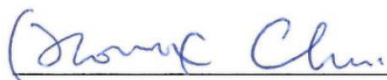


# FCC Test Report

Equipment : WiFi 5G Module  
Brand Name : UBIQUITI  
Model No. : 4x4-5GL  
FCC ID : SWX-M445GL  
Standard : 47 CFR FCC Part 15.407  
Operating Band : 5150 MHz – 5250 MHz  
5250 MHz – 5350 MHz  
Applicant : Ubiquiti Networks, Inc.  
685 Third Avenue, 27th Floor New York,  
New York 10017 USA  
Manufacturer : Ubiquiti Networks, Inc.  
685 Third Avenue, 27th Floor New York,  
New York 10017 USA  
Function : ☒ Outdoor; ☒ Indoor; ☐ Fixed P2P  
☒ Client  
TPC Function : TPC

This report was evaluated for permissive change. The product sample received on Dec. 05, 2017 and completely tested on Jan. 18, 2018. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

  
Phoenix Chen / Assistant Manager





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## Summary of Test Result

| Conformance Test Specifications |                  |                                |          |
|---------------------------------|------------------|--------------------------------|----------|
| Report Clause                   | Ref. Std. Clause | Description                    | Result   |
| 1.1.3                           | 15.203           | Antenna Requirement            | Complied |
| 3.1                             | 15.407(a)        | Emission Bandwidth             | Complied |
| 3.2                             | 15.407(a)        | Maximum Conducted Output Power | Complied |
| 3.3                             | 15.407(a)        | Peak Power Spectral Density    | Complied |
| 3.4                             | 15.407(b)        | Unwanted Emissions             | Complied |



SPORTON INTERNATIONAL INC.  
TEL : 886-3-327-3456  
FAX : 886-3-327-0973  
FCC ID: SWX-M445GL

# 1 General Description

## 1.1 Information

### 1.1.1 RF General Information

| Frequency Range (MHz) | IEEE Std. 802.11 | Ch. Frequency (MHz) | Channel Number |
|-----------------------|------------------|---------------------|----------------|
| 5150-5250             | ac (VHT80)       | 5210                | 42 [1]         |
| 5250-5350             |                  | 5290                | 58 [1]         |

| Band         | Mode              | BWch (MHz) | Nant          |
|--------------|-------------------|------------|---------------|
| 5.15-5.25GHz | 802.11ac VHT80+80 | 80         | 4TX(Port 1/2) |
| 5.25-5.35GHz | 802.11ac VHT80+80 | 80         | 4TX(Port 3/4) |

Note:

- ♦ VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ BWch is the nominal channel bandwidth.

### 1.1.2 Table for 80+80 MHz Mode

| Type | Channel No. | Frequency     |
|------|-------------|---------------|
| 13   | 42+58       | 5210+5290 MHz |

### 1.1.3 Antenna Information

| Ant. | Port | Brand | Model Name | Antenna Type     | Connector | Gain (dBi) |
|------|------|-------|------------|------------------|-----------|------------|
| 1    | 1    | -     | -          | Internal Antenna | I-PEX     | 10         |
|      |      |       |            |                  |           | 15         |
| 2    | 2    | -     | -          | Internal Antenna | I-PEX     | 10         |
|      |      |       |            |                  |           | 15         |
| 3    | 3    | -     | -          | Internal Antenna | I-PEX     | 10         |
|      |      |       |            |                  |           | 15         |
| 4    | 4    | -     | -          | Internal Antenna | I-PEX     | 10         |
|      |      |       |            |                  |           | 15         |

Note: 1: 802.11an/ac used four antennas are for signal transmitting and receiving.(4T4R Spatial Multiplexing MIMO configuration)

**1.1.4 EUT Information**

| Operational Condition               |                                                                               |
|-------------------------------------|-------------------------------------------------------------------------------|
| EUT Power Type                      | From Host System                                                              |
| RF Chip                             | QCA9984                                                                       |
| Type of EUT                         |                                                                               |
| <input type="checkbox"/>            | Stand-alone                                                                   |
| <input type="checkbox"/>            | Combined (EUT where the radio part is fully integrated within another device) |
|                                     | Combined Equipment - Brand Name / Model No.: ...                              |
| <input checked="" type="checkbox"/> | Plug-in radio (EUT intended for a variety of host systems)                    |
|                                     | Host System - Brand Name / Model No.: UBIQUITI / UWB-XG, UWB-XG-BK            |
| <input type="checkbox"/>            | Other:                                                                        |

**1.1.5 Mode Test Duty Cycle**
**Non-Beamforming**
**<Antenna Gain 10 dBi>**

| Mode              | DC    | DCF(dB) | T(s)   | VBW(Hz) ≥ 1/T |
|-------------------|-------|---------|--------|---------------|
| 802.11ac VHT80+80 | 0.974 | 0.114   | 2.241m | 1k            |

**<Antenna Gain 15 dBi>**

| Mode              | DC    | DCF(dB) | T(s)  | VBW(Hz) ≥ 1/T |
|-------------------|-------|---------|-------|---------------|
| 802.11ac VHT80+80 | 0.963 | 0.164   | 2.23m | 1k            |

**Beamforming**
**<Antenna Gain 10 dBi>**

| Mode                 | DC    | DCF(dB) | T(s)  | VBW(Hz) ≥ 1/T |
|----------------------|-------|---------|-------|---------------|
| 802.11ac VHT80+80-BF | 0.928 | 0.325   | 1.95m | 1k            |

**<Antenna Gain 15 dBi>**

| Mode                 | DC    | DCF(dB) | T(s)  | VBW(Hz) ≥ 1/T |
|----------------------|-------|---------|-------|---------------|
| 802.11ac VHT80+80-BF | 0.928 | 0.325   | 1.95m | 1k            |

**1.1.6 Table for Permissive Change**

This product is an extension of original one reported under Sporton project number: FR661623-24

Below is the table for the change of the product with respect to the original one.

| Modifications                                 | Performance Checking |
|-----------------------------------------------|----------------------|
| Enable VHT80+80 indoor and outdoor operations | All                  |

## 1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ KDB 789033 D02 v02r01
- ♦ KDB 662911 D01 v02r01

## 1.3 Testing Location Information

| Testing Location                           |        |                                                                              |                      |
|--------------------------------------------|--------|------------------------------------------------------------------------------|----------------------|
| <input checked="" type="checkbox"/>        | HWA YA | ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)    |                      |
|                                            |        | TEL : 886-3-327-3456                                                         | FAX : 886-3-327-0973 |
| Test site Designation No. TW1190 with FCC. |        |                                                                              |                      |
| <input type="checkbox"/>                   | JHUBEI | ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.) |                      |
|                                            |        | TEL : 886-3-656-9065                                                         | FAX : 886-3-656-9085 |
| Test site Designation No. TW0006 with FCC. |        |                                                                              |                      |

| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date   |
|----------------|---------------|---------------|------------------|-------------|
| RF Conducted   | TH01-HY       | Barry         | 22.8°C / 65%     | 18/Jan/2018 |
| Radiated       | 03CH09-HY     | Eric          | 25.8°C / 55%     | 10/Jan/2018 |

## 1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

| Test Items                           | Uncertainty | Remark                   |
|--------------------------------------|-------------|--------------------------|
| Conducted Emission (150kHz ~ 30MHz)  | 3.6 dB      | Confidence levels of 95% |
| Radiated Emission (9kHz ~ 30MHz)     | 3.0 dB      | Confidence levels of 95% |
| Radiated Emission (30MHz ~ 1,000MHz) | 4.3 dB      | Confidence levels of 95% |
| Radiated Emission (1GHz ~ 18GHz)     | 3.9 dB      | Confidence levels of 95% |
| Radiated Emission (18GHz ~ 40GHz)    | 3.5 dB      | Confidence levels of 95% |
| Conducted Emission                   | 1.3 dB      | Confidence levels of 95% |

## 2 Test Configuration of EUT

### 2.1 Test Condition

| Condition Item  | Abbreviation/Remark | Remark |
|-----------------|---------------------|--------|
| RF Conducted    | Abbreviation        | Remark |
| TnomVnom        | Tnom                | 20°C   |
| -               | Vnom                | 120V   |
| Freq. Stability | Abbreviation        | Remark |
| -10°C           | -                   | -      |
| 0°C             | -                   | -      |
| 10°C            | -                   | -      |
| 20°C            | -                   | -      |
| 30°C            | -                   | -      |
| 40°C            | -                   | -      |
| 50°C            | -                   | -      |
| 60°C            | -                   | -      |
| 70°C            | -                   | -      |
| 102V            | -                   | -      |
| 120V            | -                   | -      |
| 138V            | -                   | -      |

### 2.2 Test Channel Mode

#### Non-Beamforming

|                       |                |
|-----------------------|----------------|
| Test Software Version | QDART 00037.27 |
|-----------------------|----------------|

#### Beamforming

|                       |             |
|-----------------------|-------------|
| Test Software Version | Dos,Lantest |
|-----------------------|-------------|

## 2.3 The Worst Case Measurement Configuration

| The Worst Case Mode for Following Conformance Tests |                                                                                     |
|-----------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Tests Item</b>                                   | Emission Bandwidth<br>Maximum Conducted Output Power<br>Peak Power Spectral Density |
| <b>Test Condition</b>                               | Conducted measurement at transmit chains                                            |

| The Worst Case Mode for Following Conformance Tests |                                                                                                                                                                                                                                                     |                                                                                     |                                                                                       |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Tests Item</b>                                   | Unwanted Emissions                                                                                                                                                                                                                                  |                                                                                     |                                                                                       |
| <b>Test Condition</b>                               | Radiated measurement<br>If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type. |                                                                                     |                                                                                       |
| <b>Operating Mode &lt; 1GHz</b>                     | CTX                                                                                                                                                                                                                                                 |                                                                                     |                                                                                       |
| 1                                                   | PoE Mode (5G TXBF)                                                                                                                                                                                                                                  |                                                                                     |                                                                                       |
| <b>Operating Mode &gt; 1GHz</b>                     | CTX                                                                                                                                                                                                                                                 |                                                                                     |                                                                                       |
| <b>Orthogonal Planes of EUT</b>                     | <b>X Plane</b>                                                                                                                                                                                                                                      | <b>Y Plane</b>                                                                      | <b>Z Plane</b>                                                                        |
|                                                     |                                                                                                                                                                  |  |  |
| <b>Worst Planes of EUT</b>                          |                                                                                                                                                                                                                                                     | V                                                                                   |                                                                                       |

## 2.4 Support Equipment

| Support Equipment – RF Conducted (Non-Beamforming) |                 |            |              |        |
|----------------------------------------------------|-----------------|------------|--------------|--------|
| No.                                                | Equipment       | Brand Name | Model Name   | FCC ID |
| 1                                                  | Notebook        | DELL       | E5410        | DoC    |
| 2                                                  | Adapter for NB  | DELL       | HA65NM130    | DoC    |
| 3                                                  | PoE             | UBIQUITI   | GP-C500-120G | N/A    |
| 4                                                  | Adapter for PoE | D-Link     | DSA-0421S-50 | N/A    |
| 5                                                  | AC Source       | GW         | APS-9102     | N/A    |
| 6                                                  | Test Fixture    | N/A        | N/A          | N/A    |

Note: Support equipment No.6 was provided by customer.

| Support Equipment – RF Conducted (Beamforming) |                   |            |              |        |
|------------------------------------------------|-------------------|------------|--------------|--------|
| No.                                            | Equipment         | Brand Name | Model Name   | FCC ID |
| 1                                              | Notebook*2        | DELL       | E5410        | DoC    |
| 2                                              | Adapter for NB*2  | DELL       | HA65NM130    | DoC    |
| 3                                              | PoE*2             | UBIQUITI   | GP-C500-120G | N/A    |
| 4                                              | Adapter for PoE*2 | D-Link     | DSA-0421S-50 | N/A    |
| 5                                              | AC Source         | GW         | APS-9102     | N/A    |
| 6                                              | Test Fixture      | N/A        | N/A          | N/A    |

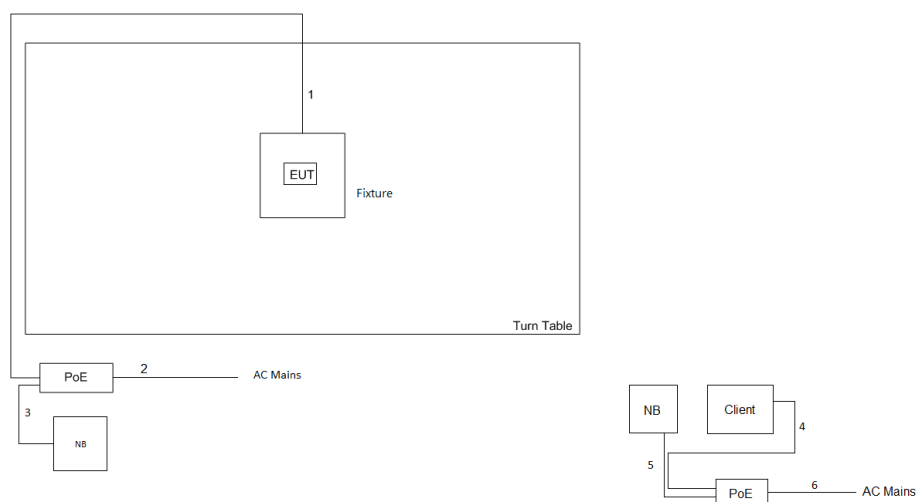
Note: Support equipment No.6 was provided by customer.

| Support Equipment – Radiated Emission (Beamforming) |                                             |            |              |        |
|-----------------------------------------------------|---------------------------------------------|------------|--------------|--------|
| No.                                                 | Equipment                                   | Brand Name | Model Name   | FCC ID |
| 1                                                   | Fixture                                     | N/A        | N/A          | N/A    |
| 2                                                   | Client<br>(Remote Workstation)              | UBNT       | 4x4-5GH_C2PC | N/A    |
| 3                                                   | Notebook for EUT<br>(Remote Workstation)    | DELL       | E4300        | N/A    |
| 4                                                   | Notebook for Client<br>(Remote Workstation) | DELL       | E4300        | N/A    |
| 5                                                   | PoE for Fixture<br>(Remote Workstation)     | UBIQUITI   | GP-C500-120G | N/A    |
| 6                                                   | PoE for Client<br>(Remote Workstation)      | UBIQUITI   | GP-C500-120G | N/A    |

Note: Support equipment No.1&4 was provided by customer.

## 2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test (Beamforming)



| Item | Connection    | Shielded | Length(m) | Remark |
|------|---------------|----------|-----------|--------|
| 1    | RJ-45 Cable   | No       | 10.0      | -      |
| 2    | AC power line | No       | 1.0       | -      |
| 3    | RJ-45Cable    | No       | 1.0       | -      |
| 4    | RJ-45 Cable   | No       | 1.0       | -      |
| 5    | RJ-45Cable    | No       | 1.0       | -      |
| 6    | AC power line | No       | 1.8       | -      |

### 3 Transmitter Test Result

#### 3.1 Emission Bandwidth

##### 3.1.1 Emission Bandwidth Limit

| Emission Bandwidth Limit            |                                                                                                                                                                             |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UNII Devices</b>                 |                                                                                                                                                                             |
| <input checked="" type="checkbox"/> | For the 5.15-5.25 GHz band, N/A                                                                                                                                             |
| <input checked="" type="checkbox"/> | For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.  |
| <input type="checkbox"/>            | For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. |
| <input type="checkbox"/>            | For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.                                                                                                         |

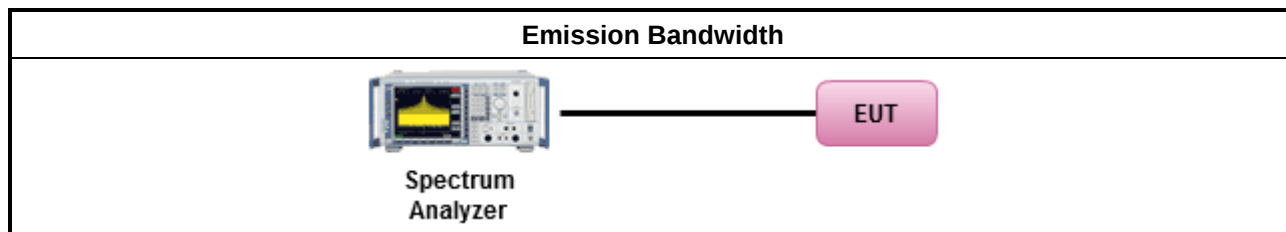
##### 3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

##### 3.1.3 Test Procedures

| Test Method                                                                                                                    |                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>For the emission bandwidth shall be measured using one of the options below:</li> </ul> |                                                                         |
| <input checked="" type="checkbox"/>                                                                                            | Refer as KDB 789033, clause C for EBW and clause D for OBW measurement. |
| <input type="checkbox"/>                                                                                                       | Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.      |
| <input type="checkbox"/>                                                                                                       | Refer as IC RSS-Gen, clause 6.6 for bandwidth testing.                  |

##### 3.1.4 Test Setup



##### 3.1.5 Test Result of Emission Bandwidth

Refer as Appendix B

## 3.2 Maximum Conducted Output Power

### 3.2.1 Maximum Conducted Output Power Limit

| Maximum Conducted Output Power Limit                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UNII Devices</b>                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Outdoor AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math>. e.i.r.p. at any elevation angle above 30 degrees <math>\leq 125</math>mW [21dBm]</li> <li>Indoor AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math></li> <li>Point-to-point AP: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 23</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 23)</math>.</li> <li>Mobile or Portable Client: the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 250 mW. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 24 - (G_{TX} - 6)</math>.</li> </ul> |
| <input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$ . |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <input type="checkbox"/> For the 5.47-5.725 GHz band, the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$ .           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <input type="checkbox"/> For the 5.725-5.85 GHz band:                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Point-to-multipoint systems (P2M): the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 30 - (G_{TX} - 6)</math>.</li> <li>Point-to-point systems (P2P): the maximum conducted output power (<math>P_{Out}</math>) shall not exceed the lesser of 1 W.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| $P_{Out}$ = maximum conducted output power in dBm,<br>$G_{TX}$ = the maximum transmitting antenna directional gain in dBi.                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

