FCC 47 CFR PART15 SUBPART E

For

Prepared by

Product Name: 10.1 inchesTablet

Brand Name: LYNX

Model No.: 850-033343

Series Model.: 850-033465,850-033466,850-033467,850-033468,850-033469

FCC ID: 2ABMA-888-700-213

Test Report Number:

C160512R01-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	May 19, 2016	C160512R01-RPW1	ALL	N/A
update	May 24, 2016	C160512R01-RPW1	P1,P4,P5	Update Product Name

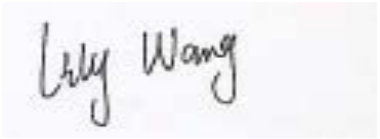
1 TEST RESULT CERTIFICATION

Product Name:	10.1 inchesTablet
Trade Name:	LYNX
Model Name.:	850-033343
Series Model:	850-033465,850-033466,850-033467,850-033468,850-033469
Applicant Discrepancy:	Initial
Device Category:	Mobile unit
Date of Test:	May 13, 2016 ~ May 19, 2016 and May 24, 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: ***Tested by:***



Jeff.Fang
RF Manager
Compliance Certification Service Inc.

Lily.Wang
Test Engineer
Compliance Certification Service Inc.

2 EUT DESCRIPTION

Product Name:	10.1 inchesTablet			
Brand Name:	LYNX			
Model Name:	850-033343			
Series Model:	850-033465,850-033466,850-033467,850-033468,850-033469			
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: 13.54dBm IEEE802.11an HT20 mode: 13.51dBm IEEE802.11an HT40 mode: 13.91dBm IEEE802.11ac VHT20 mode: 13.59dBm IEEE802.11ac VHT40 mode: 13.70dBm IEEE802.11ac VHT80 mode: 13.20dBm			
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-888-700-213*** 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, RSS-247.

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.

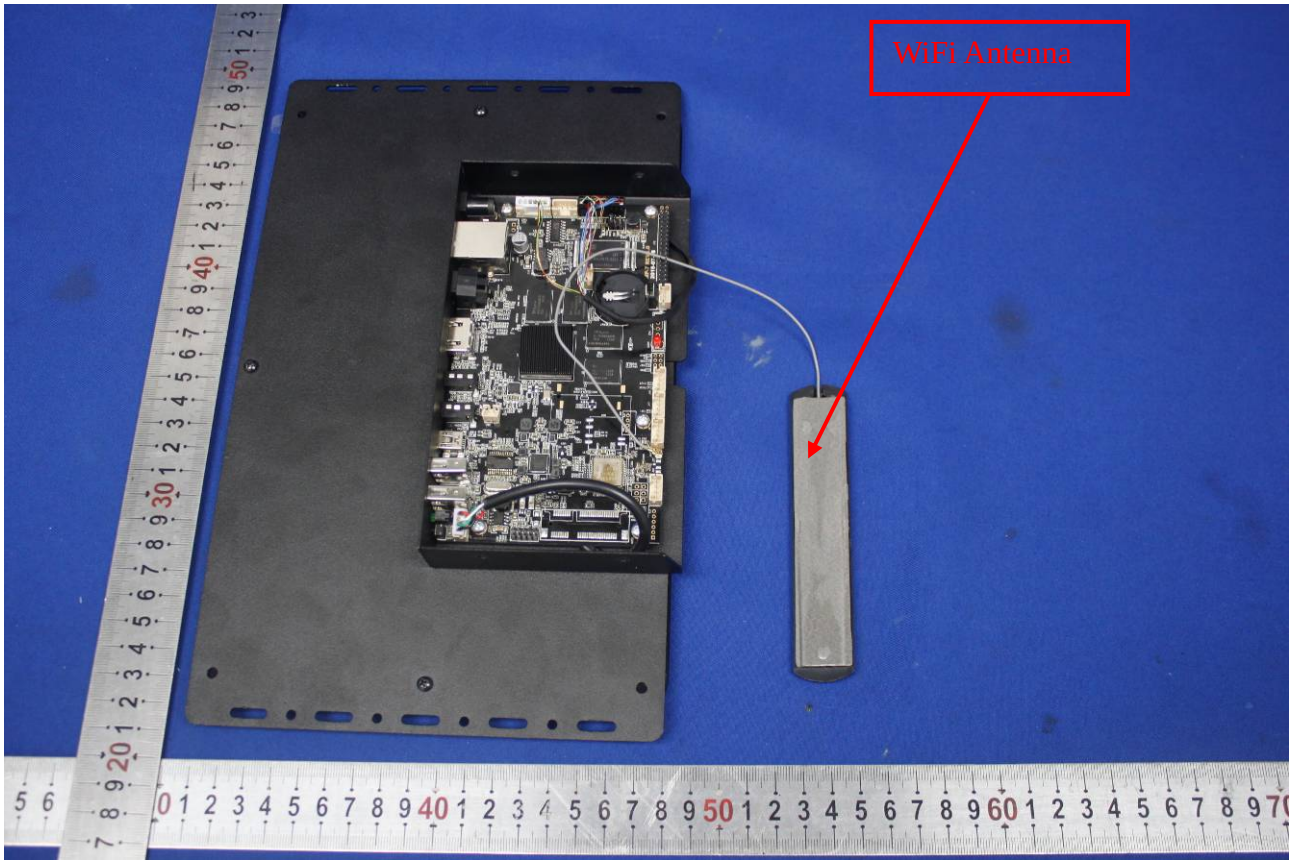
IEEE 802.11ac VHT80 mode:

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	2016-4-23	2017-4-22
Power sensor	Anritsu	MA2411B	1339220	2016-4-23	2017-4-22
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	2016-1-11	2017-1-10
Power SPLITTER	Mini-Circuits	ZN2PD-9G	SF078500430	N.C.R	N.C.R
Temp. / Humidity Gauge	Anymetre	TH603	CCS007	2015-11-04	2016-11-03

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	2016-3-6	2017-3-5
Bilog Antenna	Sunol	JB1	A110204-1	2016-3-6	2017-3-5
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

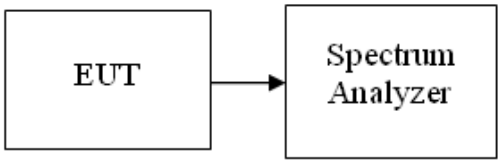
7.1 26 DB EMISSION BANDWIDTH

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	25.024
Mid	5200	26.124
High	5240	24.544

Test mode: IEEE 802.11n HT20MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5180	29.710
Mid	5200	31.185
High	5240	28.895

Test mode: IEEE 802.11n HT40MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5190	58.525
High	5230	51.002

Test mode: IEEE 802.11ac VHT20MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5180	34.166
Mid	5200	30.164
High	5240	29.776

Test mode: IEEE 802.11ac VHT40MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Low	5190	59.360
High	5230	58.737

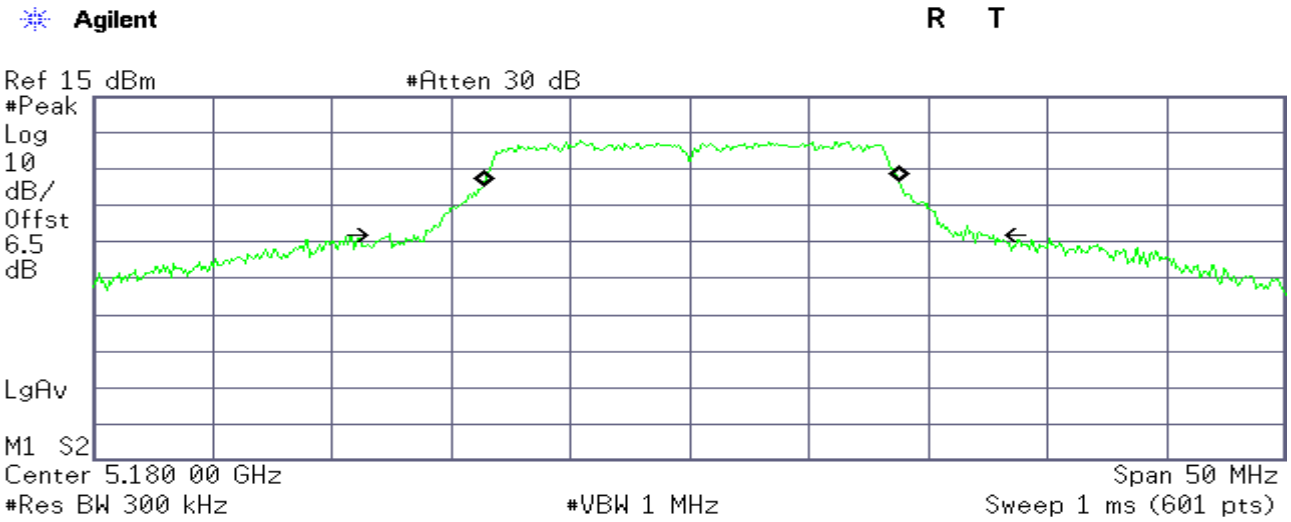
Test mode: IEEE 802.11ac VHT80MHz mode

Channel	Frequency (MHz)	Bandwidth (B) (MHz)
Mid	5210	99.227

Test Plot

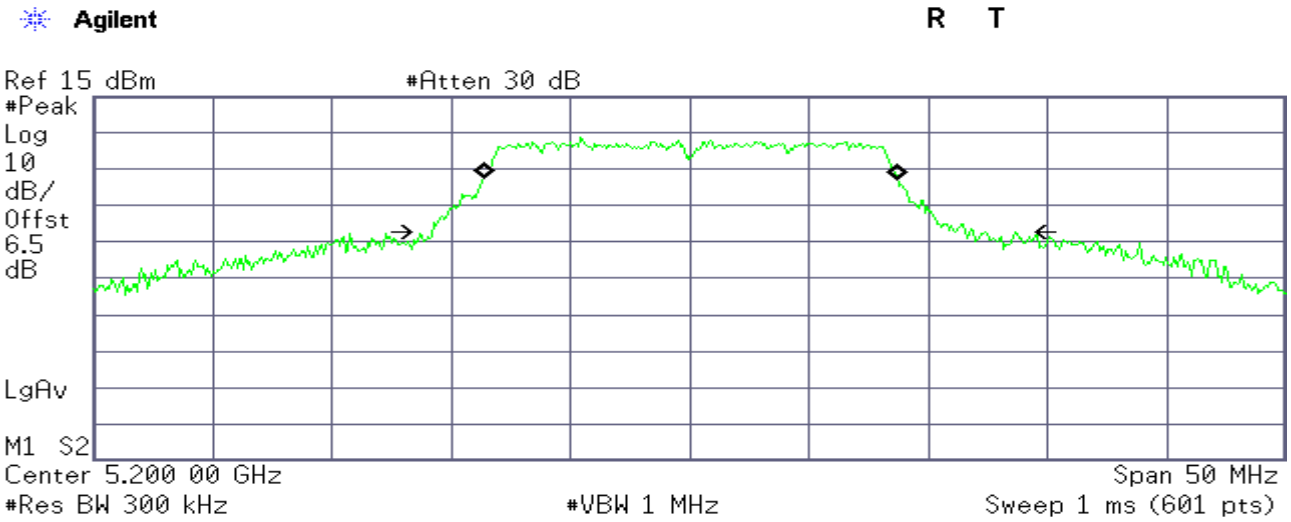
IEEE 802.11a mode:

CH Low



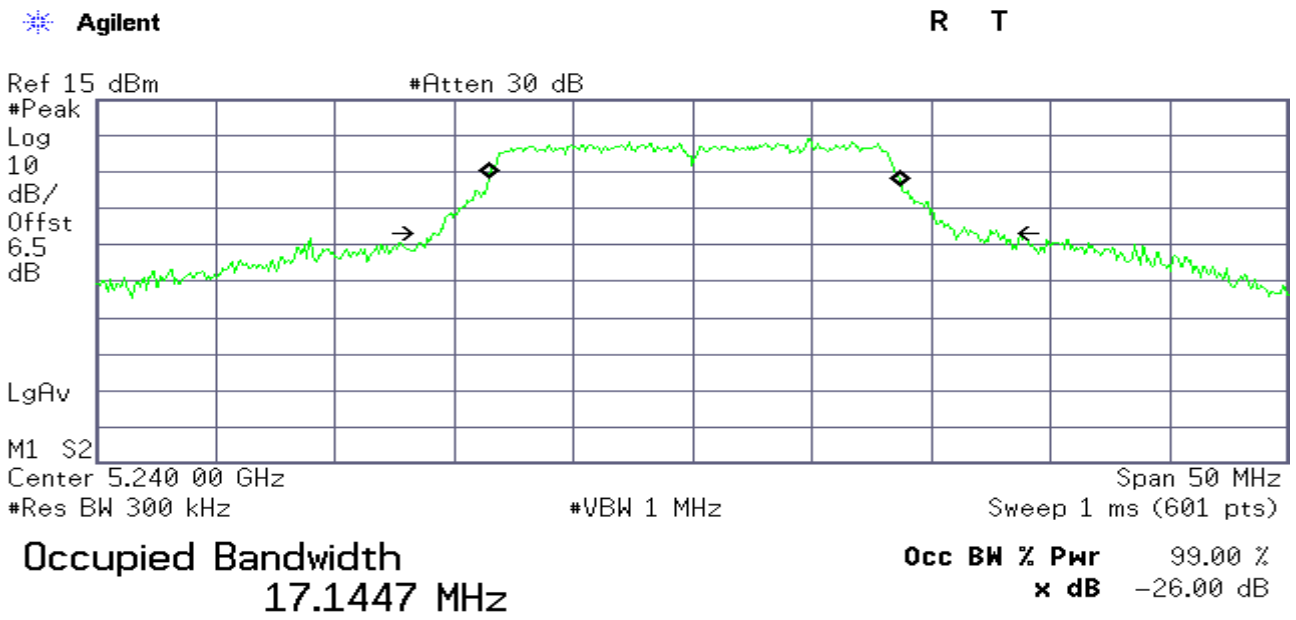
Transmit Freq Error	50.473 kHz
x dB Bandwidth	25.024 MHz

CH Mid



Transmit Freq Error	58.149 kHz
x dB Bandwidth	26.214 MHz

CH High



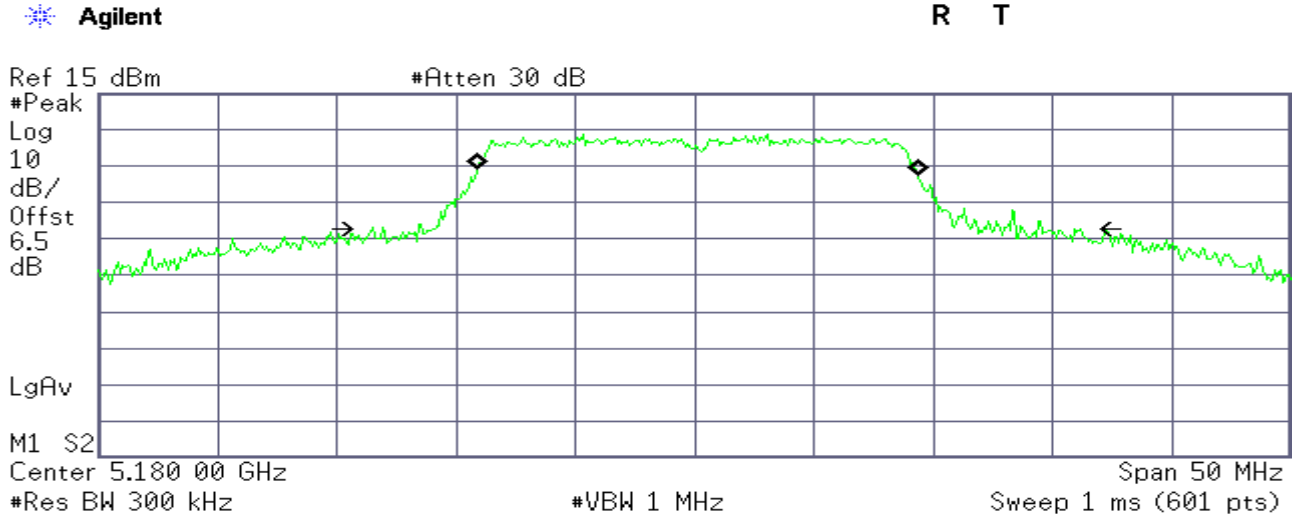
Occupied Bandwidth
17.1447 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 91.155 kHz
x dB Bandwidth 24.544 MHz

IEEE 802.11n HT20 mode

CH Low

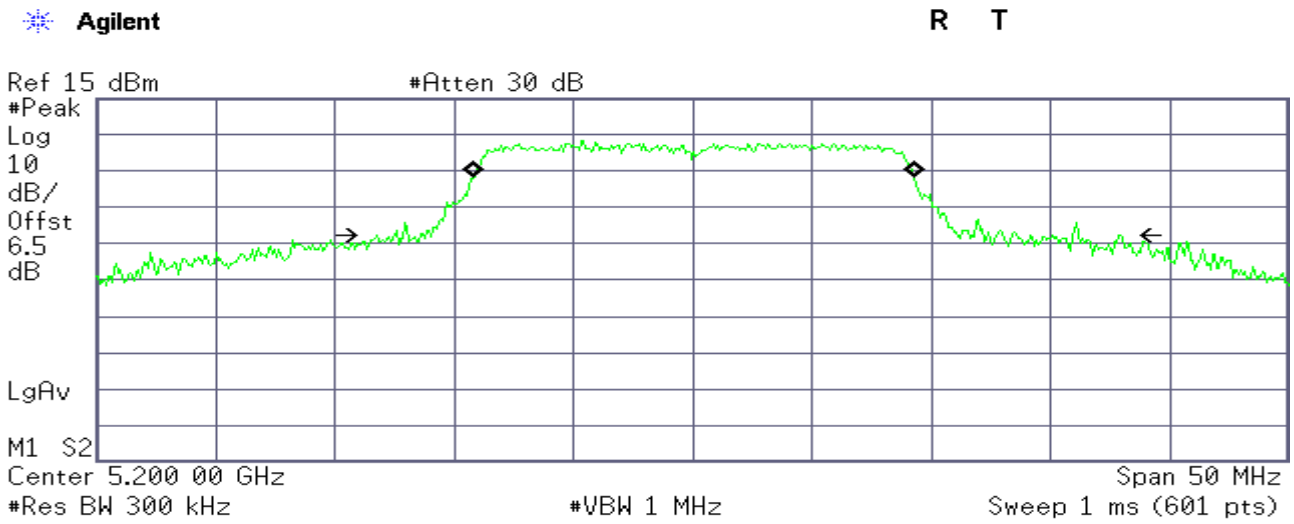


Occupied Bandwidth
18.3518 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 105.727 kHz
x dB Bandwidth 29.710 MHz

