

FCC / ISED UNII REPORT

Certification

Applicant Name:
LG Electronics Inc.

Date of Issue:
July 23, 2018

Address:
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Gyeonggi-do,451-713, Korea

Test Site/Location:
HCT CO., LTD., 74,Seoicheon-ro 578beon-gil,Majang-
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Report No.: HCT-RF-1807-FI016

ISED Registration Number: 5944A-6

| | |
|-------------------|----------------------------|
| FCC ID: | BEJLGSBWAC92 |
| ISED: | 2703H-LGSBWAC92 |
| APPLICANT: | LG Electronics Inc. |

Model: LGSBWAC92

EUT Type: RF Module

Modulation type OFDM

FCC Classification: Unlicensed National Information Infrastructure(UNII)

FCC Rule Part(s): Part 15.407

ISED Rule Part(s): RSS-247 Issue 2 (February 2017), RSS-Gen Issue 5(April 2018)

| Band | Mode | Channel Bandwidth (MHz) | Frequency Range (MHz) | Ant.0 Power (dBm) | Ant.1 Power (dBm) | Ant. 0 & 1 Power (dBm) |
|--------|----------|-------------------------|-----------------------|-------------------|-------------------|------------------------|
| UNII1 | 802.11a | 20 | 5180 – 5240 | 16.01 | 16.06 | 19.03 |
| | 802.11n | 20 | 5180 – 5240 | 15.84 | 15.83 | 18.85 |
| | 802.11n | 40 | 5190 - 5230 | 15.35 | 15.57 | 18.46 |
| | 802.11ac | 20 | 5180 – 5240 | 15.83 | 15.78 | 18.80 |
| | 802.11ac | 40 | 5190 - 5230 | 15.37 | 15.56 | 18.47 |
| | 802.11ac | 80 | 5210 | 13.55 | 13.38 | 16.46 |
| UNII2A | 802.11a | 20 | 5260 – 5320 | 15.33 | 15.68 | 18.51 |
| | 802.11n | 20 | 5260 – 5320 | 14.61 | 15.41 | 18.01 |
| | 802.11n | 40 | 5270 – 5310 | 14.49 | 14.91 | 17.71 |
| | 802.11ac | 20 | 5260 – 5320 | 14.69 | 15.21 | 17.95 |
| | 802.11ac | 40 | 5270 – 5310 | 14.54 | 15.41 | 18.00 |
| | 802.11ac | 80 | 5290 | 14.41 | 14.69 | 17.56 |
| UNII2C | 802.11a | 20 | 5500 – 5720 | 15.82 | 15.98 | 18.66 |
| | 802.11n | 20 | 5500 – 5720 | 16.29 | 15.34 | 18.46 |
| | 802.11n | 40 | 5510 – 5710 | 15.48 | 15.87 | 18.67 |
| | 802.11ac | 20 | 5500 – 5720 | 15.51 | 15.36 | 18.35 |
| | 802.11ac | 40 | 5510 – 5710 | 15.73 | 15.73 | 18.74 |
| | 802.11ac | 80 | 5530 – 5690 | 16.26 | 15.75 | 19.02 |
| UNII3 | 802.11a | 20 | 5745 – 5825 | 15.35 | 14.46 | 17.91 |
| | 802.11n | 20 | 5745 – 5825 | 15.01 | 14.37 | 17.71 |
| | 802.11n | 40 | 5755 – 5795 | 15.54 | 15.48 | 18.50 |
| | 802.11ac | 20 | 5745 – 5825 | 14.83 | 14.54 | 17.69 |
| | 802.11ac | 40 | 5755 – 5795 | 15.83 | 15.38 | 18.60 |
| | 802.11ac | 80 | 5775 | 15.07 | 14.43 | 17.77 |

Only ISED

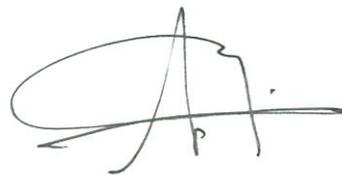
| Band | Mode | Channel Bandwidth (MHz) | Frequency Range (MHz) | Ant.0 Power (dBm) | Ant.1 Power (dBm) | Ant. 0 & 1 Power (dBm) |
|-------|----------|-------------------------|-----------------------|-------------------|-------------------|------------------------|
| UNII1 | 802.11a | 20 | 5180 – 5240 | 13.07 | 12.67 | 15.88 |
| | 802.11n | 20 | 5180 – 5240 | 12.84 | 12.46 | 15.64 |
| | 802.11ac | 20 | 5180 – 5240 | 12.84 | 12.43 | 15.64 |

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC / IC Rules under normal use and maintenance.



Report prepared by : Se Wook Park
Engineer of Telecommunication testing center



Approved by : Jong Seok Lee
Manager of Telecommunication testing center

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Version

| TEST REPORT NO. | DATE | DESCRIPTION |
|-------------------|---------------|-------------------------|
| HCT-RF-1807-FI016 | July 23, 2018 | - First Approval Report |
| | | |
| | | |
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1. GENERAL INFORMATION

Applicant: LG Electronics Inc.
Address: 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do,451-713, Korea
FCC ID: BEJLGSBWAC92
IC: 2703H-LGSBWAC92
EUT Type: RF Module
Model: LGSBWAC92
Date(s) of Tests: MAY 11, 2018 ~ July 20, 2018
Place of Tests: HCT Co., Ltd.
 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea

2. EUT DESCRIPTION

| | | |
|------------------------------|---|---|
| Model | LGSBWAC92 | |
| EUT Type | RF Module | |
| Power Supply | 3.30 V | |
| Frequency Range | TX_20 MHz BW: | 5180 MHz - 5240 MHz (UNII 1) / 5260 MHz - 5320 MHz (UNII 2A) / 5500 MHz - 5720 MHz (UNII 2C) / 5745 MHz - 5825 MHz (UNII 3) |
| | 40 MHz BW: | 5190 MHz - 5230 MHz (UNII 1) / 5270 MHz - 5310 MHz (UNII 2A) / 5510 MHz - 5710 MHz (UNII 2C) / 5755 MHz - 5795 MHz (UNII 3) |
| | 80 MHz BW: | 5210 MHz (UNII 1) / 5290 MHz (UNII 2A) / 5530 - 5690 MHz (UNII 2C) / 5775 MHz (UNII 3) |
| | RX_20 MHz BW: | 5180 MHz - 5240 MHz (UNII 1) / 5260 MHz - 5320 MHz (UNII 2A) / 5500 MHz - 5720 MHz (UNII 2C) / 5745 MHz - 5825 MHz (UNII 3) |
| | 40 MHz BW: | 5190 MHz - 5230 MHz (UNII 1) / 5270 MHz - 5310 MHz (UNII 2A) / 5510 MHz - 5710 MHz (UNII 2C) / 5755 MHz - 5795 MHz (UNII 3) |
| | 80 MHz BW: | 5210 MHz (UNII 1) / 5290 MHz (UNII 2A) / 5530 - 5690 MHz (UNII 2C) / 5775 MHz (UNII 3) |
| Modulation Type | OFDM(802.11a, 802.11n, 802.11ac) | |
| Antenna Specification | Manufacturer: LG Innotek Co., Ltd. Antenna type: Internal Antenna Peak Gain : cf. Section 6 | |

2.1 EUT OPERATING MODE

■ Operating mode

| Mode | Operating Mode | Operating Ant. |
|--------------|----------------|----------------|
| 802.11a/n/ac | SISO | Ant 0 |
| | | Ant 1 |
| | MIMO | Ant 0 & 1 |

Note : We have done all test case. Worst case is MIMO(CDD) for 802.11a/n/ac mode. So, we attached the result of MIMO(CDD) for 802.11a/n/ac mode

3. TEST METHODOLOGY

The measurement procedure described in FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 dated May 2, 2017 entitled "Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part15, Subpart E" and ANSI C63.10(Version : 2013) 'the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices' were used in the measurement. For 802.11ac, KDB644545 D03 v01 dated August 14, 2014

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.407 under the FCC Rules Part 15 Subpart E / RSS-Gen issue 5, RSS-247 issue 2.

3.3 GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1GHz. Above 1GHz with 1.5m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 8 of ANSI C63.10. (Version: 2013)

Conducted Antenna Terminal

See Section from 8.1 to 8.4.(KDB 789033 D02 v02r01)

3.4 DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

Channel low, mid and high with highest data rate (worst case) is chosen for full testing.

4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2006).

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 07, 2015 (Registration Number: 90661)

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203, §15.407

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached 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 antennas of this E.U.T are permanently attached.

* The E.U.T Complies with the requirement of §15.203, §15.407 / RSS-Gen

■ **Directional Gain Calculations**

▪ According to KDB662911 D01 Multiple Transmitter Output v02r01

▪ **If any transmit signals are correlated with each other (CDD)**

$$\text{Directional gain} = 10 \cdot \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N] \text{ dBi}$$

▪ **If all antennas have the same gain, G_{ANT}**

Cyclic Delay Diversity ($N_{ANT} = 2, 3, 4 / N_{ss} = 1$)

- Directional gain(dBi) = G_{ANT} + Array Gain
- Array Gain(PSD) = $10 \log(N_{ANT}/N_{ss})$ dB.
- Array Gain(Power) = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$

■ **Antenna Gain (Power)**

5GHz Band (UNII 1)

| | | |
|--------------------------|-----------|----------|
| Antenna Gain | Ant 0 | 1.48 dBi |
| | Ant 1 | 1.50 dBi |
| Directional Antenna Gain | Ant 0 & 1 | 4.50 dBi |

5GHz Band (UNII 2A)

| | | |
|--------------------------|-----------|----------|
| Antenna Gain | Ant 0 | 1.50 dBi |
| | Ant 1 | 1.50 dBi |
| Directional Antenna Gain | Ant 0 & 1 | 1.50 dBi |

5GHz Band (UNII 2C)

| | | |
|--------------------------|-----------|----------|
| Antenna Gain | Ant 0 | 1.50 dBi |
| | Ant 1 | 1.50 dBi |
| Directional Antenna Gain | Ant 0 & 1 | 1.50 dBi |

5GHz Band (UNII 3)

| | | |
|--------------------------|-----------|----------|
| Antenna Gain | Ant 0 | 1.44 dBi |
| | Ant 1 | 1.49 dBi |
| Directional Antenna Gain | Ant 0 & 1 | 4.48 dBi |

■ Antenna Gain (PSD)

5GHz Band (UNII 1)

| | | |
|--------------------------|-----------|----------|
| Antenna Gain | Ant 0 | 1.48 dBi |
| | Ant 1 | 1.50 dBi |
| Directional Antenna Gain | Ant 0 & 1 | 4.50 dBi |

5GHz Band (UNII 2A)

| | | |
|--------------------------|-----------|----------|
| Antenna Gain | Ant 0 | 1.50 dBi |
| | Ant 1 | 1.50 dBi |
| Directional Antenna Gain | Ant 0 & 1 | 4.51 dBi |

5GHz Band (UNII 2C)

| | | |
|--------------------------|-----------|----------|
| Antenna Gain | Ant 0 | 1.50 dBi |
| | Ant 1 | 1.50 dBi |
| Directional Antenna Gain | Ant 0 & 1 | 4.51 dBi |

5GHz Band (UNII 3)

| | | |
|--------------------------|-----------|----------|
| Antenna Gain | Ant 0 | 1.44 dBi |
| | Ant 1 | 1.49 dBi |
| Directional Antenna Gain | Ant 0 & 1 | 4.48 dBi |

7. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence.

| Parameter | Expanded Uncertainty (\pm dB) |
|--|----------------------------------|
| Conducted Disturbance (150 kHz ~ 30 MHz) | 1.82 |
| Radiated Disturbance (9 kHz ~ 30 MHz) | 3.40 |
| Radiated Disturbance (30 MHz ~ 1 GHz) | 4.80 |
| Radiated Disturbance (1 GHz ~ 18 GHz) | 5.70 |
| Radiated Disturbance (18 GHz ~ 40 GHz) | 5.71 |

8. SUMMARY OF TEST RESULTS

8.1 FCC Part

| Test Description | FCC Part Section(s) | Test Limit | Test Condition | Test Result |
|--|---------------------------------|--|----------------|----------------|
| 26dB Bandwidth | §15.407 (for Power Measurement) | N/A | CONDUCTED | PASS |
| 6 dB Bandwidth | §15.407(e) | >500 kHz (5725-5850 MHz) | | PASS |
| Maximum Conducted Output Power | §15.407(a) | < 250 mW (5150-5250 MHz) < 250 mW or 11+10 log log ₁₀ (BW) dBm (5250-5350 MHz) < 250 mW or 11+10 log log ₁₀ (BW) dBm (5470-5725 MHz) <1 W (5725-5850 MHz) | | PASS |
| Transmit Power Control (TPC) | §15.407(h)(1) | The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. | | N/A (See Note) |
| Peak Power Spectral Density | §15.407(a) | <11 dBm/ MHz (5150-5250 MHz) <11 dBm/ MHz (5250-5350 MHz) <11 dBm/ MHz (5470-5725 MHz) <30 dBm/500 kHz(5725-5850 MHz) | | PASS |
| Frequency Stability | §15.407(g) | NA | | PASS |
| AC Conducted Emissions 150 kHz-30 MHz | 15.207 | <FCC 15.207 limits | | PASS |
| Undesirable Emissions | §15.407(b) | <-27 dBm/MHz EIRP (UNII1, 2A, 2C) cf. Section 9.7.1 (UNII 3) | | RADIATED |
| General Field Strength Limits(Restricted Bands and Radiated Emission Limits) | 15.205, 15.407(b)(5), (6) | Emissions in restricted bands must meet the radiated limits detailed in 15.209 | PASS | |

Note:

E.I.R.P of LGSBWAC92 is less than the 27dBm.

Therefore, TPC test is not required for systems with an e.i.r.p of less than 500 mW(=27dBm).

8.2 ISED Part

| Test Description | IC Part Section(s) | Test Limit | Test Condition | Test Result |
|--|-------------------------------|--|----------------|-------------------|
| 99% Bandwidth | RSS-GEN, 6.7 | NA | CONDUCTED | PASS |
| 6 dB Bandwidth | RSS-247, 6.2.4.1 | > 500 kHz (5725~5850 MHz) | | PASS |
| Maximum Conducted Output Power, | RSS-247, 6.2 | < 250 mW or 11+10 log ₁₀ (BW) dBm (5250-5350 MHz) < 250 mW or 11+10 log ₁₀ (BW) dBm (5470-5600, 5650-5725 MHz) Whichever power is less | | PASS |
| | RSS-247, 6.2.4.1 | <1 W (5725-5850 MHz) | | |
| Transmit Power Control (TPC) | RSS-247, 6.2.2.1 | The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. | | N/A (See Note) |
| Maximum e.i.r.p | RSS-247, 6.2 | < 200 mW or 10+10 log ₁₀ (BW) dBm (5150-5250 MHz) < 1 W or 17+10 log ₁₀ (BW) dBm (5250-5350 MHz) < 1 W or 17+10 log ₁₀ (BW) dBm (5470-5725 MHz) Whichever power is less | | PASS |
| Power Spectral Density | RSS-247 6.2 | <10 dBm/ MHz(e.i.r.p.) (5150-5250 MHz) <11 dBm/MHz(Conducted) (5250-5350 MHz, 5470-5600 MHz, 5650-5725 MHz) | | PASS |
| | RSS-247, 6.2.4.1 | <30 dBm/500 kHz(Conducted) (5725-5850 MHz) | | |
| AC Conducted Emissions 150 kHz-30 MHz | RSS-GEN, 8.8 | RSS-GEN section 8.8 table 4 | | NA |
| Undesirable Emissions | RSS-247, 6.2.1.2 | 26 dBc at 5250~5350 MHz (5150~5350 MHz) | | PASS |
| | RSS-247, 6.2 | <-27 dBm/ MHz EIRP (5150-5350 MHz, 5470-5725 MHz) | PASS | |
| | RSS-247, 6.2.4.2 | cf. Section 9.7.1 (UNII 3) | | |
| General Field Strength Limits(Restricted Bands and Radiated Emission Limits) | RSS-Gen, 8.9 RSS-Gen, 8.10 | RSS-Gen section 8.9 table 5, 6 section 8.10 table 7 | RADIATED | PASS |
| Receiver Spurious Emissions | RSS-GEN, 5 RSS-GEN, 7.3 | RSS-GEN section 7.3 table 3 | PASS | |

Note:

E.I.R.P of LGSBWAC92 is less than the 27dBm.

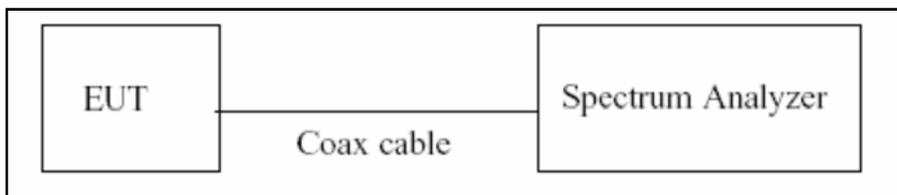
Therefore, TPC test is not required for systems with an e.i.r.p of less than 500 mW(=27dBm).

9. TEST RESULT

9.1 DUTY CYCLE

The zero-span mode on a spectrum analyzer or EMI receiver ,if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set $RBW \geq EBW$ if possible; otherwise, set RBW to the largest available value. Set $VBW \geq RBW$. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are $> 50/T$, where T is defined in section B)1)a), and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if $T \leq 16.7$ microseconds.)

■ TEST CONFIGURATION



■ TEST PROCEDURE

The transmitter output is connected to the Spectrum Analyzer. We tested according to the zero-span measurement method, (B.2 in KDB 789033 D02 v02r01)

The largest available value of RBW is 8 MHz and VBW is 50 MHz. The zero-span method of measuring duty cycle shall not be used if $T \leq 6.25$ microseconds. ($50/6.25 = 8$)

The zero-span method was used because all measured T data are > 6.25 microseconds and both RBW and VBW are $> 50/T$.

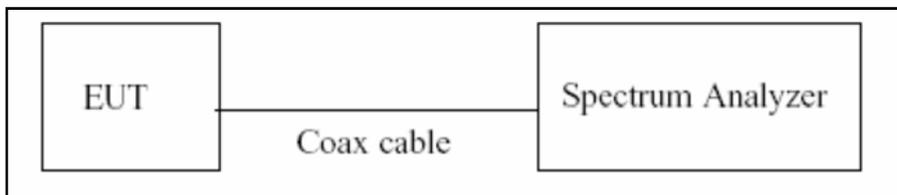
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz (\geq RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = T_{on} / T_{total} and Duty Cycle Factor = $10 \cdot \log(1/\text{Duty Cycle})$

9.2 EMISSION BANDWIDTH AND MINIMUM EMISSION BANDWIDTH MEASUREMENT FOR FCC

The bandwidth at 26 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum power control level, as defined in KDB 789033 D02 v02r01, at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26 dB bandwidth.

The 26 dB bandwidth is used to determine the conducted power limits.

■ TEST CONFIGURATION



■ TEST PROCEDURE (26dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to (C.1 in KDB 789033 D02 v02r01)

1. RBW = approximately 1 % of the emission bandwidth
2. VBW > RBW
3. Detector = Peak
4. Trace mode = max hold
5. Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %.

Note : We tested 26 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 26 dB.

1. In order to simplify the report, attached plots were only the most wide channel.
2. DFS test channels should be defined. So, We performed the OBW test to prove that no part of the fundamental emissions of any channels belong to UNII1 and UNII3 band for DFS.

■ TEST PROCEDURE (for the band 5.725-5.85 GHz, 6 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to(C.2 in KDB 789033 D02 v02r01)

1. RBW = 100 kHz
2. VBW \geq 3*RBW
3. Detector = Peak
4. Trace mode = max hold
5. Allow the trace to stabilize
6. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points(upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note : We tested 6 dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer. X dB is set 6 dB.

■ **TEST RESULTS for Ant.0_802.11a**

Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 19.99 | N/A | Pass |
| 5200 | 40 | 19.84 | N/A | Pass |
| 5240 | 48 | 19.73 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 19.64 | N/A | Pass |
| 5300 | 60 | 19.72 | N/A | Pass |
| 5320 | 64 | 19.91 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11a

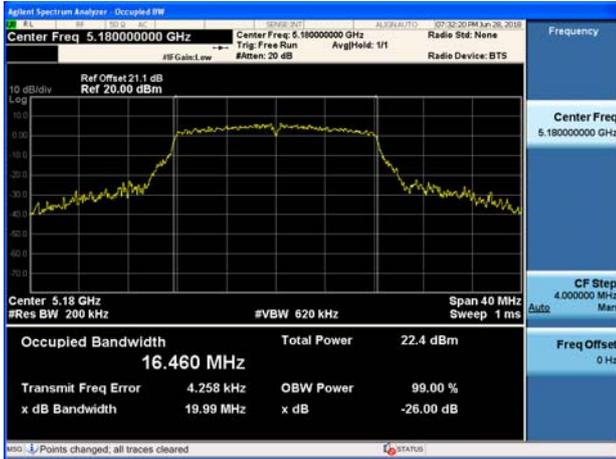
| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 20.29 | N/A | Pass |
| 5580 | 116 | 19.96 | N/A | Pass |
| 5720 | 144 | 20.72 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11a

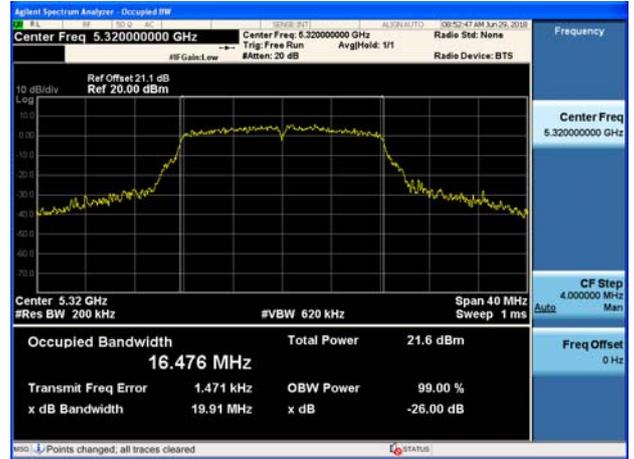
| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 20.08 | N/A | Pass |
| 5785 | 157 | 20.21 | N/A | Pass |
| 5825 | 165 | 19.89 | N/A | Pass |

■ TEST Plot for Ant.0_802.11a

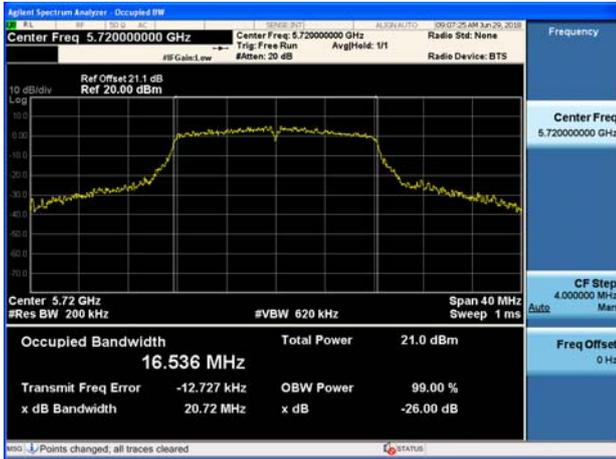
802.11a UNII 1 BAND 26dB Bandwidth (CH 36)



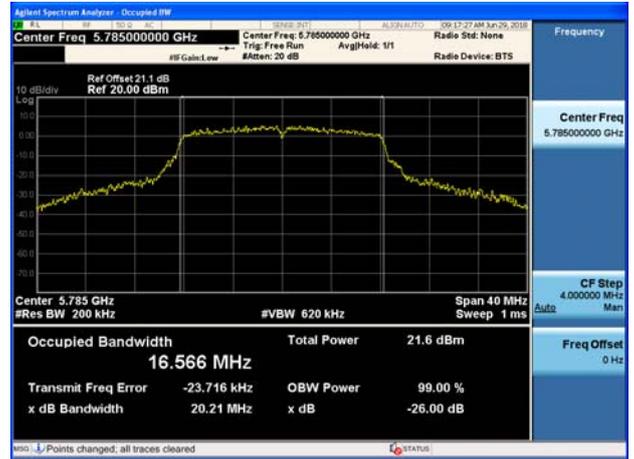
802.11a UNII 2A BAND 26dB Bandwidth (CH 64)



802.11a UNII 2C BAND 26dB Bandwidth (CH 144)



802.11a UNII 3 BAND 26dB Bandwidth (CH 157)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_802.11a**

Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 19.78 | N/A | Pass |
| 5200 | 40 | 20.09 | N/A | Pass |
| 5240 | 48 | 19.99 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 19.90 | N/A | Pass |
| 5300 | 60 | 19.71 | N/A | Pass |
| 5320 | 64 | 20.03 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 20.75 | N/A | Pass |
| 5580 | 116 | 20.42 | N/A | Pass |
| 5720 | 144 | 25.53 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11a

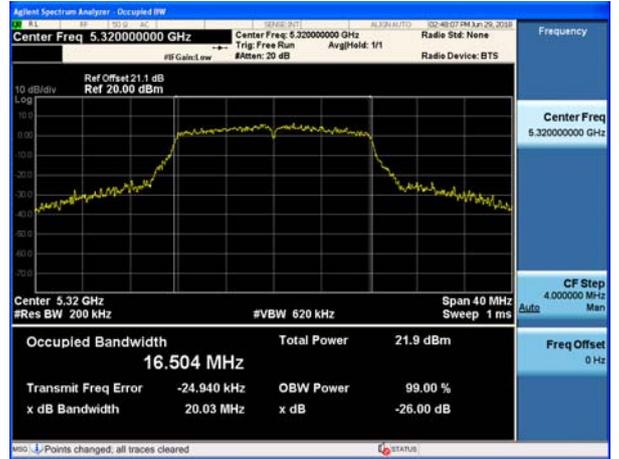
| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 20.93 | N/A | Pass |
| 5785 | 157 | 20.21 | N/A | Pass |
| 5825 | 165 | 19.82 | N/A | Pass |

■ TEST Plot for Ant.1_802.11a

802.11a UNII 1 BAND 26dB Bandwidth (CH 40)



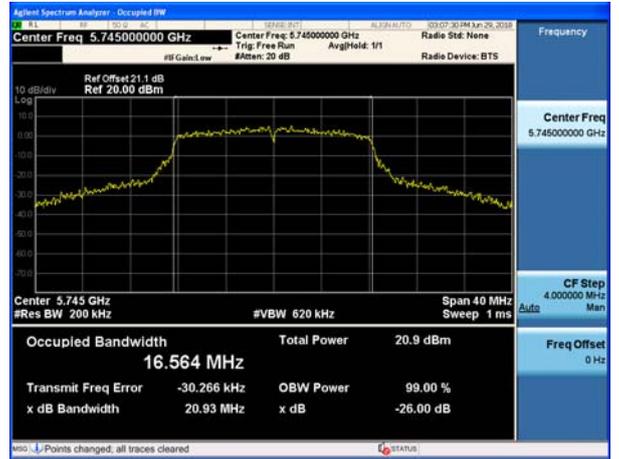
802.11a UNII 2A BAND 26dB Bandwidth (CH 64)



802.11a UNII 2C BAND 26dB Bandwidth (CH 144)



802.11a UNII 3 BAND 26dB Bandwidth (CH 149)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ TEST RESULTS for Ant.0_802.11n_HT20

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 20.09 | N/A | Pass |
| 5200 | 40 | 20.03 | N/A | Pass |
| 5240 | 48 | 20.37 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 20.08 | N/A | Pass |
| 5300 | 60 | 20.10 | N/A | Pass |
| 5320 | 64 | 19.96 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

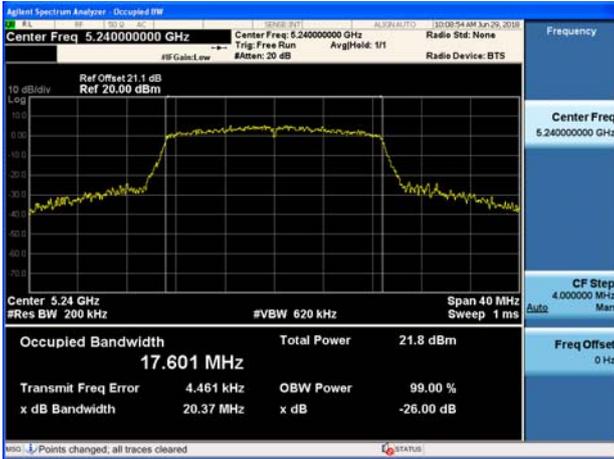
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 20.34 | N/A | Pass |
| 5580 | 116 | 20.22 | N/A | Pass |
| 5720 | 144 | 27.53 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

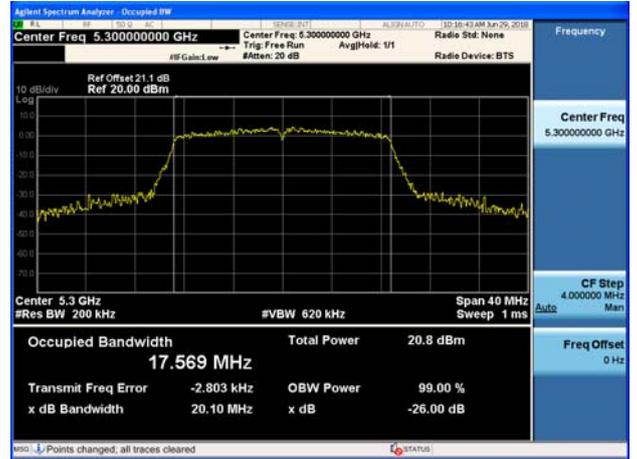
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 21.00 | N/A | Pass |
| 5785 | 157 | 23.00 | N/A | Pass |
| 5825 | 165 | 20.13 | N/A | Pass |

TEST Plot for Ant.0_802.11n_HT20

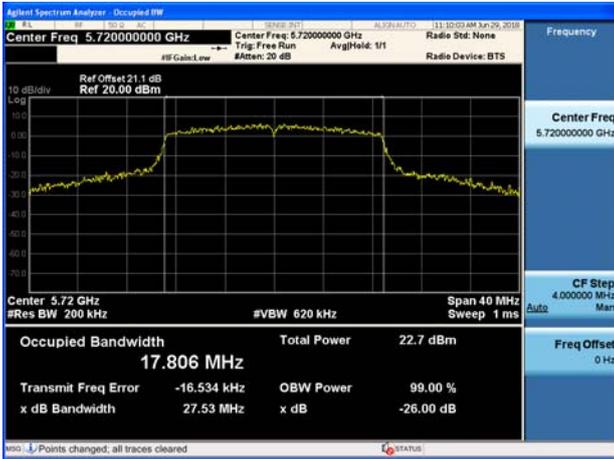
802.11n_HT20 UNII 1 BAND 26dB Bandwidth(CH 48)



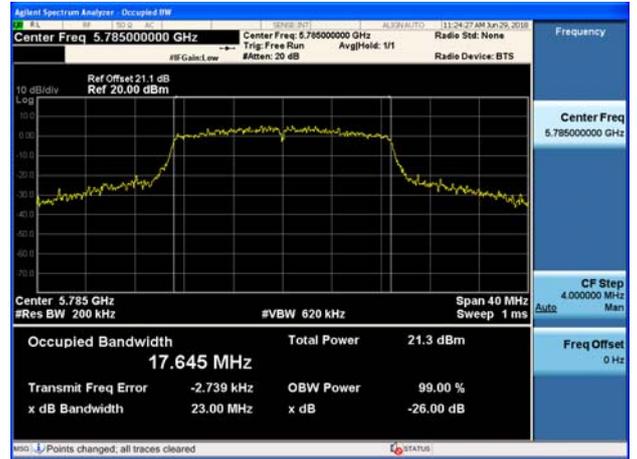
802.11n_HT20 UNII 2A BAND 26dB Bandwidth(CH 60)



802.11n_HT20 UNII 2C BAND 26dB Bandwidth(CH 144)



802.11n_HT20 UNII 3 BAND 26dB Bandwidth(CH 157)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_802.11n_HT20**

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 20.09 | N/A | Pass |
| 5200 | 40 | 20.36 | N/A | Pass |
| 5240 | 48 | 20.24 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 20.08 | N/A | Pass |
| 5300 | 60 | 20.17 | N/A | Pass |
| 5320 | 64 | 20.27 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

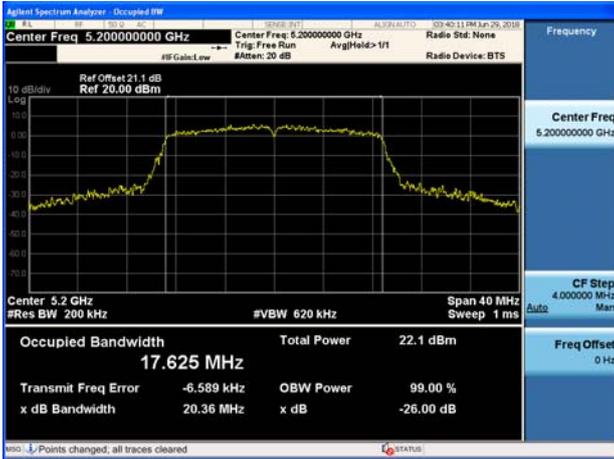
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 23.53 | N/A | Pass |
| 5580 | 116 | 20.60 | N/A | Pass |
| 5720 | 144 | 21.02 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT20

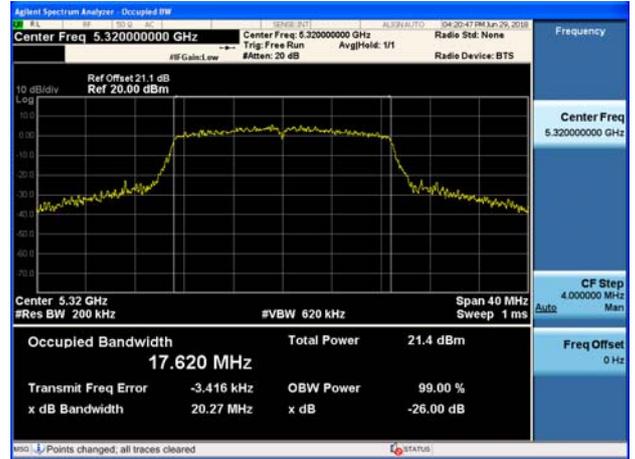
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 23.50 | N/A | Pass |
| 5785 | 157 | 21.27 | N/A | Pass |
| 5825 | 165 | 20.35 | N/A | Pass |

TEST Plot for Ant.1_802.11n_HT20

802.11n_HT20 UNII 1 BAND 26dB Bandwidth(CH 40)



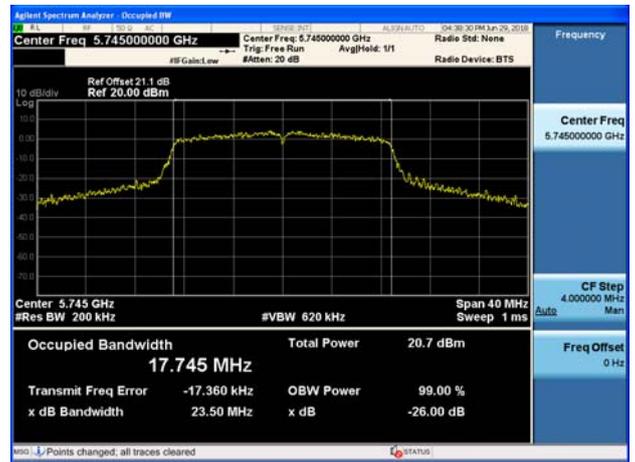
802.11n_HT20 UNII 2A BAND 26dB Bandwidth(CH 64)



802.11n_HT20 UNII 2C BAND 26dB Bandwidth(CH 100)



802.11n_HT20 UNII 3 BAND 26dB Bandwidth(CH 149)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.0_ 802.11ac_VHT20**

