FCC 47 CFR PART15 SUBPART E

For

Prepared by

Product Name: ClickShare CS-100

Brand Name: Barco

Model No.: R9861510

Series Model.: N/A

FCC ID: 2AAED-R9861510
IC: 9393B-R9861510

Test Report Number:

C151211R02-RPW1

Issued for

Barco NV

President Kennedypark 35, 8500 Kortrijk, Belgium

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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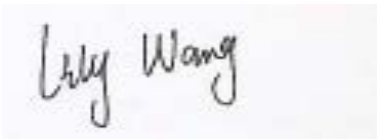
1 TEST RESULT CERTIFICATION

Product Name:	ClickShare CS-100
Trade Name:	Barco
Model Name.:	R9861510
Series Model:	N/A
Applicant Discrepancy:	Initial
Device Category:	Portable device
Date of Test:	December 20, 2015 ~ January 10, 2016
Applicant:	**Barco NV** President Kennedypark 35, 8500 Kortrijk, Belgium
Manufacturer:	**Barco NV** President Kennedypark 35, 8500 Kortrijk, Belgium
Application Type:	Certification

APPLICABLE STANDARDS	
STANDARD	**TEST RESULT**
FCC 47 CFR Part 15 Subpart E	No non-compliance noted
Canada RSS-247 Issue 1	No non-compliance noted
Canada RSS-Gen Issue 4	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 – 20140606.
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:	ClickShare CS-100
Brand Name:	Barco
Model Name:	R9861510
Series Model:	N/A
Model Discrepancy:	N/A
Power Adapter:	Brand Name: GLOBTEK Model :GT-46180-1812 Input: 100-240V~0.6A 50-60Hz Output: DC12V 1.5A
Frequency Range :	5.15-5.25GHz
Transmit Power :	IEEE802.11a mode: 17.87 dBm IEEE802.11an HT20 mode: 15.13 dBm
Modulation Technique :	IEEE802.11a mode: OFDM (6,9,12,18,24,36,48 and 54 Mbps) IEEE802.11an HT20 mode:OFDM (MCS0~MCS7)
Number of Channels :	IEEE 802.11a mode: 4 Channels IEEE 802.11an HT20 mode: 4 Channels
Antenna Specification:	PCB antenna1 for 5GHz Gain 3.34dBi PCB antenna2 for 5GHz Gain 3.38dBi

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: 2AAED-R9861510*** filing to comply with FCC Part 15, Subpart E Rules.
3. This submittal(s) (test report) is intended for ***IC: 9393B-R9861510*** filing to comply with Canada RSS-247 Issue 1 and Canada RSS-Gen Issue 4 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

The EUT transmitting and receiving with two antennas working at a/an mode, Both chain0 and chain1 could be used as transmit/receiving antenna, so 2x2 configuration was used for all testing in this report.

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

IEEE 802.11a mode:

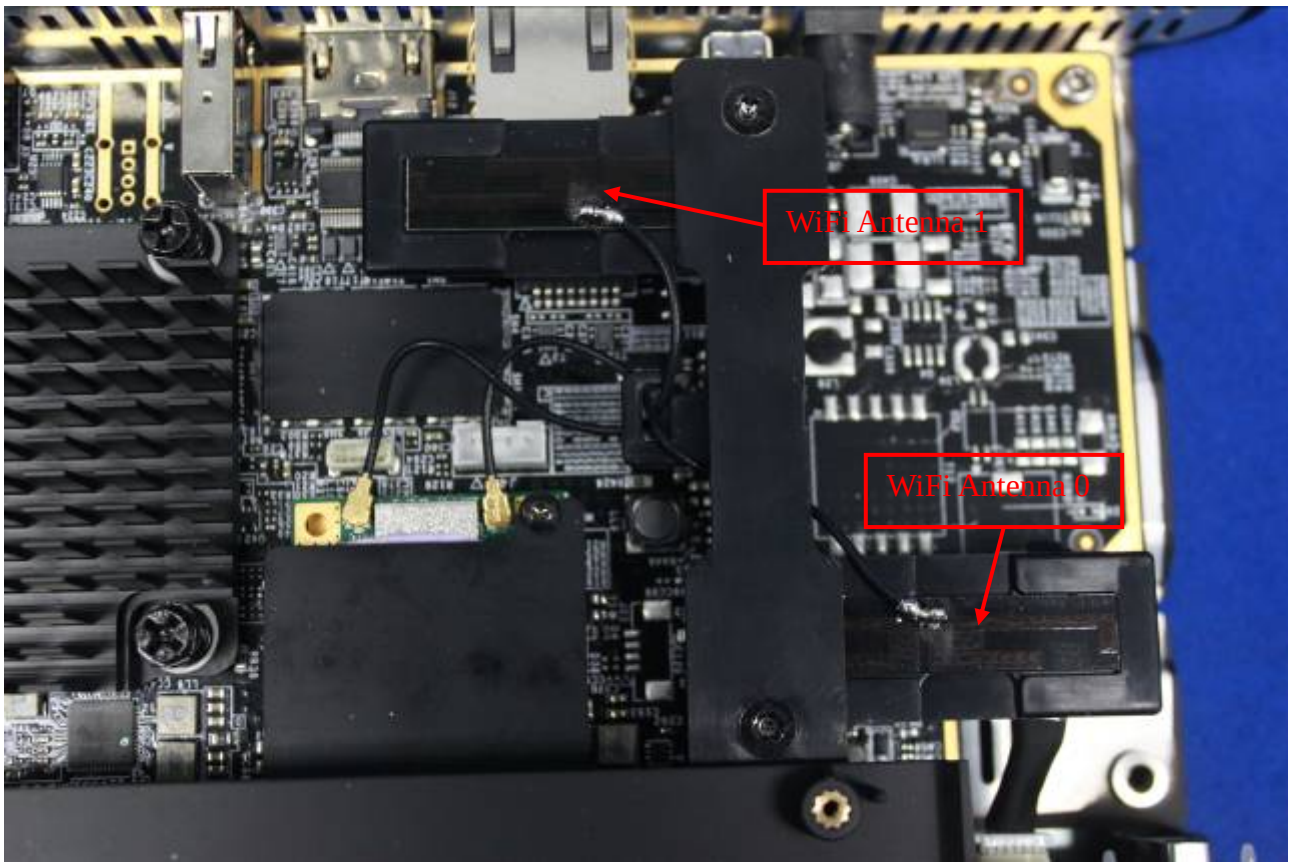
Channel Low (5180MHz), Channel Mid (5200MHz) and Channel High (5240MHz) with 24Mbps data rate were chosen for full testing.

IEEE 802.11an HT20 mode:

Channel Low (5180MHz), Channel Mid (5200MHz) and Channel High (5240MHz) 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(PIFA Antenna for 5G WiFi).
* 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	2015-4-9	2016-4-8
DETECTOR NEGATIVE	Agilent	8473B	MY42240176	2015-5-11	2016-5-10
OSCILLOSCOPE	Agilent	DSO6104A	MY44002585	2015-3-16	2016-3-15
Power meter	Anritsu	ML2495A	1445010	2015-04-24	2016-04-23
Power sensor	Anritsu	MA2411B	1339220	2015-04-24	2016-04-23
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	2015-1-22	2016-1-21

977 Chamber					
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Spectrum Analyzer	Agilent	E4446A	MY44020154	2015-4-9	2016-4-8
EMI Test Receiver	R&S	ESCI	101378	2015-1-22	2016-1-21
Pre-Amplfier	MINI	ZFL-1000VH2	d041703	2015-1-22	2016-1-21
Pre-Amplfier	Miteq	JS41-00101800-32-10P	1675713	2015-1-22	2016-1-21
Bilog Antenna	Sunol	JB1	A062604	2015-3-6	2016-3-5
Horn-antenna	SCHWARZBECK	BBHA9120D	D:266	2015-3-7	2016-3-6
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	2015-3-16	2016-3-15
V (V-LISN)	SCHWARZBECK	NNLK 8129	8129-143	N.C.R	N.C.R
LISN (EUT)	FCC	FCC-LISN-50/250-50-2-02	05012	2015-3-16	2016-3-15
Pulse LIMITER	R&S	ESH3-Z2	100524	2015-9-24	2016-9-23
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	A2LA 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	Notebook	Dell	E5430

Remark:

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

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

7 FCC PART 15 REQUIREMENTS

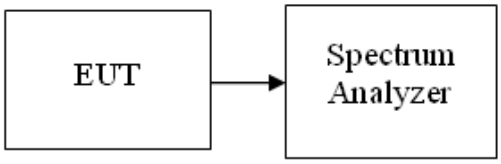
7.1 26 DB EMISSION BANDWIDTH AND 99% OCCUPIED BANDWIDTH

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/chain 0

5150~5250MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	99%Bandwidth (B) (MHz)
Low	5180	25.028	16.9763
Mid	5200	25.730	16.9075
High	5240	22.805	16.7999

Test mode: IEEE 802.11a mode/chain 1

5150~5250MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	99%Bandwidth (B) (MHz)
Low	5180	27.034	16.9319
Mid	5200	26.097	17.0335
High	5240	26.927	17.0165

Test mode: IEEE 802.11n HT20 mode / Chain 0

5150~5250MHz

Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	99%Bandwidth (B) (MHz)
Low	5180	26.143	18.2318
Mid	5200	27.638	18.1593
High	5240	25.689	18.1895

Test mode:IEEE 802.11n HT20 mode / Chain 1

5150~5250MHz

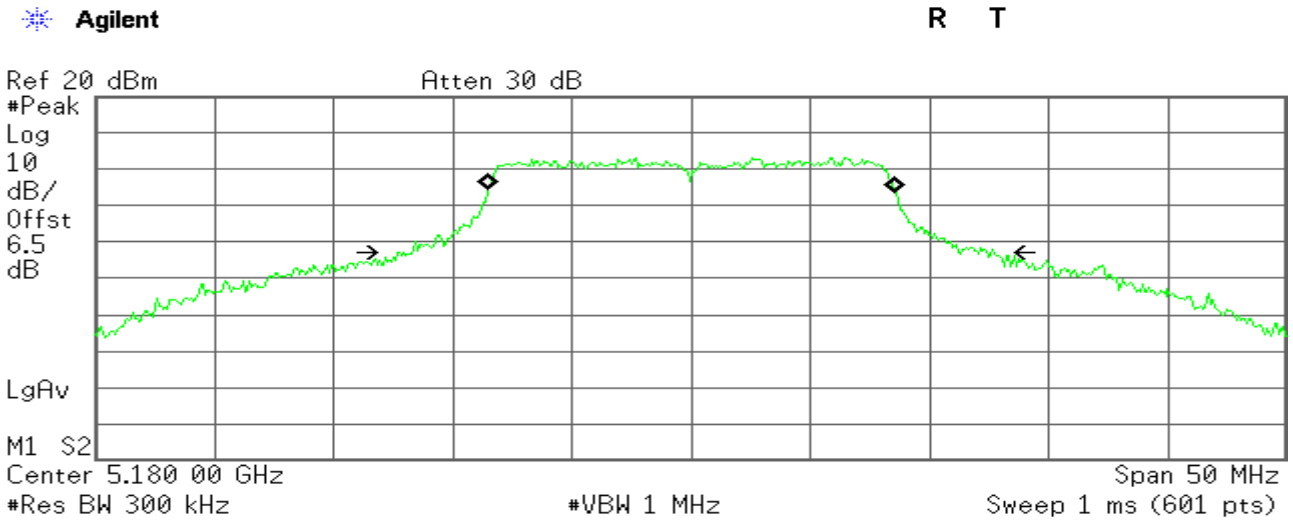
Channel	Frequency (MHz)	26 dB Bandwidth (B) (MHz)	99%Bandwidth (B) (MHz)
Low	5180	26.734	18.0922
Mid	5200	27.562	18.3094
High	5240	26.146	18.2914

Test Plot

IEEE 802.11a mode/chain 0:

5150~5250MHz

CH Low

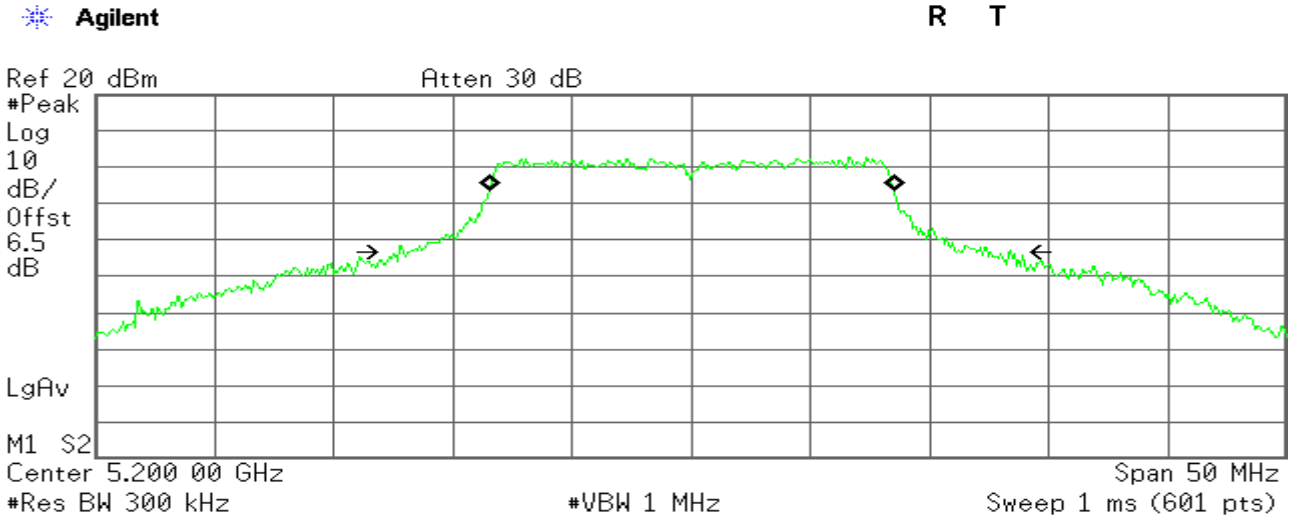


Occupied Bandwidth
16.9763 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 20.114 kHz
x dB Bandwidth 25.028 MHz

