



## HCT CO., LTD.

### CERTIFICATE OF COMPLIANCE

#### FCC Certification

|                                                                                                  |                                                                                                                       |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>Applicant Name:</b><br>SAMSUNG Electronics Co., Ltd.                                          | <b>Date of Issue:</b><br>June 30, 2014                                                                                |
| <b>Address:</b><br>129, Samsung-ro, Yeongtong-gu Suwon-si,<br>Gyeonggi-do, 443-742 Rep. of Korea | <b>Test Site/Location:</b><br>HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majang-myeo, Icheon-si, Gyeonggi-do, Korea |
|                                                                                                  | <b>Report No.:</b> HCT-R-1405-F041-1                                                                                  |
|                                                                                                  | <b>HCT FRN:</b> 0005866421                                                                                            |
|                                                                                                  | <b>IC Recognition No.:</b> 5944A-3                                                                                    |

|                  |                                        |
|------------------|----------------------------------------|
| <b>FCC ID</b>    | <b>: A3LWEA403I</b>                    |
| <b>IC</b>        | <b>: 649E-WEA403I</b>                  |
| <b>APPLICANT</b> | <b>: SAMSUNG Electronics Co., Ltd.</b> |

|                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>FCC/ IC Model(s):</b>                           | WEA403i                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>EUT Type:</b>                                   | WLAN Access Point                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Max. RF Output Power:<br/>Monitoring Port 0</b> | Wi-Fi 802.11a (5260~5320) (12.15 dBm)/ Wi-Fi 802.11a (5500~5720) (12.15 dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Monitoring Port 1</b>                           | Wi-Fi 802.11a (5260~5320) (11.95 dBm)/ Wi-Fi 802.11a (5500~5720) (11.55 dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Monitoring Port 2</b>                           | Wi-Fi 802.11a (5260~5320) (12.55 dBm)/ Wi-Fi 802.11a (5500~5720) (12.45 dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Service Port 0</b>                              | Wi-Fi 802.11a (5260~5320) (10.44 dBm)/ Wi-Fi 802.11a (5500~5720) (12.09 dBm)/<br>Wi-Fi 802.11n_20 MHz BW(5260~5320)(11.56 dBm)/ Wi-Fi 802.11n_20 MHz BW(5500~5720)(12.84 dBm)/<br>Wi-Fi 802.11n_40 MHz BW (5270~5310) (6.22 dBm)/ Wi-Fi 802.11n_40 MHz BW (5510~5710) (13.76 dBm)/<br>Wi-Fi 802.11ac_20 MHz BW (5260~5320) (11.98 dBm)/ Wi-Fi 802.11ac_20 MHz BW (5500~5720) (12.19 dBm)/<br>Wi-Fi 802.11ac_40 MHz BW (5270~5310) (5.96 dBm)/ Wi-Fi 802.11ac_40 MHz BW (5510~5710) (13.96 dBm)/<br>Wi-Fi 802.11ac_80 MHz BW (5290) (4.48 dBm)/ Wi-Fi 802.11ac_80 MHz BW (5530~5690) (13.95 dBm) |
| <b>Service Port 1</b>                              | Wi-Fi 802.11a (5260~5320) (10.80 dBm)/ Wi-Fi 802.11a (5500~5720) (12.35 dBm)/<br>Wi-Fi 802.11n_20 MHz BW(5260~5320)(11.44 dBm)/ Wi-Fi 802.11n_20 MHz BW(5500~5720)(13.12 dBm)/<br>Wi-Fi 802.11n_40 MHz BW (5270~5310) (6.39 dBm)/ Wi-Fi 802.11n_40 MHz BW (5510~5710) (14.11 dBm)/<br>Wi-Fi 802.11ac_20 MHz BW (5260~5320) (12.09 dBm)/ Wi-Fi 802.11ac_20 MHz BW (5500~5720) (12.51 dBm)/<br>Wi-Fi 802.11ac_40 MHz BW (5270~5310) (6.09 dBm)/ Wi-Fi 802.11ac_40 MHz BW (5510~5710) (14.33 dBm)/<br>Wi-Fi 802.11ac_80 MHz BW (5290) (4.63 dBm)/ Wi-Fi 802.11ac_80 MHz BW (5530~5690) (14.33 dBm) |
| <b>Service Port 2</b>                              | Wi-Fi 802.11a (5260~5320) (11.25 dBm)/ Wi-Fi 802.11a (5500~5720) (12.18 dBm)/<br>Wi-Fi 802.11n_20 MHz BW(5260~5320)(12.21 dBm)/ Wi-Fi 802.11n_20 MHz BW(5500~5720)(12.89 dBm)/<br>Wi-Fi 802.11n_40 MHz BW (5270~5310) (7.07 dBm)/ Wi-Fi 802.11n_40 MHz BW (5510~5710) (13.95 dBm)/<br>Wi-Fi 802.11ac_20 MHz BW (5260~5320) (12.68 dBm)/ Wi-Fi 802.11ac_20 MHz BW (5500~5720) (12.81 dBm)/<br>Wi-Fi 802.11ac_40 MHz BW (5270~5310) (6.75 dBm)/ Wi-Fi 802.11ac_40 MHz BW (5510~5710) (14.08 dBm)/<br>Wi-Fi 802.11ac_80 MHz BW (5290) (5.37 dBm)/ Wi-Fi 802.11ac_80 MHz BW (5530~5690) (14.25 dBm) |
| <b>Frequency Range:</b>                            | 20 MHz BW: 5260 MHz - 5320 MHz (UNII 2A)/ 5500 MHz - 5720 MHz (UNII 2C)<br>40 MHz BW: 5270 MHz - 5310 MHz (UNII 2A)/ 5510 MHz - 5710 MHz (UNII 2C)<br>80 MHz BW: 5290 MHz (UNII 2A)/ 5530 MHz - 5690 MHz (UNII 2C)                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Modulation type:</b>                            | OFDM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>FCC Classification:</b>                         | Unlicensed National Information Infrastructure(UNII)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>FCC Rule Part(s):</b>                           | Part 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>IC Rule(s):</b>                                 | RSS-GEN Issue 3(December 2010), RSS-210 Issue 8(December 2010)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

#### 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.

**HCT CO., LTD.** Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S.C. 853(a)

|                                             |                                          |                                    |                              |                                                  |
|---------------------------------------------|------------------------------------------|------------------------------------|------------------------------|--------------------------------------------------|
| <b>FCC PT.15.407<br/>TEST REPORT</b>        | <b>FCC &amp; IC CERTIFICATION REPORT</b> |                                    |                              | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCT-R-1405-F041-1 | <b>Date of Issue:</b><br>June 30, 2014   | <b>EUT Type:</b> WLAN Access Point | <b>FCC ID:</b><br>A3LWEA403I | <b>IC:</b><br>649E-WEA403I                       |



Report prepared by  
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Test engineer of RF Team



Approved by  
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Manager of RF Team

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|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

# Version

| TEST REPORT NO.   | DATE          | DESCRIPTION                                                                      |
|-------------------|---------------|----------------------------------------------------------------------------------|
| HCT-R-1405-F041   | May 29, 2014  | - First Approval Report                                                          |
| HCT-R-1405-F041-1 | June 30, 2014 | - Updated the note for 802.11ac on Page 179, 208<br>- Adding the TPC information |
|                   |               |                                                                                  |
|                   |               |                                                                                  |

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## 1. GENERAL INFORMATION

**Applicant:** SAMSUNG Electronics Co., Ltd.  
**Address:** 129, Samsung-ro, Yeongtong-gu Suwon-si, Gyeonggi-do, 443-742 Rep. of Korea  
**FCC ID:** A3LWEA403I  
**IC:** 649E-WEA403I  
**EUT Type:** WLAN Access Point  
**FCC/ IC Model name(s):** WEA403i  
**Date(s) of Tests:** April 05, 2014 ~ May 27, 2014  
**Place of Tests:** HCT Co., Ltd.  
 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea.  
 (IC Recognition No. : 5944A-3)

## 2. EUT DESCRIPTION

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                              |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| <b>EUT Type</b>              | WLAN Access Point                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                              |
| <b>FCC/ IC Model Name</b>    | WEA403i                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                              |
| <b>Power Supply</b>          | AC adaptor : 100 V ~ 240 V, POE : DC 48 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                              |
| <b>Frequency Range</b>       | TX_20 MHz BW:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5260 MHz - 5320 MHz (UNII 2A)/ 5500 MHz - 5720 MHz (UNII 2C) |
|                              | 40 MHz BW:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5270 MHz - 5310 MHz (UNII 2A)/ 5510 MHz - 5710 MHz (UNII 2C) |
|                              | 80 MHz BW:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5290 MHz (UNII 2A)/ 5530 MHz - 5690 MHz (UNII 2C)            |
|                              | RX_20 MHz BW:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5260 MHz - 5320 MHz (UNII 2A)/ 5500 MHz - 5720 MHz (UNII 2C) |
|                              | 40 MHz BW:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5270 MHz - 5310 MHz (UNII 2A)/ 5510 MHz - 5710 MHz (UNII 2C) |
|                              | 80 MHz BW:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 5290 MHz (UNII 2A)/ 5530 MHz - 5690 MHz (UNII 2C)            |
| <b>Max. RF Output Power:</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                              |
| <b>Monitoring Port 0</b>     | Wi-Fi 802.11a (5260~5320) (12.15 dBm)/ Wi-Fi 802.11a (5500~5720) (12.15 dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                              |
| <b>Monitoring Port 1</b>     | Wi-Fi 802.11a (5260~5320) (11.95 dBm)/ Wi-Fi 802.11a (5500~5720) (11.55 dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                              |
| <b>Monitoring Port 2</b>     | Wi-Fi 802.11a (5260~5320) (12.55 dBm)/ Wi-Fi 802.11a (5500~5720) (12.45 dBm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                              |
| <b>Service Port 0</b>        | Wi-Fi 802.11a (5260~5320) (10.44 dBm)/ Wi-Fi 802.11a (5500~5720) (12.09 dBm)/<br>Wi-Fi 802.11n_20 MHz BW(5260~5320)(11.56 dBm)/ Wi-Fi 802.11n_20 MHz BW(5500~5720)(12.84 dBm)/<br>Wi-Fi 802.11n_40 MHz BW (5270~5310) (6.22 dBm)/ Wi-Fi 802.11n_40 MHz BW (5510~5710) (13.76 dBm)/<br>Wi-Fi 802.11ac_20 MHz BW (5260~5320) (11.98 dBm)/ Wi-Fi 802.11ac_20 MHz BW (5500~5720) (12.19 dBm)/<br>Wi-Fi 802.11ac_40 MHz BW (5270~5310) (5.96 dBm)/ Wi-Fi 802.11ac_40 MHz BW (5510~5710) (13.96 dBm)/<br>Wi-Fi 802.11ac_80 MHz BW (5290) (4.48 dBm)/ Wi-Fi 802.11ac_80 MHz BW (5530~5690) (13.95 dBm) |                                                              |
| <b>Service Port 1</b>        | Wi-Fi 802.11a (5260~5320) (10.80 dBm)/ Wi-Fi 802.11a (5500~5720) (12.35 dBm)/<br>Wi-Fi 802.11n_20 MHz BW(5260~5320)(11.44 dBm)/ Wi-Fi 802.11n_20 MHz BW(5500~5720)(13.12 dBm)/<br>Wi-Fi 802.11n_40 MHz BW (5270~5310) (6.39 dBm)/ Wi-Fi 802.11n_40 MHz BW (5510~5710) (14.11 dBm)/<br>Wi-Fi 802.11ac_20 MHz BW (5260~5320) (12.09 dBm)/ Wi-Fi 802.11ac_20 MHz BW (5500~5720) (12.51 dBm)/<br>Wi-Fi 802.11ac_40 MHz BW (5270~5310) (6.09 dBm)/ Wi-Fi 802.11ac_40 MHz BW (5510~5710) (14.33 dBm)/<br>Wi-Fi 802.11ac_80 MHz BW (5290) (4.63 dBm)/ Wi-Fi 802.11ac_80 MHz BW (5530~5690) (14.33 dBm) |                                                              |
| <b>Service Port 2</b>        | Wi-Fi 802.11a (5260~5320) (11.25 dBm)/ Wi-Fi 802.11a (5500~5720) (12.18 dBm)/<br>Wi-Fi 802.11n_20 MHz BW(5260~5320)(12.21 dBm)/ Wi-Fi 802.11n_20 MHz BW(5500~5720)(12.89 dBm)/<br>Wi-Fi 802.11n_40 MHz BW (5270~5310) (7.07 dBm)/ Wi-Fi 802.11n_40 MHz BW (5510~5710) (13.95 dBm)/<br>Wi-Fi 802.11ac_20 MHz BW (5260~5320) (12.68 dBm)/ Wi-Fi 802.11ac_20 MHz BW (5500~5720) (12.81 dBm)/<br>Wi-Fi 802.11ac_40 MHz BW (5270~5310) (6.75 dBm)/ Wi-Fi 802.11ac_40 MHz BW (5510~5710) (14.08 dBm)/<br>Wi-Fi 802.11ac_80 MHz BW (5290) (5.37 dBm)/ Wi-Fi 802.11ac_80 MHz BW (5530~5690) (14.25 dBm) |                                                              |
| <b>Modulation Type</b>       | OFDM(802.11a, 802.11n, 802.11ac)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                              |
| <b>Antenna Specification</b> | Manufacturer: ACE Technology<br>Antenna type: Internal Antenna<br>Peak Gain : cf. Section 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                              |

|                                             |                                          |                                    |                              |                                                  |
|---------------------------------------------|------------------------------------------|------------------------------------|------------------------------|--------------------------------------------------|
| <b>FCC PT.15.407<br/>TEST REPORT</b>        | <b>FCC &amp; IC CERTIFICATION REPORT</b> |                                    |                              | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| <b>Test Report No.</b><br>HCT-R-1405-F041-1 | <b>Date of Issue:</b><br>June 30, 2014   | <b>EUT Type:</b> WLAN Access Point | <b>FCC ID:</b><br>A3LWEA403I | <b>IC:</b><br>649E-WEA403I                       |

## 2.1 EUT OPERATING MODE

### Operating mode

| Port       | Mode         | Operating Mode | Operating Ant. |
|------------|--------------|----------------|----------------|
| Monitoring | 802.11a      | MIMO           | Ant 0 & 1 & 2  |
| Service    | 802.11a,n,ac | SISO           | Ant 0          |
|            |              |                | Ant 1          |
|            |              |                | Ant 2          |
|            |              | MIMO           | Ant 0 & 1      |
|            |              |                | Ant 0 & 1 & 2  |

Note :

1. This EUT is supported the AC adaptor and POE. Because worst case is AC adaptor, so we attached only the results for AC adaptor.
2. In case of radiation test, we have done all test case. Worst case is Ant 0 & 1 & 2 for monitoring and Ant 0 & 1 & 2 for service. So, we attached the results of only worst case.

### 3. TEST METHODOLOGY

The measurement procedure described in FCC KDB 789033 D01 General UNII Test Procedures Old Rules v01r04 dated June 06, 2014 entitled “ Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part15, Subpart E” and the American National Standard for Testing Unlicensed Wireless Devices(ANSI C63.4-2003) were used in the measurement.

#### 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.

#### 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 13.1.4.1 of ANSI C63.4. (Version :2003) 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. 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 13.1.4.1 of ANSI C63.4. (Version: 2003)

##### Conducted Antenna Terminal

See Section from 8.1 to 8.4.(KDB 789033)

### 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.

| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
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## 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

## 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 :2003) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated February 28, 2014 (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."

|                                             |                                          |                                    |                              |                                                  |
|---------------------------------------------|------------------------------------------|------------------------------------|------------------------------|--------------------------------------------------|
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## 6. ANTENNA REQUIREMENTS

### According to FCC 47 CFR §15.203:

“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

### Directional Gain Calculations

▪ If any transmit signals are correlated with each other(802.11a,n,ac),

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

▪ If all transmit signals are completely uncorrelated with each other(802.11n,ac)

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

### Antenna Gain

CDD mode(UNII 2A)

|         |                          |               |                         |
|---------|--------------------------|---------------|-------------------------|
| Service | Antenna Gain             | Ant 0         | 6.76 dBi                |
|         |                          | Ant 1         | 6.24 dBi                |
|         |                          | Ant 2         | 5.90 dBi                |
|         | Directional Antenna Gain | Ant 0 & 1     | 9.51 dBi(802.11a,n,ac)  |
|         |                          | Ant 0 & 1 & 2 | 11.08 dBi(802.11a,n,ac) |
| Monitor | Antenna Gain             | Ant 0         | 7.80 dBi                |
|         |                          | Ant 1         | 6.84 dBi                |
|         |                          | Ant 2         | 6.43 dBi                |
|         | Directional Antenna Gain | Ant 0 & 1 & 2 | 11.81 dBi(802.11a)      |

CDD mode(UNII 2C)

|         |                          |               |                         |
|---------|--------------------------|---------------|-------------------------|
| Service | Antenna Gain             | Ant 0         | 6.34 dBi                |
|         |                          | Ant 1         | 5.71 dBi                |
|         |                          | Ant 2         | 5.69 dBi                |
|         | Directional Antenna Gain | Ant 0 & 1     | 9.04 dBi(802.11a,n,ac)  |
|         |                          | Ant 0 & 1 & 2 | 10.69 dBi(802.11a,n,ac) |
| Monitor | Antenna Gain             | Ant 0         | 7.54 dBi                |
|         |                          | Ant 1         | 6.98 dBi                |
|         |                          | Ant 2         | 7.68 dBi                |
|         | Directional Antenna Gain | Ant 0 & 1 & 2 | 12.18 dBi(802.11a)      |

Note : This EUT is supported CDD and SDM for 802.11n, ac. So, we applied the CDD mode for antenna gain.  
Because highest gain is CDD mode and worst case is CDD mode.

## 7. SUMMARY OF TEST RESULTS

### 7.1 FCC Part

| Test Description                                                             | FCC Part Section(s)             | Test Limit                                                                                                                                  | Test Condition | Test Result |
|------------------------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|
| 26dB Bandwidth                                                               | §15.407 (for Power Measurement) | NA                                                                                                                                          | CONDUCTED      | PASS        |
| Maximum Conducted Output Power,                                              | §15.407(a)(1)                   | < 250 mW or $11+10 \log_{10}$ (BW) dBm (5250-5350 MHz)<br>< 250 mW or $11+10 \log_{10}$ (BW) dBm (5470-5725 MHz)<br>Whichever power is less |                | PASS        |
| Peak Power Spectral Density                                                  | §15.407(a)(1), (5)              | <11 dBm/ MHz (5250-5350)<br><11 dBm/ MHz (5470-5725)                                                                                        |                | PASS        |
| Peak Excursion                                                               | §15.407(a)(6)                   | <13 dB/ MHz maximum difference                                                                                                              |                | PASS        |
| Frequency Stability                                                          | §15.407(g)                      | NA                                                                                                                                          |                | NA          |
| AC Conducted Emissions 150 kHz-30 MHz                                        | §15.207                         | <FCC 15.207 limits                                                                                                                          |                | NA          |
| Undesirable Emissions                                                        | §15.407(b)(1), (2), (3)         | <-27 dBm/ MHz EIRP (5150-5350 MHz, 5470-5725 MHz)                                                                                           | RADIATED       | PASS        |
| General Field Strength Limits(Restricted Bands and Radiated Emission Limits) | §15.205, 5.407(b)(1), (5), (6)  | Emissions in restricted bands must meet the radiated limits detailed in 15.209                                                              |                | PASS        |

## 7.2 IC Part

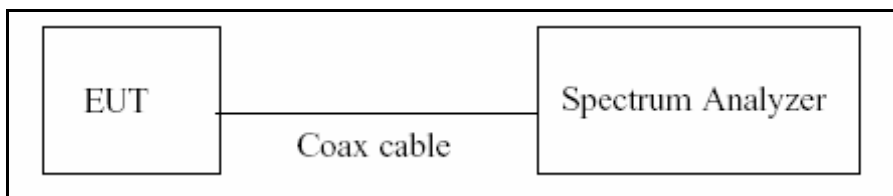
| Test Description                                                                   | IC Part Section(s)        | Test Limit                                                                                                                                                                                                                                                                                                                                               | Test Condition | Test Result |
|------------------------------------------------------------------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|
| 99% Bandwidth(IC)                                                                  | RSS-GEN 4.6.1             | NA                                                                                                                                                                                                                                                                                                                                                       | CONDUCTED      | PASS        |
| Maximum Conducted Output Power and Maximum e.i.r.p                                 | RSS-210 [A9.2]            | Conducted:<br>< 250 mW or $11+10 \log_{10}$ (BW) dBm<br>(5250-5350 MHz)<br>< 250 mW or $11+10 \log_{10}$ (BW) dBm<br>(5470-5600 & 5650-5725 MHz)<br>Whichever power is less<br><br>e.i.r.p. :<br>< 1 W or $17+10 \log_{10}$ (BW) dBm<br>(5250-5350 MHz)<br>< 1 W or $17+10 \log_{10}$ (BW) dBm<br>(5470-5600 & 5650-5725 MHz)<br>Whichever power is less |                | PASS        |
| Peak Power Spectral Density                                                        | RSS-210 [A9.2]            | <11 dBm/ MHz (5250-5350)<br><11 dBm/ MHz<br>(5470-5600 & 5650-5725 MHz)                                                                                                                                                                                                                                                                                  |                | PASS        |
| AC Conducted Emissions<br>150 kHz-30 MHz                                           | RSS-GEN, Section<br>7.2.4 | RSS-GEN<br>section 7.2.4 table 4                                                                                                                                                                                                                                                                                                                         |                | NA          |
| Undesirable Emissions                                                              | RSS-210 [A8.5]            | <-27 dBm/ MHz EIRP<br>(5150-5350 MHz,<br>5470-5600 MHz<br>5650-5725 MHz)                                                                                                                                                                                                                                                                                 |                | PASS        |
| General Field Strength<br>Limits(Restricted Bands and<br>Radiated Emission Limits) | RSS-GEN, Section<br>7.2.3 | Emissions in restricted bands<br>must meet the radiated limits<br>detailed in 15.209                                                                                                                                                                                                                                                                     | RADIATED       | PASS        |
| Receiver Spurious Emissions                                                        | RSS-GEN, Section<br>7.2.3 | cf. Section 8.8.3                                                                                                                                                                                                                                                                                                                                        |                | PASS        |

## 8. TEST RESULT

### 8.1 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( issued 06/06/2014)

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  $T_{\text{total}}$  and  $T_{\text{on}}$
8. Calculate Duty Cycle =  $T_{\text{on}} / T_{\text{total}}$  and Duty Cycle Factor =  $10 \cdot \log(1/\text{Duty Cycle})$

|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

## Duty Cycle Factor

### Monitoring Port

| Mode    | Data Rate | T <sub>on</sub><br>(ms) | T <sub>total</sub><br>(ms) | Duty Cycle | Duty Cycle Factor |
|---------|-----------|-------------------------|----------------------------|------------|-------------------|
| 802.11a | 6         | 2.060                   | 2.170                      | 0.94930876 | 0.226             |
|         | 9         | 1.360                   | 1.450                      | 0.93793103 | 0.278             |
|         | 12        | 1.025                   | 1.095                      | 0.93607306 | 0.287             |
|         | 18        | 0.680                   | 0.730                      | 0.93150685 | 0.308             |
|         | 24        | 0.524                   | 0.558                      | 0.93906810 | 0.273             |
|         | 36        | 0.354                   | 0.386                      | 0.91709845 | 0.376             |
|         | 48        | 0.272                   | 0.302                      | 0.90066225 | 0.454             |
|         | 54        | 0.238                   | 0.270                      | 0.88148148 | 0.548             |

# Service Port

| Mode         | Data Rate | T <sub>on</sub><br>(ms) | T <sub>total</sub><br>(ms) | Duty Cycle | Duty Cycle Factor |
|--------------|-----------|-------------------------|----------------------------|------------|-------------------|
| 802.11a      | 6         | 2.060                   | 2.170                      | 0.94930876 | 0.226             |
|              | 9         | 1.360                   | 1.450                      | 0.93793103 | 0.278             |
|              | 12        | 1.025                   | 1.095                      | 0.93607306 | 0.287             |
|              | 18        | 0.680                   | 0.730                      | 0.93150685 | 0.308             |
|              | 24        | 0.524                   | 0.558                      | 0.93906810 | 0.273             |
|              | 36        | 0.354                   | 0.386                      | 0.91709845 | 0.376             |
|              | 48        | 0.272                   | 0.302                      | 0.90066225 | 0.454             |
|              | 54        | 0.238                   | 0.270                      | 0.88148148 | 0.548             |
| 802.11n_HT20 | 6.5       | 1.920                   | 2.015                      | 0.95285360 | 0.210             |
|              | 13        | 0.981                   | 1.026                      | 0.95614035 | 0.195             |
|              | 19.5      | 0.664                   | 0.698                      | 0.95155511 | 0.216             |
|              | 26        | 0.508                   | 0.532                      | 0.95488722 | 0.200             |
|              | 39        | 0.352                   | 0.376                      | 0.93613624 | 0.287             |
|              | 52        | 0.272                   | 0.296                      | 0.92047377 | 0.360             |
|              | 58.5      | 0.248                   | 0.272                      | 0.91381215 | 0.391             |
|              | 65        | 0.228                   | 0.252                      | 0.90461049 | 0.435             |
| 802.11n_HT40 | 13.5      | 0.944                   | 1.042                      | 0.90595010 | 0.429             |
|              | 27        | 0.492                   | 0.540                      | 0.91111111 | 0.404             |
|              | 40.5      | 0.339                   | 0.373                      | 0.90987124 | 0.410             |
|              | 54        | 0.264                   | 0.288                      | 0.91826087 | 0.370             |
|              | 81        | 0.188                   | 0.212                      | 0.88747045 | 0.518             |
|              | 108       | 0.152                   | 0.175                      | 0.86643836 | 0.623             |
|              | 121.5     | 0.140                   | 0.163                      | 0.85661765 | 0.672             |
|              | 135       | 0.128                   | 0.152                      | 0.84356436 | 0.739             |

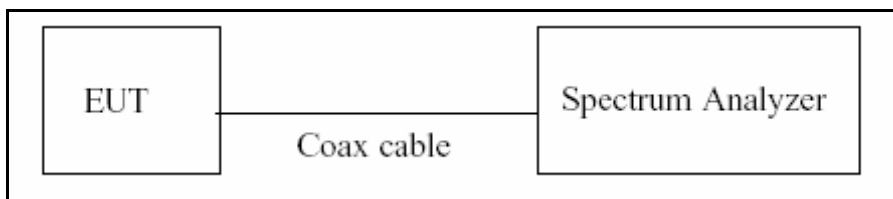
| Mode           | Data Rate | T <sub>on</sub><br>(ms) | T <sub>total</sub><br>(ms) | Duty Cycle | Duty Cycle Factor<br>(dB) |
|----------------|-----------|-------------------------|----------------------------|------------|---------------------------|
| 802.11ac_VHT20 | 6.5       | 1.920                   | 2.015                      | 0.95285360 | 0.210                     |
|                | 13        | 0.981                   | 1.026                      | 0.95614035 | 0.195                     |
|                | 19.5      | 0.664                   | 0.698                      | 0.95155511 | 0.216                     |
|                | 26        | 0.508                   | 0.532                      | 0.95488722 | 0.200                     |
|                | 39        | 0.352                   | 0.376                      | 0.93613624 | 0.287                     |
|                | 52        | 0.272                   | 0.296                      | 0.92047377 | 0.360                     |
|                | 58.5      | 0.248                   | 0.272                      | 0.91381215 | 0.391                     |
|                | 65        | 0.228                   | 0.252                      | 0.90461049 | 0.435                     |
|                | 78        | 0.200                   | 0.228                      | 0.87478109 | 0.581                     |
| 802.11ac_VHT40 | 13.5      | 0.944                   | 1.042                      | 0.90595010 | 0.429                     |
|                | 27        | 0.492                   | 0.540                      | 0.91111111 | 0.404                     |
|                | 40.5      | 0.339                   | 0.373                      | 0.90987124 | 0.410                     |
|                | 54        | 0.264                   | 0.288                      | 0.91826087 | 0.370                     |
|                | 81        | 0.188                   | 0.212                      | 0.88747045 | 0.518                     |
|                | 108       | 0.152                   | 0.175                      | 0.86643836 | 0.623                     |
|                | 121.5     | 0.140                   | 0.163                      | 0.85661765 | 0.672                     |
|                | 135       | 0.128                   | 0.152                      | 0.84356436 | 0.739                     |
|                | 162       | 0.116                   | 0.144                      | 0.80416667 | 0.947                     |
|                | 180       | 0.112                   | 0.140                      | 0.79928571 | 0.973                     |
| 802.11ac_VHT80 | 29.3      | 0.459                   | 0.488                      | 0.94057377 | 0.266                     |
|                | 58.5      | 0.251                   | 0.280                      | 0.89767442 | 0.469                     |
|                | 87.8      | 0.180                   | 0.209                      | 0.86330935 | 0.638                     |
|                | 117       | 0.148                   | 0.176                      | 0.83863636 | 0.764                     |
|                | 175.5     | 0.112                   | 0.140                      | 0.79871060 | 0.976                     |
|                | 234       | 0.096                   | 0.124                      | 0.76975060 | 1.136                     |
|                | 263.3     | 0.088                   | 0.116                      | 0.75537403 | 1.218                     |
|                | 292.5     | 0.084                   | 0.113                      | 0.74742451 | 1.264                     |
|                | 351       | 0.076                   | 0.104                      | 0.72974013 | 1.368                     |
|                | 390       | 0.072                   | 0.100                      | 0.71740000 | 1.442                     |

## 8.2 26 dB BANDWIDTH MEASUREMENT

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(issued 06/06/2014), 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

The transmitter output is connected to the Spectrum Analyzer.

The Spectrum Analyzer is set to( Page 3 in KDB 789033, issued 06/06/2014)

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 peak 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 %.

Monitoring Port Ant.0

## TEST RESULTS

20 MHz BW

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 19.93                       | N/A                        | Pass        |
| 5300            | 60          | 19.80                       | N/A                        | Pass        |
| 5320            | 64          | 19.82                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 19.60                       | N/A                        | Pass        |
| 5580            | 116         | 19.89                       | N/A                        | Pass        |
| 5720            | 144         | 20.07                       | N/A                        | Pass        |

# Monitoring Port Ant.1

## TEST RESULTS

20 MHz BW

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 19.60                       | N/A                        | Pass        |
| 5300            | 60          | 19.60                       | N/A                        | Pass        |
| 5320            | 64          | 19.76                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 19.75                       | N/A                        | Pass        |
| 5580            | 116         | 19.87                       | N/A                        | Pass        |
| 5720            | 144         | 19.64                       | N/A                        | Pass        |

# Monitoring Port Ant.2

## TEST RESULTS

20 MHz BW

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 19.88                       | N/A                        | Pass        |
| 5300            | 60          | 19.96                       | N/A                        | Pass        |
| 5320            | 64          | 20.06                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 19.92                       | N/A                        | Pass        |
| 5580            | 116         | 19.98                       | N/A                        | Pass        |
| 5720            | 144         | 20.06                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 20.12                       | N/A                        | Pass        |
| 5300            | 60          | 19.95                       | N/A                        | Pass        |
| 5320            | 64          | 19.64                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 19.90                       | N/A                        | Pass        |
| 5580            | 116         | 19.72                       | N/A                        | Pass        |
| 5720            | 144         | 20.13                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 20.69                       | N/A                        | Pass        |
| 5300            | 60          | 20.25                       | N/A                        | Pass        |
| 5320            | 64          | 20.34                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 20.30                       | N/A                        | Pass        |
| 5580            | 116         | 20.46                       | N/A                        | Pass        |
| 5720            | 144         | 20.45                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 20.38                       | N/A                        | Pass        |
| 5300            | 60          | 20.17                       | N/A                        | Pass        |
| 5320            | 64          | 20.29                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 20.30                       | N/A                        | Pass        |
| 5580            | 116         | 20.22                       | N/A                        | Pass        |
| 5720            | 144         | 20.46                       | N/A                        | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5270            | 54          | 39.53                       | N/A                        | Pass        |
| 5310            | 62          | 39.85                       | N/A                        | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5510            | 102         | 39.55                       | N/A                        | Pass        |
| 5550            | 110         | 39.56                       | N/A                        | Pass        |
| 5710            | 142         | 39.37                       | N/A                        | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5270            | 54          | 39.40                       | N/A                        | Pass        |
| 5310            | 62          | 39.42                       | N/A                        | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5510            | 102         | 39.79                       | N/A                        | Pass        |
| 5550            | 110         | 39.62                       | N/A                        | Pass        |
| 5710            | 142         | 39.33                       | N/A                        | Pass        |

80 MHz BW

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5290            | 58             | 82.05                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5530            | 106            | 82.18                       | N/A                        | Pass        |
| 5690            | 138            | 82.36                       | N/A                        | Pass        |

# Service Port Ant.1

## TEST RESULTS

20 MHz BW

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 19.65                       | N/A                        | Pass        |
| 5300            | 60          | 20.11                       | N/A                        | Pass        |
| 5320            | 64          | 19.75                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 19.95                       | N/A                        | Pass        |
| 5580            | 116         | 19.94                       | N/A                        | Pass        |
| 5720            | 144         | 19.97                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 20.32                       | N/A                        | Pass        |
| 5300            | 60          | 20.24                       | N/A                        | Pass        |
| 5320            | 64          | 20.21                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 20.40                       | N/A                        | Pass        |
| 5580            | 116         | 20.44                       | N/A                        | Pass        |
| 5720            | 144         | 20.57                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 20.85                       | N/A                        | Pass        |
| 5300            | 60          | 20.32                       | N/A                        | Pass        |
| 5320            | 64          | 20.19                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 20.29                       | N/A                        | Pass        |
| 5580            | 116         | 20.76                       | N/A                        | Pass        |
| 5720            | 144         | 20.60                       | N/A                        | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5270            | 54          | 39.21                       | N/A                        | Pass        |
| 5310            | 62          | 39.68                       | N/A                        | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5510            | 102         | 39.70                       | N/A                        | Pass        |
| 5550            | 110         | 40.09                       | N/A                        | Pass        |
| 5710            | 142         | 39.37                       | N/A                        | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5270            | 54          | 39.49                       | N/A                        | Pass        |
| 5310            | 62          | 39.64                       | N/A                        | Pass        |

## Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5510            | 102         | 39.77                       | N/A                        | Pass        |
| 5550            | 110         | 39.57                       | N/A                        | Pass        |
| 5710            | 142         | 39.95                       | N/A                        | Pass        |

80 MHz BW

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5290            | 58             | 82.21                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5530            | 106            | 82.09                       | N/A                        | Pass        |
| 5690            | 138            | 82.24                       | N/A                        | Pass        |

# Service Port Ant.2

## TEST RESULTS

20 MHz BW

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 19.47                       | N/A                        | Pass        |
| 5300            | 60          | 19.65                       | N/A                        | Pass        |
| 5320            | 64          | 19.80                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 19.68                       | N/A                        | Pass        |
| 5580            | 116         | 20.11                       | N/A                        | Pass        |
| 5720            | 144         | 20.20                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 20.45                       | N/A                        | Pass        |
| 5300            | 60          | 20.36                       | N/A                        | Pass        |
| 5320            | 64          | 20.69                       | N/A                        | Pass        |

### Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 20.20                       | N/A                        | Pass        |
| 5580            | 116         | 20.20                       | N/A                        | Pass        |
| 5720            | 144         | 20.42                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 52          | 20.62                       | N/A                        | Pass        |
| 5300            | 60          | 20.18                       | N/A                        | Pass        |
| 5320            | 64          | 20.26                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5500            | 100         | 20.26                       | N/A                        | Pass        |
| 5580            | 116         | 20.64                       | N/A                        | Pass        |
| 5720            | 144         | 20.65                       | N/A                        | Pass        |

40 MHz BW

Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5270            | 54          | 39.64                       | N/A                        | Pass        |
| 5310            | 62          | 39.61                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5510            | 102         | 39.53                       | N/A                        | Pass        |
| 5550            | 110         | 39.70                       | N/A                        | Pass        |
| 5710            | 142         | 39.49                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5270            | 54          | 39.50                       | N/A                        | Pass        |
| 5310            | 62          | 39.60                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5510            | 102         | 39.52                       | N/A                        | Pass        |
| 5550            | 110         | 39.82                       | N/A                        | Pass        |
| 5710            | 142         | 39.74                       | N/A                        | Pass        |

80 MHz BW

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5290            | 58             | 82.12                       | N/A                        | Pass        |

Conducted 26 dB Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5530            | 106            | 82.35                       | N/A                        | Pass        |
| 5690            | 138            | 82.78                       | N/A                        | Pass        |

Note :

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

# Monitoring Port Ant.0

## 20 dB BW TEST RESULTS(Additional Test)

Conducted 20 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 18.85                       | N/A                        | Pass        |

# Monitoring Port Ant.1

## 20 dB BW TEST RESULTS(Additional Test)

Conducted 20 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 18.92                       | N/A                        | Pass        |

# Monitoring Port Ant.2

## 20 dB BW TEST RESULTS(Additional Test)

Conducted 20 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 18.77                       | N/A                        | Pass        |

Note : We performed the 20 dB BW test to prove that no part of the fundamental emissions of any UNII2 band signal lies within the UNII band 1.

Service Port Ant.0

## 20 dB BW TEST RESULTS(Additional Test)

### Conducted 20 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 18.87                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11n\_20 MHz BW

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 19.33                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11ac\_20 MHz BW

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 19.47                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11n\_40 MHz BW

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 54          | 38.50                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11ac\_40 MHz BW

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 54          | 38.61                       | N/A                        | Pass        |

Conducted 20 dB Bandwidth Measurements for 802.11ac\_80 MHz BW

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5270            | 58             | 79.52                       | N/A                        | Pass        |

Note : We performed the 20 dB BW test to prove that no part of the fundamental emissions of any UNII2 band signal lies within the UNII band 1.

# Service Port Ant.1

## 20 dB BW TEST RESULTS(Additional Test)

### Conducted 20 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 18.74                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11n\_20 MHz BW

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 19.39                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11ac\_20 MHz BW

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 19.41                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11n\_40 MHz BW

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 54          | 38.32                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11ac\_40 MHz BW

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 54          | 38.42                       | N/A                        | Pass        |

Conducted 20 dB Bandwidth Measurements for 802.11ac\_80 MHz BW

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5270            | 58             | 79.91                       | N/A                        | Pass        |

Note : We performed the 20 dB BW test to prove that no part of the fundamental emissions of any UNII2 band signal lies within the UNII band 1.

# Service Port Ant.2

## 20 dB BW TEST RESULTS(Additional Test)

### Conducted 20 dB Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 19.11                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11n\_20 MHz BW

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 19.49                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11ac\_20 MHz BW

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5250            | 52          | 19.49                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11n\_40 MHz BW

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 54          | 38.36                       | N/A                        | Pass        |

### Conducted 20 dB Bandwidth Measurements for 802.11ac\_40 MHz BW

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|-------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel No. |                             |                            |             |
| 5260            | 54          | 38.33                       | N/A                        | Pass        |

Conducted 20 dB Bandwidth Measurements for 802.11ac\_80 MHz BW

| 802.11ac Mode   |                | Measured Bandwidth<br>[MHz] | Minimum Bandwidth<br>[MHz] | Pass / Fail |
|-----------------|----------------|-----------------------------|----------------------------|-------------|
| Frequency [MHz] | Channel<br>No. |                             |                            |             |
| 5270            | 58             | 79.84                       | N/A                        | Pass        |

Note : We performed the 20 dB BW test to prove that no part of the fundamental emissions of any UNII2 band signal lies within the UNII band 1.