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 20.10 | N/A | Pass |
| 5200 | 40 | 20.43 | N/A | Pass |
| 5240 | 48 | 20.03 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 20.15 | N/A | Pass |
| 5300 | 60 | 20.15 | N/A | Pass |
| 5320 | 64 | 20.22 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 20.46 | N/A | Pass |
| 5580 | 116 | 21.17 | N/A | Pass |
| 5720 | 144 | 20.59 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 22.72 | N/A | Pass |
| 5785 | 157 | 22.89 | N/A | Pass |
| 5825 | 165 | 20.21 | N/A | Pass |

TEST Plot for Ant.0_ 802.11ac_VHT20

802.11ac_VHT20 UNII 1 BAND 26dB Bandwidth(CH 40)



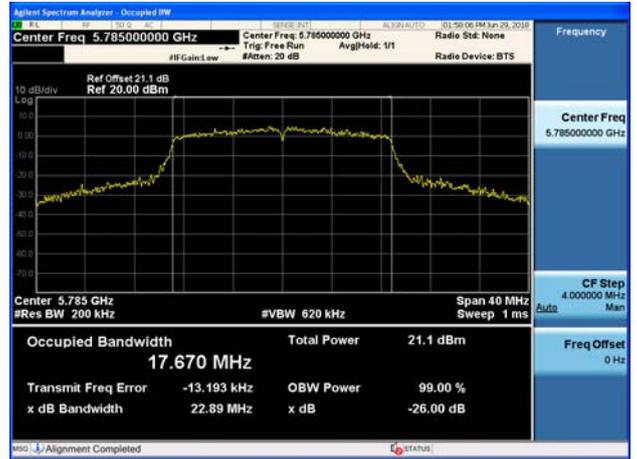
802.11ac_VHT20 UNII 2A BAND 26dB Bandwidth(CH 64)



802.11ac_VHT20 UNII 2C BAND 26dB Bandwidth(CH 116)



802.11ac_VHT20 UNII 3 BAND 26dB Bandwidth(CH 157)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_ 802.11ac_VHT20**

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 20.30 | N/A | Pass |
| 5200 | 40 | 20.28 | N/A | Pass |
| 5240 | 48 | 20.41 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 20.14 | N/A | Pass |
| 5300 | 60 | 20.17 | N/A | Pass |
| 5320 | 64 | 20.10 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

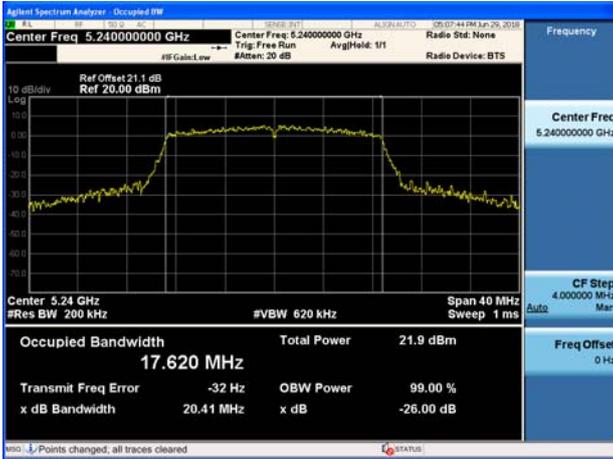
| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 20.59 | N/A | Pass |
| 5580 | 116 | 20.53 | N/A | Pass |
| 5720 | 144 | 22.99 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT20

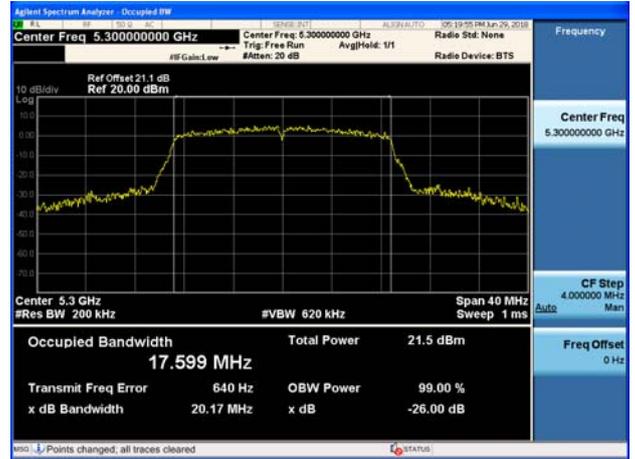
| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 23.53 | N/A | Pass |
| 5785 | 157 | 23.37 | N/A | Pass |
| 5825 | 165 | 20.08 | N/A | Pass |

TEST Plot for Ant.1_ 802.11ac_VHT20

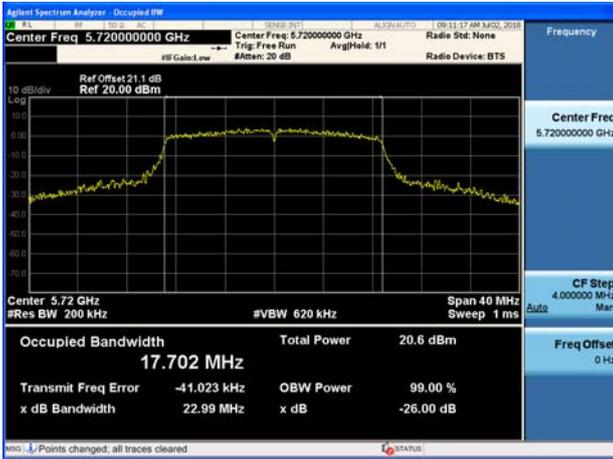
802.11ac_VHT20 UNII 1 BAND 26dB Bandwidth(CH 48)



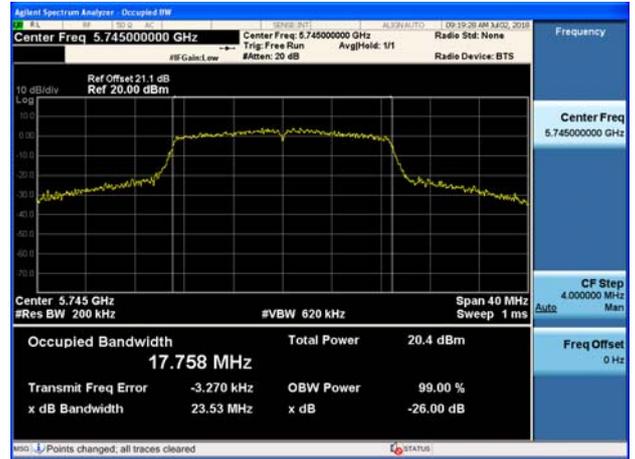
802.11ac_VHT20 UNII 2A BAND 26dB Bandwidth(CH 60)



802.11ac_VHT20 UNII 2C BAND 26dB Bandwidth(CH 144)



802.11ac_VHT20 UNII 3 BAND 26dB Bandwidth(CH 149)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.0_802.11n_HT40**

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5190 | 38 | 40.20 | N/A | Pass |
| 5230 | 46 | 40.46 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5270 | 54 | 40.03 | N/A | Pass |
| 5310 | 62 | 39.92 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

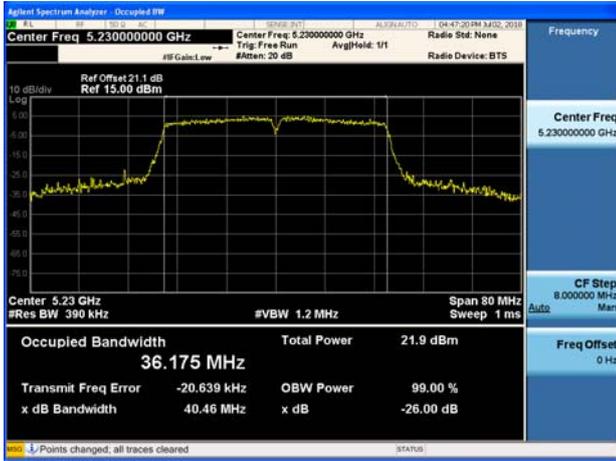
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5510 | 102 | 40.31 | N/A | Pass |
| 5550 | 110 | 40.89 | N/A | Pass |
| 5710 | 142 | 56.12 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

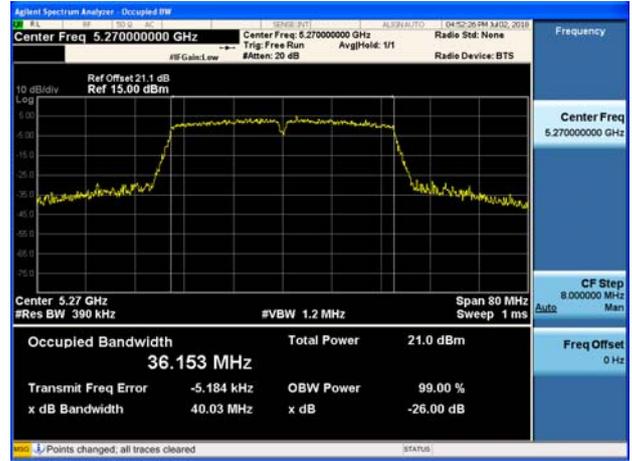
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 53.18 | N/A | Pass |
| 5795 | 159 | 41.56 | N/A | Pass |

TEST Plot for Ant.0_802.11n_HT40

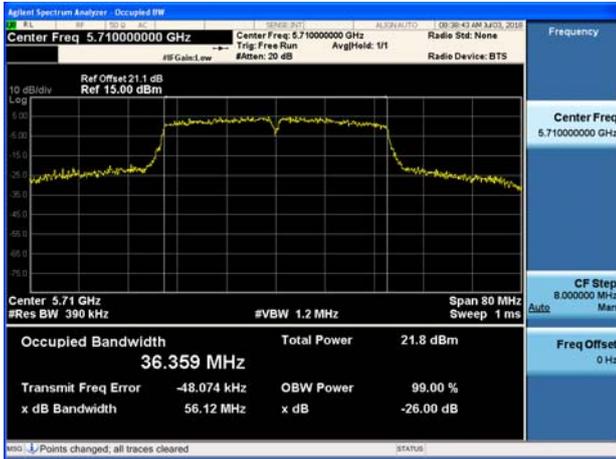
802.11n_HT40 UNII 1 BAND 26dB Bandwidth(CH 46)



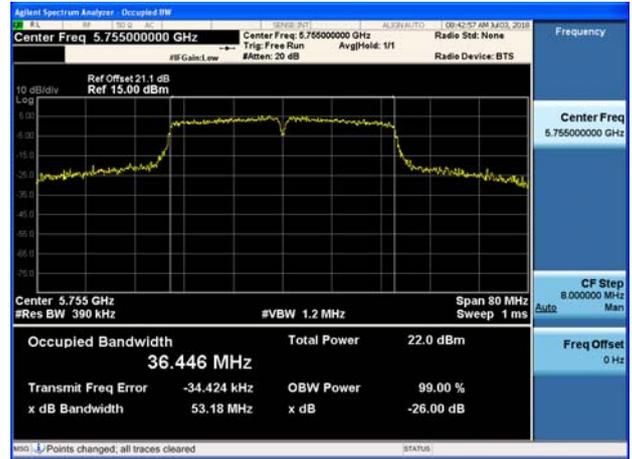
802.11n_HT40 UNII 2A BAND 26dB Bandwidth (CH 54)



802.11n_HT40 UNII 2C BAND 26dB Bandwidth(CH 142)



802.11n_HT40 UNII 3 BAND 26dB Bandwidth (CH 151)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_802.11n_HT40**

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5190 | 38 | 40.46 | N/A | Pass |
| 5230 | 46 | 40.32 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5270 | 54 | 40.67 | N/A | Pass |
| 5310 | 62 | 40.64 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

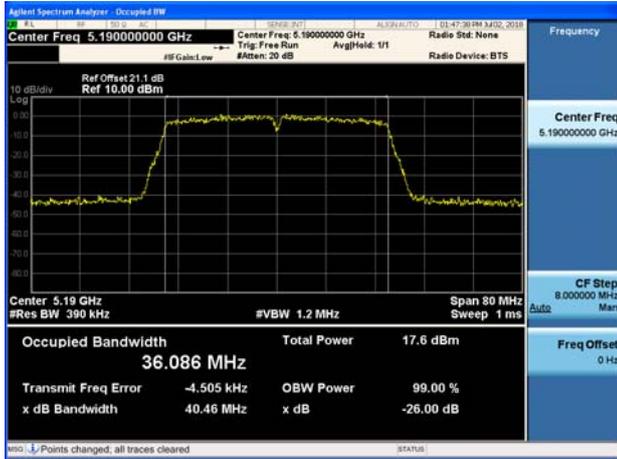
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5510 | 102 | 40.26 | N/A | Pass |
| 5550 | 110 | 43.15 | N/A | Pass |
| 5710 | 142 | 41.36 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11n_HT40

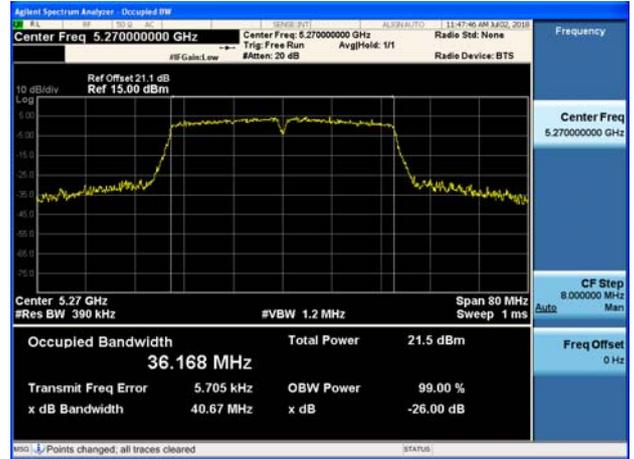
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 52.26 | N/A | Pass |
| 5795 | 159 | 41.03 | N/A | Pass |

TEST Plot for Ant.1_802.11n_HT40

802.11n_HT40 UNII 1 BAND 26dB Bandwidth(CH 38)



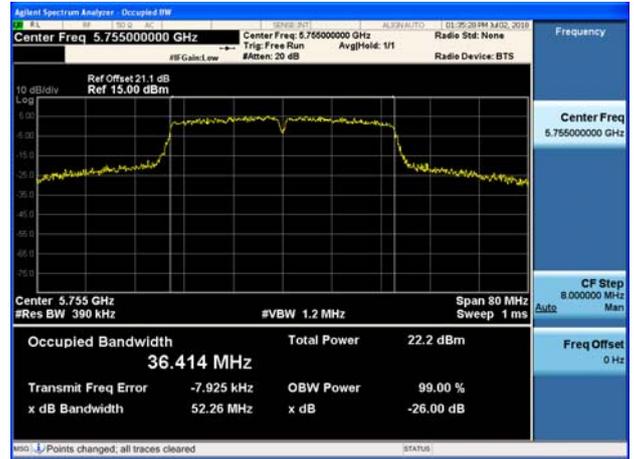
802.11n_HT40 UNII 2A BAND 26dB Bandwidth (CH 54)



802.11n_HT40 UNII 2C BAND 26dB Bandwidth(CH 110)



802.11n_HT40 UNII 3 BAND 26dB Bandwidth (CH 151)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.0_802.11ac_VHT40**

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5190 | 38 | 40.29 | N/A | Pass |
| 5230 | 46 | 41.25 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5270 | 54 | 40.36 | N/A | Pass |
| 5310 | 62 | 40.49 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

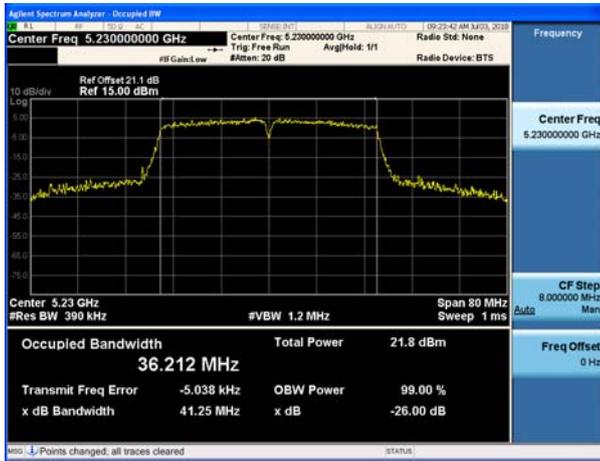
| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5510 | 102 | 40.48 | N/A | Pass |
| 5550 | 110 | 41.29 | N/A | Pass |
| 5710 | 142 | 45.80 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

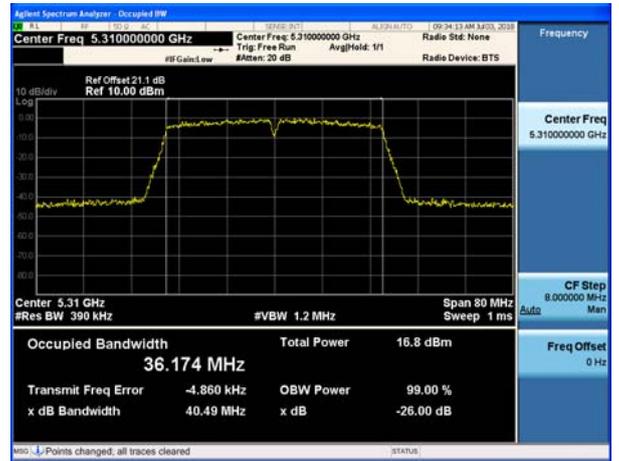
| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 54.76 | N/A | Pass |
| 5795 | 159 | 44.79 | N/A | Pass |

■ TEST Plot for Ant.0_802.11ac_VHT40

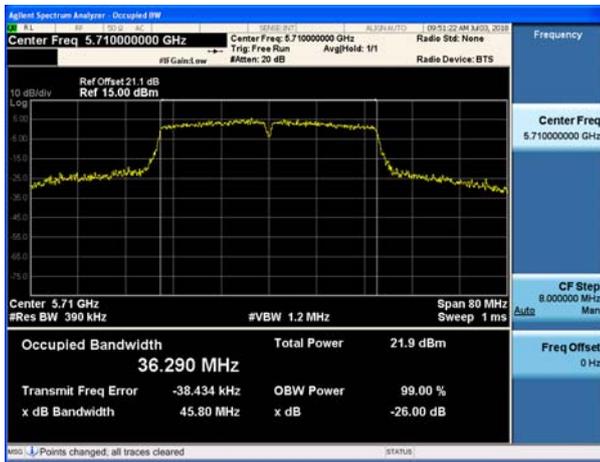
802.11ac_VHT40 UNII 1 BAND 26dB Bandwidth(CH 46)



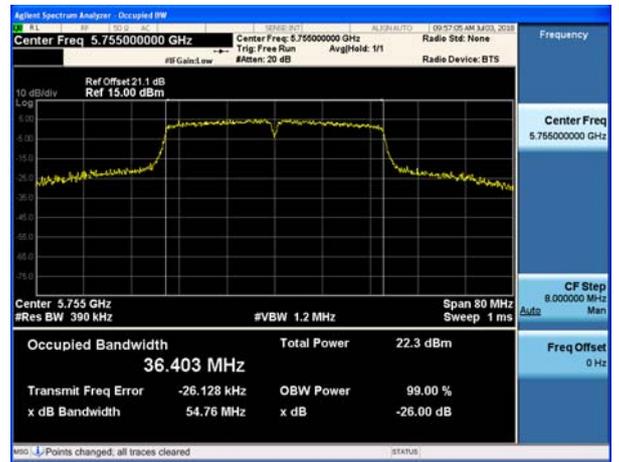
802.11ac_VHT40 UNII 2A BAND 26dB Bandwidth (CH 62)



802.11ac_VHT40 UNII 2C BAND 26dB Bandwidth(CH 142)



802.11ac_VHT40 UNII 3 BAND 26dB Bandwidth (CH 151)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_802.11ac_VHT40**

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5190 | 38 | 40.51 | N/A | Pass |
| 5230 | 46 | 40.62 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5270 | 54 | 40.58 | N/A | Pass |
| 5310 | 62 | 40.25 | N/A | Pass |

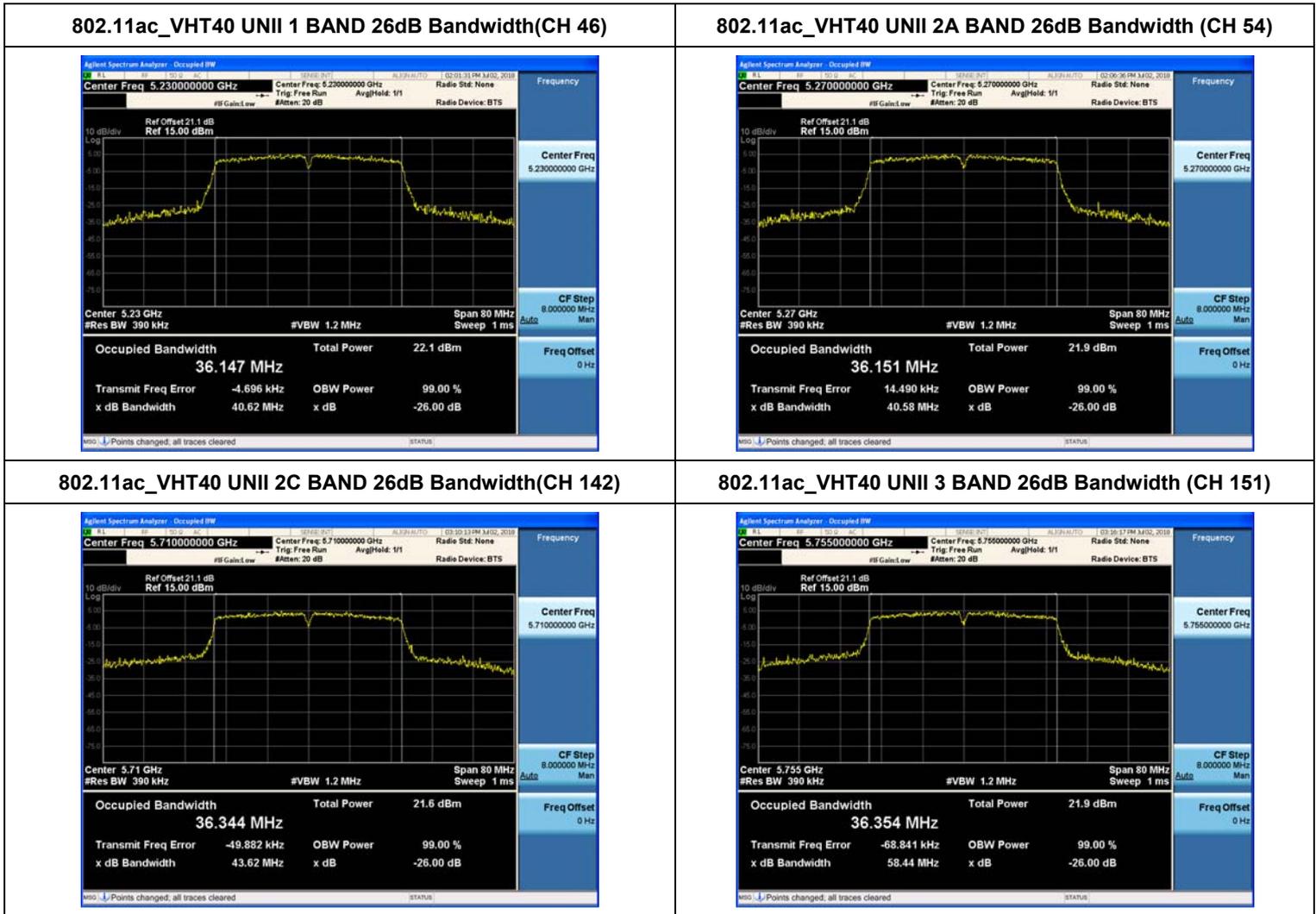
Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5510 | 102 | 40.55 | N/A | Pass |
| 5550 | 110 | 41.78 | N/A | Pass |
| 5710 | 142 | 43.62 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 58.44 | N/A | Pass |
| 5795 | 159 | 45.36 | N/A | Pass |

TEST Plot for Ant.1_802.11ac_VHT40



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.0_802.11ac_VHT80**

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5210 | 42 | 80.84 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5290 | 58 | 81.11 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5530 | 106 | 81.23 | N/A | Pass |
| 5690 | 138 | 78.68 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

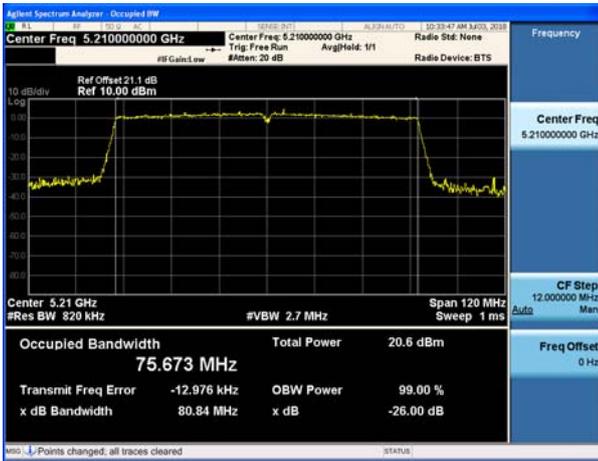
| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5775 | 155 | 78.41 | N/A | Pass |

Note :

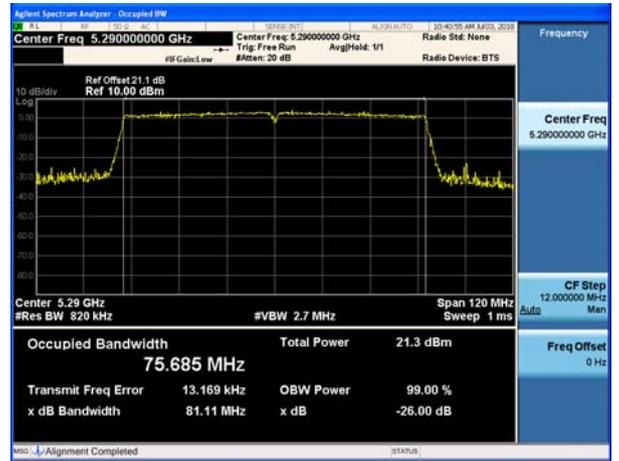
1. In order to simplify the report, attached plots were only the most wide channel.
2. DFS test channels should be defined. So, We performed the OBW test to prove that no part of the fundamental emissions of any channels belong to UNII1 and UNII3 band for DFS.

■ TEST Plot for Ant.0_802.11ac_VHT80

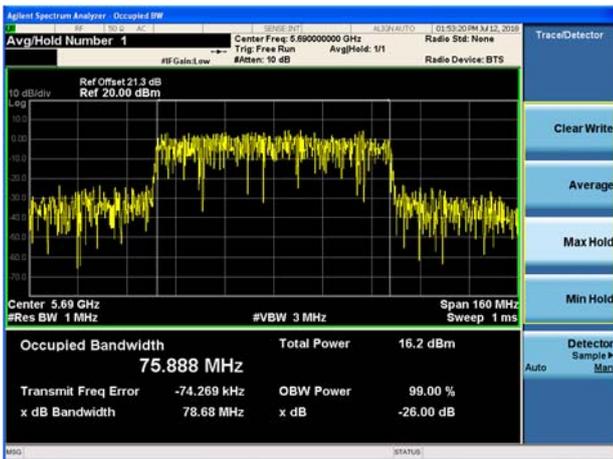
802.11ac_VHT80 UNII 1 BAND 26dB Bandwidth(CH 42)



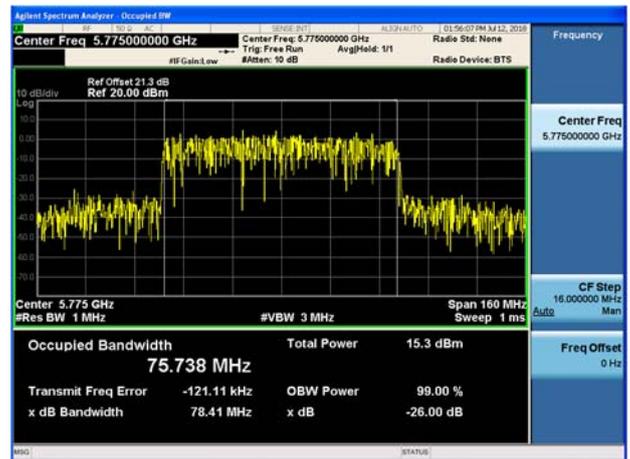
802.11ac_VHT80 UNII 2A BAND 26dB Bandwidth(CH 58)



802.11ac_VHT80 UNII 2C BAND 26dB Bandwidth(CH 138)



802.11ac_VHT80 UNII 3 BAND 26dB Bandwidth(CH 155)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_802.11ac_VHT80**

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5210 | 42 | 81.02 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5290 | 58 | 80.95 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5530 | 106 | 80.69 | N/A | Pass |
| 5690 | 138 | 78.49 | N/A | Pass |

Conducted 26 dB Bandwidth Measurements for 802.11ac_VHT80

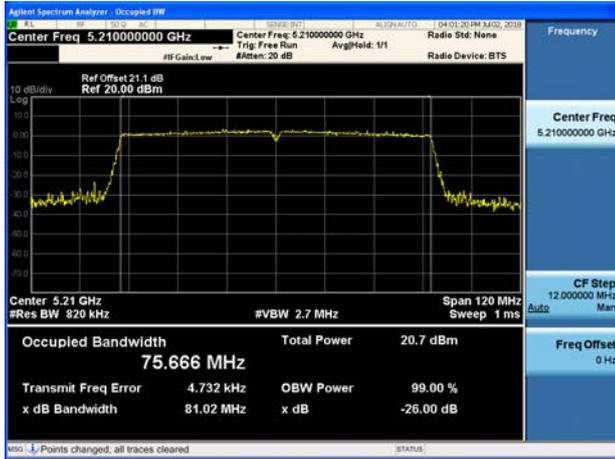
| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5775 | 155 | 90.47 | N/A | Pass |

Note :

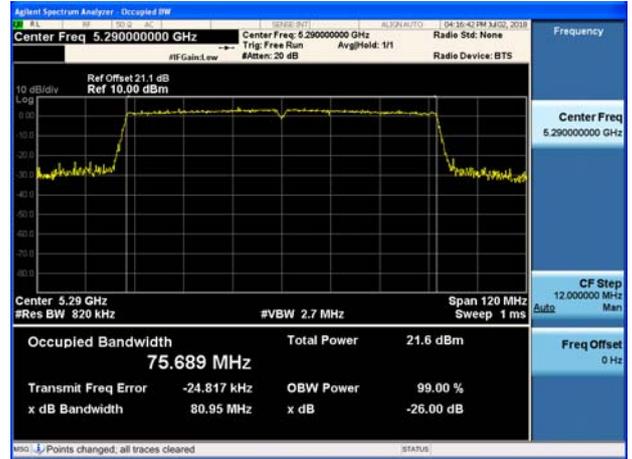
1. In order to simplify the report, attached plots were only the most wide channel.
2. DFS test channels should be defined. So, We performed the OBW test to prove that no part of the fundamental emissions of any channels belong to UNII1 and UNII3 band for DFS.

■ TEST Plot for Ant.1_802.11ac_VHT80

802.11ac_VHT80 UNII 1 BAND 26dB Bandwidth(CH 42)



802.11ac_VHT80 UNII 2A BAND 26dB Bandwidth(CH 58)



802.11ac_VHT80 UNII 2C BAND 26dB Bandwidth(CH 138)



802.11ac_VHT80 UNII 3 BAND 26dB Bandwidth(CH 155)



Note : In order to simplify the report, attached plots were only the most wide channel.

Conducted 6 dB Bandwidth

■ **TEST RESULTS for Ant.0_802.11a/n_HT20/ac_VHT20**

Conducted 6 dB Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 16.39 | 0.5 | Pass |
| 5785 | 157 | 16.38 | 0.5 | Pass |
| 5825 | 165 | 16.39 | 0.5 | Pass |

Conducted 6 dB Bandwidth Measurements for 802.11n_HT20

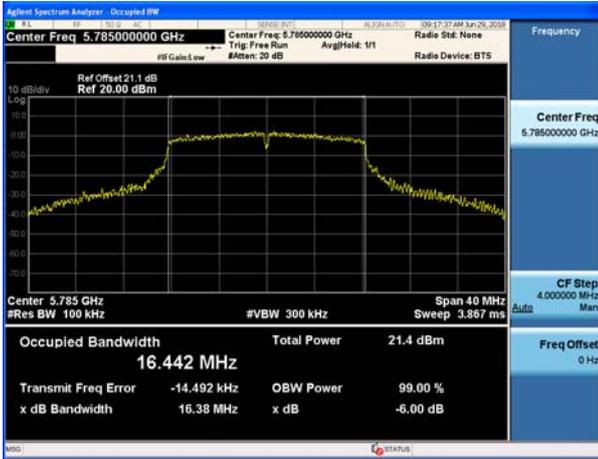
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 17.60 | 0.5 | Pass |
| 5785 | 157 | 17.59 | 0.5 | Pass |
| 5825 | 165 | 17.59 | 0.5 | Pass |

Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT20

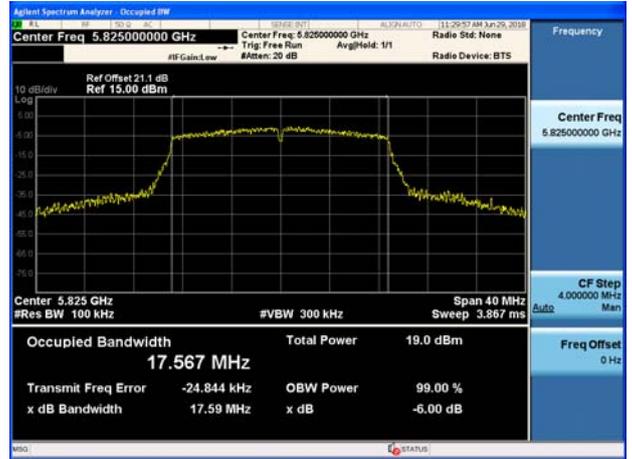
| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 17.59 | 0.5 | Pass |
| 5785 | 157 | 17.62 | 0.5 | Pass |
| 5825 | 165 | 17.61 | 0.5 | Pass |

TEST Plots for 802.11a/n_HT20/ac_VHT20

802.11a UNII 3 BAND 6dB Bandwidth (CH.157)



802.11n_HT20 UNII 3 BAND 6dB Bandwidth(CH.165)



802.11ac_VHT20 UNII 3 BAND 6dB Bandwidth(CH.149)



Note : In order to simplify the report, attached plots were only the most narrow channel.

