# FCC Radio Test Report

## *FCC ID: 2ABES-PILOTX01*

### Original Grant

| | | |
|---|---|---|
| **Report No.** | : | TB-FCC170699 |
| **Applicant** | : | Pathway Innovations and Technologies, Inc. |
| **Equipment Under Test (EUT)** | | |
| **EUT Name** | : | PilotX Tablet |
| **Model No.** | : | KR2102 |
| **Serial Model No.** | : | PilotX Tablet, PilotX, PilotS, PilotY, PilotZ, PilotV |
| **Brand Name** | : | HoverCam |
| **Receipt Date** | : | 2019-11-30 |
| **Test Date** | : | 2019-12-01 to 2019-12-18 |
| **Issue Date** | : | 2019-12-19 |
| **Standards** | : | FCC Part 15, Subpart E (15.407) |
| **Test Method** | : | ANSI C63.10: 2013 |
| **Conclusions** | : | **PASS** |

In the configuration tested, the EUT complied with the standards specified above,
The EUT technically complies with the FCC and IC requirements

| | | | |
|---|---|---|---|
| **Test/Witness Engineer** | : | Jack | Jack Deng |
| **Test/Witness Engineer** | : | IVAN SU | Ivan Su |
| **Approved& Authorized** | : | Ray Lai | Ray Lai |

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.



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# Contents

# Revision History

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| TB-FCC170699 | Rev.01 | Initial issue of report | 2019-12-19 |
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# 1. General Information about EUT

## 1.1 Client Information

| | | |
|---|---|---|
| **Applicant** | : | Pathway Innovations and Technologies, Inc. |
| **Address** | : | 9985 Pacific Heights Blvd., Suite 100 San Diego, CA 92121, USA |
| **Manufacturer** | : | ShenZhen KerunVisual Technology Co., LTD. |
| **Address** | : | Unit A, F/11, Bldg.1, Senyang Electronic Technology Park, Tianliao Community, Guangming High Tech Zone, Guangming New District, Shenzhen, China 518132. |

## 1.2 General Description of EUT (Equipment Under Test)

| | | | |
|---|---|---|---|
| **EUT Name** | : | PilotX Tablet | |
| **Models No.** | : | KR2102, PilotX Tablet, PilotX, PilotS, PilotY, PilotZ, PilotV | |
| **Model Different** | : | All these models are the same PCB, layout and electrical circuit, the only difference is model name. | |
| **Product Description** | : | Operation Frequency: | U-NII-1: 5180MHz~5240MHz |
| | | RF Output Power: | U-NII-1-802.11 a:6.44dBm(Max) |
| | | Modulation Type: | 802.11a: OFDM (QPSK, BPSK, 16QAM)<br>802.11n: OFDM (QPSK, BPSK, 16QAM, 64QAM)<br>802.11ac: OFDM (QPSK, BPSK, 16QAM, 64QAM, 256QAM) |
| | | Bit Rate of Transmitter: | 802.11a: 6/9/12/18/24/36/48/54 Mbps<br>802.11n: up to 150Mbps<br>802.11ac: at most 433.3 Mbps |
| **Power Supply** | : | Input: DC 10-15V, 4A<br>DC 7.4V by 10000mAh Li-ion battery | |
| **Software Version** | : | win10 | |
| **Hardware Version** | : | V0.8 | |
| **Connecting I/O Port(S)** | : | Please refer to the User's Manual | |
| **Remark** | : | The adapter and antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab. | |
| **Note:** More detailed features description, please refer to the manufacturer's specifications or the User's Manual. | | | |

**Note:**

(1) This Test Report is FCC Part 15, Subpart E(15.407) for 802.11a/n/ac, the test procedure follows the FCC KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

(2) Channel List:

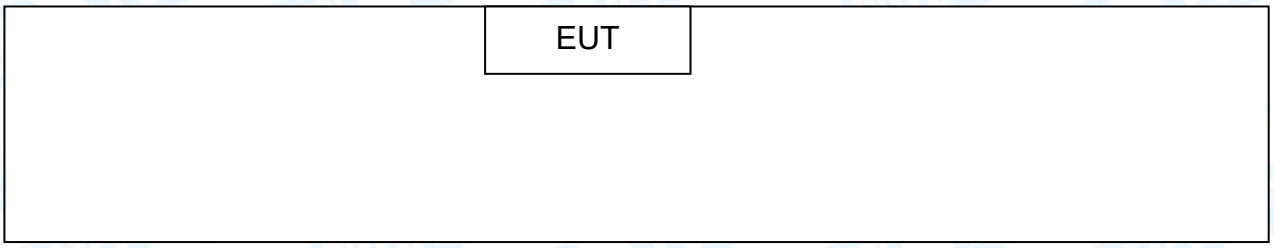
| 5G Band 5150~5250 MHz (U-NII-1) | | | | |
|---|---|---|---|---|
| **Frequency Band** | **Channel No.** | **Frequency** | **Channel No.** | **Frequency** |
| 5180~5240 MHz Band 1 | 36 | 5180 MHz | 44 | 5220 MHz |
| | 38 | 5190 MHz | 46 | 5230 MHz |
| | 40 | 5200 MHz | 48 | 5240 MHz |
| | 42 | 5210 MHz | | |
| Remark:<br>For 20 MHz Bandwidth, use channel 36, 40, 48.<br>For 40 MHz Bandwidth, use channel 38, 46.<br>For 80 MHz Bandwidth, use channel 42. | | | | |

(3) Antenna information:

| Mode | TX Antenna (s) | Remark |
|---|---|---|
| 802.11a | 1 | The worst case is ANT. A TX |
| 802.11n (HT20) | 2 | ANT. A+ ANT. B |
| 802.11n (HT40) | 2 | ANT. A+ ANT. B |
| 802.11ac (20) | 2 | ANT. A+ ANT. B |
| 802.11ac(VHT40) | 2 | ANT. A+ ANT. B |
| 802.11ac (80) | 2 | ANT. A+ ANT. B |

| **Antenna** | **Brand** | **Model Name** | **Type** | **Antenna Gain(dBi)** |
|---|---|---|---|---|
| Main ANT. | N/A | N/A | Dipole | 2 |
| Main ANT. | N/A | N/A | Dipole | 2 |

## 1.3 Block Diagram Showing the Configuration of System Tested



## 1.4 Description of Support Units

| Equipment Information | | | | |
|---|---|---|---|---|
| **Name** | **Model** | **FCC ID/VOC** | **Manufacturer** | **Used "√"** |
| **N/A** | N/A | ---- | N/A | |

## 1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

| For Conducted Test | | |
|---|---|---|
| **Final Test Mode** | **Description** | |
| Mode 1 | TX 802.11a Mode | |
| **For Radiated Test** | | |
| **Test Band** | **Final Test Mode** | **Description** |
| U-NII-1 | Mode 2 | TX Mode 802.11a Mode Channel 36/40/48 |
| | Mode 3 | TX Mode 802.11n(HT20) Mode Channel 36/40/48 |
| | Mode 4 | TX Mode 802.11n(HT40) Mode Channel 38/46 |
| | Mode 5 | TX Mode 802.11ac(VHT20) Mode Channel 36/40/48 |
| | Mode 6 | TX Mode 802.11ac(VHT40) Mode Channel 38/46 |
| | Mode 7 | TX Mode 802.11ac(VHT80) Mode Channel 42 |

**Note:**

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

802.11a Mode: OFDM (6 Mbps)
802.11n (HT20) Mode: MCS 8
802.11n (HT40) Mode: MCS 8
802.11ac(VHT20) Mode: MCS 1/Nss2
802.11ac(VHT40) Mode: MCS 1/Nss2
802.11ac(VHT80) Mode: MCS 1/Nss2

(2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.

(3) The EUT is considered a fixed unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

## 1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of WLAN.

| Test Software Version | RFTestTool.exe | | |
|---|---|---|---|
| U-NII-1 | | | |
| **Mode:** | **5180MHz** | **5200MHz** | **5240MHz** |
| IEEE 802.11a | DEF | DEF | DEF |
| IEEE 802.11n (HT20) | DEF | DEF | DEF |
| IEEE 802.11ac (VHT20) | DEF | DEF | DEF |
| **Mode:** | **5190MHz** | **5230MHz** | |
| IEEE 802.11n (HT40) | DEF | DEF | |
| IEEE 802.11ac (VHT40) | DEF | DEF | |
| **Mode:** | **5210 MHz** | | |
| IEEE 802.11ac (VHT80) | DEF | | |

## 1.7 Test Facility

The testing was performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at:1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China.
At the time of testing, the following bodies accredited the Laboratory:

**CNAS (L5813)**
The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

**A2LA Certificate No.: 4750.01**
The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025：2005 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.

FCC Accredited Test Site Number: 854351.

**IC Registration No.: (11950A-1)**
The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

# 2. Test Summary

| FCC Part 15 Subpart E(15.407)/RSS-210: 2010 | | | | |
|---|---|---|---|---|
| Standard Section | | Test Item | Judgment | Remark |
| FCC | IC | | | |
| 15.203 | / | Antenna Requirement | PASS | N/A |
| 15.207 | RSS-GEN 7.2.4 | Conducted Emission | PASS | N/A |
| 15.407(b) | RSS-GEN 7.2.2 | Band Edge Emissions | PASS | N/A |
| 15.407(a) | RSS-24 A.9.2 | 26dB Bandwidth&99% Bandwidth | PASS | N/A |
| 15.407(e) | RSS-210 A.9.2 | 6dB Bandwidth(**only for UNII-3**) | PASS | N/A |
| 15.407(a) | RSS-210 A.9.2 | Peak Output Power | PASS | N/A |
| 15.407(a) | RSS-210 A.9.2 | Power Spectral Density | PASS | N/A |
| 15.407(b) | RSS-210 A.9.2 | Transmitter Radiated Spurious Emission | PASS | N/A |
| 15.407(a) | RSS-210 A.9.2 | Peak Excursion | PASS | N/A |
| 15.407(g) | RSS-210 A.9.2 | Frequency Stability | PASS | N/A |
| **Note:** (1)"/" for no requirement for this test item.(2)N/A is an abbreviation for Not Applicable.<br>(3)All tests were conducted using the adapter and antenna gain provided by the applicant, The laboratory tests only according to the information provided by the applicant. | | | | |

## Test Software

| Test Item | Test Software | Manufacturer | Version No. |
|---|---|---|---|
| Conducted Emission | EZ-EMC | EZ | CDI-03A2 |
| Radiation Emission | EZ-EMC | EZ | FA-03A2RE |
| RF Conducted Measurement | MTS-8310 | MWRFtest | V2.0.0.0 |

# 3. Test Equipment

| Conducted Emission Test | | | | | |
|---|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Last Cal.** | **Cal. Due Date** |
| EMI Test Receiver | Rohde & Schwarz | ESCI | 100321 | Jul. 13, 2019 | Jul. 12, 2020 |
| RF Switching Unit | Compliance Direction Systems Inc | RSU-A4 | 34403 | Jul. 13, 2019 | Jul. 12, 2020 |
| AMN | SCHWARZBECK | NNBL 8226-2 | 8226-2/164 | Jul. 13, 2019 | Jul. 12, 2020 |
| LISN | Rohde & Schwarz | ENV216 | 101131 | Jul. 13, 2019 | Jul. 12, 2020 |
| **Radiation Emission Test** | | | | | |
| **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Last Cal.** | **Cal. Due Date** |
| Spectrum Analyzer | Agilent | E4407B | MY45106456 | Jul. 13, 2019 | Jul. 12, 2020 |
| EMI Test Receiver | Rohde & Schwarz | ESPI | 100010/007 | Jul. 13, 2019 | Jul. 12, 2020 |
| Spectrum Analyzer | Rohde & Schwarz | FSVR | 1311.006K40-100945-DH | Feb. 10, 2019 | Feb. 09, 2020 |
| Bilog Antenna | ETS-LINDGREN | 3142E | 00117537 | Jan. 27, 2019 | Jan. 26, 2020 |
| Bilog Antenna | ETS-LINDGREN | 3142E | 00117542 | Jan. 27, 2019 | Jan. 26, 2020 |
| Horn Antenna | ETS-LINDGREN | 3117 | 00143207 | Mar.03, 2019 | Mar. 02, 2020 |
| Horn Antenna | ETS-LINDGREN | 3117 | 00143209 | Mar.03, 2019 | Mar. 02, 2020 |
| Horn Antenna | ETS-LINDGREN | BBHA 9170 | BBHA9170582 | Mar.03, 2019 | Mar. 02, 2020 |
| Loop Antenna | SCHWARZBECK | FMZB 1519 B | 1519B-059 | Jul. 13, 2019 | Jul. 12, 2020 |
| Pre-amplifier | Sonoma | 310N | 185903 | Mar.04, 2019 | Mar. 03, 2020 |
| Pre-amplifier | HP | 8449B | 3008A00849 | Mar.03, 2019 | Mar. 02, 2020 |
| Pre-amplifier | SKET | LNPA_1840G-50 | SK201904032 | Jul. 27, 2019 | Jul. 26, 2020 |
| Cable | HUBER+SUHNER | 100 | SUCOFLEX | Mar.03, 2019 | Mar. 02, 2020 |
| Positioning Controller | ETS-LINDGREN | 2090 | N/A | N/A | N/A |
| **Antenna Conducted Emission** | | | | | |
| **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Last Cal.** | **Cal. Due Date** |
| Spectrum Analyzer | Agilent | E4407B | MY45106456 | Jul. 13, 2019 | Jul. 12, 2020 |
| Spectrum Analyzer | Rohde & Schwarz | ESCI | 100010/007 | Jul. 13, 2019 | Jul. 12, 2020 |
| MXA Signal Analyzer | Agilent | N9020A | MY49100060 | Sep. 16, 2019 | Sep. 15, 2020 |
| Vector Signal Generator | Agilent | N5182A | MY50141294 | Sep. 16, 2019 | Sep. 15, 2020 |
| Analog Signal Generator | Agilent | N5181A | MY50141953 | Sep. 16, 2019 | Sep. 15, 2020 |
| RF Power Sensor | DARE!! Instruments | RadiPowerRPR3006W | 17I00015SNO26 | Sep. 16, 2019 | Sep. 15, 2020 |
| | DARE!! Instruments | RadiPowerRPR3006W | 17I00015SNO29 | Sep. 16, 2019 | Sep. 15, 2020 |
| | DARE!! Instruments | RadiPowerRPR3006W | 17I00015SNO31 | Sep. 16, 2019 | Sep. 15, 2020 |
| | DARE!! Instruments | RadiPowerRPR3006W | 17I00015SNO33 | Sep. 16, 2019 | Sep. 15, 2020 |

# 4. Conducted Emission Test

## 4.1 Test Standard and Limit

### 4.1.1Test Standard

FCC Part 15.207

### 4.1.2 Test Limit

**Conducted Emission Test Limit**

| Frequency | Maximum RF Line Voltage (dBμV) | |
|---|---|---|
| | Quasi-peak Level | Average Level |
| 150kHz~500kHz | 66 ~ 56 * | 56 ~ 46 * |
| 500kHz~5MHz | 56 | 46 |
| 5MHz~30MHz | 60 | 50 |

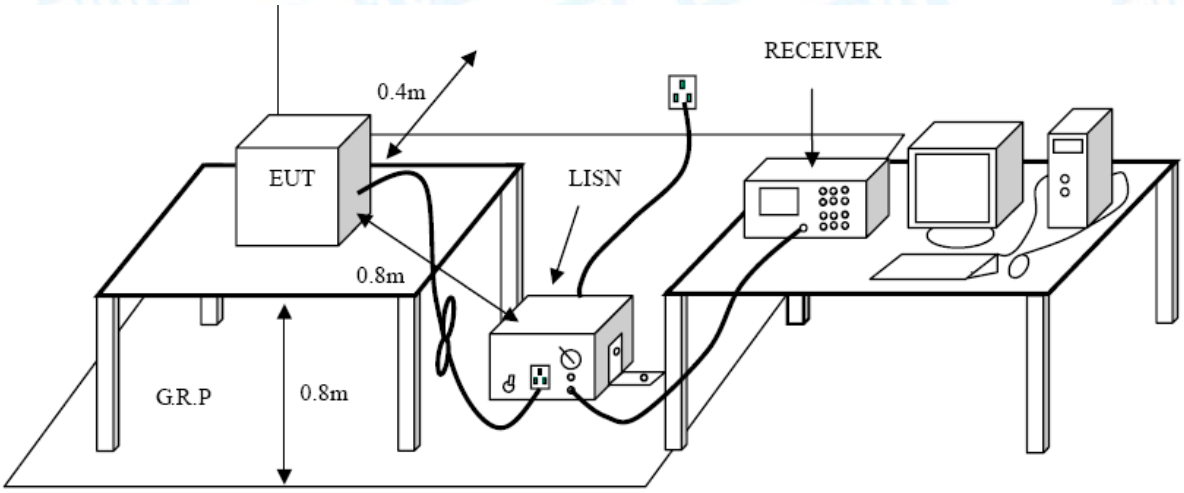
Notes:

(1) *Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequencies.

(3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

## 4.2 Test Setup



## 4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

## 4.4 EUT Operating Mode

Please refer to the description of test mode.

## 4.5 Test Data

Please refer to the Attachment A.

# 5. Radiated Emission Test

## 5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.209

5.1.2 Test Limit

**Radiated Emission Limits (9kHz~1000MHz)**

| Frequency (MHz | Field Strength (microvolt/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 |

**Radiated Emission Limit (Above 1000MHz)**

| Frequency (MHz) | Distance Meters(at 3m) | |
|---|---|---|
| | Peak | Average |
| Above 1000 | 74 | 54 |

**Note:**

(1) The tighter limit applies at the band edges.

(2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

Limits of unwanted emission out of the restricted bands

| Frequency (MHz) | EIRP Limits (dBm) | Equivalent Field Strength at 3m (dBuV/m) |
|---|---|---|
| 5150~5250 | -27 | 68.2 |
| 5250~5350 | -27 | 68.2 |
| 5470~5725 | -27 | 68.2 |
| 5725~5825 | -27(Note 2) | 68.2 |
| | 10(Note 2) | 105.3 |
| | 15.6(Note 2) | 110.9 |
| | 27(Note 2) | 122.2 |

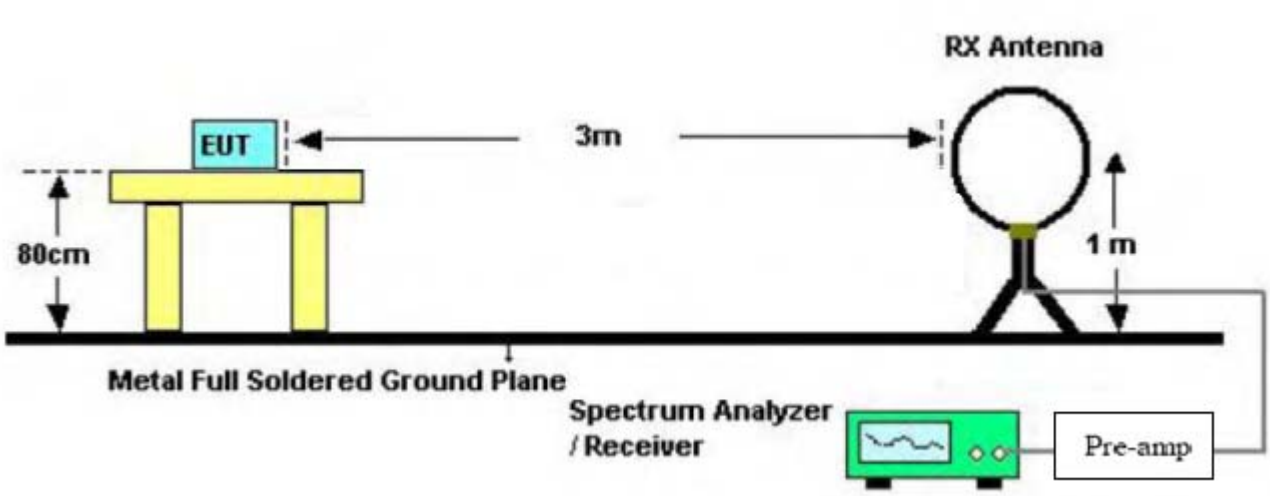
NOTE:

1, The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

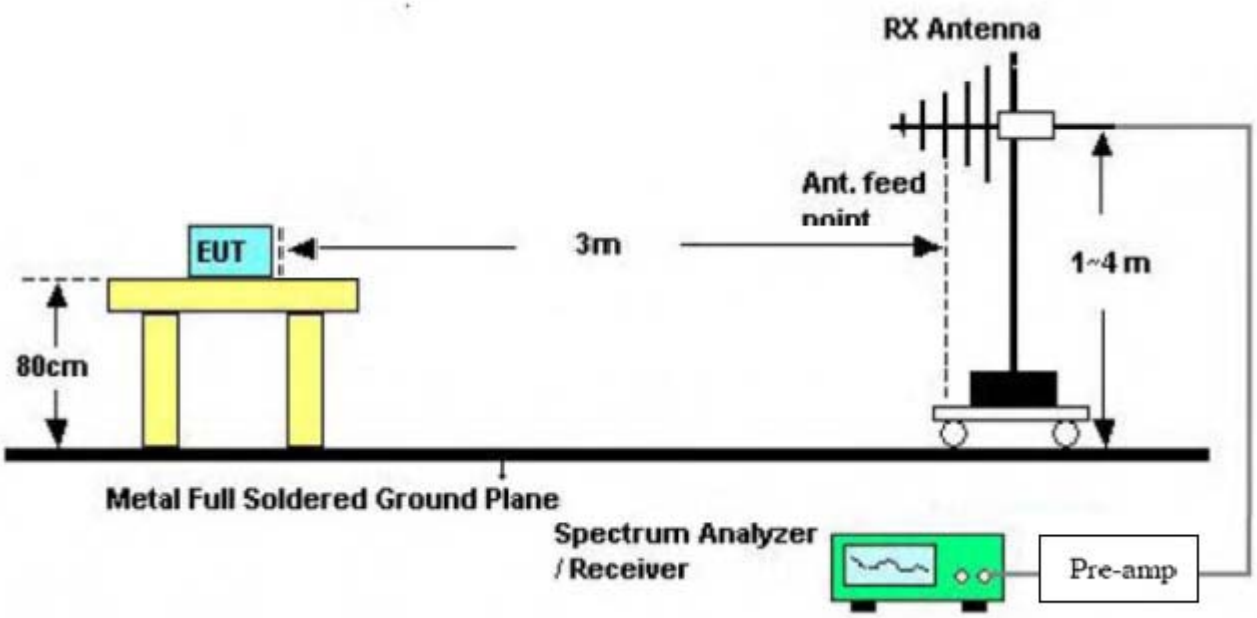
$E=\frac{1000000\sqrt{30P}}{3}$ uV/m, where P is the eirp (Watts)

2, According to FCC 16-24,All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

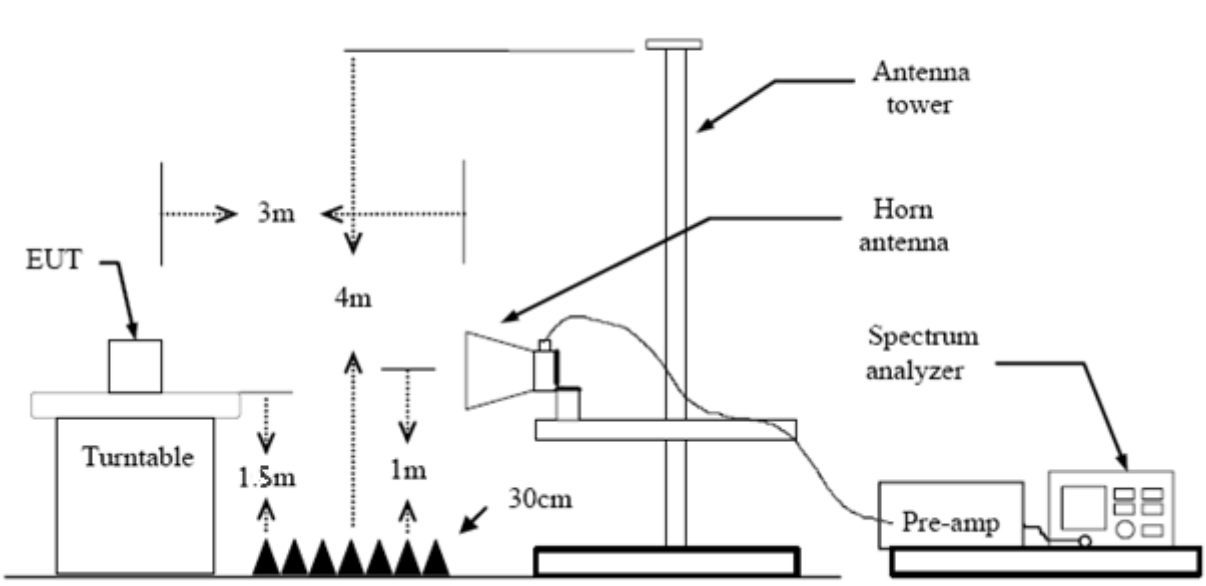
## 5.2 Test Setup




Below 30MHz Test Setup




Below 1000MHz Test Setup




Above 1GHz Test Setup

## 5.3 Test Procedure

(1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz. The EUT was placed on a rotating 0.8m high above the ground, the table was rotated 360 degrees to determine the position of the highest radiation.

(2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by

3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.

(3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

(4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

(5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.

(6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.

(7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

(8) For the actual test configuration, please see the test setup photo.

## 5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

## 5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Please refer to the Attachment B.

# 6. Band Edge Emissions

## 6.1 Test Standard and Limit

### 6.1.1 Test Standard

FCC Part 15.407(b)

### 6.1.2 Test Limit

Limits of unwanted emission out of the restricted bands

| Frequency (MHz) | EIRP Limits (dBm) | Equivalent Field Strength at 3m (dBuV/m) |
|---|---|---|
| 5150~5250 | -27 | 68.2 |
| 5725~5825 | -27(Note 2) | 68.2 |
| | 10(Note 2) | 105.3 |
| | 15.6(Note 2) | 110.9 |
| | 27(Note 2) | 122.2 |

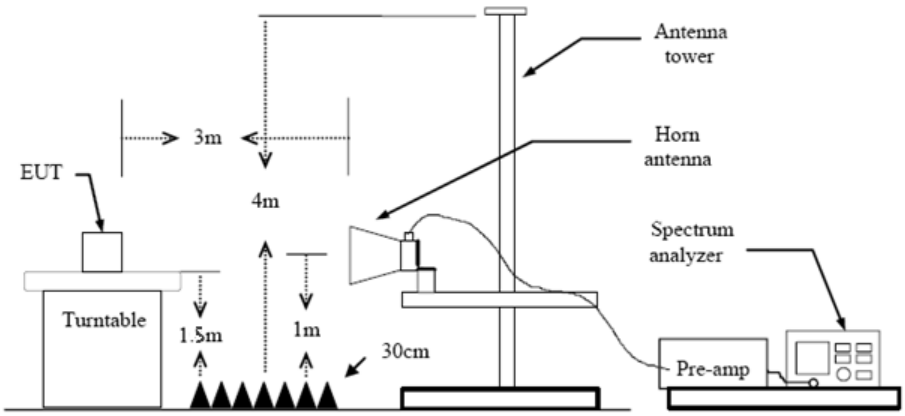
NOTE:

1, The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$E=\frac{1000000\sqrt{30P}}{3}$ uV/m, where P is the eirp (Watts)

2, According to FCC 16-24,All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

## 6.2 Test Setup



## 6.3 Test Procedure

(1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz. The EUT was placed on a rotating 0.8m high above the ground, the table was rotated 360 degrees to determine the position of the highest radiation.
(2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
(3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
(4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
(5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
(6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
(7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
(8) For the actual test configuration, please see the test setup photo.

## 6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

## 6.5 Test Data

Please refer to the Attachment C.

# 7. Bandwidth Test

## 7.1 Test Standard and Limit

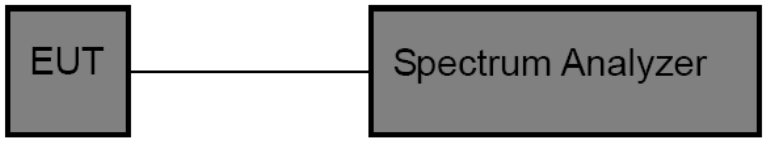
### 7.1.1 Test Standard

FCC Part 15.407

### 7.1.2 Test Limit

| FCC Part 15 Subpart C(15.407)/RSS-210 | | |
|---|---|---|
| **Test Item** | **Limit** | **Frequency Range (MHz)** |
| 26 Bandwidth | N/A | 5150~5250 |
| 6 dB Bandwidth | >500kHz | 5725~5850 |

## 7.2 Test Setup




## 7.3 Test Procedure

(1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

(2) The setting of the spectrum analyser as below:

| 26dB Bandwidth Test | |
|---|---|
| **Spectrum Parameters** | **Setting** |
| Attenuation | Auto |
| Span | >26 dB Bandwidth |
| RBW | Approximately 1% of the emission bandwidth |
| VBW | VBW>RBW |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

| 6dB Bandwidth Test | |
|---|---|
| **Spectrum Parameters** | **Setting** |
| Attenuation | Auto |
| Span | >6 dB Bandwidth |
| RBW | 100 kHz |
| VBW | VBW>=3*RBW |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |
| **99% Occupied Bandwidth Test** | |
| **Spectrum Parameters** | **Setting** |
| Attenuation | Auto |
| RBW | 1% to 5% of the OBW |
| VBW | ≥ 3RBW |
| Detector | Peak |
| Trace | Max Hold |

## 7.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

## 7.5 Test Data

Please refer to the Attachment D.

# 8. Output Power Test

## 8.1 Test Standard and Limit

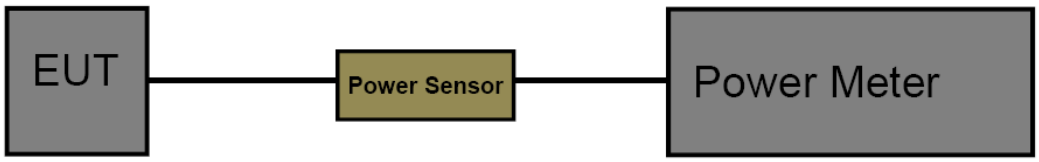
### 8.1.1 Test Standard

FCC Part 15.407 (a)

### 8.1.2 Test Limit

| FCC Part 15 Subpart E(15.407)/RSS-210 | | |
|---|---|---|
| **Test Item** | **Limit** | **Frequency Range(MHz)** |
| Conducted Output Power | Fixed: 1 Watt (30dBm)<br>Mobile and Portable:<br>250mW (24dBm) | 5150~5250 |
| | 1 Watt (30dBm) | 5725~5850 |

## 8.2 Test Setup




## 8.3 Test Procedure

The measurement is according to section 3 of KDB 789033 D02 General UNII Test Procedures New Rules V02r01.
The EUT was connected to RF power meter via a broadband power sensor as show the block above.

## 8.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.

## 8.5 Test Date

Please refer to the Attachment E.

# 9. Power Spectral Density Test

## 9.1 Test Standard and Limit

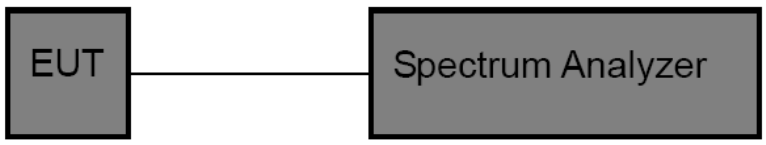
9.1.1 Test Standard

FCC Part 15.407 (a)

9.1.2 Test Limit

| FCC Part 15 Subpart E(15.407) | | |
|---|---|---|
| **Test Item** | **Limit** | **Frequency Range(MHz)** |
| Power Spectral Density | Other than Mobile and Portable : 17dBm/MHz Mobile and Portable : 11dBm/MHz | 5150~5250 |
| | 30dBm/500kHz | 5725~5850 |

## 9.2 Test Setup




## 9.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement is according to KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

(1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

(2) Set analyser centre frequency to transmitting frequency.

(3) Set the span to encompass the entire emissions bandwidth (EBW)(alternatively, the entire 99% OBW) of the signal.

(4) Set the RBW to: 1 MHz

(5) Set the VBW to: 3 MHz

(6) Detector: RMS

(7) Trace: Max Hold

(7) Sweep time: auto

(8) Trace average at least 100 traces in power averaging.

(9) User the peak marker function to determine the maximum amplitude level within the RBW. Apply correction to the result if different RBW is used.

## 9.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

## 9.5 Test Data

Please refer to the Attachment F.

# 10. Frequency Stability Measurement

## 10.1 Test Standard and Limit

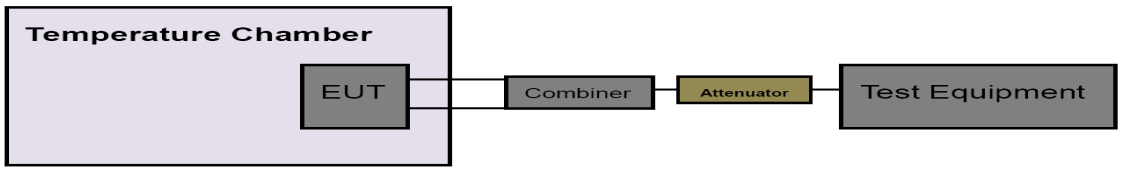
10.1.1 Test Standard

FCC Part 15.407

10.1.2 Test Limit

| FCC Part 15 Subpart C(15.407) | | |
|---|---|---|
| **Test Item** | **Limit** | **Frequency Range(MHz)** |
| Peak Excursion Measurement | Specified in the user's manual, the transmitter center frequency tolerance shall be ±20 ppm maximum for the 5 GHz band (IEEE 802.11n specification) | 5150~5250 |
| | | 5725~5850 |

## 10.2 Test Setup




## 10.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above.

(1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

(2) Set analyser centre frequency to transmitting frequency.

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

(4) Set the RBW to: 10 kHz, VBW=10 kHz with peak detector and maxhold settings.

(5) The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

(6) Extreme temperature is 0℃~50℃

## 10.4 EUT Operating Condition

The EUT was set to continuously transmitting in continuously un-modulation transmitting mode.

## 10.5 Test Data

Please refer to the Attachment G.