CH Mid

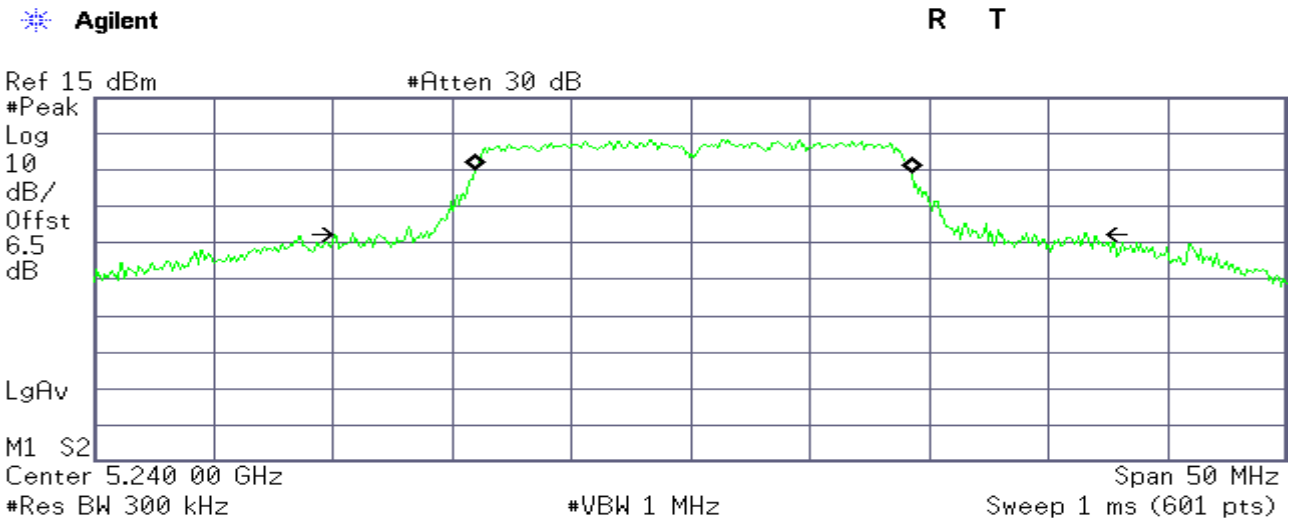


Occupied Bandwidth
18.3849 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 56.375 kHz
x dB Bandwidth 31.185 MHz

CH High



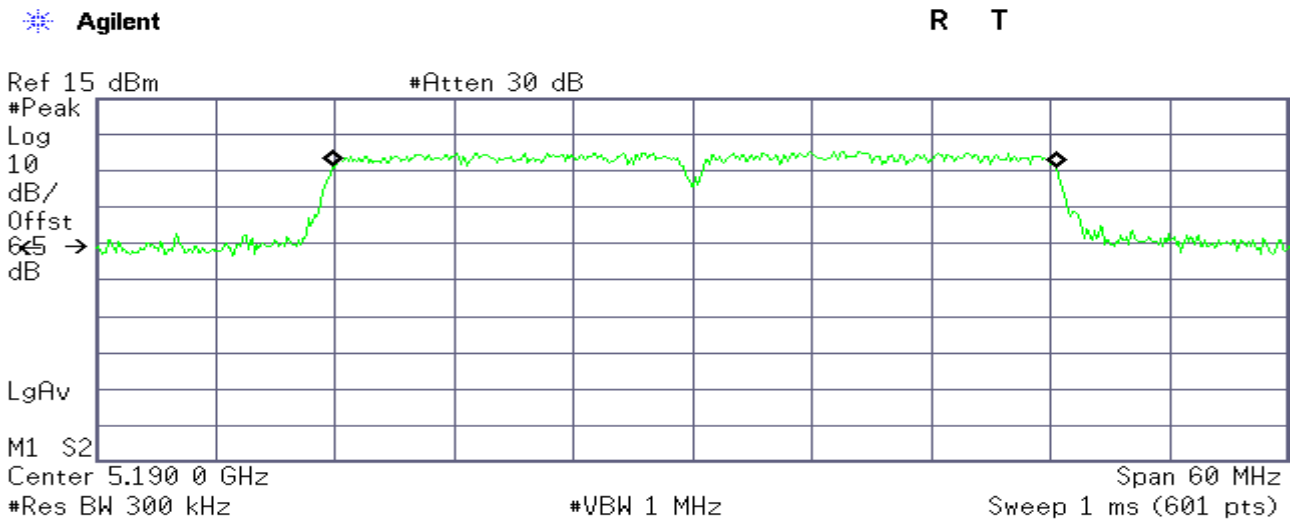
Occupied Bandwidth
18.2041 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 94.846 kHz
x dB Bandwidth 28.895 MHz

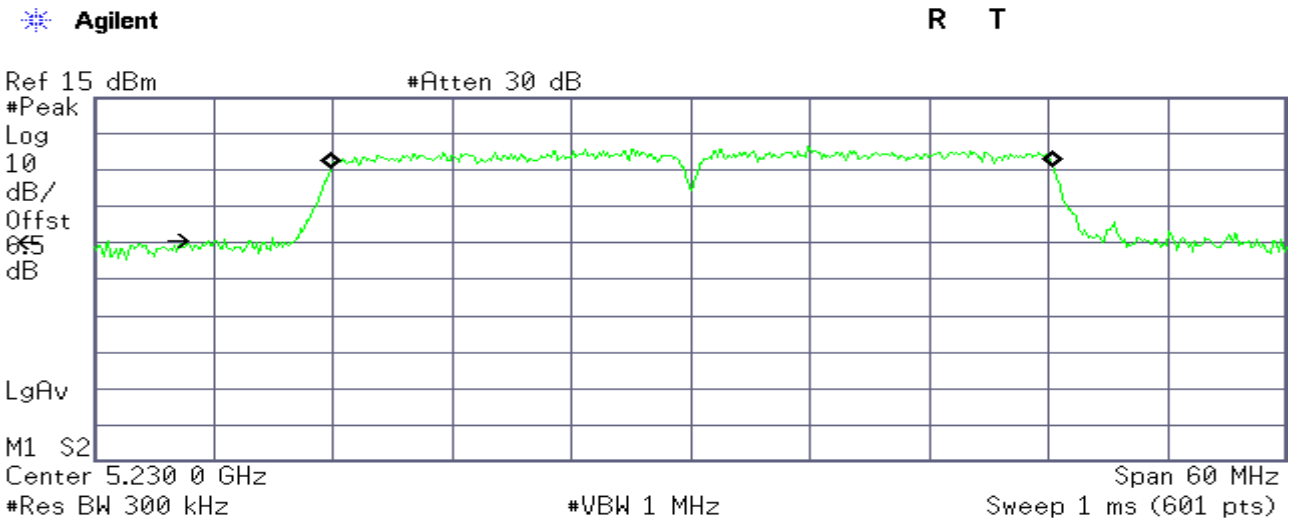
IEEE 802.11n HT40 mode

CH Low



Transmit Freq Error 76.353 kHz
x dB Bandwidth 58.525 MHz

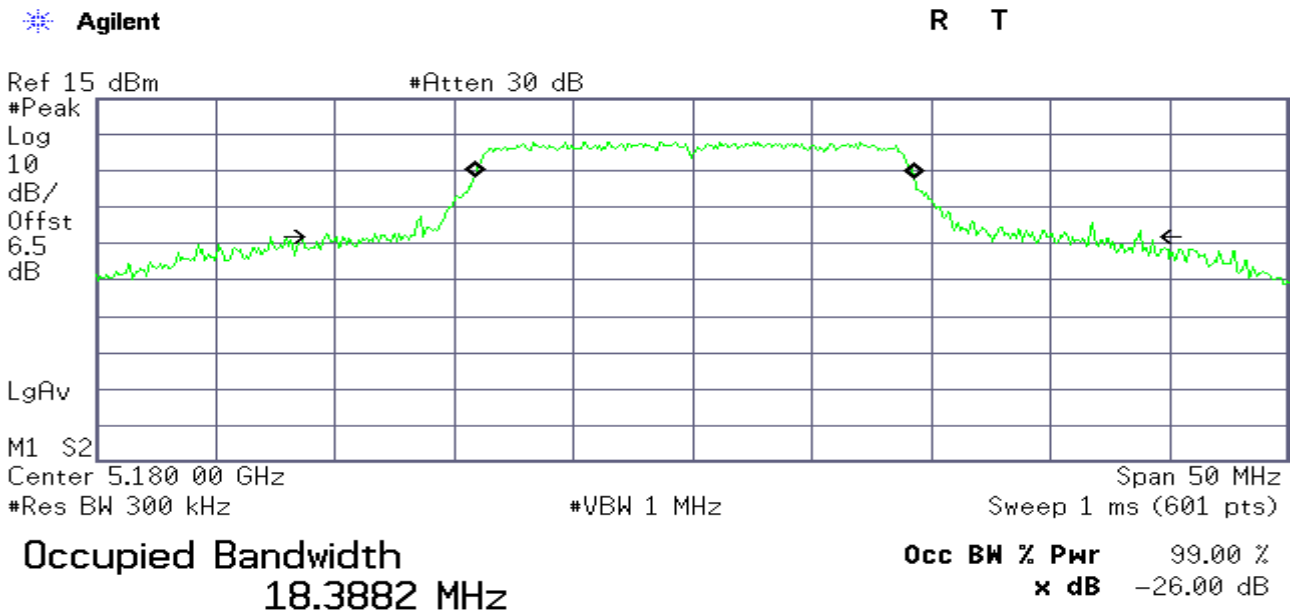
CH High



Transmit Freq Error 70.653 kHz
x dB Bandwidth 51.002 MHz

IEEE 802.11ac VHT20 mode

CH Low

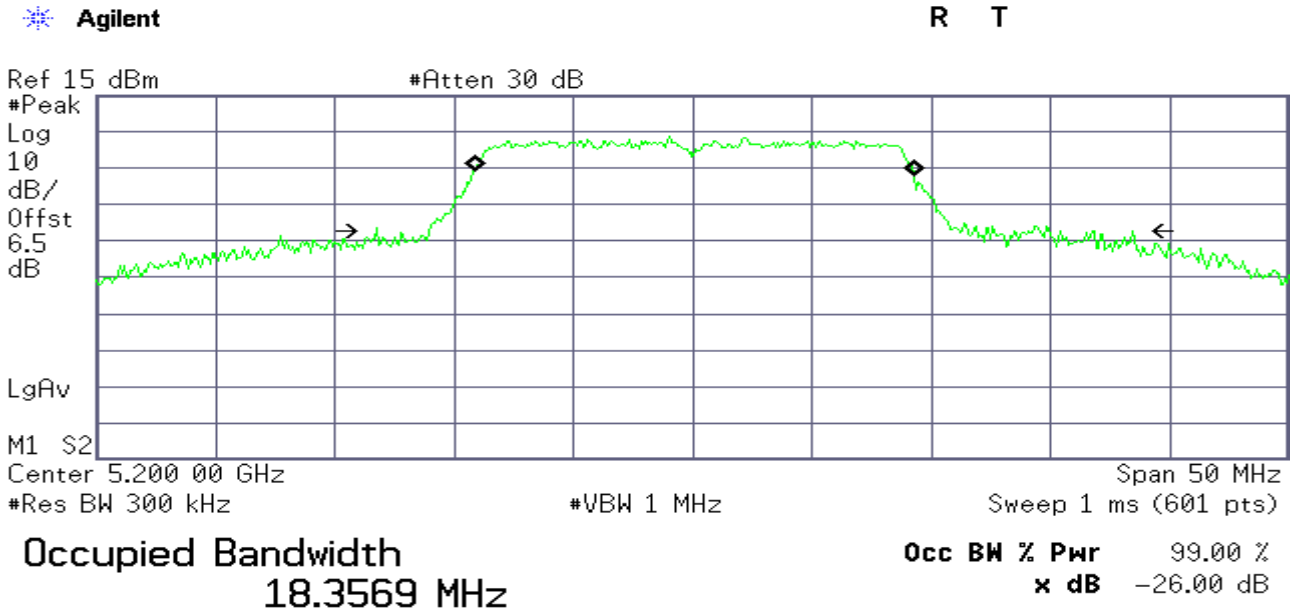


Occupied Bandwidth
18.3882 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 70.404 kHz
x dB Bandwidth 34.166 MHz

CH Mid

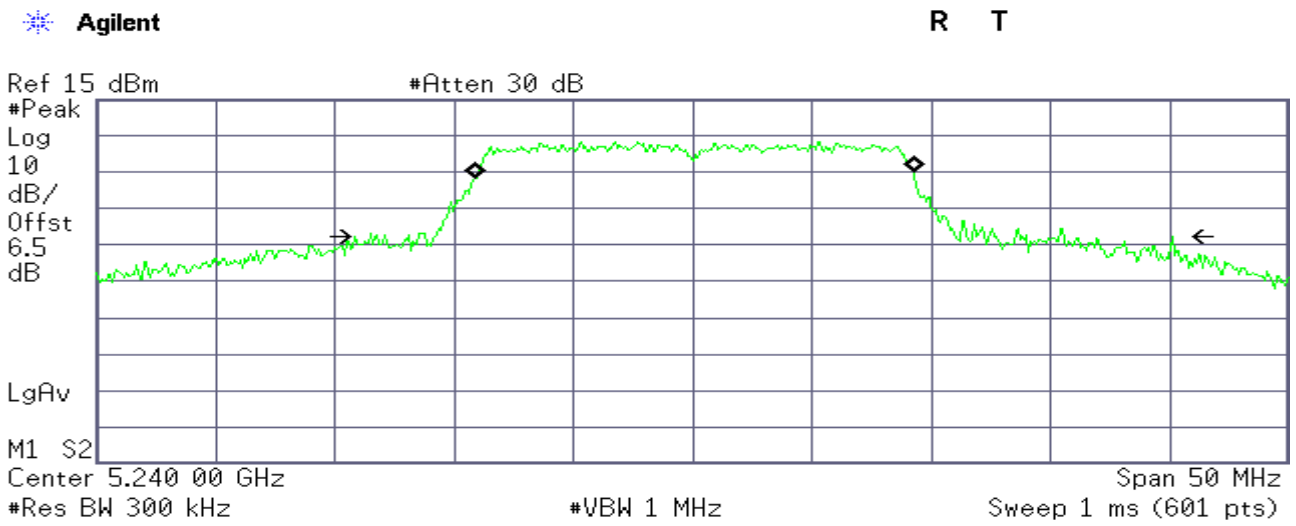


Occupied Bandwidth
18.3569 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 64.397 kHz
x dB Bandwidth 30.164 MHz

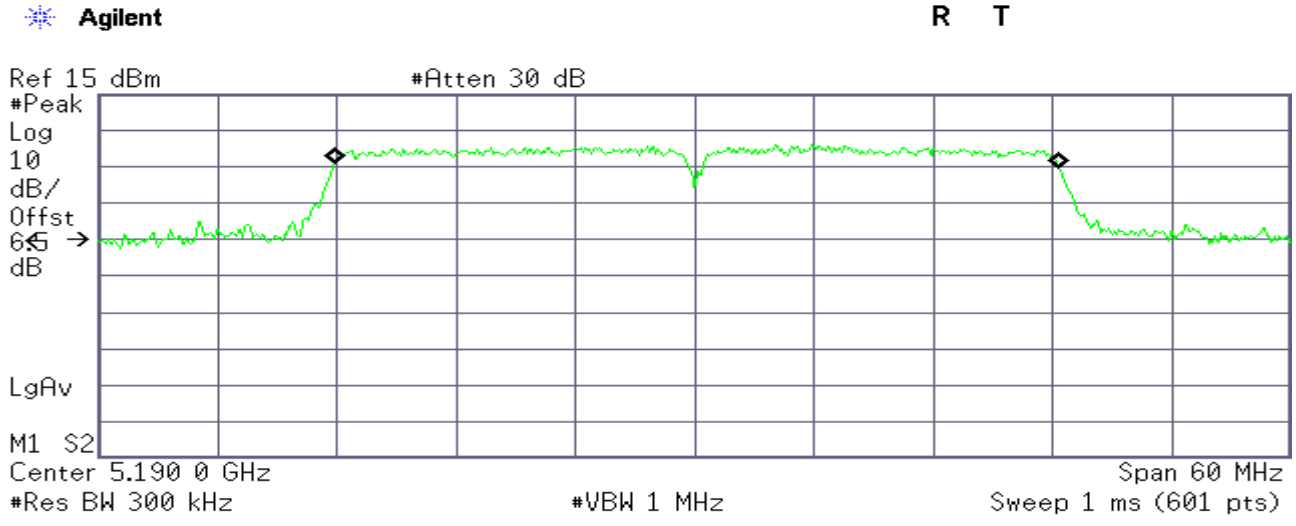
CH High



Transmit Freq Error	76.801 kHz
x dB Bandwidth	29.776 MHz

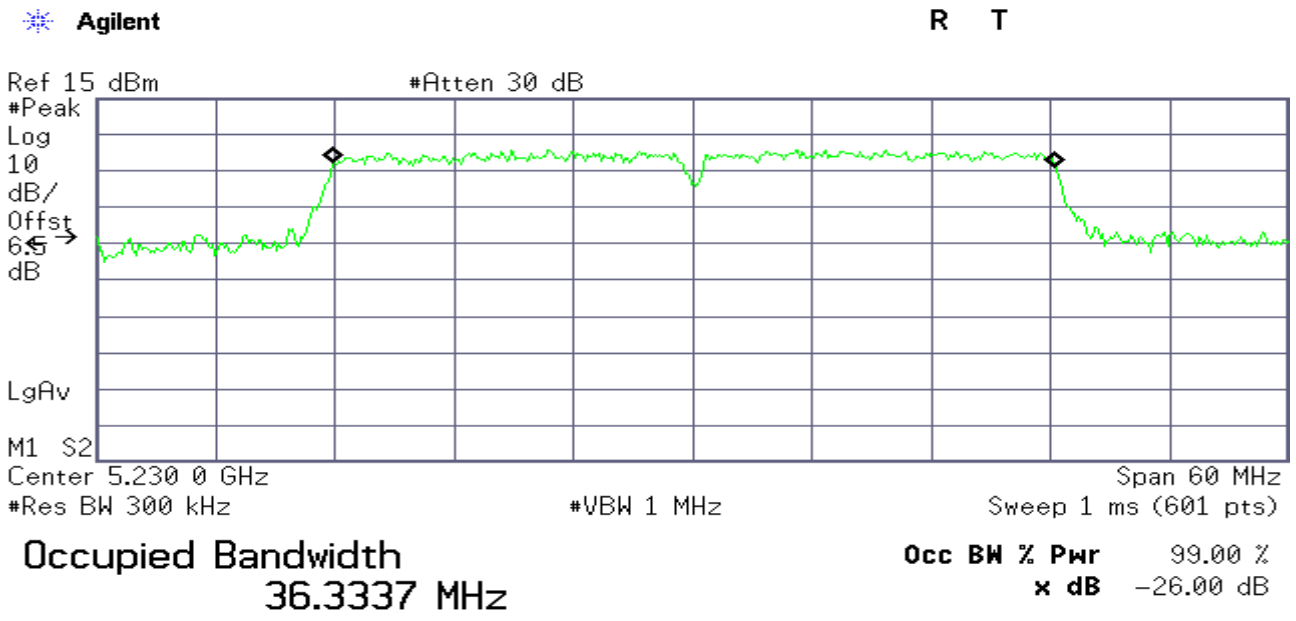
IEEE 802.11ac VHT40 mode

CH Low



Transmit Freq Error	84.223 kHz
x dB Bandwidth	59.360 MHz

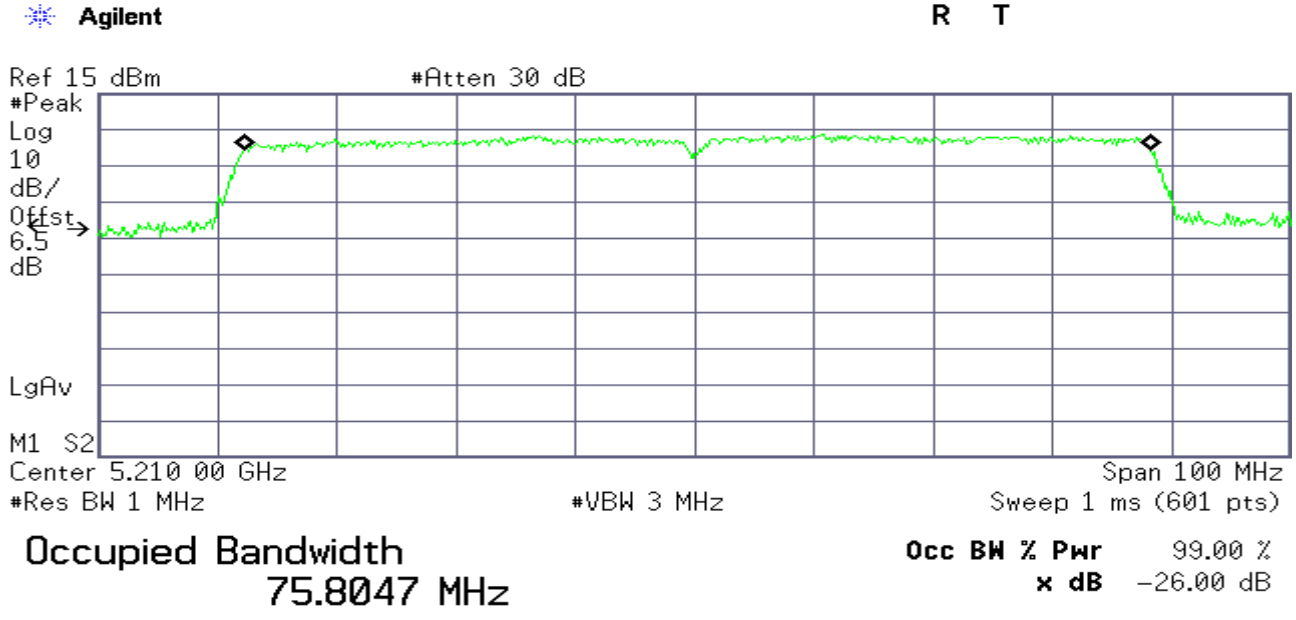
CH High



Transmit Freq Error	66.249 kHz
x dB Bandwidth	58.737 MHz

IEEE 802.11ac VHT80 mode

CH Mid



Transmit Freq Error	220.469 kHz
x dB Bandwidth	99.227 MHz

7.2 MAXIMUM CONDUCTED OUTPUT POWER

LIMIT

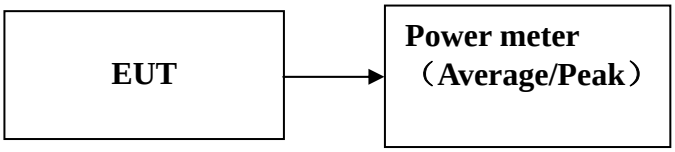
According to §15.407(a),

(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	13.54	24.00
Mid	5200	13.51	24.00
High	5240	13.15	24.00