# Monitoring Port Ant.0

## RESULT PLOTS

20 MHz BW

26 dB Bandwidth plot (802.11a-CH 52)



26 dB Bandwidth plot (802.11a-CH 144)

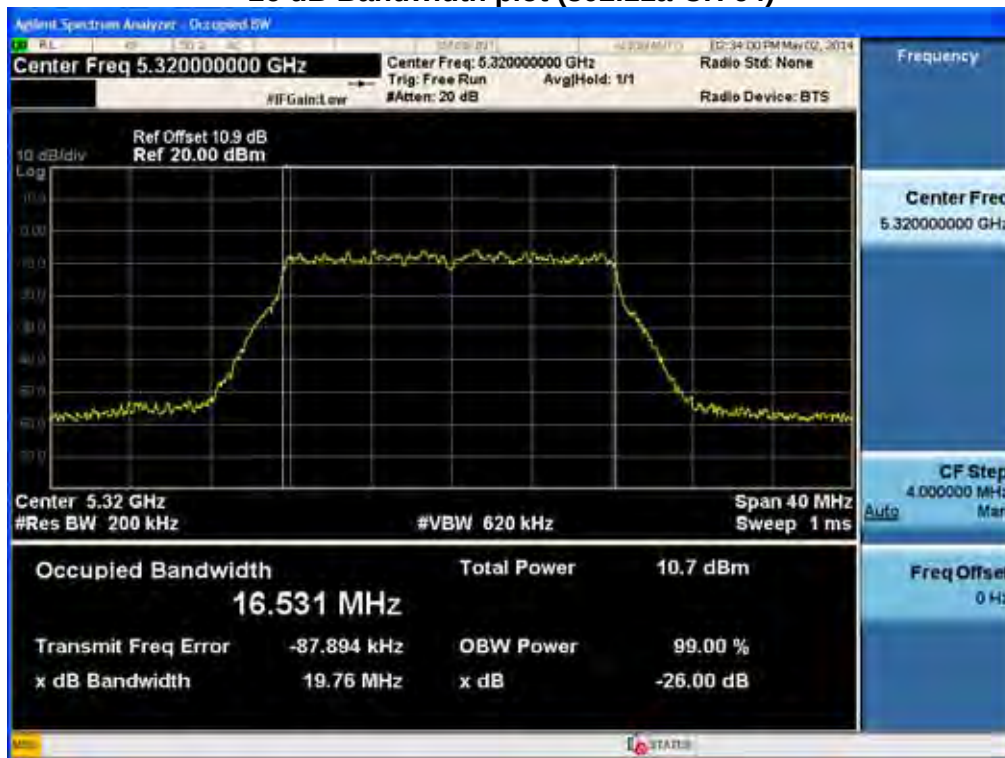


# Monitoring Port Ant.1

## RESULT PLOTS

20 MHz BW

26 dB Bandwidth plot (802.11a-CH 64)



26 dB Bandwidth plot (802.11a-CH 116)

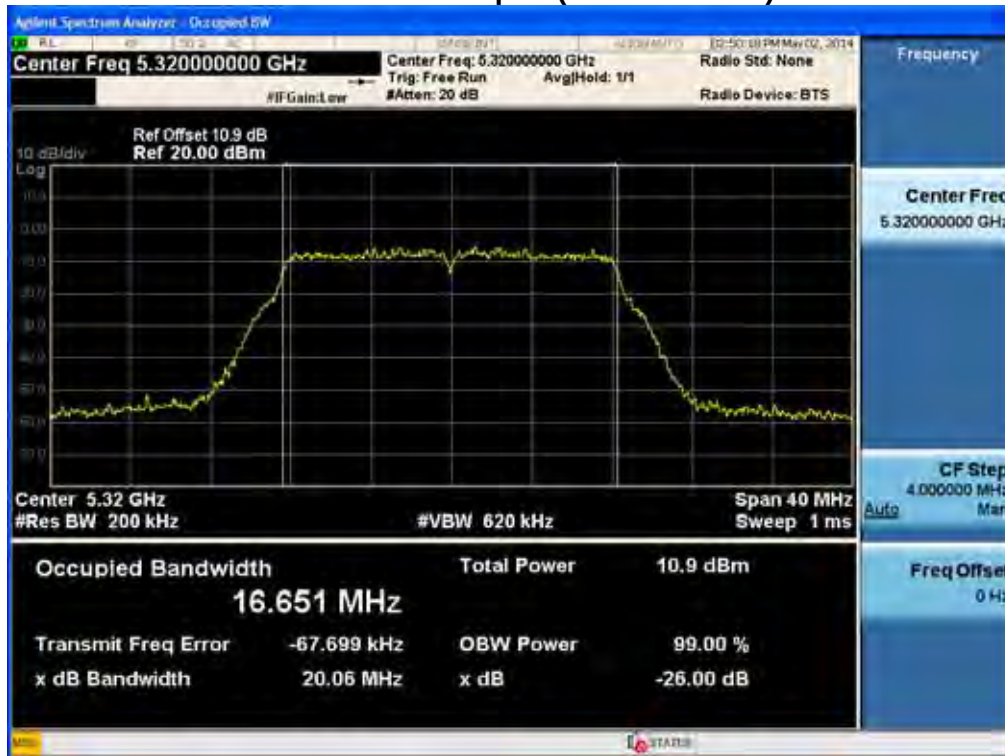


## Monitoring Port Ant.2

### RESULT PLOTS

20 MHz BW

26 dB Bandwidth plot (802.11a-CH 64)



26 dB Bandwidth plot (802.11a-CH 144)

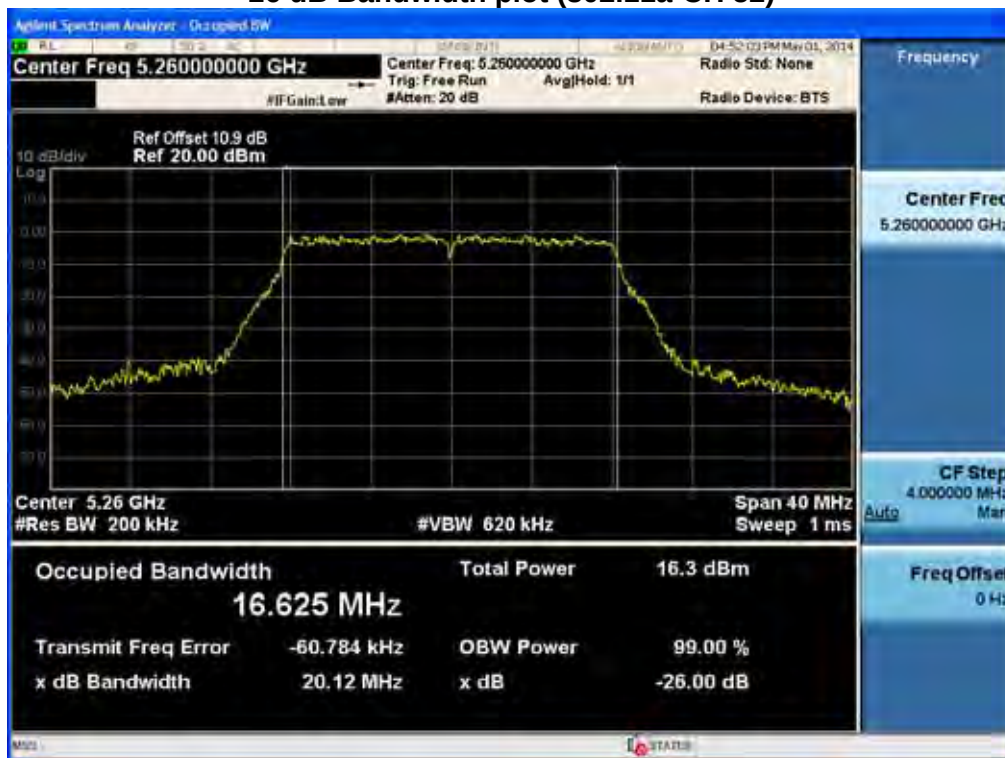


# Service Port Ant.0

## RESULT PLOTS

20 MHz BW

26 dB Bandwidth plot (802.11a-CH 52)



26 dB Bandwidth plot (802.11a-CH 144)



### 26 dB Bandwidth plot (802.11n-CH 52)



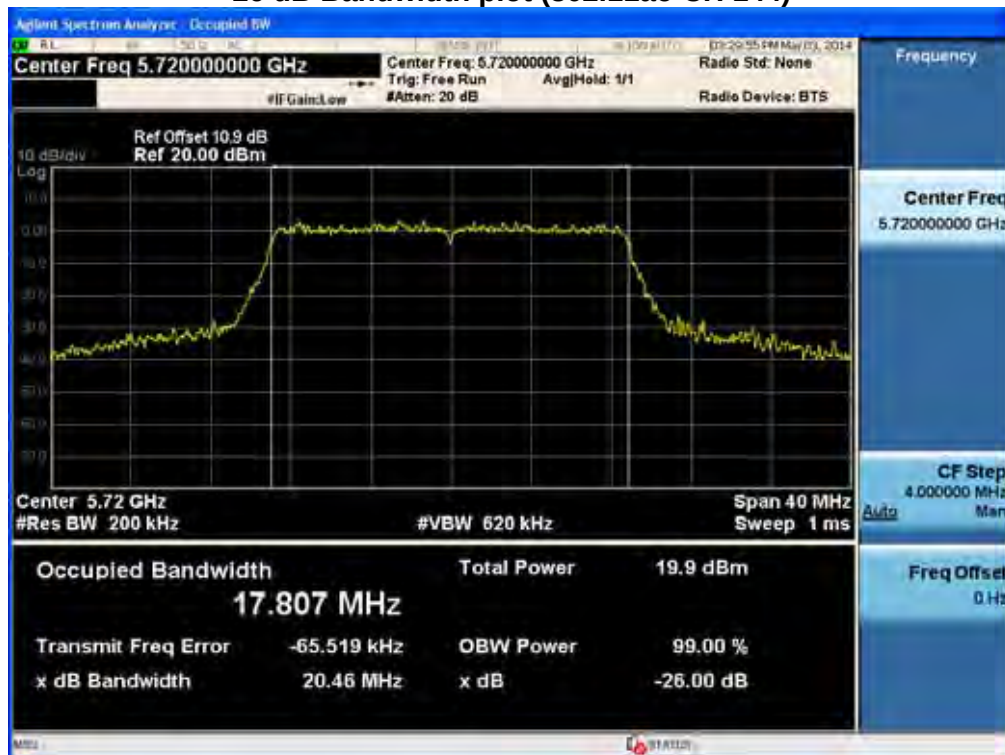
### 26 dB Bandwidth plot (802.11n-CH 116)



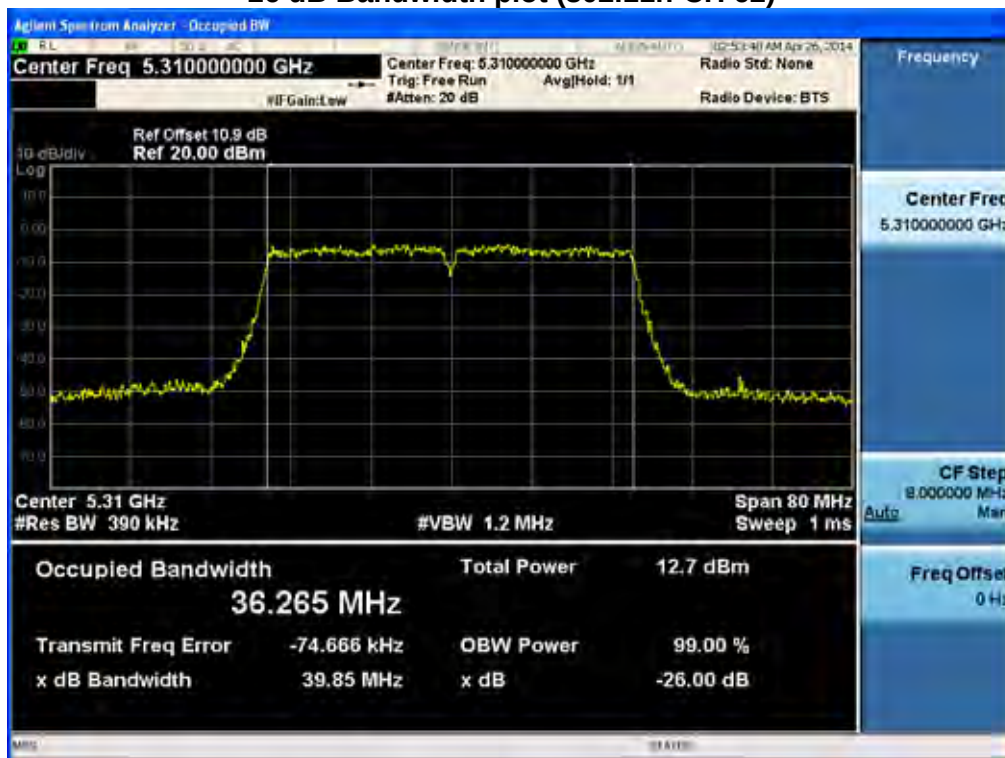
26 dB Bandwidth plot (802.11ac-CH 52)



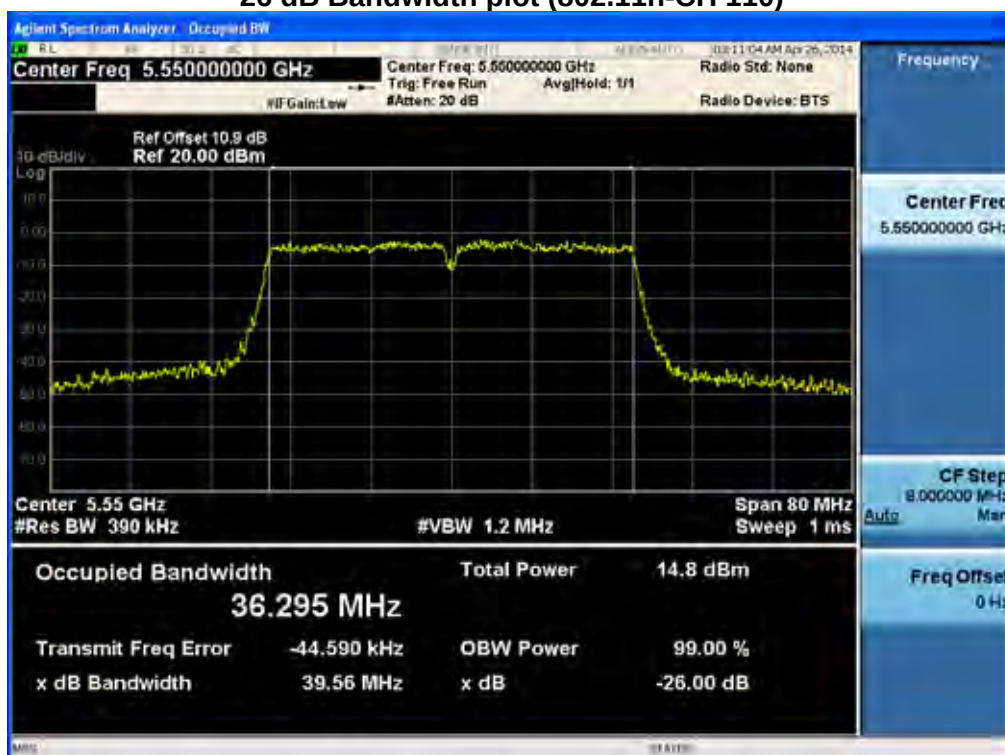
26 dB Bandwidth plot (802.11ac-CH 144)



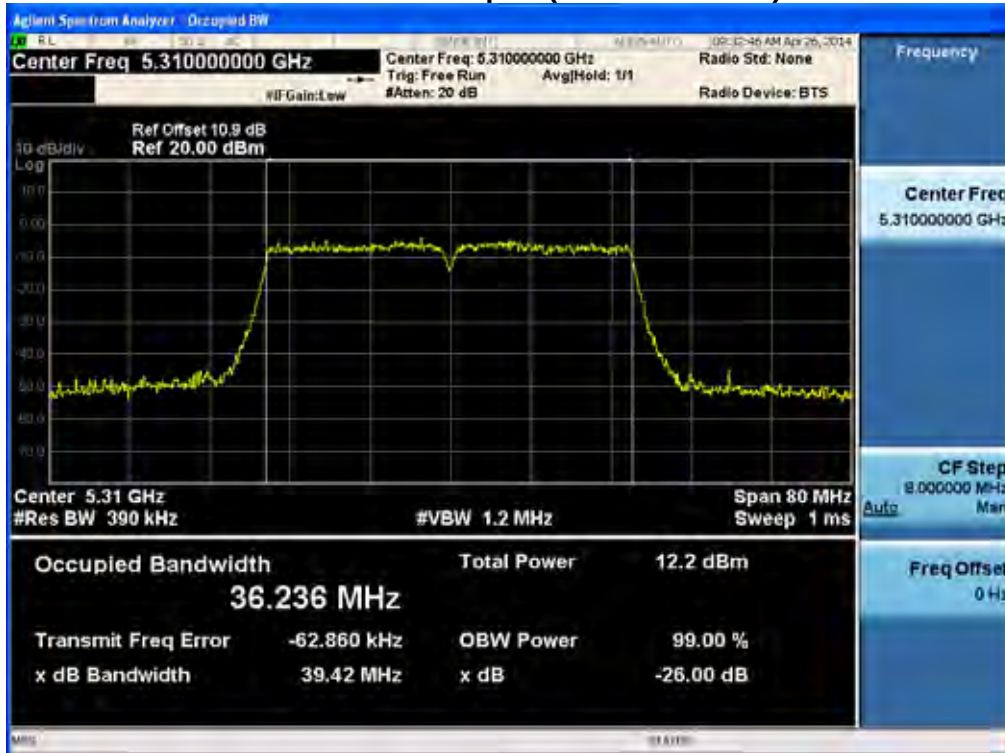
26 dB Bandwidth plot (802.11n-CH 62)



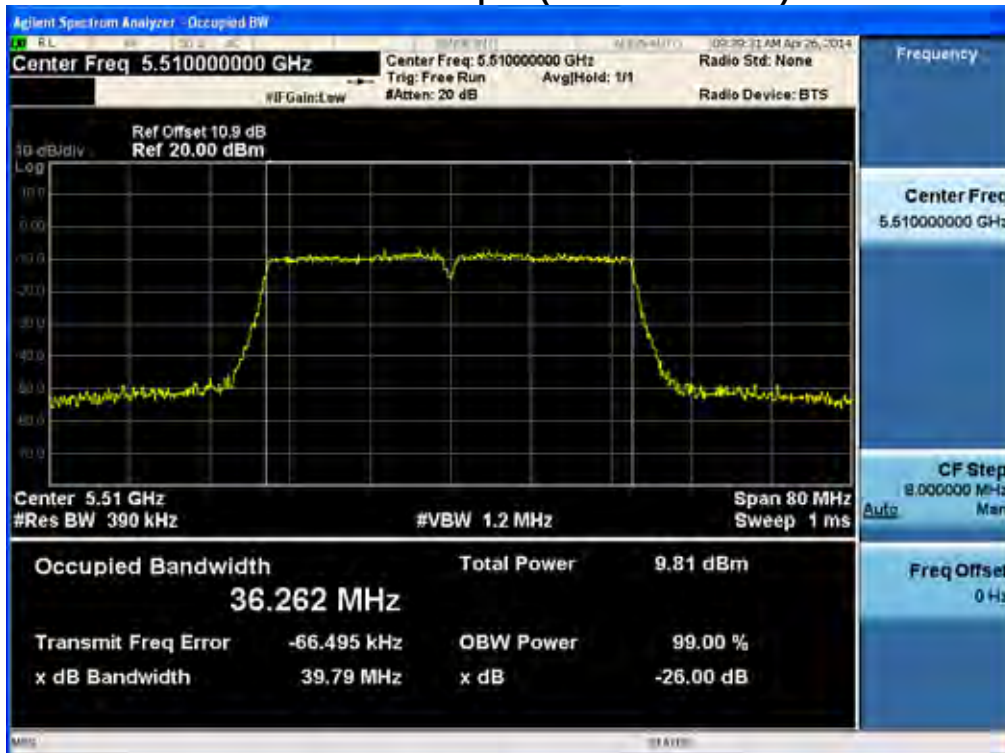
26 dB Bandwidth plot (802.11n-CH 110)



26 dB Bandwidth plot (802.11ac-CH 62)



26 dB Bandwidth plot (802.11ac-CH 102)



80 MHz BW

26 dB Bandwidth plot (802.11ac-CH 58)



26 dB Bandwidth plot (802.11ac-CH 138)



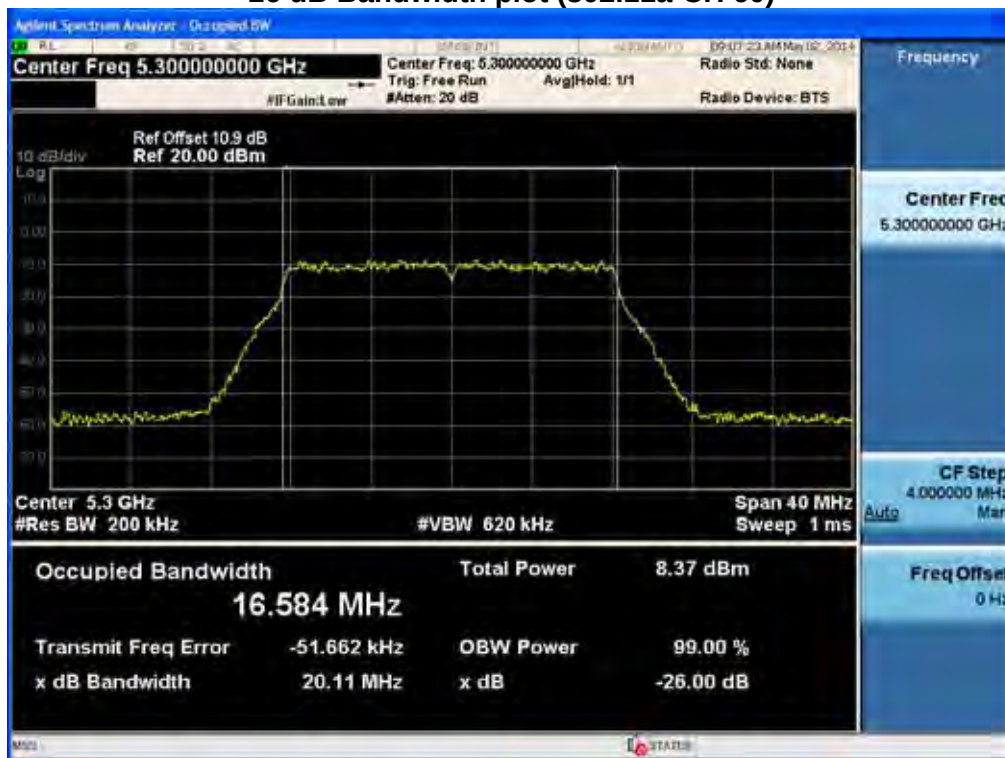
|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

# Service Port Ant.1

## RESULT PLOTS

20 MHz BW

26 dB Bandwidth plot (802.11a-CH 60)



26 dB Bandwidth plot (802.11a-CH 144)



### 26 dB Bandwidth plot (802.11n-CH 52)



### 26 dB Bandwidth plot (802.11n-CH 144)



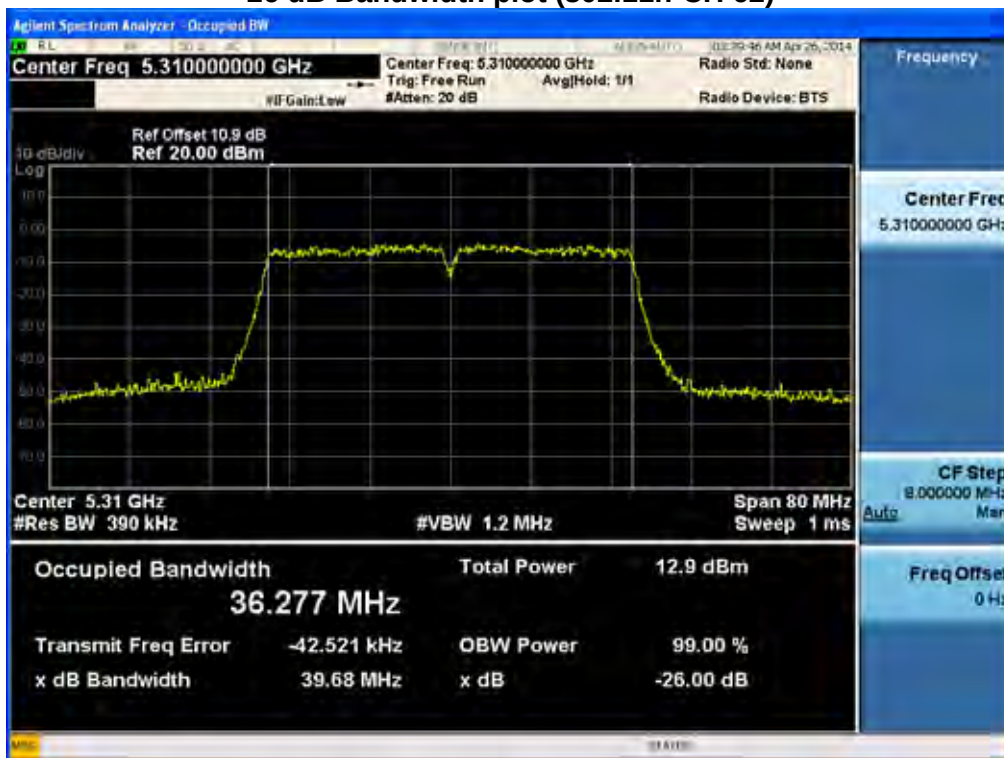
26 dB Bandwidth plot (802.11ac-CH 52)



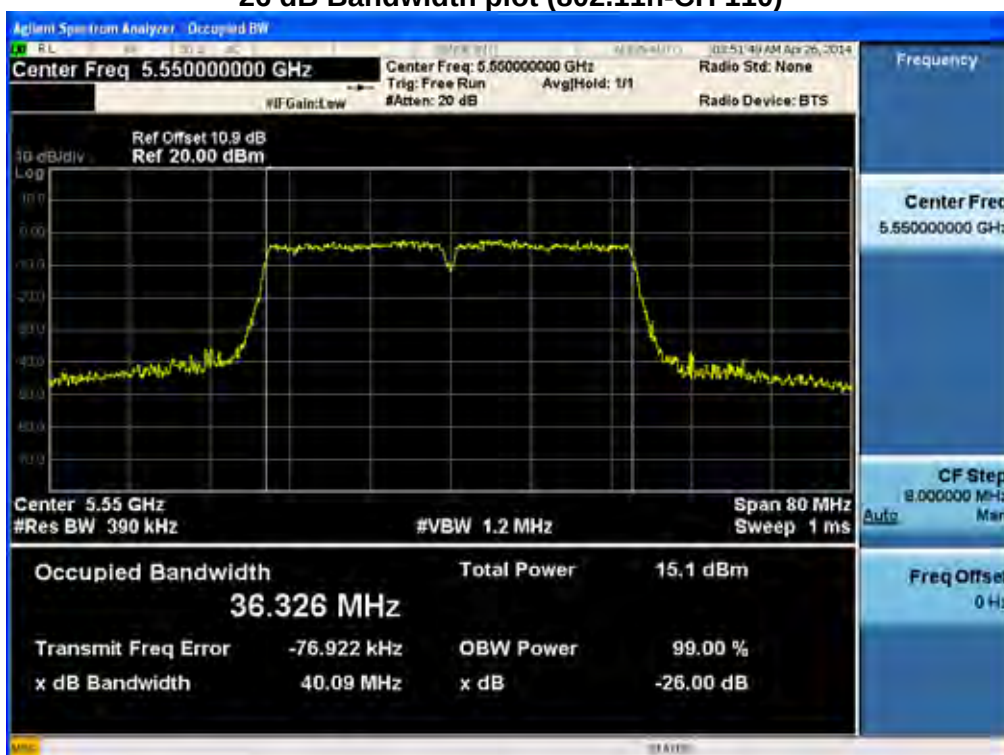
26 dB Bandwidth plot (802.11ac-CH 116)



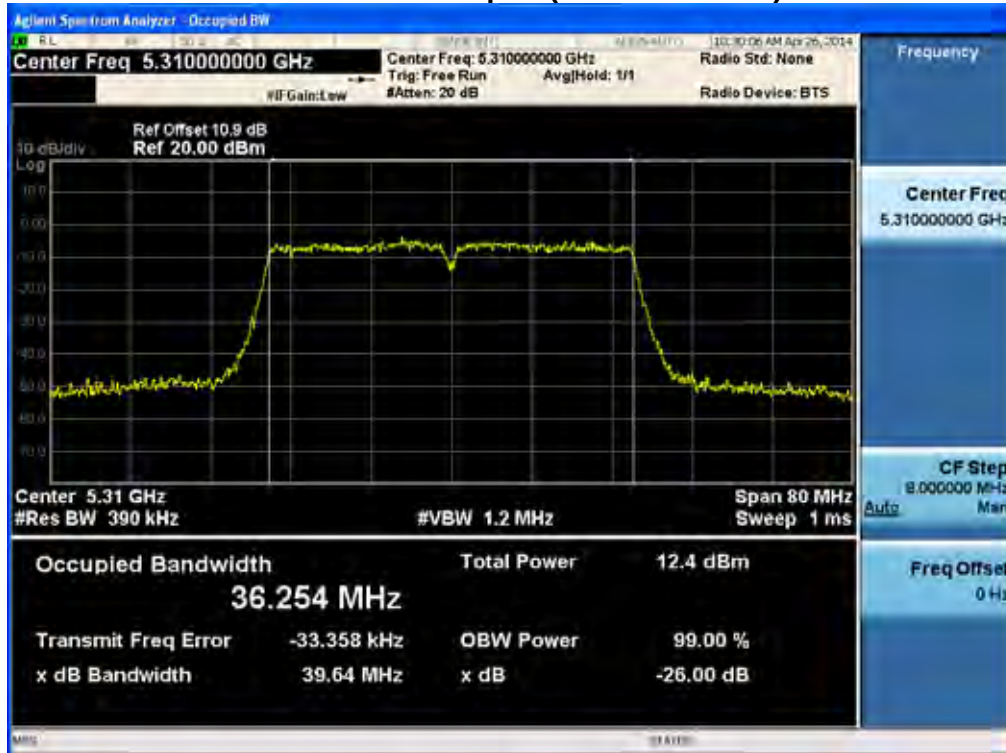
26 dB Bandwidth plot (802.11n-CH 62)



26 dB Bandwidth plot (802.11n-CH 110)



26 dB Bandwidth plot (802.11ac-CH 62)

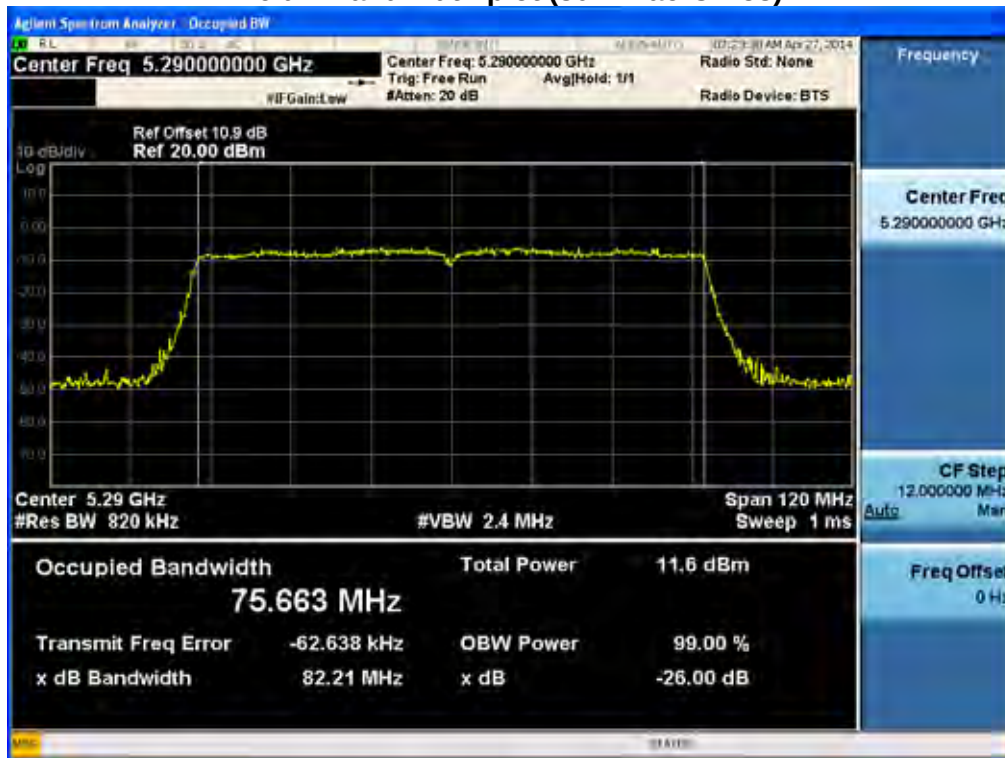


26 dB Bandwidth plot (802.11ac-CH 142)



80 MHz BW

26 dB Bandwidth plot (802.11ac-CH 58)



26 dB Bandwidth plot (802.11ac-CH 138)

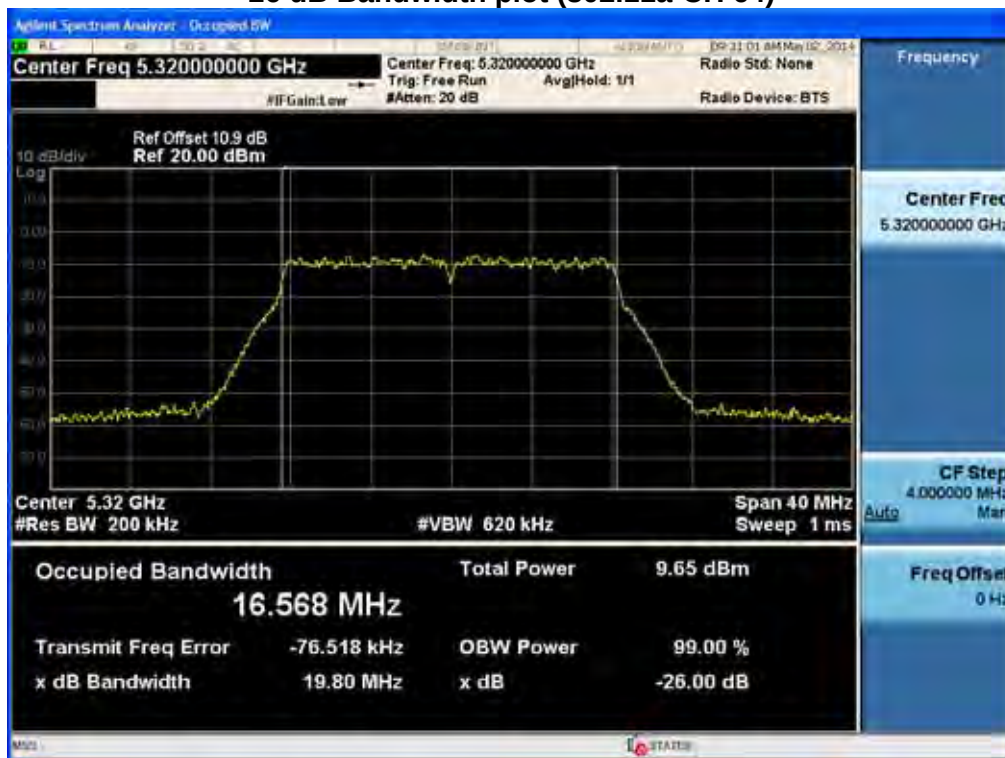


## Service Port Ant.2

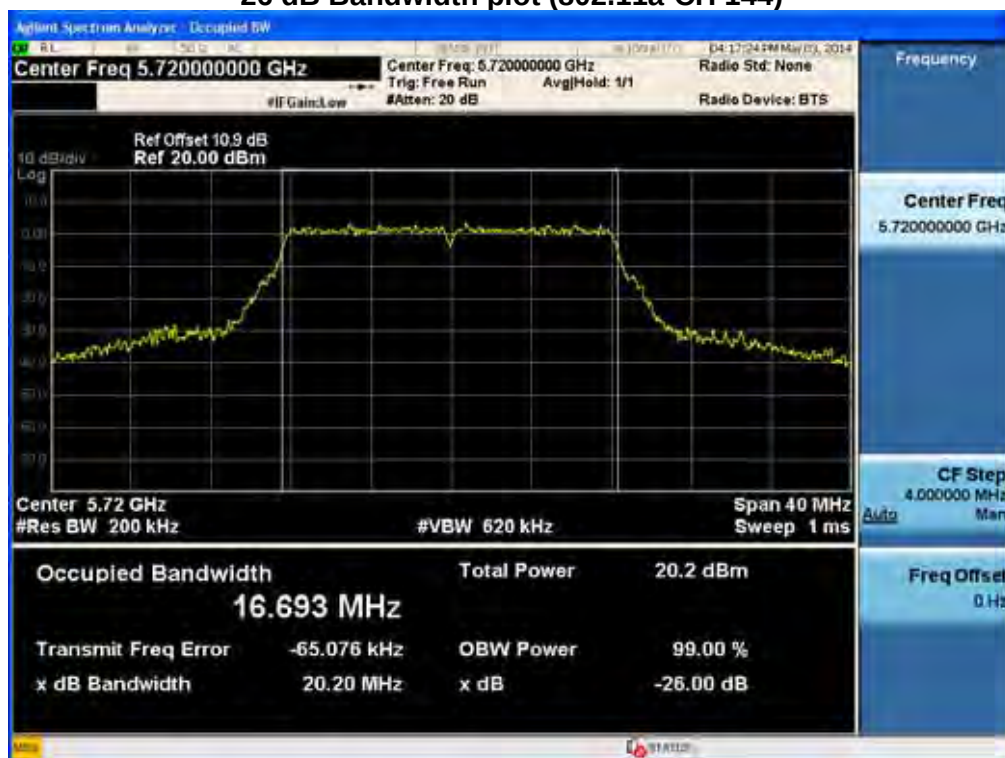
### RESULT PLOTS

20 MHz BW

26 dB Bandwidth plot (802.11a-CH 64)



26 dB Bandwidth plot (802.11a-CH 144)



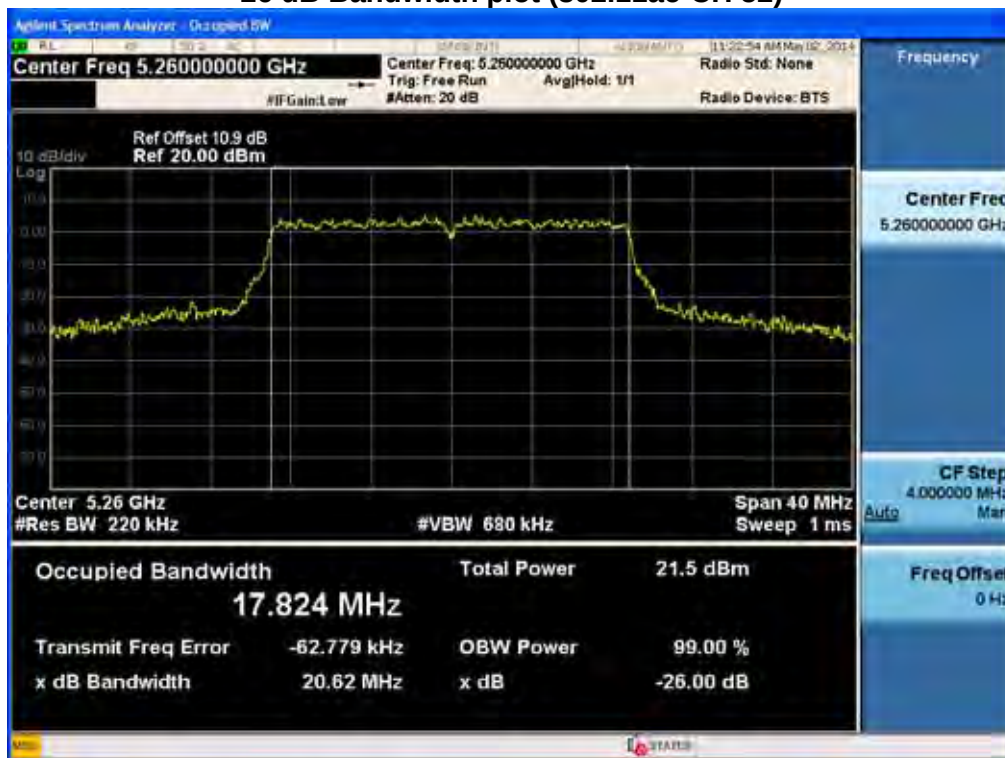
### 26 dB Bandwidth plot (802.11n-CH 64)



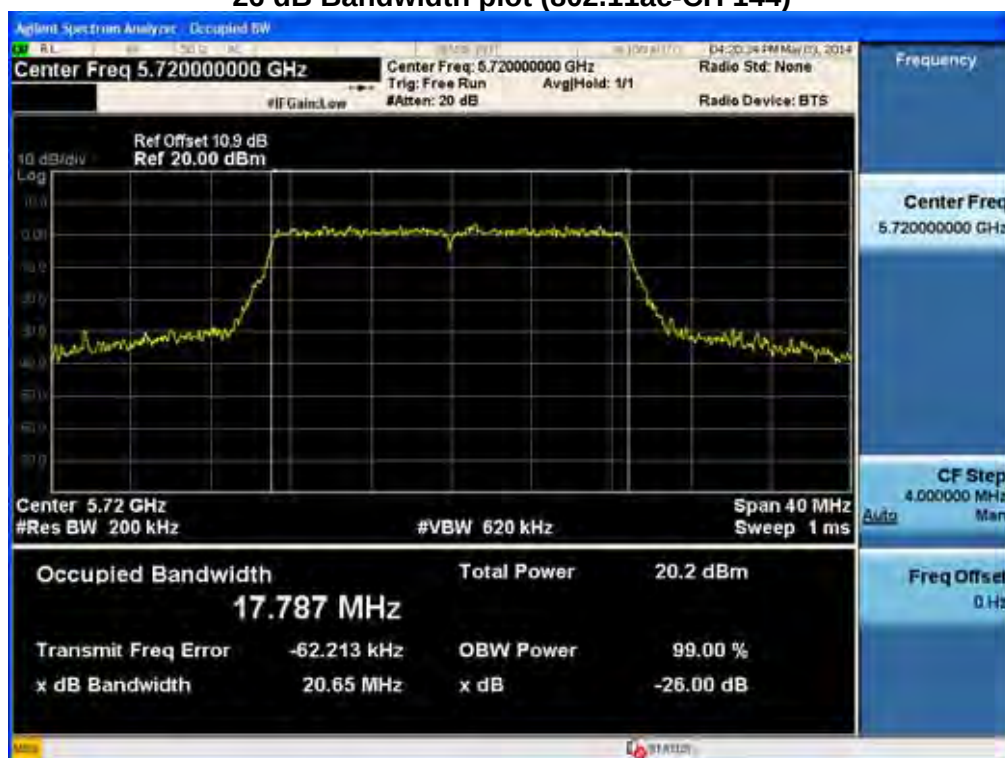
### 26 dB Bandwidth plot (802.11n-CH 144)