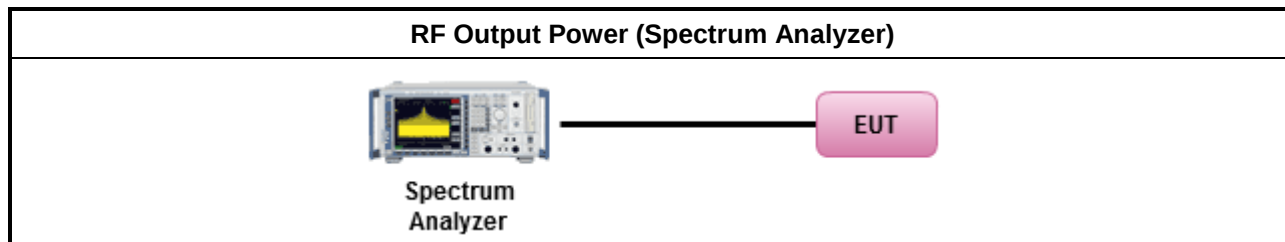
### 3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

### 3.2.3 Test Procedures

| Test Method                                                                      |                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Maximum Conducted Output Power</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                  | Duty cycle $\geq 98\%$                                                                                                                                                                                                                                                                                                                                             |
| <input type="checkbox"/>                                                         | Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).                                                                                                                                                                                                                                                                                              |
|                                                                                  | Duty cycle $< 98\%$                                                                                                                                                                                                                                                                                                                                                |
| <input type="checkbox"/>                                                         | Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)                                                                                                                                                                                                                                                                               |
|                                                                                  | Wideband RF power meter and average over on/off periods with duty factor                                                                                                                                                                                                                                                                                           |
| <input checked="" type="checkbox"/>                                              | Refer as KDB 789033, clause E Method PM (using an RF average power meter).                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>For conducted measurement.</li> </ul>     |                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                  | <ul style="list-style-type: none"> <li>If the EUT supports multiple transmit chains using options given below:<br/>Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.</li> </ul> |
|                                                                                  | <ul style="list-style-type: none"> <li>If multiple transmit chains, EIRP calculation could be following as methods:<br/> <math>P_{\text{total}} = P_1 + P_2 + \dots + P_n</math><br/>                     (calculated in linear unit [mW] and transfer to log unit [dBm])<br/> <math>\text{EIRP}_{\text{total}} = P_{\text{total}} + \text{DG}</math> </li> </ul>  |

### 3.2.4 Test Setup



### 3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

### 3.3 Peak Power Spectral Density

#### 3.3.1 Peak Power Spectral Density Limit

| Peak Power Spectral Density Limit                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>UNII Devices</b>                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                             |
| <input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 17 - (G_{TX} - 6)</math>.</li> </ul>            |
|                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>P_{Out} = 17 - (G_{TX} - 6)</math>.</li> </ul>             |
|                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If <math>G_{TX} &gt; 23</math> dBi, then <math>P_{Out} = 17 - (G_{TX} - 23)</math>.</li> </ul>   |
|                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Mobile or Portable Client: the peak power spectral density (PPSD) <math>\leq 11</math> dBm/MHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>PPSD = 11 - (G_{TX} - 6)</math>.</li> </ul>            |
| <input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) $\leq 11$ dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$ .                                                                                                                |                                                                                                                                                                                                                                             |
| <input type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) $\leq 11$ dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$ .                                                                                                                          |                                                                                                                                                                                                                                             |
| <input type="checkbox"/> For the 5.725-5.85 GHz band:                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                             |
|                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) <math>\leq 30</math> dBm/500kHz. If <math>G_{TX} &gt; 6</math> dBi, then <math>PPSD = 30 - (G_{TX} - 6)</math>.</li> </ul> |
|                                                                                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Point-to-point systems (P2P): the peak power spectral density (PPSD) <math>\leq 30</math> dBm/500kHz.</li> </ul>                                                                                     |
| <b>PPSD</b> = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz<br><b>G<sub>TX</sub></b> = the maximum transmitting antenna directional gain in dBi. |                                                                                                                                                                                                                                             |

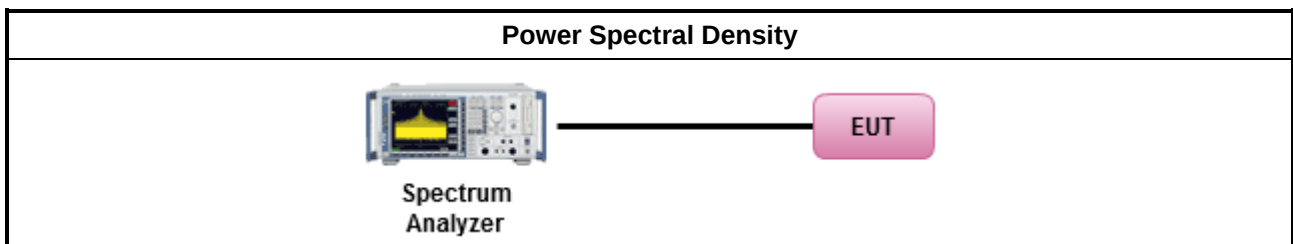
#### 3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

### 3.3.3 Test Procedures

| Test Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <ul style="list-style-type: none"> <li>Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:</li> </ul>                                                                                                                                                                                                                                                                                                                                                                    |  |
| <input type="checkbox"/> Refer as KDB 789033, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth<br>Duty cycle ≥ 98%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| <input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).<br>Duty cycle < 98%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| <input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <ul style="list-style-type: none"> <li>For conducted measurement.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| <ul style="list-style-type: none"> <li>If the EUT supports multiple transmit chains using options given below:</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| <ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.</li> </ul> </li> </ul> |  |
| <ul style="list-style-type: none"> <li>If multiple transmit chains, EIRP PPSD calculation could be following as methods:<br/> <math>PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n</math><br/> (calculated in linear unit [mW] and transfer to log unit [dBm])<br/> <math>EIRP_{total} = PPSD_{total} + DG</math> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |

### 3.3.4 Test Setup



### 3.3.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

### 3.4 Unwanted Emissions

#### 3.4.1 Transmitter Radiated Unwanted Emissions Limit

| Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit |                       |                         |                      |
|-------------------------------------------------------------------------------|-----------------------|-------------------------|----------------------|
| Frequency Range (MHz)                                                         | Field Strength (uV/m) | Field Strength (dBuV/m) | Measure Distance (m) |
| 0.009~0.490                                                                   | 2400/F(kHz)           | 48.5 - 13.8             | 300                  |
| 0.490~1.705                                                                   | 24000/F(kHz)          | 33.8 - 23               | 30                   |
| 1.705~30.0                                                                    | 30                    | 29                      | 30                   |
| 30~88                                                                         | 100                   | 40                      | 3                    |
| 88~216                                                                        | 150                   | 43.5                    | 3                    |
| 216~960                                                                       | 200                   | 46                      | 3                    |
| Above 960                                                                     | 500                   | 54                      | 3                    |

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

| Un-restricted band emissions above 1GHz Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Band                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 5.15 - 5.25 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | e.i.r.p. -27 dBm [68.2 dBuV/m@3m]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5.25 - 5.35 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | e.i.r.p. -27 dBm [68.2 dBuV/m@3m]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5.47 - 5.725 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | e.i.r.p. -27 dBm [68.2 dBuV/m@3m]                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5.725 - 5.85 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m]<br>5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m]<br>5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m]<br>5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m]<br>5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m]<br>5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2dBuV/m@3m]<br>Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m] |
| Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements). |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

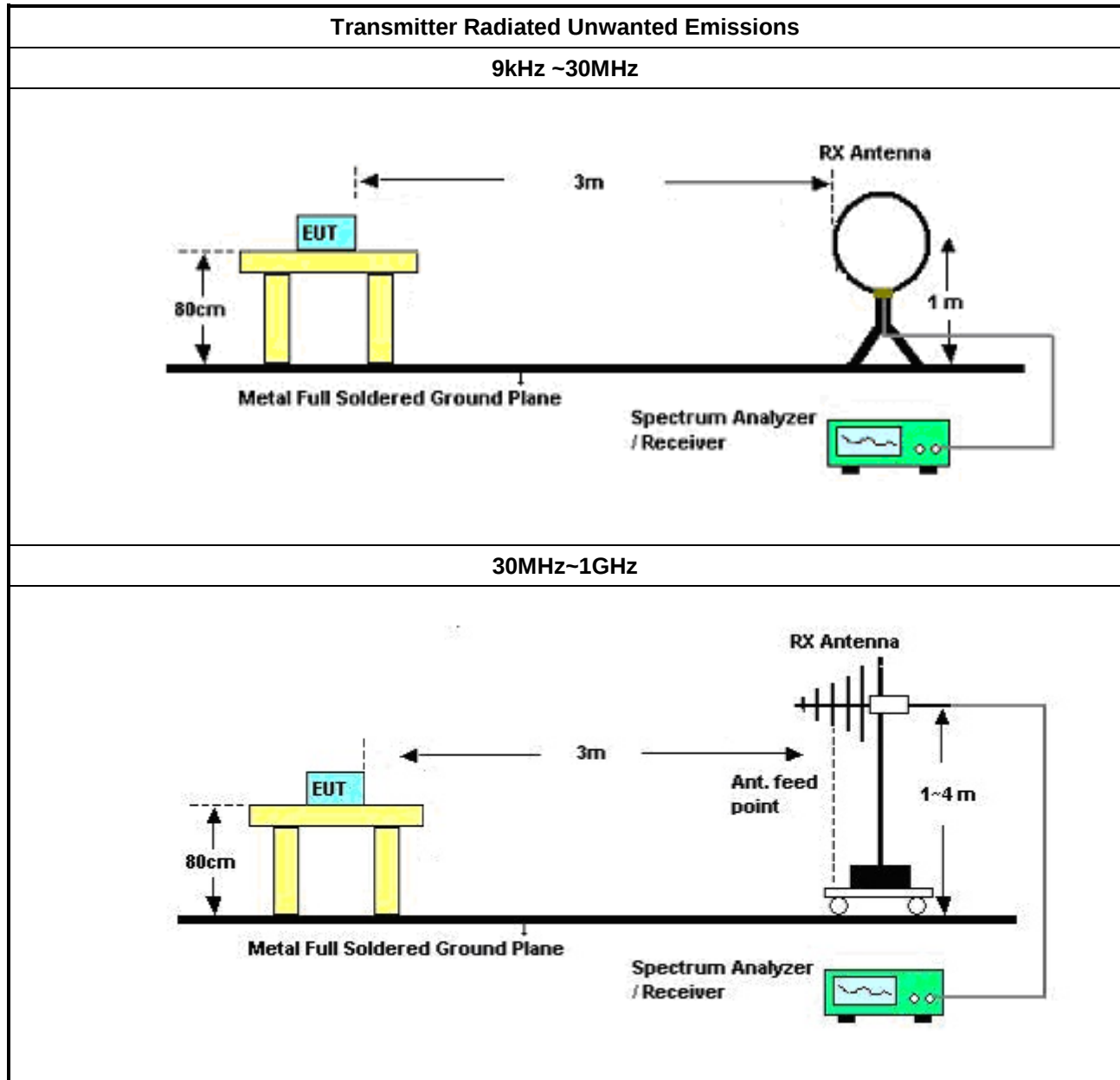
### 3.4.2 Measuring Instruments

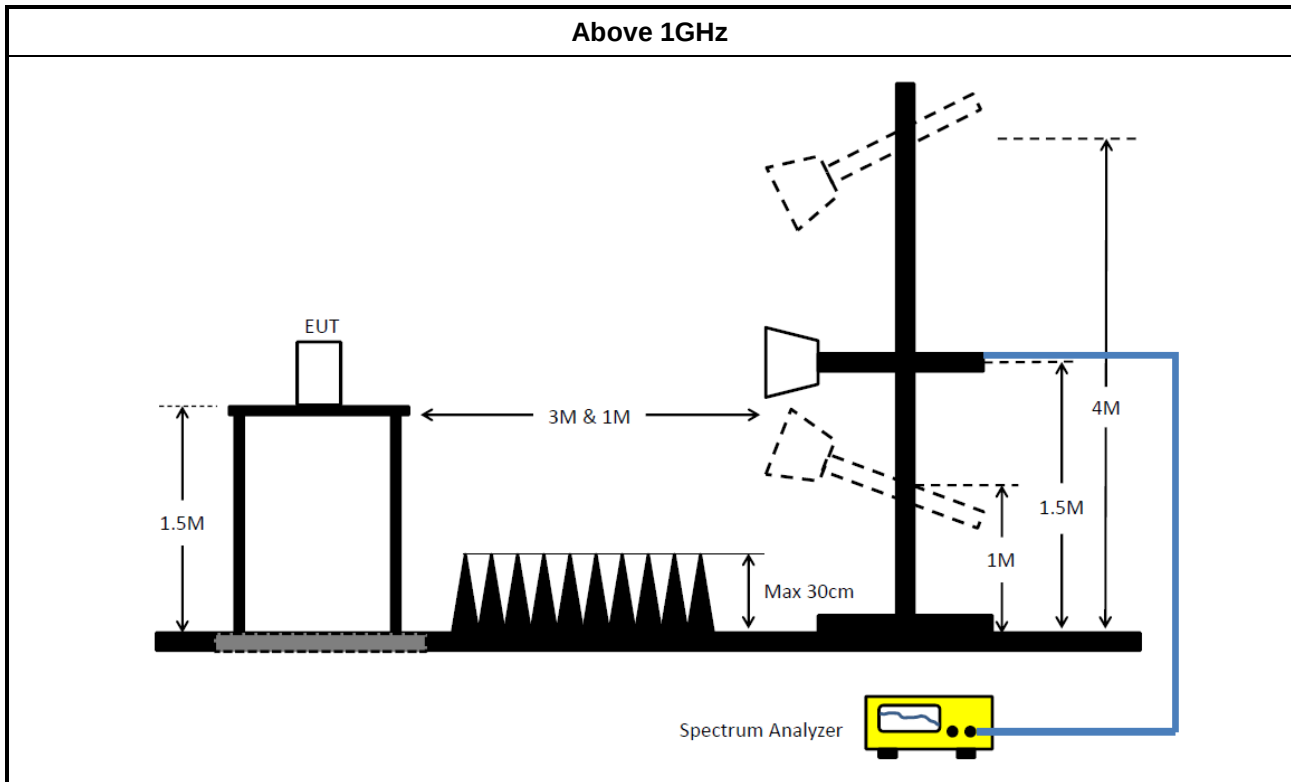
Refer a test equipment and calibration data table in this test report.

### 3.4.3 Test Procedures

| Test Method                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).</li> </ul> |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>The average emission levels shall be measured in [duty cycle <math>\geq</math> 98 or duty factor].</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>For the transmitter unwanted emissions shall be measured using following options below:</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.</li> </ul>               |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as KDB 789033, clause G)1) for unwanted emissions into restricted bands.</li> </ul>                   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Refer as KDB 789033, G)6) Method VB (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW.                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input checked="" type="checkbox"/> Refer as KDB 789033, clause G)5) (ANSI C63.10, clause 4.1.4.2.2), measurement procedure peak limit.            |
| <ul style="list-style-type: none"> <li>For radiated measurement.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.</li> </ul>    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.</li> </ul> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.</li> </ul>                              |
| <ul style="list-style-type: none"> <li>The any unwanted emissions level shall not exceed the fundamental emission level.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                    |

### 3.4.4 Test Setup





### 3.4.5 Transmitter Unwanted Emissions (Below 30MHz)

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

### 3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E

## 4 Test Equipment and Calibration Data

### Instrument for Radiated Test

| Instrument               | Manufacturer | Model No.               | Serial No.     | Spec.          | Calibration Date | Calibration Due Date |
|--------------------------|--------------|-------------------------|----------------|----------------|------------------|----------------------|
| 3m Semi Anechoic Chamber | TDK          | SAC-3M                  | 03CH09-HY      | 30MHz ~ 1GHz   | 25/Apr/2017      | 24/Apr/2018          |
| 3m Semi Anechoic Chamber | TDK          | SAC-3M                  | 03CH09-HY      | 1GHz ~ 18GHz   | 21/Jun/2017      | 20/Jun/2018          |
| Amplifier                | Agilent      | 8449B                   | 3008A02096     | 1GHz ~ 26.5GHz | 25/Apr/2017      | 24/Apr/2018          |
| Amplifier                | EMC          | EMC9135                 | 980232         | 9KHz~1GHz      | 25/Apr/2017      | 24/Apr/2018          |
| Spectrum Analyzer        | KEYSIGHT     | N9010A                  | MY54200885     | 10Hz ~ 44GHz   | 20/Jul/2017      | 19/Jul/2018          |
| Bilog Antenna            | TESEQ        | CBL 6111D               | 35418          | 30MHz~1GHz     | 09/Sep/2017      | 08/Sep/2018          |
| Horn Antenna             | SCHWARZBECK  | BBHA 9120D              | BBHA9120D 1534 | 1GHz~18GHz     | 28/Apr/2017      | 27/Apr/2018          |
| Horn Antenna             | SCHWARZBECK  | BBHA9170                | BBHA9170614    | 18GHz ~ 40GHz  | 06/Feb/2017      | 05/Feb/2018          |
| Amplifier                | MITEQ        | JS44-18004000<br>-33-8P | 1840917        | 18GHz ~ 40GHz  | 06/Feb/2017      | 05/Feb/2018          |
| RF Cable-R03m            | Jye Bao      | RG142                   | CB021          | 9kHz ~ 1GHz    | 02/Feb/2017      | 01/Feb/2018          |
| RF Cable-high            | Jye Bao      | RG142                   | 03CH09-HY      | 1GHz ~ 40GHz   | 02/Feb/2017      | 01/Feb/2018          |
| Receiver                 | R&S          | ESR3                    | 102052         | 9KHz ~ 3.6GHz  | 29/Apr/2017      | 28/Apr/2018          |
| Loop Antenna             | TESEQ        | HLA 6120                | 31244          | 9KHz-30MHz     | 02/Mar/2017      | 01/Mar/2018          |