Test mode: IEEE 802.11n HT20MHz mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5180	13.51	24.00
Mid	5200	13.42	24.00
High	5240	13.13	24.00

Test mode: IEEE 802.11n HT40MHz mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5190	13.91	24.00
High	5230	13.64	24.00

Test mode: IEEE 802.11ac VHT20MHz mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5180	13.59	24.00
Mid	5200	13.42	24.00
High	5240	13.25	24.00

Test mode: IEEE 802.11ac VHT40MHz mode

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Low	5190	13.70	24.00
High	5230	13.61	24.00

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

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)
Mid	5210	13.20	24.00

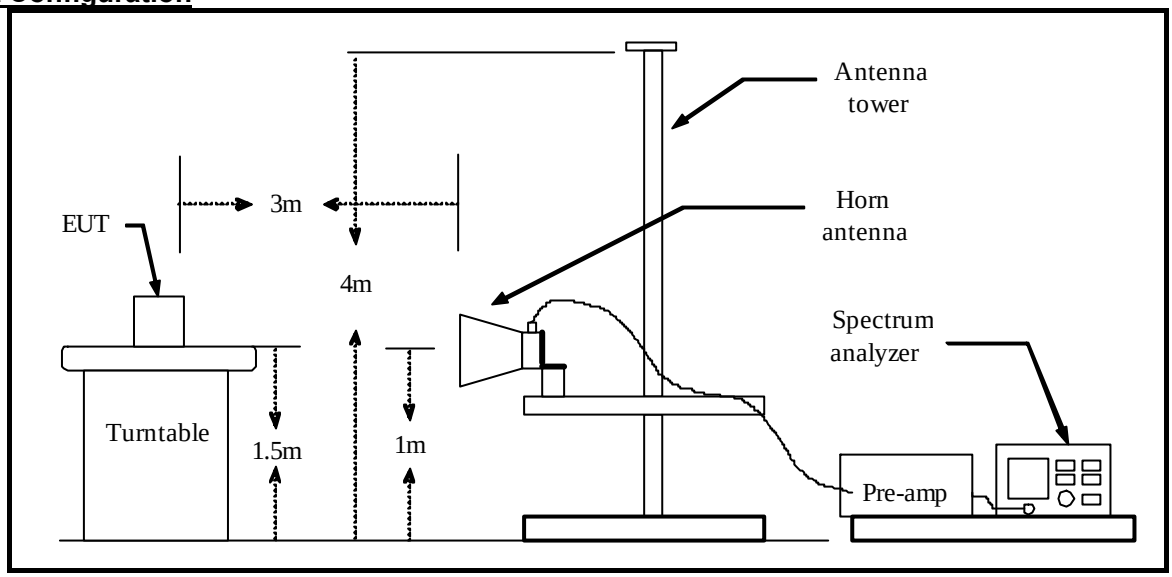
Note:Duty factor has been offseted with cableloss

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

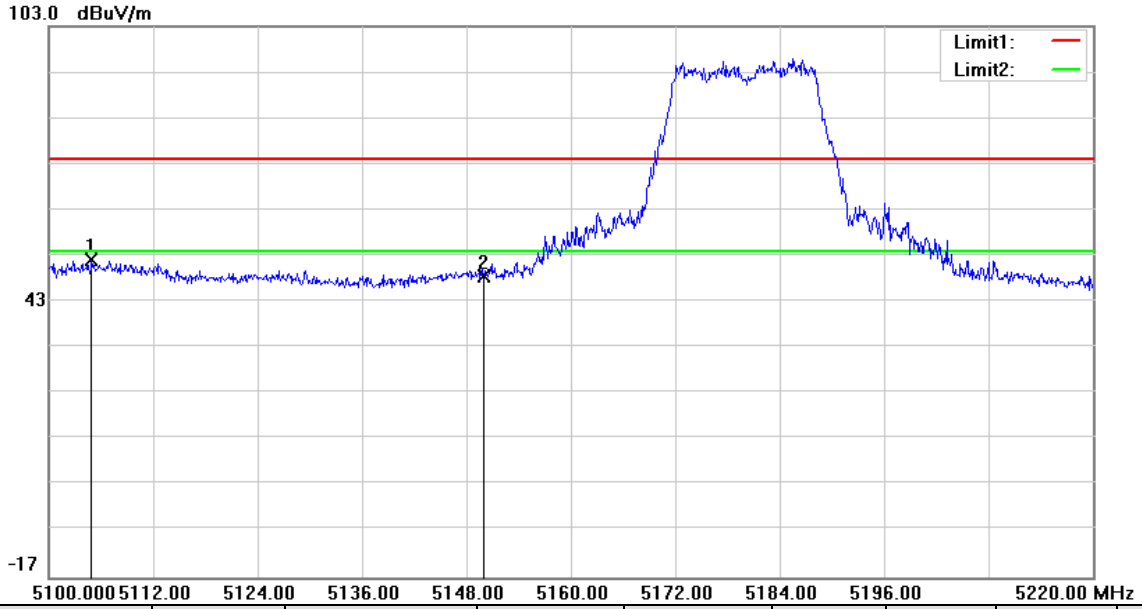
1. The EUT is placed on a turntable, which is 1.5m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the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

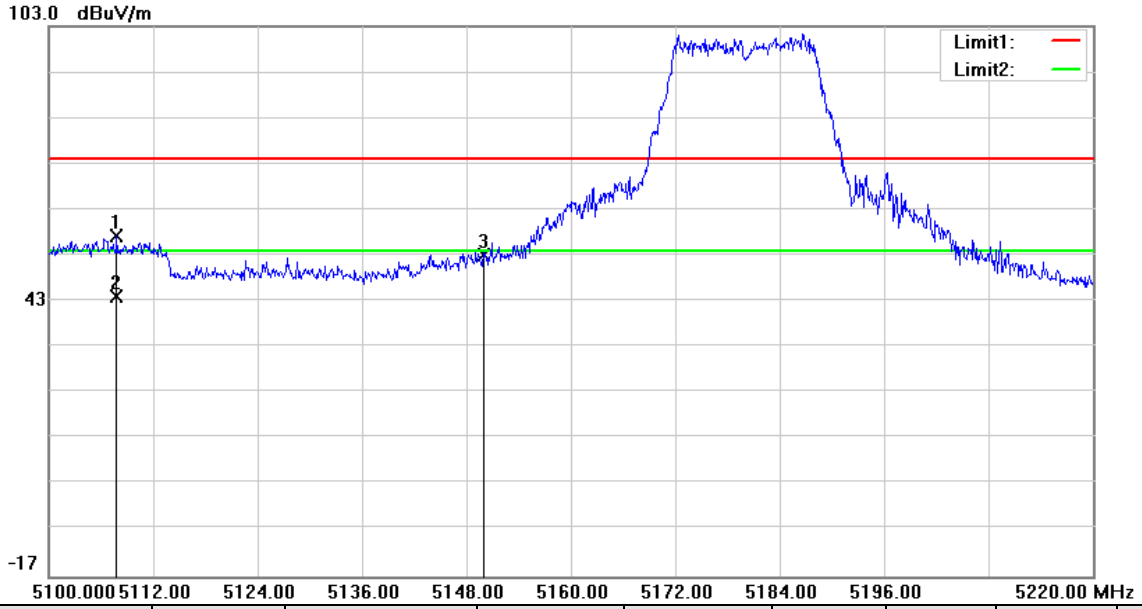
Band Edges (IEEE 802.11a mode)

Polarity: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5104.920	50.77	1.31	52.08	74.00	-21.92	100	257	peak
2	5150.000	47.08	1.31	48.39	74.00	-25.61	100	250	peak

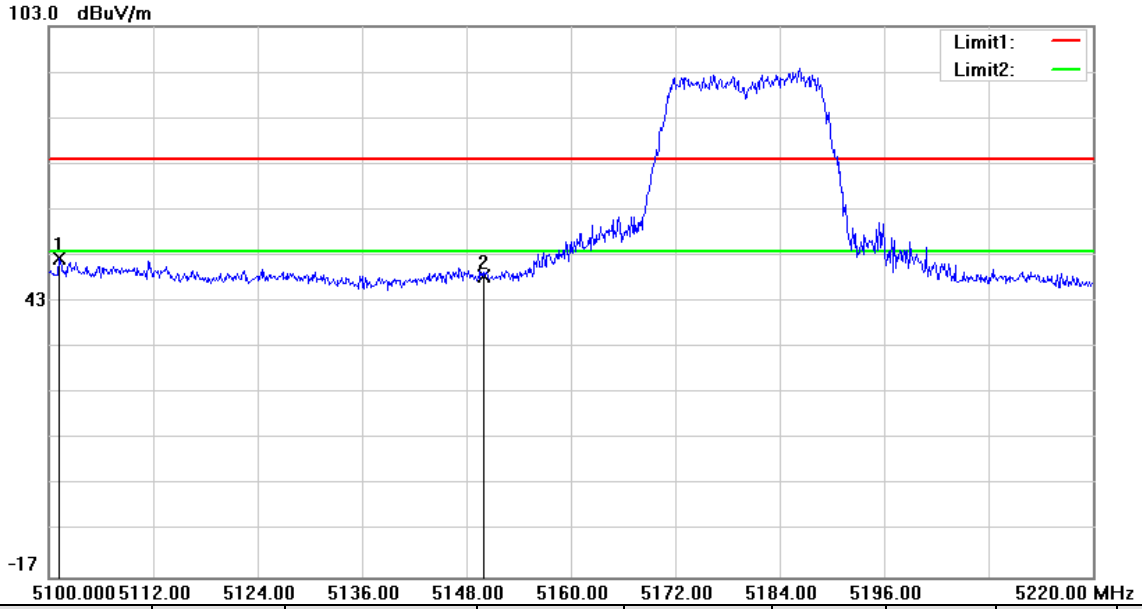
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5107.800	55.91	1.31	57.22	74.00	-16.78	100	235	peak
2	5107.800	42.78	1.31	44.09	54.00	-9.91	100	235	AVG
3	5150.000	51.67	1.31	52.98	74.00	-21.02	100	238	peak

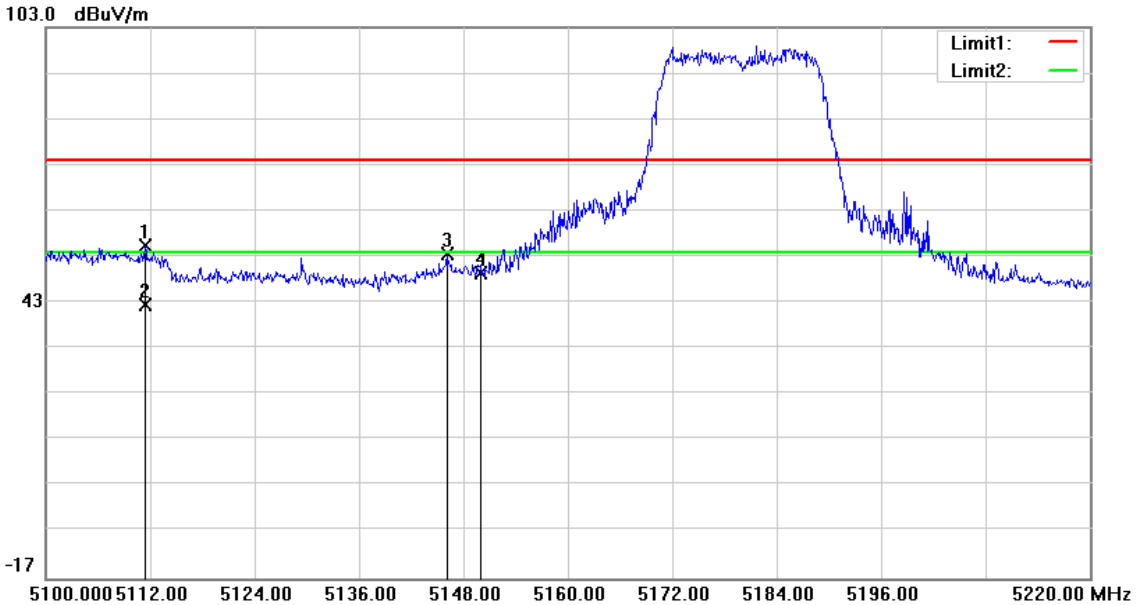
Band Edges (IEEE 802.11n HT20 mode)

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	5101.200	51.11	1.31	52.42	74.00	-21.58	100	211	peak
2	5150.000	47.32	1.31	48.63	74.00	-25.37	100	194	peak

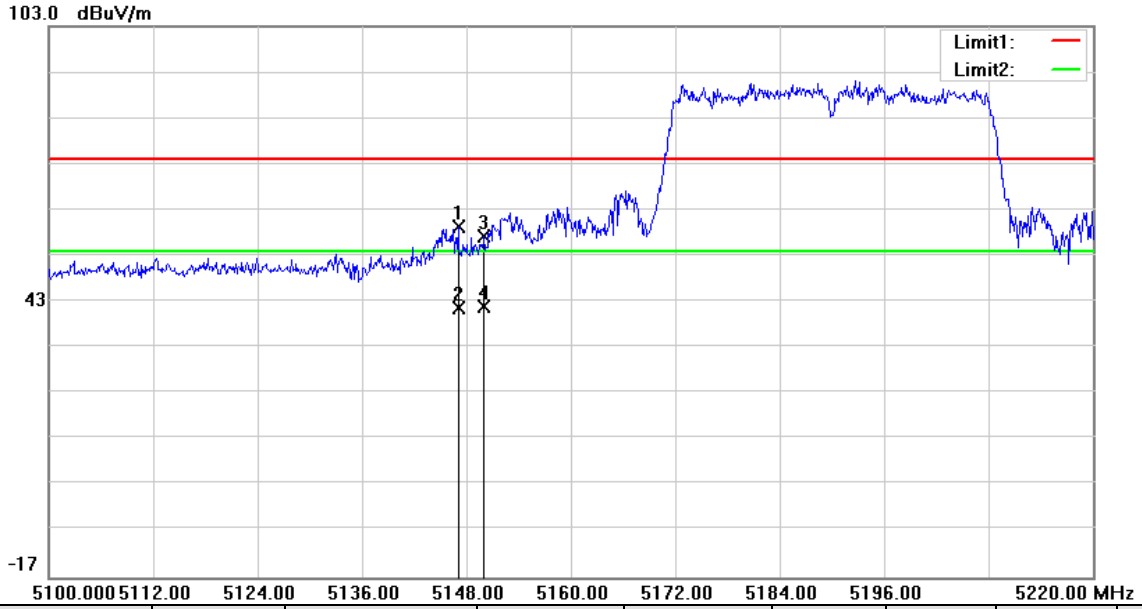
Polarity: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	5111.400	54.03	1.31	55.34	74.00	-18.66	100	226	peak
2	5111.400	41.11	1.31	42.42	54.00	-11.58	100	226	AVG
3	5146.080	52.25	1.31	53.56	74.00	-20.44	100	230	peak
4	5150.000	48.14	1.31	49.45	74.00	-24.55	100	240	peak

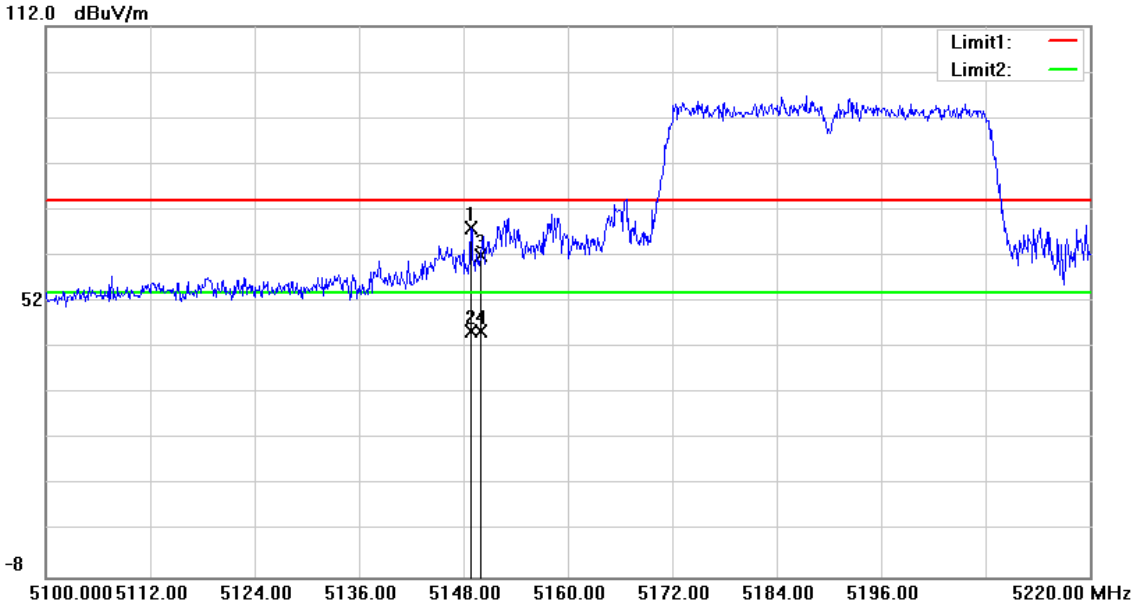
Band Edges (IEEE 802.11n HT40 mode)