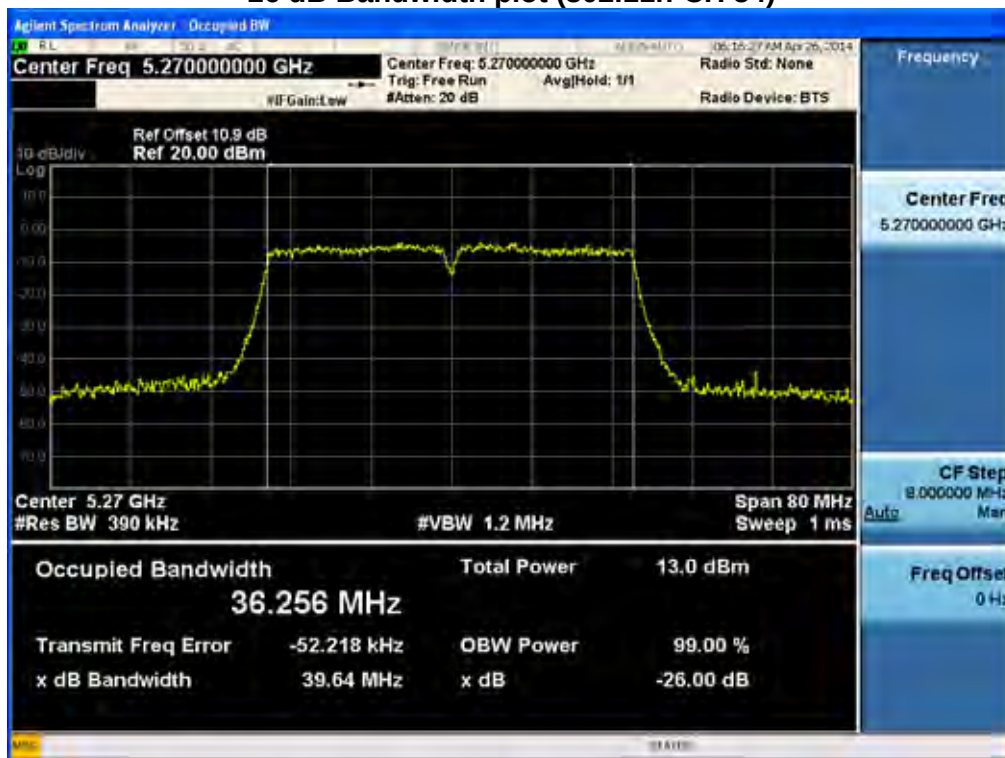
26 dB Bandwidth plot (802.11ac-CH 52)



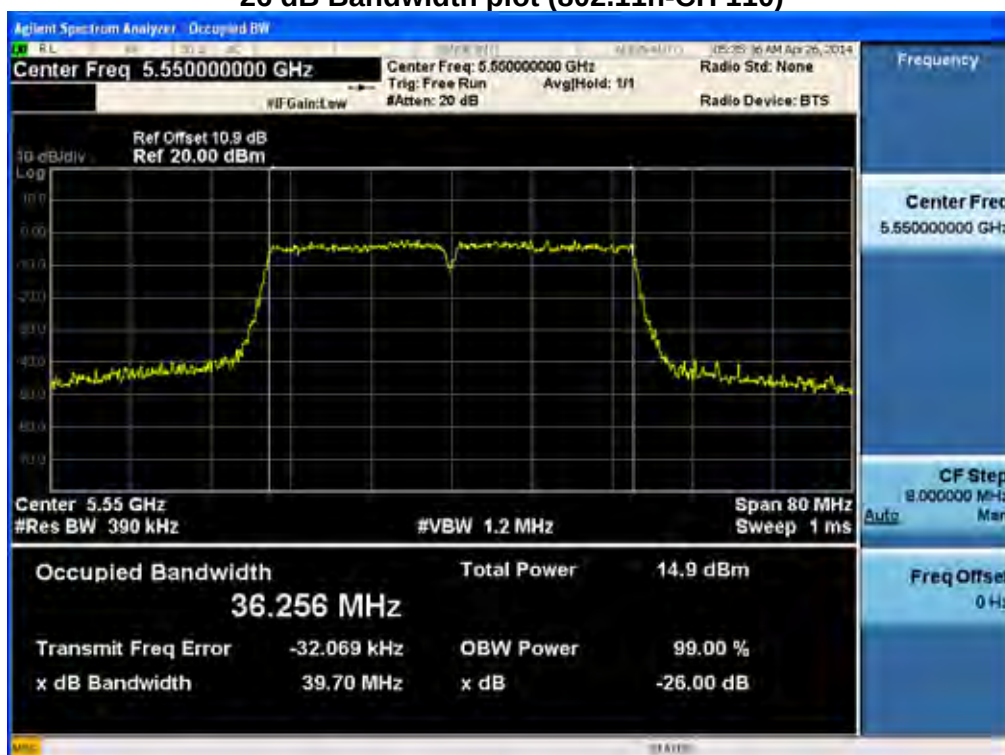
26 dB Bandwidth plot (802.11ac-CH 144)



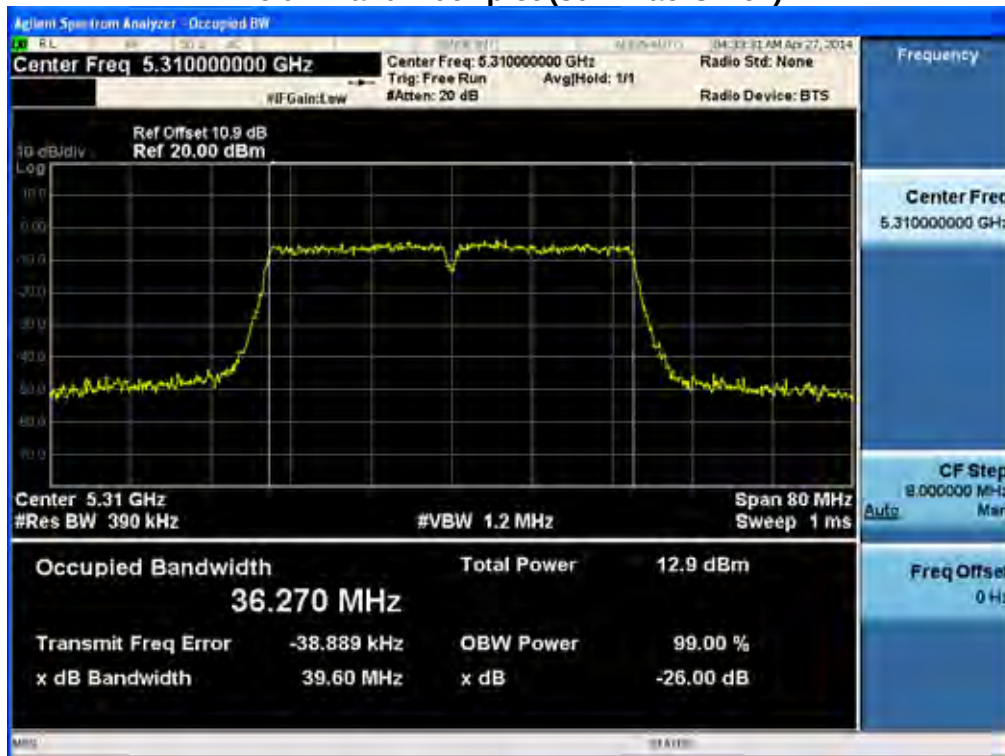
26 dB Bandwidth plot (802.11n-CH 54)



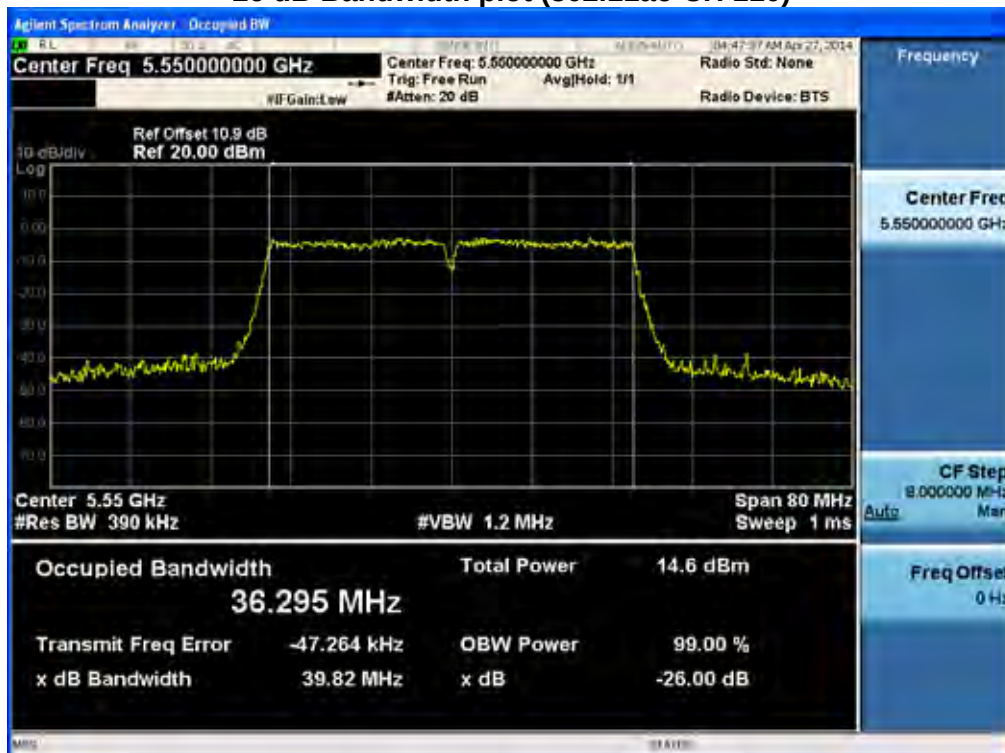
26 dB Bandwidth plot (802.11n-CH 110)



26 dB Bandwidth plot (802.11ac-CH 62)

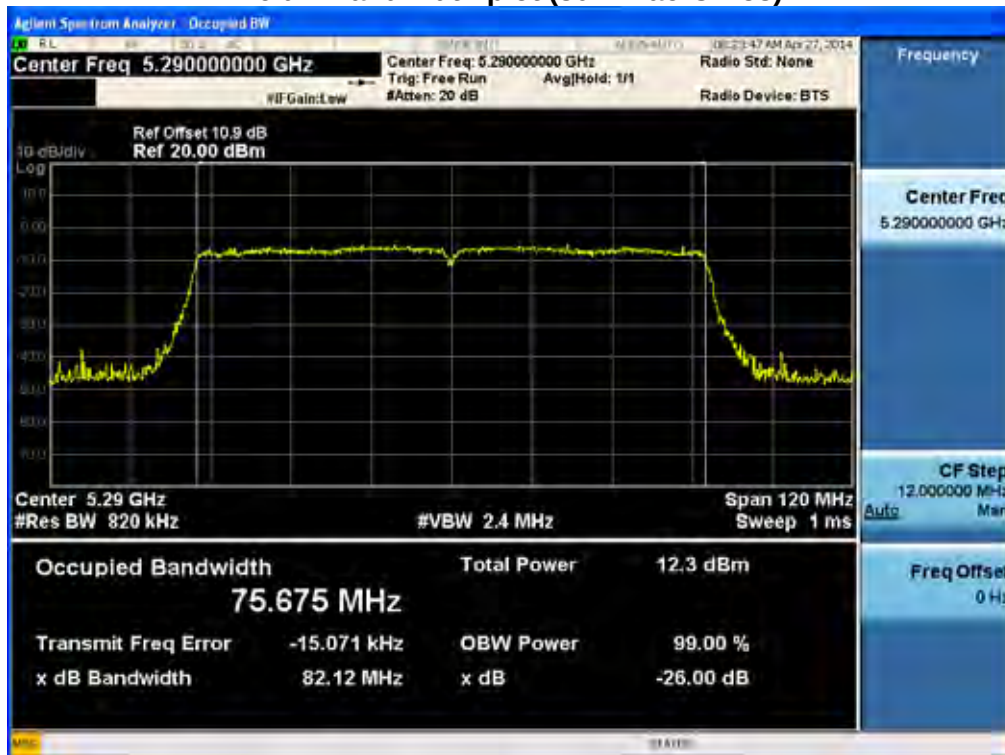


26 dB Bandwidth plot (802.11ac-CH 110)



80 MHz BW

26 dB Bandwidth plot (802.11ac-CH 58)



26 dB Bandwidth plot (802.11ac-CH 138)



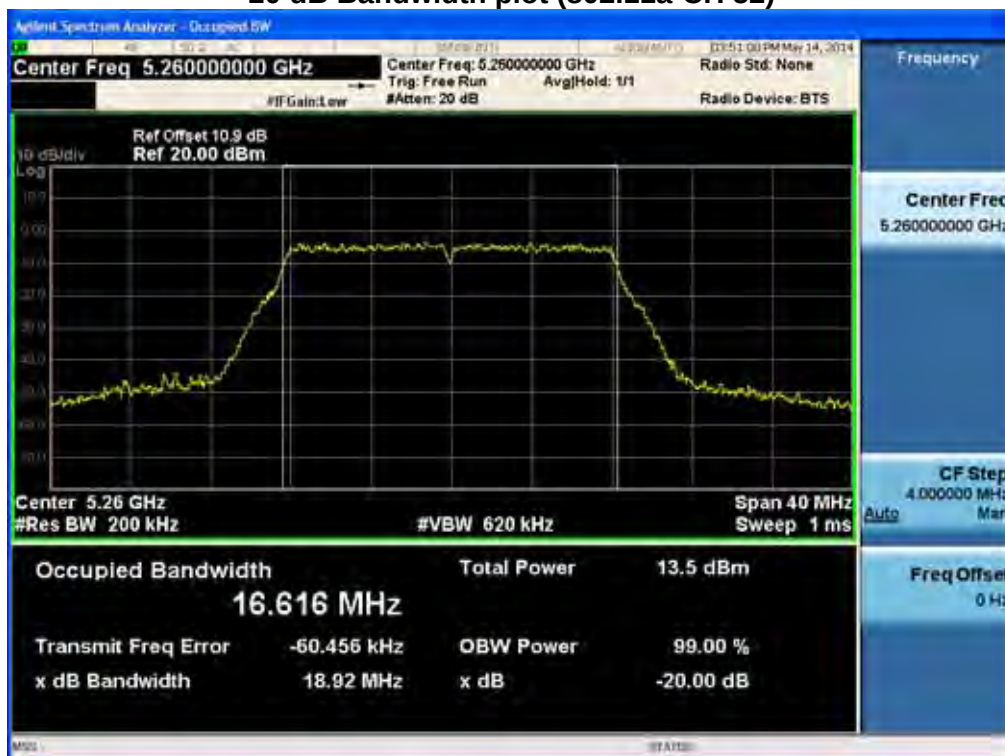
Monitoring Port Ant.0  
RESULT PLOTS(20 dB Bandwidth)

20 dB Bandwidth plot (802.11a-CH 52)



Monitoring Port Ant.1  
RESULT PLOTS(20 dB Bandwidth)

20 dB Bandwidth plot (802.11a-CH 52)



Monitoring Port Ant.2  
RESULT PLOTS(20 dB Bandwidth)

20 dB Bandwidth plot (802.11a-CH 52)

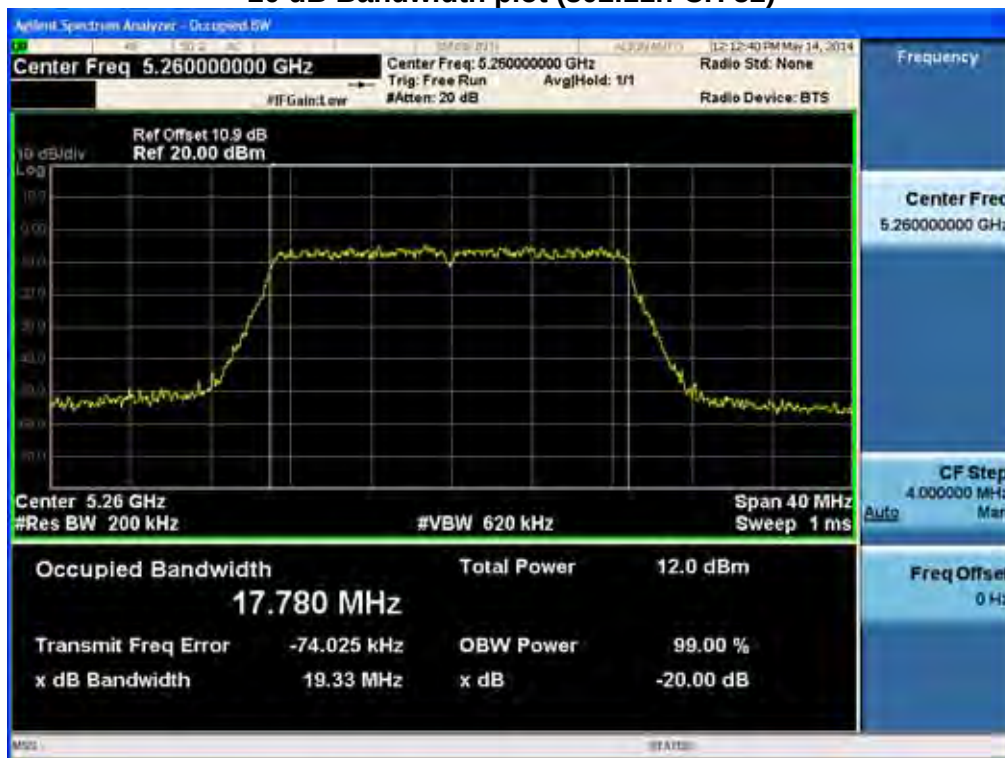


|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

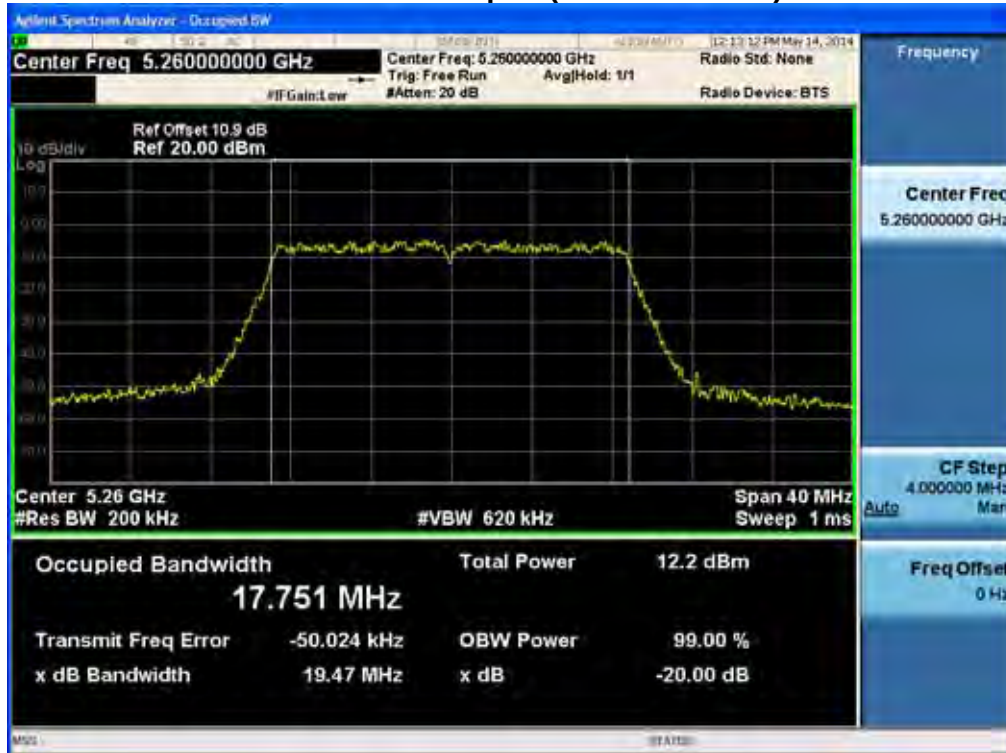
20 dB Bandwidth plot (802.11a-CH 52)



20 dB Bandwidth plot (802.11n-CH 52)



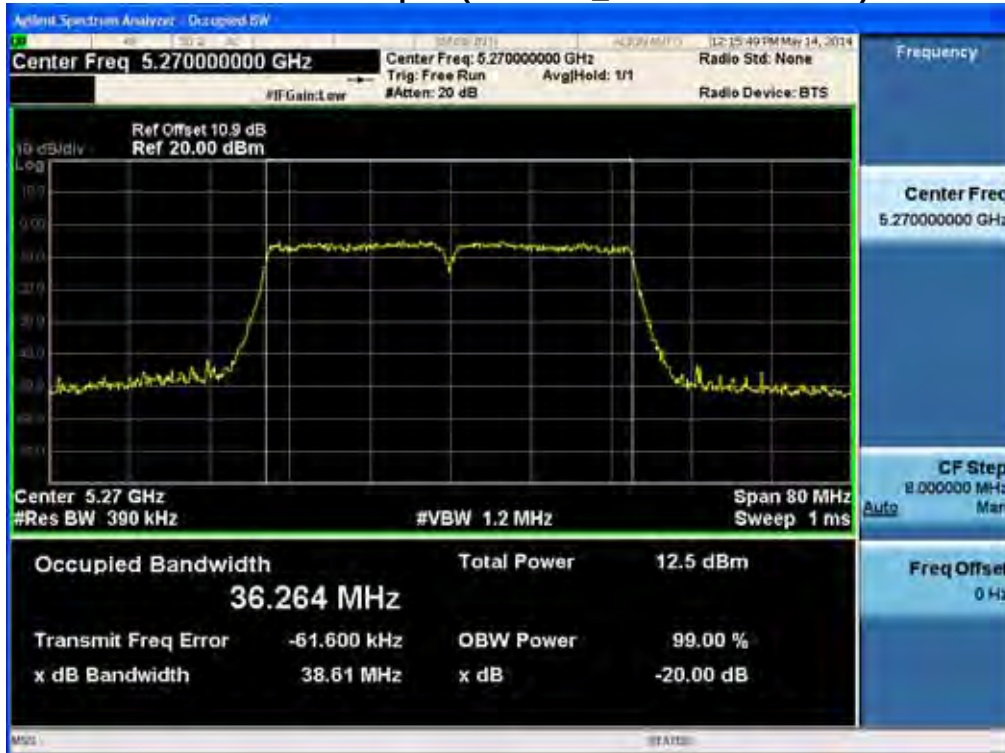
20 dB Bandwidth plot (802.11ac-CH 52)



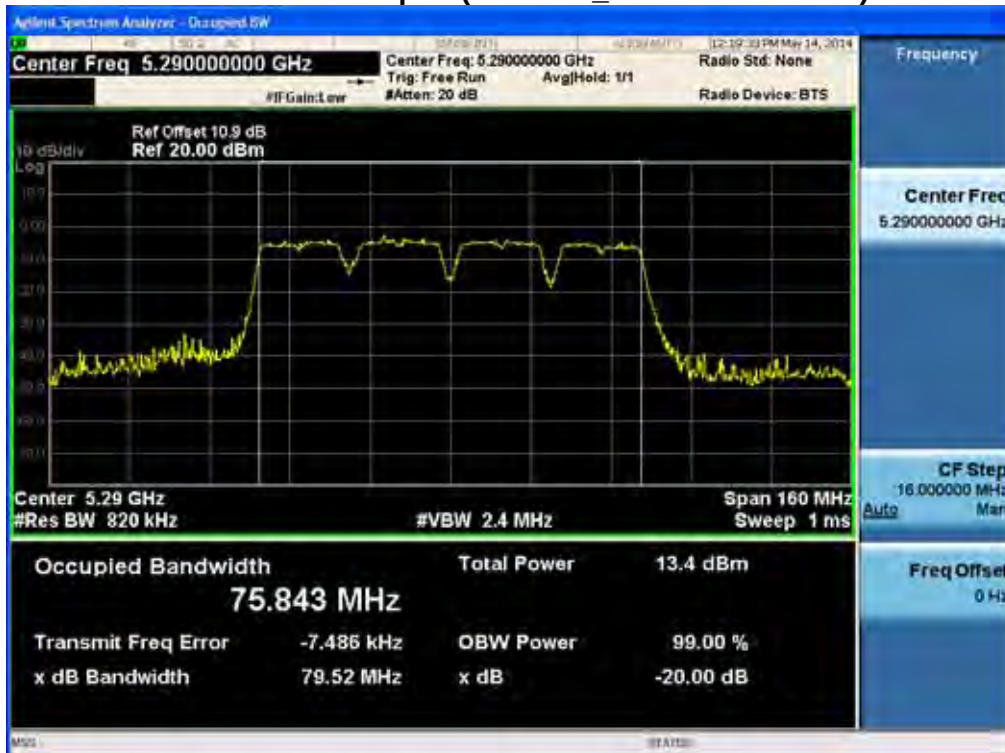
20 dB Bandwidth plot (802.11n\_40 MHz BW-CH 54)



20 dB Bandwidth plot (802.11ac\_40 MHz BW-CH 54)



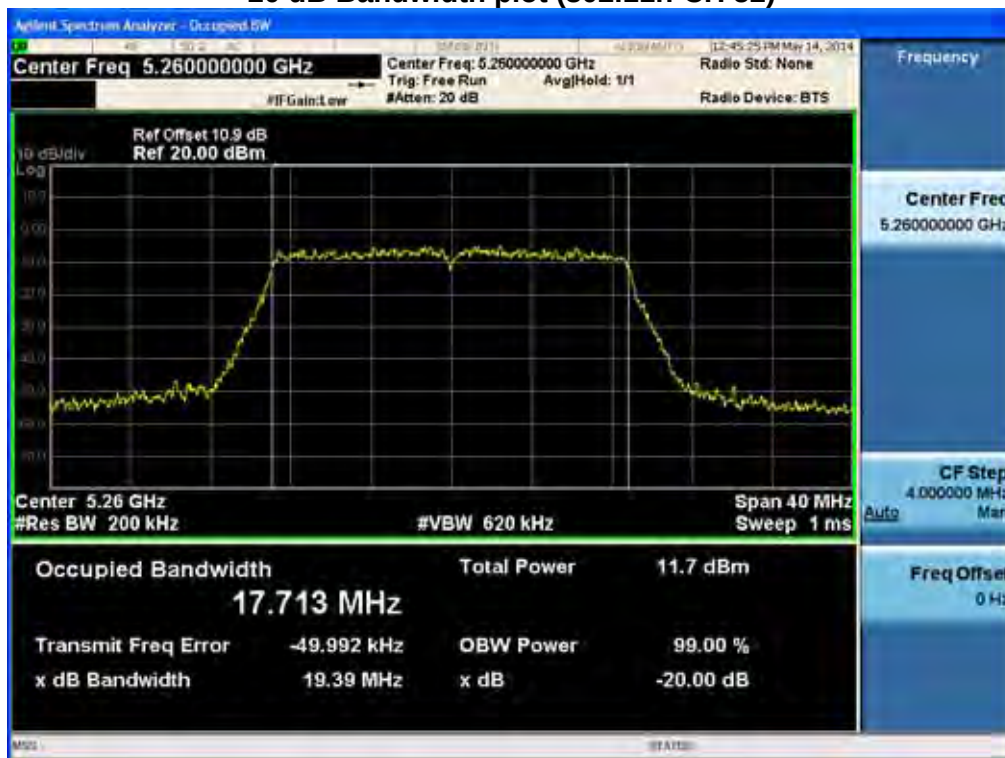
20 dB Bandwidth plot (802.11ac\_80 MHz BW-CH 58)



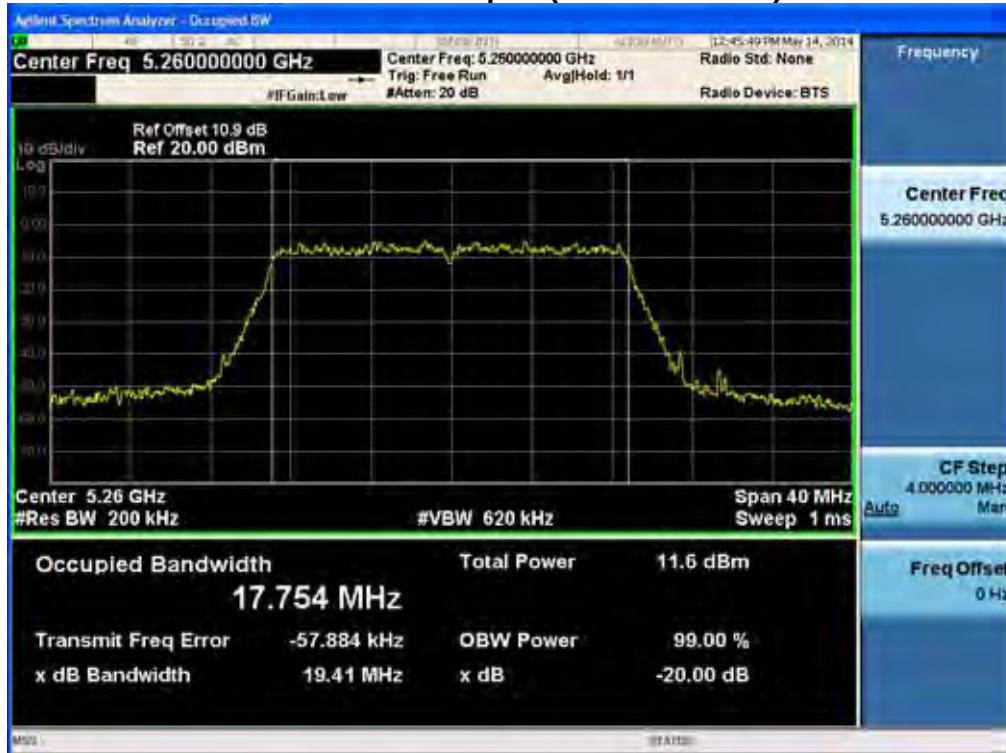
20 dB Bandwidth plot (802.11a-CH 52)



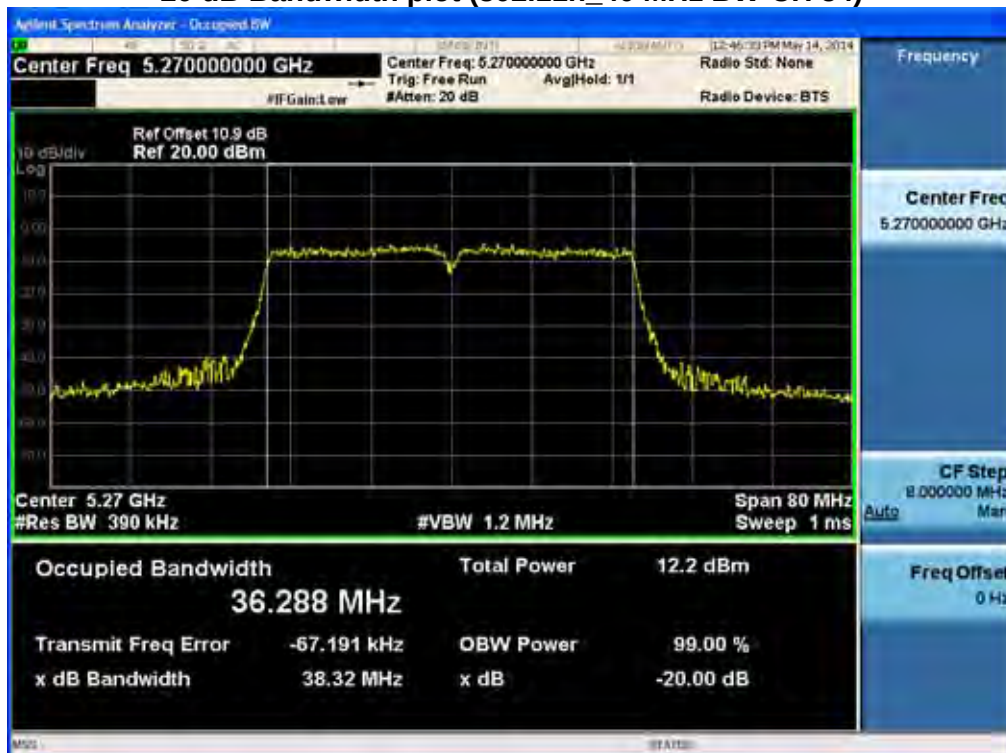
20 dB Bandwidth plot (802.11n-CH 52)



20 dB Bandwidth plot (802.11ac-CH 52)



20 dB Bandwidth plot (802.11n\_40 MHz BW-CH 54)



20 dB Bandwidth plot (802.11ac\_40 MHz BW-CH 54)



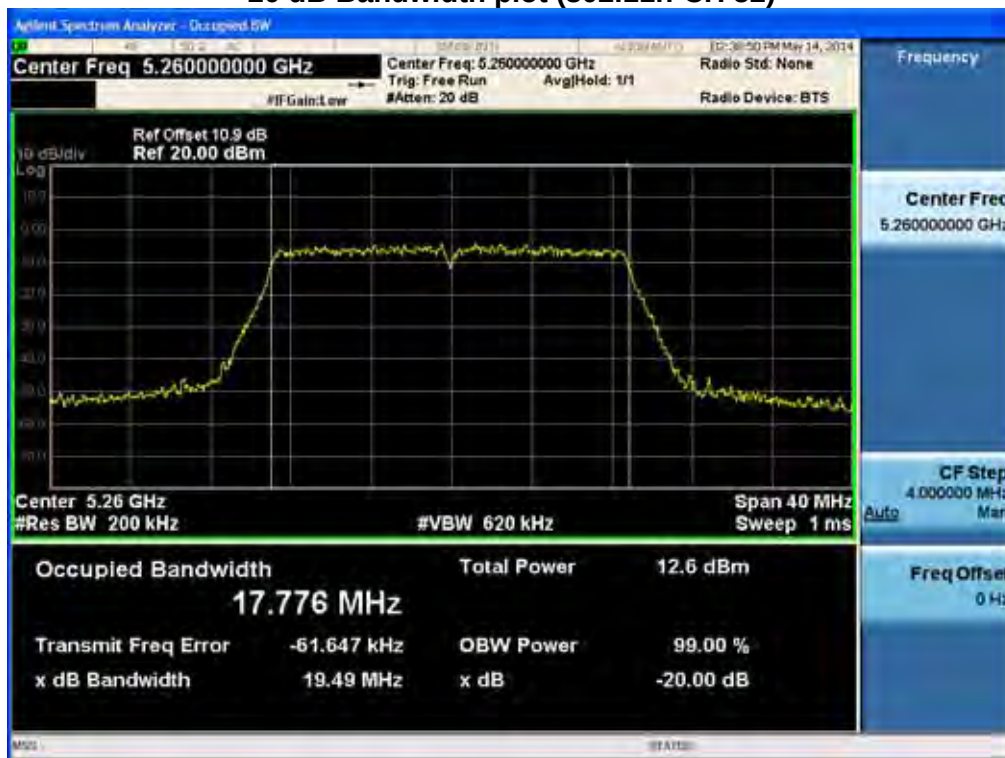
20 dB Bandwidth plot (802.11ac\_80 MHz BW-CH 58)



20 dB Bandwidth plot (802.11a-CH 52)



20 dB Bandwidth plot (802.11n-CH 52)



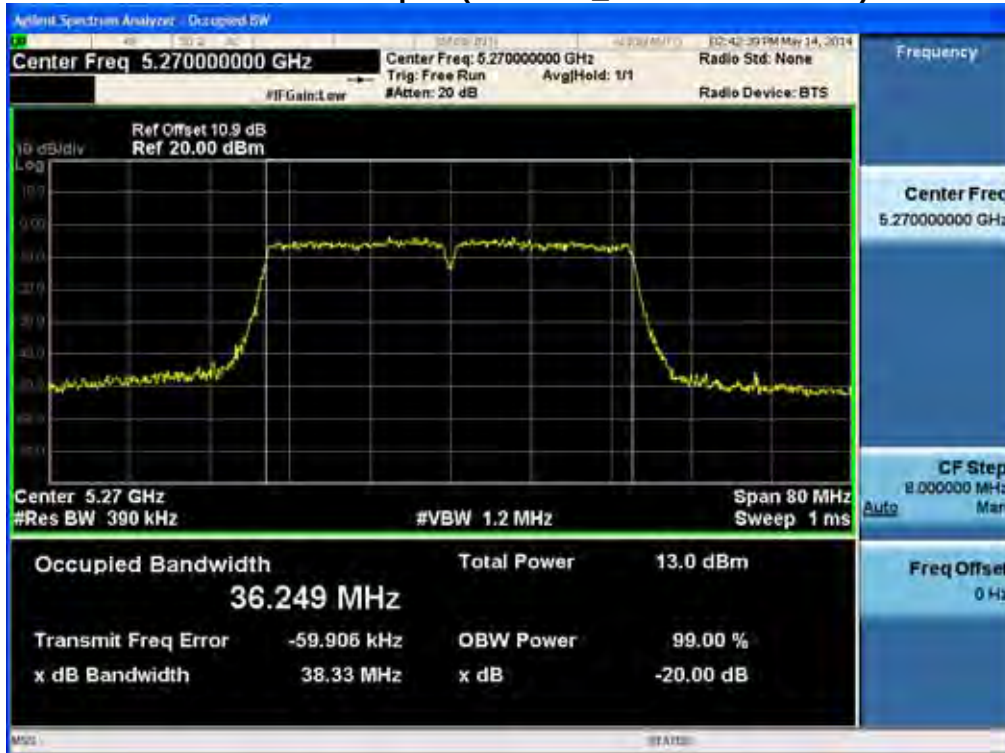
20 dB Bandwidth plot (802.11ac-CH 52)



20 dB Bandwidth plot (802.11n\_40 MHz BW-CH 54)



20 dB Bandwidth plot (802.11ac\_40 MHz BW-CH 54)



20 dB Bandwidth plot (802.11ac\_80 MHz BW-CH 58)



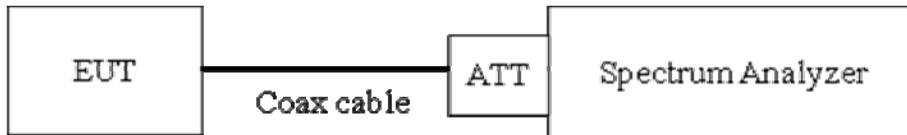
### 8.3 99% BANDWIDTH MEASUREMENT

#### limit

None; for IC 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  $\geq 3 \times$  RBW

Detector = Peak

Trace mode = max hold

Sweep = auto couple

Allow the trace to stabilize

|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |



Monitoring Port Ant.0

## TEST RESULTS

20 MHz BW

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 16.50                       |
| 5300            | 60          | 16.53                       |
| 5320            | 64          | 16.51                       |

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 16.51                       |
| 5580            | 116         | 16.54                       |
| 5720            | 144         | 16.48                       |

|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

# Monitoring Port Ant.1

## TEST RESULTS

20 MHz BW

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 16.49                       |
| 5300            | 60          | 16.53                       |
| 5320            | 64          | 16.52                       |

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 16.52                       |
| 5580            | 116         | 16.54                       |
| 5720            | 144         | 16.50                       |



## Monitoring Port Ant.2

### TEST RESULTS

20 MHz BW

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |                | Measured Bandwidth<br>[MHz] |
|-----------------|----------------|-----------------------------|
| Frequency [MHz] | Channel<br>No. |                             |
| 5260            | 52             | 16.51                       |
| 5300            | 60             | 16.54                       |
| 5320            | 64             | 16.51                       |

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |                | Measured Bandwidth<br>[MHz] |
|-----------------|----------------|-----------------------------|
| Frequency [MHz] | Channel<br>No. |                             |
| 5500            | 100            | 16.52                       |
| 5580            | 116            | 16.54                       |
| 5720            | 144            | 16.53                       |

|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

# Service Port Ant.0

## TEST RESULTS

20 MHz BW

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 16.52                       |
| 5300            | 60          | 16.54                       |
| 5320            | 64          | 16.50                       |

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 16.53                       |
| 5580            | 116         | 16.55                       |
| 5720            | 144         | 16.53                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 17.70                       |
| 5300            | 60          | 17.72                       |
| 5320            | 64          | 17.71                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 17.71                       |
| 5580            | 116         | 17.73                       |
| 5720            | 144         | 17.72                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 17.71                       |
| 5300            | 60          | 17.73                       |
| 5320            | 64          | 17.71                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 17.72                       |
| 5580            | 116         | 17.74                       |
| 5720            | 144         | 17.73                       |