CH Mid

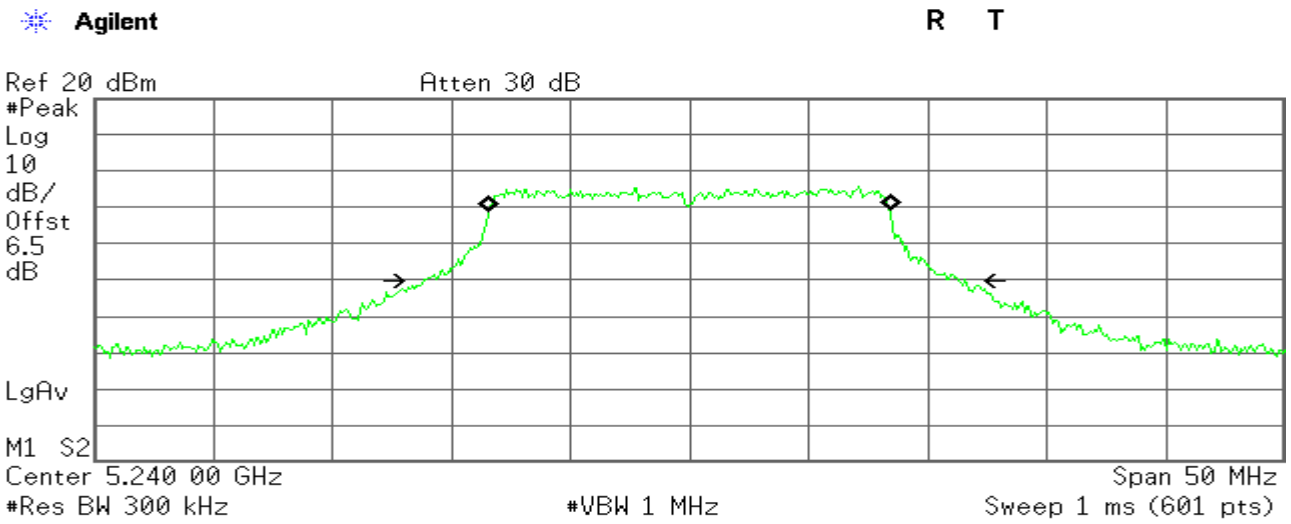


Occupied Bandwidth
16.9075 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 9.977 kHz
x dB Bandwidth 25.730 MHz

CH High

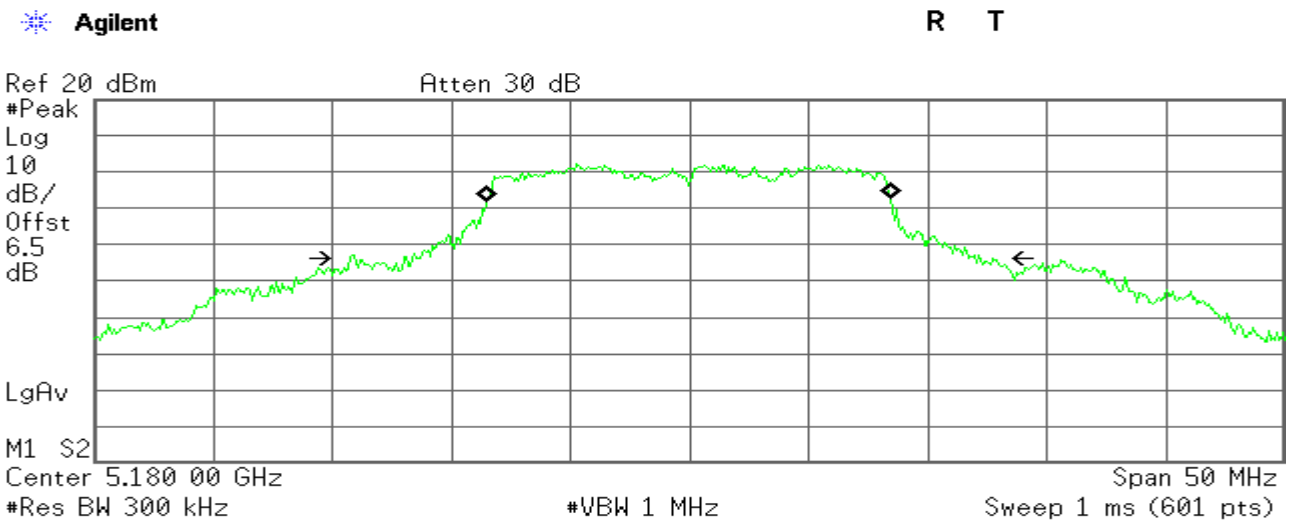


Transmit Freq Error -1.187 kHz
x dB Bandwidth 22.805 MHz

IEEE 802.11a mode/chain 1:

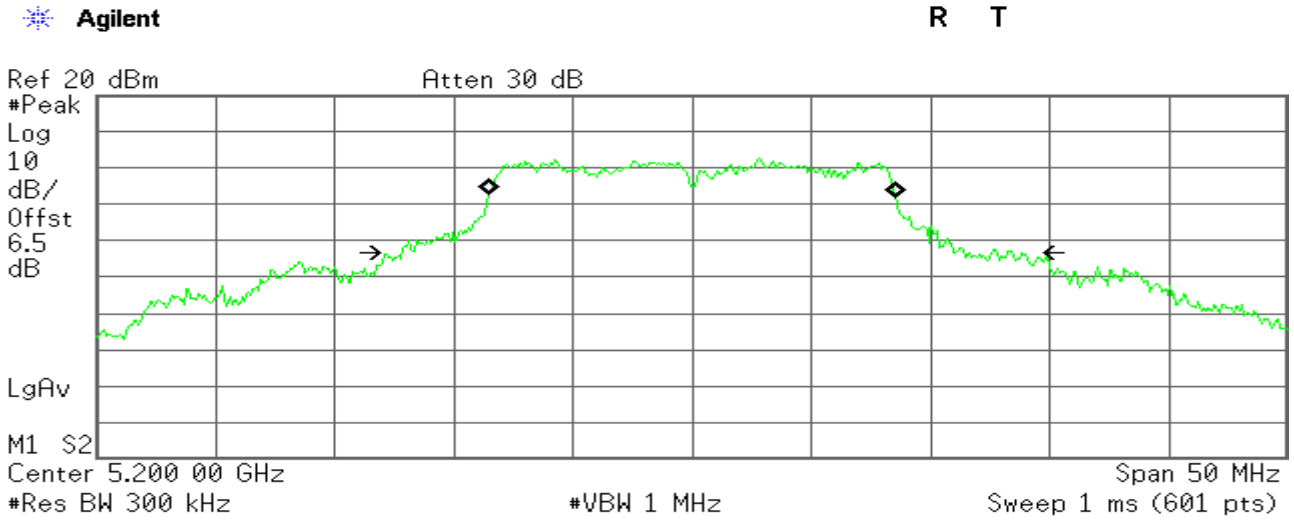
5150~5250MHz

CH Low



Transmit Freq Error -42.820 kHz
x dB Bandwidth 27.034 MHz

CH Mid

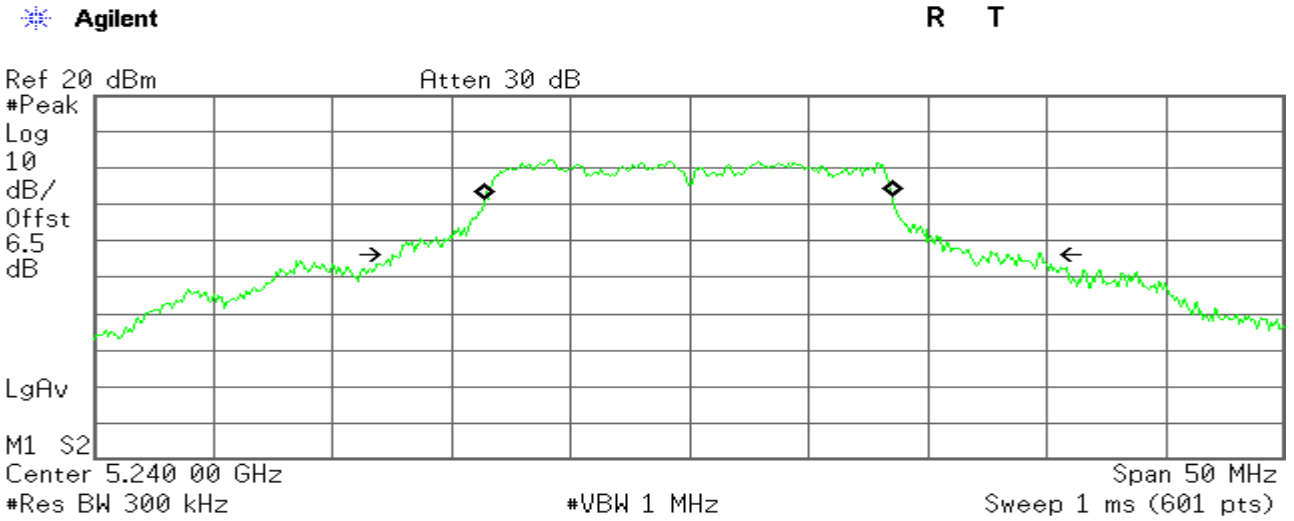


Occupied Bandwidth
17.0335 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 9.256 kHz
x dB Bandwidth 26.097 MHz

CH High



Occupied Bandwidth
17.0165 MHz

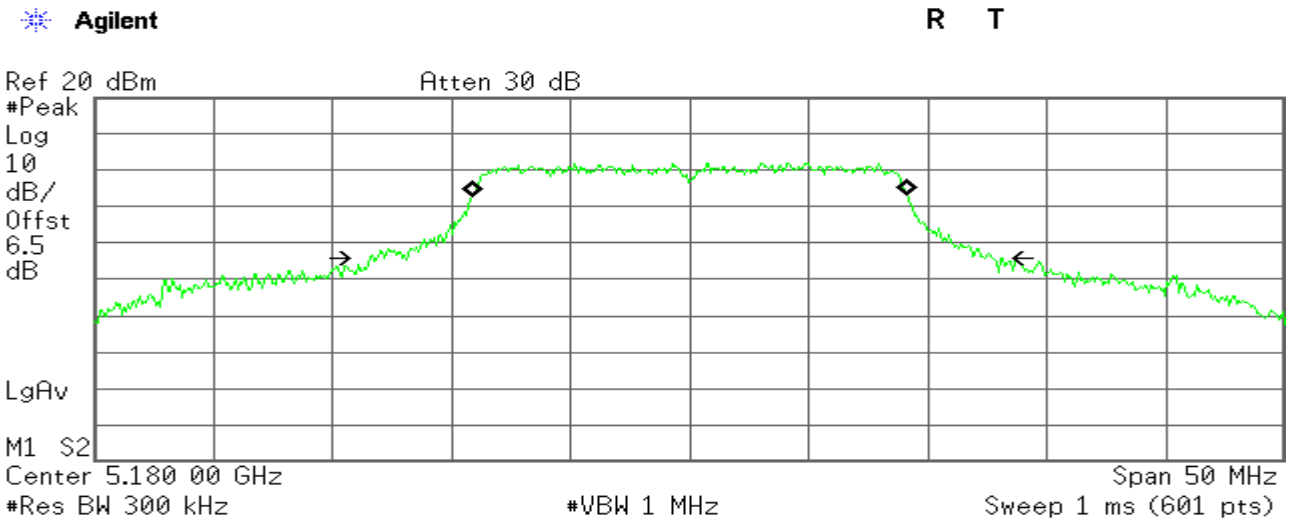
Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -41.811 kHz
x dB Bandwidth 26.927 MHz

IEEE 802.11n HT20 mode / Chain 0

5150~5250MHz

CH Low

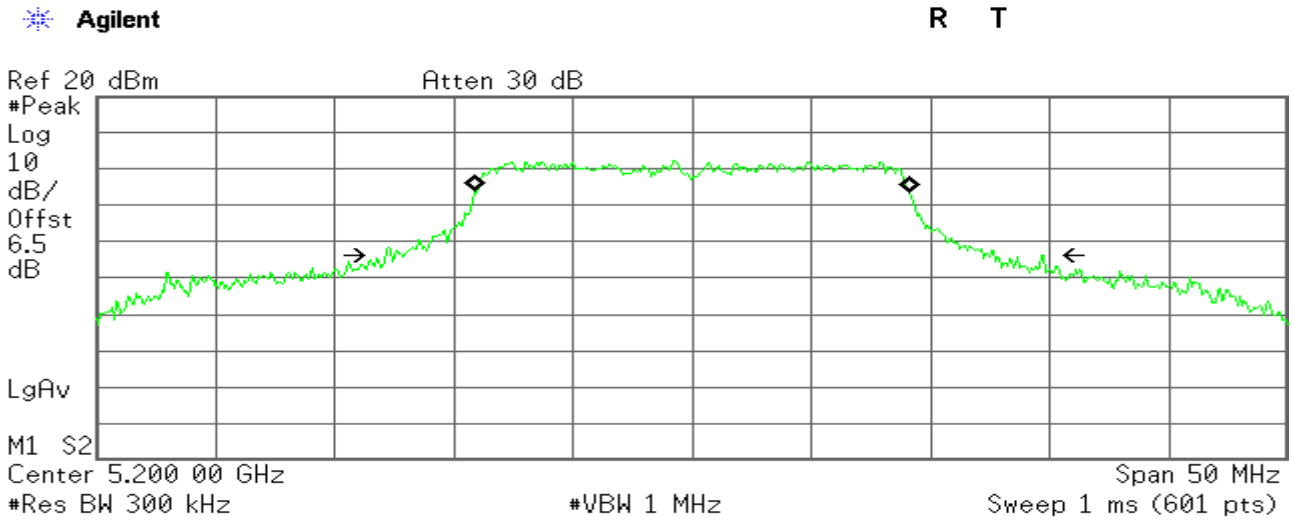


Occupied Bandwidth
18.2318 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 653.040 Hz
x dB Bandwidth 26.143 MHz

CH Mid

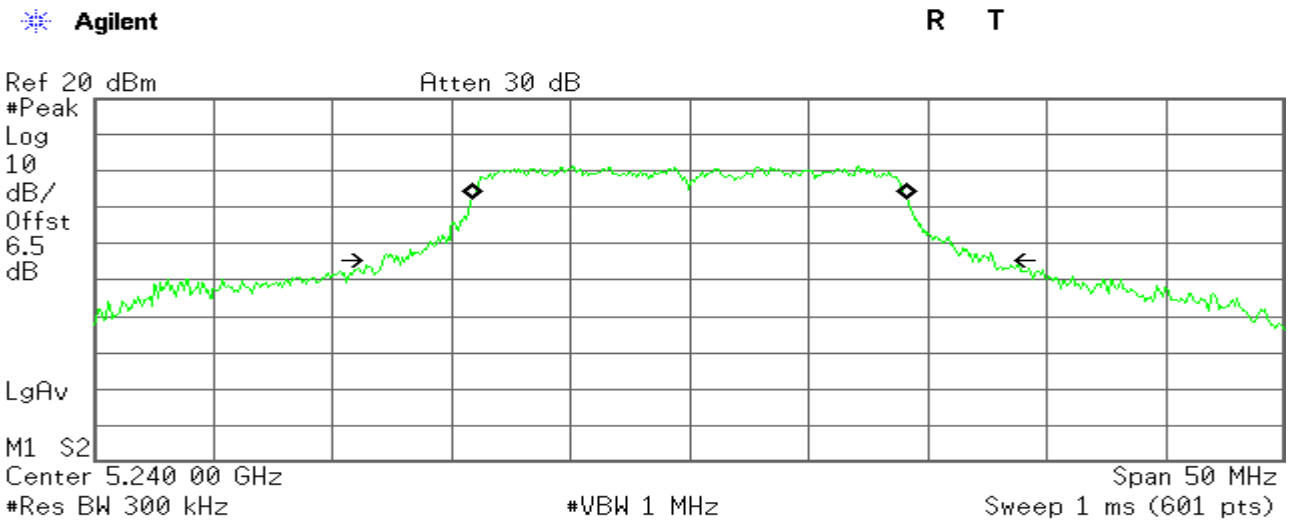


Occupied Bandwidth
18.1593 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 8.793 kHz
x dB Bandwidth 27.638 MHz