■ **TEST RESULTS for Ant.1_802.11a/n_HT20/ac_VHT20**

Conducted 6 dB Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-----------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 16.38 | 0.5 | Pass |
| 5785 | 157 | 16.36 | 0.5 | Pass |
| 5825 | 165 | 16.37 | 0.5 | Pass |

Conducted 6 dB Bandwidth Measurements for 802.11n_HT20

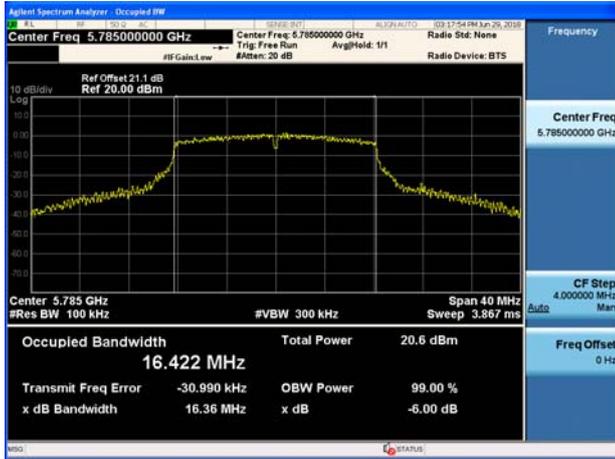
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 17.61 | 0.5 | Pass |
| 5785 | 157 | 17.62 | 0.5 | Pass |
| 5825 | 165 | 17.62 | 0.5 | Pass |

Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT20

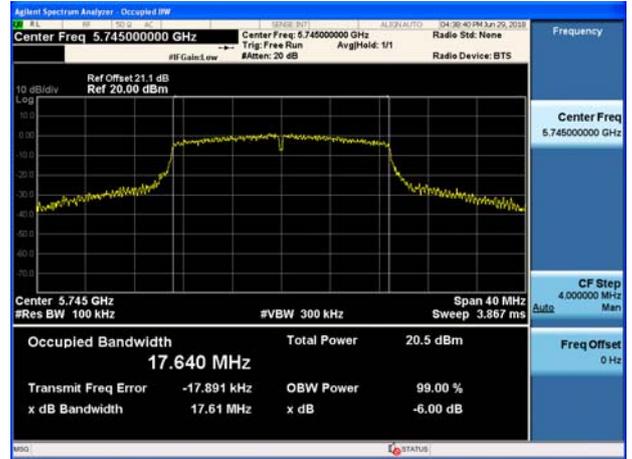
| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 17.60 | 0.5 | Pass |
| 5785 | 157 | 17.60 | 0.5 | Pass |
| 5825 | 165 | 17.64 | 0.5 | Pass |

■ TEST PlotS for Ant.1_802.11a/n_HT20/ac_VHT20

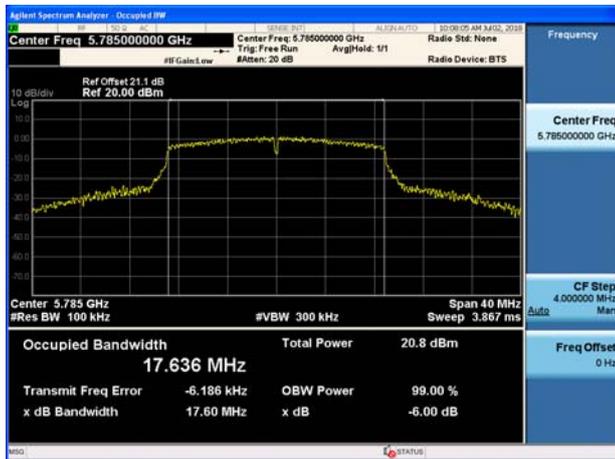
802.11a UNII 3 BAND 6dB Bandwidth (CH.157)



802.11n_HT20 UNII 3 BAND 6dB Bandwidth(CH.149)



802.11ac_VHT20 UNII 3 BAND 6dB Bandwidth(CH.157)



Note : In order to simplify the report, attached plots were only the most narrow channel.

■ **TEST RESULTS** for Ant.0_802.11n_HT40/ac_VHT40

Conducted 6 dB Bandwidth Measurements for 802.11n_HT40

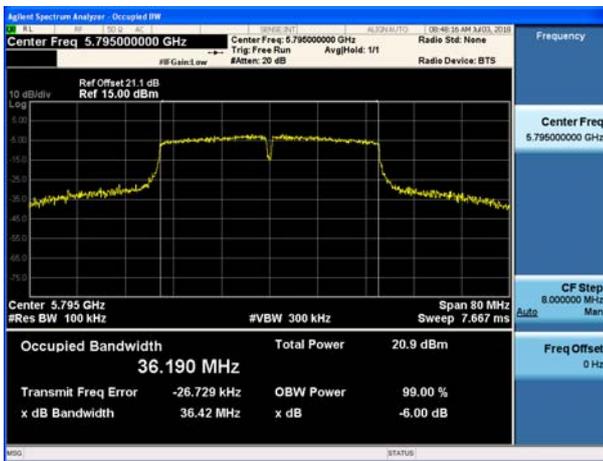
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 36.45 | 0.5 | Pass |
| 5795 | 159 | 36.42 | 0.5 | Pass |

Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT40

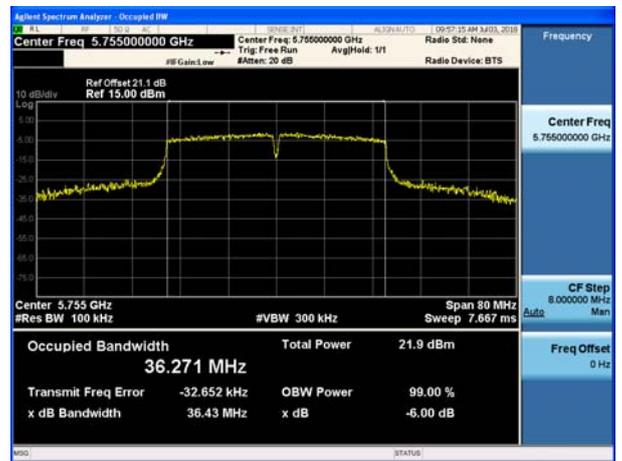
| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 36.43 | 0.5 | Pass |
| 5795 | 159 | 36.51 | 0.5 | Pass |

■ **TEST Plots** for Ant.0_802.11n_HT40/ac_VHT40

802.11n_40 MHz UNII 3 BAND 6dB Bandwidth (CH.159)



802.11ac_VHT40 UNII 3 BAND 6dB Bandwidth(CH.151)



■ **TEST RESULTS for Ant.1_802.11n_HT40/ac_VHT40**

Conducted 6 dB Bandwidth Measurements for 802.11n_HT40

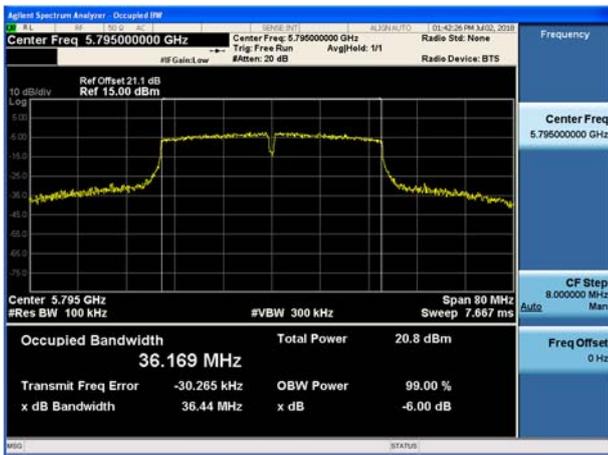
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|-------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 36.45 | 0.5 | Pass |
| 5795 | 159 | 36.44 | 0.5 | Pass |

Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT40

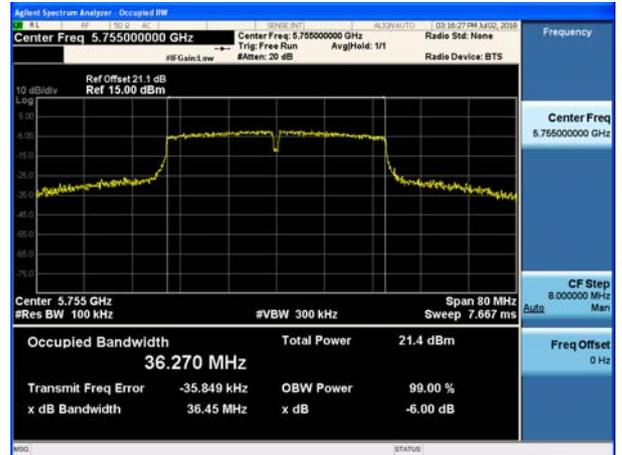
| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 36.45 | 0.5 | Pass |
| 5795 | 159 | 36.46 | 0.5 | Pass |

■ **TEST Plots for Ant.1_802.11n_HT40/ac_VHT40**

802.11n_40 MHz UNII 3 BAND 6dB Bandwidth (CH.159)



802.11ac_VHT40 UNII 3 BAND 6dB Bandwidth(CH.151)

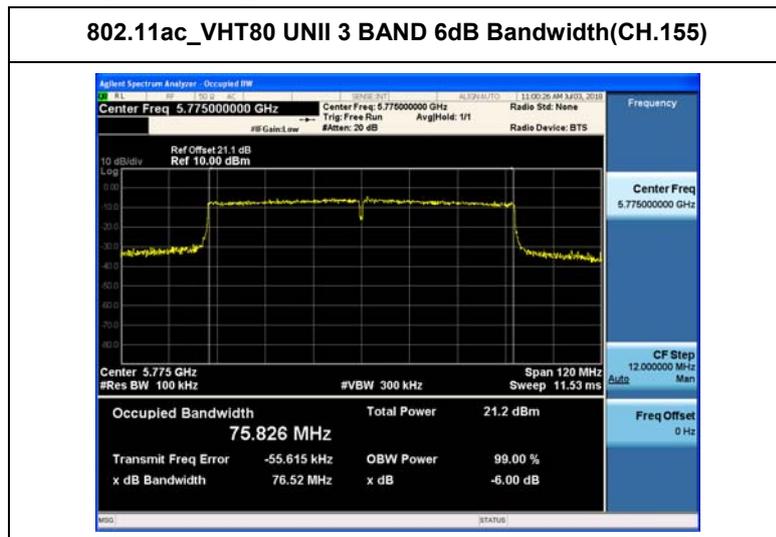


■ **TEST RESULTS Ant.0_for 802.11ac_VHT80**

Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5775 | 155 | 76.52 | 0.5 | Pass |

■ **TEST Plots for Ant.0_802.11ac_VHT80**



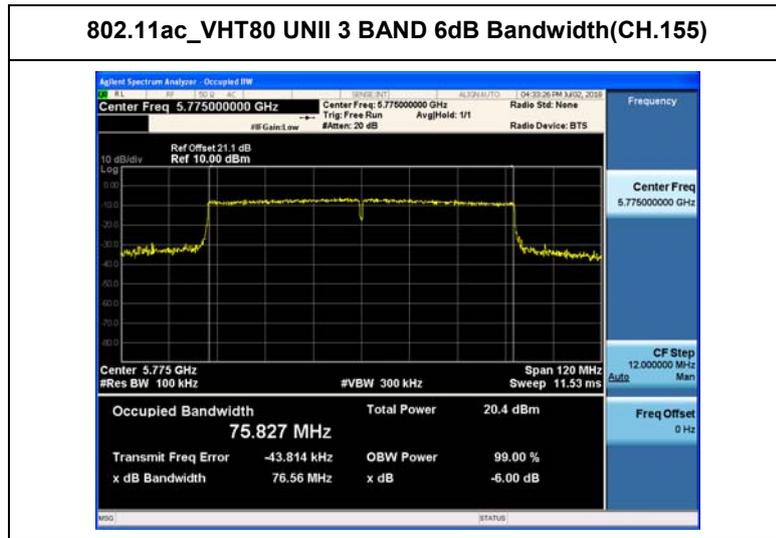
Note : In order to simplify the report, attached plots were only the most narrow channel.

■ **TEST RESULTS Ant.1_for 802.11ac_VHT80**

Conducted 6 dB Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|---------------------|-------------|--------------------------|-------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5775 | 155 | 76.56 | 0.5 | Pass |

■ **TEST Plots for Ant.1_802.11ac_VHT80**



Note : In order to simplify the report, attached plots were only the most narrow channel.

■ **Straddle channels TEST RESULTS_Ant 0**

Conducted Bandwidth Measurements for 802.11a/n_HT20/ac_VHT20 (UNII 2C Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11a | 5720 | 144 | 15.00 | N/A | Pass |
| 802.11n | | | 15.40 | N/A | Pass |
| 802.11ac | | | 15.28 | N/A | Pass |

Conducted Bandwidth Measurements for 802.11a/n_HT20/ac_VHT20 (UNII 3 Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11a | 5720 | 144 | 4.92 | N/A | Pass |
| 802.11n | | | 5.24 | N/A | Pass |
| 802.11ac | | | 5.16 | N/A | Pass |

■ Straddle channels TEST Plot for 802.11a/n_HT20/ac_VHT20_Ant 0

802.11a CH.144 Bandwidth



802.11n_HT20 CH.144 Bandwidth



802.11ac_VHT20 CH.144 Bandwidth



■ **Straddle channels TEST RESULTS_Ant 1**

Conducted Bandwidth Measurements for 802.11a/n_HT20/ac_VHT20 (UNII 2C Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11a | 5720 | 144 | 15.00 | N/A | Pass |
| 802.11n | | | 15.40 | N/A | Pass |
| 802.11ac | | | 15.28 | N/A | Pass |

Conducted Bandwidth Measurements for 802.11a/n_HT20/ac_VHT20 (UNII 3 Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11a | 5720 | 144 | 5.00 | N/A | Pass |
| 802.11n | | | 5.44 | N/A | Pass |
| 802.11ac | | | 5.56 | N/A | Pass |

■ Straddle channels TEST Plot for 802.11a/n_HT20/ac_VHT20_Ant 1

802.11a CH.144 Bandwidth



802.11n_HT20 CH.144 Bandwidth



802.11ac_VHT20 CH.144 Bandwidth



■ **Straddle channels TEST RESULTS_Ant 0**

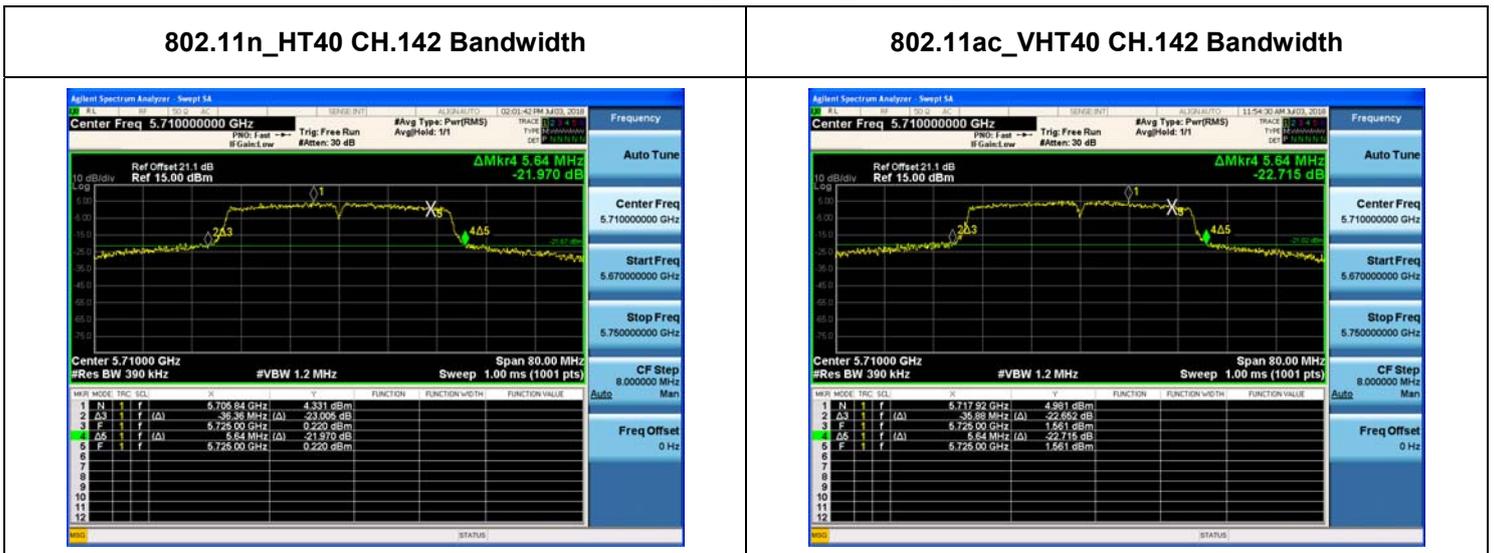
Conducted Bandwidth Measurements for 802.11n_HT40/ac_VHT40 (UNII 2C Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11n | 5710 | 142 | 36.36 | N/A | Pass |
| 802.11ac | | | 35.88 | N/A | Pass |

Conducted Bandwidth Measurements for 802.11n_HT40/ac_VHT40 (UNII 3 Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11n | 5710 | 142 | 5.64 | N/A | Pass |
| 802.11ac | | | 5.64 | N/A | Pass |

■ **Straddle channels TEST Plot for 802.11n_HT40/ac_VHT40_Ant 0**



■ **Straddle channels TEST RESULTS_Ant 1**

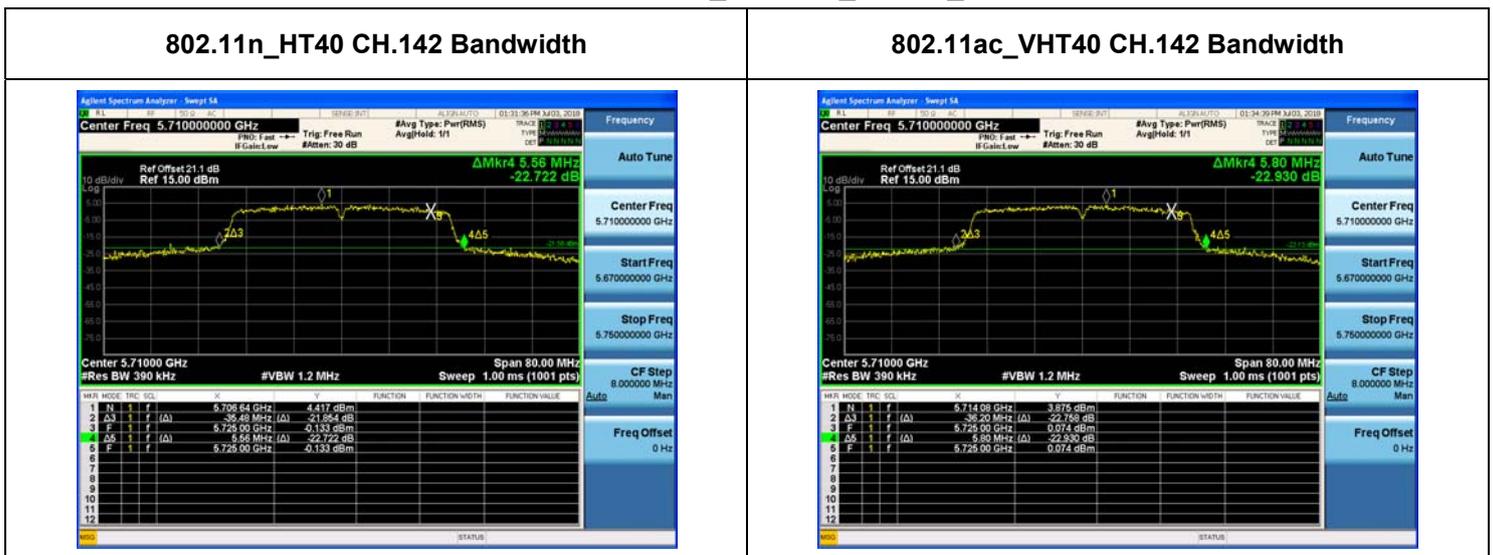
Conducted Bandwidth Measurements for 802.11n_HT40/ac_VHT40 (UNII 2C Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11n | 5710 | 142 | 35.48 | N/A | Pass |
| 802.11ac | | | 36.20 | N/A | Pass |

Conducted Bandwidth Measurements for 802.11n_HT40/ac_VHT40 (UNII 3 Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11n | 5710 | 142 | 5.56 | N/A | Pass |
| 802.11ac | | | 5.80 | N/A | Pass |

■ **Straddle channels TEST Plot for 802.11n_HT40/ac_VHT40_Ant 1**



■ **Straddle channels TEST RESULTS_Ant 0**

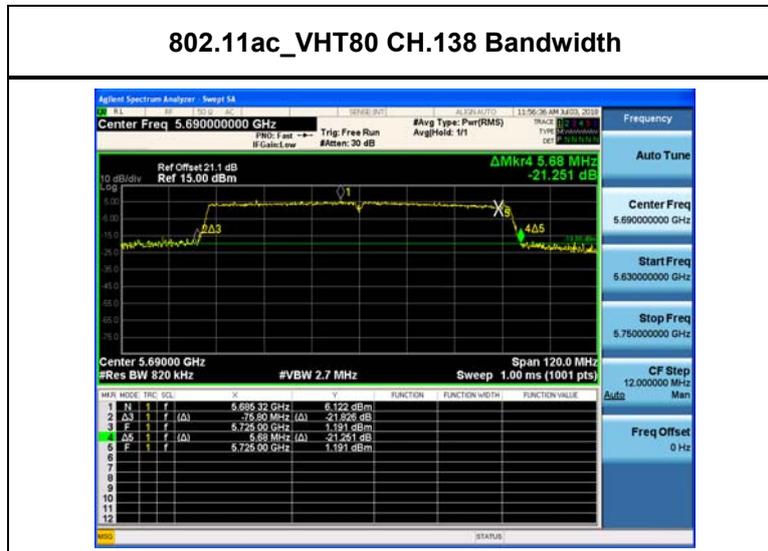
Conducted Bandwidth Measurements for 802.11ac_VHT80 (UNII 2C Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11ac | 5690 | 138 | 75.80 | N/A | Pass |

Conducted Bandwidth Measurements for 802.11ac_VHT80 (UNII 3 Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11ac | 5690 | 138 | 5.68 | N/A | Pass |

■ **Straddle channels TEST Plot for 802.11ac_VHT80_Ant 0**



■ **Straddle channels TEST RESULTS_Ant 1**

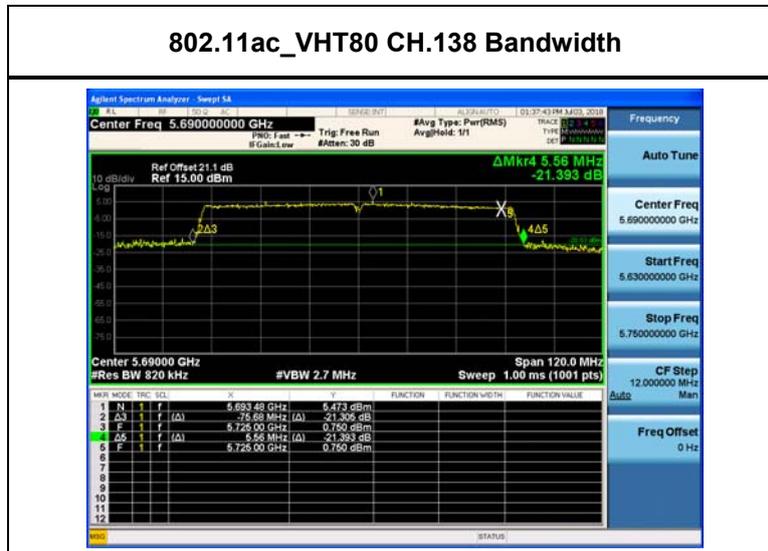
Conducted Bandwidth Measurements for 802.11ac_VHT80 (UNII 2C Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11ac | 5690 | 138 | 75.68 | N/A | Pass |

Conducted Bandwidth Measurements for 802.11ac_VHT80 (UNII 3 Band)

| Mode | Frequency [MHz] | Channel No. | Measured Bandwidth [MHz] | Minimum Bandwidth [MHz] | Pass / Fail |
|----------|-----------------|-------------|--------------------------|-------------------------|-------------|
| 802.11ac | 5690 | 138 | 5.56 | N/A | Pass |

■ **Straddle channels TEST Plot for 802.11ac_VHT80_Ant 1**

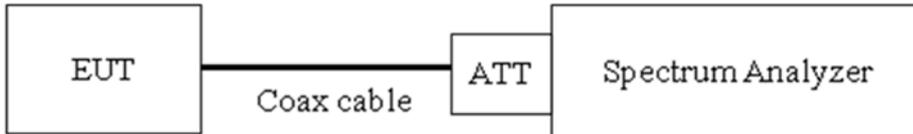


9.3 99% BANDWIDTH MEASUREMENT

None; for ISED reporting purposes only

The 99 % bandwidth is used to determine the conducted power limits(for IC).

■ TEST CONFIGURATION



■ TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to as close to 1% of the selected span. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RBW = 1% of the total span

VBW \geq 3 x RBW

Detector = Peak

Trace mode = max hold

Sweep = auto couple

Allow the trace to stabilize

■ TEST RESULTS for Ant.0_802.11a**99% Bandwidth Measurements for 802.11a**

| 802.11a Mode | | Measured Bandwidth [MHz] |
|-----------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5180 | 36 | 16.76 |
| 5200 | 40 | 16.80 |
| 5240 | 48 | 16.83 |

99% Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] |
|-----------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5260 | 52 | 16.79 |
| 5300 | 60 | 16.83 |
| 5320 | 64 | 16.75 |

99% Bandwidth Measurements for 802.11a

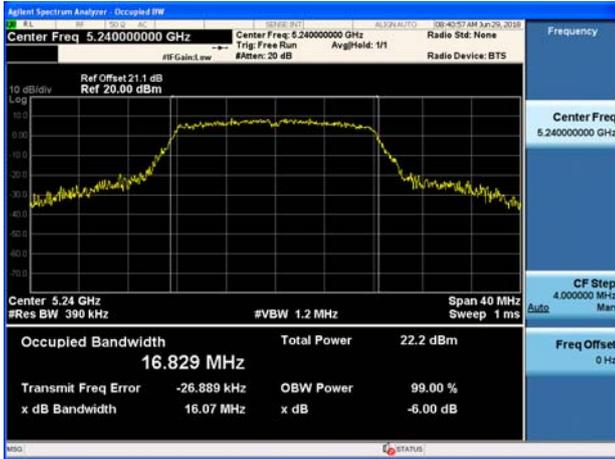
| 802.11a Mode | | Measured Bandwidth [MHz] |
|-----------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5500 | 100 | 16.91 |
| 5580 | 116 | 16.84 |
| 5720 | 144 | 16.90 |

99% Bandwidth Measurements for 802.11a

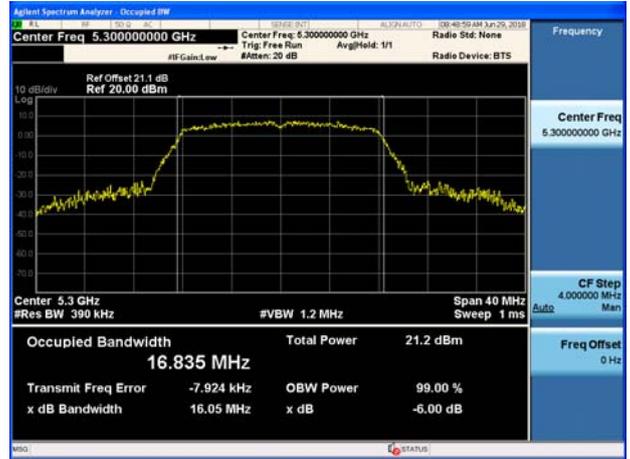
| 802.11a Mode | | Measured Bandwidth [MHz] |
|-----------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5745 | 149 | 16.88 |
| 5785 | 157 | 16.92 |
| 5825 | 165 | 16.79 |

TEST Plot for Ant.0_802.11a

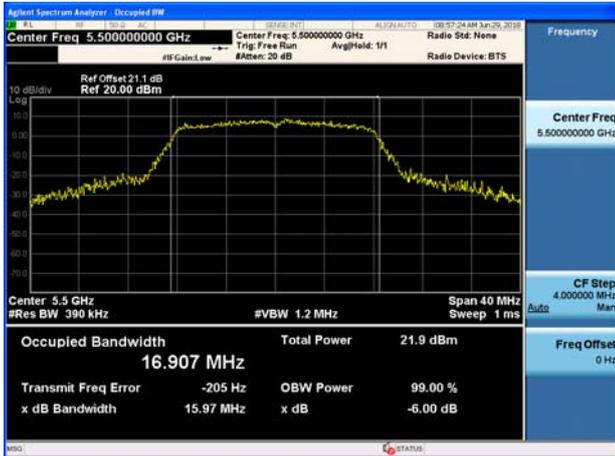
802.11a UNII 1 BAND 99% Bandwidth (CH 48)



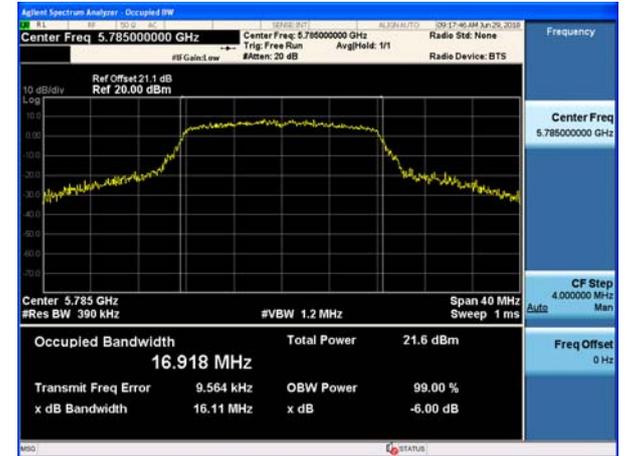
802.11a UNII 2A BAND 99% Bandwidth (CH 60)



802.11a UNII 2C BAND 99% Bandwidth (CH 100)



802.11a UNII 3 BAND 99% Bandwidth (CH 157)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_802.11a**

99% Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5180 | 36 | 16.81 |
| 5200 | 40 | 16.87 |
| 5240 | 48 | 16.80 |

99% Bandwidth Measurements for 802.11a

| 802.11a Mode | | Measured Bandwidth [MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5260 | 52 | 16.75 |
| 5300 | 60 | 16.81 |
| 5320 | 64 | 16.88 |

99% Bandwidth Measurements for 802.11a

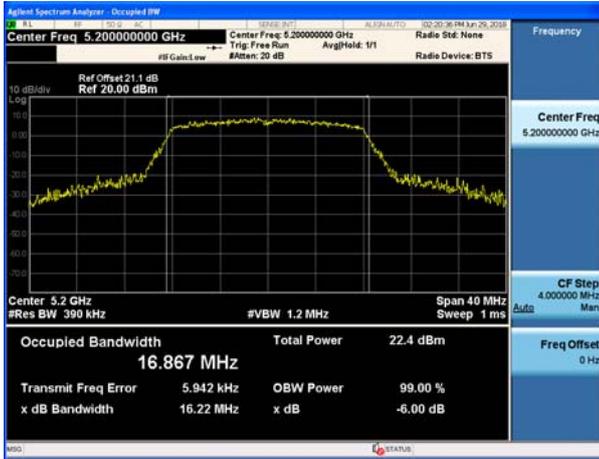
| 802.11a Mode | | Measured Bandwidth [MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5500 | 100 | 16.84 |
| 5580 | 116 | 16.88 |
| 5720 | 144 | 17.18 |

99% Bandwidth Measurements for 802.11a

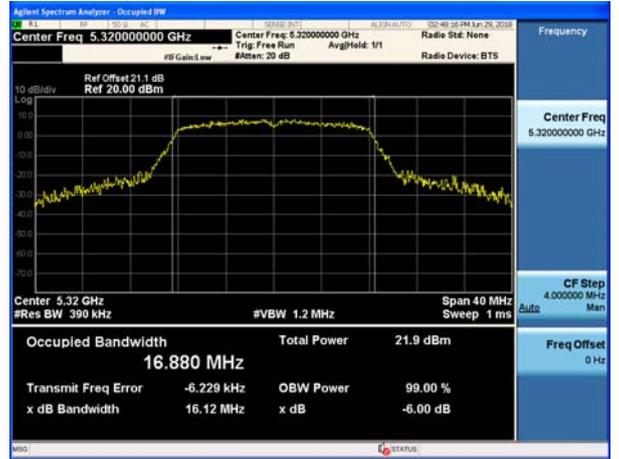
| 802.11a Mode | | Measured Bandwidth [MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5745 | 149 | 16.90 |
| 5785 | 157 | 16.94 |
| 5825 | 165 | 16.80 |

■ TEST Plot for Ant.1_802.11a

802.11a UNII 1 BAND 99% Bandwidth (CH 40)



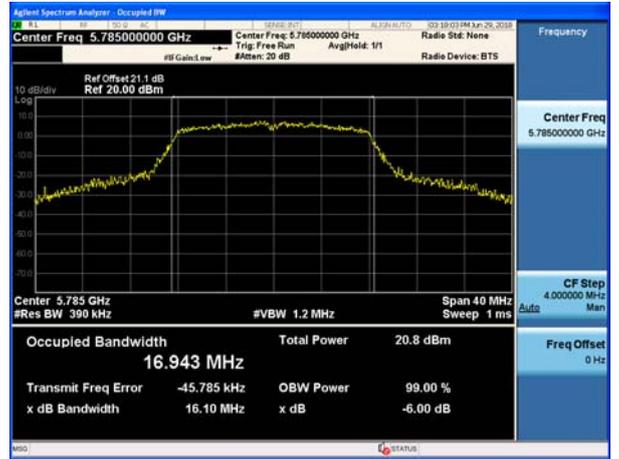
802.11a UNII 2A BAND 99% Bandwidth (CH 64)



802.11a UNII 2C BAND 99% Bandwidth (CH 144)



802.11a UNII 3 BAND 99% Bandwidth (CH 157)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.0_802.11n_HT20**

99% Bandwidth Measurements for 802.11n_HT20

| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5180 | 36 | 17.76 |
| 5200 | 40 | 17.83 |
| 5240 | 48 | 17.77 |

99% Bandwidth Measurements for 802.11n_HT20

| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5260 | 52 | 17.82 |
| 5300 | 60 | 17.78 |
| 5320 | 64 | 17.81 |

99% Bandwidth Measurements for 802.11n_HT20

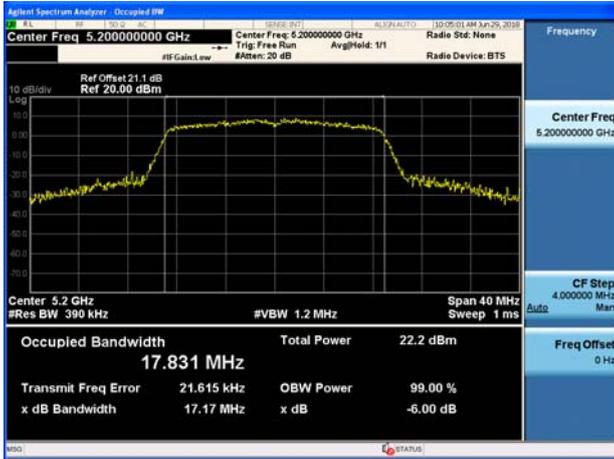
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5500 | 100 | 17.85 |
| 5580 | 116 | 17.83 |
| 5720 | 144 | 18.22 |

99% Bandwidth Measurements for 802.11n_HT20

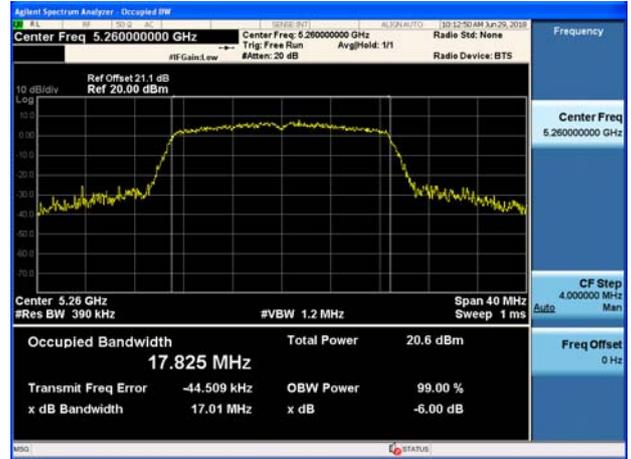
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5745 | 149 | 17.95 |
| 5785 | 157 | 17.92 |
| 5825 | 165 | 17.79 |

■ TEST Plot for Ant.0_802.11n_HT20

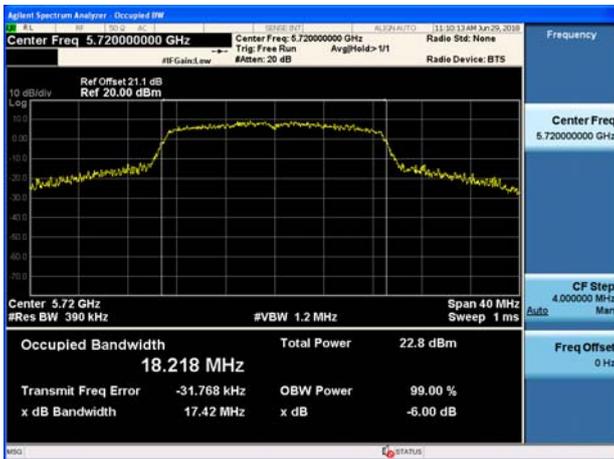
802.11n_HT20 UNII 1 BAND 99% Bandwidth(CH 40)



802.11n_HT20 UNII 2A BAND 99% Bandwidth(CH 52)



802.11n_HT20 UNII 2C BAND 99% Bandwidth(CH 144)



