FCC 47 CFR PART15 SUBPART E

For

Prepared by

Product Name: 24 inch Tablet

Brand Name: LYNX

Model No.: 850-034521

Series Model.: 850-035397,850-035398,850-035399,850-035400

FCC ID: 2ABMA-888-700-214

Test Report Number:

C160630R02-RPW1

Issued for

Lynx Innovation Limited

Unit 8A, 331 Rosedale Road,Albany 0632,North Shore City ,New Zealand

Issued by

Compliance Certification Services Inc.

Kun shan Laboratory

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

TEL: 86-512-57355888

FAX: 86-512-57370818

TESTING CERT #2541.01

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	July 13, 2016	C160630R02-RPW1	ALL	N/A

1 TEST RESULT CERTIFICATION

Product Name:	24 inch Tablet
Trade Name:	LYNX
Model Name.:	850-034521
Series Model:	850-035397,850-035398,850-035399,850-035400
Applicant Discrepancy:	Initial
Device Category:	Mobile unit
Date of Test:	July 2, 2016 ~ July 11, 2016
Applicant:	**Lynx Innovation Limited** Unit 8A, 331 Rosedale Road,Albany 0632,North Shore City,New Zealand
Manufacturer:	**Jiaxing Lynx Displays Limited** 1F,Bldg#7,No.3288,Zhongshan Xi Road,Xiuzhou Industrial Park,Jiaxing, Zhejiang,China
Application Type:	Certification

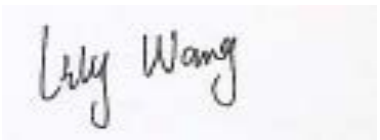
APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart E	No non-compliance noted

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 C63.10: 2013 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.
The test results of this report relate only to the tested sample EUT identified in this report.

Approved by:

Jeff.Fang
RF Manager
Compliance Certification Service Inc.

Tested by:



Lily.Wang
Test Engineer
Compliance Certification Service Inc.

2 EUT DESCRIPTION

Product Name:	24 inch Tablet			
Brand Name:	LYNX			
Model Name:	850-034521			
Series Model:	850-035397,850-035398,850-035399,850-035400			
Model Discrepancy:	Only for market segment			
Power Adapter:	DC 12V			
Frequency Range :	Band	Mode	Frequency Range(MHz)	Number of Channels
	Band I UNII-I	IEEE802.11a mode	5150 MHz~5250 MHz	4
		IEEE802.11an HT20 mode		4
		IEEE802.11an HT40 mode		2
		IEEE802.11ac VHT20 mode		4
		IEEE802.11ac VHT40 mode		2
		IEEE802.11ac VHT80 mode		1
Transmit Power :	IEEE802.11a mode: 9.73dBm IEEE802.11an HT20 mode: 9.68dBm IEEE802.11an HT40 mode:9.92dBm IEEE802.11ac VHT20 mode: 9.87dBm IEEE802.11ac VHT40 mode: 9.95dBm IEEE802.11ac VHT80 mode: 9.47dBm			
Modulation Technique :	IEEE802.11a mode: OFDM (6,9,12,18,24,36,48 and 54 Mbps) IEEE802.11an HT20 mode: OFDM (MCS0~MCS7) IEEE802.11an HT40 mode: OFDM (MCS0~MCS7) IEEE802.11ac VHT20 mode: OFDM (MCS0~MCS7) IEEE802.11ac VHT40 mode: OFDM (MCS0~MCS7) IEEE802.11ac VHT80 mode: OFDM (MCS0~MCS7)			
Antenna Specification:	Dipole Antenna Gain: 5.0 dBi			

Remark:

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for ***FCC ID: 2ABMA-888-700-214*** filing to comply with FCC Part 15, Subpart E Rules.

3 TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10:2013 and FCC CFR 47 15.207, 15.209 and 15.407.

3.1 EUT CONFIGURATION

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

3.2 EUT EXERCISE

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

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

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is positioned at 0.8 m above the ground plane. According to the requirements in Section 13.3 of ANSI C63.10:2013, 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

Under 1GHz

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.10:2013.

Above 1GHz

The EUT is placed on a turn table, which is 1.5 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.10:2013.

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

Description	Modulation Technology	Modulation Type
26dB Bandwidth and 99% bandwidth	OFDM	BPSK
Maximum conducted output power	OFDM	BPSK
Band edges measurement	OFDM	BPSK
Peak Power Spectral Density	OFDM	BPSK
Radiated undesirable emission	OFDM	BPSK
Powerline conducted emission	OFDM	BPSK

IEEE 802.11a mode:

Channel (5180MHz),Channel (5200MHz) and Channel (5240MHz) with 6Mbps data rate were chosen for full testing.

IEEE 802.11an HT20 mode:

Channel (5180MHz),Channel (5200MHz) and Channel (5240MHz) with MCS0 data rate were chosen for full testing.

IEEE 802.11an HT40 mode:

Channel (5190MHz) and Channel (5230MHz) with MCS0 data rate were chosen for full testing.

IEEE 802.11ac VHT20 mode:

Channel (5180MHz),Channel (5200MHz) and Channel (5240MHz) with MCS0 data rate were chosen for full testing.

IEEE 802.11ac VHT40 mode:

Channel (5190MHz) and Channel (5230MHz) with MCS0 data rate were chosen for full testing.

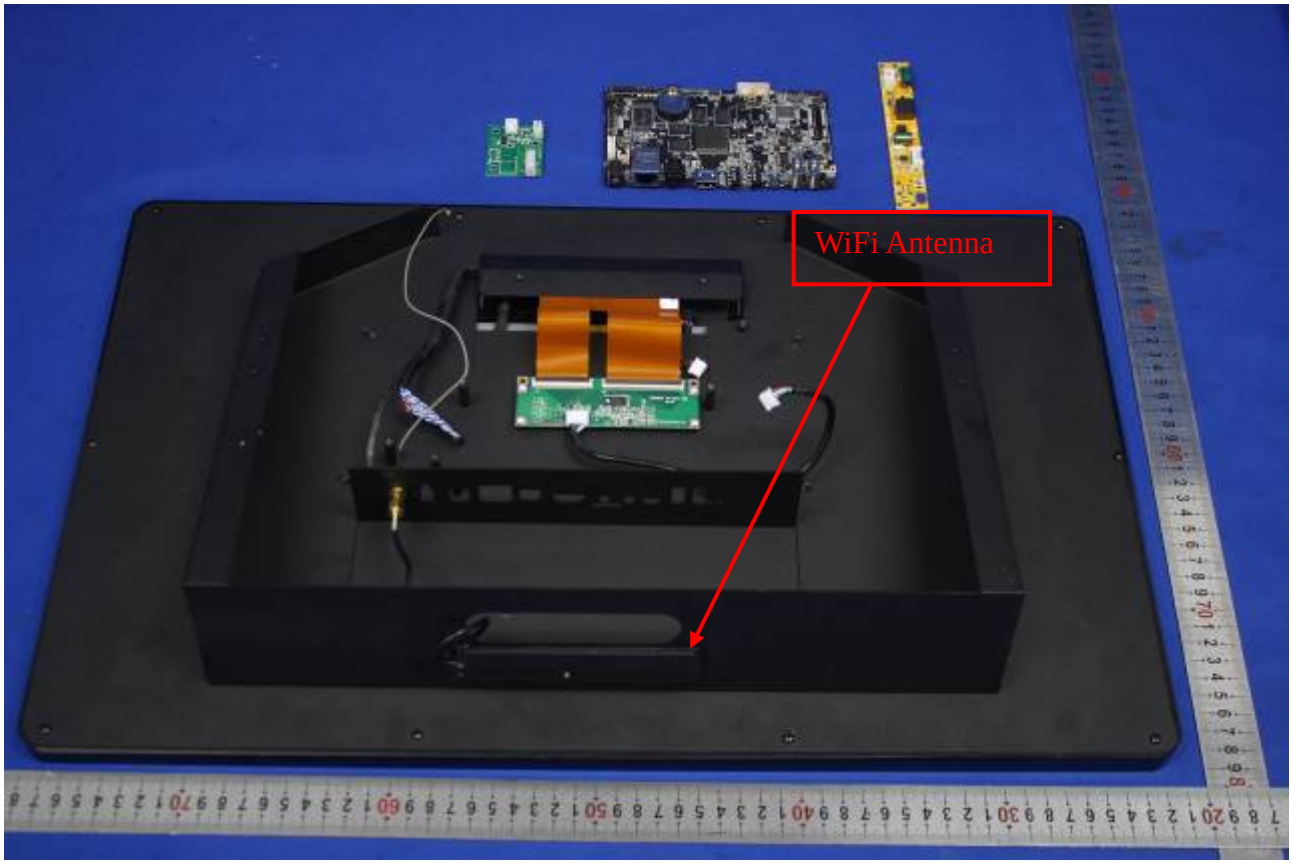
IEEE 802.11ac VHT80 mode:

Channel (5210MHz) with MCS0 data rate were chosen for full testing.

3.6 ANTENNA DESCRIPTION

an intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached or an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section”

* the antenna of this EUT is a unique(Dipole Antenna for WiFi and Bluetooth).
* the EUT complies with the requirement of 15.203.



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 Date**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY44020154	2015-9-11	2016-9-10
Spectrum Analyzer	RS	FSU26	200789	2015-8-10	2016-8-9
OSCILLOSCOPE	Agilent	DSO6104A	MY44002585	2016-3-2	2017-3-1
Power meter	Anritsu	ML2495A	1445010	2016-5-16	2017-5-15
Power sensor	Anritsu	MA2411B	1339220	2016-5-16	2017-5-15
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	N.C.R	N.C.R
DC Power Supply	AGILENT	E3632A	MY50340053	N.C.R	N.C.R
Temp. / Humidity Chamber	TERCHY	MHK-120AK	X30109	2016-5-16	2017-5-15
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	N.C.R	N.C.R
Temp. / Humidity Gauge	Anymetre	TH603	CCS007	2015-11-4	2016-11-3

977 Chamber					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY44020154	2015-9-11	2016-9-10
Spectrum Analyzer	RS	FSU26	200789	2015-8-10	2016-8-9
EMI Test Receiver	R&S	ESCI	101378	2016-1-6	2017-1-5
Pre-Amplfier	MINI	ZFL-1000VH2	070306	2016-1-13	2017-1-12
Pre-Amplfier	Miteq	JS41-00101800-32-10P	1675713	2015-8-10	2016-8-9
Bilog Antenna	Sunol	JB1	A062604	2016-5-29	2017-5-28
Bilog Antenna	Sunol	JB1	A110204-1	2016-5-29	2017-5-28
Loop Antenna	SCHWARZBECK	HXYZ9170	9170-108	2016-4-7	2017-4-6
Horn-antenna	SCHWARZBECK	9120D	D:266	2016-3-6	2017-3-5
Horn-antenna	SCHWARZBECK	9120D	D:267	2015-11-10	2016-11-9
Turn Table	CT	CT123	4165	N.C.R	N.C.R
Antenna Tower	CT	CTERG23	3256	N.C.R	N.C.R
Controller	CT	CT1OO	95637	N.C.R	N.C.R
Test Software			EZ-EMC		

Conducted Emission					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
EMI TEST RECEIVER	R&S	ESCI	100781	2016-3-2	2017-3-1
V (V-LISN)	SCHWARZBECK	NNLK 8129	8129-143	2015-11-2	2016-11-1
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	05012	2015-9-16	2016-9-15
Pulse LIMITER	R&S	ESH3-Z2	100524	2016-1-6	2017-1-5
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 C63.10:2013 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

The test facilities used to perform radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 200581-0 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with Industry Canada, Certification and Engineering Bureau, 2324E-1 for 10m chamber 10m, 2324E-2 for 10m chamber 3m; the test facilities are listed with USA, Certification and Engineering Bureau, 424105 for 10m chamber 10m, 238958 for 10m chamber 3m.

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	A2LA	47 CFR FCC Part 15/18 (using ANSI C63.10 :2013)；VCCI V3; CNS 13438; CNS 13439; CNS 13803; CISPR 11; EN 55011; CISPR 13; EN 55013; CISPR 22:2005; CISPR 22:1997 +A1 :2000+A2 :2002；EN 55022:2006; EN55022 :1998 +A1 :2001+A2 :2003；EN 61000-6-3 (excluding discontinuous interference); EN 61000-6-4; AS/NZS CISPR 22； CAN/CSA-CEI/IEC CISPR 22；EN 61000-3-2；EN 61000-3-3；EN550024； EN 61000-4-2； EN 61000-4-3；EN61000-4-4；EN 61000-4-5； EN 61000-4-6；IEC 61000-4-8；EN 61000-4-11； IEC61000-3-2；IEC61000-3-3；IEC 61000-4-2； IEC 61000-4-3；IEC 61000-4-4； IEC 61000-4-5；IEC 61000-4-6；IEC 61000-4-8；IEC 61000-4-11； EN 300 220-3; EN 300 328; EN 300 330-2; EN 300 440-1; EN 300-440-2; EN 300 893; EN 301 489-01; EN 301 489-3; EN 301 489-07; EN 301 489-17；47 CFR FCC Part 15, 22, 24	ACCREDITED TESTING CERT #2541.01
USA	FCC	3/10 meter Sites to perform FCC Part 15/18 measurements	93105, 90471
Japan	VCCI	3/10 meter Sites and conducted test sites to perform radiated/conducted measurements	VCCI R-1600 C-1707 G-216

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

6 SETUP OF EQUIPMENT UNDER TEST

6.1 SETUP CONFIGURATION OF EUT

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

6.2 SUPPORT EQUIPMENT

No.	Equipment	Model No.	Serial No.
1	N/A		

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2.Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

7 FCC PART 15 REQUIREMENTS

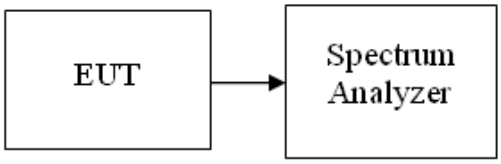
7.1 26 DB EMISSION BANDWIDTH

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 = approximately 1% of the emission bandwidth, VBW > RBW, Detector = Peak ,Span >26dB bandwidth, and Sweep = auto ,Trace mode = max hold.
4. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%..
5. Repeat until all the rest channels were investigated.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5180	21.641
Mid	5200	22.312
High	5240	23.107

Test mode: IEEE 802.11n HT20MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5180	22.066
Mid	5200	21.804
High	5240	22.342

Test mode: IEEE 802.11n HT40MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5190	43.830
High	5230	47.540

Test mode: IEEE 802.11ac VHT20MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5180	21.690
Mid	5200	24.288
High	5240	26.634

Test mode: IEEE 802.11ac VHT40MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5190	47.624
High	5230	45.458

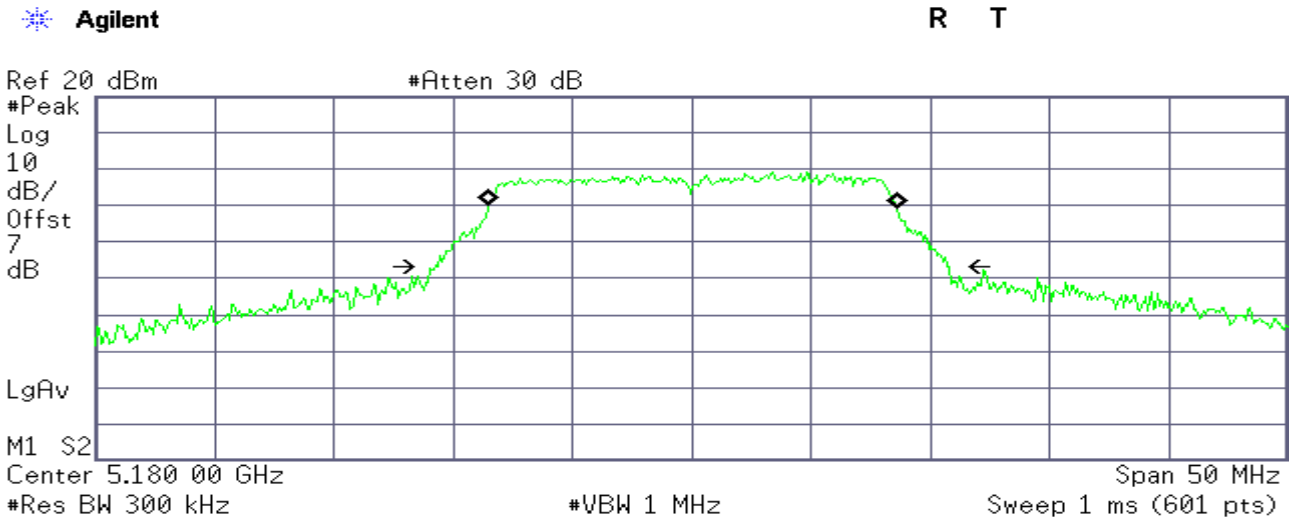
Test mode: IEEE 802.11ac VHT80MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Mid	5210	90.538

Test Plot

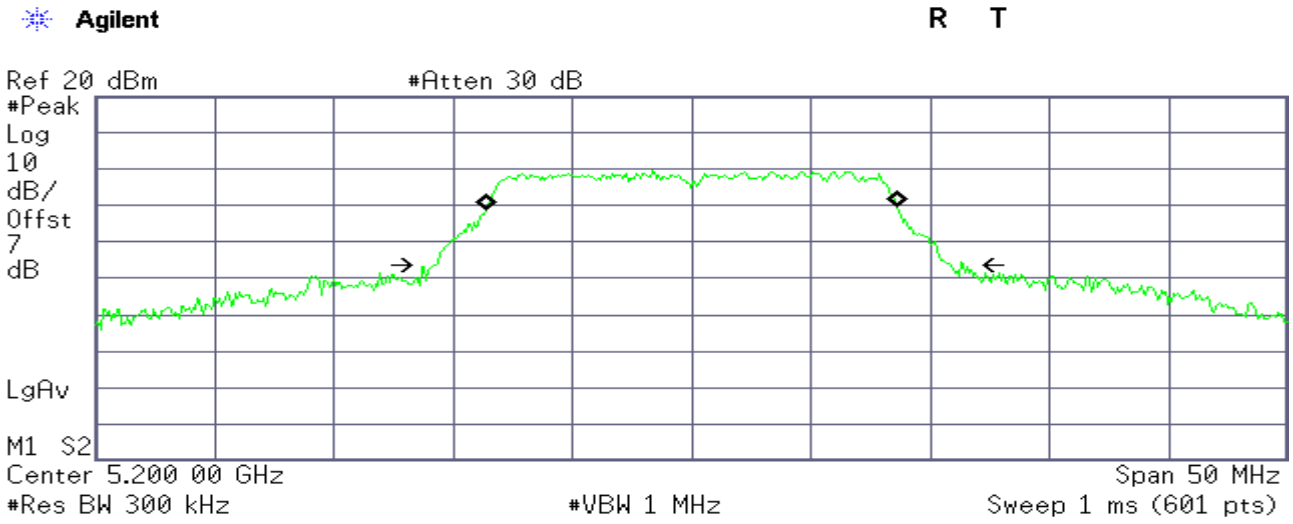
IEEE 802.11a mode:

CH Low



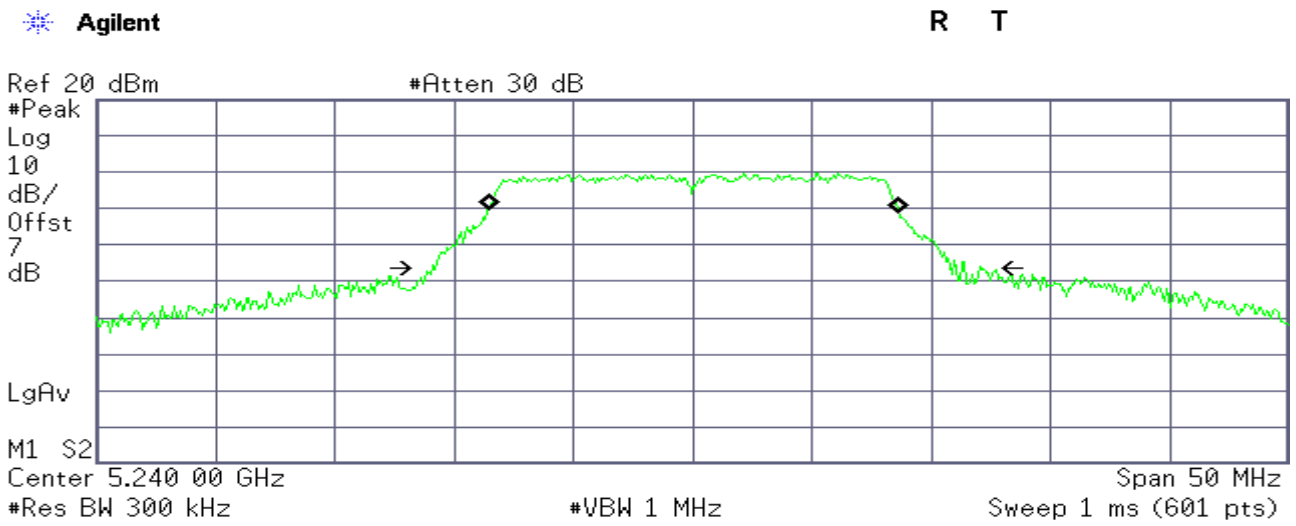
Transmit Freq Error	46.345 kHz
x dB Bandwidth	21.641 MHz