CH High

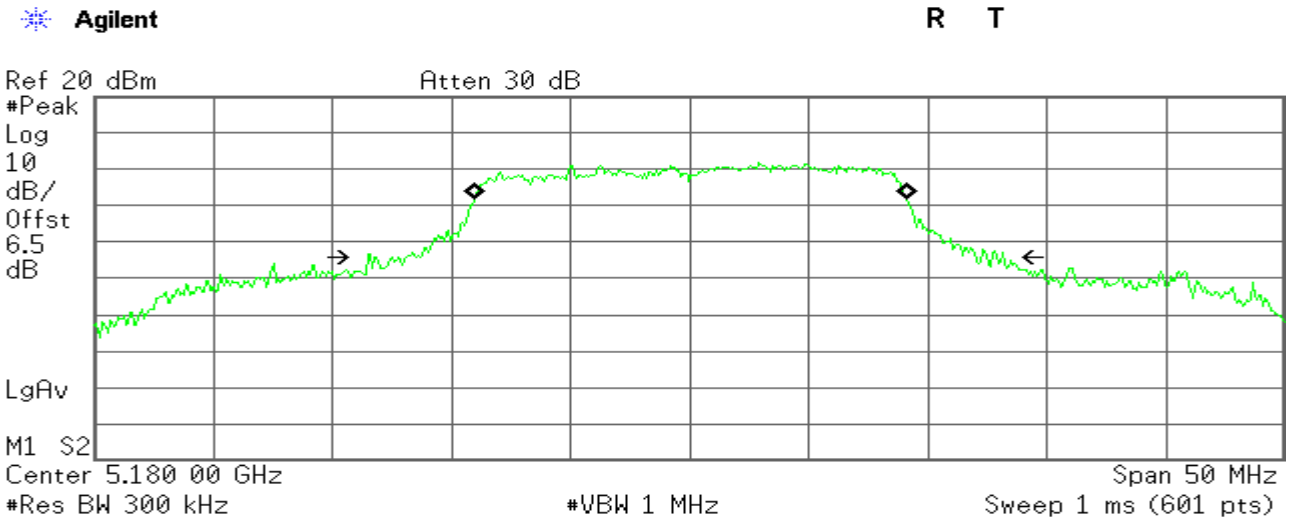


Transmit Freq Error -6.397 kHz
x dB Bandwidth 25.689 MHz

IEEE 802.11n HT20 mode / Chain 1

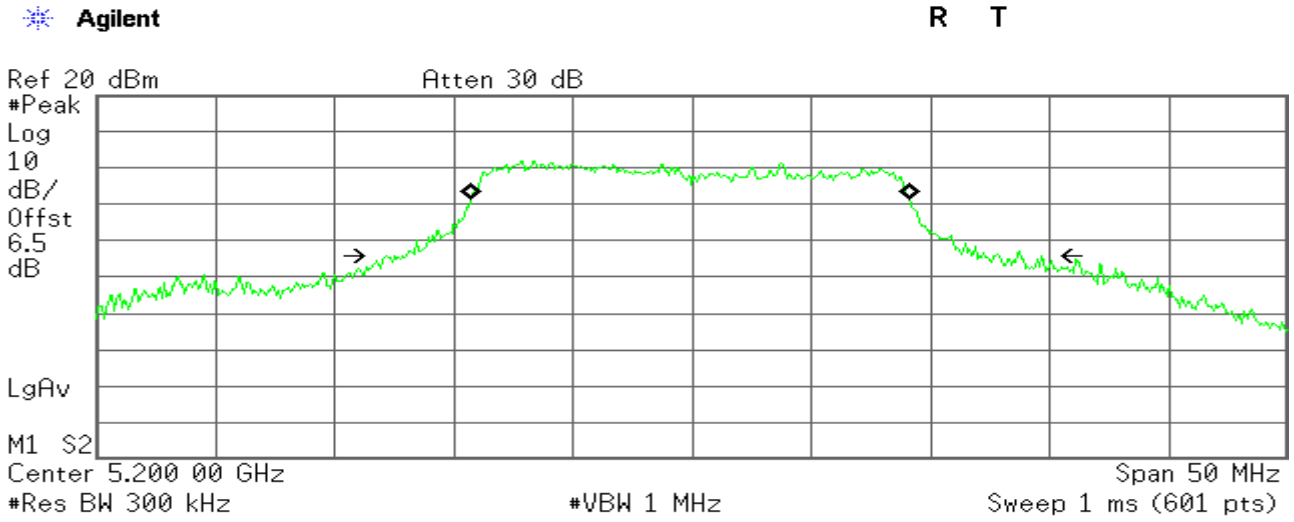
5150~5250MHz

CH Low



Transmit Freq Error 64.456 kHz
x dB Bandwidth 26.734 MHz

CH Mid

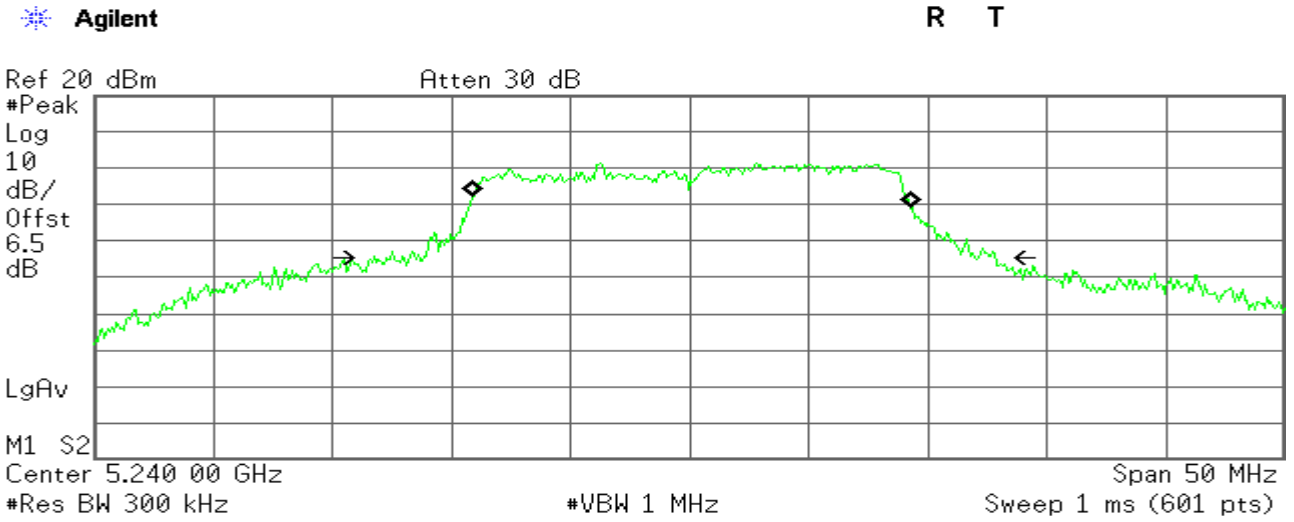


Occupied Bandwidth
18.3094 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -57.899 kHz
x dB Bandwidth 27.562 MHz

CH High



Occupied Bandwidth
18.2914 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error 87.435 kHz
x dB Bandwidth 26.146 MHz

7.2 MAXIMUM CONDUCTED OUTPUT POWER

LIMIT

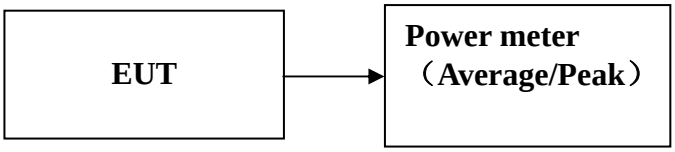
According to §15.407(a),

(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

5150~5250MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5180	15.53	14.06	17.87	24.00
Mid	5200	15.23	13.96	17.65	24.00
High	5240	13.77	14.01	16.90	24.00

Test mode: IEEE 802.11n HT20 mode
5150~5250MHz

Channel	Frequency (MHz)	Chain 0 Output Power (dBm)	Chain 1 Output Power (dBm)	Total Maximum Conducted Output Power (dBm)	Limit (dBm)
Low	5180	12.71	11.44	15.13	24.00
Mid	5200	12.50	11.51	15.04	24.00
High	5240	11.33	11.72	14.54	24.00

Note:Duty factor has been offseted with cableloss

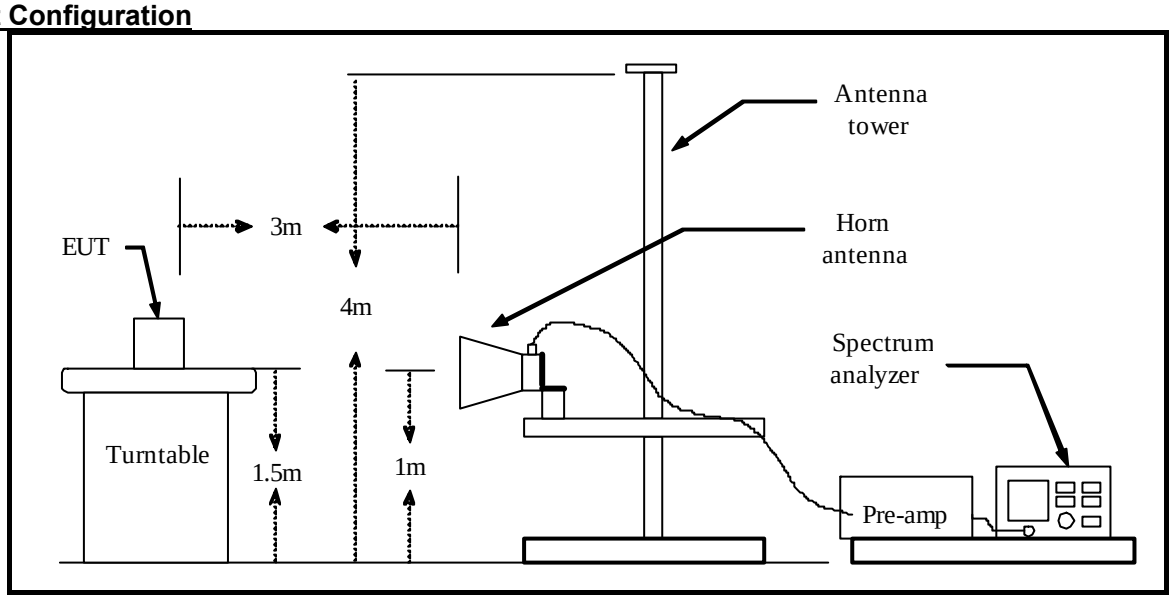
Remark: Total Output Power (dBm) = 10*LOG(10^(Chain 0 Output Power / 10)+10^(Chain 1 Output Power /10))

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

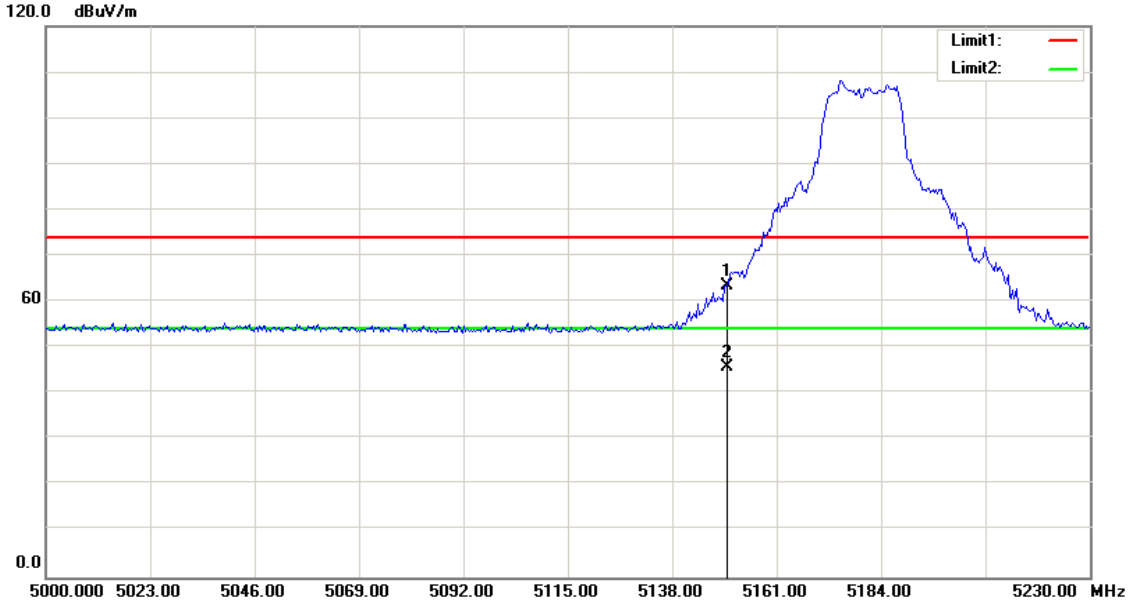
TEST RESULTS

Refer to attach spectrum analyzer data chart.