802.11n_HT20 UNII 3 BAND 99% Bandwidth(CH 149)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ TEST RESULTS for Ant.1_802.11n_HT20**99% Bandwidth Measurements for 802.11n_HT20**

| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] |
|-------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5180 | 36 | 17.81 |
| 5200 | 40 | 17.80 |
| 5240 | 48 | 17.80 |

99% Bandwidth Measurements for 802.11n_HT20

| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] |
|-------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5260 | 52 | 17.82 |
| 5300 | 60 | 17.79 |
| 5320 | 64 | 17.79 |

99% Bandwidth Measurements for 802.11n_HT20

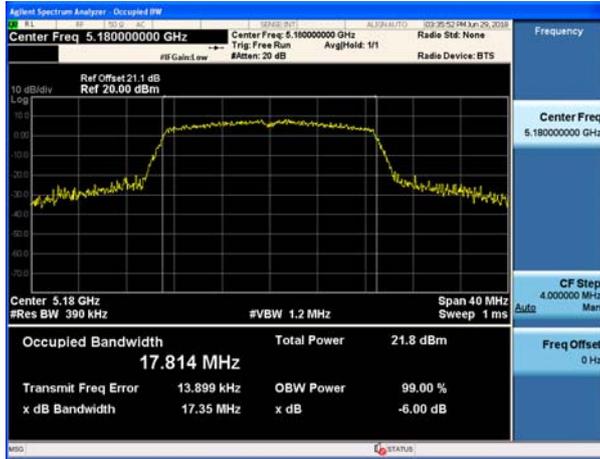
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] |
|-------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5500 | 100 | 17.91 |
| 5580 | 116 | 17.90 |
| 5720 | 144 | 17.88 |

99% Bandwidth Measurements for 802.11n_HT20

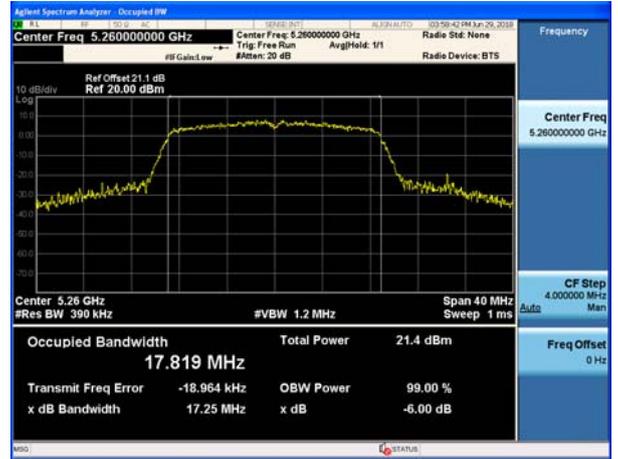
| 802.11n_HT20 Mode | | Measured Bandwidth [MHz] |
|-------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5745 | 149 | 17.95 |
| 5785 | 157 | 18.01 |
| 5825 | 165 | 17.81 |

■ TEST Plot for Ant.1_802.11n_HT20

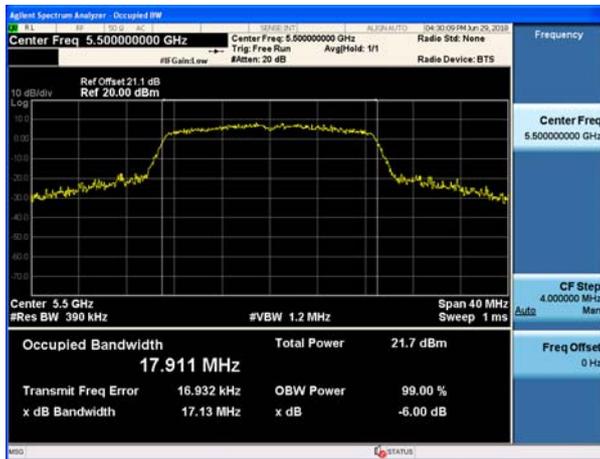
802.11n_HT20 UNII 1 BAND 99% Bandwidth(CH 36)



802.11n_HT20 UNII 2A BAND 99% Bandwidth(CH 52)



802.11n_HT20 UNII 2C BAND 99% Bandwidth(CH 100)



802.11n_HT20 UNII 3 BAND 99% Bandwidth(CH 157)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ TEST RESULTS for Ant.0_ 802.11ac_VHT20**99% Bandwidth Measurements for 802.11ac_VHT20**

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5180 | 36 | 17.84 |
| 5200 | 40 | 17.82 |
| 5240 | 48 | 17.80 |

99% Bandwidth Measurements for 802.11ac_VHT20

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5260 | 52 | 17.75 |
| 5300 | 60 | 17.79 |
| 5320 | 64 | 17.78 |

99% Bandwidth Measurements for 802.11ac_VHT20

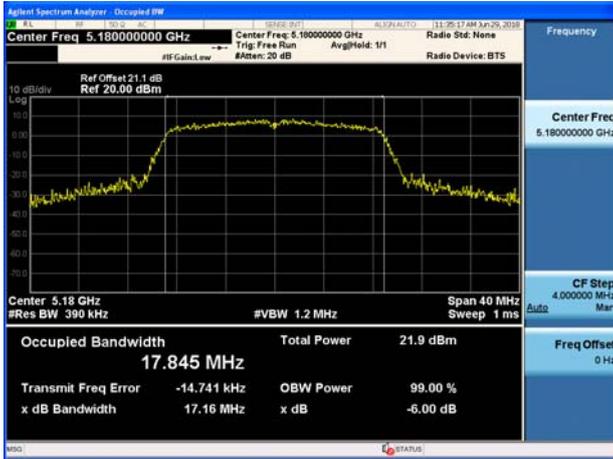
| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5500 | 100 | 17.89 |
| 5580 | 116 | 17.84 |
| 5720 | 144 | 17.95 |

99% Bandwidth Measurements for 802.11ac_VHT20

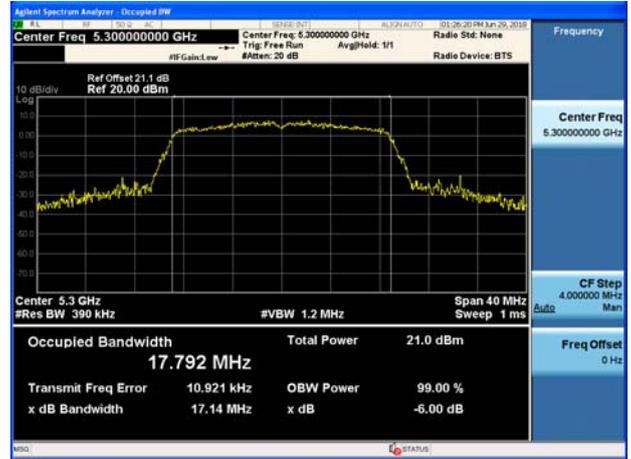
| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5745 | 149 | 17.95 |
| 5785 | 157 | 17.90 |
| 5825 | 165 | 17.86 |

TEST Plot for Ant.0_ 802.11ac_VHT20

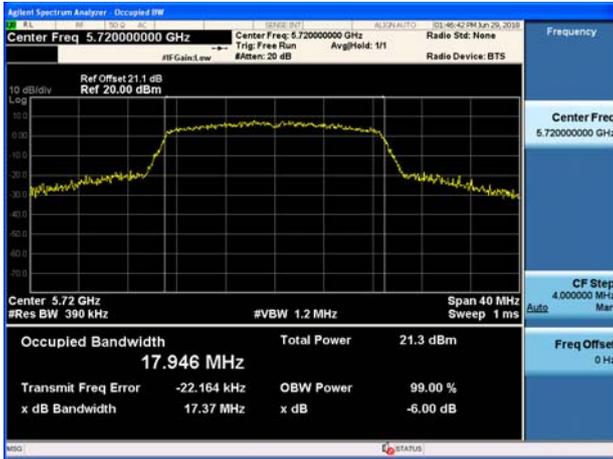
802.11ac_VHT20 UNII 1 BAND 99% Bandwidth(CH 36)



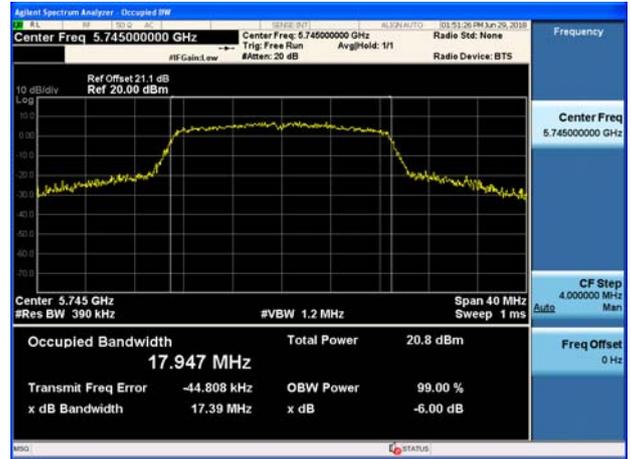
802.11ac_VHT20 UNII 2A BAND 99% Bandwidth(CH 60)



802.11ac_VHT20 UNII 2C BAND 99% Bandwidth(CH 144)



802.11ac_VHT20 UNII 3 BAND 99% Bandwidth(CH 149)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ TEST RESULTS for Ant.1_ 802.11ac_VHT20**99% Bandwidth Measurements for 802.11ac_VHT20**

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5180 | 36 | 17.77 |
| 5200 | 40 | 17.85 |
| 5240 | 48 | 17.81 |

99% Bandwidth Measurements for 802.11ac_VHT20

| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5260 | 52 | 17.78 |
| 5300 | 60 | 17.77 |
| 5320 | 64 | 17.80 |

99% Bandwidth Measurements for 802.11ac_VHT20

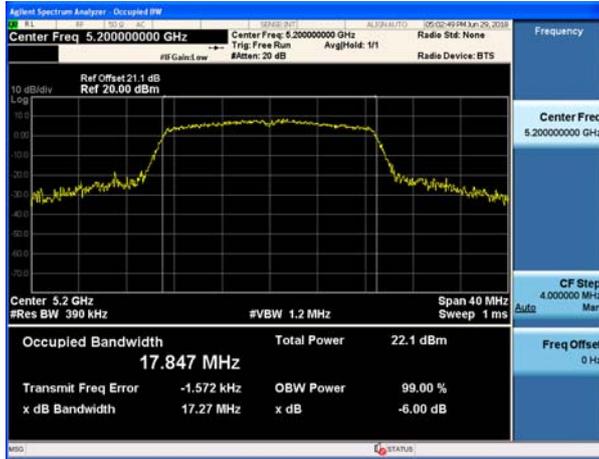
| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5500 | 100 | 17.96 |
| 5580 | 116 | 17.84 |
| 5720 | 144 | 17.92 |

99% Bandwidth Measurements for 802.11ac_VHT20

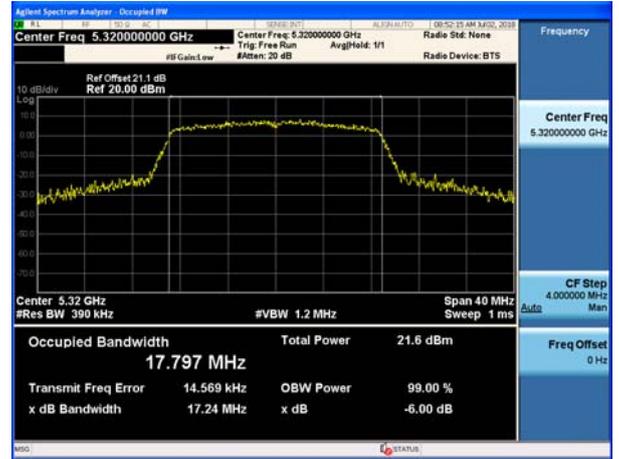
| 802.11ac_VHT20 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5745 | 149 | 17.97 |
| 5785 | 157 | 17.96 |
| 5825 | 165 | 17.81 |

TEST Plot for Ant.1_ 802.11ac_VHT20

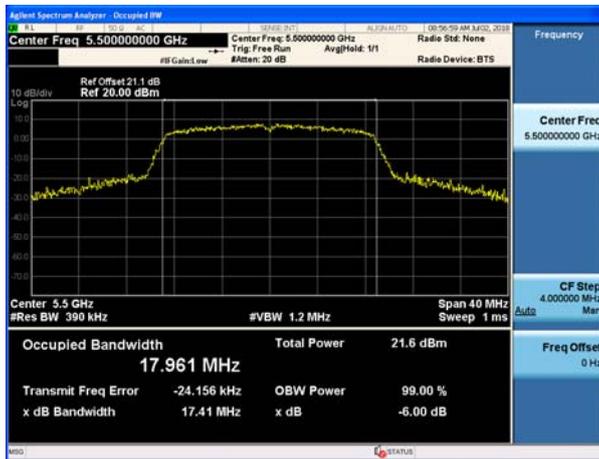
802.11ac_VHT20 UNII 1 BAND 99% Bandwidth(CH 40)



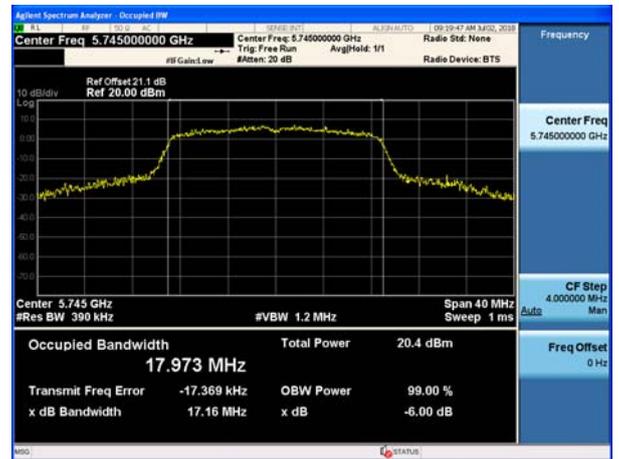
802.11ac_VHT20 UNII 2A BAND 99% Bandwidth(CH 64)



802.11ac_VHT20 UNII 2C BAND 99% Bandwidth(CH 100)



802.11ac_VHT20 UNII 3 BAND 99% Bandwidth(CH 149)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.0_802.11n_HT40**

99% Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5190 | 38 | 36.38 |
| 5230 | 46 | 36.44 |

99% Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5270 | 54 | 36.45 |
| 5310 | 62 | 36.43 |

99% Bandwidth Measurements for 802.11n_HT40

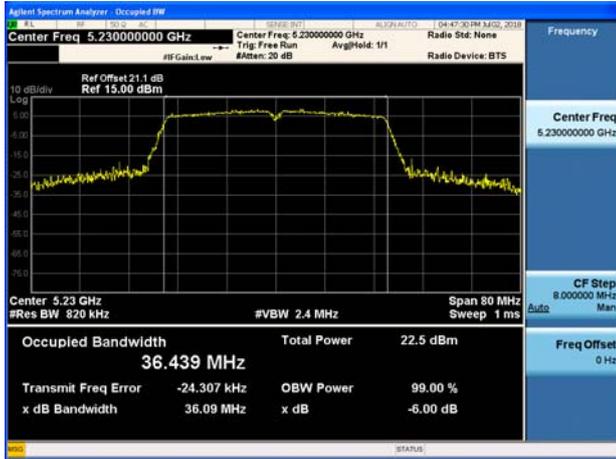
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5510 | 102 | 36.42 |
| 5550 | 110 | 36.46 |
| 5710 | 142 | 36.70 |

99% Bandwidth Measurements for 802.11n_HT40

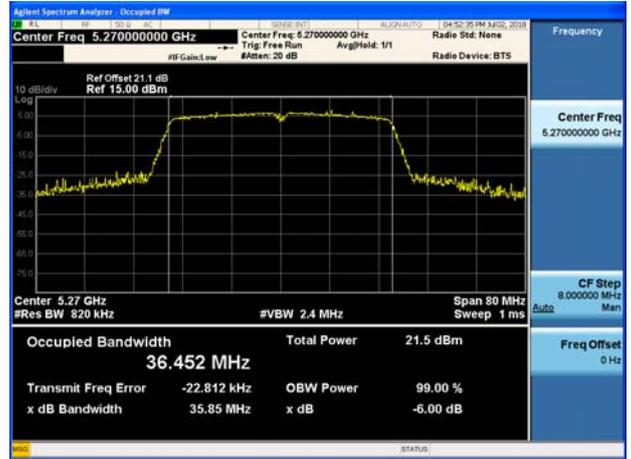
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5755 | 151 | 36.76 |
| 5795 | 159 | 36.63 |

■ TEST Plot for Ant.0_802.11n_HT40

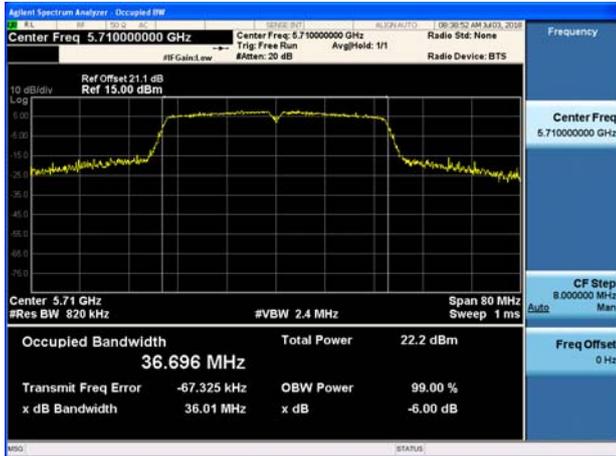
802.11n_HT40 UNII 1 BAND 99% Bandwidth(CH 46)



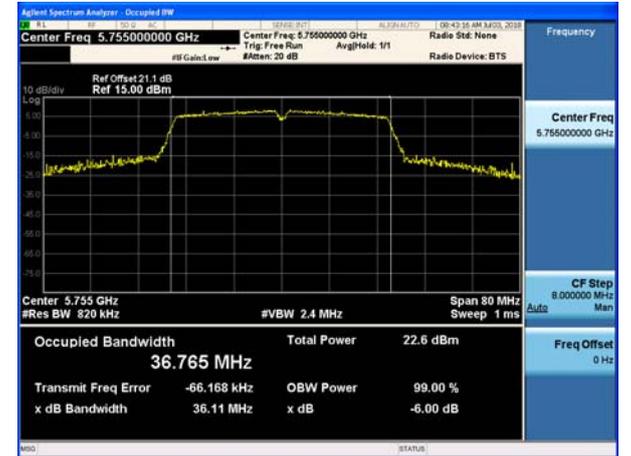
802.11n_HT40 UNII 2A BAND 99% Bandwidth (CH 54)



802.11n_HT40 UNII 2C BAND 99% Bandwidth(CH 142)



802.11n_HT40 UNII 3 BAND 99% Bandwidth (CH 151)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_802.11n_HT40**

99% Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5190 | 38 | 36.33 |
| 5230 | 46 | 36.44 |

99% Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5270 | 54 | 36.45 |
| 5310 | 62 | 36.43 |

99% Bandwidth Measurements for 802.11n_HT40

| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5510 | 102 | 36.39 |
| 5550 | 110 | 36.62 |
| 5710 | 142 | 36.68 |

99% Bandwidth Measurements for 802.11n_HT40

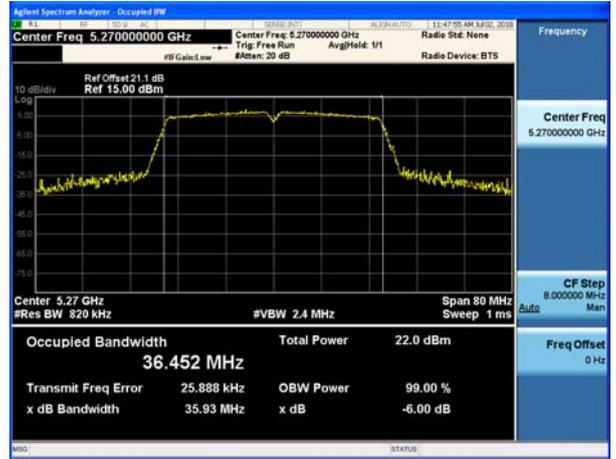
| 802.11n_HT40 Mode | | Measured Bandwidth [MHz] |
|-------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5755 | 151 | 36.83 |
| 5795 | 159 | 36.57 |

TEST Plot for Ant.1_802.11n_HT40

802.11n_HT40 UNII 1 BAND 99% Bandwidth(CH 46)



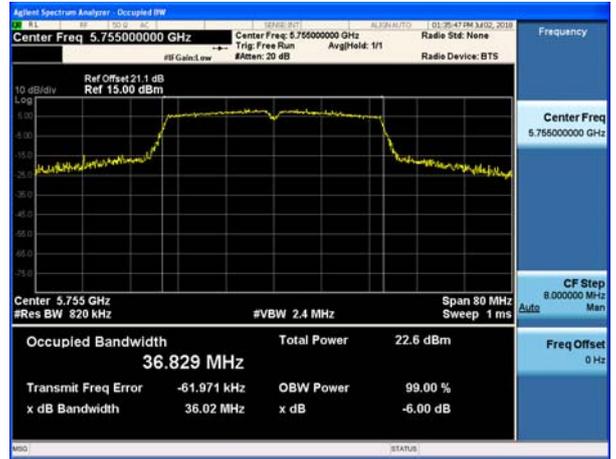
802.11n_HT40 UNII 2A BAND 99% Bandwidth (CH 54)



802.11n_HT40 UNII 2C BAND 99% Bandwidth(CH 142)



802.11n_HT40 UNII 3 BAND 99% Bandwidth (CH 151)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.0_802.11ac_VHT40**

99% Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] |
|---------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5190 | 38 | 36.31 |
| 5230 | 46 | 36.35 |

99% Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] |
|---------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5270 | 54 | 36.37 |
| 5310 | 62 | 36.40 |

99% Bandwidth Measurements for 802.11ac_VHT40

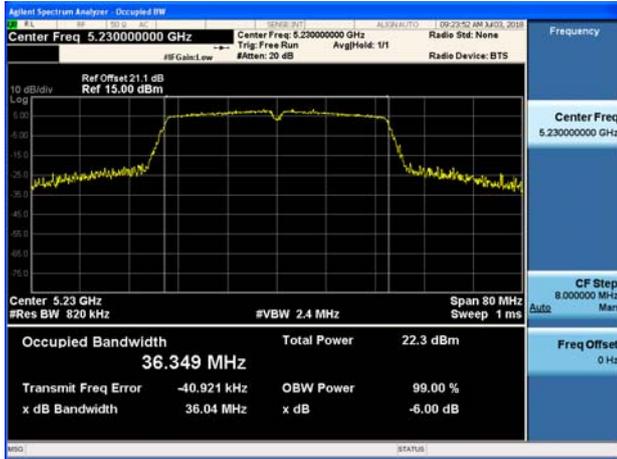
| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] |
|---------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5510 | 102 | 36.34 |
| 5550 | 110 | 36.57 |
| 5710 | 142 | 36.71 |

99% Bandwidth Measurements for 802.11ac_VHT40

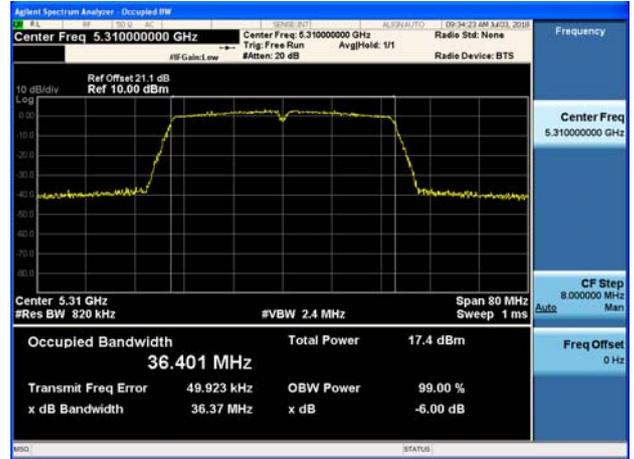
| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] |
|---------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5755 | 151 | 36.85 |
| 5795 | 159 | 36.62 |

■ TEST Plot for Ant.0_802.11ac_VHT40

802.11ac_VHT40 UNII 1 BAND 99% Bandwidth(CH 46)



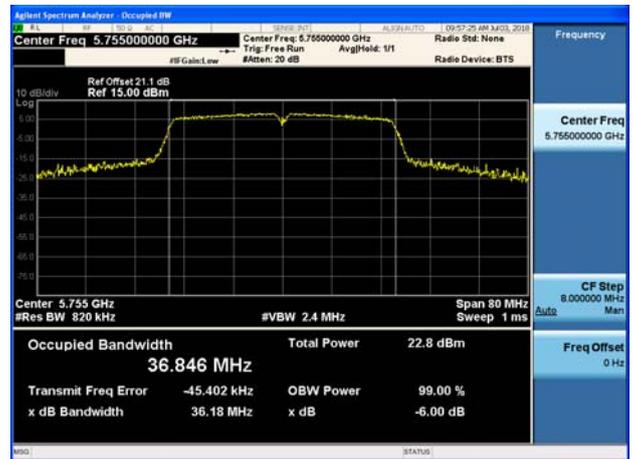
802.11ac_VHT40 UNII 2A BAND 99% Bandwidth (CH 62)



802.11ac_VHT40 UNII 2C BAND 99% Bandwidth(CH 142)



802.11ac_VHT40 UNII 3 BAND 99% Bandwidth (CH 151)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.1_802.11ac_VHT40**

99% Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] |
|---------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5190 | 38 | 36.39 |
| 5230 | 46 | 36.44 |

99% Bandwidth Measurements for 802.11ac_VHT40

| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] |
|---------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5270 | 54 | 36.45 |
| 5310 | 62 | 36.31 |

99% Bandwidth Measurements for 802.11ac_VHT40

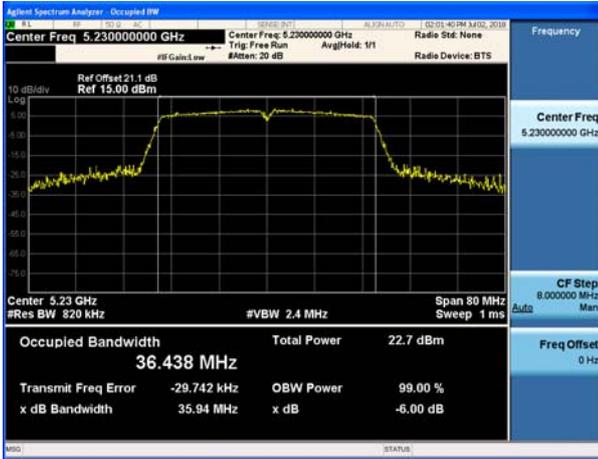
| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] |
|---------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5510 | 102 | 36.46 |
| 5550 | 110 | 36.58 |
| 5710 | 142 | 36.69 |

99% Bandwidth Measurements for 802.11ac_VHT40

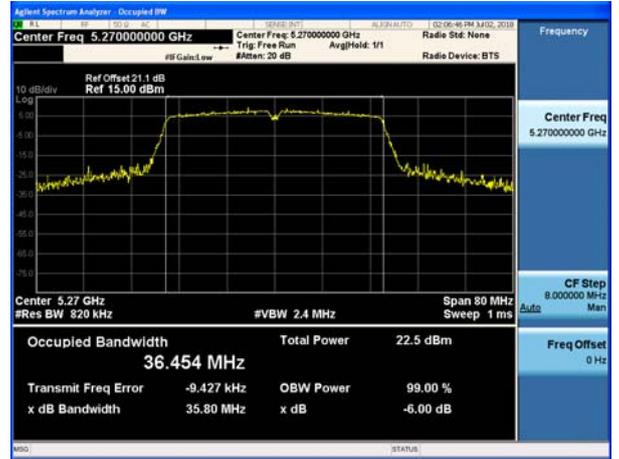
| 802.11ac_VHT40 Mode | | Measured Bandwidth [MHz] |
|---------------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5755 | 151 | 36.70 |
| 5795 | 159 | 36.74 |

■ TEST Plot for Ant.1_802.11ac_VHT40

802.11ac_VHT40 UNII 1 BAND 99% Bandwidth(CH 46)



802.11ac_VHT40 UNII 2A BAND 99% Bandwidth (CH 54)



802.11ac_VHT40 UNII 2C BAND 99% Bandwidth(CH 142)



802.11ac_VHT40 UNII 3 BAND 99% Bandwidth (CH 159)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ **TEST RESULTS for Ant.0_802.11ac_VHT80**

99% Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5210 | 42 | 75.67 |

99% Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5290 | 58 | 75.69 |

99% Bandwidth Measurements for 802.11ac_VHT80

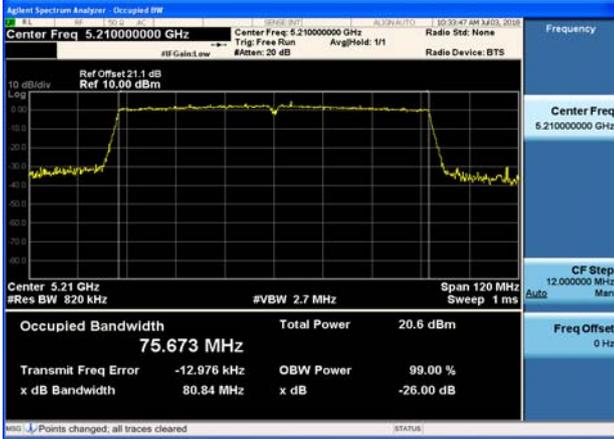
| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5530 | 106 | 75.76 |
| 5690 | 138 | 75.97 |

99% Bandwidth Measurements for 802.11ac_VHT80

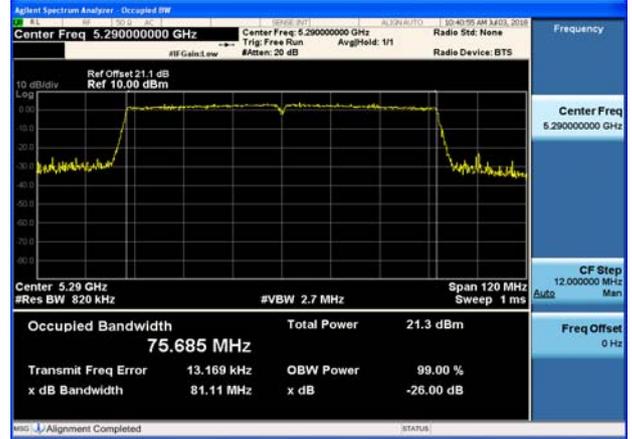
| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5775 | 155 | 75.86 |

TEST Plot for Ant.0_802.11ac_VHT80

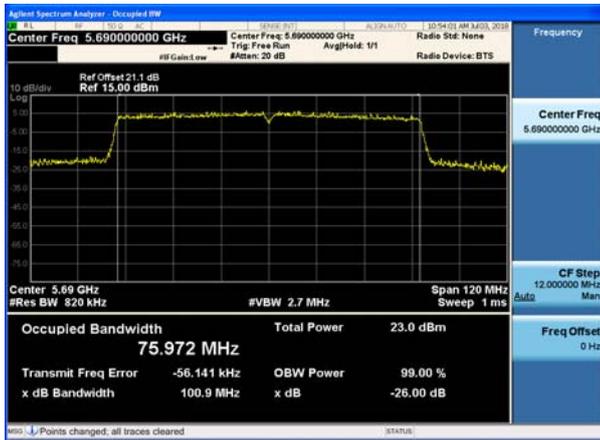
802.11ac_VHT80 UNII 1 BAND 99% Bandwidth(CH 42)



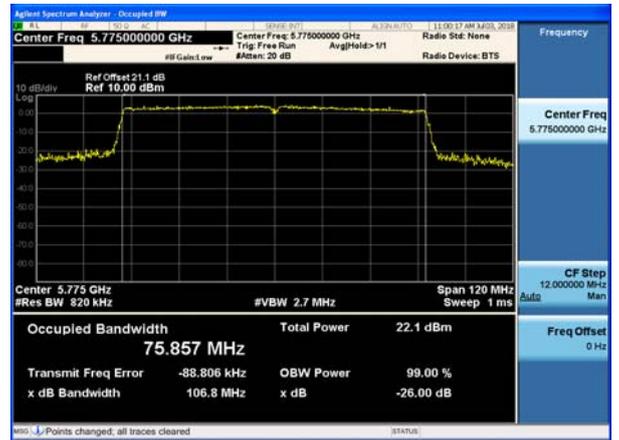
802.11ac_VHT80 UNII 2A BAND 99% Bandwidth(CH 58)



802.11ac_VHT80 UNII 2C BAND 99% Bandwidth(CH 138)



802.11ac_VHT80 UNII 3 BAND 99% Bandwidth(CH 155)



Note : In order to simplify the report, attached plots were only the most wide channel.

■ TEST RESULTS for Ant.1_802.11ac_VHT80**99% Bandwidth Measurements for 802.11ac_VHT80**

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5210 | 42 | 75.67 |

99% Bandwidth Measurements for 802.11ac_VHT80

| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5290 | 58 | 75.69 |

99% Bandwidth Measurements for 802.11ac_VHT80

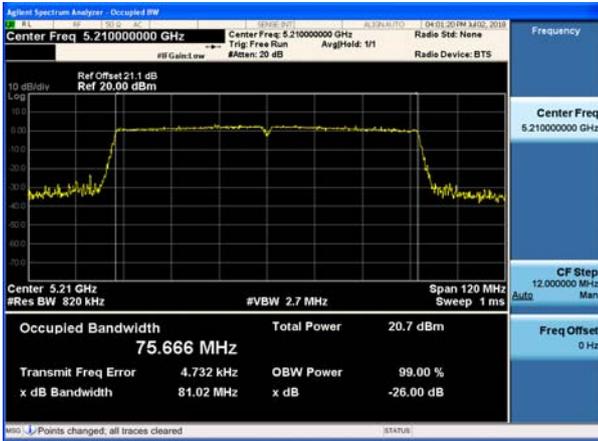
| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5530 | 106 | 75.64 |
| 5690 | 138 | 75.98 |

99% Bandwidth Measurements for 802.11ac_VHT80

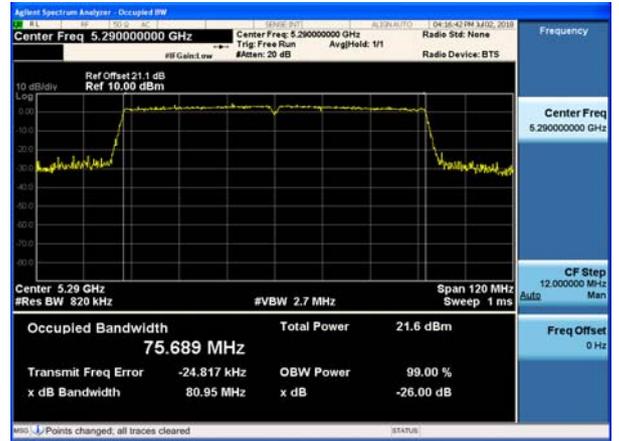
| 802.11ac_VHT80 Mode | | Measured Bandwidth [MHz] |
|---------------------|----------------|-----------------------------|
| Frequency [MHz] | Channel No. | |
| 5775 | 155 | 75.85 |

■ TEST Plot for Ant.1_802.11ac_VHT80

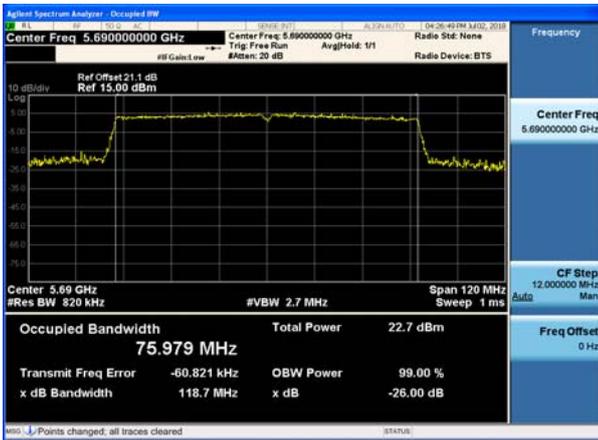
802.11ac_VHT80 UNII 1 BAND 99% Bandwidth(CH 42)



802.11ac_VHT80 UNII 2A BAND 99% Bandwidth(CH 58)



802.11ac_VHT80 UNII 2C BAND 99% Bandwidth(CH 138)



802.11ac_VHT80 UNII 3 BAND 99% Bandwidth(CH 155)



Note : In order to simplify the report, attached plots were only the most wide channel.