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	5147.040	57.91	1.31	59.22	74.00	-14.78	100	246	peak
2	5147.040	40.39	1.31	41.70	54.00	-12.30	100	246	AVG
3	5150.000	55.90	1.31	57.21	74.00	-16.79	100	214	peak
4	5150.000	40.65	1.31	41.96	54.00	-12.04	100	214	AVG

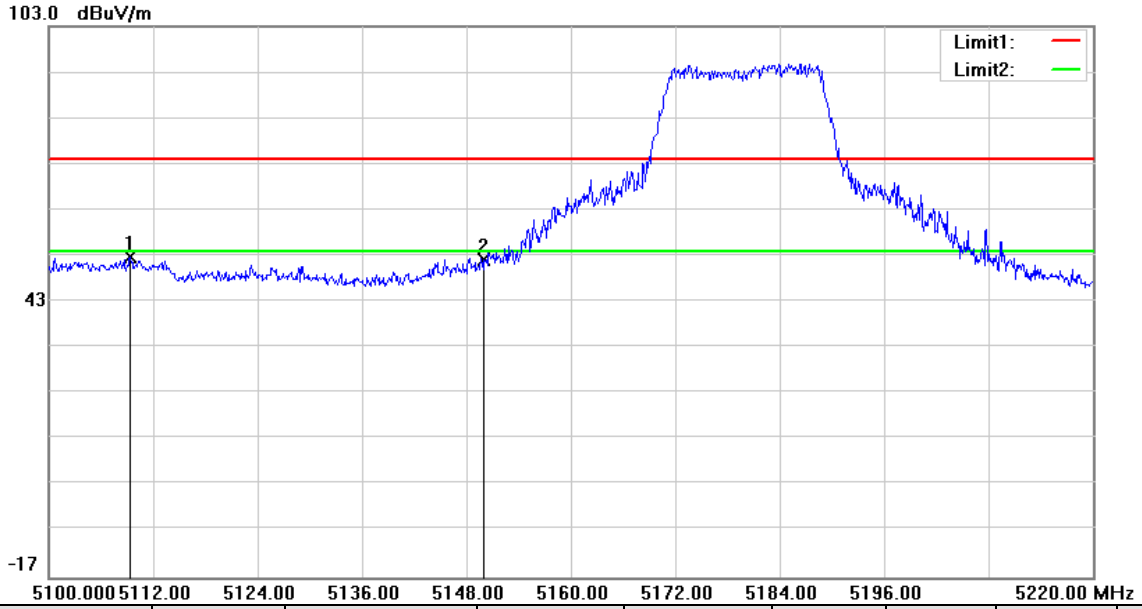
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5148.840	66.59	1.31	67.90	74.00	-6.10	100	225	peak
2	5148.840	44.12	1.31	45.43	54.00	-8.57	100	225	AVG
3	5150.000	60.62	1.31	61.93	74.00	-12.07	100	235	peak
4	5150.000	44.37	1.31	45.68	54.00	-8.32	100	235	AVG

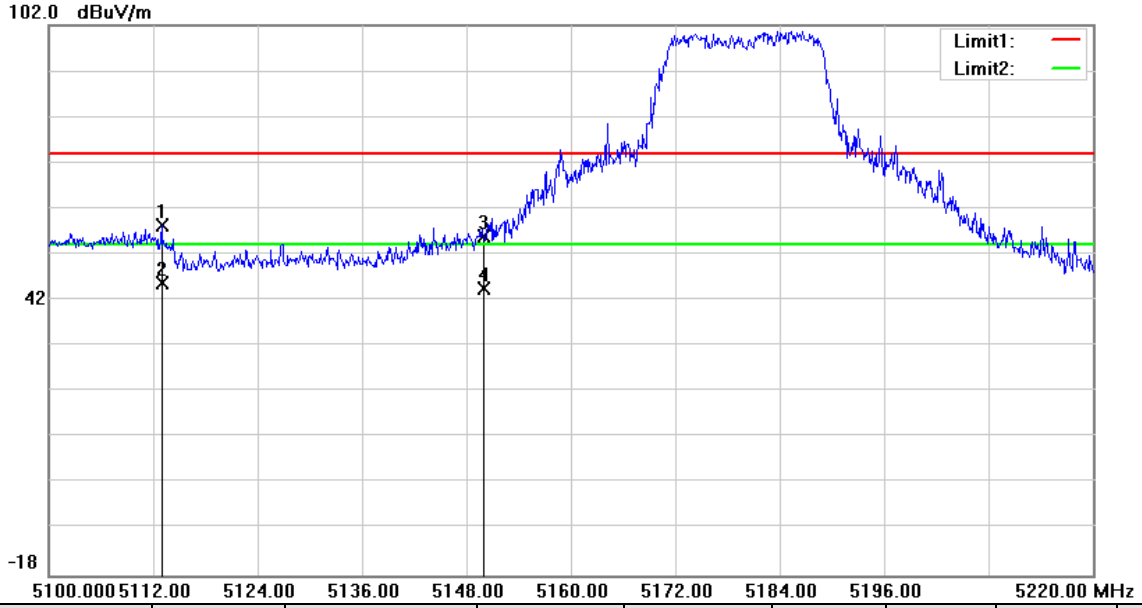
Band Edges (IEEE 802.11ac VHT20 mode)

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	5109.360	51.36	1.31	52.67	74.00	-21.33	100	243	peak
2	5150.000	50.84	1.31	52.15	74.00	-21.85	100	208	peak

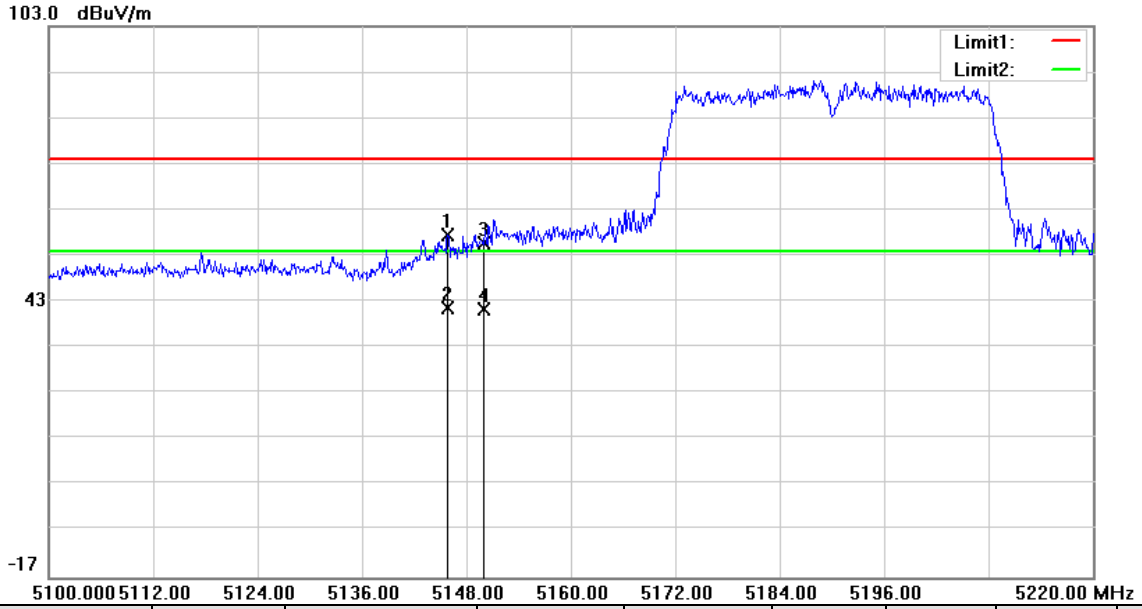
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5112.960	57.09	1.31	58.40	74.00	-15.60	100	228	peak
2	5112.960	44.41	1.31	45.72	54.00	-8.28	100	228	AVG
3	5150.000	54.59	1.31	55.90	74.00	-18.10	100	228	peak
4	5150.000	43.33	1.31	44.64	54.00	-9.36	100	228	AVG

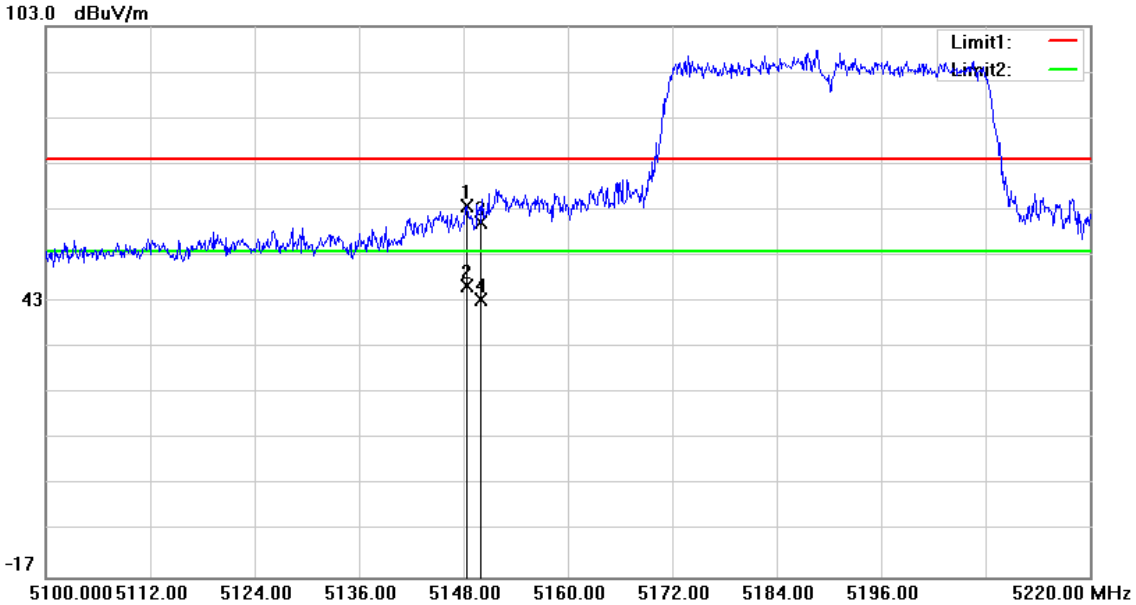
Band Edges (IEEE 802.11ac VHT40 mode)

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	5145.840	56.32	1.31	57.63	74.00	-16.37	100	242	peak
2	5145.840	40.21	1.31	41.52	54.00	-12.48	100	242	AVG
3	5150.000	54.33	1.31	55.64	74.00	-18.36	100	235	peak
4	5150.000	39.97	1.31	41.28	54.00	-12.72	100	235	AVG

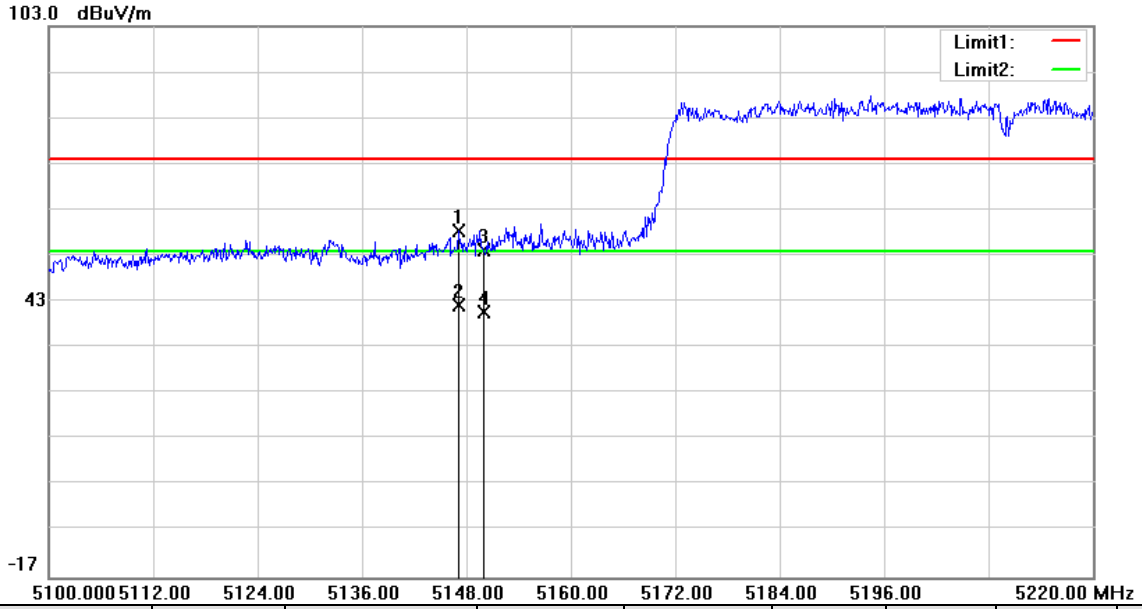
Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5148.360	62.52	1.31	63.83	74.00	-10.17	100	232	peak
2	5148.360	45.05	1.31	46.36	54.00	-7.64	100	232	AVG
3	5150.000	58.93	1.31	60.24	74.00	-13.76	100	256	peak
4	5150.000	42.20	1.31	43.51	54.00	-10.49	100	256	AVG

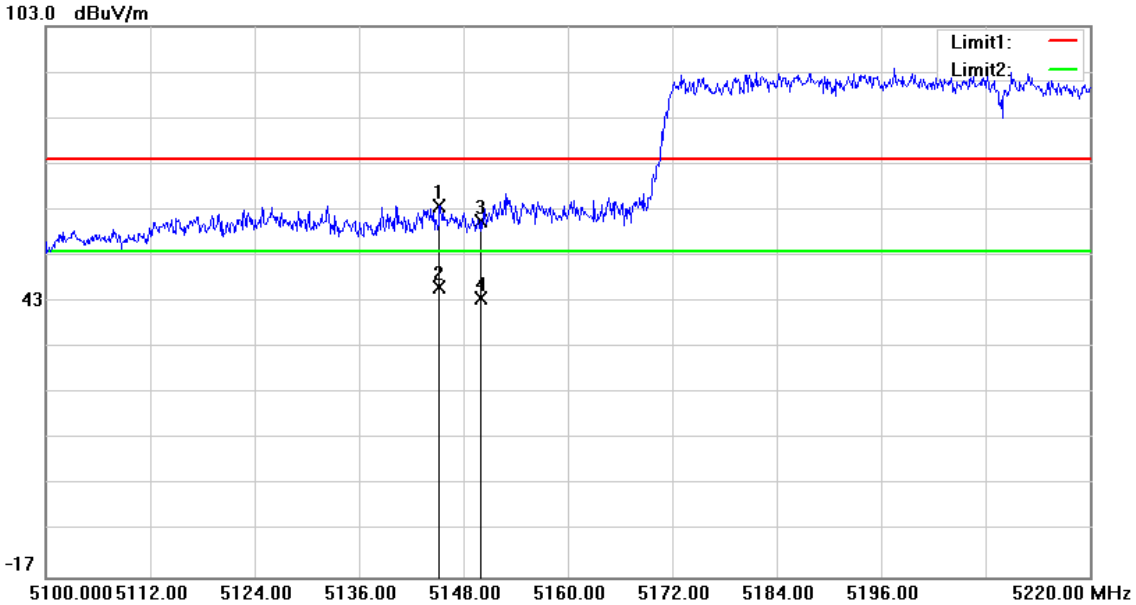
Band Edges (IEEE 802.11ac VHT80 mode)

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	5147.040	57.11	1.31	58.42	74.00	-15.58	100	243	peak
2	5147.040	41.05	1.31	42.36	54.00	-11.64	100	243	AVG
3	5150.000	53.03	1.31	54.34	74.00	-19.66	100	235	peak
4	5150.000	39.32	1.31	40.63	54.00	-13.37	100	235	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	5145.240	62.67	1.31	63.98	74.00	-10.02	100	232	peak
	5145.240	44.92	1.31	46.23	54.00	-7.77	100	232	AVG
	5150.000	59.26	1.31	60.57	74.00	-13.43	100	243	peak
	5150.000	42.50	1.31	43.81	54.00	-10.19	100	243	AVG

7.4 MAXIMUM POWER SPECTRAL DENSITY

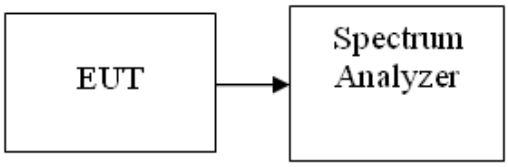
LIMIT

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	4.96	11.00	PASS
Mid	5200	5.60	11.00	PASS
High	5240	5.58	11.00	PASS

Test mode: IEEE 802.11n HT20MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	6.00	11.00	PASS
Mid	5200	5.59	11.00	PASS
High	5240	5.65	11.00	PASS

Test mode: IEEE 802.11n HT40MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5190	3.69	11.00	PASS
High	5230	3.68	11.00	PASS

Test mode: IEEE 802.11ac VHT20MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5180	5.69	11.00	PASS
Mid	5200	5.09	11.00	PASS
High	5240	6.13	11.00	PASS

Test mode: IEEE 802.11ac VHT40MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Low	5190	3.68	11.00	PASS
High	5230	3.44	11.00	PASS

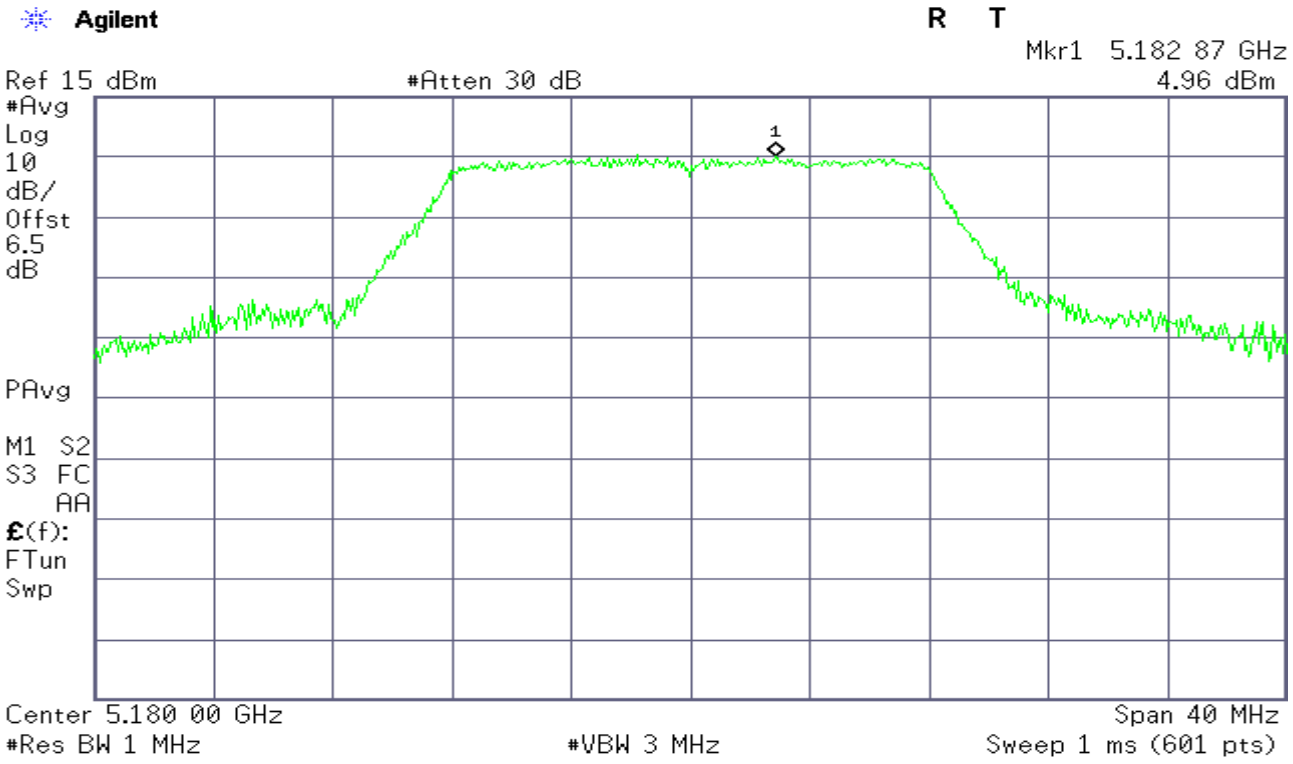
Test mode: IEEE 802.11ac VHT80MHz mode

Channel	Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Result
Mid	5210	0.78	11.00	PASS