### Instrument for Conducted Test

| Instrument                 | Manufacturer | Model No.        | Serial No.  | Spec.           | Calibration Date | Calibration Due Date |
|----------------------------|--------------|------------------|-------------|-----------------|------------------|----------------------|
| Spectrum Analyzer          | R&S          | FSV 40           | 101013      | 10Hz~40GHz      | 30/Dec/2016      | 29/Dec/2017          |
| Power Sensor               | Anritsu      | MA2411B          | 1027452     | 300MHz ~ 40GHz  | 24/Feb/2017      | 23/Feb/2018          |
| Power Meter                | Anritsu      | ML2495A          | 1124009     | 300MHz ~ 40GHz  | 24/Feb/2017      | 23/Feb/2018          |
| Signal Generator           | R&S          | SMR40            | 100116      | 10MHz ~ 40GHz   | 27/Jul/2017      | 26/Jul/2018          |
| Temp. and Humidity Chamber | Giant Force  | GTH-225-40-CP-AR | MAA1611-005 | -40 ~ 100℃      | 21/Nov/2016      | 20/Nov/2018          |
| RF Cable-0.2m              | HUBER+SUHNER | SUCOFLEX_104     | MY677/3     | 30MHz ~ 26.5GHz | 25/Aug/2017      | 24/Aug/2018          |
| RF Cable-0.2m              | HUBER+SUHNER | SUCOFLEX_104     | MY678/3     | 30MHz ~ 26.5GHz | 25/Aug/2017      | 24/Aug/2018          |
| RF Cable-0.5m              | HUBER+SUHNER | SUCOFLEX_104     | MY10717/4   | 30MHz ~ 26.5GHz | 25/Aug/2017      | 24/Aug/2018          |
| RF Cable-1.5m              | HUBER+SUHNER | SUCOFLEX_104     | MY12586/4   | 30MHz ~ 26.5GHz | 25/Aug/2017      | 24/Aug/2018          |



**EBW Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix A.1

**Summary**

| Mode                                              | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|---------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                      | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 84.2M            | 75.762M         | 75M8D1D  | 83.4M            | 75.662M         |
| 5.25-5.35GHz                                      | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | 83.5M            | 75.862M         | 75M9D1D  | 83M              | 75.662M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



**EBW Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix A.1

**Result**

| Mode                                              | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|---------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz_TnomVnom                         | Pass   | Inf           | 83.4M                  | 75.662M               | 84.2M                  | 75.762M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz_TnomVnom                         | Pass   | Inf           |                        |                       |                        |                       | 83M                    | 75.662M               | 83.5M                  | 75.862M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

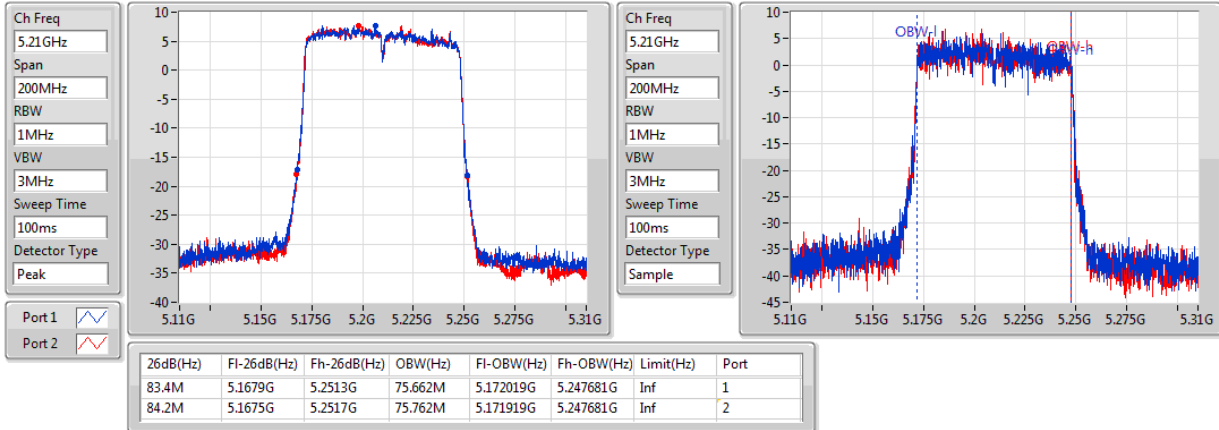
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

28/12/2017

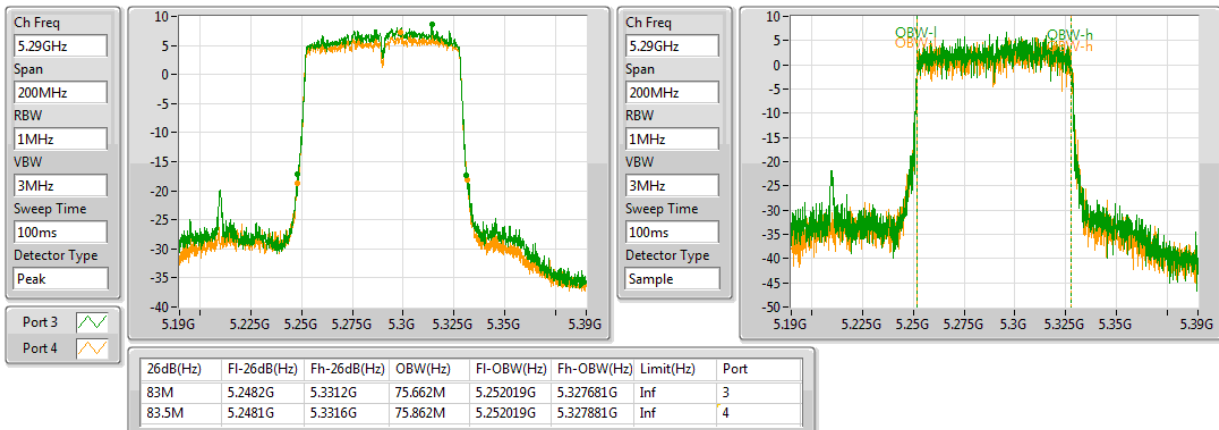


**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

28/12/2017





**EBW Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix A.2

**Summary**

| Mode                                               | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|----------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                       | -                | -               | -        | -                | -               |
| 1802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 84.4M            | 75.962M         | 76M0D1D  | 83.8M            | 75.662M         |
| 5.25-5.35GHz                                       | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4)  | 84.5M            | 75.762M         | 75M8D1D  | 81.9M            | 75.462M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



# **EBW Result (Antenna Gain 10 dBi)** **Non-Beamforming\_Outdoor Master**

Appendix A.2

## **Result**

| Mode                                              | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|---------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz_TnomVnom                         | Pass   | Inf           | 83.8M                  | 75.662M               | 84.4M                  | 75.962M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz_TnomVnom                         | Pass   | Inf           |                        |                       |                        |                       | 84.5M                  | 75.762M               | 81.9M                  | 75.462M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

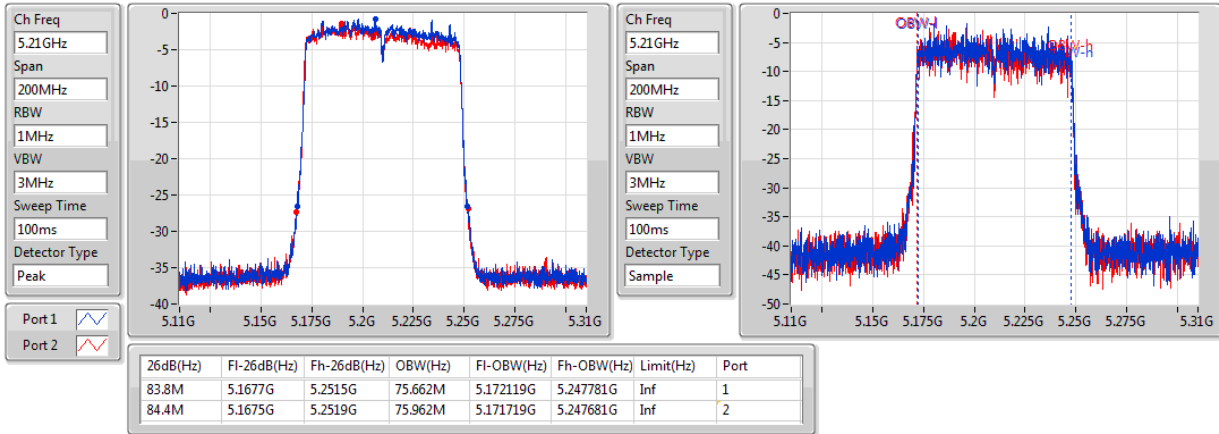
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

28/12/2017

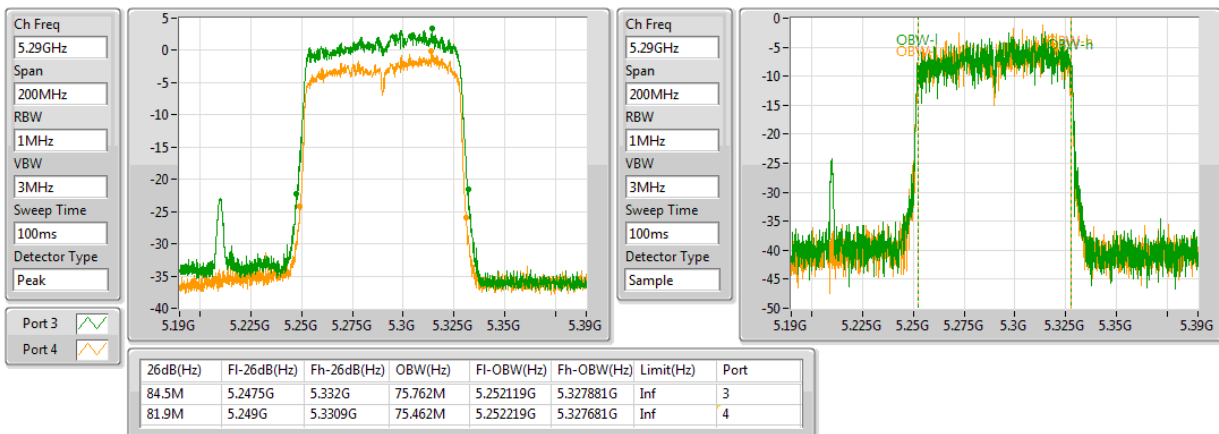


**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

28/12/2017





**EBW Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix A.3

**Summary**

| Mode                                              | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|---------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                      | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 83.4M            | 75.862M         | 75M9D1D  | 83.1M            | 75.562M         |
| 5.25-5.35GHz                                      | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | 84.8M            | 75.562M         | 75M6D1D  | 83.2M            | 75.562M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



**EBW Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix A.3

**Result**

| Mode                                              | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|---------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz                                  | Pass   | Inf           | 83.1M                  | 75.562M               | 83.4M                  | 75.862M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz                                  | Pass   | Inf           |                        |                       |                        |                       | 84.8M                  | 75.562M               | 83.2M                  | 75.562M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

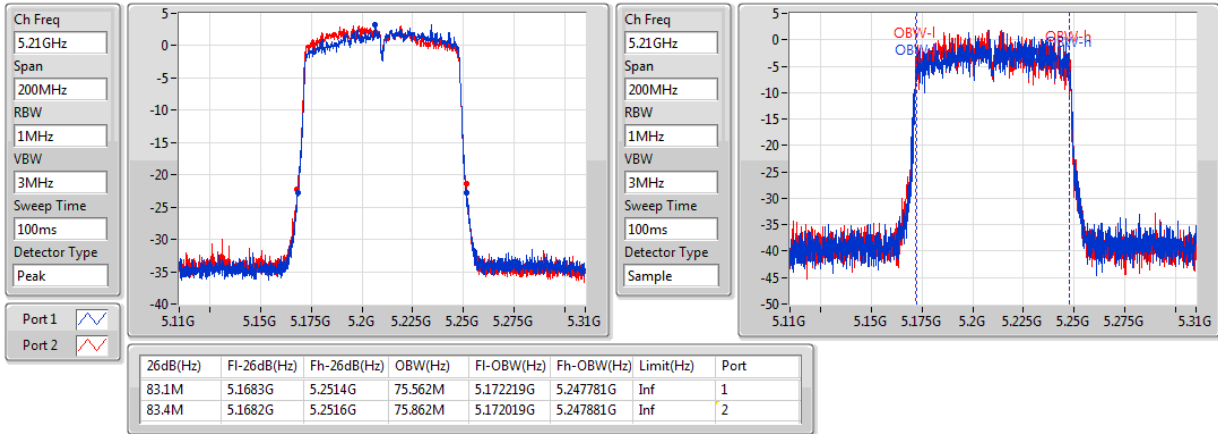
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

08/12/2017

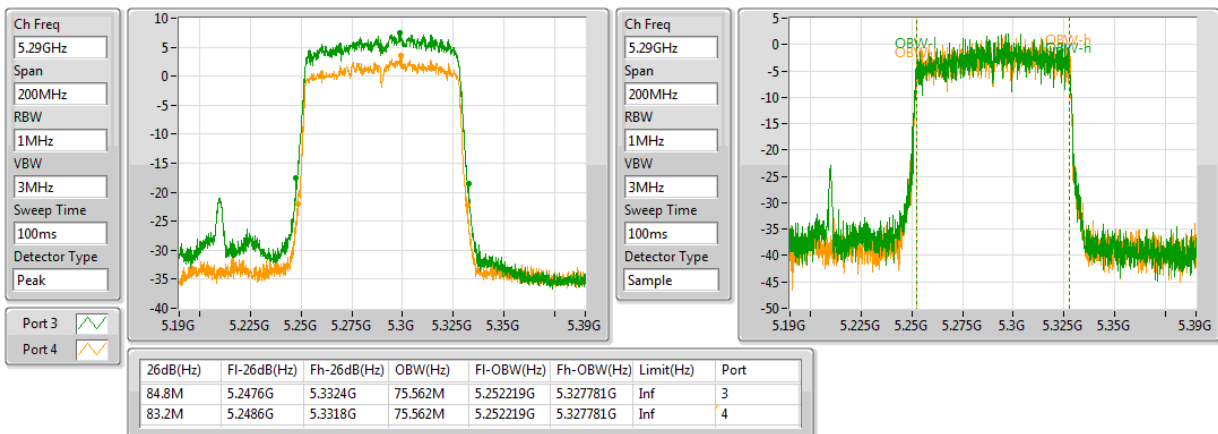


**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

08/12/2017





**EBW Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix A.4

**Summary**

| Mode                                              | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|---------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                      | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 83.9M            | 75.862M         | 75M9D1D  | 82.9M            | 75.862M         |
| 5.25-5.35GHz                                      | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | 84.6M            | 75.662M         | 75M7D1D  | 82.6M            | 75.462M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



**EBW Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix A.4

**Result**

| Mode                                              | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|---------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz                                  | Pass   | Inf           | 82.9M                  | 75.862M               | 83.9M                  | 75.862M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz                                  | Pass   | Inf           |                        |                       |                        |                       | 84.6M                  | 75.662M               | 82.6M                  | 75.462M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

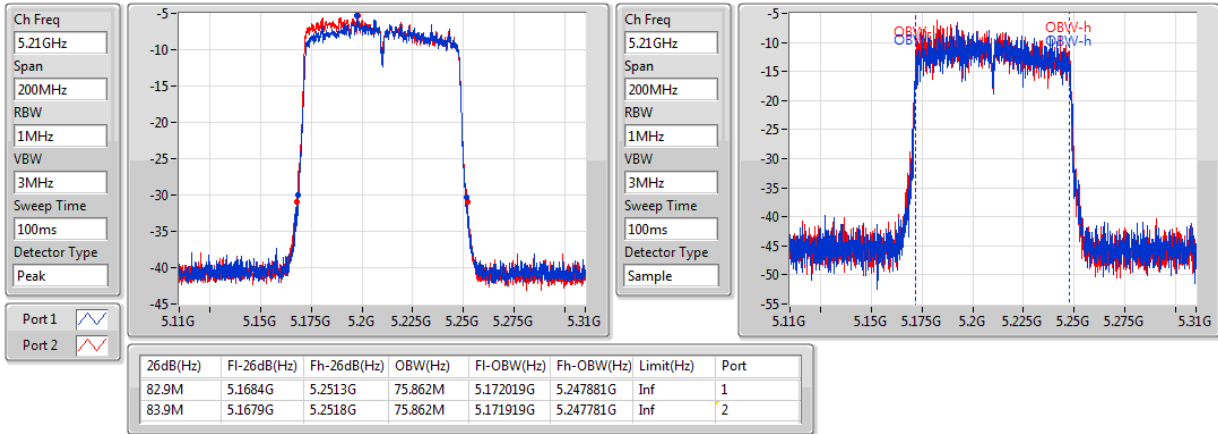
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