# 11. Antenna Requirement

## 11.1 Standard Requirement

### 11.1.1 Standard

FCC Part 15.203

### 11.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

## 11.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is (5150MHz-5250MHz: 2dBi), and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

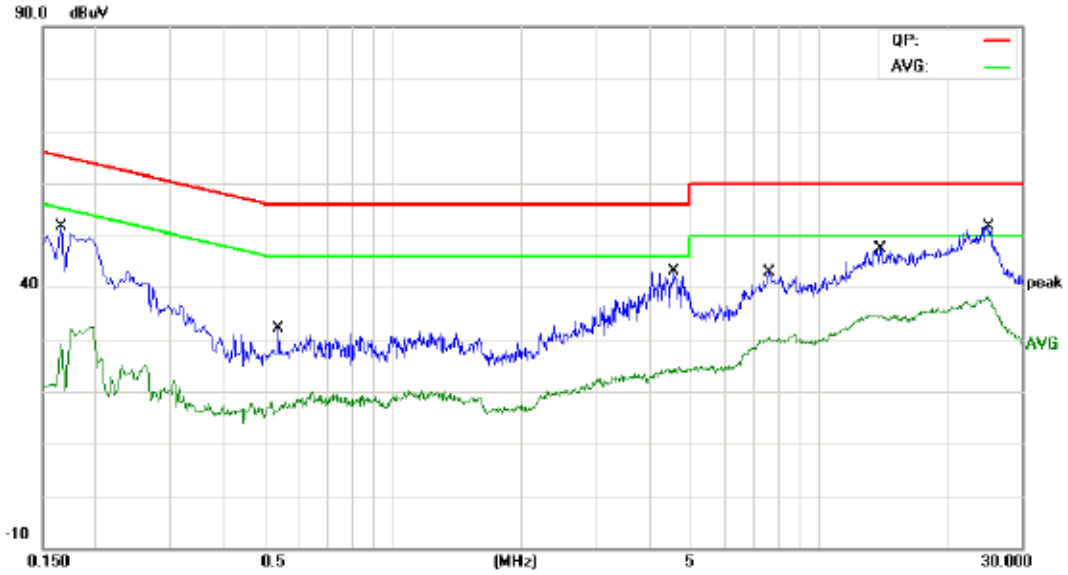
## 11.3 Result

The EUT antenna is a Dipole Antenna. It complies with the standard requirement.

| Antenna Type |
|---|
| ☐Permanent attached antenna |
| ☒Unique connector antenna |
| ☐Professional installation antenna |

# Attachment A-- Conducted Emission Test Data

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60 Hz | | |
| **Terminal:** | Line | | |
| **Test Mode:** | TX 802.11a Mode CH36 | | |
| **Remark:** | Only worse case is reported | | |

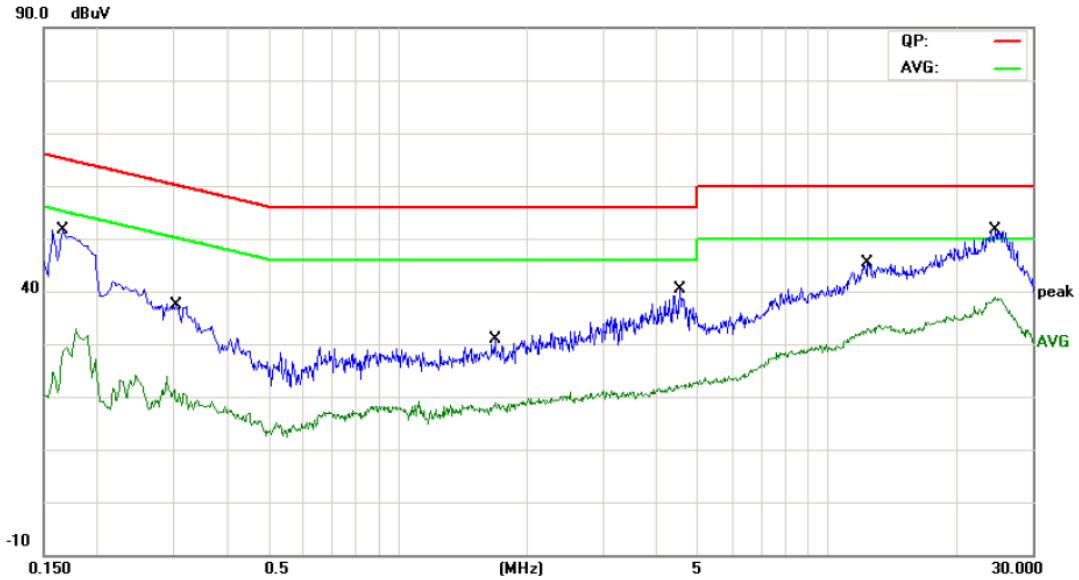



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector |
| 1 | | 0.1658 | 25.42 | 9.62 | 35.04 | 65.16 | -30.12 | QP |
| 2 | | 0.1658 | 7.69 | 9.62 | 17.31 | 55.16 | -37.85 | AVG |
| 3 | | 0.5378 | 16.65 | 9.78 | 26.43 | 56.00 | -29.57 | QP |
| 4 | | 0.5378 | 7.49 | 9.78 | 17.27 | 46.00 | -28.73 | AVG |
| 5 | | 4.5734 | 20.38 | 9.82 | 30.20 | 56.00 | -25.80 | QP |
| 6 | | 4.5734 | 10.01 | 9.82 | 19.83 | 46.00 | -26.17 | AVG |
| 7 | | 7.6463 | 23.89 | 9.86 | 33.75 | 60.00 | -26.25 | QP |
| 8 | | 7.6463 | 14.67 | 9.86 | 24.53 | 50.00 | -25.47 | AVG |
| 9 | | 13.9146 | 29.56 | 9.86 | 39.42 | 60.00 | -20.58 | QP |
| 10 | | 13.9146 | 21.87 | 9.86 | 31.73 | 50.00 | -18.27 | AVG |
| 11 | | 25.0545 | 38.80 | 9.75 | 48.55 | 60.00 | -11.45 | QP |
| 12 | * | 25.0545 | 30.29 | 9.75 | 40.04 | 50.00 | -9.96 | AVG |

*:Maximum data x:Over limit !:over margin

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60 Hz | | |
| **Terminal:** | Neutral | | |
| **Test Mode:** | TX 802.11a Mode CH36 | | |
| **Remark:** | Only worse case is reported | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB | dBuV | dBuV | dB | Detector |
| 1 | | 0.1658 | 25.44 | 9.62 | 35.06 | 65.16 | -30.10 | QP |
| 2 | | 0.1658 | 7.75 | 9.62 | 17.37 | 55.16 | -37.79 | AVG |
| 3 | | 0.3048 | 18.91 | 9.70 | 28.61 | 60.11 | -31.50 | QP |
| 4 | | 0.3048 | 6.67 | 9.70 | 16.37 | 50.11 | -33.74 | AVG |
| 5 | | 1.6800 | 13.92 | 9.83 | 23.75 | 56.00 | -32.25 | QP |
| 6 | | 1.6800 | 6.79 | 9.83 | 16.62 | 46.00 | -29.38 | AVG |
| 7 | | 4.5252 | 21.05 | 9.82 | 30.87 | 56.00 | -25.13 | QP |
| 8 | | 4.5252 | 10.13 | 9.82 | 19.95 | 46.00 | -26.05 | AVG |
| 9 | | 12.3835 | 29.86 | 9.86 | 39.72 | 60.00 | -20.28 | QP |
| 10 | | 12.3835 | 20.74 | 9.86 | 30.60 | 50.00 | -19.40 | AVG |
| 11 | | 24.5290 | 39.70 | 9.74 | 49.44 | 60.00 | -10.56 | QP |
| 12 | * | 24.5290 | 31.25 | 9.74 | 40.99 | 50.00 | -9.01 | AVG |

*:Maximum data x:Over limit !:over margin

**Emission Level= Read Level+ Correct Factor**

*Remark: All modes and channels have been tested and only listed WiFi link mode that is worst data*

# Attachment B-- Radiated Emission Test Data

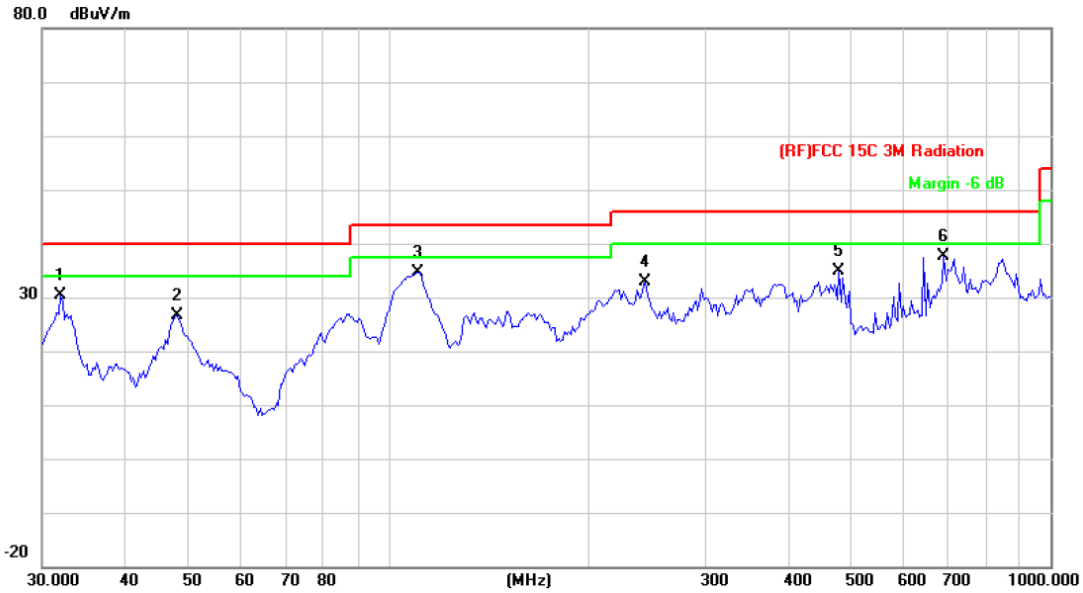
**9 KHz~30 MHz**

From 9 KHz to 30 MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

**30MHz~1GHz**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11a Mode 5180MHz (U-NII-1) | | |
| **Remark:** | Only worse case is reported | | |

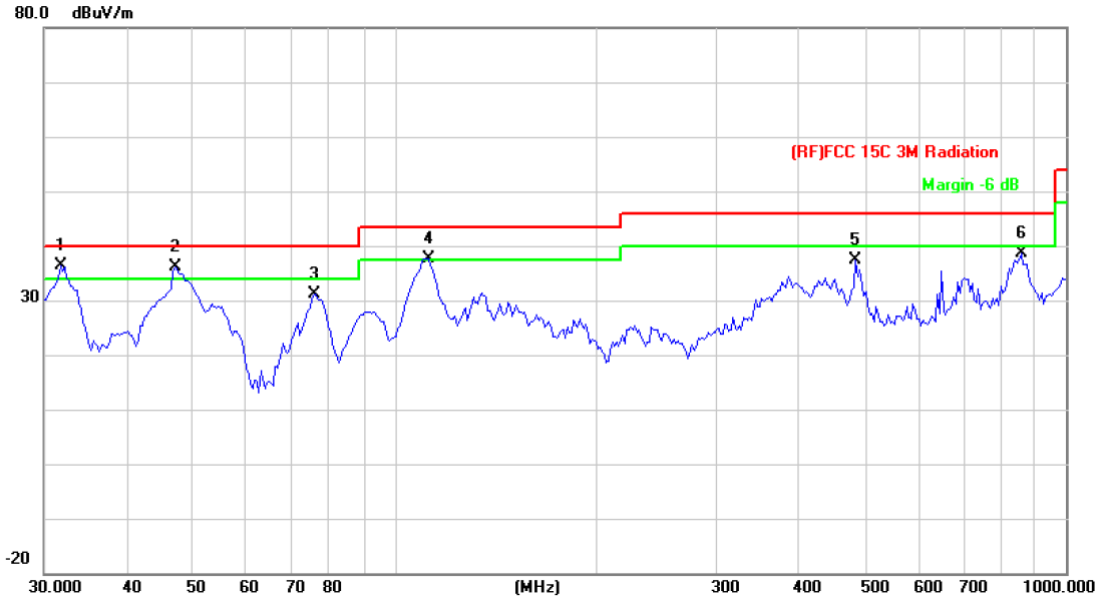



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 31.9546 | 44.85 | -14.48 | 30.37 | 40.00 | -9.63 | QP |
| 2 | | 47.9940 | 49.41 | -22.67 | 26.74 | 40.00 | -13.26 | QP |
| 3 | | 110.5687 | 57.16 | -22.46 | 34.70 | 43.50 | -8.80 | QP |
| 4 | | 244.2321 | 50.18 | -17.37 | 32.81 | 46.00 | -13.19 | QP |
| 5 | | 478.8456 | 45.82 | -10.97 | 34.85 | 46.00 | -11.15 | QP |
| 6 | * | 689.5644 | 44.54 | -6.85 | 37.69 | 46.00 | -8.31 | QP |

*:Maximum data x:Over limit !:over margin

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11a Mode 5180MHz (U-NII-1) | | |
| **Remark:** | Only worse case is reported | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 31.7313 | 50.72 | -14.32 | 36.40 | 40.00 | -3.60 | QP |
| 2 | ! | 46.9948 | 58.55 | -22.33 | 36.22 | 40.00 | -3.78 | QP |
| 3 | | 75.7114 | 54.13 | -22.99 | 31.14 | 40.00 | -8.86 | QP |
| 4 | ! | 112.1305 | 60.15 | -22.44 | 37.71 | 43.50 | -5.79 | QP |
| 5 | | 485.6093 | 48.21 | -10.77 | 37.44 | 46.00 | -8.56 | QP |
| 6 | | 857.0247 | 43.75 | -5.18 | 38.57 | 46.00 | -7.43 | QP |

*:Maximum data x:Over limit !:over margin

**Emission Level= Read Level+ Correct Factor**

**5180MHz-5250MHz(U-NII-1)**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11a Mode 5180MHz (U-NII-1) Antenna A | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. Only worse case is reported. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10360.434 | 45.54 | 15.59 | 61.13 | 68.30 | -7.17 | peak |
| 2 | * | 10360.444 | 31.93 | 15.59 | 47.52 | 54.00 | -6.48 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11a Mode 5180MHz (U-NII-1) Antenna A | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. Only worse case is reported. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10360.414 | 31.93 | 15.59 | 47.52 | 54.00 | -6.48 | AVG |
| 2 | | 10360.434 | 44.55 | 15.59 | 60.14 | 68.30 | -8.16 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11a Mode 5200MHz (U-NII-1) Antenna A | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10400.432 | 45.45 | 15.66 | 61.11 | 68.30 | -7.19 | peak |
| 2 | * | 10400.432 | 31.49 | 15.66 | 47.15 | 54.00 | -6.85 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11a Mode 5200MHz (U-NII-1) Antenna A | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10400.343 | 31.47 | 15.66 | 47.13 | 54.00 | -6.87 | AVG |
| 2 | | 10400.431 | 44.48 | 15.66 | 60.14 | 68.30 | -8.16 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11a Mode 5240MHz (U-NII-1) Antenna A | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10477.344 | 44.35 | 15.79 | 60.14 | 68.30 | -8.16 | peak |
| 2 | * | 10479.434 | 31.64 | 15.79 | 47.43 | 54.00 | -6.57 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11a Mode 5240MHz (U-NII-1) Antenna A | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10480.344 | 44.65 | 15.79 | 60.44 | 68.30 | -7.86 | peak |
| 2 | * | 10480.434 | 31.62 | 15.79 | 47.41 | 54.00 | -6.59 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n(HT20) Mode 5180MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10360.434 | 31.54 | 15.59 | 47.13 | 54.00 | -6.87 | AVG |
| 2 | | 10360.444 | 44.75 | 15.59 | 60.34 | 68.30 | -7.96 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11n(HT20) Mode 5180MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10360.434 | 31.66 | 15.59 | 47.25 | 54.00 | -6.75 | AVG |
| 2 | | 10360.444 | 44.55 | 15.59 | 60.14 | 68.30 | -8.16 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n(HT20) Mode 5200MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10400.434 | 44.48 | 15.66 | 60.14 | 68.30 | -8.16 | peak |
| 2 | * | 10400.434 | 31.77 | 15.66 | 47.43 | 54.00 | -6.57 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11n(HT20) Mode 5200MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10400.430 | 45.45 | 15.66 | 61.11 | 68.30 | -7.19 | peak |
| 2 | * | 10400.434 | 31.48 | 15.66 | 47.14 | 54.00 | -6.86 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n(HT20) Mode 5240MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10480.244 | 44.65 | 15.79 | 60.44 | 68.30 | -7.86 | peak |
| 2 | * | 10480.440 | 31.79 | 15.79 | 47.58 | 54.00 | -6.42 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11n(HT20) Mode 5240MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10480.274 | 45.65 | 15.79 | 61.44 | 68.30 | -6.86 | peak |
| 2 | * | 10480.434 | 33.65 | 15.79 | 49.44 | 54.00 | -4.56 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5180MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10360.434 | 33.86 | 15.59 | 49.45 | 54.00 | -4.55 | AVG |
| 2 | | 10360.435 | 46.55 | 15.59 | 62.14 | 68.30 | -6.16 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5180MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10360.442 | 45.86 | 15.59 | 61.45 | 68.30 | -6.85 | peak |
| 2 | * | 10360.444 | 33.96 | 15.59 | 49.55 | 54.00 | -4.45 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5200MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10400.344 | 33.86 | 15.66 | 49.52 | 54.00 | -4.48 | AVG |
| 2 | | 10400.434 | 47.48 | 15.66 | 63.14 | 68.30 | -5.16 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5200MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10400.342 | 33.77 | 15.66 | 49.43 | 54.00 | -4.57 | AVG |
| 2 | | 10400.344 | 46.68 | 15.66 | 62.34 | 68.30 | -5.96 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10480.341 | 33.64 | 15.79 | 49.43 | 54.00 | -4.57 | AVG |
| 2 | | 10480.344 | 45.64 | 15.79 | 61.43 | 68.30 | -6.87 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5240MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10480.044 | 46.35 | 15.79 | 62.14 | 68.30 | -6.16 | peak |
| 2 | * | 10480.433 | 33.64 | 15.79 | 49.43 | 54.00 | -4.57 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n(HT40) Mode 5190MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10380.434 | 33.82 | 15.62 | 49.44 | 54.00 | -4.56 | AVG |
| 2 | | 10381.344 | 47.49 | 15.62 | 63.11 | 68.30 | -5.19 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11n(HT40) Mode 5190MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10380.344 | 33.81 | 15.62 | 49.43 | 54.00 | -4.57 | AVG |
| 2 | | 10380.442 | 44.92 | 15.62 | 60.54 | 68.30 | -7.76 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n(HT40) Mode 5230MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10460.343 | 33.85 | 15.76 | 49.61 | 54.00 | -4.39 | AVG |
| 2 | | 10460.746 | 45.38 | 15.76 | 61.14 | 68.30 | -7.16 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11n(HT40) Mode 5230MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10460.311 | 47.37 | 15.76 | 63.13 | 68.30 | -5.17 | peak |
| 2 | * | 10460.342 | 33.67 | 15.76 | 49.43 | 54.00 | -4.57 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT40) Mode 5190MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10380.433 | 45.81 | 15.62 | 61.43 | 68.30 | -6.87 | peak |
| 2 | * | 10380.441 | 33.79 | 15.62 | 49.41 | 54.00 | -4.59 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT40) Mode 5190MHz (U-NII-1) | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10380.433 | 46.82 | 15.62 | 62.44 | 68.30 | -5.86 | peak |
| 2 | * | 10381.433 | 33.81 | 15.62 | 49.43 | 54.00 | -4.57 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT40) Mode 5230MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10460.145 | 46.68 | 15.76 | 62.44 | 68.30 | -5.86 | peak |
| 2 | * | 10460.344 | 33.81 | 15.76 | 49.57 | 54.00 | -4.43 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT40) Mode 5230MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 10460.344 | 46.68 | 15.76 | 62.44 | 68.30 | -5.86 | peak |
| 2 | * | 10460.434 | 33.78 | 15.76 | 49.54 | 54.00 | -4.46 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT80) Mode 5210MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10420.224 | 33.41 | 15.69 | 49.10 | 54.00 | -4.90 | AVG |
| 2 | | 10420.344 | 47.41 | 15.69 | 63.10 | 68.30 | -5.20 | peak |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT80) Mode 5210MHz (U-NII-1) Antenna A+B | | |
| **Remark:** | No report for the emission which more than 10 dB below the prescribed limit. | | |

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 10420.133 | 33.72 | 15.69 | 49.41 | 54.00 | -4.59 | AVG |
| 2 | | 10420.434 | 47.44 | 15.69 | 63.13 | 68.30 | -5.17 | peak |

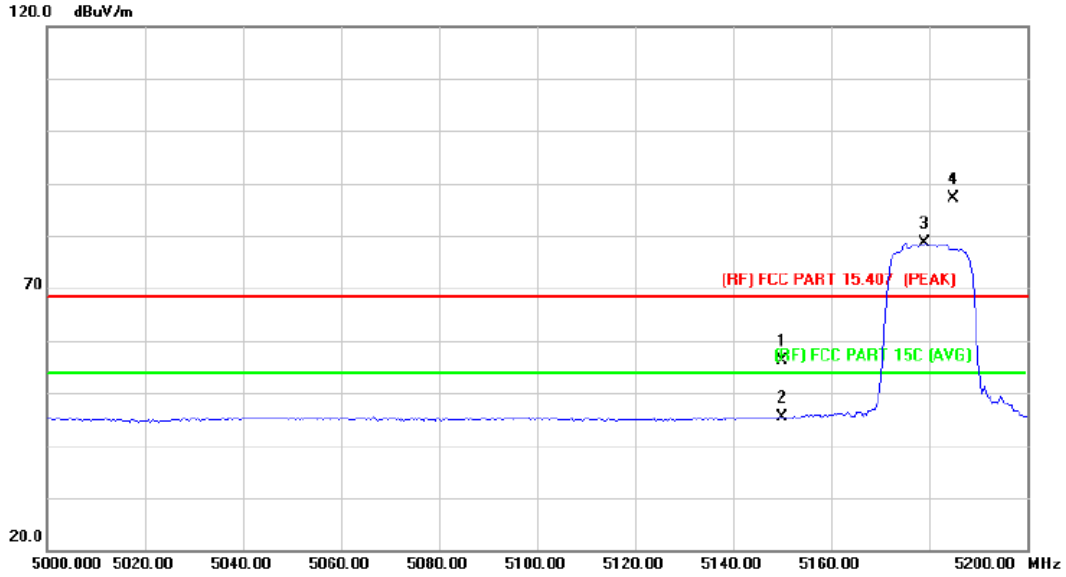
**Emission Level= Read Level+ Correct Factor**

# Attachment C-- Band Edge Emissions Test Data

## (1) Radiation Test

### a/n(20)/ac(VHT20)

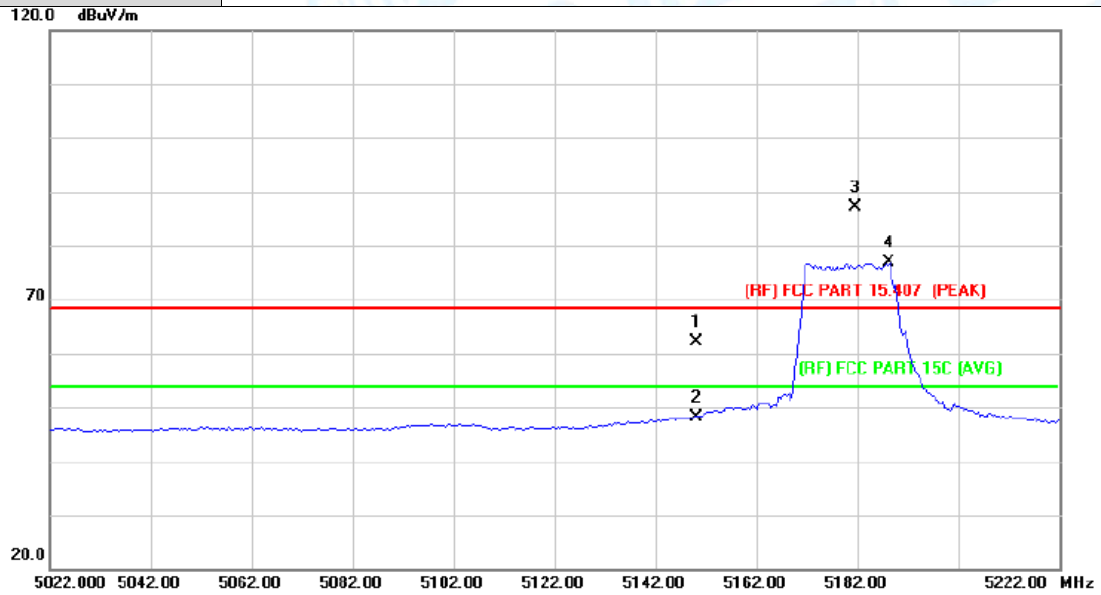
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11a Mode 5180 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11a Mode 5180~5240 MHz (U-NII-1) Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 39.63 | 16.61 | 56.24 | 68.30 | -12.06 | peak |
| 2 | | 5150.000 | 28.77 | 16.61 | 45.38 | 54.00 | -8.62 | AVG |
| 3 | * | 5179.200 | 61.95 | 16.65 | 78.60 | Fundamental Frequency | | AVG |
| 4 | X | 5184.800 | 70.50 | 16.65 | 87.15 | Fundamental Frequency | | peak |

**Emission Level= Read Level+ Correct Factor**

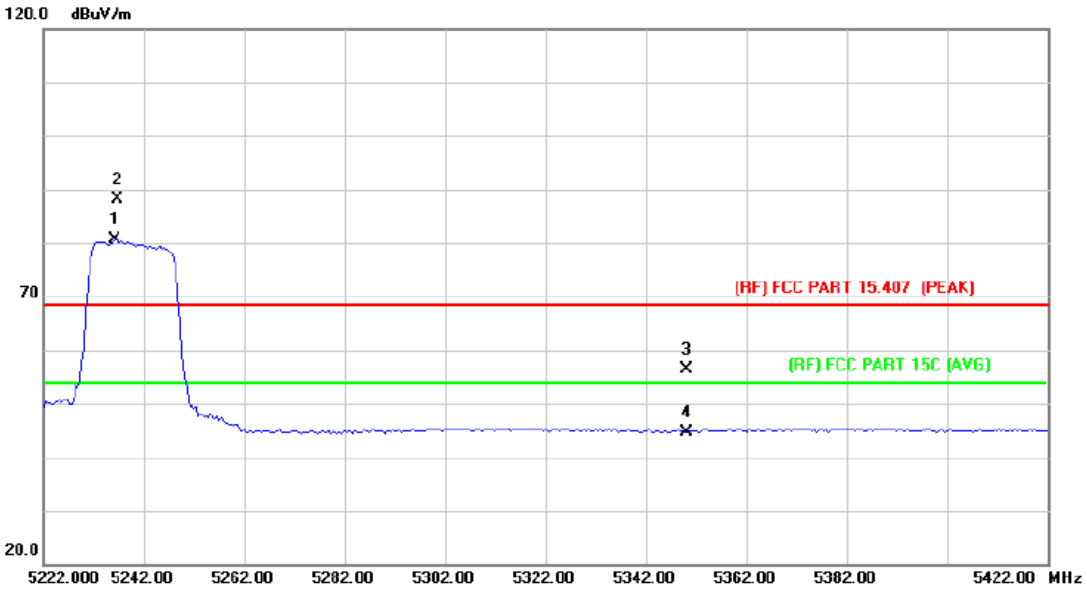
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11a Mode 5180 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11a Mode 5180~5240 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 45.50 | 16.61 | 62.11 | 68.30 | -6.19 | peak |
| 2 | | 5150.000 | 31.60 | 16.61 | 48.21 | 54.00 | -5.79 | AVG |
| 3 | X | 5181.600 | 70.47 | 16.64 | 87.11 | Fundamental Frequency | | peak |
| 4 | * | 5188.400 | 60.35 | 16.65 | 77.00 | Fundamental Frequency | | AVG |

**Emission Level= Read Level+ Correct Factor**

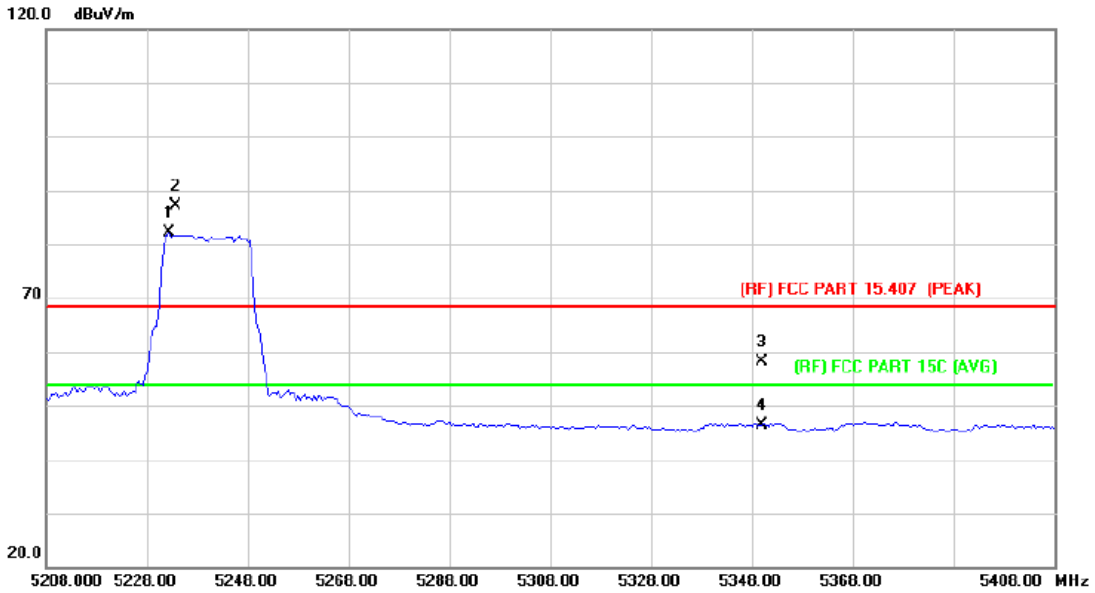
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Ant. Pol. | Horizontal | | |
| Test Mode: | TX 802.11a Mode 5240 MHz (U-NII-1) | | |
| Remark: | TX 802.11a Mode 5180~5240 MHz (U-NII-1) High | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 5236.400 | 63.85 | 16.70 | 80.55 | Fundamental Frequency | | AVG |
| 2 | X | 5236.800 | 71.55 | 16.70 | 88.25 | Fundamental Frequency | | peak |
| 3 | | 5350.000 | 39.55 | 16.83 | 56.38 | 68.30 | -11.92 | peak |
| 4 | | 5350.000 | 27.89 | 16.83 | 44.72 | 54.00 | -9.28 | AVG |

**Emission Level= Read Level+ Correct Factor**

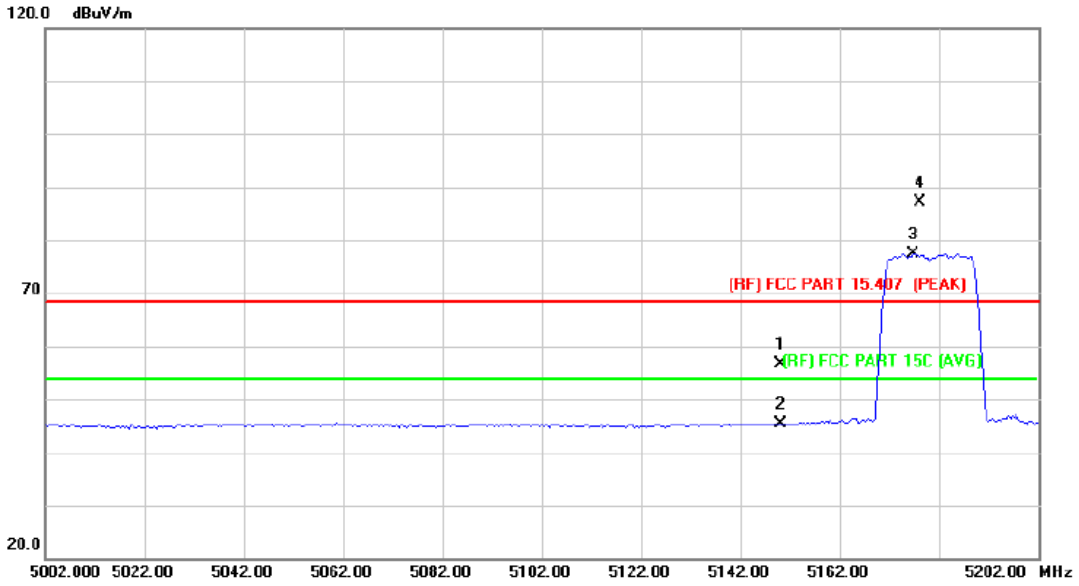
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11a Mode 5240 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11a Mode 5180~5240 MHz (U-NII-1) CH High | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 5232.400 | 65.54 | 16.70 | 82.24 | Fundamental Frequency | | AVG |
| 2 | X | 5233.600 | 70.43 | 16.70 | 87.13 | Fundamental Frequency | | peak |
| 3 | | 5350.000 | 41.22 | 16.83 | 58.05 | 68.30 | -10.25 | peak |
| 4 | | 5350.000 | 29.64 | 16.83 | 46.47 | 54.00 | -7.53 | AVG |