40 MHz BW

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5270            | 54          | 36.39                       |
| 5310            | 62          | 36.41                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5510            | 102         | 36.40                       |
| 5550            | 110         | 36.42                       |
| 5710            | 142         | 36.40                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5270            | 54          | 36.42                       |
| 5310            | 62          | 36.43                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5510            | 102         | 36.39                       |
| 5550            | 110         | 36.40                       |
| 5710            | 142         | 36.38                       |

80 MHz BW

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5290            | 58          | 75.84                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5530            | 106         | 75.96                       |
| 5690            | 138         | 75.93                       |

# Service Port Ant.1

## TEST RESULTS

20 MHz BW

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 16.52                       |
| 5300            | 60          | 16.54                       |
| 5320            | 64          | 16.53                       |

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 16.52                       |
| 5580            | 116         | 16.55                       |
| 5720            | 144         | 16.53                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 17.72                       |
| 5300            | 60          | 17.73                       |
| 5320            | 64          | 17.71                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 17.71                       |
| 5580            | 116         | 17.73                       |
| 5720            | 144         | 17.72                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 17.71                       |
| 5300            | 60          | 17.72                       |
| 5320            | 64          | 17.71                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 17.72                       |
| 5580            | 116         | 17.73                       |
| 5720            | 144         | 17.73                       |

40 MHz BW

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5270            | 54          | 36.33                       |
| 5310            | 62          | 36.37                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5510            | 102         | 36.37                       |
| 5550            | 110         | 36.39                       |
| 5710            | 142         | 36.36                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5270            | 54          | 36.37                       |
| 5310            | 62          | 36.39                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5510            | 102         | 36.37                       |
| 5550            | 110         | 36.40                       |
| 5710            | 142         | 36.39                       |

80 MHz BW

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5290            | 58          | 75.93                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5530            | 106         | 75.90                       |
| 5690            | 138         | 75.88                       |

# Service Port Ant.2

## TEST RESULTS

20 MHz BW

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 16.52                       |
| 5300            | 60          | 16.55                       |
| 5320            | 64          | 16.53                       |

Conducted 99% Bandwidth Measurements for 802.11a

| 802.11a Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 16.52                       |
| 5580            | 116         | 16.55                       |
| 5720            | 144         | 16.54                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 17.71                       |
| 5300            | 60          | 17.73                       |
| 5320            | 64          | 17.71                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 17.71                       |
| 5580            | 116         | 17.73                       |
| 5720            | 144         | 17.72                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5260            | 52          | 17.70                       |
| 5300            | 60          | 17.73                       |
| 5320            | 64          | 17.71                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5500            | 100         | 17.72                       |
| 5580            | 116         | 17.74                       |
| 5720            | 144         | 17.71                       |

40 MHz BW

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5270            | 54          | 36.39                       |
| 5310            | 62          | 36.40                       |

Conducted 99% Bandwidth Measurements for 802.11n

| 802.11n Mode    |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5510            | 102         | 36.37                       |
| 5550            | 110         | 36.40                       |
| 5710            | 142         | 36.38                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5270            | 54          | 36.40                       |
| 5310            | 62          | 36.42                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5510            | 102         | 36.38                       |
| 5550            | 110         | 36.40                       |
| 5710            | 142         | 36.37                       |

80 MHz BW

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5290            | 58          | 75.90                       |

Conducted 99% Bandwidth Measurements for 802.11ac

| 802.11ac Mode   |             | Measured Bandwidth<br>[MHz] |
|-----------------|-------------|-----------------------------|
| Frequency [MHz] | Channel No. |                             |
| 5530            | 106         | 75.92                       |
| 5690            | 138         | 75.91                       |

Note :

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

**RESULT PLOTS(99% Bandwidth)**  
Monitoring Port Ant.0

**99% Bandwidth plot (802.11a-CH60)**



**949% Bandwidth plot (802.11a-CH116)**



## Monitoring Port Ant.1

### 99% Bandwidth plot (802.11a-CH60)



### 99% Bandwidth plot (802.11a-CH116)



## Monitoring Port Ant.2

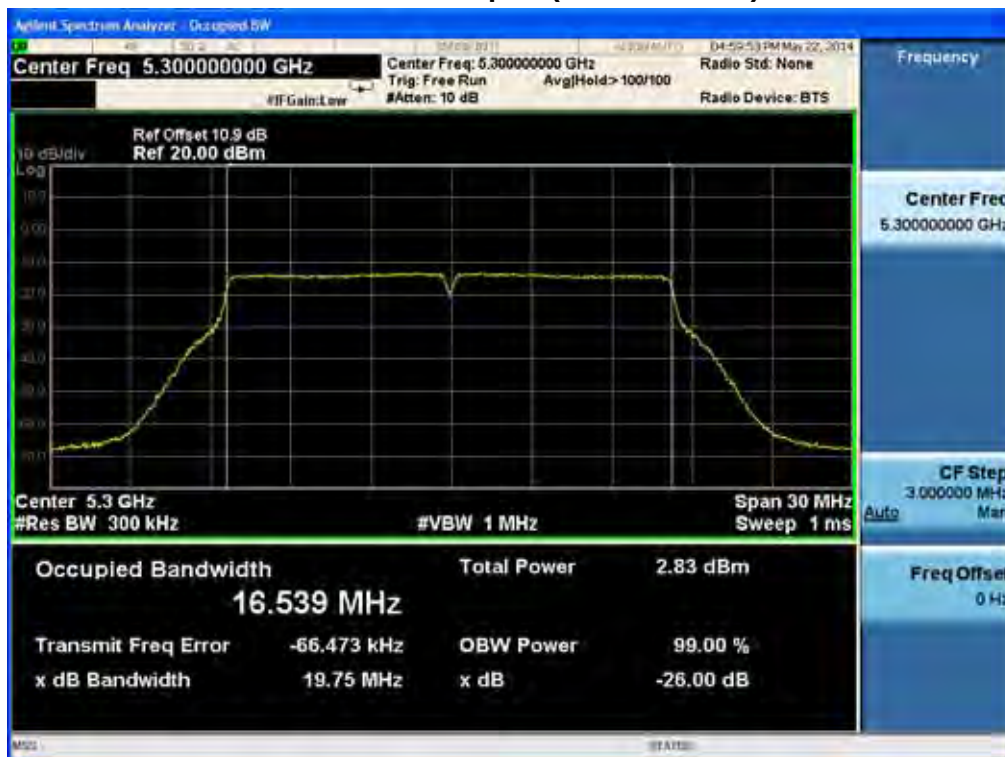
### 99% Bandwidth plot (802.11a-CH60)



### 99% Bandwidth plot (802.11a-CH116)



99% Bandwidth plot (802.11a-CH60)



99% Bandwidth plot (802.11a-CH116)



### 99% Bandwidth plot (802.11n-CH60)



### 99% Bandwidth plot (802.11n-CH116)



### 99% Bandwidth plot (802.11ac-CH60)



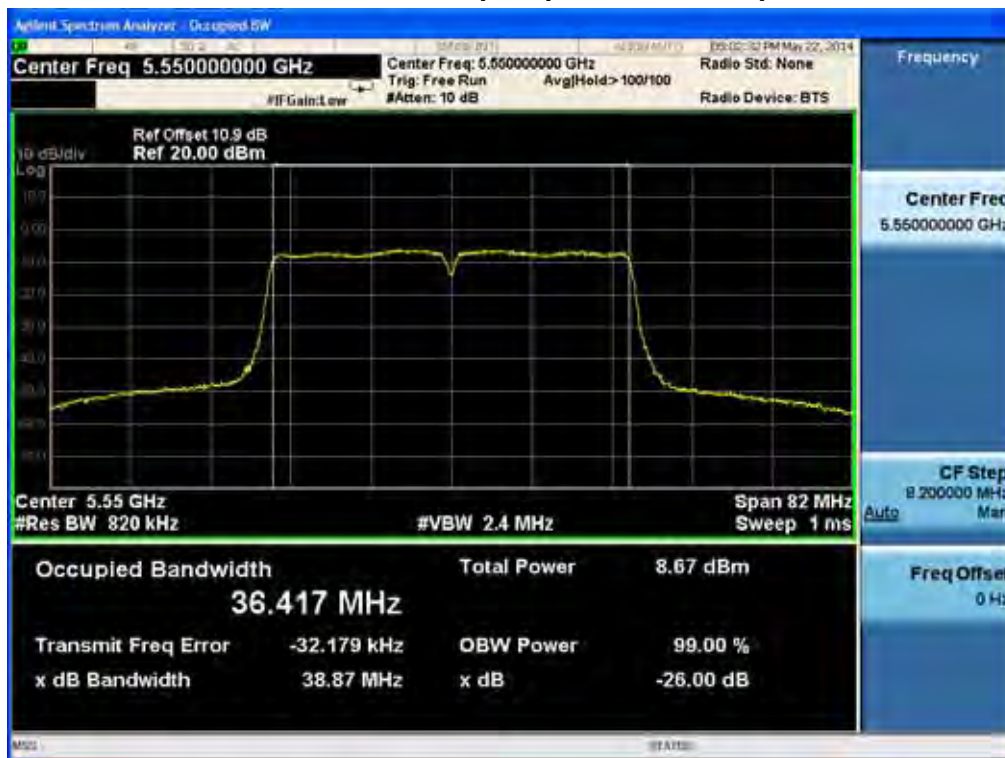
### 99% Bandwidth plot (802.11ac-CH116)



### 99% Bandwidth plot (802.11n-CH62)



### 99% Bandwidth plot (802.11n-CH110)



### 99% Bandwidth plot (802.11ac-CH62)



### 99% Bandwidth plot (802.11ac-CH110)



### 99% Bandwidth plot (802.11ac-CH58)



### 99% Bandwidth plot (802.11ac-CH106)



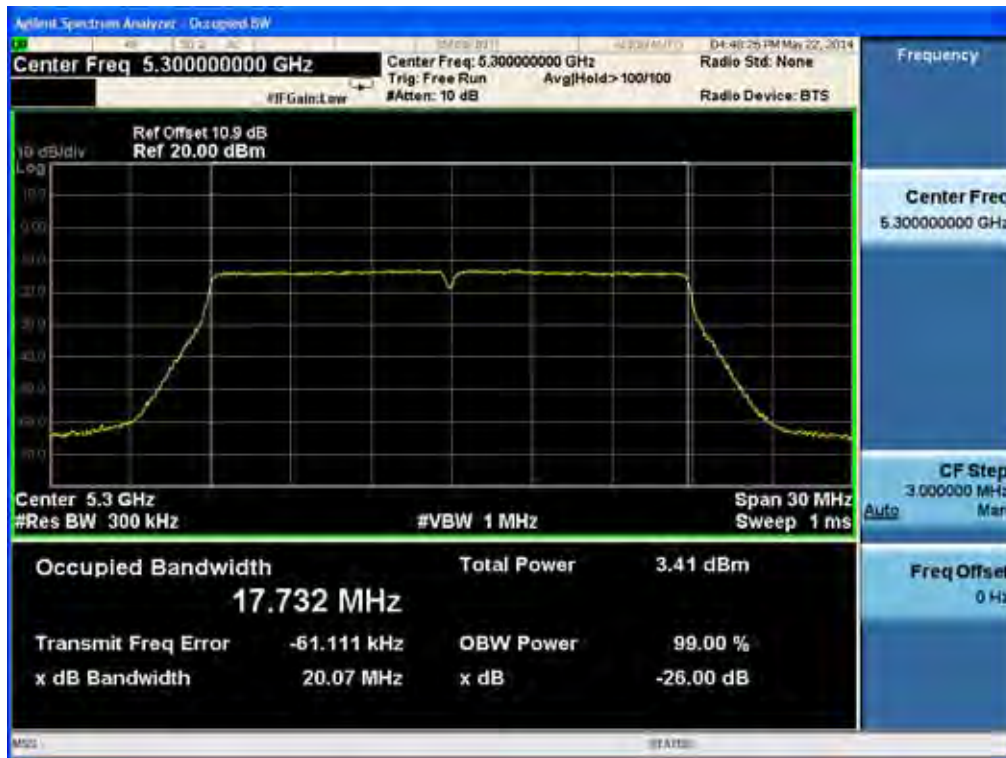
99% Bandwidth plot (802.11a-CH60)



99% Bandwidth plot (802.11a-CH116)



### 99% Bandwidth plot (802.11n-CH60)



### 99% Bandwidth plot (802.11n-CH116)



### 99% Bandwidth plot (802.11ac-CH60)



### 99% Bandwidth plot (802.11ac-CH116)



### 99% Bandwidth plot (802.11n-CH62)



### 99% Bandwidth plot (802.11n-CH110)



### 99% Bandwidth plot (802.11ac-CH62)



### 99% Bandwidth plot (802.11ac-CH110)



### 99% Bandwidth plot (802.11ac-CH58)



### 99% Bandwidth plot (802.11ac-CH106)



99% Bandwidth plot (802.11a-CH60)



99% Bandwidth plot (802.11a-CH116)



### 99% Bandwidth plot (802.11n-CH60)



### 99% Bandwidth plot (802.11n-CH116)



### 99% Bandwidth plot (802.11ac-CH60)



### 99% Bandwidth plot (802.11ac-CH116)



### 99% Bandwidth plot (802.11n-CH62)



### 99% Bandwidth plot (802.11n-CH110)



### 99% Bandwidth plot (802.11ac-CH62)



### 99% Bandwidth plot (802.11ac-CH110)



80 MHz BW

99% Bandwidth plot (802.11ac-CH58)



99% Bandwidth plot (802.11ac-CH106)



## 8.4 OUTPUT POWER MEASUREMENT

### Test Requirements and limit, §15.247(b)(3) & RSS-210

The transmitter output is connected to the input of a RF power sensor or spectrum analyzer. Measurement is made using a broadband power meter capable of making peak and average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

#### Limit(CDD)

##### 1. Maximum Conducted Output Power(for FCC & IC)

#### Service Port

| Operating Mode | Band    | Mode         | Ant. Port | Ant. Gain (dBi) | Limit (dBm) |
|----------------|---------|--------------|-----------|-----------------|-------------|
| SISO           | UNII 2A | 802.11a,n,ac | 0         | 6.76            | 23.22       |
|                |         |              | 1         | 6.24            | 23.74       |
|                |         |              | 2         | 5.9             | 23.98       |
|                | UNII 2C | 802.11a,n,ac | 0         | 6.34            | 23.64       |
|                |         |              | 1         | 5.71            | 23.98       |
|                |         |              | 2         | 5.69            | 23.98       |
| MIMO(2 TX)     | UNII 2A | 802.11a,n,ac | 0 & 1     | 9.51            | 20.47       |
|                | UNII 2C | 802.11a,n,ac | 0 & 1     | 9.04            | 20.94       |
| MIMO(3 TX)     | UNII 2A | 802.11a,n,ac | 0 & 1 & 2 | 11.08           | 18.90       |
|                | UNII 2C | 802.11a,n,ac | 0 & 1 & 2 | 10.69           | 19.29       |

Note : Above the limits is calculated according to antenna gain. Because antenna gain is higher than 6 dBi.

#### Monitoring Port

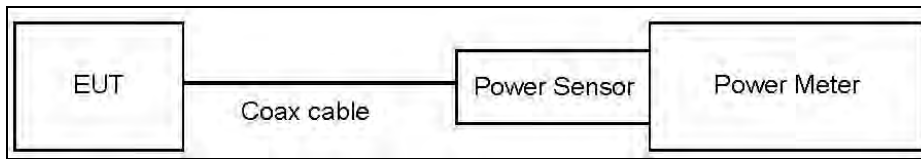
| Operating Mode | Band    | Mode    | Ant. Port | Ant. Gain (dBi) | Limit (dBm) |
|----------------|---------|---------|-----------|-----------------|-------------|
| MIMO(3 TX)     | UNII 2A | 802.11a | 0 & 1 & 2 | 11.81           | 18.17       |
|                | UNII 2C | 802.11a | 0 & 1 & 2 | 12.18           | 17.80       |

Note : Above the limits is calculated according to antenna gain. Because antenna gain is higher than 6 dBi.

##### 2. Maximum EIRP(for & IC) : 1 W(Service and Monitoring Port)

Note : The limits of conducted power were applied the antenna gain. Therefore, if conducted power is pass, EIRP is also pass. So, we attached only conducted power table.

### TEST CONFIGURATION(20 MHz BW)



### TEST PROCEDURE(20 MHz BW)

We tested according to Method E)3)a) in KDB 789033(issued 06/06/2014).

#### ▪ Average Power

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.

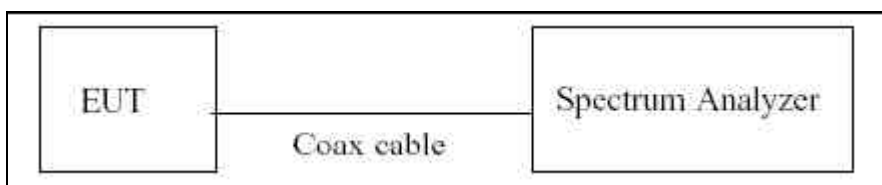
Note :

1. We apply to the offset in the UNII 2A/2C band that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table. We used the particular cable type that is supported by manufacture.

| Band    | Loss(dB) |
|---------|----------|
| UNII 2A | 10.9     |
| UNII 2C | 10.9     |

(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)

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(issued 06/06/2014).

The Spectrum Analyzer is set to

#### ▪ Average Power

1. Measure the duty cycle.
2. Set span to encompass the 26 dB EBW of the signal.
3. RBW = 1 MHz.
4. VBW  $\geq$  3 MHz.

|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

5. Number of points in sweep  $\geq 2 \times \text{span/RBW}$ .
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.

Note :

1. We apply to the offset in the UNII 2A/2C band that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table. We used the particular cable type that is supported by manufacture.

| Band    | Loss(dB) |
|---------|----------|
| UNII 2A | 10.9     |
| UNII 2C | 10.9     |

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

#### 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

### 8.4.1 TRANSMIT POWER CONTROL(TPC)

U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725 GHz band shall employ a TPC mechanism. The

U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm.

TPC is required as the device operates at above 500 mW EIRP and This UNII device comply the FCC TPC requirement.

# Monitoring Port

## TEST RESULTS\_Ant.0

### 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) | Output Power with TPC (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |
| 5260            | 52          | 6           | 11.73               | 0.226                 | 11.96                                       | -                           |
|                 |             | 9           | 11.78               | 0.278                 | 12.06                                       | -                           |
|                 |             | 12          | 11.77               | 0.287                 | 12.06                                       | -                           |
|                 |             | 18          | 11.71               | 0.308                 | 12.02                                       | -                           |
|                 |             | 24          | 11.65               | 0.273                 | 11.92                                       | -                           |
|                 |             | 36          | 11.60               | 0.376                 | 11.98                                       | -                           |
|                 |             | 48          | 11.70               | 0.454                 | 12.15                                       | 6.01                        |
|                 |             | 54          | 11.54               | 0.548                 | 12.09                                       | -                           |
| 5300            | 60          | 6           | 5.23                | 0.226                 | 5.46                                        | -                           |
|                 |             | 9           | 5.12                | 0.278                 | 5.40                                        | -                           |
|                 |             | 12          | 5.09                | 0.287                 | 5.38                                        | -                           |
|                 |             | 18          | 5.08                | 0.308                 | 5.39                                        | -                           |
|                 |             | 24          | 5.15                | 0.273                 | 5.42                                        | -                           |
|                 |             | 36          | 5.23                | 0.376                 | 5.61                                        | -0.82                       |
|                 |             | 48          | 4.86                | 0.454                 | 5.32                                        | -                           |
|                 |             | 54          | 4.93                | 0.548                 | 5.47                                        | -                           |
| 5320            | 64          | 6           | 5.12                | 0.226                 | 5.34                                        | -                           |
|                 |             | 9           | 5.09                | 0.278                 | 5.36                                        | -                           |
|                 |             | 12          | 4.88                | 0.287                 | 5.17                                        | -                           |
|                 |             | 18          | 4.90                | 0.308                 | 5.20                                        | -                           |
|                 |             | 24          | 5.06                | 0.273                 | 5.33                                        | -                           |
|                 |             | 36          | 4.82                | 0.376                 | 5.19                                        | -                           |
|                 |             | 48          | 5.04                | 0.454                 | 5.50                                        | -0.74                       |
|                 |             | 54          | 4.71                | 0.548                 | 5.26                                        | -                           |

# TEST RESULTS\_Ant.1

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

| 802.11a Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power with<br>TPC<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |
| 5260               | 52             | 6              | 11.45                  | 0.226                    | 11.68                                                   | -                                    |
|                    |                | 9              | 11.37                  | 0.278                    | 11.65                                                   | -                                    |
|                    |                | 12             | 11.35                  | 0.287                    | 11.64                                                   | -                                    |
|                    |                | 18             | 11.46                  | 0.308                    | 11.77                                                   | -                                    |
|                    |                | 24             | 11.39                  | 0.273                    | 11.66                                                   | -                                    |
|                    |                | 36             | 11.39                  | 0.376                    | 11.77                                                   | -                                    |
|                    |                | 48             | 11.45                  | 0.454                    | 11.90                                                   | -                                    |
|                    |                | 54             | 11.40                  | 0.548                    | 11.95                                                   | 5.74                                 |
| 5300               | 60             | 6              | 4.68                   | 0.226                    | 4.91                                                    | -                                    |
|                    |                | 9              | 4.67                   | 0.278                    | 4.95                                                    | --                                   |
|                    |                | 12             | 4.65                   | 0.287                    | 4.94                                                    | -                                    |
|                    |                | 18             | 4.69                   | 0.308                    | 5.00                                                    | -                                    |
|                    |                | 24             | 4.46                   | 0.273                    | 4.74                                                    | -                                    |
|                    |                | 36             | 4.39                   | 0.376                    | 4.77                                                    | -                                    |
|                    |                | 48             | 4.47                   | 0.454                    | 4.92                                                    | -                                    |
|                    |                | 54             | 4.53                   | 0.548                    | 5.08                                                    | -1.27                                |
| 5320               | 64             | 6              | 4.35                   | 0.226                    | 4.58                                                    | -                                    |
|                    |                | 9              | 4.38                   | 0.278                    | 4.66                                                    | -                                    |
|                    |                | 12             | 4.38                   | 0.287                    | 4.67                                                    | -                                    |
|                    |                | 18             | 4.40                   | 0.308                    | 4.70                                                    | -                                    |
|                    |                | 24             | 4.41                   | 0.273                    | 4.68                                                    | -                                    |
|                    |                | 36             | 4.43                   | 0.376                    | 4.81                                                    | -                                    |
|                    |                | 48             | 4.39                   | 0.454                    | 4.84                                                    | -1.64                                |
|                    |                | 54             | 4.24                   | 0.548                    | 4.79                                                    | -                                    |

## TEST RESULTS\_Ant.2

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

| 802.11a Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power with<br>TPC<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |
| 5260               | 52             | 6              | 12.12                  | 0.226                    | 12.35                                                   | -                                    |
|                    |                | 9              | 12.17                  | 0.278                    | 12.45                                                   | -                                    |
|                    |                | 12             | 12.17                  | 0.287                    | 12.46                                                   | -                                    |
|                    |                | 18             | 12.20                  | 0.308                    | 12.51                                                   | -                                    |
|                    |                | 24             | 12.05                  | 0.273                    | 12.32                                                   | -                                    |
|                    |                | 36             | 12.05                  | 0.376                    | 12.43                                                   | -                                    |
|                    |                | 48             | 12.10                  | 0.454                    | 12.55                                                   | 6.31                                 |
|                    |                | 54             | 11.84                  | 0.548                    | 12.39                                                   | -                                    |
| 5300               | 60             | 6              | 5.12                   | 0.226                    | 5.35                                                    | -                                    |
|                    |                | 9              | 5.19                   | 0.278                    | 5.47                                                    | -                                    |
|                    |                | 12             | 5.15                   | 0.287                    | 5.44                                                    | -                                    |
|                    |                | 18             | 5.30                   | 0.308                    | 5.61                                                    | -1.01                                |
|                    |                | 24             | 5.14                   | 0.273                    | 5.41                                                    | -                                    |
|                    |                | 36             | 5.01                   | 0.376                    | 5.39                                                    | -                                    |
|                    |                | 48             | 5.09                   | 0.454                    | 5.55                                                    | -                                    |
|                    |                | 54             | 4.82                   | 0.548                    | 5.37                                                    | -                                    |
| 5320               | 64             | 6              | 5.03                   | 0.226                    | 5.25                                                    | -                                    |
|                    |                | 9              | 5.11                   | 0.278                    | 5.39                                                    | -1.09                                |
|                    |                | 12             | 4.96                   | 0.287                    | 5.24                                                    | -                                    |
|                    |                | 18             | 4.92                   | 0.308                    | 5.22                                                    | -                                    |
|                    |                | 24             | 4.90                   | 0.273                    | 5.17                                                    | -                                    |
|                    |                | 36             | 4.87                   | 0.376                    | 5.24                                                    | -                                    |
|                    |                | 48             | 4.86                   | 0.454                    | 5.32                                                    | -                                    |
|                    |                | 54             | 4.72                   | 0.548                    | 5.27                                                    | -                                    |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

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

| 802.11a Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5260           | 52          | 6              | 16.78                  | 18.17          |
|                |             | 9              | 16.84                  | 18.17          |
|                |             | 12             | 16.84                  | 18.17          |
|                |             | 18             | 16.88                  | 18.17          |
|                |             | 24             | 16.75                  | 18.17          |
|                |             | 36             | 16.84                  | 18.17          |
|                |             | 48             | 16.98                  | 18.17          |
|                |             | 54             | 16.92                  | 18.17          |
| 5300           | 60          | 6              | 10.02                  | 18.17          |
|                |             | 9              | 10.05                  | 18.17          |
|                |             | 12             | 10.03                  | 18.17          |
|                |             | 18             | 10.11                  | 18.17          |
|                |             | 24             | 9.97                   | 18.17          |
|                |             | 36             | 10.04                  | 18.17          |
|                |             | 48             | 10.04                  | 18.17          |
|                |             | 54             | 10.08                  | 18.17          |
| 5320           | 64          | 6              | 9.84                   | 18.17          |
|                |             | 9              | 9.92                   | 18.17          |
|                |             | 12             | 9.81                   | 18.17          |
|                |             | 18             | 9.82                   | 18.17          |
|                |             | 24             | 9.84                   | 18.17          |
|                |             | 36             | 9.86                   | 18.17          |
|                |             | 48             | 10.00                  | 18.17          |
|                |             | 54             | 9.88                   | 18.17          |

# TEST RESULTS\_Ant.0

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

| 802.11a Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power with<br>TPC<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |
| 5500               | 100            | 6              | 4.34                   | 0.226                    | 4.57                                                    | -                                    |
|                    |                | 9              | 4.59                   | 0.278                    | 4.86                                                    | -                                    |
|                    |                | 12             | 4.47                   | 0.287                    | 4.76                                                    | -                                    |
|                    |                | 18             | 4.45                   | 0.308                    | 4.76                                                    | -                                    |
|                    |                | 24             | 4.44                   | 0.273                    | 4.71                                                    | -                                    |
|                    |                | 36             | 4.39                   | 0.376                    | 4.77                                                    | -                                    |
|                    |                | 48             | 4.23                   | 0.454                    | 4.69                                                    | -                                    |
|                    |                | 54             | 4.33                   | 0.548                    | 4.88                                                    | -1.56                                |
| 5580               | 116            | 6              | 11.70                  | 0.226                    | 11.93                                                   | -                                    |
|                    |                | 9              | 11.78                  | 0.278                    | 12.06                                                   | -                                    |
|                    |                | 12             | 11.83                  | 0.287                    | 12.12                                                   | -                                    |
|                    |                | 18             | 11.79                  | 0.308                    | 12.10                                                   | -                                    |
|                    |                | 24             | 11.83                  | 0.273                    | 12.10                                                   | -                                    |
|                    |                | 36             | 11.75                  | 0.376                    | 12.13                                                   | -                                    |
|                    |                | 48             | 11.70                  | 0.454                    | 12.15                                                   | 5.63                                 |
|                    |                | 54             | 11.39                  | 0.548                    | 11.94                                                   | -                                    |
| 5720               | 144            | 6              | 11.55                  | 0.226                    | 11.78                                                   | -                                    |
|                    |                | 9              | 11.48                  | 0.278                    | 11.76                                                   | -                                    |
|                    |                | 12             | 11.48                  | 0.287                    | 11.77                                                   | -                                    |
|                    |                | 18             | 11.49                  | 0.308                    | 11.80                                                   | 5.66                                 |
|                    |                | 24             | 11.40                  | 0.273                    | 11.67                                                   | -                                    |
|                    |                | 36             | 11.34                  | 0.376                    | 11.72                                                   | -                                    |
|                    |                | 48             | 11.20                  | 0.454                    | 11.65                                                   | -                                    |
|                    |                | 54             | 10.95                  | 0.548                    | 11.50                                                   | -                                    |

# TEST RESULTS\_Ant.1

## 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) | Output Power with TPC (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |
| 5500            | 100         | 6           | 4.38                | 0.226                 | 4.60                                        | -                           |
|                 |             | 9           | 4.37                | 0.278                 | 4.65                                        | -                           |
|                 |             | 12          | 4.36                | 0.287                 | 4.65                                        | -                           |
|                 |             | 18          | 4.45                | 0.308                 | 4.76                                        | -                           |
|                 |             | 24          | 4.42                | 0.273                 | 4.69                                        | -                           |
|                 |             | 36          | 4.30                | 0.376                 | 4.68                                        | -                           |
|                 |             | 48          | 4.38                | 0.454                 | 4.84                                        | -1.59                       |
|                 |             | 54          | 3.97                | 0.548                 | 4.51                                        | -                           |
| 5580            | 116         | 6           | 11.18               | 0.226                 | 11.41                                       | -                           |
|                 |             | 9           | 11.16               | 0.278                 | 11.44                                       | -                           |
|                 |             | 12          | 11.26               | 0.287                 | 11.55                                       | 4.97                        |
|                 |             | 18          | 11.15               | 0.308                 | 11.46                                       | -                           |
|                 |             | 24          | 11.10               | 0.273                 | 11.37                                       | -                           |
|                 |             | 36          | 11.09               | 0.376                 | 11.47                                       | -                           |
|                 |             | 48          | 11.10               | 0.454                 | 11.55                                       | -                           |
|                 |             | 54          | 10.98               | 0.548                 | 11.53                                       | -                           |
| 5720            | 144         | 6           | 11.10               | 0.226                 | 11.33                                       | 4.61                        |
|                 |             | 9           | 10.82               | 0.278                 | 11.10                                       | -                           |
|                 |             | 12          | 10.89               | 0.287                 | 11.18                                       | -                           |
|                 |             | 18          | 10.86               | 0.308                 | 11.17                                       | -                           |
|                 |             | 24          | 10.77               | 0.273                 | 11.04                                       | -                           |
|                 |             | 36          | 10.80               | 0.376                 | 11.18                                       | -                           |
|                 |             | 48          | 10.80               | 0.454                 | 11.25                                       | -                           |
|                 |             | 54          | 10.75               | 0.548                 | 11.30                                       | -                           |

## TEST RESULTS\_Ant.2

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

| 802.11a Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power with<br>TPC<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |
| 5500               | 100            | 6              | 4.87                   | 0.226                    | 5.10                                                    | -                                    |
|                    |                | 9              | 4.77                   | 0.278                    | 5.05                                                    | -                                    |
|                    |                | 12             | 4.85                   | 0.287                    | 5.14                                                    | -1.10                                |
|                    |                | 18             | 4.79                   | 0.308                    | 5.10                                                    | -                                    |
|                    |                | 24             | 4.63                   | 0.273                    | 4.90                                                    | -                                    |
|                    |                | 36             | 4.76                   | 0.376                    | 5.13                                                    | -                                    |
|                    |                | 48             | 4.62                   | 0.454                    | 5.08                                                    | -                                    |
|                    |                | 54             | 4.43                   | 0.548                    | 4.97                                                    | -                                    |
| 5580               | 116            | 6              | 12.06                  | 0.226                    | 12.29                                                   | -                                    |
|                    |                | 9              | 11.95                  | 0.278                    | 12.23                                                   | -                                    |
|                    |                | 12             | 12.07                  | 0.287                    | 12.36                                                   | -                                    |
|                    |                | 18             | 11.95                  | 0.308                    | 12.26                                                   | -                                    |
|                    |                | 24             | 11.94                  | 0.273                    | 12.21                                                   | -                                    |
|                    |                | 36             | 11.88                  | 0.376                    | 12.26                                                   | -                                    |
|                    |                | 48             | 12.00                  | 0.454                    | 12.45                                                   | 6.11                                 |
|                    |                | 54             | 11.70                  | 0.548                    | 12.25                                                   | -                                    |
| 5720               | 144            | 6              | 11.50                  | 0.226                    | 11.73                                                   | -                                    |
|                    |                | 9              | 11.53                  | 0.278                    | 11.81                                                   | -                                    |
|                    |                | 12             | 11.49                  | 0.287                    | 11.78                                                   | -                                    |
|                    |                | 18             | 11.55                  | 0.308                    | 11.86                                                   | -                                    |
|                    |                | 24             | 11.54                  | 0.273                    | 11.81                                                   | -                                    |
|                    |                | 36             | 11.45                  | 0.376                    | 11.83                                                   | -                                    |
|                    |                | 48             | 11.50                  | 0.454                    | 11.95                                                   | 5.54                                 |
|                    |                | 54             | 11.40                  | 0.548                    | 11.95                                                   | -                                    |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

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

| 802.11a Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5500           | 100         | 6              | 9.53                   | 17.80          |
|                |             | 9              | 9.63                   | 17.80          |
|                |             | 12             | 9.63                   | 17.80          |
|                |             | 18             | 9.65                   | 17.80          |
|                |             | 24             | 9.54                   | 17.80          |
|                |             | 36             | 9.64                   | 17.80          |
|                |             | 48             | 9.64                   | 17.80          |
|                |             | 54             | 9.56                   | 17.80          |
| 5580           | 116         | 6              | 16.66                  | 17.80          |
|                |             | 9              | 16.69                  | 17.80          |
|                |             | 12             | 16.79                  | 17.80          |
|                |             | 18             | 16.72                  | 17.80          |
|                |             | 24             | 16.68                  | 17.80          |
|                |             | 36             | 16.74                  | 17.80          |
|                |             | 48             | 16.84                  | 17.80          |
|                |             | 54             | 16.69                  | 17.80          |
| 5720           | 144         | 6              | 16.39                  | 17.80          |
|                |             | 9              | 16.34                  | 17.80          |
|                |             | 12             | 16.36                  | 17.80          |
|                |             | 18             | 16.39                  | 17.80          |
|                |             | 24             | 16.29                  | 17.80          |
|                |             | 36             | 16.36                  | 17.80          |
|                |             | 48             | 16.40                  | 17.80          |
|                |             | 54             | 16.36                  | 17.80          |

**TEST RESULTS\_Ant.0**

**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) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5260            | 52          | 6           | 10.14               | 0.226                 | 10.37                                       | -                           | 23.22       |
|                 |             | 9           | 10.01               | 0.278                 | 10.29                                       | -                           | 23.22       |
|                 |             | 12          | 10.06               | 0.287                 | 10.35                                       | -                           | 23.22       |
|                 |             | 18          | 10.12               | 0.308                 | 10.43                                       | -                           | 23.22       |
|                 |             | 24          | 9.89                | 0.273                 | 10.16                                       | -                           | 23.22       |
|                 |             | 36          | 9.84                | 0.376                 | 10.22                                       | -                           | 23.22       |
|                 |             | 48          | 9.80                | 0.454                 | 10.25                                       | -                           | 23.22       |
|                 |             | 54          | 9.90                | 0.548                 | 10.44                                       | 4.16                        | 23.22       |
| 5300            | 60          | 6           | 2.78                | 0.226                 | 3.01                                        | -                           | 23.22       |
|                 |             | 9           | 2.69                | 0.278                 | 2.97                                        | -                           | 23.22       |
|                 |             | 12          | 3.11                | 0.287                 | 3.40                                        | -2.92                       | 23.22       |
|                 |             | 18          | 2.95                | 0.308                 | 3.26                                        | -                           | 23.22       |
|                 |             | 24          | 2.88                | 0.273                 | 3.15                                        | -                           | 23.22       |
|                 |             | 36          | 2.74                | 0.376                 | 3.12                                        | -                           | 23.22       |
|                 |             | 48          | 2.80                | 0.454                 | 3.25                                        | -                           | 23.22       |
|                 |             | 54          | 2.71                | 0.548                 | 3.25                                        | -                           | 23.22       |
| 5320            | 64          | 6           | 3.11                | 0.226                 | 3.34                                        | -                           | 23.22       |
|                 |             | 9           | 2.81                | 0.278                 | 3.09                                        | -                           | 23.22       |
|                 |             | 12          | 3.18                | 0.287                 | 3.47                                        | -                           | 23.22       |
|                 |             | 18          | 3.24                | 0.308                 | 3.55                                        | -                           | 23.22       |
|                 |             | 24          | 3.17                | 0.273                 | 3.44                                        | -                           | 23.22       |
|                 |             | 36          | 3.14                | 0.376                 | 3.52                                        | -                           | 23.22       |
|                 |             | 48          | 2.85                | 0.454                 | 3.30                                        | -                           | 23.22       |
|                 |             | 54          | 3.07                | 0.548                 | 3.61                                        | -2.64                       | 23.22       |

# TEST RESULTS\_Ant.1

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

| 802.11a Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5260               | 52             | 6              | 10.57                  | 0.226                    | 10.80                                                   | 4.56                                 | 23.74          |
|                    |                | 9              | 10.27                  | 0.278                    | 10.55                                                   | -                                    | 23.74          |
|                    |                | 12             | 10.22                  | 0.287                    | 10.51                                                   | -                                    | 23.74          |
|                    |                | 18             | 10.31                  | 0.308                    | 10.61                                                   | -                                    | 23.74          |
|                    |                | 24             | 10.20                  | 0.273                    | 10.47                                                   | -                                    | 23.74          |
|                    |                | 36             | 10.21                  | 0.376                    | 10.58                                                   | -                                    | 23.74          |
|                    |                | 48             | 10.12                  | 0.454                    | 10.58                                                   | -                                    | 23.74          |
|                    |                | 54             | 10.00                  | 0.548                    | 10.55                                                   | -                                    | 23.74          |
| 5300               | 60             | 6              | 2.18                   | 0.226                    | 2.41                                                    | -                                    | 23.74          |
|                    |                | 9              | 2.15                   | 0.278                    | 2.43                                                    | -                                    | 23.74          |
|                    |                | 12             | 2.27                   | 0.287                    | 2.56                                                    | -                                    | 23.74          |
|                    |                | 18             | 2.52                   | 0.308                    | 2.82                                                    | -3.44                                | 23.74          |
|                    |                | 24             | 2.31                   | 0.273                    | 2.59                                                    | -                                    | 23.74          |
|                    |                | 36             | 2.15                   | 0.376                    | 2.53                                                    | -                                    | 23.74          |
|                    |                | 48             | 2.26                   | 0.454                    | 2.71                                                    | -                                    | 23.74          |
|                    |                | 54             | 2.13                   | 0.548                    | 2.67                                                    | -                                    | 23.74          |
| 5320               | 64             | 6              | 2.43                   | 0.226                    | 2.65                                                    | -                                    | 23.74          |
|                    |                | 9              | 2.24                   | 0.278                    | 2.52                                                    | -                                    | 23.74          |
|                    |                | 12             | 2.39                   | 0.287                    | 2.68                                                    | -                                    | 23.74          |
|                    |                | 18             | 2.35                   | 0.308                    | 2.66                                                    | -                                    | 23.74          |
|                    |                | 24             | 2.37                   | 0.273                    | 2.64                                                    | -                                    | 23.74          |
|                    |                | 36             | 2.27                   | 0.376                    | 2.64                                                    | -                                    | 23.74          |
|                    |                | 48             | 2.88                   | 0.454                    | 3.34                                                    | -                                    | 23.74          |
|                    |                | 54             | 2.20                   | 0.548                    | 2.75                                                    | -3.08                                | 23.74          |

