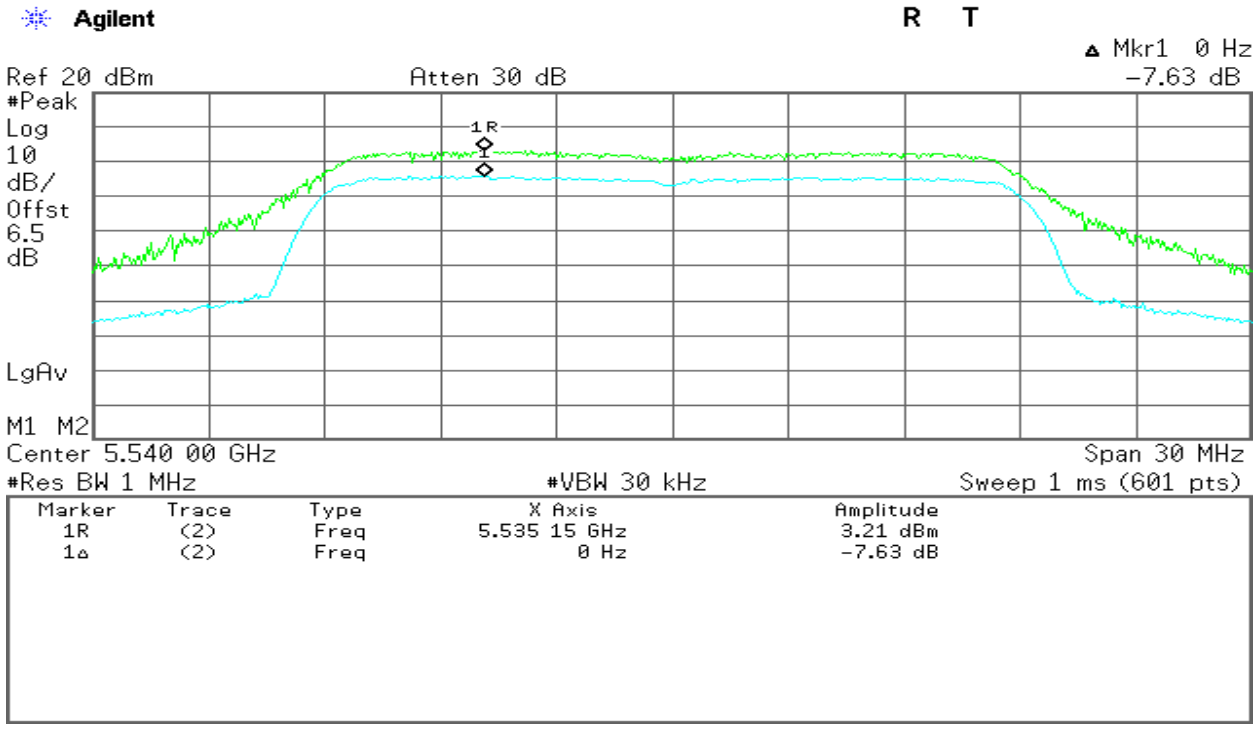


5470~5725MHz

CH Low



CH Mid



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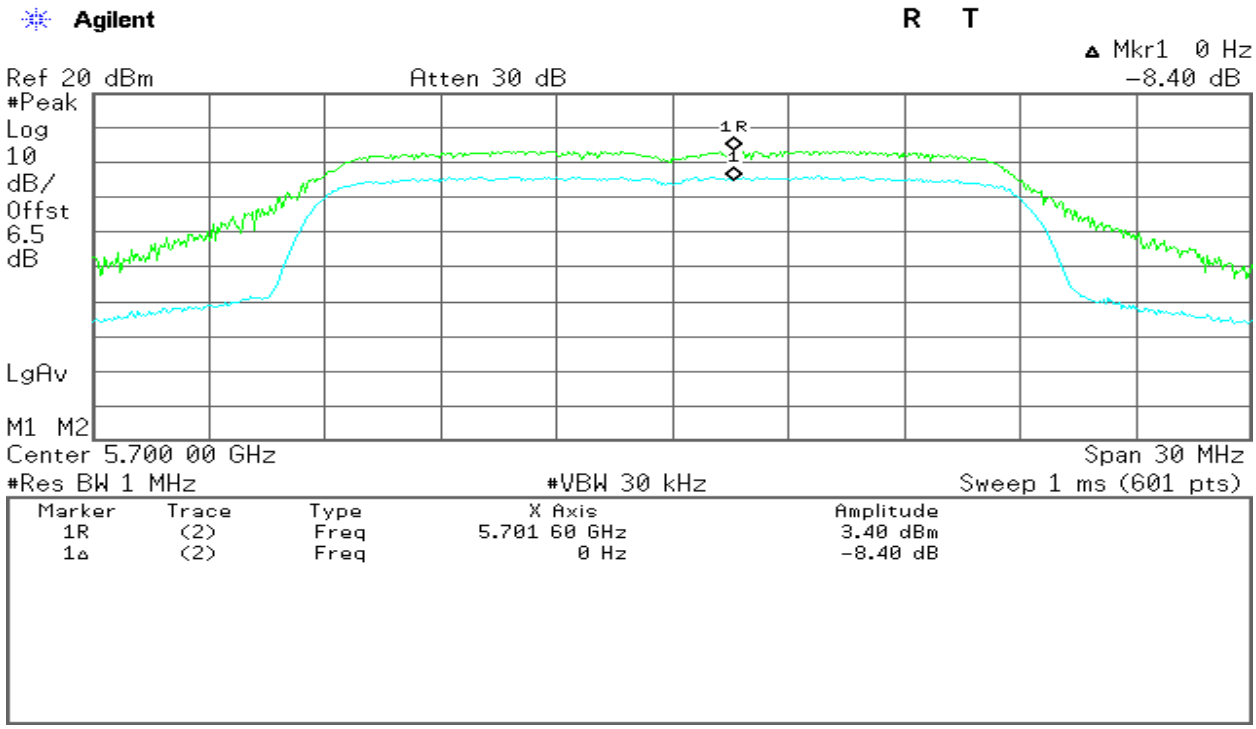
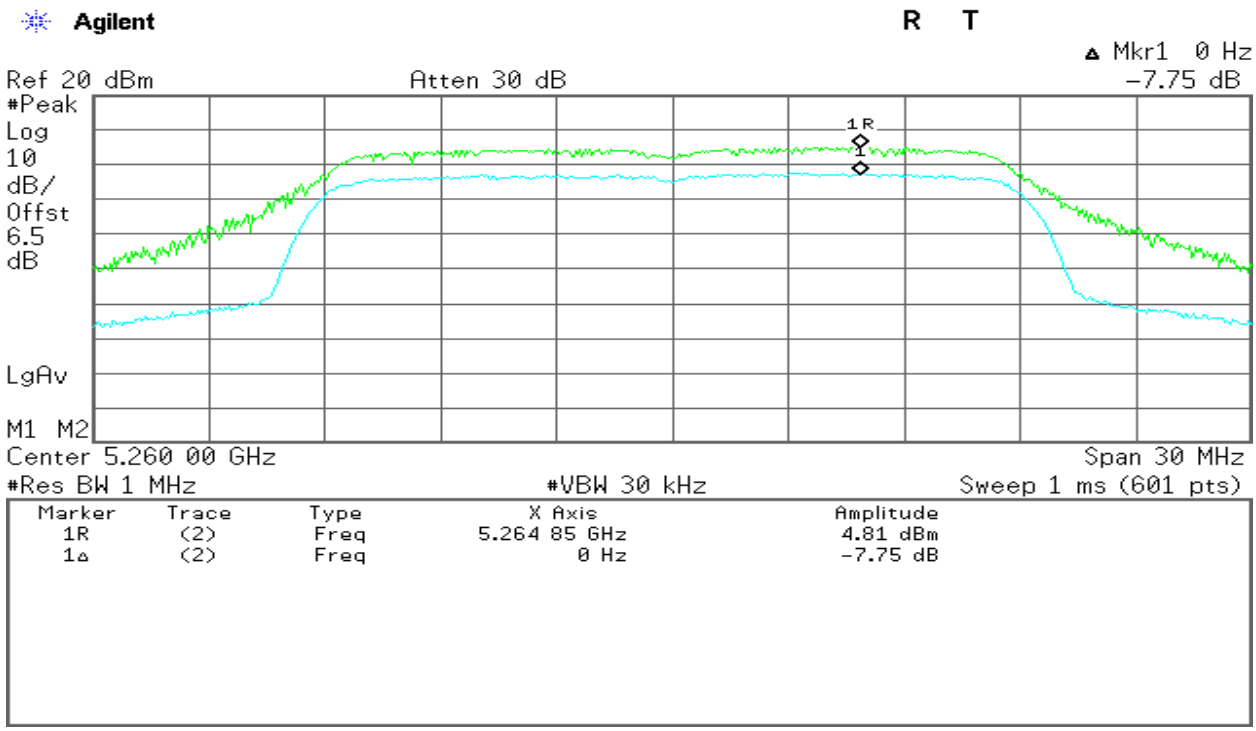


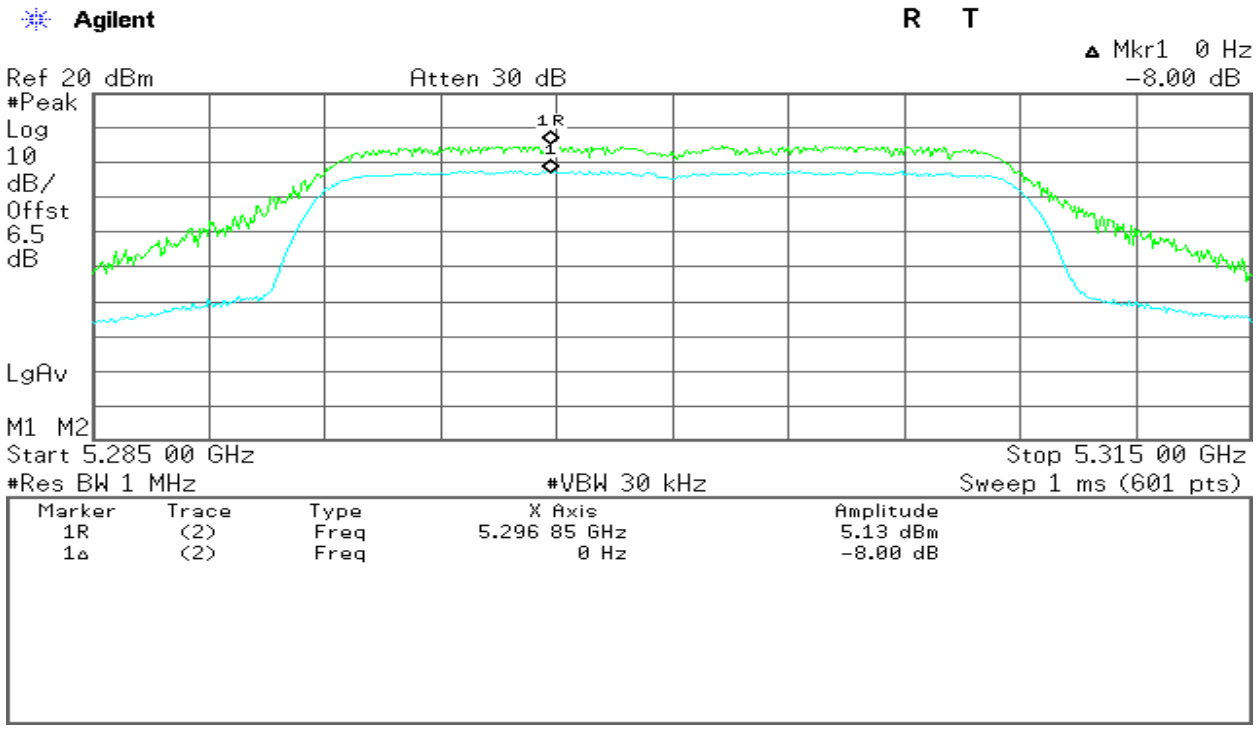
Test mode: 802.11n Standard-20 MHz Channel mode / Chain 1:

5250~5350MHz

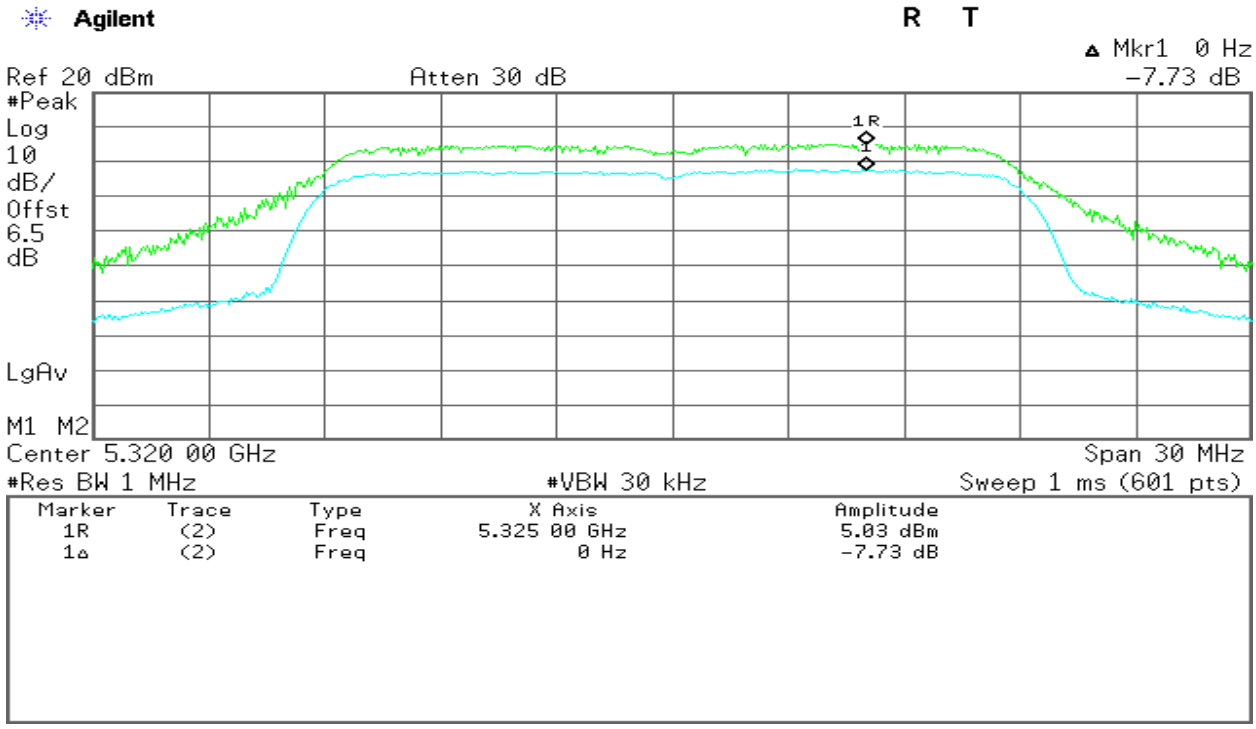
CH Low



CH Mid

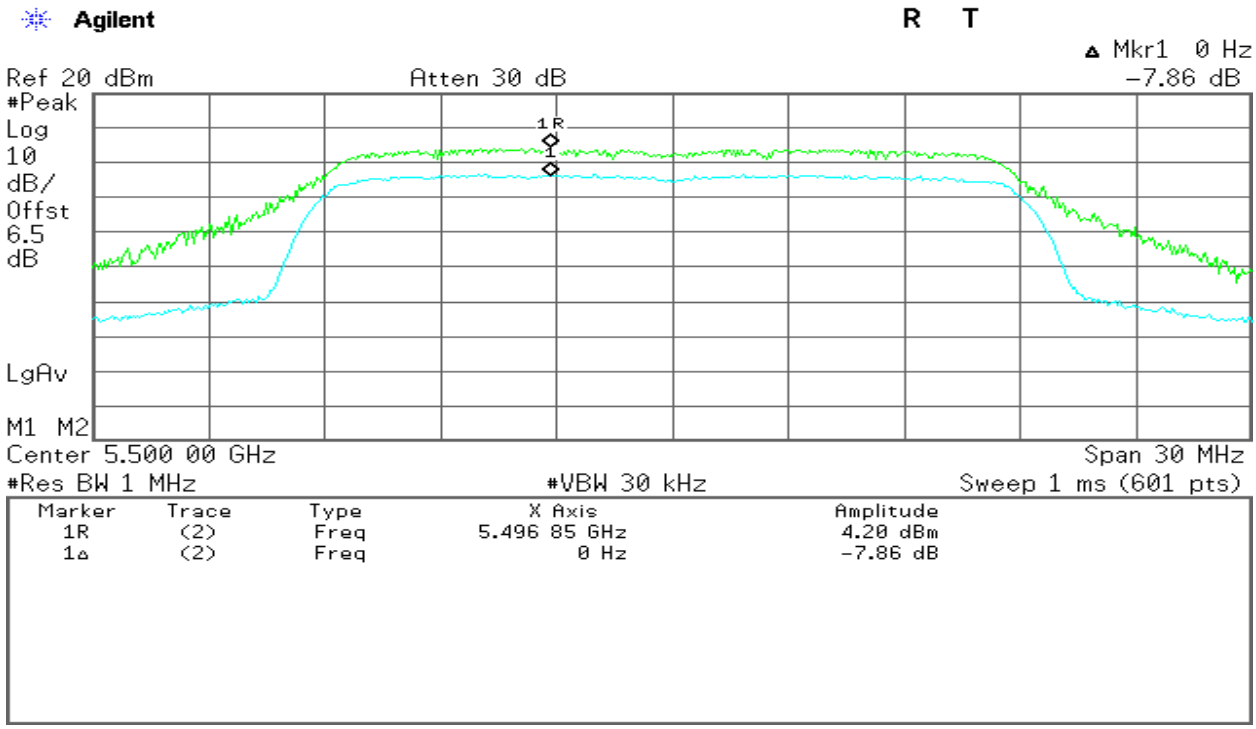


CH High

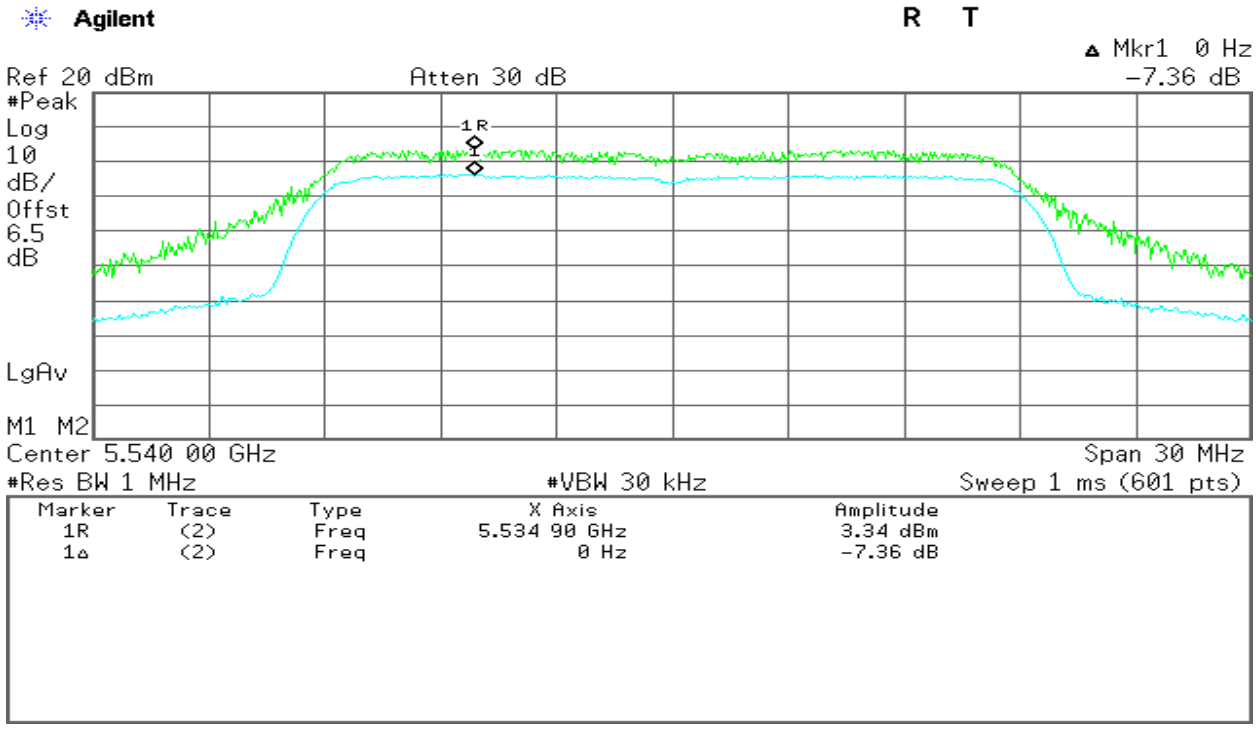


5470~5725MHz

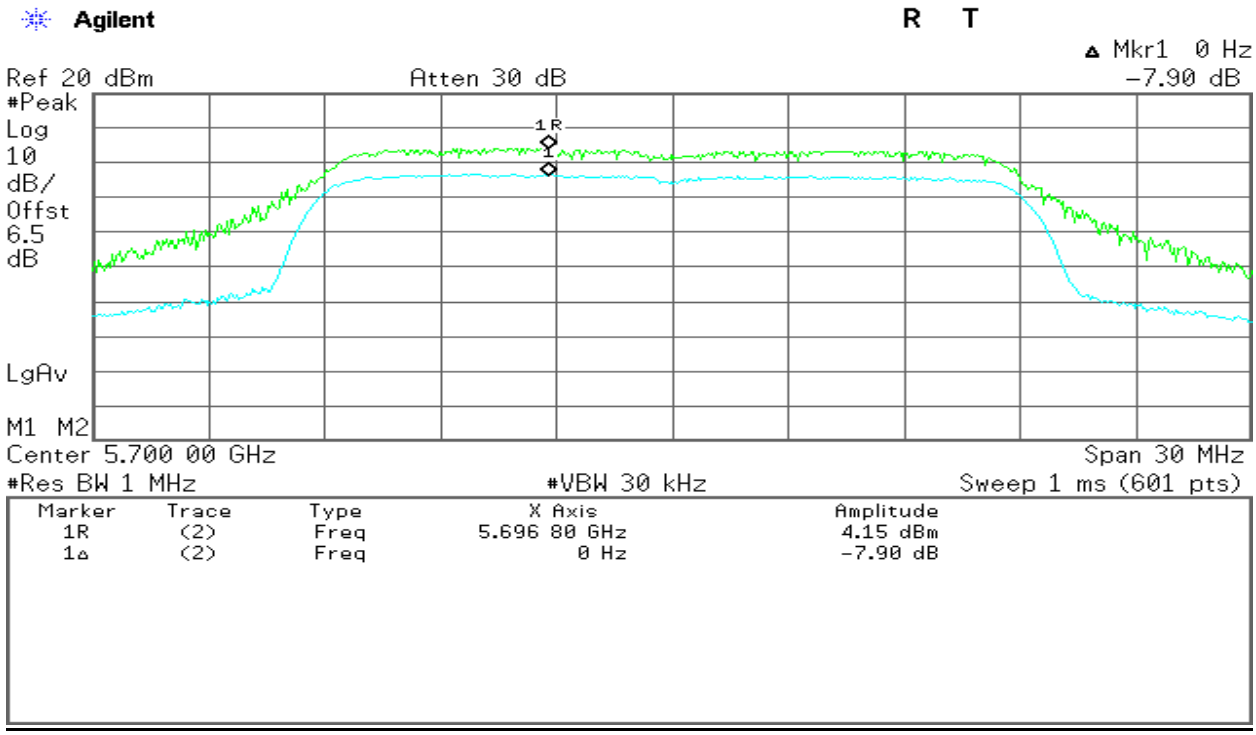
CH Low



CH Mid



CH High



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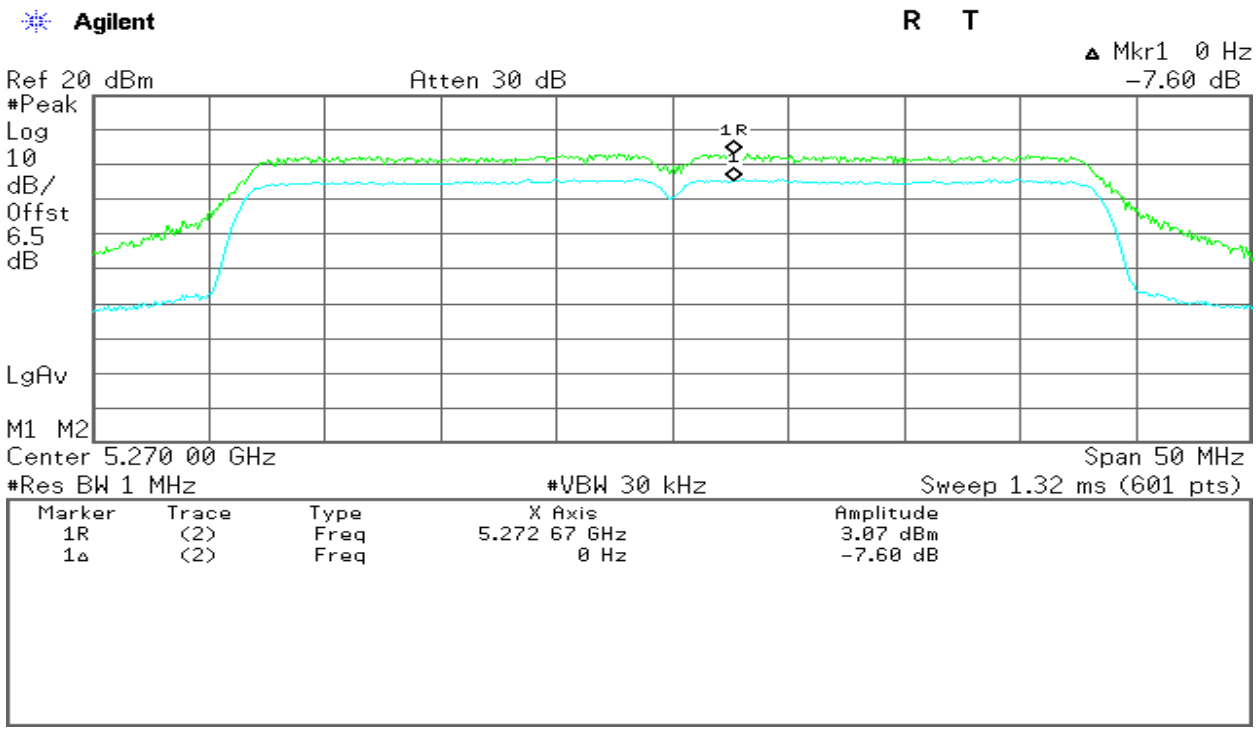
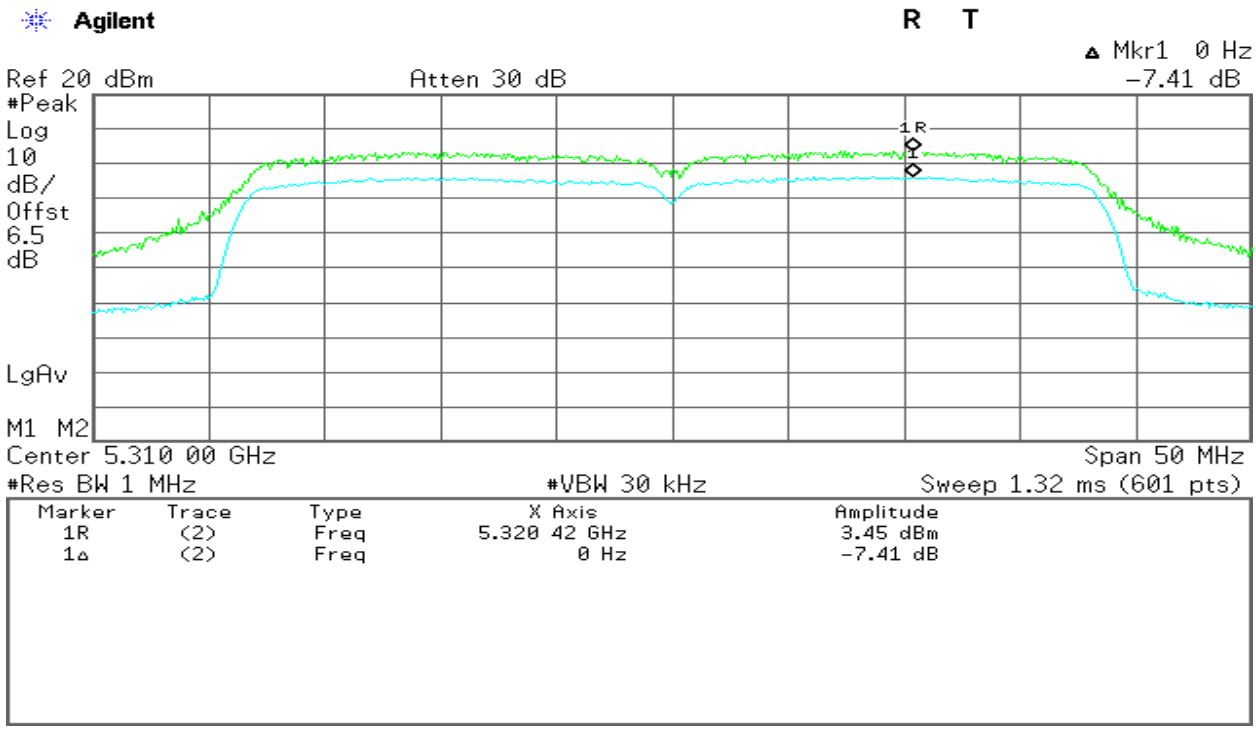
Test mode: 802.11n Wide-40 MHz Channel mode / Chain 0:

5250~5350MHz

CH Low

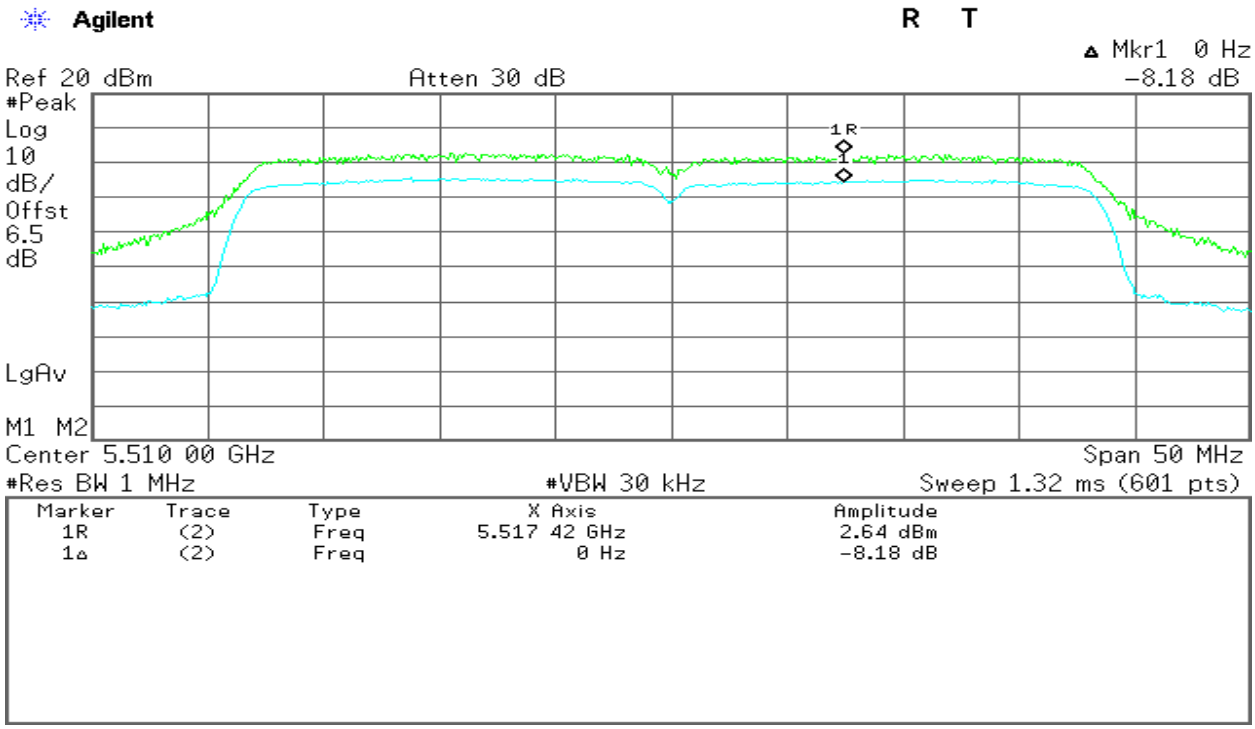


CH High

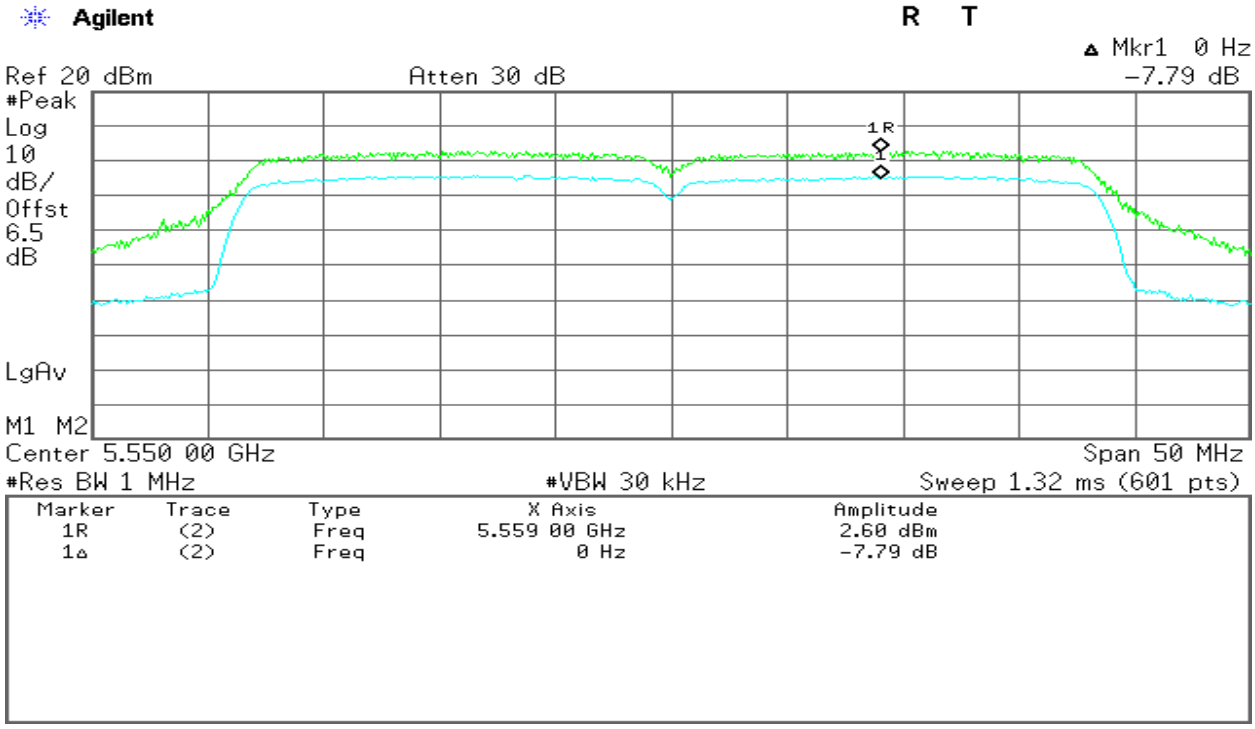


5470~5725MHz

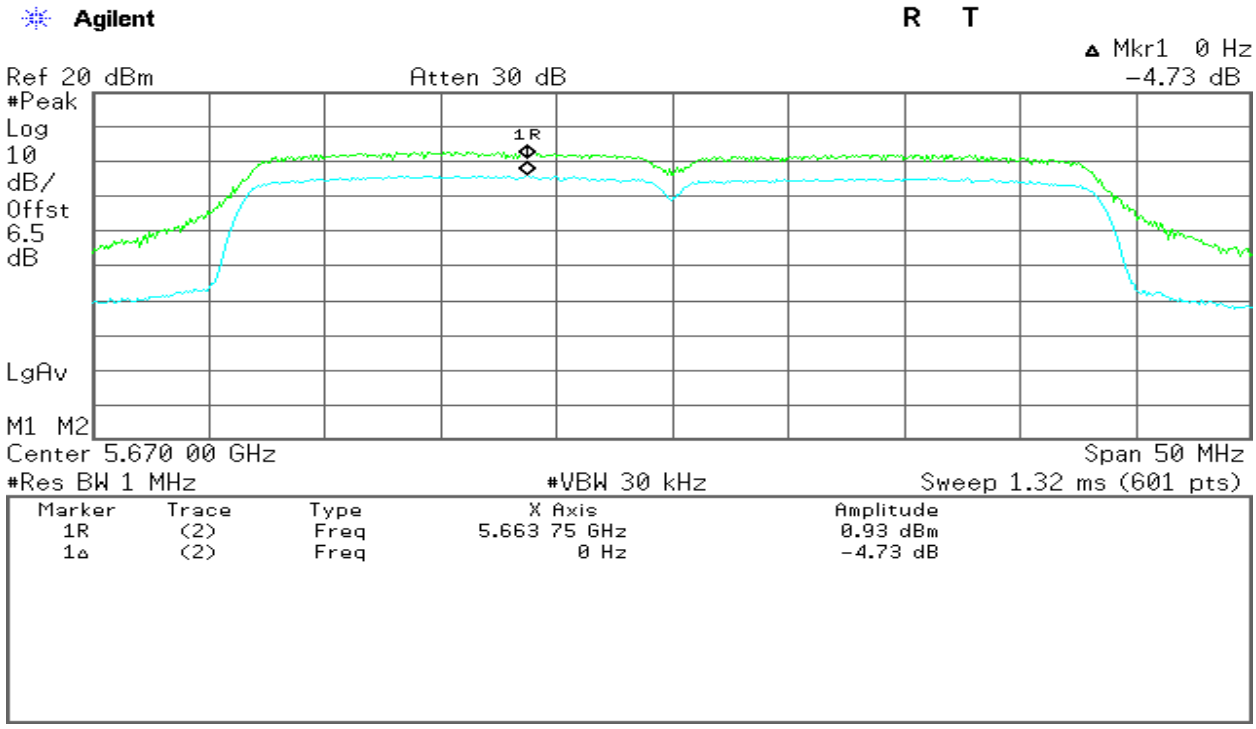
CH Low



CH Mid



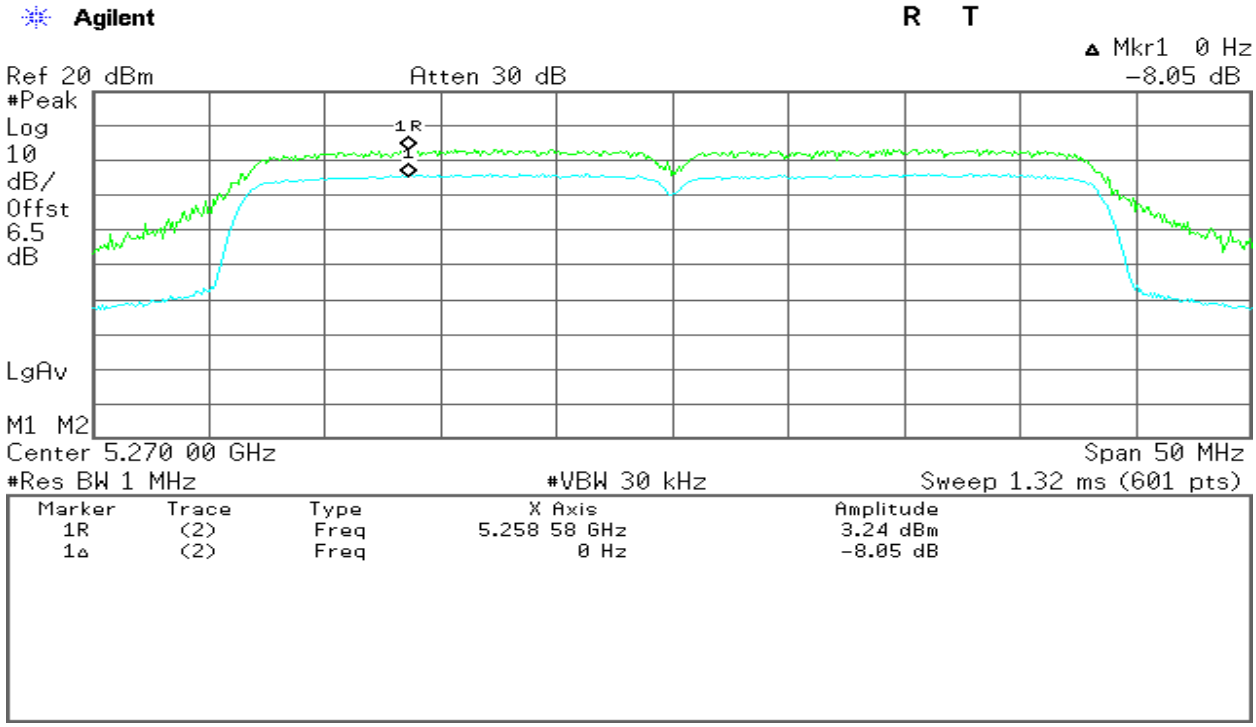
CH High



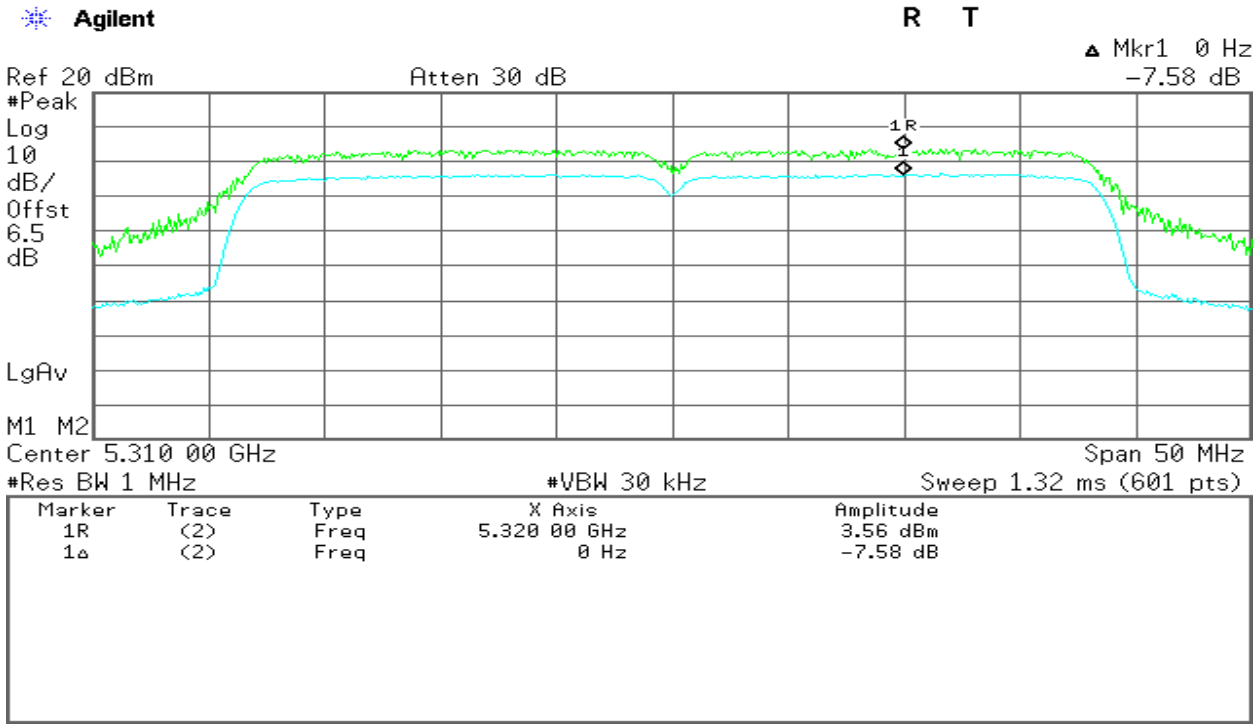
Test mode: 802.11n Wide-40 MHz Channel mode / Chain 1:

5250~5350MHz

CH Low

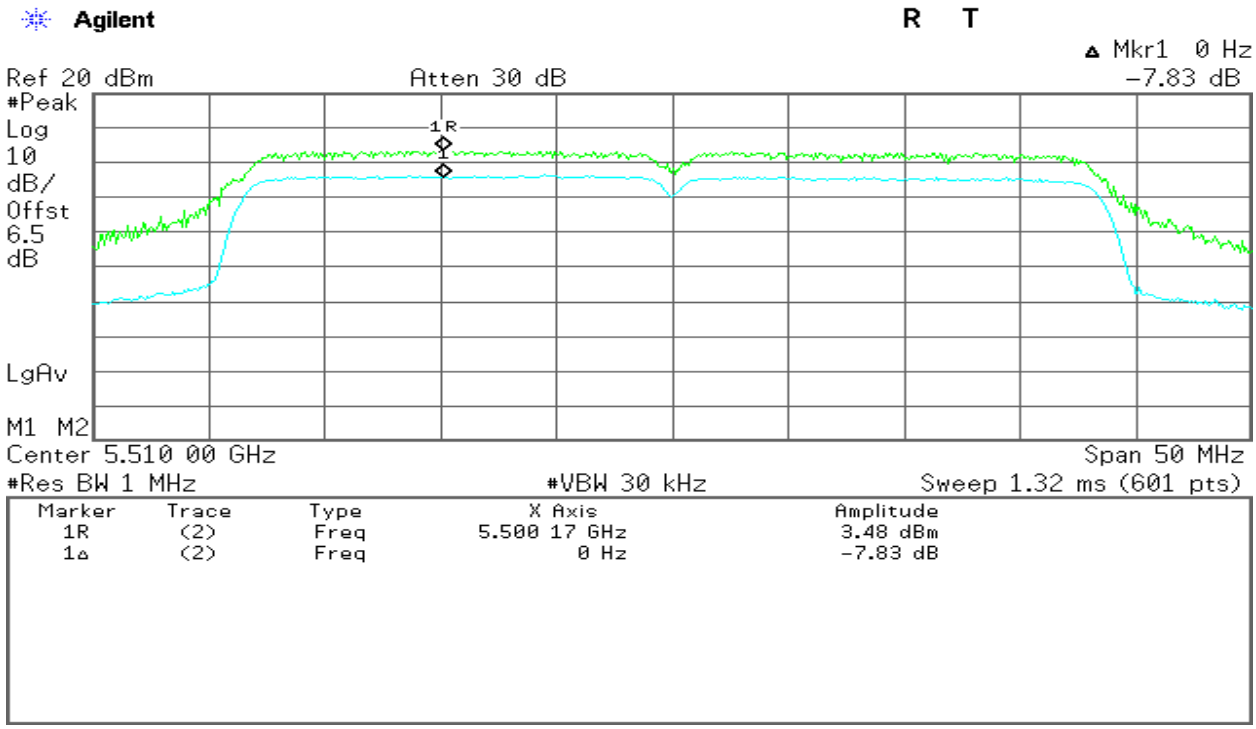


CH High

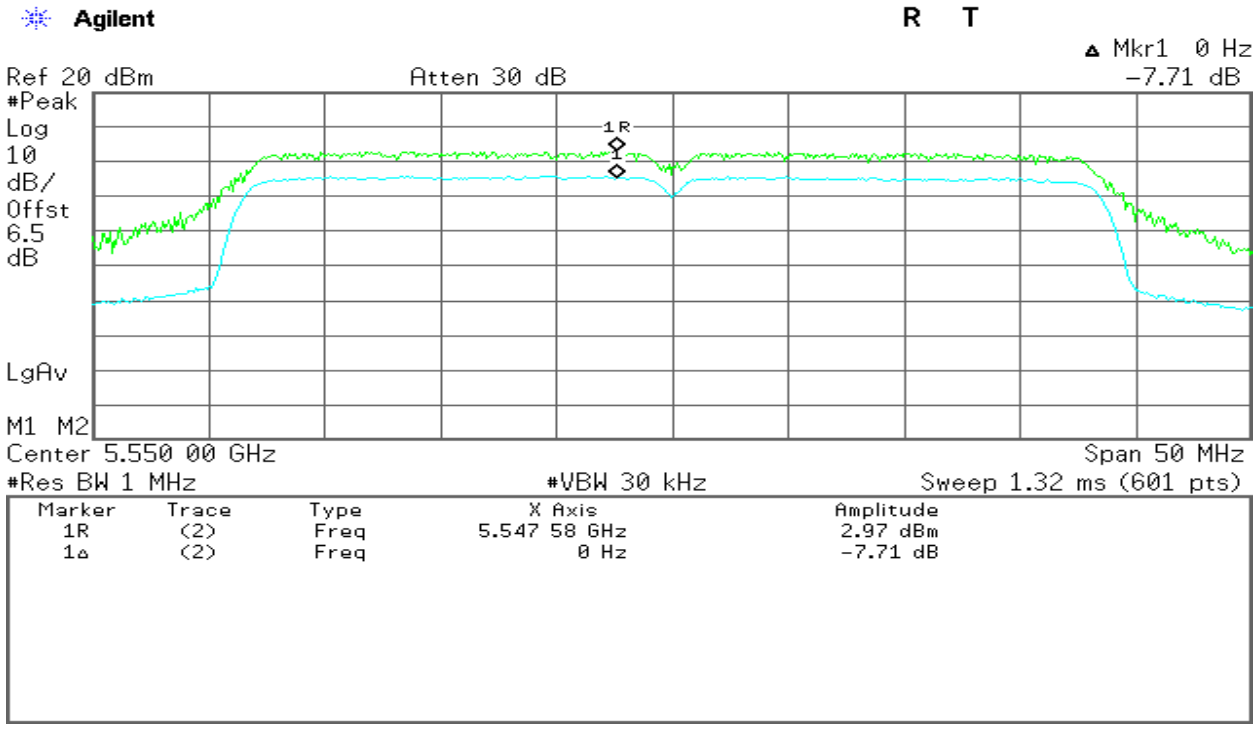


5470~5725MHz

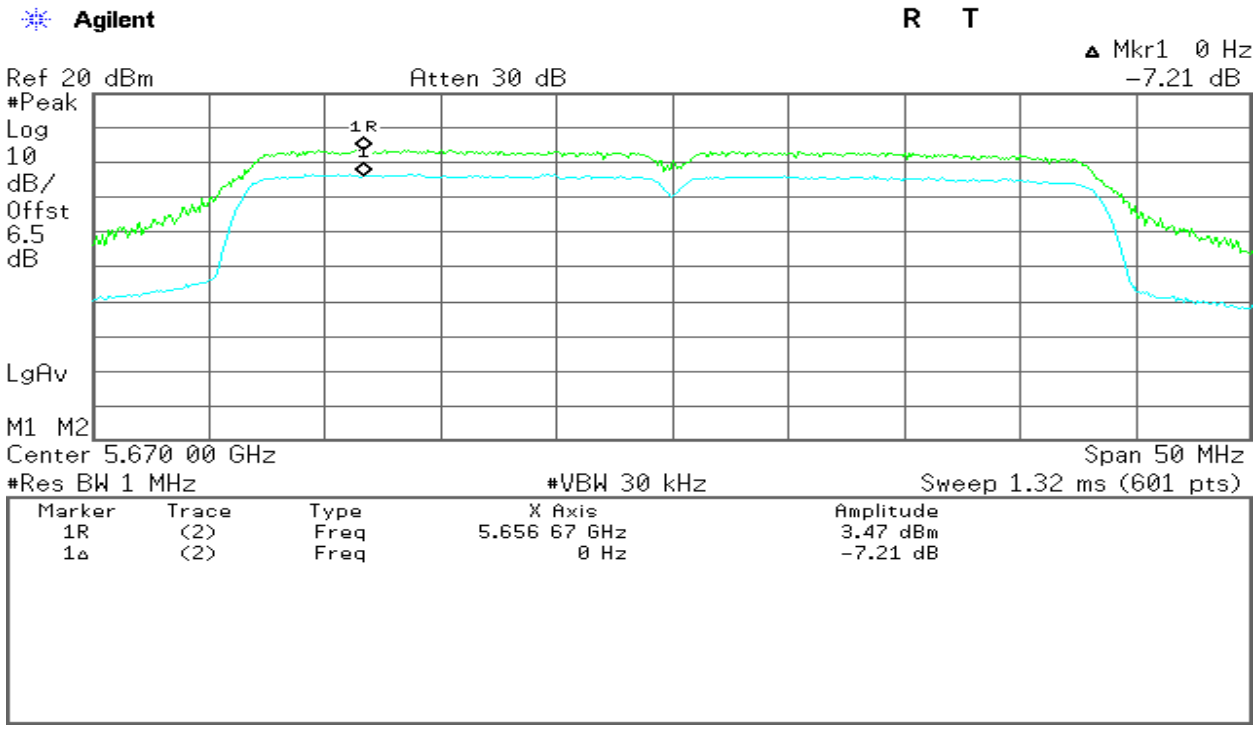
CH Low



CH Mid



CH High



7.6. RADIATED UNDESIRABLE EMISSION

LIMIT

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

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

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

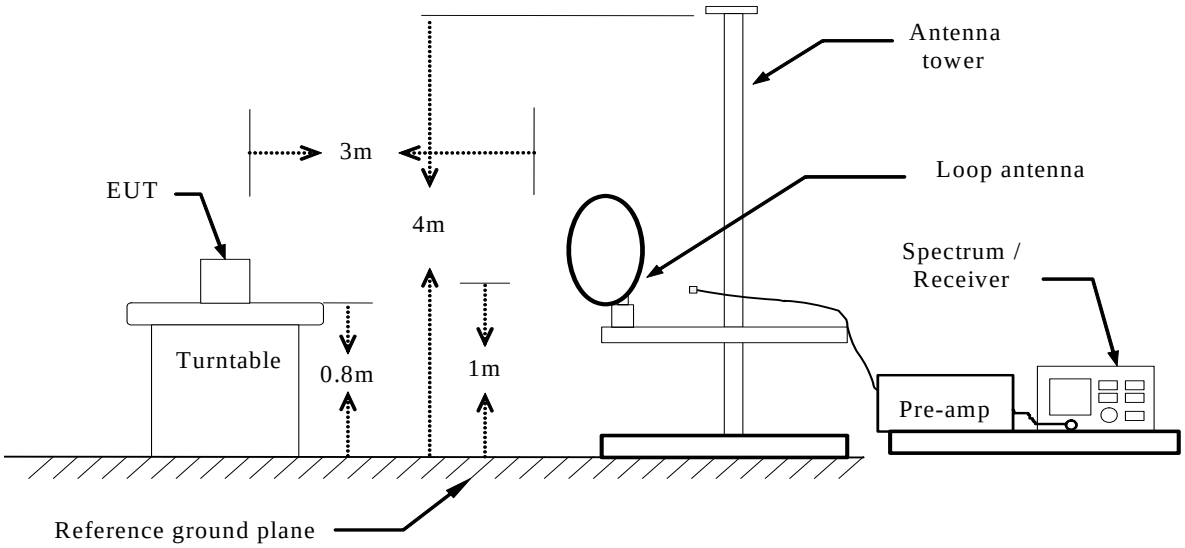
Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of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

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

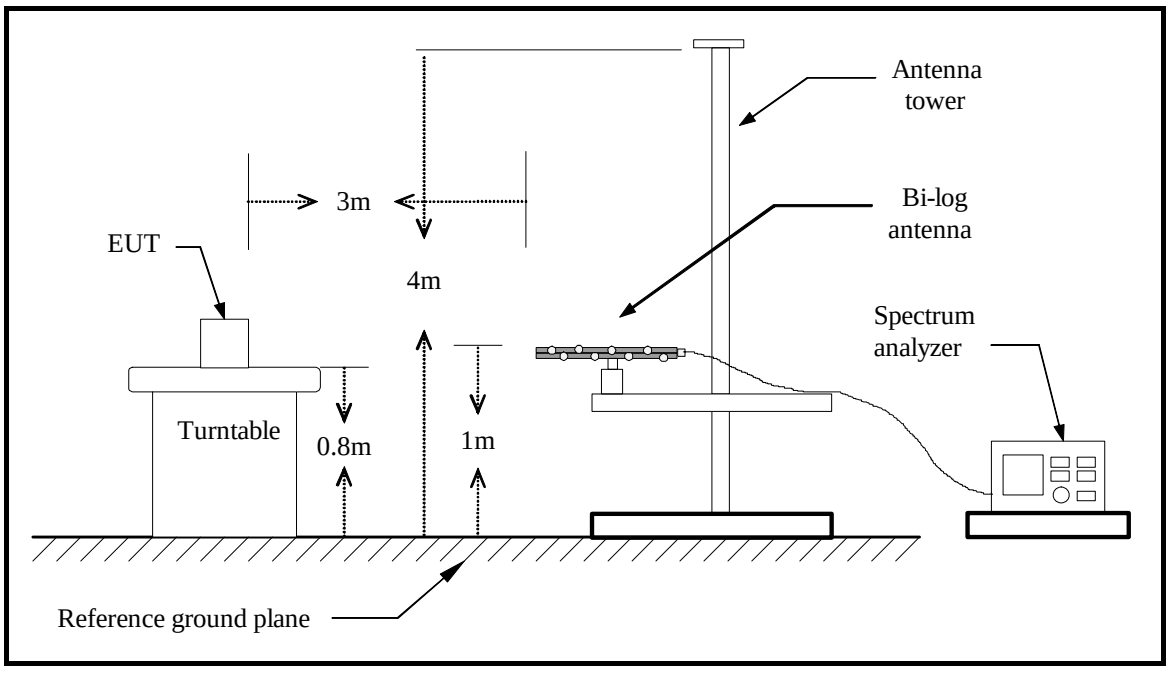
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

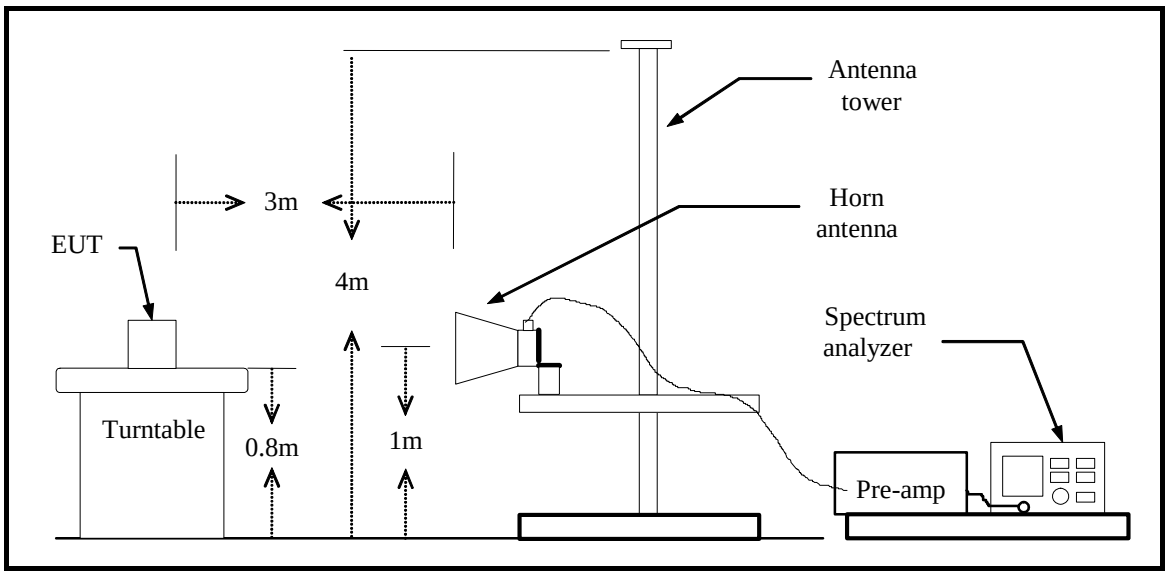
Below 30MHz



Below 1 GHz



Above 1 GHz



TEST PROCEDURE

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

   Below 1GHz:

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

   Above 1GHz:

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

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

TEST RESULTS

FOR AP121

Below 1 GHz

Operation Mode:	Normal Link	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.0000	H	13.06	22.71	35.77	40.00	-4.23	peak
125.0600	H	14.57	15.46	30.03	43.50	-13.47	peak
671.1700	H	15.10	22.17	37.27	46.00	-8.73	peak
728.4000	H	15.23	22.74	37.97	46.00	-8.03	peak
869.0500	H	15.16	24.95	40.11	46.00	-5.89	peak
959.2600	H	14.83	26.46	41.29	46.00	-4.71	peak
30.9700	V	13.54	22.03	35.57	40.00	-4.43	peak
208.4800	V	20.81	13.16	33.97	43.50	-9.53	peak
672.1400	V	14.97	22.15	37.12	46.00	-8.88	peak
843.8300	V	14.59	25.20	39.79	46.00	-6.21	peak
930.1600	V	15.31	25.35	40.66	46.00	-5.34	peak
967.9900	V	15.26	26.36	41.62	54.00	-12.38	peak

Remark:

1. Measuring frequencies from 30 MHz to the 1GHz.(no emission found from the lowest internal used/generated frequency to 30MHz)
2. Radiated emissions measured 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).

5250~5350MHz

Above 1 GHz

Operation Mode:	Tx / IEEE 802.11a mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10520.000	V	40.95	35.27	4.81	45.76	40.08	74	54	-13.92	AVG
N/A										
10520.000	H	42.95	36.01	4.81	47.76	40.82	74	54	-13.18	AVG
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 / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10600.000	V	43.33	36.24	5.52	48.85	41.76	74	54	-12.24	AVG
N/A										
10600.000	H	42.62	36.16	5.52	48.14	41.68	74	54	-12.32	AVG
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 / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10640.000	V	42.41	36.22	5.50	47.91	41.72	74	54	-12.28	AVG
N/A										
10640.000	H	42.63	35.84	5.50	48.13	41.34	74	54	-12.66	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10520.000	V	41.26	35.62	4.81	46.07	40.43	74	54	-13.57	AVG
N/A										
10520.000	H	43.21	36.47	4.81	48.02	41.28	74	54	-12.72	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10600.000	V	42.96	35.85	5.52	48.48	41.37	74	54	-12.63	AVG
N/A										
10600.000	H	43.09	36.51	5.52	48.61	42.03	74	54	-11.97	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10640.000	V	42.69	36.54	5.50	48.19	42.04	74	54	-11.96	AVG
N/A										
10640.000	H	43.28	36.14	5.50	48.78	41.64	74	54	-12.36	AVG
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 / 802.11n Wide-40 MHz Channel mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10535.256	V	44.74	35.99	4.95	49.69	40.94	74	54	-13.06	AVG
N/A										
10543.69	H	45.32	36.86	5.52	50.84	42.08	74	54	-11.92	AVG
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 / 802.11n Wide-40 MHz Channel mode / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10616.987	V	44.54	37.49	5.52	50.06	43.01	74	54	-10.99	AVG
N/A										
10943.910	H	43.86	35.43	6.14	50.00	41.57	74	54	-12.43	AVG
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)*

5470~5725MHz

Above 1 GHz

Operation Mode:	Tx / IEEE 802.11a mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11000.000	V	43.81	38.46	6.10	49.91	44.56	74	54	-9.44	AVG
N/A										
11000.000	H	43.64	37.41	6.10	49.74	43.51	74	54	-10.49	AVG
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 / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11107.372	V	42.15	38.65	7.43	49.58	46.08	74	54	-7.92	AVG
N/A										
11080.128	H	42.94	38.11	7.21	50.15	45.32	74	54	-8.68	AVG
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 / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10971.154	V	44.89	38.26	6.12	51.01	44.38	74	54	-9.62	AVG
N/A										
11052.885	H	44.68	37.73	6.83	51.51	43.85	74	54	-10.15	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11000.000	V	42.96	37.85	6.10	49.06	43.95	74	54	-10.05	AVG
N/A										
11000.000	H	42.97	36.91	6.10	49.07	43.01	74	54	-10.99	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11107.372	V	42.63	38.51	7.43	50.06	45.94	74	54	-8.06	AVG
N/A										
11080.128	H	43.67	37.15	7.21	50.88	44.36	74	54	-9.64	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10971.154	V	44.18	37.51	6.12	50.30	43.63	-10.37	54	-9.62	AVG
N/A										
11052.885	H	43.96	36.85	6.83	50.79	43.68	74	54	-10.32	AVG
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 / 802.11n Wide-40 MHz Channel mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11052.885	V	43.32	38.49	6.83	50.15	45.32	74	54	-8.68	AVG
N/A										
10889.423	H	45.50	36.82	6.06	51.56	42.88	74	54	-11.12	AVG

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 / 802.11n Wide-40 MHz Channel mode / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10998.397	V	44.04	38.33	6.10	50.14	44.43	74	54	-9.57	AVG
N/A										
11080.128	H	43.54	37.16	7.21	50.75	44.37	74	54	-9.63	AVG
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 / 802.11n Wide-40 MHz Channel mode / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11052.885	V	44.35	38.55	6.83	51.18	45.38	74	54	-8.62	AVG
N/A										
11270.833	H	44.64	37.43	6.57	51.21	44.00	74	54	-10.00	AVG
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).*

FOR AP141

Below 1 GHz

Operation Mode:	Normal Link	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
118.2700	H	23.33	14.82	38.15	43.50	-5.35	peak
144.4600	H	27.14	14.58	41.72	43.50	-1.78	peak
205.5700	H	26.56	13.23	39.79	43.50	-3.71	peak
242.4300	H	31.12	13.84	44.96	46.00	-1.04	peak
255.0400	H	26.92	13.90	40.82	46.00	-5.18	peak
299.6600	H	28.16	14.72	42.88	46.00	-3.12	peak
30.0000	V	14.51	22.71	37.22	40.00	-2.78	peak
62.0100	V	26.52	8.28	34.80	40.00	-5.20	peak
146.4000	V	27.21	14.21	41.42	43.50	-2.08	peak
210.4200	V	27.33	13.13	40.46	43.50	-3.04	peak
221.0900	V	29.46	13.36	42.82	46.00	-3.18	peak
930.1600	V	16.81	25.35	42.16	46.00	-3.84	peak

Remark:

1. *Measuring frequencies from 30 MHz to the 1GHz.(no emission found from the lowest internal used/generated frequency to 30MHz)*
2. *Radiated emissions measured 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).*

5250~5350MHz

Above 1 GHz

Operation Mode:	Tx / IEEE 802.11a mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10520.000	V	41.26	35.39	4.81	46.07	40.20	74	54	-13.80	AVG
N/A										
10520.000	H	43.28	36.51	4.81	48.09	41.32	74	54	-12.68	AVG
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 / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10600.000	V	43.52	36.62	5.52	49.04	42.14	74	54	-11.86	AVG
N/A										
10600.000	H	42.58	36.01	5.52	48.10	41.53	74	54	-12.47	AVG
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 / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10640.000	V	42.33	36.51	5.50	47.83	42.01	74	54	-11.99	AVG
N/A										
10640.000	H	42.98	35.62	5.50	48.48	41.12	74	54	-12.88	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10520.000	V	42.15	35.27	4.81	46.96	40.08	74	54	-13.92	AVG
N/A										
10520.000	H	43.63	36.85	4.81	48.44	41.66	74	54	-12.34	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10600.000	V	42.51	35.57	5.52	48.03	41.09	74	54	-12.91	AVG
N/A										
10600.000	H	42.95	36.17	5.52	48.47	41.69	74	54	-12.31	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10640.000	V	41.62	36.51	5.50	47.12	42.01	74	54	-11.99	AVG
N/A										
10640.000	H	43.62	36.23	5.50	49.12	41.73	74	54	-12.27	AVG
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 / 802.11n Wide-40 MHz Channel mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10535.256	V	44.26	35.52	4.95	49.21	40.47	74	54	-13.53	AVG
N/A										
10543.69	H	45.19	36.55	5.52	50.71	42.07	74	54	-11.93	AVG
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 / 802.11n Wide-40 MHz Channel mode / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10616.987	V	44.29	37.10	5.52	49.81	42.62	74	54	-11.38	AVG
N/A										
10943.910	H	43.58	35.26	6.14	49.72	41.40	74	54	-12.60	AVG
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)*