**Emission Level= Read Level+ Correct Factor**

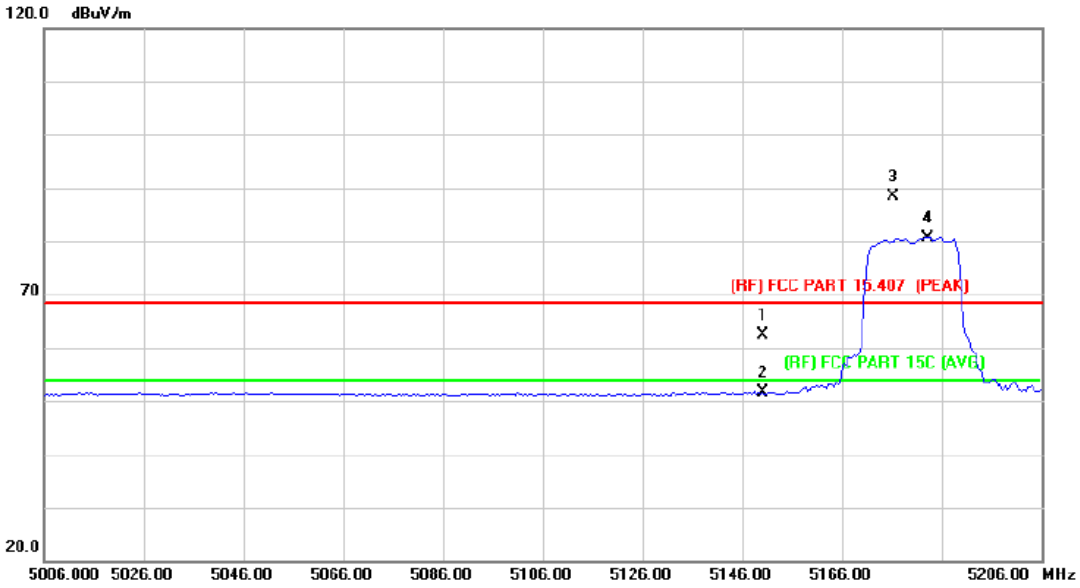
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n(20) Mode 5180 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11 n(20) Mode 5180~5240 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 39.94 | 16.61 | 56.55 | 68.30 | -11.75 | peak |
| 2 | | 5150.000 | 28.70 | 16.61 | 45.31 | 54.00 | -8.69 | AVG |
| 3 | * | 5176.800 | 60.72 | 16.64 | 77.36 | Fundamental Frequency | | AVG |
| 4 | X | 5178.000 | 70.56 | 16.65 | 87.21 | Fundamental Frequency | | peak |

**Emission Level= Read Level+ Correct Factor**

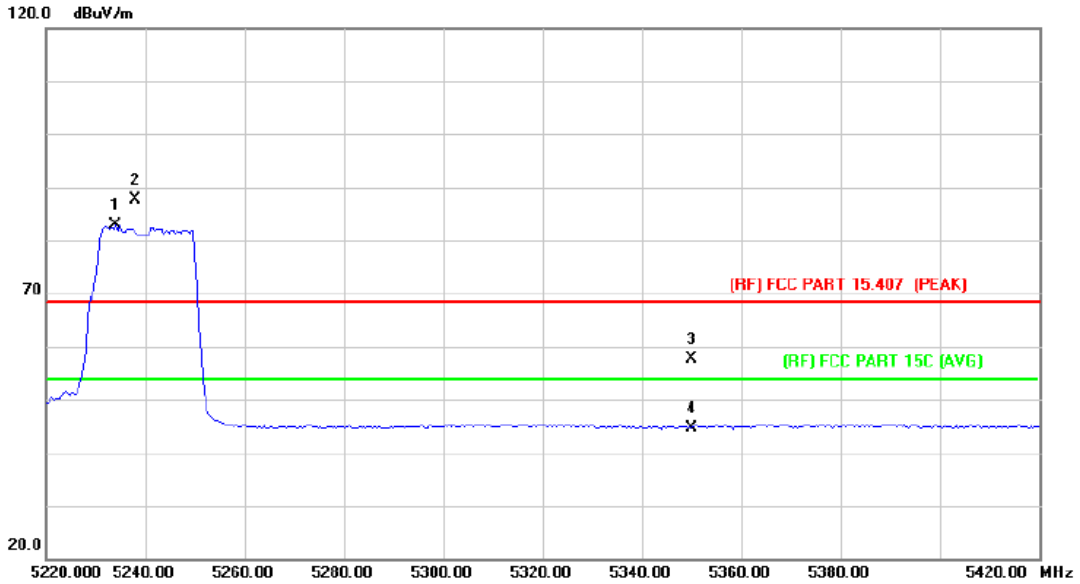
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11n(20) Mode 5180 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11 n(20) Mode 5180~5240 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 45.84 | 16.61 | 62.45 | 68.30 | -5.85 | peak |
| 2 | | 5150.000 | 34.94 | 16.61 | 51.55 | 54.00 | -2.45 | AVG |
| 3 | X | 5176.400 | 71.68 | 16.64 | 88.32 | Fundamental Frequency | | peak |
| 4 | * | 5183.200 | 63.98 | 16.65 | 80.63 | Fundamental Frequency | | AVG |

**Emission Level= Read Level+ Correct Factor**

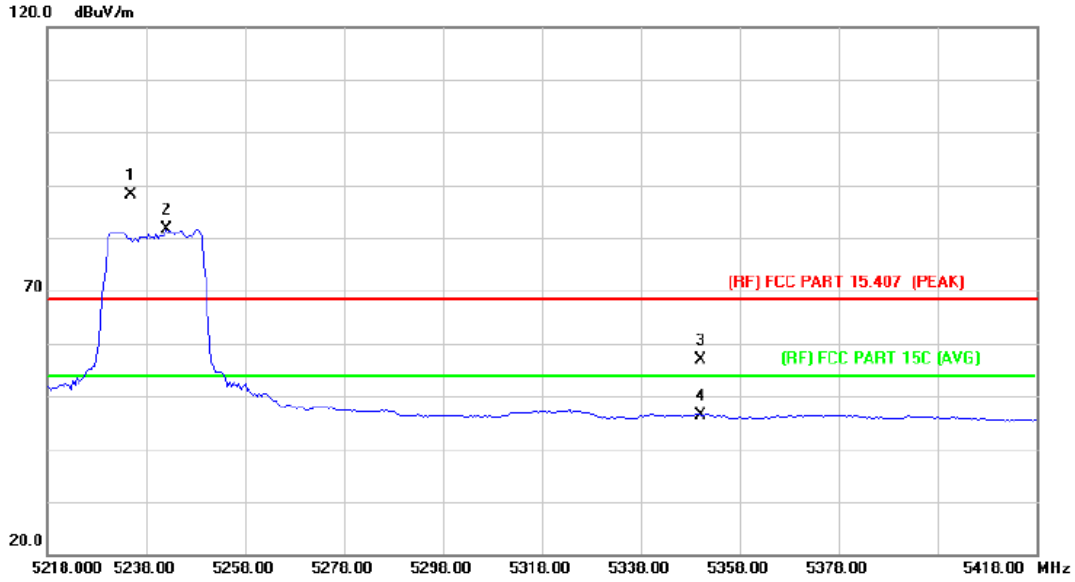
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n(20) Mode 5240 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11 n(20) Mode 5180~5240 MHz (U-NII-1) CH High | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 5234.000 | 66.29 | 16.70 | 82.99 | Fundamental Frequency | | AVG |
| 2 | X | 5238.000 | 70.82 | 16.70 | 87.52 | Fundamental Frequency | | peak |
| 3 | | 5350.000 | 40.80 | 16.83 | 57.63 | 68.30 | -10.67 | peak |
| 4 | | 5350.000 | 27.79 | 16.83 | 44.62 | 54.00 | -9.38 | AVG |

**Emission Level= Read Level+ Correct Factor**

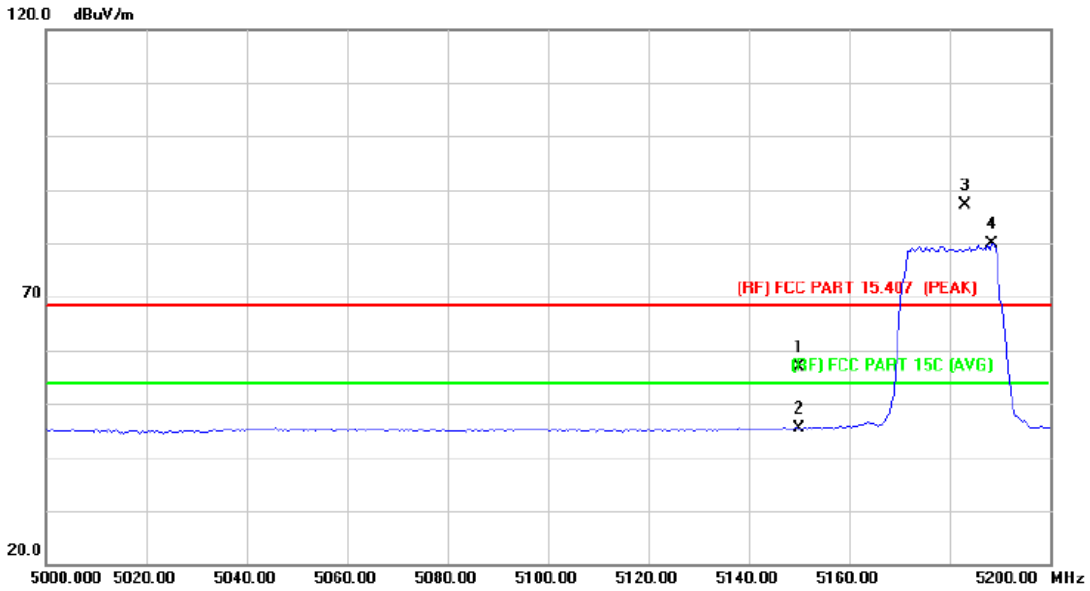
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11n(20) Mode 5240 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11 n(20) Mode 5180~5240 MHz (U-NII-1) CH High | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | X | 5234.800 | 71.43 | 16.70 | 88.13 | Fundamental Frequency | | peak |
| 2 | * | 5242.000 | 64.86 | 16.72 | 81.58 | Fundamental Frequency | | AVG |
| 3 | | 5350.000 | 39.96 | 16.83 | 56.79 | 68.30 | -11.51 | peak |
| 4 | | 5350.000 | 29.57 | 16.83 | 46.40 | 54.00 | -7.60 | AVG |

**Emission Level= Read Level+ Correct Factor**

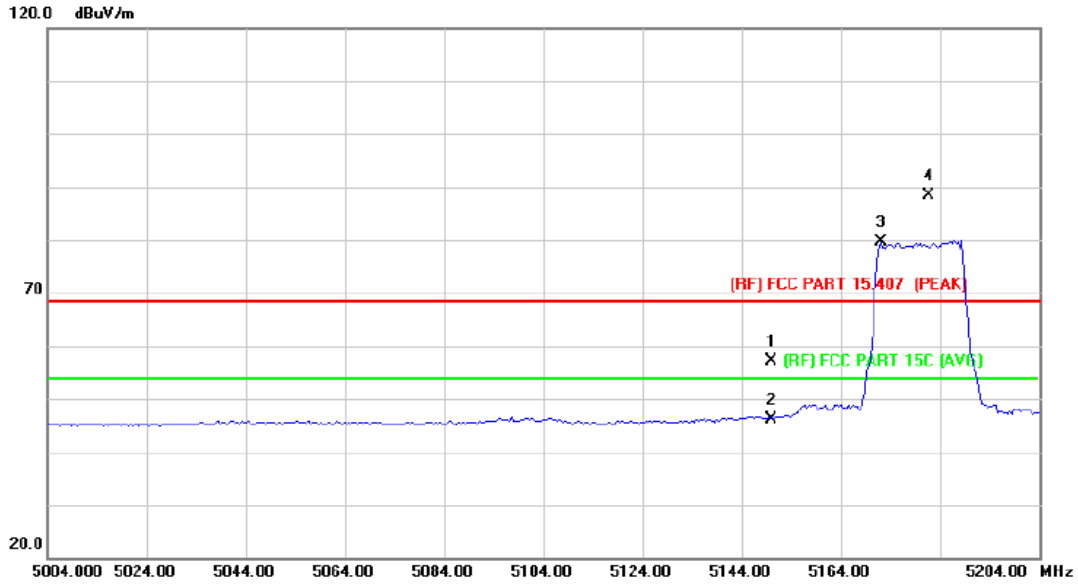
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5180 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11 ac(VHT20) Mode 5180~5240 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 40.20 | 16.61 | 56.81 | 68.30 | -11.49 | peak |
| 2 | | 5150.000 | 28.72 | 16.61 | 45.33 | 54.00 | -8.67 | AVG |
| 3 | X | 5183.200 | 70.55 | 16.65 | 87.20 | Fundamental Frequency | | peak |
| 4 | * | 5188.400 | 63.22 | 16.65 | 79.87 | Fundamental Frequency | | AVG |

**Emission Level= Read Level+ Correct Factor**

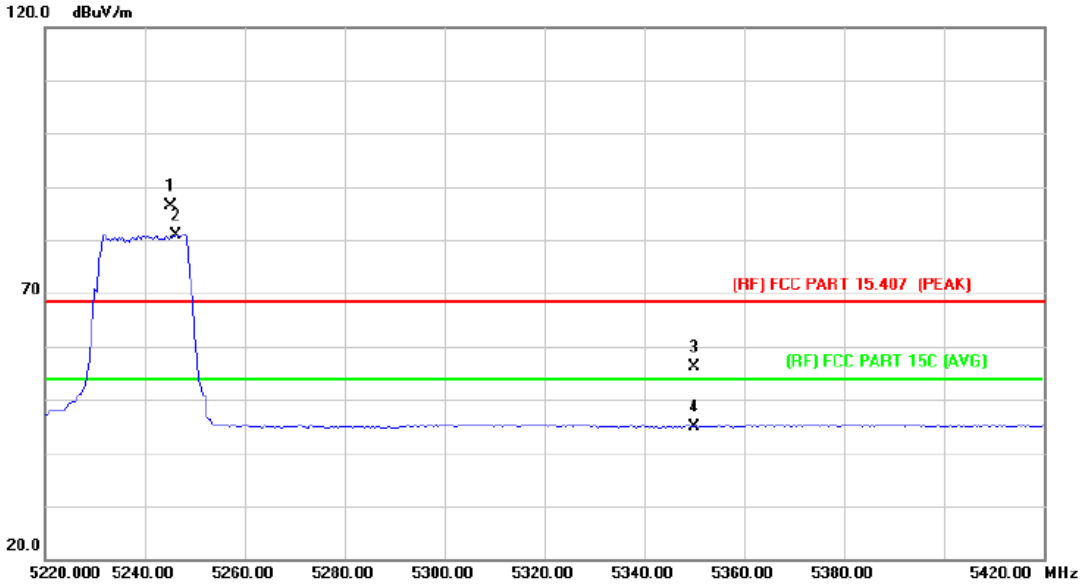
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5180 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11 ac(VHT20) Mode 5180~5240 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 40.52 | 16.61 | 57.13 | 68.30 | -11.17 | peak |
| 2 | | 5150.000 | 29.51 | 16.61 | 46.12 | 54.00 | -7.88 | AVG |
| 3 | * | 5172.000 | 62.90 | 16.63 | 79.53 | Fundamental Frequency | | AVG |
| 4 | X | 5181.600 | 71.80 | 16.64 | 88.44 | Fundamental Frequency | | peak |

**Emission Level= Read Level+ Correct Factor**

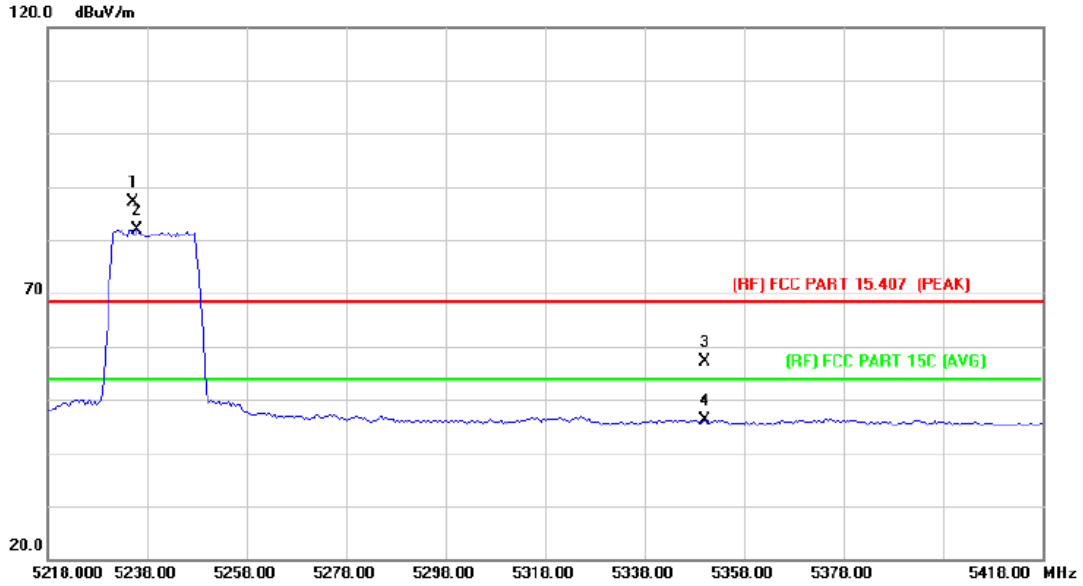
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5240 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11 ac(VHT20) Mode 5180~5240 MHz (U-NII-1) CH High | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | X | 5245.200 | 69.63 | 16.71 | 86.34 | Fundamental Frequency | | peak |
| 2 | * | 5246.400 | 64.18 | 16.71 | 80.89 | Fundamental Frequency | | AVG |
| 3 | | 5350.000 | 39.24 | 16.83 | 56.07 | 68.30 | -12.23 | peak |
| 4 | | 5350.000 | 28.00 | 16.83 | 44.83 | 54.00 | -9.17 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT20) Mode 5240 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11 ac(VHT20) Mode 5180~5240 MHz (U-NII-1) CH High | | |

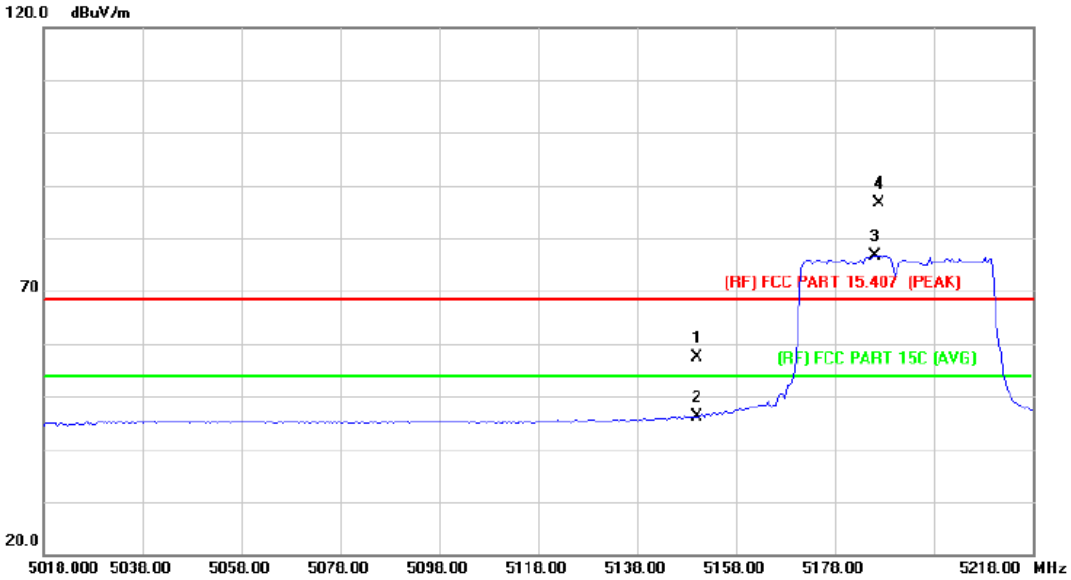



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | X | 5235.200 | 70.43 | 16.70 | 87.13 | Fundamental Frequency | | peak |
| 2 | * | 5236.000 | 65.27 | 16.70 | 81.97 | Fundamental Frequency | | AVG |
| 3 | | 5350.000 | 40.22 | 16.83 | 57.05 | 68.30 | -11.25 | peak |
| 4 | | 5350.000 | 29.20 | 16.83 | 46.03 | 54.00 | -7.97 | AVG |

**Emission Level= Read Level+ Correct Factor**

**n(40)/ac(VHT40)**

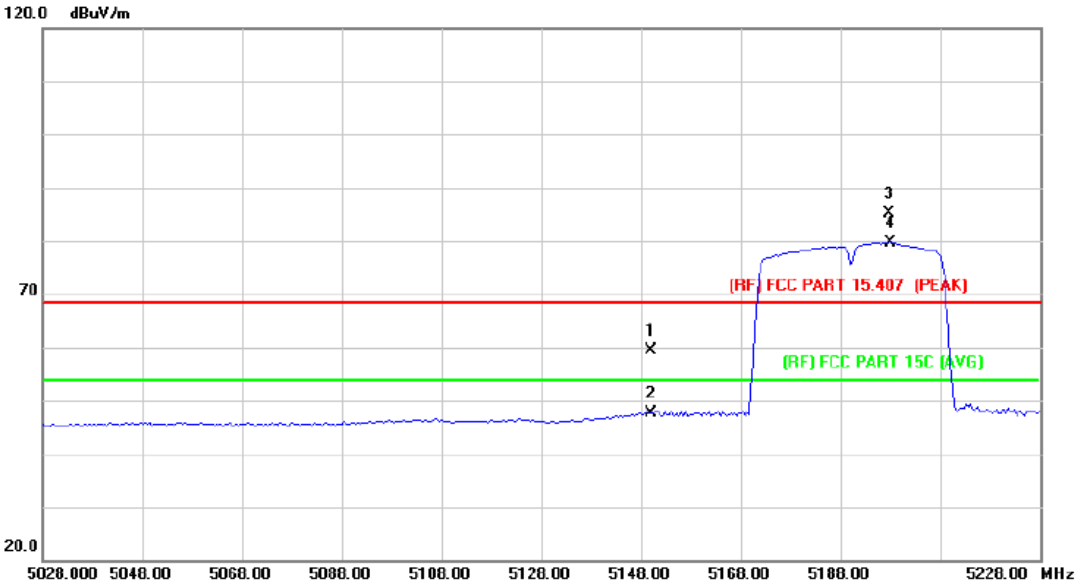
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n (40) Mode 5190 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11n (40) Mode 5190~5230 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 40.79 | 16.61 | 57.40 | 68.30 | -10.90 | peak |
| 2 | | 5150.000 | 29.47 | 16.61 | 46.08 | 54.00 | -7.92 | AVG |
| 3 | * | 5186.000 | 60.08 | 16.65 | 76.73 | Fundamental Frequency | | AVG |
| 4 | X | 5186.800 | 69.87 | 16.65 | 86.52 | Fundamental Frequency | | peak |

**Emission Level= Read Level+ Correct Factor**

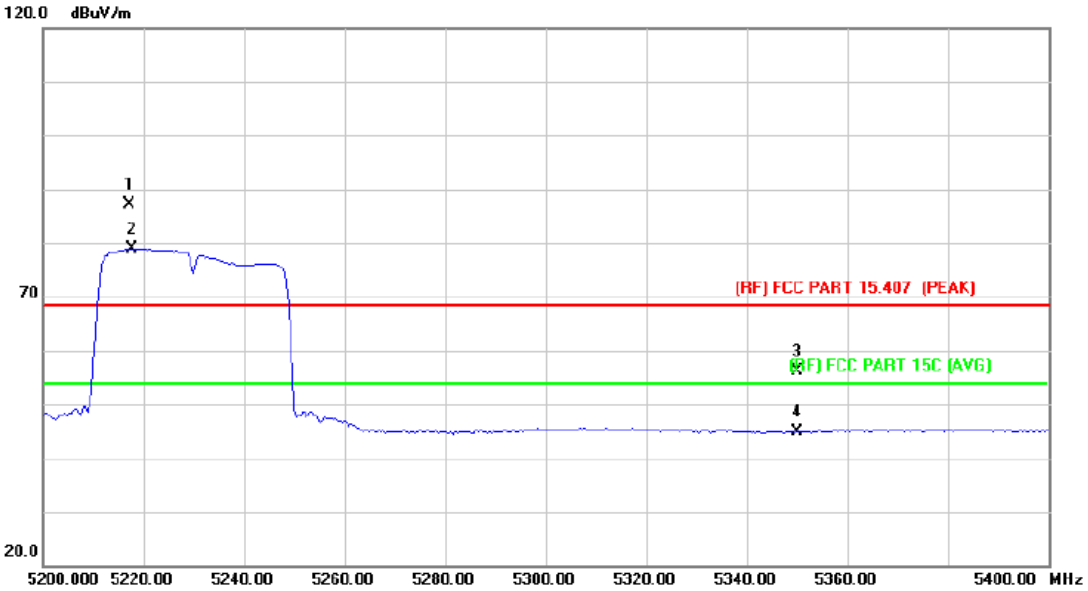
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11n (40) Mode 5190 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11n (40) Mode 5190~5230 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 42.81 | 16.61 | 59.42 | 68.30 | -8.88 | peak |
| 2 | | 5150.000 | 31.08 | 16.61 | 47.69 | 54.00 | -6.31 | AVG |
| 3 | X | 5197.600 | 68.47 | 16.66 | 85.13 | Fundamental Frequency | | peak |
| 4 | * | 5198.000 | 63.09 | 16.66 | 79.75 | Fundamental Frequency | | AVG |

**Emission Level= Read Level+ Correct Factor**

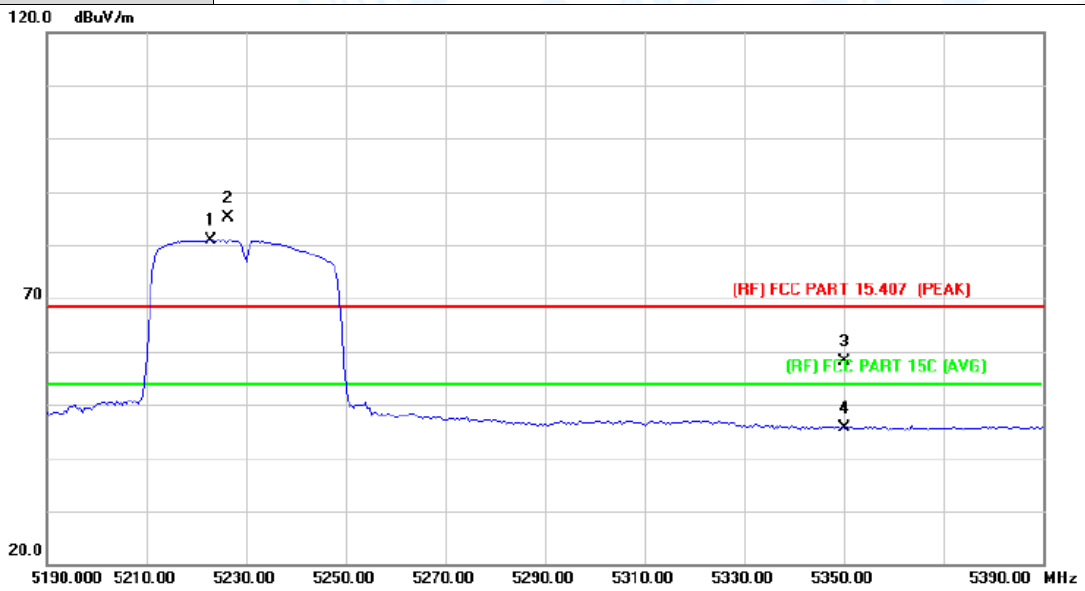
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11n (40) Mode 5230 MHz (U-NII-1) | | |
| **Remark:** | TX 802.11n (40) Mode 5190~5230 MHz (U-NII-1) CH High | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | X | 5217.200 | 70.44 | 16.68 | 87.12 | Fundamental Frequency | | peak |
| 2 | * | 5217.600 | 62.30 | 16.68 | 78.98 | Fundamental Frequency | | AVG |
| 3 | | 5350.000 | 39.40 | 16.83 | 56.23 | 68.30 | -12.07 | peak |
| 4 | | 5350.000 | 28.05 | 16.83 | 44.88 | 54.00 | -9.12 | AVG |

**Emission Level= Read Level+ Correct Factor**

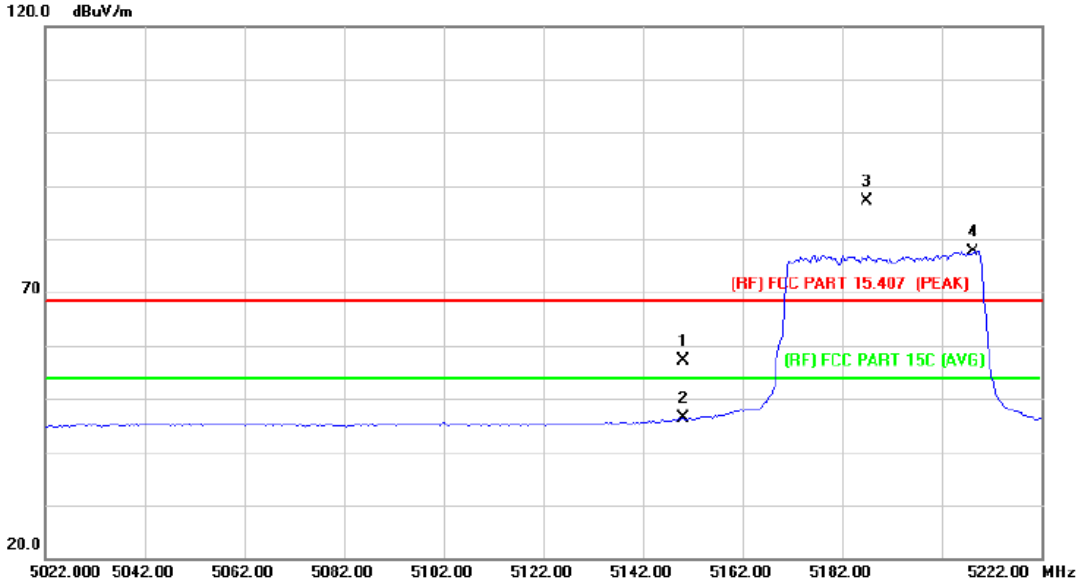
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Ant. Pol. | Vertical | | |
| Test Mode: | TX 802.11n (40) Mode 5230 MHz (U-NII-1) | | |
| Remark: | TX 802.11n (40) Mode 5190~5230 MHz (U-NII-1) CH High | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 5222.800 | 64.13 | 16.69 | 80.82 | Fundamental Frequency | | AVG |
| 2 | X | 5226.400 | 68.46 | 16.70 | 85.16 | Fundamental Frequency | | peak |
| 3 | | 5350.000 | 41.32 | 16.83 | 58.15 | 68.30 | -10.15 | peak |
| 4 | | 5350.000 | 28.84 | 16.83 | 45.67 | 54.00 | -8.33 | AVG |

**Emission Level= Read Level+ Correct Factor**

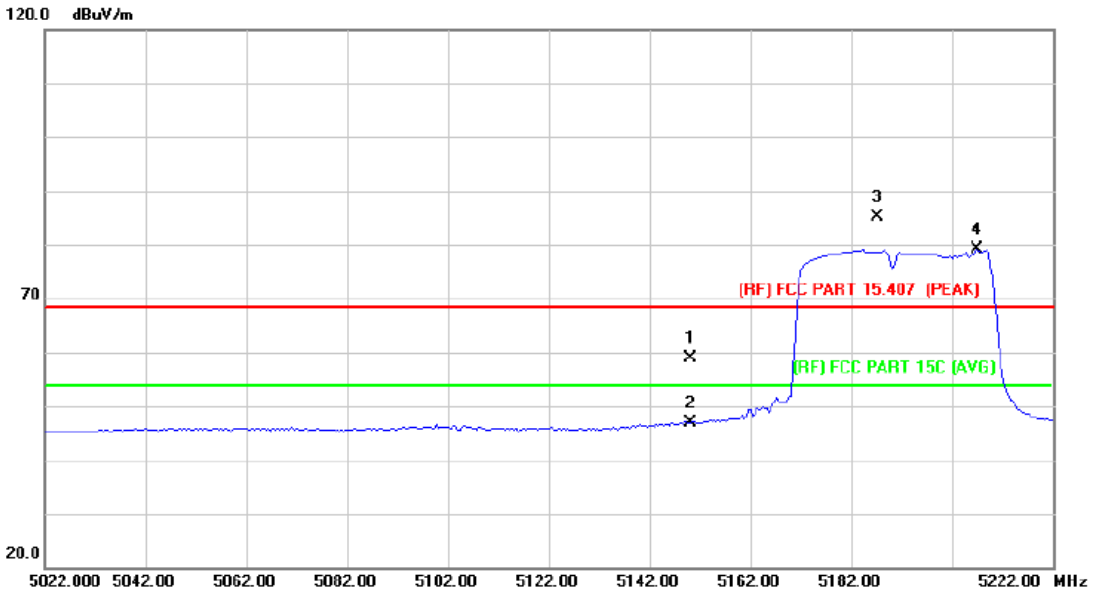
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802. 11ac(VHT40) Mode 5190 MHz (U-NII-1) | | |
| **Remark:** | TX 802. 11ac(VHT40) Mode 5190~5230 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 40.63 | 16.61 | 57.24 | 68.30 | -11.06 | peak |
| 2 | | 5150.000 | 29.74 | 16.61 | 46.35 | 54.00 | -7.65 | AVG |
| 3 | X | 5186.800 | 70.59 | 16.65 | 87.24 | Fundamental Frequency | | peak |
| 4 | * | 5208.400 | 61.07 | 16.67 | 77.74 | Fundamental Frequency | | AVG |