## TEST RESULTS\_Ant.2

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

| 802.11a Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5260               | 52             | 6              | 10.95                  | 0.226                    | 11.17                                                   | -                                    | 23.98          |
|                    |                | 9              | 10.77                  | 0.278                    | 11.04                                                   | -                                    | 23.98          |
|                    |                | 12             | 10.82                  | 0.287                    | 11.11                                                   | -                                    | 23.98          |
|                    |                | 18             | 10.84                  | 0.308                    | 11.15                                                   | -                                    | 23.98          |
|                    |                | 24             | 10.81                  | 0.273                    | 11.08                                                   | -                                    | 23.98          |
|                    |                | 36             | 10.78                  | 0.376                    | 11.16                                                   | -                                    | 23.98          |
|                    |                | 48             | 10.72                  | 0.454                    | 11.17                                                   | -                                    | 23.98          |
|                    |                | 54             | 10.70                  | 0.548                    | 11.25                                                   | 5.03                                 | 23.98          |
| 5300               | 60             | 6              | 3.00                   | 0.226                    | 3.23                                                    | -                                    | 23.98          |
|                    |                | 9              | 3.01                   | 0.278                    | 3.29                                                    | -                                    | 23.98          |
|                    |                | 12             | 3.09                   | 0.287                    | 3.37                                                    | -                                    | 23.98          |
|                    |                | 18             | 3.49                   | 0.308                    | 3.80                                                    | -                                    | 23.98          |
|                    |                | 24             | 3.11                   | 0.273                    | 3.39                                                    | -                                    | 23.98          |
|                    |                | 36             | 3.18                   | 0.376                    | 3.56                                                    | -                                    | 23.98          |
|                    |                | 48             | 3.20                   | 0.454                    | 3.65                                                    | -                                    | 23.98          |
|                    |                | 54             | 3.39                   | 0.548                    | 3.94                                                    | -2.33                                | 23.98          |
| 5320               | 64             | 6              | 3.20                   | 0.226                    | 3.42                                                    | -                                    | 23.98          |
|                    |                | 9              | 3.13                   | 0.278                    | 3.40                                                    | -                                    | 23.98          |
|                    |                | 12             | 3.20                   | 0.287                    | 3.49                                                    | -                                    | 23.98          |
|                    |                | 18             | 3.66                   | 0.308                    | 3.97                                                    | -                                    | 23.98          |
|                    |                | 24             | 3.11                   | 0.273                    | 3.38                                                    | -                                    | 23.98          |
|                    |                | 36             | 3.03                   | 0.376                    | 3.40                                                    | -                                    | 23.98          |
|                    |                | 48             | 3.59                   | 0.454                    | 4.04                                                    | -2.30                                | 23.98          |
|                    |                | 54             | 3.43                   | 0.548                    | 3.98                                                    | -                                    | 23.98          |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

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

| 802.11a Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5260           | 52          | 6              | 13.60                  | 20.46          |
|                |             | 9              | 13.43                  | 20.46          |
|                |             | 12             | 13.44                  | 20.46          |
|                |             | 18             | 13.53                  | 20.46          |
|                |             | 24             | 13.33                  | 20.46          |
|                |             | 36             | 13.41                  | 20.46          |
|                |             | 48             | 13.43                  | 20.46          |
|                |             | 54             | 13.51                  | 20.46          |
| 5300           | 60          | 6              | 5.73                   | 20.46          |
|                |             | 9              | 5.72                   | 20.46          |
|                |             | 12             | 6.01                   | 20.46          |
|                |             | 18             | 6.06                   | 20.46          |
|                |             | 24             | 5.89                   | 20.46          |
|                |             | 36             | 5.85                   | 20.46          |
|                |             | 48             | 6.00                   | 20.46          |
|                |             | 54             | 5.98                   | 20.46          |
| 5320           | 64          | 6              | 6.02                   | 20.46          |
|                |             | 9              | 5.82                   | 20.46          |
|                |             | 12             | 6.10                   | 20.46          |
|                |             | 18             | 6.14                   | 20.46          |
|                |             | 24             | 6.07                   | 20.46          |
|                |             | 36             | 6.11                   | 20.46          |
|                |             | 48             | 6.33                   | 20.46          |
|                |             | 54             | 6.21                   | 20.46          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

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

| 802.11a Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5260           | 52          | 6              | 15.56                  | 18.90          |
|                |             | 9              | 15.41                  | 18.90          |
|                |             | 12             | 15.44                  | 18.90          |
|                |             | 18             | 15.51                  | 18.90          |
|                |             | 24             | 15.36                  | 18.90          |
|                |             | 36             | 15.44                  | 18.90          |
|                |             | 48             | 15.45                  | 18.90          |
|                |             | 54             | 15.53                  | 18.90          |
| 5300           | 60          | 6              | 7.67                   | 18.90          |
|                |             | 9              | 7.68                   | 18.90          |
|                |             | 12             | 7.90                   | 18.90          |
|                |             | 18             | 8.08                   | 18.90          |
|                |             | 24             | 7.83                   | 18.90          |
|                |             | 36             | 7.86                   | 18.90          |
|                |             | 48             | 7.99                   | 18.90          |
|                |             | 54             | 8.09                   | 18.90          |
| 5320           | 64          | 6              | 7.92                   | 18.90          |
|                |             | 9              | 7.79                   | 18.90          |
|                |             | 12             | 8.00                   | 18.90          |
|                |             | 18             | 8.20                   | 18.90          |
|                |             | 24             | 7.94                   | 18.90          |
|                |             | 36             | 7.97                   | 18.90          |
|                |             | 48             | 8.34                   | 18.90          |
|                |             | 54             | 8.25                   | 18.90          |

# TEST RESULTS\_Ant.0

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

| 802.11a Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5500               | 100            | 6              | 4.93                   | 0.226                    | 5.16                                                    | -                                    | 23.64          |
|                    |                | 9              | 5.06                   | 0.278                    | 5.34                                                    | -                                    | 23.64          |
|                    |                | 12             | 5.01                   | 0.287                    | 5.30                                                    | -                                    | 23.64          |
|                    |                | 18             | 4.88                   | 0.308                    | 5.19                                                    | -                                    | 23.64          |
|                    |                | 24             | 4.88                   | 0.273                    | 5.15                                                    | -                                    | 23.64          |
|                    |                | 36             | 4.74                   | 0.376                    | 5.11                                                    | -                                    | 23.64          |
|                    |                | 48             | 4.90                   | 0.454                    | 5.36                                                    | -0.86                                | 23.64          |
|                    |                | 54             | 4.76                   | 0.548                    | 5.31                                                    | -                                    | 23.64          |
| 5580               | 116            | 6              | 10.28                  | 0.226                    | 10.51                                                   | -                                    | 23.64          |
|                    |                | 9              | 10.31                  | 0.278                    | 10.59                                                   | -                                    | 23.64          |
|                    |                | 12             | 10.27                  | 0.287                    | 10.56                                                   | -                                    | 23.64          |
|                    |                | 18             | 10.36                  | 0.308                    | 10.67                                                   | -                                    | 23.64          |
|                    |                | 24             | 10.16                  | 0.273                    | 10.43                                                   | -                                    | 23.64          |
|                    |                | 36             | 10.25                  | 0.376                    | 10.63                                                   | -                                    | 23.64          |
|                    |                | 48             | 10.19                  | 0.454                    | 10.64                                                   | -                                    | 23.64          |
|                    |                | 54             | 10.20                  | 0.548                    | 10.75                                                   | 4.27                                 | 23.64          |
| 5720               | 144            | 6              | 11.65                  | 0.226                    | 11.88                                                   | -                                    | 23.64          |
|                    |                | 9              | 11.61                  | 0.278                    | 11.89                                                   | -                                    | 23.64          |
|                    |                | 12             | 11.80                  | 0.287                    | 12.09                                                   | 5.57                                 | 23.64          |
|                    |                | 18             | 11.65                  | 0.308                    | 11.96                                                   | -                                    | 23.64          |
|                    |                | 24             | 11.65                  | 0.273                    | 11.92                                                   | -                                    | 23.64          |
|                    |                | 36             | 11.59                  | 0.376                    | 11.97                                                   | -                                    | 23.64          |
|                    |                | 48             | 11.58                  | 0.454                    | 12.03                                                   | -                                    | 23.64          |
|                    |                | 54             | 11.46                  | 0.548                    | 12.01                                                   | -                                    | 23.64          |

# TEST RESULTS\_Ant.1

## 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) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5500            | 100         | 6           | 5.26                | 0.226                 | 5.48                                        | -                           | 23.98       |
|                 |             | 9           | 5.06                | 0.278                 | 5.34                                        | -                           | 23.98       |
|                 |             | 12          | 5.43                | 0.287                 | 5.72                                        | -0.52                       | 23.98       |
|                 |             | 18          | 5.17                | 0.308                 | 5.47                                        | -                           | 23.98       |
|                 |             | 24          | 5.00                | 0.273                 | 5.27                                        | -                           | 23.98       |
|                 |             | 36          | 5.15                | 0.376                 | 5.52                                        | -                           | 23.98       |
|                 |             | 48          | 5.11                | 0.454                 | 5.56                                        | -                           | 23.98       |
|                 |             | 54          | 4.98                | 0.548                 | 5.53                                        | -                           | 23.98       |
| 5580            | 116         | 6           | 10.79               | 0.226                 | 11.02                                       | -                           | 23.98       |
|                 |             | 9           | 10.56               | 0.278                 | 10.84                                       | -                           | 23.98       |
|                 |             | 12          | 10.60               | 0.287                 | 10.89                                       | -                           | 23.98       |
|                 |             | 18          | 10.68               | 0.308                 | 10.99                                       | -                           | 23.98       |
|                 |             | 24          | 10.60               | 0.273                 | 10.87                                       | -                           | 23.98       |
|                 |             | 36          | 10.55               | 0.376                 | 10.93                                       | -                           | 23.98       |
|                 |             | 48          | 10.60               | 0.454                 | 11.05                                       | 4.71                        | 23.98       |
|                 |             | 54          | 10.50               | 0.548                 | 11.05                                       | -                           | 23.98       |
| 5720            | 144         | 6           | 12.12               | 0.226                 | 12.35                                       | 6.08                        | 23.98       |
|                 |             | 9           | 12.00               | 0.278                 | 12.28                                       | -                           | 23.98       |
|                 |             | 12          | 11.91               | 0.287                 | 12.20                                       | -                           | 23.98       |
|                 |             | 18          | 11.98               | 0.308                 | 12.29                                       | -                           | 23.98       |
|                 |             | 24          | 12.03               | 0.273                 | 12.30                                       | -                           | 23.98       |
|                 |             | 36          | 11.92               | 0.376                 | 12.30                                       | -                           | 23.98       |
|                 |             | 48          | 11.87               | 0.454                 | 12.32                                       | -                           | 23.98       |
|                 |             | 54          | 11.80               | 0.548                 | 12.35                                       | -                           | 23.98       |

## TEST RESULTS\_Ant.2

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

| 802.11a Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5500               | 100            | 6              | 5.35                   | 0.226                    | 5.58                                                    | -                                    | 23.98          |
|                    |                | 9              | 5.38                   | 0.278                    | 5.65                                                    | -                                    | 23.98          |
|                    |                | 12             | 5.38                   | 0.287                    | 5.67                                                    | -                                    | 23.98          |
|                    |                | 18             | 5.45                   | 0.308                    | 5.76                                                    | -                                    | 23.98          |
|                    |                | 24             | 5.24                   | 0.273                    | 5.51                                                    | -                                    | 23.98          |
|                    |                | 36             | 5.25                   | 0.376                    | 5.63                                                    | -                                    | 23.98          |
|                    |                | 48             | 5.32                   | 0.454                    | 5.77                                                    | -                                    | 23.98          |
|                    |                | 54             | 5.27                   | 0.548                    | 5.81                                                    | -0.68                                | 23.98          |
| 5580               | 116            | 6              | 10.46                  | 0.226                    | 10.69                                                   | -                                    | 23.98          |
|                    |                | 9              | 10.31                  | 0.278                    | 10.59                                                   | -                                    | 23.98          |
|                    |                | 12             | 10.35                  | 0.287                    | 10.64                                                   | -                                    | 23.98          |
|                    |                | 18             | 10.50                  | 0.308                    | 10.81                                                   | 4.53                                 | 23.98          |
|                    |                | 24             | 10.41                  | 0.273                    | 10.68                                                   | -                                    | 23.98          |
|                    |                | 36             | 10.25                  | 0.376                    | 10.63                                                   | -                                    | 23.98          |
|                    |                | 48             | 10.22                  | 0.454                    | 10.67                                                   | -                                    | 23.98          |
|                    |                | 54             | 10.06                  | 0.548                    | 10.61                                                   | -                                    | 23.98          |
| 5720               | 144            | 6              | 11.86                  | 0.226                    | 12.09                                                   | -                                    | 23.98          |
|                    |                | 9              | 11.72                  | 0.278                    | 12.00                                                   | -                                    | 23.98          |
|                    |                | 12             | 11.75                  | 0.287                    | 12.04                                                   | -                                    | 23.98          |
|                    |                | 18             | 11.79                  | 0.308                    | 12.10                                                   | -                                    | 23.98          |
|                    |                | 24             | 11.60                  | 0.273                    | 11.87                                                   | -                                    | 23.98          |
|                    |                | 36             | 11.80                  | 0.376                    | 12.18                                                   | 5.80                                 | 23.98          |
|                    |                | 48             | 11.70                  | 0.454                    | 12.15                                                   | -                                    | 23.98          |
|                    |                | 54             | 11.50                  | 0.548                    | 12.05                                                   | -                                    | 23.98          |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

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

| 802.11a Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5500           | 100         | 6              | 8.33                   | 20.94          |
|                |             | 9              | 8.35                   | 20.94          |
|                |             | 12             | 8.53                   | 20.94          |
|                |             | 18             | 8.34                   | 20.94          |
|                |             | 24             | 8.22                   | 20.94          |
|                |             | 36             | 8.33                   | 20.94          |
|                |             | 48             | 8.47                   | 20.94          |
|                |             | 54             | 8.43                   | 20.94          |
| 5580           | 116         | 6              | 13.78                  | 20.94          |
|                |             | 9              | 13.73                  | 20.94          |
|                |             | 12             | 13.74                  | 20.94          |
|                |             | 18             | 13.84                  | 20.94          |
|                |             | 24             | 13.67                  | 20.94          |
|                |             | 36             | 13.79                  | 20.94          |
|                |             | 48             | 13.86                  | 20.94          |
|                |             | 54             | 13.91                  | 20.94          |
| 5720           | 144         | 6              | 15.13                  | 20.94          |
|                |             | 9              | 15.10                  | 20.94          |
|                |             | 12             | 15.16                  | 20.94          |
|                |             | 18             | 15.14                  | 20.94          |
|                |             | 24             | 15.12                  | 20.94          |
|                |             | 36             | 15.15                  | 20.94          |
|                |             | 48             | 15.19                  | 20.94          |
|                |             | 54             | 15.19                  | 20.94          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

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

| 802.11a Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5500           | 100         | 6              | 10.18                  | 19.29          |
|                |             | 9              | 10.22                  | 19.29          |
|                |             | 12             | 10.34                  | 19.29          |
|                |             | 18             | 10.25                  | 19.29          |
|                |             | 24             | 10.08                  | 19.29          |
|                |             | 36             | 10.20                  | 19.29          |
|                |             | 48             | 10.34                  | 19.29          |
|                |             | 54             | 10.33                  | 19.29          |
| 5580           | 116         | 6              | 15.52                  | 19.29          |
|                |             | 9              | 15.45                  | 19.29          |
|                |             | 12             | 15.47                  | 19.29          |
|                |             | 18             | 15.60                  | 19.29          |
|                |             | 24             | 15.43                  | 19.29          |
|                |             | 36             | 15.50                  | 19.29          |
|                |             | 48             | 15.56                  | 19.29          |
|                |             | 54             | 15.58                  | 19.29          |
| 5720           | 144         | 6              | 16.88                  | 19.29          |
|                |             | 9              | 16.83                  | 19.29          |
|                |             | 12             | 16.88                  | 19.29          |
|                |             | 18             | 16.89                  | 19.29          |
|                |             | 24             | 16.81                  | 19.29          |
|                |             | 36             | 16.92                  | 19.29          |
|                |             | 48             | 16.94                  | 19.29          |
|                |             | 54             | 16.91                  | 19.29          |

# TEST RESULTS\_Ant.0

## Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5260~5320)

| 802.11n Mode    |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5260            | 52          | 6.5         | 11.35               | 0.210                 | 11.56                                       | 5.30                        | 23.22       |
|                 |             | 13          | 11.23               | 0.195                 | 11.42                                       | -                           | 23.22       |
|                 |             | 19.5        | 11.07               | 0.216                 | 11.29                                       | -                           | 23.22       |
|                 |             | 26          | 11.27               | 0.200                 | 11.47                                       | -                           | 23.22       |
|                 |             | 39          | 11.21               | 0.287                 | 11.50                                       | -                           | 23.22       |
|                 |             | 52          | 11.02               | 0.360                 | 11.38                                       | -                           | 23.22       |
|                 |             | 58.5        | 10.98               | 0.391                 | 11.37                                       | -                           | 23.22       |
|                 |             | 65          | 10.93               | 0.435                 | 11.37                                       | -                           | 23.22       |
| 5300            | 60          | 6.5         | 2.64                | 0.210                 | 2.84                                        | -                           | 23.22       |
|                 |             | 13          | 2.66                | 0.195                 | 2.85                                        | -                           | 23.22       |
|                 |             | 19.5        | 2.51                | 0.216                 | 2.73                                        | -                           | 23.22       |
|                 |             | 26          | 2.76                | 0.200                 | 2.96                                        | -                           | 23.22       |
|                 |             | 39          | 2.53                | 0.287                 | 2.82                                        | -                           | 23.22       |
|                 |             | 52          | 2.74                | 0.360                 | 3.10                                        | -3.66                       | 23.22       |
|                 |             | 58.5        | 2.70                | 0.391                 | 3.09                                        | -                           | 23.22       |
|                 |             | 65          | 2.36                | 0.435                 | 2.79                                        | -                           | 23.22       |
| 5320            | 64          | 6.5         | 3.75                | 0.210                 | 3.96                                        | -                           | 23.22       |
|                 |             | 13          | 3.93                | 0.195                 | 4.13                                        | -2.10                       | 23.22       |
|                 |             | 19.5        | 3.74                | 0.216                 | 3.96                                        | -                           | 23.22       |
|                 |             | 26          | 3.77                | 0.200                 | 3.97                                        | -                           | 23.22       |
|                 |             | 39          | 3.61                | 0.287                 | 3.90                                        | -                           | 23.22       |
|                 |             | 52          | 3.68                | 0.360                 | 4.04                                        | -                           | 23.22       |
|                 |             | 58.5        | 3.65                | 0.391                 | 4.04                                        | -                           | 23.22       |
|                 |             | 65          | 3.56                | 0.435                 | 3.99                                        | -                           | 23.22       |

# TEST RESULTS\_Ant.1

## Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5260~5320)

| 802.11n Mode    |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5260            | 52          | 6.5         | 11.09               | 0.210                 | 11.30                                       | -                           | 23.74       |
|                 |             | 13          | 11.07               | 0.195                 | 11.26                                       | -                           | 23.74       |
|                 |             | 19.5        | 11.13               | 0.216                 | 11.35                                       | -                           | 23.74       |
|                 |             | 26          | 11.15               | 0.200                 | 11.35                                       | -                           | 23.74       |
|                 |             | 39          | 11.12               | 0.287                 | 11.41                                       | -                           | 23.74       |
|                 |             | 52          | 10.96               | 0.360                 | 11.32                                       | -                           | 23.74       |
|                 |             | 58.5        | 11.02               | 0.391                 | 11.41                                       | -                           | 23.74       |
|                 |             | 65          | 11.00               | 0.435                 | 11.44                                       | 5.20                        | 23.74       |
| 5300            | 60          | 6.5         | 2.38                | 0.210                 | 2.59                                        | -                           | 23.74       |
|                 |             | 13          | 2.25                | 0.195                 | 2.44                                        | -                           | 23.74       |
|                 |             | 19.5        | 2.46                | 0.216                 | 2.68                                        | -                           | 23.74       |
|                 |             | 26          | 2.48                | 0.200                 | 2.68                                        | -                           | 23.74       |
|                 |             | 39          | 2.27                | 0.287                 | 2.56                                        | -                           | 23.74       |
|                 |             | 52          | 2.39                | 0.360                 | 2.75                                        | -3.36                       | 23.74       |
|                 |             | 58.5        | 2.05                | 0.391                 | 2.44                                        | -                           | 23.74       |
|                 |             | 65          | 2.16                | 0.435                 | 2.60                                        | -                           | 23.74       |
| 5320            | 64          | 6.5         | 3.55                | 0.210                 | 3.75                                        | -                           | 23.74       |
|                 |             | 13          | 3.40                | 0.195                 | 3.60                                        | -                           | 23.74       |
|                 |             | 19.5        | 3.50                | 0.216                 | 3.71                                        | -                           | 23.74       |
|                 |             | 26          | 3.56                | 0.200                 | 3.76                                        | -                           | 23.74       |
|                 |             | 39          | 3.34                | 0.287                 | 3.63                                        | -                           | 23.74       |
|                 |             | 52          | 3.32                | 0.360                 | 3.68                                        | -                           | 23.74       |
|                 |             | 58.5        | 3.48                | 0.391                 | 3.87                                        | -2.17                       | 23.74       |
|                 |             | 65          | 3.31                | 0.435                 | 3.74                                        | -                           | 23.74       |

## TEST RESULTS\_Ant.2

### Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5260~5320)

| 802.11n Mode    |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5260            | 52          | 6.5         | 12.00               | 0.210                 | 12.21                                       | 5.96                        | 23.98       |
|                 |             | 13          | 11.80               | 0.195                 | 11.99                                       | -                           | 23.98       |
|                 |             | 19.5        | 11.68               | 0.216                 | 11.90                                       | -                           | 23.98       |
|                 |             | 26          | 11.84               | 0.200                 | 12.04                                       | -                           | 23.98       |
|                 |             | 39          | 11.79               | 0.287                 | 12.08                                       | -                           | 23.98       |
|                 |             | 52          | 11.71               | 0.360                 | 12.07                                       | -                           | 23.98       |
|                 |             | 58.5        | 11.64               | 0.391                 | 12.03                                       | -                           | 23.98       |
|                 |             | 65          | 11.75               | 0.435                 | 12.19                                       | -                           | 23.98       |
| 5300            | 60          | 6.5         | 3.24                | 0.210                 | 3.45                                        | -2.69                       | 23.98       |
|                 |             | 13          | 3.16                | 0.195                 | 3.35                                        | -                           | 23.98       |
|                 |             | 19.5        | 3.11                | 0.216                 | 3.33                                        | -                           | 23.98       |
|                 |             | 26          | 3.08                | 0.200                 | 3.28                                        | -                           | 23.98       |
|                 |             | 39          | 2.96                | 0.287                 | 3.24                                        | -                           | 23.98       |
|                 |             | 52          | 2.94                | 0.360                 | 3.30                                        | -                           | 23.98       |
|                 |             | 58.5        | 2.98                | 0.391                 | 3.37                                        | -                           | 23.98       |
|                 |             | 65          | 2.94                | 0.435                 | 3.38                                        | -                           | 23.98       |
| 5320            | 64          | 6.5         | 4.47                | 0.210                 | 4.68                                        | -1.37                       | 23.98       |
|                 |             | 13          | 4.16                | 0.195                 | 4.35                                        | -                           | 23.98       |
|                 |             | 19.5        | 4.41                | 0.216                 | 4.62                                        | -                           | 23.98       |
|                 |             | 26          | 4.25                | 0.200                 | 4.45                                        | -                           | 23.98       |
|                 |             | 39          | 4.39                | 0.287                 | 4.68                                        | -                           | 23.98       |
|                 |             | 52          | 4.22                | 0.360                 | 4.58                                        | -                           | 23.98       |
|                 |             | 58.5        | 4.16                | 0.391                 | 4.55                                        | -                           | 23.98       |
|                 |             | 65          | 4.17                | 0.435                 | 4.61                                        | -                           | 23.98       |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5260~5320)

| 802.11n Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5260           | 52          | 6.5            | 14.44                  | 20.46          |
|                |             | 13             | 14.35                  | 20.46          |
|                |             | 19.5           | 14.33                  | 20.46          |
|                |             | 26             | 14.42                  | 20.46          |
|                |             | 39             | 14.47                  | 20.46          |
|                |             | 52             | 14.36                  | 20.46          |
|                |             | 58.5           | 14.40                  | 20.46          |
|                |             | 65             | 14.42                  | 20.46          |
| 5300           | 60          | 6.5            | 5.73                   | 20.46          |
|                |             | 13             | 5.66                   | 20.46          |
|                |             | 19.5           | 5.72                   | 20.46          |
|                |             | 26             | 5.83                   | 20.46          |
|                |             | 39             | 5.70                   | 20.46          |
|                |             | 52             | 5.94                   | 20.46          |
|                |             | 58.5           | 5.79                   | 20.46          |
|                |             | 65             | 5.71                   | 20.46          |
| 5320           | 64          | 6.5            | 6.87                   | 20.46          |
|                |             | 13             | 6.88                   | 20.46          |
|                |             | 19.5           | 6.85                   | 20.46          |
|                |             | 26             | 6.88                   | 20.46          |
|                |             | 39             | 6.78                   | 20.46          |
|                |             | 52             | 6.87                   | 20.46          |
|                |             | 58.5           | 6.97                   | 20.46          |
|                |             | 65             | 6.88                   | 20.46          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5260~5320)

| 802.11n Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5260           | 52          | 6.5            | 16.48                  | 18.90          |
|                |             | 13             | 16.34                  | 18.90          |
|                |             | 19.5           | 16.29                  | 18.90          |
|                |             | 26             | 16.40                  | 18.90          |
|                |             | 39             | 16.44                  | 18.90          |
|                |             | 52             | 16.37                  | 18.90          |
|                |             | 58.5           | 16.39                  | 18.90          |
|                |             | 65             | 16.45                  | 18.90          |
| 5300           | 60          | 6.5            | 7.75                   | 18.90          |
|                |             | 13             | 7.67                   | 18.90          |
|                |             | 19.5           | 7.69                   | 18.90          |
|                |             | 26             | 7.75                   | 18.90          |
|                |             | 39             | 7.65                   | 18.90          |
|                |             | 52             | 7.83                   | 18.90          |
|                |             | 58.5           | 7.76                   | 18.90          |
|                |             | 65             | 7.71                   | 18.90          |
| 5320           | 64          | 6.5            | 8.92                   | 18.90          |
|                |             | 13             | 8.81                   | 18.90          |
|                |             | 19.5           | 8.89                   | 18.90          |
|                |             | 26             | 8.84                   | 18.90          |
|                |             | 39             | 8.86                   | 18.90          |
|                |             | 52             | 8.89                   | 18.90          |
|                |             | 58.5           | 8.93                   | 18.90          |
|                |             | 65             | 8.90                   | 18.90          |

# TEST RESULTS\_Ant.0

## Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5500~5720)

| 802.11n Mode    |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5500            | 100         | 6.5         | 4.97                | 0.210                 | 5.18                                        | -                           | 23.64       |
|                 |             | 13          | 5.02                | 0.195                 | 5.22                                        | -                           | 23.64       |
|                 |             | 19.5        | 5.11                | 0.216                 | 5.32                                        | -                           | 23.64       |
|                 |             | 26          | 5.02                | 0.200                 | 5.22                                        | -                           | 23.64       |
|                 |             | 39          | 4.91                | 0.287                 | 5.19                                        | -                           | 23.64       |
|                 |             | 52          | 5.09                | 0.360                 | 5.45                                        | -0.83                       | 23.64       |
|                 |             | 58.5        | 4.97                | 0.391                 | 5.36                                        | -                           | 23.64       |
|                 |             | 65          | 4.99                | 0.435                 | 5.42                                        | -                           | 23.64       |
| 5580            | 116         | 6.5         | 12.43               | 0.210                 | 12.64                                       | -                           | 23.64       |
|                 |             | 13          | 12.40               | 0.195                 | 12.59                                       | -                           | 23.64       |
|                 |             | 19.5        | 12.33               | 0.216                 | 12.55                                       | -                           | 23.64       |
|                 |             | 26          | 12.32               | 0.200                 | 12.52                                       | -                           | 23.64       |
|                 |             | 39          | 12.39               | 0.287                 | 12.68                                       | -                           | 23.64       |
|                 |             | 52          | 12.33               | 0.360                 | 12.69                                       | -                           | 23.64       |
|                 |             | 58.5        | 12.20               | 0.391                 | 12.59                                       | -                           | 23.64       |
|                 |             | 65          | 12.40               | 0.435                 | 12.84                                       | 6.32                        | 23.64       |
| 5720            | 144         | 6.5         | 11.90               | 0.210                 | 12.11                                       | -                           | 23.64       |
|                 |             | 13          | 11.68               | 0.195                 | 11.87                                       | -                           | 23.64       |
|                 |             | 19.5        | 11.73               | 0.216                 | 11.95                                       | -                           | 23.64       |
|                 |             | 26          | 11.75               | 0.200                 | 11.95                                       | -                           | 23.64       |
|                 |             | 39          | 11.68               | 0.287                 | 11.97                                       | -                           | 23.64       |
|                 |             | 52          | 11.68               | 0.360                 | 12.04                                       | -                           | 23.64       |
|                 |             | 58.5        | 11.66               | 0.391                 | 12.05                                       | -                           | 23.64       |
|                 |             | 65          | 11.73               | 0.435                 | 12.17                                       | 5.85                        | 23.64       |

# TEST RESULTS\_Ant.1

## Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5500~5720)

| 802.11n Mode    |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5500            | 100         | 6.5         | 5.51                | 0.210                 | 5.72                                        | -0.66                       | 23.98       |
|                 |             | 13          | 5.31                | 0.195                 | 5.50                                        | -                           | 23.98       |
|                 |             | 19.5        | 5.36                | 0.216                 | 5.57                                        | -                           | 23.98       |
|                 |             | 26          | 5.30                | 0.200                 | 5.50                                        | -                           | 23.98       |
|                 |             | 39          | 5.33                | 0.287                 | 5.62                                        | -                           | 23.98       |
|                 |             | 52          | 5.26                | 0.360                 | 5.62                                        | -                           | 23.98       |
|                 |             | 58.5        | 5.14                | 0.391                 | 5.53                                        | -                           | 23.98       |
|                 |             | 65          | 5.13                | 0.435                 | 5.57                                        | -                           | 23.98       |
| 5580            | 116         | 6.5         | 12.66               | 0.210                 | 12.87                                       | -                           | 23.98       |
|                 |             | 13          | 12.76               | 0.195                 | 12.95                                       | -                           | 23.98       |
|                 |             | 19.5        | 12.90               | 0.216                 | 13.12                                       | 6.90                        | 23.98       |
|                 |             | 26          | 12.76               | 0.200                 | 12.96                                       | -                           | 23.98       |
|                 |             | 39          | 12.54               | 0.287                 | 12.83                                       | -                           | 23.98       |
|                 |             | 52          | 12.70               | 0.360                 | 13.06                                       | -                           | 23.98       |
|                 |             | 58.5        | 12.60               | 0.391                 | 12.99                                       | -                           | 23.98       |
|                 |             | 65          | 12.55               | 0.435                 | 12.99                                       | -                           | 23.98       |
| 5720            | 144         | 6.5         | 12.00               | 0.210                 | 12.21                                       | 5.97                        | 23.98       |
|                 |             | 13          | 11.89               | 0.195                 | 12.08                                       | -                           | 23.98       |
|                 |             | 19.5        | 11.87               | 0.216                 | 12.09                                       | -                           | 23.98       |
|                 |             | 26          | 11.98               | 0.200                 | 12.18                                       | -                           | 23.98       |
|                 |             | 39          | 11.84               | 0.287                 | 12.13                                       | -                           | 23.98       |
|                 |             | 52          | 11.77               | 0.360                 | 12.13                                       | -                           | 23.98       |
|                 |             | 58.5        | 11.76               | 0.391                 | 12.15                                       | -                           | 23.98       |
|                 |             | 65          | 11.73               | 0.435                 | 12.17                                       | -                           | 23.98       |

## TEST RESULTS\_Ant.2

### Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5500~5720)

| 802.11n Mode    |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5500            | 100         | 6.5         | 5.67                | 0.210                 | 5.87                                        | -                           | 23.98       |
|                 |             | 13          | 5.68                | 0.195                 | 5.88                                        | -                           | 23.98       |
|                 |             | 19.5        | 5.66                | 0.216                 | 5.87                                        | -                           | 23.98       |
|                 |             | 26          | 5.48                | 0.200                 | 5.68                                        | -                           | 23.98       |
|                 |             | 39          | 5.67                | 0.287                 | 5.95                                        | -                           | 23.98       |
|                 |             | 52          | 5.61                | 0.360                 | 5.97                                        | -                           | 23.98       |
|                 |             | 58.5        | 5.55                | 0.391                 | 5.95                                        | -                           | 23.98       |
|                 |             | 65          | 5.55                | 0.435                 | 5.98                                        | -0.34                       | 23.98       |
| 5580            | 116         | 6.5         | 12.37               | 0.210                 | 12.58                                       | -                           | 23.98       |
|                 |             | 13          | 12.53               | 0.195                 | 12.72                                       | -                           | 23.98       |
|                 |             | 19.5        | 12.50               | 0.216                 | 12.72                                       | -                           | 23.98       |
|                 |             | 26          | 12.60               | 0.200                 | 12.80                                       | -                           | 23.98       |
|                 |             | 39          | 12.60               | 0.287                 | 12.89                                       | 6.65                        | 23.98       |
|                 |             | 52          | 12.38               | 0.360                 | 12.74                                       | -                           | 23.98       |
|                 |             | 58.5        | 12.39               | 0.391                 | 12.78                                       | -                           | 23.98       |
|                 |             | 65          | 12.30               | 0.435                 | 12.74                                       | -                           | 23.98       |
| 5720            | 144         | 6.5         | 11.86               | 0.210                 | 12.07                                       | -                           | 23.98       |
|                 |             | 13          | 11.90               | 0.195                 | 12.09                                       | -                           | 23.98       |
|                 |             | 19.5        | 11.86               | 0.216                 | 12.08                                       | -                           | 23.98       |
|                 |             | 26          | 11.90               | 0.200                 | 12.10                                       | -                           | 23.98       |
|                 |             | 39          | 11.69               | 0.287                 | 11.98                                       | -                           | 23.98       |
|                 |             | 52          | 11.71               | 0.360                 | 12.07                                       | -                           | 23.98       |
|                 |             | 58.5        | 11.78               | 0.391                 | 12.17                                       | 5.95                        | 23.98       |
|                 |             | 65          | 11.71               | 0.435                 | 12.15                                       | -                           | 23.98       |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5500~5720)

| 802.11n Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5500           | 100         | 6.5            | 8.47                   | 20.94          |
|                |             | 13             | 8.37                   | 20.94          |
|                |             | 19.5           | 8.46                   | 20.94          |
|                |             | 26             | 8.37                   | 20.94          |
|                |             | 39             | 8.42                   | 20.94          |
|                |             | 52             | 8.55                   | 20.94          |
|                |             | 58.5           | 8.46                   | 20.94          |
|                |             | 65             | 8.51                   | 20.94          |
| 5580           | 116         | 6.5            | 15.77                  | 20.94          |
|                |             | 13             | 15.78                  | 20.94          |
|                |             | 19.5           | 15.85                  | 20.94          |
|                |             | 26             | 15.76                  | 20.94          |
|                |             | 39             | 15.77                  | 20.94          |
|                |             | 52             | 15.89                  | 20.94          |
|                |             | 58.5           | 15.80                  | 20.94          |
|                |             | 65             | 15.93                  | 20.94          |
| 5720           | 144         | 6.5            | 15.17                  | 20.94          |
|                |             | 13             | 14.99                  | 20.94          |
|                |             | 19.5           | 15.03                  | 20.94          |
|                |             | 26             | 15.08                  | 20.94          |
|                |             | 39             | 15.06                  | 20.94          |
|                |             | 52             | 15.10                  | 20.94          |
|                |             | 58.5           | 15.11                  | 20.94          |
|                |             | 65             | 15.18                  | 20.94          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11n\_20 MHz BW Mode: 5500~5720)

| 802.11n Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5500           | 100         | 6.5            | 10.37                  | 19.29          |
|                |             | 13             | 10.31                  | 19.29          |
|                |             | 19.5           | 10.36                  | 19.29          |
|                |             | 26             | 10.24                  | 19.29          |
|                |             | 39             | 10.37                  | 19.29          |
|                |             | 52             | 10.46                  | 19.29          |
|                |             | 58.5           | 10.39                  | 19.29          |
|                |             | 65             | 10.43                  | 19.29          |
| 5580           | 116         | 6.5            | 17.47                  | 19.29          |
|                |             | 13             | 17.53                  | 19.29          |
|                |             | 19.5           | 17.57                  | 19.29          |
|                |             | 26             | 17.54                  | 19.29          |
|                |             | 39             | 17.57                  | 19.29          |
|                |             | 52             | 17.60                  | 19.29          |
|                |             | 58.5           | 17.56                  | 19.29          |
|                |             | 65             | 17.63                  | 19.29          |
| 5720           | 144         | 6.5            | 16.90                  | 19.29          |
|                |             | 13             | 16.79                  | 19.29          |
|                |             | 19.5           | 16.81                  | 19.29          |
|                |             | 26             | 16.85                  | 19.29          |
|                |             | 39             | 16.80                  | 19.29          |
|                |             | 52             | 16.85                  | 19.29          |
|                |             | 58.5           | 16.89                  | 19.29          |
|                |             | 65             | 16.93                  | 19.29          |

# TEST RESULTS\_Ant.0

Conducted Output Power Measurements (802.11ac\_20 MHz BW Mode: 5260~5320)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5260            | 52          | 6.5         | 11.75               | 0.210                 | 11.96                                       | -                           | 23.22       |
|                 |             | 13          | 11.76               | 0.195                 | 11.95                                       | -                           | 23.22       |
|                 |             | 19.5        | 11.66               | 0.216                 | 11.88                                       | -                           | 23.22       |
|                 |             | 26          | 11.67               | 0.200                 | 11.87                                       | -                           | 23.22       |
|                 |             | 39          | 11.58               | 0.287                 | 11.87                                       | -                           | 23.22       |
|                 |             | 52          | 11.52               | 0.360                 | 11.88                                       | -                           | 23.22       |
|                 |             | 58.5        | 11.55               | 0.391                 | 11.94                                       | -                           | 23.22       |
|                 |             | 65          | 11.38               | 0.435                 | 11.82                                       | -                           | 23.22       |
|                 |             | 78          | 11.40               | 0.581                 | 11.98                                       | 5.70                        | 23.22       |
| 5300            | 60          | 6.5         | 3.70                | 0.210                 | 3.91                                        | -                           | 23.22       |
|                 |             | 13          | 3.76                | 0.195                 | 3.95                                        | -2.37                       | 23.22       |
|                 |             | 19.5        | 3.64                | 0.216                 | 3.85                                        | -                           | 23.22       |
|                 |             | 26          | 3.63                | 0.200                 | 3.83                                        | -                           | 23.22       |
|                 |             | 39          | 3.62                | 0.287                 | 3.90                                        | -                           | 23.22       |
|                 |             | 52          | 3.52                | 0.360                 | 3.88                                        | -                           | 23.22       |
|                 |             | 58.5        | 3.37                | 0.391                 | 3.76                                        | -                           | 23.22       |
|                 |             | 65          | 3.27                | 0.435                 | 3.70                                        | -                           | 23.22       |
|                 |             | 78          | 3.30                | 0.581                 | 3.88                                        | -                           | 23.22       |
| 5320            | 64          | 6.5         | 3.81                | 0.210                 | 4.02                                        | -                           | 23.22       |
|                 |             | 13          | 3.77                | 0.195                 | 3.96                                        | -                           | 23.22       |
|                 |             | 19.5        | 3.75                | 0.216                 | 3.97                                        | -                           | 23.22       |
|                 |             | 26          | 3.53                | 0.200                 | 3.73                                        | -                           | 23.22       |
|                 |             | 39          | 3.67                | 0.287                 | 3.96                                        | -                           | 23.22       |
|                 |             | 52          | 3.62                | 0.360                 | 3.98                                        | -                           | 23.22       |
|                 |             | 58.5        | 3.48                | 0.391                 | 3.87                                        | -                           | 23.22       |
|                 |             | 65          | 3.51                | 0.435                 | 3.95                                        | -                           | 23.22       |
|                 |             | 78          | 3.55                | 0.581                 | 4.13                                        | -2.19                       | 23.22       |

# TEST RESULTS\_Ant.1

Conducted Output Power Measurements (802.11ac\_20 MHz BW Mode: 5260~5320)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5260            | 52          | 6.5         | 11.81               | 0.210                 | 12.02                                       | -                           | 23.74       |
|                 |             | 13          | 11.90               | 0.195                 | 12.09                                       | 5.84                        | 23.74       |
|                 |             | 19.5        | 11.66               | 0.216                 | 11.88                                       | -                           | 23.74       |
|                 |             | 26          | 11.58               | 0.200                 | 11.78                                       | -                           | 23.74       |
|                 |             | 39          | 11.66               | 0.287                 | 11.95                                       | -                           | 23.74       |
|                 |             | 52          | 11.35               | 0.360                 | 11.71                                       | -                           | 23.74       |
|                 |             | 58.5        | 11.37               | 0.391                 | 11.76                                       | -                           | 23.74       |
|                 |             | 65          | 11.27               | 0.435                 | 11.71                                       | -                           | 23.74       |
|                 |             | 78          | 11.31               | 0.581                 | 11.89                                       | -                           | 23.74       |
| 5300            | 60          | 6.5         | 3.59                | 0.210                 | 3.80                                        | -2.48                       | 23.74       |
|                 |             | 13          | 3.47                | 0.195                 | 3.66                                        | -                           | 23.74       |
|                 |             | 19.5        | 3.48                | 0.216                 | 3.69                                        | -                           | 23.74       |
|                 |             | 26          | 3.40                | 0.200                 | 3.60                                        | -                           | 23.74       |
|                 |             | 39          | 3.33                | 0.287                 | 3.62                                        | -                           | 23.74       |
|                 |             | 52          | 3.29                | 0.360                 | 3.65                                        | -                           | 23.74       |
|                 |             | 58.5        | 3.12                | 0.391                 | 3.51                                        | -                           | 23.74       |
|                 |             | 65          | 3.11                | 0.435                 | 3.55                                        | -                           | 23.74       |
|                 |             | 78          | 2.91                | 0.581                 | 3.49                                        | -                           | 23.74       |
| 5320            | 64          | 6.5         | 3.67                | 0.210                 | 3.88                                        | -                           | 23.74       |
|                 |             | 13          | 3.75                | 0.195                 | 3.94                                        | -2.26                       | 23.74       |
|                 |             | 19.5        | 3.54                | 0.216                 | 3.75                                        | -                           | 23.74       |
|                 |             | 26          | 3.60                | 0.200                 | 3.80                                        | -                           | 23.74       |
|                 |             | 39          | 3.35                | 0.287                 | 3.64                                        | -                           | 23.74       |
|                 |             | 52          | 3.47                | 0.360                 | 3.83                                        | -                           | 23.74       |
|                 |             | 58.5        | 3.43                | 0.391                 | 3.82                                        | -                           | 23.74       |
|                 |             | 65          | 3.44                | 0.435                 | 3.87                                        | -                           | 23.74       |
|                 |             | 78          | 3.20                | 0.581                 | 3.78                                        | -                           | 23.74       |