15/12/2017

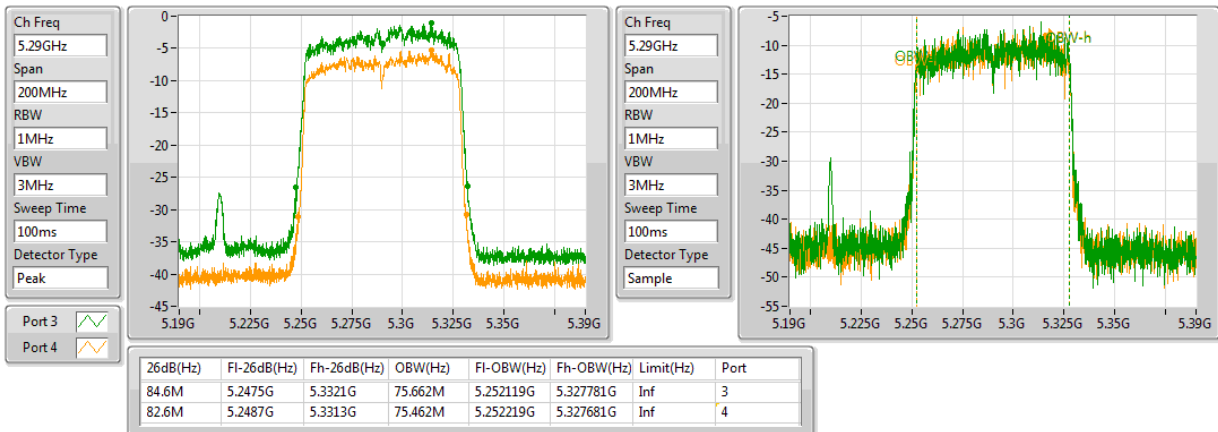


**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

15/12/2017





## EBW Result (Antenna Gain 10 dBi) Beamforming\_Client

Appendix A.5

### Summary

| Mode                                                 | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|------------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 81M              | 75.962M         | 76M0D1D  | 80.4M            | 75.762M         |
| 5.25-5.35GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 85.3M            | 75.562M         | 75M6D1D  | 82M              | 75.262M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



## EBW Result (Antenna Gain 10 dBi) Beamforming\_Client

Appendix A.5

### Result

| Mode                                                     | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|----------------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&<br>Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz_TnomVnom                                | Pass   | Inf           | 80.4M                  | 75.762M               | 81M                    | 75.962M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&<br>Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz_TnomVnom                                | Pass   | Inf           |                        |                       |                        |                       | 85.3M                  | 75.562M               | 82M                    | 75.262M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

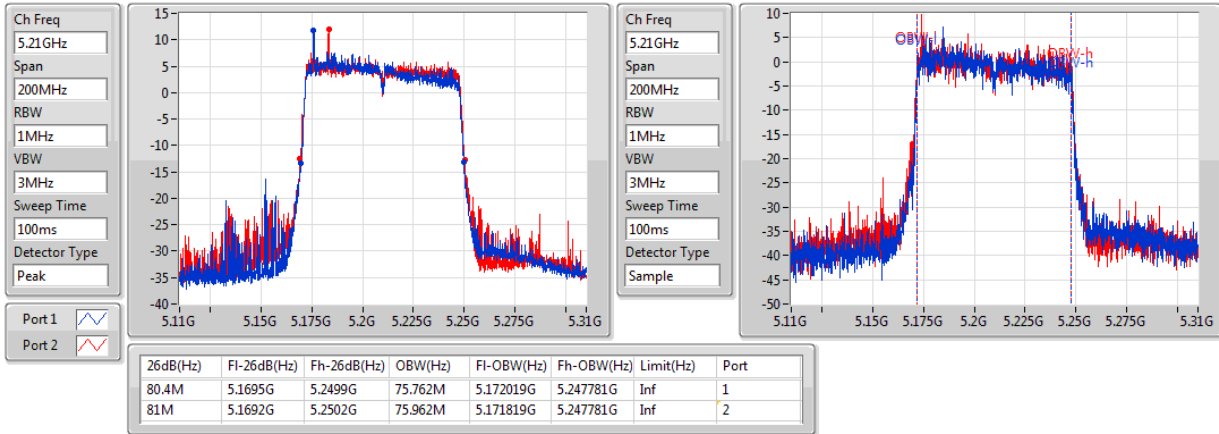
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

10/01/2018

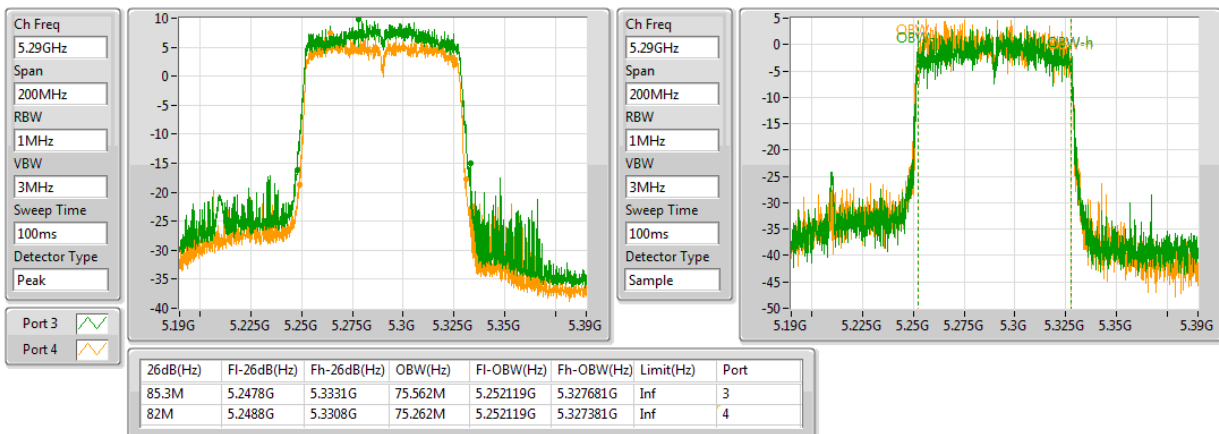


**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

10/01/2018





**EBW Result (Antenna Gain 10 dBi)**  
**Beamforming\_Indoor Master**

Appendix A.6

**Summary**

| Mode                                                  | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|-------------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                          | -                | -               | -        | -                | -               |
| J802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 81M              | 75.962M         | 76M0D1D  | 80.4M            | 75.762M         |
| 5.25-5.35GHz                                          | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4)  | 85.3M            | 75.562M         | 75M6D1D  | 82M              | 75.262M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



# **EBW Result (Antenna Gain 10 dBi)** **Beamforming\_Indoor Master**

Appendix A.6

## **Result**

| Mode                                                     | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|----------------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&<br>Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz_TnomVnom                                | Pass   | Inf           | 80.4M                  | 75.762M               | 81M                    | 75.962M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&<br>Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz_TnomVnom                                | Pass   | Inf           |                        |                       |                        |                       | 85.3M                  | 75.562M               | 82M                    | 75.262M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

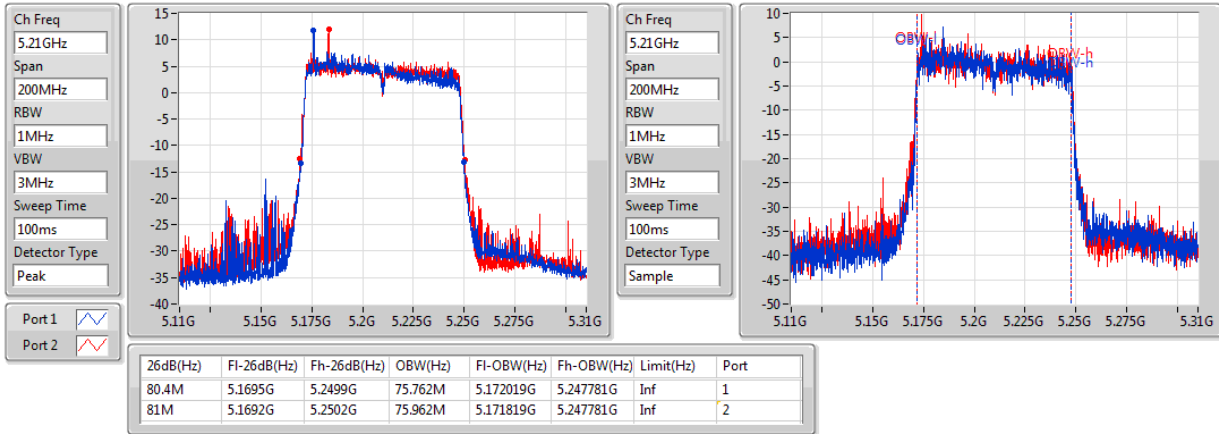
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

10/01/2018

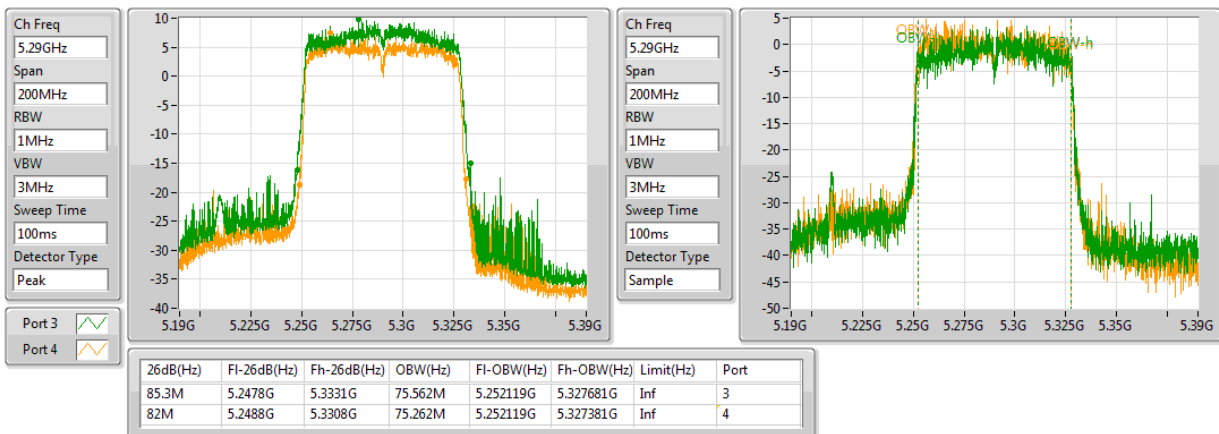


**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

10/01/2018





## EBW Result (Antenna Gain 10 dBi) Beamforming\_Outdoor Master

Appendix A.7

### Summary

| Mode                                                 | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|------------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 83.3M            | 76.062M         | 76M1D1D  | 81.3M            | 75.662M         |
| 5.25-5.35GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 85.2M            | 75.862M         | 75M9D1D  | 82.8M            | 75.262M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



# **EBW Result (Antenna Gain 10 dBi)** **Beamforming\_Outdoor Master**

Appendix A.7

## **Result**

| Mode                                                     | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|----------------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&<br>Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz_TnomVnom                                | Pass   | Inf           | 81.3M                  | 75.662M               | 83.3M                  | 76.062M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&<br>Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz_TnomVnom                                | Pass   | Inf           |                        |                       |                        |                       | 85.2M                  | 75.862M               | 82.8M                  | 75.262M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

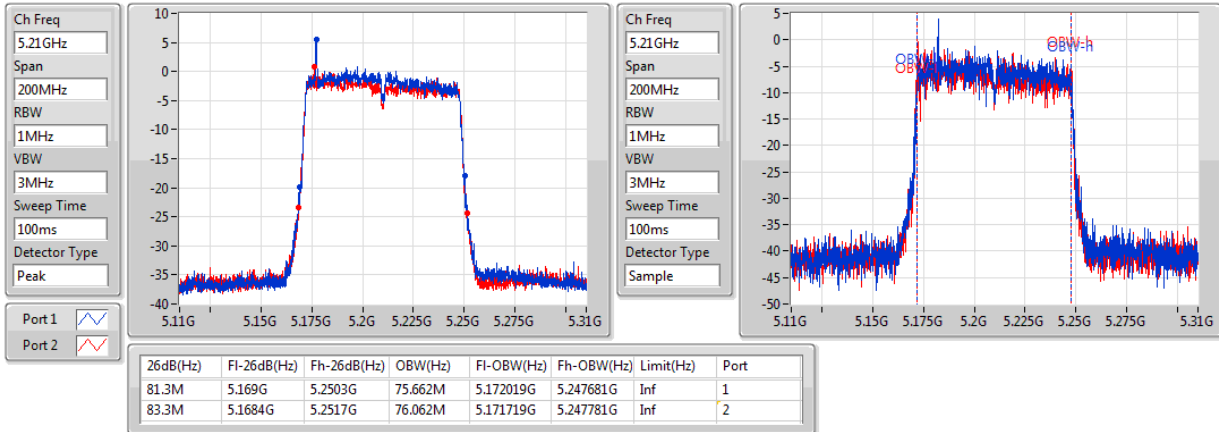
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

11/01/2018

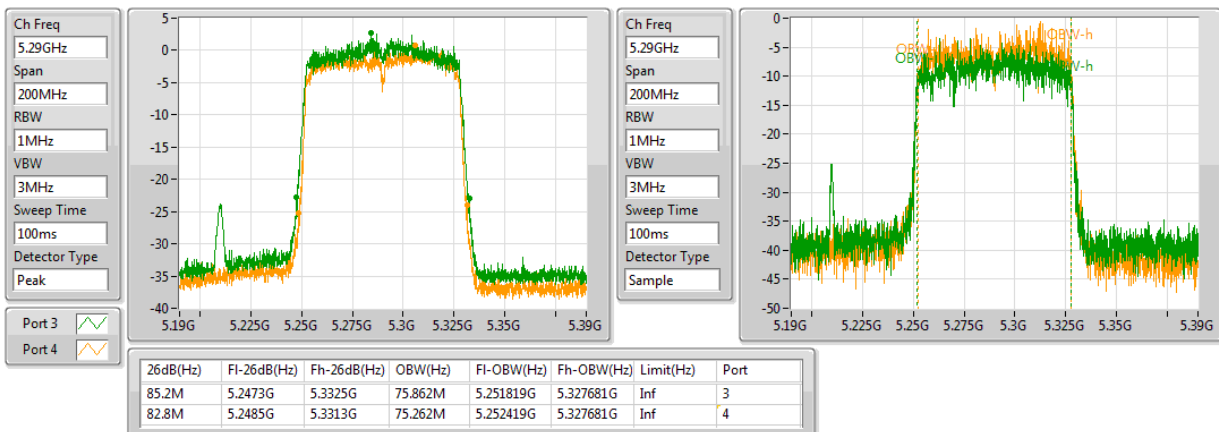


**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

11/01/2018





**EBW Result (Antenna Gain 15 dBi)**  
**Beamforming\_Client**

Appendix A.8

**Summary**

| Mode                                                 | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|------------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 80.8M            | 75.862M         | 75M9D1D  | 80.5M            | 75.562M         |
| 5.25-5.35GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 85.2M            | 75.762M         | 75M8D1D  | 83.5M            | 75.262M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



# **EBW Result (Antenna Gain 15 dBi)** **Beamforming\_Client**

Appendix A.8

## **Result**

| Mode                                                     | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|----------------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&<br>Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz_TnomVnom                                | Pass   | Inf           | 80.5M                  | 75.862M               | 80.8M                  | 75.562M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&<br>Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz_TnomVnom                                | Pass   | Inf           |                        |                       |                        |                       | 83.5M                  | 75.262M               | 85.2M                  | 75.762M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

**Port X-OBW** = Port X 99% occupied bandwidth;



**EBW Result (Antenna Gain 15 dBi)**  
**Beamforming\_Client**

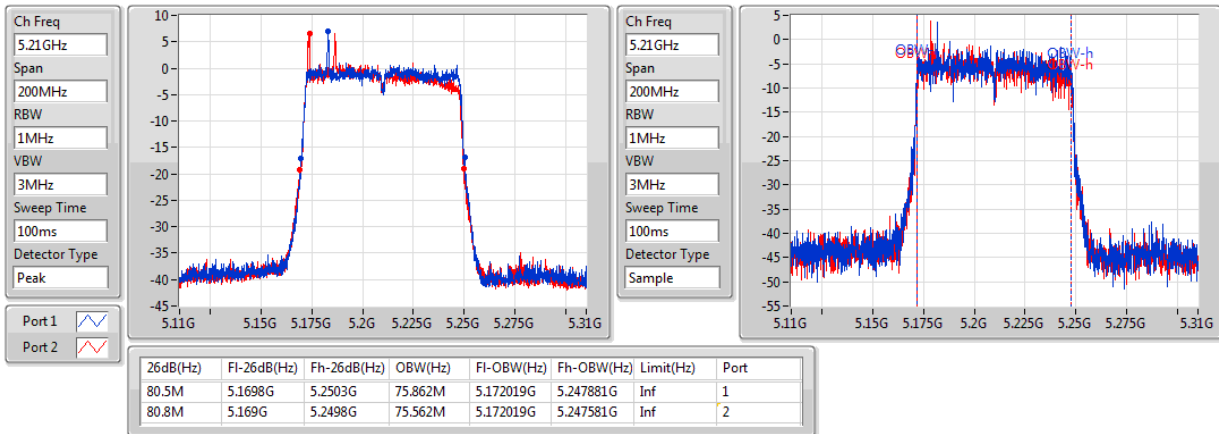
Appendix A.8

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

12/01/2018

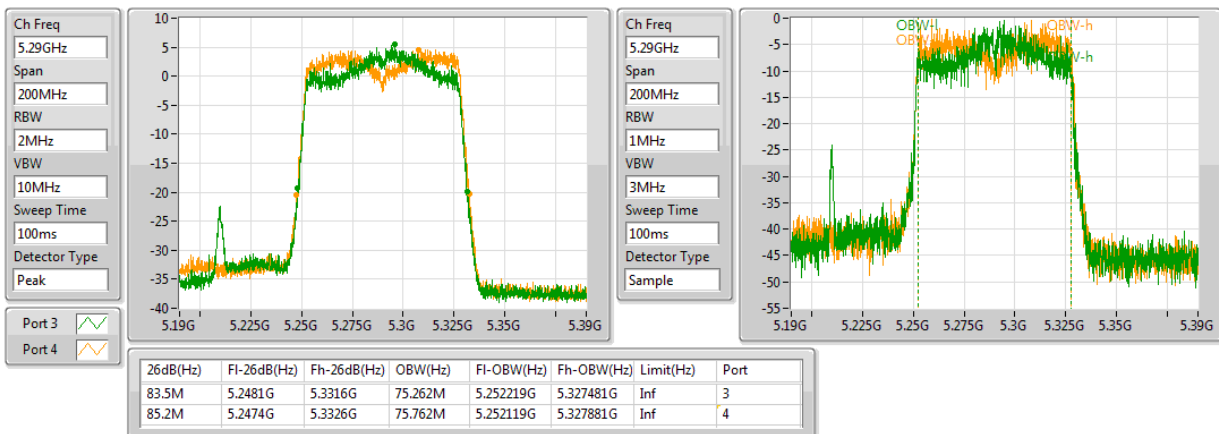


**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

12/01/2018





**EBW Result (Antenna Gain 15 dBi)**  
**Beamforming\_Indoor Master**

Appendix A.9

**Summary**

| Mode                                                 | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|------------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 83.3M            | 76.062M         | 76M1D1D  | 80.6M            | 75.462M         |
| 5.25-5.35GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 84.1M            | 75.662M         | 75M7D1D  | 83.5M            | 75.662M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