**Emission Level= Read Level+ Correct Factor**

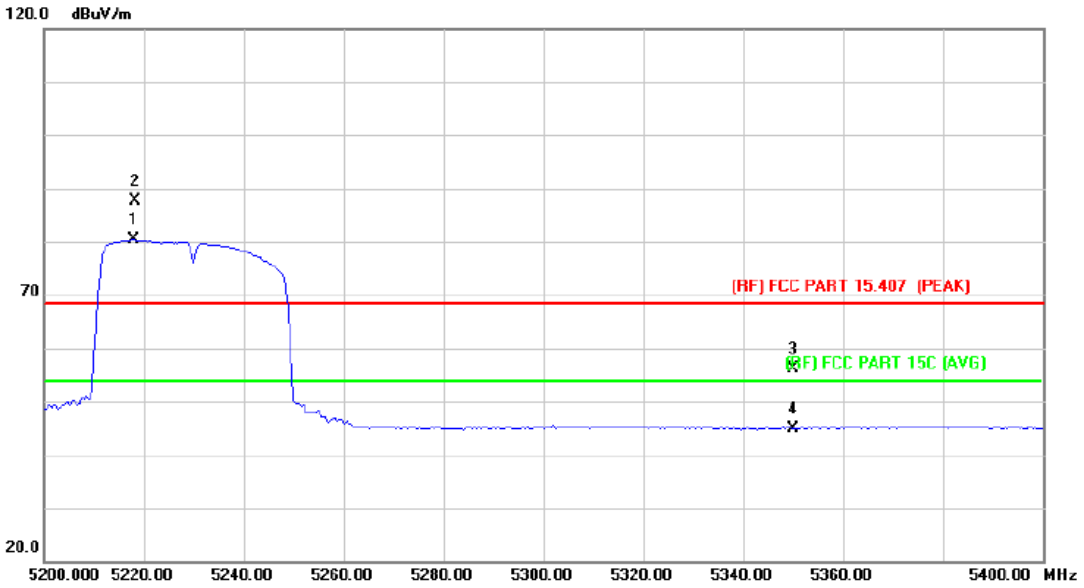
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT40) Mode 5190 MHz (U-NII-1) | | |
| **Remark:** | TX 802. 11ac(VHT40) Mode 5190~5230 MHz (U-NII-1) CH Low | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 42.36 | 16.61 | 58.97 | 68.30 | -9.33 | peak |
| 2 | | 5150.000 | 30.37 | 16.61 | 46.98 | 54.00 | -7.02 | AVG |
| 3 | X | 5187.200 | 68.56 | 16.65 | 85.21 | Fundamental Frequency | | peak |
| 4 | * | 5206.800 | 62.47 | 16.67 | 79.14 | Fundamental Frequency | | AVG |

**Emission Level= Read Level+ Correct Factor**

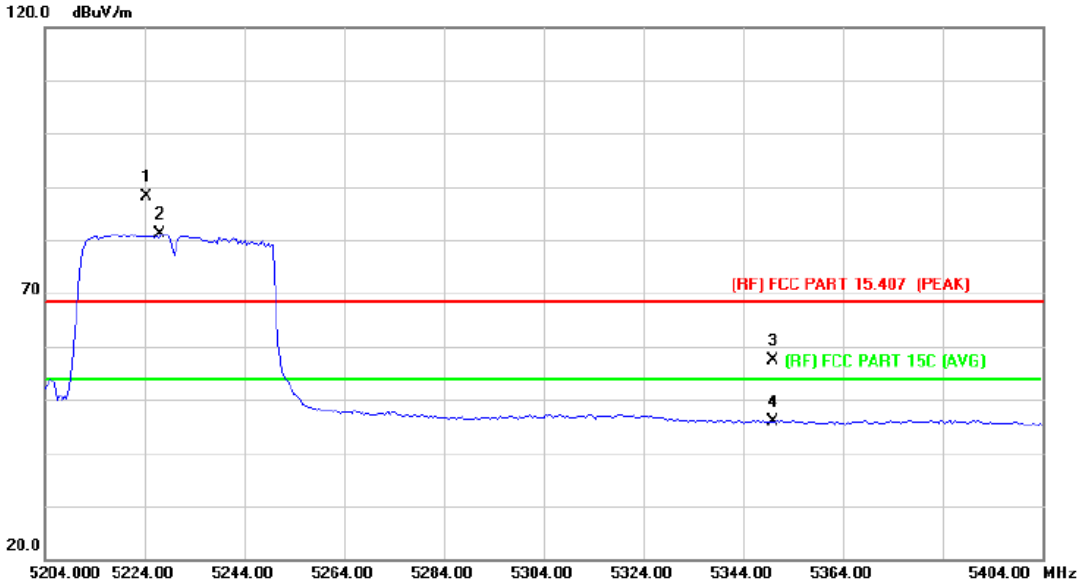
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11ac(VHT40) Mode 5230 MHz (U-NII-1) | | |
| **Remark:** | TX 802. 11ac(VHT40) Mode 5190~5230 MHz (U-NII-1) CH High | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | * | 5218.000 | 63.59 | 16.69 | 80.28 | Fundamental Frequency | | AVG |
| 2 | X | 5218.400 | 70.84 | 16.69 | 87.53 | Fundamental Frequency | | peak |
| 3 | | 5350.000 | 39.29 | 16.83 | 56.12 | 68.30 | -12.18 | peak |
| 4 | | 5350.000 | 27.96 | 16.83 | 44.79 | 54.00 | -9.21 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11ac(VHT40) Mode 5230 MHz (U-NII-1) | | |
| **Remark:** | TX 802. 11ac(VHT40) Mode 5190~5230 MHz (U-NII-1) CH High | | |

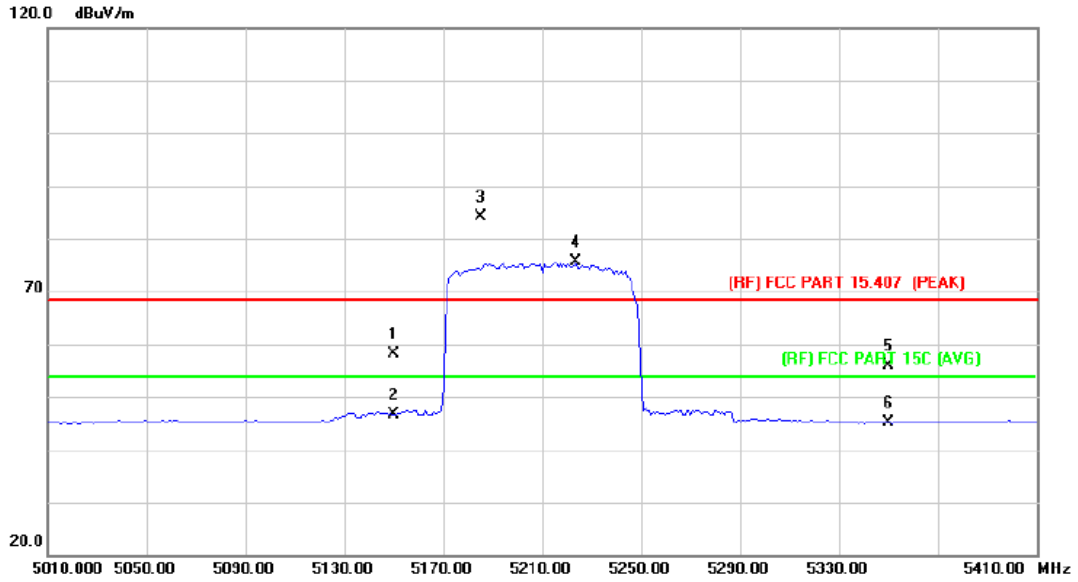



| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | X | 5224.400 | 71.43 | 16.69 | 88.12 | 68.30 | 19.82 | peak |
| 2 | * | 5227.200 | 64.32 | 16.70 | 81.02 | Fundamental Frequency | | AVG |
| 3 | | 5350.000 | 40.65 | 16.83 | 57.48 | Fundamental Frequency | | peak |
| 4 | | 5350.000 | 29.13 | 16.83 | 45.96 | 54.00 | -8.04 | AVG |

**Emission Level= Read Level+ Correct Factor**

**ac(80)**

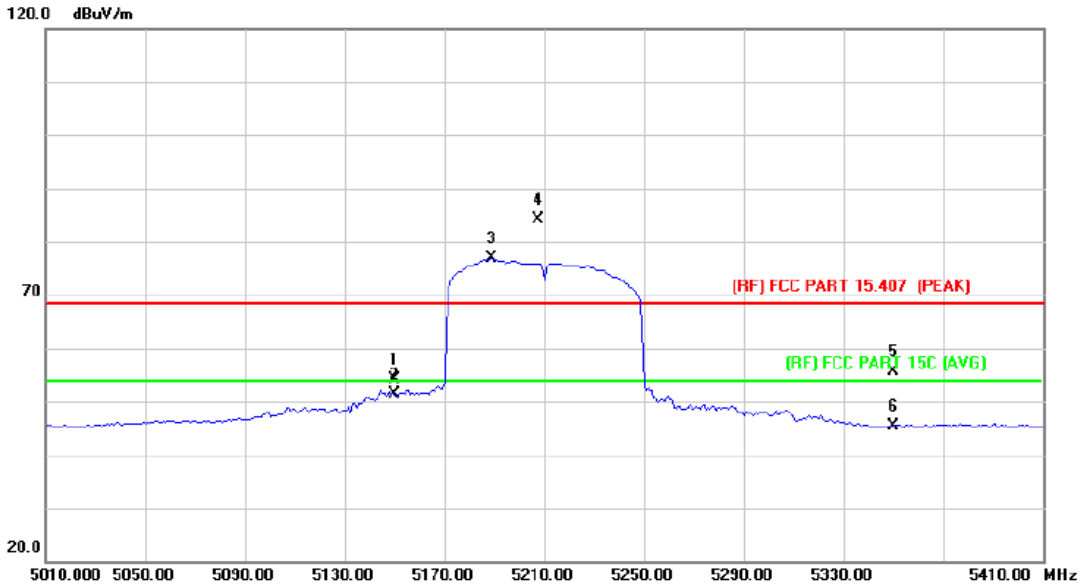
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Horizontal | | |
| **Test Mode:** | TX 802.11 ac(80) Mode 5210MHz (U-NII-1) | | |
| **Remark:** | N/A | | |




| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 41.44 | 16.61 | 58.05 | 68.30 | -10.25 | peak |
| 2 | | 5150.000 | 29.96 | 16.61 | 46.57 | 54.00 | -7.43 | AVG |
| 3 | X | 5185.200 | 67.47 | 16.65 | 84.12 | Fundamental Frequency | | peak |
| 4 | * | 5223.600 | 58.86 | 16.69 | 75.55 | Fundamental Frequency | | AVG |
| 5 | | 5350.000 | 39.07 | 16.83 | 55.90 | 68.30 | -12.40 | peak |
| 6 | | 5350.000 | 28.21 | 16.83 | 45.04 | 54.00 | -8.96 | AVG |

**Emission Level= Read Level+ Correct Factor**

| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Ant. Pol.** | Vertical | | |
| **Test Mode:** | TX 802.11 ac(80) Mode 5210MHz (U-NII-1) | | |
| **Remark:** | N/A | | |

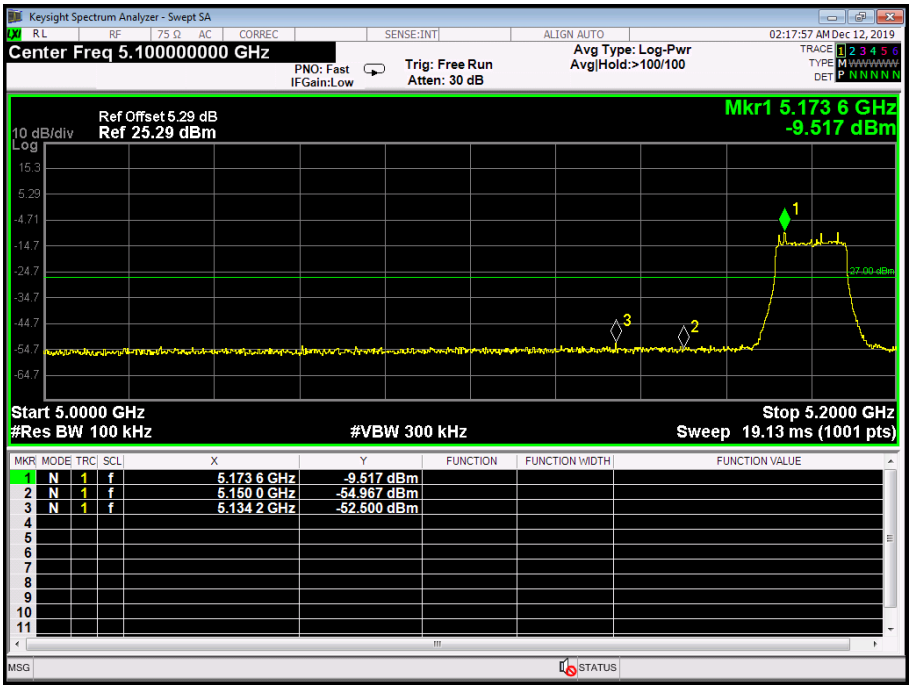


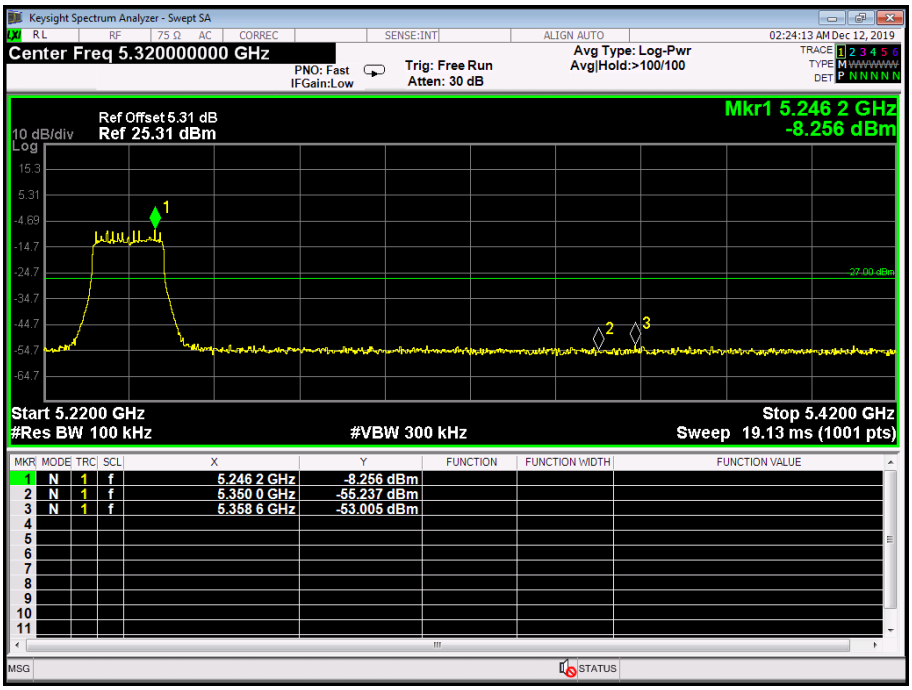

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | |
|---|---|---|---|---|---|---|---|---|
| | | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | Detector |
| 1 | | 5150.000 | 37.52 | 16.61 | 54.13 | 68.30 | -14.17 | peak |
| 2 | | 5150.000 | 34.65 | 16.61 | 51.26 | 54.00 | -2.74 | AVG |
| 3 | * | 5189.200 | 60.23 | 16.65 | 76.88 | Fundamental Frequency | | AVG |
| 4 | X | 5207.600 | 67.54 | 16.67 | 84.21 | Fundamental Frequency | | peak |
| 5 | | 5350.000 | 38.88 | 16.83 | 55.71 | 68.30 | -12.59 | peak |
| 6 | | 5350.000 | 28.47 | 16.83 | 45.30 | 54.00 | -8.70 | AVG |

**Emission Level= Read Level+ Correct Factor**

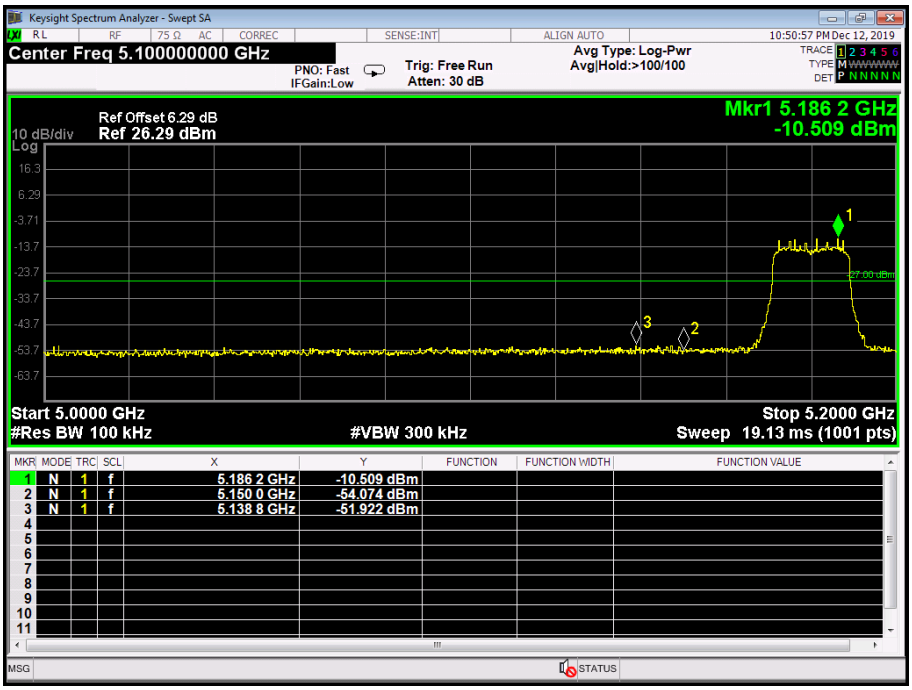
## (1) Conducted Test

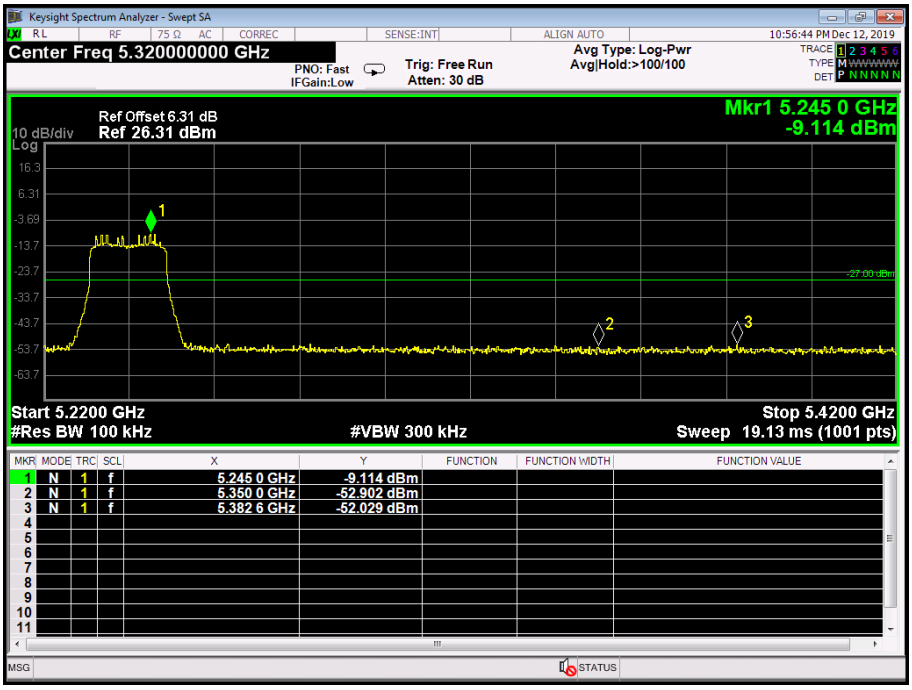
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11a mode(U-NII-1) / 5180MHz&5240MHz Antenna A | | |
| Remark: | The EUT is programed in continuously transmitting mode | | |



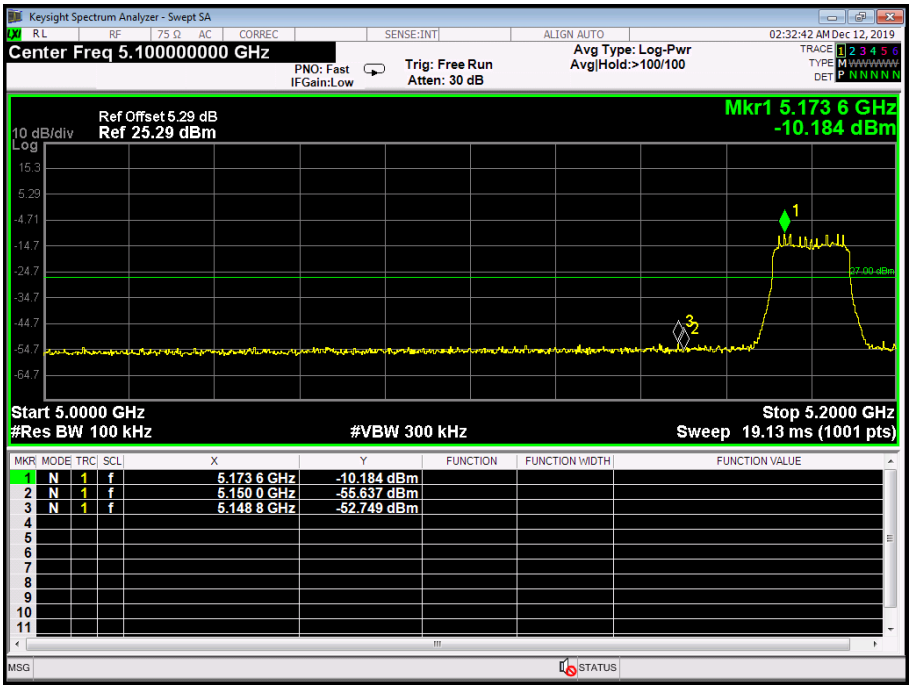



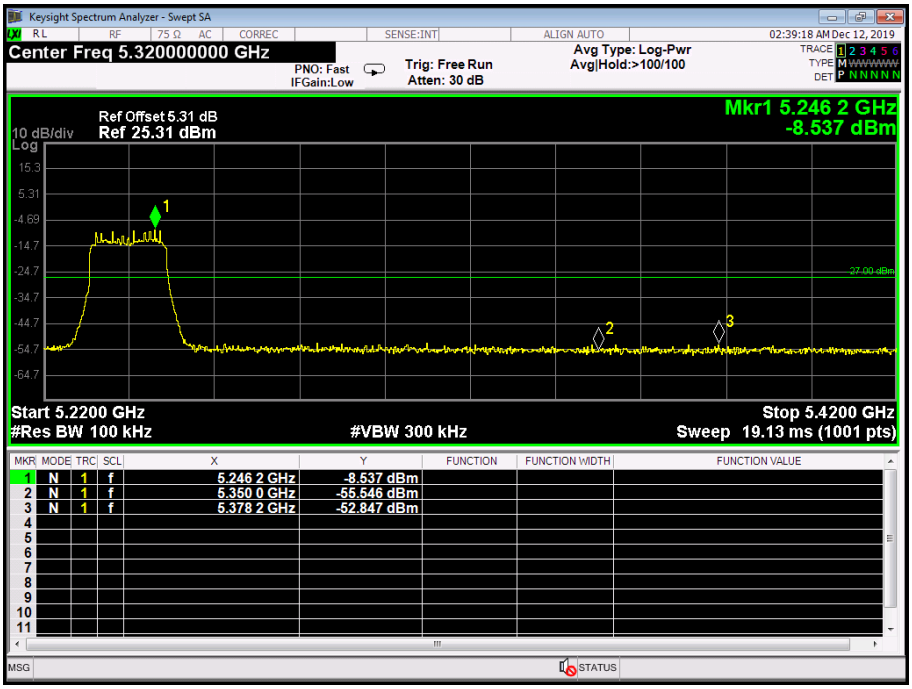
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11a mode(U-NII-1) / 5180MHz&5240MHz Antenna B | | |
| Remark: | The EUT is programed in continuously transmitting mode | | |



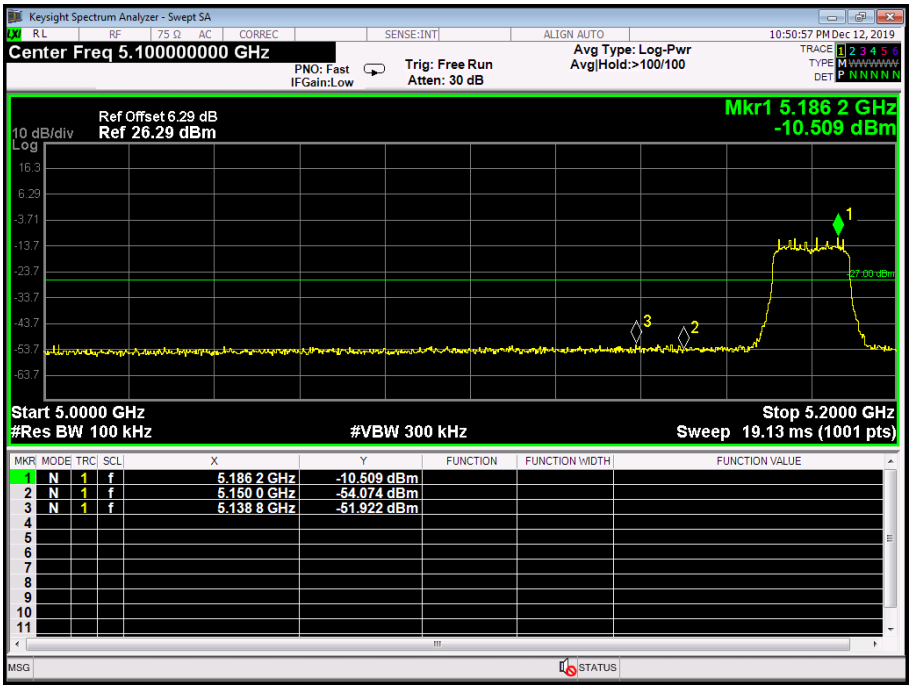



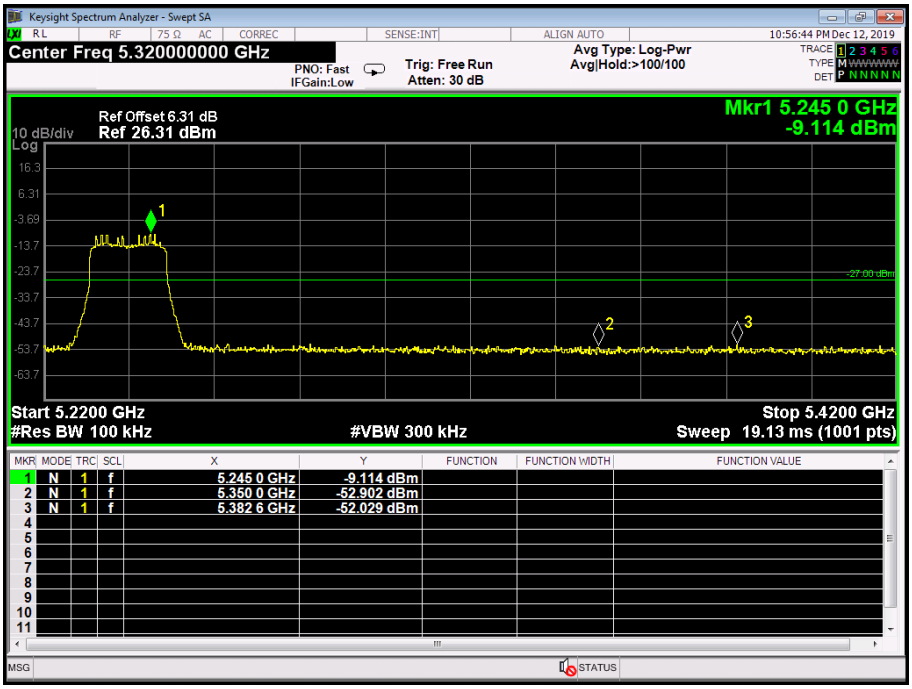
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Test Mode:** | TX 802.11n(HT20) mode(U-NII-1) / 5180MHz&5240MHz Antenna A | | |
| **Remark:** | The EUT is programed in continuously transmitting mode | | |



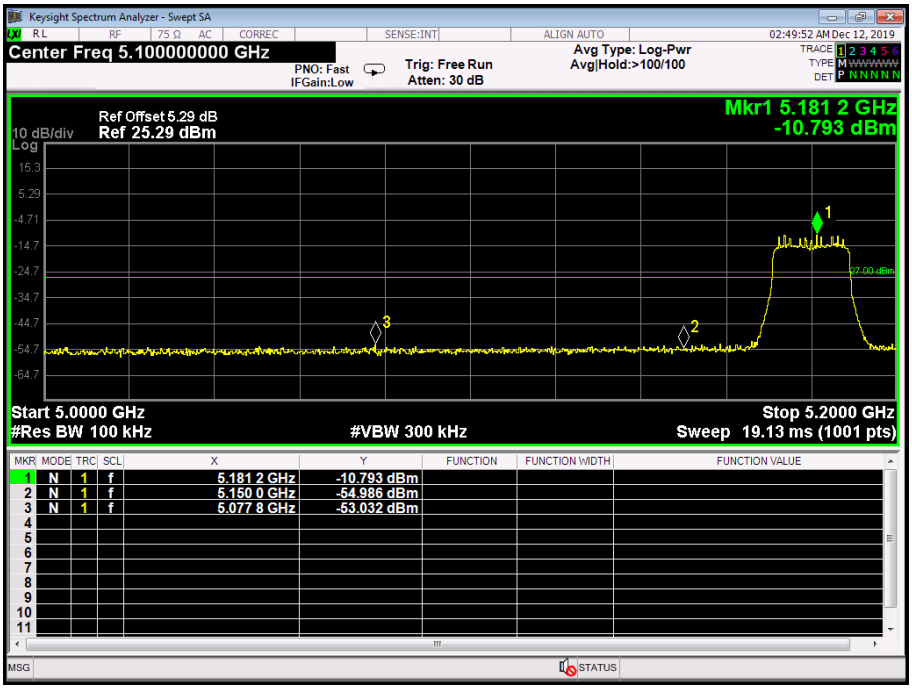



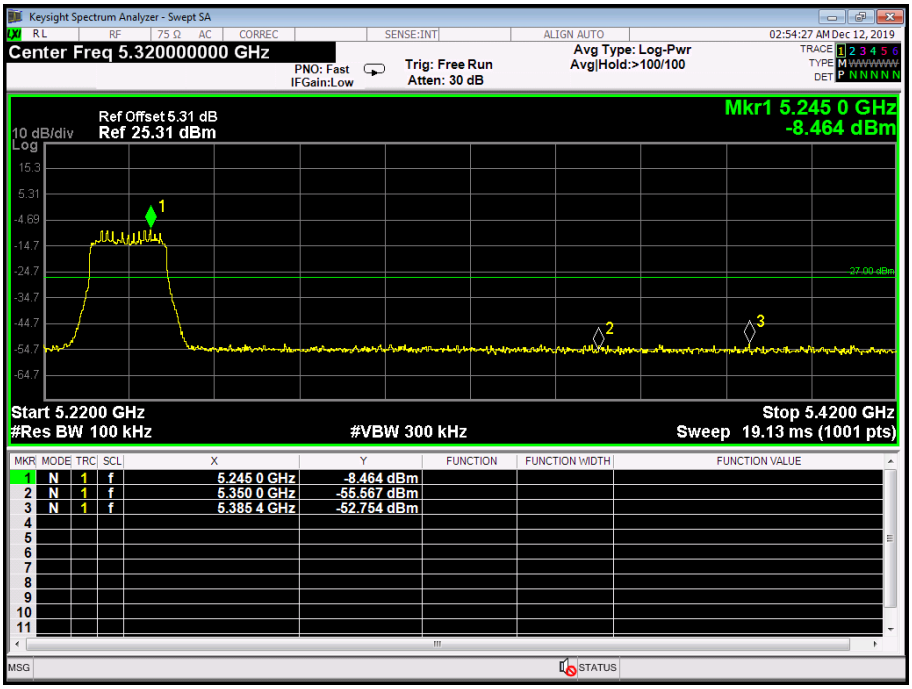
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Test Mode:** | TX 802.11n(HT20) mode(U-NII-1) / 5180MHz&5240MHz Antenna B | | |
| **Remark:** | The EUT is programed in continuously transmitting mode | | |



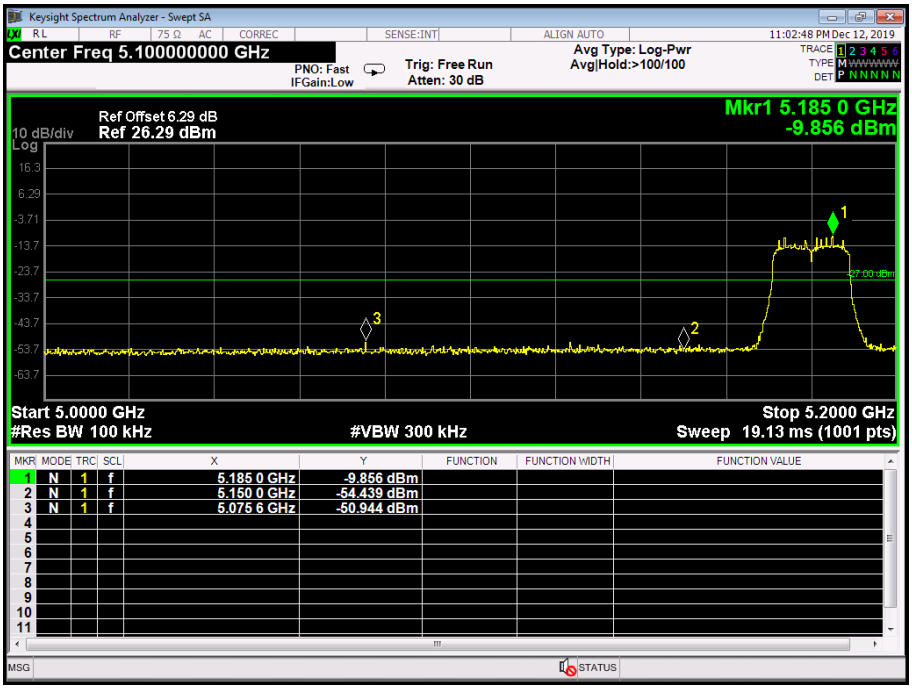



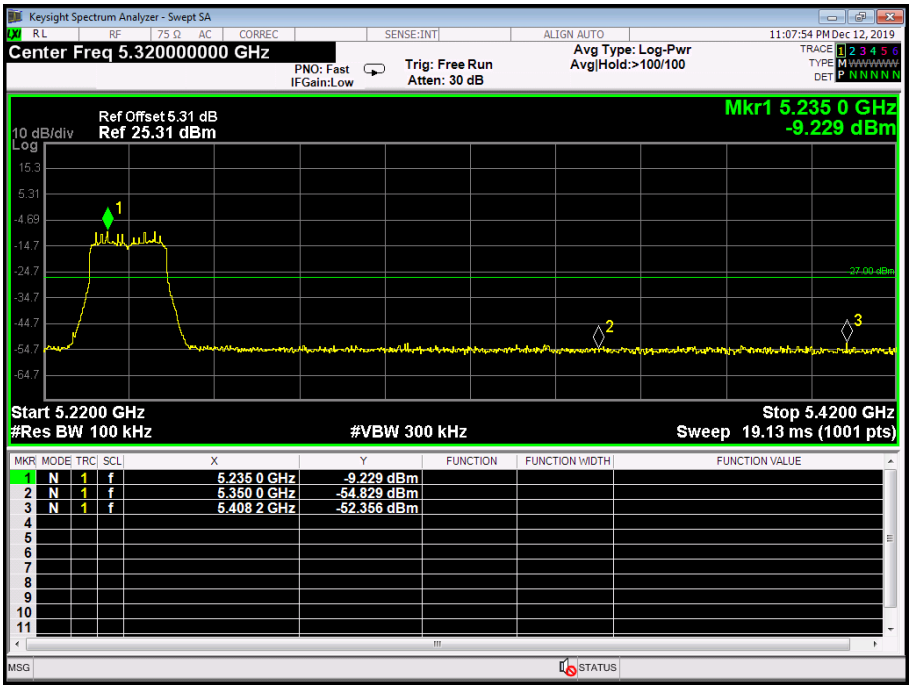
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Test Mode:** | TX 802.11ac(VHT20) mode(U-NII-1) / 5180MHz&5240MHz Antenna A | | |
| **Remark:** | The EUT is programed in continuously transmitting mode | | |