CH Mid



Transmit Freq Error	-13.079 kHz
x dB Bandwidth	22.312 MHz

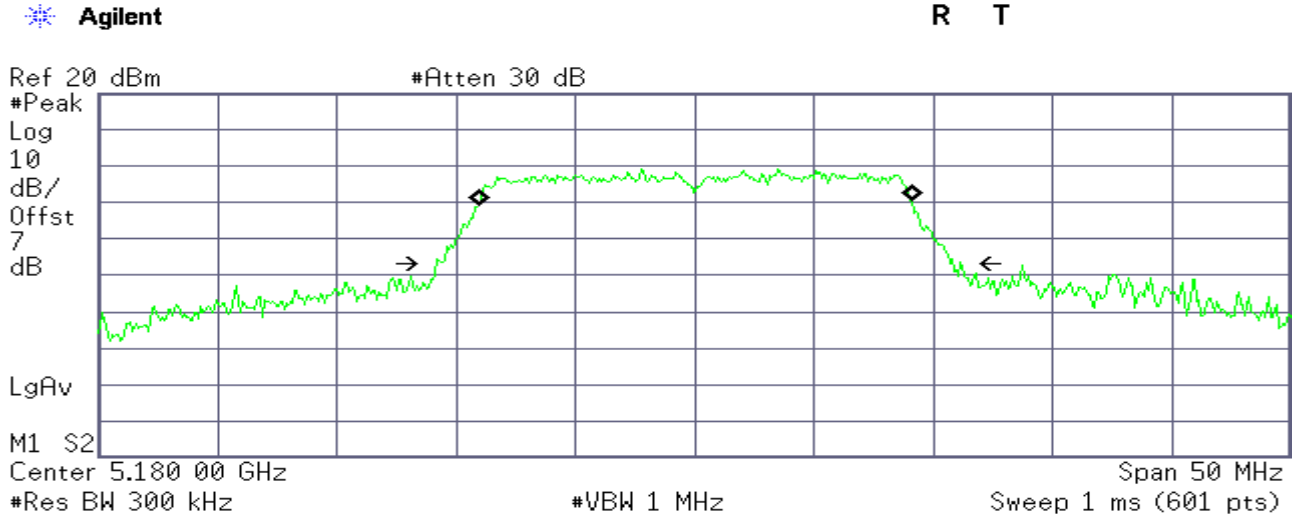
CH High



Transmit Freq Error 39.544 kHz
x dB Bandwidth 23.107 MHz

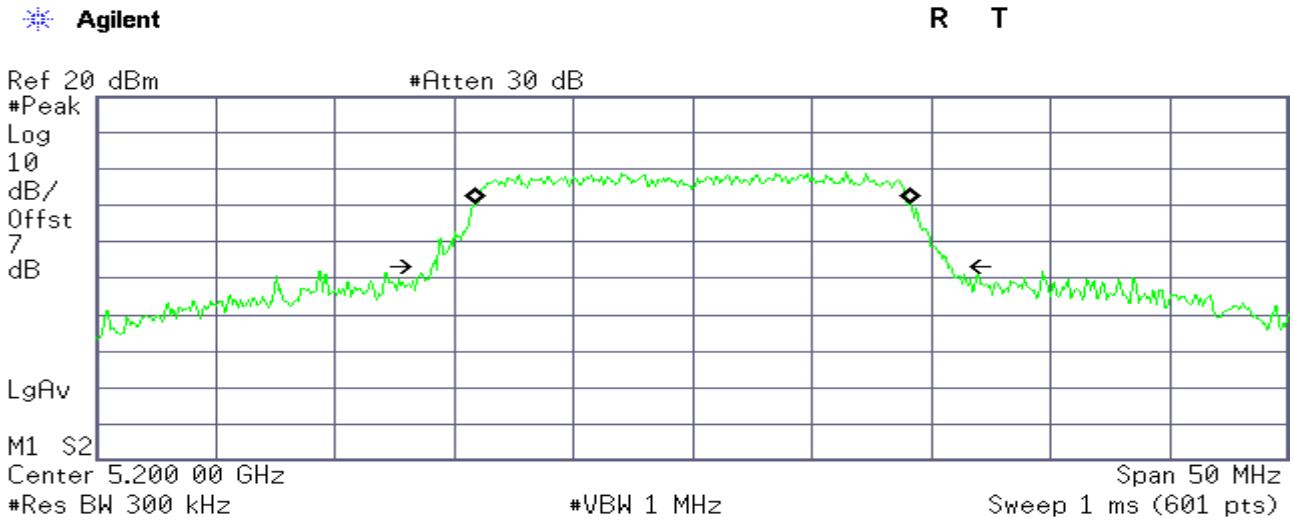
IEEE 802.11n HT20 mode

CH Low



Transmit Freq Error 32.556 kHz
x dB Bandwidth 22.066 MHz

CH Mid

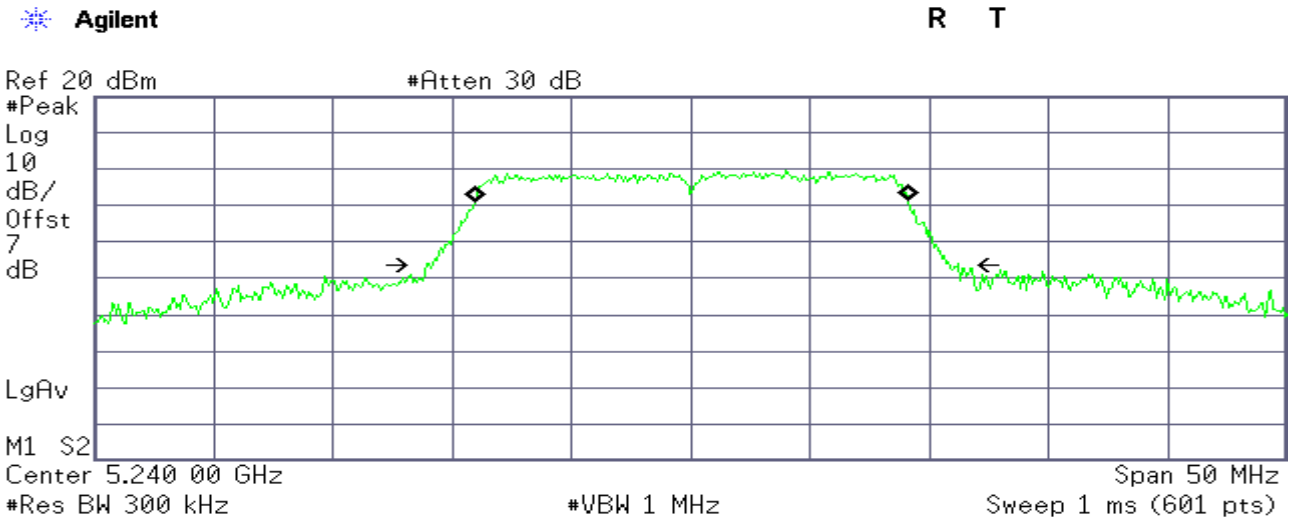


Occupied Bandwidth
18.1633 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 15.148 kHz
x dB Bandwidth 21.804 MHz

CH High



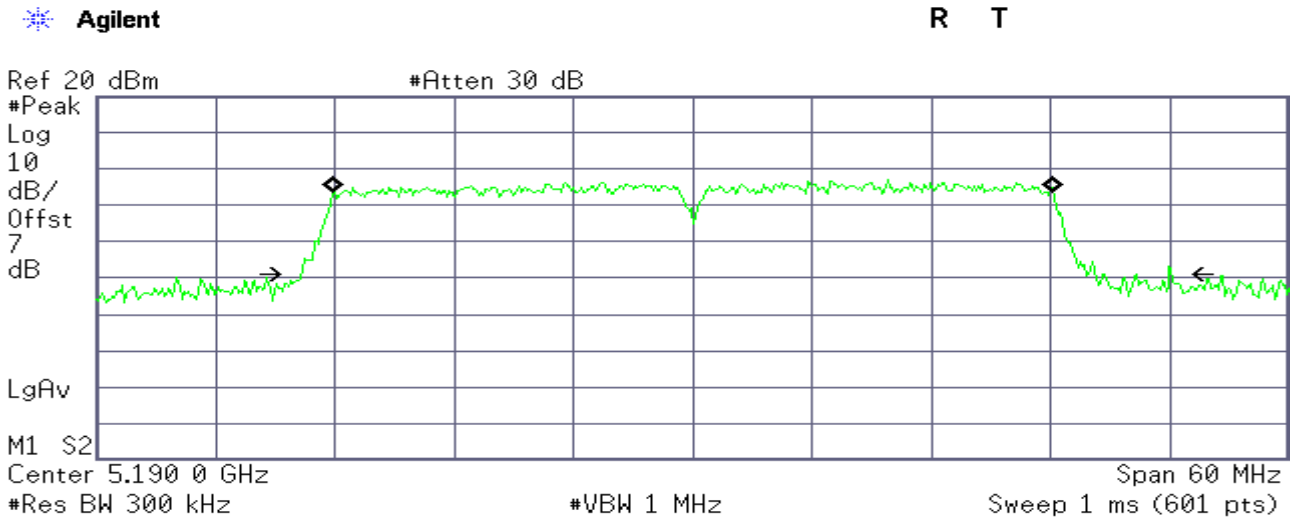
Occupied Bandwidth
18.1262 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 38.916 kHz
x dB Bandwidth 22.342 MHz

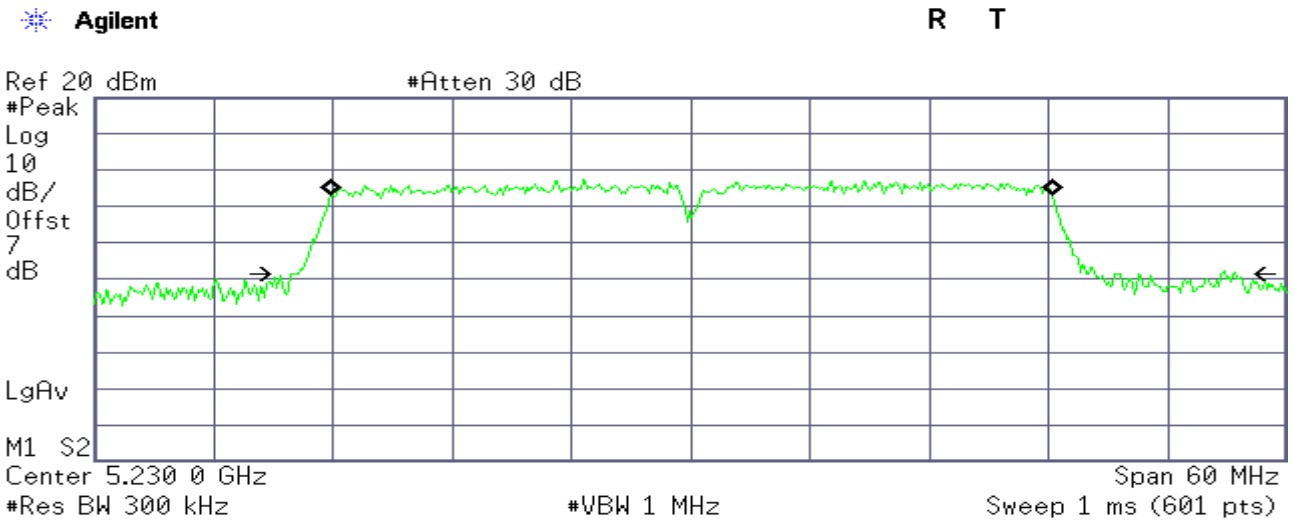
IEEE 802.11n HT40 mode

CH Low



Transmit Freq Error 29.596 kHz
x dB Bandwidth 43.830 MHz

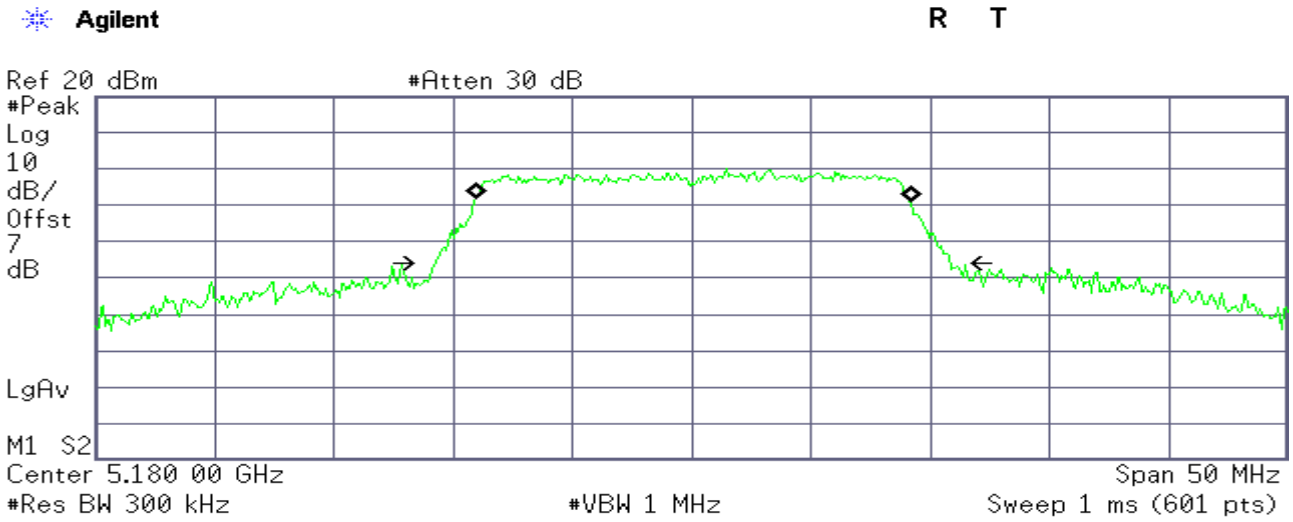
CH High



Transmit Freq Error 40.388 kHz
x dB Bandwidth 47.540 MHz

IEEE 802.11ac VHT20 mode

CH Low

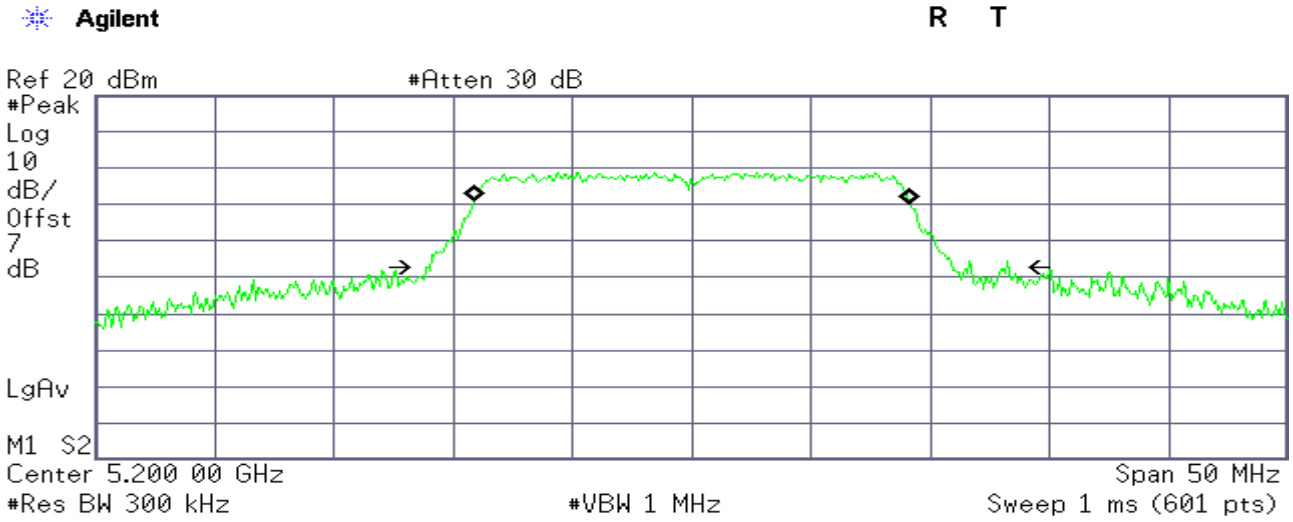


Occupied Bandwidth
18.1991 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 62.994 kHz
x dB Bandwidth 21.690 MHz

CH Mid

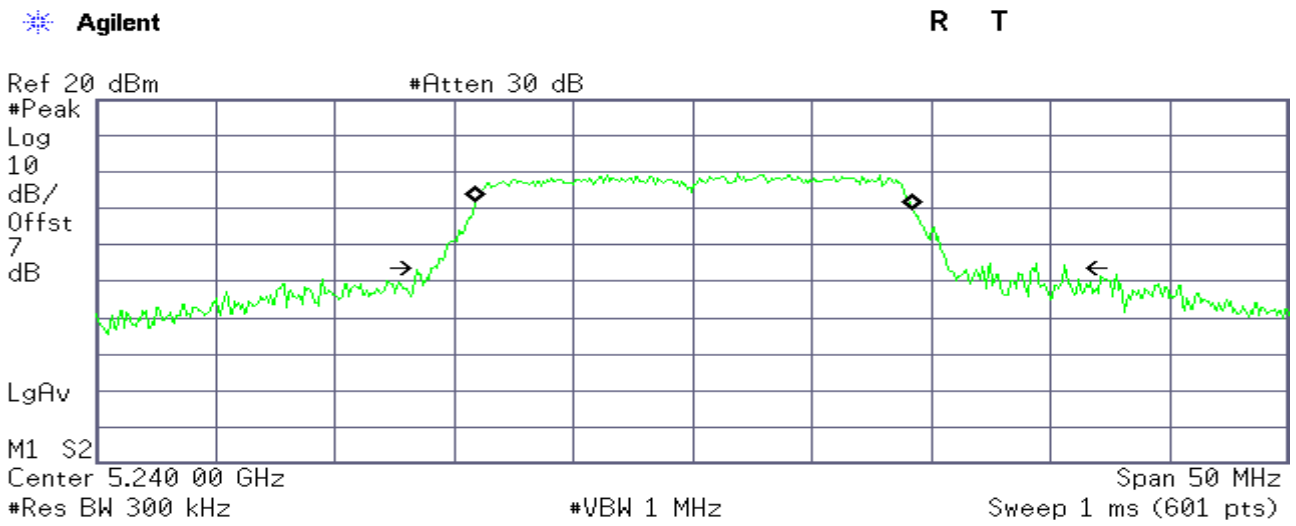


Occupied Bandwidth
18.1603 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 15.088 kHz
x dB Bandwidth 24.288 MHz