## TEST RESULTS\_Ant.2

Conducted Output Power Measurements (802.11ac \_20 MHz BW Mode: 5260~5320)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5260            | 52          | 6.5         | 12.46               | 0.210                 | 12.67                                       | -                           | 23.98       |
|                 |             | 13          | 12.46               | 0.195                 | 12.65                                       | -                           | 23.98       |
|                 |             | 19.5        | 12.41               | 0.216                 | 12.63                                       | -                           | 23.98       |
|                 |             | 26          | 12.28               | 0.200                 | 12.48                                       | -                           | 23.98       |
|                 |             | 39          | 12.12               | 0.287                 | 12.41                                       | -                           | 23.98       |
|                 |             | 52          | 12.18               | 0.360                 | 12.54                                       | -                           | 23.98       |
|                 |             | 58.5        | 12.19               | 0.391                 | 12.58                                       | -                           | 23.98       |
|                 |             | 65          | 12.13               | 0.435                 | 12.57                                       | -                           | 23.98       |
|                 |             | 78          | 12.10               | 0.581                 | 12.68                                       | 6.43                        | 23.98       |
| 5300            | 60          | 6.5         | 4.41                | 0.210                 | 4.62                                        | -                           | 23.98       |
|                 |             | 13          | 4.46                | 0.195                 | 4.65                                        | -1.69                       | 23.98       |
|                 |             | 19.5        | 4.23                | 0.216                 | 4.44                                        | -                           | 23.98       |
|                 |             | 26          | 4.33                | 0.200                 | 4.53                                        | -                           | 23.98       |
|                 |             | 39          | 4.27                | 0.287                 | 4.55                                        | -                           | 23.98       |
|                 |             | 52          | 4.00                | 0.360                 | 4.36                                        | -                           | 23.98       |
|                 |             | 58.5        | 4.13                | 0.391                 | 4.52                                        | -                           | 23.98       |
|                 |             | 65          | 4.12                | 0.435                 | 4.56                                        | -                           | 23.98       |
|                 |             | 78          | 4.00                | 0.581                 | 4.58                                        | -                           | 23.98       |
| 5320            | 64          | 6.5         | 4.57                | 0.210                 | 4.78                                        | -1.37                       | 23.98       |
|                 |             | 13          | 4.29                | 0.195                 | 4.49                                        | -                           | 23.98       |
|                 |             | 19.5        | 4.28                | 0.216                 | 4.50                                        | -                           | 23.98       |
|                 |             | 26          | 4.28                | 0.200                 | 4.48                                        | -                           | 23.98       |
|                 |             | 39          | 4.23                | 0.287                 | 4.52                                        | -                           | 23.98       |
|                 |             | 52          | 4.21                | 0.360                 | 4.57                                        | -                           | 23.98       |
|                 |             | 58.5        | 4.26                | 0.391                 | 4.65                                        | -                           | 23.98       |
|                 |             | 65          | 4.28                | 0.435                 | 4.72                                        | -                           | 23.98       |
|                 |             | 78          | 4.08                | 0.581                 | 4.66                                        | -                           | 23.98       |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11ac\_20 MHz BW Mode: 5260~5320)

| 802.11ac Mode  |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5260           | 52          | 6.5            | 15.00                  | 20.46          |
|                |             | 13             | 15.03                  | 20.46          |
|                |             | 19.5           | 14.89                  | 20.46          |
|                |             | 26             | 14.84                  | 20.46          |
|                |             | 39             | 14.92                  | 20.46          |
|                |             | 52             | 14.81                  | 20.46          |
|                |             | 58.5           | 14.86                  | 20.46          |
|                |             | 65             | 14.78                  | 20.46          |
|                |             | 78             | 14.95                  | 20.46          |
| 5300           | 60          | 6.5            | 6.87                   | 20.46          |
|                |             | 13             | 6.82                   | 20.46          |
|                |             | 19.5           | 6.78                   | 20.46          |
|                |             | 26             | 6.73                   | 20.46          |
|                |             | 39             | 6.77                   | 20.46          |
|                |             | 52             | 6.78                   | 20.46          |
|                |             | 58.5           | 6.65                   | 20.46          |
|                |             | 65             | 6.64                   | 20.46          |
|                |             | 78             | 6.70                   | 20.46          |
| 5320           | 64          | 6.5            | 6.96                   | 20.46          |
|                |             | 13             | 6.96                   | 20.46          |
|                |             | 19.5           | 6.87                   | 20.46          |
|                |             | 26             | 6.78                   | 20.46          |
|                |             | 39             | 6.81                   | 20.46          |
|                |             | 52             | 6.92                   | 20.46          |
|                |             | 58.5           | 6.86                   | 20.46          |
|                |             | 65             | 6.92                   | 20.46          |
|                |             | 78             | 6.97                   | 20.46          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11ac\_20 MHz BW Mode: 5260~5320)

| 802.11ac Mode  |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5260           | 52          | 6.5            | 17.00                  | 18.90          |
|                |             | 13             | 17.01                  | 18.90          |
|                |             | 19.5           | 16.92                  | 18.90          |
|                |             | 26             | 16.83                  | 18.90          |
|                |             | 39             | 16.85                  | 18.90          |
|                |             | 52             | 16.83                  | 18.90          |
|                |             | 58.5           | 16.88                  | 18.90          |
|                |             | 65             | 16.82                  | 18.90          |
|                |             | 78             | 16.97                  | 18.90          |
| 5300           | 60          | 6.5            | 8.90                   | 18.90          |
|                |             | 13             | 8.88                   | 18.90          |
|                |             | 19.5           | 8.78                   | 18.90          |
|                |             | 26             | 8.78                   | 18.90          |
|                |             | 39             | 8.81                   | 18.90          |
|                |             | 52             | 8.74                   | 18.90          |
|                |             | 58.5           | 8.72                   | 18.90          |
|                |             | 65             | 8.73                   | 18.90          |
|                |             | 78             | 8.78                   | 18.90          |
| 5320           | 64          | 6.5            | 9.02                   | 18.90          |
|                |             | 13             | 8.91                   | 18.90          |
|                |             | 19.5           | 8.86                   | 18.90          |
|                |             | 26             | 8.79                   | 18.90          |
|                |             | 39             | 8.83                   | 18.90          |
|                |             | 52             | 8.91                   | 18.90          |
|                |             | 58.5           | 8.90                   | 18.90          |
|                |             | 65             | 8.97                   | 18.90          |
|                |             | 78             | 8.98                   | 18.90          |

# TEST RESULTS\_Ant.0

Conducted Output Power Measurements (802.11ac\_20 MHz BW Mode: 5500~5720)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5500            | 100         | 6.5         | 6.27                | 0.210                 | 6.48                                        | 0.28                        | 23.64       |
|                 |             | 13          | 6.01                | 0.195                 | 6.21                                        | -                           | 23.64       |
|                 |             | 19.5        | 6.31                | 0.216                 | 6.52                                        | -                           | 23.64       |
|                 |             | 26          | 5.95                | 0.200                 | 6.15                                        | -                           | 23.64       |
|                 |             | 39          | 5.87                | 0.287                 | 6.16                                        | -                           | 23.64       |
|                 |             | 52          | 5.81                | 0.360                 | 6.17                                        | -                           | 23.64       |
|                 |             | 58.5        | 5.83                | 0.391                 | 6.22                                        | -                           | 23.64       |
|                 |             | 65          | 5.78                | 0.435                 | 6.21                                        | -                           | 23.64       |
|                 |             | 78          | 5.80                | 0.581                 | 6.38                                        | -                           | 23.64       |
| 5580            | 116         | 6.5         | 11.70               | 0.210                 | 11.91                                       | -                           | 23.64       |
|                 |             | 13          | 11.71               | 0.195                 | 11.90                                       | -                           | 23.64       |
|                 |             | 19.5        | 11.62               | 0.216                 | 11.84                                       | -                           | 23.64       |
|                 |             | 26          | 11.56               | 0.200                 | 11.76                                       | -                           | 23.64       |
|                 |             | 39          | 11.49               | 0.287                 | 11.78                                       | -                           | 23.64       |
|                 |             | 52          | 11.35               | 0.360                 | 11.71                                       | -                           | 23.64       |
|                 |             | 58.5        | 11.51               | 0.391                 | 11.90                                       | -                           | 23.64       |
|                 |             | 65          | 11.49               | 0.435                 | 11.93                                       | -                           | 23.64       |
|                 |             | 78          | 11.37               | 0.581                 | 11.95                                       | 5.77                        | 23.64       |
| 5720            | 144         | 6.5         | 11.92               | 0.210                 | 12.13                                       | -                           | 23.64       |
|                 |             | 13          | 12.00               | 0.195                 | 12.19                                       | 5.81                        | 23.64       |
|                 |             | 19.5        | 11.90               | 0.216                 | 12.12                                       | -                           | 23.64       |
|                 |             | 26          | 11.84               | 0.200                 | 12.04                                       | -                           | 23.64       |
|                 |             | 39          | 11.82               | 0.287                 | 12.11                                       | -                           | 23.64       |
|                 |             | 52          | 11.68               | 0.360                 | 12.04                                       | -                           | 23.64       |
|                 |             | 58.5        | 11.67               | 0.391                 | 12.06                                       | -                           | 23.64       |
|                 |             | 65          | 11.64               | 0.435                 | 12.08                                       | -                           | 23.64       |
|                 |             | 78          | 11.61               | 0.581                 | 12.19                                       | -                           | 23.64       |

# TEST RESULTS\_Ant.1

Conducted Output Power Measurements (802.11ac \_20 MHz BW Mode: 5500~5720)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5500            | 100         | 6.5         | 6.39                | 0.210                 | 6.60                                        | -                           | 23.98       |
|                 |             | 13          | 6.23                | 0.195                 | 6.43                                        | -                           | 23.98       |
|                 |             | 19.5        | 6.40                | 0.216                 | 6.61                                        | -                           | 23.98       |
|                 |             | 26          | 6.09                | 0.200                 | 6.29                                        | -                           | 23.98       |
|                 |             | 39          | 6.25                | 0.287                 | 6.54                                        | -                           | 23.98       |
|                 |             | 52          | 5.95                | 0.360                 | 6.31                                        | -                           | 23.98       |
|                 |             | 58.5        | 6.23                | 0.391                 | 6.62                                        | -                           | 23.98       |
|                 |             | 65          | 5.95                | 0.435                 | 6.39                                        | -                           | 23.98       |
|                 |             | 78          | 6.07                | 0.581                 | 6.65                                        | 0.36                        | 23.98       |
| 5580            | 116         | 6.5         | 11.67               | 0.210                 | 11.88                                       | -                           | 23.98       |
|                 |             | 13          | 11.65               | 0.195                 | 11.84                                       | -                           | 23.98       |
|                 |             | 19.5        | 11.64               | 0.216                 | 11.86                                       | -                           | 23.98       |
|                 |             | 26          | 11.63               | 0.200                 | 11.83                                       | -                           | 23.98       |
|                 |             | 39          | 11.51               | 0.287                 | 11.80                                       | -                           | 23.98       |
|                 |             | 52          | 11.52               | 0.360                 | 11.88                                       | -                           | 23.98       |
|                 |             | 58.5        | 11.45               | 0.391                 | 11.84                                       | -                           | 23.98       |
|                 |             | 65          | 11.44               | 0.435                 | 11.88                                       | -                           | 23.98       |
|                 |             | 78          | 11.40               | 0.581                 | 11.98                                       | 5.68                        | 23.98       |
| 5720            | 144         | 6.5         | 12.30               | 0.210                 | 12.51                                       | 6.09                        | 23.98       |
|                 |             | 13          | 12.23               | 0.195                 | 12.42                                       | -                           | 23.98       |
|                 |             | 19.5        | 12.26               | 0.216                 | 12.48                                       | -                           | 23.98       |
|                 |             | 26          | 12.12               | 0.200                 | 12.32                                       | -                           | 23.98       |
|                 |             | 39          | 12.09               | 0.287                 | 12.38                                       | -                           | 23.98       |
|                 |             | 52          | 11.98               | 0.360                 | 12.34                                       | -                           | 23.98       |
|                 |             | 58.5        | 12.00               | 0.391                 | 12.39                                       | -                           | 23.98       |
|                 |             | 65          | 11.94               | 0.435                 | 12.38                                       | -                           | 23.98       |
|                 |             | 78          | 11.91               | 0.581                 | 12.49                                       | -                           | 23.98       |

## TEST RESULTS\_Ant.2

Conducted Output Power Measurements (802.11ac \_20 MHz BW Mode: 5500~5720)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5500            | 100         | 6.5         | 6.74                | 0.210                 | 6.95                                        | 0.59                        | 23.98       |
|                 |             | 13          | 6.67                | 0.195                 | 6.87                                        | -                           | 23.98       |
|                 |             | 19.5        | 6.66                | 0.216                 | 6.88                                        | -                           | 23.98       |
|                 |             | 26          | 6.61                | 0.200                 | 6.81                                        | -                           | 23.98       |
|                 |             | 39          | 6.53                | 0.287                 | 6.82                                        | -                           | 23.98       |
|                 |             | 52          | 6.39                | 0.360                 | 6.75                                        | -                           | 23.98       |
|                 |             | 58.5        | 6.41                | 0.391                 | 6.80                                        | -                           | 23.98       |
|                 |             | 65          | 6.40                | 0.435                 | 6.84                                        | -                           | 23.98       |
|                 |             | 78          | 6.28                | 0.581                 | 6.86                                        | -                           | 23.98       |
| 5580            | 116         | 6.5         | 11.70               | 0.210                 | 11.91                                       | 5.31                        | 23.98       |
|                 |             | 13          | 11.64               | 0.195                 | 11.83                                       | -                           | 23.98       |
|                 |             | 19.5        | 11.57               | 0.216                 | 11.79                                       | -                           | 23.98       |
|                 |             | 26          | 11.41               | 0.200                 | 11.61                                       | -                           | 23.98       |
|                 |             | 39          | 11.47               | 0.287                 | 11.76                                       | -                           | 23.98       |
|                 |             | 52          | 11.26               | 0.360                 | 11.62                                       | -                           | 23.98       |
|                 |             | 58.5        | 11.42               | 0.391                 | 11.81                                       | -                           | 23.98       |
|                 |             | 65          | 11.36               | 0.435                 | 11.80                                       | -                           | 23.98       |
|                 |             | 78          | 11.32               | 0.581                 | 11.90                                       | -                           | 23.98       |
| 5720            | 144         | 6.5         | 12.60               | 0.210                 | 12.81                                       | 6.32                        | 23.98       |
|                 |             | 13          | 12.60               | 0.195                 | 12.79                                       | -                           | 23.98       |
|                 |             | 19.5        | 12.46               | 0.216                 | 12.68                                       | -                           | 23.98       |
|                 |             | 26          | 12.26               | 0.200                 | 12.46                                       | -                           | 23.98       |
|                 |             | 39          | 12.22               | 0.287                 | 12.51                                       | -                           | 23.98       |
|                 |             | 52          | 12.26               | 0.360                 | 12.62                                       | -                           | 23.98       |
|                 |             | 58.5        | 12.18               | 0.391                 | 12.57                                       | -                           | 23.98       |
|                 |             | 65          | 12.17               | 0.435                 | 12.61                                       | -                           | 23.98       |
|                 |             | 78          | 12.06               | 0.581                 | 12.64                                       | -                           | 23.98       |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11ac \_20 MHz BW Mode: 5500~5720)

| 802.11ac Mode  |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5500           | 100         | 6.5            | 9.55                   | 20.94          |
|                |             | 13             | 9.33                   | 20.94          |
|                |             | 19.5           | 9.58                   | 20.94          |
|                |             | 26             | 9.23                   | 20.94          |
|                |             | 39             | 9.36                   | 20.94          |
|                |             | 52             | 9.25                   | 20.94          |
|                |             | 58.5           | 9.43                   | 20.94          |
|                |             | 65             | 9.31                   | 20.94          |
|                |             | 78             | 9.53                   | 20.94          |
| 5580           | 116         | 6.5            | 14.91                  | 20.94          |
|                |             | 13             | 14.88                  | 20.94          |
|                |             | 19.5           | 14.86                  | 20.94          |
|                |             | 26             | 14.81                  | 20.94          |
|                |             | 39             | 14.80                  | 20.94          |
|                |             | 52             | 14.81                  | 20.94          |
|                |             | 58.5           | 14.88                  | 20.94          |
|                |             | 65             | 14.92                  | 20.94          |
|                |             | 78             | 14.98                  | 20.94          |
| 5720           | 144         | 6.5            | 15.33                  | 20.94          |
|                |             | 13             | 15.32                  | 20.94          |
|                |             | 19.5           | 15.31                  | 20.94          |
|                |             | 26             | 15.19                  | 20.94          |
|                |             | 39             | 15.26                  | 20.94          |
|                |             | 52             | 15.20                  | 20.94          |
|                |             | 58.5           | 15.24                  | 20.94          |
|                |             | 65             | 15.24                  | 20.94          |
|                |             | 78             | 15.35                  | 20.94          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11ac \_20 MHz BW Mode: 5500~5720)

| 802.11ac Mode  |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5500           | 100         | 6.5            | 11.45                  | 19.29          |
|                |             | 13             | 11.28                  | 19.29          |
|                |             | 19.5           | 11.44                  | 19.29          |
|                |             | 26             | 11.20                  | 19.29          |
|                |             | 39             | 11.29                  | 19.29          |
|                |             | 52             | 11.19                  | 19.29          |
|                |             | 58.5           | 11.32                  | 19.29          |
|                |             | 65             | 11.26                  | 19.29          |
|                |             | 78             | 11.41                  | 19.29          |
| 5580           | 116         | 6.5            | 16.67                  | 19.29          |
|                |             | 13             | 16.63                  | 19.29          |
|                |             | 19.5           | 16.60                  | 19.29          |
|                |             | 26             | 16.51                  | 19.29          |
|                |             | 39             | 16.55                  | 19.29          |
|                |             | 52             | 16.51                  | 19.29          |
|                |             | 58.5           | 16.62                  | 19.29          |
|                |             | 65             | 16.64                  | 19.29          |
|                |             | 78             | 16.71                  | 19.29          |
| 5720           | 144         | 6.5            | 17.26                  | 19.29          |
|                |             | 13             | 17.24                  | 19.29          |
|                |             | 19.5           | 17.20                  | 19.29          |
|                |             | 26             | 17.05                  | 19.29          |
|                |             | 39             | 17.11                  | 19.29          |
|                |             | 52             | 17.11                  | 19.29          |
|                |             | 58.5           | 17.12                  | 19.29          |
|                |             | 65             | 17.13                  | 19.29          |
|                |             | 78             | 17.22                  | 19.29          |

# TEST RESULTS\_Ant.0

Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5270~5310)

| 802.11n Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5270               | 54             | 13.5           | 5.56                   | 0.429                    | 5.99                                                    | -                                    | 23.22          |
|                    |                | 27             | 5.58                   | 0.404                    | 5.98                                                    | -                                    | 23.22          |
|                    |                | 40.5           | 5.35                   | 0.410                    | 5.76                                                    | -                                    | 23.22          |
|                    |                | 54             | 5.64                   | 0.370                    | 6.01                                                    | -                                    | 23.22          |
|                    |                | 81             | 5.52                   | 0.518                    | 6.04                                                    | -                                    | 23.22          |
|                    |                | 108            | 5.22                   | 0.623                    | 5.85                                                    | -                                    | 23.22          |
|                    |                | 121.5          | 5.34                   | 0.672                    | 6.02                                                    | -                                    | 23.22          |
|                    |                | 135            | 5.31                   | 0.739                    | 6.05                                                    | -0.20                                | 23.22          |
| 5310               | 62             | 13.5           | 5.72                   | 0.429                    | 6.15                                                    | -                                    | 23.22          |
|                    |                | 27             | 5.77                   | 0.404                    | 6.18                                                    | -                                    | 23.22          |
|                    |                | 40.5           | 5.68                   | 0.410                    | 6.09                                                    | -                                    | 23.22          |
|                    |                | 54             | 5.79                   | 0.370                    | 6.16                                                    | -                                    | 23.22          |
|                    |                | 81             | 5.62                   | 0.518                    | 6.14                                                    | -                                    | 23.22          |
|                    |                | 108            | 5.60                   | 0.623                    | 6.22                                                    | -0.14                                | 23.22          |
|                    |                | 121.5          | 5.49                   | 0.672                    | 6.16                                                    | -                                    | 23.22          |
|                    |                | 135            | 5.48                   | 0.739                    | 6.22                                                    | -                                    | 23.22          |

# TEST RESULTS\_Ant.1

Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5270~5310)

| 802.11n Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5270               | 54             | 13.5           | 5.36                   | 0.429                    | 5.79                                                    | -                                    | 23.74          |
|                    |                | 27             | 5.51                   | 0.404                    | 5.92                                                    | -                                    | 23.74          |
|                    |                | 40.5           | 5.48                   | 0.410                    | 5.89                                                    | -                                    | 23.74          |
|                    |                | 54             | 5.61                   | 0.370                    | 5.98                                                    | -                                    | 23.74          |
|                    |                | 81             | 5.50                   | 0.518                    | 6.02                                                    | -                                    | 23.74          |
|                    |                | 108            | 5.22                   | 0.623                    | 5.84                                                    | -                                    | 23.74          |
|                    |                | 121.5          | 5.32                   | 0.672                    | 5.99                                                    | -                                    | 23.74          |
|                    |                | 135            | 5.39                   | 0.739                    | 6.12                                                    | -0.30                                | 23.74          |
| 5310               | 62             | 13.5           | 5.96                   | 0.429                    | 6.39                                                    | 0.25                                 | 23.74          |
|                    |                | 27             | 5.87                   | 0.404                    | 6.27                                                    | -                                    | 23.74          |
|                    |                | 40.5           | 5.76                   | 0.410                    | 6.17                                                    | -                                    | 23.74          |
|                    |                | 54             | 5.94                   | 0.370                    | 6.31                                                    | -                                    | 23.74          |
|                    |                | 81             | 5.65                   | 0.518                    | 6.17                                                    | -                                    | 23.74          |
|                    |                | 108            | 5.64                   | 0.623                    | 6.27                                                    | -                                    | 23.74          |
|                    |                | 121.5          | 5.60                   | 0.672                    | 6.27                                                    | -                                    | 23.74          |
|                    |                | 135            | 5.55                   | 0.739                    | 6.29                                                    | -                                    | 23.74          |

## TEST RESULTS\_Ant.2

Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5270~5310)

| 802.11n Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5270               | 54             | 13.5           | 6.19                   | 0.429                    | 6.62                                                    | -                                    | 23.98          |
|                    |                | 27             | 6.34                   | 0.404                    | 6.75                                                    | -                                    | 23.98          |
|                    |                | 40.5           | 6.39                   | 0.410                    | 6.80                                                    | -                                    | 23.98          |
|                    |                | 54             | 6.35                   | 0.370                    | 6.72                                                    | -                                    | 23.98          |
|                    |                | 81             | 6.27                   | 0.518                    | 6.79                                                    | -                                    | 23.98          |
|                    |                | 108            | 6.17                   | 0.623                    | 6.79                                                    | -                                    | 23.98          |
|                    |                | 121.5          | 6.19                   | 0.672                    | 6.86                                                    | 0.53                                 | 23.98          |
|                    |                | 135            | 6.11                   | 0.739                    | 6.85                                                    | -                                    | 23.98          |
| 5310               | 62             | 13.5           | 6.64                   | 0.429                    | 7.07                                                    | 0.75                                 | 23.98          |
|                    |                | 27             | 6.54                   | 0.404                    | 6.95                                                    | -                                    | 23.98          |
|                    |                | 40.5           | 6.50                   | 0.410                    | 6.91                                                    | -                                    | 23.98          |
|                    |                | 54             | 6.63                   | 0.370                    | 7.00                                                    | -                                    | 23.98          |
|                    |                | 81             | 6.52                   | 0.518                    | 7.04                                                    | -                                    | 23.98          |
|                    |                | 108            | 6.39                   | 0.623                    | 7.01                                                    | -                                    | 23.98          |
|                    |                | 121.5          | 6.31                   | 0.672                    | 6.98                                                    | -                                    | 23.98          |
|                    |                | 135            | 6.29                   | 0.739                    | 7.03                                                    | -                                    | 23.98          |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5270~5310)

| 802.11n Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5270           | 54          | 13.5           | 8.90                   | 20.46          |
|                |             | 27             | 8.96                   | 20.46          |
|                |             | 40.5           | 8.84                   | 20.46          |
|                |             | 54             | 9.01                   | 20.46          |
|                |             | 81             | 9.04                   | 20.46          |
|                |             | 108            | 8.86                   | 20.46          |
|                |             | 121.5          | 9.02                   | 20.46          |
|                |             | 135            | 9.10                   | 20.46          |
| 5310           | 62          | 13.5           | 9.28                   | 20.46          |
|                |             | 27             | 9.24                   | 20.46          |
|                |             | 40.5           | 9.14                   | 20.46          |
|                |             | 54             | 9.25                   | 20.46          |
|                |             | 81             | 9.17                   | 20.46          |
|                |             | 108            | 9.26                   | 20.46          |
|                |             | 121.5          | 9.23                   | 20.46          |
|                |             | 135            | 9.27                   | 20.46          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5270~5310)

| 802.11n Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5270           | 54          | 13.5           | 10.92                  | 18.90          |
|                |             | 27             | 11.00                  | 18.90          |
|                |             | 40.5           | 10.95                  | 18.90          |
|                |             | 54             | 11.02                  | 18.90          |
|                |             | 81             | 11.07                  | 18.90          |
|                |             | 108            | 10.95                  | 18.90          |
|                |             | 121.5          | 11.08                  | 18.90          |
|                |             | 135            | 11.13                  | 18.90          |
| 5310           | 62          | 13.5           | 11.33                  | 18.90          |
|                |             | 27             | 11.25                  | 18.90          |
|                |             | 40.5           | 11.18                  | 18.90          |
|                |             | 54             | 11.28                  | 18.90          |
|                |             | 81             | 11.24                  | 18.90          |
|                |             | 108            | 11.29                  | 18.90          |
|                |             | 121.5          | 11.26                  | 18.90          |
|                |             | 135            | 11.30                  | 18.90          |

# TEST RESULTS\_Ant.0

Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5510~5710)

| 802.11n Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5510               | 102            | 13.5           | 3.29                   | 0.429                    | 3.72                                                    | -                                    | 23.64          |
|                    |                | 27             | 3.36                   | 0.404                    | 3.76                                                    | -2.26                                | 23.64          |
|                    |                | 40.5           | 3.05                   | 0.410                    | 3.46                                                    | -                                    | 23.64          |
|                    |                | 54             | 3.18                   | 0.370                    | 3.55                                                    | -                                    | 23.64          |
|                    |                | 81             | 3.11                   | 0.518                    | 3.63                                                    | -                                    | 23.64          |
|                    |                | 108            | 3.11                   | 0.623                    | 3.73                                                    | -                                    | 23.64          |
|                    |                | 121.5          | 2.94                   | 0.672                    | 3.62                                                    | -                                    | 23.64          |
|                    |                | 135            | 3.02                   | 0.739                    | 3.76                                                    | -                                    | 23.64          |
| 5550               | 110            | 13.5           | 7.85                   | 0.429                    | 8.28                                                    | 2.04                                 | 23.64          |
|                    |                | 27             | 7.69                   | 0.404                    | 8.09                                                    | -                                    | 23.64          |
|                    |                | 40.5           | 7.68                   | 0.410                    | 8.09                                                    | -                                    | 23.64          |
|                    |                | 54             | 7.79                   | 0.370                    | 8.16                                                    | -                                    | 23.64          |
|                    |                | 81             | 7.58                   | 0.518                    | 8.10                                                    | -                                    | 23.64          |
|                    |                | 108            | 7.61                   | 0.623                    | 8.23                                                    | -                                    | 23.64          |
|                    |                | 121.5          | 7.57                   | 0.672                    | 8.24                                                    | -                                    | 23.64          |
|                    |                | 135            | 7.50                   | 0.739                    | 8.23                                                    | -                                    | 23.64          |
| 5710               | 142            | 13.5           | 13.33                  | 0.429                    | 13.76                                                   | 7.62                                 | 23.64          |
|                    |                | 27             | 13.33                  | 0.404                    | 13.73                                                   | -                                    | 23.64          |
|                    |                | 40.5           | 13.33                  | 0.410                    | 13.74                                                   | -                                    | 23.64          |
|                    |                | 54             | 13.26                  | 0.370                    | 13.63                                                   | -                                    | 23.64          |
|                    |                | 81             | 13.18                  | 0.518                    | 13.70                                                   | -                                    | 23.64          |
|                    |                | 108            | 13.08                  | 0.623                    | 13.70                                                   | -                                    | 23.64          |
|                    |                | 121.5          | 13.07                  | 0.672                    | 13.75                                                   | -                                    | 23.64          |
|                    |                | 135            | 13.02                  | 0.739                    | 13.76                                                   | -                                    | 23.64          |

# TEST RESULTS\_Ant.1

## Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5510~5710)

| 802.11n Mode    |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5510            | 102         | 13.5        | 4.04                | 0.429                 | 4.47                                        | -                           | 23.98       |
|                 |             | 27          | 4.26                | 0.404                 | 4.67                                        | -                           | 23.98       |
|                 |             | 40.5        | 4.03                | 0.410                 | 4.44                                        | -                           | 23.98       |
|                 |             | 54          | 4.10                | 0.370                 | 4.47                                        | -                           | 23.98       |
|                 |             | 81          | 4.02                | 0.518                 | 4.54                                        | -                           | 23.98       |
|                 |             | 108         | 3.92                | 0.623                 | 4.55                                        | -                           | 23.98       |
|                 |             | 121.5       | 4.18                | 0.672                 | 4.86                                        | -1.25                       | 23.98       |
|                 |             | 135         | 3.81                | 0.739                 | 4.55                                        | -                           | 23.98       |
| 5550            | 110         | 13.5        | 8.16                | 0.429                 | 8.59                                        | -                           | 23.98       |
|                 |             | 27          | 8.28                | 0.404                 | 8.69                                        | -                           | 23.98       |
|                 |             | 40.5        | 8.21                | 0.410                 | 8.62                                        | -                           | 23.98       |
|                 |             | 54          | 8.26                | 0.370                 | 8.63                                        | -                           | 23.98       |
|                 |             | 81          | 8.19                | 0.518                 | 8.71                                        | -                           | 23.98       |
|                 |             | 108         | 8.03                | 0.623                 | 8.65                                        | -                           | 23.98       |
|                 |             | 121.5       | 8.11                | 0.672                 | 8.78                                        | 2.44                        | 23.98       |
|                 |             | 135         | 7.95                | 0.739                 | 8.69                                        | -                           | 23.98       |
| 5710            | 142         | 13.5        | 13.64               | 0.429                 | 14.07                                       | -                           | 23.98       |
|                 |             | 27          | 13.69               | 0.404                 | 14.09                                       | -                           | 23.98       |
|                 |             | 40.5        | 13.63               | 0.410                 | 14.04                                       | -                           | 23.98       |
|                 |             | 54          | 13.60               | 0.370                 | 13.97                                       | -                           | 23.98       |
|                 |             | 81          | 13.59               | 0.518                 | 14.11                                       | 7.86                        | 23.98       |
|                 |             | 108         | 13.45               | 0.623                 | 14.07                                       | -                           | 23.98       |
|                 |             | 121.5       | 13.38               | 0.672                 | 14.05                                       | -                           | 23.98       |
|                 |             | 135         | 13.37               | 0.739                 | 14.11                                       | -                           | 23.98       |

## TEST RESULTS\_Ant.2

### Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5510~5710)

| 802.11n Mode       |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5510               | 102            | 13.5           | 3.86                   | 0.429                    | 4.28                                                    | -                                    | 23.98          |
|                    |                | 27             | 3.99                   | 0.404                    | 4.40                                                    | -                                    | 23.98          |
|                    |                | 40.5           | 3.98                   | 0.410                    | 4.39                                                    | -                                    | 23.98          |
|                    |                | 54             | 4.10                   | 0.370                    | 4.47                                                    | -                                    | 23.98          |
|                    |                | 81             | 3.93                   | 0.518                    | 4.45                                                    | -                                    | 23.98          |
|                    |                | 108            | 3.87                   | 0.623                    | 4.49                                                    | -1.65                                | 23.98          |
|                    |                | 121.5          | 3.80                   | 0.672                    | 4.48                                                    | -                                    | 23.98          |
|                    |                | 135            | 3.75                   | 0.739                    | 4.49                                                    | -                                    | 23.98          |
| 5550               | 110            | 13.5           | 8.07                   | 0.429                    | 8.49                                                    | -                                    | 23.98          |
|                    |                | 27             | 8.11                   | 0.404                    | 8.52                                                    | -                                    | 23.98          |
|                    |                | 40.5           | 8.13                   | 0.410                    | 8.54                                                    | -                                    | 23.98          |
|                    |                | 54             | 8.07                   | 0.370                    | 8.44                                                    | -                                    | 23.98          |
|                    |                | 81             | 8.06                   | 0.518                    | 8.58                                                    | 2.35                                 | 23.98          |
|                    |                | 108            | 7.83                   | 0.623                    | 8.45                                                    | -                                    | 23.98          |
|                    |                | 121.5          | 7.87                   | 0.672                    | 8.54                                                    | -                                    | 23.98          |
|                    |                | 135            | 7.65                   | 0.739                    | 8.39                                                    | -                                    | 23.98          |
| 5710               | 142            | 13.5           | 13.48                  | 0.429                    | 13.91                                                   | -                                    | 23.98          |
|                    |                | 27             | 13.41                  | 0.404                    | 13.82                                                   | -                                    | 23.98          |
|                    |                | 40.5           | 13.40                  | 0.410                    | 13.81                                                   | -                                    | 23.98          |
|                    |                | 54             | 13.52                  | 0.370                    | 13.89                                                   | -                                    | 23.98          |
|                    |                | 81             | 13.39                  | 0.518                    | 13.91                                                   | -                                    | 23.98          |
|                    |                | 108            | 13.30                  | 0.623                    | 13.93                                                   | -                                    | 23.98          |
|                    |                | 121.5          | 13.28                  | 0.672                    | 13.95                                                   | 7.67                                 | 23.98          |
|                    |                | 135            | 13.19                  | 0.739                    | 13.93                                                   | -                                    | 23.98          |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5510~5710)

| 802.11n Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5510           | 102         | 13.5           | 7.12                   | 20.94          |
|                |             | 27             | 7.25                   | 20.94          |
|                |             | 40.5           | 6.99                   | 20.94          |
|                |             | 54             | 7.04                   | 20.94          |
|                |             | 81             | 7.12                   | 20.94          |
|                |             | 108            | 7.17                   | 20.94          |
|                |             | 121.5          | 7.29                   | 20.94          |
|                |             | 135            | 7.18                   | 20.94          |
| 5550           | 110         | 13.5           | 11.45                  | 20.94          |
|                |             | 27             | 11.41                  | 20.94          |
|                |             | 40.5           | 11.37                  | 20.94          |
|                |             | 54             | 11.41                  | 20.94          |
|                |             | 81             | 11.43                  | 20.94          |
|                |             | 108            | 11.46                  | 20.94          |
|                |             | 121.5          | 11.53                  | 20.94          |
|                |             | 135            | 11.48                  | 20.94          |
| 5710           | 142         | 13.5           | 16.93                  | 20.94          |
|                |             | 27             | 16.92                  | 20.94          |
|                |             | 40.5           | 16.90                  | 20.94          |
|                |             | 54             | 16.81                  | 20.94          |
|                |             | 81             | 16.92                  | 20.94          |
|                |             | 108            | 16.90                  | 20.94          |
|                |             | 121.5          | 16.91                  | 20.94          |
|                |             | 135            | 16.95                  | 20.94          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11n\_40 MHz BW Mode:5510~5710)

| 802.11n Mode   |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|----------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz] | Channel No. |                |                        |                |
| 5510           | 102         | 13.5           | 8.94                   | 19.29          |
|                |             | 27             | 9.06                   | 19.29          |
|                |             | 40.5           | 8.89                   | 19.29          |
|                |             | 54             | 8.96                   | 19.29          |
|                |             | 81             | 9.00                   | 19.29          |
|                |             | 108            | 9.04                   | 19.29          |
|                |             | 121.5          | 9.12                   | 19.29          |
|                |             | 135            | 9.05                   | 19.29          |
| 5550           | 110         | 13.5           | 13.23                  | 19.29          |
|                |             | 27             | 13.21                  | 19.29          |
|                |             | 40.5           | 13.19                  | 19.29          |
|                |             | 54             | 13.19                  | 19.29          |
|                |             | 81             | 13.24                  | 19.29          |
|                |             | 108            | 13.22                  | 19.29          |
|                |             | 121.5          | 13.30                  | 19.29          |
|                |             | 135            | 13.21                  | 19.29          |
| 5710           | 142         | 13.5           | 18.69                  | 19.29          |
|                |             | 27             | 18.65                  | 19.29          |
|                |             | 40.5           | 18.64                  | 19.29          |
|                |             | 54             | 18.60                  | 19.29          |
|                |             | 81             | 18.68                  | 19.29          |
|                |             | 108            | 18.67                  | 19.29          |
|                |             | 121.5          | 18.69                  | 19.29          |
|                |             | 135            | 18.71                  | 19.29          |

# TEST RESULTS\_Ant.0

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5270~5310)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5270            | 54          | 13.5        | 5.38                | 0.429                 | 5.81                                        | -0.42                       | 23.22       |
|                 |             | 27          | 5.33                | 0.404                 | 5.73                                        | -                           | 23.22       |
|                 |             | 40.5        | 5.27                | 0.410                 | 5.68                                        | -                           | 23.22       |
|                 |             | 54          | 5.13                | 0.370                 | 5.50                                        | -                           | 23.22       |
|                 |             | 81          | 4.99                | 0.518                 | 5.50                                        | -                           | 23.22       |
|                 |             | 108         | 4.94                | 0.623                 | 5.56                                        | -                           | 23.22       |
|                 |             | 121.5       | 4.86                | 0.672                 | 5.54                                        | -                           | 23.22       |
|                 |             | 135         | 4.84                | 0.739                 | 5.58                                        | -                           | 23.22       |
|                 |             | 162         | 4.66                | 0.947                 | 5.61                                        | -                           | 23.22       |
|                 |             | 180         | 4.76                | 0.973                 | 5.73                                        | -                           | 23.22       |
| 5310            | 62          | 13.5        | 5.53                | 0.429                 | 5.96                                        | -0.44                       | 23.22       |
|                 |             | 27          | 5.43                | 0.404                 | 5.84                                        | -                           | 23.22       |
|                 |             | 40.5        | 5.33                | 0.410                 | 5.74                                        | -                           | 23.22       |
|                 |             | 54          | 5.31                | 0.370                 | 5.68                                        | -                           | 23.22       |
|                 |             | 81          | 5.29                | 0.518                 | 5.81                                        | -                           | 23.22       |
|                 |             | 108         | 5.01                | 0.623                 | 5.63                                        | -                           | 23.22       |
|                 |             | 121.5       | 5.02                | 0.672                 | 5.69                                        | -                           | 23.22       |
|                 |             | 135         | 4.96                | 0.739                 | 5.70                                        | -                           | 23.22       |
|                 |             | 162         | 4.76                | 0.947                 | 5.71                                        | -                           | 23.22       |
|                 |             | 180         | 4.82                | 0.973                 | 5.80                                        | -                           | 23.22       |