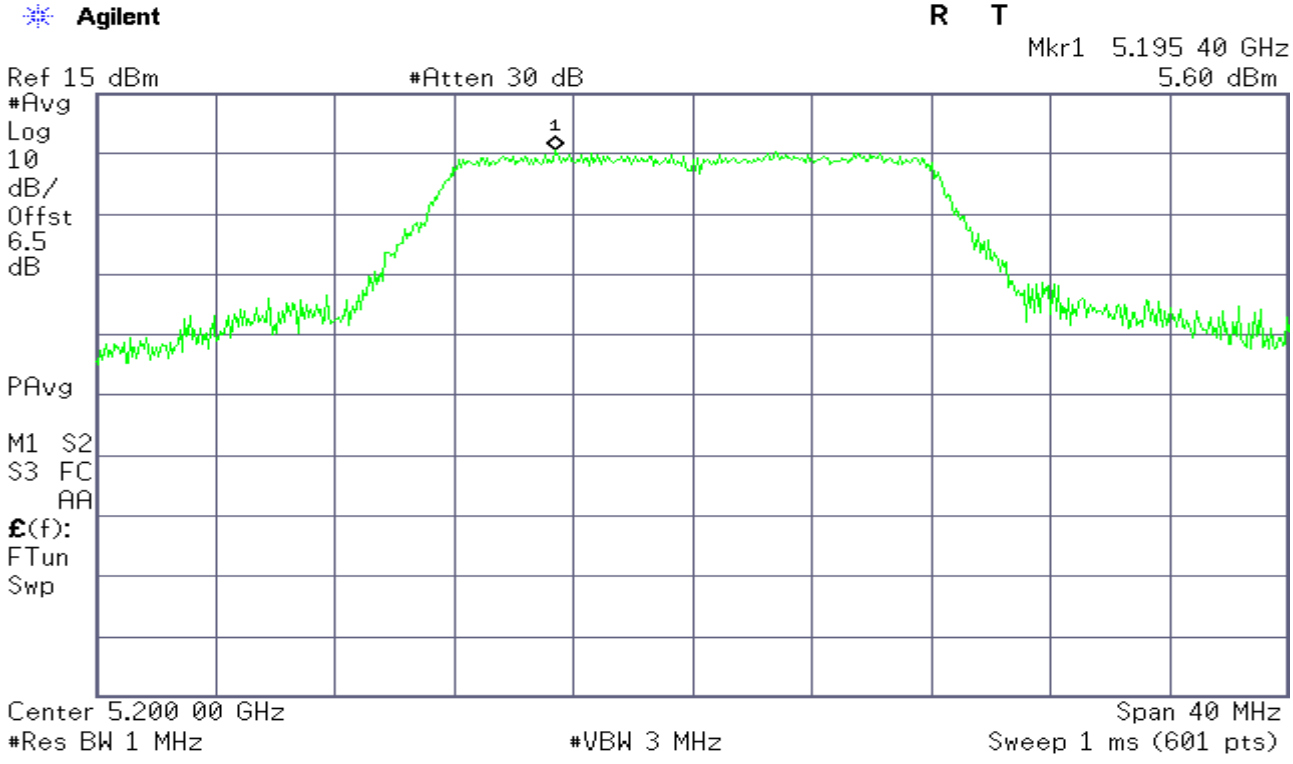
Note:Duty factor has been offseted with cableloss

Test Plot
IEEE 802.11a mode:

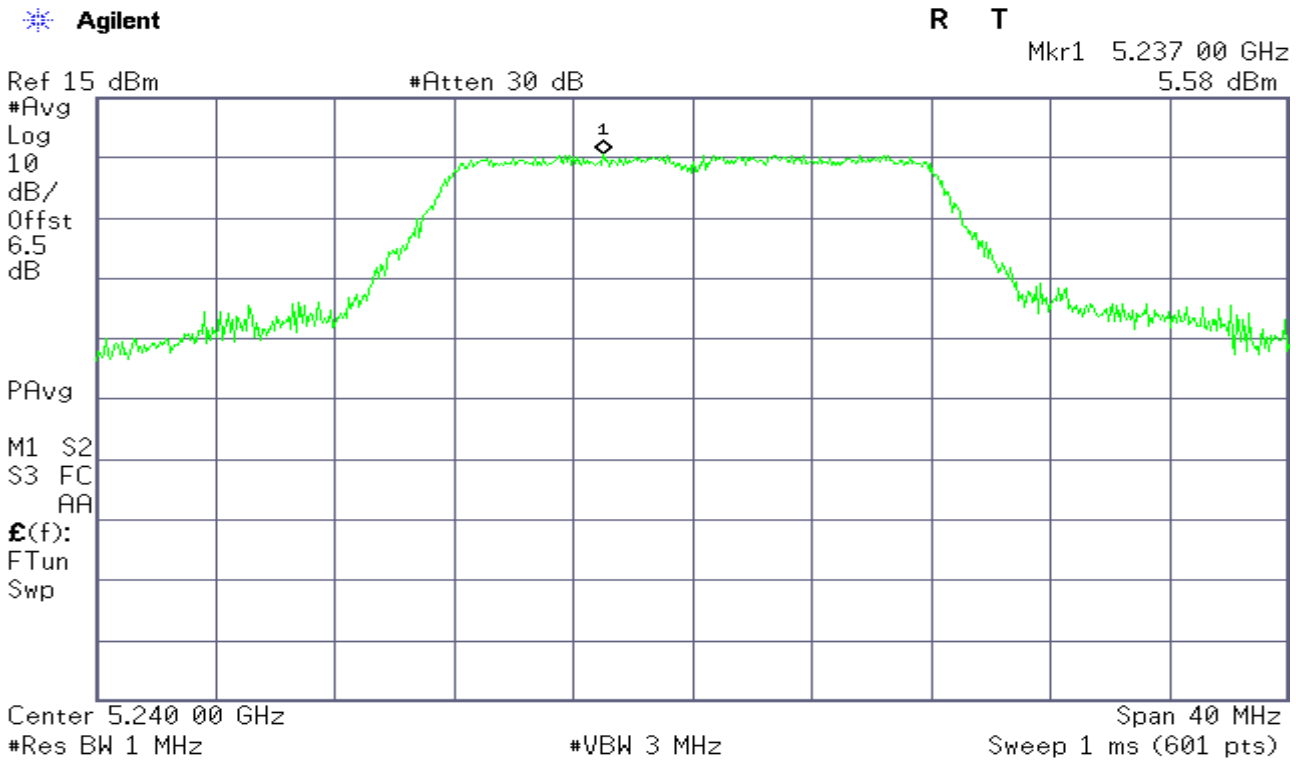
CH Low



CH Mid

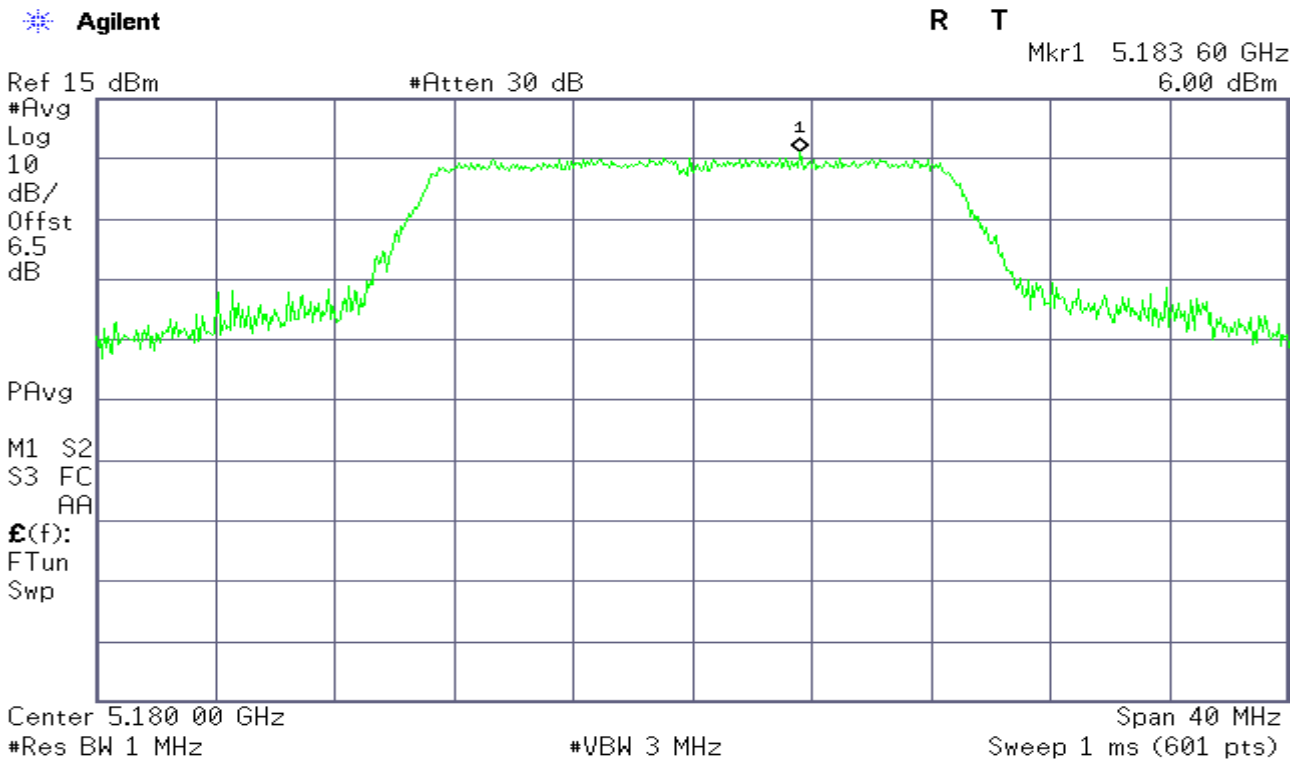


CH High

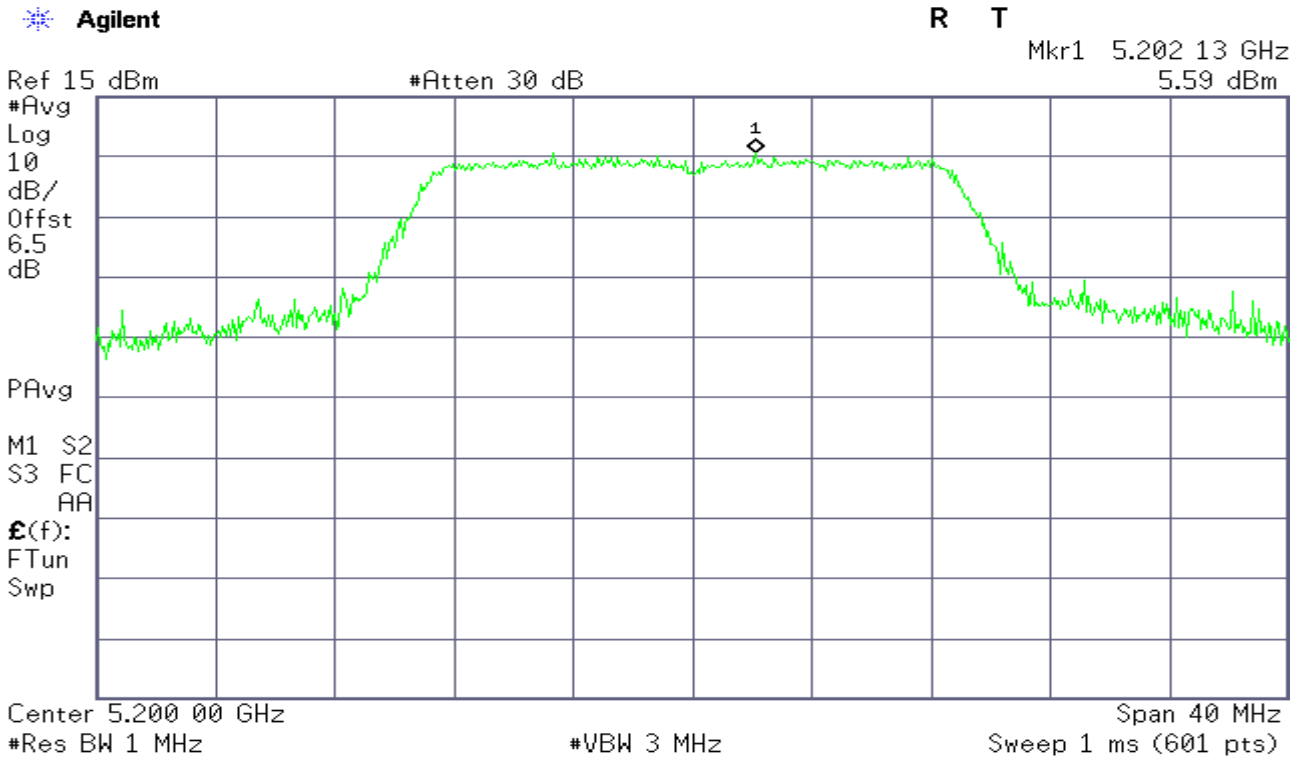


IEEE 802.11n HT20 mode

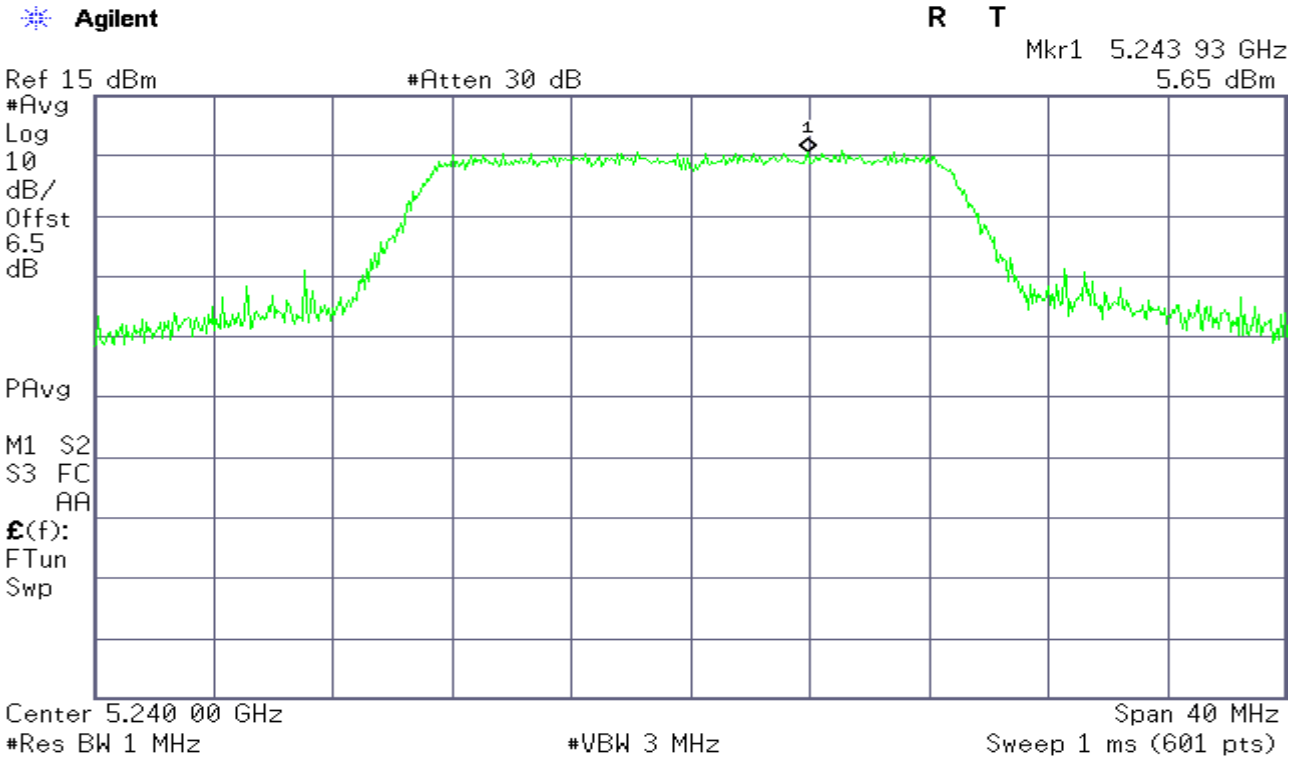
CH Low



CH Mid

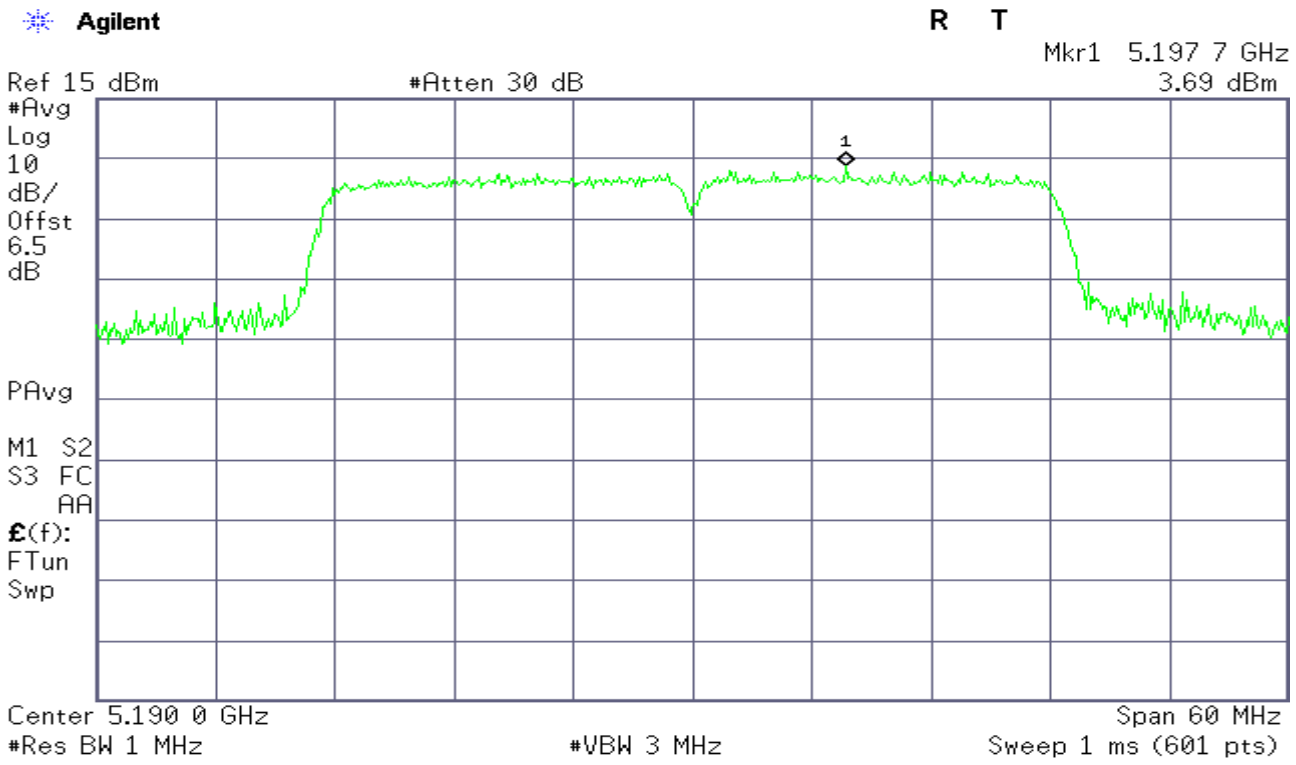


CH High

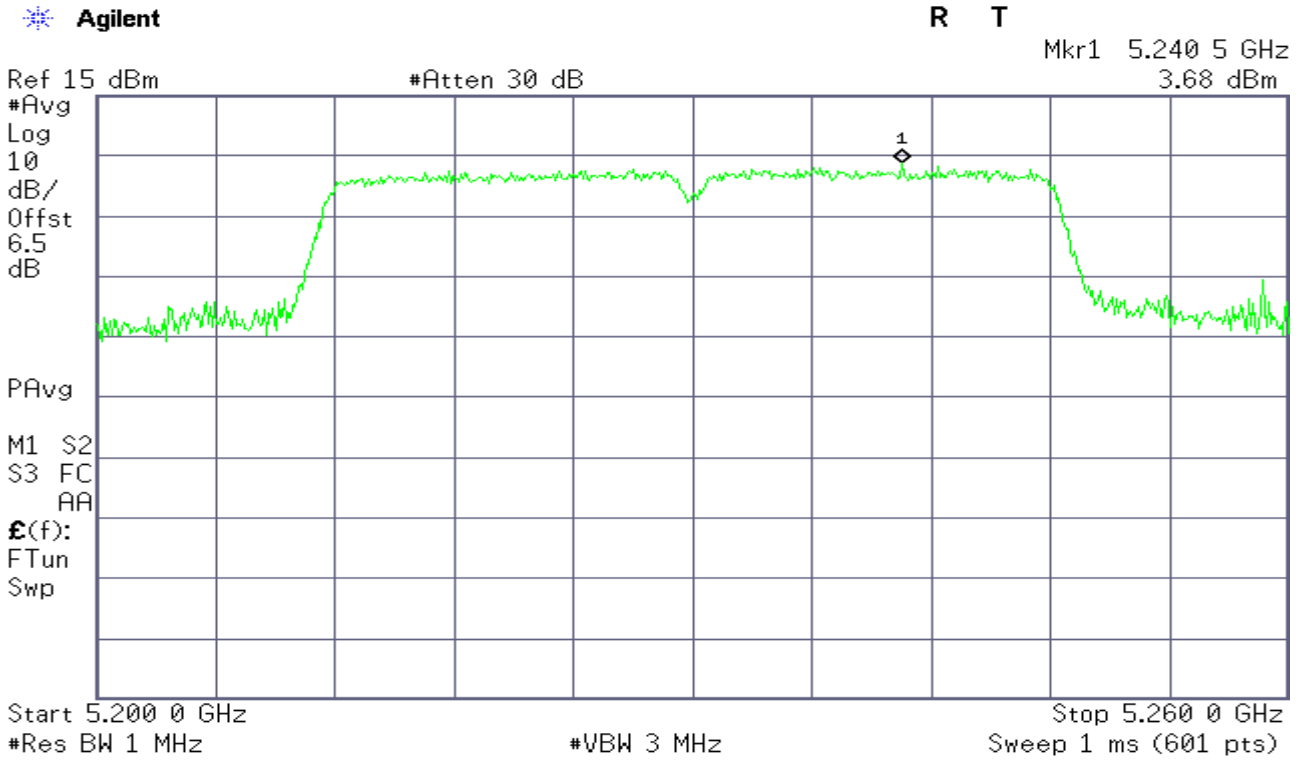


IEEE 802.11n HT40 mode

CH Low

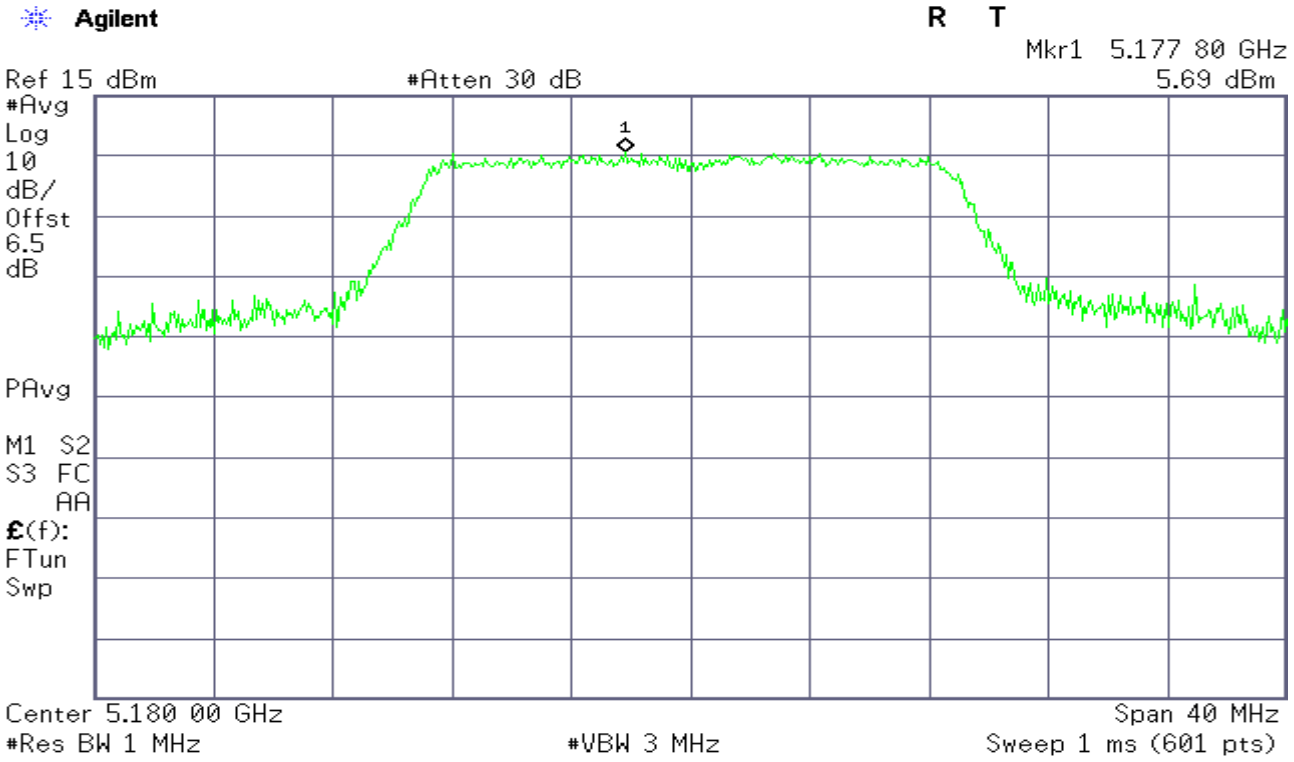


CH High

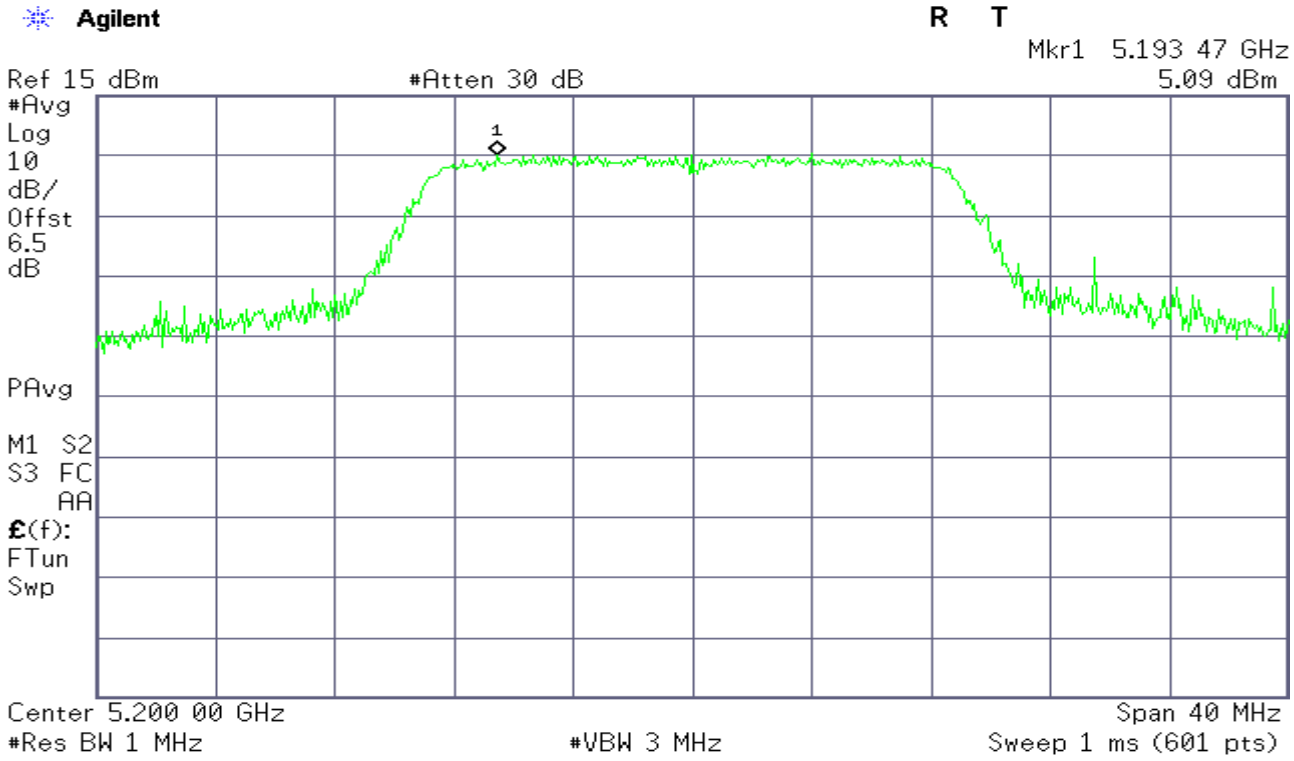


IEEE 802.11ac VHT20 mode

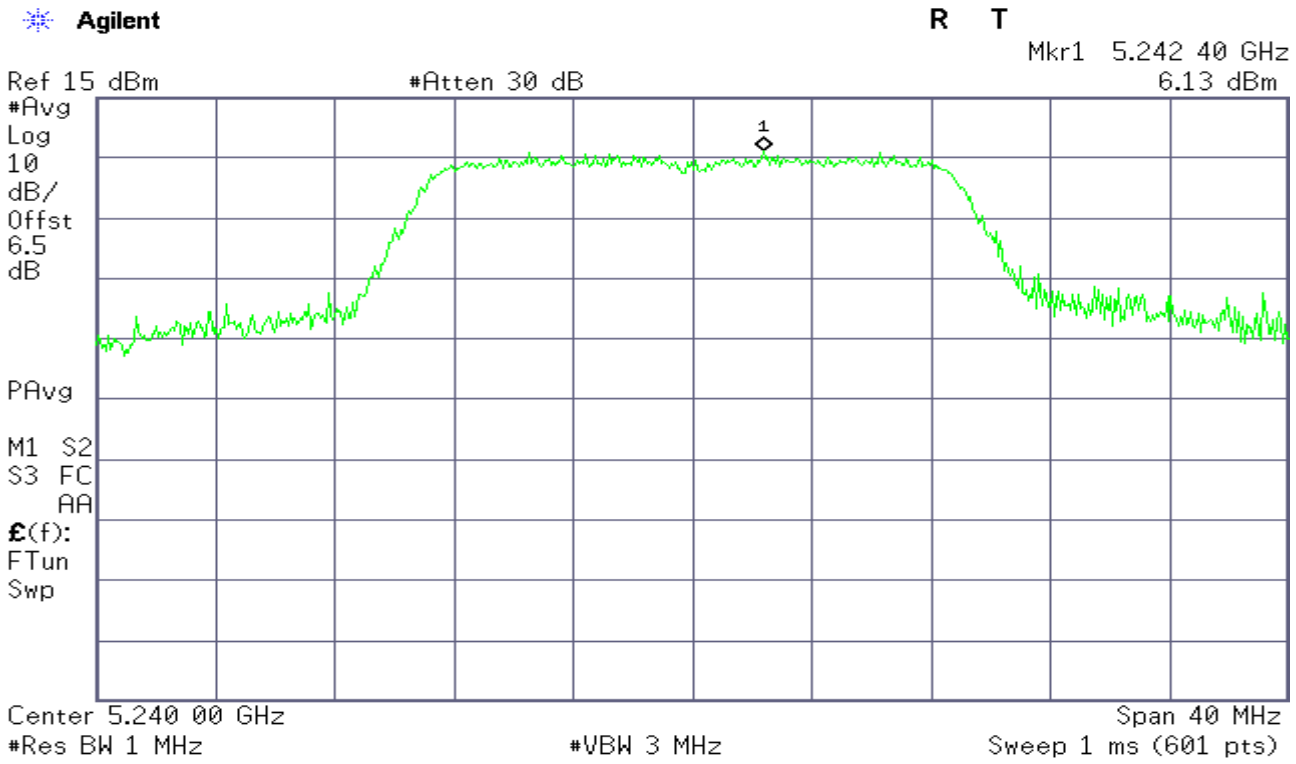
CH Low



CH Mid

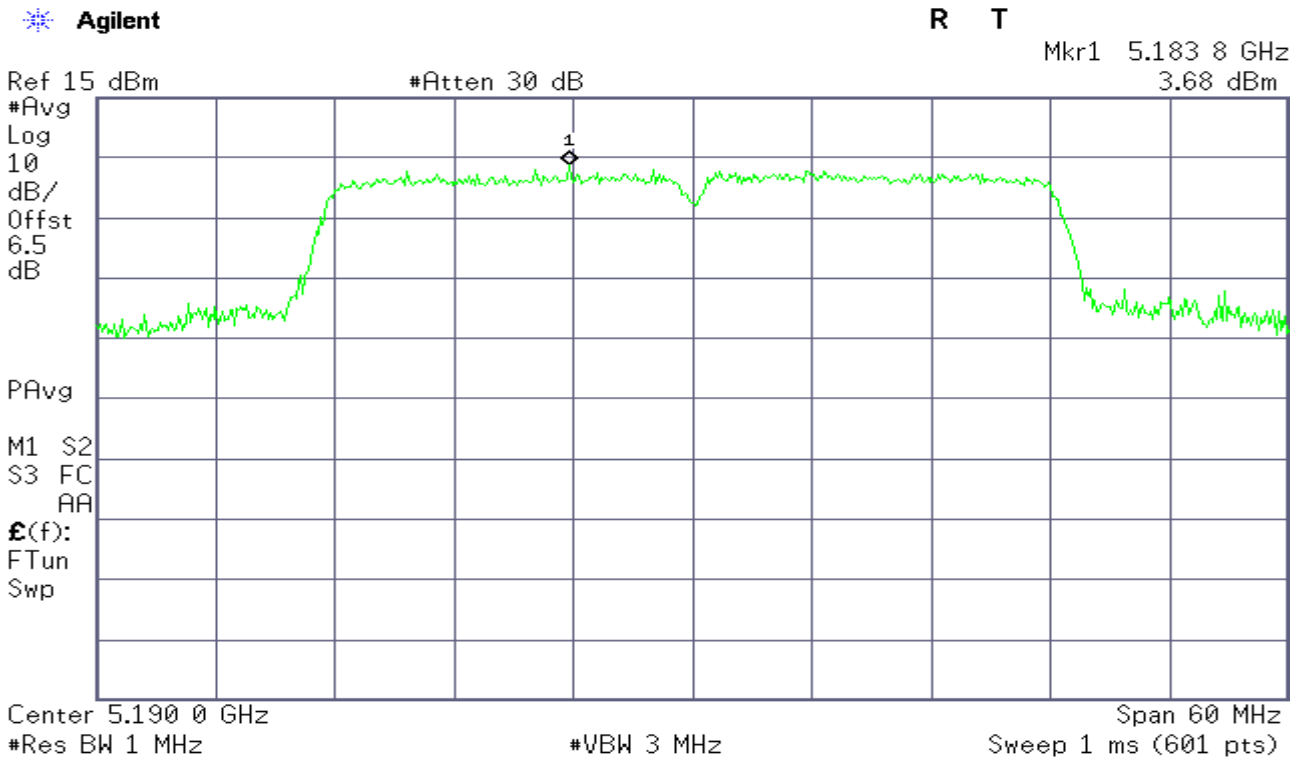


CH High

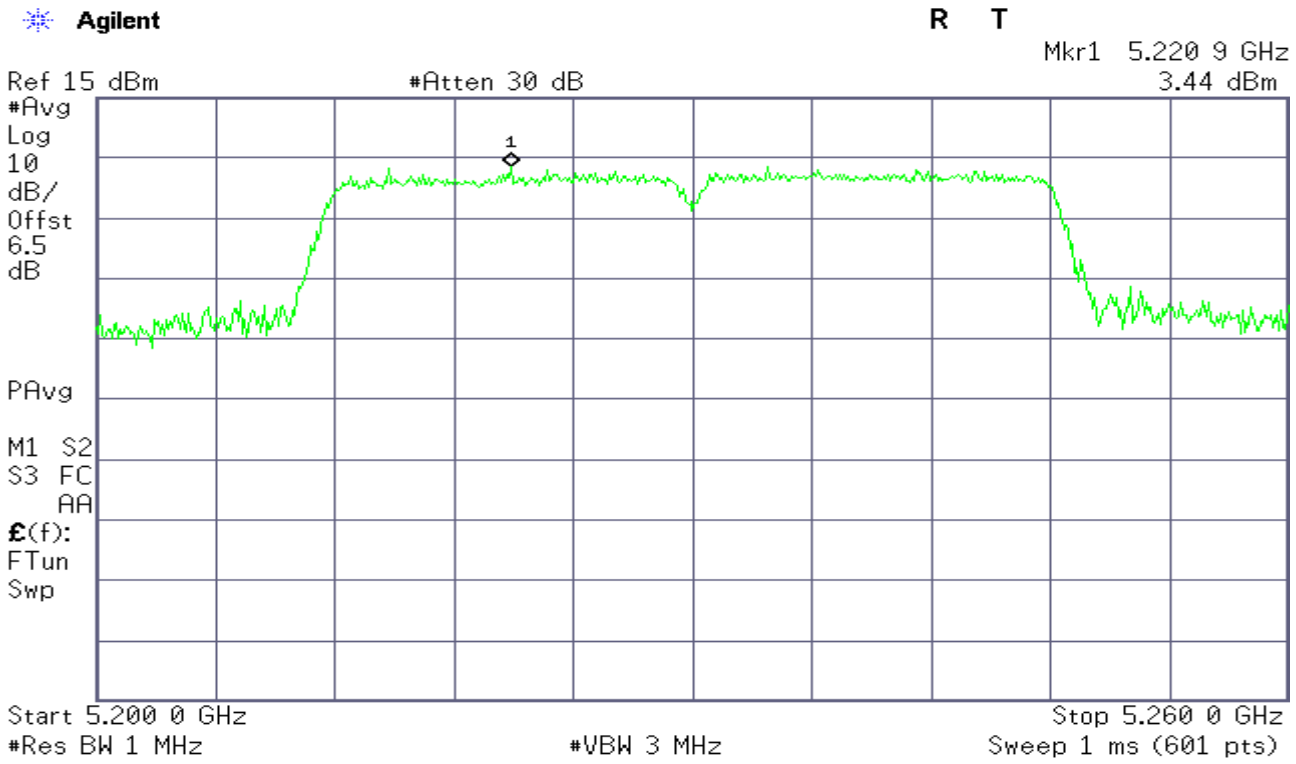


IEEE 802.11ac VHT40 mode

CH Low

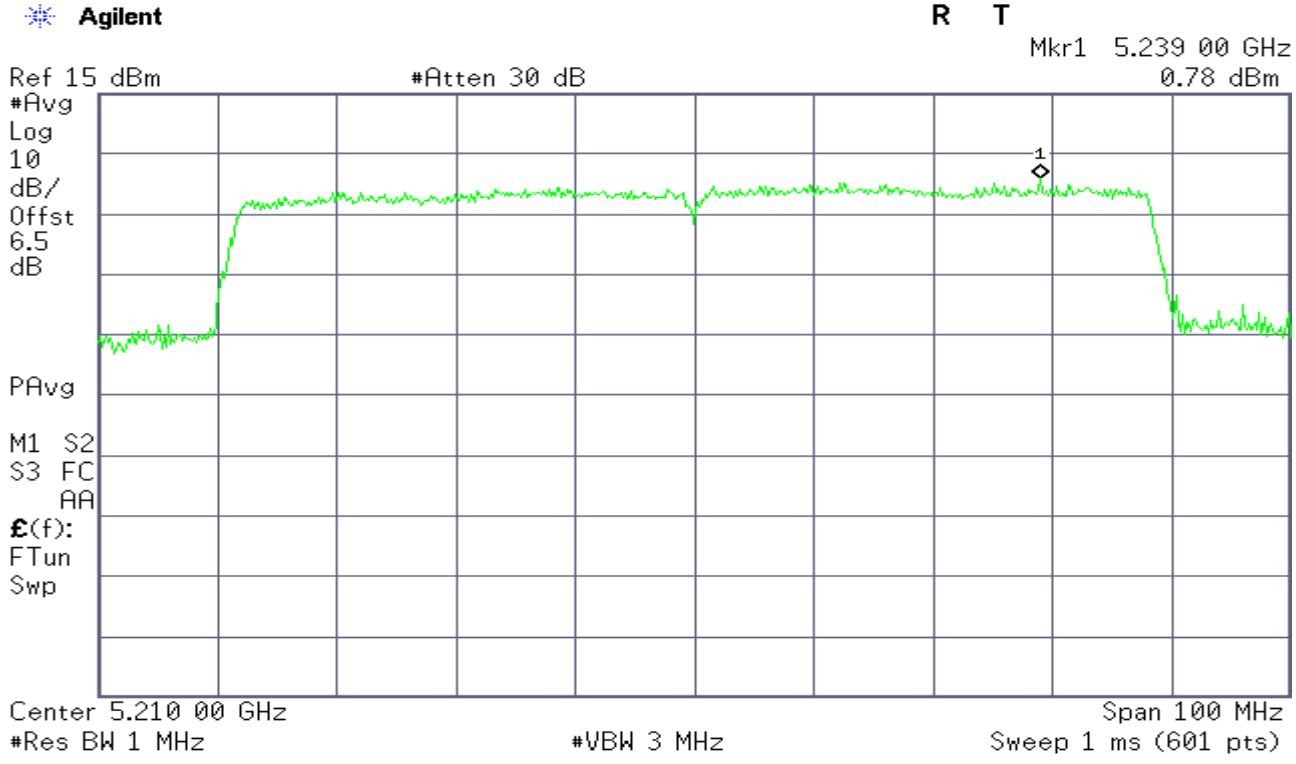


CH High



IEEE 802.11ac VHT80 mode

CH Mid



7.5 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

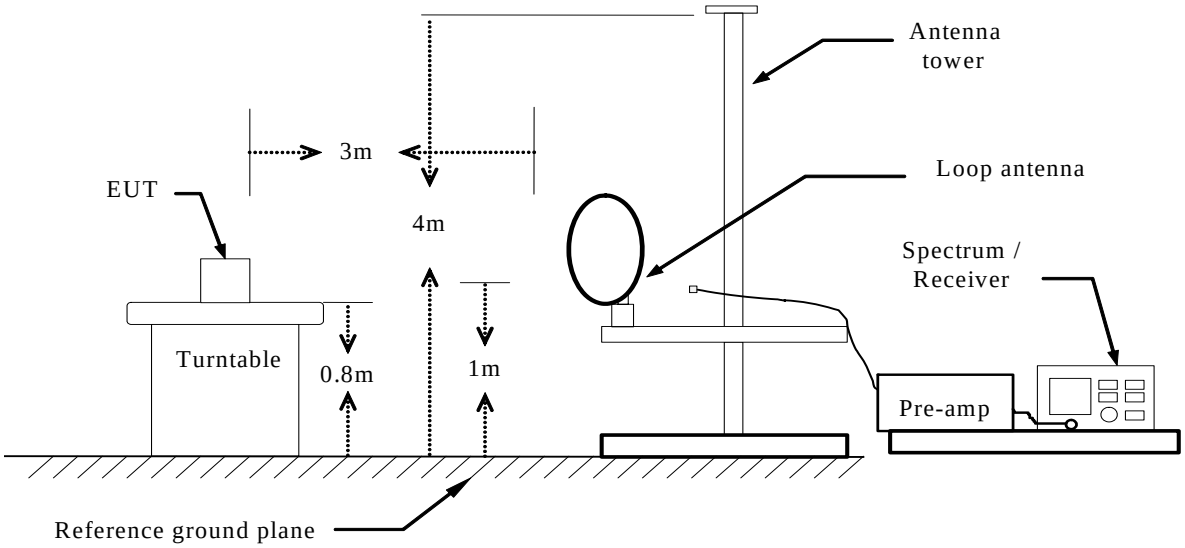
Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of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

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

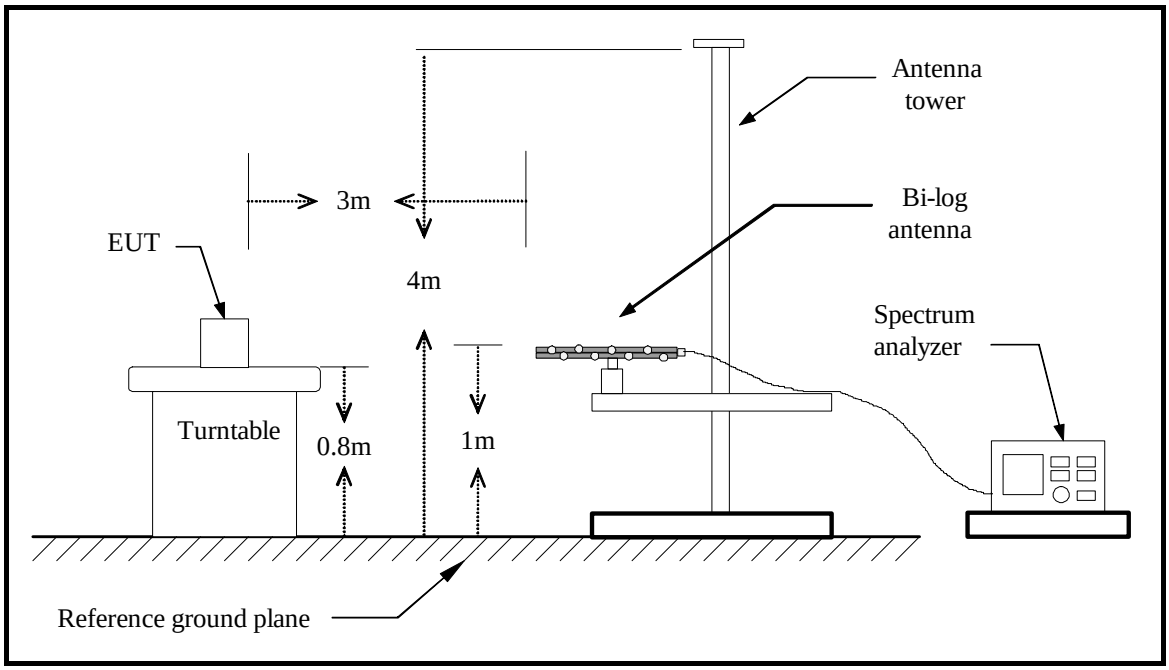
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

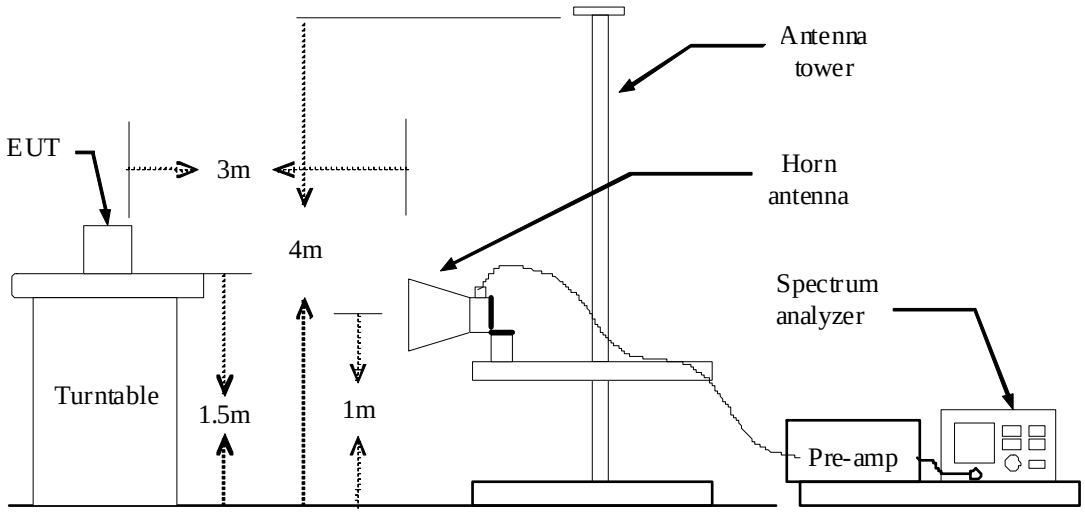
Below 30MHz



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

Below 1 GHz

Operation Mode:	Normal Link	**Test Date:**	206-5-19
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
32.9100	V	16.06	19.19	35.25	40.00	-4.75	QP
239.5200	V	26.12	13.20	39.32	46.00	-6.68	QP
375.3200	V	27.90	16.35	44.25	46.00	-1.75	QP
625.5800	V	22.75	20.50	43.25	46.00	-2.75	QP
750.7100	V	20.05	22.20	42.25	46.00	-3.75	QP
806.4500	V	21.90	22.93	44.83	46.00	-1.17	QP
30.9700	H	11.31	20.22	31.53	40.00	-8.47	QP
142.5200	H	21.57	10.96	32.53	43.50	-10.97	QP
239.5200	H	25.05	13.20	38.25	46.00	-7.75	QP
375.3200	H	23.90	16.35	40.25	46.00	-5.75	QP
809.7700	H	19.57	22.96	42.53	46.00	-3.47	QP
875.8400	H	19.27	23.56	42.83	46.00	-3.17	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:**	2016-5-24
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	10350.000	42.78	5.82	48.60	74.00	-25.40	100	96	peak
2	10350.000	33.86	5.82	39.68	54.00	-14.32	100	96	AVG
3	13087.000	42.41	9.75	52.16	74.00	-21.84	100	212	peak
4	13087.000	34.58	9.75	44.33	54.00	-9.67	100	212	AVG
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	10095.000	41.85	6.40	48.25	74.00	-25.75	100	22	peak
2	10095.000	33.65	6.40	40.05	54.00	-13.95	100	22	AVG
3	13206.000	41.26	9.52	50.78	74.00	-23.22	100	328	peak
4	13206.000	33.27	9.52	42.79	54.00	-11.21	100	328	AVG
N/A									

Operation Mode:	Tx / IEEE 802.11a mode CH Mid	**Test Date:**	2016-5-24
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	10435.000	41.08	5.63	46.71	74.00	-27.29	100	8	peak
2	10435.000	33.69	5.63	39.32	54.00	-14.68	100	8	AVG
	13529.000	40.67	8.92	49.59	74.00	-24.41	100	0	peak
	13529.000	34.17	8.92	43.09	54.00	-10.91	100	0	AVG
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	10095.000	40.95	6.40	47.35	74.00	-26.65	100	355	peak
2	10095.000	33.29	9.75	43.04	54.00	-10.96	100	355	AVG
3	13070.000	41.63	9.78	51.41	74.00	-22.59	100	280	peak
4	13070.000	31.48	9.78	41.26	54.00	-12.74	100	280	AVG
N/A									