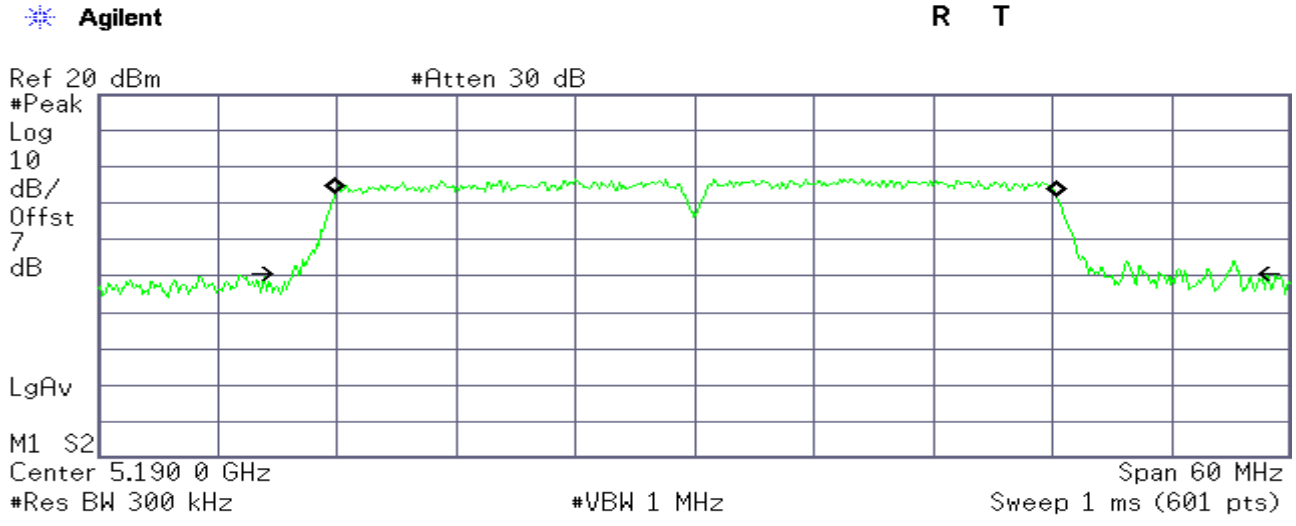
CH High



Transmit Freq Error	65.286 kHz
x dB Bandwidth	26.634 MHz

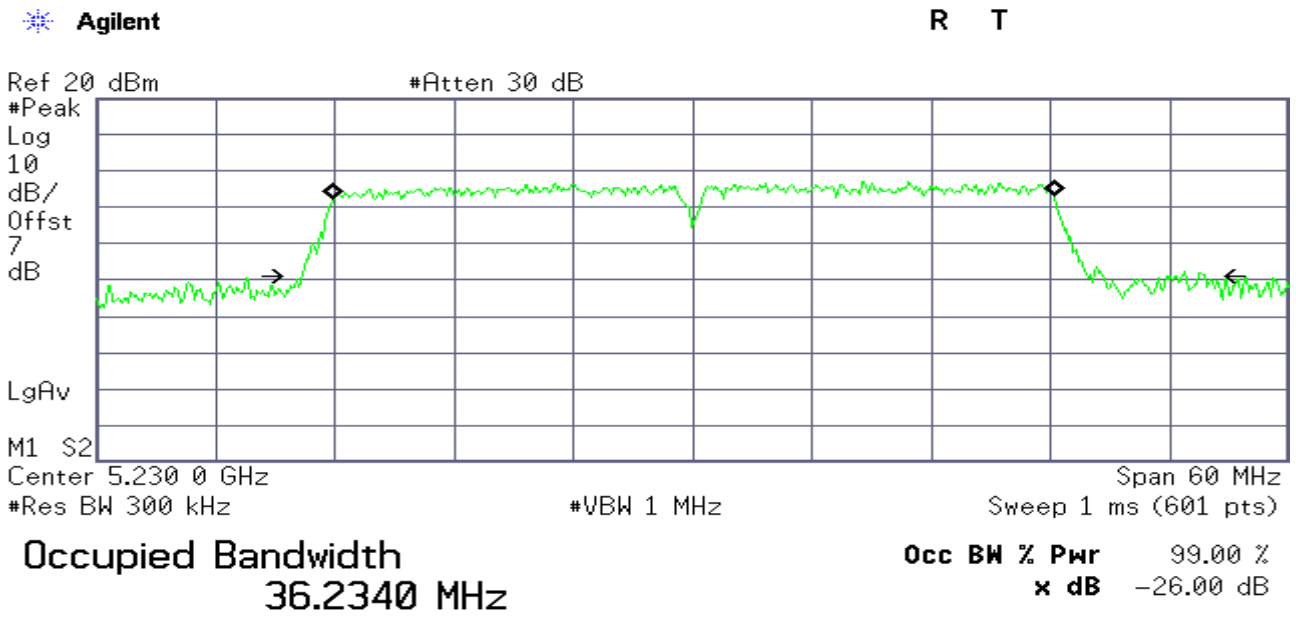
IEEE 802.11ac VHT40 mode

CH Low



Transmit Freq Error	69.872 kHz
x dB Bandwidth	47.624 MHz

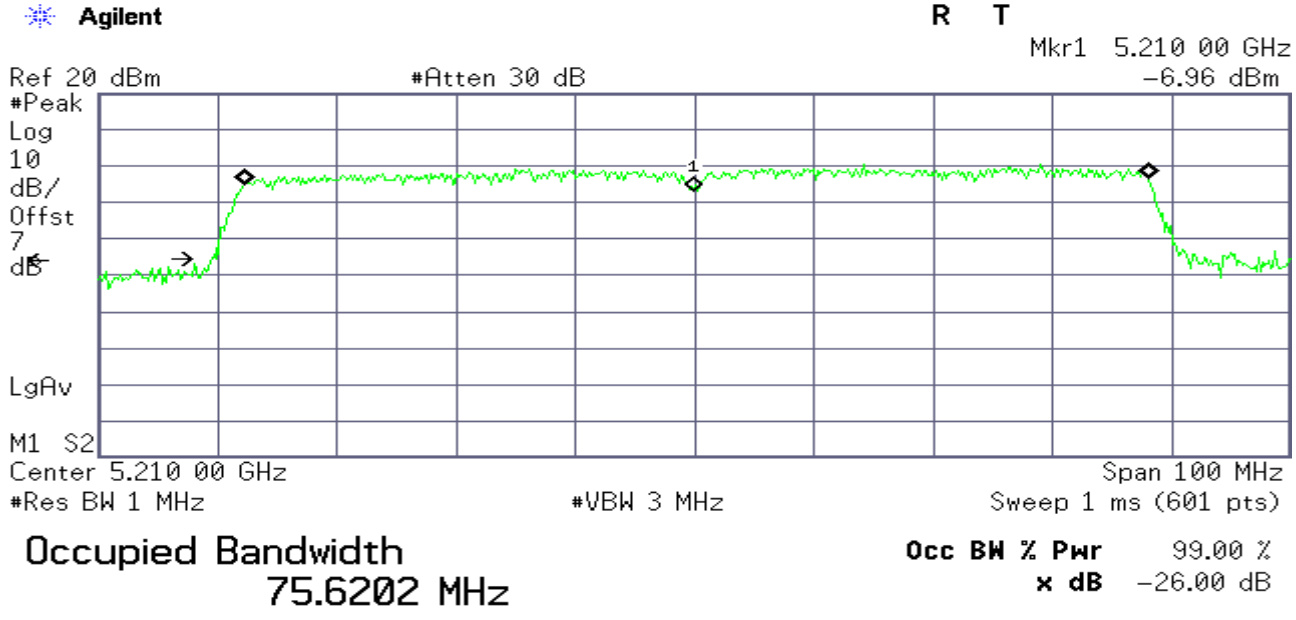
CH High



Transmit Freq Error 57.122 kHz
x dB Bandwidth 45.458 MHz

IEEE 802.11ac VHT80 mode

CH Mid



Transmit Freq Error 149.168 kHz
x dB Bandwidth 90.538 MHz

7.2 MAXIMUM CONDUCTED OUTPUT POWER

LIMIT

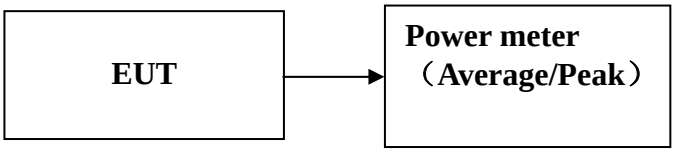
According to §15.407(a),

(iv) For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.

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

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, 10 log(1/x), where x is the duty cycle.

TEST RESULTS

No non-compliance noted

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5180	9.73	24.00
Mid	5200	9.65	24.00
High	5240	9.43	24.00

Test mode: IEEE 802.11n HT20MHz mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5180	9.68	24.00
Mid	5200	9.54	24.00
High	5240	9.45	24.00

Test mode: IEEE 802.11n HT40MHz mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5190	9.92	24.00
High	5230	9.89	24.00

Test mode: IEEE 802.11ac VHT20MHz mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5180	9.87	24.00
Mid	5200	9.72	24.00
High	5240	9.49	24.00

Test mode: IEEE 802.11ac VHT40MHz mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5190	9.95	24.00
High	5230	9.90	24.00

Test mode: IEEE 802.11ac VHT80MHz mode
5150~5250MHz

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Mid	5210	9.47	24.00

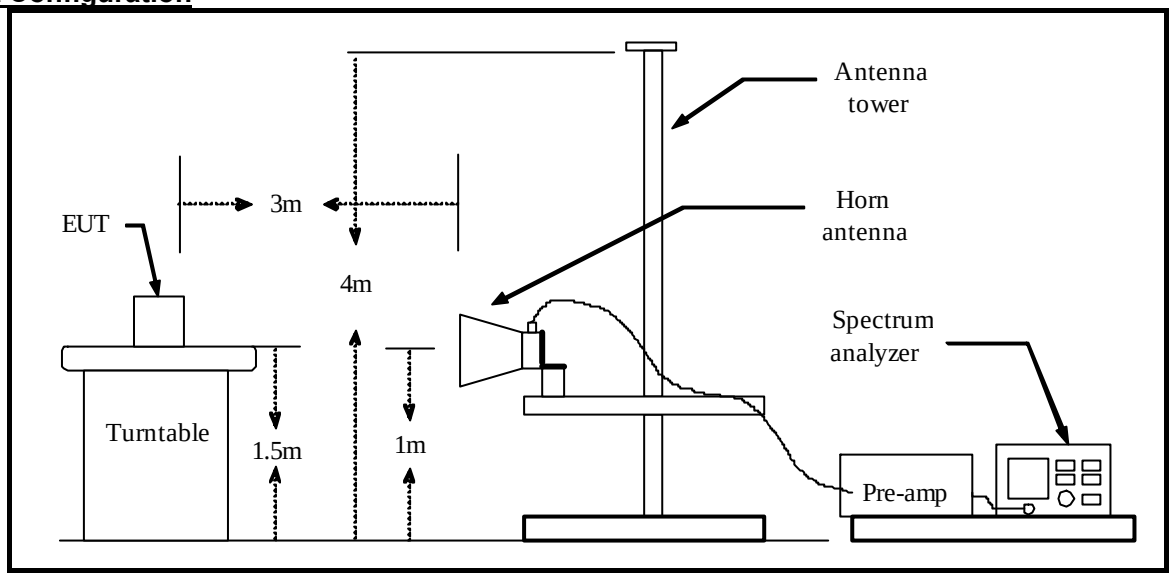
Note:Duty factor has been offseted with cableloss

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

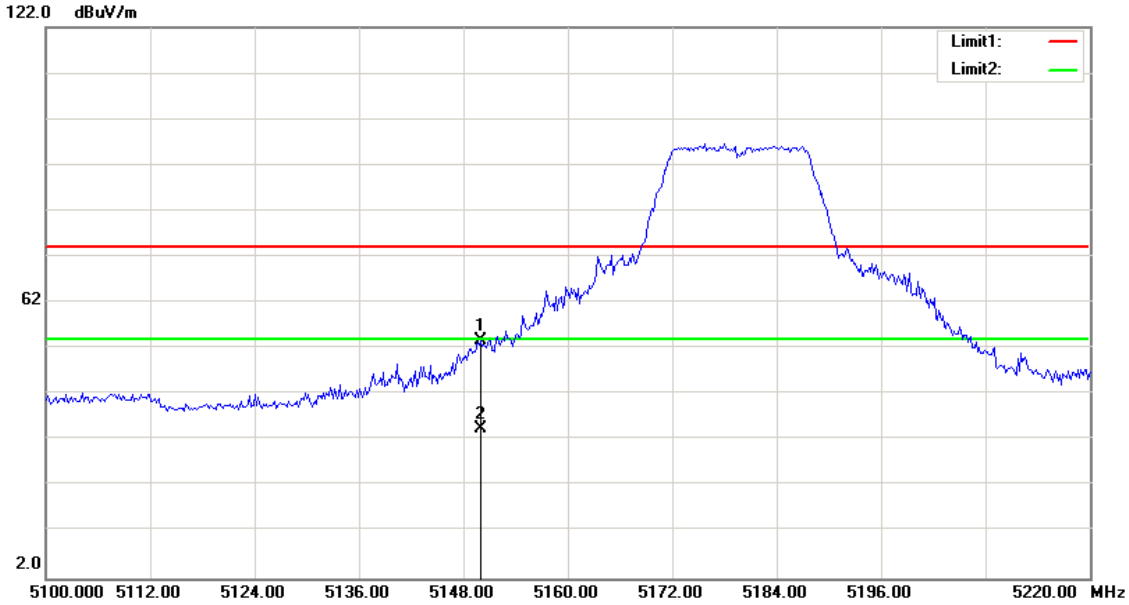
1. The EUT is placed on a turntable, which is 1.5m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the 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

TEST RESULTS

Refer to attach spectrum analyzer data chart.

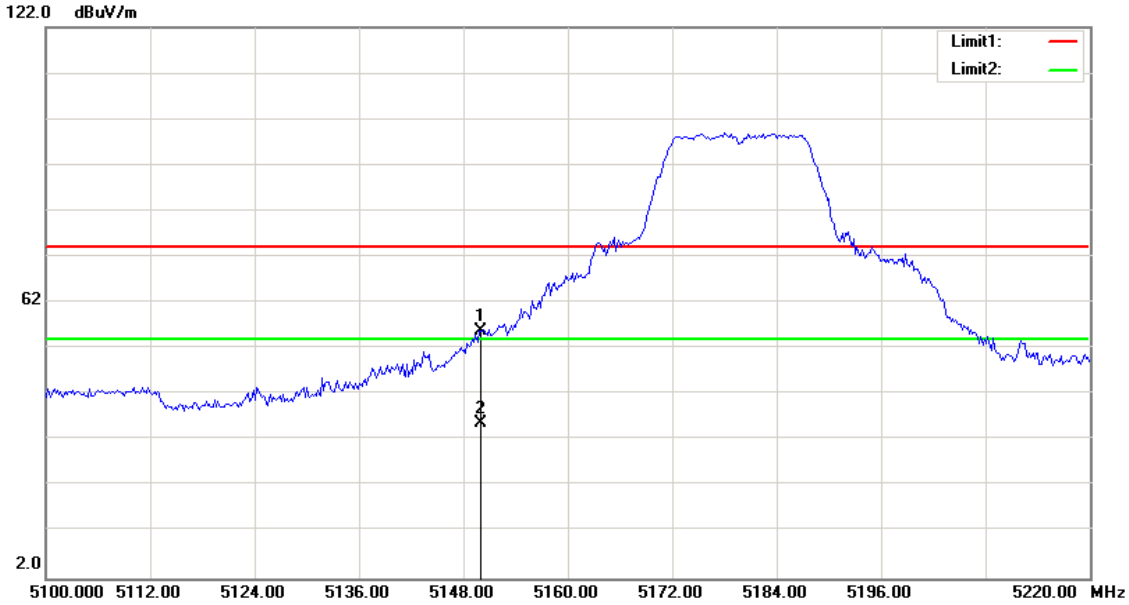
Band Edges (IEEE 802.11a mode)

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	5150.000	56.59	-2.76	53.83	74.00	-20.17	100	140	peak
2	5150.000	37.25	-2.76	34.49	54.00	-19.51	100	140	AVG

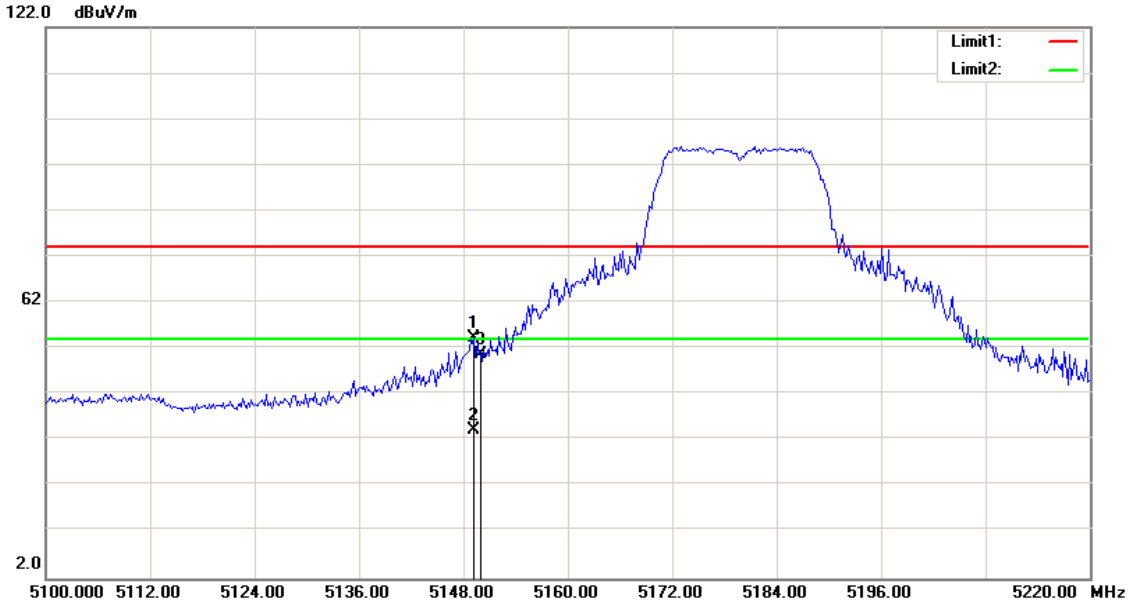
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5150.000	58.66	-2.76	55.90	74.00	-18.10	100	132	peak
2	5150.000	38.51	-2.76	35.75	54.00	-18.25	100	132	AVG

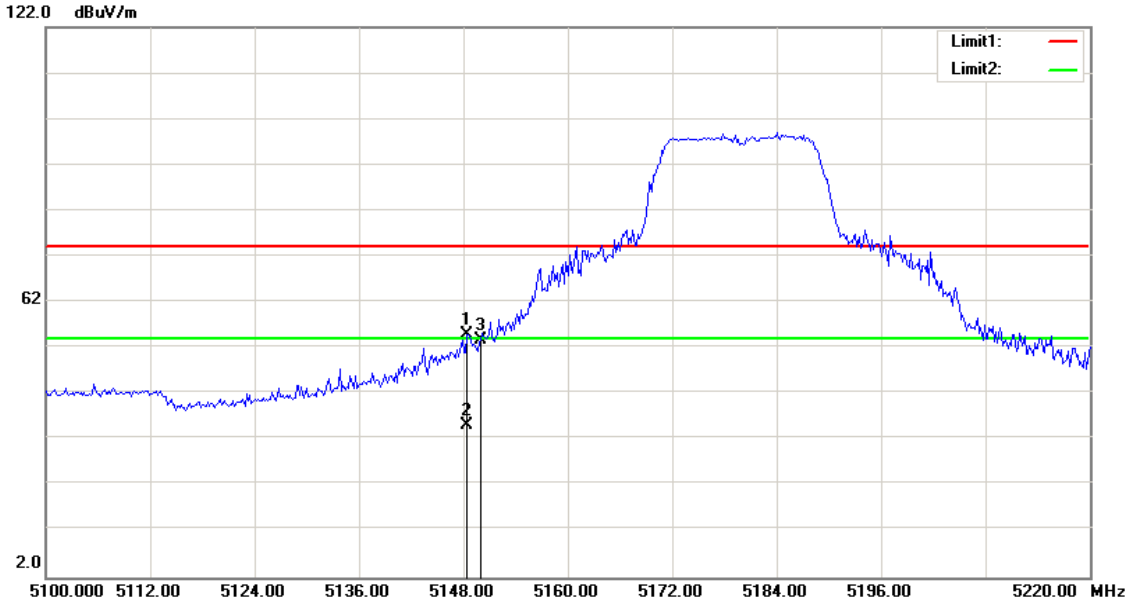
Band Edges (IEEE 802.11n HT20 mode)