# TEST RESULTS\_Ant.1

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5270~5310)

| 802.11ac Mode      |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5270               | 54             | 13.5           | 5.30                   | 0.429                    | 5.73                                                    | -0.46                                | 23.74          |
|                    |                | 27             | 5.21                   | 0.404                    | 5.62                                                    | -                                    | 23.74          |
|                    |                | 40.5           | 5.25                   | 0.410                    | 5.66                                                    | -                                    | 23.74          |
|                    |                | 54             | 5.16                   | 0.370                    | 5.53                                                    | -                                    | 23.74          |
|                    |                | 81             | 4.98                   | 0.518                    | 5.50                                                    | -                                    | 23.74          |
|                    |                | 108            | 4.83                   | 0.623                    | 5.46                                                    | -                                    | 23.74          |
|                    |                | 121.5          | 4.76                   | 0.672                    | 5.43                                                    | -                                    | 23.74          |
|                    |                | 135            | 4.75                   | 0.739                    | 5.49                                                    | -                                    | 23.74          |
|                    |                | 162            | 4.63                   | 0.947                    | 5.57                                                    | -                                    | 23.74          |
|                    |                | 180            | 4.57                   | 0.973                    | 5.54                                                    | -                                    | 23.74          |
| 5310               | 62             | 13.5           | 5.66                   | 0.429                    | 6.09                                                    | -0.36                                | 23.74          |
|                    |                | 27             | 5.59                   | 0.404                    | 5.99                                                    | -                                    | 23.74          |
|                    |                | 40.5           | 5.42                   | 0.410                    | 5.83                                                    | -                                    | 23.74          |
|                    |                | 54             | 5.42                   | 0.370                    | 5.79                                                    | -                                    | 23.74          |
|                    |                | 81             | 5.15                   | 0.518                    | 5.67                                                    | -                                    | 23.74          |
|                    |                | 108            | 5.36                   | 0.623                    | 5.98                                                    | -                                    | 23.74          |
|                    |                | 121.5          | 5.03                   | 0.672                    | 5.70                                                    | -                                    | 23.74          |
|                    |                | 135            | 5.06                   | 0.739                    | 5.80                                                    | -                                    | 23.74          |
|                    |                | 162            | 4.85                   | 0.947                    | 5.79                                                    | -                                    | 23.74          |
|                    |                | 180            | 5.09                   | 0.973                    | 6.06                                                    | -                                    | 23.74          |

## TEST RESULTS\_Ant.2

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5270~5310)

| 802.11ac Mode      |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5270               | 54             | 13.5           | 6.12                   | 0.429                    | 6.55                                                    | 0.31                                 | 23.98          |
|                    |                | 27             | 6.01                   | 0.404                    | 6.41                                                    | -                                    | 23.98          |
|                    |                | 40.5           | 5.98                   | 0.410                    | 6.39                                                    | -                                    | 23.98          |
|                    |                | 54             | 5.86                   | 0.370                    | 6.23                                                    | -                                    | 23.98          |
|                    |                | 81             | 5.83                   | 0.518                    | 6.35                                                    | -                                    | 23.98          |
|                    |                | 108            | 5.57                   | 0.623                    | 6.19                                                    | -                                    | 23.98          |
|                    |                | 121.5          | 5.56                   | 0.672                    | 6.23                                                    | -                                    | 23.98          |
|                    |                | 135            | 5.62                   | 0.739                    | 6.35                                                    | -                                    | 23.98          |
|                    |                | 162            | 5.30                   | 0.947                    | 6.25                                                    | -                                    | 23.98          |
|                    |                | 180            | 5.29                   | 0.973                    | 6.26                                                    | -                                    | 23.98          |
| 5310               | 62             | 13.5           | 6.32                   | 0.429                    | 6.75                                                    | 0.47                                 | 23.98          |
|                    |                | 27             | 6.19                   | 0.404                    | 6.59                                                    | -                                    | 23.98          |
|                    |                | 40.5           | 6.13                   | 0.410                    | 6.54                                                    | -                                    | 23.98          |
|                    |                | 54             | 6.03                   | 0.370                    | 6.40                                                    | -                                    | 23.98          |
|                    |                | 81             | 5.91                   | 0.518                    | 6.43                                                    | -                                    | 23.98          |
|                    |                | 108            | 5.81                   | 0.623                    | 6.44                                                    | -                                    | 23.98          |
|                    |                | 121.5          | 5.74                   | 0.672                    | 6.41                                                    | -                                    | 23.98          |
|                    |                | 135            | 5.80                   | 0.739                    | 6.54                                                    | -                                    | 23.98          |
|                    |                | 162            | 5.65                   | 0.947                    | 6.59                                                    | -                                    | 23.98          |
|                    |                | 180            | 5.55                   | 0.973                    | 6.53                                                    | -                                    | 23.98          |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5270~5310)

| 802.11ac BW Mode |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|------------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz]   | Channel No. |                |                        |                |
| 5270             | 54          | 13.5           | 8.78                   | 20.46          |
|                  |             | 27             | 8.69                   | 20.46          |
|                  |             | 40.5           | 8.68                   | 20.46          |
|                  |             | 54             | 8.53                   | 20.46          |
|                  |             | 81             | 8.51                   | 20.46          |
|                  |             | 108            | 8.52                   | 20.46          |
|                  |             | 121.5          | 8.50                   | 20.46          |
|                  |             | 135            | 8.55                   | 20.46          |
|                  |             | 162            | 8.60                   | 20.46          |
|                  |             | 180            | 8.65                   | 20.46          |
| 5310             | 64          | 13.5           | 9.04                   | 20.46          |
|                  |             | 27             | 8.93                   | 20.46          |
|                  |             | 40.5           | 8.80                   | 20.46          |
|                  |             | 54             | 8.75                   | 20.46          |
|                  |             | 81             | 8.75                   | 20.46          |
|                  |             | 108            | 8.82                   | 20.46          |
|                  |             | 121.5          | 8.71                   | 20.46          |
|                  |             | 135            | 8.76                   | 20.46          |
|                  |             | 162            | 8.76                   | 20.46          |
|                  |             | 180            | 8.94                   | 20.46          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5270~5310)

| 802.11ac BW Mode |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|------------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz]   | Channel No. |                |                        |                |
| 5270             | 54          | 13.5           | 10.82                  | 18.90          |
|                  |             | 27             | 10.71                  | 18.90          |
|                  |             | 40.5           | 10.69                  | 18.90          |
|                  |             | 54             | 10.54                  | 18.90          |
|                  |             | 81             | 10.57                  | 18.90          |
|                  |             | 108            | 10.52                  | 18.90          |
|                  |             | 121.5          | 10.52                  | 18.90          |
|                  |             | 135            | 10.60                  | 18.90          |
|                  |             | 162            | 10.59                  | 18.90          |
|                  |             | 180            | 10.63                  | 18.90          |
| 5310             | 64          | 13.5           | 11.05                  | 18.90          |
|                  |             | 27             | 10.92                  | 18.90          |
|                  |             | 40.5           | 10.82                  | 18.90          |
|                  |             | 54             | 10.74                  | 18.90          |
|                  |             | 81             | 10.75                  | 18.90          |
|                  |             | 108            | 10.80                  | 18.90          |
|                  |             | 121.5          | 10.72                  | 18.90          |
|                  |             | 135            | 10.80                  | 18.90          |
|                  |             | 162            | 10.82                  | 18.90          |
|                  |             | 180            | 10.91                  | 18.90          |

# TEST RESULTS\_Ant.0

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5510~5710)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5510            | 102         | 13.5        | 3.18                | 0.429                 | 3.61                                        | -2.63                       | 23.64       |
|                 |             | 27          | 3.00                | 0.404                 | 3.40                                        | -                           | 23.64       |
|                 |             | 40.5        | 2.99                | 0.410                 | 3.40                                        | -                           | 23.64       |
|                 |             | 54          | 2.86                | 0.370                 | 3.23                                        | -                           | 23.64       |
|                 |             | 81          | 2.80                | 0.518                 | 3.31                                        | -                           | 23.64       |
|                 |             | 108         | 2.80                | 0.623                 | 3.43                                        | -                           | 23.64       |
|                 |             | 121.5       | 2.77                | 0.672                 | 3.44                                        | -                           | 23.64       |
|                 |             | 135         | 2.56                | 0.739                 | 3.30                                        | -                           | 23.64       |
|                 |             | 162         | 2.42                | 0.947                 | 3.36                                        | -                           | 23.64       |
|                 |             | 180         | 2.44                | 0.973                 | 3.41                                        | -                           | 23.64       |
| 5550            | 110         | 13.5        | 7.71                | 0.429                 | 8.14                                        | 1.86                        | 23.64       |
|                 |             | 27          | 7.45                | 0.404                 | 7.85                                        | -                           | 23.64       |
|                 |             | 40.5        | 7.50                | 0.410                 | 7.91                                        | -                           | 23.64       |
|                 |             | 54          | 7.28                | 0.370                 | 7.65                                        | -                           | 23.64       |
|                 |             | 81          | 7.13                | 0.518                 | 7.65                                        | -                           | 23.64       |
|                 |             | 108         | 7.15                | 0.623                 | 7.77                                        | -                           | 23.64       |
|                 |             | 121.5       | 7.16                | 0.672                 | 7.83                                        | -                           | 23.64       |
|                 |             | 135         | 6.92                | 0.739                 | 7.66                                        | -                           | 23.64       |
|                 |             | 162         | 6.82                | 0.947                 | 7.76                                        | -                           | 23.64       |
|                 |             | 180         | 6.96                | 0.973                 | 7.93                                        | -                           | 23.64       |
| 5710            | 142         | 13.5        | 13.53               | 0.429                 | 13.96                                       | 7.62                        | 23.64       |
|                 |             | 27          | 13.44               | 0.404                 | 13.84                                       | -                           | 23.64       |
|                 |             | 40.5        | 13.37               | 0.410                 | 13.78                                       | -                           | 23.64       |
|                 |             | 54          | 13.28               | 0.370                 | 13.65                                       | -                           | 23.64       |
|                 |             | 81          | 13.16               | 0.518                 | 13.68                                       | -                           | 23.64       |
|                 |             | 108         | 13.06               | 0.623                 | 13.68                                       | -                           | 23.64       |
|                 |             | 121.5       | 12.99               | 0.672                 | 13.67                                       | -                           | 23.64       |
|                 |             | 135         | 12.90               | 0.739                 | 13.64                                       | -                           | 23.64       |
|                 |             | 162         | 12.74               | 0.947                 | 13.69                                       | -                           | 23.64       |
|                 |             | 180         | 12.75               | 0.973                 | 13.72                                       | -                           | 23.64       |

# TEST RESULTS\_Ant.1

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5510~5710)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5510            | 102         | 13.5        | 3.90                | 0.429                 | 4.33                                        | -2.17                       | 23.98       |
|                 |             | 27          | 3.78                | 0.404                 | 4.19                                        | -                           | 23.98       |
|                 |             | 40.5        | 3.61                | 0.410                 | 4.02                                        | -                           | 23.98       |
|                 |             | 54          | 3.66                | 0.370                 | 4.03                                        | -                           | 23.98       |
|                 |             | 81          | 3.51                | 0.518                 | 4.03                                        | -                           | 23.98       |
|                 |             | 108         | 3.22                | 0.623                 | 3.85                                        | -                           | 23.98       |
|                 |             | 121.5       | 3.20                | 0.672                 | 3.87                                        | -                           | 23.98       |
|                 |             | 135         | 3.22                | 0.739                 | 3.95                                        | -                           | 23.98       |
|                 |             | 162         | 3.01                | 0.947                 | 3.96                                        | -                           | 23.98       |
|                 |             | 180         | 3.16                | 0.973                 | 4.13                                        | -                           | 23.98       |
| 5550            | 110         | 13.5        | 8.05                | 0.429                 | 8.48                                        | -                           | 23.98       |
|                 |             | 27          | 8.09                | 0.404                 | 8.49                                        | 2.10                        | 23.98       |
|                 |             | 40.5        | 7.96                | 0.410                 | 8.37                                        | -                           | 23.98       |
|                 |             | 54          | 7.77                | 0.370                 | 8.14                                        | -                           | 23.98       |
|                 |             | 81          | 7.76                | 0.518                 | 8.28                                        | -                           | 23.98       |
|                 |             | 108         | 7.68                | 0.623                 | 8.30                                        | -                           | 23.98       |
|                 |             | 121.5       | 7.50                | 0.672                 | 8.17                                        | -                           | 23.98       |
|                 |             | 135         | 7.47                | 0.739                 | 8.21                                        | -                           | 23.98       |
|                 |             | 162         | 7.37                | 0.947                 | 8.32                                        | -                           | 23.98       |
|                 |             | 180         | 7.35                | 0.973                 | 8.33                                        | -                           | 23.98       |
| 5710            | 142         | 13.5        | 13.90               | 0.429                 | 14.33                                       | 7.88                        | 23.98       |
|                 |             | 27          | 13.78               | 0.404                 | 14.18                                       | -                           | 23.98       |
|                 |             | 40.5        | 13.77               | 0.410                 | 14.18                                       | -                           | 23.98       |
|                 |             | 54          | 13.61               | 0.370                 | 13.98                                       | -                           | 23.98       |
|                 |             | 81          | 13.53               | 0.518                 | 14.05                                       | -                           | 23.98       |
|                 |             | 108         | 13.41               | 0.623                 | 14.03                                       | -                           | 23.98       |
|                 |             | 121.5       | 13.38               | 0.672                 | 14.05                                       | -                           | 23.98       |
|                 |             | 135         | 13.15               | 0.739                 | 13.89                                       | -                           | 23.98       |
|                 |             | 162         | 13.23               | 0.947                 | 14.17                                       | -                           | 23.98       |
|                 |             | 180         | 13.12               | 0.973                 | 14.10                                       | -                           | 23.98       |

## TEST RESULTS\_Ant.2

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5510~5710)

| 802.11ac Mode      |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5510               | 102            | 13.5           | 3.65                   | 0.429                    | 4.08                                                    | -                                    | 23.98          |
|                    |                | 27             | 3.85                   | 0.404                    | 4.26                                                    | -2.16                                | 23.98          |
|                    |                | 40.5           | 3.75                   | 0.410                    | 4.16                                                    | -                                    | 23.98          |
|                    |                | 54             | 3.65                   | 0.370                    | 4.02                                                    | -                                    | 23.98          |
|                    |                | 81             | 3.50                   | 0.518                    | 4.02                                                    | -                                    | 23.98          |
|                    |                | 108            | 3.44                   | 0.623                    | 4.07                                                    | -                                    | 23.98          |
|                    |                | 121.5          | 3.35                   | 0.672                    | 4.02                                                    | -                                    | 23.98          |
|                    |                | 135            | 3.26                   | 0.739                    | 3.99                                                    | -                                    | 23.98          |
|                    |                | 162            | 3.16                   | 0.947                    | 4.11                                                    | -                                    | 23.98          |
|                    |                | 180            | 3.16                   | 0.973                    | 4.14                                                    | -                                    | 23.98          |
| 5550               | 110            | 13.5           | 7.99                   | 0.429                    | 8.42                                                    | 1.68                                 | 23.98          |
|                    |                | 27             | 7.96                   | 0.404                    | 8.36                                                    | -                                    | 23.98          |
|                    |                | 40.5           | 7.87                   | 0.410                    | 8.28                                                    | -                                    | 23.98          |
|                    |                | 54             | 7.77                   | 0.370                    | 8.14                                                    | -                                    | 23.98          |
|                    |                | 81             | 7.63                   | 0.518                    | 8.15                                                    | -                                    | 23.98          |
|                    |                | 108            | 7.49                   | 0.623                    | 8.11                                                    | -                                    | 23.98          |
|                    |                | 121.5          | 7.45                   | 0.672                    | 8.12                                                    | -                                    | 23.98          |
|                    |                | 135            | 7.45                   | 0.739                    | 8.19                                                    | -                                    | 23.98          |
|                    |                | 162            | 7.31                   | 0.947                    | 8.25                                                    | -                                    | 23.98          |
|                    |                | 180            | 7.27                   | 0.973                    | 8.24                                                    | -                                    | 23.98          |
| 5710               | 142            | 13.5           | 13.65                  | 0.429                    | 14.08                                                   | 7.49                                 | 23.98          |
|                    |                | 27             | 13.59                  | 0.404                    | 13.99                                                   | -                                    | 23.98          |
|                    |                | 40.5           | 13.50                  | 0.410                    | 13.91                                                   | -                                    | 23.98          |
|                    |                | 54             | 13.28                  | 0.370                    | 13.65                                                   | -                                    | 23.98          |
|                    |                | 81             | 13.26                  | 0.518                    | 13.78                                                   | -                                    | 23.98          |
|                    |                | 108            | 13.16                  | 0.623                    | 13.78                                                   | -                                    | 23.98          |
|                    |                | 121.5          | 13.11                  | 0.672                    | 13.79                                                   | -                                    | 23.98          |
|                    |                | 135            | 12.91                  | 0.739                    | 13.65                                                   | -                                    | 23.98          |
|                    |                | 162            | 13.00                  | 0.947                    | 13.94                                                   | -                                    | 23.98          |
|                    |                | 180            | 12.96                  | 0.973                    | 13.94                                                   | -                                    | 23.98          |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5510~5710)

| 802.11ac BW Mode |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|------------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz]   | Channel No. |                |                        |                |
| 5510             | 102         | 13.5           | 7.00                   | 20.94          |
|                  |             | 27             | 6.82                   | 20.94          |
|                  |             | 40.5           | 6.73                   | 20.94          |
|                  |             | 54             | 6.66                   | 20.94          |
|                  |             | 81             | 6.70                   | 20.94          |
|                  |             | 108            | 6.66                   | 20.94          |
|                  |             | 121.5          | 6.67                   | 20.94          |
|                  |             | 135            | 6.65                   | 20.94          |
|                  |             | 162            | 6.68                   | 20.94          |
|                  |             | 180            | 6.80                   | 20.94          |
| 5550             | 110         | 13.5           | 11.32                  | 20.94          |
|                  |             | 27             | 11.19                  | 20.94          |
|                  |             | 40.5           | 11.16                  | 20.94          |
|                  |             | 54             | 10.91                  | 20.94          |
|                  |             | 81             | 10.99                  | 20.94          |
|                  |             | 108            | 11.05                  | 20.94          |
|                  |             | 121.5          | 11.01                  | 20.94          |
|                  |             | 135            | 10.95                  | 20.94          |
|                  |             | 162            | 11.06                  | 20.94          |
|                  |             | 180            | 11.14                  | 20.94          |
| 5710             | 142         | 13.5           | 17.16                  | 20.94          |
|                  |             | 27             | 17.02                  | 20.94          |
|                  |             | 40.5           | 16.99                  | 20.94          |
|                  |             | 54             | 16.83                  | 20.94          |
|                  |             | 81             | 16.88                  | 20.94          |
|                  |             | 108            | 16.87                  | 20.94          |
|                  |             | 121.5          | 16.87                  | 20.94          |
|                  |             | 135            | 16.78                  | 20.94          |
|                  |             | 162            | 16.95                  | 20.94          |
|                  |             | 180            | 16.92                  | 20.94          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11ac\_40 MHz BW Mode: 5510~5710)

| 802.11ac BW Mode |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|------------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz]   | Channel No. |                |                        |                |
| 5510             | 102         | 13.5           | 8.79                   | 19.29          |
|                  |             | 27             | 8.74                   | 19.29          |
|                  |             | 40.5           | 8.64                   | 19.29          |
|                  |             | 54             | 8.55                   | 19.29          |
|                  |             | 81             | 8.57                   | 19.29          |
|                  |             | 108            | 8.56                   | 19.29          |
|                  |             | 121.5          | 8.55                   | 19.29          |
|                  |             | 135            | 8.53                   | 19.29          |
|                  |             | 162            | 8.59                   | 19.29          |
|                  |             | 180            | 8.68                   | 19.29          |
| 5550             | 110         | 13.5           | 13.12                  | 19.29          |
|                  |             | 27             | 13.01                  | 19.29          |
|                  |             | 40.5           | 12.96                  | 19.29          |
|                  |             | 54             | 12.75                  | 19.29          |
|                  |             | 81             | 12.81                  | 19.29          |
|                  |             | 108            | 12.84                  | 19.29          |
|                  |             | 121.5          | 12.81                  | 19.29          |
|                  |             | 135            | 12.80                  | 19.29          |
|                  |             | 162            | 12.89                  | 19.29          |
|                  |             | 180            | 12.94                  | 19.29          |
| 5710             | 142         | 13.5           | 18.90                  | 19.29          |
|                  |             | 27             | 18.78                  | 19.29          |
|                  |             | 40.5           | 18.73                  | 19.29          |
|                  |             | 54             | 18.53                  | 19.29          |
|                  |             | 81             | 18.61                  | 19.29          |
|                  |             | 108            | 18.60                  | 19.29          |
|                  |             | 121.5          | 18.61                  | 19.29          |
|                  |             | 135            | 18.50                  | 19.29          |
|                  |             | 162            | 18.71                  | 19.29          |
|                  |             | 180            | 18.69                  | 19.29          |

# TEST RESULTS\_Ant.0

## Conducted Output Power Measurements (802.11ac\_80 MHz BW Mode: 5290)

| 802.11ac Mode      |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5290               | 58             | 29.3           | 3.97                   | 0.266                    | 4.24                                                    | -                                    | 23.22          |
|                    |                | 58.5           | 3.85                   | 0.469                    | 4.31                                                    | -                                    | 23.22          |
|                    |                | 87.8           | 3.71                   | 0.638                    | 4.35                                                    | -                                    | 23.22          |
|                    |                | 117            | 3.62                   | 0.764                    | 4.38                                                    | -                                    | 23.22          |
|                    |                | 175.5          | 3.40                   | 0.976                    | 4.38                                                    | -                                    | 23.22          |
|                    |                | 234            | 3.32                   | 1.136                    | 4.46                                                    | -                                    | 23.22          |
|                    |                | 263.3          | 3.20                   | 1.218                    | 4.42                                                    | -                                    | 23.22          |
|                    |                | 292.5          | 3.17                   | 1.264                    | 4.44                                                    | -                                    | 23.22          |
|                    |                | 351            | 3.01                   | 1.368                    | 4.38                                                    | -                                    | 23.22          |
|                    |                | 390            | 3.04                   | 1.442                    | 4.48                                                    | -1.76                                | 23.22          |

# TEST RESULTS\_Ant.1

## Conducted Output Power Measurements (802.11ac\_80 MHz BW Mode: 5290)

| 802.11ac Mode      |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5290               | 58             | 29.3           | 4.12                   | 0.266                    | 4.38                                                    | -                                    | 23.74          |
|                    |                | 58.5           | 3.99                   | 0.469                    | 4.46                                                    | -                                    | 23.74          |
|                    |                | 87.8           | 3.82                   | 0.638                    | 4.46                                                    | -                                    | 23.74          |
|                    |                | 117            | 3.85                   | 0.764                    | 4.62                                                    | -                                    | 23.74          |
|                    |                | 175.5          | 3.65                   | 0.976                    | 4.63                                                    | -1.87                                | 23.74          |
|                    |                | 234            | 3.49                   | 1.136                    | 4.62                                                    | -                                    | 23.74          |
|                    |                | 263.3          | 3.39                   | 1.218                    | 4.61                                                    | -                                    | 23.74          |
|                    |                | 292.5          | 3.35                   | 1.264                    | 4.61                                                    | -                                    | 23.74          |
|                    |                | 351            | 3.23                   | 1.368                    | 4.60                                                    | -                                    | 23.74          |
|                    |                | 390            | 3.16                   | 1.442                    | 4.60                                                    | -                                    | 23.74          |

## TEST RESULTS\_Ant.2

### Conducted Output Power Measurements (802.11ac\_80 MHz BW Mode: 5290)

| 802.11ac Mode      |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5290               | 58             | 29.3           | 4.86                   | 0.266                    | 5.12                                                    | -                                    | 23.98          |
|                    |                | 58.5           | 4.82                   | 0.469                    | 5.29                                                    | -                                    | 23.98          |
|                    |                | 87.8           | 4.66                   | 0.638                    | 5.30                                                    | -                                    | 23.98          |
|                    |                | 117            | 4.39                   | 0.764                    | 5.15                                                    | -                                    | 23.98          |
|                    |                | 175.5          | 4.26                   | 0.976                    | 5.23                                                    | -                                    | 23.98          |
|                    |                | 234            | 4.23                   | 1.136                    | 5.37                                                    | -1.04                                | 23.98          |
|                    |                | 263.3          | 4.13                   | 1.218                    | 5.35                                                    | -                                    | 23.98          |
|                    |                | 292.5          | 4.07                   | 1.264                    | 5.34                                                    | -                                    | 23.98          |
|                    |                | 351            | 3.97                   | 1.368                    | 5.34                                                    | -                                    | 23.98          |
|                    |                | 390            | 3.92                   | 1.442                    | 5.36                                                    | -                                    | 23.98          |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

## Conducted Output Power Measurements (802.11ac\_80 MHz BW Mode: 5290)

| 802.11ac BW Mode |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|------------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz]   | Channel No. |                |                        |                |
| 5290             | 58          | 29.3           | 7.32                   | 20.46          |
|                  |             | 58.5           | 7.40                   | 20.46          |
|                  |             | 87.8           | 7.42                   | 20.46          |
|                  |             | 117            | 7.51                   | 20.46          |
|                  |             | 175.5          | 7.52                   | 20.46          |
|                  |             | 234            | 7.55                   | 20.46          |
|                  |             | 263.3          | 7.53                   | 20.46          |
|                  |             | 292.5          | 7.54                   | 20.46          |
|                  |             | 351            | 7.50                   | 20.46          |
|                  |             | 390            | 7.55                   | 20.46          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11ac\_80 MHz BW Mode: 5290)

| 802.11ac BW Mode |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|------------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz]   | Channel No. |                |                        |                |
| 5290             | 58          | 29.3           | 9.37                   | 18.90          |
|                  |             | 58.5           | 9.48                   | 18.90          |
|                  |             | 87.8           | 9.50                   | 18.90          |
|                  |             | 117            | 9.50                   | 18.90          |
|                  |             | 175.5          | 9.53                   | 18.90          |
|                  |             | 234            | 9.61                   | 18.90          |
|                  |             | 263.3          | 9.58                   | 18.90          |
|                  |             | 292.5          | 9.59                   | 18.90          |
|                  |             | 351            | 9.56                   | 18.90          |
|                  |             | 390            | 9.61                   | 18.90          |

# TEST RESULTS\_Ant.0

Conducted Output Power Measurements (802.11ac \_80 MHz BW Mode: 5530~5690)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5530            | 106         | 29.3        | 0.12                | 0.266                 | 0.39                                        | -                           | 23.64       |
|                 |             | 58.5        | 0.48                | 0.469                 | 0.95                                        | -                           | 23.64       |
|                 |             | 87.8        | -0.14               | 0.638                 | 0.50                                        | -                           | 23.64       |
|                 |             | 117         | -0.27               | 0.764                 | 0.49                                        | -                           | 23.64       |
|                 |             | 175.5       | 0.03                | 0.976                 | 1.00                                        | -                           | 23.64       |
|                 |             | 234         | -0.10               | 1.136                 | 1.03                                        | -5.19                       | 23.64       |
|                 |             | 263.3       | -0.54               | 1.218                 | 0.68                                        | -                           | 23.64       |
|                 |             | 292.5       | -0.75               | 1.264                 | 0.51                                        | -                           | 23.64       |
|                 |             | 351         | -0.89               | 1.368                 | 0.48                                        | -                           | 23.64       |
|                 |             | 390         | -0.95               | 1.442                 | 0.50                                        | -                           | 23.64       |
| 5690            | 138         | 29.3        | 13.57               | 0.266                 | 13.83                                       | -                           | 23.64       |
|                 |             | 58.5        | 13.42               | 0.469                 | 13.89                                       | -                           | 23.64       |
|                 |             | 87.8        | 13.27               | 0.638                 | 13.91                                       | -                           | 23.64       |
|                 |             | 117         | 13.19               | 0.764                 | 13.95                                       | 7.81                        | 23.64       |
|                 |             | 175.5       | 12.87               | 0.976                 | 13.85                                       | -                           | 23.64       |
|                 |             | 234         | 12.77               | 1.136                 | 13.91                                       | -                           | 23.64       |
|                 |             | 263.3       | 12.67               | 1.218                 | 13.89                                       | -                           | 23.64       |
|                 |             | 292.5       | 12.61               | 1.264                 | 13.88                                       | -                           | 23.64       |
|                 |             | 351         | 12.47               | 1.368                 | 13.84                                       | -                           | 23.64       |
|                 |             | 390         | 12.45               | 1.442                 | 13.89                                       | -                           | 23.64       |

# TEST RESULTS\_Ant.1

Conducted Output Power Measurements (802.11ac \_80 MHz BW Mode: 5530~5690)

| 802.11ac Mode   |             | Rate (Mbps) | Measured Power(dBm) | Duty Cycle Factor(dB) | Measured Power(dBm) + Duty Cycle Factor(dB) | Output Power with TPC (dBm) | Limit (dBm) |
|-----------------|-------------|-------------|---------------------|-----------------------|---------------------------------------------|-----------------------------|-------------|
| Frequency [MHz] | Channel No. |             |                     |                       |                                             |                             |             |
| 5530            | 106         | 29.3        | 0.42                | 0.266                 | 0.68                                        | -                           | 23.98       |
|                 |             | 58.5        | 0.31                | 0.469                 | 0.78                                        | -                           | 23.98       |
|                 |             | 87.8        | 0.17                | 0.638                 | 0.80                                        | -                           | 23.98       |
|                 |             | 117         | 0.06                | 0.764                 | 0.82                                        | -                           | 23.98       |
|                 |             | 175.5       | -0.14               | 0.976                 | 0.84                                        | -                           | 23.98       |
|                 |             | 234         | -0.30               | 1.136                 | 0.84                                        | -                           | 23.98       |
|                 |             | 263.3       | -0.34               | 1.218                 | 0.88                                        | -                           | 23.98       |
|                 |             | 292.5       | -0.39               | 1.264                 | 0.88                                        | -                           | 23.98       |
|                 |             | 351         | -0.53               | 1.368                 | 0.84                                        | -                           | 23.98       |
|                 |             | 390         | -0.54               | 1.442                 | 0.90                                        | -5.44                       | 23.98       |
| 5690            | 138         | 29.3        | 13.89               | 0.266                 | 14.16                                       | -                           | 23.98       |
|                 |             | 58.5        | 13.78               | 0.469                 | 14.25                                       | -                           | 23.98       |
|                 |             | 87.8        | 13.63               | 0.638                 | 14.27                                       | -                           | 23.98       |
|                 |             | 117         | 13.52               | 0.764                 | 14.29                                       | -                           | 23.98       |
|                 |             | 175.5       | 13.28               | 0.976                 | 14.26                                       | -                           | 23.98       |
|                 |             | 234         | 13.20               | 1.136                 | 14.33                                       | 7.89                        | 23.98       |
|                 |             | 263.3       | 13.11               | 1.218                 | 14.33                                       | -                           | 23.98       |
|                 |             | 292.5       | 12.93               | 1.264                 | 14.20                                       | -                           | 23.98       |
|                 |             | 351         | 12.93               | 1.368                 | 14.30                                       | -                           | 23.98       |
|                 |             | 390         | 12.87               | 1.442                 | 14.31                                       | -                           | 23.98       |

## TEST RESULTS\_Ant.2

Conducted Output Power Measurements (802.11ac \_80 MHz BW Mode: 5530~5690)

| 802.11ac Mode      |                | Rate<br>(Mbps) | Measured<br>Power(dBm) | Duty Cycle<br>Factor(dB) | Measured<br>Power(dBm)<br>+<br>Duty Cycle<br>Factor(dB) | Output<br>Power<br>with TPC<br>(dBm) | Limit<br>(dBm) |
|--------------------|----------------|----------------|------------------------|--------------------------|---------------------------------------------------------|--------------------------------------|----------------|
| Frequency<br>[MHz] | Channel<br>No. |                |                        |                          |                                                         |                                      |                |
| 5530               | 106            | 29.3           | 0.98                   | 0.266                    | 1.25                                                    | -                                    | 23.98          |
|                    |                | 58.5           | 0.75                   | 0.469                    | 1.22                                                    | -                                    | 23.98          |
|                    |                | 87.8           | 0.63                   | 0.638                    | 1.27                                                    | -                                    | 23.98          |
|                    |                | 117            | 0.52                   | 0.764                    | 1.28                                                    | -                                    | 23.98          |
|                    |                | 175.5          | 0.39                   | 0.976                    | 1.36                                                    | -                                    | 23.98          |
|                    |                | 234            | 0.21                   | 1.136                    | 1.35                                                    | -                                    | 23.98          |
|                    |                | 263.3          | 0.16                   | 1.218                    | 1.38                                                    | -4.86                                | 23.98          |
|                    |                | 292.5          | 0.06                   | 1.264                    | 1.33                                                    | -                                    | 23.98          |
|                    |                | 351            | -0.04                  | 1.368                    | 1.32                                                    | -                                    | 23.98          |
|                    |                | 390            | -0.10                  | 1.442                    | 1.34                                                    | -                                    | 23.98          |
| 5690               | 138            | 29.3           | 13.82                  | 0.266                    | 14.08                                                   | -                                    | 23.98          |
|                    |                | 58.5           | 13.69                  | 0.469                    | 14.16                                                   | -                                    | 23.98          |
|                    |                | 87.8           | 13.53                  | 0.638                    | 14.17                                                   | -                                    | 23.98          |
|                    |                | 117            | 13.43                  | 0.764                    | 14.20                                                   | -                                    | 23.98          |
|                    |                | 175.5          | 13.17                  | 0.976                    | 14.14                                                   | -                                    | 23.98          |
|                    |                | 234            | 13.10                  | 1.136                    | 14.24                                                   | -                                    | 23.98          |
|                    |                | 263.3          | 13.02                  | 1.218                    | 14.24                                                   | -                                    | 23.98          |
|                    |                | 292.5          | 12.97                  | 1.264                    | 14.24                                                   | -                                    | 23.98          |
|                    |                | 351            | 12.83                  | 1.368                    | 14.20                                                   | -                                    | 23.98          |
|                    |                | 390            | 12.81                  | 1.442                    | 14.25                                                   | 7.69                                 | 23.98          |

# TEST RESULTS\_Sum Data of Ant.0 and Ant.1

Conducted Output Power Measurements (802.11ac \_80 MHz BW Mode: 5530~5690)

| 802.11ac BW Mode |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|------------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz]   | Channel No. |                |                        |                |
| 5530             | 106         | 29.3           | 3.55                   | 20.94          |
|                  |             | 58.5           | 3.88                   | 20.94          |
|                  |             | 87.8           | 3.66                   | 20.94          |
|                  |             | 117            | 3.67                   | 20.94          |
|                  |             | 175.5          | 3.93                   | 20.94          |
|                  |             | 234            | 3.95                   | 20.94          |
|                  |             | 263.3          | 3.79                   | 20.94          |
|                  |             | 292.5          | 3.71                   | 20.94          |
|                  |             | 351            | 3.67                   | 20.94          |
|                  |             | 390            | 3.71                   | 20.94          |
| 5690             | 138         | 29.3           | 17.01                  | 20.94          |
|                  |             | 58.5           | 17.08                  | 20.94          |
|                  |             | 87.8           | 17.10                  | 20.94          |
|                  |             | 117            | 17.13                  | 20.94          |
|                  |             | 175.5          | 17.07                  | 20.94          |
|                  |             | 234            | 17.14                  | 20.94          |
|                  |             | 263.3          | 17.13                  | 20.94          |
|                  |             | 292.5          | 17.05                  | 20.94          |
|                  |             | 351            | 17.09                  | 20.94          |
|                  |             | 390            | 17.12                  | 20.94          |

# TEST RESULTS\_Sum Data of Ant.0, Ant.1 and Ant.2

Conducted Output Power Measurements (802.11ac \_80 MHz BW Mode: 5530~5690)

| 802.11ac BW Mode |             | Rate<br>(Mbps) | Measured<br>Power(dBm) | Limit<br>(dBm) |
|------------------|-------------|----------------|------------------------|----------------|
| Frequency[MHz]   | Channel No. |                |                        |                |
| 5530             | 106         | 29.3           | 5.56                   | 19.28          |
|                  |             | 58.5           | 5.76                   | 19.28          |
|                  |             | 87.8           | 5.64                   | 19.28          |
|                  |             | 117            | 5.65                   | 19.28          |
|                  |             | 175.5          | 5.84                   | 19.28          |
|                  |             | 234            | 5.85                   | 19.28          |
|                  |             | 263.3          | 5.76                   | 19.28          |
|                  |             | 292.5          | 5.69                   | 19.28          |
|                  |             | 351            | 5.66                   | 19.28          |
|                  |             | 390            | 5.70                   | 19.28          |
| 5690             | 138         | 29.3           | 18.80                  | 19.28          |
|                  |             | 58.5           | 18.87                  | 19.28          |
|                  |             | 87.8           | 18.89                  | 19.28          |
|                  |             | 117            | 18.92                  | 19.28          |
|                  |             | 175.5          | 18.86                  | 19.28          |
|                  |             | 234            | 18.93                  | 19.28          |
|                  |             | 263.3          | 18.93                  | 19.28          |
|                  |             | 292.5          | 18.88                  | 19.28          |
|                  |             | 351            | 18.89                  | 19.28          |
|                  |             | 390            | 18.93                  | 19.28          |

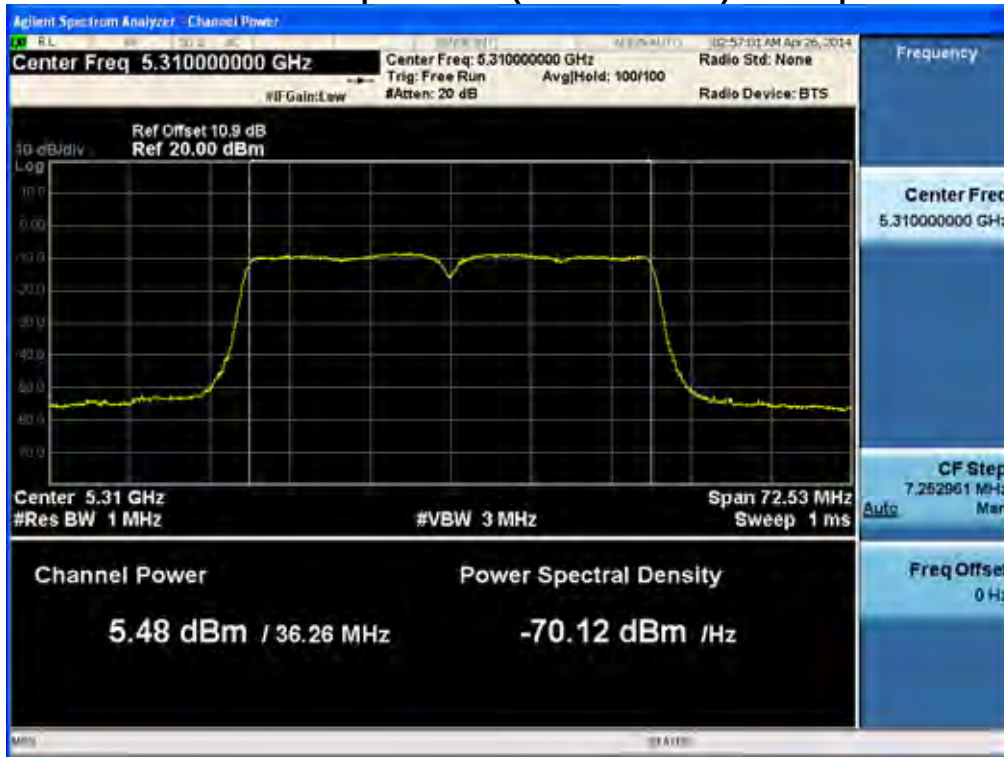
## Note :

1. In order to simplify the report, attached plots were only the highest conducted power channel and data rate.
2. We applied the 15.407(UNII2C Limit: more stringent than UNII3) for Ch.144, 142 and 138 in 802.11ac according to KDB 644545 D01 v01r02.