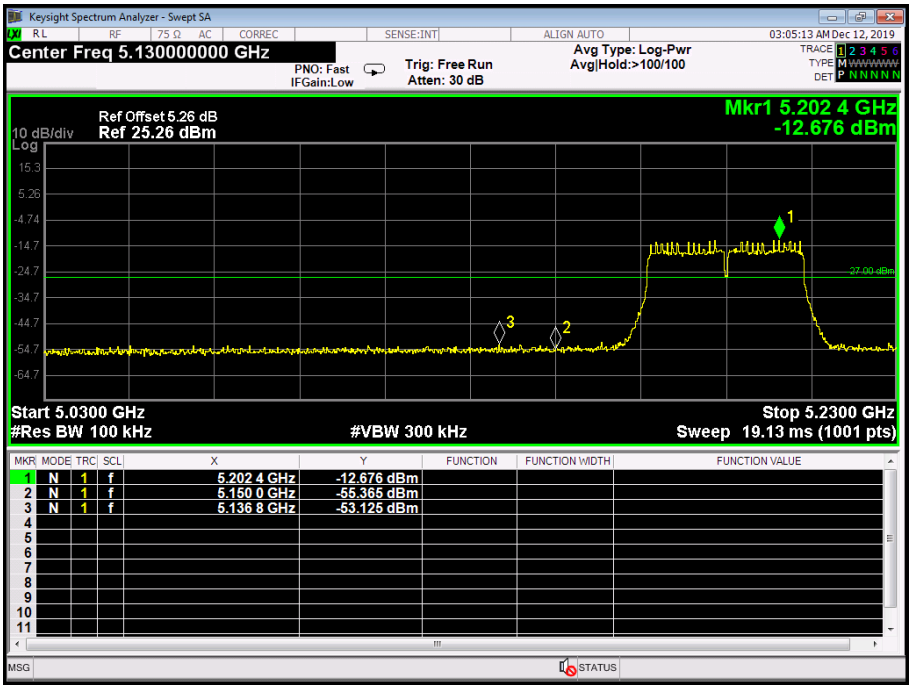



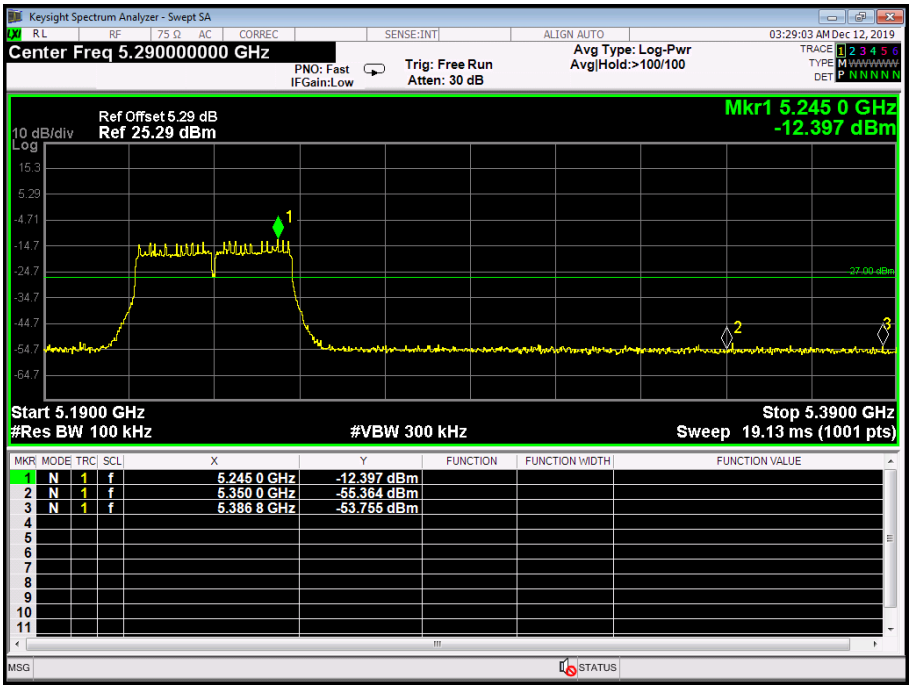
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT20) mode(U-NII-1) / 5180MHz&5240MHz Antenna B | | |
| Remark: | The EUT is programed in continuously transmitting mode | | |



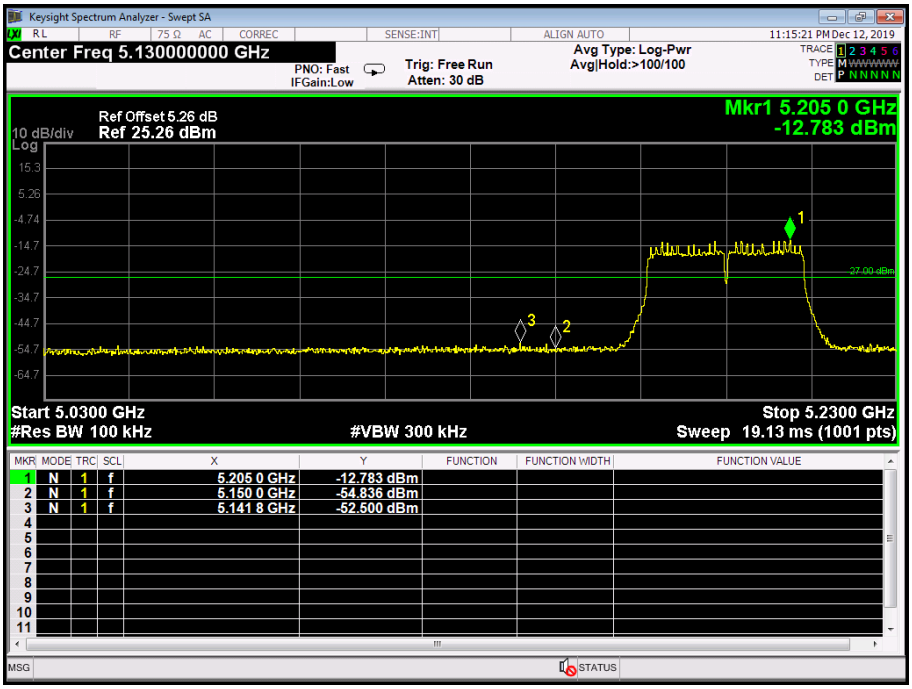



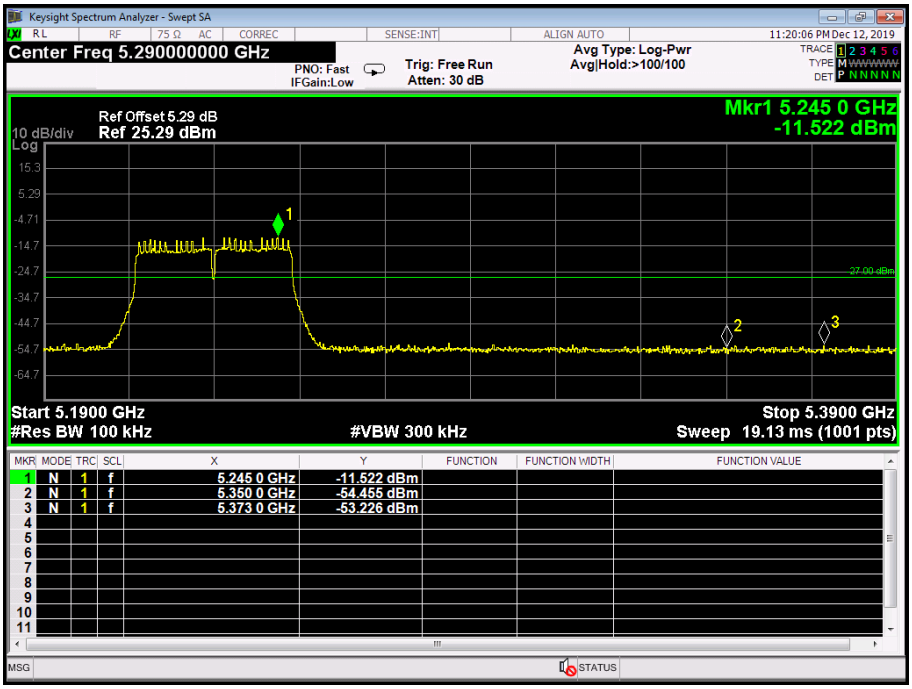
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Test Mode:** | TX 802.11n(HT40) mode(U-NII-1) / 5190MHz&5230MHz Antenna A | | |
| **Remark:** | The EUT is programed in continuously transmitting mode | | |



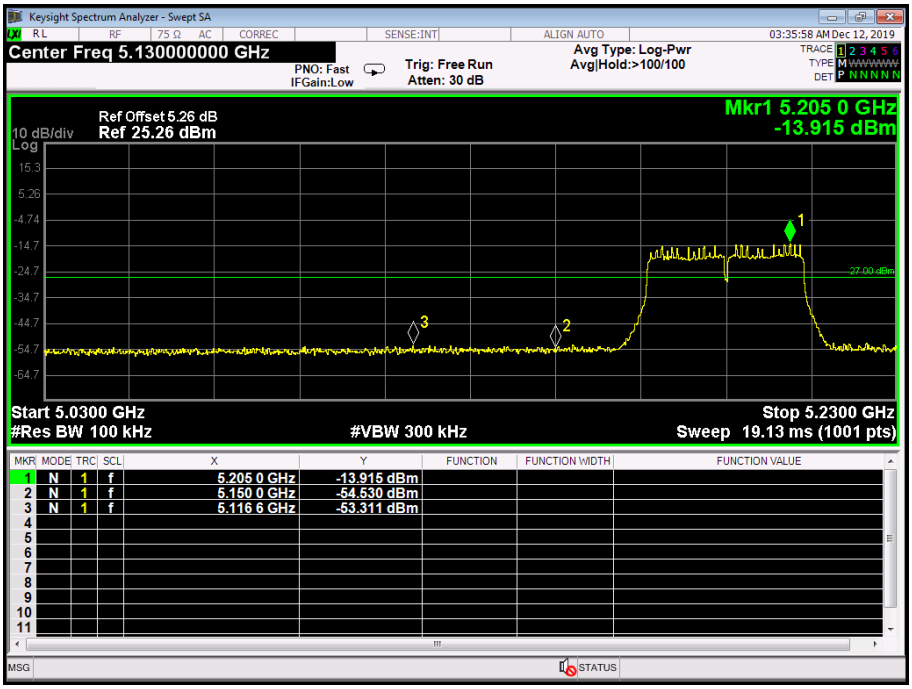



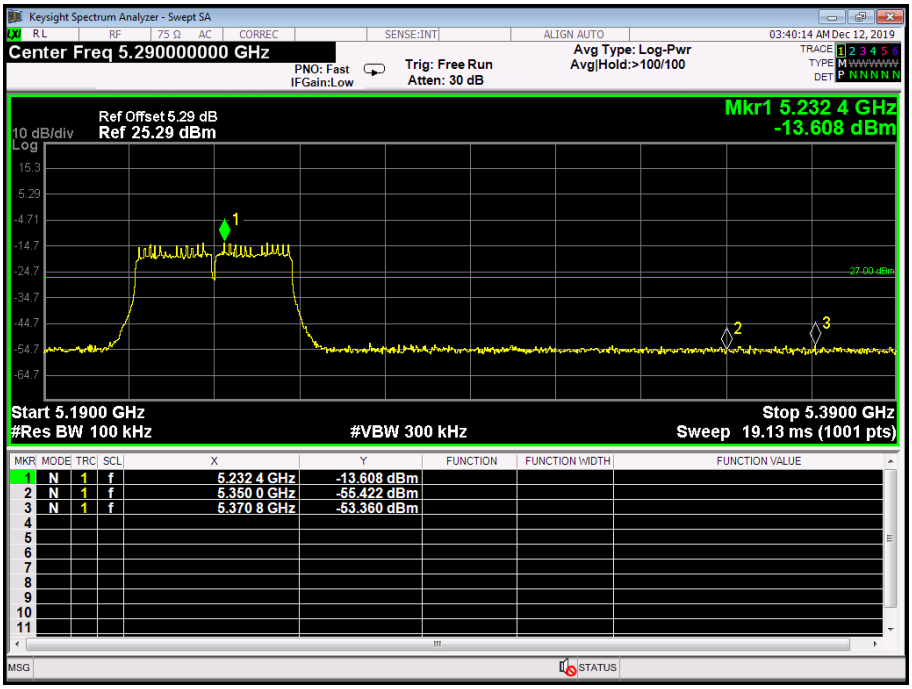
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11n(HT40) mode(U-NII-1) / 5190MHz&5230MHz Antenna B | | |
| Remark: | The EUT is programed in continuously transmitting mode | | |



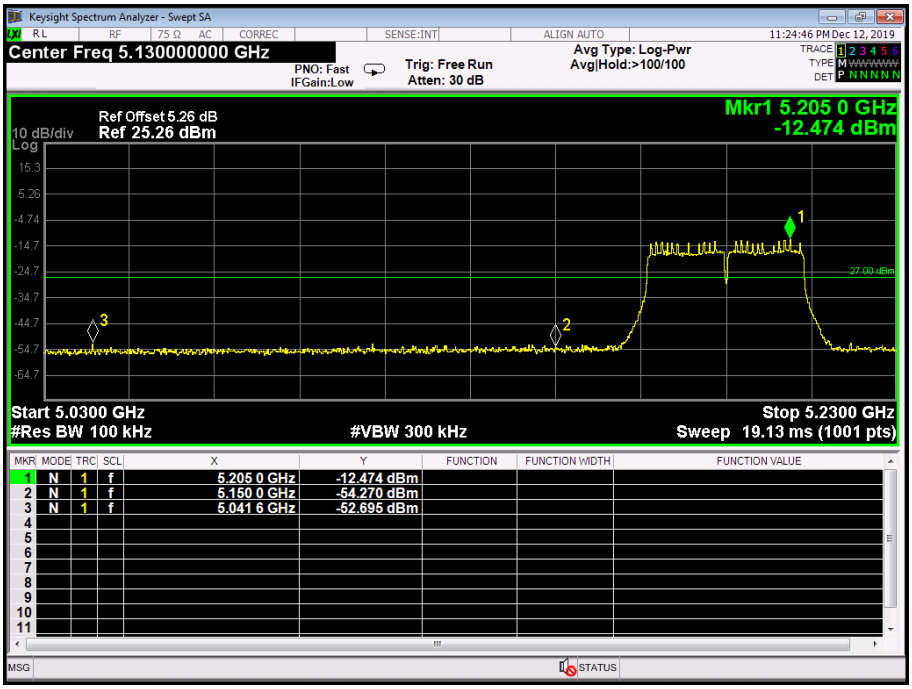



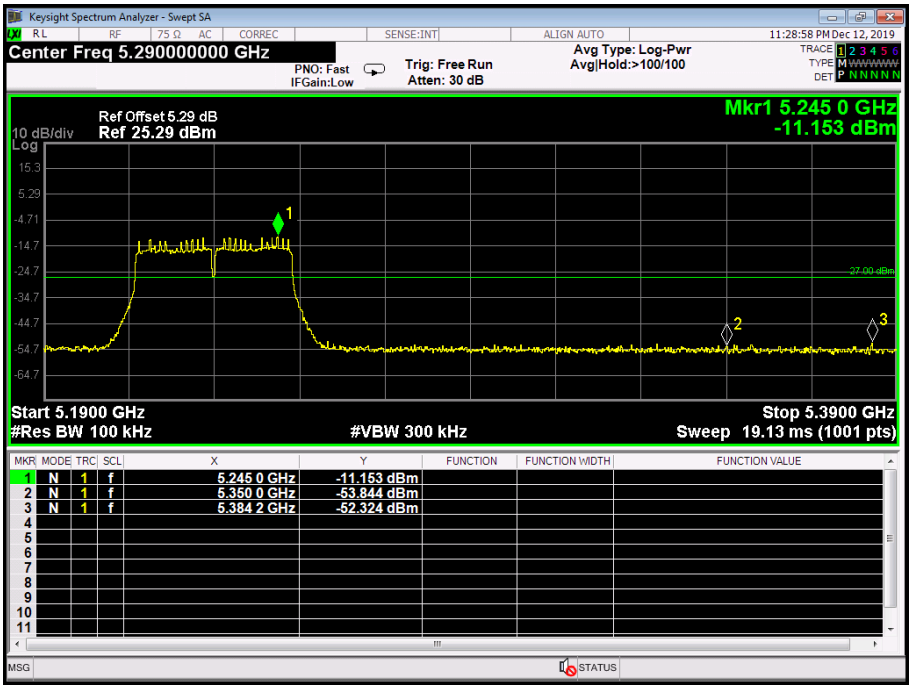
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT40) mode(U-NII-1) / 5190MHz&5230MHz Antenna A | | |
| Remark: | The EUT is programed in continuously transmitting mode | | |



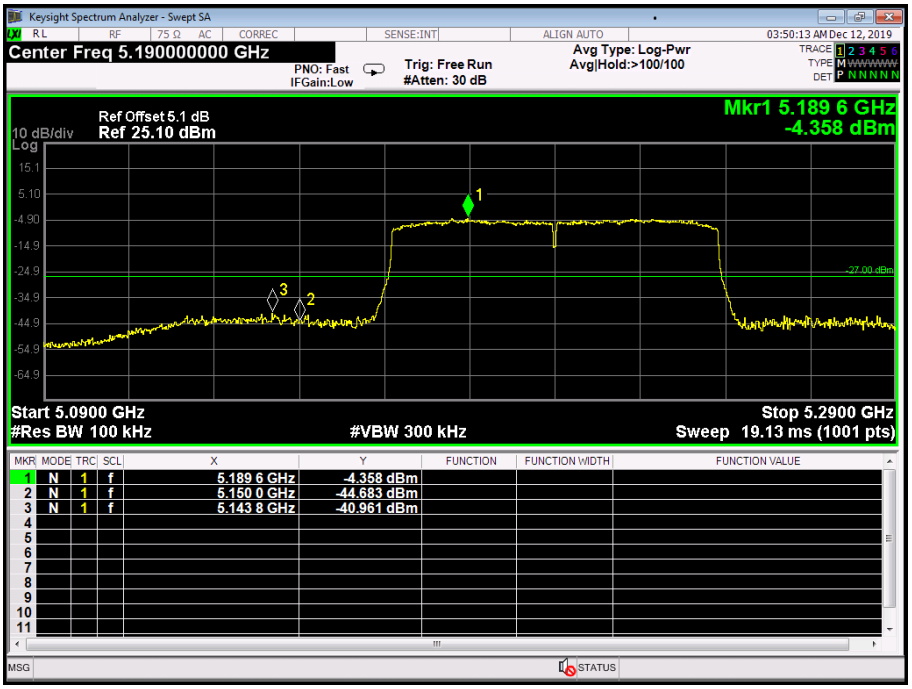



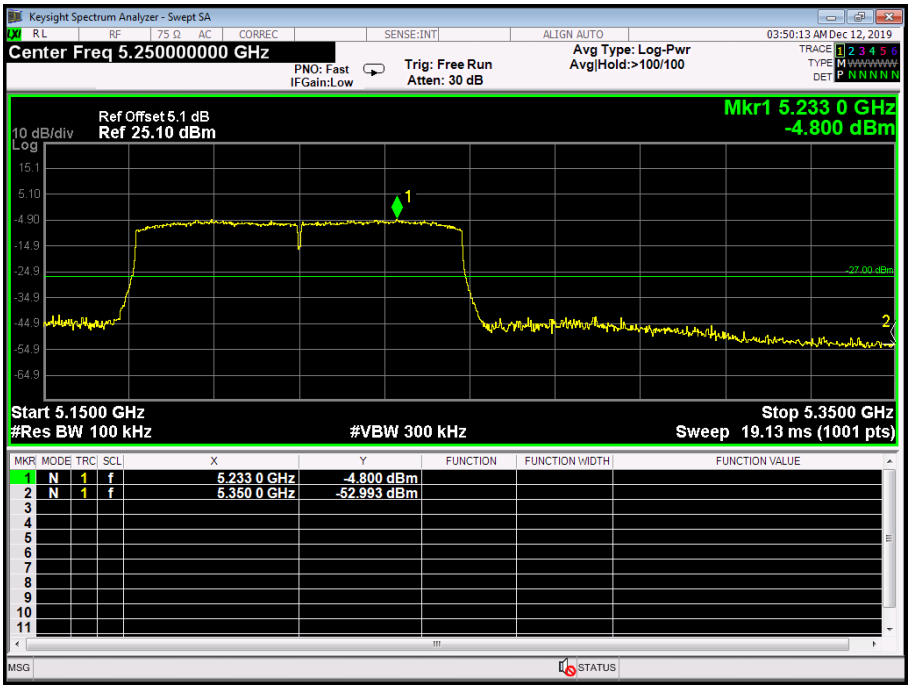
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT40) mode(U-NII-1) / 5190MHz&5230MHz Antenna B | | |
| Remark: | The EUT is programed in continuously transmitting mode | | |



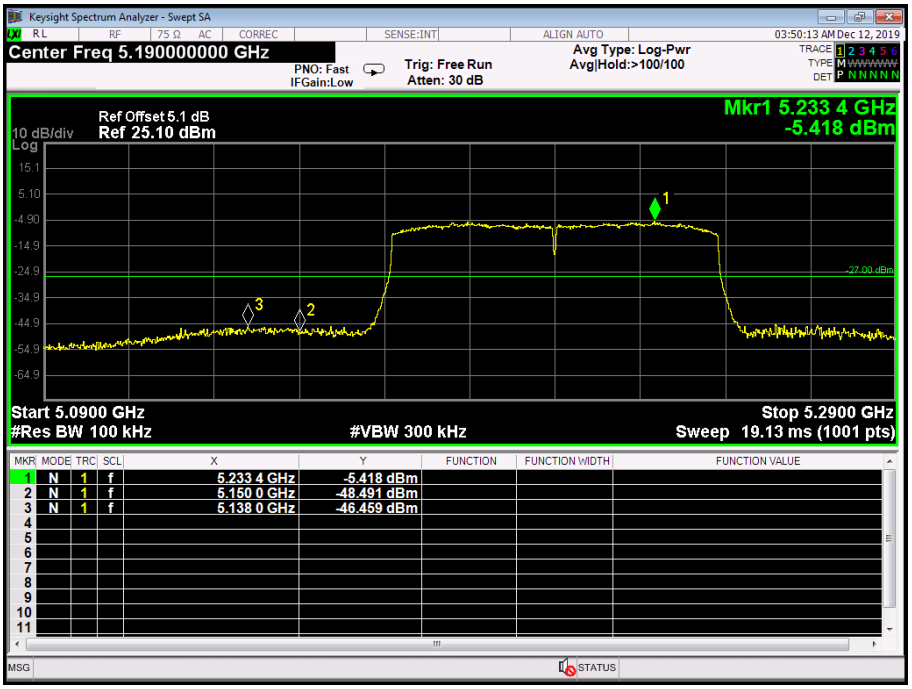



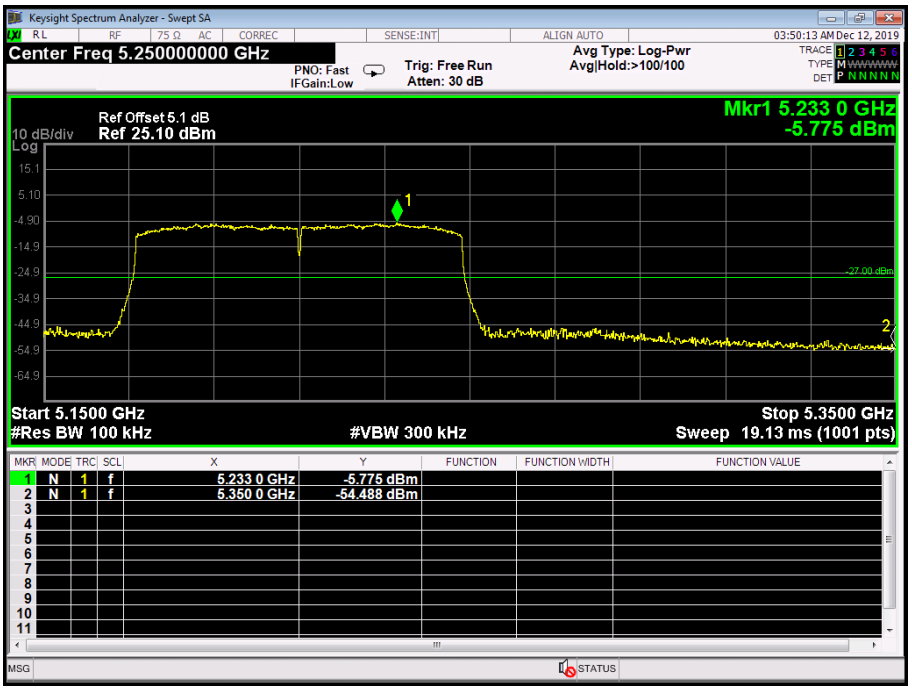
| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Test Mode:** | TX 802.11ac(80) mode(U-NII-1) / 5210MHz Antenna A | | |
| **Remark:** | The EUT is programed in continuously transmitting mode | | |



| | | | |
|---|---|---|---|
| **Temperature:** | 25 ℃ | **Relative Humidity:** | 55% |
| **Test Voltage:** | AC 120V/60Hz | | |
| **Test Mode:** | TX 802.11ac(80) mode(U-NII-1) / 5210MHz Antenna B | | |
| **Remark:** | The EUT is programed in continuously transmitting mode | | |



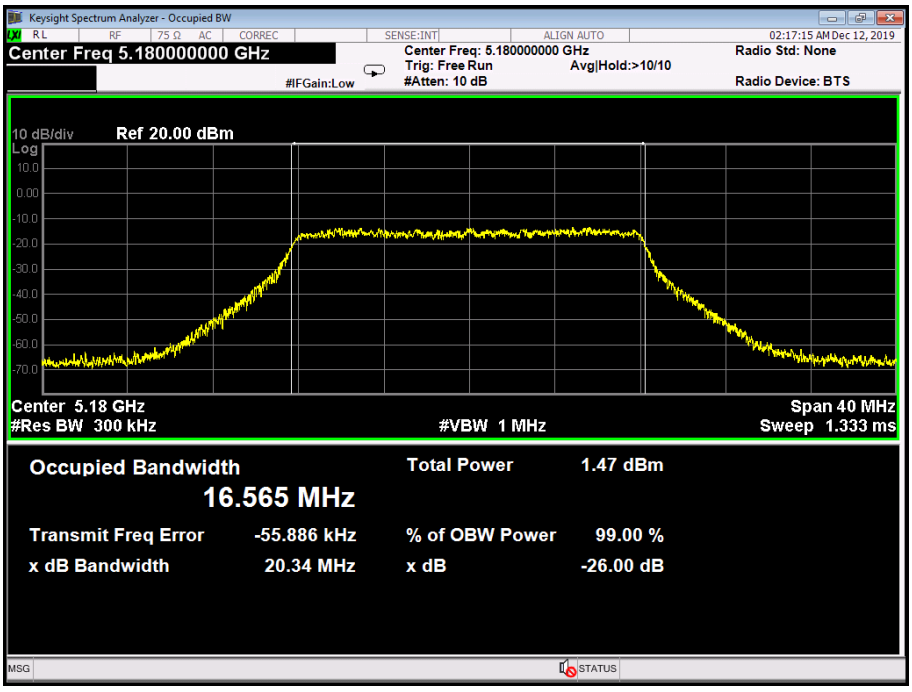
# Attachment D-- Bandwidth Test Data

| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11a Mode (U-NII-1) Antenna A | | |

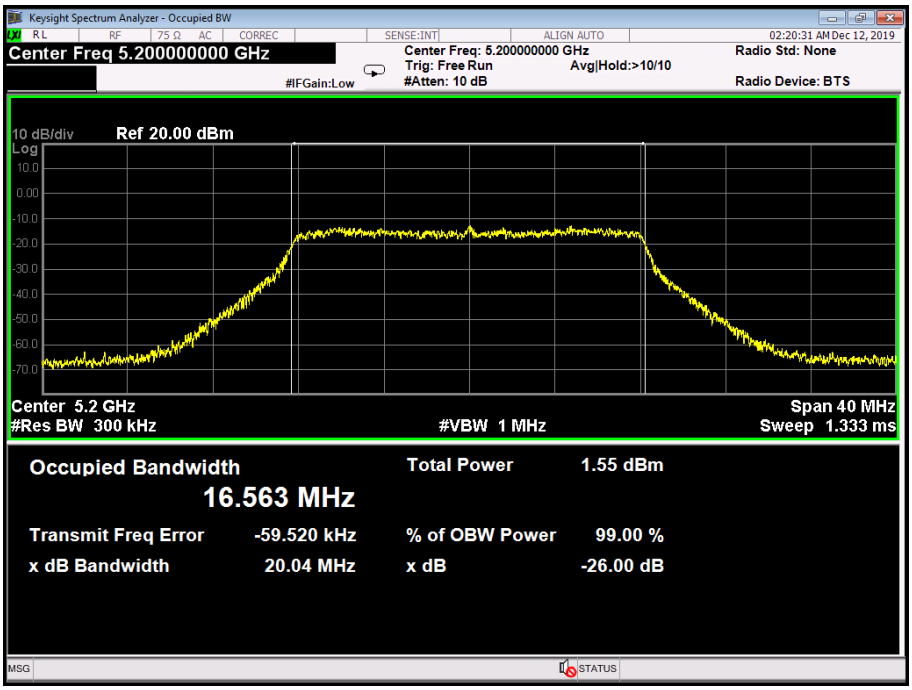
| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 36 | 5180 | 20.34 | 16.565 |
| 40 | 5200 | 20.04 | 16.563 |
| 48 | 5240 | 20.30 | 16.577 |

**802.11a Mode**

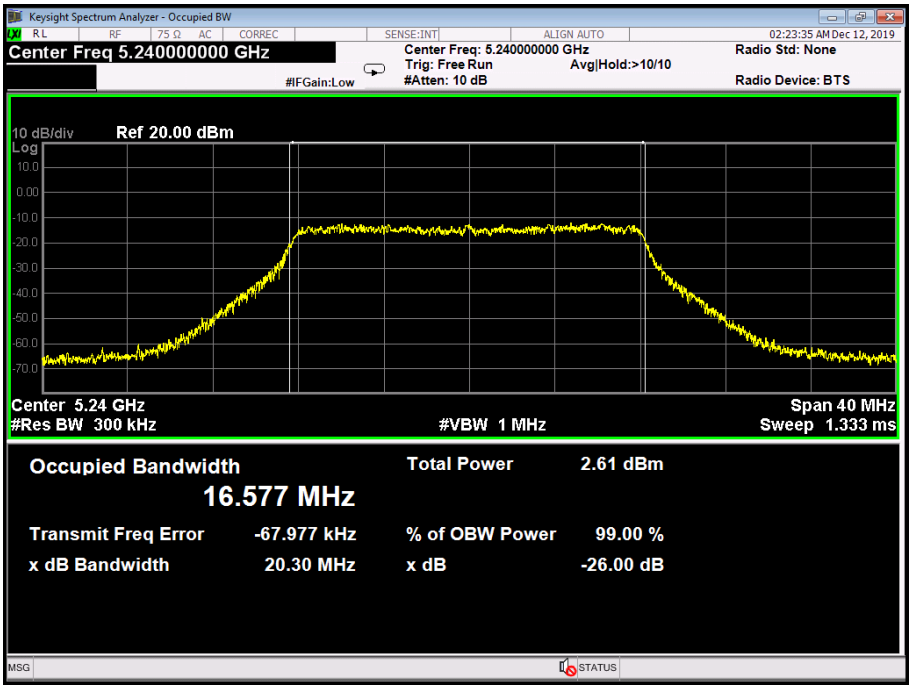
**5180 MHz**



| 802.11a Mode |
| --- |
| 5200 MHz |




| 802.11a Mode |
| --- |
| 5240 MHz |

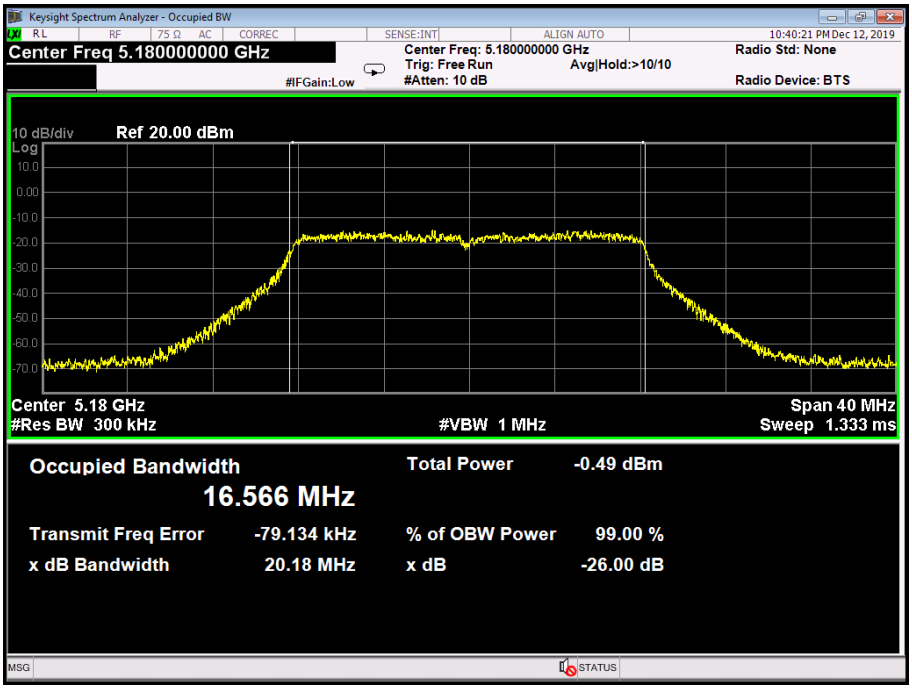


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11a Mode (U-NII-1) Antenna B | | |