## EBW Result (Antenna Gain 15 dBi) Beamforming\_Indoor Master

Appendix A.9

### Result

| Mode                                                     | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|----------------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&<br>Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz_TnomVnom                                | Pass   | Inf           | 83.3M                  | 76.062M               | 80.6M                  | 75.462M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&<br>Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz_TnomVnom                                | Pass   | Inf           |                        |                       |                        |                       | 84.1M                  | 75.662M               | 83.5M                  | 75.662M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

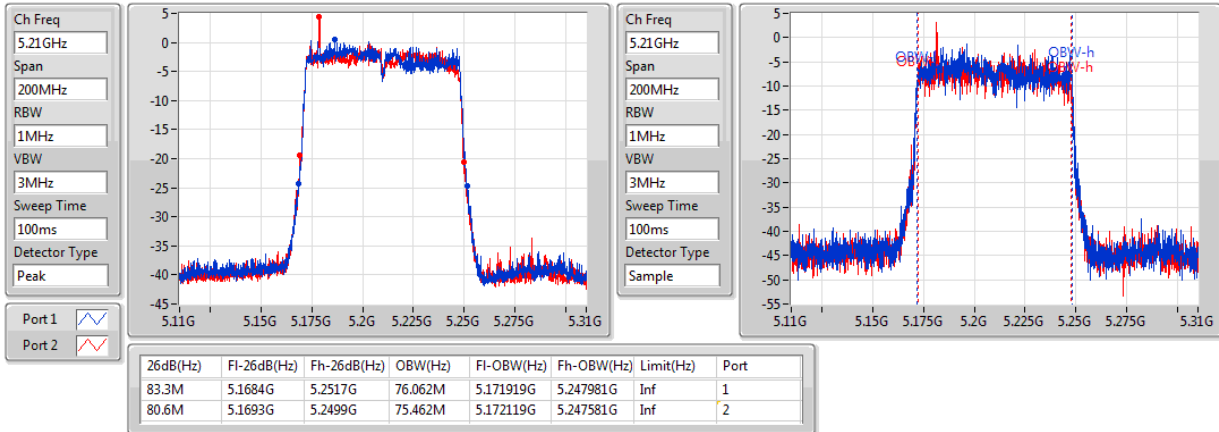
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

12/01/2018

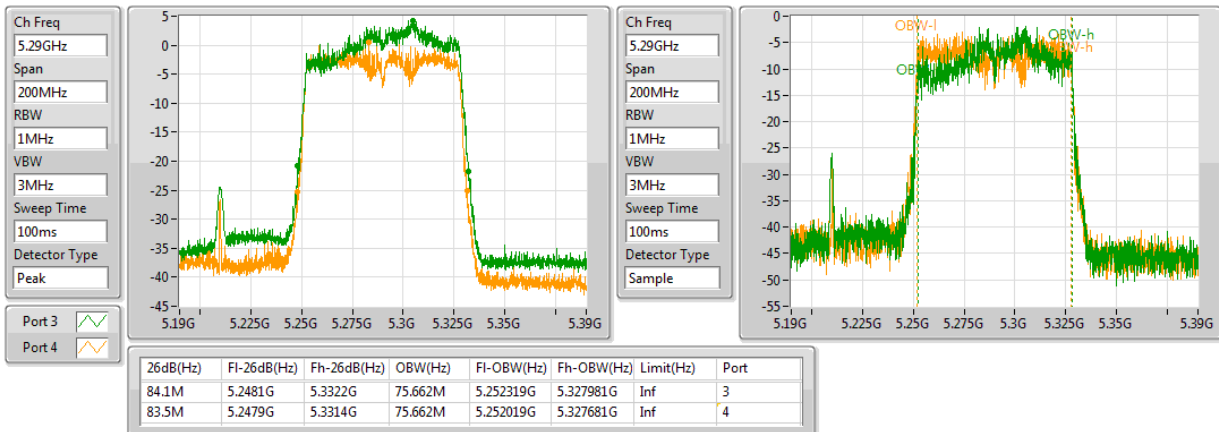


**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

12/01/2018





## EBW Result (Antenna Gain 15 dBi) Beamforming\_Outdoor Master

Appendix A.10

### Summary

| Mode                                                 | Max-N dB<br>(Hz) | Max-OBW<br>(Hz) | ITU-Code | Min-N dB<br>(Hz) | Min-OBW<br>(Hz) |
|------------------------------------------------------|------------------|-----------------|----------|------------------|-----------------|
| 5.15-5.25GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 83.2M            | 75.562M         | 75M6D1D  | 81.6M            | 75.462M         |
| 5.25-5.35GHz                                         | -                | -               | -        | -                | -               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 123.2M           | 76.162M         | 76M2D1D  | 83.8M            | 75.562M         |

**Max-N dB** = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Max-OBW** = Maximum 99% occupied bandwidth;

**Min-N dB** = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

**Min-OBW** = Minimum 99% occupied bandwidth;



# **EBW Result (Antenna Gain 15 dBi)** **Beamforming\_Outdoor Master**

Appendix A.10

## **Result**

| Mode                                                     | Result | Limit<br>(Hz) | Port 1-N<br>dB<br>(Hz) | Port<br>1-OBW<br>(Hz) | Port 2-N<br>dB<br>(Hz) | Port<br>2-OBW<br>(Hz) | Port 3-N<br>dB<br>(Hz) | Port<br>3-OBW<br>(Hz) | Port 4-N<br>dB<br>(Hz) | Port<br>4-OBW<br>(Hz) |
|----------------------------------------------------------|--------|---------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&<br>Port2) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| #5210MHz,5290MHz_TnomVnom                                | Pass   | Inf           | 81.6M                  | 75.462M               | 83.2M                  | 75.562M               |                        |                       |                        |                       |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&<br>Port4) | -      | -             | -                      | -                     | -                      | -                     | -                      | -                     | -                      | -                     |
| 5210MHz,#5290MHz_TnomVnom                                | Pass   | Inf           |                        |                       |                        |                       | 123.2M                 | 76.162M               | 83.8M                  | 75.562M               |

**Port X-N dB** = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

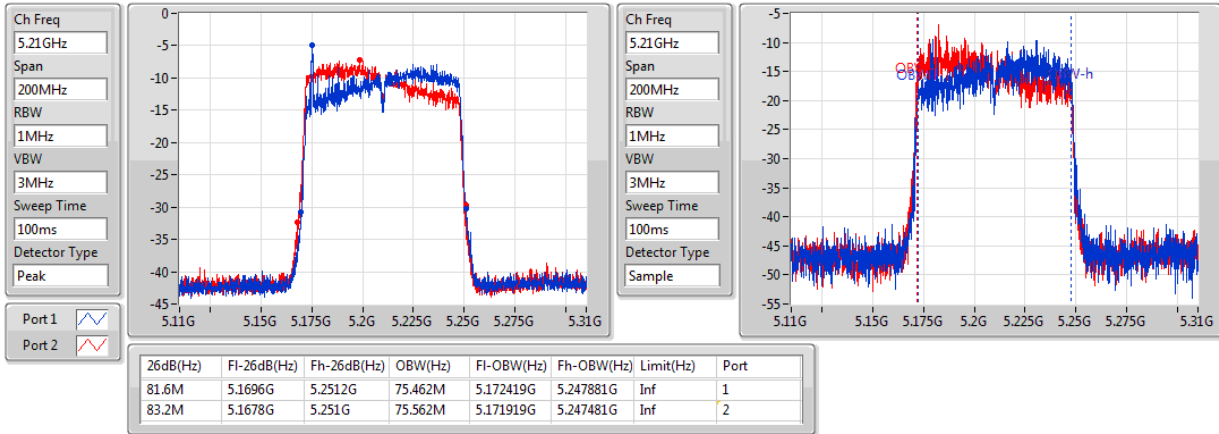
**Port X-OBW** = Port X 99% occupied bandwidth;

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**EBW**

**#5210MHz,5290MHz**

18/01/2018

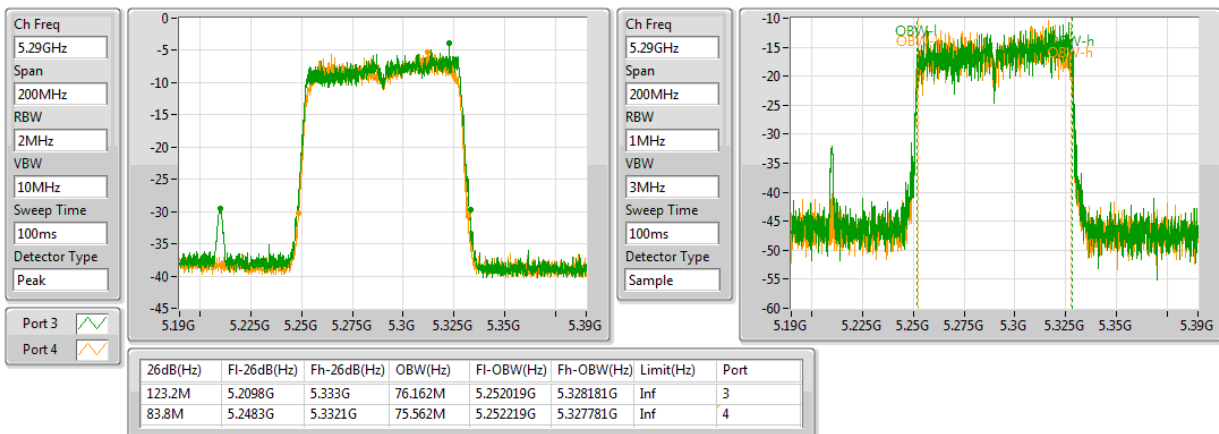


**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**EBW**

**5210MHz,#5290MHz**

18/01/2018





**Power Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix B.1

**Summary**

| Mode                                              | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|---------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                      | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 20.19                | 0.10447            | 30.19         | 1.04472     |
| 5.25-5.35GHz                                      | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | 19.45                | 0.08810            | 29.45         | 0.88105     |



**Power Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix B.1

**Result**

| Mode                                              | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|---------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz                                  | Pass   | 10.00       | 16.93           | 17.41           |                 |                 | 20.19                   | 26.00                   | 30.19         | 36.00               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz                                  | Pass   | 10.00       |                 |                 | 16.53           | 16.35           | 19.45                   | 20.00                   | 29.45         | 30.00               |

**DG** = Directional Gain;**Port X** = Port X output power



**Power Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix B.2

**Summary**

| Mode                                              | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|---------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                      | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 10.67                | 0.01167            | 20.67         | 0.11668     |
| 5.25-5.35GHz                                      | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | 10.65                | 0.01161            | 20.65         | 0.11614     |



**Power Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix B.2

**Result**

| Mode                                              | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|---------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz                                  | Pass   | 10.00       | 7.78            | 7.53            |                 |                 | 10.67                   | 26.00                   | 20.67         | 36.00               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz                                  | Pass   | 10.00       |                 |                 | 7.64            | 7.63            | 10.65                   | 20.00                   | 20.65         | 30.00               |

**DG** = Directional Gain;**Port X** = Port X output power



**Power Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix B.3

**Summary**

| Mode                                              | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|---------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                      | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 14.44                | 0.02780            | 29.44         | 0.87902     |
| 5.25-5.35GHz                                      | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | 14.68                | 0.02938            | 29.68         | 0.92897     |



**Power Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix B.3

**Result**

| Mode                                              | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|---------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz                                  | Pass   | 15.00       | 11.29           | 11.56           |                 |                 | 14.44                   | 21.00                   | 29.44         | 36.00               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz                                  | Pass   | 15.00       |                 |                 | 11.79           | 11.55           | 14.68                   | 15.00                   | 29.68         | 30.00               |

**DG** = Directional Gain;**Port X** = Port X output power



**Power Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix B.4

**Summary**

| Mode                                              | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|---------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                      | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 5.64                 | 0.00366            | 20.64         | 0.11588     |
| 5.25-5.35GHz                                      | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | 5.91                 | 0.00390            | 20.91         | 0.12331     |



**Power Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix B.4

**Result**

| Mode                                              | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|---------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz                                  | Pass   | 15.00       | 2.43            | 2.82            |                 |                 | 5.64                    | 21.00                   | 20.64         | 36.00               |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz                                  | Pass   | 15.00       |                 |                 | 2.94            | 2.86            | 5.91                    | 15.00                   | 20.91         | 30.00               |

**DG** = Directional Gain;**Port X** = Port X output power



**Power Result (Antenna Gain 10 dBi)**  
**Beamforming\_Client**

Appendix B.5

**Summary**

| Mode                                                 | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|------------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 16.81                | 0.04797            | 29.82         | 0.95940     |
| 5.25-5.35GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 16.85                | 0.04842            | 29.86         | 0.96828     |



**Power Result (Antenna Gain 10 dBi)**  
**Beamforming\_Client**

Appendix B.5

**Result**

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|------------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 13.01       | 13.66           | 13.94           |                 |                 | 16.81                   | 16.99                   | 29.82         | 30.00               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 13.01       |                 |                 | 13.37           | 14.26           | 16.85                   | 16.99                   | 29.86         | 30.00               |

**DG** = Directional Gain;**Port X** = Port X output power



**Power Result (Antenna Gain 10 dBi)**  
**Beamforming\_Indoor Master**

Appendix B.6

**Summary**

| Mode                                                 | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|------------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 16.81                | 0.04797            | 29.82         | 0.95940     |
| 5.25-5.35GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 16.85                | 0.04842            | 29.86         | 0.96828     |



**Power Result (Antenna Gain 10 dBi)**  
**Beamforming\_Indoor Master**

Appendix B.6

**Result**

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|------------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 13.01       | 13.66           | 13.94           |                 |                 | 16.81                   | 16.99                   | 29.82         | 36.00               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 13.01       |                 |                 | 13.37           | 14.26           | 16.85                   | 16.99                   | 29.86         | 30.00               |

**DG** = Directional Gain;**Port X** = Port X output power



## Power Result (Antenna Gain 10 dBi) Beamforming\_Outdoor Master

Appendix B.7

### Summary

| Mode                                                 | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|------------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 7.68                 | 0.00586            | 20.69         | 0.11722     |
| 5.25-5.35GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 7.55                 | 0.00569            | 20.56         | 0.11376     |



**Power Result (Antenna Gain 10 dBi)**  
**Beamforming\_Outdoor Master**

Appendix B.7

**Result**

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|------------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 13.01       | 3.61            | 5.52            |                 |                 | 7.68                    | 22.99                   | 20.69         | 36.00               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 13.01       |                 |                 | 4.33            | 4.74            | 7.55                    | 16.99                   | 20.56         | 30.00               |

**DG** = Directional Gain;**Port X** = Port X output power



**Power Result (Antenna Gain 15 dBi)**  
**Beamforming\_Client**

Appendix B.8

**Summary**

| Mode                                                 | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|------------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 11.06                | 0.01276            | 29.07         | 0.80724     |
| 5.25-5.35GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 10.31                | 0.01074            | 28.32         | 0.67920     |



## Power Result (Antenna Gain 15 dBi) Beamforming\_Client

Appendix B.8

### Result

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|------------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 18.01       | 8.31            | 7.77            |                 |                 | 11.06                   | 11.99                   | 29.07         | 30.00               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 18.01       |                 |                 | 6.77            | 7.78            | 10.31                   | 11.99                   | 28.32         | 30.00               |

DG = Directional Gain;Port X = Port X output power



**Power Result (Antenna Gain 15 dBi)**  
**Beamforming\_Indoor Master**

Appendix B.9

**Summary**

| Mode                                                 | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|------------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 12.29                | 0.01694            | 30.30         | 1.07152     |
| 5.25-5.35GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 11.27                | 0.01340            | 29.28         | 0.84723     |



## Power Result (Antenna Gain 15 dBi) Beamforming Indoor Master

Appendix B.9

### Result

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|------------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 18.01       | 9.65            | 8.87            |                 |                 | 12.29                   | 17.99                   | 30.30         | 36.00               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 18.01       |                 |                 | 7.89            | 8.60            | 11.27                   | 11.99                   | 29.28         | 30.00               |