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	5149.231	56.99	-2.76	54.23	74.00	-19.77	100	138	peak
2	5149.231	36.99	-2.76	34.23	54.00	-19.77	100	138	AVG
3	5150.000	53.51	-2.76	50.75	74.00	-23.25	100	134	peak

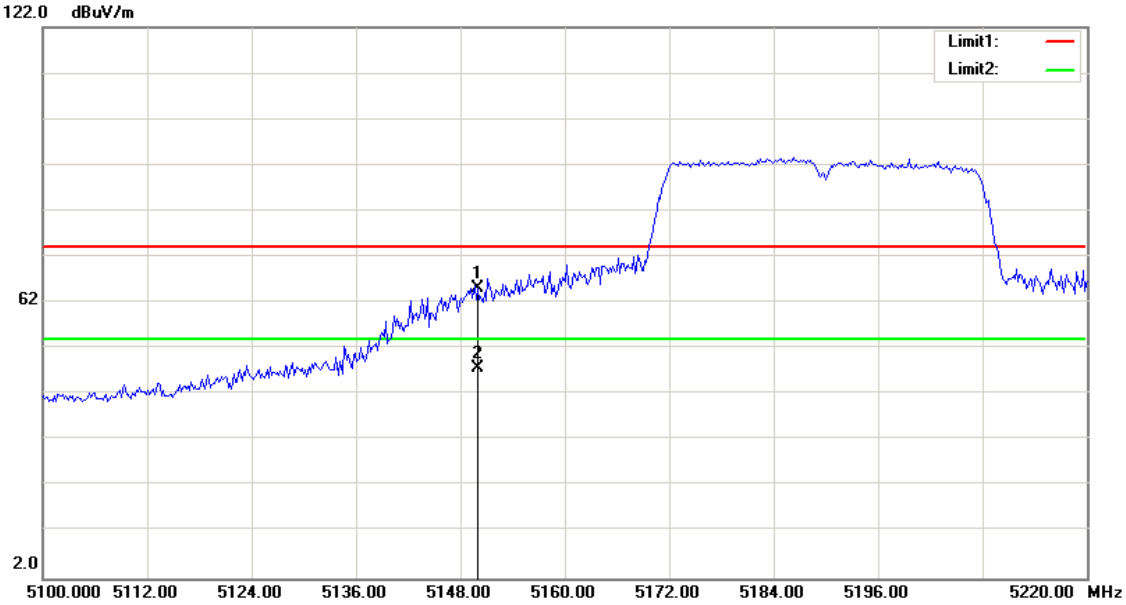
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5148.462	57.59	-2.76	54.83	74.00	-19.17	100	233	peak
2	5148.462	38.02	-2.76	35.26	54.00	-18.74	100	232	AVG
3	5150.000	56.52	-2.76	53.76	74.00	-20.24	100	125	peak

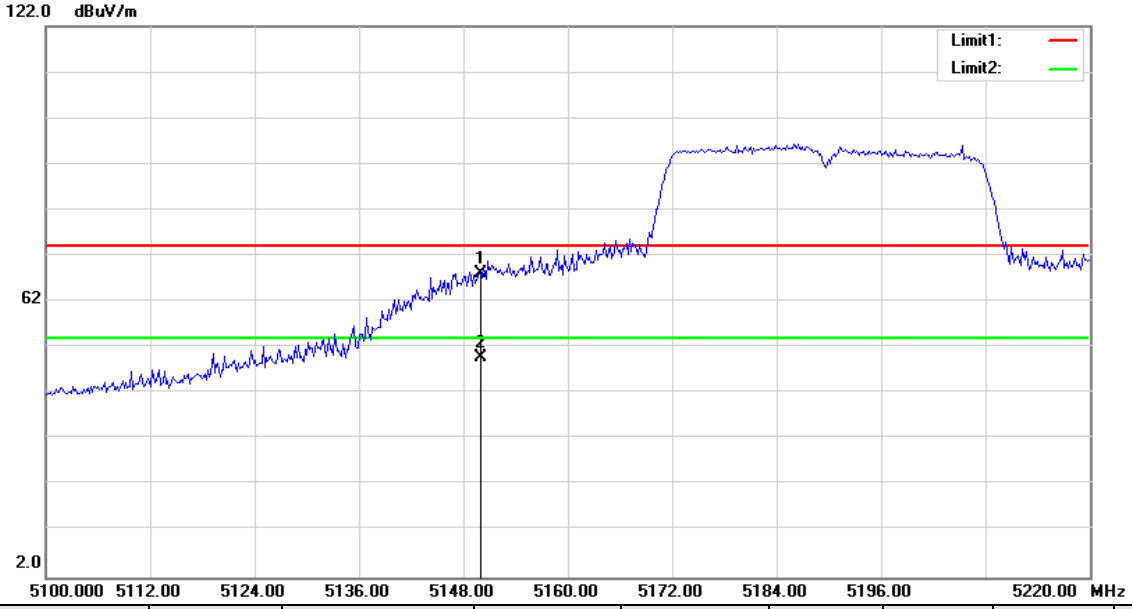
Band Edges (IEEE 802.11n HT40 mode)

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	5150.000	67.94	-2.76	65.18	74.00	-8.82	100	134	peak
2	5150.000	50.42	-2.76	47.66	54.00	-6.34	100	134	AVG

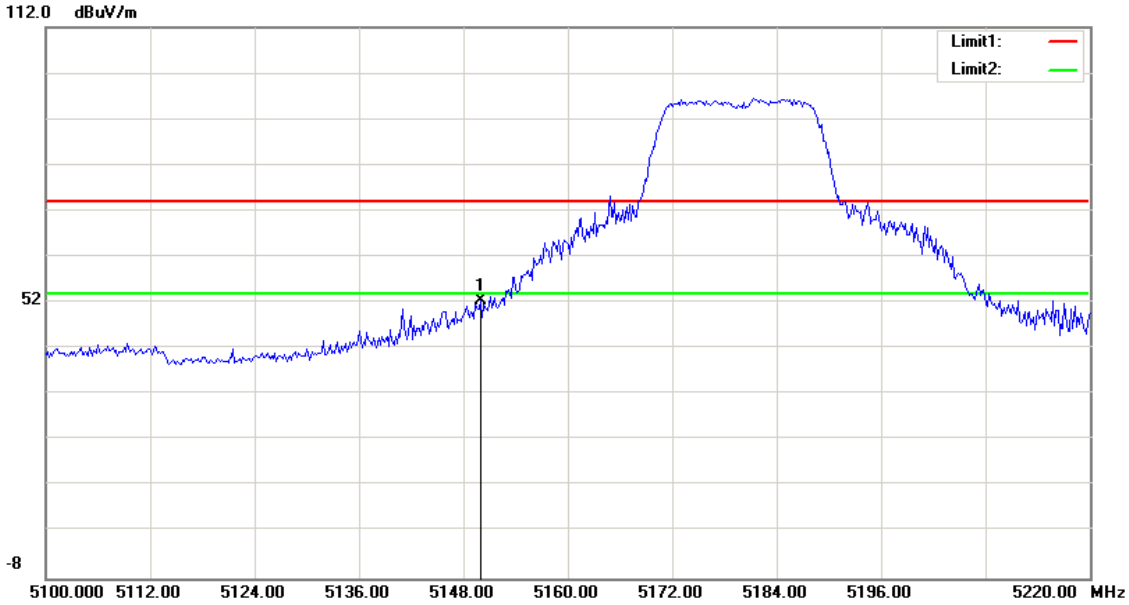
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5150.000	70.78	-2.76	68.02	74.00	-5.98	100	241	peak
2	5150.000	52.72	-2.76	49.96	54.00	-4.04	100	241	AVG

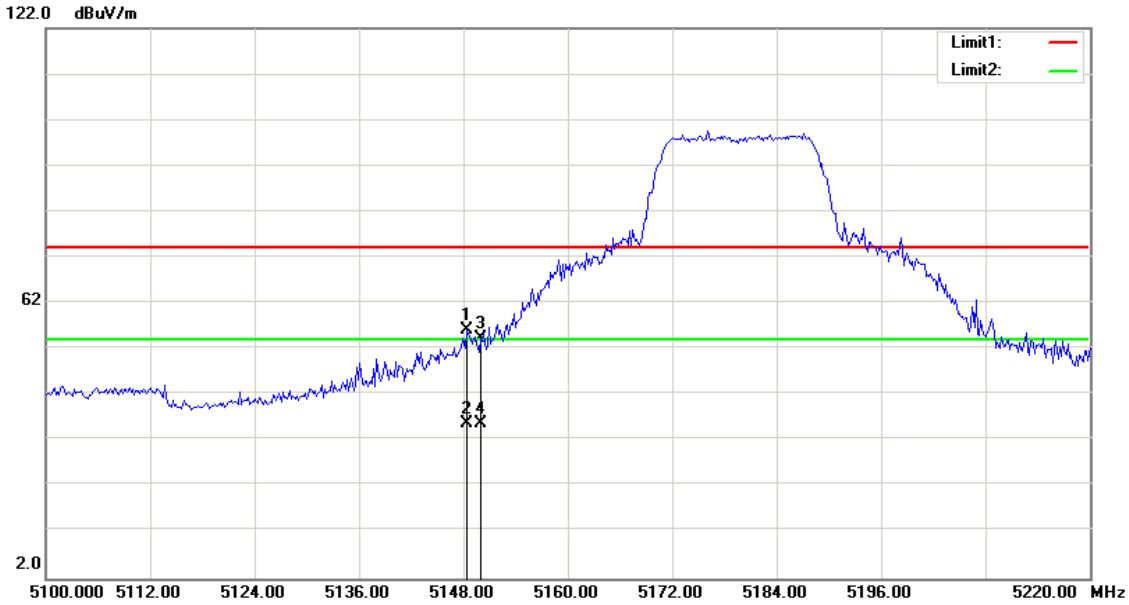
Band Edges (IEEE 802.11ac VHT20 mode)

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	5150.000	55.14	-2.76	52.38	74.00	-21.62	100	139	peak

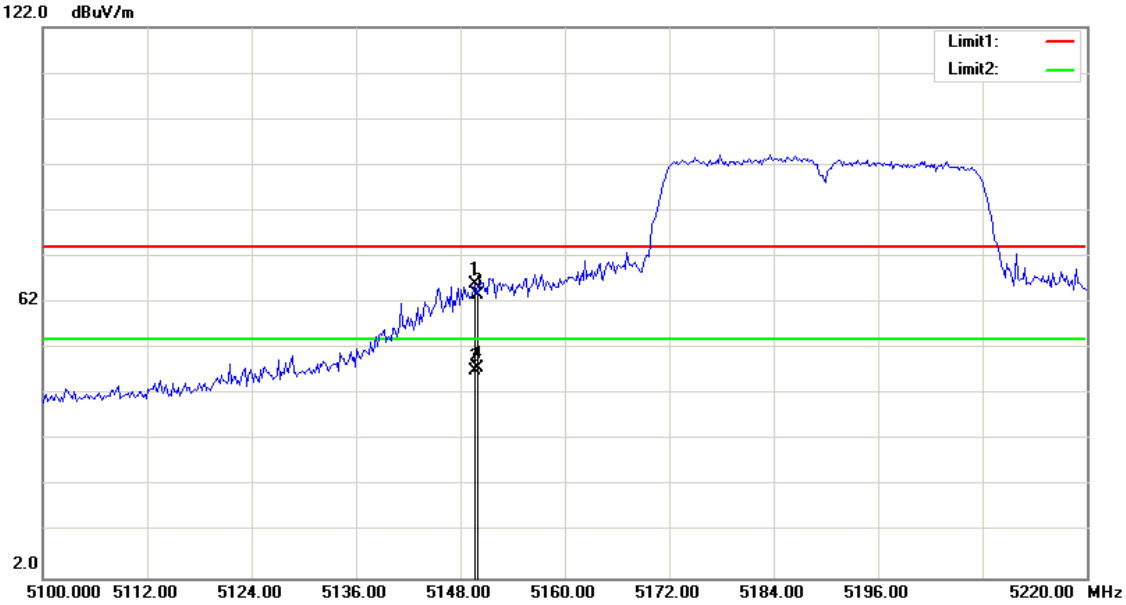
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5148.462	58.99	-2.76	56.23	74.00	-17.77	100	235	peak
2	5148.462	38.37	-2.76	35.61	54.00	-18.39	100	235	AVG
3	5150.000	57.25	-2.76	54.49	74.00	-19.51	100	132	peak
4	5150.000	38.57	-2.76	35.81	54.00	-18.19	100	134	AVG

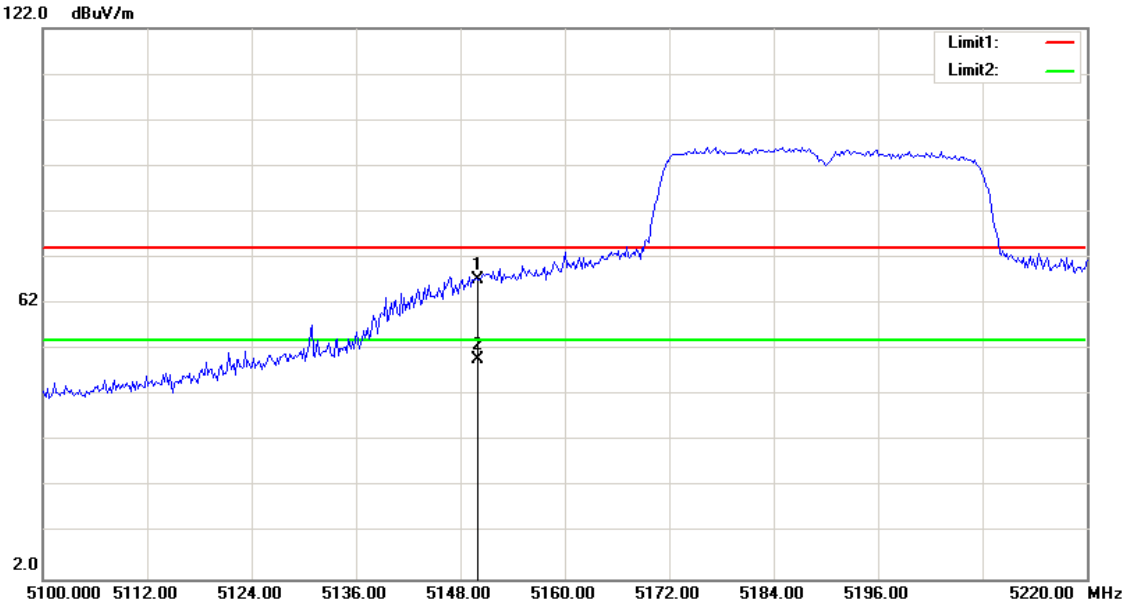
Band Edges (IEEE 802.11ac VHT40 mode)

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	5149.615	68.87	-2.76	66.11	74.00	-7.89	100	143	peak
2	5149.615	49.86	-2.76	47.10	54.00	-6.90	100	143	AVG
3	5150.000	66.42	-2.76	63.66	74.00	-10.34	100	140	peak
4	5150.000	50.55	-2.76	47.79	54.00	-6.21	100	140	AVG

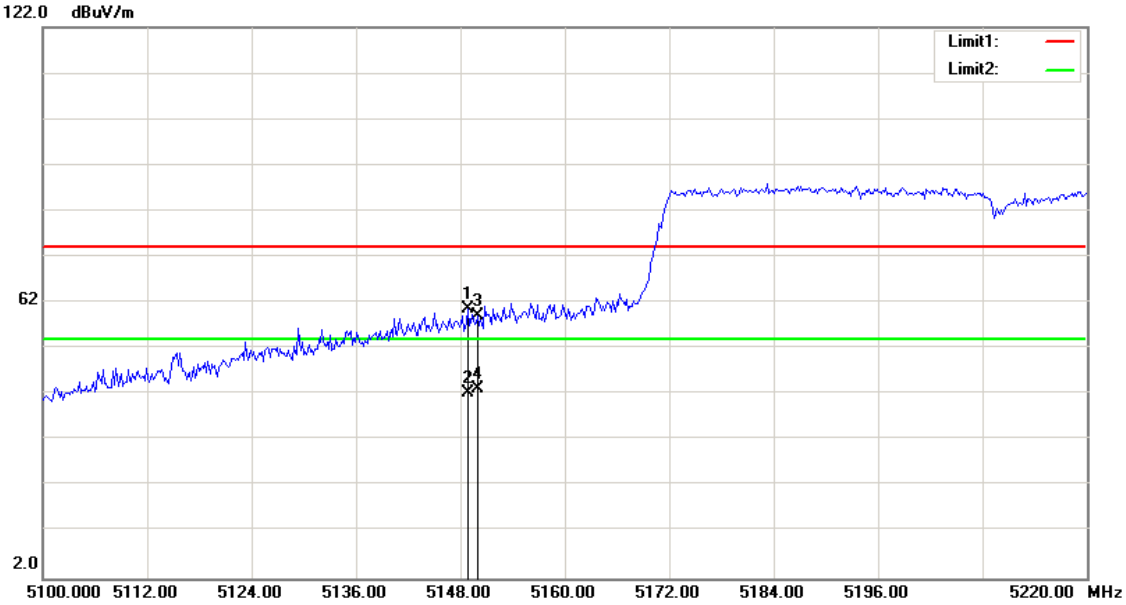
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5150.000	69.89	-2.76	67.13	74.00	-6.87	100	133	peak
2	5150.000	52.57	-2.76	49.81	54.00	-4.19	100	133	AVG

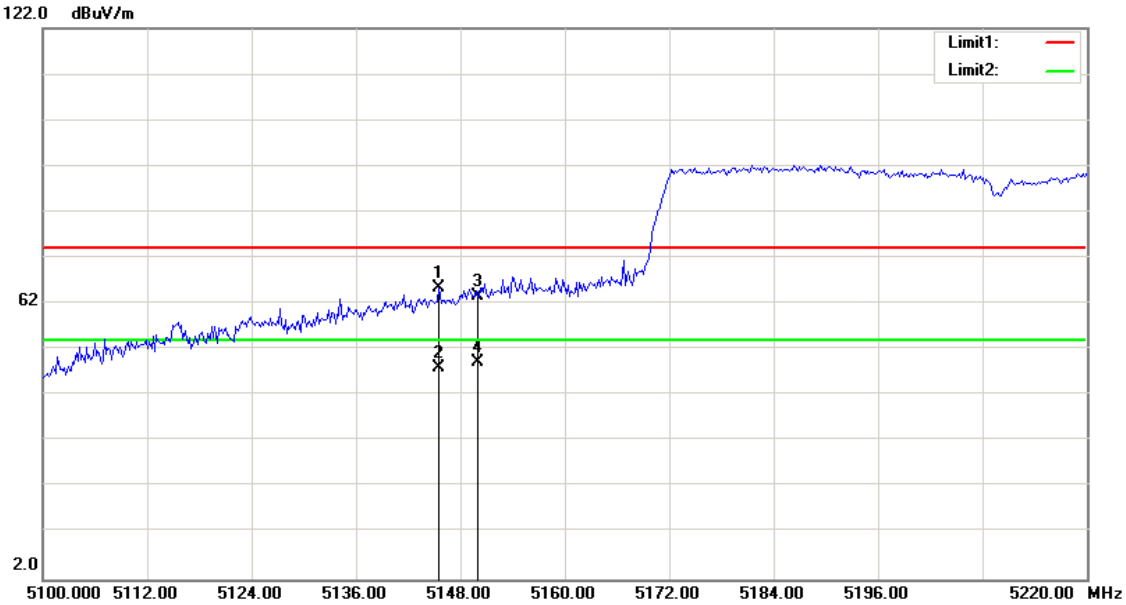
Band Edges (IEEE 802.11ac VHT80 mode)

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	5148.846	63.34	-2.76	60.58	74.00	-13.42	100	162	peak
2	5148.846	45.17	-2.76	42.41	54.00	-11.59	100	162	AVG
3	5150.000	61.80	-2.76	59.04	74.00	-14.96	100	166	peak
4	5150.000	45.95	-2.76	43.19	54.00	-10.81	100	166	AVG

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	5145.577	68.32	-2.76	65.56	74.00	-8.44	100	129	peak
2	5145.577	50.70	-2.76	47.94	54.00	-6.06	100	130	AVG
3	5150.000	66.36	-2.76	63.60	74.00	-10.40	100	123	peak
4	5150.000	51.94	-2.76	49.18	54.00	-4.82	100	125	AVG

7.4 MAXIMUM POWER SPECTRAL DENSITY

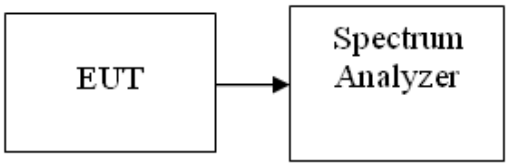
LIMIT

According to §15.407(a),

For mobile and portable client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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 must be greater than 26dB bandwidth, adjust as necessary, Sweep= auto, Detector RMS
3. Record the max. reading.

TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11a mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	1.74	11.00	PASS
Mid	5200	1.63	11.00	PASS
High	5240	1.70	11.00	PASS

Test mode: IEEE 802.11n HT20MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	1.90	11.00	PASS
Mid	5200	1.58	11.00	PASS
High	5240	2.32	11.00	PASS

Test mode: IEEE 802.11n HT40MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5190	-0.87	11.00	PASS
High	5230	-0.05	11.00	PASS

Test mode: IEEE 802.11ac VHT20MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	1.70	11.00	PASS
Mid	5200	2.01	11.00	PASS
High	5240	1.83	11.00	PASS

Test mode: IEEE 802.11ac VHT40MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5190	-0.25	11.00	PASS
High	5230	0.03	11.00	PASS

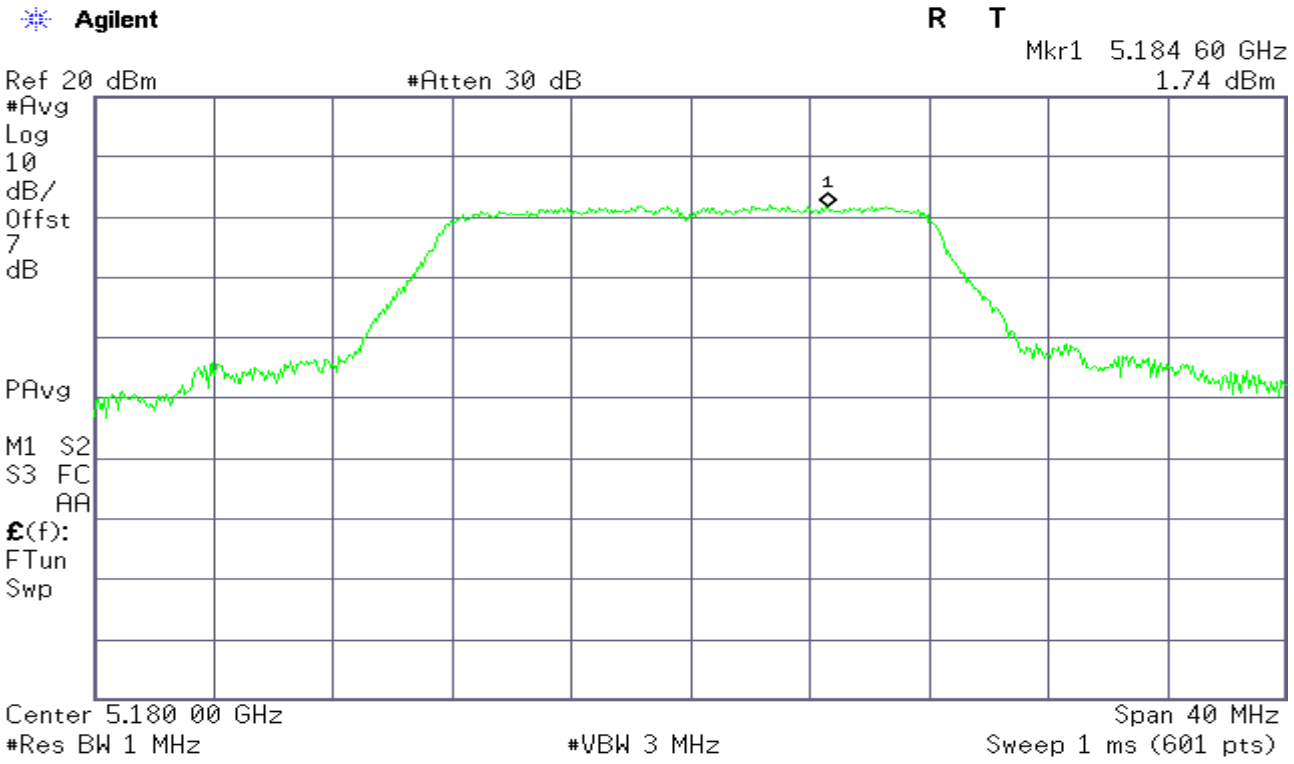
Test mode: IEEE 802.11ac VHT80MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Mid	5210	-3.64	11.00	PASS

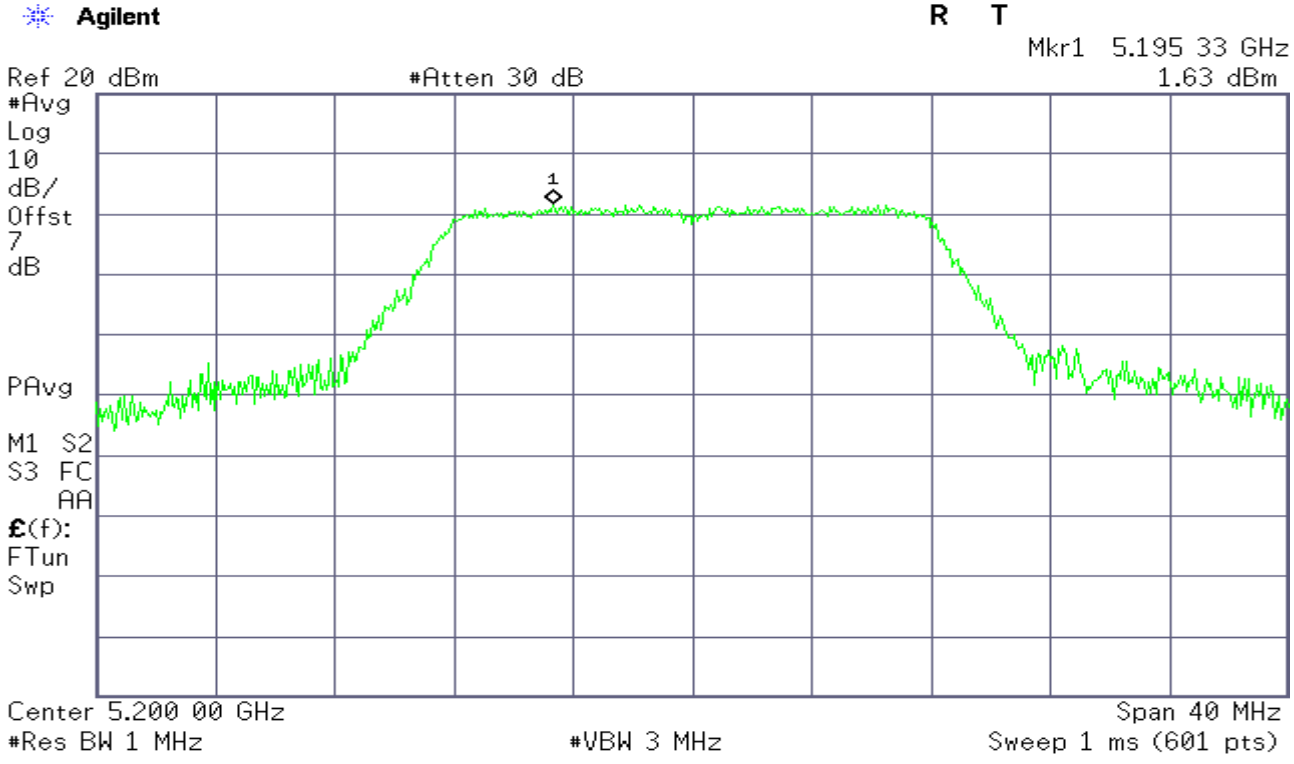
Note:Duty factor has been offseted with cableloss

Test Plot
IEEE 802.11a mode:

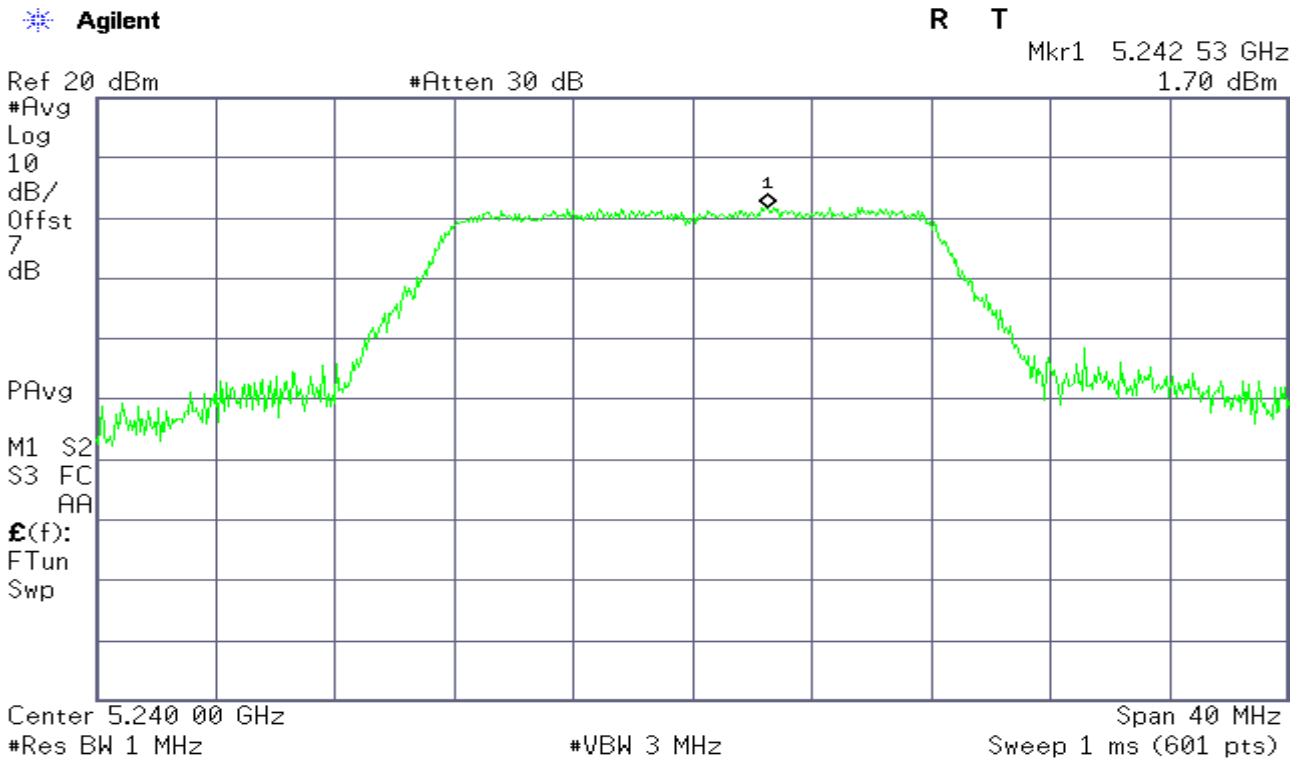
CH Low



CH Mid

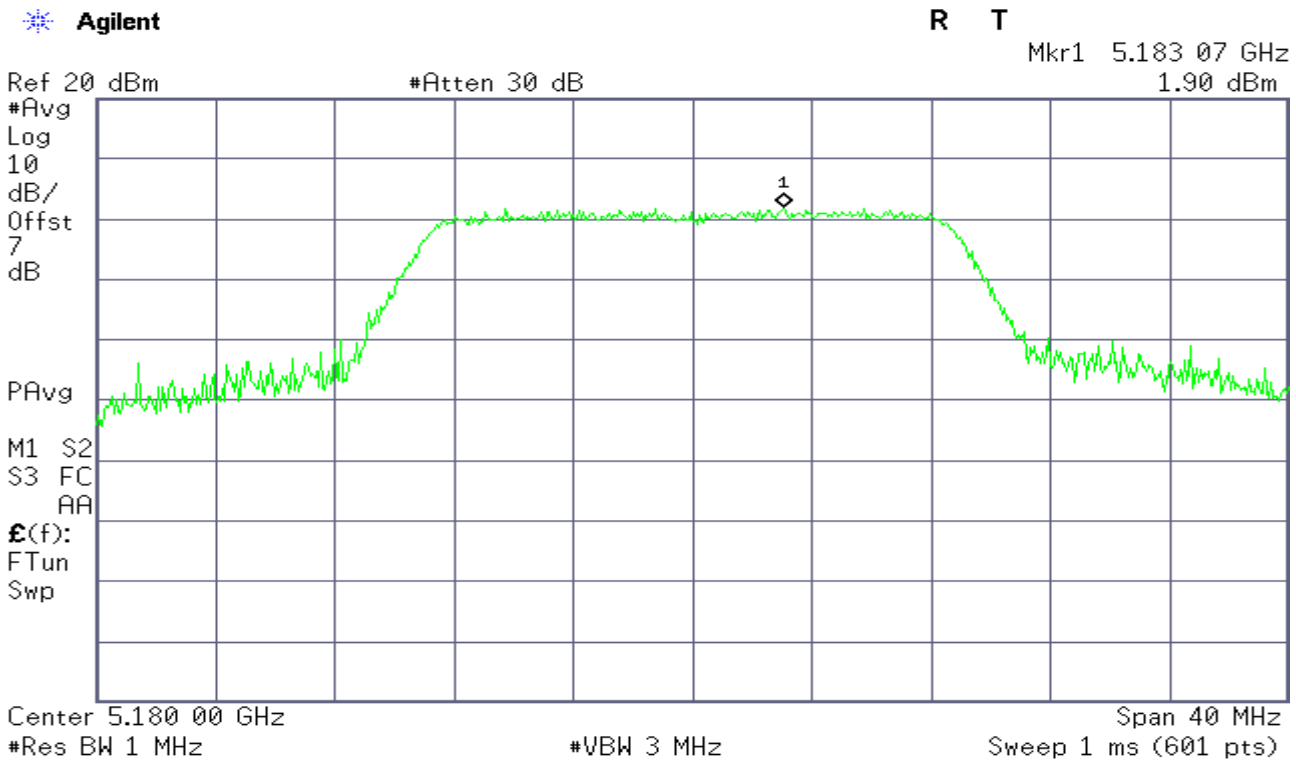


CH High

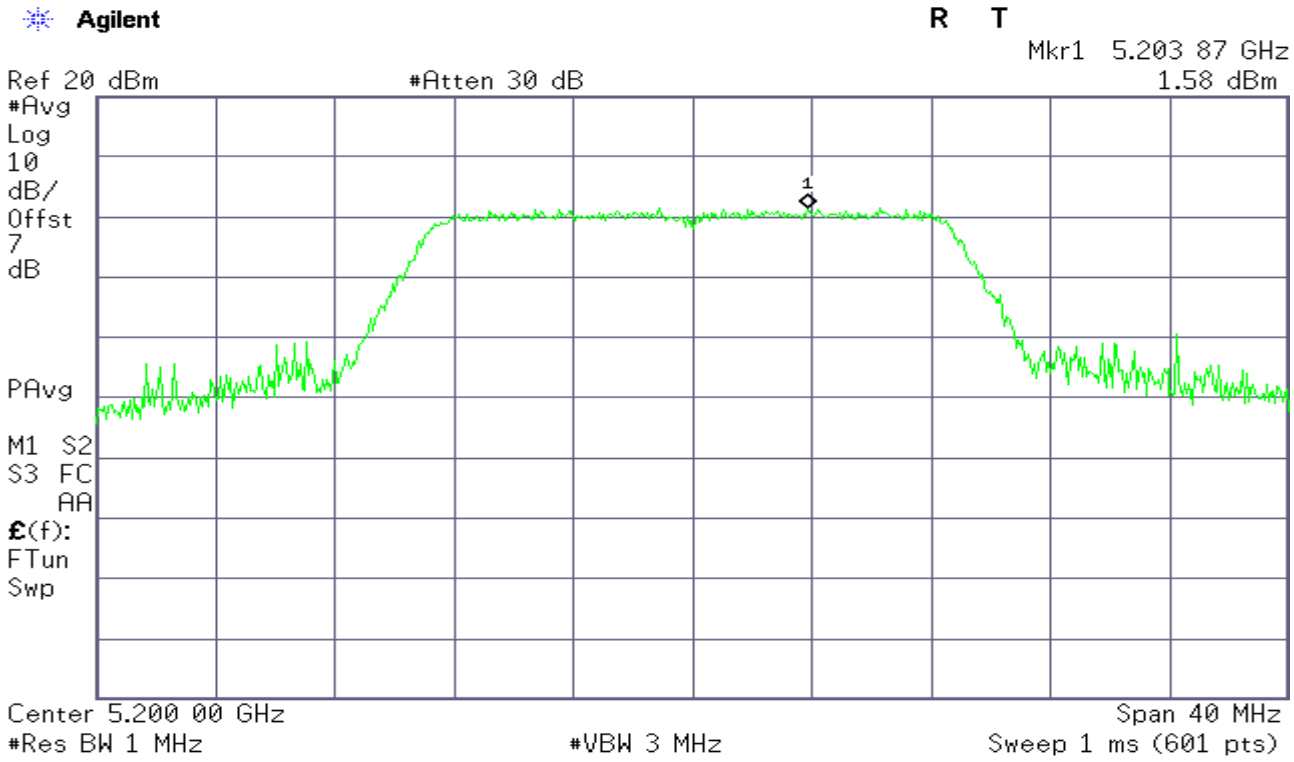


IEEE 802.11n HT20 mode

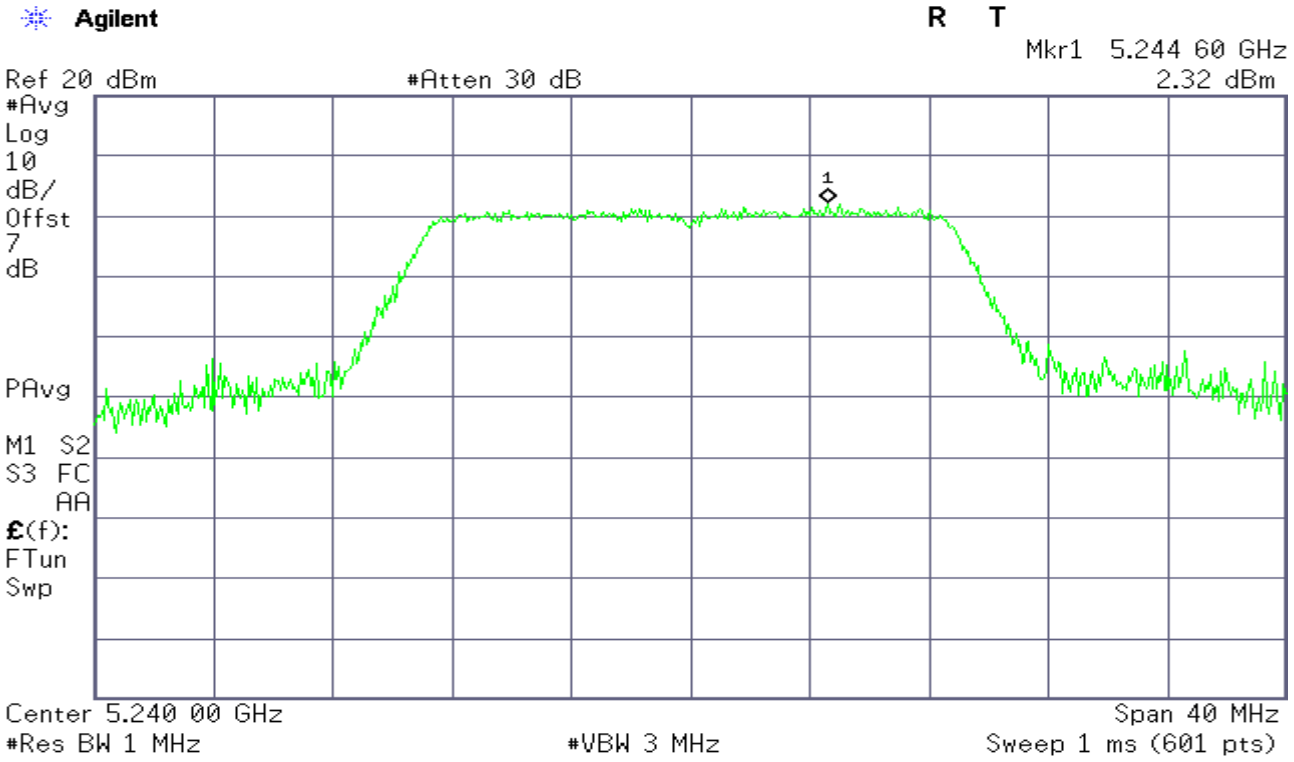
CH Low



CH Mid

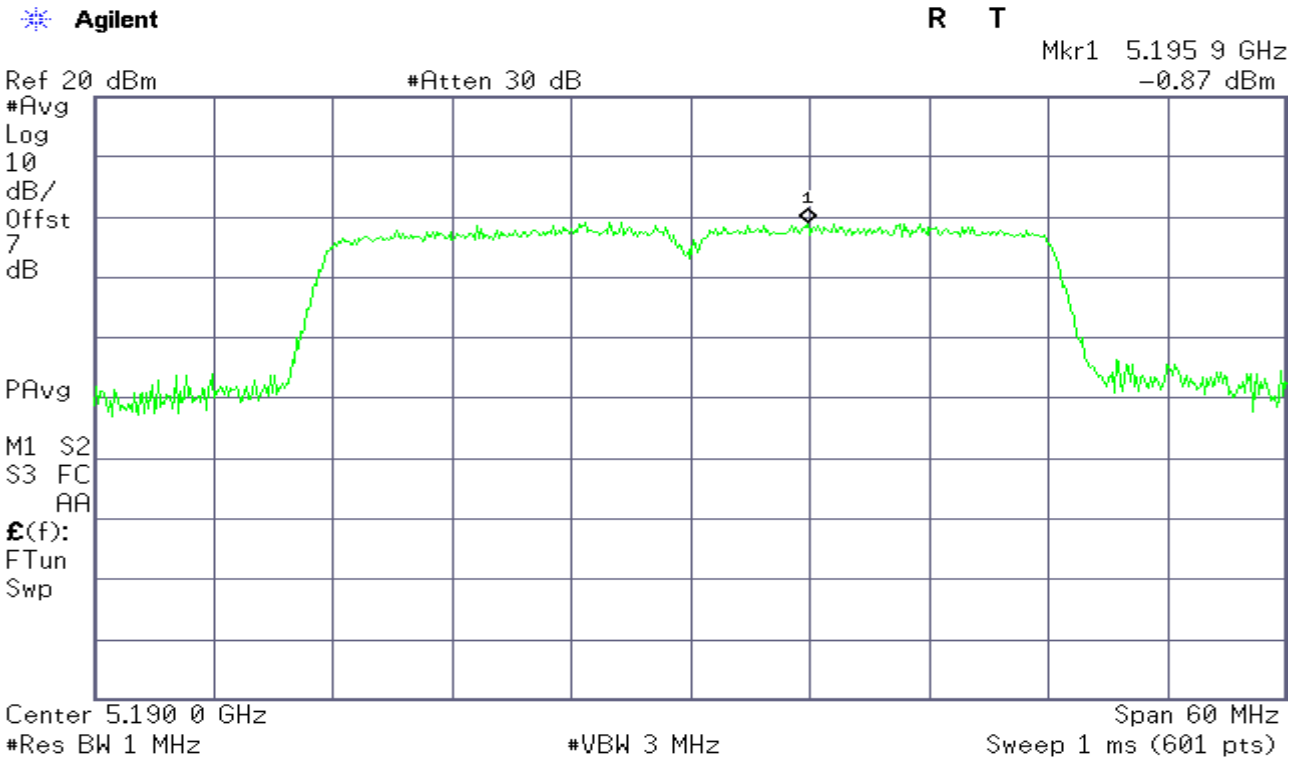


CH High

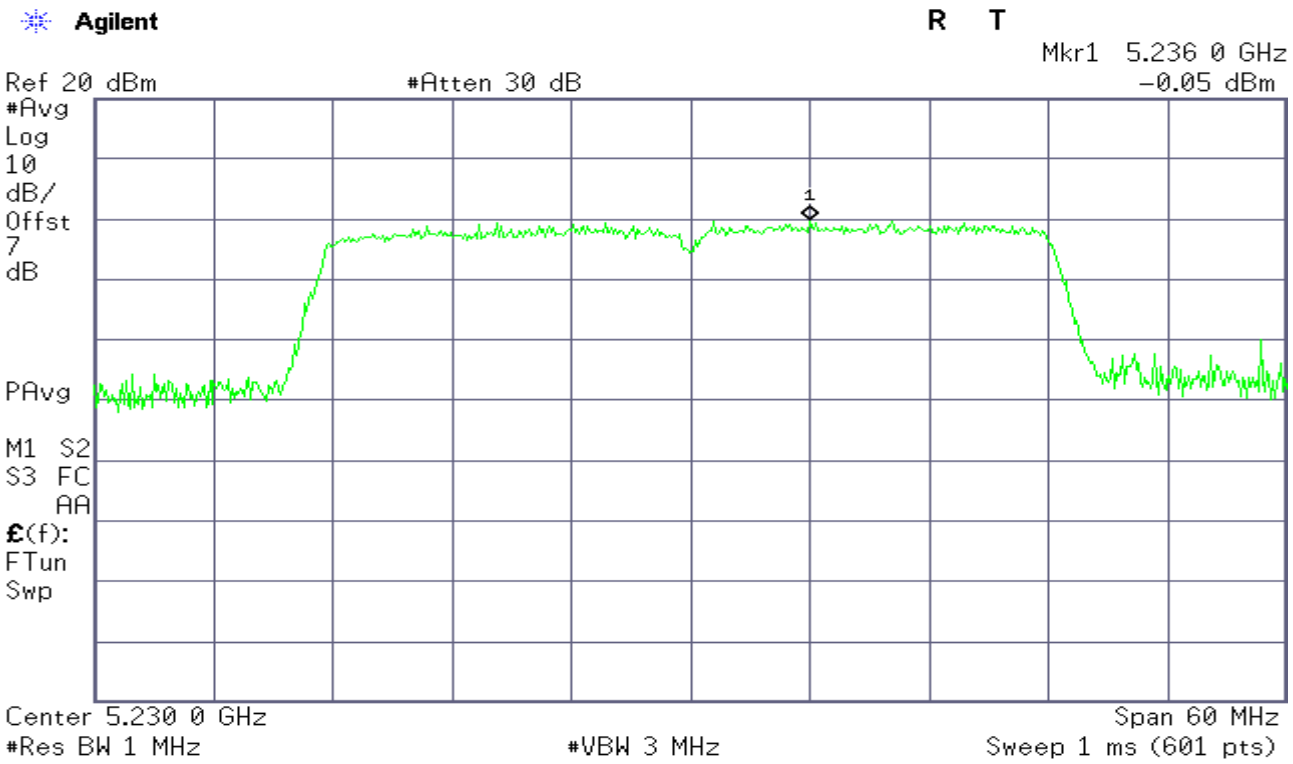


IEEE 802.11n HT40 mode

CH Low

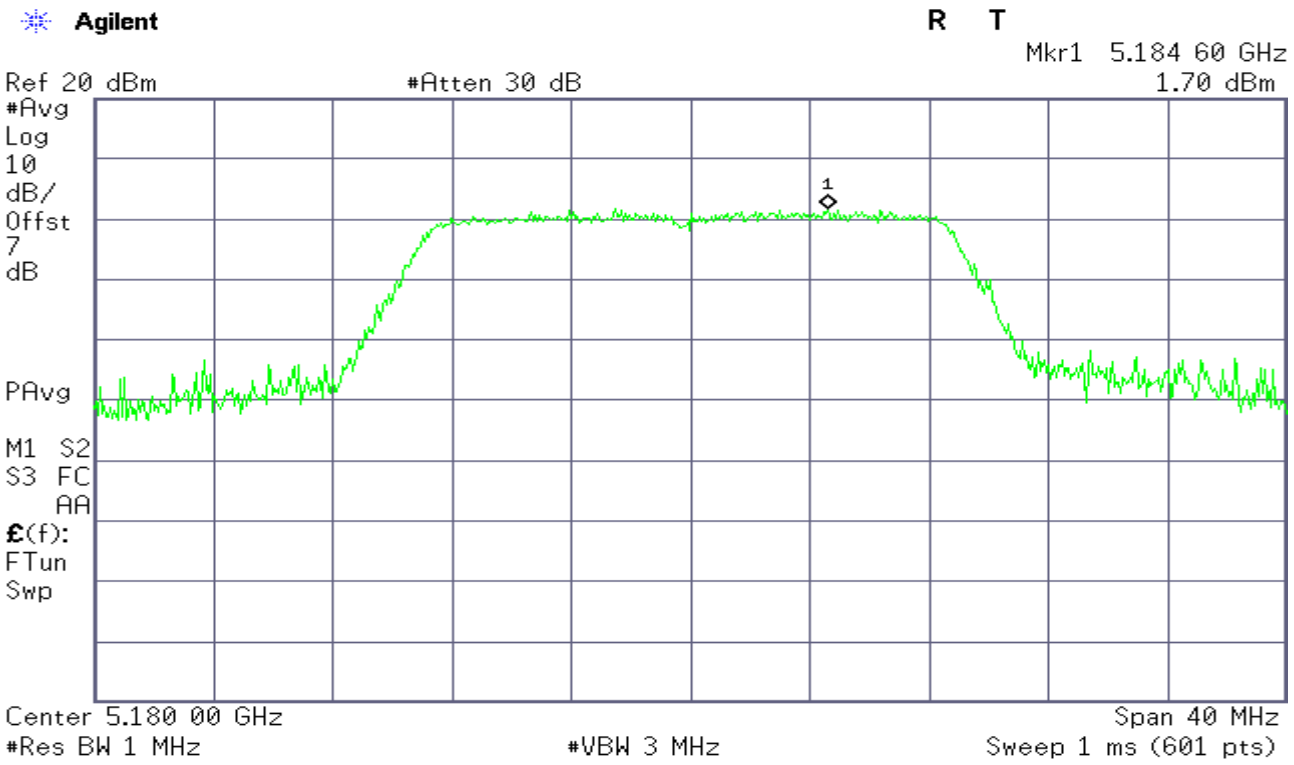


CH High

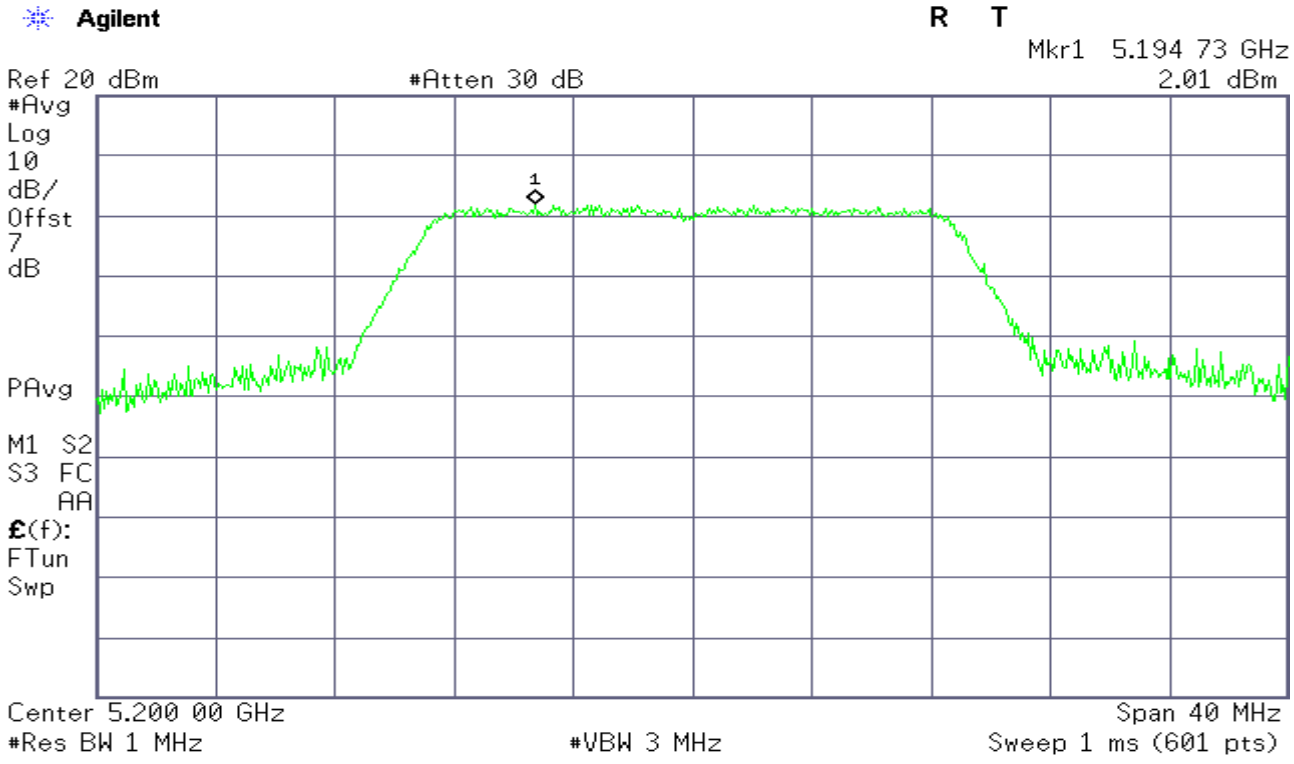


IEEE 802.11ac VHT20 mode

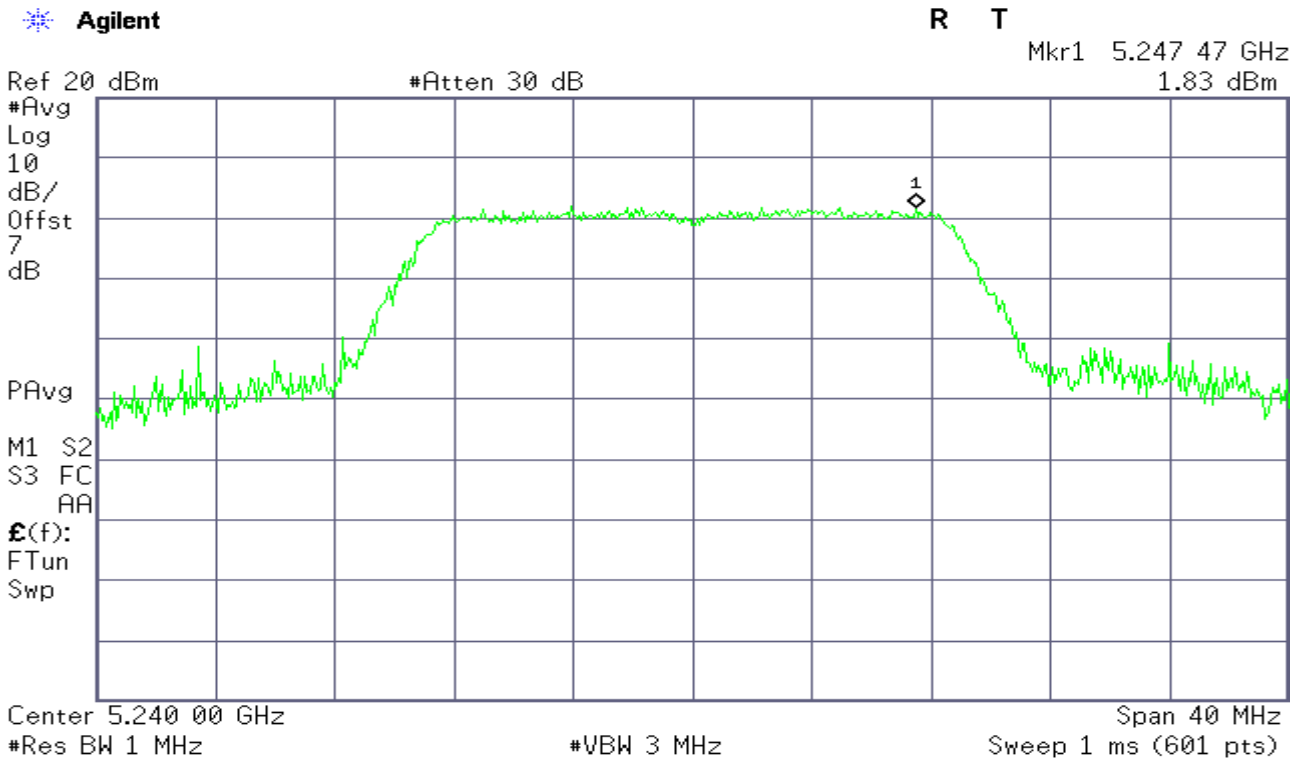
CH Low



CH Mid

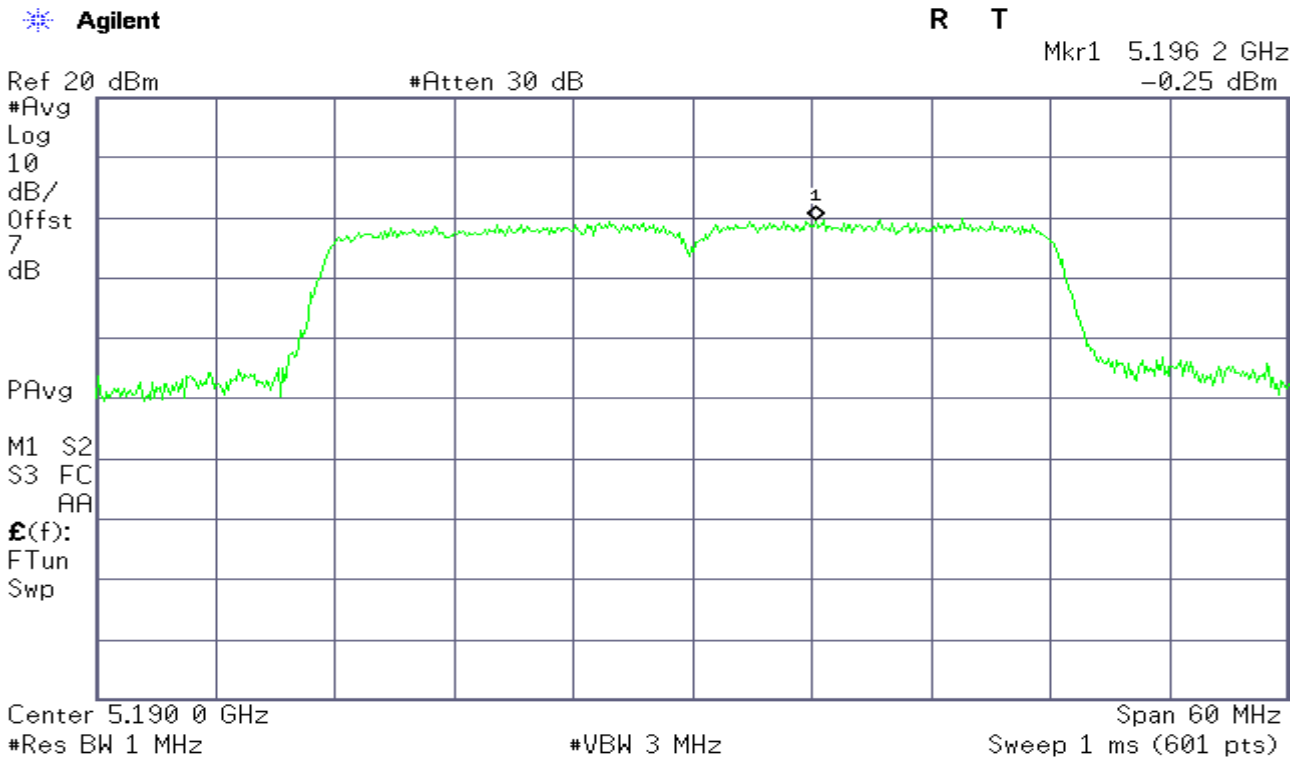


CH High

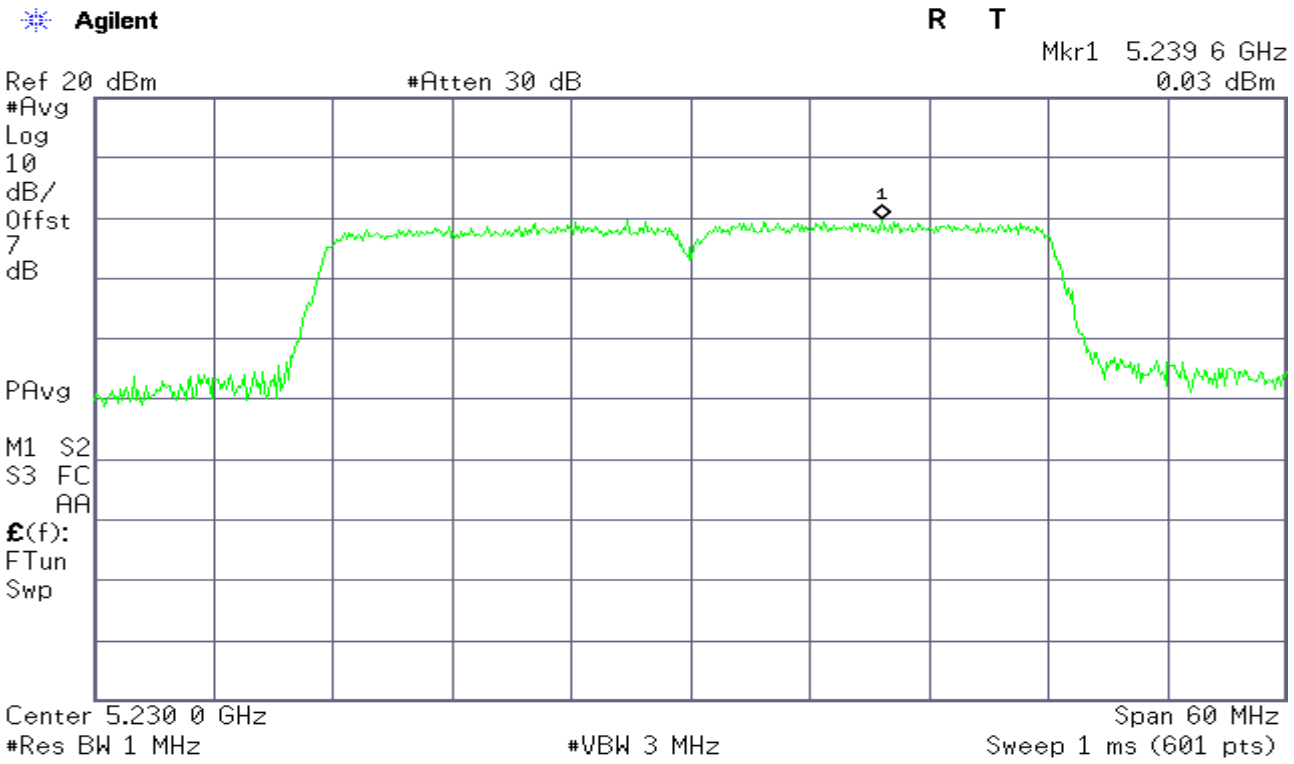


IEEE 802.11ac VHT40 mode

CH Low

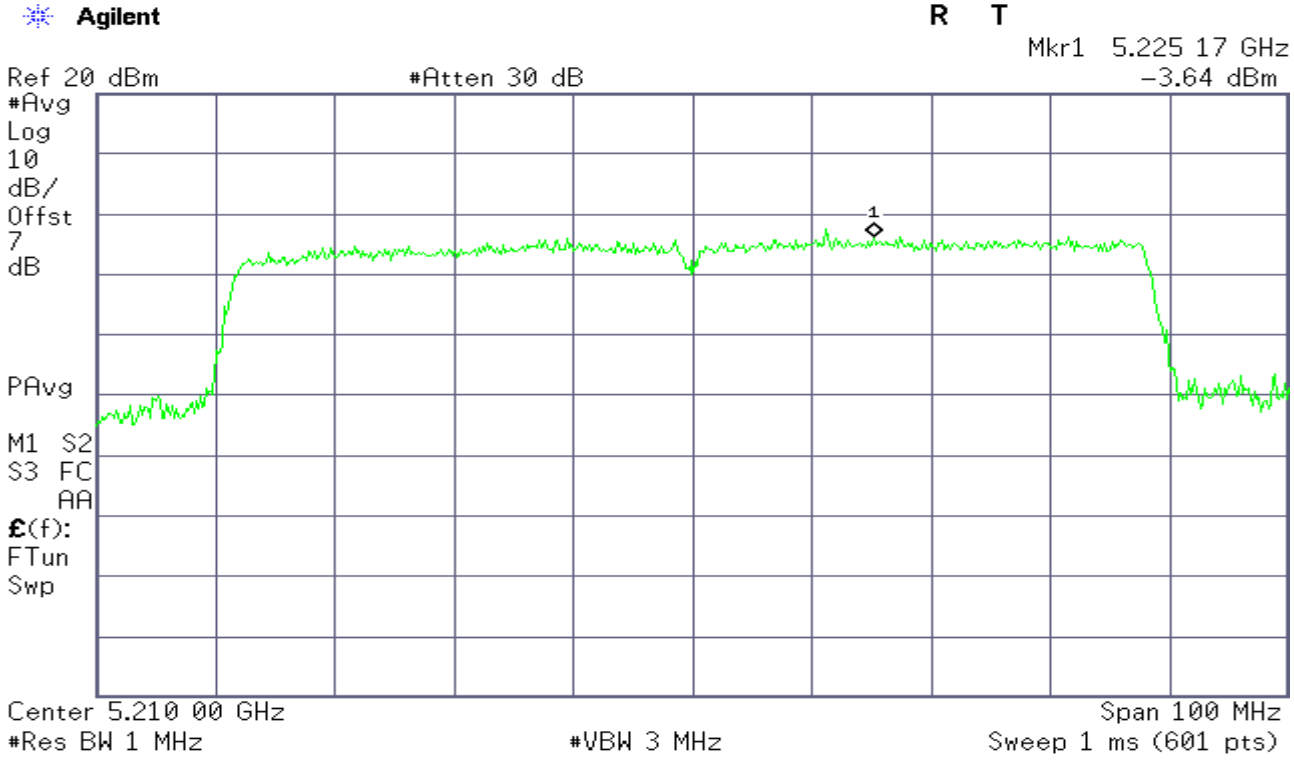


CH High



IEEE 802.11ac VHT80 mode

CH Mid

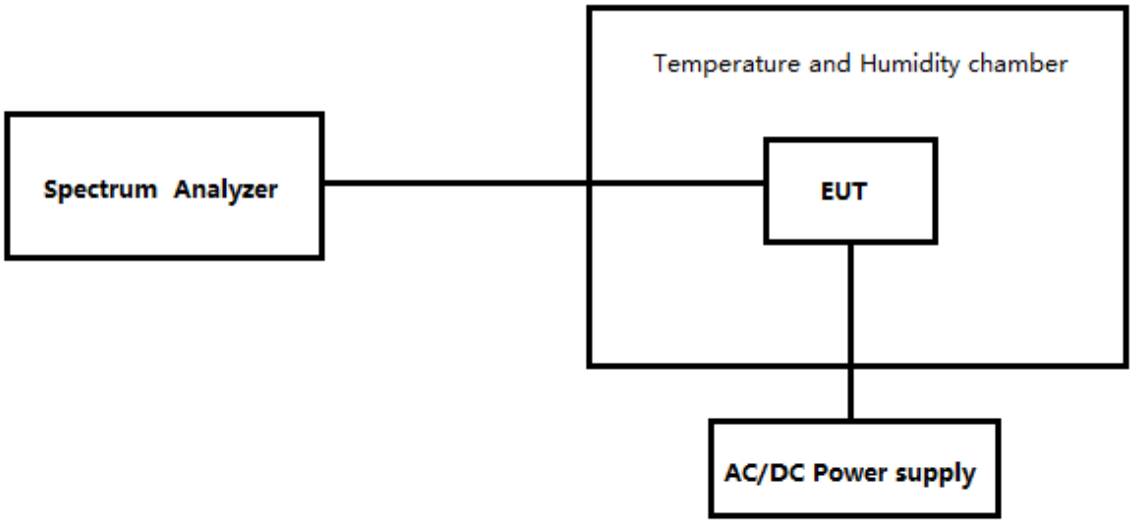


7.5 FREQUENCY STABILITY MEASUREMENT

LIMIT

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

TEST CONFIGURATION



TEST PROCEDURE

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

TEST RESULTS

U-NII-1-(5150MHz-5250MHz)					
Freq.(MHz)	Center Frequency (MHz)	Frequency Deviation (MHz)	Frequency Stability (ppm)	Temperature (°C)	Voltage (V)
5180	5180.000	0.000	0.00	25	V_{min}
5180	5180.000	0.000	0.00	25	V_{max}
5180	5180.000	0.000	0.00	25	V_{nor}
5180	5180.000	0.000	0.00	-10	V_{nor}
5180	5179.992	-0.008	-1.54	45	V_{nor}

7.6 RADIATED UNDESIRABLE EMISSION

LIMIT

Radiated emissions from 9 kHz to 25 GHz were measured according to the methods defines in ANSI C63.10-2013. The EUT was placed above the ground plane, 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

1. For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

   For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

   For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

2. KDB789033 v01 G)2)c) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3. 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

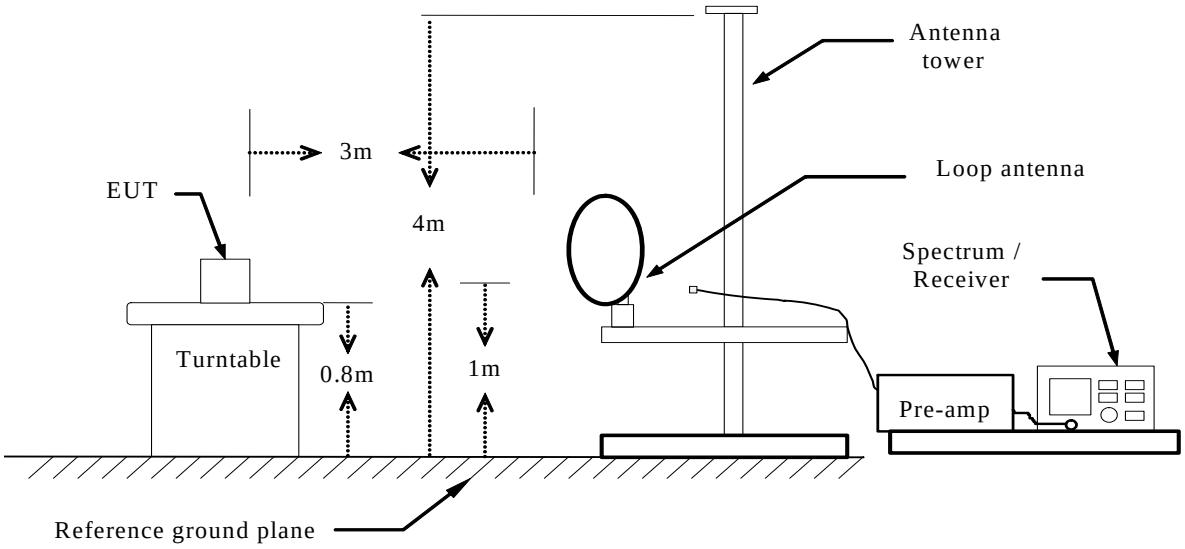
Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of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

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

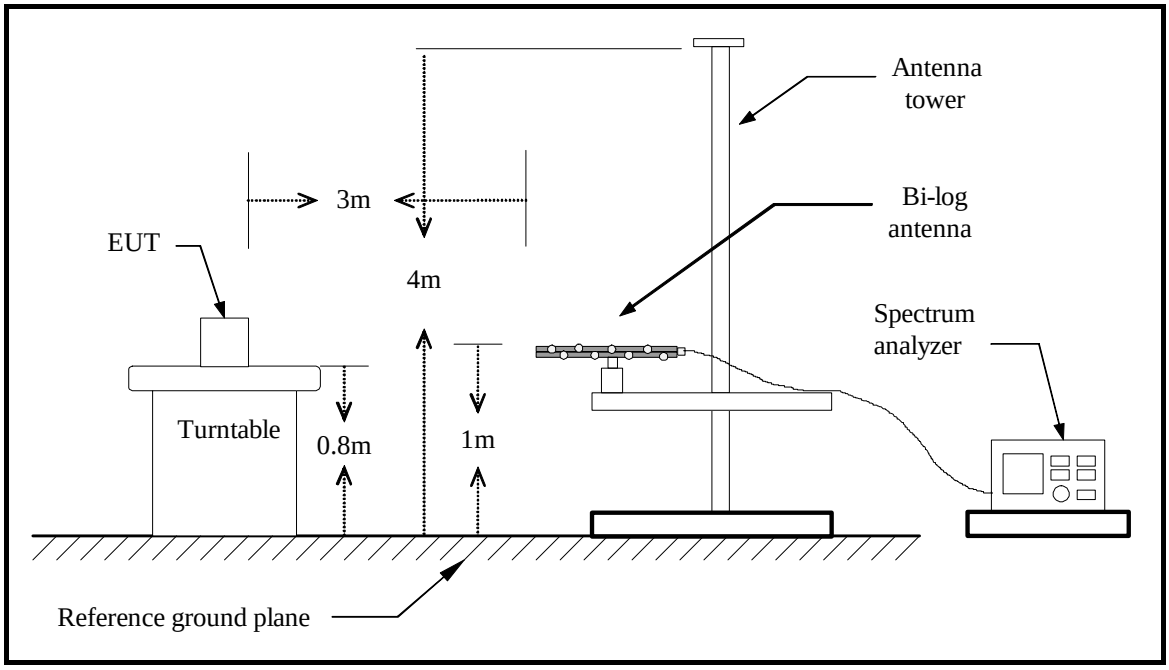
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

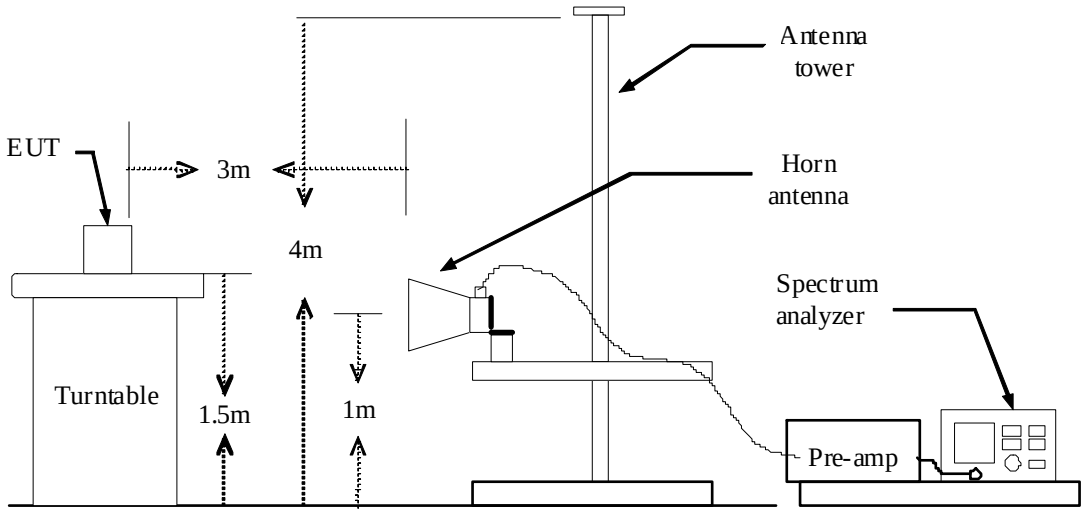
Below 30MHz



Below 1 GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable above ground plane, which is 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz.
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

Test Result of Radiated Emission

Below 30MHz

The interference of the frequency value is lower than the limit below 20 db, measured as the background noise values and will not be recorded.

30MHz-1GHz

Operation Mode:	Normal Link	**Test Date:**	206-7-11
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	48% RH	**Polarity:**	Ver. / Hor.

Frequency (MHz)	Ant. Pol. (H/V)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
226.9100	V	26.39	12.91	39.30	46.00	-6.70	QP
375.3200	V	27.64	16.35	43.99	46.00	-2.01	QP
395.6900	V	25.18	16.83	42.01	46.00	-3.99	QP
500.4500	V	21.21	18.87	40.08	46.00	-5.92	QP
596.4800	V	20.43	20.10	40.53	46.00	-5.47	QP
960.2300	V	27.46	24.92	52.38	54.00	-1.62	QP
250.1900	H	26.08	13.44	39.52	46.00	-6.48	QP
333.6100	H	25.88	15.38	41.26	46.00	-4.74	QP
375.3200	H	25.08	16.35	41.43	46.00	-4.57	QP
395.6900	H	26.26	16.83	43.09	46.00	-2.91	QP
875.8400	H	18.07	23.56	41.63	46.00	-4.37	QP
960.2300	H	25.75	24.92	50.67	54.00	-3.33	QP

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).

Above 1 GHz

Operation Mode:	Tx / IEEE 802.11a mode CH Low	**Test Date:**	2016-7-10
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10753.205	37.03	5.73	42.76	74.00	-31.24	100	21	peak
2	14104.167	36.92	6.38	43.30	74.00	-30.70	100	28	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10644.231	38.73	5.83	44.56	74.00	-29.44	100	240	peak
2	14839.744	34.75	6.18	40.93	74.00	-33.07	100	186	peak
N/A									

Operation Mode:	Tx / IEEE 802.11a mode CH Mid	**Test Date:**	2016-7-10
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10535.256	37.55	5.92	43.47	74.00	-30.53	100	85	peak
2	14076.923	36.21	6.39	42.60	74.00	-31.40	100	179	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10535.256	37.93	5.92	43.85	74.00	-30.15	100	325	peak