9.4 OUTPUT POWER MEASUREMENT FOR FCC

A transmitter antenna terminal of EUT is connected to the input of a Power meter or Spectrum Analyzer .Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

▣ **LIMIT**

| Band | Mode | Limit (dBm) |
|---------|--------------|-------------|
| UNII 1 | 802.11a,n,ac | 23.98 |
| UNII 2A | 802.11a,n,ac | 23.98 |
| UNII 2C | 802.11a,n,ac | 23.98 |
| UNII 3 | 802.11a,n,ac | 30.00 |

Maximum Conducted Output Power:

| Operating Mode | Band | Mode | Operating Ant. | Ant. Gain (dBi) | Limit (dBm) |
|----------------|---------|--------------|----------------|-----------------|-------------|
| SISO | UNII 1 | 802.11a/n/ac | Ant 0 | 1.48 | 23.98 |
| | | | Ant 1 | 1.5 | 23.98 |
| | UNII 2A | | Ant 0 | 1.5 | 23.98 |
| | | | Ant 1 | 1.5 | 23.98 |
| | UNII 2C | | Ant 0 | 1.5 | 23.98 |
| | | | Ant 1 | 1.5 | 23.98 |
| | UNII 3 | | Ant 0 | 1.44 | 30.00 |
| | | | Ant 1 | 1.49 | 30.00 |
| MIMO | UNII 1 | 802.11a/n/ac | Ant 0 & 1 | 4.5 | 23.98 |
| | UNII 2A | | | 1.50 | 23.98 |
| | UNII 2C | | | 1.50 | 23.98 |
| | UNII 3 | | | 4.48 | 30.00 |

Note : 1. If all antenna gains are not equal,

$$\text{Directional gain} = 10 \cdot \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N] \text{ dBi}$$

(according to KDB662911 D01 v02r01)

2. If all antennas have the same gain, G_{ANT}

$$\text{Directional gain(dBi)} = G_{ANT} + \text{Array Gain}$$

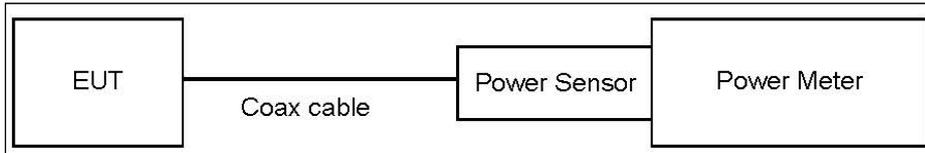
$$\text{Array Gain(Power)} = 0 \text{ dB (i.e., no array gain) for } N_{ANT} \leq 4$$

3. Limit is calculated by antenna gain.

4. The limits of maximum conducted power were applied the antenna gain. Therefore, if

conducted power is pass, e.i.r.p. is also pass. So, we attached only conducted power table.

■ **TEST CONFIGURATION(20 MHz BW)**



■ **TEST PROCEDURE(20 MHz BW)**

- Average Power (Procedure E.3.a in KDB 789033 D02 v02r01).
 1. Measure the duty cycle.
 2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
 3. Add $10 \log (1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

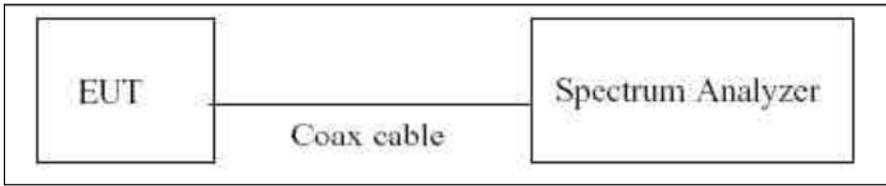
Note :

Actual value of loss for the attenuator and cable combination is below table.

| Band | Loss(dB) |
|-------------------|----------|
| UNII 1, 2A, 2C, 3 | 21.1 |

(Actual value of loss for the attenuator and cable combination)

■ **TEST CONFIGURATION(40 MHz BW & 80 MHz BW)**



■ **TEST PROCEDURE(40 MHz BW & 80 MHz BW)**

▪ Average Power

The transmitter output is connected to the Spectrum Analyzer. We use the spectrum analyzer's integrated band power measurement function. We tested according to Method SA-2 in KDB 789033 D02 v02r01.

The Spectrum Analyzer is set to

1. Measure the duty cycle.
2. Set span to encompass the 26 dB EBW of the signal.
3. RBW = 1 MHz.
4. VBW ≥ 3 MHz.
5. Number of points in sweep ≥ 2*span/RBW.
6. Sweep time = auto.
7. Detector = RMS.
8. Do not use sweep triggering. Allow the sweep to "free run".
9. Trace average at least 100 traces in power averaging(RMS) mode
10. Integrated bandwidth = OBW
11. Add $10\log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

■ **Sample Calculation (Conducted)**

Output Power = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor

■ **Sample Calculation (EIRP)**

Output Power = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor + Ant gain

Note: 1. Spectrum reading values are not plot data. The power results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Spectrum offset = Attenuator loss + Cable loss

3. Actual value of loss for the attenuator and cable combination is below table.

| Band | Loss(dB) |
|-------------------|----------|
| UNII 1, 2A, 2C, 3 | 21.1 |

(Actual value of loss for the attenuator and cable combination)

Ant.0

802.11a (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5180~5240)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 6 | 16.01 | - | 16.01 | 23.98 |
| | | 9 | 15.96 | - | 15.96 | 23.98 |
| | | 12 | 15.96 | - | 15.96 | 23.98 |
| | | 18 | 15.84 | - | 15.84 | 23.98 |
| | | 24 | 15.83 | - | 15.83 | 23.98 |
| | | 36 | 15.87 | - | 15.87 | 23.98 |
| | | 48 | 14.16 | - | 14.16 | 23.98 |
| | | 54 | 14.14 | - | 14.14 | 23.98 |
| 5200 | 40 | 6 | 15.88 | - | 15.88 | 23.98 |
| | | 9 | 15.93 | - | 15.93 | 23.98 |
| | | 12 | 15.95 | - | 15.95 | 23.98 |
| | | 18 | 15.95 | - | 15.95 | 23.98 |
| | | 24 | 15.98 | - | 15.98 | 23.98 |
| | | 36 | 15.96 | - | 15.96 | 23.98 |
| | | 48 | 14.29 | - | 14.29 | 23.98 |
| | | 54 | 14.30 | - | 14.30 | 23.98 |
| 5240 | 48 | 6 | 15.70 | - | 15.70 | 23.98 |
| | | 9 | 15.76 | - | 15.76 | 23.98 |
| | | 12 | 15.78 | - | 15.78 | 23.98 |
| | | 18 | 15.78 | - | 15.78 | 23.98 |
| | | 24 | 15.81 | - | 15.81 | 23.98 |
| | | 36 | 15.79 | - | 15.79 | 23.98 |
| | | 48 | 14.14 | - | 14.14 | 23.98 |
| | | 54 | 14.12 | - | 14.12 | 23.98 |

Ant.1

802.11a (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5180~5240)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 6 | 15.52 | - | 15.52 | 23.98 |
| | | 9 | 15.46 | - | 15.46 | 23.98 |
| | | 12 | 15.55 | - | 15.55 | 23.98 |
| | | 18 | 15.53 | - | 15.53 | 23.98 |
| | | 24 | 15.56 | - | 15.56 | 23.98 |
| | | 36 | 15.60 | - | 15.60 | 23.98 |
| | | 48 | 14.14 | - | 14.14 | 23.98 |
| | | 54 | 14.07 | - | 14.07 | 23.98 |
| 5200 | 40 | 6 | 15.95 | - | 15.95 | 23.98 |
| | | 9 | 16.06 | - | 16.06 | 23.98 |
| | | 12 | 16.06 | - | 16.06 | 23.98 |
| | | 18 | 16.01 | - | 16.01 | 23.98 |
| | | 24 | 16.06 | - | 16.06 | 23.98 |
| | | 36 | 16.05 | - | 16.05 | 23.98 |
| | | 48 | 14.40 | - | 14.40 | 23.98 |
| | | 54 | 14.42 | - | 14.42 | 23.98 |
| 5240 | 48 | 6 | 16.03 | - | 16.03 | 23.98 |
| | | 9 | 15.99 | - | 15.99 | 23.98 |
| | | 12 | 15.99 | - | 15.99 | 23.98 |
| | | 18 | 15.96 | - | 15.96 | 23.98 |
| | | 24 | 15.93 | - | 15.93 | 23.98 |
| | | 36 | 15.85 | - | 15.85 | 23.98 |
| | | 48 | 14.18 | - | 14.18 | 23.98 |
| | | 54 | 14.19 | - | 14.19 | 23.98 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 1)

Conducted Output Power Measurements (802.11a Mode: 5180~5240)

| 802.11a Mode | | Rate (Mbps) | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-----------------|-------------|-------------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 6 | 18.78 | 23.98 |
| | | 9 | 18.72 | 23.98 |
| | | 12 | 18.77 | 23.98 |
| | | 18 | 18.70 | 23.98 |
| | | 24 | 18.71 | 23.98 |
| | | 36 | 18.75 | 23.98 |
| | | 48 | 17.16 | 23.98 |
| | | 54 | 17.12 | 23.98 |
| 5200 | 40 | 6 | 18.93 | 23.98 |
| | | 9 | 19.01 | 23.98 |
| | | 12 | 19.02 | 23.98 |
| | | 18 | 18.99 | 23.98 |
| | | 24 | 19.03 | 23.98 |
| | | 36 | 19.02 | 23.98 |
| | | 48 | 17.36 | 23.98 |
| | | 54 | 17.37 | 23.98 |
| 5240 | 48 | 6 | 18.88 | 23.98 |
| | | 9 | 18.89 | 23.98 |
| | | 12 | 18.90 | 23.98 |
| | | 18 | 18.88 | 23.98 |
| | | 24 | 18.88 | 23.98 |
| | | 36 | 18.83 | 23.98 |
| | | 48 | 17.17 | 23.98 |
| | | 54 | 17.17 | 23.98 |

Ant.0

802.11a (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5260~5320)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5260 | 52 | 6 | 14.42 | - | 14.42 | 23.98 |
| | | 9 | 14.49 | - | 14.49 | 23.98 |
| | | 12 | 14.51 | - | 14.51 | 23.98 |
| | | 18 | 14.52 | - | 14.52 | 23.98 |
| | | 24 | 14.51 | - | 14.51 | 23.98 |
| | | 36 | 14.54 | - | 14.54 | 23.98 |
| | | 48 | 12.65 | - | 12.65 | 23.98 |
| | | 54 | 12.64 | - | 12.64 | 23.98 |
| 5300 | 60 | 6 | 14.77 | - | 14.77 | 23.98 |
| | | 9 | 14.85 | - | 14.85 | 23.98 |
| | | 12 | 14.85 | - | 14.85 | 23.98 |
| | | 18 | 14.88 | - | 14.88 | 23.98 |
| | | 24 | 14.91 | - | 14.91 | 23.98 |
| | | 36 | 14.90 | - | 14.90 | 23.98 |
| | | 48 | 13.03 | - | 13.03 | 23.98 |
| | | 54 | 13.06 | - | 13.06 | 23.98 |
| 5320 | 64 | 6 | 15.22 | - | 15.22 | 23.98 |
| | | 9 | 15.29 | - | 15.29 | 23.98 |
| | | 12 | 15.31 | - | 15.31 | 23.98 |
| | | 18 | 15.32 | - | 15.32 | 23.98 |
| | | 24 | 15.33 | - | 15.33 | 23.98 |
| | | 36 | 15.30 | - | 15.30 | 23.98 |
| | | 48 | 13.52 | - | 13.52 | 23.98 |
| | | 54 | 13.46 | - | 13.46 | 23.98 |

Ant.1

802.11a (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5260~5320)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5260 | 52 | 6 | 14.80 | - | 14.80 | 23.98 |
| | | 9 | 14.86 | - | 14.86 | 23.98 |
| | | 12 | 14.86 | - | 14.86 | 23.98 |
| | | 18 | 14.86 | - | 14.86 | 23.98 |
| | | 24 | 14.84 | - | 14.84 | 23.98 |
| | | 36 | 14.88 | - | 14.88 | 23.98 |
| | | 48 | 13.03 | - | 13.03 | 23.98 |
| | | 54 | 13.01 | - | 13.01 | 23.98 |
| 5300 | 60 | 6 | 15.11 | - | 15.11 | 23.98 |
| | | 9 | 15.18 | - | 15.18 | 23.98 |
| | | 12 | 15.19 | - | 15.19 | 23.98 |
| | | 18 | 15.14 | - | 15.14 | 23.98 |
| | | 24 | 15.20 | - | 15.20 | 23.98 |
| | | 36 | 15.19 | - | 15.19 | 23.98 |
| | | 48 | 13.26 | - | 13.26 | 23.98 |
| | | 54 | 13.28 | - | 13.28 | 23.98 |
| 5320 | 64 | 6 | 15.52 | - | 15.52 | 23.98 |
| | | 9 | 15.60 | - | 15.60 | 23.98 |
| | | 12 | 15.67 | - | 15.67 | 23.98 |
| | | 18 | 15.68 | - | 15.68 | 23.98 |
| | | 24 | 15.66 | - | 15.66 | 23.98 |
| | | 36 | 15.60 | - | 15.60 | 23.98 |
| | | 48 | 13.80 | - | 13.80 | 23.98 |
| | | 54 | 13.84 | - | 13.84 | 23.98 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 2A)

Conducted Output Power Measurements (802.11a Mode: 5260~5320)

| 802.11a Mode | | Rate (Mbps) | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-----------------|-------------|-------------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 6 | 17.62 | 23.98 |
| | | 9 | 17.69 | 23.98 |
| | | 12 | 17.70 | 23.98 |
| | | 18 | 17.70 | 23.98 |
| | | 24 | 17.69 | 23.98 |
| | | 36 | 17.72 | 23.98 |
| | | 48 | 15.85 | 23.98 |
| | | 54 | 15.84 | 23.98 |
| 5300 | 60 | 6 | 17.95 | 23.98 |
| | | 9 | 18.03 | 23.98 |
| | | 12 | 18.03 | 23.98 |
| | | 18 | 18.02 | 23.98 |
| | | 24 | 18.07 | 23.98 |
| | | 36 | 18.06 | 23.98 |
| | | 48 | 16.16 | 23.98 |
| | | 54 | 16.18 | 23.98 |
| 5320 | 64 | 6 | 18.38 | 23.98 |
| | | 9 | 18.46 | 23.98 |
| | | 12 | 18.50 | 23.98 |
| | | 18 | 18.51 | 23.98 |
| | | 24 | 18.51 | 23.98 |
| | | 36 | 18.46 | 23.98 |
| | | 48 | 16.67 | 23.98 |
| | | 54 | 16.66 | 23.98 |

Ant.0

802.11a (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5500~5720)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5500 | 100 | 6 | 15.48 | - | 15.48 | 23.98 |
| | | 9 | 15.58 | - | 15.58 | 23.98 |
| | | 12 | 15.58 | - | 15.58 | 23.98 |
| | | 18 | 15.60 | - | 15.60 | 23.98 |
| | | 24 | 15.61 | - | 15.61 | 23.98 |
| | | 36 | 15.62 | - | 15.62 | 23.98 |
| | | 48 | 13.70 | - | 13.70 | 23.98 |
| | | 54 | 13.78 | - | 13.78 | 23.98 |
| 5580 | 116 | 6 | 15.71 | - | 15.71 | 23.98 |
| | | 9 | 15.77 | - | 15.77 | 23.98 |
| | | 12 | 15.79 | - | 15.79 | 23.98 |
| | | 18 | 15.79 | - | 15.79 | 23.98 |
| | | 24 | 15.81 | - | 15.81 | 23.98 |
| | | 36 | 15.82 | - | 15.82 | 23.98 |
| | | 48 | 14.02 | - | 14.02 | 23.98 |
| | | 54 | 13.98 | - | 13.98 | 23.98 |
| 5720 | 144 | 6 | 14.63 | - | 14.63 | 23.98 |
| | | 9 | 14.69 | - | 14.69 | 23.98 |
| | | 12 | 14.74 | - | 14.74 | 23.98 |
| | | 18 | 14.77 | - | 14.77 | 23.98 |
| | | 24 | 14.71 | - | 14.71 | 23.98 |
| | | 36 | 14.68 | - | 14.68 | 23.98 |
| | | 48 | 13.01 | - | 13.01 | 23.98 |
| | | 54 | 13.01 | - | 13.01 | 23.98 |

Ant.1

802.11a (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5500~5720)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5500 | 100 | 6 | 15.35 | - | 15.35 | 23.98 |
| | | 9 | 15.44 | - | 15.44 | 23.98 |
| | | 12 | 15.40 | - | 15.40 | 23.98 |
| | | 18 | 15.45 | - | 15.45 | 23.98 |
| | | 24 | 15.45 | - | 15.45 | 23.98 |
| | | 36 | 15.47 | - | 15.47 | 23.98 |
| | | 48 | 13.66 | - | 13.66 | 23.98 |
| | | 54 | 13.71 | - | 13.71 | 23.98 |
| 5580 | 116 | 6 | 15.36 | - | 15.36 | 23.98 |
| | | 9 | 15.43 | - | 15.43 | 23.98 |
| | | 12 | 15.45 | - | 15.45 | 23.98 |
| | | 18 | 15.48 | - | 15.48 | 23.98 |
| | | 24 | 15.49 | - | 15.49 | 23.98 |
| | | 36 | 15.41 | - | 15.41 | 23.98 |
| | | 48 | 13.65 | - | 13.65 | 23.98 |
| | | 54 | 13.73 | - | 13.73 | 23.98 |
| 5720 | 144 | 6 | 15.91 | - | 15.91 | 23.98 |
| | | 9 | 15.98 | - | 15.98 | 23.98 |
| | | 12 | 15.95 | - | 15.95 | 23.98 |
| | | 18 | 15.96 | - | 15.96 | 23.98 |
| | | 24 | 15.93 | - | 15.93 | 23.98 |
| | | 36 | 15.94 | - | 15.94 | 23.98 |
| | | 48 | 14.51 | - | 14.51 | 23.98 |
| | | 54 | 14.57 | - | 14.57 | 23.98 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 2C)

Conducted Output Power Measurements (802.11a Mode: 5500~5720)

| 802.11a Mode | | Rate (Mbps) | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-----------------|-------------|-------------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 6 | 18.43 | 23.98 |
| | | 9 | 18.52 | 23.98 |
| | | 12 | 18.50 | 23.98 |
| | | 18 | 18.54 | 23.98 |
| | | 24 | 18.54 | 23.98 |
| | | 36 | 18.56 | 23.98 |
| | | 48 | 16.69 | 23.98 |
| | | 54 | 16.76 | 23.98 |
| 5580 | 116 | 6 | 18.55 | 23.98 |
| | | 9 | 18.61 | 23.98 |
| | | 12 | 18.63 | 23.98 |
| | | 18 | 18.65 | 23.98 |
| | | 24 | 18.66 | 23.98 |
| | | 36 | 18.63 | 23.98 |
| | | 48 | 16.85 | 23.98 |
| | | 54 | 16.87 | 23.98 |
| 5720 | 144 | 6 | 18.30 | 23.98 |
| | | 9 | 18.37 | 23.98 |
| | | 12 | 18.38 | 23.98 |
| | | 18 | 18.40 | 23.98 |
| | | 24 | 18.35 | 23.98 |
| | | 36 | 18.34 | 23.98 |
| | | 48 | 16.80 | 23.98 |
| | | 54 | 16.84 | 23.98 |

Ant.0

802.11a (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5745~5825)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5745 | 149 | 6 | 15.08 | - | 15.08 | 30 |
| | | 9 | 15.12 | - | 15.12 | 30 |
| | | 12 | 15.17 | - | 15.17 | 30 |
| | | 18 | 15.18 | - | 15.18 | 30 |
| | | 24 | 15.20 | - | 15.20 | 30 |
| | | 36 | 15.21 | - | 15.21 | 30 |
| | | 48 | 13.65 | - | 13.65 | 30 |
| | | 54 | 13.63 | - | 13.63 | 30 |
| 5785 | 157 | 6 | 15.17 | - | 15.17 | 30 |
| | | 9 | 15.27 | - | 15.27 | 30 |
| | | 12 | 15.33 | - | 15.33 | 30 |
| | | 18 | 15.35 | - | 15.35 | 30 |
| | | 24 | 15.26 | - | 15.26 | 30 |
| | | 36 | 15.29 | - | 15.29 | 30 |
| | | 48 | 13.78 | - | 13.78 | 30 |
| | | 54 | 13.75 | - | 13.75 | 30 |
| 5825 | 165 | 6 | 13.20 | - | 13.20 | 30 |
| | | 9 | 13.29 | - | 13.29 | 30 |
| | | 12 | 13.27 | - | 13.27 | 30 |
| | | 18 | 13.31 | - | 13.31 | 30 |
| | | 24 | 13.23 | - | 13.23 | 30 |
| | | 36 | 13.28 | - | 13.28 | 30 |
| | | 48 | 11.67 | - | 11.67 | 30 |
| | | 54 | 11.67 | - | 11.67 | 30 |

Ant.1

802.11a (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5745~5825)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5745 | 149 | 6 | 14.38 | - | 14.38 | 30 |
| | | 9 | 14.39 | - | 14.39 | 30 |
| | | 12 | 14.45 | - | 14.45 | 30 |
| | | 18 | 14.39 | - | 14.39 | 30 |
| | | 24 | 14.43 | - | 14.43 | 30 |
| | | 36 | 14.46 | - | 14.46 | 30 |
| | | 48 | 12.87 | - | 12.87 | 30 |
| | | 54 | 12.94 | - | 12.94 | 30 |
| 5785 | 157 | 6 | 14.30 | - | 14.30 | 30 |
| | | 9 | 14.32 | - | 14.32 | 30 |
| | | 12 | 14.37 | - | 14.37 | 30 |
| | | 18 | 14.42 | - | 14.42 | 30 |
| | | 24 | 14.39 | - | 14.39 | 30 |
| | | 36 | 14.44 | - | 14.44 | 30 |
| | | 48 | 12.99 | - | 12.99 | 30 |
| | | 54 | 12.96 | - | 12.96 | 30 |
| 5825 | 165 | 6 | 12.28 | - | 12.28 | 30 |
| | | 9 | 12.29 | - | 12.29 | 30 |
| | | 12 | 12.36 | - | 12.36 | 30 |
| | | 18 | 12.35 | - | 12.35 | 30 |
| | | 24 | 12.42 | - | 12.42 | 30 |
| | | 36 | 12.42 | - | 12.42 | 30 |
| | | 48 | 10.57 | - | 10.57 | 30 |
| | | 54 | 10.54 | - | 10.54 | 30 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 3)

Conducted Output Power Measurements (802.11a Mode: 5745~5825)

| 802.11a Mode | | Rate (Mbps) | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-----------------|-------------|-------------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 6 | 17.75 | 30 |
| | | 9 | 17.77 | 30 |
| | | 12 | 17.83 | 30 |
| | | 18 | 17.80 | 30 |
| | | 24 | 17.83 | 30 |
| | | 36 | 17.85 | 30 |
| | | 48 | 16.28 | 30 |
| | | 54 | 16.30 | 30 |
| 5785 | 157 | 6 | 17.76 | 30 |
| | | 9 | 17.82 | 30 |
| | | 12 | 17.87 | 30 |
| | | 18 | 17.91 | 30 |
| | | 24 | 17.85 | 30 |
| | | 36 | 17.89 | 30 |
| | | 48 | 16.40 | 30 |
| | | 54 | 16.37 | 30 |
| 5825 | 165 | 6 | 15.76 | 30 |
| | | 9 | 15.81 | 30 |
| | | 12 | 15.84 | 30 |
| | | 18 | 15.85 | 30 |
| | | 24 | 15.84 | 30 |
| | | 36 | 15.87 | 30 |
| | | 48 | 14.15 | 30 |
| | | 54 | 14.13 | 30 |

Ant.0

802.11n_HT20 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5180~5240)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 0 | 15.75 | - | 15.75 | 23.98 |
| | | 1 | 15.42 | - | 15.42 | 23.98 |
| | | 2 | 15.64 | - | 15.64 | 23.98 |
| | | 3 | 15.63 | - | 15.63 | 23.98 |
| | | 4 | 15.61 | - | 15.61 | 23.98 |
| | | 5 | 15.60 | - | 15.60 | 23.98 |
| | | 6 | 13.93 | - | 13.93 | 23.98 |
| | | 7 | 13.92 | - | 13.92 | 23.98 |
| 5200 | 40 | 0 | 15.74 | - | 15.74 | 23.98 |
| | | 1 | 15.80 | - | 15.80 | 23.98 |
| | | 2 | 15.80 | - | 15.80 | 23.98 |
| | | 3 | 15.80 | - | 15.80 | 23.98 |
| | | 4 | 15.82 | - | 15.82 | 23.98 |
| | | 5 | 15.84 | - | 15.84 | 23.98 |
| | | 6 | 14.20 | - | 14.20 | 23.98 |
| | | 7 | 14.16 | - | 14.16 | 23.98 |
| 5240 | 48 | 0 | 15.40 | - | 15.40 | 23.98 |
| | | 1 | 15.46 | - | 15.46 | 23.98 |
| | | 2 | 15.49 | - | 15.49 | 23.98 |
| | | 3 | 15.53 | - | 15.53 | 23.98 |
| | | 4 | 15.51 | - | 15.51 | 23.98 |
| | | 5 | 15.53 | - | 15.53 | 23.98 |
| | | 6 | 13.84 | - | 13.84 | 23.98 |
| | | 7 | 13.85 | - | 13.85 | 23.98 |

Ant.1

802.11n_HT20 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5180~5240)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 0 | 15.38 | - | 15.38 | 23.98 |
| | | 1 | 15.44 | - | 15.44 | 23.98 |
| | | 2 | 15.47 | - | 15.47 | 23.98 |
| | | 3 | 15.57 | - | 15.57 | 23.98 |
| | | 4 | 15.44 | - | 15.44 | 23.98 |
| | | 5 | 15.58 | - | 15.58 | 23.98 |
| | | 6 | 13.86 | - | 13.86 | 23.98 |
| | | 7 | 13.76 | - | 13.76 | 23.98 |
| 5200 | 40 | 0 | 15.72 | - | 15.72 | 23.98 |
| | | 1 | 15.69 | - | 15.69 | 23.98 |
| | | 2 | 15.74 | - | 15.74 | 23.98 |
| | | 3 | 15.74 | - | 15.74 | 23.98 |
| | | 4 | 15.72 | - | 15.72 | 23.98 |
| | | 5 | 15.83 | - | 15.83 | 23.98 |
| | | 6 | 14.02 | - | 14.02 | 23.98 |
| | | 7 | 14.02 | - | 14.02 | 23.98 |
| 5240 | 48 | 0 | 15.50 | - | 15.50 | 23.98 |
| | | 1 | 15.53 | - | 15.53 | 23.98 |
| | | 2 | 15.52 | - | 15.52 | 23.98 |
| | | 3 | 15.51 | - | 15.51 | 23.98 |
| | | 4 | 15.57 | - | 15.57 | 23.98 |
| | | 5 | 15.53 | - | 15.53 | 23.98 |
| | | 6 | 13.85 | - | 13.85 | 23.98 |
| | | 7 | 13.89 | - | 13.89 | 23.98 |

■ **TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 1)**

Conducted Output Power Measurements (802.11n_HT20 Mode: 5180~5240)

| 802.11n_HT20 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 0 | 18.58 | 23.98 |
| | | 1 | 18.44 | 23.98 |
| | | 2 | 18.57 | 23.98 |
| | | 3 | 18.61 | 23.98 |
| | | 4 | 18.54 | 23.98 |
| | | 5 | 18.60 | 23.98 |
| | | 6 | 16.91 | 23.98 |
| | | 7 | 16.85 | 23.98 |
| 5200 | 40 | 0 | 18.74 | 23.98 |
| | | 1 | 18.76 | 23.98 |
| | | 2 | 18.78 | 23.98 |
| | | 3 | 18.78 | 23.98 |
| | | 4 | 18.78 | 23.98 |
| | | 5 | 18.85 | 23.98 |
| | | 6 | 17.12 | 23.98 |
| | | 7 | 17.10 | 23.98 |
| 5240 | 48 | 0 | 18.46 | 23.98 |
| | | 1 | 18.51 | 23.98 |
| | | 2 | 18.52 | 23.98 |
| | | 3 | 18.53 | 23.98 |
| | | 4 | 18.55 | 23.98 |
| | | 5 | 18.54 | 23.98 |
| | | 6 | 16.86 | 23.98 |
| | | 7 | 16.88 | 23.98 |

Ant.0

802.11n_HT20 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5260~5320)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5260 | 52 | 0 | 14.19 | - | 14.19 | 23.98 |
| | | 1 | 14.24 | - | 14.24 | 23.98 |
| | | 2 | 14.27 | - | 14.27 | 23.98 |
| | | 3 | 14.29 | - | 14.29 | 23.98 |
| | | 4 | 14.30 | - | 14.30 | 23.98 |
| | | 5 | 14.29 | - | 14.29 | 23.98 |
| | | 6 | 12.36 | - | 12.36 | 23.98 |
| | | 7 | 12.44 | - | 12.44 | 23.98 |
| 5300 | 60 | 0 | 14.48 | - | 14.48 | 23.98 |
| | | 1 | 14.56 | - | 14.56 | 23.98 |
| | | 2 | 14.55 | - | 14.55 | 23.98 |
| | | 3 | 14.57 | - | 14.57 | 23.98 |
| | | 4 | 14.57 | - | 14.57 | 23.98 |
| | | 5 | 14.61 | - | 14.61 | 23.98 |
| | | 6 | 12.76 | - | 12.76 | 23.98 |
| | | 7 | 12.69 | - | 12.69 | 23.98 |
| 5320 | 64 | 0 | 14.43 | - | 14.43 | 23.98 |
| | | 1 | 14.51 | - | 14.51 | 23.98 |
| | | 2 | 14.55 | - | 14.55 | 23.98 |
| | | 3 | 14.57 | - | 14.57 | 23.98 |
| | | 4 | 14.58 | - | 14.58 | 23.98 |
| | | 5 | 14.57 | - | 14.57 | 23.98 |
| | | 6 | 12.72 | - | 12.72 | 23.98 |
| | | 7 | 12.75 | - | 12.75 | 23.98 |

Ant.1

802.11n_HT20 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5260~5320)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5260 | 52 | 0 | 14.88 | - | 14.88 | 23.98 |
| | | 1 | 14.91 | - | 14.91 | 23.98 |
| | | 2 | 14.90 | - | 14.90 | 23.98 |
| | | 3 | 14.89 | - | 14.89 | 23.98 |
| | | 4 | 14.88 | - | 14.88 | 23.98 |
| | | 5 | 14.80 | - | 14.80 | 23.98 |
| | | 6 | 12.92 | - | 12.92 | 23.98 |
| | | 7 | 12.87 | - | 12.87 | 23.98 |
| 5300 | 60 | 0 | 15.37 | - | 15.37 | 23.98 |
| | | 1 | 15.41 | - | 15.41 | 23.98 |
| | | 2 | 15.32 | - | 15.32 | 23.98 |
| | | 3 | 15.34 | - | 15.34 | 23.98 |
| | | 4 | 15.32 | - | 15.32 | 23.98 |
| | | 5 | 15.29 | - | 15.29 | 23.98 |
| | | 6 | 13.44 | - | 13.44 | 23.98 |
| | | 7 | 12.44 | - | 12.44 | 23.98 |
| 5320 | 64 | 0 | 15.00 | - | 15.00 | 23.98 |
| | | 1 | 15.17 | - | 15.17 | 23.98 |
| | | 2 | 15.12 | - | 15.12 | 23.98 |
| | | 3 | 15.11 | - | 15.11 | 23.98 |
| | | 4 | 15.11 | - | 15.11 | 23.98 |
| | | 5 | 15.10 | - | 15.10 | 23.98 |
| | | 6 | 13.25 | - | 13.25 | 23.98 |
| | | 7 | 13.29 | - | 13.29 | 23.98 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 2A)

Conducted Output Power Measurements 802.11n_HT20 Mode: 5260~5320)

| 802.11n_HT20 Mode | | Rate (Mbps) | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-------------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 0 | 17.55 | 23.98 |
| | | 1 | 17.59 | 23.98 |
| | | 2 | 17.60 | 23.98 |
| | | 3 | 17.61 | 23.98 |
| | | 4 | 17.61 | 23.98 |
| | | 5 | 17.56 | 23.98 |
| | | 6 | 15.65 | 23.98 |
| | | 7 | 15.67 | 23.98 |
| 5300 | 60 | 0 | 17.95 | 23.98 |
| | | 1 | 18.01 | 23.98 |
| | | 2 | 17.95 | 23.98 |
| | | 3 | 17.97 | 23.98 |
| | | 4 | 17.96 | 23.98 |
| | | 5 | 17.97 | 23.98 |
| | | 6 | 16.12 | 23.98 |
| | | 7 | 15.58 | 23.98 |
| 5320 | 64 | 0 | 17.73 | 23.98 |
| | | 1 | 17.86 | 23.98 |
| | | 2 | 17.85 | 23.98 |
| | | 3 | 17.85 | 23.98 |
| | | 4 | 17.86 | 23.98 |
| | | 5 | 17.85 | 23.98 |
| | | 6 | 16.00 | 23.98 |
| | | 7 | 16.03 | 23.98 |

Ant.0

802.11n_HT20 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5500~5720)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5500 | 100 | 0 | 15.23 | - | 15.23 | 23.98 |
| | | 1 | 15.30 | - | 15.30 | 23.98 |
| | | 2 | 15.28 | - | 15.28 | 23.98 |
| | | 3 | 15.30 | - | 15.30 | 23.98 |
| | | 4 | 15.31 | - | 15.31 | 23.98 |
| | | 5 | 15.23 | - | 15.23 | 23.98 |
| | | 6 | 13.47 | - | 13.47 | 23.98 |
| | | 7 | 13.42 | - | 13.42 | 23.98 |
| 5580 | 116 | 0 | 15.48 | - | 15.48 | 23.98 |
| | | 1 | 15.55 | - | 15.55 | 23.98 |
| | | 2 | 15.56 | - | 15.56 | 23.98 |
| | | 3 | 15.46 | - | 15.46 | 23.98 |
| | | 4 | 15.52 | - | 15.52 | 23.98 |
| | | 5 | 15.57 | - | 15.57 | 23.98 |
| | | 6 | 13.76 | - | 13.76 | 23.98 |
| | | 7 | 13.77 | - | 13.77 | 23.98 |
| 5720 | 144 | 0 | 16.22 | - | 16.22 | 23.98 |
| | | 1 | 16.27 | - | 16.27 | 23.98 |
| | | 2 | 16.28 | - | 16.28 | 23.98 |
| | | 3 | 16.29 | - | 16.29 | 23.98 |
| | | 4 | 15.18 | - | 15.18 | 23.98 |
| | | 5 | 15.09 | - | 15.09 | 23.98 |
| | | 6 | 13.38 | - | 13.38 | 23.98 |
| | | 7 | 13.40 | - | 13.40 | 23.98 |