**DG** = Directional Gain; **Port X** = Port X output power



**Power Result (Antenna Gain 15 dBi)**  
**Beamforming\_Outdoor Master**

Appendix B.10

**Summary**

| Mode                                                 | Total Power<br>(dBm) | Total Power<br>(W) | EIRP<br>(dBm) | EIRP<br>(W) |
|------------------------------------------------------|----------------------|--------------------|---------------|-------------|
| 5.15-5.25GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | 2.20                 | 0.00166            | 20.21         | 0.10495     |
| 5.25-5.35GHz                                         | -                    | -                  | -             | -           |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | 1.36                 | 0.00137            | 19.37         | 0.08650     |



**Power Result (Antenna Gain 15 dBi)**  
**Beamforming\_Outdoor Master**

Appendix B.10

**Result**

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm) | Port 2<br>(dBm) | Port 3<br>(dBm) | Port 4<br>(dBm) | Total<br>Power<br>(dBm) | Power<br>Limit<br>(dBm) | EIRP<br>(dBm) | EIRP Limit<br>(dBm) |
|------------------------------------------------------|--------|-------------|-----------------|-----------------|-----------------|-----------------|-------------------------|-------------------------|---------------|---------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 18.01       | -1.23           | -0.42           |                 |                 | 2.20                    | 17.99                   | 20.21         | 36.00               |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -               | -               | -               | -               | -                       | -                       | -             | -                   |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 18.01       |                 |                 | -1.46           | -1.84           | 1.36                    | 11.99                   | 19.37         | 30.00               |

**DG** = Directional Gain;**Port X** = Port X output power



**PSD Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix C.1

**Summary**

| Mode                                           | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                   | -               | -                    |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | 0.36            | 13.37                |
| 5.25-5.35GHz                                   | -               | -                    |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | 0.10            | 13.11                |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



**PSD Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix C.1

**Result**

| Mode                                              | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD<br>Limit<br>(dBm/RBW) |
|---------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|-------------------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| #5210MHz,5290MHz_TnomVnom                         | Pass   | 13.01       | -2.80               | -2.44               |                     |                     | 0.36            | 9.99                  | 13.37                | 23.00                         |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| 5210MHz,#5290MHz_TnomVnom                         | Pass   | 13.01       |                     |                     | -2.26               | -3.65               | 0.10            | 3.99                  | 13.11                | 17.00                         |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

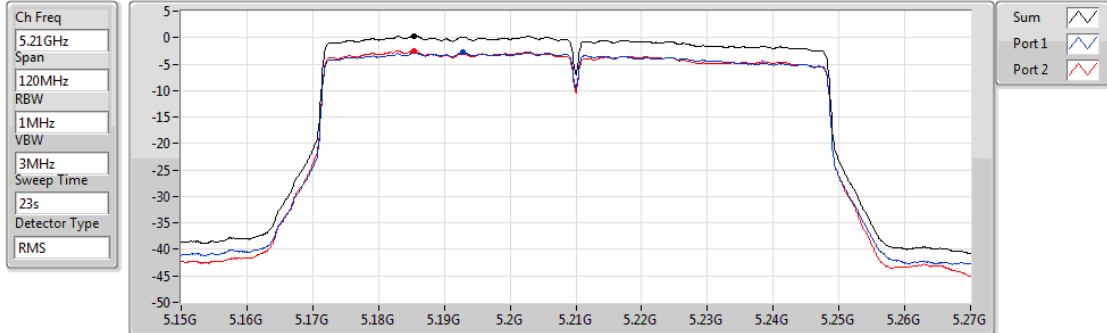
**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

**#5210MHz,5290MHz**

28/12/2017



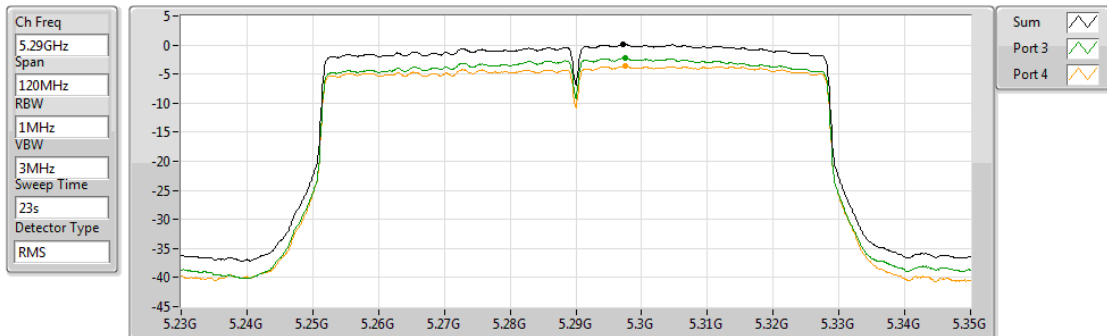
| Sum          | PD           | Port 1       | Port 2       |
|--------------|--------------|--------------|--------------|
| (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) |
| 0.36         | 0.36         | -2.80        | -2.44        |

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

**5210MHz,#5290MHz**

28/12/2017



| Sum          | PD           | Port 1       | Port 2       | Port 3       | Port 4       |
|--------------|--------------|--------------|--------------|--------------|--------------|
| (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) |
| 0.10         | 0.10         |              |              | -2.26        | -3.65        |



**PSD Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix C.2

**Summary**

| Mode                                           | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                   | -               | -                    |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -8.62           | 4.39                 |
| 5.25-5.35GHz                                   | -               | -                    |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -8.37           | 4.64                 |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



**PSD Result (Antenna Gain 10 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix C.2

**Result**

| Mode                                              | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD<br>Limit<br>(dBm/RBW) |
|---------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|-------------------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| #5210MHz,5290MHz_TnomVnom                         | Pass   | 13.01       | -11.36              | -11.58              |                     |                     | -8.62           | 9.99                  | 4.39                 | 23.00                         |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| 5210MHz,#5290MHz_TnomVnom                         | Pass   | 13.01       |                     |                     | -11.37              | -11.11              | -8.37           | 3.99                  | 4.64                 | 17.00                         |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

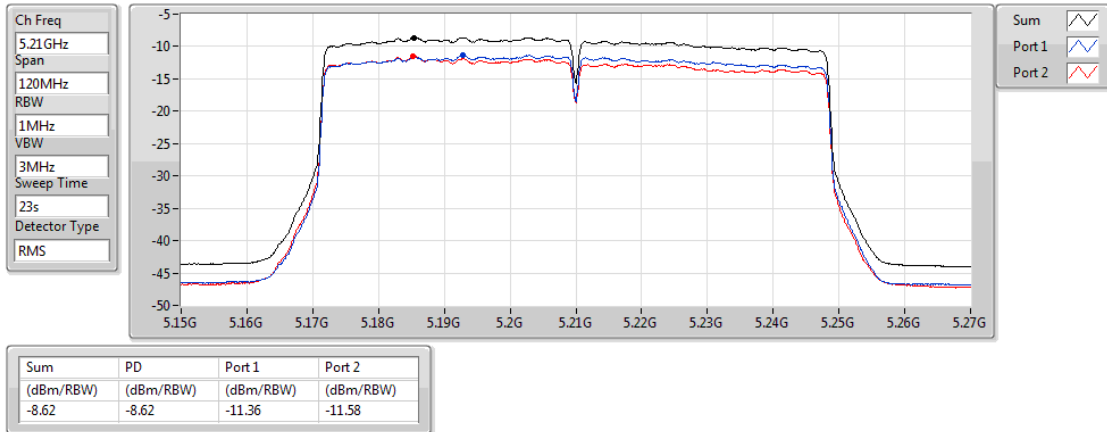
**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

**#5210MHz,5290MHz**

28/12/2017



**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

**5210MHz,#5290MHz**

28/12/2017





**PSD Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix C.3

**Summary**

| Mode                                           | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                   | -               | -                    |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -4.41           | 13.60                |
| 5.25-5.35GHz                                   | -               | -                    |
| 802.11ac VHT80+80_Nss1,(MCS0)_4TX(Port3&Port4) | -4.22           | 13.79                |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



**PSD Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Indoor Master**

Appendix C.3

**Result**

| Mode                                              | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD<br>Limit<br>(dBm/RBW) |
|---------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|-------------------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| #5210MHz,5290MHz                                  | Pass   | 18.01       | -7.61               | -7.05               |                     |                     | -4.41           | 4.99                  | 13.60                | 23.00                         |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| 5210MHz,#5290MHz                                  | Pass   | 18.01       |                     |                     | -7.09               | -7.36               | -4.22           | -1.01                 | 13.79                | 17.00                         |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

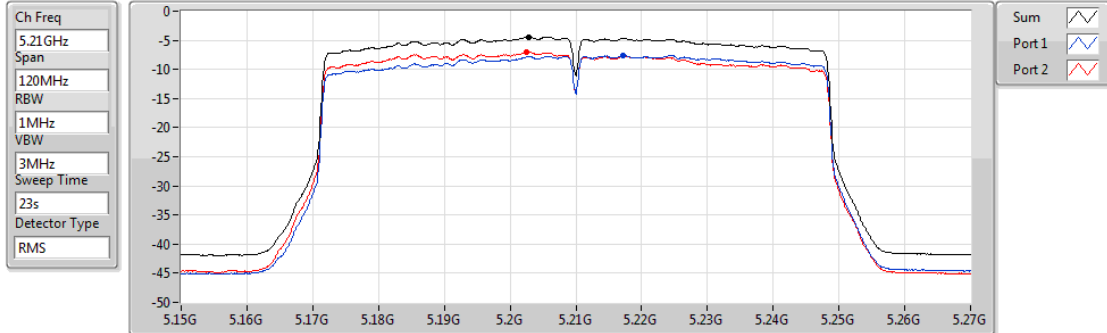
**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

**#5210MHz,5290MHz**

08/12/2017



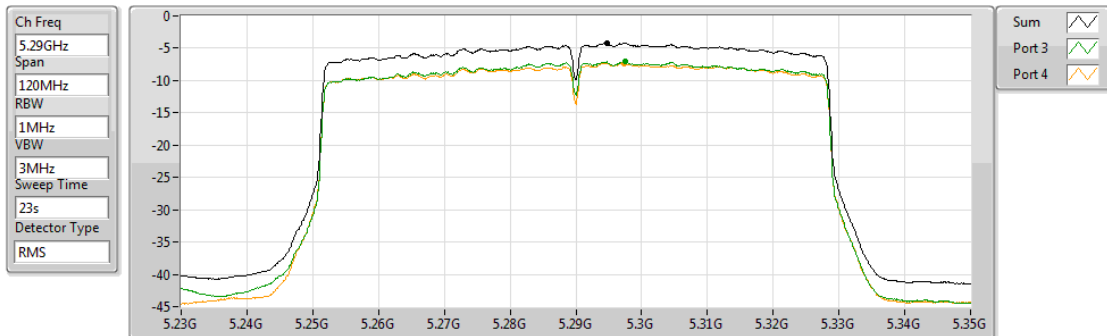
| Sum       | PD        | Port 1    | Port 2    |
|-----------|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.41     | -4.41     | -7.61     | -7.05     |

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

**5210MHz,#5290MHz**

08/12/2017



| Sum       | PD        | Port 1    | Port 2    | Port 3    | Port 4    |
|-----------|-----------|-----------|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.22     | -4.22     |           |           | -7.09     | -7.36     |



**PSD Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix C.4

**Summary**

| Mode                                           | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                   | -               | -                    |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -13.08          | 4.93                 |
| 5.25-5.35GHz                                   | -               | -                    |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -12.99          | 5.02                 |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



**PSD Result (Antenna Gain 15 dBi)**  
**Non-Beamforming\_Outdoor Master**

Appendix C.4

**Result**

| Mode                                              | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD<br>Limit<br>(dBm/RBW) |
|---------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|-------------------------------|
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| #5210MHz,5290MHz                                  | Pass   | 18.01       | -16.28              | -15.63              |                     |                     | -13.08          | 4.99                  | 4.93                 | 23.00                         |
| 802.11ac<br>VHT80+80_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| 5210MHz,#5290MHz                                  | Pass   | 18.01       |                     |                     | -15.85              | -15.91              | -12.99          | -1.01                 | 5.02                 | 17.00                         |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

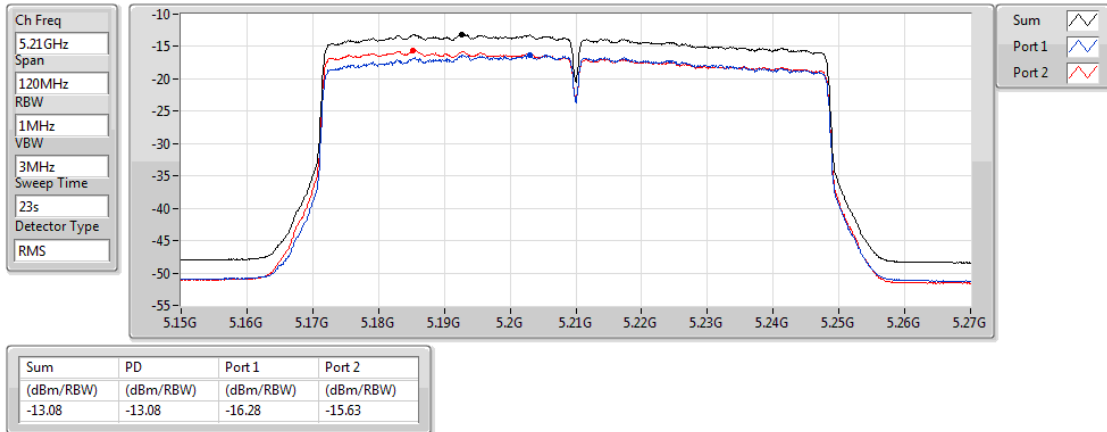
**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

**#5210MHz,5290MHz**

15/12/2017

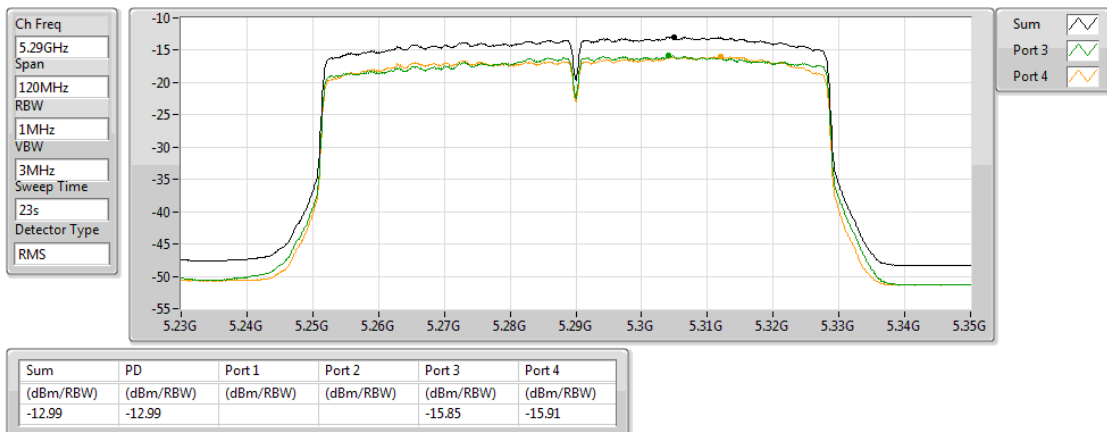


**802.11ac VHT80+80\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

**5210MHz,#5290MHz**

15/12/2017





**PSD Result (Antenna Gain 10 dBi)**  
**Beamforming\_Client**

Appendix C.5

**Summary**

| Mode                                              | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|---------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -1.54           | 11.47                |
| 5.25-5.35GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -2.52           | 10.49                |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



# **PSD Result (Antenna Gain 10 dBi)** **Beamforming\_Client**

Appendix C.5

## **Result**

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD Limit<br>(dBm/RBW) |
|------------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|----------------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                          |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 13.01       | -4.18               | -4.41               |                     |                     | -1.54           | 3.99                  | 11.47                | 17.00                      |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                          |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 13.01       |                     |                     | -5.54               | -4.51               | -2.52           | 3.99                  | 10.49                | 17.00                      |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;