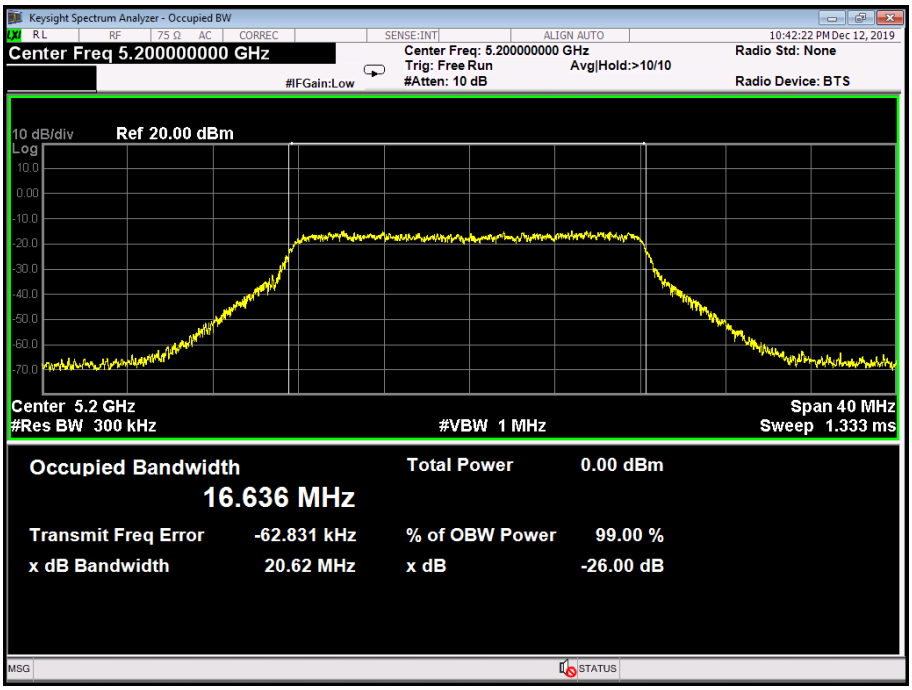
| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 36 | 5180 | 20.18 | 16.566 |
| 40 | 5200 | 20.62 | 16.636 |
| 48 | 5240 | 20.05 | 16.513 |

**802.11a Mode**

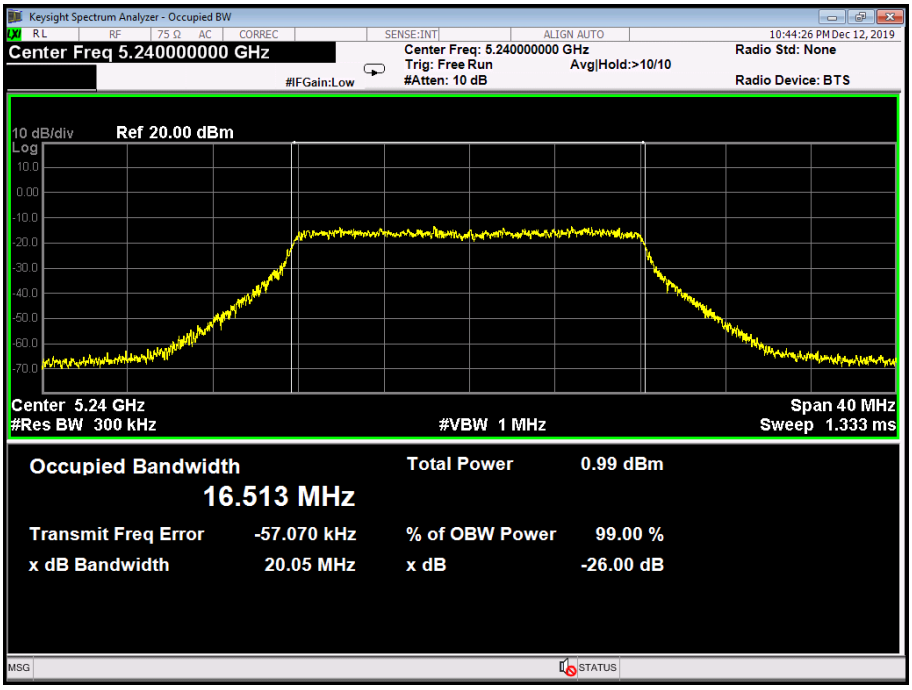
**5180 MHz**



| 802.11a Mode |
| --- |
| 5200 MHz |




| 802.11a Mode |
| --- |
| 5240 MHz |

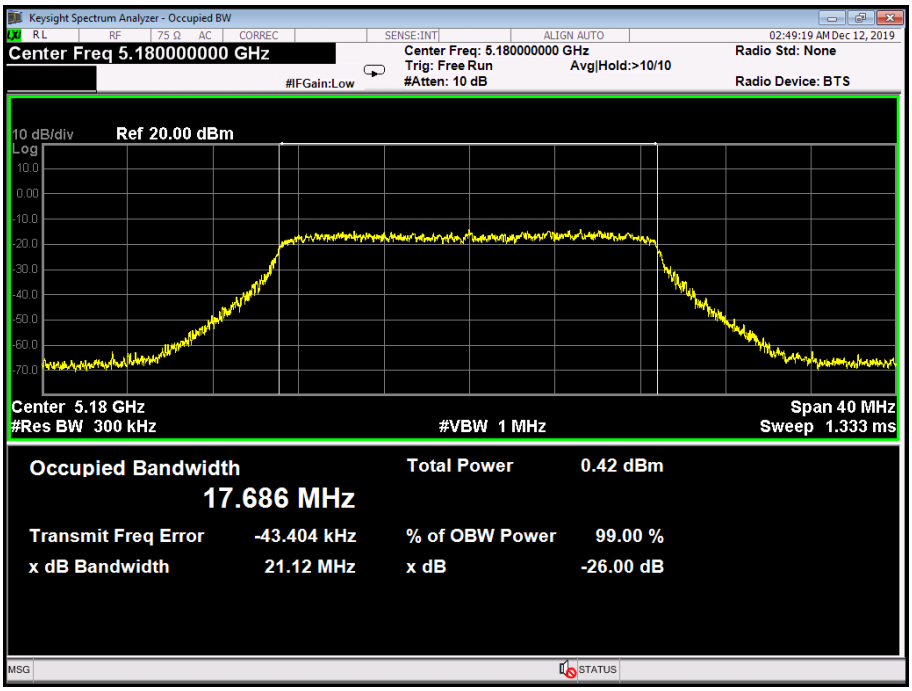


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11n(HT20) Mode (U-NII-1) Antenna A | | |

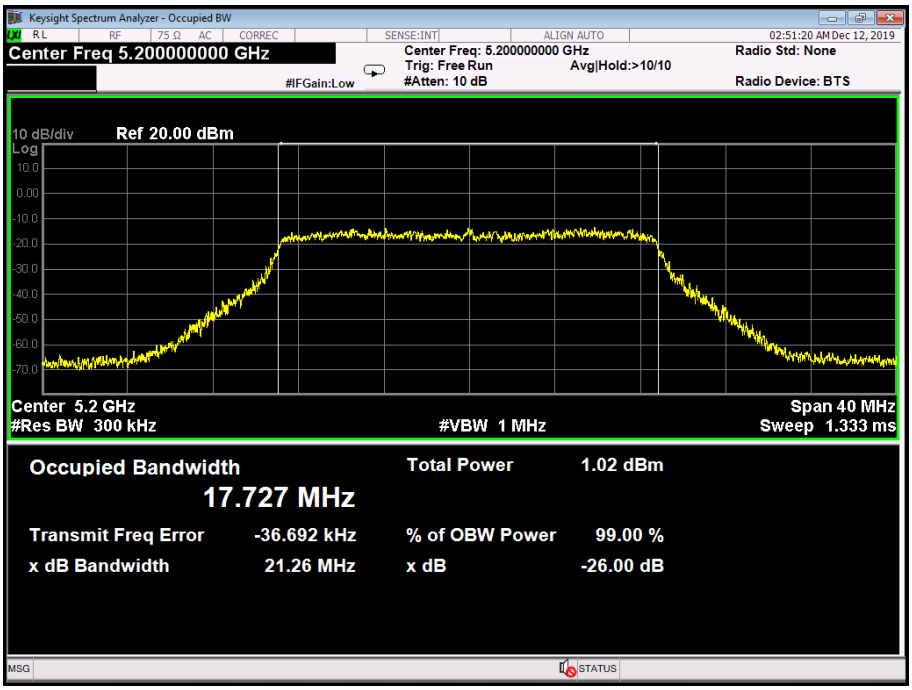
| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 36 | 5180 | 21.12 | 17.686 |
| 40 | 5200 | 21.26 | 17.727 |
| 48 | 5240 | 21.65 | 17.762 |

**802.11n(HT20) Mode**

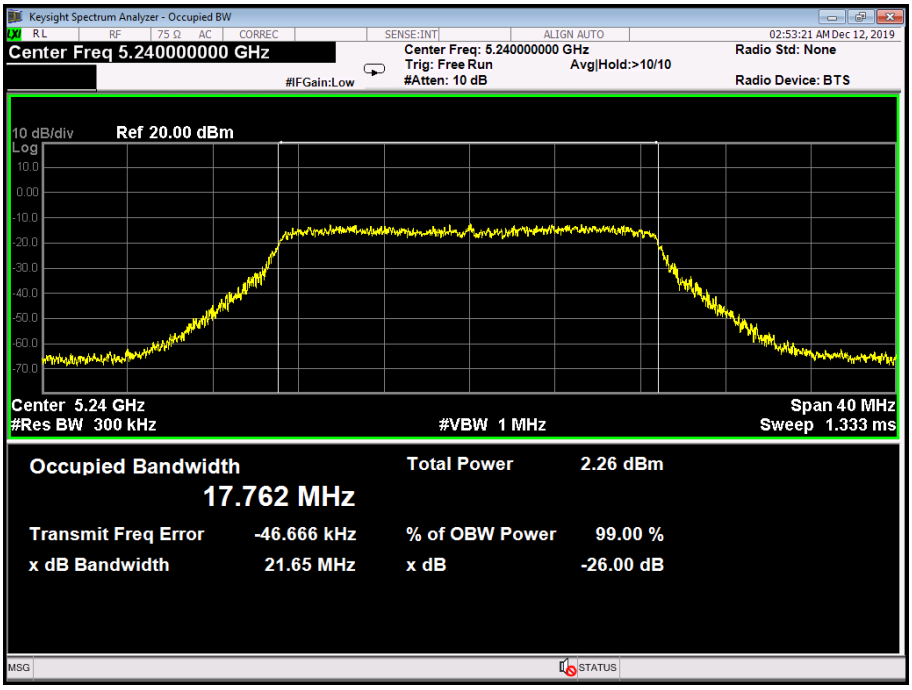
**5180 MHz**



| 802.11n(HT20) Mode |
|---|
| 5200 MHz |




| 802.11n(HT20) Mode |
|---|
| 5240 MHz |

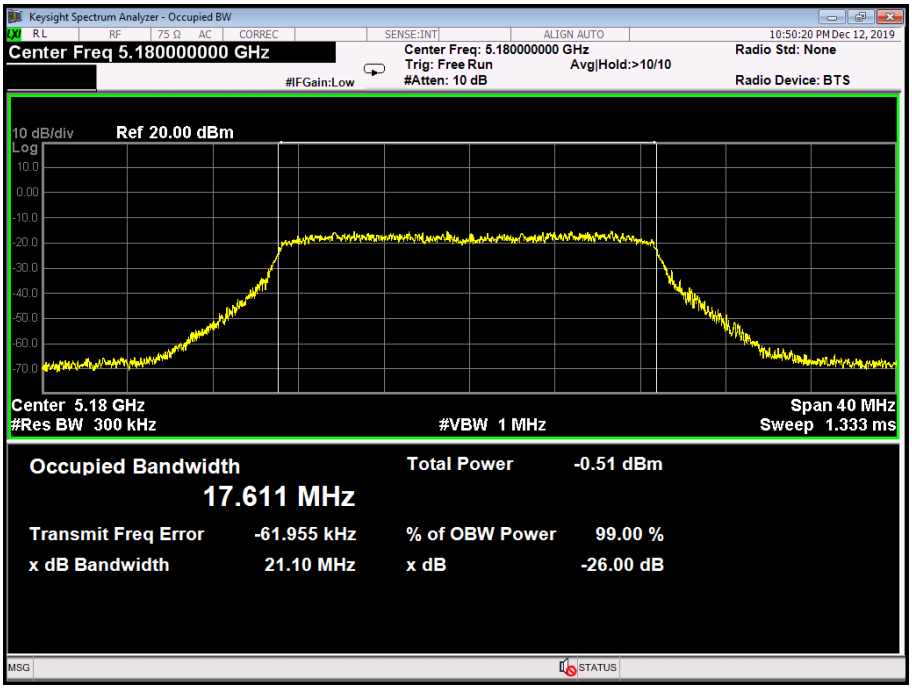


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11n(HT20) Mode (U-NII-1) Antenna B | | |

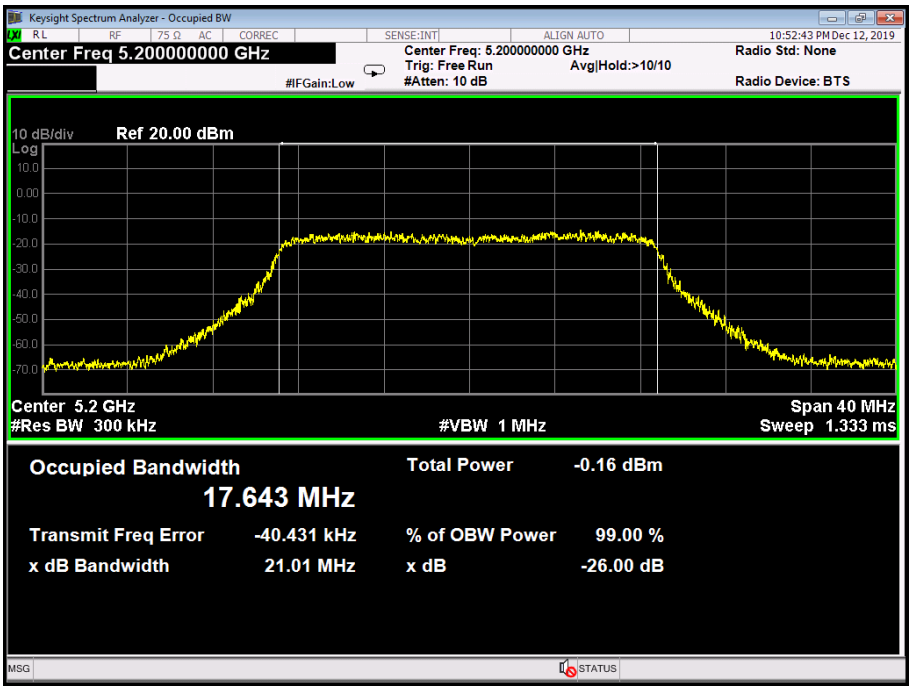
| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 36 | 5180 | 21.10 | 17.611 |
| 40 | 5200 | 21.04 | 17.643 |
| 48 | 5240 | 21.04 | 17.671 |

**802.11n(HT20) Mode**

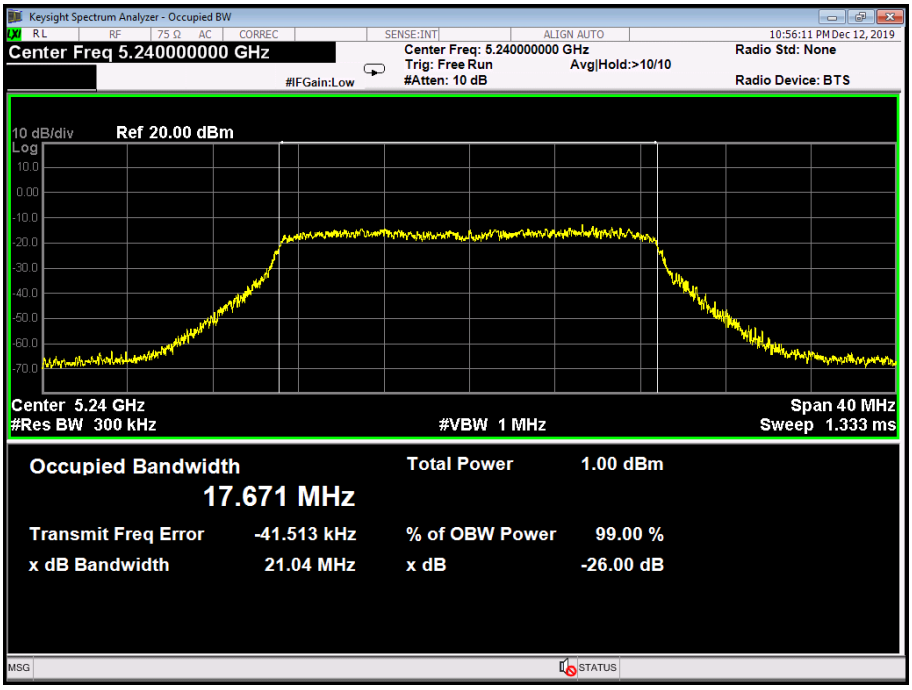
**5180 MHz**



| 802.11n(HT20) Mode |
|---|
| 5200 MHz |




| 802.11n(HT20) Mode |
|---|
| 5240 MHz |

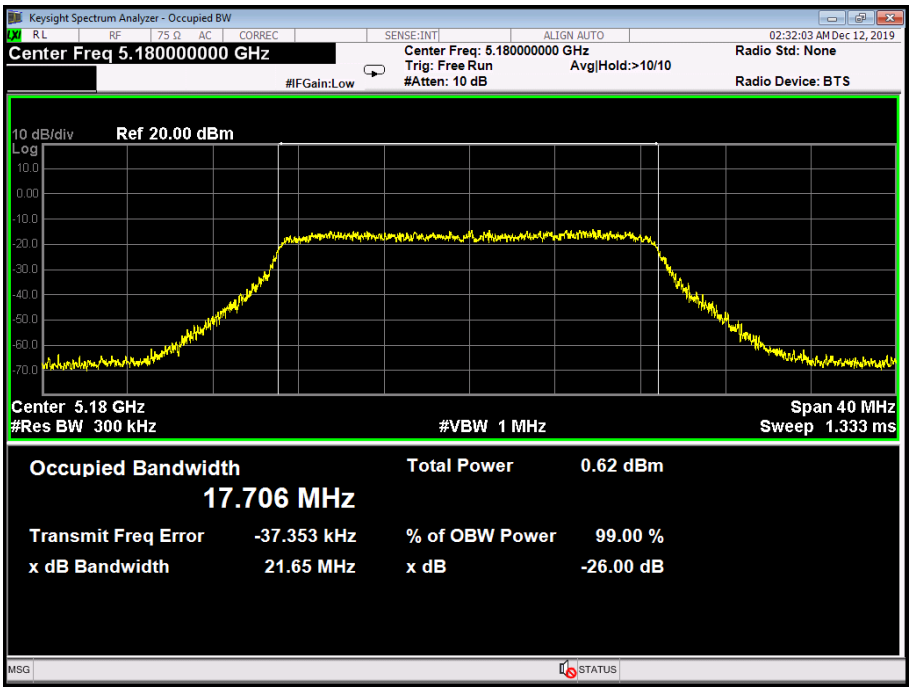


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT20) Mode (U-NII-1) Antenna A | | |

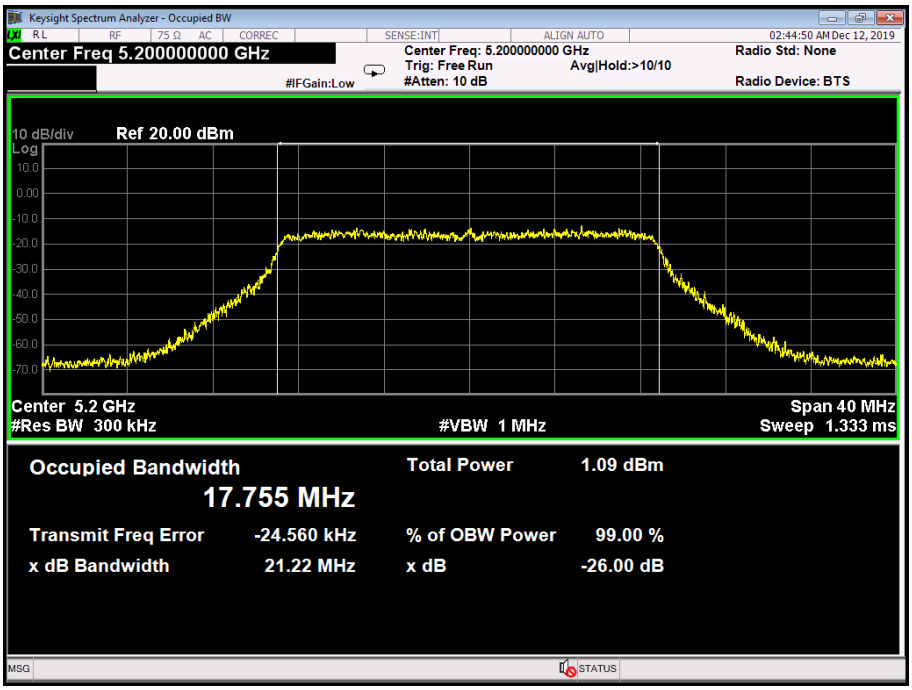
| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 36 | 5180 | 21.65 | 17.706 |
| 40 | 5200 | 21.22 | 17.755 |
| 48 | 5240 | 20.84 | 17.717 |

**802.11ac(VHT20) Mode**

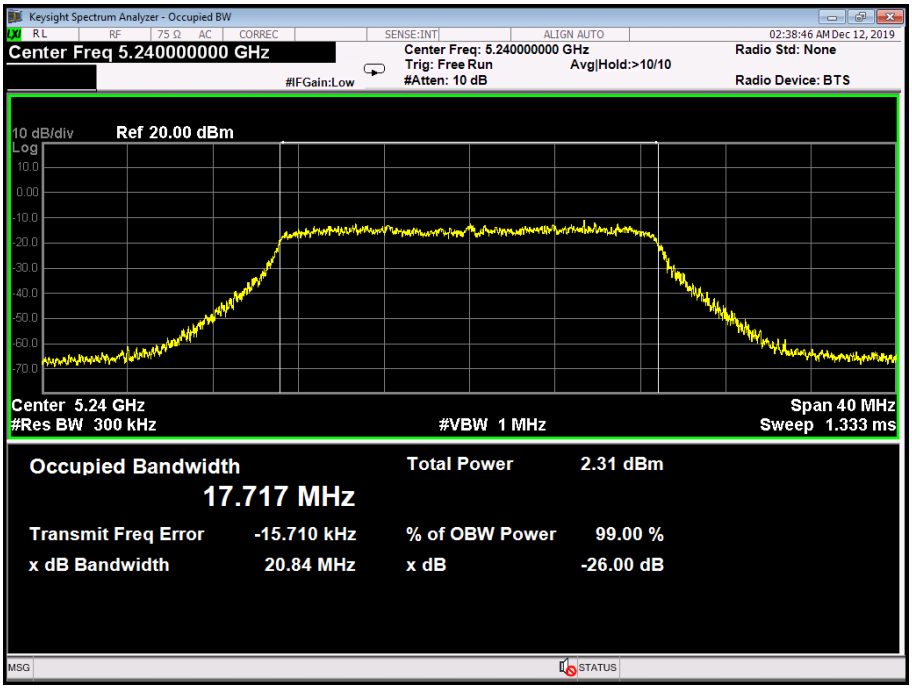
**5180 MHz**



| 802.11ac(VHT20) Mode |
|---|
| 5200 MHz |




| 802.11ac(VHT20) Mode |
|---|
| 5240 MHz |

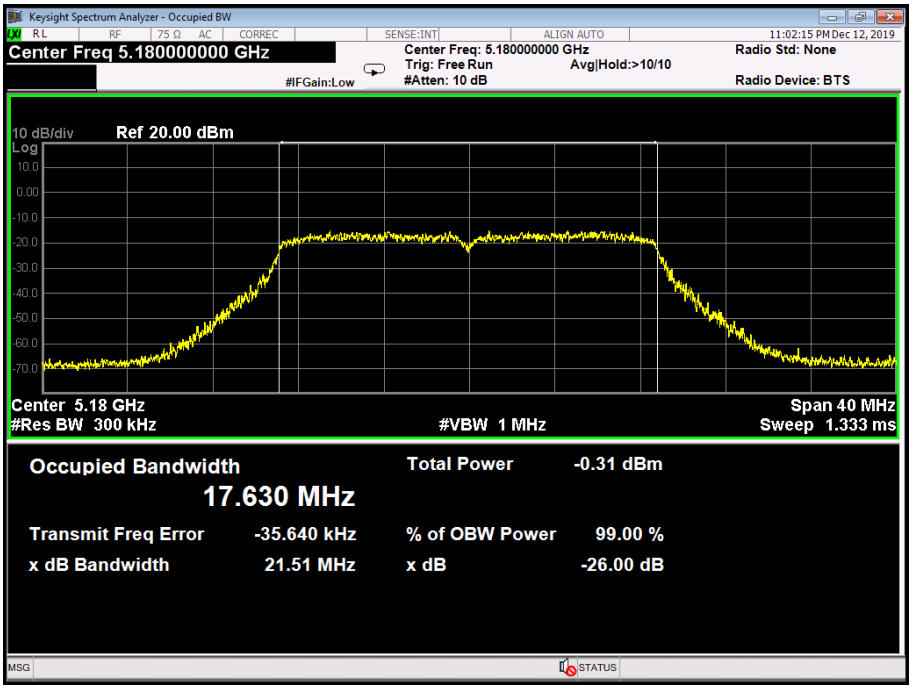


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT20) Mode (U-NII-1) Antenna B | | |

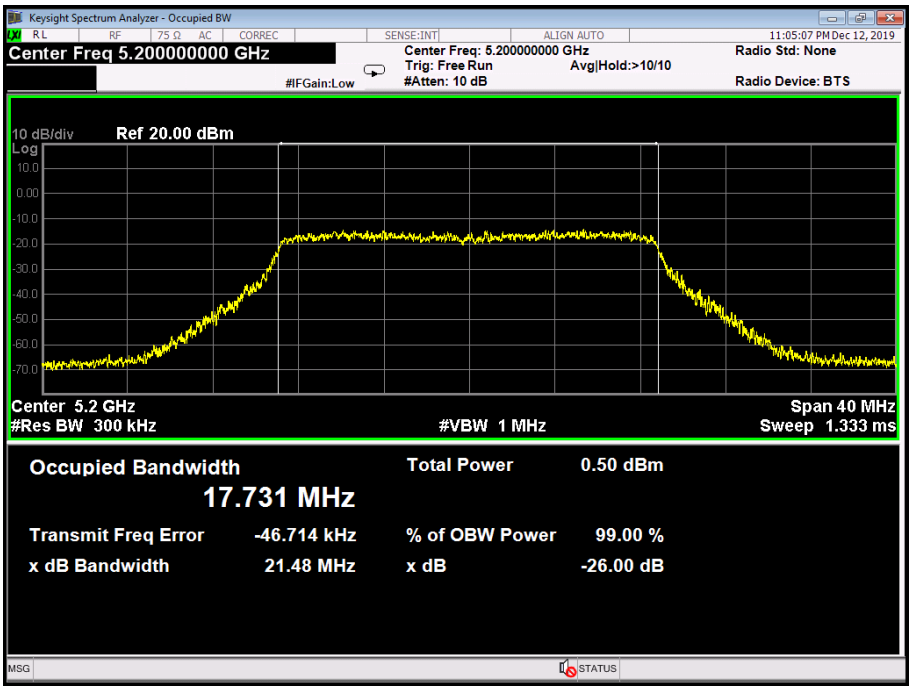
| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 36 | 5180 | 21.51 | 17.630 |
| 40 | 5200 | 21.48 | 17.731 |
| 48 | 5240 | 21.83 | 17.771 |

**802.11ac(VHT20) Mode**

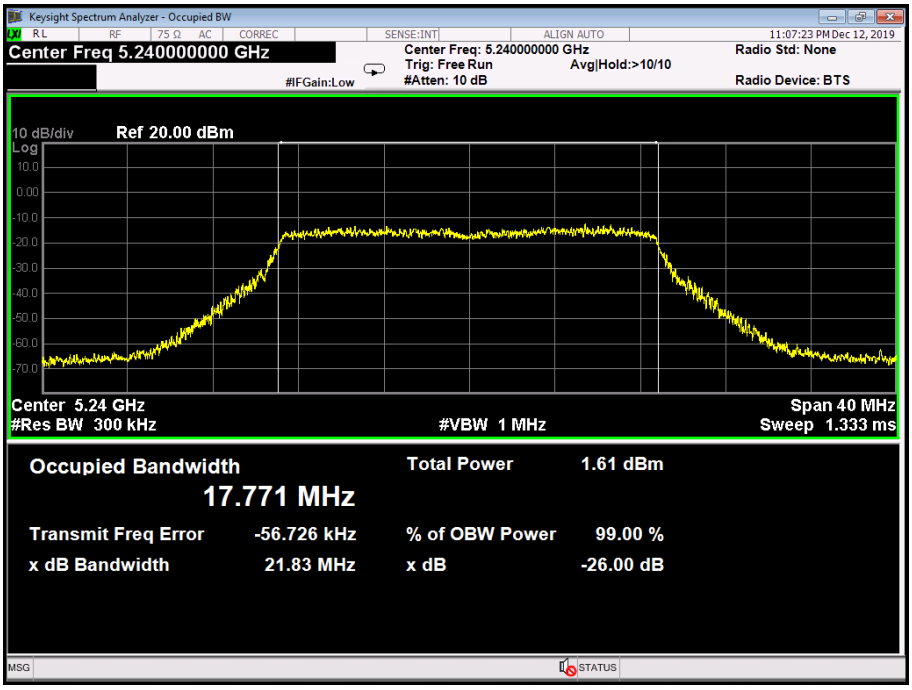
**5180 MHz**



| 802.11ac(VHT20) Mode |
|---|
| 5200 MHz |




| 802.11ac(VHT20) Mode |
|---|
| 5240 MHz |

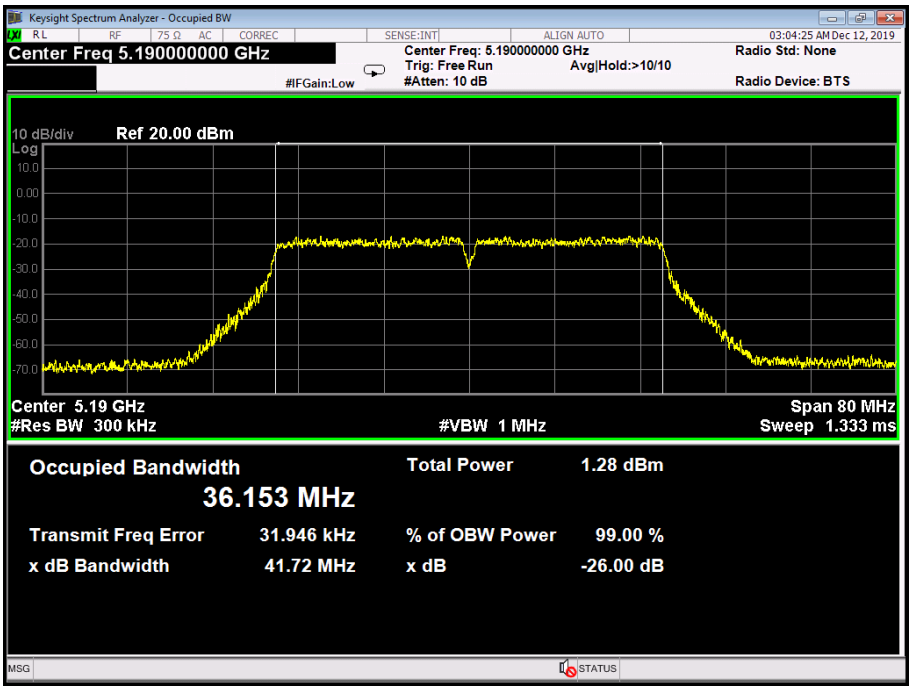


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11N(HT40) Mode (U-NII-1) Antenna A | | |

| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 38 | 5190 | 41.72 | 36.153 |
| 46 | 5230 | 42.43 | 36.210 |