Band Edges (IEEE 802.11a mode)

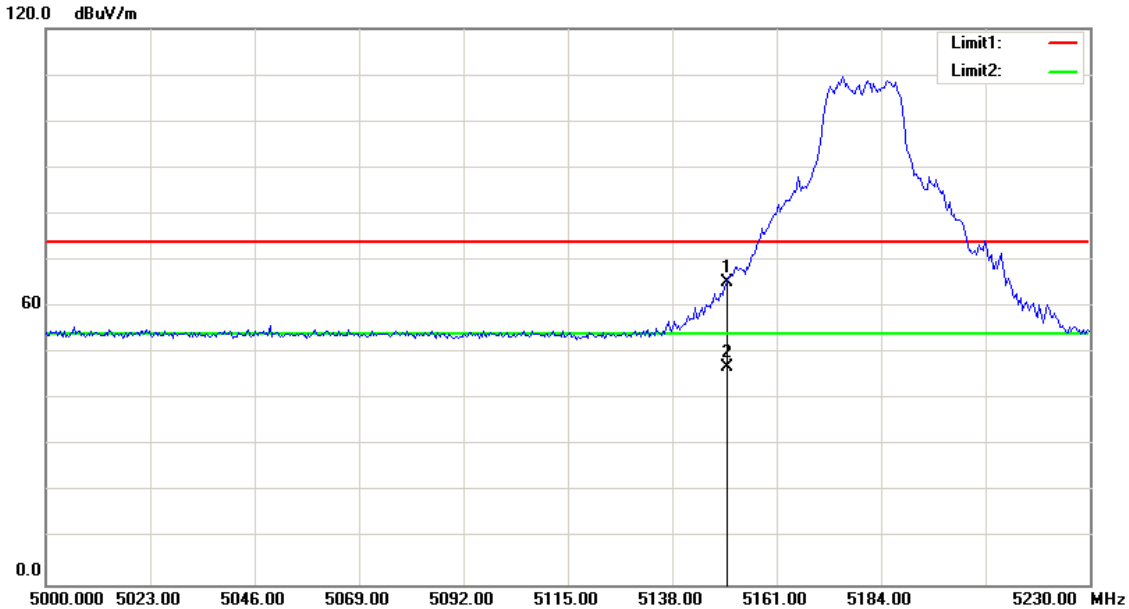
5180MHz

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	65.12	-1.78	63.34	74.00	-10.66	100	360	peak
2	5150.000	47.66	-1.78	45.88	54.00	-8.12	100	360	AVG

Polarity: Horizontal

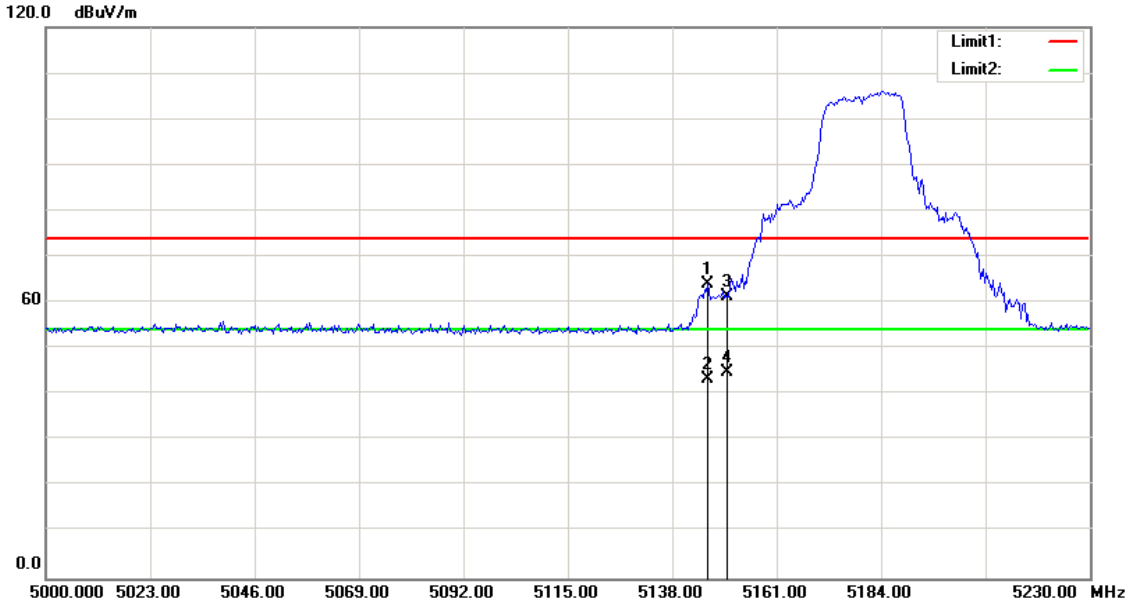


No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	5150.000	67.10	-1.78	65.32	74.00	-8.68	100	161	peak
2	5150.000	48.78	-1.78	47.00	54.00	-7.00	100	161	AVG

Band Edges (IEEE 802.11n HT20 mode)

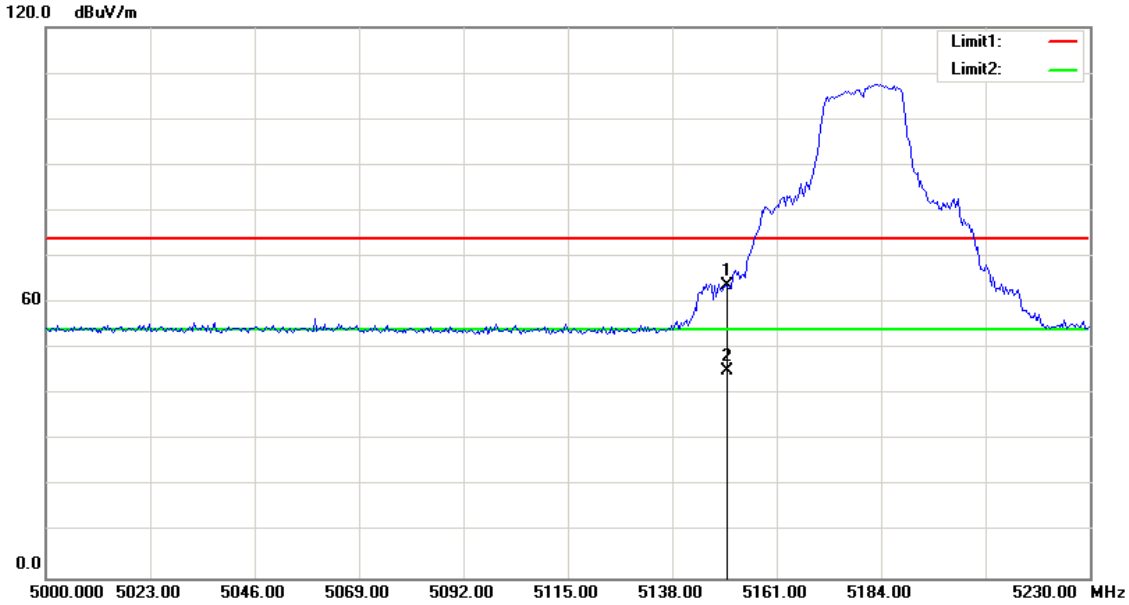
5180MHz

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	5145.962	65.76	-1.79	63.97	74.00	-10.03	200	126	peak
2	5145.962	45.22	-1.79	43.43	54.00	-10.57	200	126	AVG
3	5150.000	63.25	-1.78	61.47	74.00	-12.53	100	256	peak
4	5150.000	46.49	-1.78	44.71	54.00	-9.29	100	256	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	65.41	-1.78	63.63	74.00	-10.37	100	3	peak
2	5150.000	46.83	-1.78	45.05	54.00	-8.95	100	3	AVG

7.4 MAXIMUM POWER SPECTRAL DENSITY

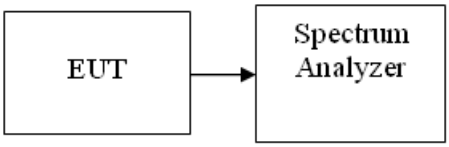
LIMIT

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
5150~5250MHz

Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	5180	5.09	5.88	8.51	11.00	PASS
Mid	5200	5.48	5.51	8.51	11.00	PASS
High	5240	4.27	5.33	7.84	11.00	PASS

Test mode: IEEE 802.11n HT20 mode
5150~5250MHz

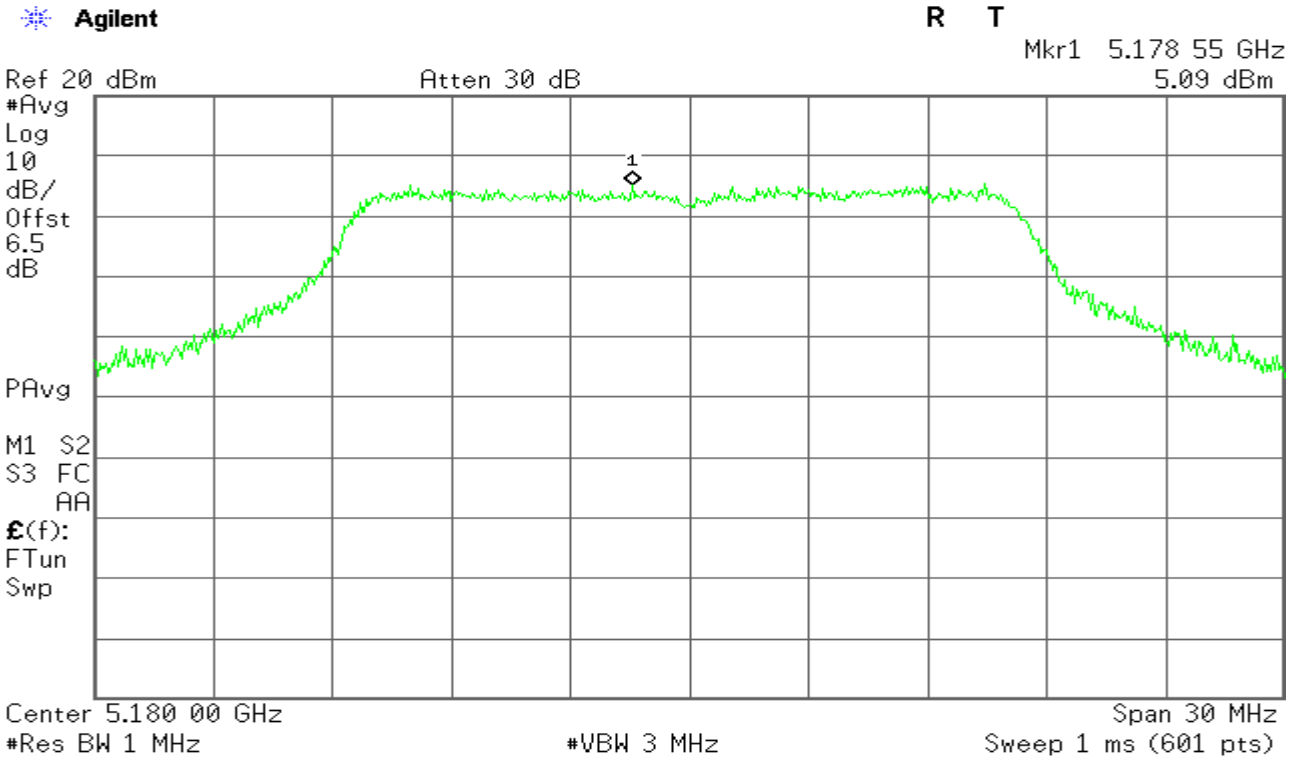
Channel	Frequency (MHz)	Chain 0 PPSD (dBm)	Chain 1 PPSD (dBm)	Total PPSD (dBm)	Limit (dBm)	Result
Low	5180	4.68	4.32	7.51	11.00	PASS
Mid	5200	5.16	4.22	7.73	11.00	PASS
High	5240	4.02	4.77	7.42	11.00	PASS

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

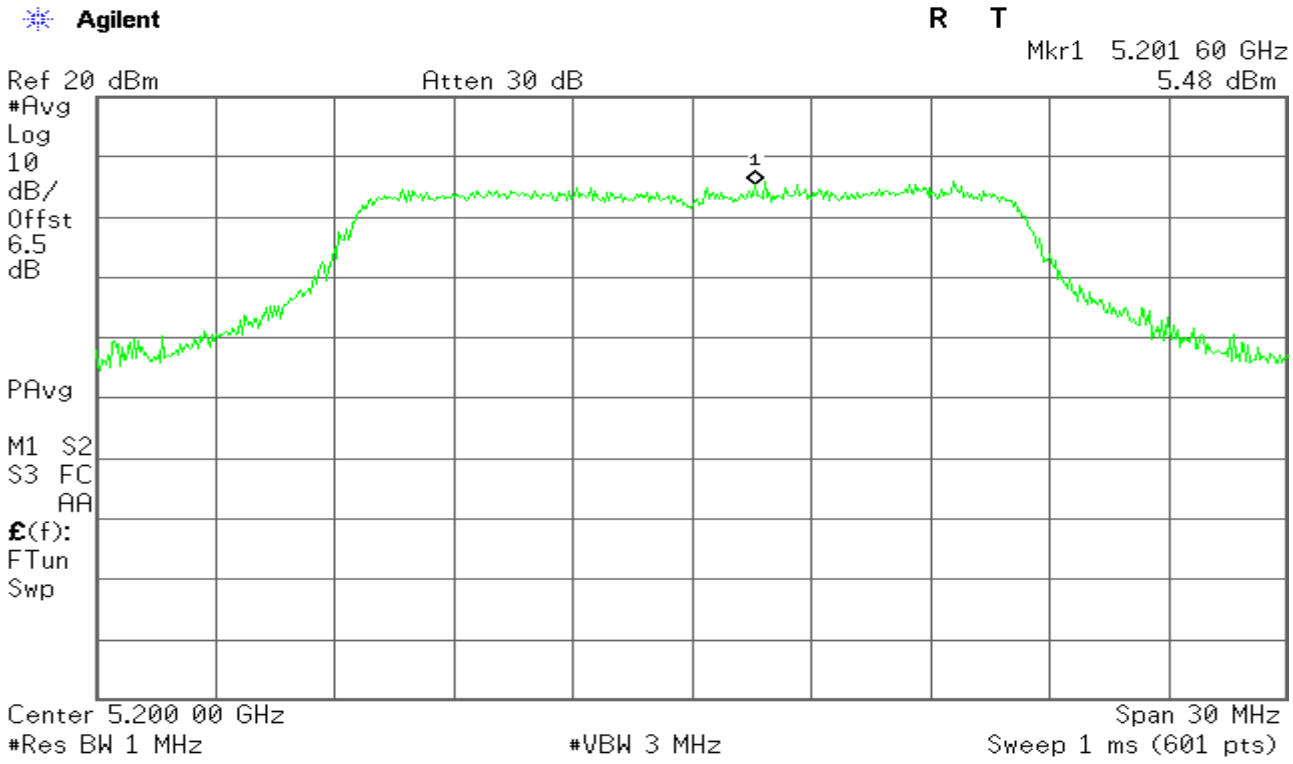
Test Plot
IEEE 802.11a mode/chain 0:

5150~5250MHz

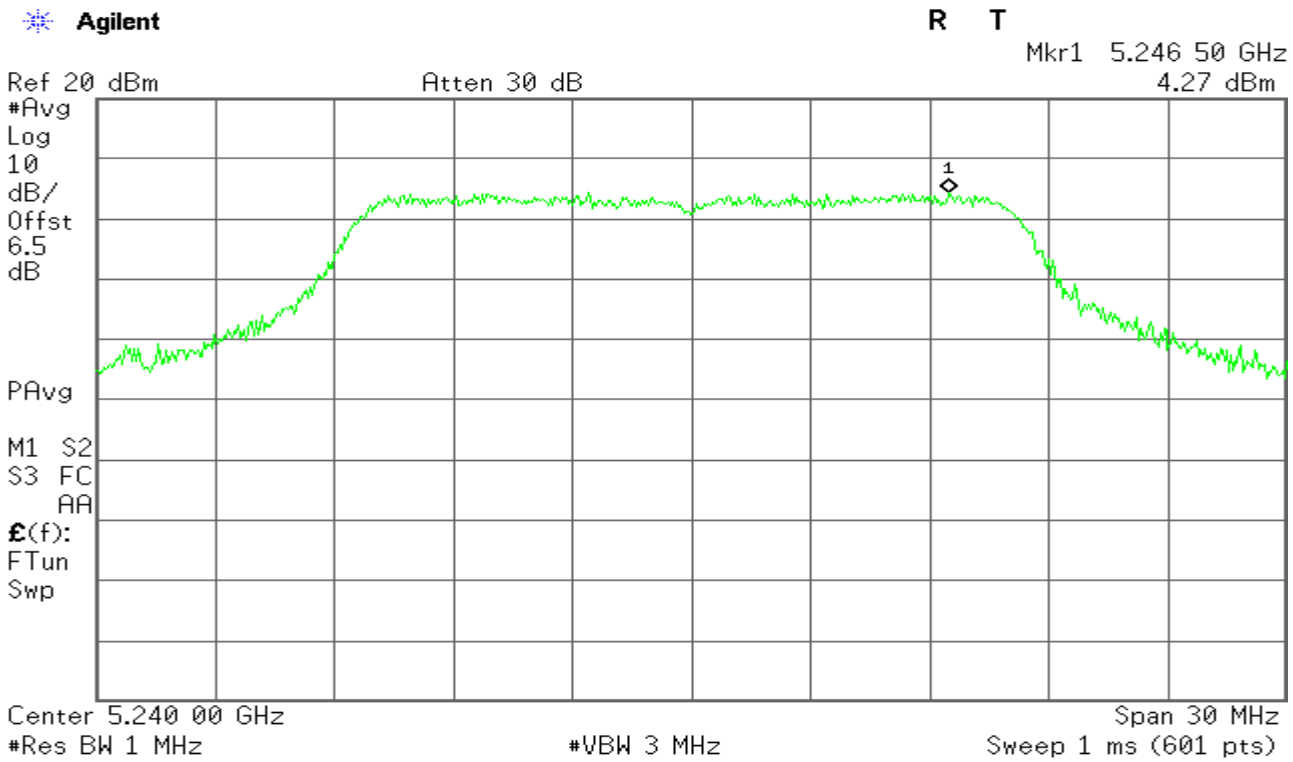
CH Low



CH Mid



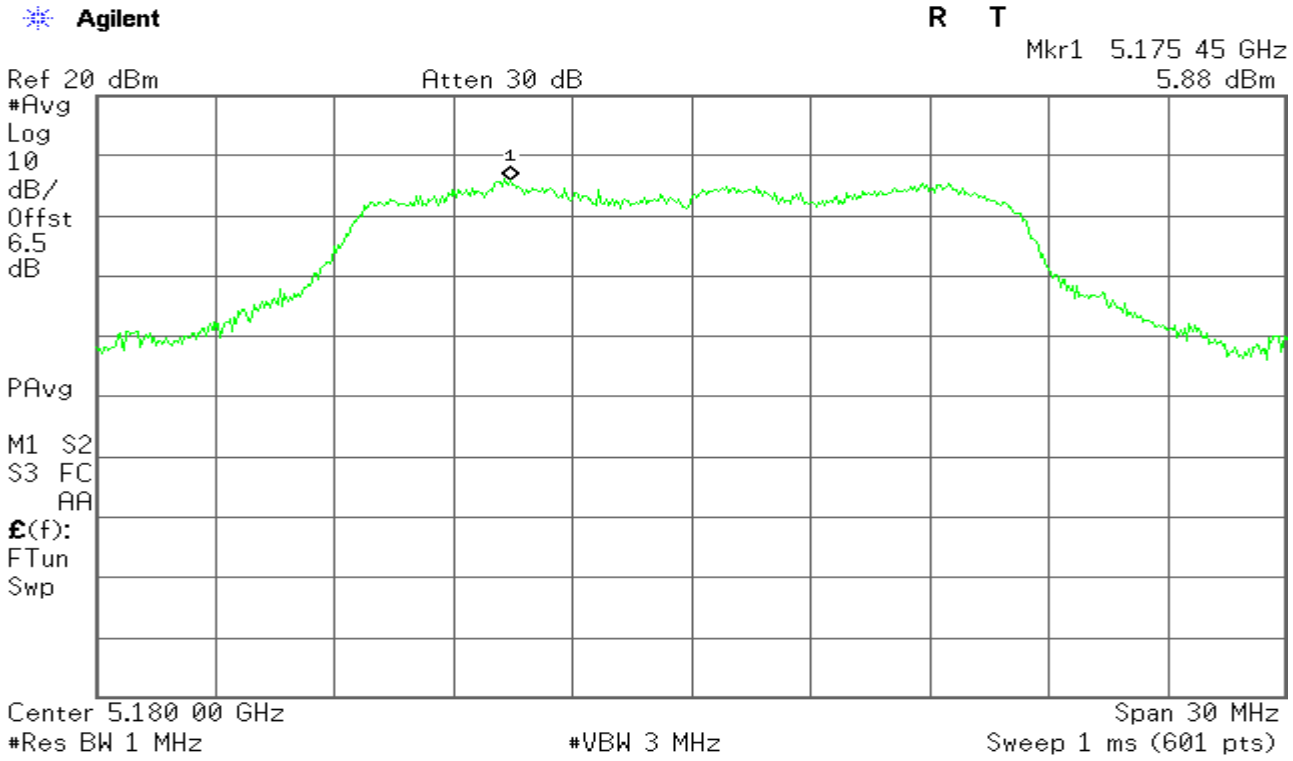
CH High



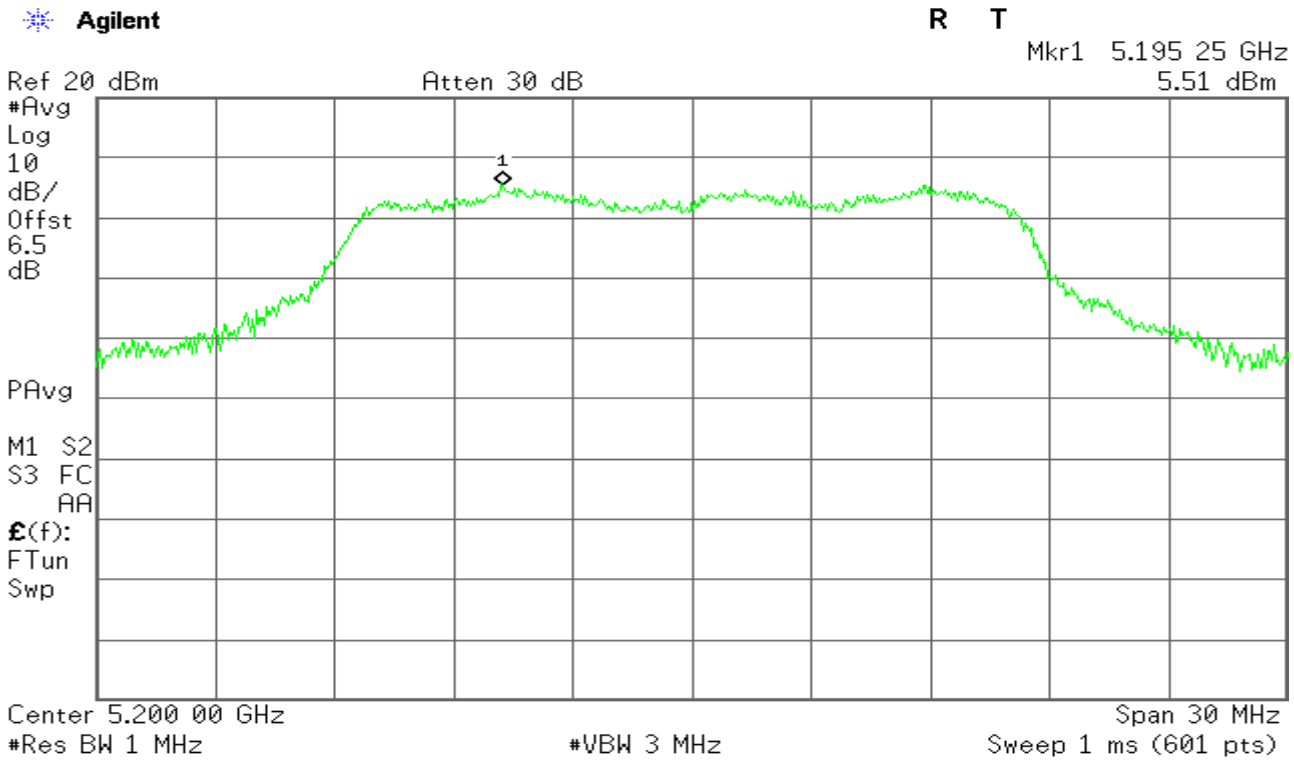
IEEE 802.11a mode/chain 1:

5150~5250MHz

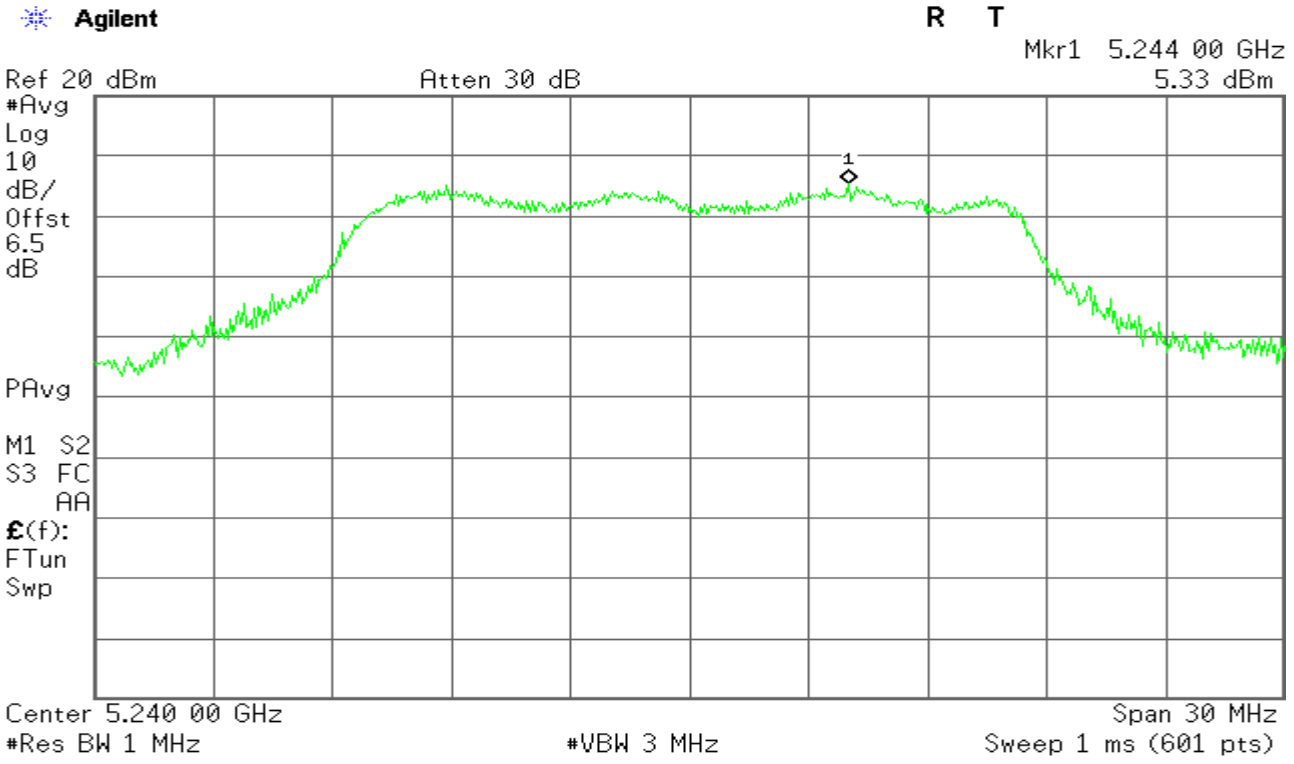
CH Low



CH Mid



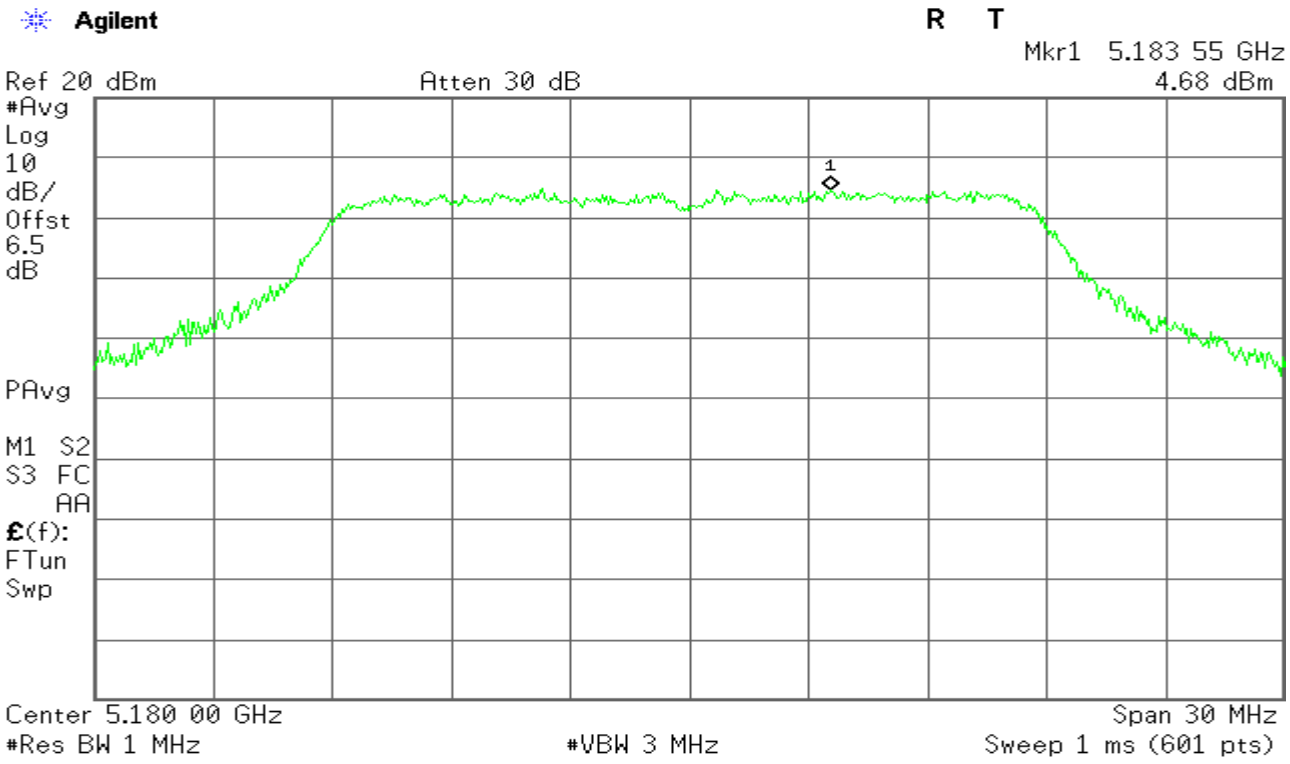
CH High



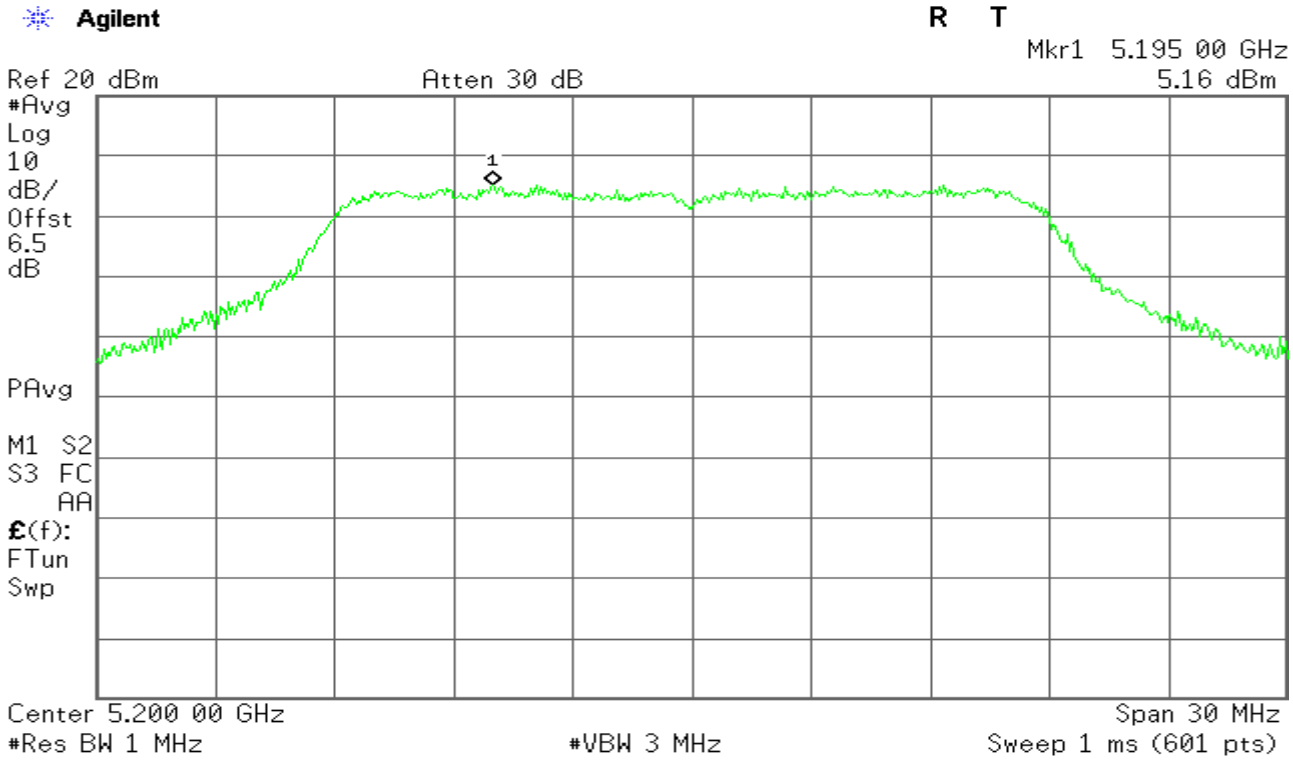
IEEE 802.11n HT20 mode / Chain 0

5150~5250MHz

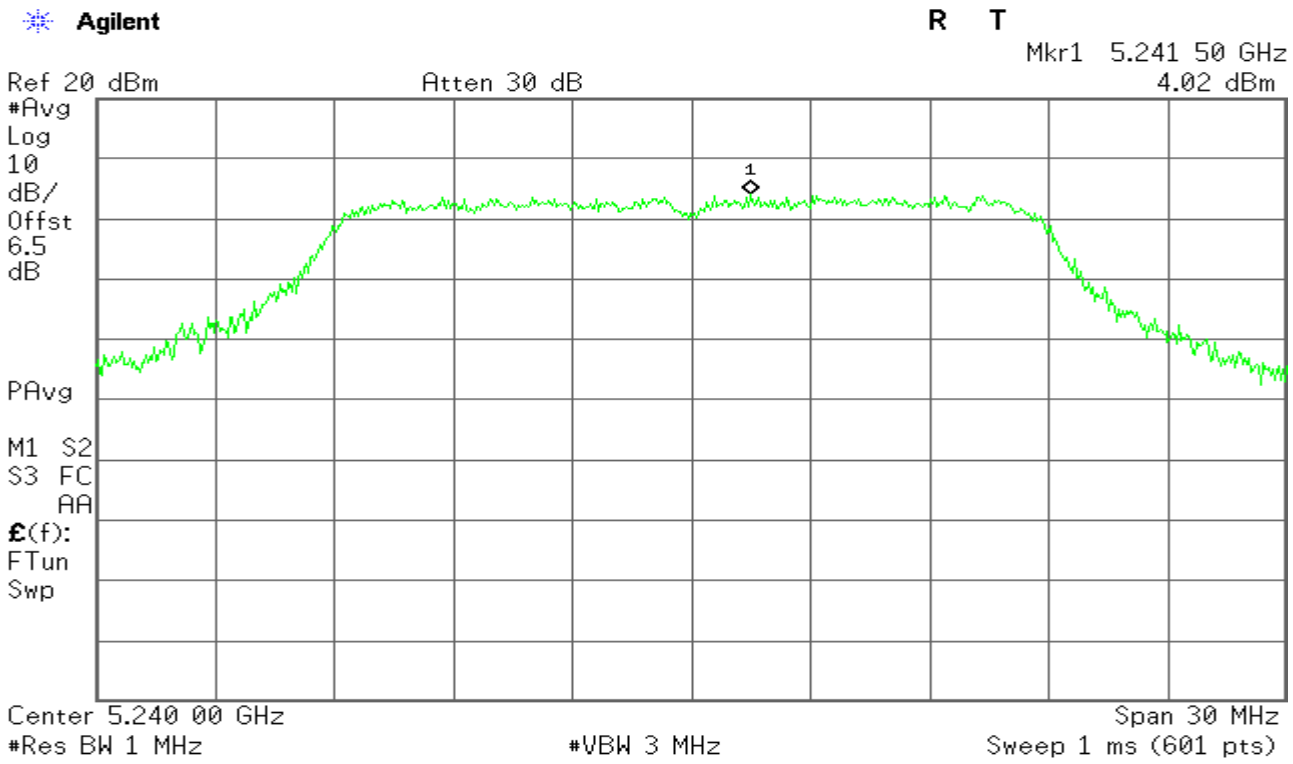
CH Low



CH Mid



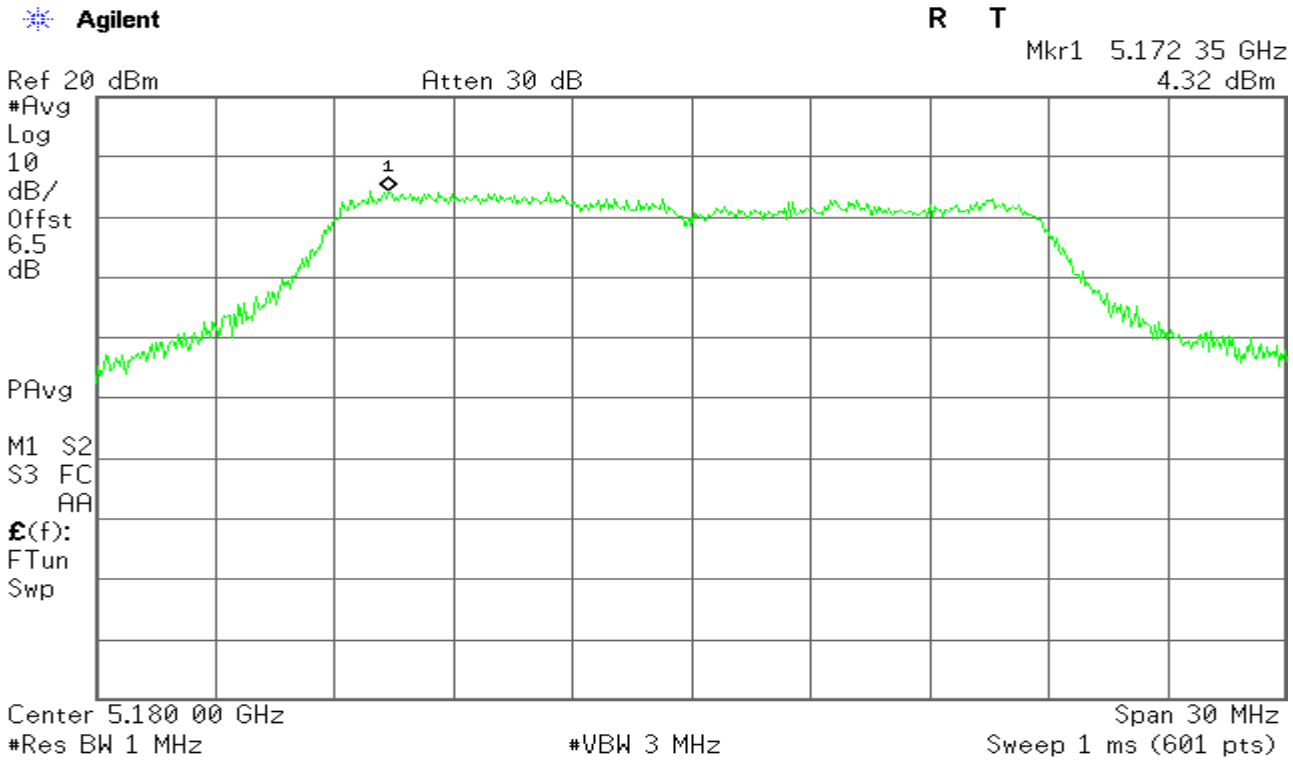
CH High



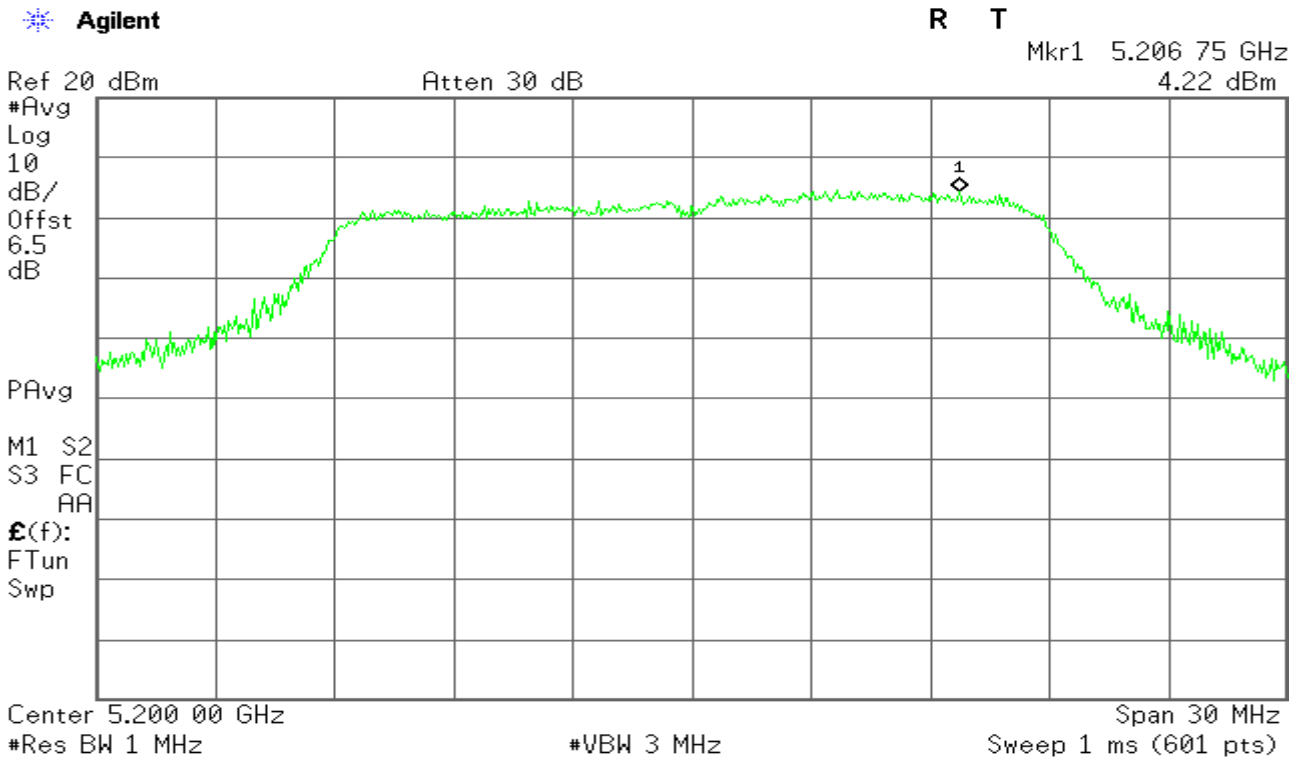
IEEE 802.11n HT20 mode / Chain 1

5150~5250MHz

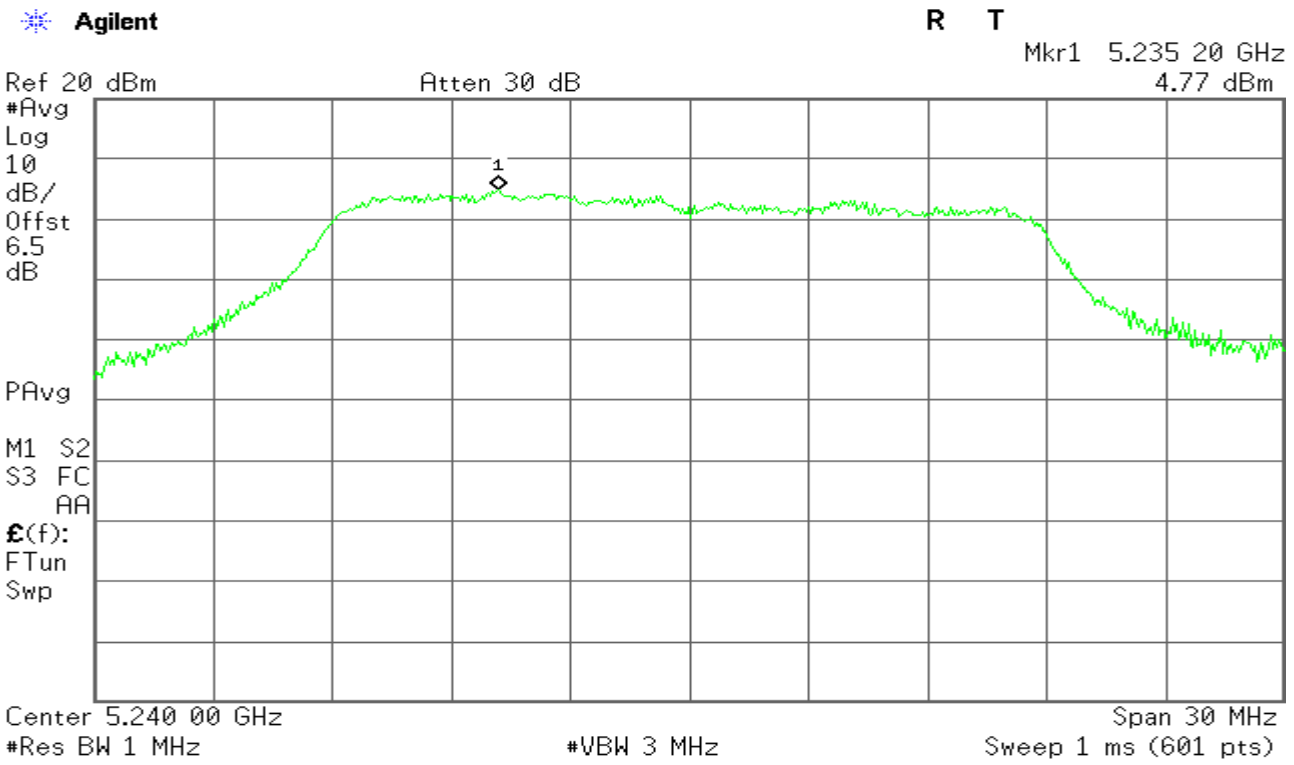
CH Low



CH Mid



CH High



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

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

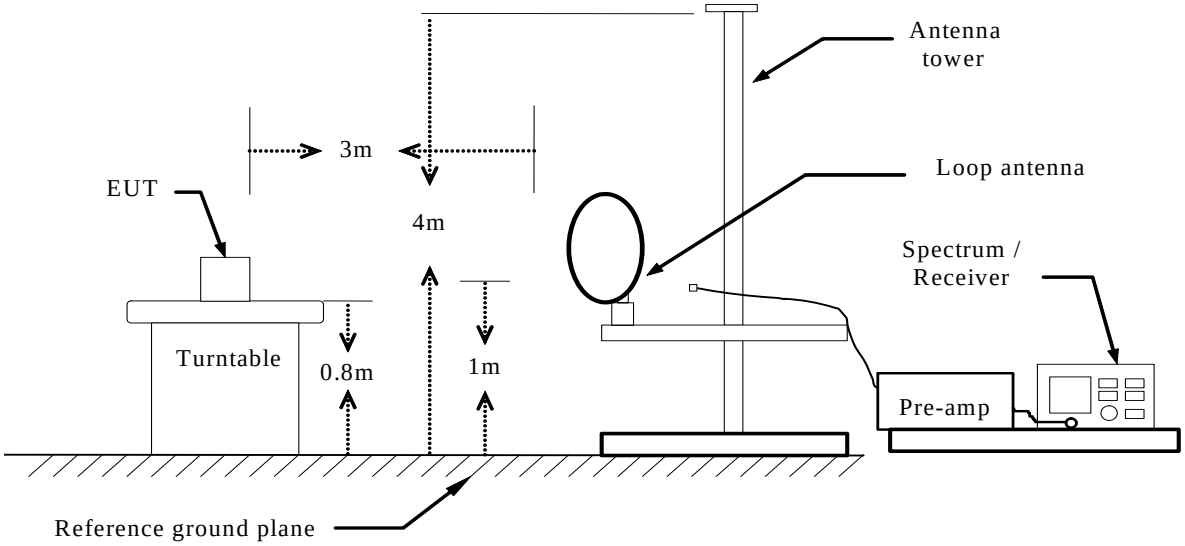
Remark: *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of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

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

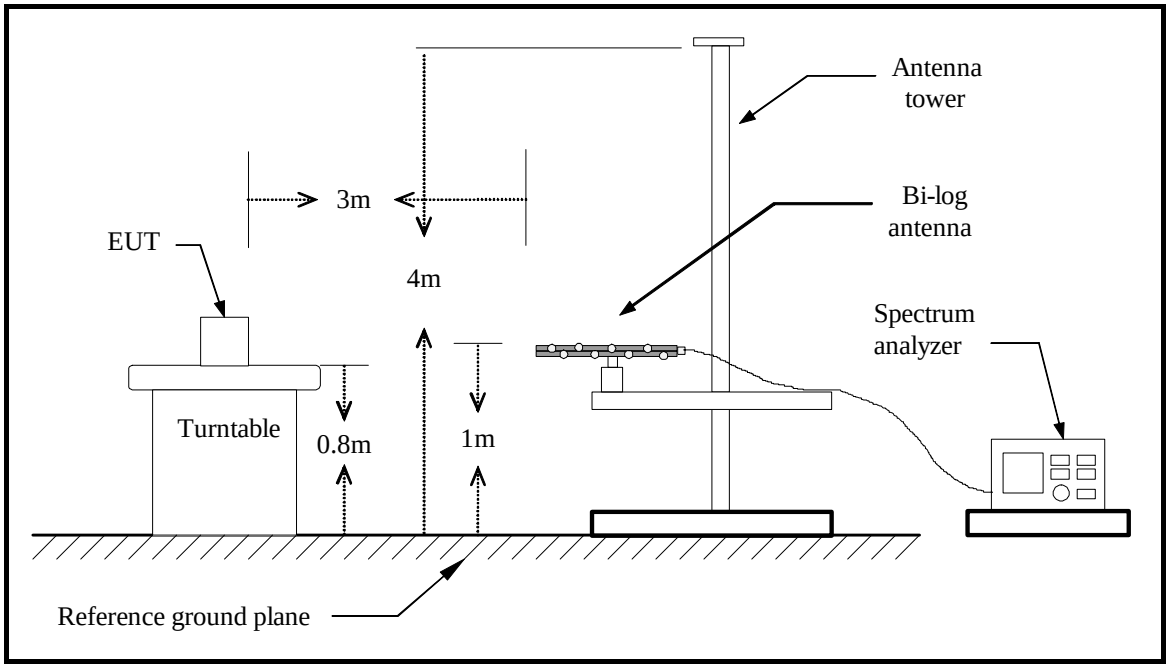
Frequency (MHz)	Field Strength (μV/m at 3-meter)	Field Strength (dBμV/m at 3-meter)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Test Configuration

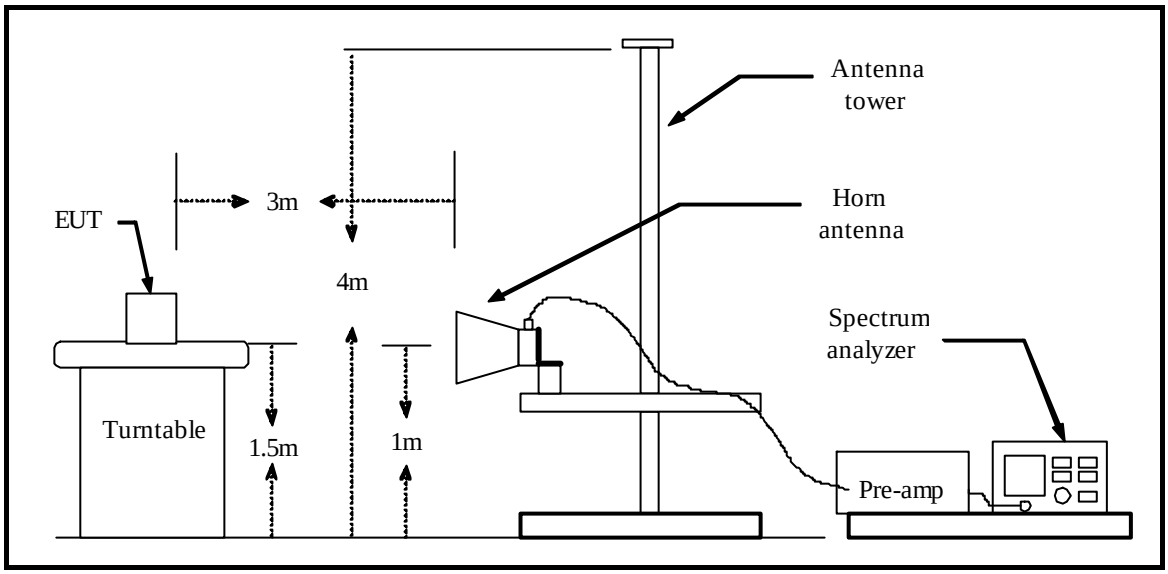
Below 30MHz



Below 1 GHz



Above 1 GHz



TEST PROCEDURE

1. The EUT is placed on a turntable 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:**	2015-12-27
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	16.05	18.38	34.43	40.00	-5.57	peak
118.2700	V	25.49	11.97	37.46	43.50	-6.04	peak
154.1600	V	24.59	11.59	36.18	43.50	-7.32	peak
461.6500	V	17.48	18.64	36.12	46.00	-9.88	peak
723.5500	V	17.74	22.78	40.52	46.00	-5.48	peak
960.2300	V	16.07	24.78	40.85	54.00	-13.15	peak
32.9100	H	14.70	18.38	33.08	40.00	-6.92	peak
117.3000	H	21.20	11.98	33.18	43.50	-10.32	peak
154.1600	H	24.32	11.59	35.91	43.50	-7.59	peak
308.3900	H	18.52	14.59	33.11	46.00	-12.89	peak
720.6400	H	18.87	22.79	41.66	46.00	-4.34	peak
939.8600	H	15.05	24.68	39.73	46.00	-6.27	peak

Remark:

1. Measuring frequencies from 30 MHz to the 1GHz.(no emission found from the lowest internal used/generated frequency to 30MHz)
2. Radiated emissions measured were made with an instrument using peak/quasi-peak detector mode.
3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
5. Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).

Above 1 GHz

Operation Mode:	Tx / IEEE 802.11a mode CH Low	**Test Date:**	2016-1-3
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	11270.833	41.76	4.08	45.84	80.00	-34.16	100	0	peak