5470~5725MHz

Above 1 GHz

Operation Mode:	Tx / IEEE 802.11a mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11000.000	V	42.63	38.16	6.10	48.73	44.26	74	54	-9.74	AVG
N/A										
11000.000	H	43.25	36.96	6.10	49.35	43.06	74	54	-10.94	AVG
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 / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11107.372	V	42.33	38.95	7.43	49.76	46.38	74	54	-7.62	AVG
N/A										
11080.128	H	42.51	37.86	7.21	49.72	45.07	74	54	-8.93	AVG
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 / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10971.154	V	44.63	37.85	6.12	50.75	43.97	74	54	-10.03	AVG
N/A										
11052.885	H	44.32	36.63	6.83	51.15	43.46	74	54	-10.54	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11000.000	V	42.66	36.69	6.10	48.76	42.79	74	54	-11.21	AVG
N/A										
11000.000	H	42.63	35.89	6.10	48.73	41.99	74	54	-12.01	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11107.372	V	42.17	37.84	7.43	49.60	45.27	74	54	-8.73	AVG
N/A										
11080.128	H	42.69	36.85	7.21	49.90	44.06	74	54	-9.94	AVG
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 / 802.11n Standard-20 MHz Channel mode / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10971.154	V	43.69	36.89	6.12	49.81	43.01	-10.37	54	-10.99	AVG
N/A										
11052.885	H	44.25	35.96	6.83	51.08	42.79	74	54	-11.21	AVG
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 / 802.11n Wide-40 MHz Channel mode / CH Low	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11052.885	V	43.59	38.74	6.83	50.42	45.57	74	54	-8.43	AVG
N/A										
10889.423	H	45.69	36.69	6.06	51.75	42.75	74	54	-11.25	AVG

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 / 802.11n Wide-40 MHz Channel mode / CH Mid	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
10998.397	V	44.71	38.58	6.10	50.81	44.68	74	54	-9.32	AVG
N/A										
11080.128	H	43.69	36.98	7.21	50.90	44.19	74	54	-9.81	AVG
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 / 802.11n Wide-40 MHz Channel mode / CH High	**Test Date:**	November 14, 2013
Temperature:	25°C	**Tested by:**	Blent.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant.Pol. (H/V)	Reading (Peak) (dBuV)	Reading (Average) (dBuV)	Correction Factor (dB/m)	Result (Peak) (dBuV/m)	Result (Average) (dBuV/m)	Limit (Peak) (dBuV/m)	Limit (Average) (dBuV/m)	Margin (dB)	Remark
11052.885	V	44.56	38.69	6.83	51.39	45.52	74	54	-8.48	AVG
N/A										
11270.833	H	44.17	37.29	6.57	50.74	43.86	74	54	-10.14	AVG
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).*

7.7. CONDUCTED UNDESIRABLE EMISSION

LIMIT

According to 15.407(b),

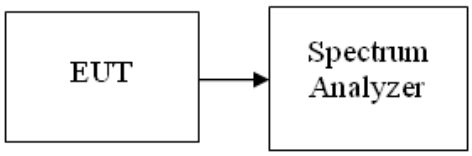
(1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.

(3) For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

The provisions of §15.205 apply to intentional radiators operating under this section.

Test Configuration



TEST PROCEDURE

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

The transmitter output is connected to the spectrum analyzer. The resolution bandwidth is set to 1 MHz. The video bandwidth is set to 1 MHz. Peak detection measurements are compared to the average EIRP limit, adjusted for the maximum antenna gain. If necessary, additional average detection measurements are made.

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

TEST RESULTS

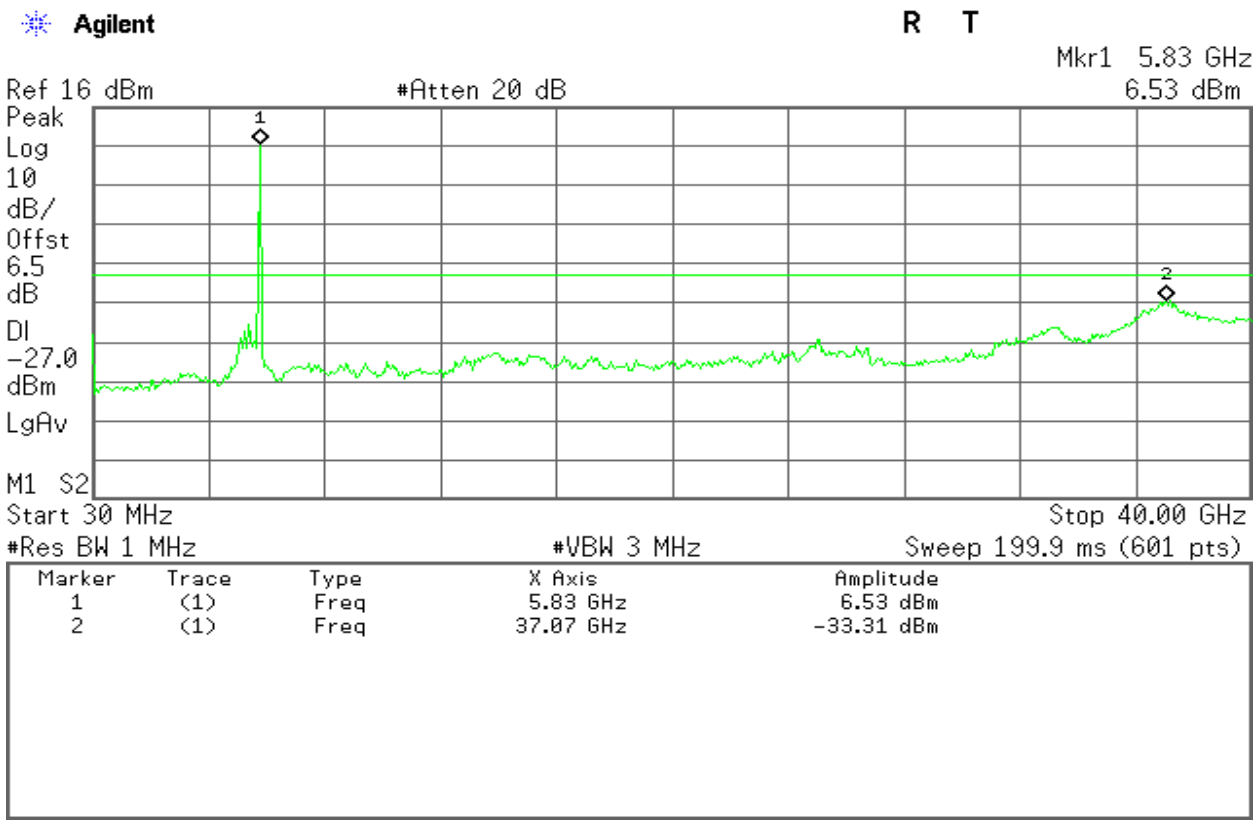
No non-compliance noted

Test Plot

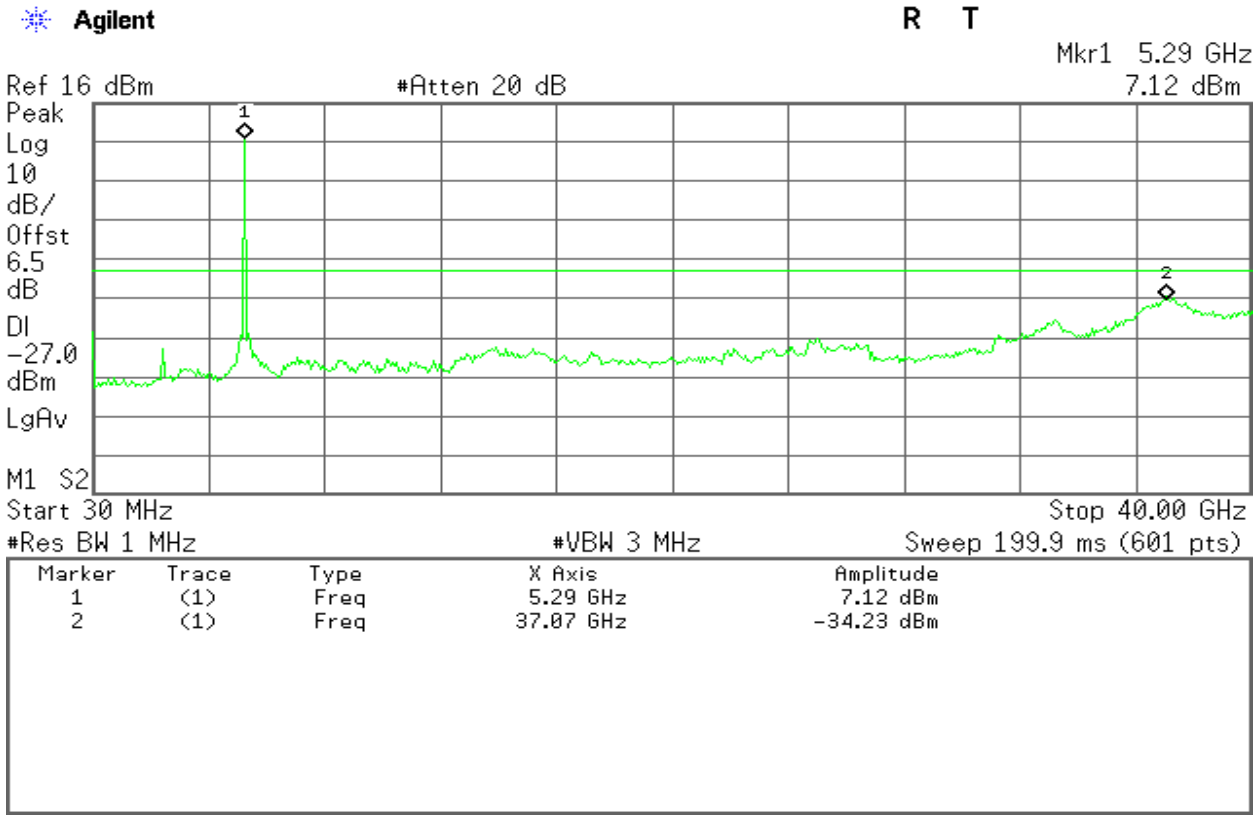
Test mode: IEEE 802.11a mode:

5250~5350MHz

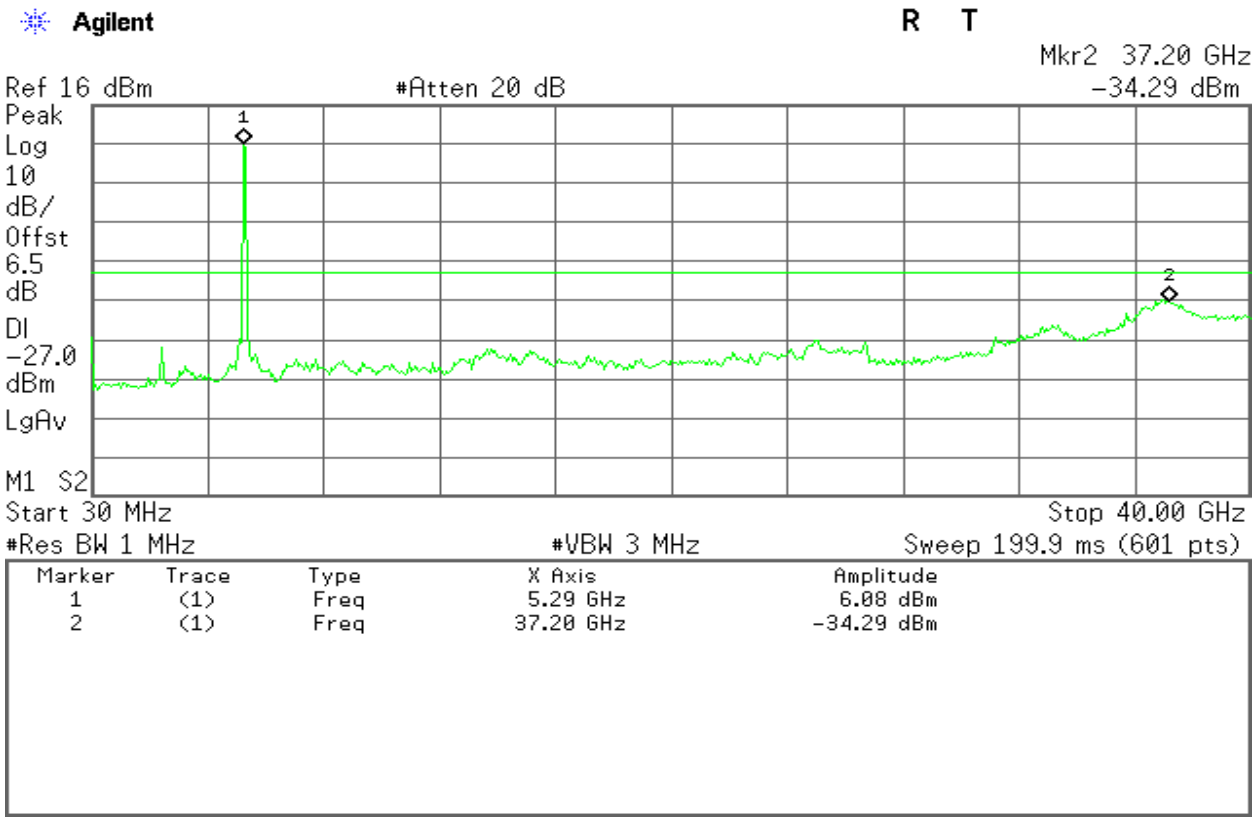
CH Low



CH Mid

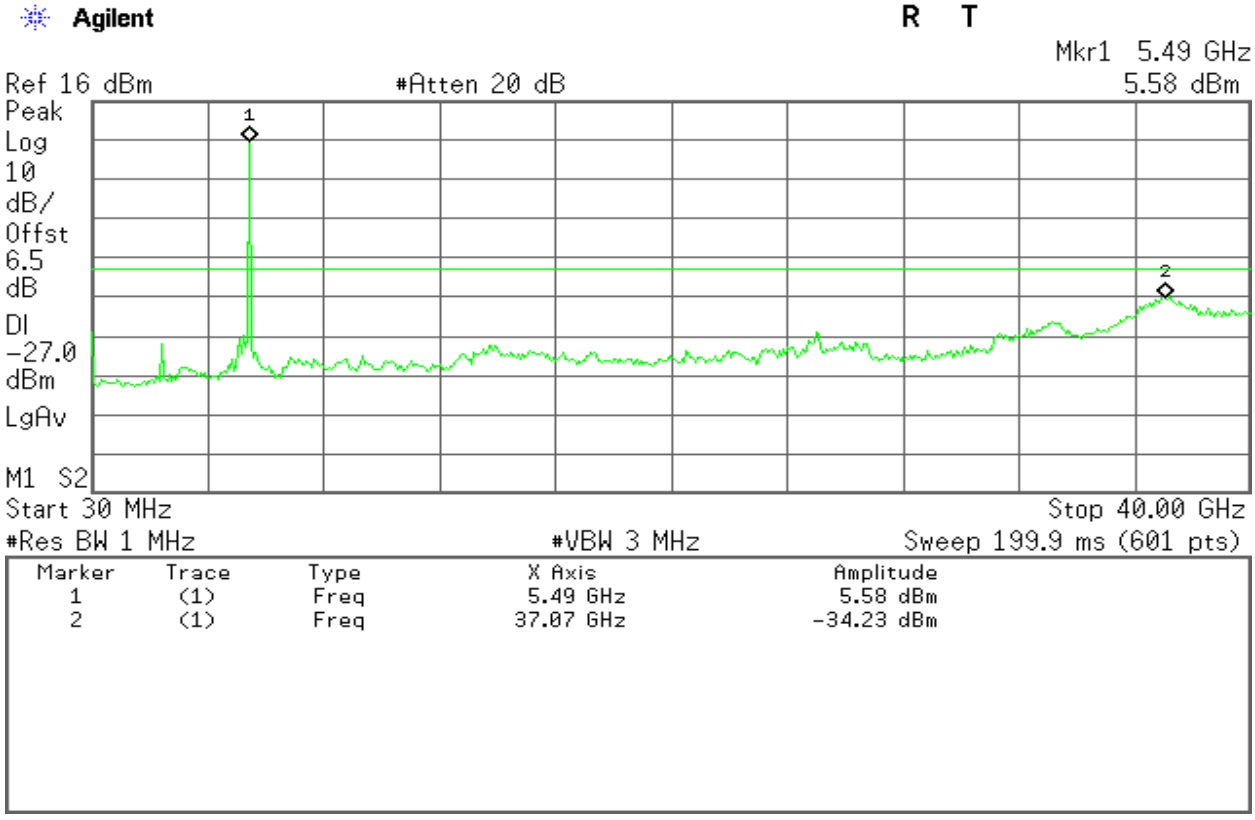


CH High

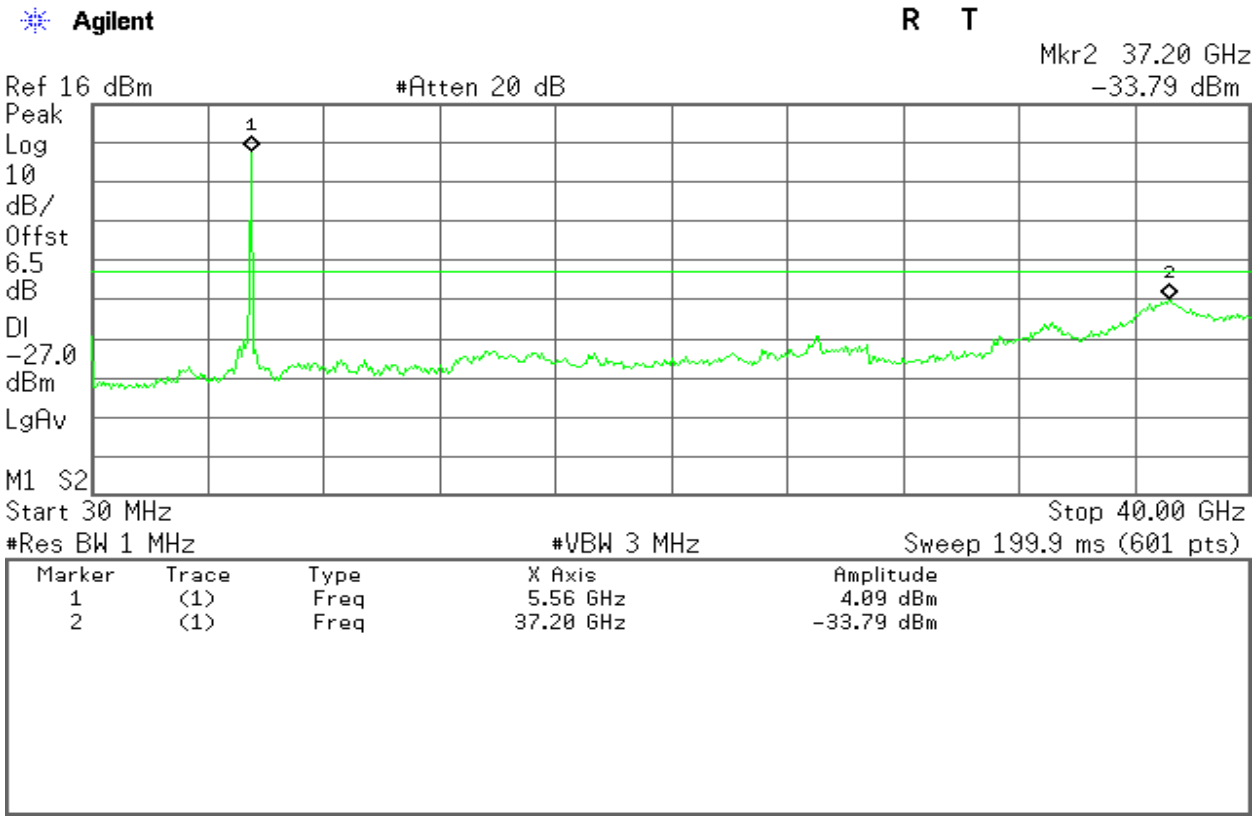


5470~5725MHz

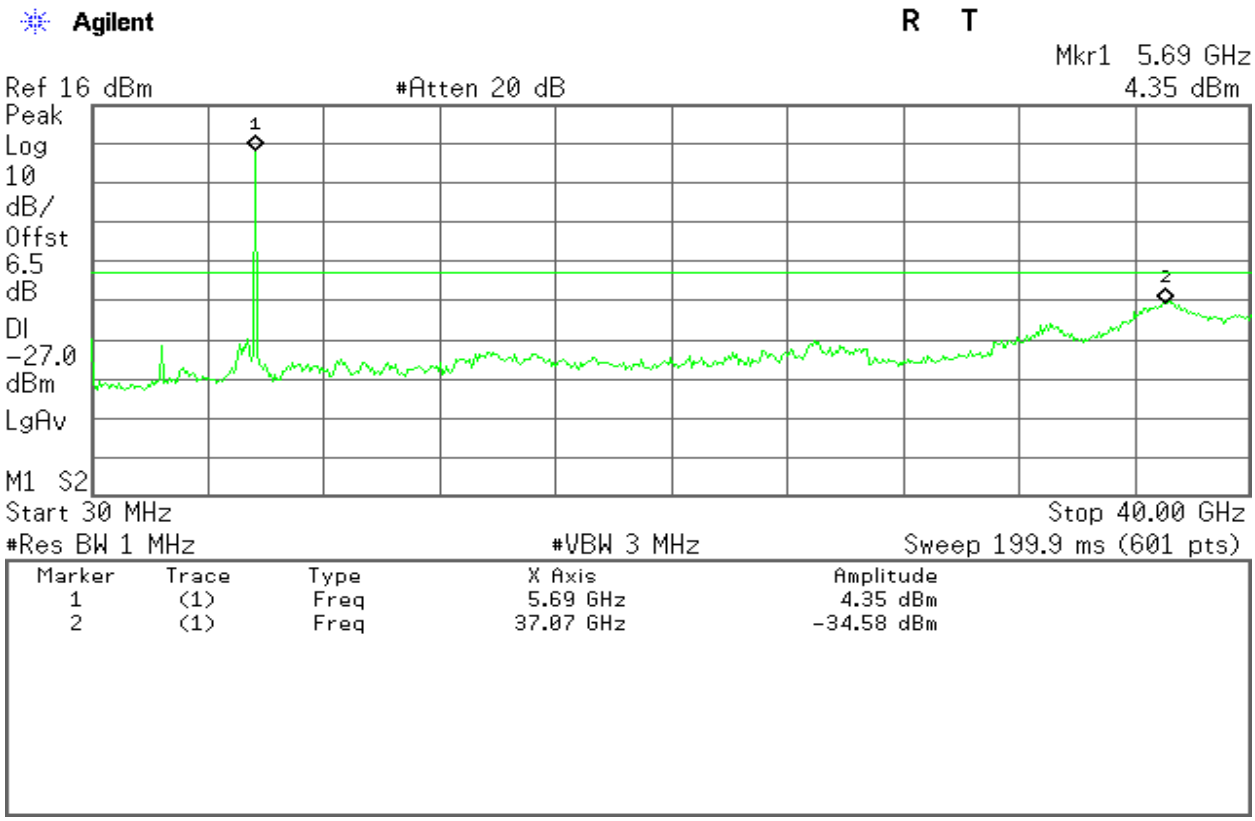
CH Low



CH Mid



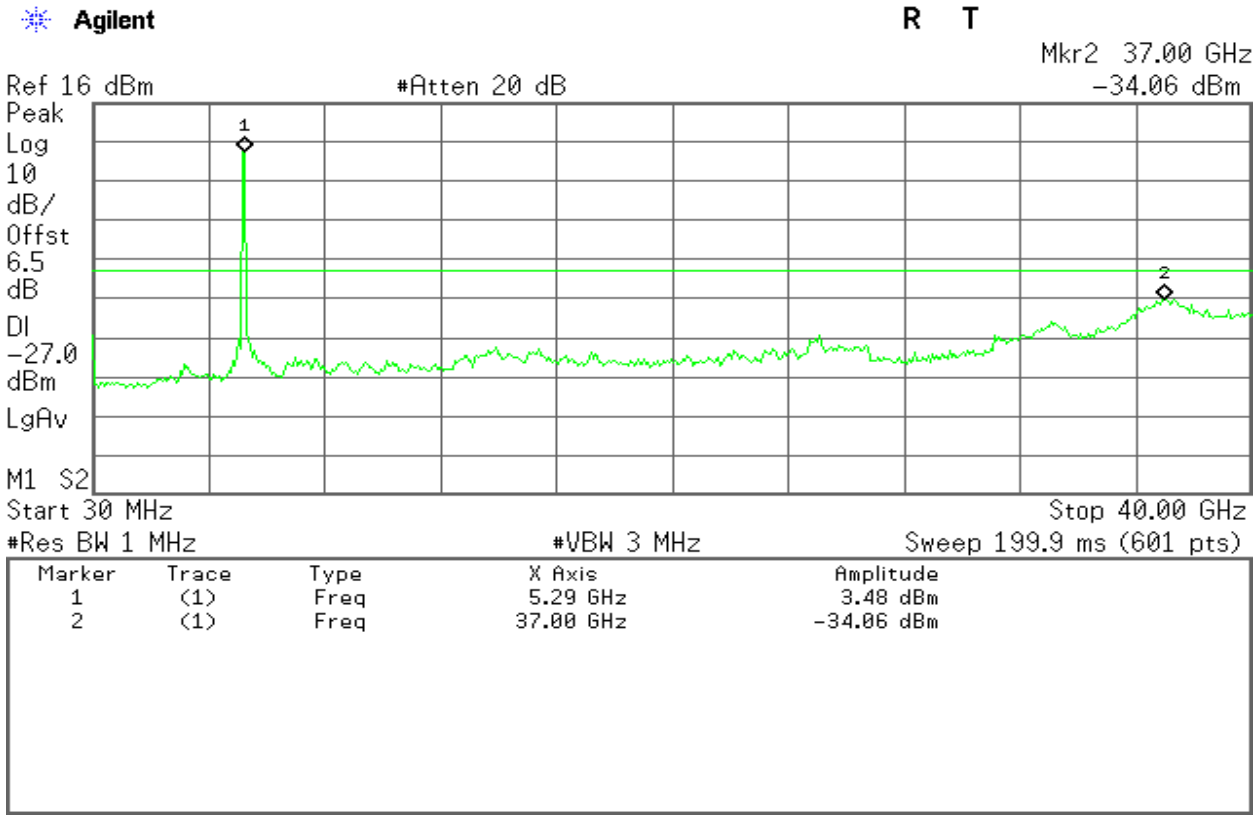
CH High



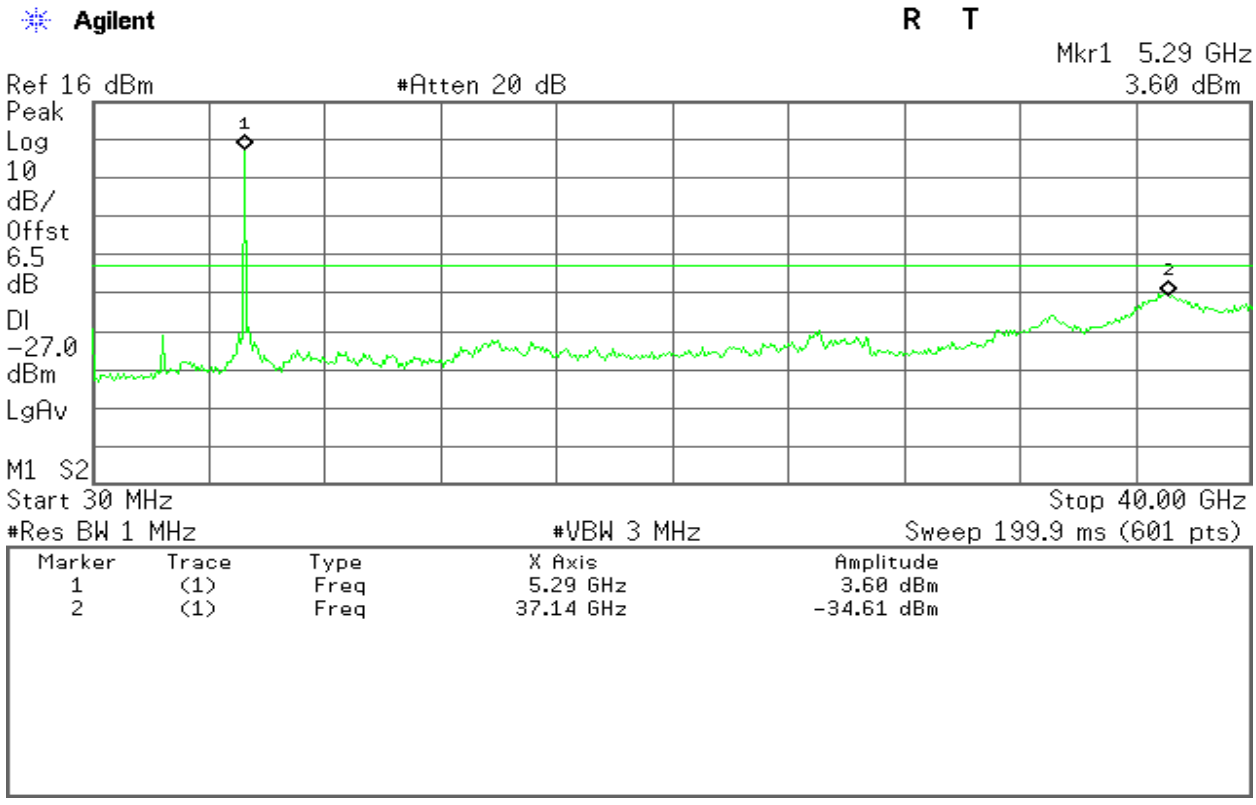
Test mode: 802.11n Standard-20 MHz Channel mode / Chain 0:

5250~5350MHz

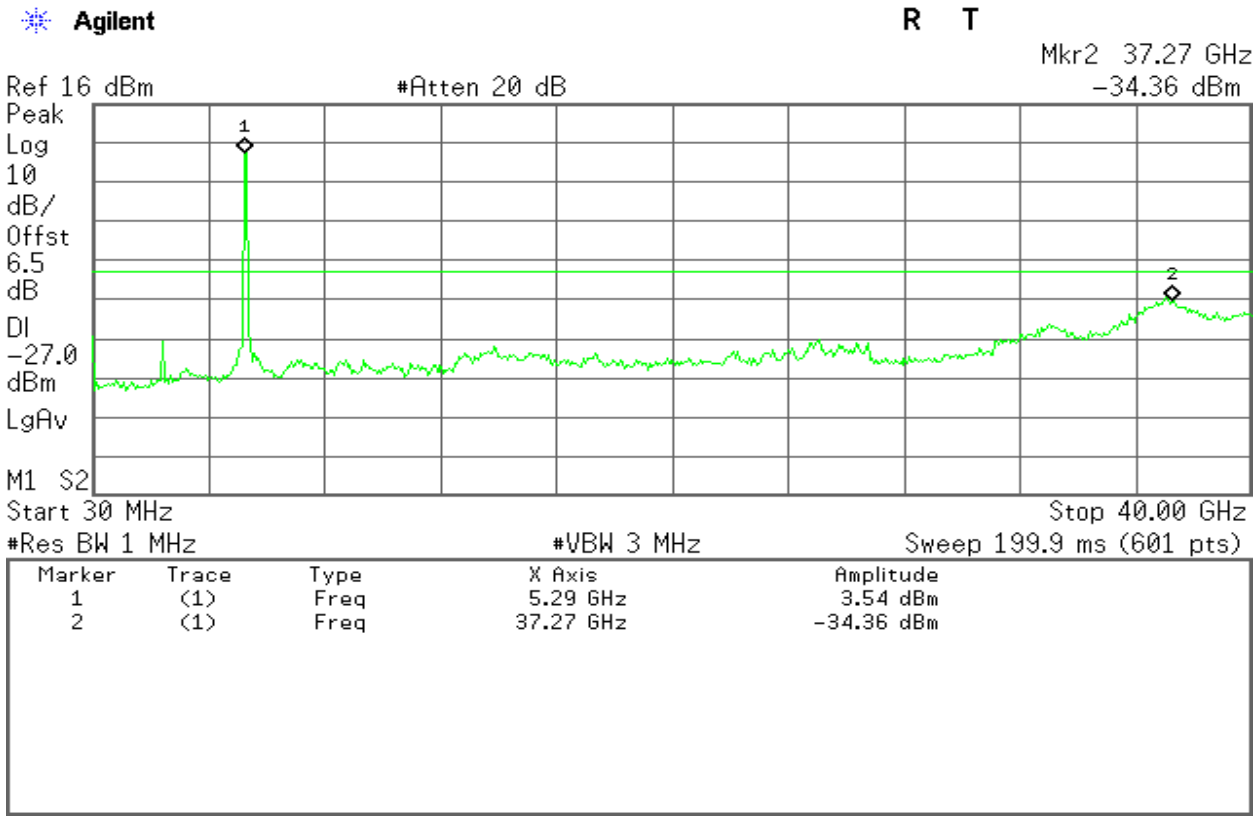
CH Low



CH Mid

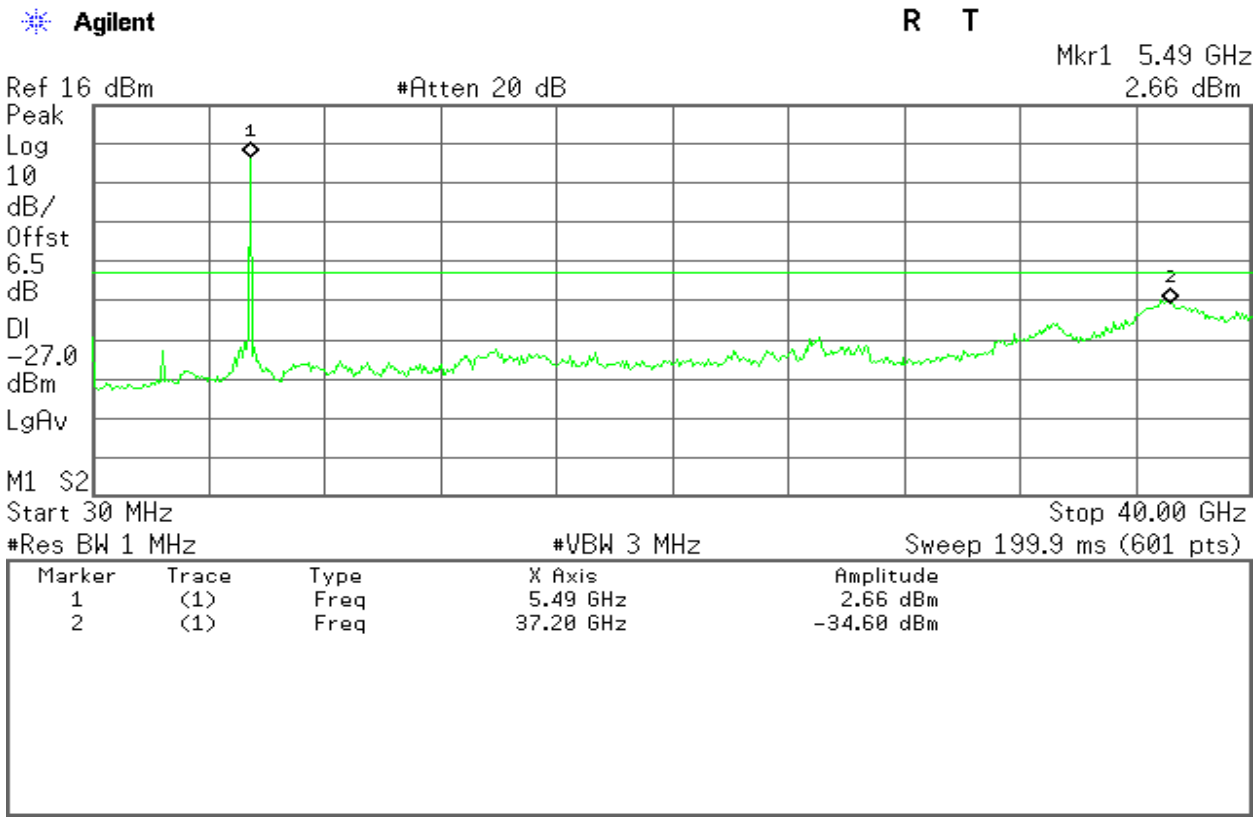


CH High

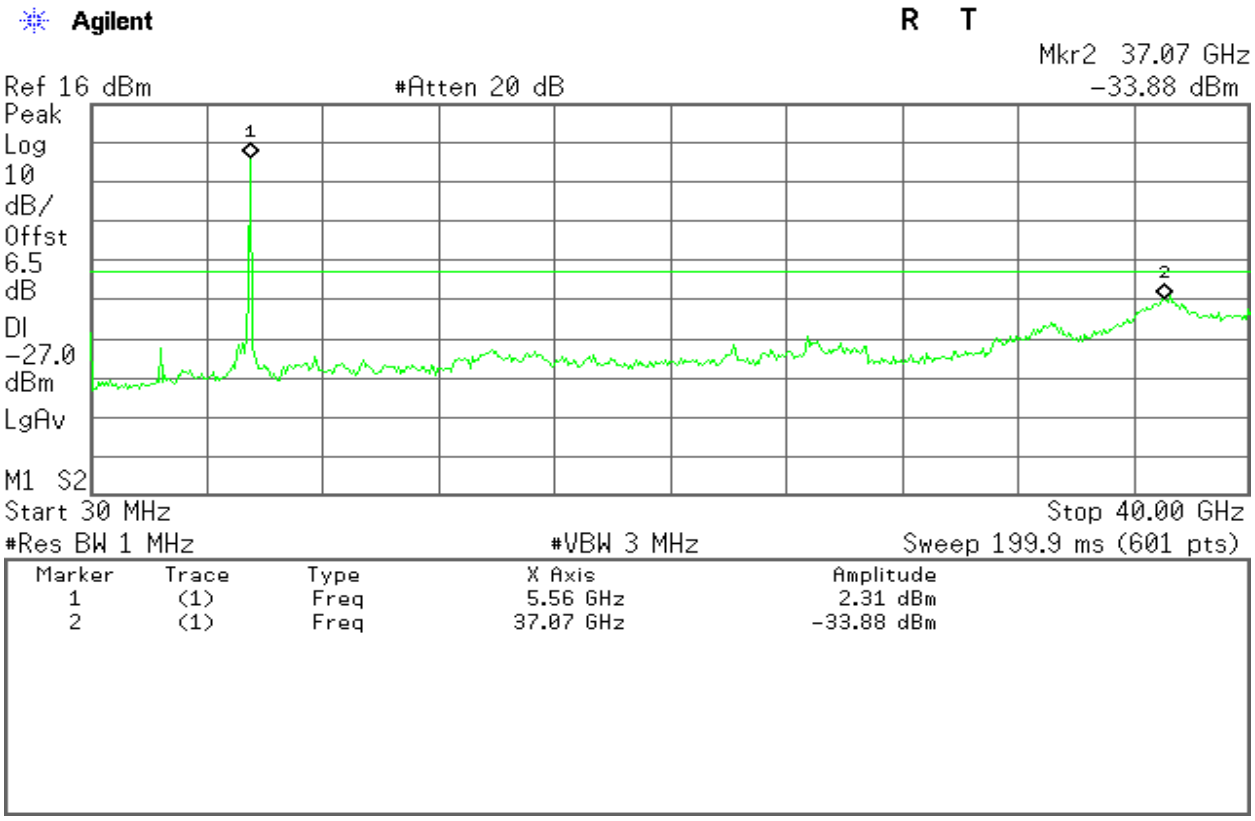


5470~5725MHz

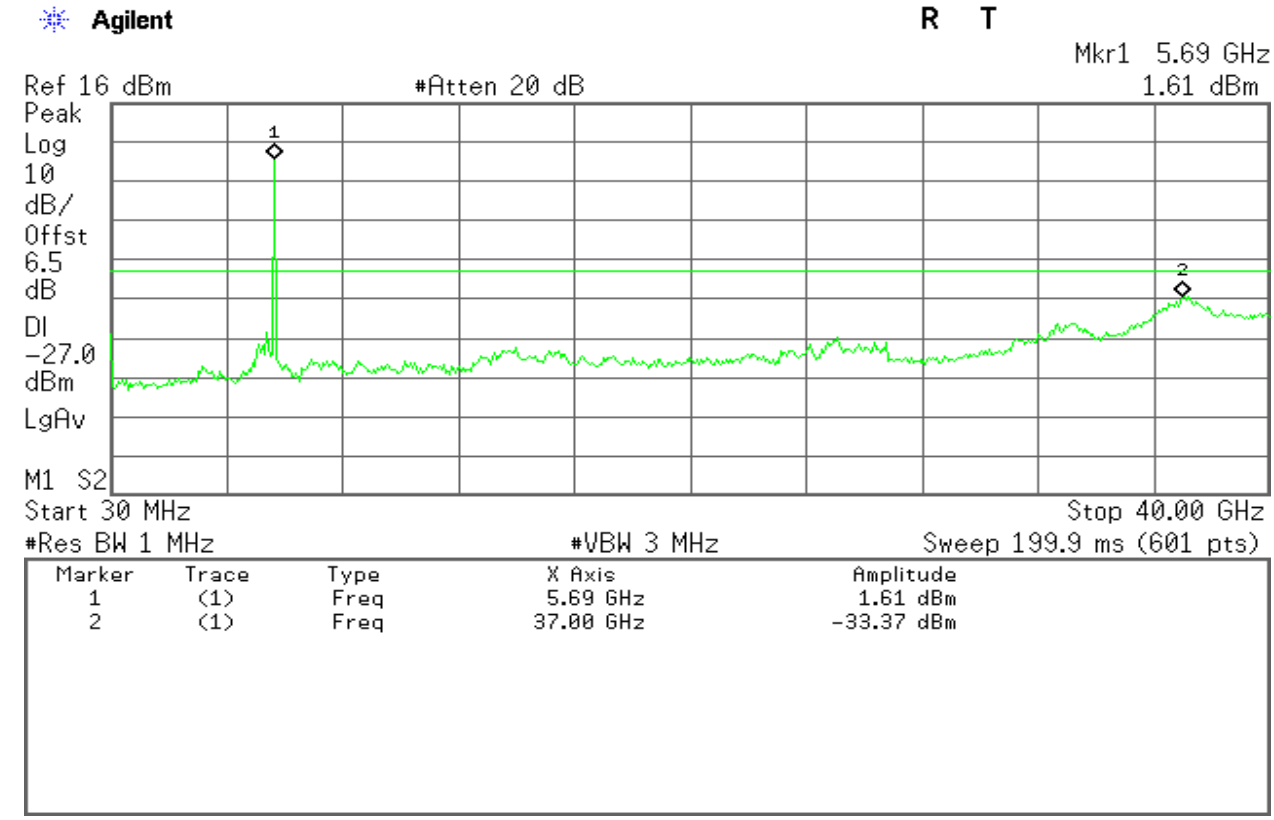
CH Low



CH Mid



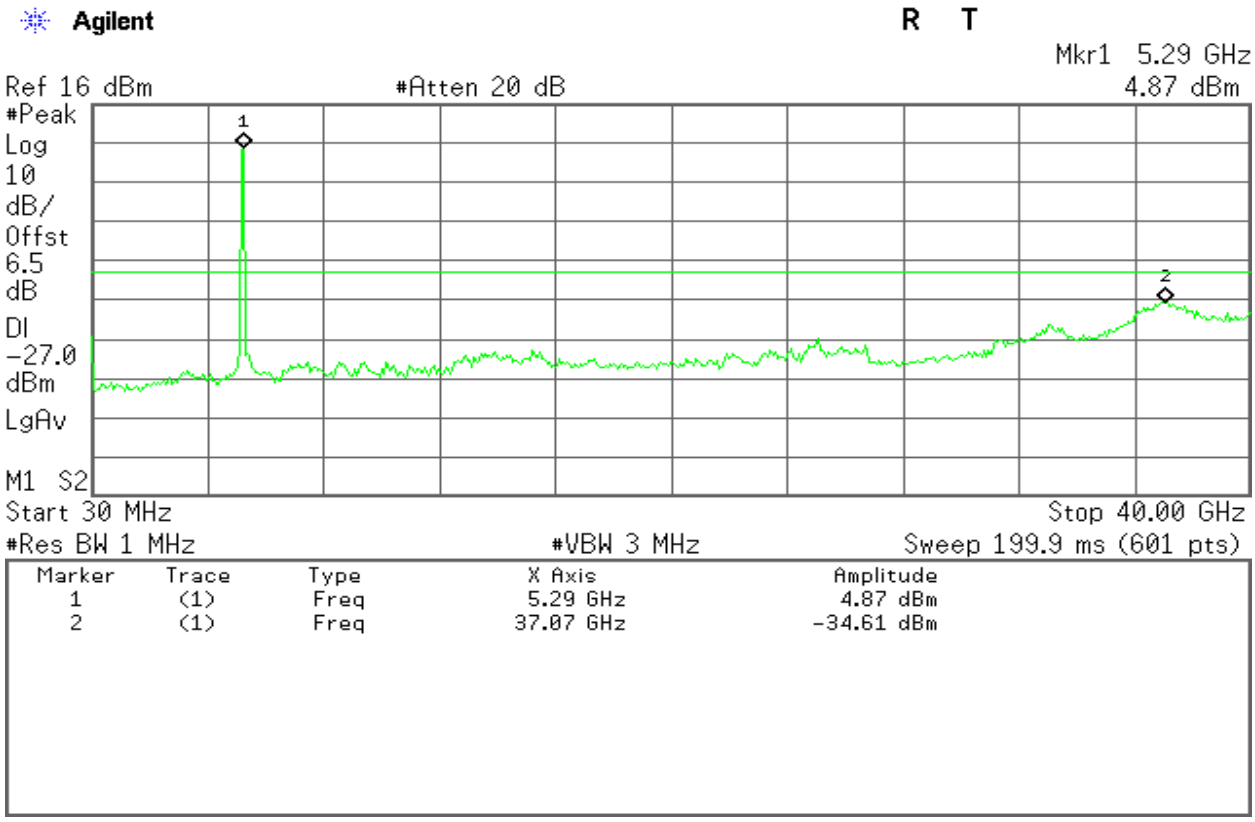
CH High



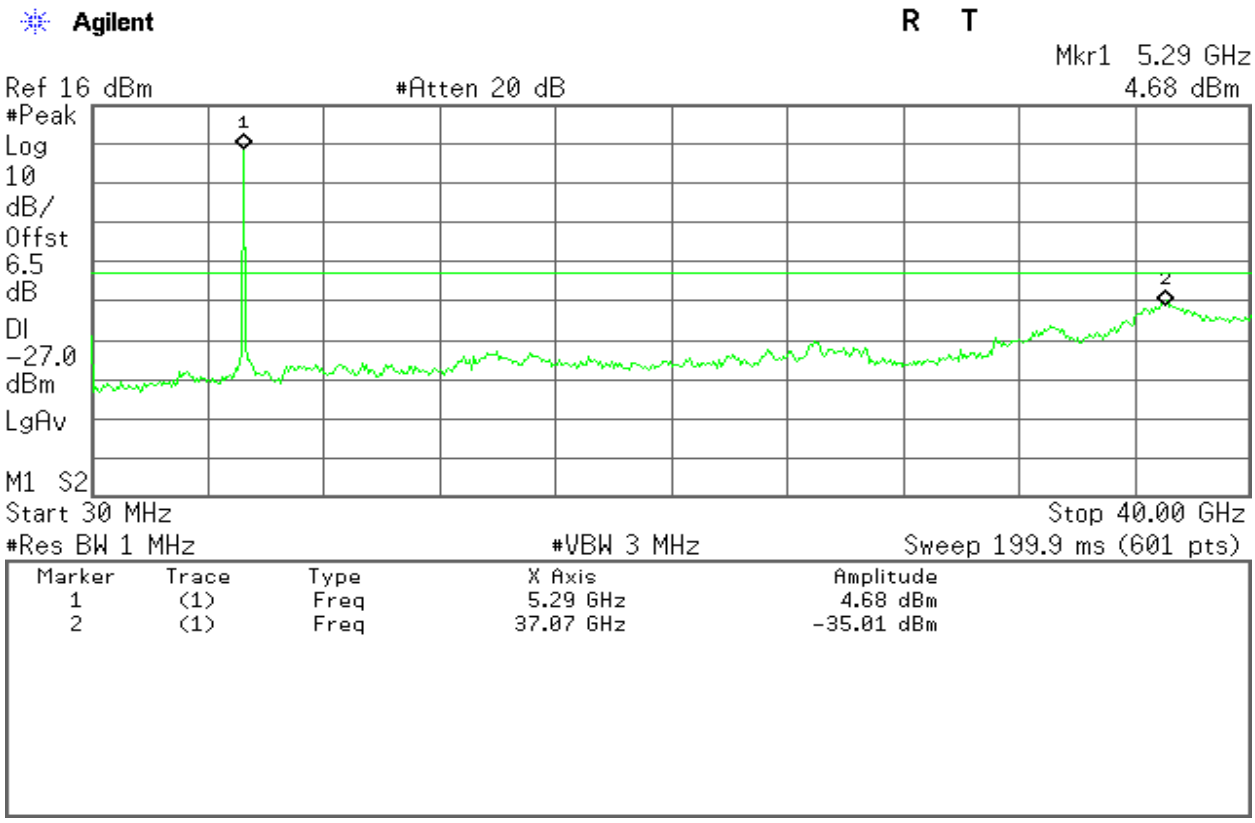
Test mode: 802.11n Standard-20 MHz Channel mode / Chain 1:

5250~5350MHz

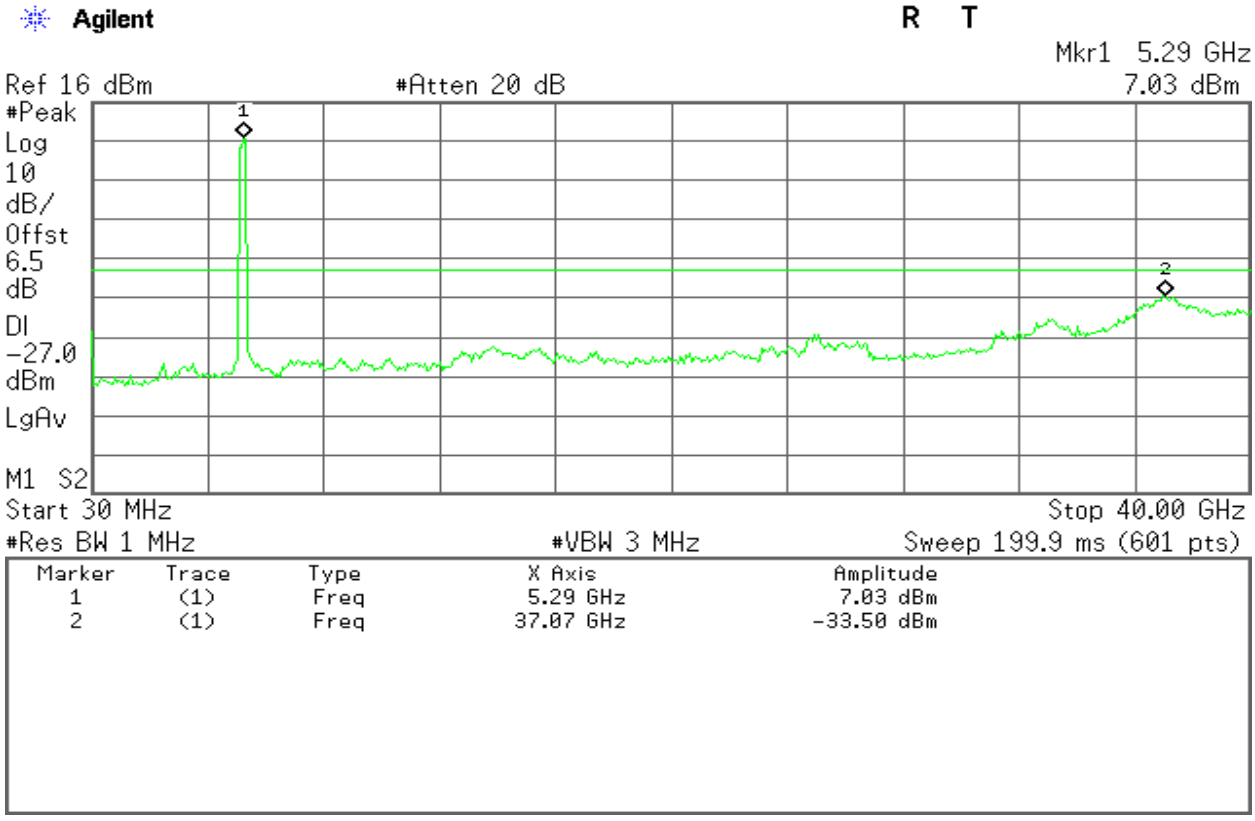
CH Low



CH Mid

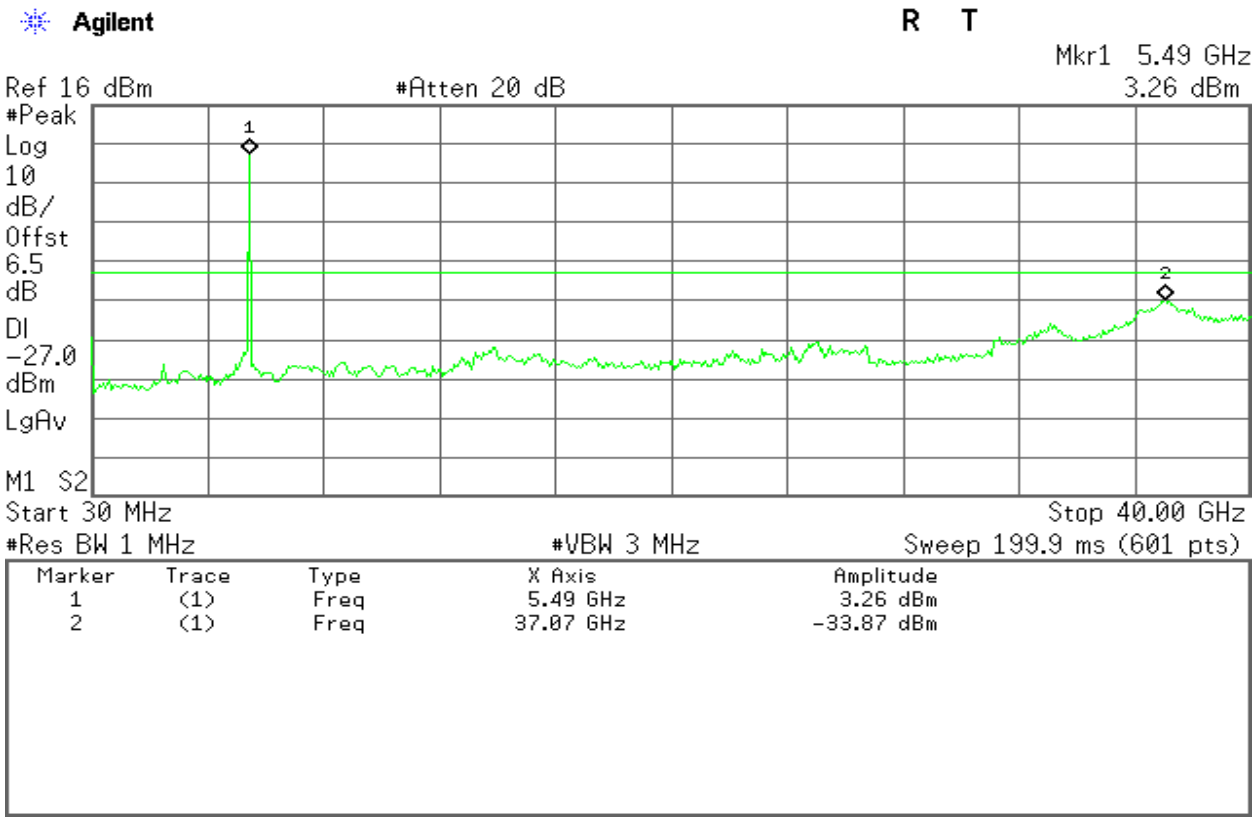


CH High

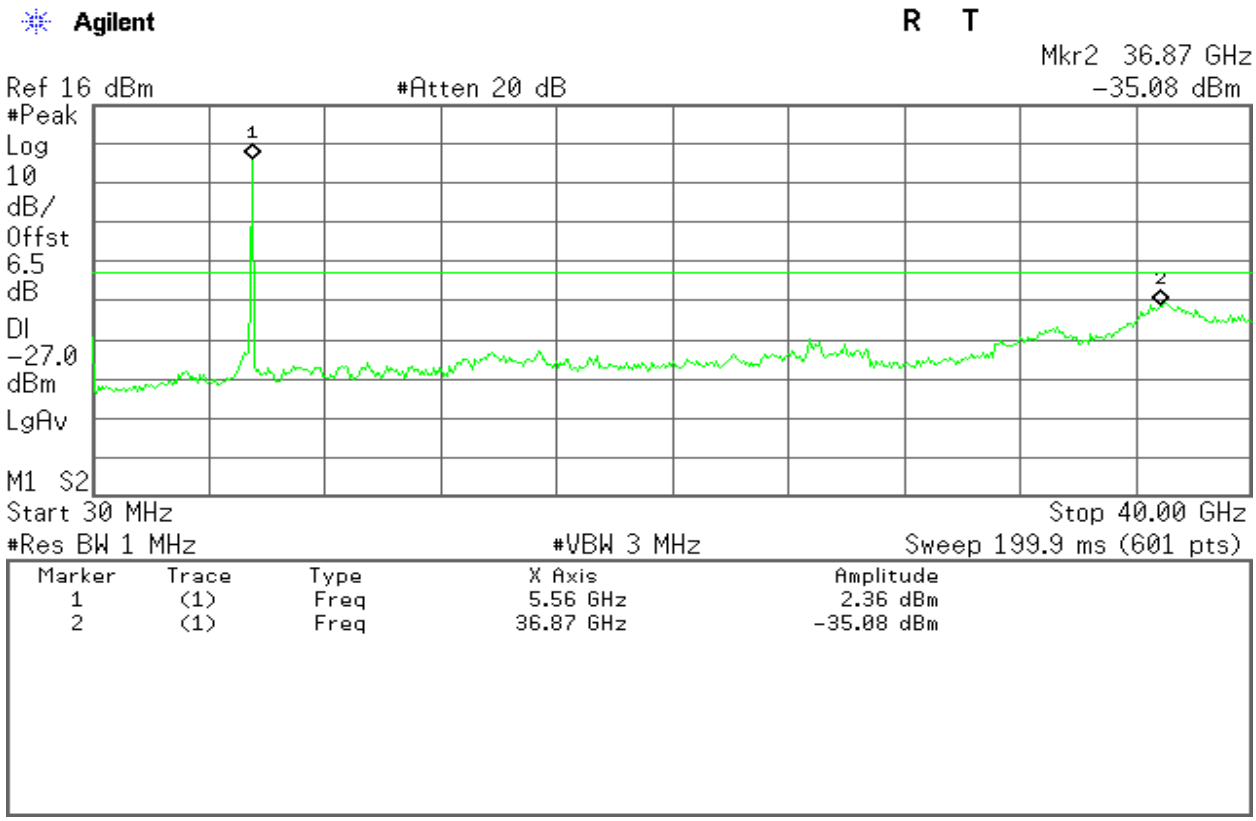


5470~5725MHz

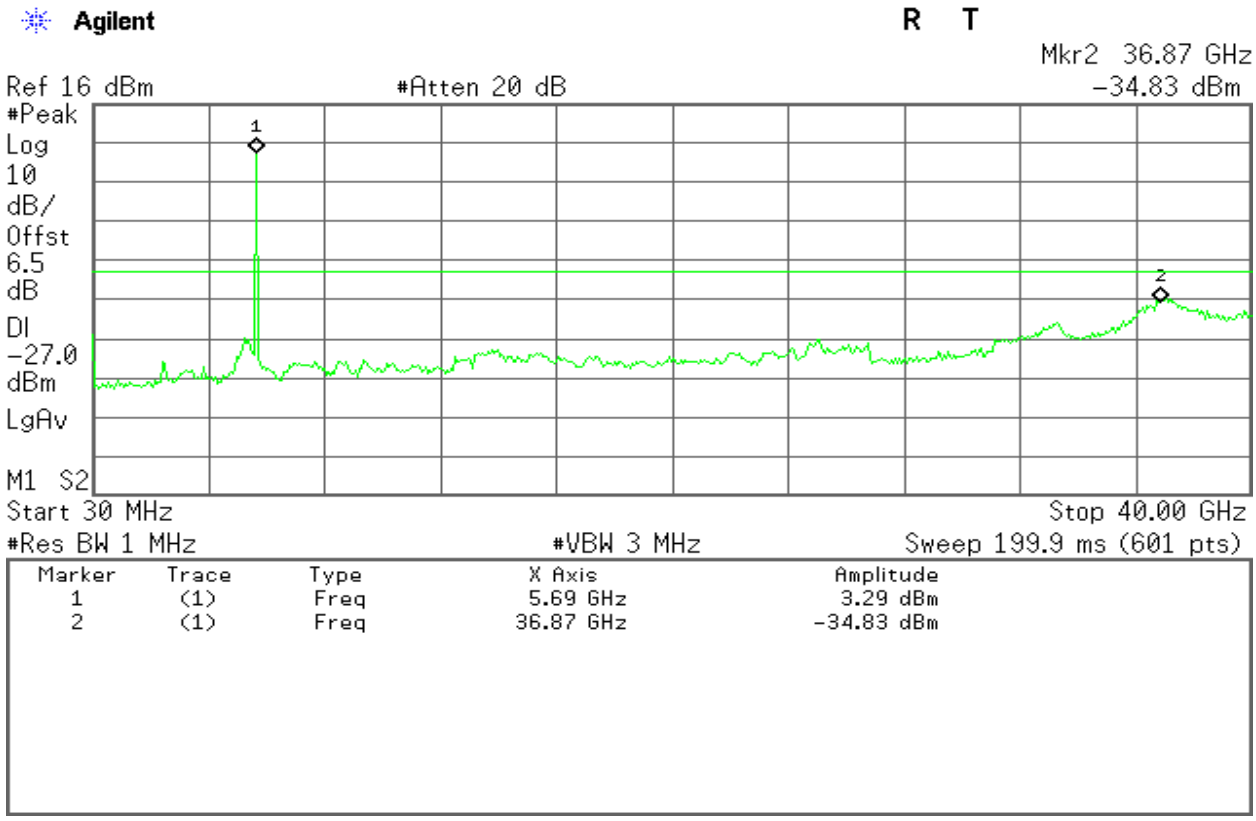
CH Low



CH Mid



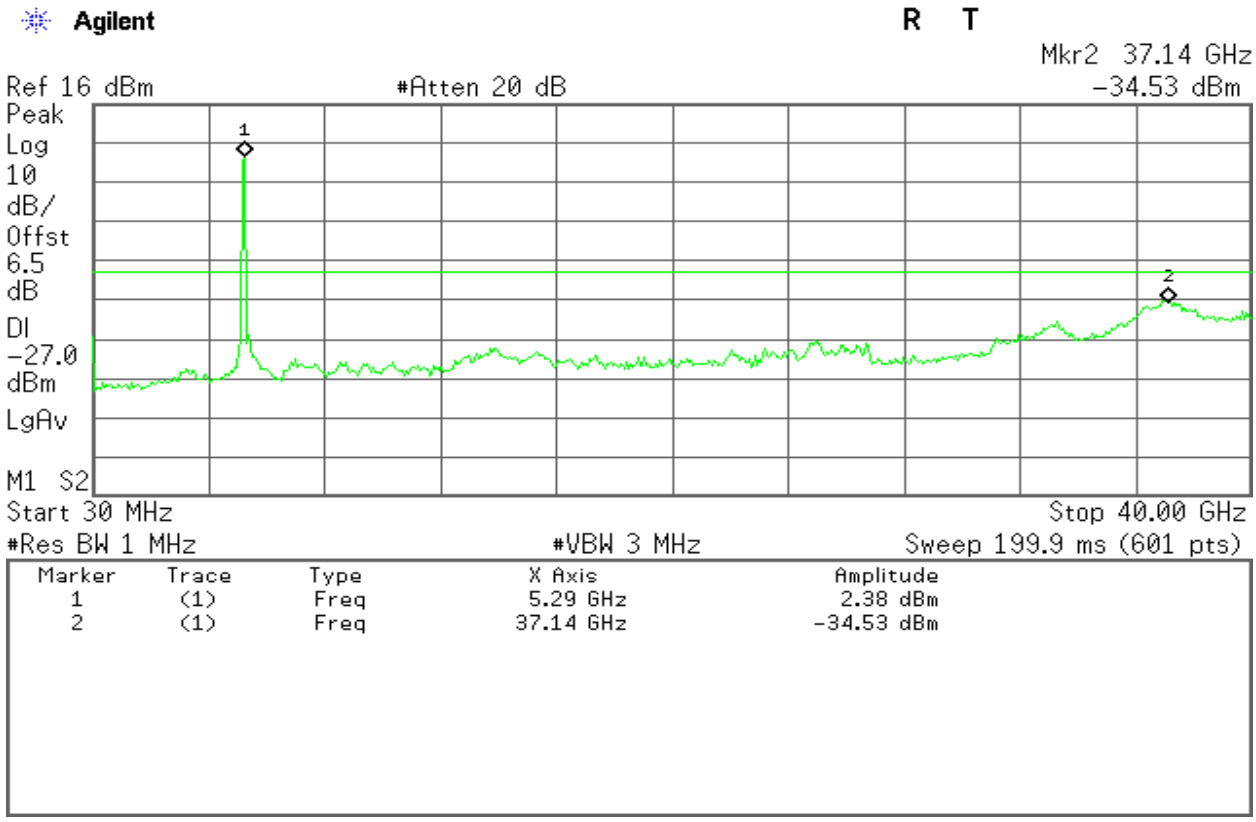
CH High



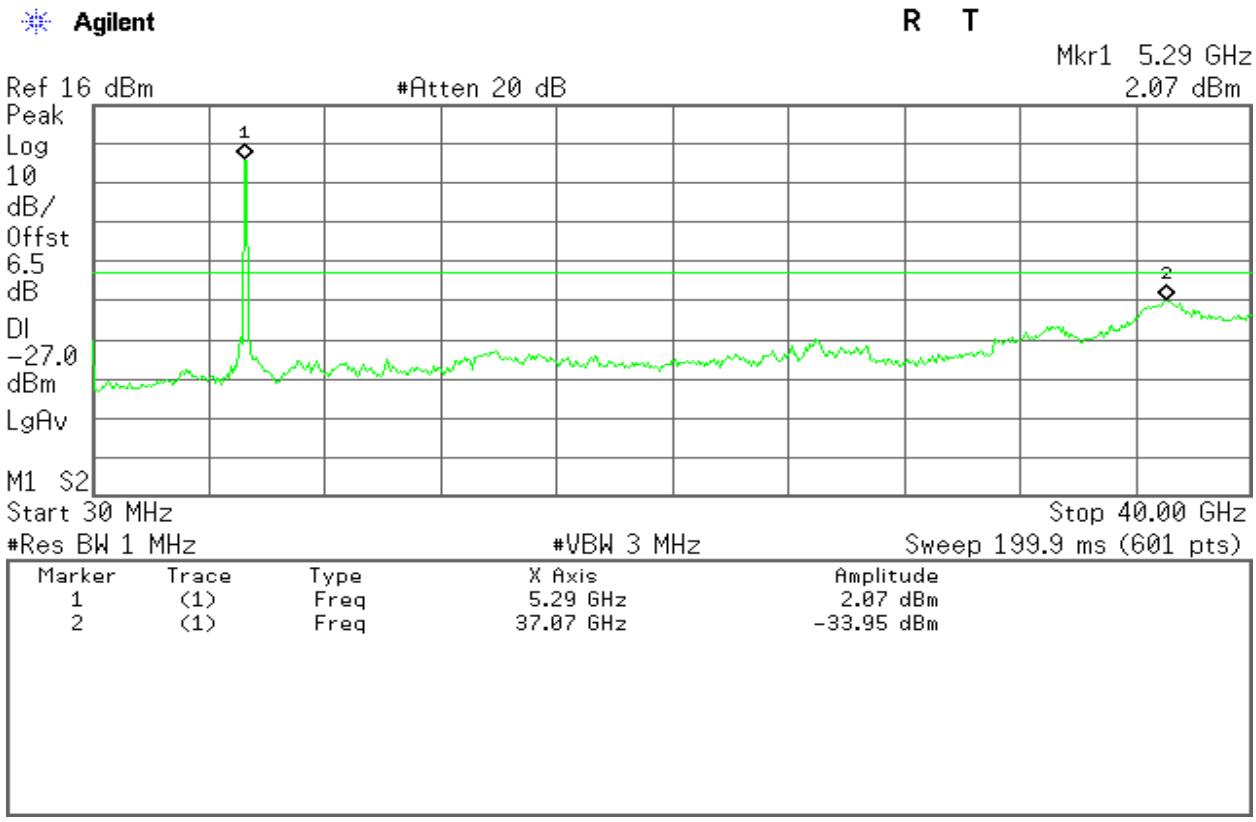
Test mode: 802.11n Wide-40 MHz Channel mode / Chain 0:

5250~5350MHz

CH Low

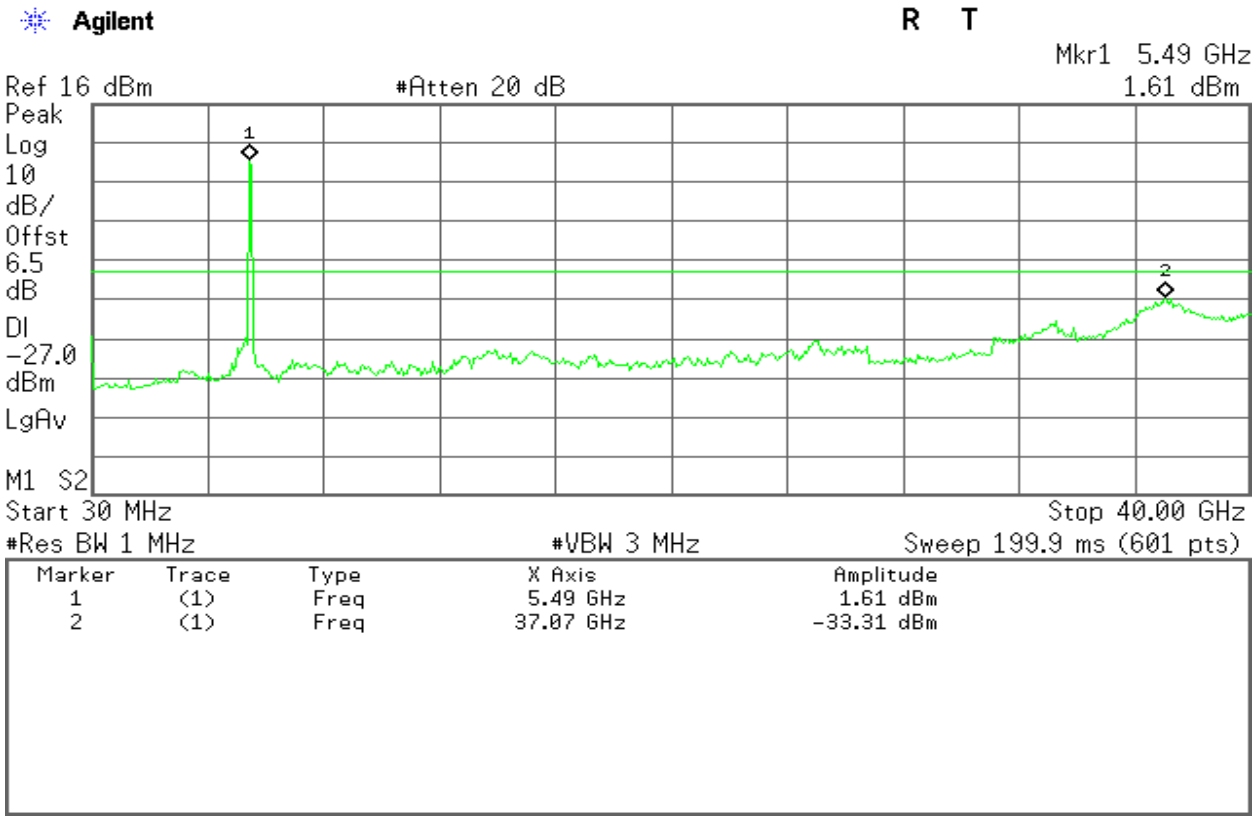


CH High

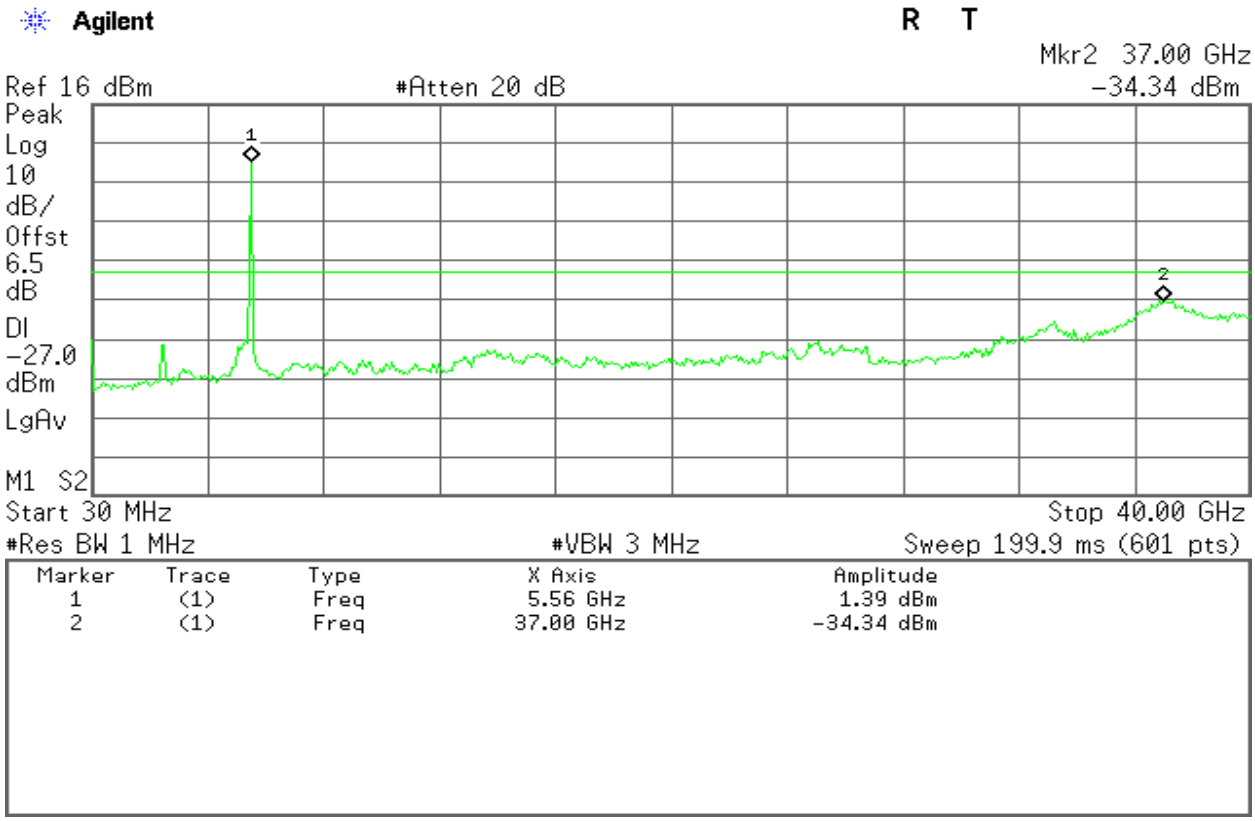


5470~5725MHz

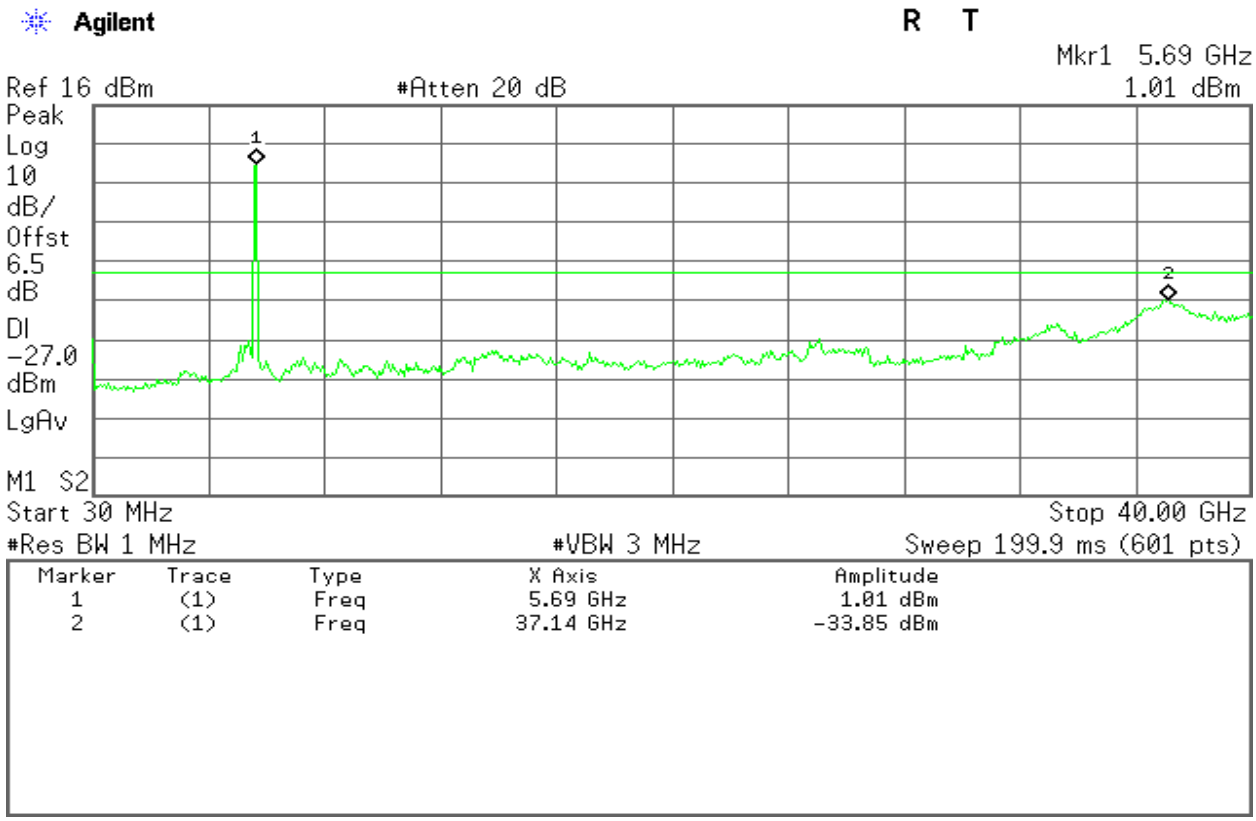
CH Low



CH Mid



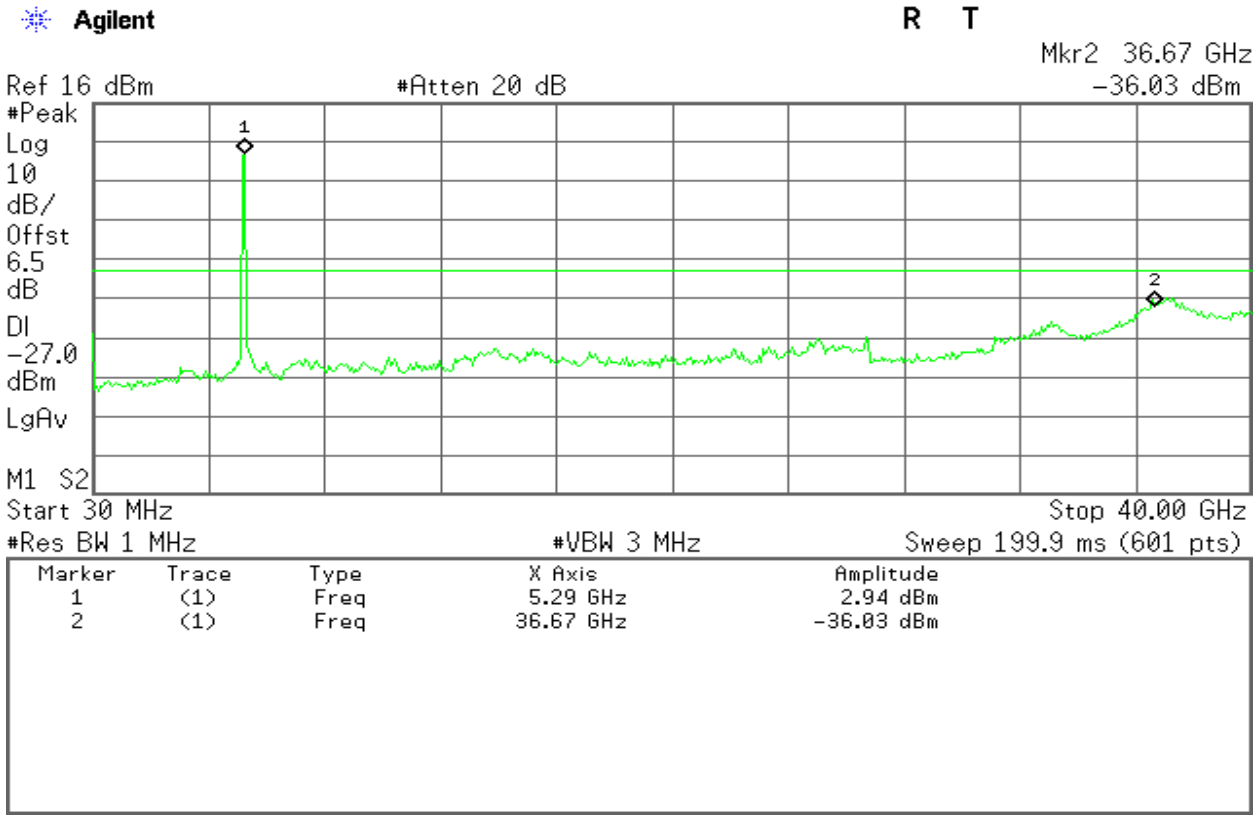
CH High



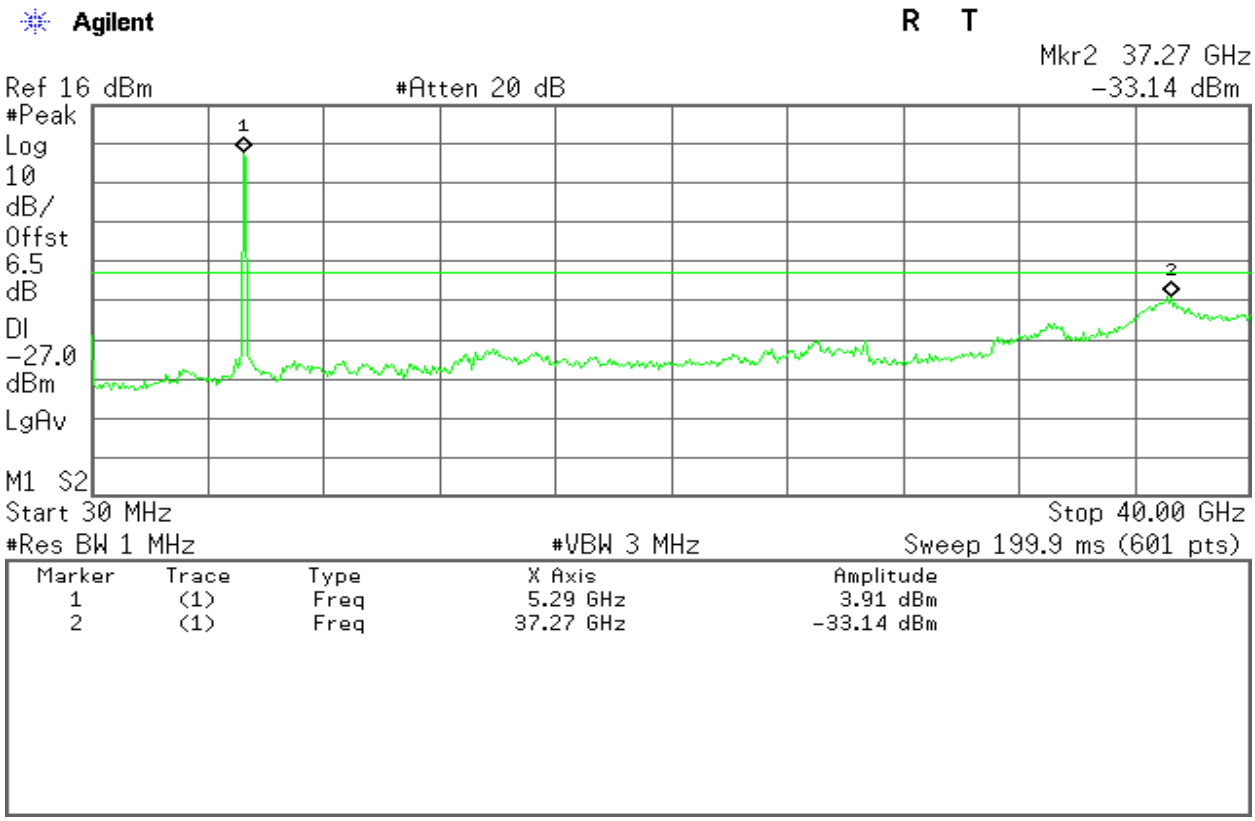
Test mode: 802.11n Wide-40 MHz Channel mode / Chain 1:

5250~5350MHz

CH Low

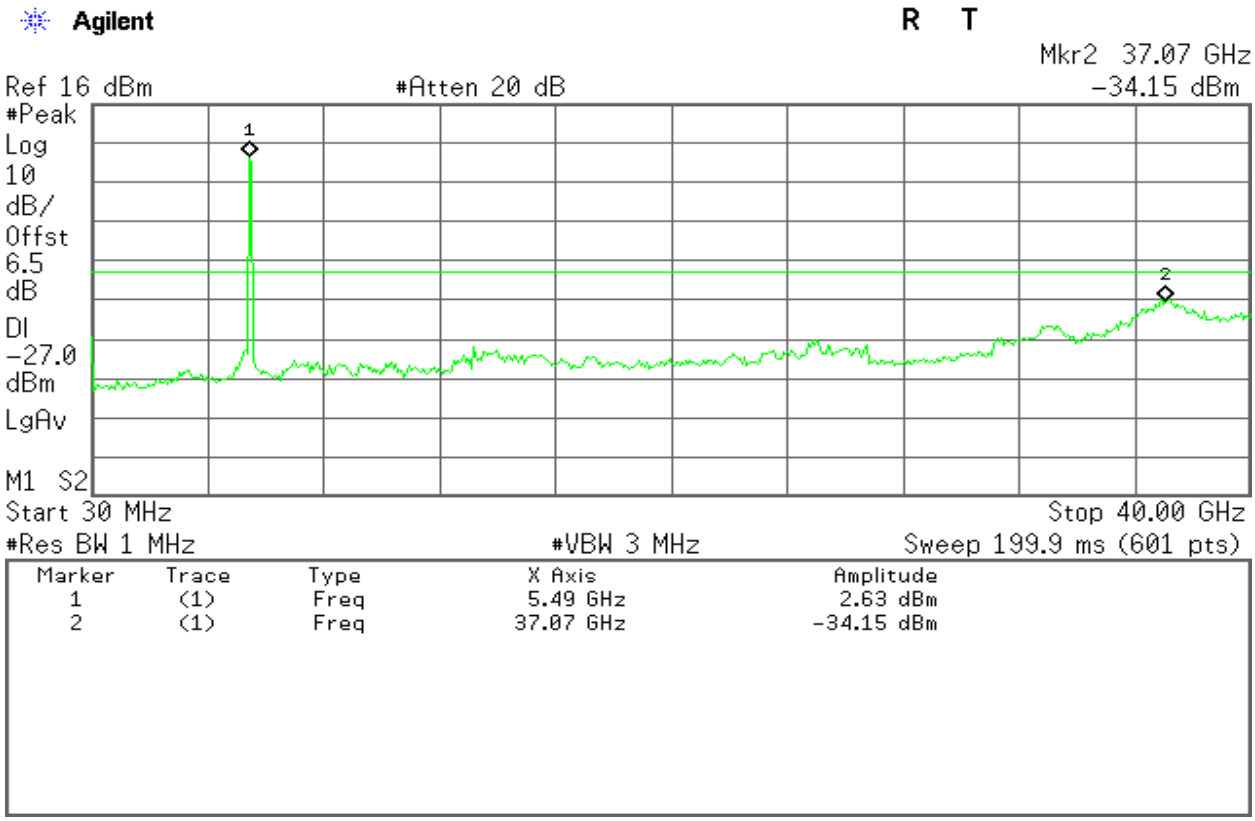


CH High

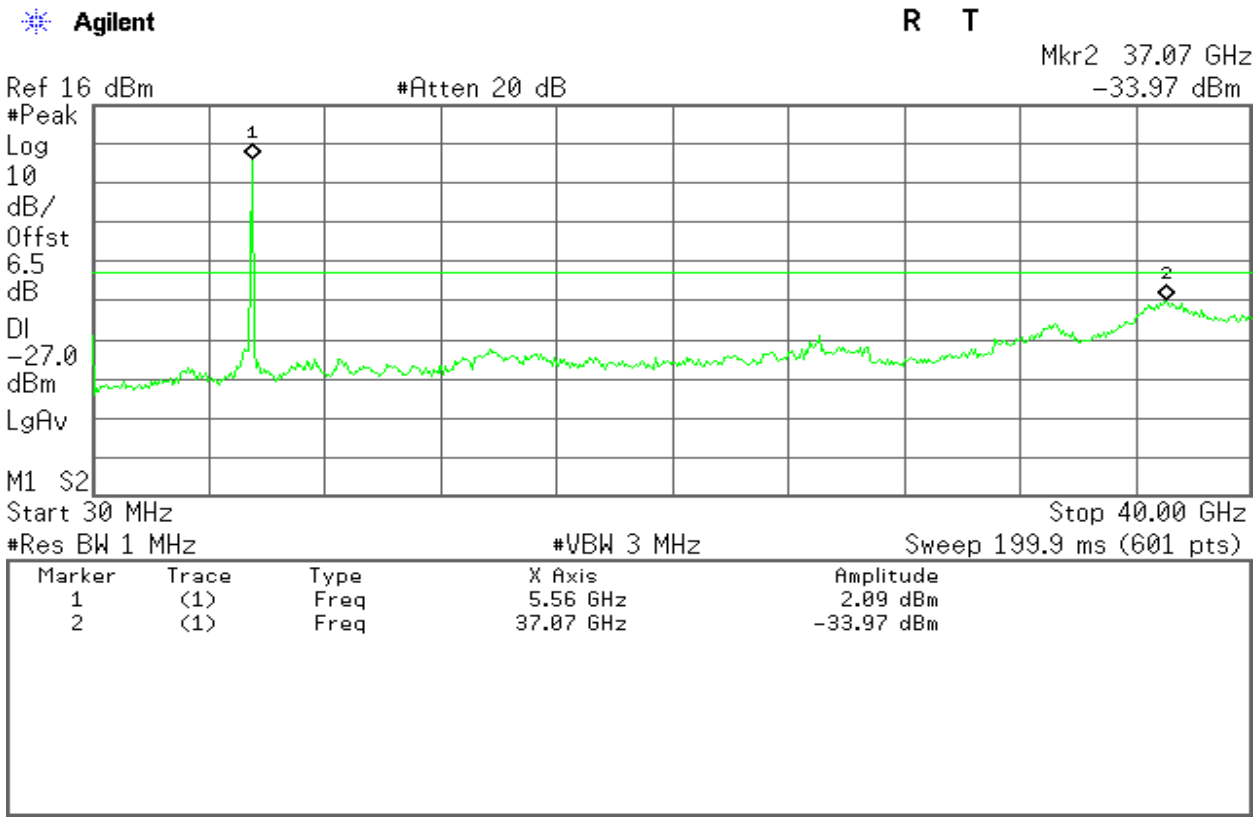


5470~5725MHz

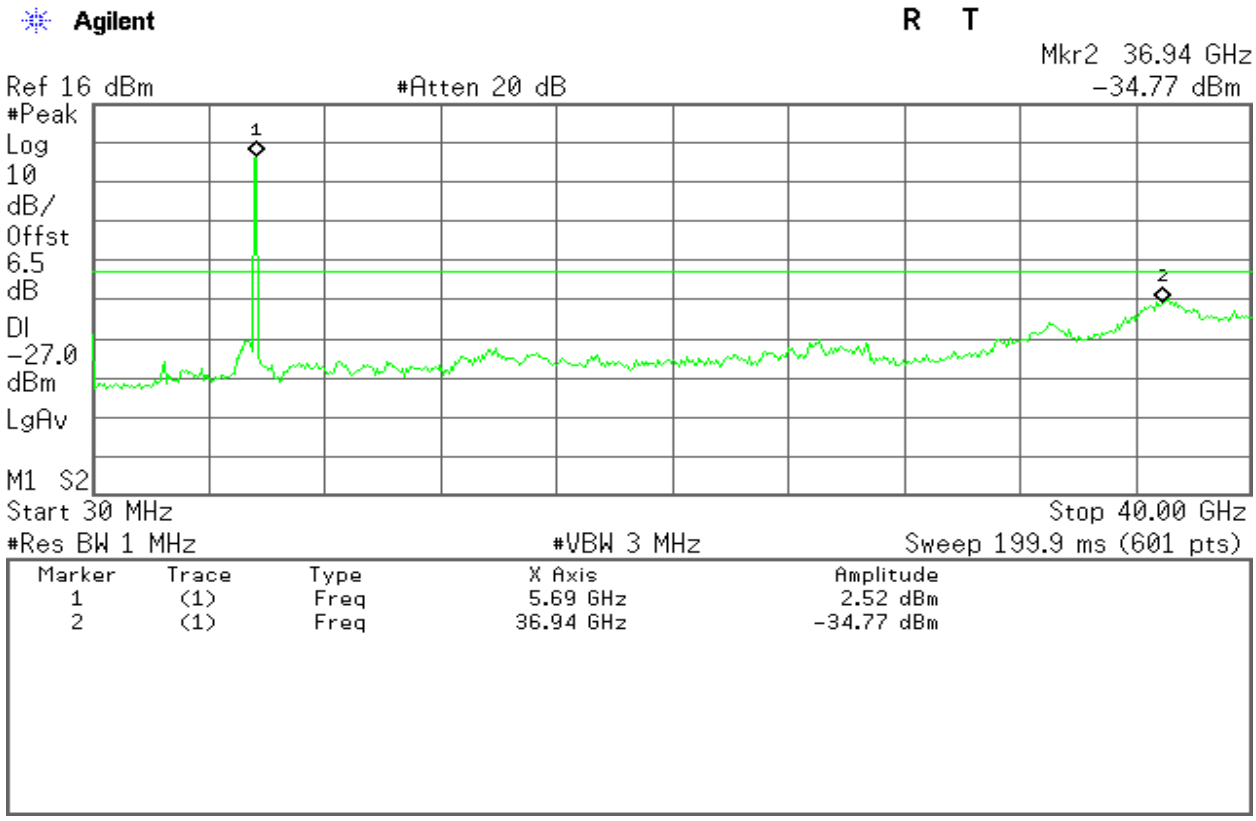
CH Low



CH Mid



CH High



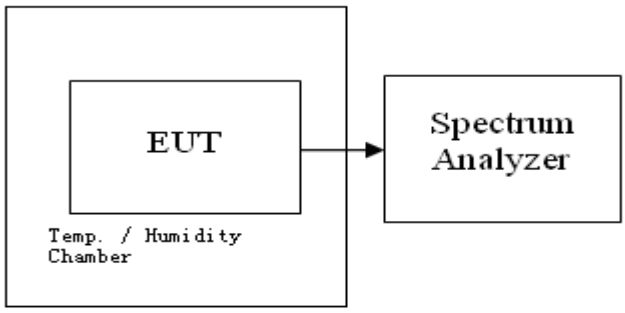
7.8. FREQUENCY STABILITY MEASUREMENT

Limit

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emissions is maintained within the band of operation under all conditions of normal operation as specified in the user's manual or ±20ppm (IEEE 802.11nspecification).

Test Configuration

TEST PROCEDURE



1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 106 ppm and the limit is less than ±20ppm (IEEE 802.11nspecification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature rule is -30°C~50°C.

TEST RESULTS

No non-compliance noted

Test Result of Frequency Stability

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)	
(V)	5270	5510
126.5	5269.99994	5509.99996
110	5269.99992	5509.99967
93.5	5269.99962	5510.00037
Max. Deviation (MHz)	0.00006	0.00037
Max. Deviation (ppm)	0.0114	0.0702

Temperature vs. Frequency Stability

Voltage	Measurement Frequency (MHz)	
(℃)	5270	5510
-30	5270.0812	5510.0823
-20	5270.0694	5510.0812
-10	5270.0726	5510.0798
0	5270.0747	5510.0799
10	5270.0699	5510.0728
20	5270.0036	5510.0103
30	5270.0041	5510.0098
40	5270.0029	5510.0007
50	5269.9997	5510.0004
Max. Deviation (MHz)	0.0812	0.0823
Max. Deviation (ppm)	15.4079696	15.6166983

7.9. POWERLINE CONDUCTED EMISSIONS

LIMIT

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

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

** Decreases with the logarithm of the frequency.*

TEST CONFIGURATION

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

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

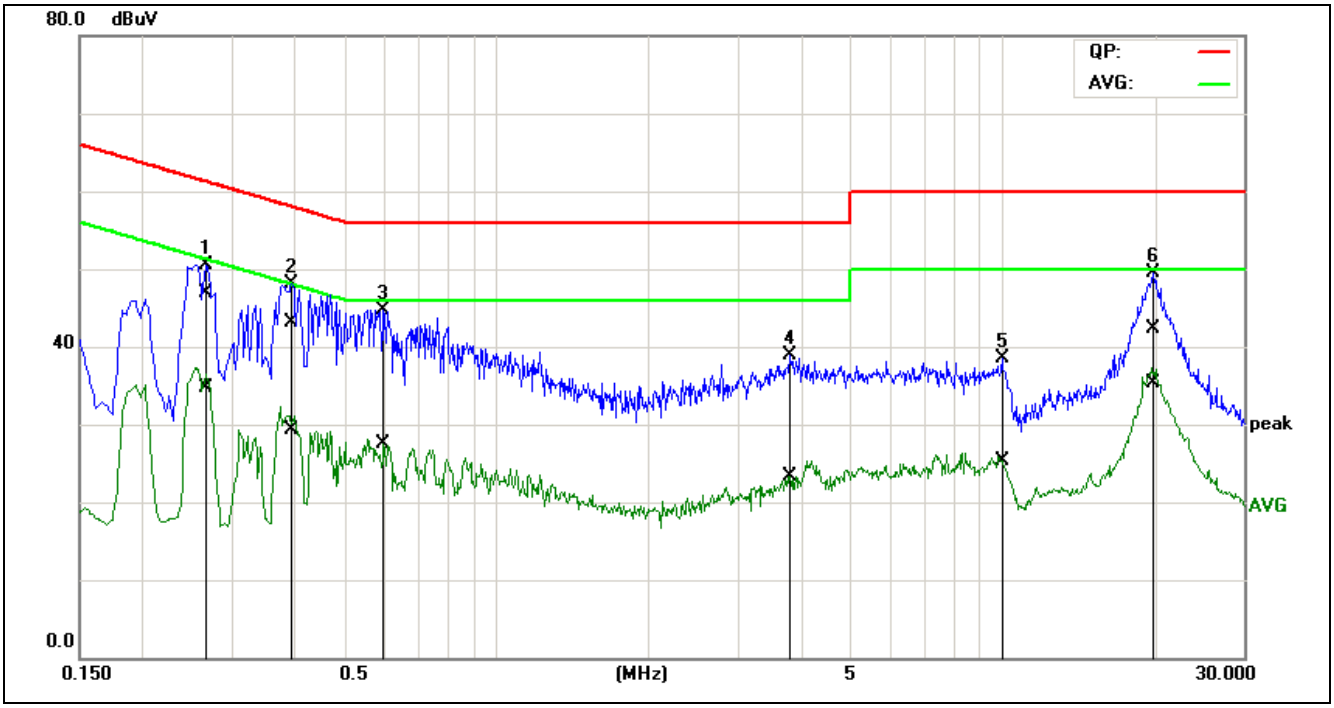
TEST RESULTS

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

Test Data

Operation Mode:	Adapter Mode	Test Date:	November 13, 2013
Temperature:	25°C	Tested by:	Blent.Wang
Humidity:	55% RH	Test Power:	110 Vac 60 Hz

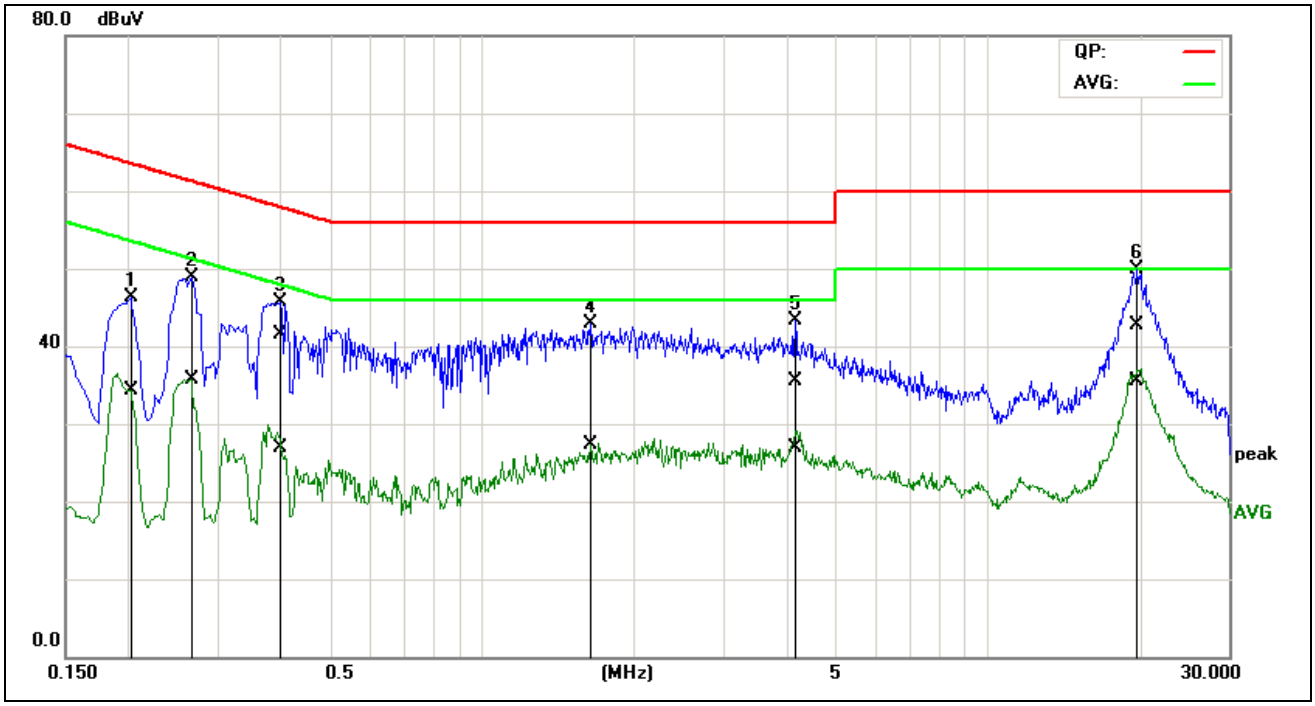
L1



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.2683	27.35	15.03	19.65	47.00	34.68	61.17	51.17	-14.17	-16.49	Pass
2	0.3936	23.26	9.59	19.75	43.01	29.34	57.99	47.99	-14.98	-18.65	Pass
3*	0.5980	24.88	7.63	19.83	44.71	27.46	56.00	46.00	-11.29	-18.54	Pass
4	3.8200	18.70	3.15	20.15	38.85	23.30	56.00	46.00	-17.15	-22.70	Pass
5	10.0060	17.72	4.58	20.77	38.49	25.35	60.00	50.00	-21.51	-24.65	Pass
6	19.8850	21.27	14.28	21.12	42.39	35.40	60.00	50.00	-17.61	-14.60	Pass

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

L2

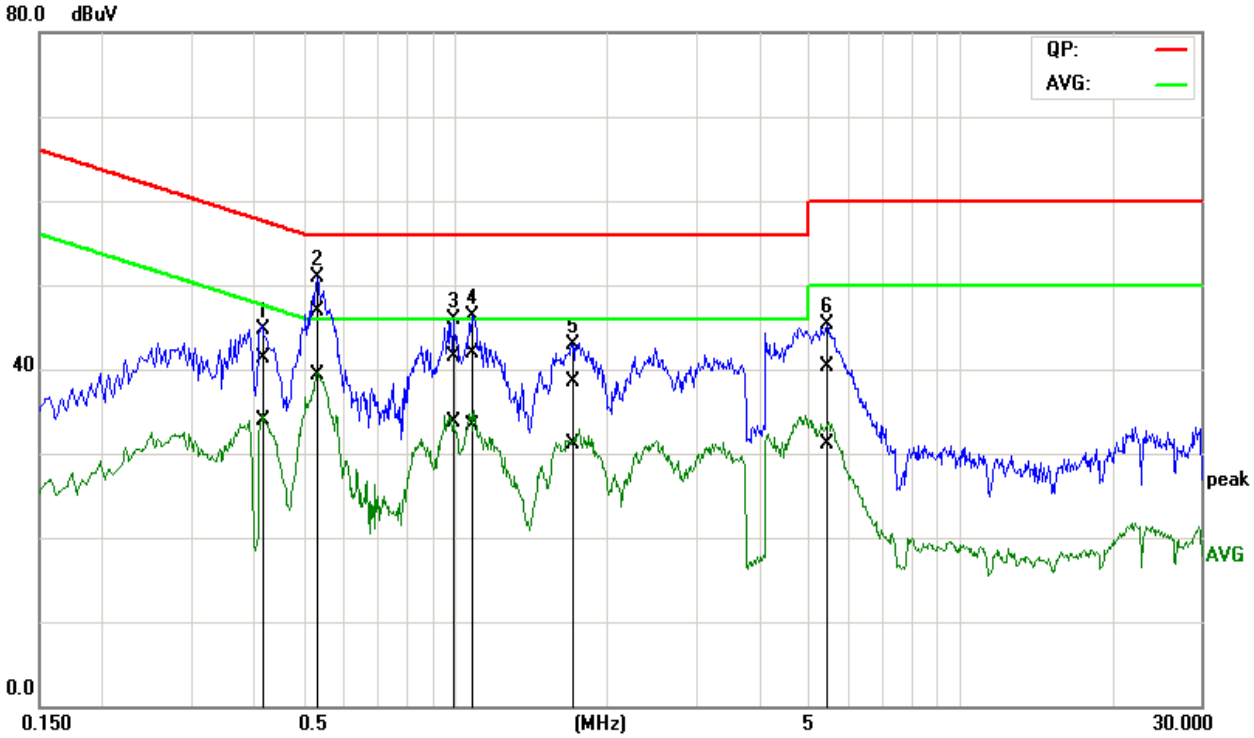


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.2020	26.74	14.71	19.64	46.38	34.35	63.52	53.53	-17.14	-19.18	Pass
2*	0.2660	29.29	16.05	19.69	48.98	35.74	61.24	51.24	-12.26	-15.50	Pass
3	0.3964	21.77	7.03	19.78	41.55	26.81	57.93	47.93	-16.38	-21.12	Pass
4	1.6420	22.97	7.31	19.92	42.89	27.23	56.00	46.00	-13.11	-18.77	Pass
5	4.1275	15.24	6.75	20.20	35.44	26.95	56.00	46.00	-20.56	-19.05	Pass
6	19.8162	21.59	14.37	21.07	42.66	35.44	60.00	50.00	-17.34	-14.56	Pass

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

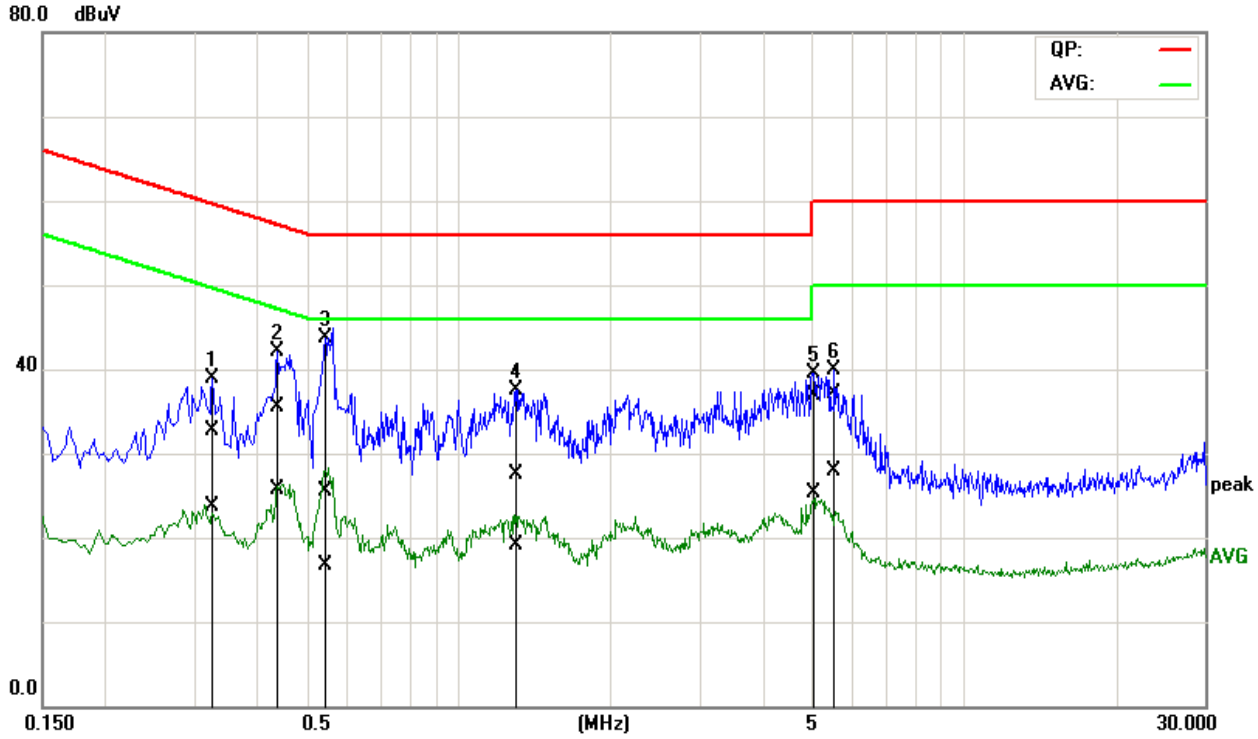
Operation Mode:	POE Mode	Test Date:	November 13, 2013
Temperature:	25°C	Tested by:	Blent.Wang
Humidity:	55% RH	Test Power:	110 Vac 60 Hz

L1



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.4174	21.47	14.17	19.77	41.24	33.94	57.50	47.50	-16.26	-13.56	Pass
2*	0.5348	27.06	19.54	19.83	46.89	39.37	56.00	46.00	-9.11	-6.63	Pass
3	0.9775	21.61	13.79	19.84	41.45	33.63	56.00	46.00	-14.55	-12.37	Pass
4	1.0773	22.08	13.52	19.85	41.93	33.37	56.00	46.00	-14.07	-12.63	Pass
5	1.7186	18.67	11.20	19.90	38.57	31.10	56.00	46.00	-17.43	-14.90	Pass
6	5.4625	19.93	10.67	20.34	40.27	31.01	60.00	50.00	-19.73	-18.99	Pass

L2



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.3263	13.05	3.88	19.73	32.78	23.61	59.54	49.54	-26.76	-25.93	Pass
2*	0.4344	15.76	5.94	19.80	35.56	25.74	57.17	47.17	-21.61	-21.43	Pass
3	0.5471	5.72	-3.14	19.85	25.57	16.71	56.00	46.00	-30.43	-29.29	Pass
4	1.3001	7.55	-0.78	19.87	27.42	19.09	56.00	46.00	-28.58	-26.91	Pass
5	5.0555	16.60	5.06	20.31	36.91	25.37	60.00	50.00	-23.09	-24.63	Pass
6	5.5358	16.77	7.51	20.35	37.12	27.86	60.00	50.00	-22.88	-22.14	Pass

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)*

END OF REPORT