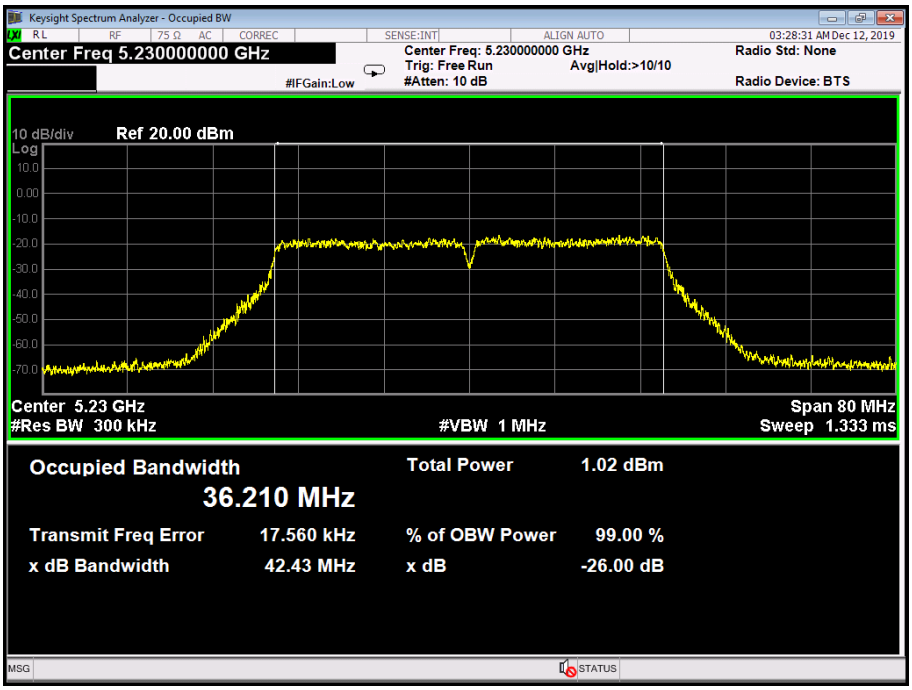
**802.11N(HT40) Mode**

**5190 MHz**



## 802.11N(HT40) Mode

### 5230 MHz

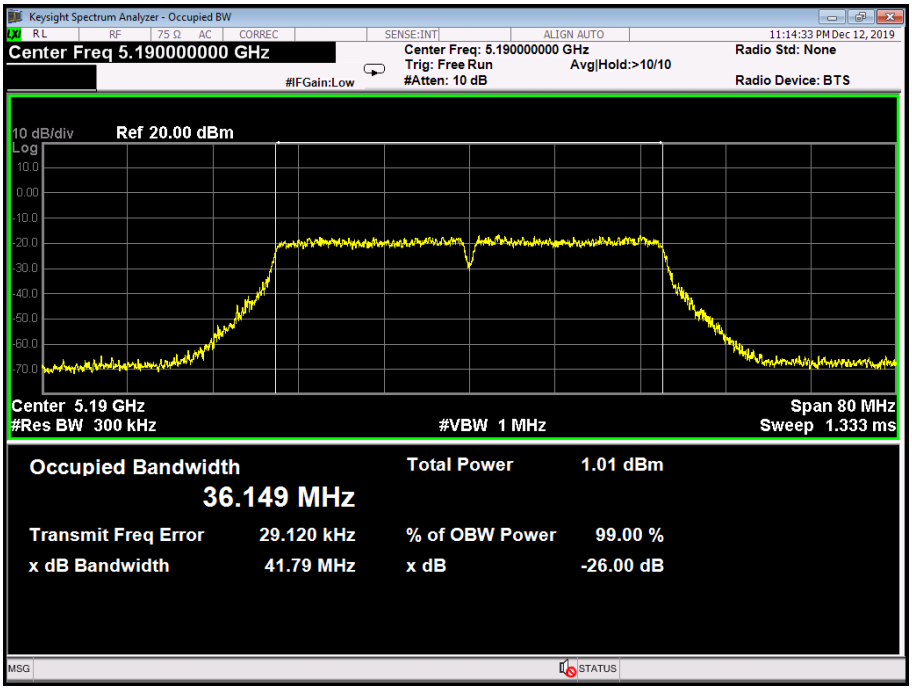


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11N(HT40) Mode (U-NII-1) Antenna B | | |

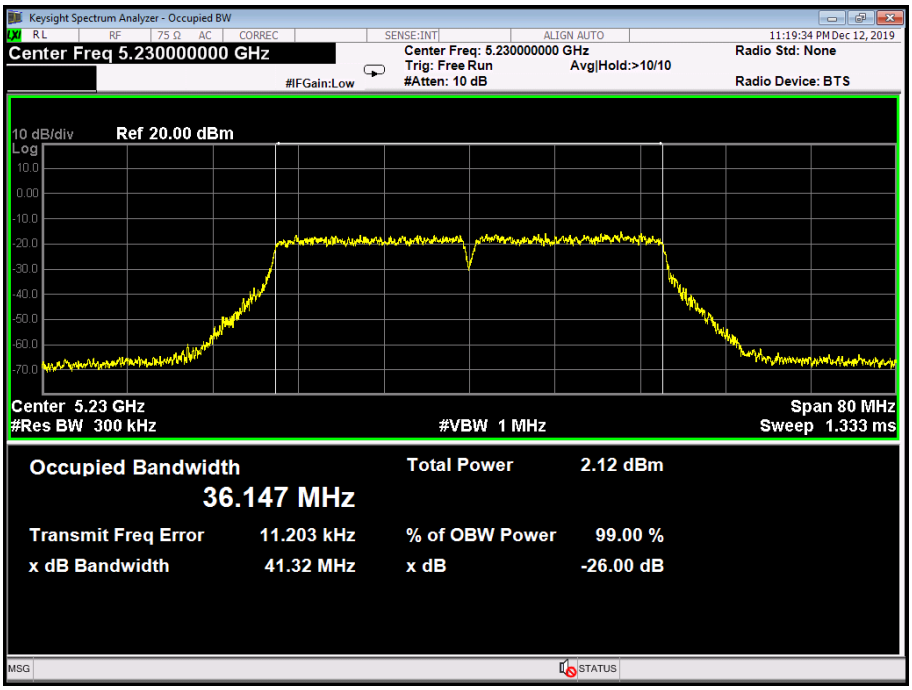
| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 38 | 5190 | 41.79 | 36.149 |
| 46 | 5230 | 41.32 | 36.147 |

**802.11N(HT40) Mode**

**5190 MHz**



| 802.11N(HT40) Mode |
| --- |
| 5230 MHz |

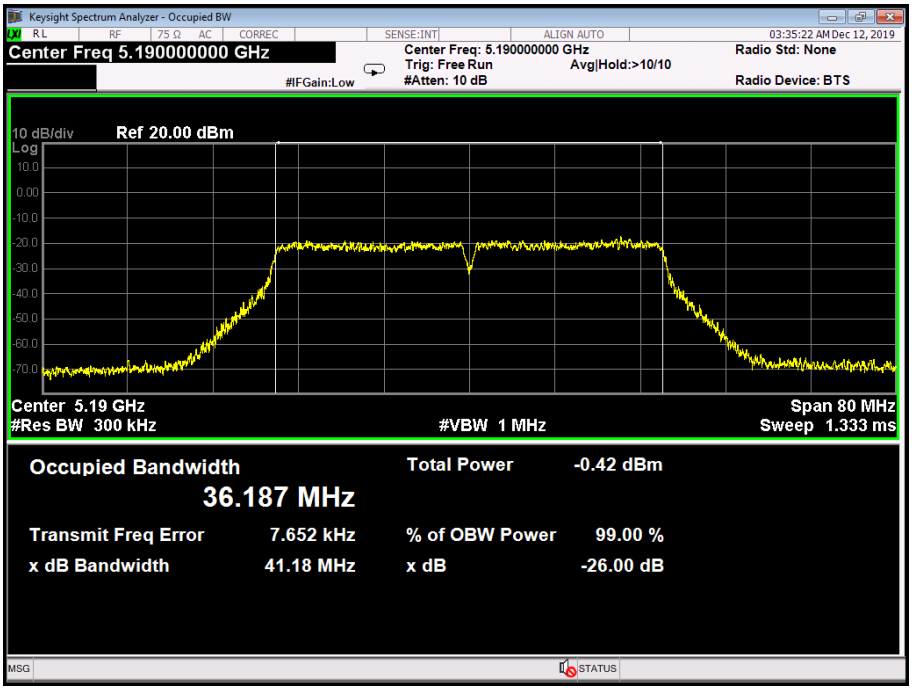


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT40) Mode (U-NII-1) Antenna A | | |

| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 38 | 5190 | 41.18 | 36.187 |
| 46 | 5230 | 41.60 | 36.164 |

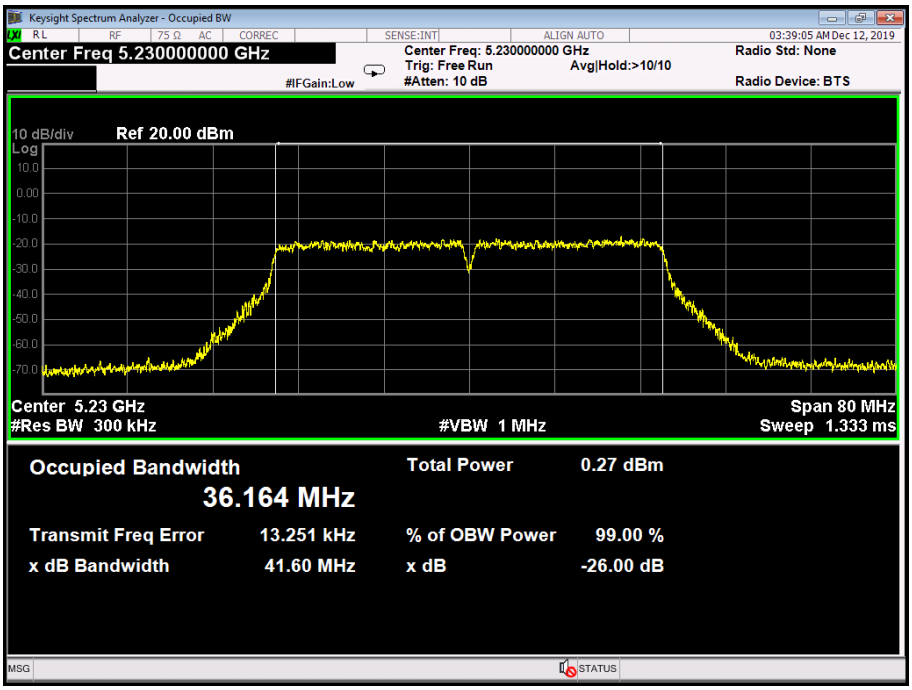
**802.11ac(VHT40) Mode**

**5190 MHz**



## 802.11ac(VHT40) Mode

### 5230 MHz

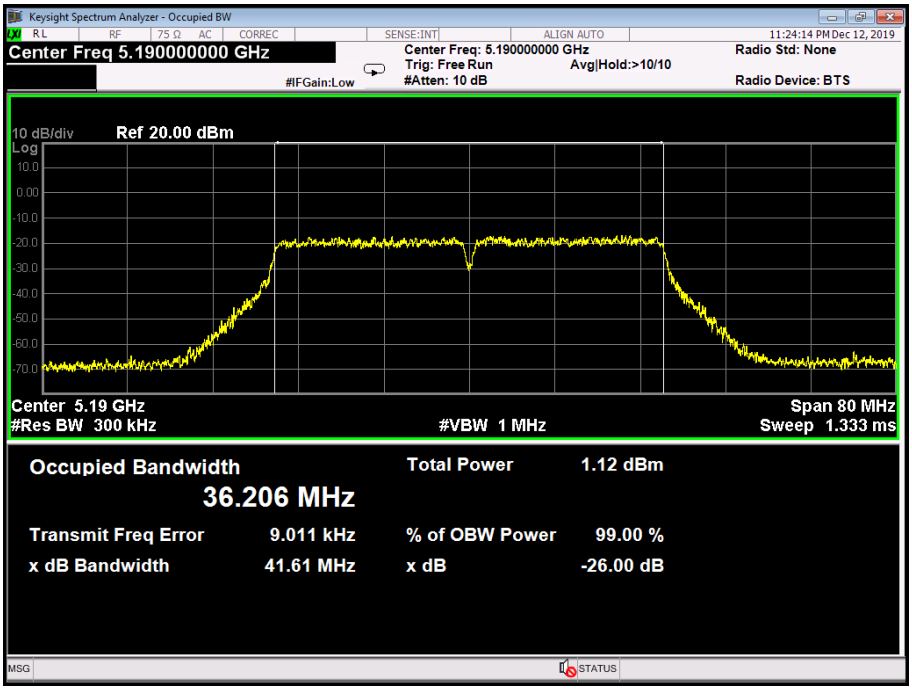


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT40) Mode (U-NII-1) Antenna B | | |

| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 38 | 5190 | 41.61 | 36.206 |
| 46 | 5230 | 42.31 | 36.189 |

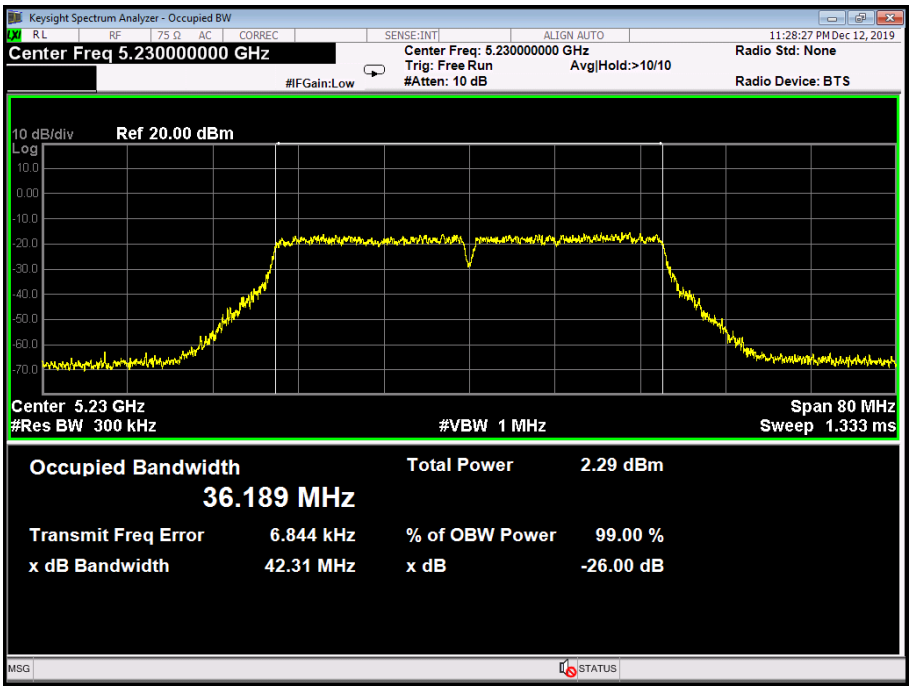
**802.11ac(VHT40) Mode**

**5190 MHz**



## 802.11ac(VHT40) Mode

### 5230 MHz

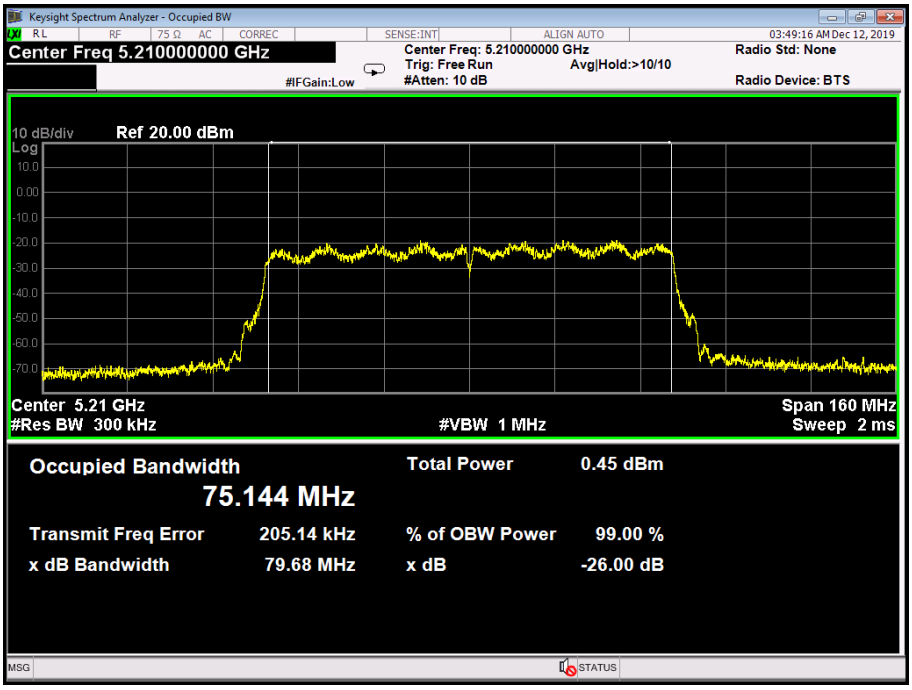


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT80) Mode (U-NII-1) Antenna A | | |

| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 42 | 5210 | 79.68 | 75.144 |

**802.11ac(VHT80) Mode**

**5210 MHz**

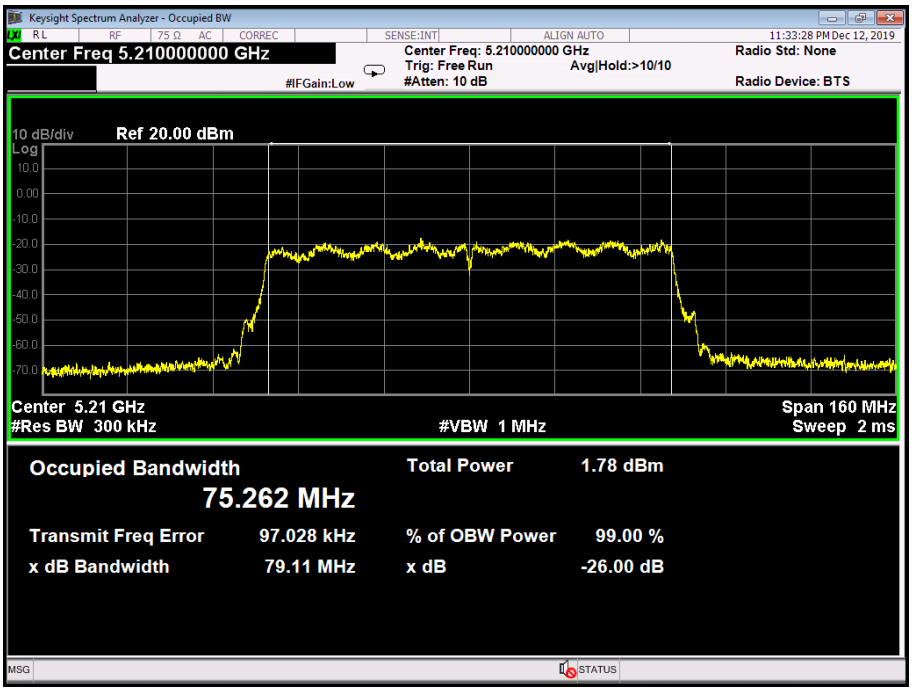


| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |
| Test Mode: | TX 802.11ac(VHT80) Mode (U-NII-1) Antenna B | | |

| Channel | Frequency (MHz) | 26dB Bandwidth (MHz) | 99% Bandwidth (MHz) |
|---|---|---|---|
| 42 | 5210 | 79.11 | 75.262 |

**802.11ac(VHT80) Mode**

**5210 MHz**



# Attachment E-- Output Power Test Data

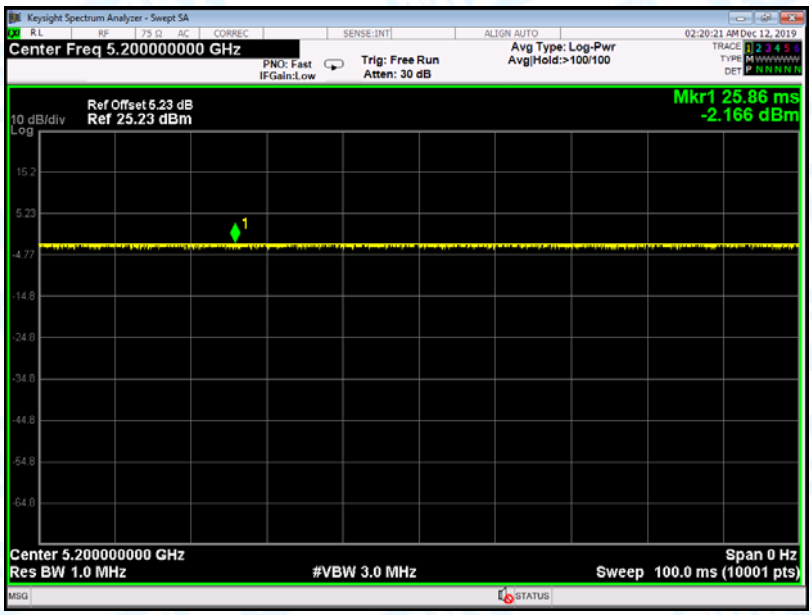
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |

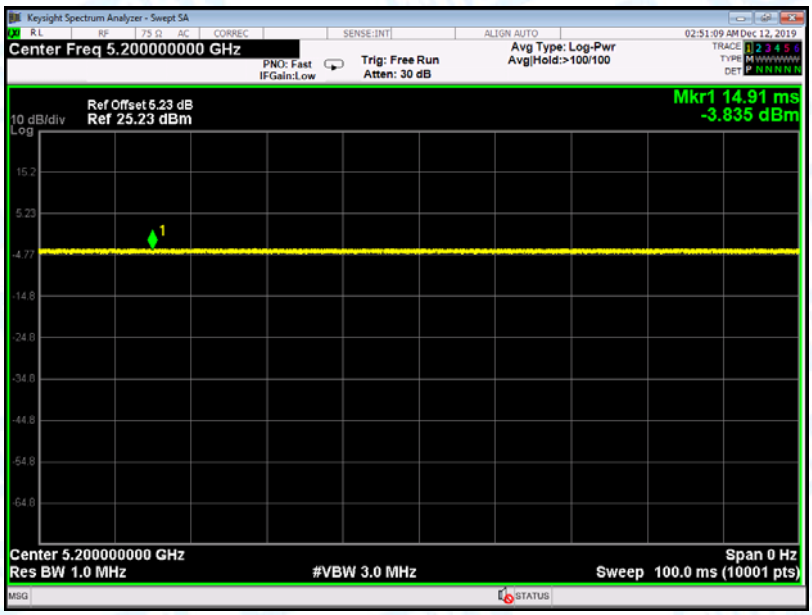
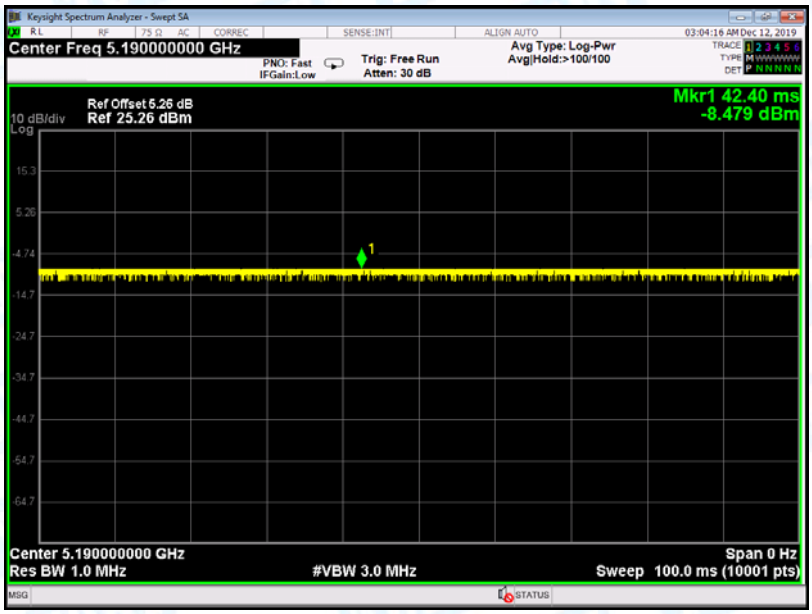
**U-NII-1**

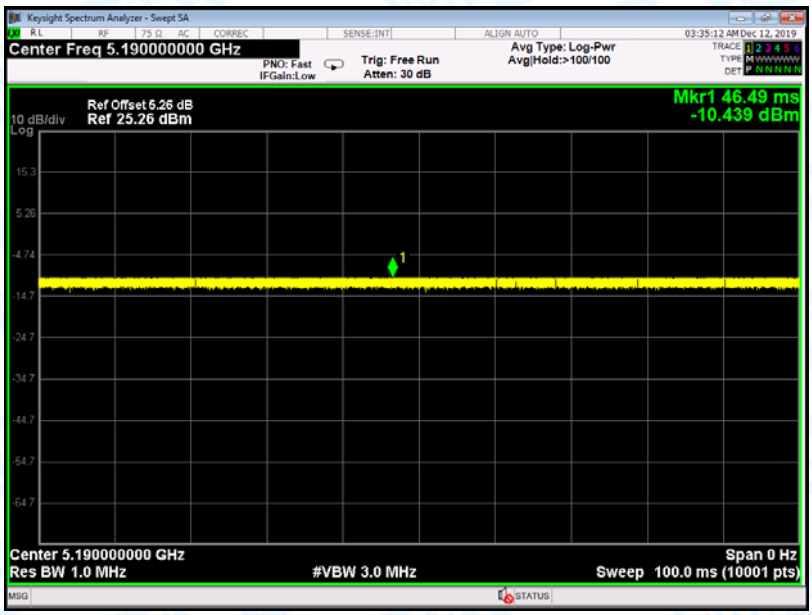
| Test Mode | Frequency (MHz) | Test Data | | | | Limit (dBm) |
|---|---|---|---|---|---|---|
| | | Conducted Power (dBm) | | Duty Factor (dB) | Total Power (dBm) | |
| | | Ant. A | Ant. B | | | |
| 802.11a | 5180 | 6.44 | 6.23 | 0 | --- | 24 |
| | 5200 | 6.34 | 6.31 | 0 | --- | |
| | 5240 | 6.25 | 6.35 | 0 | --- | |
| 802.11n (HT20) | 5180 | 3.10 | 3.20 | 0 | 6.16 | 24 |
| | 5200 | 3.13 | 3.00 | 0 | 6.07 | |
| | 5240 | 3.39 | 3.23 | 0 | 6.32 | |
| 802.11ac (VHT20) | 5180 | 3.21 | 3.23 | 0 | 6.23 | |
| | 5200 | 3.18 | 3.18 | 0 | 6.19 | |
| | 5240 | 3.19 | 3.17 | 0 | 6.19 | |
| 802.11n (HT40) | 5190 | 2.27 | 2.27 | 0 | 5.28 | |
| | 5230 | 2.27 | 2.25 | 0 | 5.27 | |
| 802.11 ac(VHT40) | 5190 | 2.23 | 2.28 | 0 | 5.26 | |
| | 5230 | 2.26 | 2.24 | 0 | 5.26 | |
| 802.11 ac(VHT80) | 5210 | 1.27 | 1.29 | 0 | 4.29 | |

**Result: PASS**

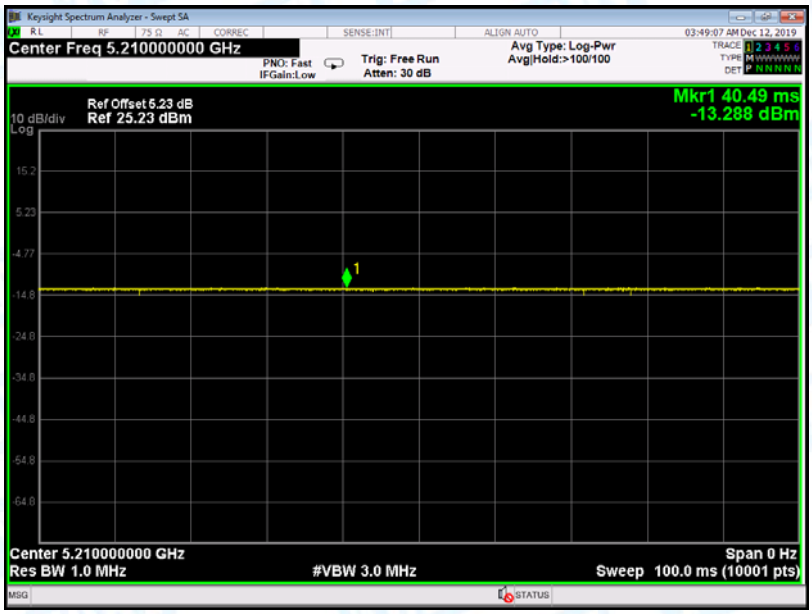
| Test Mode | | Duty cycle |
|---|---|---|
| U-NII-1 | 802.11 a | >98% |
| | 802.11 n(HT20) | |
| | 802.11 ac(VHT20) | |
| | 802.11 n(HT40) | |
| | 802.11 ac(VHT40) | |
| | 802.11 ac(VHT80) | |

| 802.11 a 5200MHz U-NII-1 |
| --- |
|  |
| 802.11 n(HT20) 5200MHz U-NII-1 |
|  |

| 802.11 ac(VHT20) 5200MHz U-NII-1 |
| --- |
|  |
| 802.11 n(HT40) 5190MHz U-NII-1 |
|  |

| 802.11 ac(VHT40) 5190MHz U-NII-1 |
| --- |
|  |

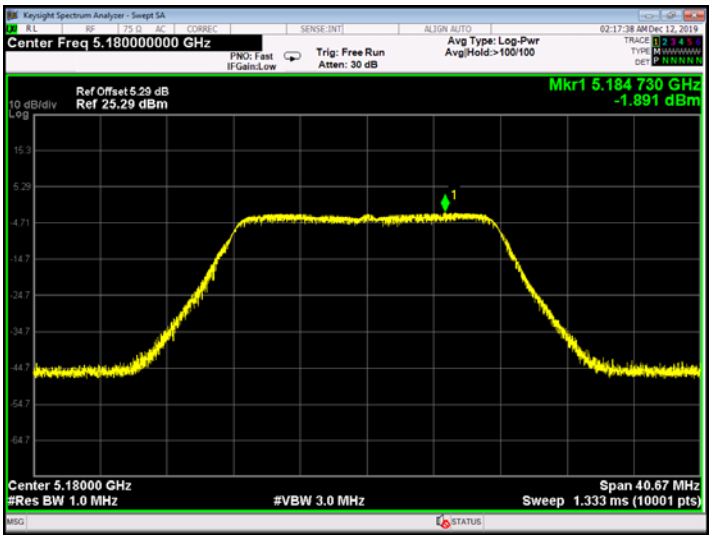
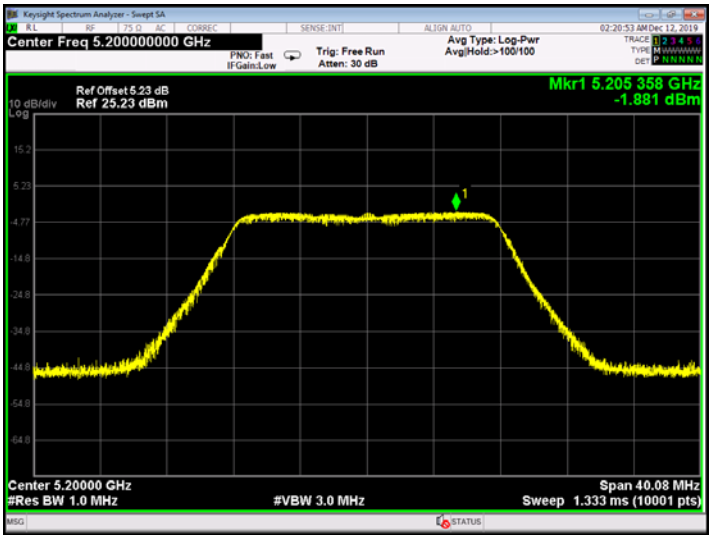
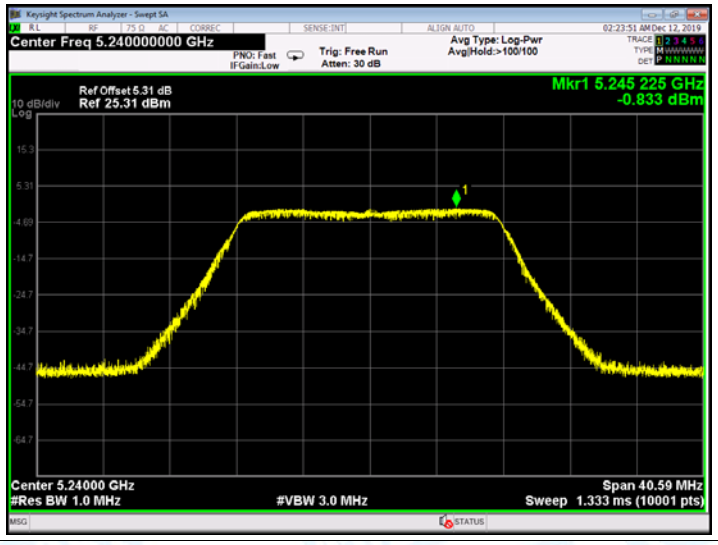


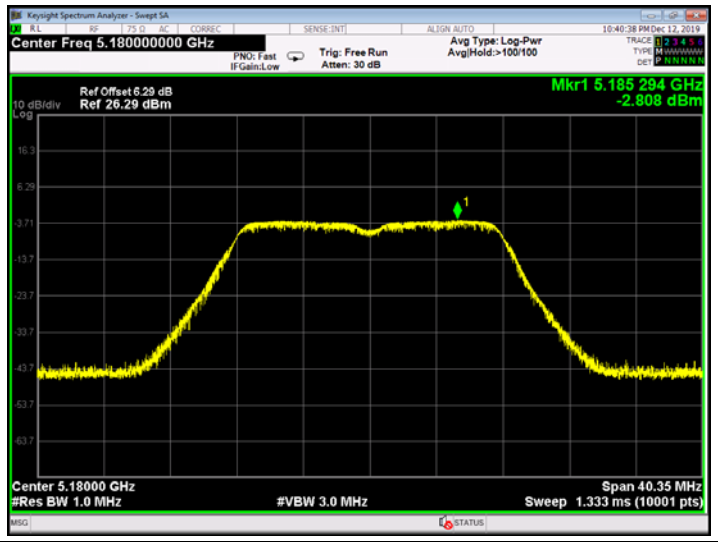
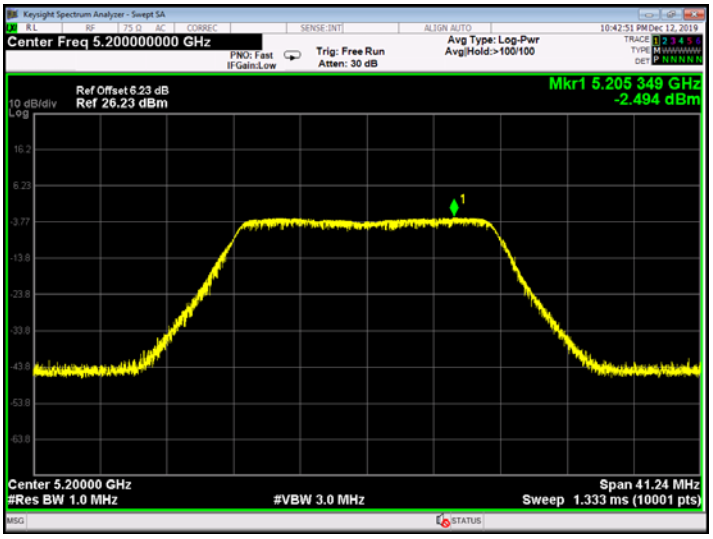
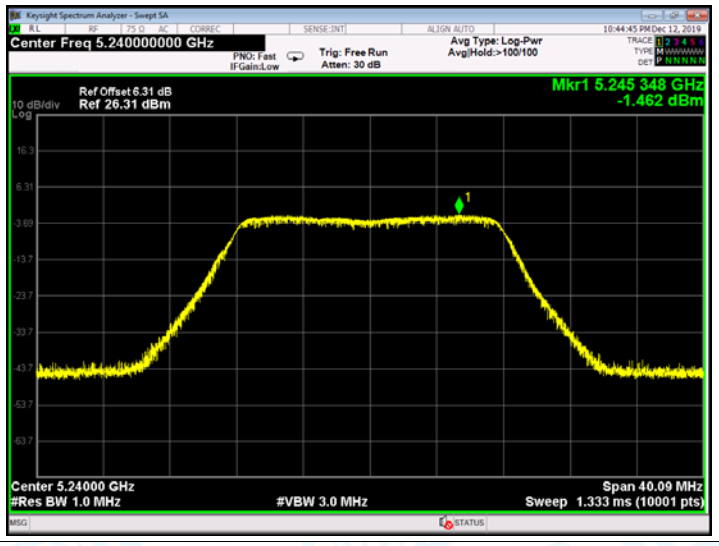
| 802.11 ac(VHT80) 5210MHz U-NII-1 |
| --- |
|  |