2	12741.987	41.88	8.32	50.20	80.00	-29.80	100	199	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	11243.590	41.63	4.11	45.74	80.00	-34.26	100	255	peak
2	13314.103	39.69	8.90	48.59	80.00	-31.41	100	10	peak
N/A									

Operation Mode:	Tx / IEEE 802.11a mode CH Mid	**Test Date:**	2016-1-3
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	10399.039	45.37	5.35	50.72	80.00	-29.28	100	139	peak
2	14649.039	39.86	5.58	45.44	80.00	-34.56	100	142	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	10399.039	44.42	5.35	49.77	80.00	-30.23	100	151	peak
2	14267.628	38.97	5.95	44.92	80.00	-35.08	100	360	peak
N/A									

Operation Mode:	Tx / IEEE 802.11a mode CH High	**Test Date:**	2016-1-3
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	10589.744	41.65	5.06	46.71	80.00	-33.29	100	84	peak
2	14649.039	38.77	5.58	44.35	80.00	-35.65	100	276	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	10508.013	41.83	5.18	47.01	80.00	-32.99	100	235	peak
2	14649.039	39.33	5.58	44.91	80.00	-35.09	100	249	peak
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH Low	**Test Date:**	2016-1-3
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	10862.180	41.86	4.64	46.50	80.00	-33.50	100	230	peak
2	15330.128	39.82	3.66	43.48	80.00	-36.52	100	343	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	10044.872	42.52	5.89	48.41	80.00	-31.59	100	132	peak
2	14676.282	39.88	5.55	45.43	80.00	-34.57	100	0	peak
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH Mid	**Test Date:**	2016-1-3
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	11298.077	41.33	4.04	45.37	80.00	-34.63	100	293	peak
2	14948.718	38.63	5.29	43.92	80.00	-36.08	100	335	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	12006.410	42.97	3.16	46.13	80.00	-33.87	100	293	peak
2	14921.474	39.00	5.32	44.32	80.00	-35.68	100	83	peak
N/A									

Operation Mode:	TX / IEEE 802.11n HT20 mode /CH High	**Test Date:**	2016-1-3
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	10480.769	43.18	5.22	48.40	80.00	-31.60	100	186	peak
2	14921.474	38.91	5.32	44.23	80.00	-35.77	100	51	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	10480.769	43.50	5.22	48.72	80.00	-31.28	100	144	peak
2	14921.474	39.81	5.32	45.13	80.00	-34.87	100	236	peak
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.