Operation Mode:	Tx / IEEE 802.11a mode CH High	**Test Date:**	2016-5-24
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	10095.000	40.38	6.40	46.78	74.00	-27.22	100	114	peak
2	10095.000	32.18	9.75	41.93	54.00	-12.07	100	114	AVG
3	15059.000	38.57	5.11	43.68	74.00	-30.32	100	66	peak
4	15059.000	29.86	5.11	34.97	54.00	-19.03	100	66	AVG
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	11217.000	39.95	4.51	44.46	74.00	-29.54	100	252	peak
2	11217.000	28.95	4.51	33.46	54.00	-20.54	100	252	AVG
3	15705.000	37.47	1.58	39.05	74.00	-34.95	100	85	peak
4	15705.000	28.74	1.58	30.32	54.00	-23.68	100	85	AVG
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH Low	**Test Date:**	2016-5-24
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	10010.000	40.87	6.60	47.47	74.00	-26.53	100	153	peak
2	10010.000	31.42	5.11	36.53	54.00	-17.47	100	153	AVG
3	14447.000	39.30	6.87	46.17	74.00	-27.83	100	318	peak
4	14447.000	30.05	6.87	36.92	54.00	-17.08	100	318	AVG
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	10265.000	41.11	6.02	47.13	74.00	-26.87	100	191	peak
2	10265.000	32.59	6.02	38.61	54.00	-15.39	100	191	AVG
3	14175.000	38.38	7.58	45.96	74.00	-28.04	100	109	peak
4	14175.000	31.24	7.58	38.82	54.00	-15.18	100	109	AVG
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH Mid	Test Date:	2016-5-24
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	10894.000	38.78	4.58	43.36	74.00	-30.64	100	25	peak
2	10894.000	30.28	4.58	34.86	54.00	-19.14	100	25	AVG
3	14311.000	36.99	7.23	44.22	74.00	-29.78	100	155	peak
4	14311.000	28.41	7.23	35.64	54.00	-18.36	100	155	AVG
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	10639.000	38.43	5.16	43.59	74.00	-30.41	100	181	peak
2	10639.000	27.49	5.16	32.65	54.00	-21.35	100	181	AVG
3	14753.000	36.83	6.07	42.90	74.00	-31.10	100	21	peak
4	14753.000	26.55	6.07	32.62	54.00	-21.38	100	21	AVG
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH High	Test Date:	2016-5-24
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	11931.000	38.30	5.06	43.36	74.00	-30.64	100	69	peak
2	11931.000	28.49	5.06	33.55	54.00	-20.45	100	69	AVG
3	14243.000	37.65	7.41	45.06	74.00	-28.94	100	121	peak
4	14243.000	28.59	7.41	36.00	54.00	-18.00	100	121	AVG
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	10333.000	40.05	5.86	45.91	74.00	-28.09	100	102	peak
2	10333.000	31.47	5.86	37.33	54.00	-16.67	100	102	AVG
3	16266.000	37.35	1.73	39.08	74.00	-34.92	100	61	peak
4	16266.000	25.52	1.73	27.25	54.00	-26.75	100	61	AVG
N/A									

Operation Mode:	TX / IEEE 802.11n HT40 mode /CH Low	Test Date:	2016-5-24
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	10622.000	38.21	5.20	43.41	74.00	-30.59	100	100	peak
2	10622.000	29.64	5.20	34.84	54.00	-19.16	100	100	AVG
3	13614.000	38.88	8.76	47.64	74.00	-26.36	100	277	peak
4	13614.000	30.25	8.76	39.01	54.00	-14.99	100	277	AVG
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	11183.000	39.59	4.48	44.07	74.00	-29.93	100	205	peak
2	11183.000	29.87	4.48	34.35	54.00	-19.65	100	205	AVG
3	14209.000	37.01	7.49	44.50	74.00	-29.50	100	82	peak
4	14209.000	28.51	7.49	36.00	54.00	-18.00	100	82	AVG
N/A									