Ant.1

802.11n_HT20 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5500~5720)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5500 | 100 | 0 | 15.17 | - | 15.17 | 23.98 |
| | | 1 | 15.21 | - | 15.21 | 23.98 |
| | | 2 | 15.24 | - | 15.24 | 23.98 |
| | | 3 | 15.25 | - | 15.25 | 23.98 |
| | | 4 | 15.28 | - | 15.28 | 23.98 |
| | | 5 | 15.31 | - | 15.31 | 23.98 |
| | | 6 | 13.50 | - | 13.50 | 23.98 |
| | | 7 | 13.54 | - | 13.54 | 23.98 |
| 5580 | 116 | 0 | 15.20 | - | 15.20 | 23.98 |
| | | 1 | 15.28 | - | 15.28 | 23.98 |
| | | 2 | 15.32 | - | 15.32 | 23.98 |
| | | 3 | 15.34 | - | 15.34 | 23.98 |
| | | 4 | 15.22 | - | 15.22 | 23.98 |
| | | 5 | 15.32 | - | 15.32 | 23.98 |
| | | 6 | 13.55 | - | 13.55 | 23.98 |
| | | 7 | 13.56 | - | 13.56 | 23.98 |
| 5720 | 144 | 0 | 14.27 | - | 14.27 | 23.98 |
| | | 1 | 14.38 | - | 14.38 | 23.98 |
| | | 2 | 14.40 | - | 14.40 | 23.98 |
| | | 3 | 14.42 | - | 14.42 | 23.98 |
| | | 4 | 14.52 | - | 14.52 | 23.98 |
| | | 5 | 14.46 | - | 14.46 | 23.98 |
| | | 6 | 12.53 | - | 12.53 | 23.98 |
| | | 7 | 12.93 | - | 12.93 | 23.98 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 2C)

Conducted Output Power Measurements (802.11n_HT20 Mode: 5500~5720)

| 802.11n_HT20 Mode | | Rate (Mbps) | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-------------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 0 | 18.21 | 23.98 |
| | | 1 | 18.27 | 23.98 |
| | | 2 | 18.27 | 23.98 |
| | | 3 | 18.29 | 23.98 |
| | | 4 | 18.31 | 23.98 |
| | | 5 | 18.28 | 23.98 |
| | | 6 | 16.50 | 23.98 |
| | | 7 | 16.49 | 23.98 |
| 5580 | 116 | 0 | 18.35 | 23.98 |
| | | 1 | 18.43 | 23.98 |
| | | 2 | 18.45 | 23.98 |
| | | 3 | 18.41 | 23.98 |
| | | 4 | 18.38 | 23.98 |
| | | 5 | 18.46 | 23.98 |
| | | 6 | 16.67 | 23.98 |
| | | 7 | 16.68 | 23.98 |
| 5720 | 144 | 0 | 18.31 | 23.98 |
| | | 1 | 18.39 | 23.98 |
| | | 2 | 18.40 | 23.98 |
| | | 3 | 18.42 | 23.98 |
| | | 4 | 17.87 | 23.98 |
| | | 5 | 17.79 | 23.98 |
| | | 6 | 15.98 | 23.98 |
| | | 7 | 16.18 | 23.98 |

Ant.0

802.11n_HT20 (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5745~5825)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5745 | 149 | 0 | 14.77 | - | 14.77 | 30 |
| | | 1 | 14.85 | - | 14.85 | 30 |
| | | 2 | 14.87 | - | 14.87 | 30 |
| | | 3 | 14.89 | - | 14.89 | 30 |
| | | 4 | 14.87 | - | 14.87 | 30 |
| | | 5 | 15.01 | - | 15.01 | 30 |
| | | 6 | 13.31 | - | 13.31 | 30 |
| | | 7 | 13.30 | - | 13.30 | 30 |
| 5785 | 157 | 0 | 14.82 | - | 14.82 | 30 |
| | | 1 | 14.80 | - | 14.80 | 30 |
| | | 2 | 14.90 | - | 14.90 | 30 |
| | | 3 | 14.92 | - | 14.92 | 30 |
| | | 4 | 14.89 | - | 14.89 | 30 |
| | | 5 | 14.88 | - | 14.88 | 30 |
| | | 6 | 13.38 | - | 13.38 | 30 |
| | | 7 | 13.36 | - | 13.36 | 30 |
| 5825 | 165 | 0 | 12.75 | - | 12.75 | 30 |
| | | 1 | 12.83 | - | 12.83 | 30 |
| | | 2 | 12.88 | - | 12.88 | 30 |
| | | 3 | 12.89 | - | 12.89 | 30 |
| | | 4 | 12.91 | - | 12.91 | 30 |
| | | 5 | 12.93 | - | 12.93 | 30 |
| | | 6 | 11.06 | - | 11.06 | 30 |
| | | 7 | 11.03 | - | 11.03 | 30 |

Ant.1

802.11n_HT20 (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5745~5825)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5745 | 149 | 0 | 14.24 | - | 14.24 | 30 |
| | | 1 | 14.30 | - | 14.30 | 30 |
| | | 2 | 14.34 | - | 14.34 | 30 |
| | | 3 | 14.34 | - | 14.34 | 30 |
| | | 4 | 14.37 | - | 14.37 | 30 |
| | | 5 | 14.37 | - | 14.37 | 30 |
| | | 6 | 12.83 | - | 12.83 | 30 |
| | | 7 | 12.13 | - | 12.13 | 30 |
| 5785 | 157 | 0 | 14.20 | - | 14.20 | 30 |
| | | 1 | 14.33 | - | 14.33 | 30 |
| | | 2 | 14.35 | - | 14.35 | 30 |
| | | 3 | 14.33 | - | 14.33 | 30 |
| | | 4 | 14.36 | - | 14.36 | 30 |
| | | 5 | 14.37 | - | 14.37 | 30 |
| | | 6 | 12.86 | - | 12.86 | 30 |
| | | 7 | 12.90 | - | 12.90 | 30 |
| 5825 | 165 | 0 | 12.11 | - | 12.11 | 30 |
| | | 1 | 12.20 | - | 12.20 | 30 |
| | | 2 | 12.23 | - | 12.23 | 30 |
| | | 3 | 12.20 | - | 12.20 | 30 |
| | | 4 | 12.10 | - | 12.10 | 30 |
| | | 5 | 12.13 | - | 12.13 | 30 |
| | | 6 | 10.31 | - | 10.31 | 30 |
| | | 7 | 10.37 | - | 10.37 | 30 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 3)

Conducted Output Power Measurements (802.11n_HT20 Mode: 5745~5825)

| 802.11n_HT20 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 0 | 17.52 | 30 |
| | | 1 | 17.59 | 30 |
| | | 2 | 17.62 | 30 |
| | | 3 | 17.63 | 30 |
| | | 4 | 17.63 | 30 |
| | | 5 | 17.71 | 30 |
| | | 6 | 16.08 | 30 |
| | | 7 | 15.74 | 30 |
| 5785 | 157 | 0 | 17.53 | 30 |
| | | 1 | 17.58 | 30 |
| | | 2 | 17.64 | 30 |
| | | 3 | 17.64 | 30 |
| | | 4 | 17.64 | 30 |
| | | 5 | 17.64 | 30 |
| | | 6 | 16.13 | 30 |
| | | 7 | 16.14 | 30 |
| 5825 | 165 | 0 | 15.45 | 30 |
| | | 1 | 15.53 | 30 |
| | | 2 | 15.57 | 30 |
| | | 3 | 15.56 | 30 |
| | | 4 | 15.52 | 30 |
| | | 5 | 15.55 | 30 |
| | | 6 | 13.70 | 30 |
| | | 7 | 13.72 | 30 |

Ant.0

802.11ac_VHT20 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5180~5240)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 0 | 15.39 | - | 15.39 | 23.98 |
| | | 1 | 15.46 | - | 15.46 | 23.98 |
| | | 2 | 15.47 | - | 15.47 | 23.98 |
| | | 3 | 15.46 | - | 15.46 | 23.98 |
| | | 4 | 15.44 | - | 15.44 | 23.98 |
| | | 5 | 15.44 | - | 15.44 | 23.98 |
| | | 6 | 15.47 | - | 15.47 | 23.98 |
| | | 7 | 13.87 | - | 13.87 | 23.98 |
| | | 8 | 12.61 | - | 12.61 | 23.98 |
| 5200 | 40 | 0 | 15.69 | - | 15.69 | 23.98 |
| | | 1 | 15.78 | - | 15.78 | 23.98 |
| | | 2 | 15.82 | - | 15.82 | 23.98 |
| | | 3 | 15.81 | - | 15.81 | 23.98 |
| | | 4 | 15.74 | - | 15.74 | 23.98 |
| | | 5 | 15.83 | - | 15.83 | 23.98 |
| | | 6 | 15.80 | - | 15.80 | 23.98 |
| | | 7 | 14.18 | - | 14.18 | 23.98 |
| | | 8 | 13.12 | - | 13.12 | 23.98 |
| 5240 | 48 | 0 | 15.51 | - | 15.51 | 23.98 |
| | | 1 | 15.60 | - | 15.60 | 23.98 |
| | | 2 | 15.60 | - | 15.60 | 23.98 |
| | | 3 | 15.61 | - | 15.61 | 23.98 |
| | | 4 | 15.65 | - | 15.65 | 23.98 |
| | | 5 | 15.66 | - | 15.66 | 23.98 |
| | | 6 | 15.66 | - | 15.66 | 23.98 |
| | | 7 | 14.05 | - | 14.05 | 23.98 |
| | | 8 | 12.91 | - | 12.91 | 23.98 |

Ant.1

802.11ac_VHT20 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5180~5240)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 0 | 15.19 | - | 15.19 | 23.98 |
| | | 1 | 15.26 | - | 15.26 | 23.98 |
| | | 2 | 15.26 | - | 15.26 | 23.98 |
| | | 3 | 15.27 | - | 15.27 | 23.98 |
| | | 4 | 15.30 | - | 15.30 | 23.98 |
| | | 5 | 15.35 | - | 15.35 | 23.98 |
| | | 6 | 15.37 | - | 15.37 | 23.98 |
| | | 7 | 13.65 | - | 13.65 | 23.98 |
| | | 8 | 12.58 | - | 12.58 | 23.98 |
| 5200 | 40 | 0 | 15.64 | - | 15.64 | 23.98 |
| | | 1 | 15.72 | - | 15.72 | 23.98 |
| | | 2 | 15.73 | - | 15.73 | 23.98 |
| | | 3 | 15.73 | - | 15.73 | 23.98 |
| | | 4 | 15.72 | - | 15.72 | 23.98 |
| | | 5 | 15.74 | - | 15.74 | 23.98 |
| | | 6 | 15.78 | - | 15.78 | 23.98 |
| | | 7 | 14.08 | - | 14.08 | 23.98 |
| | | 8 | 12.97 | - | 12.97 | 23.98 |
| 5240 | 48 | 0 | 15.54 | - | 15.54 | 23.98 |
| | | 1 | 15.46 | - | 15.46 | 23.98 |
| | | 2 | 15.50 | - | 15.50 | 23.98 |
| | | 3 | 15.58 | - | 15.58 | 23.98 |
| | | 4 | 15.59 | - | 15.59 | 23.98 |
| | | 5 | 15.71 | - | 15.71 | 23.98 |
| | | 6 | 15.66 | - | 15.66 | 23.98 |
| | | 7 | 13.87 | - | 13.87 | 23.98 |
| | | 8 | 12.82 | - | 12.82 | 23.98 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 1)

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5180~5240)

| 802.11ac_VHT20 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 0 | 18.30 | 23.98 |
| | | 1 | 18.37 | 23.98 |
| | | 2 | 18.38 | 23.98 |
| | | 3 | 18.38 | 23.98 |
| | | 4 | 18.38 | 23.98 |
| | | 5 | 18.41 | 23.98 |
| | | 6 | 18.43 | 23.98 |
| | | 7 | 16.77 | 23.98 |
| | | 8 | 15.61 | 23.98 |
| 5200 | 40 | 0 | 18.68 | 23.98 |
| | | 1 | 18.76 | 23.98 |
| | | 2 | 18.79 | 23.98 |
| | | 3 | 18.78 | 23.98 |
| | | 4 | 18.74 | 23.98 |
| | | 5 | 18.80 | 23.98 |
| | | 6 | 18.80 | 23.98 |
| | | 7 | 17.14 | 23.98 |
| | | 8 | 16.06 | 23.98 |
| 5240 | 48 | 0 | 18.54 | 23.98 |
| | | 1 | 18.54 | 23.98 |
| | | 2 | 18.56 | 23.98 |
| | | 3 | 18.61 | 23.98 |
| | | 4 | 18.63 | 23.98 |
| | | 5 | 18.70 | 23.98 |
| | | 6 | 18.67 | 23.98 |
| | | 7 | 16.97 | 23.98 |
| | | 8 | 15.88 | 23.98 |

Ant.0

802.11ac_VHT20 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5260~5320)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5260 | 52 | 0 | 14.25 | - | 14.25 | 23.98 |
| | | 1 | 14.24 | - | 14.24 | 23.98 |
| | | 2 | 14.28 | - | 14.28 | 23.98 |
| | | 3 | 14.29 | - | 14.29 | 23.98 |
| | | 4 | 14.28 | - | 14.28 | 23.98 |
| | | 5 | 14.31 | - | 14.31 | 23.98 |
| | | 6 | 14.29 | - | 14.29 | 23.98 |
| | | 7 | 12.41 | - | 12.41 | 23.98 |
| | | 8 | 11.51 | - | 11.51 | 23.98 |
| 5300 | 60 | 0 | 14.56 | - | 14.56 | 23.98 |
| | | 1 | 14.63 | - | 14.63 | 23.98 |
| | | 2 | 14.61 | - | 14.61 | 23.98 |
| | | 3 | 14.66 | - | 14.66 | 23.98 |
| | | 4 | 14.66 | - | 14.66 | 23.98 |
| | | 5 | 14.67 | - | 14.67 | 23.98 |
| | | 6 | 14.66 | - | 14.66 | 23.98 |
| | | 7 | 12.78 | - | 12.78 | 23.98 |
| | | 8 | 11.92 | - | 11.92 | 23.98 |
| 5320 | 64 | 0 | 14.49 | - | 14.49 | 23.98 |
| | | 1 | 14.58 | - | 14.58 | 23.98 |
| | | 2 | 14.60 | - | 14.60 | 23.98 |
| | | 3 | 14.60 | - | 14.60 | 23.98 |
| | | 4 | 14.69 | - | 14.69 | 23.98 |
| | | 5 | 14.65 | - | 14.65 | 23.98 |
| | | 6 | 14.67 | - | 14.67 | 23.98 |
| | | 7 | 12.79 | - | 12.79 | 23.98 |
| | | 8 | 11.88 | - | 11.88 | 23.98 |

Ant.1

802.11ac_VHT20 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5260~5320)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5260 | 52 | 0 | 14.64 | - | 14.64 | 23.98 |
| | | 1 | 14.63 | - | 14.63 | 23.98 |
| | | 2 | 14.75 | - | 14.75 | 23.98 |
| | | 3 | 14.76 | - | 14.76 | 23.98 |
| | | 4 | 14.84 | - | 14.84 | 23.98 |
| | | 5 | 14.82 | - | 14.82 | 23.98 |
| | | 6 | 14.84 | - | 14.84 | 23.98 |
| | | 7 | 13.01 | - | 13.01 | 23.98 |
| | | 8 | 12.02 | - | 12.02 | 23.98 |
| 5300 | 60 | 0 | 15.08 | - | 15.08 | 23.98 |
| | | 1 | 15.14 | - | 15.14 | 23.98 |
| | | 2 | 15.19 | - | 15.19 | 23.98 |
| | | 3 | 15.21 | - | 15.21 | 23.98 |
| | | 4 | 15.14 | - | 15.14 | 23.98 |
| | | 5 | 15.17 | - | 15.17 | 23.98 |
| | | 6 | 15.18 | - | 15.18 | 23.98 |
| | | 7 | 13.28 | - | 13.28 | 23.98 |
| | | 8 | 12.15 | - | 12.15 | 23.98 |
| 5320 | 64 | 0 | 15.08 | - | 15.08 | 23.98 |
| | | 1 | 15.12 | - | 15.12 | 23.98 |
| | | 2 | 15.13 | - | 15.13 | 23.98 |
| | | 3 | 15.12 | - | 15.12 | 23.98 |
| | | 4 | 15.11 | - | 15.11 | 23.98 |
| | | 5 | 15.11 | - | 15.11 | 23.98 |
| | | 6 | 15.10 | - | 15.10 | 23.98 |
| | | 7 | 13.32 | - | 13.32 | 23.98 |
| | | 8 | 12.31 | - | 12.31 | 23.98 |

■ **TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 2A)**

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5260~5320)

| 802.11ac_VHT20 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5260 | 52 | 0 | 17.46 | 23.98 |
| | | 1 | 17.45 | 23.98 |
| | | 2 | 17.53 | 23.98 |
| | | 3 | 17.54 | 23.98 |
| | | 4 | 17.57 | 23.98 |
| | | 5 | 17.58 | 23.98 |
| | | 6 | 17.58 | 23.98 |
| | | 7 | 15.73 | 23.98 |
| | | 8 | 14.78 | 23.98 |
| 5300 | 60 | 0 | 17.83 | 23.98 |
| | | 1 | 17.90 | 23.98 |
| | | 2 | 17.92 | 23.98 |
| | | 3 | 17.95 | 23.98 |
| | | 4 | 17.91 | 23.98 |
| | | 5 | 17.93 | 23.98 |
| | | 6 | 17.93 | 23.98 |
| | | 7 | 16.04 | 23.98 |
| | | 8 | 15.05 | 23.98 |
| 5320 | 64 | 0 | 17.80 | 23.98 |
| | | 1 | 17.86 | 23.98 |
| | | 2 | 17.88 | 23.98 |
| | | 3 | 17.87 | 23.98 |
| | | 4 | 17.91 | 23.98 |
| | | 5 | 17.89 | 23.98 |
| | | 6 | 17.90 | 23.98 |
| | | 7 | 16.07 | 23.98 |
| | | 8 | 15.11 | 23.98 |

Ant.0

802.11ac_VHT20 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5500~5720)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5500 | 100 | 0 | 15.23 | - | 15.23 | 23.98 |
| | | 1 | 15.28 | - | 15.28 | 23.98 |
| | | 2 | 15.29 | - | 15.29 | 23.98 |
| | | 3 | 15.30 | - | 15.30 | 23.98 |
| | | 4 | 15.30 | - | 15.30 | 23.98 |
| | | 5 | 15.32 | - | 15.32 | 23.98 |
| | | 6 | 15.34 | - | 15.34 | 23.98 |
| | | 7 | 13.50 | - | 13.50 | 23.98 |
| 5580 | 116 | 0 | 15.39 | - | 15.39 | 23.98 |
| | | 1 | 15.46 | - | 15.46 | 23.98 |
| | | 2 | 15.49 | - | 15.49 | 23.98 |
| | | 3 | 15.51 | - | 15.51 | 23.98 |
| | | 4 | 15.48 | - | 15.48 | 23.98 |
| | | 5 | 15.51 | - | 15.51 | 23.98 |
| | | 6 | 15.50 | - | 15.50 | 23.98 |
| | | 7 | 13.67 | - | 13.67 | 23.98 |
| 5720 | 144 | 0 | 14.78 | - | 14.78 | 23.98 |
| | | 1 | 14.82 | - | 14.82 | 23.98 |
| | | 2 | 14.86 | - | 14.86 | 23.98 |
| | | 3 | 14.92 | - | 14.92 | 23.98 |
| | | 4 | 14.94 | - | 14.94 | 23.98 |
| | | 5 | 14.93 | - | 14.93 | 23.98 |
| | | 6 | 14.91 | - | 14.91 | 23.98 |
| | | 7 | 13.24 | - | 13.24 | 23.98 |
| | | 8 | 12.26 | - | 12.26 | 23.98 |

Ant.1

802.11ac_VHT20 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5500~5720)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5500 | 100 | 0 | 15.18 | - | 15.18 | 23.98 |
| | | 1 | 15.27 | - | 15.27 | 23.98 |
| | | 2 | 15.30 | - | 15.30 | 23.98 |
| | | 3 | 15.31 | - | 15.31 | 23.98 |
| | | 4 | 15.33 | - | 15.33 | 23.98 |
| | | 5 | 15.36 | - | 15.36 | 23.98 |
| | | 6 | 15.31 | - | 15.31 | 23.98 |
| | | 7 | 13.56 | - | 13.56 | 23.98 |
| | | 8 | 12.42 | - | 12.42 | 23.98 |
| 5580 | 116 | 0 | 14.82 | - | 14.82 | 23.98 |
| | | 1 | 14.84 | - | 14.84 | 23.98 |
| | | 2 | 14.90 | - | 14.90 | 23.98 |
| | | 3 | 14.92 | - | 14.92 | 23.98 |
| | | 4 | 14.89 | - | 14.89 | 23.98 |
| | | 5 | 14.91 | - | 14.91 | 23.98 |
| | | 6 | 14.91 | - | 14.91 | 23.98 |
| | | 7 | 13.10 | - | 13.10 | 23.98 |
| | | 8 | 11.98 | - | 11.98 | 23.98 |
| 5720 | 144 | 0 | 14.26 | - | 14.26 | 23.98 |
| | | 1 | 14.36 | - | 14.36 | 23.98 |
| | | 2 | 14.31 | - | 14.31 | 23.98 |
| | | 3 | 14.36 | - | 14.36 | 23.98 |
| | | 4 | 14.70 | - | 14.70 | 23.98 |
| | | 5 | 14.64 | - | 14.64 | 23.98 |
| | | 6 | 14.46 | - | 14.46 | 23.98 |
| | | 7 | 12.82 | - | 12.82 | 23.98 |
| | | 8 | 11.90 | - | 11.90 | 23.98 |

■ **TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 2C)**

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5500~5720)

| 802.11ac_VHT20 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5500 | 100 | 0 | 18.22 | 23.98 |
| | | 1 | 18.29 | 23.98 |
| | | 2 | 18.31 | 23.98 |
| | | 3 | 18.32 | 23.98 |
| | | 4 | 18.33 | 23.98 |
| | | 5 | 18.35 | 23.98 |
| | | 6 | 18.34 | 23.98 |
| | | 7 | 16.54 | 23.98 |
| | | 8 | 15.42 | 23.98 |
| 5580 | 116 | 0 | 18.12 | 23.98 |
| | | 1 | 18.17 | 23.98 |
| | | 2 | 18.21 | 23.98 |
| | | 3 | 18.23 | 23.98 |
| | | 4 | 18.20 | 23.98 |
| | | 5 | 18.23 | 23.98 |
| | | 6 | 18.22 | 23.98 |
| | | 7 | 16.40 | 23.98 |
| | | 8 | 15.27 | 23.98 |
| 5720 | 144 | 0 | 17.53 | 23.98 |
| | | 1 | 17.60 | 23.98 |
| | | 2 | 17.60 | 23.98 |
| | | 3 | 17.65 | 23.98 |
| | | 4 | 17.83 | 23.98 |
| | | 5 | 17.80 | 23.98 |
| | | 6 | 17.70 | 23.98 |
| | | 7 | 16.04 | 23.98 |
| | | 8 | 15.09 | 23.98 |

Ant.0

802.11ac_VHT20 (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5745~5825)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5745 | 149 | 0 | 14.35 | - | 14.35 | 30 |
| | | 1 | 14.45 | - | 14.45 | 30 |
| | | 2 | 14.47 | - | 14.47 | 30 |
| | | 3 | 14.47 | - | 14.47 | 30 |
| | | 4 | 14.47 | - | 14.47 | 30 |
| | | 5 | 14.47 | - | 14.47 | 30 |
| | | 6 | 14.49 | - | 14.49 | 30 |
| | | 7 | 12.93 | - | 12.93 | 30 |
| | | 8 | 11.86 | - | 11.86 | 30 |
| 5785 | 157 | 0 | 14.79 | - | 14.79 | 30 |
| | | 1 | 14.81 | - | 14.81 | 30 |
| | | 2 | 14.77 | - | 14.77 | 30 |
| | | 3 | 14.81 | - | 14.81 | 30 |
| | | 4 | 14.80 | - | 14.80 | 30 |
| | | 5 | 14.83 | - | 14.83 | 30 |
| | | 6 | 14.75 | - | 14.75 | 30 |
| | | 7 | 13.29 | - | 13.29 | 30 |
| | | 8 | 12.33 | - | 12.33 | 30 |
| 5825 | 165 | 0 | 12.62 | - | 12.62 | 30 |
| | | 1 | 12.71 | - | 12.71 | 30 |
| | | 2 | 12.71 | - | 12.71 | 30 |
| | | 3 | 12.83 | - | 12.83 | 30 |
| | | 4 | 12.75 | - | 12.75 | 30 |
| | | 5 | 12.75 | - | 12.75 | 30 |
| | | 6 | 12.77 | - | 12.77 | 30 |
| | | 7 | 10.90 | - | 10.90 | 30 |
| | | 8 | 9.86 | - | 9.86 | 30 |

Ant.1

802.11ac_VHT20 (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5745~5825)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5745 | 149 | 0 | 13.96 | - | 13.96 | 30 |
| | | 1 | 14.04 | - | 14.04 | 30 |
| | | 2 | 14.06 | - | 14.06 | 30 |
| | | 3 | 14.01 | - | 14.01 | 30 |
| | | 4 | 14.01 | - | 14.01 | 30 |
| | | 5 | 14.06 | - | 14.06 | 30 |
| | | 6 | 14.04 | - | 14.04 | 30 |
| | | 7 | 12.54 | - | 12.54 | 30 |
| | | 8 | 11.59 | - | 11.59 | 30 |
| 5785 | 157 | 0 | 14.52 | - | 14.52 | 30 |
| | | 1 | 14.54 | - | 14.54 | 30 |
| | | 2 | 14.47 | - | 14.47 | 30 |
| | | 3 | 14.51 | - | 14.51 | 30 |
| | | 4 | 14.45 | - | 14.45 | 30 |
| | | 5 | 14.32 | - | 14.32 | 30 |
| | | 6 | 14.38 | - | 14.38 | 30 |
| | | 7 | 12.87 | - | 12.87 | 30 |
| | | 8 | 11.87 | - | 11.87 | 30 |
| 5825 | 165 | 0 | 12.12 | - | 12.12 | 30 |
| | | 1 | 12.21 | - | 12.21 | 30 |
| | | 2 | 12.24 | - | 12.24 | 30 |
| | | 3 | 12.24 | - | 12.24 | 30 |
| | | 4 | 12.28 | - | 12.28 | 30 |
| | | 5 | 12.31 | - | 12.31 | 30 |
| | | 6 | 12.27 | - | 12.27 | 30 |
| | | 7 | 10.44 | - | 10.44 | 30 |
| | | 8 | 9.35 | - | 9.35 | 30 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 3)

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5745~5825)

| 802.11ac_VHT20 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5745 | 149 | 0 | 17.17 | 30 |
| | | 1 | 17.26 | 30 |
| | | 2 | 17.28 | 30 |
| | | 3 | 17.25 | 30 |
| | | 4 | 17.25 | 30 |
| | | 5 | 17.28 | 30 |
| | | 6 | 17.28 | 30 |
| | | 7 | 15.75 | 30 |
| | | 8 | 14.74 | 30 |
| 5785 | 157 | 0 | 17.67 | 30 |
| | | 1 | 17.69 | 30 |
| | | 2 | 17.63 | 30 |
| | | 3 | 17.67 | 30 |
| | | 4 | 17.64 | 30 |
| | | 5 | 17.59 | 30 |
| | | 6 | 17.58 | 30 |
| | | 7 | 16.09 | 30 |
| | | 8 | 15.11 | 30 |
| 5825 | 165 | 0 | 15.38 | 30 |
| | | 1 | 15.47 | 30 |
| | | 2 | 15.49 | 30 |
| | | 3 | 15.55 | 30 |
| | | 4 | 15.53 | 30 |
| | | 5 | 15.54 | 30 |
| | | 6 | 15.53 | 30 |
| | | 7 | 13.68 | 30 |
| | | 8 | 12.62 | 30 |

Ant.0

802.11n_HT40 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5190~5230)

| 802.11n_HT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5190 | 38 | 0 | 10.93 | - | 10.93 | 23.98 |
| | | 1 | 11.00 | - | 11.00 | 23.98 |
| | | 2 | 11.02 | - | 11.02 | 23.98 |
| | | 3 | 11.04 | - | 11.04 | 23.98 |
| | | 4 | 11.03 | - | 11.03 | 23.98 |
| | | 5 | 11.03 | - | 11.03 | 23.98 |
| | | 6 | 9.27 | - | 9.27 | 23.98 |
| | | 7 | 9.27 | - | 9.27 | 23.98 |
| 5230 | 46 | 0 | 15.28 | - | 15.28 | 23.98 |
| | | 1 | 15.35 | - | 15.35 | 23.98 |
| | | 2 | 15.31 | - | 15.31 | 23.98 |
| | | 3 | 15.33 | - | 15.33 | 23.98 |
| | | 4 | 15.35 | - | 15.35 | 23.98 |
| | | 5 | 15.33 | - | 15.33 | 23.98 |
| | | 6 | 13.67 | - | 13.67 | 23.98 |
| | | 7 | 13.71 | - | 13.71 | 23.98 |

Ant.1

802.11n_HT40 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5190~5230)

| 802.11n_HT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5190 | 38 | 0 | 10.91 | - | 10.91 | 23.98 |
| | | 1 | 11.01 | - | 11.01 | 23.98 |
| | | 2 | 11.01 | - | 11.01 | 23.98 |
| | | 3 | 11.03 | - | 11.03 | 23.98 |
| | | 4 | 11.06 | - | 11.06 | 23.98 |
| | | 5 | 11.09 | - | 11.09 | 23.98 |
| | | 6 | 11.08 | - | 11.08 | 23.98 |
| | | 7 | 9.27 | - | 9.27 | 23.98 |
| 5230 | 46 | 0 | 15.48 | - | 15.48 | 23.98 |
| | | 1 | 15.55 | - | 15.55 | 23.98 |
| | | 2 | 15.49 | - | 15.49 | 23.98 |
| | | 3 | 15.55 | - | 15.55 | 23.98 |
| | | 4 | 15.55 | - | 15.55 | 23.98 |
| | | 5 | 15.57 | - | 15.57 | 23.98 |
| | | 6 | 13.84 | - | 13.84 | 23.98 |
| | | 7 | 13.82 | - | 13.82 | 23.98 |

■ TEST RESULTS _ Sum Data of Ant.0 and Ant.1 (UNII 1)

Conducted Output Power Measurements (802.11n_HT40 Mode: 5190~5230)

| 802.11n_HT40 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5190 | 38 | 0 | 13.93 | 23.98 |
| | | 1 | 14.02 | 23.98 |
| | | 2 | 14.03 | 23.98 |
| | | 3 | 14.05 | 23.98 |
| | | 4 | 14.06 | 23.98 |
| | | 5 | 14.07 | 23.98 |
| | | 6 | 13.23 | 23.98 |
| | | 7 | 12.28 | 23.98 |
| 5230 | 46 | 0 | 18.39 | 23.98 |
| | | 1 | 18.46 | 23.98 |
| | | 2 | 18.41 | 23.98 |
| | | 3 | 18.45 | 23.98 |
| | | 4 | 18.46 | 23.98 |
| | | 5 | 18.46 | 23.98 |
| | | 6 | 16.77 | 23.98 |
| | | 7 | 16.78 | 23.98 |

Ant.0

802.11n_HT40 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5270~5310)

| 802.11n_HT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5270 | 54 | 0 | 14.31 | - | 14.31 | 23.98 |
| | | 1 | 14.35 | - | 14.35 | 23.98 |
| | | 2 | 14.42 | - | 14.42 | 23.98 |
| | | 3 | 14.42 | - | 14.42 | 23.98 |
| | | 4 | 14.44 | - | 14.44 | 23.98 |
| | | 5 | 14.49 | - | 14.49 | 23.98 |
| | | 6 | 12.58 | - | 12.58 | 23.98 |
| | | 7 | 12.58 | - | 12.58 | 23.98 |
| 5310 | 62 | 0 | 10.59 | - | 10.59 | 23.98 |
| | | 1 | 10.68 | - | 10.68 | 23.98 |
| | | 2 | 10.69 | - | 10.69 | 23.98 |
| | | 3 | 10.72 | - | 10.72 | 23.98 |
| | | 4 | 10.81 | - | 10.81 | 23.98 |
| | | 5 | 10.75 | - | 10.75 | 23.98 |
| | | 6 | 8.64 | - | 8.64 | 23.98 |
| | | 7 | 8.58 | - | 8.58 | 23.98 |

Ant.1

802.11n_HT40 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5270~5310)

| 802.11n_HT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5270 | 54 | 0 | 14.79 | - | 14.79 | 23.98 |
| | | 1 | 14.86 | - | 14.86 | 23.98 |
| | | 2 | 14.89 | - | 14.89 | 23.98 |
| | | 3 | 14.90 | - | 14.90 | 23.98 |
| | | 4 | 14.89 | - | 14.89 | 23.98 |
| | | 5 | 14.91 | - | 14.91 | 23.98 |
| | | 6 | 13.04 | - | 13.04 | 23.98 |
| | | 7 | 13.08 | - | 13.08 | 23.98 |
| 5310 | 62 | 0 | 10.85 | - | 10.85 | 23.98 |
| | | 1 | 10.92 | - | 10.92 | 23.98 |
| | | 2 | 10.93 | - | 10.93 | 23.98 |
| | | 3 | 10.95 | - | 10.95 | 23.98 |
| | | 4 | 10.91 | - | 10.91 | 23.98 |
| | | 5 | 10.94 | - | 10.94 | 23.98 |
| | | 6 | 9.18 | - | 9.18 | 23.98 |
| | | 7 | 9.16 | - | 9.16 | 23.98 |

■ TEST RESULTS _ Sum Data of Ant.0 and Ant.1 (UNII 2A)

Conducted Output Power Measurements (802.11n_HT40 Mode: 5270~5310)

| 802.11n_HT40 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5270 | 54 | 0 | 17.56 | 23.98 |
| | | 1 | 17.62 | 23.98 |
| | | 2 | 17.67 | 23.98 |
| | | 3 | 17.67 | 23.98 |
| | | 4 | 17.68 | 23.98 |
| | | 5 | 17.71 | 23.98 |
| | | 6 | 15.82 | 23.98 |
| | | 7 | 15.84 | 23.98 |
| 5310 | 62 | 0 | 13.73 | 23.98 |
| | | 1 | 13.81 | 23.98 |
| | | 2 | 13.82 | 23.98 |
| | | 3 | 13.85 | 23.98 |
| | | 4 | 13.87 | 23.98 |
| | | 5 | 13.86 | 23.98 |
| | | 6 | 11.92 | 23.98 |
| | | 7 | 11.89 | 23.98 |

Ant.0

802.11n_HT40 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5510~5710)

| 802.11n_HT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5510 | 102 | 0 | 12.49 | - | 12.49 | 23.98 |
| | | 1 | 12.59 | - | 12.59 | 23.98 |
| | | 2 | 12.60 | - | 12.60 | 23.98 |
| | | 3 | 12.59 | - | 12.59 | 23.98 |
| | | 4 | 12.58 | - | 12.58 | 23.98 |
| | | 5 | 12.63 | - | 12.63 | 23.98 |
| | | 6 | 10.66 | - | 10.66 | 23.98 |
| | | 7 | 10.58 | - | 10.58 | 23.98 |
| 5550 | 110 | 0 | 15.43 | - | 15.43 | 23.98 |
| | | 1 | 15.48 | - | 15.48 | 23.98 |
| | | 2 | 15.47 | - | 15.47 | 23.98 |
| | | 3 | 15.48 | - | 15.48 | 23.98 |
| | | 4 | 15.39 | - | 15.39 | 23.98 |
| | | 5 | 15.43 | - | 15.43 | 23.98 |
| | | 6 | 13.89 | - | 13.89 | 23.98 |
| | | 7 | 13.91 | - | 13.91 | 23.98 |
| 5710 | 142 | 0 | 15.15 | - | 15.15 | 23.98 |
| | | 1 | 15.14 | - | 15.14 | 23.98 |
| | | 2 | 15.11 | - | 15.11 | 23.98 |
| | | 3 | 15.14 | - | 15.14 | 23.98 |
| | | 4 | 15.15 | - | 15.15 | 23.98 |
| | | 5 | 15.15 | - | 15.15 | 23.98 |
| | | 6 | 13.68 | - | 13.68 | 23.98 |
| | | 7 | 13.71 | - | 13.71 | 23.98 |