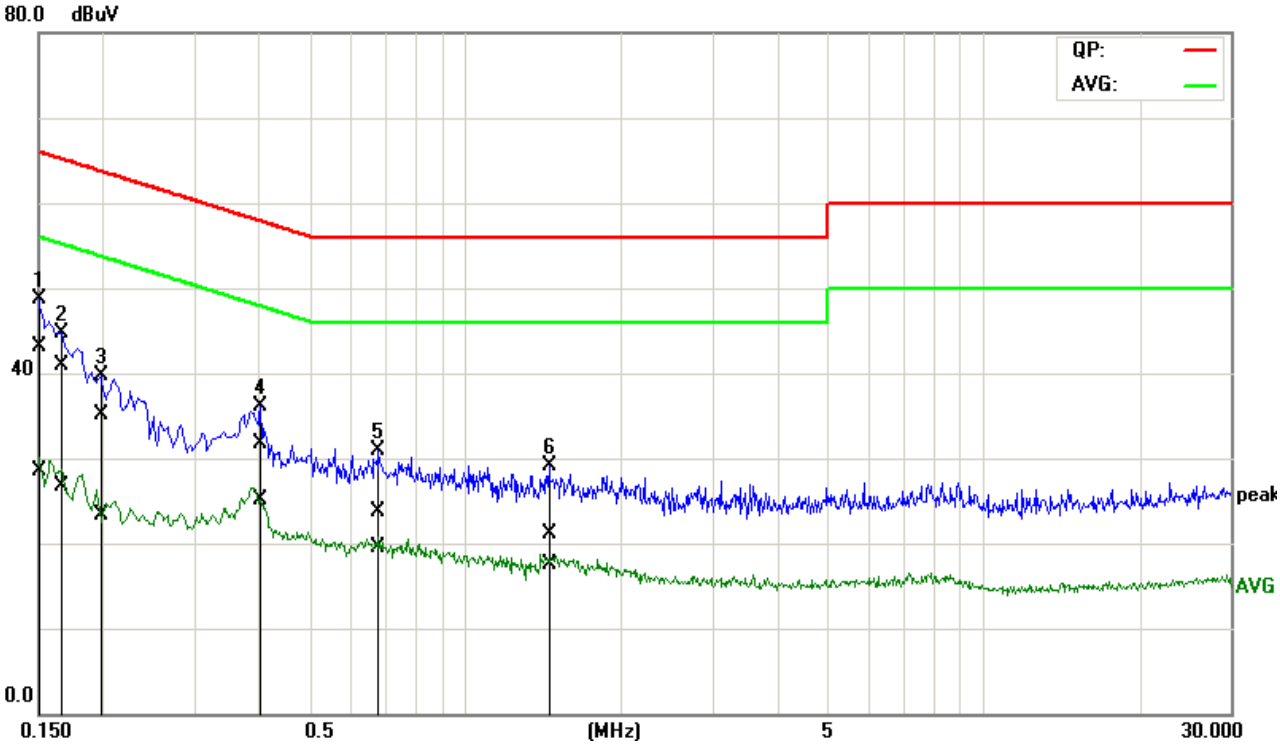
TEST RESULTS

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.:	C151211R02	Date:	2016-1-9
Model No.:	R9861510	Time:	PM 04:39:12
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

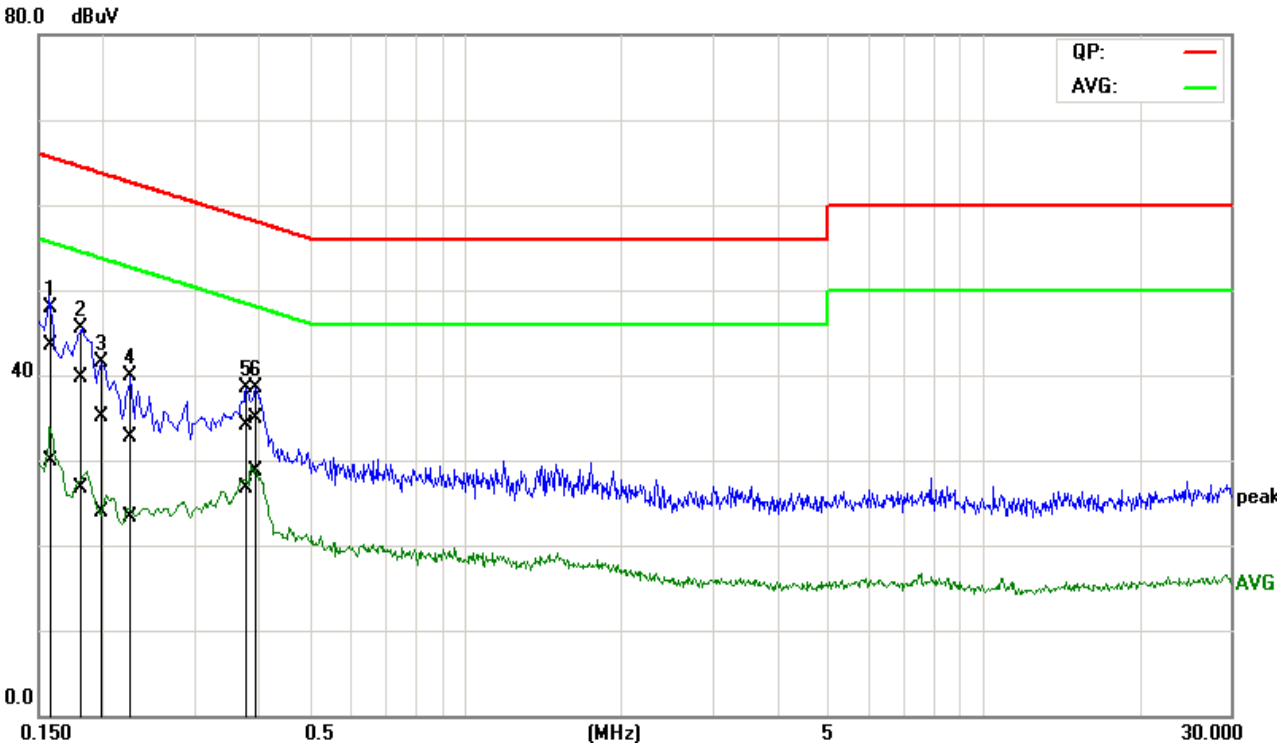


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1510	23.40	8.67	19.78	43.18	28.45	65.94	55.94	-22.76	-27.49	Pass
2	0.1648	21.13	6.90	19.78	40.91	26.68	65.22	55.22	-24.31	-28.54	Pass
3	0.1955	15.25	3.49	19.79	35.04	23.28	63.80	53.80	-28.76	-30.52	Pass
4	0.3988	11.82	5.24	19.80	31.62	25.04	57.88	47.88	-26.26	-22.84	Pass
5	0.6757	3.83	-0.30	19.81	23.64	19.51	56.00	46.00	-32.36	-26.49	Pass
6	1.4449	1.30	-2.28	19.83	21.13	17.55	56.00	46.00	-34.87	-28.45	Pass

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

Job No.:	C151211R02	Date:	2016-1-9
Model No.:	R9861510	Time:	PM 04:34:02
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

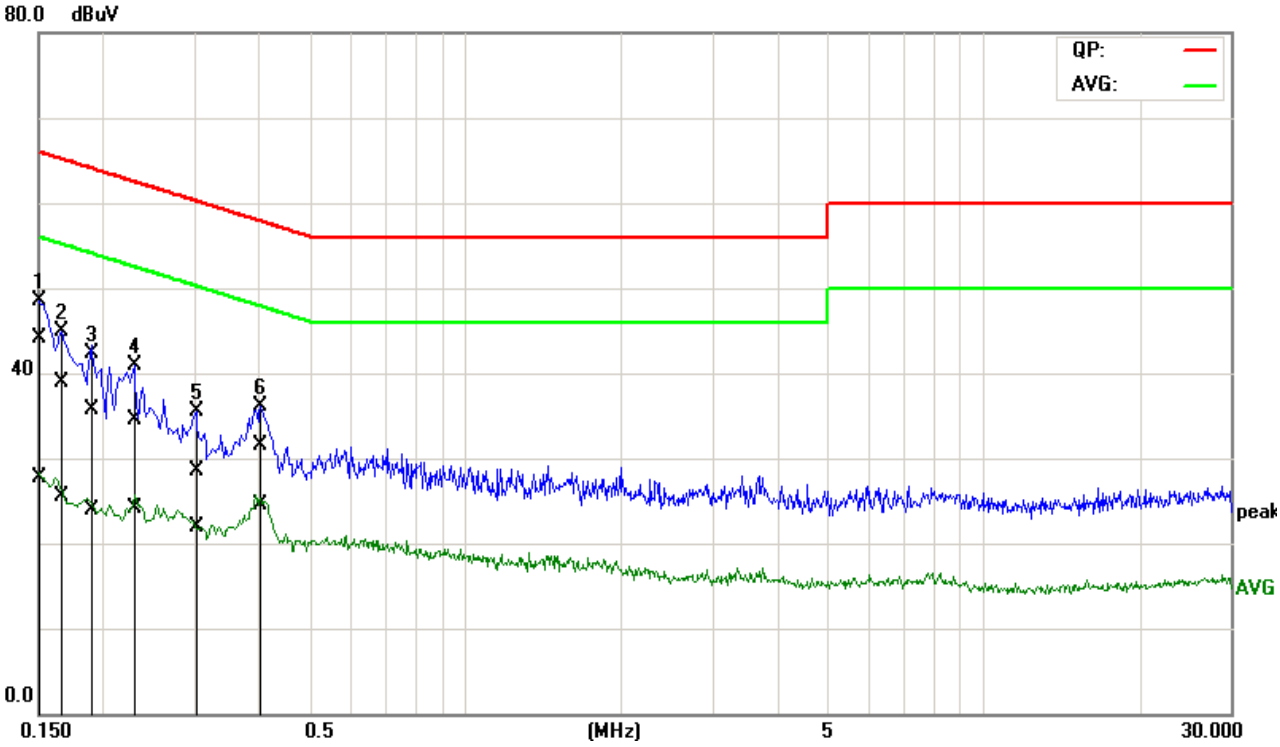


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1599	23.79	10.09	19.73	43.52	29.82	65.47	55.47	-21.95	-25.65	Pass
2	0.1801	19.91	6.95	19.74	39.65	26.69	64.48	54.48	-24.83	-27.79	Pass
3	0.1975	15.46	4.20	19.74	35.20	23.94	63.72	53.72	-28.52	-29.78	Pass
4	0.2254	13.05	3.54	19.74	32.79	23.28	62.62	52.62	-29.83	-29.34	Pass
5	0.3762	14.37	7.01	19.75	34.12	26.76	58.36	48.36	-24.24	-21.60	Pass
6*	0.3936	15.21	8.94	19.75	34.96	28.69	57.99	47.99	-23.03	-19.30	Pass

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

Job No.:	C151211R02	Date:	2016-1-9
Model No.:	R9861510	Time:	PM 04:44:19
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

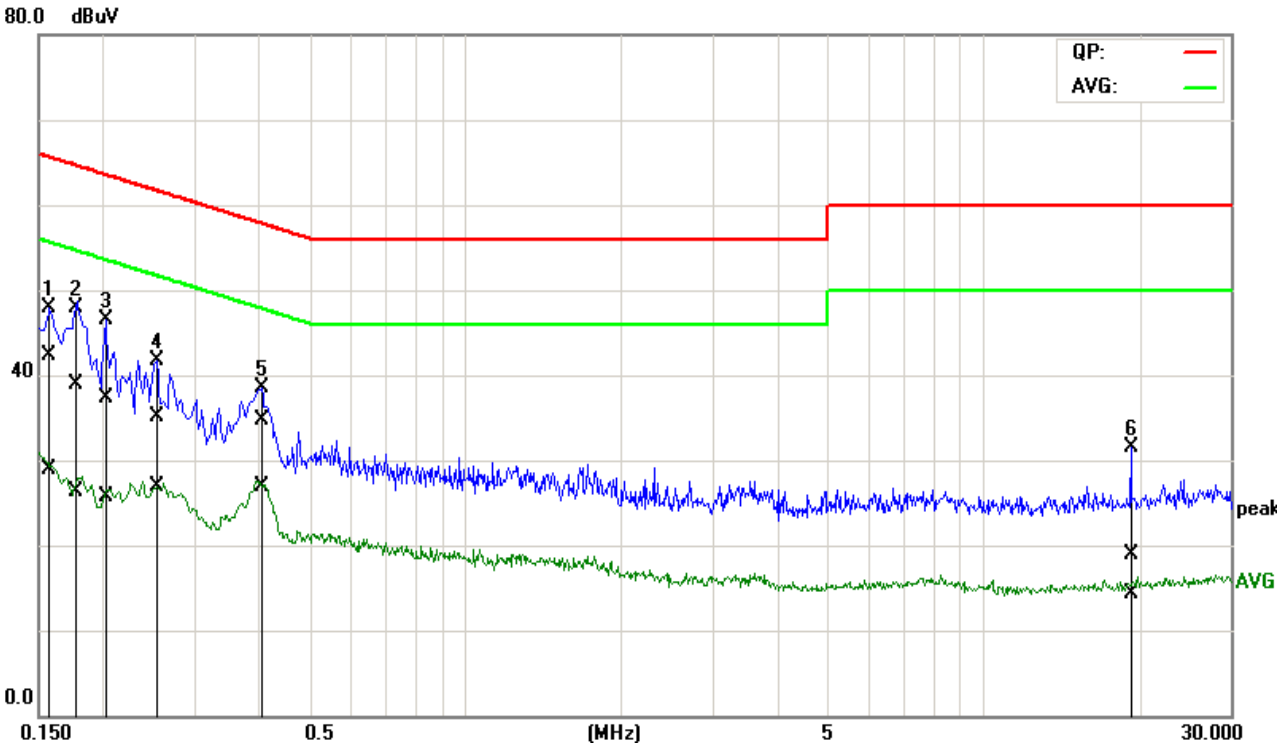


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1*	0.1514	24.34	7.83	19.78	44.12	27.61	65.92	55.92	-21.80	-28.31	Pass
2	0.1669	19.06	5.70	19.78	38.84	25.48	65.11	55.11	-26.27	-29.63	Pass
3	0.1913	16.00	4.09	19.79	35.79	23.88	63.98	53.98	-28.19	-30.10	Pass
4	0.2307	14.63	4.26	19.79	34.42	24.05	62.42	52.42	-28.00	-28.37	Pass
5	0.3040	8.65	2.19	19.80	28.45	21.99	60.13	50.13	-31.68	-28.14	Pass
6	0.4059	11.79	4.73	19.81	31.60	24.54	57.73	47.73	-26.13	-23.19	Pass

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

Job No.:	C151211R02	Date:	2016-1-9
Model No.:	R9861510	Time:	PM 04:49:29
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	0.1584	22.48	9.11	19.73	42.21	28.84	65.55	55.55	-23.34	-26.71	Pass
2	0.1750	19.25	6.50	19.73	38.98	26.23	64.72	54.72	-25.74	-28.49	Pass
3	0.2007	17.62	5.90	19.74	37.36	25.64	63.58	53.58	-26.22	-27.94	Pass
4	0.2526	15.31	7.14	19.74	35.05	26.88	61.67	51.67	-26.62	-24.79	Pass
5*	0.4048	15.02	7.10	19.75	34.77	26.85	57.75	47.75	-22.98	-20.90	Pass
6	19.2696	-1.40	-6.00	20.27	18.87	14.27	60.00	50.00	-41.13	-35.73	Pass

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

END OF REPORT