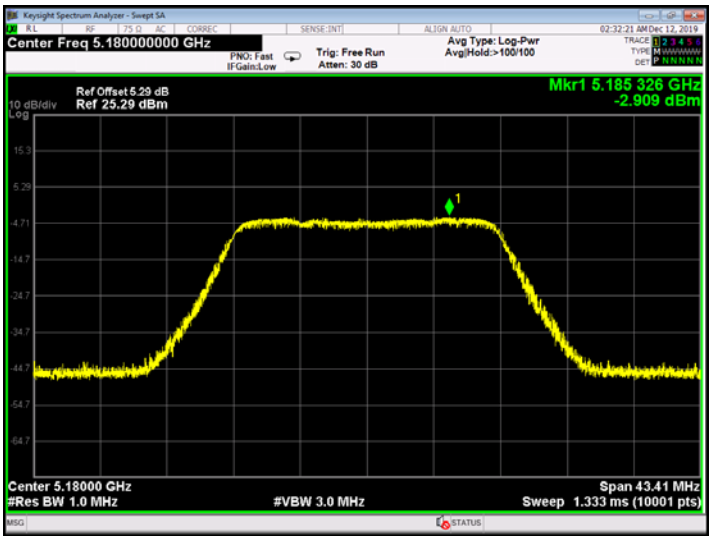
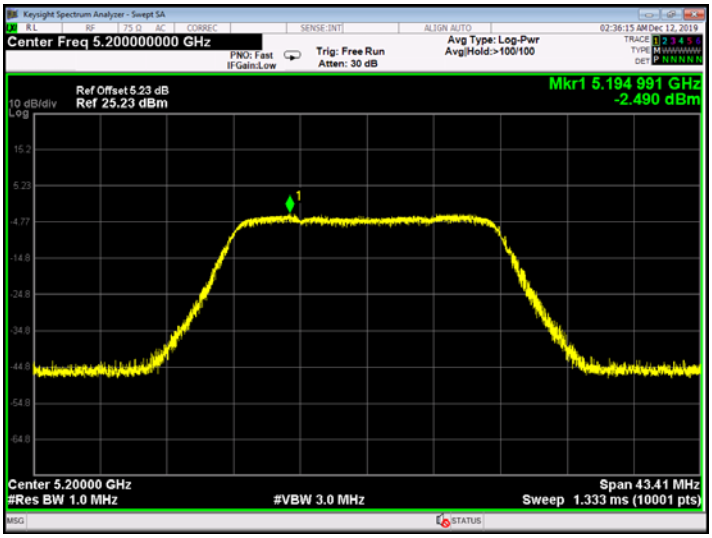
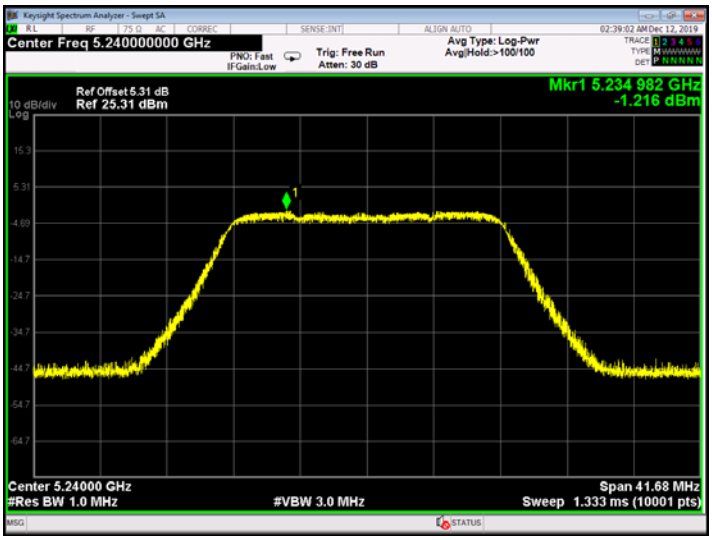
# Attachment F-- Power Spectral Density Test Data

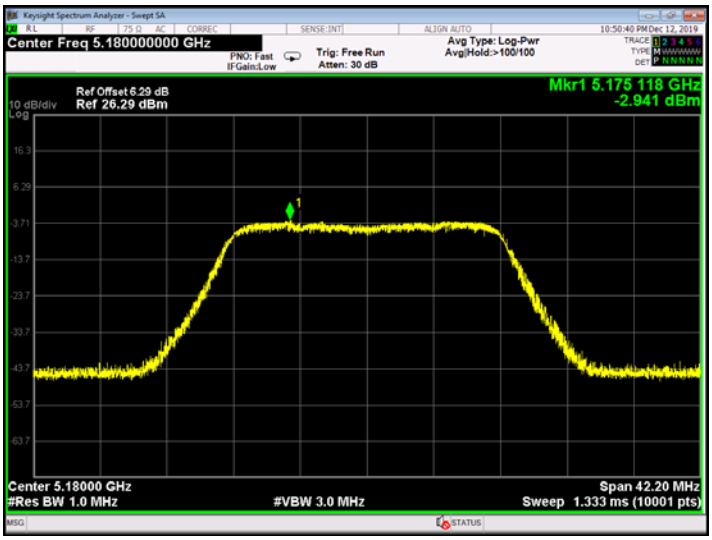
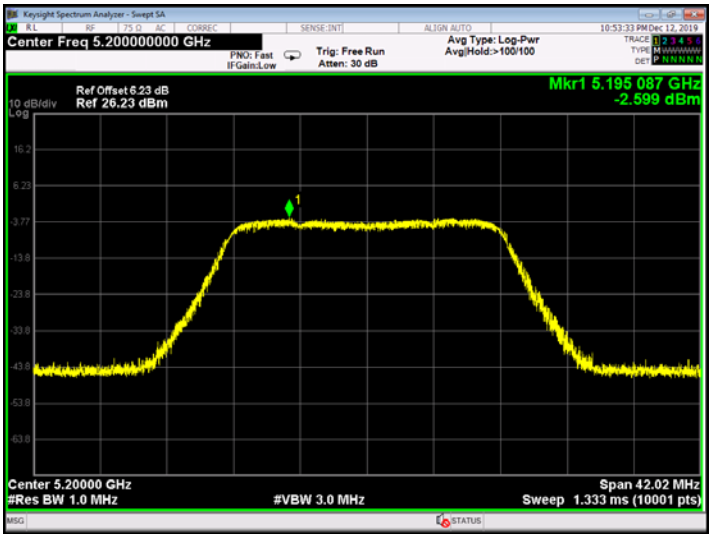
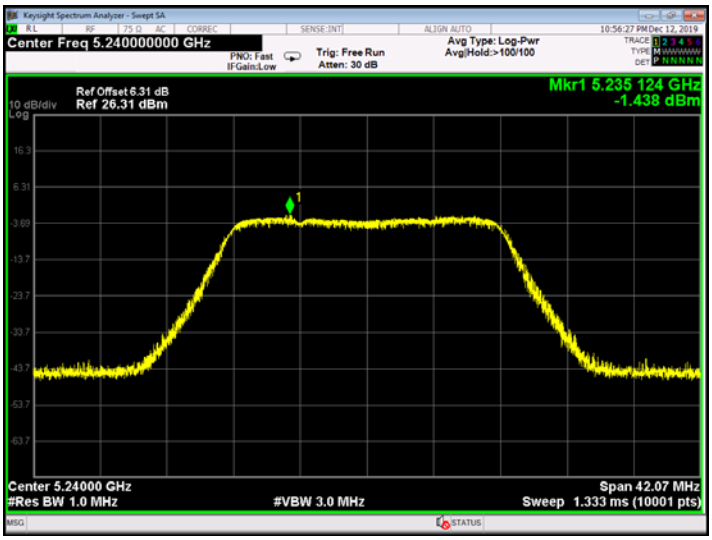
| Temperature: | 25 ℃ | Relative Humidity: | 55% |
|---|---|---|---|
| Test Voltage: | AC 120V/60Hz | | |

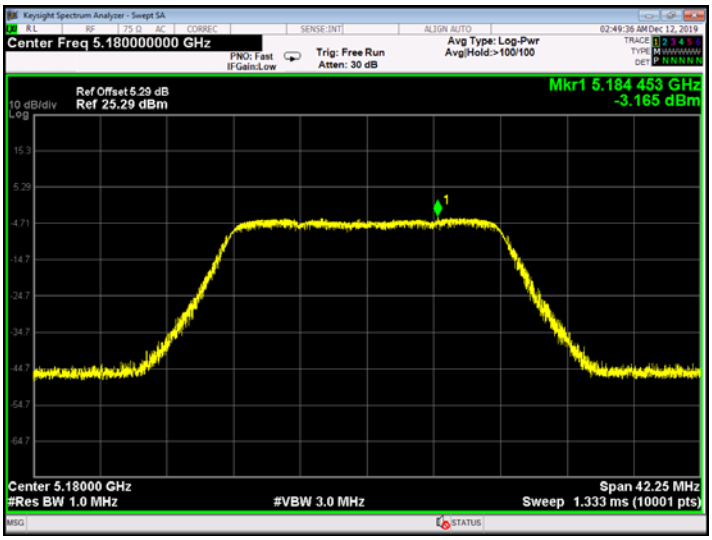
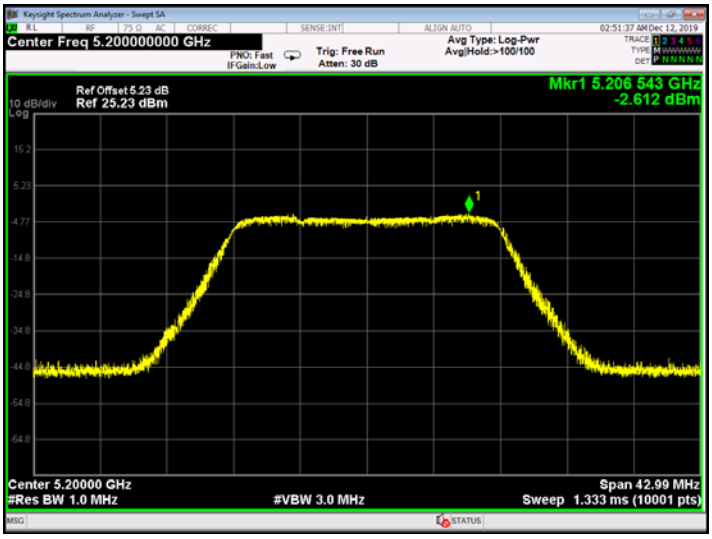
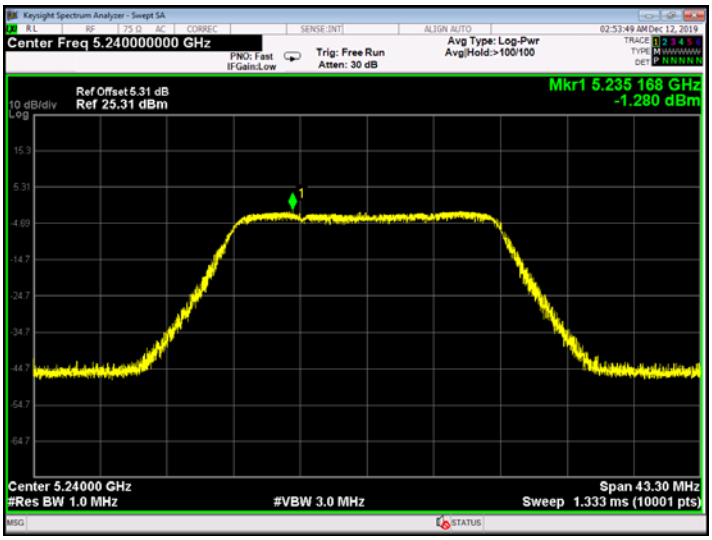
| U-NII-1 | | | | | | |
|---|---|---|---|---|---|---|
| Test Mode | Frequency (MHz) | Test Data | | | | Limit (dBm/MHz) |
| | | Main ANT. (dBm/MHz) | AUX ANT. (dBm/MHz) | Duty Factor (dB) | Total Power (dBm/MHz) | |
| 802.11a | 5180 | -1.891 | -2.808 | 0 | | 11 |
| | 5200 | -1.881 | -2.494 | 0 | --- | |
| | 5240 | -0.833 | -1.462 | 0 | --- | |
| 802.11n (HT20) | 5180 | -2.909 | -2.941 | 0 | 0.085 | 11 |
| | 5200 | -2.490 | -2.599 | 0 | 0.466 | |
| | 5240 | -1.216 | -1.438 | 0 | 1.685 | |
| 802.11ac (VHT20) | 5180 | -3.165 | -2.570 | 0 | 0.153 | |
| | 5200 | -2.612 | -2.735 | 0 | 0.337 | |
| | 5240 | -1.280 | -1.770 | 0 | 1.492 | |
| 802.11n (HT40) | 5190 | -4.576 | -5.066 | 0 | -1.804 | |
| | 5230 | -5.062 | -3.885 | 0 | -1.423 | |
| 802.11 ac(VHT40) | 5190 | -6.292 | -4.874 | 0 | -2.515 | |
| | 5230 | -5.884 | -3.643 | 0 | -1.610 | |
| 802.11 ac(VHT80) | 5210 | -7.254 | -6.269 | 0 | -3.723 | |
| Result： PASS | | | | | | |

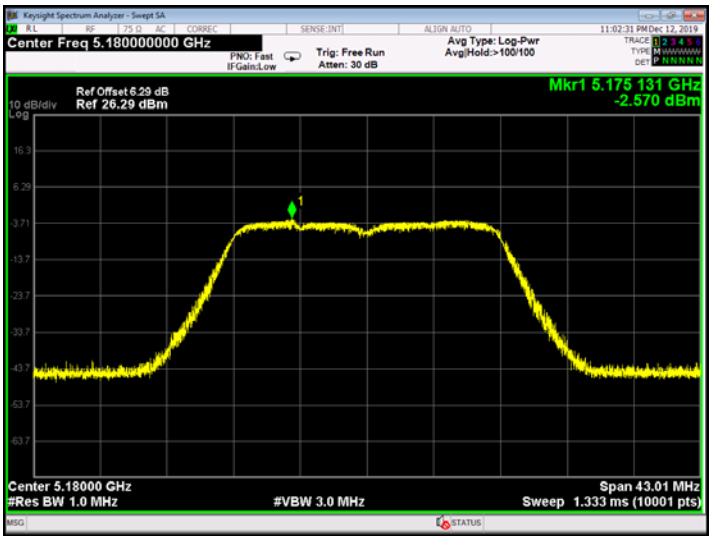
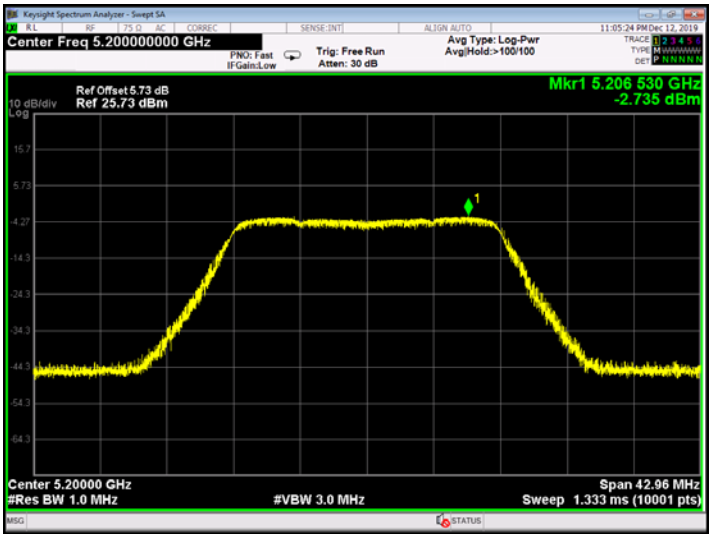
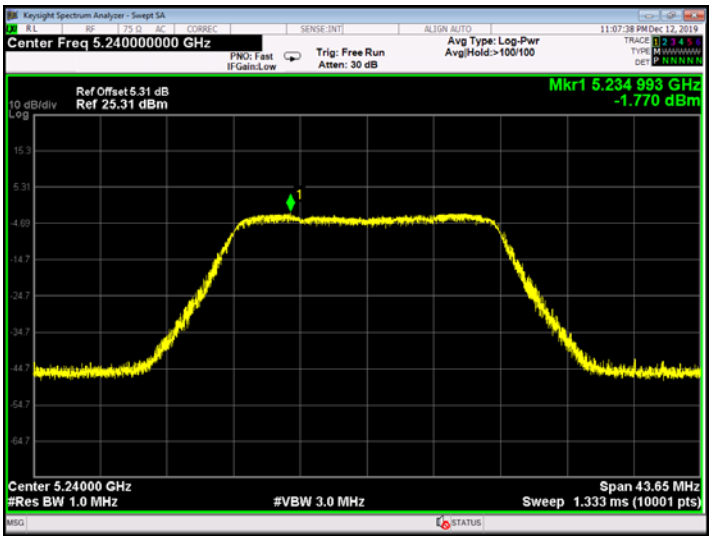
| Antenna A |
| --- |
| 802.11 a 5180 MHz |
|  |
| 802.11 a 5200 MHz |
|  |
| 802.11 a 5240 MHz |
|  |

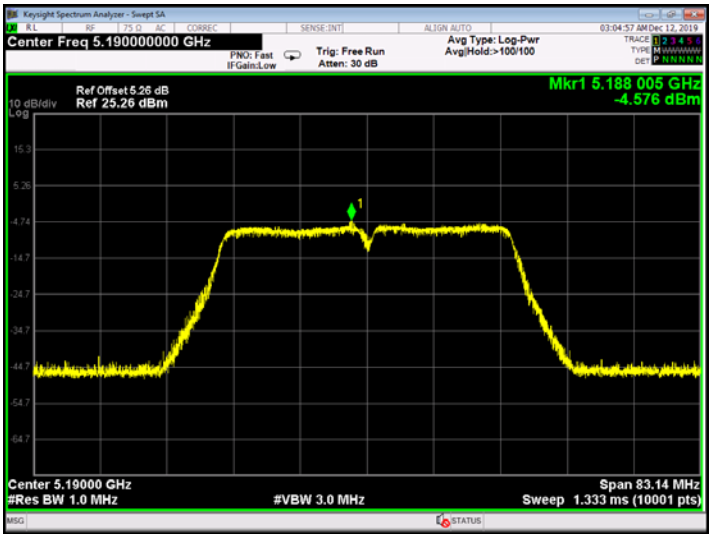
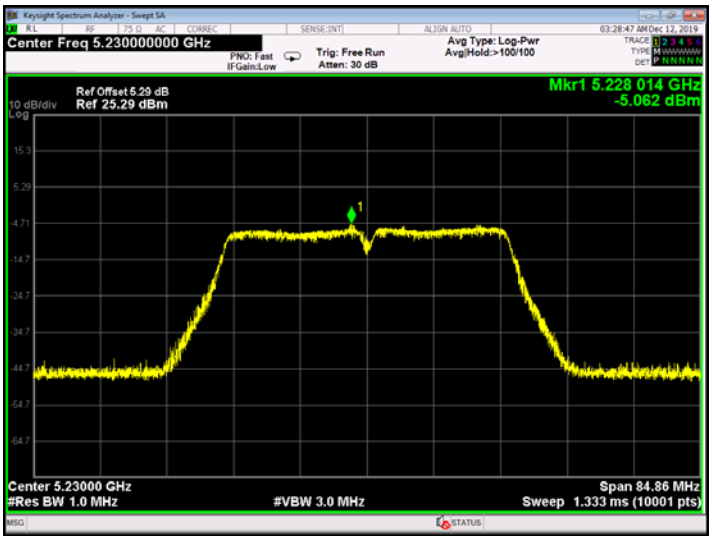
| Antenna B |
| --- |
| 802.11 a 5180 MHz |
|  |
| 802.11 a 5200 MHz |
|  |
| 802.11 a 5240 MHz |
|  |

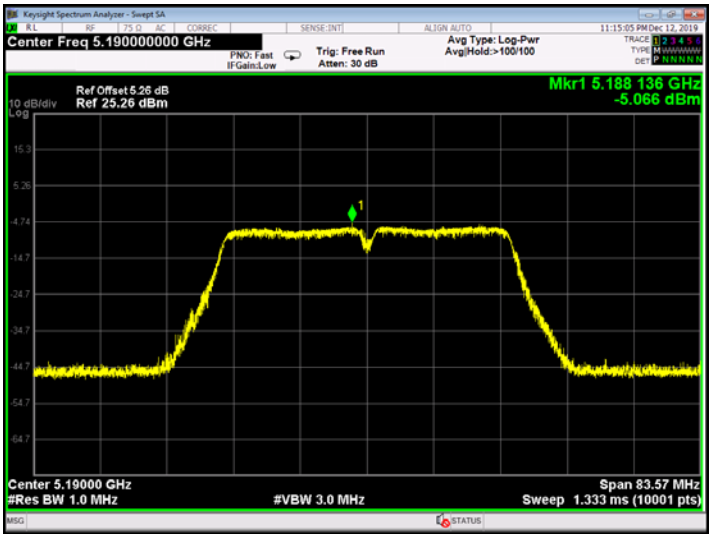
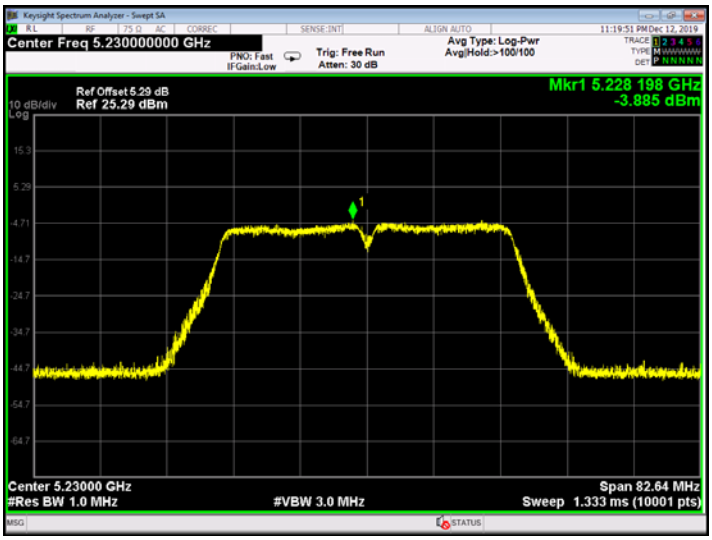
| Antenna A |
| --- |
| 802.11 n(HT20) 5180 MHz |
|  |
| 802.11 n(HT20) 5200 MHz |
|  |
| 802.11 n(HT20) 5240 MHz |
|  |

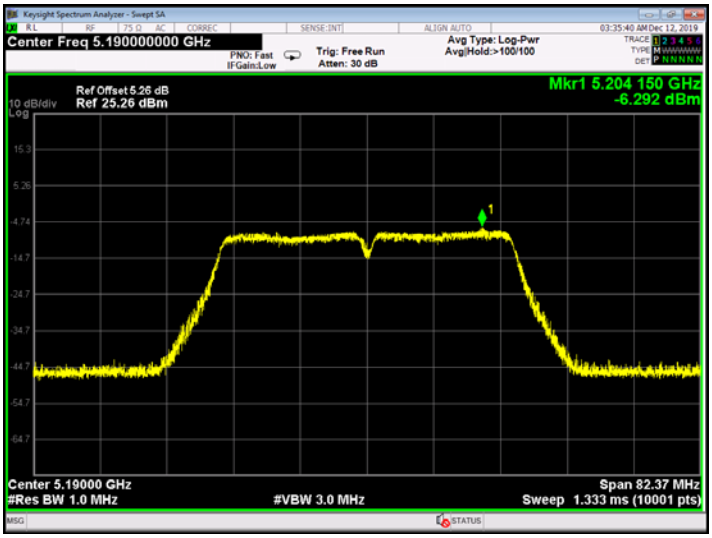
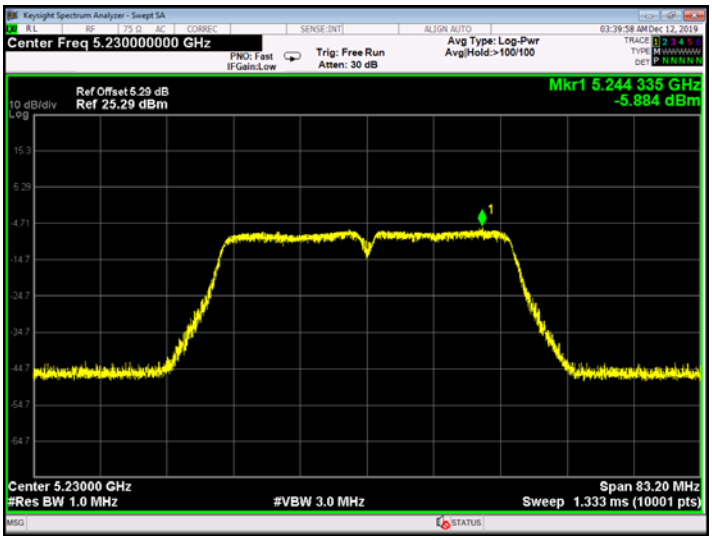
| Antenna B |
| --- |
| 802.11 n(HT20) 5180 MHz |
|  |
| 802.11 n(HT20) 5200 MHz |
|  |
| 802.11 n(HT20) 5240 MHz |
|  |

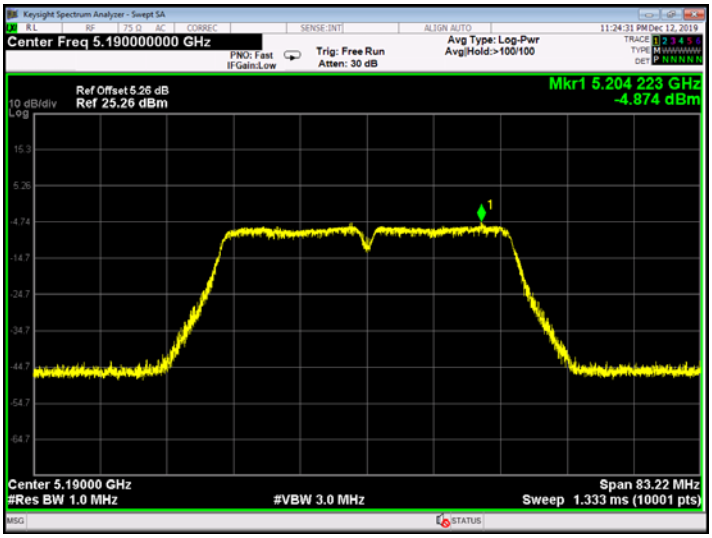
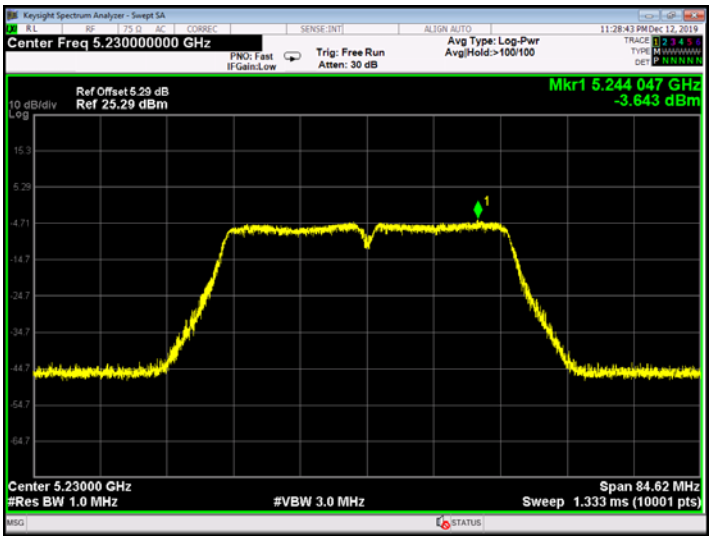
| Antenna A |
| --- |
| 802.11 ac(VHT20) 5180 MHz |
|  |
| 802.11 ac(VHT20) 5200 MHz |
|  |
| 802.11 ac(VHT20) 5240 MHz |
|  |

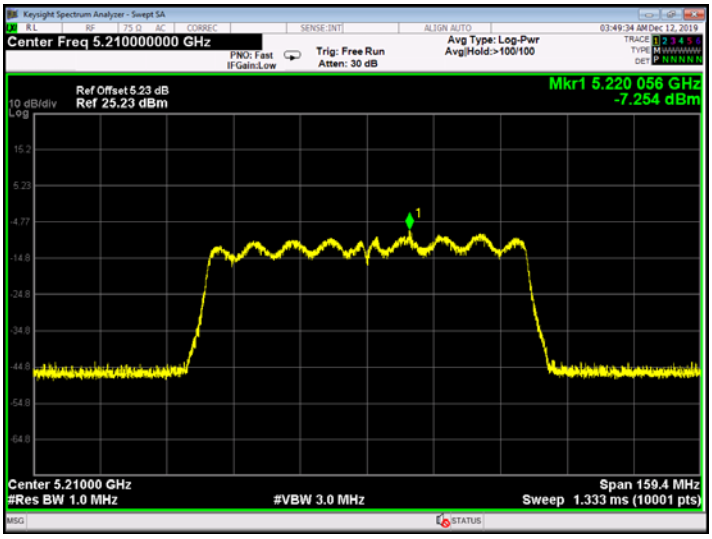
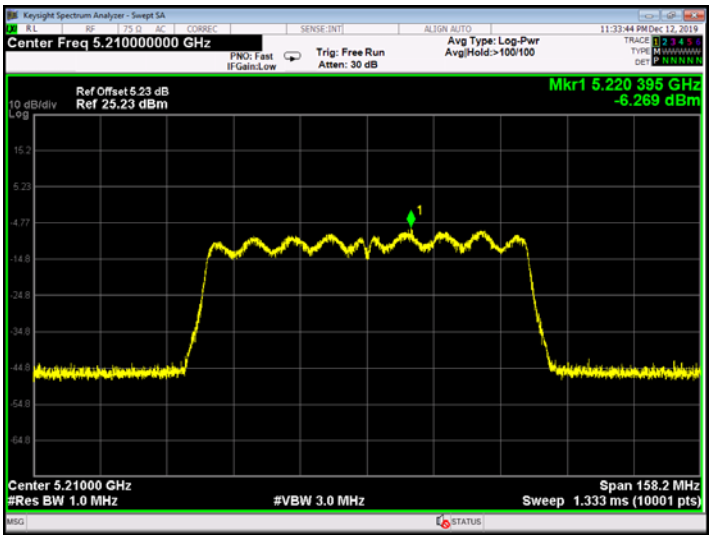
| Antenna B |
| --- |
| 802.11 ac(VHT20) 5180 MHz |
|  |
| 802.11 ac(VHT20) 5200 MHz |
|  |
| 802.11 ac(VHT20) 5240 MHz |
|  |

| Antenna A |
| --- |
| 802.11 n(HT40) 5190 MHz |
|  |
| 802.11 n(HT40) 5230 MHz |
|  |

| Antenna B |
| --- |
| 802.11 n(HT40) 5190 MHz |
|  |
| 802.11 n(HT40) 5230 MHz |
|  |

| Antenna A |
| --- |
| 802.11 ac(VHT40) 5190 MHz |
|  |
| 802.11 ac(VHT40) 5230 MHz |
|  |

| Antenna B |
| --- |
| 802.11 ac(VHT40) 5190 MHz |
|  |
| 802.11 ac(VHT40) 5230 MHz |
|  |

| Antenna A |
| --- |
| 802.11 ac(VHT80) 5210 MHz |
|  |
| Antenna B |
| 802.11 ac(VHT80) 5210 MHz |
|  |

# Attachment G-- Frequency Stability Measurement Test Data

| 801.11a U-NII-1: 5180 MHz | |
|---|---|
| **Voltage vs. Frequency Stability** | |
| **Voltage (V)** | **Measurement Frequency (MHz)** |
| 240 | 5179.9900 |
| 120 | 5179.9300 |
| 100 | 5179.9400 |
| **Max. Deviation (MHz)** | 0.06 |
| **Max. Deviation (ppm)** | 13.52 |
| **Temperature vs. Frequency Stability** | |
| **Temperature (℃)** | **Measurement Frequency (MHz)** |
| 0 | 5179.9800 |
| 10 | 5179.9600 |
| 20 | 5179.9400 |
| 30 | 5179.9300 |
| 40 | 5179.9500 |
| 50 | 5179.9400 |
| **Max. Deviation (MHz)** | 0.06 |
| **Max. Deviation (ppm)** | 13.52 |
| **Limit (ppm)** | **20** |
| **Result** | **Pass** |

**Remark: Worst case at 802.11a U-NII-1 low channel**

**-----END OF REPORT-----**