Ant.1

802.11n_HT40 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5510~5710)

| 802.11n_HT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5510 | 102 | 0 | 13.26 | - | 13.26 | 23.98 |
| | | 1 | 13.20 | - | 13.20 | 23.98 |
| | | 2 | 13.32 | - | 13.32 | 23.98 |
| | | 3 | 13.28 | - | 13.28 | 23.98 |
| | | 4 | 13.37 | - | 13.37 | 23.98 |
| | | 5 | 13.33 | - | 13.33 | 23.98 |
| | | 6 | 11.46 | - | 11.46 | 23.98 |
| | | 7 | 11.42 | - | 11.42 | 23.98 |
| 5550 | 110 | 0 | 15.71 | - | 15.71 | 23.98 |
| | | 1 | 15.78 | - | 15.78 | 23.98 |
| | | 2 | 15.80 | - | 15.80 | 23.98 |
| | | 3 | 15.83 | - | 15.83 | 23.98 |
| | | 4 | 15.84 | - | 15.84 | 23.98 |
| | | 5 | 15.87 | - | 15.87 | 23.98 |
| | | 6 | 14.13 | - | 14.13 | 23.98 |
| | | 7 | 14.14 | - | 14.14 | 23.98 |
| 5710 | 142 | 0 | 14.54 | - | 14.54 | 23.98 |
| | | 1 | 14.67 | - | 14.67 | 23.98 |
| | | 2 | 14.64 | - | 14.64 | 23.98 |
| | | 3 | 14.62 | - | 14.62 | 23.98 |
| | | 4 | 14.66 | - | 14.66 | 23.98 |
| | | 5 | 14.66 | - | 14.66 | 23.98 |
| | | 6 | 14.28 | - | 14.28 | 23.98 |
| | | 7 | 12.72 | - | 12.72 | 23.98 |

■ **TEST RESULTS _ Sum Data of Ant.0 and Ant.1 (UNII 2C)**

Conducted Output Power Measurements (802.11n_HT40 Mode: 5510~5710)

| 802.11n_HT40 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5510 | 102 | 0 | 15.89 | 23.98 |
| | | 1 | 15.91 | 23.98 |
| | | 2 | 15.98 | 23.98 |
| | | 3 | 15.95 | 23.98 |
| | | 4 | 15.99 | 23.98 |
| | | 5 | 16.00 | 23.98 |
| | | 6 | 14.08 | 23.98 |
| | | 7 | 14.02 | 23.98 |
| 5550 | 110 | 0 | 18.58 | 23.98 |
| | | 1 | 18.64 | 23.98 |
| | | 2 | 18.65 | 23.98 |
| | | 3 | 18.67 | 23.98 |
| | | 4 | 18.63 | 23.98 |
| | | 5 | 18.66 | 23.98 |
| | | 6 | 17.02 | 23.98 |
| | | 7 | 17.04 | 23.98 |
| 5710 | 142 | 0 | 17.86 | 23.98 |
| | | 1 | 17.92 | 23.98 |
| | | 2 | 17.89 | 23.98 |
| | | 3 | 17.89 | 23.98 |
| | | 4 | 17.92 | 23.98 |
| | | 5 | 17.92 | 23.98 |
| | | 6 | 17.00 | 23.98 |
| | | 7 | 16.24 | 23.98 |

Ant.0

802.11n_HT40 (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5755~5795)

| 802.11n_HT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5755 | 151 | 0 | 15.41 | - | 15.41 | 30 |
| | | 1 | 15.50 | - | 15.50 | 30 |
| | | 2 | 15.50 | - | 15.50 | 30 |
| | | 3 | 15.46 | - | 15.46 | 30 |
| | | 4 | 15.53 | - | 15.53 | 30 |
| | | 5 | 15.54 | - | 15.54 | 30 |
| | | 6 | 14.10 | - | 14.10 | 30 |
| | | 7 | 14.15 | - | 14.15 | 30 |
| 5795 | 159 | 0 | 14.69 | - | 14.69 | 30 |
| | | 1 | 14.76 | - | 14.76 | 30 |
| | | 2 | 14.82 | - | 14.82 | 30 |
| | | 3 | 14.85 | - | 14.85 | 30 |
| | | 4 | 14.87 | - | 14.87 | 30 |
| | | 5 | 14.89 | - | 14.89 | 30 |
| | | 6 | 13.38 | - | 13.38 | 30 |
| | | 7 | 13.38 | - | 13.38 | 30 |

Ant.1

802.11n_HT40 (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT40 Mode: 5755~5795)

| 802.11n_HT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5755 | 151 | 0 | 15.48 | - | 15.48 | 30 |
| | | 1 | 15.40 | - | 15.40 | 30 |
| | | 2 | 15.42 | - | 15.42 | 30 |
| | | 3 | 15.41 | - | 15.41 | 30 |
| | | 4 | 15.39 | - | 15.39 | 30 |
| | | 5 | 15.44 | - | 15.44 | 30 |
| | | 6 | 13.98 | - | 13.98 | 30 |
| | | 7 | 14.02 | - | 14.02 | 30 |
| 5795 | 159 | 0 | 14.40 | - | 14.40 | 30 |
| | | 1 | 14.52 | - | 14.52 | 30 |
| | | 2 | 14.56 | - | 14.56 | 30 |
| | | 3 | 14.59 | - | 14.59 | 30 |
| | | 4 | 14.60 | - | 14.60 | 30 |
| | | 5 | 14.65 | - | 14.65 | 30 |
| | | 6 | 13.06 | - | 13.06 | 30 |
| | | 7 | 13.11 | - | 13.11 | 30 |

■ **TEST RESULTS_ Sum Data of Ant.0 and Ant.1 (UNII 3)**

Conducted Output Power Measurements (802.11n_HT40 Mode: 5755~5795)

| 802.11n_HT40 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 0 | 18.46 | 30 |
| | | 1 | 18.46 | 30 |
| | | 2 | 18.47 | 30 |
| | | 3 | 18.45 | 30 |
| | | 4 | 18.47 | 30 |
| | | 5 | 18.50 | 30 |
| | | 6 | 17.05 | 30 |
| | | 7 | 17.10 | 30 |
| 5795 | 159 | 0 | 17.56 | 30 |
| | | 1 | 17.65 | 30 |
| | | 2 | 17.70 | 30 |
| | | 3 | 17.73 | 30 |
| | | 4 | 17.75 | 30 |
| | | 5 | 17.78 | 30 |
| | | 6 | 16.23 | 30 |
| | | 7 | 16.26 | 30 |

Ant.0

802.11ac_VHT40 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5190~5230)

| 802.11ac_VHT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5190 | 38 | 0 | 10.73 | - | 10.73 | 23.98 |
| | | 1 | 11.44 | - | 11.44 | 23.98 |
| | | 2 | 11.28 | - | 11.28 | 23.98 |
| | | 3 | 11.25 | - | 11.25 | 23.98 |
| | | 4 | 11.23 | - | 11.23 | 23.98 |
| | | 5 | 11.20 | - | 11.20 | 23.98 |
| | | 6 | 10.19 | - | 10.19 | 23.98 |
| | | 7 | 9.36 | - | 9.36 | 23.98 |
| | | 8 | 8.17 | - | 8.17 | 23.98 |
| | | 9 | 8.21 | - | 8.21 | 23.98 |
| 5230 | 46 | 0 | 15.21 | - | 15.21 | 23.98 |
| | | 1 | 15.25 | - | 15.25 | 23.98 |
| | | 2 | 15.30 | - | 15.30 | 23.98 |
| | | 3 | 15.31 | - | 15.31 | 23.98 |
| | | 4 | 15.33 | - | 15.33 | 23.98 |
| | | 5 | 15.33 | - | 15.33 | 23.98 |
| | | 6 | 15.37 | - | 15.37 | 23.98 |
| | | 7 | 13.69 | - | 13.69 | 23.98 |
| | | 8 | 12.53 | - | 12.53 | 23.98 |
| | | 9 | 12.59 | - | 12.59 | 23.98 |

Ant.1

802.11ac_VHT40 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5190~5230)

| 802.11ac_VHT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5190 | 38 | 0 | 10.97 | - | 10.97 | 23.98 |
| | | 1 | 11.08 | - | 11.08 | 23.98 |
| | | 2 | 11.12 | - | 11.12 | 23.98 |
| | | 3 | 11.16 | - | 11.16 | 23.98 |
| | | 4 | 11.18 | - | 11.18 | 23.98 |
| | | 5 | 11.19 | - | 11.19 | 23.98 |
| | | 6 | 11.20 | - | 11.20 | 23.98 |
| | | 7 | 9.33 | - | 9.33 | 23.98 |
| | | 8 | 8.23 | - | 8.23 | 23.98 |
| | | 9 | 8.20 | - | 8.20 | 23.98 |
| 5230 | 46 | 0 | 15.51 | - | 15.51 | 23.98 |
| | | 1 | 15.52 | - | 15.52 | 23.98 |
| | | 2 | 15.55 | - | 15.55 | 23.98 |
| | | 3 | 15.56 | - | 15.56 | 23.98 |
| | | 4 | 15.54 | - | 15.54 | 23.98 |
| | | 5 | 15.52 | - | 15.52 | 23.98 |
| | | 6 | 15.55 | - | 15.55 | 23.98 |
| | | 7 | 13.86 | - | 13.86 | 23.98 |
| | | 8 | 12.72 | - | 12.72 | 23.98 |
| | | 9 | 12.75 | - | 12.75 | 23.98 |

■ TEST RESULTS_ Sum Data of Ant.0 and Ant.1 (UNII 1)

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5190~5230)

| 802.11ac_VHT40 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5190 | 38 | 0 | 13.86 | 23.98 |
| | | 1 | 14.27 | 23.98 |
| | | 2 | 14.21 | 23.98 |
| | | 3 | 14.22 | 23.98 |
| | | 4 | 14.22 | 23.98 |
| | | 5 | 14.21 | 23.98 |
| | | 6 | 13.72 | 23.98 |
| | | 7 | 12.36 | 23.98 |
| | | 8 | 11.21 | 23.98 |
| | | 9 | 11.22 | 23.98 |
| 5230 | 46 | 0 | 18.37 | 23.98 |
| | | 1 | 18.40 | 23.98 |
| | | 2 | 18.44 | 23.98 |
| | | 3 | 18.45 | 23.98 |
| | | 4 | 18.45 | 23.98 |
| | | 5 | 18.44 | 23.98 |
| | | 6 | 18.47 | 23.98 |
| | | 7 | 16.79 | 23.98 |
| | | 8 | 15.64 | 23.98 |
| | | 9 | 15.68 | 23.98 |

Ant.0

802.11ac_VHT40 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5270~5310)

| 802.11ac_VHT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5270 | 54 | 0 | 14.44 | - | 14.44 | 23.98 |
| | | 1 | 14.51 | - | 14.51 | 23.98 |
| | | 2 | 14.51 | - | 14.51 | 23.98 |
| | | 3 | 14.52 | - | 14.52 | 23.98 |
| | | 4 | 14.53 | - | 14.53 | 23.98 |
| | | 5 | 14.53 | - | 14.53 | 23.98 |
| | | 6 | 14.54 | - | 14.54 | 23.98 |
| | | 7 | 12.90 | - | 12.90 | 23.98 |
| | | 8 | 11.76 | - | 11.76 | 23.98 |
| | | 9 | 11.71 | - | 11.71 | 23.98 |
| 5310 | 62 | 0 | 10.21 | - | 10.21 | 23.98 |
| | | 1 | 10.28 | - | 10.28 | 23.98 |
| | | 2 | 10.25 | - | 10.25 | 23.98 |
| | | 3 | 10.26 | - | 10.26 | 23.98 |
| | | 4 | 10.32 | - | 10.32 | 23.98 |
| | | 5 | 10.33 | - | 10.33 | 23.98 |
| | | 6 | 10.34 | - | 10.34 | 23.98 |
| | | 7 | 8.28 | - | 8.28 | 23.98 |
| | | 8 | 7.16 | - | 7.16 | 23.98 |
| | | 9 | 7.15 | - | 7.15 | 23.98 |

Ant.1

802.11ac_VHT40 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5270~5310)

| 802.11ac_VHT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5270 | 54 | 0 | 15.33 | - | 15.33 | 23.98 |
| | | 1 | 15.33 | - | 15.33 | 23.98 |
| | | 2 | 15.36 | - | 15.36 | 23.98 |
| | | 3 | 15.24 | - | 15.24 | 23.98 |
| | | 4 | 15.33 | - | 15.33 | 23.98 |
| | | 5 | 15.40 | - | 15.40 | 23.98 |
| | | 6 | 15.41 | - | 15.41 | 23.98 |
| | | 7 | 13.63 | - | 13.63 | 23.98 |
| | | 8 | 12.54 | - | 12.54 | 23.98 |
| | | 9 | 12.52 | - | 12.52 | 23.98 |
| 5310 | 62 | 0 | 10.98 | - | 10.98 | 23.98 |
| | | 1 | 11.09 | - | 11.09 | 23.98 |
| | | 2 | 11.09 | - | 11.09 | 23.98 |
| | | 3 | 11.08 | - | 11.08 | 23.98 |
| | | 4 | 11.12 | - | 11.12 | 23.98 |
| | | 5 | 11.13 | - | 11.13 | 23.98 |
| | | 6 | 11.15 | - | 11.15 | 23.98 |
| | | 7 | 9.20 | - | 9.20 | 23.98 |
| | | 8 | 8.13 | - | 8.13 | 23.98 |
| | | 9 | 8.07 | - | 8.07 | 23.98 |

■ **TEST RESULTS_ Sum Data of Ant.0 and Ant.1 (UNII 2A)**

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5270~5310)

| 802.11ac_VHT40 Mode | | | | |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
| 5270 | 54 | 0 | 17.91 | 23.98 |
| | | 1 | 17.94 | 23.98 |
| | | 2 | 17.96 | 23.98 |
| | | 3 | 17.90 | 23.98 |
| | | 4 | 17.95 | 23.98 |
| | | 5 | 17.99 | 23.98 |
| | | 6 | 18.00 | 23.98 |
| | | 7 | 16.28 | 23.98 |
| | | 8 | 15.17 | 23.98 |
| | | 9 | 15.13 | 23.98 |
| 5310 | 62 | 0 | 13.61 | 23.98 |
| | | 1 | 13.70 | 23.98 |
| | | 2 | 13.69 | 23.98 |
| | | 3 | 13.69 | 23.98 |
| | | 4 | 13.74 | 23.98 |
| | | 5 | 13.75 | 23.98 |
| | | 6 | 13.76 | 23.98 |
| | | 7 | 11.76 | 23.98 |
| | | 8 | 10.67 | 23.98 |
| | | 9 | 10.63 | 23.98 |

Ant.0

802.11ac_VHT40 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5510~5710)

| 802.11ac_VHT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5510 | 102 | 0 | 12.46 | - | 12.46 | 23.98 |
| | | 1 | 12.52 | - | 12.52 | 23.98 |
| | | 2 | 12.59 | - | 12.59 | 23.98 |
| | | 3 | 12.49 | - | 12.49 | 23.98 |
| | | 4 | 12.58 | - | 12.58 | 23.98 |
| | | 5 | 12.59 | - | 12.59 | 23.98 |
| | | 6 | 12.61 | - | 12.61 | 23.98 |
| | | 7 | 10.38 | - | 10.38 | 23.98 |
| | | 8 | 9.38 | - | 9.38 | 23.98 |
| | | 9 | 9.39 | - | 9.39 | 23.98 |
| 5550 | 110 | 0 | 15.59 | - | 15.59 | 23.98 |
| | | 1 | 15.65 | - | 15.65 | 23.98 |
| | | 2 | 15.64 | - | 15.64 | 23.98 |
| | | 3 | 15.70 | - | 15.70 | 23.98 |
| | | 4 | 15.66 | - | 15.66 | 23.98 |
| | | 5 | 15.72 | - | 15.72 | 23.98 |
| | | 6 | 15.73 | - | 15.73 | 23.98 |
| | | 7 | 13.87 | - | 13.87 | 23.98 |
| | | 8 | 12.86 | - | 12.86 | 23.98 |
| | | 9 | 12.86 | - | 12.86 | 23.98 |
| 5710 | 142 | 0 | 15.30 | - | 15.30 | 23.98 |
| | | 1 | 15.41 | - | 15.41 | 23.98 |
| | | 2 | 15.35 | - | 15.35 | 23.98 |
| | | 3 | 15.44 | - | 15.44 | 23.98 |
| | | 4 | 15.35 | - | 15.35 | 23.98 |
| | | 5 | 15.40 | - | 15.40 | 23.98 |
| | | 6 | 15.43 | - | 15.43 | 23.98 |
| | | 7 | 13.93 | - | 13.93 | 23.98 |
| | | 8 | 12.85 | - | 12.85 | 23.98 |
| | | 9 | 12.95 | - | 12.95 | 23.98 |

Ant.1

802.11ac_VHT40 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5510~5710)

| 802.11ac_VHT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5510 | 102 | 0 | 13.30 | - | 13.30 | 23.98 |
| | | 1 | 13.40 | - | 13.40 | 23.98 |
| | | 2 | 13.41 | - | 13.41 | 23.98 |
| | | 3 | 13.34 | - | 13.34 | 23.98 |
| | | 4 | 13.43 | - | 13.43 | 23.98 |
| | | 5 | 13.45 | - | 13.45 | 23.98 |
| | | 6 | 13.37 | - | 13.37 | 23.98 |
| | | 7 | 11.49 | - | 11.49 | 23.98 |
| | | 8 | 10.18 | - | 10.18 | 23.98 |
| | | 9 | 10.17 | - | 10.17 | 23.98 |
| 5550 | 110 | 0 | 15.60 | - | 15.60 | 23.98 |
| | | 1 | 15.68 | - | 15.68 | 23.98 |
| | | 2 | 15.70 | - | 15.70 | 23.98 |
| | | 3 | 15.60 | - | 15.60 | 23.98 |
| | | 4 | 15.67 | - | 15.67 | 23.98 |
| | | 5 | 15.73 | - | 15.73 | 23.98 |
| | | 6 | 15.72 | - | 15.72 | 23.98 |
| | | 7 | 14.00 | - | 14.00 | 23.98 |
| | | 8 | 12.89 | - | 12.89 | 23.98 |
| | | 9 | 12.88 | - | 12.88 | 23.98 |
| 5710 | 142 | 0 | 15.02 | - | 15.02 | 23.98 |
| | | 1 | 14.97 | - | 14.97 | 23.98 |
| | | 2 | 15.04 | - | 15.04 | 23.98 |
| | | 3 | 15.01 | - | 15.01 | 23.98 |
| | | 4 | 15.10 | - | 15.10 | 23.98 |
| | | 5 | 15.09 | - | 15.09 | 23.98 |
| | | 6 | 15.09 | - | 15.09 | 23.98 |
| | | 7 | 13.69 | - | 13.69 | 23.98 |
| | | 8 | 12.61 | - | 12.61 | 23.98 |
| | | 9 | 12.60 | - | 12.60 | 23.98 |

■ TEST RESULTS_ Sum Data of Ant.0 and Ant.1 (UNII 2C)

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5510~5710)

| 802.11ac_VHT40 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5510 | 102 | 0 | 15.90 | 23.98 |
| | | 1 | 15.98 | 23.98 |
| | | 2 | 16.02 | 23.98 |
| | | 3 | 15.94 | 23.98 |
| | | 4 | 16.03 | 23.98 |
| | | 5 | 16.04 | 23.98 |
| | | 6 | 16.01 | 23.98 |
| | | 7 | 13.96 | 23.98 |
| | | 8 | 12.80 | 23.98 |
| | | 9 | 12.80 | 23.98 |
| 5550 | 110 | 0 | 18.61 | 23.98 |
| | | 1 | 18.68 | 23.98 |
| | | 2 | 18.68 | 23.98 |
| | | 3 | 18.66 | 23.98 |
| | | 4 | 18.68 | 23.98 |
| | | 5 | 18.74 | 23.98 |
| | | 6 | 18.74 | 23.98 |
| | | 7 | 16.95 | 23.98 |
| | | 8 | 15.89 | 23.98 |
| | | 9 | 15.88 | 23.98 |
| 5710 | 142 | 0 | 18.17 | 23.98 |
| | | 1 | 18.20 | 23.98 |
| | | 2 | 18.21 | 23.98 |
| | | 3 | 18.24 | 23.98 |
| | | 4 | 18.24 | 23.98 |
| | | 5 | 18.26 | 23.98 |
| | | 6 | 18.27 | 23.98 |
| | | 7 | 16.82 | 23.98 |
| | | 8 | 15.74 | 23.98 |
| | | 9 | 15.79 | 23.98 |

Ant.0

802.11ac_VHT40 (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5755~5795)

| 802.11ac_VHT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5755 | 151 | 0 | 15.71 | - | 15.71 | 30 |
| | | 1 | 15.76 | - | 15.76 | 30 |
| | | 2 | 15.75 | - | 15.75 | 30 |
| | | 3 | 15.74 | - | 15.74 | 30 |
| | | 4 | 15.83 | - | 15.83 | 30 |
| | | 5 | 15.80 | - | 15.80 | 30 |
| | | 6 | 15.69 | - | 15.69 | 30 |
| | | 7 | 14.30 | - | 14.30 | 30 |
| | | 8 | 13.34 | - | 13.34 | 30 |
| | | 9 | 13.35 | - | 13.35 | 30 |
| 5795 | 159 | 0 | 15.15 | - | 15.15 | 30 |
| | | 1 | 15.23 | - | 15.23 | 30 |
| | | 2 | 15.30 | - | 15.30 | 30 |
| | | 3 | 15.30 | - | 15.30 | 30 |
| | | 4 | 15.37 | - | 15.37 | 30 |
| | | 5 | 15.42 | - | 15.42 | 30 |
| | | 6 | 15.41 | - | 15.41 | 30 |
| | | 7 | 13.93 | - | 13.93 | 30 |
| | | 8 | 12.93 | - | 12.93 | 30 |
| | | 9 | 12.95 | - | 12.95 | 30 |

Ant.1

802.11ac_VHT40 (UNII 3)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5755~5795)

| 802.11ac_VHT40 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5755 | 151 | 0 | 15.23 | - | 15.23 | 30 |
| | | 1 | 15.34 | - | 15.34 | 30 |
| | | 2 | 15.32 | - | 15.32 | 30 |
| | | 3 | 15.36 | - | 15.36 | 30 |
| | | 4 | 15.33 | - | 15.33 | 30 |
| | | 5 | 15.38 | - | 15.38 | 30 |
| | | 6 | 15.38 | - | 15.38 | 30 |
| | | 7 | 13.93 | - | 13.93 | 30 |
| | | 8 | 12.91 | - | 12.91 | 30 |
| | | 9 | 12.95 | - | 12.95 | 30 |
| 5795 | 159 | 0 | 14.64 | - | 14.64 | 30 |
| | | 1 | 14.75 | - | 14.75 | 30 |
| | | 2 | 14.69 | - | 14.69 | 30 |
| | | 3 | 14.68 | - | 14.68 | 30 |
| | | 4 | 14.73 | - | 14.73 | 30 |
| | | 5 | 14.70 | - | 14.70 | 30 |
| | | 6 | 14.74 | - | 14.74 | 30 |
| | | 7 | 13.25 | - | 13.25 | 30 |
| | | 8 | 12.25 | - | 12.25 | 30 |
| | | 9 | 12.30 | - | 12.30 | 30 |

■ TEST RESULTS_ Sum Data of Ant.0 and Ant.1 (UNII 3)

Conducted Output Power Measurements (802.11ac_VHT40 Mode: 5755~5795)

| 802.11ac_VHT40 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5755 | 151 | 0 | 18.48 | 30 |
| | | 1 | 18.56 | 30 |
| | | 2 | 18.55 | 30 |
| | | 3 | 18.56 | 30 |
| | | 4 | 18.59 | 30 |
| | | 5 | 18.60 | 30 |
| | | 6 | 18.55 | 30 |
| | | 7 | 17.13 | 30 |
| | | 8 | 16.14 | 30 |
| | | 9 | 16.16 | 30 |
| 5795 | 159 | 0 | 17.91 | 30 |
| | | 1 | 18.00 | 30 |
| | | 2 | 18.01 | 30 |
| | | 3 | 18.01 | 30 |
| | | 4 | 18.07 | 30 |
| | | 5 | 18.08 | 30 |
| | | 6 | 18.09 | 30 |
| | | 7 | 16.61 | 30 |
| | | 8 | 15.61 | 30 |
| | | 9 | 15.64 | 30 |

Ant.0

802.11ac_VHT80 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5210)

| 802.11ac_VHT80 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5210 | 42 | 0 | 13.45 | - | 13.45 | 23.98 |
| | | 1 | 13.47 | - | 13.47 | 23.98 |
| | | 2 | 13.55 | - | 13.55 | 23.98 |
| | | 3 | 13.51 | - | 13.51 | 23.98 |
| | | 4 | 13.48 | - | 13.48 | 23.98 |
| | | 5 | 13.49 | - | 13.49 | 23.98 |
| | | 6 | 13.51 | - | 13.51 | 23.98 |
| | | 7 | 11.60 | - | 11.60 | 23.98 |
| | | 8 | 10.57 | - | 10.57 | 23.98 |
| | | 9 | 10.48 | - | 10.48 | 23.98 |

Ant.1

802.11ac_VHT80 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5210)

| 802.11ac_VHT80 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5210 | 42 | 0 | 13.38 | - | 13.38 | 23.98 |
| | | 1 | 13.37 | - | 13.37 | 23.98 |
| | | 2 | 13.34 | - | 13.34 | 23.98 |
| | | 3 | 13.31 | - | 13.31 | 23.98 |
| | | 4 | 13.33 | - | 13.33 | 23.98 |
| | | 5 | 13.27 | - | 13.27 | 23.98 |
| | | 6 | 13.20 | - | 13.20 | 23.98 |
| | | 7 | 11.27 | - | 11.27 | 23.98 |
| | | 8 | 10.10 | - | 10.10 | 23.98 |
| | | 9 | 10.16 | - | 10.16 | 23.98 |

■ **TEST RESULTS_ Sum Data of Ant.0 and Ant.1 (UNII 1)**

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5210)

| 802.11ac_VHT80 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5210 | 42 | 0 | 16.43 | 23.98 |
| | | 1 | 16.43 | 23.98 |
| | | 2 | 16.46 | 23.98 |
| | | 3 | 16.42 | 23.98 |
| | | 4 | 16.42 | 23.98 |
| | | 5 | 16.39 | 23.98 |
| | | 6 | 16.37 | 23.98 |
| | | 7 | 14.45 | 23.98 |
| | | 8 | 13.35 | 23.98 |
| | | 9 | 13.33 | 23.98 |

Ant.0

802.11ac_VHT80 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5290)

| 802.11ac_VHT80 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5290 | 58 | 0 | 14.14 | - | 14.14 | 23.98 |
| | | 1 | 14.21 | - | 14.21 | 23.98 |
| | | 2 | 14.27 | - | 14.27 | 23.98 |
| | | 3 | 14.35 | - | 14.35 | 23.98 |
| | | 4 | 14.37 | - | 14.37 | 23.98 |
| | | 5 | 14.36 | - | 14.36 | 23.98 |
| | | 6 | 14.41 | - | 14.41 | 23.98 |
| | | 7 | 12.77 | - | 12.77 | 23.98 |
| | | 8 | 11.66 | - | 11.66 | 23.98 |
| | | 9 | 11.67 | - | 11.67 | 23.98 |

Ant.1

802.11ac_VHT80 (UNII 2A)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5290)

| 802.11ac_VHT80 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5290 | 58 | 0 | 14.45 | - | 14.45 | 23.98 |
| | | 1 | 14.52 | - | 14.52 | 23.98 |
| | | 2 | 14.60 | - | 14.60 | 23.98 |
| | | 3 | 14.61 | - | 14.61 | 23.98 |
| | | 4 | 14.66 | - | 14.66 | 23.98 |
| | | 5 | 14.67 | - | 14.67 | 23.98 |
| | | 6 | 14.69 | - | 14.69 | 23.98 |
| | | 7 | 12.82 | - | 12.82 | 23.98 |
| | | 8 | 11.73 | - | 11.73 | 23.98 |
| | | 9 | 11.75 | - | 11.75 | 23.98 |

■ **TEST RESULTS_ Sum Data of Ant.0 and Ant.1 (UNII 2A)**

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5290)

| 802.11ac_VHT80 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5290 | 58 | 0 | 17.31 | 23.98 |
| | | 1 | 17.38 | 23.98 |
| | | 2 | 17.45 | 23.98 |
| | | 3 | 17.49 | 23.98 |
| | | 4 | 17.53 | 23.98 |
| | | 5 | 17.53 | 23.98 |
| | | 6 | 17.56 | 23.98 |
| | | 7 | 15.81 | 23.98 |
| | | 8 | 14.71 | 23.98 |
| | | 9 | 14.72 | 23.98 |

Ant.0

802.11ac_VHT80 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5530 ~ 5690 MHz)

| 802.11ac_VHT80 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5530 | 106 | 0 | 12.14 | - | 12.14 | 23.98 |
| | | 1 | 12.19 | - | 12.19 | 23.98 |
| | | 2 | 12.16 | - | 12.16 | 23.98 |
| | | 3 | 12.25 | - | 12.25 | 23.98 |
| | | 4 | 12.24 | - | 12.24 | 23.98 |
| | | 5 | 12.21 | - | 12.21 | 23.98 |
| | | 6 | 12.28 | - | 12.28 | 23.98 |
| | | 7 | 10.48 | - | 10.48 | 23.98 |
| | | 8 | 9.44 | - | 9.44 | 23.98 |
| | | 9 | 9.45 | - | 9.45 | 23.98 |
| 5690 | 138 | 0 | 16.14 | - | 16.14 | 23.98 |
| | | 1 | 16.26 | - | 16.26 | 23.98 |
| | | 2 | 16.20 | - | 16.20 | 23.98 |
| | | 3 | 16.18 | - | 16.18 | 23.98 |
| | | 4 | 16.21 | - | 16.21 | 23.98 |
| | | 5 | 16.24 | - | 16.24 | 23.98 |
| | | 6 | 16.20 | - | 16.20 | 23.98 |
| | | 7 | 14.54 | - | 14.54 | 23.98 |
| | | 8 | 13.61 | - | 13.61 | 23.98 |
| | | 9 | 13.57 | - | 13.57 | 23.98 |

Ant.1

802.11ac_VHT80 (UNII 2C)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5530 ~ 5690 MHz)

| 802.11ac_VHT80 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5530 | 106 | 0 | 11.60 | - | 11.60 | 23.98 |
| | | 1 | 11.71 | - | 11.71 | 23.98 |
| | | 2 | 11.76 | - | 11.76 | 23.98 |
| | | 3 | 11.73 | - | 11.73 | 23.98 |
| | | 4 | 11.71 | - | 11.71 | 23.98 |
| | | 5 | 11.74 | - | 11.74 | 23.98 |
| | | 6 | 11.76 | - | 11.76 | 23.98 |
| | | 7 | 9.97 | - | 9.97 | 23.98 |
| | | 8 | 8.94 | - | 8.94 | 23.98 |
| | | 9 | 8.91 | - | 8.91 | 23.98 |
| 5690 | 138 | 0 | 15.68 | - | 15.68 | 23.98 |
| | | 1 | 15.75 | - | 15.75 | 23.98 |
| | | 2 | 15.75 | - | 15.75 | 23.98 |
| | | 3 | 15.72 | - | 15.72 | 23.98 |
| | | 4 | 15.66 | - | 15.66 | 23.98 |
| | | 5 | 15.68 | - | 15.68 | 23.98 |
| | | 6 | 15.71 | - | 15.71 | 23.98 |
| | | 7 | 14.04 | - | 14.04 | 23.98 |
| | | 8 | 13.04 | - | 13.04 | 23.98 |
| | | 9 | 13.09 | - | 13.09 | 23.98 |

■ **TEST RESULTS_ Sum Data of Ant.0 and Ant.1 (UNII 2C)**

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5530 ~ 5690 MHz)

| 802.11ac_VHT80 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5530 | 106 | 0 | 14.88 | 23.98 |
| | | 1 | 14.96 | 23.98 |
| | | 2 | 14.97 | 23.98 |
| | | 3 | 15.00 | 23.98 |
| | | 4 | 14.99 | 23.98 |
| | | 5 | 14.99 | 23.98 |
| | | 6 | 15.03 | 23.98 |
| | | 7 | 13.24 | 23.98 |
| | | 8 | 12.20 | 23.98 |
| | | 9 | 12.19 | 23.98 |
| 5690 | 138 | 0 | 18.92 | 23.98 |
| | | 1 | 19.02 | 23.98 |
| | | 2 | 18.99 | 23.98 |
| | | 3 | 18.96 | 23.98 |
| | | 4 | 18.95 | 23.98 |
| | | 5 | 18.97 | 23.98 |
| | | 6 | 18.97 | 23.98 |
| | | 7 | 17.30 | 23.98 |
| | | 8 | 16.34 | 23.98 |
| | | 9 | 16.34 | 23.98 |

Ant.0

802.11ac_VHT80 (UNII 3)

■ **TEST RESULTS**

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5775)

| 802.11ac_VHT80 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5775 | 155 | 0 | 14.96 | - | 14.96 | 30 |
| | | 1 | 15.03 | - | 15.03 | 30 |
| | | 2 | 15.07 | - | 15.07 | 30 |
| | | 3 | 15.07 | - | 15.07 | 30 |
| | | 4 | 15.07 | - | 15.07 | 30 |
| | | 5 | 15.07 | - | 15.07 | 30 |
| | | 6 | 15.03 | - | 15.03 | 30 |
| | | 7 | 13.36 | - | 13.36 | 30 |
| | | 8 | 12.44 | - | 12.44 | 30 |
| | | 9 | 12.46 | - | 12.46 | 30 |

Ant.1

802.11ac_VHT80 (UNII 3)

■ **TEST RESULTS**

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5775)

| 802.11ac_VHT80 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5775 | 155 | 0 | 14.23 | - | 14.23 | 30 |
| | | 1 | 14.27 | - | 14.27 | 30 |
| | | 2 | 14.33 | - | 14.33 | 30 |
| | | 3 | 14.40 | - | 14.40 | 30 |
| | | 4 | 14.36 | - | 14.36 | 30 |
| | | 5 | 14.43 | - | 14.43 | 30 |
| | | 6 | 14.29 | - | 14.29 | 30 |
| | | 7 | 12.70 | - | 12.70 | 30 |
| | | 8 | 11.51 | - | 11.51 | 30 |
| | | 9 | 11.73 | - | 11.73 | 30 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 3)

Conducted Output Power Measurements (802.11ac_VHT80 Mode: 5775)

| 802.11ac_VHT80 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5775 | 155 | 0 | 17.61 | 30 |
| | | 1 | 17.67 | 30 |
| | | 2 | 17.72 | 30 |
| | | 3 | 17.75 | 30 |
| | | 4 | 17.73 | 30 |
| | | 5 | 17.77 | 30 |
| | | 6 | 17.68 | 30 |
| | | 7 | 16.05 | 30 |
| | | 8 | 15.00 | 30 |
| | | 9 | 15.11 | 30 |

■ Straddle channels TEST RESULTS_Ant 0

Conducted Output Power Measurements (802.11a/n_HT20/ac_VHT20 Mode: UNII 2C Band 5720MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11a | 5720 | 144 | 13.74 | - | 13.74 | 22.75 |
| 802.11n | | | 13.92 | - | 13.92 | 22.75 |
| 802.11ac | | | 13.91 | - | 13.91 | 22.75 |

Conducted Output Power Measurements (802.11a/n_HT20/ac_VHT20 Mode: UNII 3 Band 5720MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11a | 5720 | 144 | 5.95 | - | 5.95 | 23.93 |
| 802.11n | | | 6.60 | - | 6.60 | 23.93 |
| 802.11ac | | | 6.57 | - | 6.57 | 23.93 |

■ Straddle channels TEST RESULTS_Ant 1

Conducted Output Power Measurements (802.11a/n_HT20/ac_VHT20 Mode: UNII 2C Band 5720MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11a | 5720 | 144 | 13.10 | - | 13.10 | 22.73 |
| 802.11n | | | 13.23 | - | 13.23 | 22.73 |
| 802.11ac | | | 13.25 | - | 13.25 | 22.73 |

Conducted Output Power Measurements (802.11a/n_HT20/ac_VHT20 Mode: UNII 3 Band 5720MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11a | 5720 | 144 | 5.27 | - | 5.27 | 23.98 |
| 802.11n | | | 5.95 | - | 5.95 | 23.98 |
| 802.11ac | | | 5.99 | - | 5.99 | 23.98 |

■ **Straddle channels TEST RESULTS_ Sum Data of Ant.0 and Ant.1**

Conducted Output Power Measurements (802.11a/n_HT20/ac_VHT20 Mode: UNII 2C Band 5720MHz)

| Mode (MIMO) | Frequency [MHz] | Channel No. | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------|-----------------|-------------|------------------------|-------------|
| 802.11a | 5720 | 144 | 16.44 | 22.73 |
| 802.11n | | | 16.59 | 22.73 |
| 802.11ac | | | 16.60 | 22.73 |

Conducted Output Power Measurements (802.11a/n_HT20/ac_VHT20 Mode: UNII 3 Band 5720MHz)

| Mode (MIMO) | Frequency [MHz] | Channel No. | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------|-----------------|-------------|------------------------|-------------|
| 802.11a | 5720 | 144 | 8.63 | 23.92 |
| 802.11n | | | 9.29 | 23.92 |
| 802.11ac | | | 9.30 | 23.92 |

■ **Straddle channels TEST RESULTS_Ant 0**

Conducted Output Power Measurements (802.11n_HT40/ac_VHT40 Mode: UNII 2C Band 5710MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11n | 5710 | 142 | 14.47 | - | 14.47 | 22.75 |
| 802.11ac | | | 15.23 | - | 15.23 | 22.75 |

Conducted Output Power Measurements (802.11n_HT40/ac_VHT40 Mode: UNII 3 Band 5710MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11n | 5710 | 142 | 2.58 | - | 2.58 | 23.93 |
| 802.11ac | | | 3.42 | - | 3.42 | 23.93 |

■ **Straddle channels TEST RESULTS_Ant 1**

Conducted Output Power Measurements (802.11n_HT40/ac_VHT40 Mode: UNII 2C Band 5710MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11n | 5710 | 142 | 14.16 | - | 14.16 | 22.73 |
| 802.11ac | | | 14.08 | - | 14.08 | 22.73 |

Conducted Output Power Measurements (802.11n_HT40/ac_VHT40 Mode: UNII 3 Band 5710MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11n | 5710 | 142 | 2.29 | - | 2.29 | 23.98 |
| 802.11ac | | | 2.20 | - | 2.20 | 23.98 |

■ Straddle channels TEST RESULTS_ Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11n_HT40/ac_VHT40 Mode: UNII 2C Band 5710MHz)

| Mode (MIMO) | Frequency [MHz] | Channel No. | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------|-----------------|-------------|------------------------|-------------|
| 802.11n | 5710 | 142 | 17.33 | 22.73 |
| 802.11ac | | | 17.68 | 22.73 |

Conducted Output Power Measurements (802.11n_HT40/ac_VHT40 Mode: UNII 3 Band 5710MHz)

| Mode (MIMO) | Frequency [MHz] | Channel No. | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------|-----------------|-------------|------------------------|-------------|
| 802.11n | 5710 | 142 | 5.45 | 23.92 |
| 802.11ac | | | 5.84 | 23.92 |

▣ **Straddle channels TEST RESULTS_Ant 0**

Conducted Output Power Measurements (802.11ac_VHT80 Mode: UNII 2C Band 5690MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11ac | 5690 | 138 | 15.83 | - | 15.83 | 22.75 |

Conducted Output Power Measurements (802.11ac_VHT80 Mode: UNII 3 Band 5690MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11ac | 5690 | 138 | 0.68 | | 0.68 | 23.93 |

▣ **Straddle channels TEST RESULTS_Ant 1**

Conducted Output Power Measurements (802.11ac_VHT80 Mode: UNII 2C Band 5690MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11ac | 5690 | 138 | 15.06 | - | 15.06 | 22.73 |

Conducted Output Power Measurements (802.11ac_VHT80 Mode: UNII 3 Band 5690MHz)

| Mode | Frequency [MHz] | Channel No. | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|----------|-----------------|-------------|----------------------|------------------------|---|-------------|
| 802.11ac | 5690 | 138 | -0.34 | - | -0.34 | 23.98 |

■ Straddle channels TEST RESULTS_ Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11ac_VHT80 Mode: UNII 2C Band 5690MHz)

| Mode (MIMO) | Frequency [MHz] | Channel No. | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------|-----------------|-------------|------------------------|-------------|
| 802.11ac | 5690 | 138 | 18.46 | 22.73 |

Conducted Output Power Measurements (802.11ac_VHT80 Mode: UNII 3 Band 5690MHz)

| Mode (MIMO) | Frequency [MHz] | Channel No. | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------|-----------------|-------------|------------------------|-------------|
| 802.11ac | 5690 | 138 | 3.20 | 23.93 |

9.5 OUTPUT POWER MEASUREMENT FOR ISED

A transmitter antenna terminal of EUT is connected to the input of a Power meter or Spectrum Analyzer .Measurement is made while the EUT is operating in transmission mode at the appropriate frequencies.