40 MHz BW

RESULT PLOTS\_Ant.0 (5270 MHz ~5310 MHz)

Conducted Output Power (802.11n-CH 62) 135 Mbps



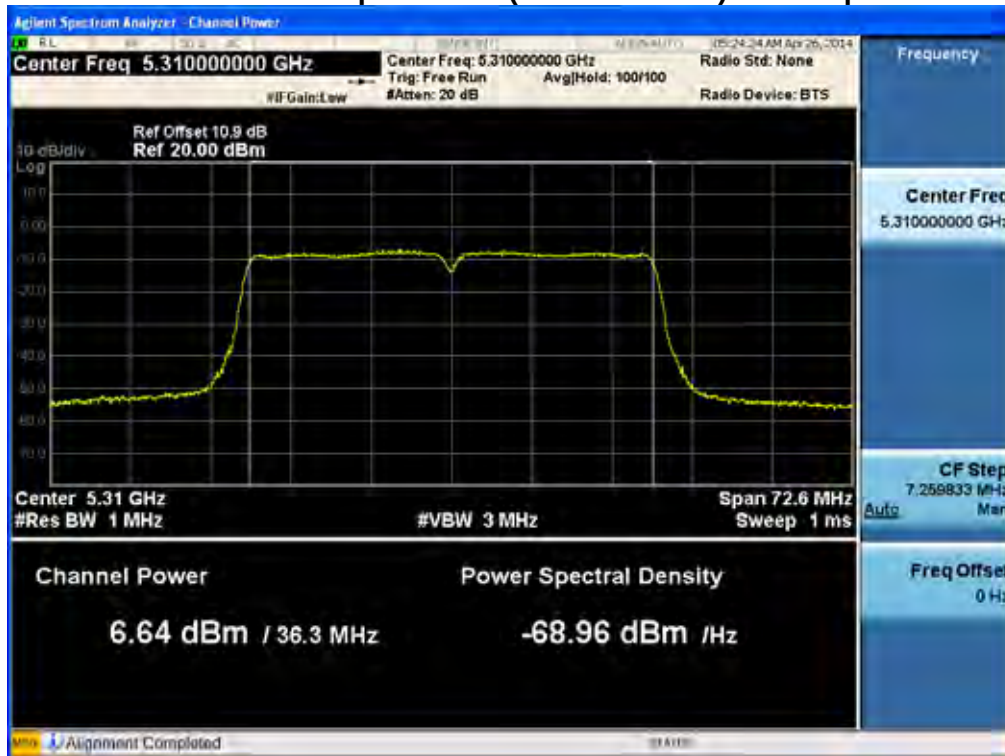
RESULT PLOTS\_Ant.1 (5270 MHz ~5310 MHz)

Conducted Output Power (802.11n-CH 62) 13.5 Mbps



## RESULT PLOTS\_Ant.2 (5270 MHz ~5310 MHz)

### Conducted Output Power (802.11n-CH 62) 13.5 Mbps



## RESULT PLOTS\_Ant.0 (5510 MHz ~5710 MHz)

### Conducted Output Power (802.11n-CH 142) 13.5 Mbps



## RESULT PLOTS\_Ant.1 (5510 MHz ~5710 MHz)

### Conducted Output Power (802.11n-CH 142) 135 Mbps



## RESULT PLOTS\_Ant.2 (5510 MHz ~5710 MHz)

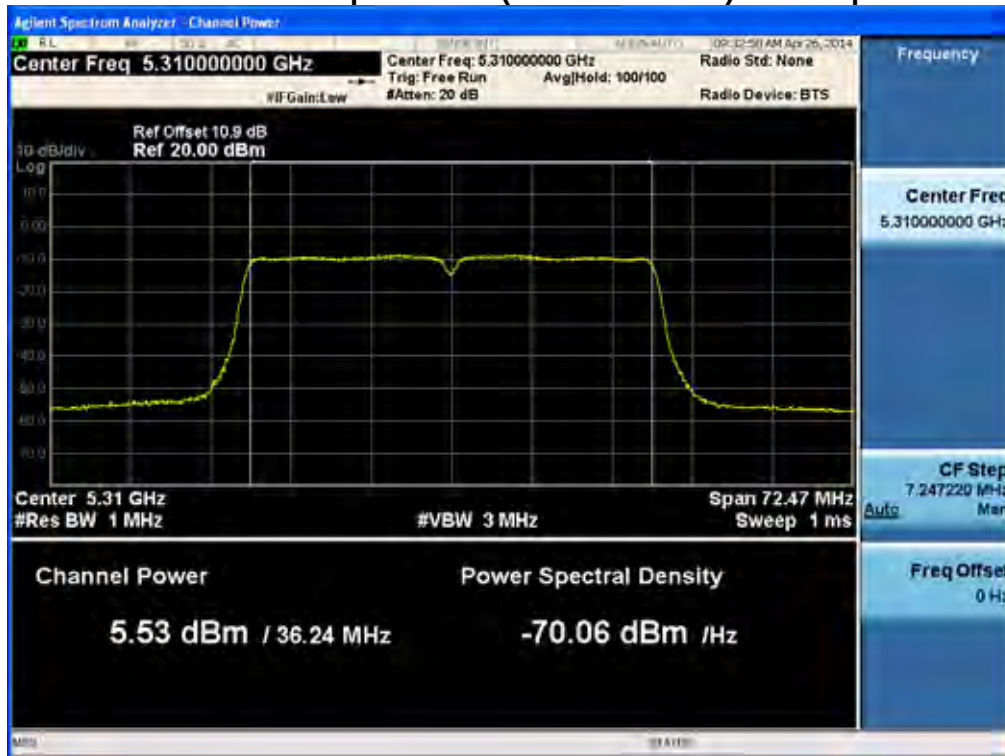
### Conducted Output Power (802.11n-CH 142) 121.5 Mbps



|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

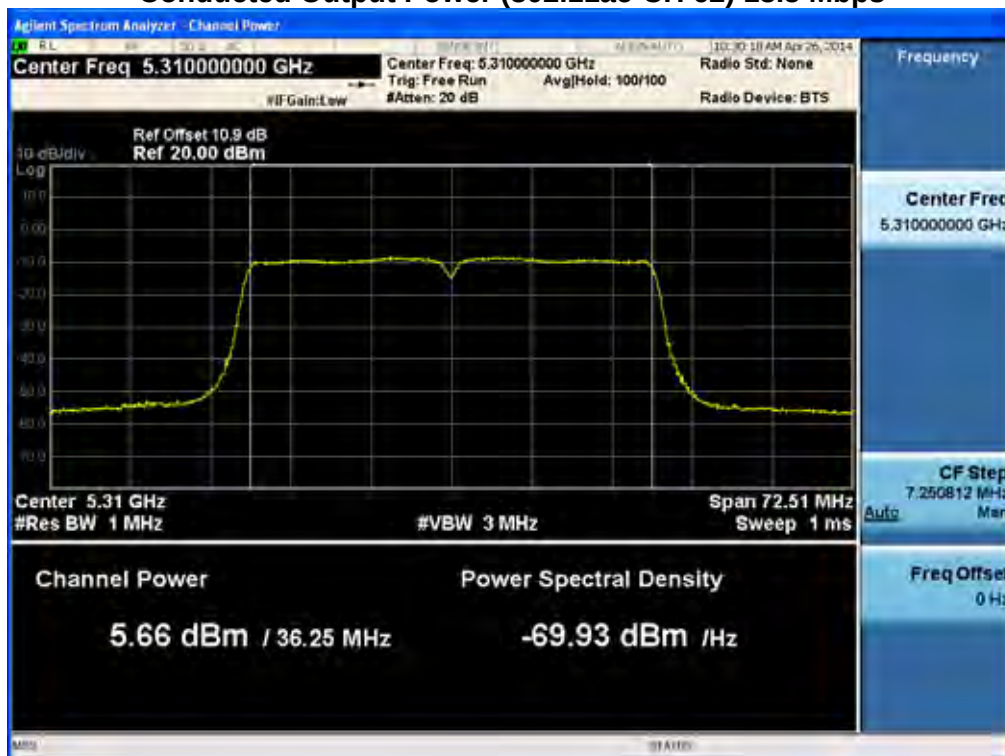
## RESULT PLOTS\_Ant.0 (5270 MHz ~5310 MHz)

### Conducted Output Power (802.11ac-CH 62) 13.5 Mbps



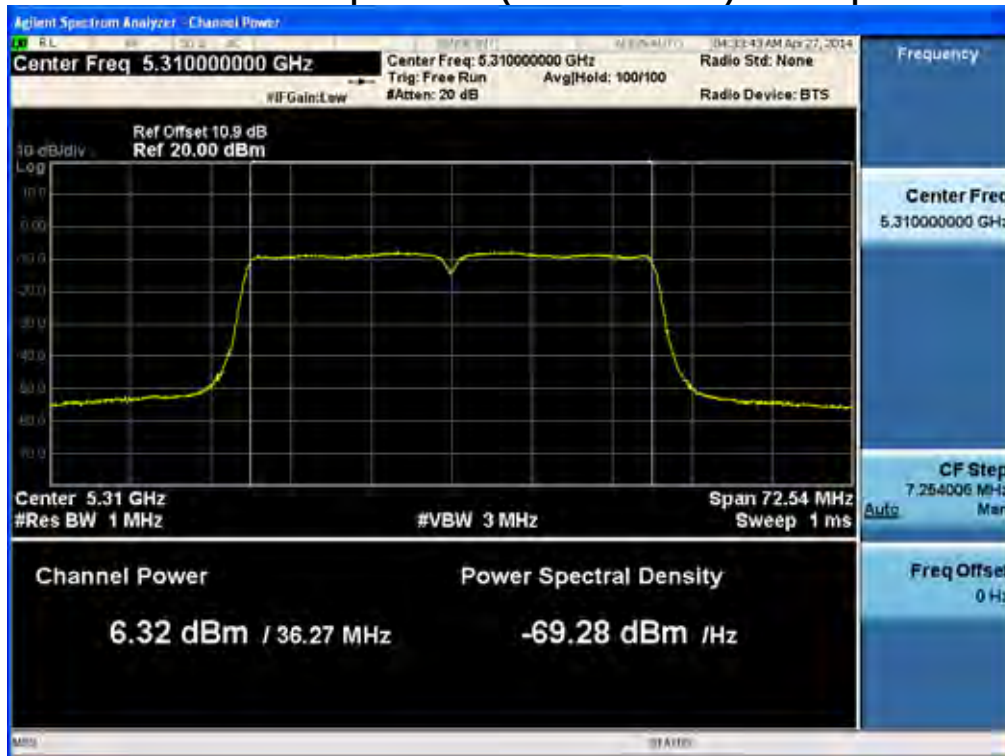
## RESULT PLOTS\_Ant.1 (5270 MHz ~5310 MHz)

### Conducted Output Power (802.11ac-CH 62) 13.5 Mbps



## RESULT PLOTS\_Ant.2 (5270 MHz ~5310 MHz)

### Conducted Output Power (802.11ac-CH 62) 13.5 Mbps



## RESULT PLOTS\_Ant.0 (5510 MHz ~5710 MHz)

### Conducted Output Power (802.11ac-CH 142) 13.5 Mbps



## RESULT PLOTS\_Ant.1 (5510 MHz ~5710 MHz)

### Conducted Output Power (802.11ac-CH 142) 13.5Mbps



## RESULT PLOTS\_Ant.2 (5510 MHz ~5710 MHz)

### Conducted Output Power (802.11ac-CH 142) 13.5 Mbps

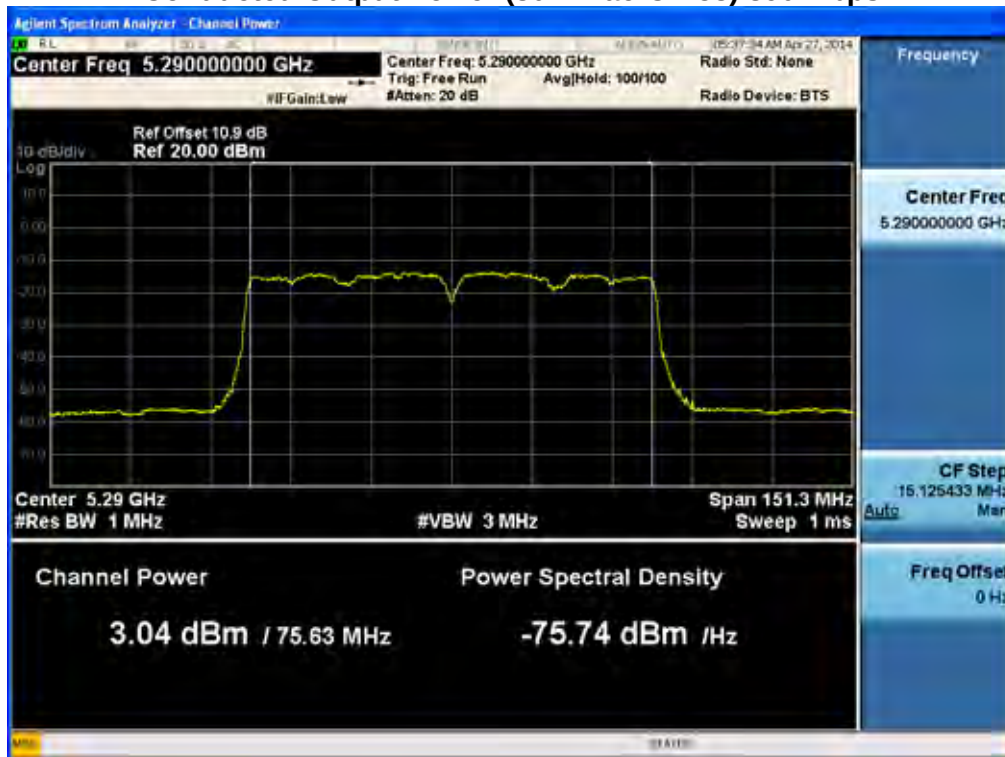


|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

80 MHz BW

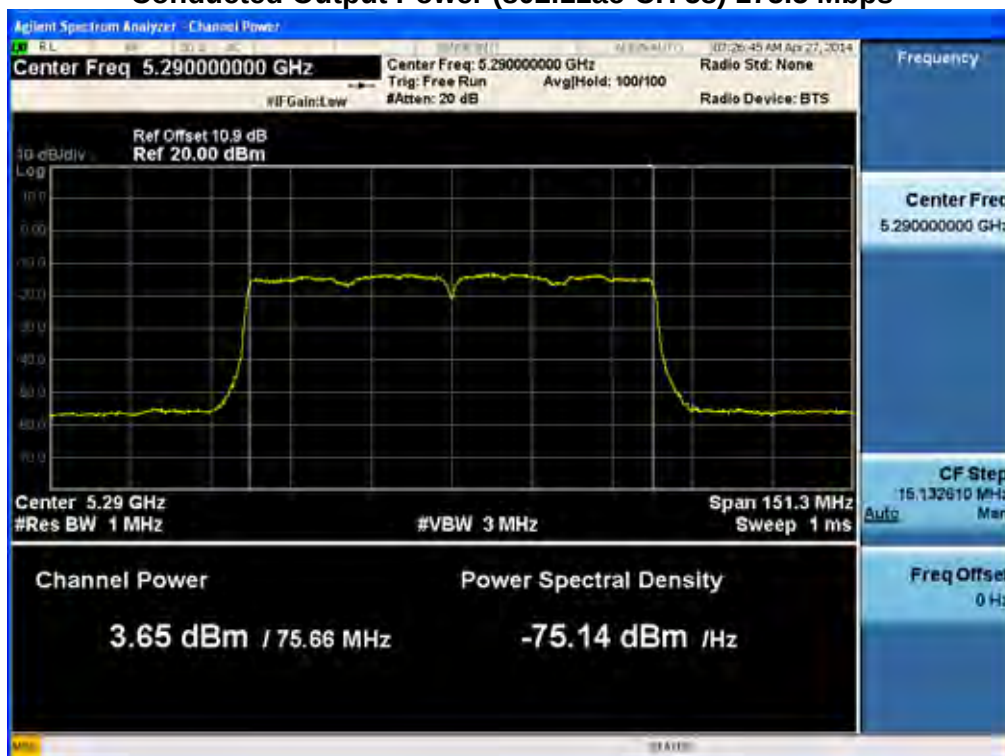
▣ RESULT PLOTS\_Ant.0 (5290 MHz)

Conducted Output Power (802.11ac-CH 58) 390 Mbps



▣ RESULT PLOTS\_Ant.1 (5290 MHz)

Conducted Output Power (802.11ac-CH 58) 175.5 Mbps



## RESULT PLOTS\_Ant.2 (5290 MHz)

### Conducted Output Power (802.11ac-CH 58) 390 Mbps



## RESULT PLOTS\_Ant.0 (5530 MHz ~5690 MHz)

### Conducted Output Power (802.11ac-CH 138) 117 Mbps



|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

## RESULT PLOTS\_Ant.1 (5530 MHz ~5690 MHz)

### Conducted Output Power (802.11ac-CH 138) 263.3 Mbps



## RESULT PLOTS\_Ant.2 (5530 MHz ~5690 MHz)

### Conducted Output Power (802.11ac-CH 138) 390 Mbps



|                                      |                                 |                             |                       |                                                  |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

## 8.5 POWER SPECTRAL DENSITY

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. The maximum permissible peak power spectral density is 11 dBm/ MHz in the 5.25 GHz – 5.35 GHz and 5.47 GHz – 5.725 GHz bands

### Limit(CDD)

#### Service Port

| Operating Mode | Band    | Mode         | Ant. Port | Ant. Gain (dBi) | Limit (dBm) |
|----------------|---------|--------------|-----------|-----------------|-------------|
| SISO           | UNII 2A | 802.11a,n,ac | 0         | 6.76            | 10.24       |
|                |         |              | 1         | 6.24            | 10.76       |
|                |         |              | 2         | 5.9             | 11          |
|                | UNII 2C | 802.11a,n,ac | 0         | 6.34            | 10.66       |
|                |         |              | 1         | 5.71            | 11          |
|                |         |              | 2         | 5.69            | 11          |
| MIMO(2 TX)     | UNII 2A | 802.11a,n,ac | 0 & 1     | 9.51            | 7.49        |
|                | UNII 2C | 802.11a,n,ac | 0 & 1     | 9.04            | 7.96        |
| MIMO(3 TX)     | UNII 2A | 802.11a,n,ac | 0 & 1 & 2 | 11.08           | 5.92        |
|                | UNII 2C | 802.11a,n,ac | 0 & 1 & 2 | 10.69           | 6.31        |

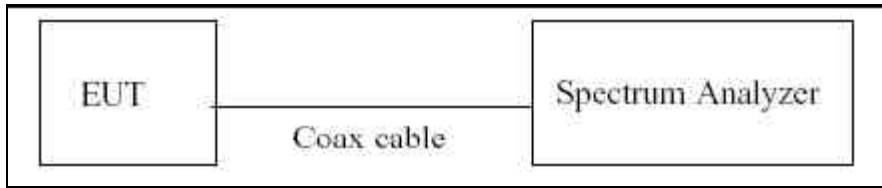
Note : Above the limits is calculated according to antenna gain. Because antenna gain is higher than 6 dBi.

#### Monitoring Port

| Operating Mode | Band    | Mode    | Ant. Port | Ant. Gain (dBi) | Limit (dBm) |
|----------------|---------|---------|-----------|-----------------|-------------|
| MIMO(3 TX)     | UNII 2A | 802.11a | 0 & 1 & 2 | 11.81           | 5.19        |
|                | UNII 2C | 802.11a | 0 & 1 & 2 | 12.18           | 4.82        |

Note : Above the limits is calculated according to antenna gain. Because antenna gain is higher than 6 dBi.

## TEST CONFIGURATION



## TEST PROCEDURE

We tested according to Method in KDB 789033(issued 06/06/2014).

The spectrum analyzer is set to :

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz.
3. VBW  $\geq$  3 MHz.
4. Number of points in sweep  $\geq 2 \times \text{span} / \text{RBW}$ .
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

Output Power = -5 dBm + 10 dB + 0.8 dB + 0.21 dB = 16.01 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 UNII 2A/2C band that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table. We used the particular cable type that is supported by manufacture.

| Band    | Loss(dB) |
|---------|----------|
| UNII 2  | 10.9     |
| UNII 2e | 10.9     |

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

| FCC PT.15.407<br>TEST REPORT         | FCC & IC CERTIFICATION REPORT   |                             |                       | <a href="http://www.hct.co.kr">www.hct.co.kr</a> |
|--------------------------------------|---------------------------------|-----------------------------|-----------------------|--------------------------------------------------|
| Test Report No.<br>HCT-R-1405-F041-1 | Date of Issue:<br>June 30, 2014 | EUT Type: WLAN Access Point | FCC ID:<br>A3LWEA403I | IC:<br>649E-WEA403I                              |

# Monitoring Port Ant.0

## TEST RESULTS

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode    | Test Result                           |                              |                                                                |
|--------------------|----------------|---------|---------------------------------------|------------------------------|----------------------------------------------------------------|
|                    |                |         | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor |
| 5260               | 52             | 802.11a | -1.396                                | 0.454380                     | -0.942                                                         |
| 5300               | 60             |         | -6.663                                | 0.375840                     | -6.287                                                         |
| 5320               | 64             |         | -6.716                                | 0.454380                     | -6.262                                                         |
| 5500               | 100            | 802.11a | -7.638                                | 0.547868                     | -7.090                                                         |
| 5580               | 116            |         | -0.751                                | 0.454380                     | -0.297                                                         |
| 5720               | 144            |         | -0.783                                | 0.547868                     | -0.235                                                         |

# Monitoring Port Ant.1

## TEST RESULTS

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode    | Test Result                           |                              |                                                                |
|--------------------|----------------|---------|---------------------------------------|------------------------------|----------------------------------------------------------------|
|                    |                |         | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor |
| 5260               | 52             | 802.11a | -0.829                                | 0.547868                     | -0.281                                                         |
| 5300               | 60             |         | -7.213                                | 0.547868                     | -6.665                                                         |
| 5320               | 64             |         | -7.078                                | 0.454380                     | -6.624                                                         |
| 5500               | 100            | 802.11a | -7.685                                | 0.454380                     | -7.231                                                         |
| 5580               | 116            |         | -0.244                                | 0.454380                     | 0.210                                                          |
| 5720               | 144            |         | -1.165                                | 0.547868                     | -0.617                                                         |

## Monitoring Port Ant.2

### 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 |
| 5260            | 52          | 802.11a | -0.002                       | 0.454380               | 0.452                                           |
| 5300            | 60          |         | -6.670                       | 0.308139               | -6.362                                          |
| 5320            | 64          |         | -6.608                       | 0.278291               | -6.330                                          |
| 5500            | 100         | 802.11a | -7.541                       | 0.286903               | -7.254                                          |
| 5580            | 116         |         | -0.314                       | 0.454380               | 0.140                                           |
| 5720            | 144         |         | -0.393                       | 0.547868               | 0.155                                           |

## Sum Data of Monitoring Port Ant. 0, Ant.1 and Ant.2

### TEST RESULTS

#### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode    | Test Result         |             |           |
|-----------------|-------------|---------|---------------------|-------------|-----------|
|                 |             |         | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5260            | 52          | 802.11a | 4.55                | 5.19        | Pass      |
| 5300            | 60          |         | -1.66               |             | Pass      |
| 5320            | 64          |         | -1.63               |             | Pass      |
| 5500            | 100         | 802.11a | -2.42               | 4.82        | Pass      |
| 5580            | 116         |         | 4.79                |             | Pass      |
| 5720            | 144         |         | 4.55                |             | Pass      |

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 |
| 5260            | 52          | 802.11a | -1.191                       | 0.547868               | -0.643                                          | 10.24       | Pass      |
| 5300            | 60          |         | -8.860                       | 0.286903               | -8.573                                          |             | Pass      |
| 5320            | 64          |         | -8.804                       | 0.547868               | -8.256                                          |             | Pass      |
| 5500            | 100         | 802.11a | -6.610                       | 0.454380               | -6.156                                          | 10.66       | Pass      |
| 5580            | 116         |         | -1.072                       | 0.547868               | -0.524                                          |             | Pass      |
| 5720            | 144         |         | 0.544                        | 0.547868               | 1.092                                           |             | Pass      |

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 |
| 5260            | 52          | 802.11n | -0.481                       | 0.209738               | -0.271                                          | 10.24       | Pass      |
| 5300            | 60          | 20MHz   | -8.696                       | 0.3598858              | -8.336                                          |             | Pass      |
| 5320            | 64          | BW      | -7.634                       | 0.1947835              | -7.439                                          |             | Pass      |
| 5500            | 100         | 802.11n | -6.570                       | 0.3598858              | -6.210                                          | 10.66       | Pass      |
| 5580            | 116         | 20MHz   | 0.694                        | 0.435384               | 1.129                                           |             | Pass      |
| 5720            | 144         | BW      | 0.459                        | 0.435384               | 0.894                                           |             | Pass      |

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode                    | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|-------------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                         | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5260               | 52             | 802.11ac<br>20MHz<br>BW | -0.106                                | 0.581006                     | 0.475                                                          | 10.24          | Pass      |
| 5300               | 60             |                         | -7.539                                | 0.1947835                    | -7.344                                                         |                | Pass      |
| 5320               | 64             |                         | -7.827                                | 0.5810062                    | -7.246                                                         |                | Pass      |
| 5500               | 100            | 802.11ac<br>20MHz<br>BW | -6.337                                | 0.2156605                    | -6.121                                                         | 10.66          | Pass      |
| 5580               | 116            |                         | 0.068                                 | 0.581006                     | 0.649                                                          |                | Pass      |
| 5720               | 144            |                         | 0.380                                 | 0.194784                     | 0.575                                                          |                | Pass      |

### 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 |
| 5270            | 54          | 802.11n 40MHz BW | -8.496                       | 0.738817790            | -7.757                                          | 10.24       | Pass      |
| 5310            | 62          |                  | -8.361                       | 0.622623303            | -7.738                                          |             | Pass      |
| 5510            | 102         | 802.11n 40MHz BW | -10.798                      | 0.404286571            | -10.394                                         | 10.66       | Pass      |
| 5550            | 110         |                  | -6.234                       | 0.428957247            | -5.805                                          |             | Pass      |
| 5710            | 142         |                  | -0.542                       | 0.428957               | -0.113                                          |             | Pass      |

### 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 |
| 5270            | 54          | 802.11ac 40MHz BW | -8.691                       | 0.4289572              | -8.262                                          | 10.24       | Pass      |
| 5310            | 62          |                   | -8.507                       | 0.4289572              | -8.078                                          |             | Pass      |
| 5510            | 102         | 802.11ac 40MHz BW | -10.711                      | 0.4289572              | -10.282                                         | 10.66       | Pass      |
| 5550            | 110         |                   | -6.493                       | 0.4289572              | -6.064                                          |             | Pass      |
| 5710            | 142         |                   | -0.708                       | 0.4289572              | -0.279                                          |             | Pass      |

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode                 | Test Result                           |                                 |                                                                |                |           |
|--------------------|----------------|----------------------|---------------------------------------|---------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                      | Measured<br>Power<br>Density<br>(dBm) | Duty<br>Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5290               | 58             | 802.11ac<br>80MHz BW | -13.696                               | 1.4423863                       | -12.254                                                        | 10.24          | Pass      |
| 5530               | 106            | 802.11ac<br>80MHz BW | -17.546                               | 1.1364996                       | -16.410                                                        | 10.66          | Pass      |
| 5690               | 138            | 802.11ac<br>80MHz BW | -3.857                                | 0.7642631                       | -3.093                                                         |                | Pass      |

# Service Port 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 |
| 5260            | 52          | 802.11a | -1.478                       | 0.225925               | -1.252                                          | 10.76       | Pass      |
| 5300            | 60          |         | -9.314                       | 0.308139               | -9.006                                          |             | Pass      |
| 5320            | 64          |         | -8.939                       | 0.454380               | -8.485                                          |             | Pass      |
| 5500            | 100         | 802.11a | -7.046                       | 0.286903               | -6.759                                          | 11          | Pass      |
| 5580            | 116         |         | -0.695                       | 0.454380               | -0.241                                          |             | Pass      |
| 5720            | 144         |         | 0.783                        | 0.547868               | 1.331                                           |             | Pass      |

### 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 |
| 5260            | 52          | 802.11n | -0.580                       | 0.435384               | -0.145                                          | 10.76       | Pass      |
| 5300            | 60          | 20MHz   | -9.043                       | 0.3598858              | -8.683                                          |             | Pass      |
| 5320            | 64          | BW      | -7.703                       | 0.3914307              | -7.312                                          |             | Pass      |
| 5500            | 100         | 802.11n | -6.416                       | 0.2097382              | -6.206                                          | 11          | Pass      |
| 5580            | 116         | 20MHz   | 0.975                        | 0.215661               | 1.191                                           |             | Pass      |
| 5720            | 144         | BW      | 0.300                        | 0.435384               | 0.735                                           |             | Pass      |

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode                    | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|-------------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                         | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5260               | 52             | 802.11ac<br>20MHz<br>BW | 0.470                                 | 0.194784                     | 0.665                                                          | 10.76          | Pass      |
| 5300               | 60             |                         | -7.553                                | 0.2097382                    | -7.343                                                         |                | Pass      |
| 5320               | 64             |                         | -7.512                                | 0.1947835                    | -7.317                                                         |                | Pass      |
| 5500               | 100            | 802.11ac<br>20MHz<br>BW | -6.316                                | 0.5810062                    | -5.735                                                         | 11             | Pass      |
| 5580               | 116            |                         | -0.120                                | 0.581006                     | 0.461                                                          |                | Pass      |
| 5720               | 144            |                         | 0.962                                 | 0.209738                     | 1.172                                                          |                | Pass      |

### 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 |
| 5270            | 54          | 802.11n 40MHz BW | -8.467                       | 0.738817790            | -7.728                                          | 10.76       | Pass      |
| 5310            | 62          |                  | -8.151                       | 0.428957247            | -7.722                                          |             | Pass      |
| 5510            | 102         | 802.11n 40MHz BW | -10.106                      | 0.672129830            | -9.434                                          | 11          | Pass      |
| 5550            | 110         |                  | -5.783                       | 0.672129830            | -5.111                                          |             | Pass      |
| 5710            | 142         |                  | -0.579                       | 0.738818               | 0.160                                           |             | Pass      |

### 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 |
| 5270            | 54          | 802.11ac 40MHz BW | -8.615                       | 0.4289572              | -8.186                                          | 10.76       | Pass      |
| 5310            | 62          |                   | -8.327                       | 0.4289572              | -7.898                                          |             | Pass      |
| 5510            | 102         | 802.11ac 40MHz BW | -10.137                      | 0.4289572              | -9.708                                          | 11          | Pass      |
| 5550            | 110         |                   | -5.886                       | 0.4042866              | -5.482                                          |             | Pass      |
| 5710            | 142         |                   | -0.216                       | 0.4289572              | 0.213                                           |             | Pass      |

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode                 | Test Result                           |                                 |                                                                |                |           |
|--------------------|----------------|----------------------|---------------------------------------|---------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                      | Measured<br>Power<br>Density<br>(dBm) | Duty<br>Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5290               | 58             | 802.11ac<br>80MHz BW | -13.399                               | 0.9761055                       | -12.423                                                        | 10.76          | Pass      |
| 5530               | 106            | 802.11ac<br>80MHz BW | -16.970                               | 1.4423863                       | -15.528                                                        | 11             | Pass      |
| 5690               | 138            | 802.11ac<br>80MHz BW | -3.878                                | 1.2183795                       | -2.660                                                         |                | Pass      |

# Service Port Ant.2

## 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 |
| 5260            | 52          | 802.11a | -0.617                       | 0.547868               | -0.069                                          | 11          | Pass      |
| 5300            | 60          |         | -8.310                       | 0.547868               | -7.762                                          |             | Pass      |
| 5320            | 64          |         | -8.437                       | 0.45438                | -7.983                                          |             | Pass      |
| 5500            | 100         | 802.11a | -6.721                       | 0.547868               | -6.173                                          |             | Pass      |
| 5580            | 116         |         | -1.079                       | 0.308139               | -0.771                                          |             | Pass      |
| 5720            | 144         |         | 0.567                        | 0.547868               | 1.115                                           |             | Pass      |

### 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 |
| 5260            | 52          | 802.11n | 0.121                        | 0.209738               | 0.331                                           | 11          | Pass      |
| 5300            | 60          | 20MHz   | -8.039                       | 0.209738               | -7.829                                          |             | Pass      |
| 5320            | 64          | BW      | -6.872                       | 0.286609               | -6.585                                          |             | Pass      |
| 5500            | 100         | 802.11n | -6.009                       | 0.435384               | -5.574                                          |             | Pass      |
| 5580            | 116         | 20MHz   | 1.103                        | 0.286609               | 1.390                                           |             | Pass      |
| 5720            | 144         | BW      | 0.394                        | 0.435384               | 0.829                                           |             | Pass      |

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode                    | Test Result                           |                              |                                                                |                |           |
|--------------------|----------------|-------------------------|---------------------------------------|------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                         | Measured<br>Power<br>Density<br>(dBm) | Duty Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5260               | 52             | 802.11ac<br>20MHz<br>BW | 0.313                                 | 0.581006                     | 0.894                                                          | 11             | Pass      |
| 5300               | 60             |                         | -6.969                                | 0.1947835                    | -6.774                                                         |                | Pass      |
| 5320               | 64             |                         | -7.006                                | 0.2097382                    | -6.796                                                         |                | Pass      |
| 5500               | 100            | 802.11ac<br>20MHz<br>BW | -5.246                                | 0.2097382                    | -5.036                                                         |                | Pass      |
| 5580               | 116            |                         | -0.072                                | 0.209738                     | 0.138                                                          |                | Pass      |
| 5720               | 144            |                         | 1.174                                 | 0.209738                     | 1.384                                                          |                | Pass      |

### 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 |
| 5270            | 54          | 802.11n  | -7.561                       | 0.67213                | -6.889                                          | 11          | Pass      |
| 5310            | 62          | 40MHz BW | -7.353                       | 0.428957               | -6.924                                          |             | Pass      |
| 5510            | 102         | 802.11n  | -9.831                       | 0.622623               | -9.208                                          |             | Pass      |
| 5550            | 110         | 40MHz BW | -5.616                       | 0.518461               | -5.098                                          |             | Pass      |
| 5710            | 142         | 40MHz BW | -3.140                       | 0.738818               | -2.401                                          |             | Pass      |

### 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 |
| 5270            | 54          | 802.11ac | -7.943                       | 0.4289572              | -7.514                                          | 11          | Pass      |
| 5310            | 62          | 40MHz BW | -7.706                       | 0.4289572              | -7.277                                          |             | Pass      |
| 5510            | 102         | 802.11ac | -10.071                      | 0.4042866              | -9.667                                          |             | Pass      |
| 5550            | 110         | 40MHz BW | -6.205                       | 0.4289572              | -5.776                                          |             | Pass      |
| 5710            | 142         | 40MHz BW | -0.413                       | 0.4289572              | 0.016                                           |             | Pass      |

### Conducted Power Density Measurements

| Frequency<br>(MHz) | Channel<br>No. | Mode                 | Test Result                           |                                 |                                                                |                |           |
|--------------------|----------------|----------------------|---------------------------------------|---------------------------------|----------------------------------------------------------------|----------------|-----------|
|                    |                |                      | Measured<br>Power<br>Density<br>(dBm) | Duty<br>Cycle<br>Factor<br>(dB) | Measured<br>Power<br>Density(dBm)<br>+<br>Duty Cycle<br>Factor | Limit<br>(dBm) | Pass/Fail |
| 5290               | 58             | 802.11ac<br>80MHz BW | -12.813                               | 1.4423863                       | -11.371                                                        | 11             | Pass      |
| 5530               | 106            | 802.11ac<br>80MHz BW | -16.671                               | 1.2183795                       | -15.453                                                        |                | Pass      |
| 5690               | 138            | 802.11ac<br>80MHz BW | -3.561                                | 1.4423863                       | -2.119                                                         |                | Pass      |

# Sum Data of Service Port Ant.0 and Ant.1

## TEST RESULTS

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode    | Test Result         |             |           |
|-----------------|-------------|---------|---------------------|-------------|-----------|
|                 |             |         | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5260            | 52          | 802.11a | 2.07                | 7.49        | Pass      |
| 5300            | 60          |         | -5.77               |             | Pass      |
| 5320            | 64          |         | -5.36               |             | Pass      |
| 5500            | 100         | 802.11a | -3.44               | 7.96        | Pass      |
| 5580            | 116         |         | 2.63                |             | Pass      |
| 5720            | 144         |         | 4.22                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                | Test Result         |             |           |
|-----------------|-------------|---------------------|---------------------|-------------|-----------|
|                 |             |                     | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5260            | 52          | 802.11n<br>20MHz BW | 2.80                | 7.49        | Pass      |
| 5300            | 60          |                     | -5.50               |             | Pass      |
| 5320            | 64          |                     | -4.36               |             | Pass      |
| 5500            | 100         | 802.11n<br>20MHz BW | -3.20               | 7.96        | Pass      |
| 5580            | 116         |                     | 4.17                |             | Pass      |
| 5720            | 144         |                     | 3.83                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                 | Test Result         |             |           |
|-----------------|-------------|----------------------|---------------------|-------------|-----------|
|                 |             |                      | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5260            | 52          | 802.11ac<br>20MHz BW | 3.58                | 7.49        | Pass      |
| 5300            | 60          |                      | -4.33               |             | Pass      |
| 5320            | 64          |                      | -4.27               |             | Pass      |
| 5500            | 100         | 802.11ac<br>20MHz BW | -2.91               | 7.96        | Pass      |
| 5580            | 116         |                      | 3.57                |             | Pass      |
| 5720            | 144         |                      | 3.89                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                | Test Result         |             |           |
|-----------------|-------------|---------------------|---------------------|-------------|-----------|
|                 |             |                     | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5270            | 54          | 802.11n             | -4.73               | 7.49        | Pass      |
| 5310            | 62          | 40MHz BW            | -4.72               |             | Pass      |
| 5510            | 102         | 802.11n<br>40MHz BW | -6.88               | 7.96        | Pass      |
| 5550            | 110         |                     | -2.43               |             | Pass      |
| 5710            | 142         |                     | 3.04                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                 | Test Result         |             |           |
|-----------------|-------------|----------------------|---------------------|-------------|-----------|
|                 |             |                      | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5270            | 54          | 802.11ac             | -5.21               | 7.49        | Pass      |
| 5310            | 62          | 40MHz BW             | -4.98               |             | Pass      |
| 5510            | 102         | 802.11ac<br>40MHz BW | -6.98               | 7.96        | Pass      |
| 5550            | 110         |                      | -2.75               |             | Pass      |
| 5710            | 142         |                      | 2.98                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                 | Test Result         |             |           |
|-----------------|-------------|----------------------|---------------------|-------------|-----------|
|                 |             |                      | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5290            | 58          | 802.11ac<br>80MHz BW | -9.33               | 7.49        | Pass      |
| 5530            | 106         |                      | -12.94              | 7.96        | Pass      |
| 5690            | 138         |                      | 0.14                |             | Pass      |

# Sum Data of Service Port Ant.0, Ant.1 and Ant.2

## TEST RESULTS

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode    | Test Result         |             |           |
|-----------------|-------------|---------|---------------------|-------------|-----------|
|                 |             |         | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5260            | 52          | 802.11a | 4.14                | 5.92        | Pass      |
| 5300            | 60          |         | -3.64               |             | Pass      |
| 5320            | 64          |         | -3.47               |             | Pass      |
| 5500            | 100         | 802.11a | -1.58               | 6.31        | Pass      |
| 5580            | 116         |         | 4.26                |             | Pass      |
| 5720            | 144         |         | 5.95                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                | Test Result         |             |           |
|-----------------|-------------|---------------------|---------------------|-------------|-----------|
|                 |             |                     | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5260            | 52          | 802.11n<br>20MHz BW | 4.75                | 5.92        | Pass      |
| 5300            | 60          |                     | -3.50               |             | Pass      |
| 5320            | 64          |                     | -2.32               |             | Pass      |
| 5500            | 100         | 802.11n<br>20MHz BW | -1.22               | 6.31        | Pass      |
| 5580            | 116         |                     | 6.01                |             | Pass      |
| 5720            | 144         |                     | 5.59                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                 | Test Result         |             |           |
|-----------------|-------------|----------------------|---------------------|-------------|-----------|
|                 |             |                      | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5260            | 52          | 802.11ac<br>20MHz BW | 5.45                | 5.92        | Pass      |
| 5300            | 60          |                      | -2.37               |             | Pass      |
| 5320            | 64          |                      | -2.34               |             | Pass      |
| 5500            | 100         | 802.11ac<br>20MHz BW | -0.84               | 6.31        | Pass      |
| 5580            | 116         |                      | 5.19                |             | Pass      |
| 5720            | 144         |                      | 5.83                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                | Test Result         |             |           |
|-----------------|-------------|---------------------|---------------------|-------------|-----------|
|                 |             |                     | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5270            | 54          | 802.11n             | -2.67               | 5.92        | Pass      |
| 5310            | 62          | 40MHz BW            | -2.67               |             | Pass      |
| 5510            | 102         | 802.11n<br>40MHz BW | -4.88               | 6.31        | Pass      |
| 5550            | 110         |                     | -0.55               |             | Pass      |
| 5710            | 142         |                     | 4.13                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                 | Test Result         |             |           |
|-----------------|-------------|----------------------|---------------------|-------------|-----------|
|                 |             |                      | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5270            | 54          | 802.11ac             | -3.20               | 5.92        | Pass      |
| 5310            | 62          | 40MHz BW             | -2.97               |             | Pass      |
| 5510            | 102         | 802.11ac<br>40MHz BW | -5.11               | 6.31        | Pass      |
| 5550            | 110         |                      | -1.00               |             | Pass      |
| 5710            | 142         |                      | 4.76                |             | Pass      |

### Conducted Power Density Measurements

| Frequency (MHz) | Channel No. | Mode                 | Test Result         |             |           |
|-----------------|-------------|----------------------|---------------------|-------------|-----------|
|                 |             |                      | Power Density (dBm) | Limit (dBm) | Pass/Fail |
| 5290            | 58          | 802.11ac<br>80MHz BW | -7.22               | 5.92        | Pass      |
| 5530            | 106         |                      | -11.00              | 6.31        | Pass      |
| 5690            | 138         |                      | 2.17                |             | Pass      |

**Note :**

1. In order to simplify the report, attached plots were only the highest PSD.
2. We applied the 15.407(UNII2C Limit: more stringent than UNII3) for Ch.144, 142 and 138 in 802.11ac according to KDB 644545 D01 v01r02.