2	14104.167	36.85	6.38	43.23	74.00	-30.77	100	288	peak
N/A									

Operation Mode:	Tx / IEEE 802.11a mode CH High	**Test Date:**	2016-7-10
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	11107.372	35.57	5.26	40.83	74.00	-33.17	100	196	peak
2	14676.282	35.60	6.23	41.83	74.00	-32.17	100	214	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10780.449	36.33	5.71	42.04	74.00	-31.96	100	111	peak
2	14240.385	35.75	6.35	42.10	74.00	-31.90	100	274	peak
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH Low	**Test Date:**	2016-7-10
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10671.474	38.49	5.80	44.29	74.00	-29.71	100	95	peak
2	14812.500	34.84	6.19	41.03	74.00	-32.97	100	297	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10644.231	37.41	5.83	43.24	74.00	-30.76	100	5	peak
2	14812.500	34.79	6.19	40.98	74.00	-33.02	100	90	peak
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH Mid	**Test Date:**	2016-7-10
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10644.231	37.75	5.83	43.58	74.00	-30.42	100	325	peak
2	14294.872	33.63	6.33	39.96	74.00	-34.04	100	14	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10562.500	37.95	5.89	43.84	74.00	-30.16	100	263	peak
2	14076.923	36.85	6.39	43.24	74.00	-30.76	100	298	peak
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH High	**Test Date:**	2016-7-10
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10753.205	35.87	5.73	41.60	74.00	-32.40	100	219	peak
2	14240.385	35.18	6.35	41.53	74.00	-32.47	100	245	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10671.474	37.20	5.80	43.00	74.00	-31.00	100	151	peak
2	14594.551	34.13	6.25	40.38	74.00	-33.62	100	280	peak
N/A									

Operation Mode:	TX / IEEE 802.11n HT40 mode /CH Low	Test Date:	2016-7-10
Temperature:	25°C	Tested by:	Lily.Wang
Humidity:	55% RH	Polarity:	Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10644.231	37.07	5.83	42.90	74.00	-31.10	100	359	peak
2	14267.628	34.36	6.34	40.70	74.00	-33.30	100	267	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11107.372	35.39	5.26	40.65	74.00	-33.35	100	199	peak
2	14730.769	35.52	6.21	41.73	74.00	-32.27	100	223	peak
N/A									

Operation Mode:	TX / IEEE 802.11n HT40 mode /CH High	Test Date:	2016-7-10
Temperature:	25°C	Tested by:	Lily.Wang
Humidity:	55% RH	Polarity:	Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	11325.320	38.33	4.71	43.04	74.00	-30.96	100	223	peak
2	14703.526	35.65	6.22	41.87	74.00	-32.13	100	345	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10562.500	37.59	5.89	43.48	74.00	-30.52	100	159	peak
2	13804.487	36.38	7.08	43.46	74.00	-30.54	100	308	peak
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT20 mode /CH Low	Test Date:	2016-7-10
Temperature:	25°C	Tested by:	Lily.Wang
Humidity:	55% RH	Polarity:	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10644.231	37.98	5.83	43.81	74.00	-30.19	100	111	peak
2	14240.385	35.76	6.35	42.11	74.00	-31.89	100	119	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10671.474	36.81	5.80	42.61	74.00	-31.39	100	73	peak
2	13940.705	36.31	6.61	42.92	74.00	-31.08	100	297	peak
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT20 mode /CH Mid	Test Date:	2016-7-10
Temperature:	25°C	Tested by:	Lily.Wang
Humidity:	55% RH	Polarity:	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	11107.372	34.64	5.26	39.90	74.00	-34.10	100	224	peak
2	14839.744	34.81	6.18	40.99	74.00	-33.01	100	150	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10644.231	38.12	5.83	43.95	74.00	-30.05	100	244	peak
2	13722.756	36.63	7.36	43.99	74.00	-30.01	100	246	peak
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT20 mode /CH High	**Test Date:**	2016-7-10
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10753.205	36.44	5.73	42.17	74.00	-31.83	100	174	peak
2	14676.282	35.26	6.23	41.49	74.00	-32.51	100	291	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10671.474	36.41	5.80	42.21	74.00	-31.79	100	174	peak
2	14240.385	35.25	6.35	41.60	74.00	-32.40	100	24	peak
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT40 mode /CH Low	**Test Date:**	2016-7-10
Temperature:	25°C	**Tested by:**	Lily.Wang
Humidity:	55% RH	**Polarity:**	Ver. / Hor.

Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10671.474	39.34	5.80	45.14	74.00	-28.86	100	30	peak
2	14649.039	36.62	6.23	42.85	74.00	-31.15	100	114	peak
N/A									

Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	10562.500	38.89	5.89	44.78	74.00	-29.22	100	341	peak
2	14076.923	39.19	6.39	45.58	74.00	-28.42	100	114	peak
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT40 mode /CH High	Test Date:	2016-7-10
Temperature:	25°C	Tested by:	Lily.Wang
Humidity:	55% RH	Polarity:	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10644.231	39.30	5.83	45.13	74.00	-28.87	100	98	peak
2	14131.410	38.35	6.37	44.72	74.00	-29.28	100	358	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	11216.346	36.19	4.99	41.18	74.00	-32.82	100	293	peak
2	15411.859	35.21	6.47	41.68	74.00	-32.32	100	290	peak
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT80 mode /CH Mid	Test Date:	2016-7-10
Temperature:	25°C	Tested by:	Lily.Wang
Humidity:	55% RH	Polarity:	Ver. / Hor.

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10644.231	37.45	5.83	43.28	74.00	-30.72	100	210	peak
2	14240.385	36.49	6.35	42.84	74.00	-31.16	100	22	peak
N/A									

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	10644.231	37.33	5.83	43.16	74.00	-30.84	100	106	peak
2	14104.167	36.53	6.38	42.91	74.00	-31.09	100	169	peak
N/A									

7.7 POWERLINE CONDUCTED EMISSIONS

LIMIT

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

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

** Decreases with the logarithm of the frequency.*

TEST CONFIGURATION

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

TEST PROCEDURE

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

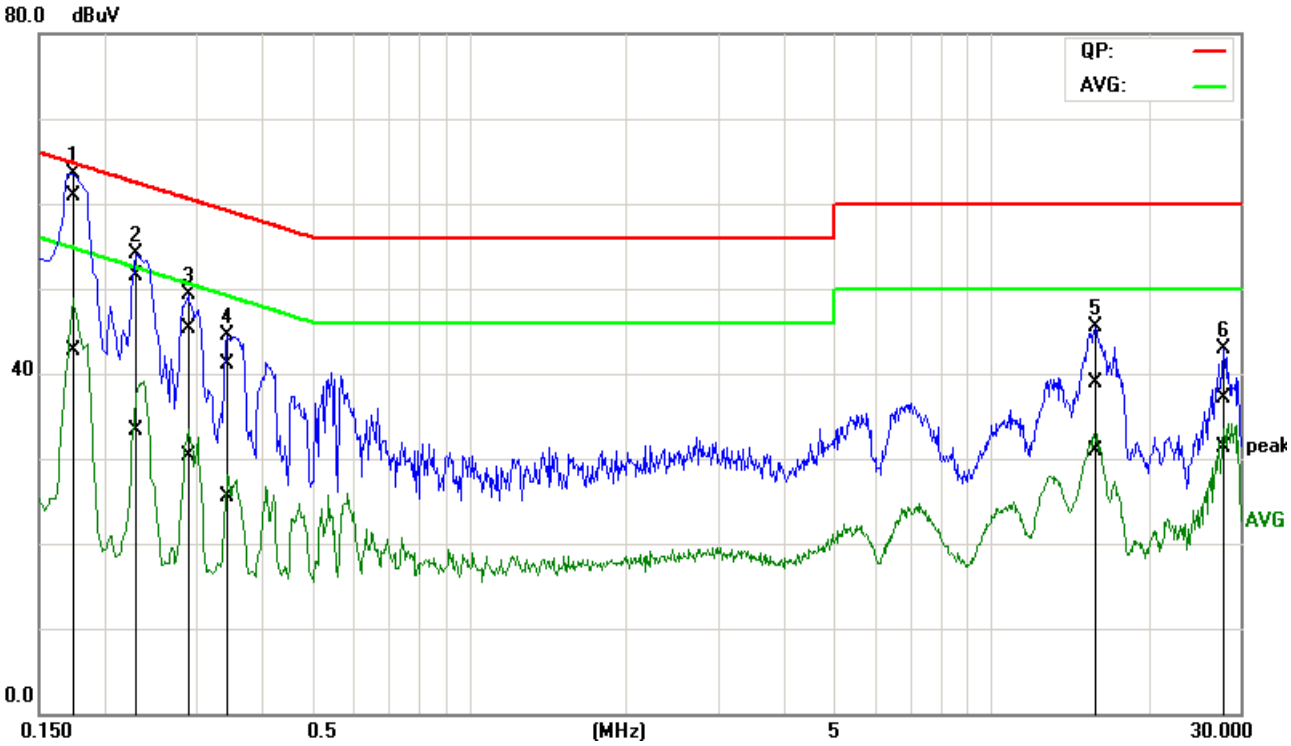
TEST RESULTS

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

Test Data

Job No.:	C160630R02	Date:	2016-7-8
Model No.:	850-034521	Time:	PM 04:20:57
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Lily.Wang
Line:	L1	Test Voltage:	AC 120V/60Hz
Model:		Description:	

L1

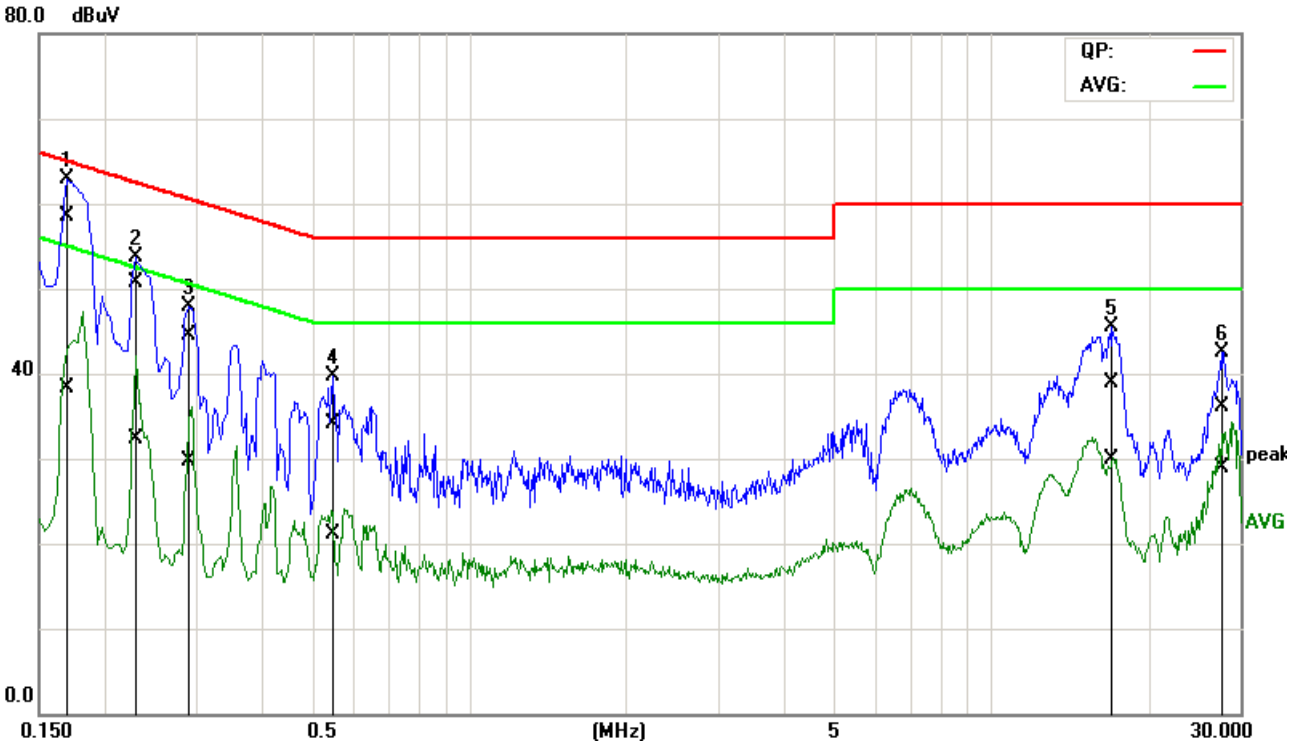


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1714	41.20	22.83	19.79	60.99	42.62	64.89	54.89	-3.90	-12.27	Pass
2	0.2289	31.73	13.52	19.80	51.53	33.32	62.49	52.49	-10.96	-19.17	Pass
3	0.2902	25.52	10.42	19.80	45.32	30.22	60.52	50.52	-15.20	-20.30	Pass
4	0.3472	21.38	5.62	19.80	41.18	25.42	59.03	49.03	-17.85	-23.61	Pass
5	15.8961	18.94	10.79	20.04	38.98	30.83	60.00	50.00	-21.02	-19.17	Pass
6	27.9241	16.87	11.00	20.24	37.11	31.24	60.00	50.00	-22.89	-18.76	Pass

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

Job No.:	C160630R02	Date:	2016-7-8
Model No.:	850-034521	Time:	PM 04:25:30
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Lily.Wang
Line:	L2	Test Voltage:	AC 120V/60Hz
Model:		Description:	

L2

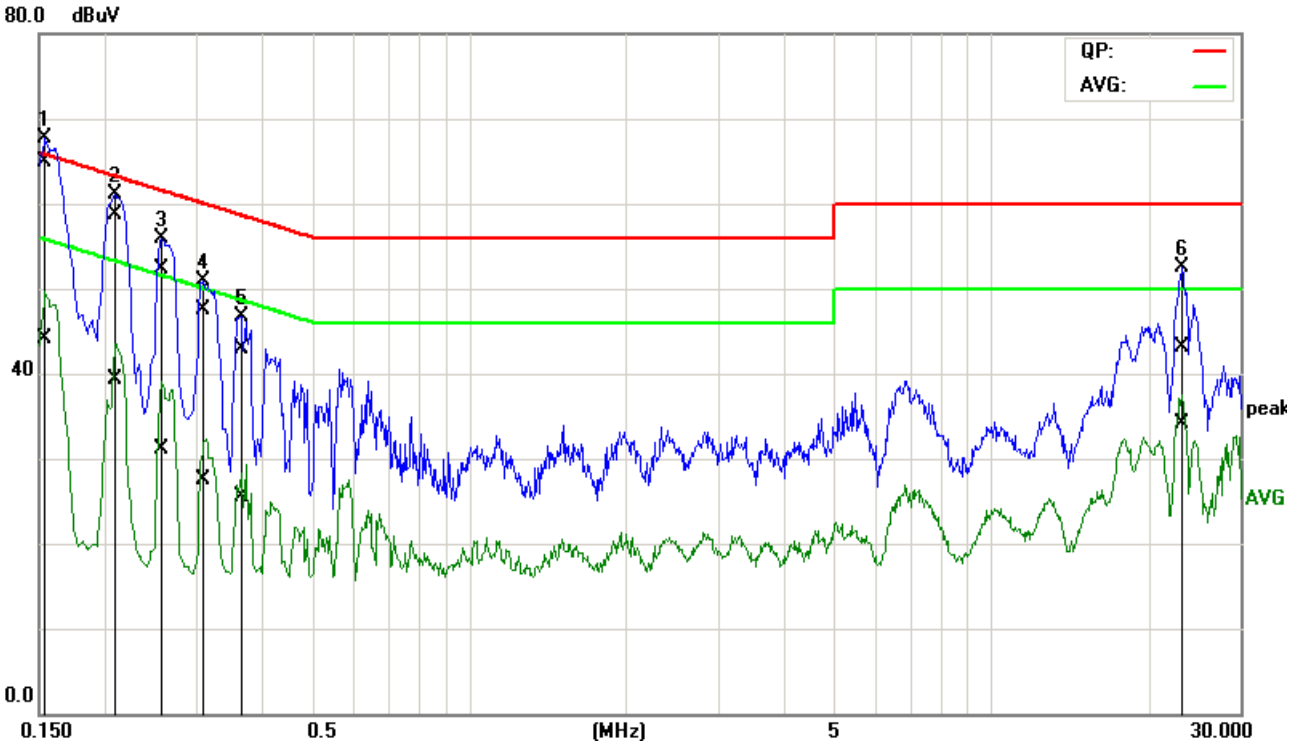


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1691	38.80	18.50	19.74	58.54	38.24	65.00	55.00	-6.46	-16.76	Pass
2	0.2286	30.94	12.59	19.75	50.69	32.34	62.50	52.50	-11.81	-20.16	Pass
3	0.2920	24.85	9.86	19.75	44.60	29.61	60.46	50.47	-15.86	-20.86	Pass
4	0.5475	14.35	1.39	19.75	34.10	21.14	56.00	46.00	-21.90	-24.86	Pass
5	17.0249	18.63	9.55	20.35	38.98	29.90	60.00	50.00	-21.02	-20.10	Pass
6	27.6167	15.56	8.47	20.53	36.09	29.00	60.00	50.00	-23.91	-21.00	Pass

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

Job No.:	C160630R02	Date:	2016-7-8
Model No.:	850-034521	Time:	PM 04:11:05
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Lily.Wang
Line:	L1	Test Voltage:	AC 240V/60Hz
Model:		Description:	

L1

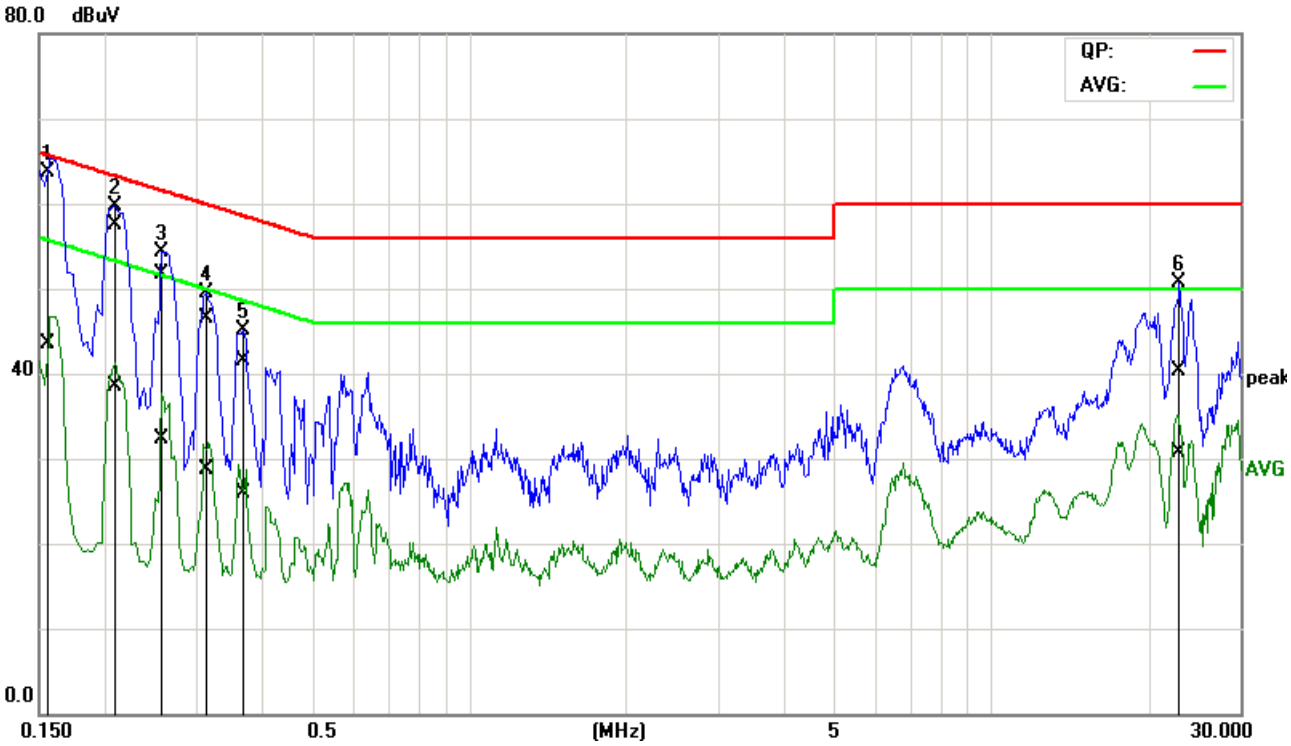


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1535	45.05	24.39	19.79	64.84	44.18	65.80	55.81	-0.96	-11.63	Pass
2	0.2070	38.82	19.56	19.79	58.61	39.35	63.32	53.32	-4.71	-13.97	Pass
3	0.2553	32.57	11.35	19.80	52.37	31.15	61.58	51.58	-9.21	-20.43	Pass
4	0.3079	27.65	7.65	19.80	47.45	27.45	60.02	50.03	-12.57	-22.58	Pass
5	0.3619	23.03	5.72	19.80	42.83	25.52	58.68	48.68	-15.85	-23.16	Pass
6	23.1462	22.92	13.89	20.16	43.08	34.05	60.00	50.00	-16.92	-15.95	Pass

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

Job No.:	C160630R02	Date:	2016-7-8
Model No.:	850-034521	Time:	PM 04:15:40
Standard:	FCC Class B	Temp.(C)/Hum.(%):	22(C)/48%
Test item:	Conduction test	Test By:	Lily.Wang
Line:	L2	Test Voltage:	AC 240V/60Hz
Model:		Description:	

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*	0.1536	44.02	23.77	19.74	63.76	43.51	65.80	55.80	-2.04	-12.29	Pass
2	0.2065	37.77	18.74	19.74	57.51	38.48	63.34	53.34	-5.83	-14.86	Pass
3	0.2565	32.03	12.58	19.75	51.78	32.33	61.54	51.54	-9.76	-19.21	Pass
4	0.3105	26.69	8.90	19.75	46.44	28.65	59.95	49.96	-13.51	-21.31	Pass
5	0.3700	21.78	6.14	19.75	41.53	25.89	58.50	48.50	-16.97	-22.61	Pass
6	22.9119	19.85	10.29	20.44	40.29	30.73	60.00	50.00	-19.71	-19.27	Pass

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

*R*emark:

1.The measuring frequencies range between 0.15 MHz and 30 MHz.

2.The emissions measured in the frequency range between 0.15 MHz and 30MHz were made with an instrument using Quasi-peak detector and Average detector.

3."---" denotes the emission level was or more than 2dB below the Average limit, and no re-check was made.

4.The IF bandwidth of SPA between 0.15MHz and 30MHz was 10KHz. The IF bandwidth of Test Receiver between 0.15MHz and 30MHz was 9kHz.

END OF REPORT