Operation Mode:	TX / IEEE 802.11n HT40 mode /CH High	Test Date:	2016-5-24
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	10078.000	38.36	6.44	44.80	74.00	-29.20	100	353	peak
2	10078.000	32.14	6.44	38.58	54.00	-15.42	100	353	AVG
3	14651.000	38.58	6.34	44.92	74.00	-29.08	100	15	peak
4	14651.000	31.07	6.34	37.41	54.00	-16.59	100	15	AVG
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	12067.000	39.08	5.43	44.51	74.00	-29.49	100	245	peak
2	12067.000	32.07	5.43	37.50	54.00	-16.50	100	245	AVG
3	17082.000	36.87	6.86	43.73	74.00	-30.27	100	146	peak
4	17082.000	29.06	6.86	35.92	54.00	-18.08	100	146	AVG
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT20 mode /CH Low	**Test Date:**	2016-5-24
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	10435.000	41.63	5.63	47.26	74.00	-26.74	100	151	peak
2	10435.000	32.57	5.63	38.20	54.00	-15.80	100	151	AVG
3	15671.000	38.35	1.77	40.12	74.00	-33.88	100	311	peak
4	15671.000	30.29	1.77	32.06	54.00	-21.94	100	311	AVG
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	10061.000	40.49	6.48	46.97	74.00	-27.03	100	274	peak
2	10061.000	30.29	6.48	36.77	54.00	-17.23	100	274	AVG
3	13920.000	39.98	8.19	48.17	74.00	-25.83	100	134	peak
4	13920.000	30.22	8.19	38.41	54.00	-15.59	100	134	AVG
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT20 mode /CH Mid	**Test Date:**	2016-5-24
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	10894.000	39.79	4.58	44.37	74.00	-29.63	100	52	peak
2	10894.000	29.71	4.58	34.29	54.00	-19.71	100	52	AVG
3	16997.000	37.20	6.58	43.78	74.00	-30.22	100	83	peak
4	16997.000	30.27	6.58	36.85	54.00	-17.15	100	83	AVG
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	12934.000	40.38	9.59	49.97	74.00	-24.03	100	348	peak
2	12934.000	32.07	9.59	41.66	54.00	-12.34	100	348	AVG
3	15382.000	39.31	3.34	42.65	74.00	-31.35	100	105	peak
4	15382.000	31.41	3.34	34.75	54.00	-19.25	100	105	AVG
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT20 mode /CH High	Test Date:	2016-5-24
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	11727.000	39.18	4.90	44.08	74.00	-29.92	100	141	peak
2	11727.000	32.01	4.90	36.91	54.00	-17.09	100	141	AVG
3	15399.000	39.85	3.25	43.10	74.00	-30.90	100	298	peak
4	15399.000	31.09	3.25	34.34	54.00	-19.66	100	298	AVG
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	11098.000	40.30	4.42	44.72	74.00	-29.28	100	23	peak
2	11098.000	32.62	4.42	37.04	54.00	-16.96	100	23	AVG
3	16079.000	37.32	0.49	37.81	74.00	-36.19	100	331	peak
4	16079.000	29.64	0.49	30.13	54.00	-23.87	100	331	AVG
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT40 mode /CH Low	Test Date:	2016-5-24
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	10027.000	38.55	6.56	45.11	74.00	-28.89	100	10	peak
2	10027.000	31.07	6.56	37.63	54.00	-16.37	100	10	AVG
3	13869.000	38.83	8.28	47.11	74.00	-26.89	100	82	peak
4	13869.000	30.21	8.28	38.49	54.00	-15.51	100	82	AVG
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	10333.000	40.41	5.86	46.27	74.00	-27.73	100	250	peak
2	10333.000	32.56	5.86	38.42	54.00	-15.58	100	250	AVG
3	14583.000	38.34	6.52	44.86	74.00	-29.14	100	202	peak
4	14583.000	31.47	6.52	37.99	54.00	-16.01	100	202	AVG
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT40 mode /CH High	**Test Date:**	2016-5-24
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	12475.000	37.48	7.39	44.87	74.00	-29.13	100	0	peak
2	12475.000	30.21	7.39	37.60	54.00	-16.40	100	0	AVG
3	16147.000	37.15	0.94	38.09	74.00	-35.91	100	97	peak
4	16147.000	30.28	0.94	31.22	54.00	-22.78	100	97	AVG
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	10469.000	41.02	5.55	46.57	74.00	-27.43	100	166	peak
2	10469.000	32.63	5.55	38.18	54.00	-15.82	100	166	AVG
3	13104.000	40.89	9.72	50.61	74.00	-23.39	100	207	peak
4	13104.000	31.79	9.72	41.51	54.00	-12.49	100	207	AVG
N/A									

Operation Mode:	TX / IEEE 802.11ac VHT80 mode /CH Mid	**Test Date:**	2016-5-24
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	10571.000	38.17	5.32	43.49	74.00	-30.51	100	254	peak
2	10571.000	30.25	5.32	35.57	54.00	-18.43	100	254	AVG
3	14906.000	36.95	5.68	42.63	74.00	-31.37	100	97	peak
4	14906.000	28.41	5.68	34.09	54.00	-19.91	100	97	AVG
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	10350.000	40.04	5.82	45.86	74.00	-28.14	100	338	peak
2	10350.000	32.08	5.82	37.90	54.00	-16.10	100	338	AVG
3	14651.000	41.42	6.34	47.76	74.00	-26.24	100	72	peak
4	14651.000	33.68	6.34	40.02	54.00	-13.98	100	72	AVG
N/A									

7.6 POWERLINE CONDUCTED EMISSIONS

LIMIT

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

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

** Decreases with the logarithm of the frequency.*

TEST CONFIGURATION

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

TEST PROCEDURE

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

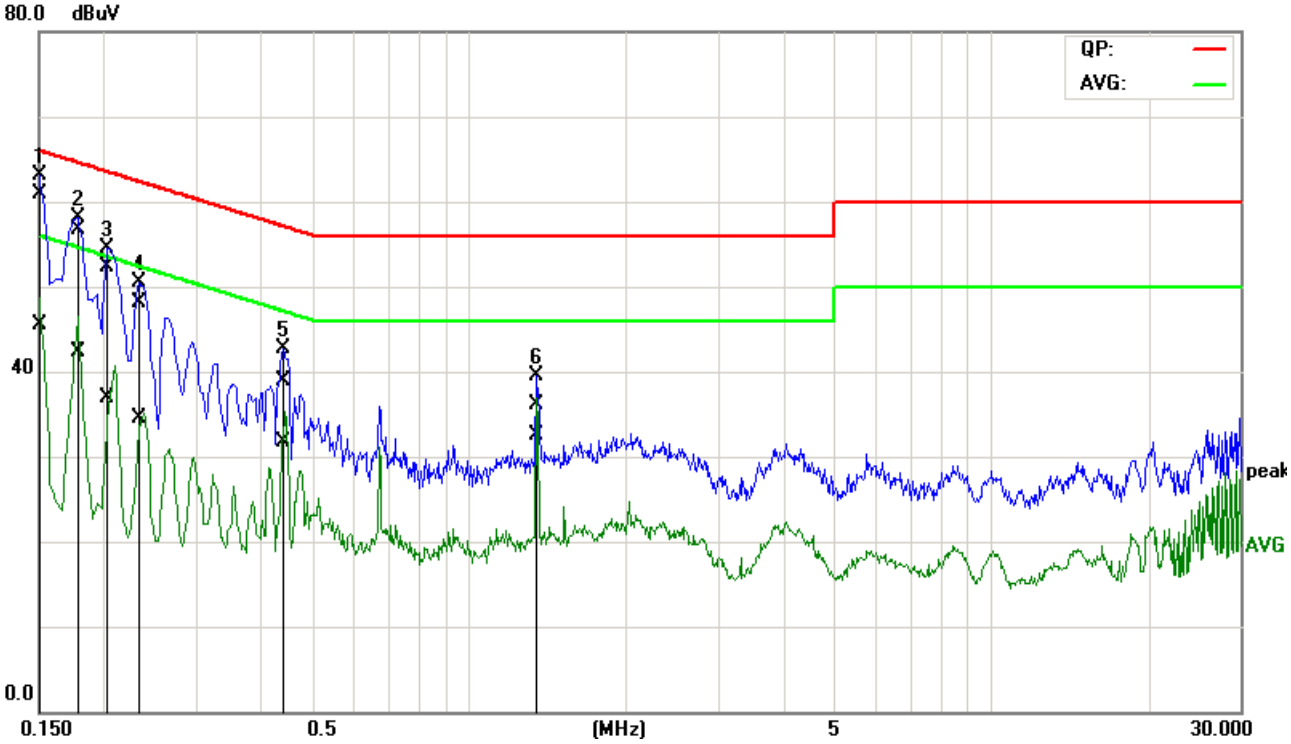
TEST RESULTS

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

Test Data

Job No.:	C160512R01	Date:	2016-5-19
Model No.:	850-033343	Time:	PM 04:45:37
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

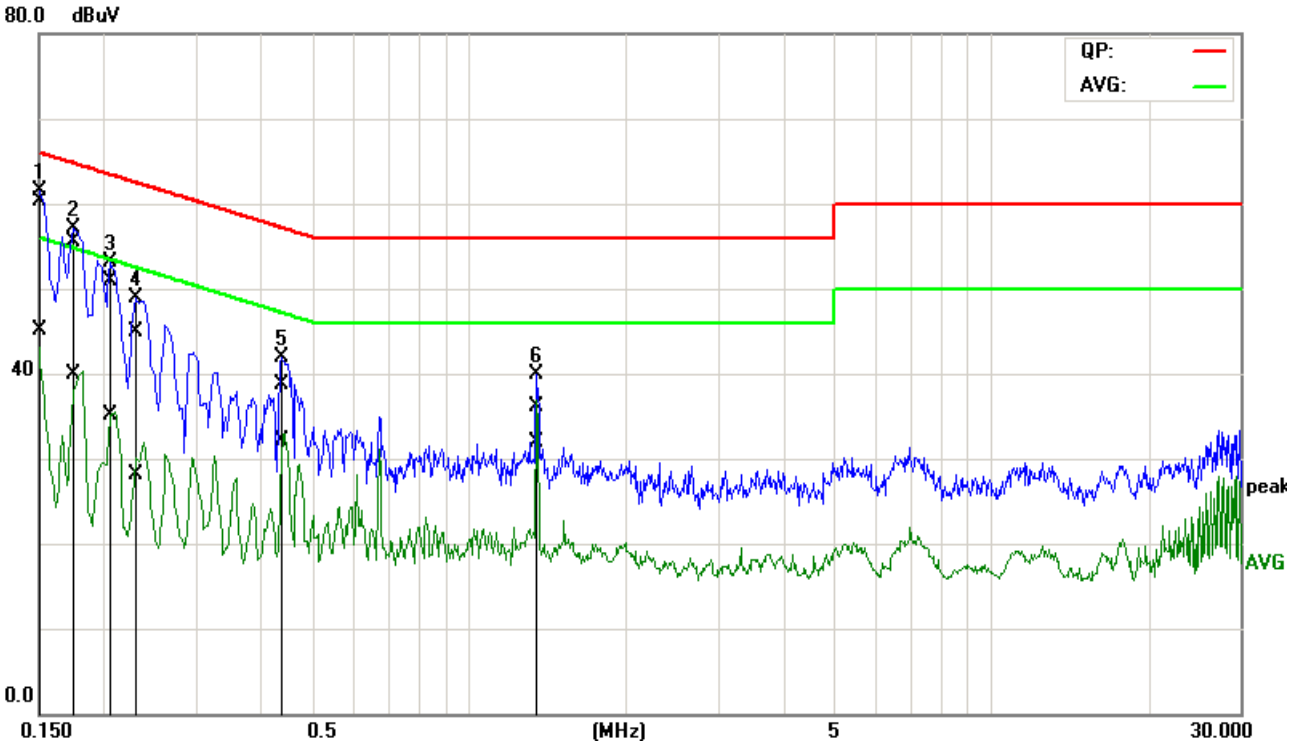


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1506	41.02	25.81	19.79	60.81	45.60	65.97	55.97	-5.16	-10.37	Pass
2	0.1764	36.98	22.43	19.79	56.77	42.22	64.65	54.65	-7.88	-12.43	Pass
3	0.2042	32.44	17.13	19.79	52.23	36.92	63.44	53.44	-11.21	-16.52	Pass
4	0.2347	28.38	14.69	19.80	48.18	34.49	62.28	52.28	-14.10	-17.79	Pass
5	0.4400	19.19	11.85	19.81	39.00	31.66	57.06	47.06	-18.06	-15.40	Pass
6	1.3483	16.25	12.68	19.81	36.06	32.49	56.00	46.00	-19.94	-13.51	Pass

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

Job No.:	C160512R01	Date:	2016-5-19
Model No.:	850-033343	Time:	PM 04:52:16
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

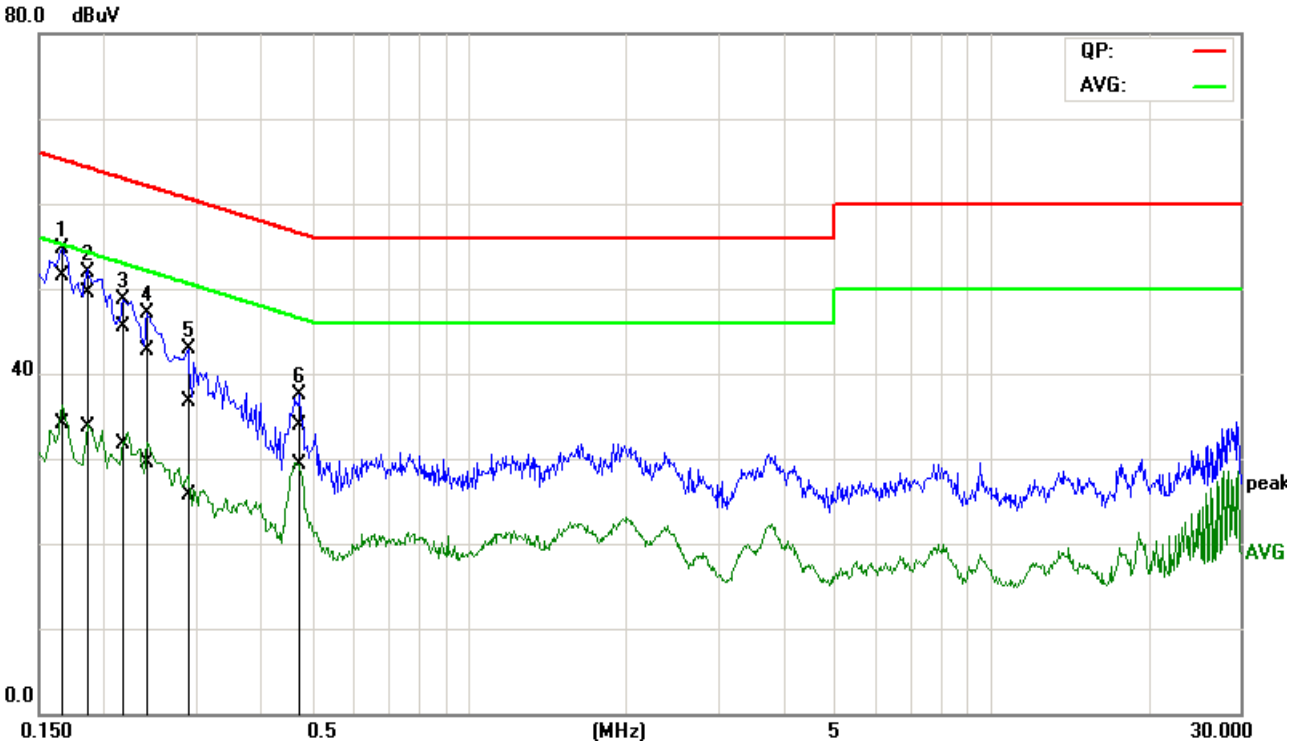


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1500	40.47	25.30	19.74	60.21	45.04	66.00	56.00	-5.79	-10.96	Pass
2	0.1755	35.72	20.07	19.74	55.46	39.81	64.70	54.70	-9.24	-14.89	Pass
3	0.2044	31.19	15.45	19.74	50.93	35.19	63.43	53.43	-12.50	-18.24	Pass
4	0.2310	25.25	8.43	19.75	45.00	28.18	62.41	52.41	-17.41	-24.23	Pass
5	0.4417	18.98	12.32	19.75	38.73	32.07	57.03	47.03	-18.30	-14.96	Pass
6	1.3484	16.34	12.10	19.75	36.09	31.85	56.00	46.00	-19.91	-14.15	Pass

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

Job No.:	C160512R01	Date:	2016-5-19
Model No.:	850-033343	Time:	PM 05:00:24
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

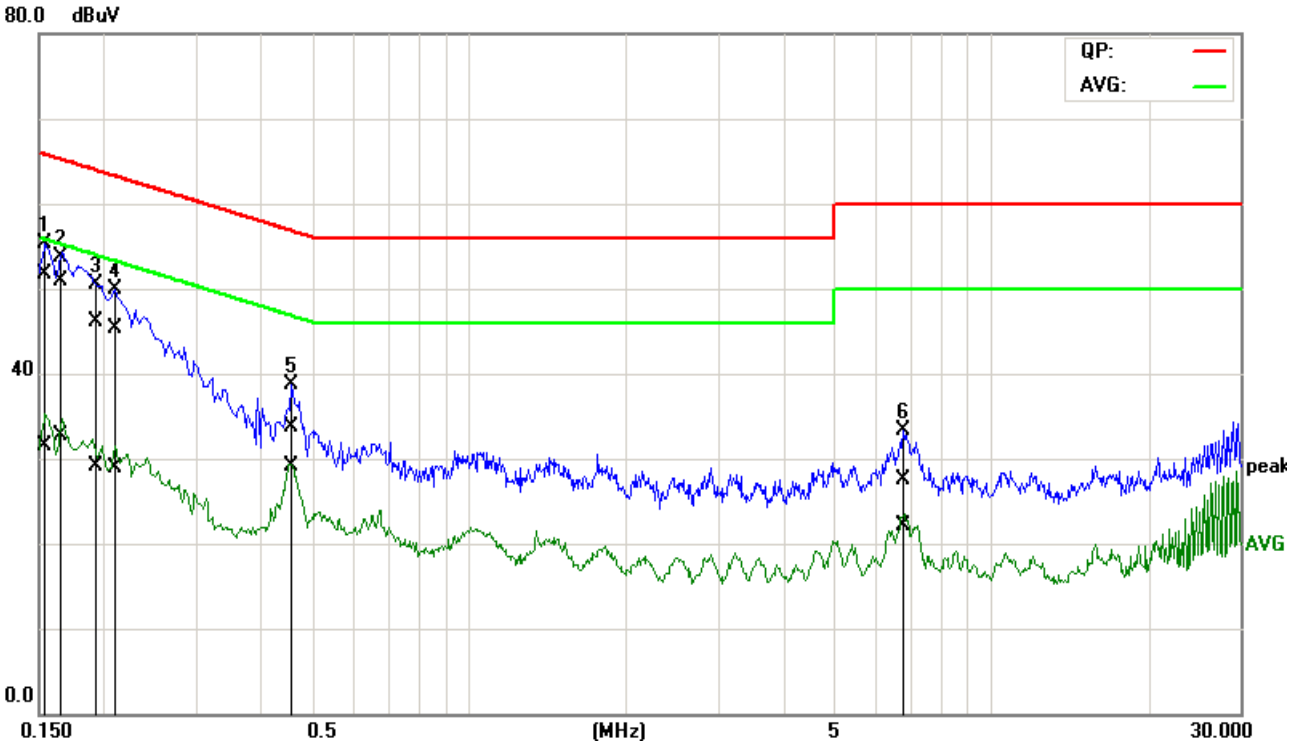


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1633	31.65	14.33	19.79	51.44	34.12	65.29	55.29	-13.85	-21.17	Pass
2	0.1877	29.81	13.83	19.79	49.60	33.62	64.14	54.14	-14.54	-20.52	Pass
3	0.2193	25.79	11.89	19.79	45.58	31.68	62.85	52.85	-17.27	-21.17	Pass
4	0.2395	22.82	9.78	19.80	42.62	29.58	62.11	52.11	-19.49	-22.53	Pass
5	0.2913	16.95	5.97	19.80	36.75	25.77	60.49	50.49	-23.74	-24.72	Pass
6	0.4713	14.08	9.42	19.81	33.89	29.23	56.49	46.49	-22.60	-17.26	Pass

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

Job No.:	C160512R01	Date:	2016-5-19
Model No.:	850-033343	Time:	PM 05:06:52
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*	0.1542	31.88	11.69	19.74	51.62	31.43	65.77	55.77	-14.15	-24.34	Pass
2	0.1624	31.08	12.88	19.74	50.82	32.62	65.34	55.34	-14.52	-22.72	Pass
3	0.1945	26.41	9.30	19.74	46.15	29.04	63.84	53.84	-17.69	-24.80	Pass
4	0.2114	25.65	9.26	19.74	45.39	29.00	63.15	53.15	-17.76	-24.15	Pass
5	0.4555	13.93	9.45	19.75	33.68	29.20	56.77	46.77	-23.09	-17.57	Pass
6	6.8032	7.58	2.15	19.88	27.46	22.03	60.00	50.00	-32.54	-27.97	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