▣ **LIMIT**

| Band | Mode | Limit (dBm) |
|--------|--------------|-----------------|
| UNII 1 | 802.11a,n,ac | 200mW (e.i.r.p) |

Maximum Conducted Output Power:

| Operating Mode | Band | Mode | Operating Ant. | Ant. Gain (dBi) | Limit (dBm) |
|----------------|--------|--------------|----------------|-----------------|-------------|
| SISO | UNII 1 | 802.11a/n/ac | Ant 0 | 1.48 | 21.53 |
| | | | Ant 1 | 1.5 | 21.51 |
| MIMO | UNII 1 | | Ant 0 & 1 | 4.5 | 18.51 |

Note : 1. If all antenna gains are not equal,

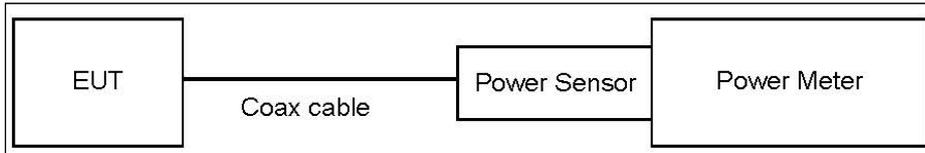
$$\text{Directional gain} = 10 \cdot \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N] \text{ dBi}$$

(according to KDB662911 D01 v02r01)

2. Limit is calculated by antenna gain.

3. The limits of maximum conducted power were applied the antenna gain. Therefore, if conducted power is pass, e.i.r.p. is also pass. So, we attached only conducted power table.

■ **TEST CONFIGURATION(20 MHz BW)**



■ **TEST PROCEDURE(20 MHz BW)**

- Average Power (Procedure E.3.a in KDB 789033 D02 v02r01).
 1. Measure the duty cycle.
 2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
 3. Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Note :

Actual value of loss for the attenuator and cable combination is below table.

| Band | Loss(dB) |
|--------|----------|
| UNII 1 | 21.1 |

(Actual value of loss for the attenuator and cable combination)

*** All bands have the same power value as FCC except for the UNII 1 band.**

Ant.0

802.11a (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5180~5240)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 6 | 12.81 | - | 12.81 | 21.53 |
| | | 9 | 12.88 | - | 12.88 | 21.53 |
| | | 12 | 13.07 | - | 13.07 | 21.53 |
| | | 18 | 12.97 | - | 12.97 | 21.53 |
| | | 24 | 12.97 | - | 12.97 | 21.53 |
| | | 36 | 13.01 | - | 13.01 | 21.53 |
| | | 48 | 11.05 | - | 11.05 | 21.53 |
| | | 54 | 11.07 | - | 11.07 | 21.53 |
| 5200 | 40 | 6 | 12.66 | - | 12.66 | 21.53 |
| | | 9 | 12.77 | - | 12.77 | 21.53 |
| | | 12 | 12.81 | - | 12.81 | 21.53 |
| | | 18 | 12.83 | - | 12.83 | 21.53 |
| | | 24 | 12.86 | - | 12.86 | 21.53 |
| | | 36 | 12.88 | - | 12.88 | 21.53 |
| | | 48 | 10.92 | - | 10.92 | 21.53 |
| | | 54 | 10.92 | - | 10.92 | 21.53 |
| 5240 | 48 | 6 | 12.72 | - | 12.72 | 21.53 |
| | | 9 | 12.72 | - | 12.72 | 21.53 |
| | | 12 | 12.78 | - | 12.78 | 21.53 |
| | | 18 | 12.83 | - | 12.83 | 21.53 |
| | | 24 | 12.84 | - | 12.84 | 21.53 |
| | | 36 | 12.84 | - | 12.84 | 21.53 |
| | | 48 | 10.91 | - | 10.91 | 21.53 |
| | | 54 | 10.88 | - | 10.88 | 21.53 |

Ant.1

802.11a (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11a Mode: 5180~5240)

| 802.11a Mode | | Rate (Mbps) | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-----------------|-------------|-------------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 6 | 12.54 | - | 12.54 | 21.51 |
| | | 9 | 12.67 | - | 12.67 | 21.51 |
| | | 12 | 12.67 | - | 12.67 | 21.51 |
| | | 18 | 12.67 | - | 12.67 | 21.51 |
| | | 24 | 12.64 | - | 12.64 | 21.51 |
| | | 36 | 12.64 | - | 12.64 | 21.51 |
| | | 48 | 10.65 | - | 10.65 | 21.51 |
| | | 54 | 10.63 | - | 10.63 | 21.51 |
| 5200 | 40 | 6 | 12.43 | - | 12.43 | 21.51 |
| | | 9 | 12.55 | - | 12.55 | 21.51 |
| | | 12 | 12.53 | - | 12.53 | 21.51 |
| | | 18 | 12.54 | - | 12.54 | 21.51 |
| | | 24 | 12.56 | - | 12.56 | 21.51 |
| | | 36 | 12.56 | - | 12.56 | 21.51 |
| | | 48 | 10.59 | - | 10.59 | 21.51 |
| | | 54 | 10.59 | - | 10.59 | 21.51 |
| 5240 | 48 | 6 | 12.42 | - | 12.42 | 21.51 |
| | | 9 | 12.53 | - | 12.53 | 21.51 |
| | | 12 | 12.53 | - | 12.53 | 21.51 |
| | | 18 | 12.55 | - | 12.55 | 21.51 |
| | | 24 | 12.56 | - | 12.56 | 21.51 |
| | | 36 | 12.57 | - | 12.57 | 21.51 |
| | | 48 | 10.58 | - | 10.58 | 21.51 |
| | | 54 | 10.60 | - | 10.60 | 21.51 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 1)

Conducted Output Power Measurements (802.11a Mode: 5180~5240)

| 802.11a Mode | | Rate (Mbps) | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-----------------|-------------|-------------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 6 | 15.69 | 18.51 |
| | | 9 | 15.79 | 18.51 |
| | | 12 | 15.88 | 18.51 |
| | | 18 | 15.83 | 18.51 |
| | | 24 | 15.82 | 18.51 |
| | | 36 | 15.84 | 18.51 |
| | | 48 | 13.86 | 18.51 |
| | | 54 | 13.86 | 18.51 |
| 5200 | 40 | 6 | 15.56 | 18.51 |
| | | 9 | 15.67 | 18.51 |
| | | 12 | 15.68 | 18.51 |
| | | 18 | 15.70 | 18.51 |
| | | 24 | 15.72 | 18.51 |
| | | 36 | 15.73 | 18.51 |
| | | 48 | 13.77 | 18.51 |
| | | 54 | 13.77 | 18.51 |
| 5240 | 48 | 6 | 15.58 | 18.51 |
| | | 9 | 15.64 | 18.51 |
| | | 12 | 15.67 | 18.51 |
| | | 18 | 15.70 | 18.51 |
| | | 24 | 15.71 | 18.51 |
| | | 36 | 15.72 | 18.51 |
| | | 48 | 13.76 | 18.51 |
| | | 54 | 13.75 | 18.51 |

Ant.0

802.11n_HT20 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5180~5240)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 0 | 12.70 | - | 12.70 | 21.53 |
| | | 1 | 12.77 | - | 12.77 | 21.53 |
| | | 2 | 12.73 | - | 12.73 | 21.53 |
| | | 3 | 12.79 | - | 12.79 | 21.53 |
| | | 4 | 12.81 | - | 12.81 | 21.53 |
| | | 5 | 12.84 | - | 12.84 | 21.53 |
| | | 6 | 10.89 | - | 10.89 | 21.53 |
| | | 7 | 10.86 | - | 10.86 | 21.53 |
| 5200 | 40 | 0 | 12.68 | - | 12.68 | 21.53 |
| | | 1 | 12.76 | - | 12.76 | 21.53 |
| | | 2 | 12.78 | - | 12.78 | 21.53 |
| | | 3 | 12.80 | - | 12.80 | 21.53 |
| | | 4 | 12.77 | - | 12.77 | 21.53 |
| | | 5 | 12.83 | - | 12.83 | 21.53 |
| | | 6 | 10.90 | - | 10.90 | 21.53 |
| | | 7 | 10.87 | - | 10.87 | 21.53 |
| 5240 | 48 | 0 | 12.72 | - | 12.72 | 21.53 |
| | | 1 | 12.78 | - | 12.78 | 21.53 |
| | | 2 | 12.82 | - | 12.82 | 21.53 |
| | | 3 | 12.81 | - | 12.81 | 21.53 |
| | | 4 | 12.79 | - | 12.79 | 21.53 |
| | | 5 | 12.79 | - | 12.79 | 21.53 |
| | | 6 | 10.81 | - | 10.81 | 21.53 |
| | | 7 | 10.81 | - | 10.81 | 21.53 |

Ant.1

802.11n_HT20 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11n_HT20 Mode: 5180~5240)

| 802.11n_HT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|-------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 0 | 12.37 | - | 12.37 | 21.51 |
| | | 1 | 12.46 | - | 12.46 | 21.51 |
| | | 2 | 12.45 | - | 12.45 | 21.51 |
| | | 3 | 12.46 | - | 12.46 | 21.51 |
| | | 4 | 12.38 | - | 12.38 | 21.51 |
| | | 5 | 12.39 | - | 12.39 | 21.51 |
| | | 6 | 10.46 | - | 10.46 | 21.51 |
| | | 7 | 10.39 | - | 10.39 | 21.51 |
| 5200 | 40 | 0 | 12.32 | - | 12.32 | 21.51 |
| | | 1 | 12.37 | - | 12.37 | 21.51 |
| | | 2 | 12.39 | - | 12.39 | 21.51 |
| | | 3 | 12.37 | - | 12.37 | 21.51 |
| | | 4 | 12.39 | - | 12.39 | 21.51 |
| | | 5 | 12.41 | - | 12.41 | 21.51 |
| | | 6 | 10.40 | - | 10.40 | 21.51 |
| | | 7 | 10.41 | - | 10.41 | 21.51 |
| 5240 | 48 | 0 | 12.22 | - | 12.22 | 21.51 |
| | | 1 | 12.30 | - | 12.30 | 21.51 |
| | | 2 | 12.34 | - | 12.34 | 21.51 |
| | | 3 | 12.31 | - | 12.31 | 21.51 |
| | | 4 | 12.34 | - | 12.34 | 21.51 |
| | | 5 | 12.32 | - | 12.32 | 21.51 |
| | | 6 | 10.35 | - | 10.35 | 21.51 |
| | | 7 | 10.37 | - | 10.37 | 21.51 |

■ TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 1)

Conducted Output Power Measurements (802.11n_HT20 Mode: 5180~5240)

| 802.11n_HT20 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|-------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 0 | 15.55 | 18.51 |
| | | 1 | 15.63 | 18.51 |
| | | 2 | 15.60 | 18.51 |
| | | 3 | 15.64 | 18.51 |
| | | 4 | 15.61 | 18.51 |
| | | 5 | 15.63 | 18.51 |
| | | 6 | 13.69 | 18.51 |
| | | 7 | 13.64 | 18.51 |
| 5200 | 40 | 0 | 15.51 | 18.51 |
| | | 1 | 15.58 | 18.51 |
| | | 2 | 15.60 | 18.51 |
| | | 3 | 15.60 | 18.51 |
| | | 4 | 15.59 | 18.51 |
| | | 5 | 15.63 | 18.51 |
| | | 6 | 13.66 | 18.51 |
| | | 7 | 13.65 | 18.51 |
| 5240 | 48 | 0 | 15.48 | 18.51 |
| | | 1 | 15.55 | 18.51 |
| | | 2 | 15.59 | 18.51 |
| | | 3 | 15.57 | 18.51 |
| | | 4 | 15.58 | 18.51 |
| | | 5 | 15.57 | 18.51 |
| | | 6 | 13.59 | 18.51 |
| | | 7 | 13.60 | 18.51 |

Ant.0

802.11ac_VHT20 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5180~5240)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 0 | 12.75 | - | 12.75 | 21.53 |
| | | 1 | 12.81 | - | 12.81 | 21.53 |
| | | 2 | 12.82 | - | 12.82 | 21.53 |
| | | 3 | 12.81 | - | 12.81 | 21.53 |
| | | 4 | 12.80 | - | 12.80 | 21.53 |
| | | 5 | 12.84 | - | 12.84 | 21.53 |
| | | 6 | 12.83 | - | 12.83 | 21.53 |
| | | 7 | 10.87 | - | 10.87 | 21.53 |
| | | 8 | 9.78 | - | 9.78 | 21.53 |
| 5200 | 40 | 0 | 12.73 | - | 12.73 | 21.53 |
| | | 1 | 12.80 | - | 12.80 | 21.53 |
| | | 2 | 12.73 | - | 12.73 | 21.53 |
| | | 3 | 12.74 | - | 12.74 | 21.53 |
| | | 4 | 12.83 | - | 12.83 | 21.53 |
| | | 5 | 12.82 | - | 12.82 | 21.53 |
| | | 6 | 12.83 | - | 12.83 | 21.53 |
| | | 7 | 10.87 | - | 10.87 | 21.53 |
| | | 8 | 9.73 | - | 9.73 | 21.53 |
| 5240 | 48 | 0 | 12.67 | - | 12.67 | 21.53 |
| | | 1 | 12.73 | - | 12.73 | 21.53 |
| | | 2 | 12.77 | - | 12.77 | 21.53 |
| | | 3 | 12.78 | - | 12.78 | 21.53 |
| | | 4 | 12.72 | - | 12.72 | 21.53 |
| | | 5 | 12.77 | - | 12.77 | 21.53 |
| | | 6 | 12.84 | - | 12.84 | 21.53 |
| | | 7 | 10.82 | - | 10.82 | 21.53 |
| | | 8 | 9.67 | - | 9.67 | 21.53 |

Ant.1

802.11ac_VHT20 (UNII 1)

■ TEST RESULTS

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5180~5240)

| 802.11ac_VHT20 Mode | | MCS Index | Measured Power (dBm) | Duty Cycle Factor (dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Limit (dBm) |
|---------------------|-------------|-----------|----------------------|------------------------|---|-------------|
| Frequency [MHz] | Channel No. | | | | | |
| 5180 | 36 | 0 | 12.37 | - | 12.37 | 21.51 |
| | | 1 | 12.41 | - | 12.41 | 21.51 |
| | | 2 | 12.42 | - | 12.42 | 21.51 |
| | | 3 | 12.42 | - | 12.42 | 21.51 |
| | | 4 | 12.43 | - | 12.43 | 21.51 |
| | | 5 | 12.41 | - | 12.41 | 21.51 |
| | | 6 | 12.38 | - | 12.38 | 21.51 |
| | | 7 | 10.45 | - | 10.45 | 21.51 |
| | | 8 | 9.36 | - | 9.36 | 21.51 |
| 5200 | 40 | 0 | 12.30 | - | 12.30 | 21.51 |
| | | 1 | 12.39 | - | 12.39 | 21.51 |
| | | 2 | 12.37 | - | 12.37 | 21.51 |
| | | 3 | 12.42 | - | 12.42 | 21.51 |
| | | 4 | 12.40 | - | 12.40 | 21.51 |
| | | 5 | 12.41 | - | 12.41 | 21.51 |
| | | 6 | 12.38 | - | 12.38 | 21.51 |
| | | 7 | 10.39 | - | 10.39 | 21.51 |
| | | 8 | 9.30 | - | 9.30 | 21.51 |
| 5240 | 48 | 0 | 12.25 | - | 12.25 | 21.51 |
| | | 1 | 12.33 | - | 12.33 | 21.51 |
| | | 2 | 12.35 | - | 12.35 | 21.51 |
| | | 3 | 12.35 | - | 12.35 | 21.51 |
| | | 4 | 12.37 | - | 12.37 | 21.51 |
| | | 5 | 12.35 | - | 12.35 | 21.51 |
| | | 6 | 12.42 | - | 12.42 | 21.51 |
| | | 7 | 10.39 | - | 10.39 | 21.51 |
| | | 8 | 9.19 | - | 9.19 | 21.51 |

■ **TEST RESULTS_Sum Data of Ant.0 and Ant.1 (UNII 1)**

Conducted Output Power Measurements (802.11ac_VHT20 Mode: 5180~5240)

| 802.11ac_VHT20 Mode | | MCS Index | Sum Power of Ant.0 & 1 | Limit (dBm) |
|---------------------|-------------|-----------|------------------------|-------------|
| Frequency [MHz] | Channel No. | | | |
| 5180 | 36 | 0 | 15.57 | 18.51 |
| | | 1 | 15.62 | 18.51 |
| | | 2 | 15.63 | 18.51 |
| | | 3 | 15.63 | 18.51 |
| | | 4 | 15.63 | 18.51 |
| | | 5 | 15.64 | 18.51 |
| | | 6 | 15.62 | 18.51 |
| | | 7 | 13.67 | 18.51 |
| | | 8 | 12.58 | 18.51 |
| 5200 | 40 | 0 | 15.53 | 18.51 |
| | | 1 | 15.61 | 18.51 |
| | | 2 | 15.56 | 18.51 |
| | | 3 | 15.59 | 18.51 |
| | | 4 | 15.63 | 18.51 |
| | | 5 | 15.63 | 18.51 |
| | | 6 | 15.62 | 18.51 |
| | | 7 | 13.64 | 18.51 |
| | | 8 | 12.53 | 18.51 |
| 5240 | 48 | 0 | 15.47 | 18.51 |
| | | 1 | 15.54 | 18.51 |
| | | 2 | 15.57 | 18.51 |
| | | 3 | 15.58 | 18.51 |
| | | 4 | 15.56 | 18.51 |
| | | 5 | 15.57 | 18.51 |
| | | 6 | 15.64 | 18.51 |
| | | 7 | 13.62 | 18.51 |
| | | 8 | 12.44 | 18.51 |

9.6 POWER SPECTRAL DENSITY FOR FCC

The peak power density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

■ Limit

Power Spectral Density

| Band | Mode | Limit |
|---------|--------------|----------------|
| UNII 1 | 802.11a,n,ac | 11 dBm/MHz |
| UNII 2A | 802.11a,n,ac | 11 dBm/MHz |
| UNII 2C | 802.11a,n,ac | 11 dBm/MHz |
| UNII 3 | 802.11a,n,ac | 30 dBm/500 kHz |

Note : According to KDB644545 D03 v01, emission for straddle channels in each band shall comply with the PSD limits applicable to that band under the appropriate rule section.

Power Spectral Density

| Operating Mode | Band | Mode | Operating Ant. | Ant. Gain (dBi) | Limit |
|----------------|---------|--------------|----------------|-----------------|----------------|
| SISO | UNII 1 | 802.11a/n/ac | Ant 0 | 1.48 | 11 dBm/MHz |
| | | | Ant 1 | 1.5 | 11 dBm/MHz |
| | UNII 2A | | Ant 0 | 1.5 | 11 dBm/MHz |
| | | | Ant 1 | 1.5 | 11 dBm/MHz |
| | UNII 2C | | Ant 0 | 1.5 | 11 dBm/MHz |
| | | | Ant 1 | 1.5 | 11 dBm/MHz |
| | UNII 3 | | Ant 0 | 1.44 | 30 dBm/500 kHz |
| | | | Ant 1 | 1.49 | 30 dBm/500 kHz |
| MIMO | UNII 1 | 802.11a/n/ac | Ant 0 & 1 | 4.50 | 11 dBm/MHz |
| | UNII 2A | | | 4.51 | 11 dBm/MHz |
| | UNII 2C | | | 4.51 | 11 dBm/MHz |
| | UNII 3 | | | 4.48 | 30 dBm/500 kHz |

Note : 1. If all antenna gains are not equal,

$$\text{Directional gain} = 10 \cdot \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N] \text{ dBi}$$

(according to KDB662911 D01 v02r01)

2. If all antennas have the same gain, G_{ANT} ($N_{ANT} = 2 / N_{ss} = 1$)

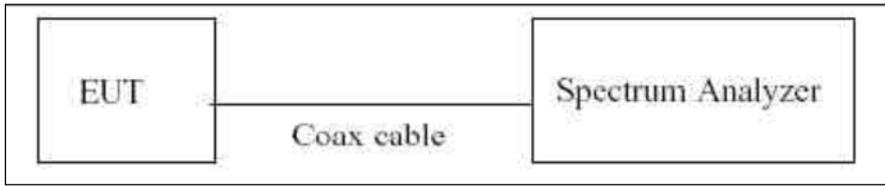
$$\text{Directional gain(dBi)} = G_{ANT} + \text{Array Gain}$$

$$\text{Array Gain(PSD)} = 10 \log(N_{ANT}/N_{ss}) \text{ dB.}$$

3. Limit is calculated by antenna gain.

4. The limits of maximum conducted power were applied the antenna gain. Therefore, if conducted power is pass, e.i.r.p. is also pass. So, we attached only conducted power table.

■ **TEST CONFIGURATION**



■ **TEST PROCEDURE**

We tested according to Method in KDB 789033 D02 v02r01.

The spectrum analyzer is set to :

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz(510 kHz for UNII 3)
3. VBW ≥ 3 MHz
4. Number of points in sweep ≥ 2*span/RBW.
5. Sweep time = auto.
6. Detector = RMS(i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run”.
8. Trace average at least 100 traces in power averaging(RMS) mode
9. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
10. If Method SA-2 was used, add $10 \log(1/x)$, where x is the duty cycle, to the peak of the spectrum.

■ **SAMPLE CALCULATION**

PSD = Reading Value + ATT loss + Cable loss(1 ea) + Duty Cycle Factor

Ex) PSD = -3 dBm + 10 dB + 0.8 dB + 0.2 dB = 8.0 dBm

Note :

1. Spectrum reading values are not plot data. The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss
3. We apply to the offset in the 5.2 GHz, 5.3 GHz and 5.6 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

| Band | Loss(dB) |
|-----------|----------|
| UNII 1, 3 | 21.1 |

(Actual value of loss for the attenuator and cable combination)

Ant.0

■ TEST RESULTS

Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode | Test Result | | | | |
|-----------------|-------------|----------------|------------------------------|------------------------|---|-------------|-----------|
| | | | Measured Power Density (dBm) | Duty Cycle Factor (dB) | Measured Power Density(dBm) + Duty Cycle Factor | Limit (dBm) | Pass/Fail |
| 5180 | 36 | 802.11a (SISO) | 5.661 | - | 5.661 | 11 | Pass |
| 5200 | 40 | | 6.109 | - | 6.109 | | Pass |
| 5240 | 48 | | 5.652 | - | 5.652 | | Pass |
| 5260 | 52 | | 4.607 | - | 4.607 | 11 | Pass |
| 5300 | 60 | | 5.027 | - | 5.027 | | Pass |
| 5320 | 64 | | 5.299 | - | 5.299 | | Pass |
| 5500 | 100 | | 5.479 | - | 5.479 | 11 | Pass |
| 5580 | 116 | | 5.996 | - | 5.996 | | Pass |
| 5720 | 144 | | 4.324 | - | 4.324 | | Pass |
| 5745 | 149 | | 2.288 | - | 2.288 | 30 | Pass |
| 5785 | 157 | | 2.370 | - | 2.370 | | Pass |
| 5825 | 165 | | 0.399 | - | 0.399 | | Pass |

Ant.1

■ TEST RESULTS

Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode | Test Result | | | | |
|-----------------|-------------|----------------|------------------------------|------------------------|---|-------------|-----------|
| | | | Measured Power Density (dBm) | Duty Cycle Factor (dB) | Measured Power Density(dBm) + Duty Cycle Factor | Limit (dBm) | Pass/Fail |
| 5180 | 36 | 802.11a (SISO) | 5.485 | - | 5.485 | 11 | Pass |
| 5200 | 40 | | 5.867 | - | 5.867 | | Pass |
| 5240 | 48 | | 5.725 | - | 5.725 | | Pass |
| 5260 | 52 | | 4.843 | - | 4.843 | 11 | Pass |
| 5300 | 60 | | 4.919 | - | 4.919 | | Pass |
| 5320 | 64 | | 5.574 | - | 5.574 | | Pass |
| 5500 | 100 | | 5.330 | - | 5.330 | 11 | Pass |
| 5580 | 116 | | 5.250 | - | 5.250 | | Pass |
| 5720 | 144 | | 5.766 | - | 5.766 | | Pass |
| 5745 | 149 | | 1.763 | - | 1.763 | 30 | Pass |
| 5785 | 157 | | 1.652 | - | 1.652 | | Pass |
| 5825 | 165 | | -0.423 | - | -0.423 | | Pass |

■ Sum Data of Ant.0 and Ant.1

■ TEST RESULTS

Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode | Test Result | | |
|-----------------|-------------|----------------|------------------------------|-------------|-----------|
| | | | Measured Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5180 | 36 | 802.11a (MIMO) | 8.58 | 11 | Pass |
| 5200 | 40 | | 9.00 | | Pass |
| 5240 | 48 | | 8.70 | | Pass |
| 5260 | 52 | | 7.74 | 11 | Pass |
| 5300 | 60 | | 7.98 | | Pass |
| 5320 | 64 | | 8.45 | | Pass |
| 5500 | 100 | | 8.42 | 11 | Pass |
| 5580 | 116 | | 8.64 | | Pass |
| 5720 | 144 | | 8.09 | | Pass |
| 5745 | 149 | | 5.04 | 30 | Pass |
| 5785 | 157 | | 5.03 | | Pass |
| 5825 | 165 | | 3.01 | | Pass |

TEST Plot for 802.11a 20MHz BW_Ant.0

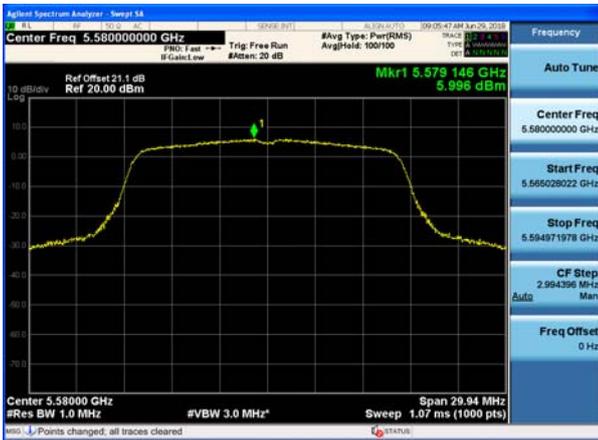
802.11a UNII 1 BAND PSD CH 40



802.11a UNII 2A BAND PSD CH 64



802.11a UNII 2C BAND PSD CH 116

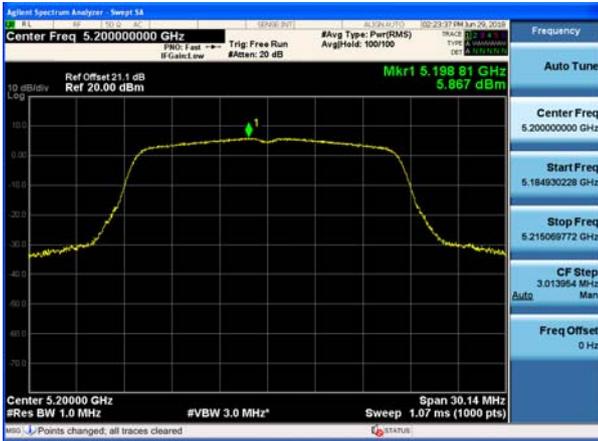


802.11a UNII 3 BAND PSD CH 157



TEST Plot for 802.11a 20MHz BW_Ant.1

802.11a UNII 1 BAND PSD CH 40



802.11a UNII 2A BAND PSD CH 64



802.11a UNII 2C BAND PSD CH 144



802.11a UNII 3 BAND PSD CH 149



Ant.0

■ TEST RESULTS

Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode | Test Result | | | | |
|-----------------|-------------|----------------------|------------------------------|------------------------|---|-------------|-----------|
| | | | Measured Power Density (dBm) | Duty Cycle Factor (dB) | Measured Power Density(dBm) + Duty Cycle Factor | Limit (dBm) | Pass/Fail |
| 5180 | 36 | 802.11n_ HT20 (SISO) | 5.417 | - | 5.417 | 11 | Pass |
| 5200 | 40 | | 5.762 | - | 5.762 | | Pass |
| 5240 | 48 | | 5.177 | - | 5.177 | | Pass |
| 5260 | 52 | | 4.087 | - | 4.087 | 11 | Pass |
| 5300 | 60 | | 4.323 | - | 4.323 | | Pass |
| 5320 | 64 | | 4.382 | - | 4.382 | | Pass |
| 5500 | 100 | | 5.125 | - | 5.125 | 11 | Pass |
| 5580 | 116 | | 5.315 | - | 5.315 | | Pass |
| 5720 | 144 | | 4.829 | - | 4.829 | | Pass |
| 5745 | 149 | | 1.856 | - | 1.856 | 30 | Pass |
| 5785 | 157 | | 1.931 | - | 1.931 | | Pass |
| 5825 | 165 | | 0.339 | - | 0.339 | | Pass |

Ant.1

■ TEST RESULTS

Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode | Test Result | | | | |
|-----------------|-------------|----------------------|------------------------------|------------------------|---|-------------|-----------|
| | | | Measured Power Density (dBm) | Duty Cycle Factor (dB) | Measured Power Density(dBm) + Duty Cycle Factor | Limit (dBm) | Pass/Fail |
| 5180 | 36 | 802.11n_ HT20 (SISO) | 5.178 | - | 5.178 | 11 | Pass |
| 5200 | 40 | | 5.557 | - | 5.557 | | Pass |
| 5240 | 48 | | 5.384 | - | 5.384 | | Pass |
| 5260 | 52 | | 4.383 | - | 4.383 | 11 | Pass |
| 5300 | 60 | | 4.773 | - | 4.773 | | Pass |
| 5320 | 64 | | 4.897 | - | 4.897 | | Pass |
| 5500 | 100 | | 5.032 | - | 5.032 | 11 | Pass |
| 5580 | 116 | | 5.242 | - | 5.242 | | Pass |
| 5720 | 144 | | 4.284 | - | 4.284 | | Pass |
| 5745 | 149 | | 1.128 | - | 1.128 | 30 | Pass |
| 5785 | 157 | | 1.478 | - | 1.478 | | Pass |
| 5825 | 165 | | -0.848 | - | -0.848 | | Pass |

- Sum Data of Ant.0 and Ant.1
- TEST RESULTS

Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode | Test Result | | |
|-----------------|-------------|----------------------------|------------------------------|-------------|-----------|
| | | | Measured Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5180 | 36 | 802.11n_ HT20 (MIMO) | 8.31 | 11 | Pass |
| 5200 | 40 | | 8.67 | | Pass |
| 5240 | 48 | | 8.29 | | Pass |
| 5260 | 52 | | 7.25 | 11 | Pass |
| 5300 | 60 | | 7.56 | | Pass |
| 5320 | 64 | | 7.65 | | Pass |
| 5500 | 100 | | 8.09 | 11 | Pass |
| 5580 | 116 | | 8.29 | | Pass |
| 5720 | 144 | | 7.57 | | Pass |
| 5745 | 149 | | 4.51 | 30 | Pass |
| 5785 | 157 | | 4.72 | | Pass |
| 5825 | 165 | | 2.78 | | Pass |