**PSD Result (Antenna Gain 10 dBi)**  
**Beamforming\_Client**

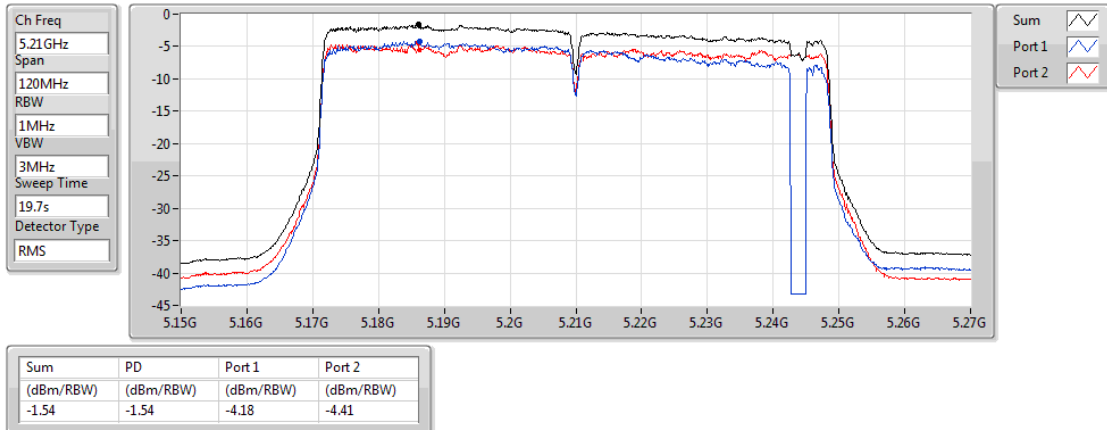
Appendix C.5

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

**#5210MHz,5290MHz**

10/01/2018

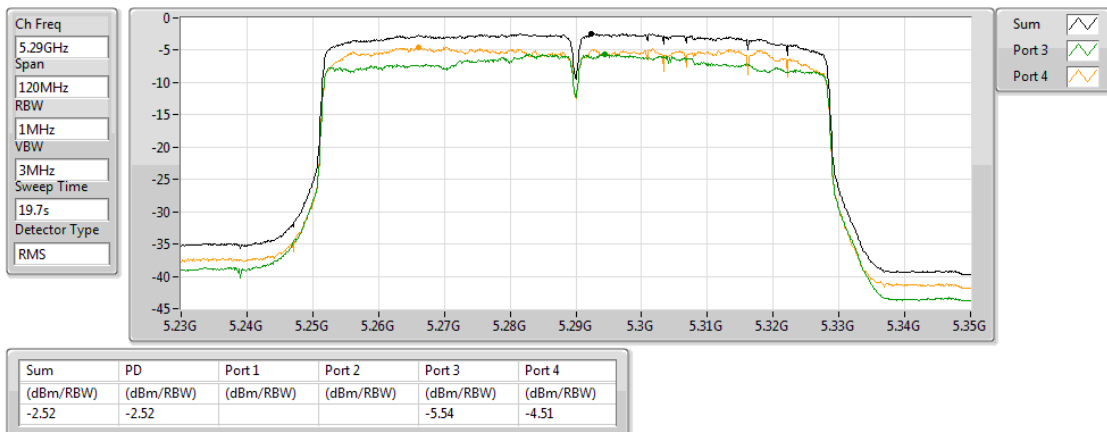


**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

**5210MHz,#5290MHz**

10/01/2018





**PSD Result (Antenna Gain 10 dBi)**  
**Beamforming\_Indoor Master**

Appendix C.6

**Summary**

| Mode                                              | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|---------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -1.54           | 11.47                |
| 5.25-5.35GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -2.52           | 10.49                |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



## PSD Result (Antenna Gain 10 dBi) Beamforming\_Indoor Master

Appendix C.6

### Result

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD<br>Limit<br>(dBm/RBW) |
|------------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|-------------------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 13.01       | -4.18               | -4.41               |                     |                     | -1.54           | 9.99                  | 11.47                | 23.00                         |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 13.01       |                     |                     | -5.54               | -4.51               | -2.52           | 3.99                  | 10.49                | 17.00                         |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

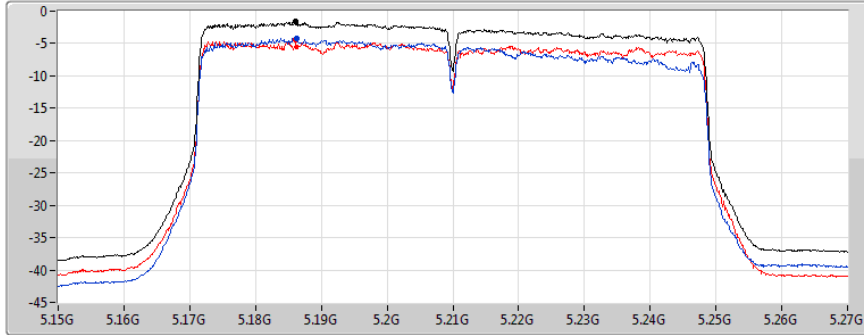
**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

#5210MHz,5290MHz

10/01/2018

Ch Freq  
5.21GHz  
Span  
120MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
19.7s  
Detector Type  
RMS



Sum ☒  
Port 1 ☒  
Port 2 ☒

| Sum          | PD           | Port 1       | Port 2       |
|--------------|--------------|--------------|--------------|
| (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) |
| -1.54        | -1.54        | -4.18        | -4.41        |

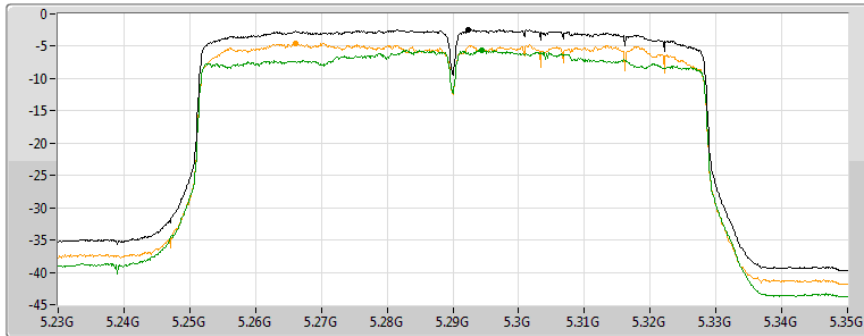
**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

5210MHz,#5290MHz

10/01/2018

Ch Freq  
5.29GHz  
Span  
120MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
19.7s  
Detector Type  
RMS



Sum ☒  
Port 3 ☒  
Port 4 ☒

| Sum          | PD           | Port 1       | Port 2       | Port 3       | Port 4       |
|--------------|--------------|--------------|--------------|--------------|--------------|
| (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) | (dBm/100MHz) |
| -2.52        | -2.52        |              |              | -5.54        | -4.51        |



**PSD Result (Antenna Gain 10 dBi)**  
**Beamforming\_Outdoor Master**

Appendix C.7

**Summary**

| Mode                                              | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|---------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -11.58          | 1.43                 |
| 5.25-5.35GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -11.68          | 1.33                 |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



## PSD Result (Antenna Gain 10 dBi) Beamforming\_Outdoor Master

Appendix C.7

### Result

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD<br>Limit<br>(dBm/RBW) |
|------------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|-------------------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 13.01       | -14.72              | -13.97              |                     |                     | -11.58          | 9.99                  | 1.43                 | 23.00                         |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 13.01       |                     |                     | -14.28              | -14.32              | -11.68          | 3.99                  | 1.33                 | 17.00                         |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

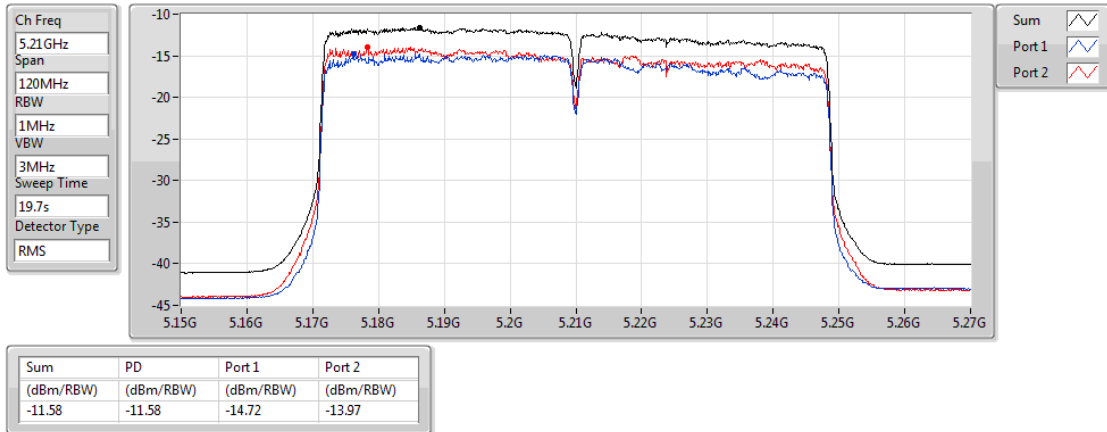
**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

#5210MHz,5290MHz

11/01/2018

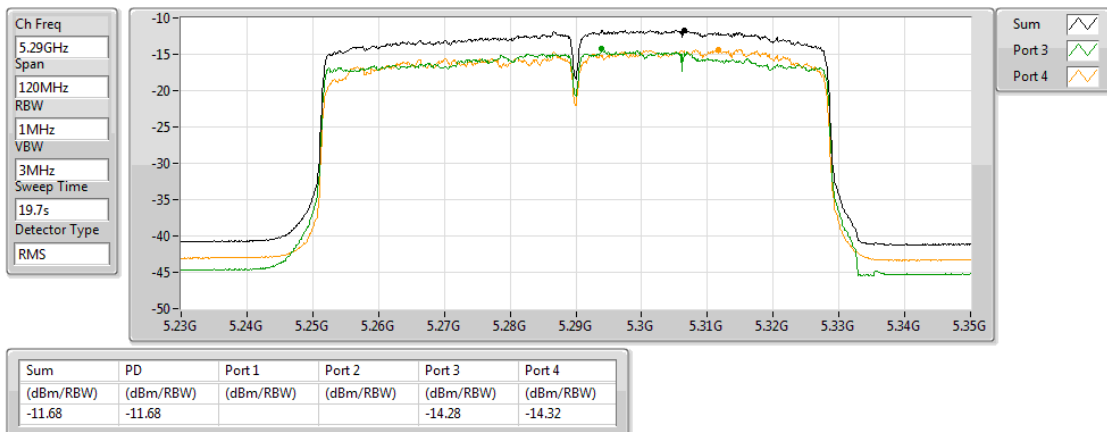


**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

5210MHz,#5290MHz

11/01/2018





**PSD Result (Antenna Gain 15 dBi)**  
**Beamforming\_Client**

Appendix C.8

**Summary**

| Mode                                              | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|---------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -7.33           | 10.68                |
| 5.25-5.35GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -7.73           | 10.28                |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



## PSD Result (Antenna Gain 15 dBi) Beamforming\_Client

Appendix C.8

### Result

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD<br>Limit<br>(dBm/RBW) |
|------------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|-------------------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 18.01       | -10.00              | -9.98               |                     |                     | -7.33           | -1.01                 | 10.68                | 17.00                         |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 18.01       |                     |                     | -9.47               | -9.87               | -7.73           | -1.01                 | 10.28                | 17.00                         |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

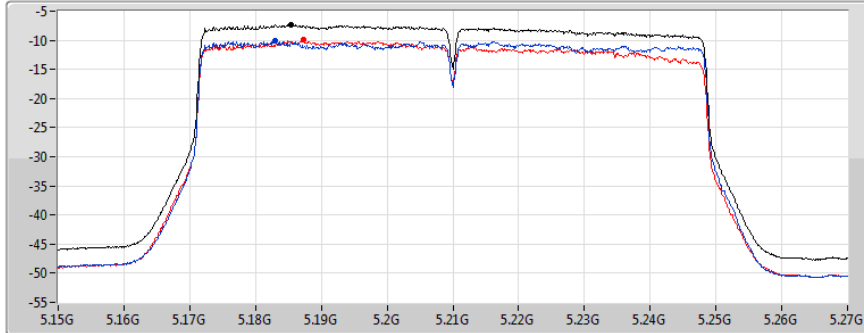
**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

**#5210MHz,5290MHz**

12/01/2018

Ch Freq  
5.21GHz  
Span  
120MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
19.7s  
Detector Type  
RMS



Sum ☒  
Port 1 ☒  
Port 2 ☒

| Sum       | PD        | Port 1    | Port 2    |
|-----------|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -7.33     | -7.33     | -10.00    | -9.98     |

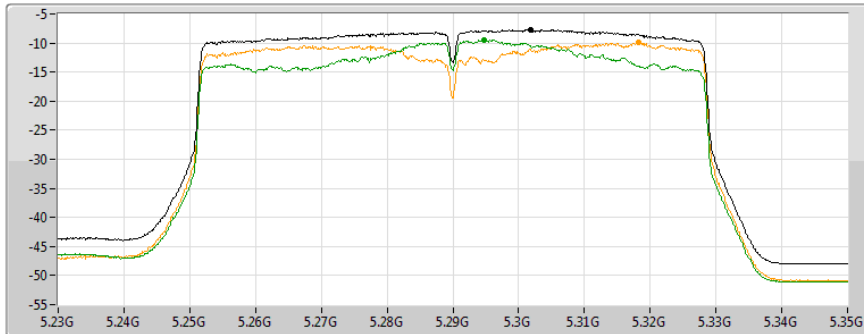
**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

**5210MHz,#5290MHz**

12/01/2018

Ch Freq  
5.29GHz  
Span  
120MHz  
RBW  
1MHz  
VBW  
3MHz  
Sweep Time  
19.7s  
Detector Type  
RMS



Sum ☒  
Port 3 ☒  
Port 4 ☒

| Sum       | PD        | Port 1    | Port 2    | Port 3    | Port 4    |
|-----------|-----------|-----------|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -7.73     | -7.73     |           |           | -9.47     | -9.87     |



**PSD Result (Antenna Gain 15 dBi)**  
**Beamforming\_Indoor Master**

Appendix C.9

**Summary**

| Mode                                                 | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|------------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                         | -               | -                    |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -6.25           | 11.76                |
| 5.25-5.35GHz                                         | -               | -                    |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -6.74           | 11.27                |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



## PSD Result (Antenna Gain 15 dBi) Beamforming\_Indoor Master

Appendix C.9

### Result

| Mode                                                     | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW<br>) | Port 2<br>(dBm/RBW<br>) | Port 3<br>(dBm/RBW<br>) | Port 4<br>(dBm/RBW<br>) | PD<br>(dBm/RBW<br>) | PD Limit<br>(dBm/RBW<br>) | EIRP PD<br>(dBm/RBW<br>) | EIRP PD<br>Limit<br>(dBm/RBW<br>) |
|----------------------------------------------------------|--------|-------------|-------------------------|-------------------------|-------------------------|-------------------------|---------------------|---------------------------|--------------------------|-----------------------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port<br>1&Port2) | -      | -           | -                       | -                       | -                       | -                       | -                   | -                         | -                        | -                                 |
| #5210MHz,5290MHz_TnomVnom                                | Pass   | 18.01       | -8.17                   | -9.31                   |                         |                         | -6.25               | 4.99                      | 11.76                    | 23.00                             |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port<br>3&Port4) | -      | -           | -                       | -                       | -                       | -                       | -                   | -                         | -                        | -                                 |
| 5210MHz,#5290MHz_TnomVnom                                | Pass   | 18.01       |                         |                         | -8.07                   | -9.67                   | -6.74               | -1.01                     | 11.27                    | 17.00                             |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

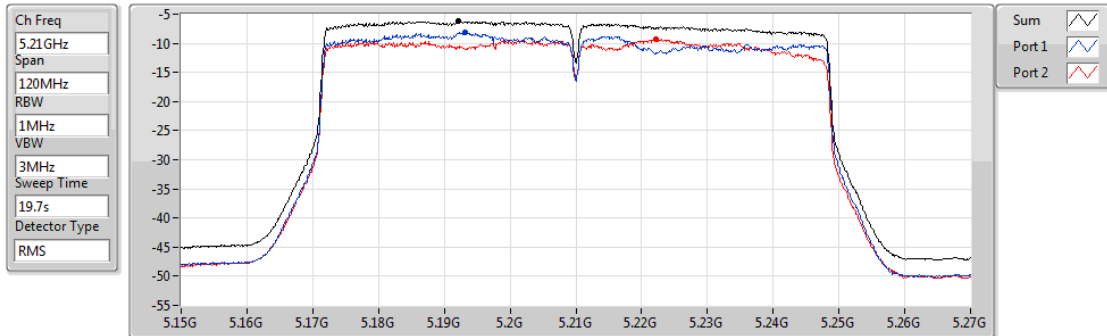
**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

#5210MHz,5290MHz

12/01/2018



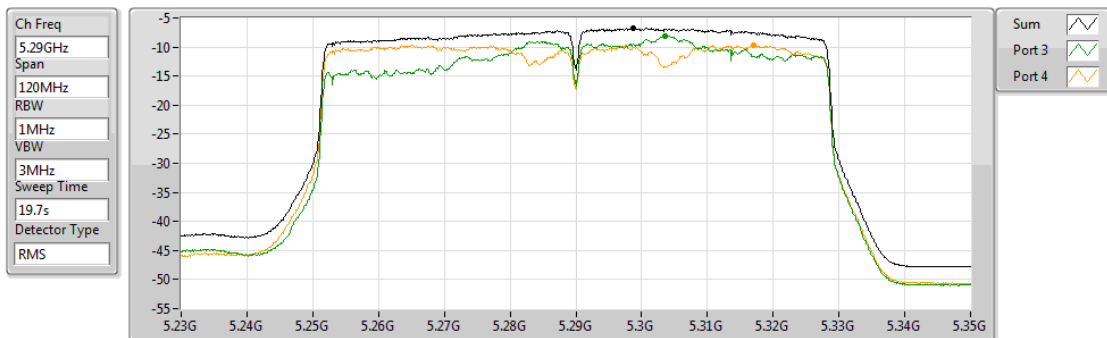
| Sum       | PD        | Port 1    | Port 2    |
|-----------|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -6.25     | -6.25     | -8.17     | -9.31     |

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

5210MHz,#5290MHz

12/01/2018



| Sum       | PD        | Port 1    | Port 2    | Port 3    | Port 4    |
|-----------|-----------|-----------|-----------|-----------|-----------|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -6.74     | -6.74     |           |           | -8.07     | -9.67     |



**PSD Result (Antenna Gain 15 dBi)**  
**Beamforming\_Outdoor Master**

Appendix C.10

**Summary**

| Mode                                              | PD<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) |
|---------------------------------------------------|-----------------|----------------------|
| 5.15-5.25GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -16.60          | 1.41                 |
| 5.25-5.35GHz                                      | -               | -                    |
| 802.11ac VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -17.31          | 0.70                 |

**RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;



# **PSD Result (Antenna Gain 15 dBi)** **Beamforming\_Outdoor Master**

Appendix C.10

## **Result**

| Mode                                                 | Result | DG<br>(dBi) | Port 1<br>(dBm/RBW) | Port 2<br>(dBm/RBW) | Port 3<br>(dBm/RBW) | Port 4<br>(dBm/RBW) | PD<br>(dBm/RBW) | PD Limit<br>(dBm/RBW) | EIRP PD<br>(dBm/RBW) | EIRP PD<br>Limit<br>(dBm/RBW) |
|------------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|-----------------|-----------------------|----------------------|-------------------------------|
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port1&Port2) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| #5210MHz,5290MHz_TnomVnom                            | Pass   | 18.01       | -18.89              | -18.14              |                     |                     | -16.60          | 4.99                  | 1.41                 | 23.00                         |
| 802.11ac<br>VHT80+80-BF_Nss2,(MCS0)_4TX(Port3&Port4) | -      | -           | -                   | -                   | -                   | -                   | -               | -                     | -                    | -                             |
| 5210MHz,#5290MHz_TnomVnom                            | Pass   | 18.01       |                     |                     | -20.16              | -19.58              | -17.31          | -1.01                 | 0.70                 | 17.00                         |

**DG** = Directional Gain; **RBW** = 500kHz for 5.725-5.85GHz band / 1MHz for other band;

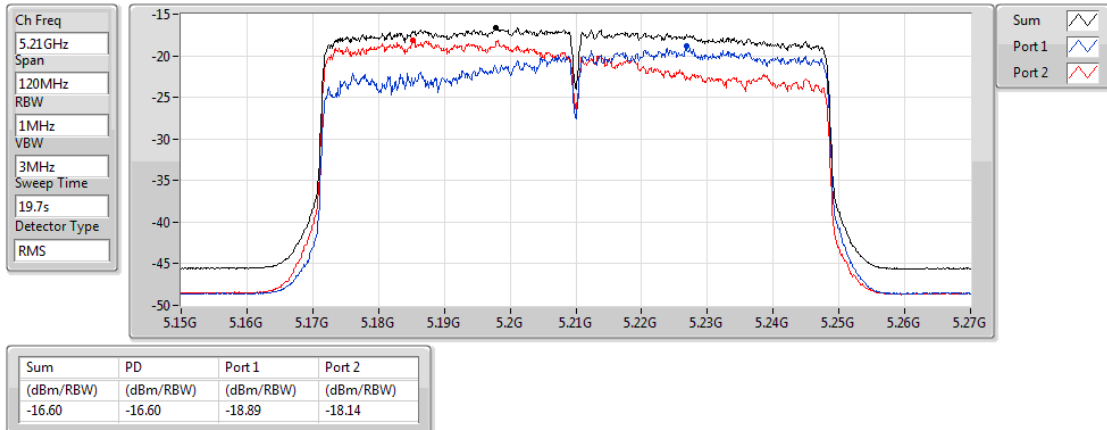
**PD** = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port Xpower density;

**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port1&Port2)**

**PSD**

#5210MHz,5290MHz

18/01/2018



**802.11ac VHT80+80-BF\_Nss2,(MCS0)\_4TX(Port3&Port4)**

**PSD**

5210MHz,#5290MHz

18/01/2018





**RSE TX below 1GHz Result (Antenna Gain 10 dBi)**  
**Non-Beamforming**

Appendix D.1

**Summary**

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 5.15-5.25GHz                      | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | Pass   | QP   | 41.64M       | 38.57             | 40.00             | -1.43          | -18.52         | 3           | Vertical  | 328            | 1.00          | -        |



## RSE TX below 1GHz Result (Antenna Gain 10 dBi) Non-Beamforming

Appendix D.1

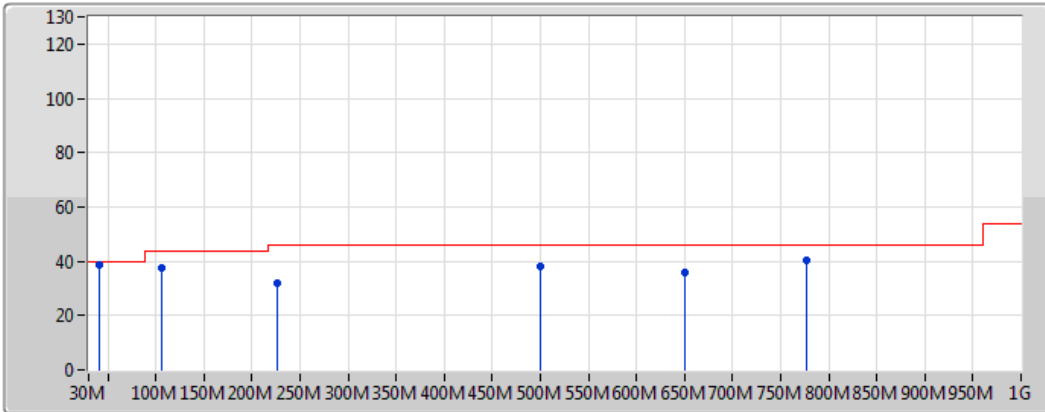
### Result

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| #5210#5290MHz                     | Pass   | PK   | 220.12M      | 40.72             | 46.00             | -5.28          | -19.70         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 291.9M       | 42.75             | 46.00             | -3.25          | -15.28         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 410.24M      | 33.21             | 46.00             | -12.79         | -11.76         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 499.48M      | 33.74             | 46.00             | -12.26         | -9.76          | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 579.02M      | 33.21             | 46.00             | -12.79         | -8.50          | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | QP   | 105.66M      | 39.81             | 43.50             | -3.69          | -19.40         | 3           | Horizontal | 125            | 1.24          | -        |
| #5210#5290MHz                     | Pass   | PK   | 105.66M      | 37.47             | 43.50             | -6.03          | -19.40         | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 225.94M      | 31.73             | 46.00             | -14.27         | -19.01         | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 499.48M      | 38.11             | 46.00             | -7.89          | -9.76          | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 650.8M       | 36.08             | 46.00             | -9.92          | -7.26          | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 776.9M       | 40.57             | 46.00             | -5.43          | -5.33          | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | QP   | 41.64M       | 38.57             | 40.00             | -1.43          | -18.52         | 3           | Vertical   | 328            | 1.00          | -        |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_PoE

20/12/2017



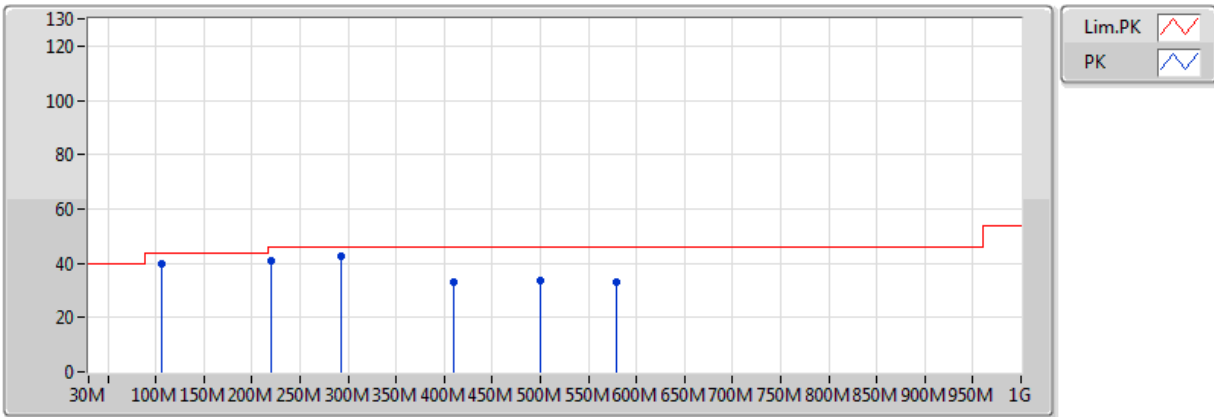
Lim.PK   
 PK 

| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| PK   | 105.66M      | 37.47             | 43.50             | -6.03          | -19.40         | 3           | Vertical  | 0              | 1.00          | -        | 56.87         | 15.72      | 1.66       | 36.78      |
| PK   | 225.94M      | 31.73             | 46.00             | -14.27         | -19.01         | 3           | Vertical  | 0              | 1.00          | -        | 50.74         | 14.95      | 2.44       | 36.40      |
| PK   | 499.48M      | 38.11             | 46.00             | -7.89          | -9.76          | 3           | Vertical  | 0              | 1.00          | -        | 47.87         | 23.22      | 3.94       | 36.92      |
| PK   | 650.8M       | 36.08             | 46.00             | -9.92          | -7.26          | 3           | Vertical  | 0              | 1.00          | -        | 43.34         | 25.59      | 4.42       | 37.27      |
| PK   | 776.9M       | 40.57             | 46.00             | -5.43          | -5.33          | 3           | Vertical  | 0              | 1.00          | -        | 45.90         | 27.36      | 4.76       | 37.45      |
| QP   | 41.64M       | 38.57             | 40.00             | -1.43          | -18.52         | 3           | Vertical  | 328            | 1.00          | -        | 57.09         | 17.63      | 1.08       | 37.22      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_PoE

20/12/2017



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| PK   | 220.12M      | 40.72             | 46.00             | -5.28          | -19.70         | 3           | Horizontal | 360            | 1.00          | -        | 60.42         | 14.29      | 2.40       | 36.39      |
| PK   | 291.9M       | 42.75             | 46.00             | -3.25          | -15.28         | 3           | Horizontal | 360            | 1.00          | -        | 58.03         | 18.23      | 2.92       | 36.43      |
| PK   | 410.24M      | 33.21             | 46.00             | -12.79         | -11.76         | 3           | Horizontal | 360            | 1.00          | -        | 44.97         | 21.52      | 3.36       | 36.64      |
| PK   | 499.48M      | 33.74             | 46.00             | -12.26         | -9.76          | 3           | Horizontal | 360            | 1.00          | -        | 43.50         | 23.22      | 3.94       | 36.92      |
| PK   | 579.02M      | 33.21             | 46.00             | -12.79         | -8.50          | 3           | Horizontal | 360            | 1.00          | -        | 41.71         | 24.54      | 4.09       | 37.14      |
| QP   | 105.66M      | 39.81             | 43.50             | -3.69          | -19.40         | 3           | Horizontal | 125            | 1.24          | -        | 59.21         | 15.72      | 1.66       | 36.78      |



**RSE TX above 1GHz Result (Antenna Gain 10 dBi)**  
**Non-Beamforming**

Appendix D.2

**Summary**

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 5.15-5.25GHz                      | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | Pass   | AV   | 5.350005G    | 53.29             | 54.00             | -0.71          | 2.85           | 3           | Horizontal | 13             | 1.64          | -        |



## RSE TX above 1GHz Result (Antenna Gain 10 dBi) Non-Beamforming

Appendix D.2

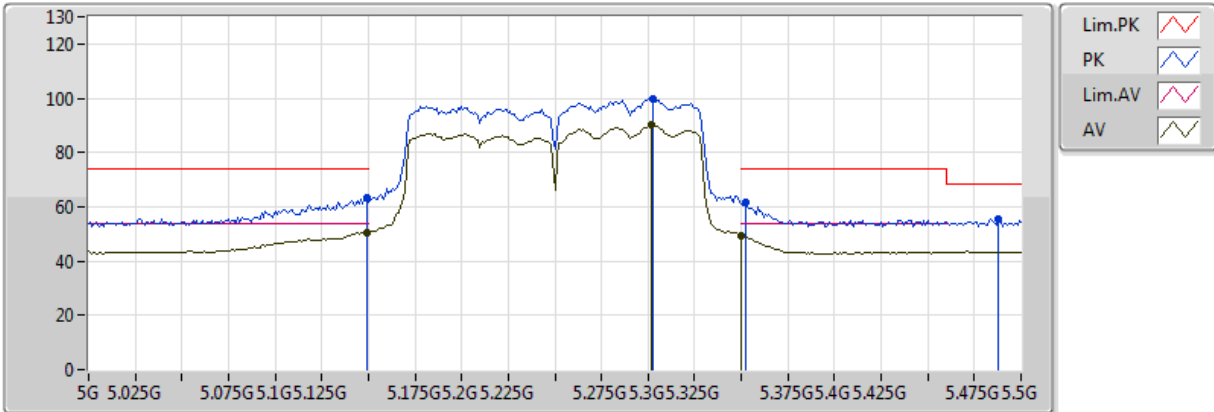
### Result

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.149995G    | 51.85             | 54.00             | -2.15          | 2.73           | 3           | Horizontal | 13             | 1.64          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.285G       | 90.74             | Inf               | -Inf           | 2.81           | 3           | Horizontal | 13             | 1.64          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.350005G    | 53.29             | 54.00             | -0.71          | 2.85           | 3           | Horizontal | 13             | 1.64          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.149G       | 64.64             | 74.00             | -9.36          | 2.73           | 3           | Horizontal | 13             | 1.64          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.287G       | 100.38            | Inf               | -Inf           | 2.81           | 3           | Horizontal | 13             | 1.64          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.353G       | 65.12             | 74.00             | -8.88          | 2.85           | 3           | Horizontal | 13             | 1.64          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.464G       | 55.40             | 68.20             | -12.80         | 2.91           | 3           | Horizontal | 13             | 1.64          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.149G       | 50.67             | 54.00             | -3.33          | 2.73           | 3           | Vertical   | 22             | 1.26          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.302G       | 90.02             | Inf               | -Inf           | 2.82           | 3           | Vertical   | 22             | 1.26          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.350005G    | 49.54             | 54.00             | -4.46          | 2.85           | 3           | Vertical   | 22             | 1.26          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.149G       | 63.54             | 74.00             | -10.46         | 2.73           | 3           | Vertical   | 22             | 1.26          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.303G       | 99.73             | Inf               | -Inf           | 2.82           | 3           | Vertical   | 22             | 1.26          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.352G       | 61.66             | 74.00             | -12.34         | 2.85           | 3           | Vertical   | 22             | 1.26          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.488G       | 55.32             | 68.20             | -12.88         | 2.92           | 3           | Vertical   | 22             | 1.26          | -        |
| #5210#5290MHz                     | Pass   | AV   | 10.51266G    | 41.21             | 54.00             | -12.79         | 12.74          | 3           | Horizontal | 0              | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 10.5108G     | 53.95             | 74.00             | -20.05         | 12.73          | 3           | Horizontal | 0              | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 10.51422G    | 41.01             | 54.00             | -12.99         | 12.74          | 3           | Vertical   | 360            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 10.50876G    | 53.93             | 74.00             | -20.07         | 12.73          | 3           | Vertical   | 360            | 1.50          | -        |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_TX

20/12/2017

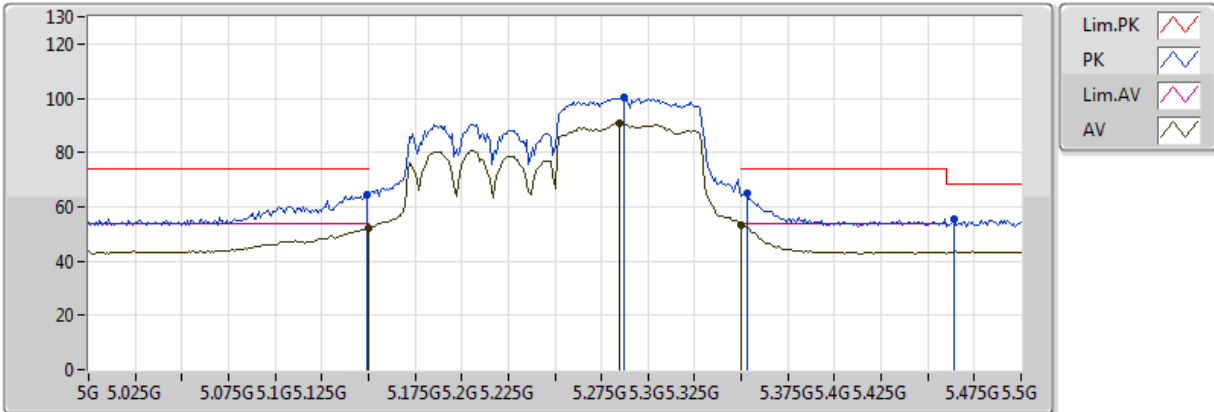


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.149G       | 50.67             | 54.00             | -3.33          | 2.73           | 3           | Vertical  | 22             | 1.26          | -        | 47.94         | 31.66      | 5.62       | 34.55      |
| AV   | 5.302G       | 90.02             | Inf               | -Inf           | 2.82           | 3           | Vertical  | 22             | 1.26          | -        | 87.20         | 31.72      | 5.64       | 34.54      |
| AV   | 5.350005G    | 49.54             | 54.00             | -4.46          | 2.85           | 3           | Vertical  | 22             | 1.26          | -        | 46.69         | 31.74      | 5.65       | 34.54      |
| PK   | 5.149G       | 63.54             | 74.00             | -10.46         | 2.73           | 3           | Vertical  | 22             | 1.26          | -        | 60.81         | 31.66      | 5.62       | 34.55      |
| PK   | 5.303G       | 99.73             | Inf               | -Inf           | 2.82           | 3           | Vertical  | 22             | 1.26          | -        | 96.91         | 31.72      | 5.64       | 34.54      |
| PK   | 5.352G       | 61.66             | 74.00             | -12.34         | 2.85           | 3           | Vertical  | 22             | 1.26          | -        | 58.80         | 31.74      | 5.65       | 34.54      |
| PK   | 5.488G       | 55.32             | 68.20             | -12.88         | 2.92           | 3           | Vertical  | 22             | 1.26          | -        | 52.40         | 31.80      | 5.67       | 34.54      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_TX

20/12/2017

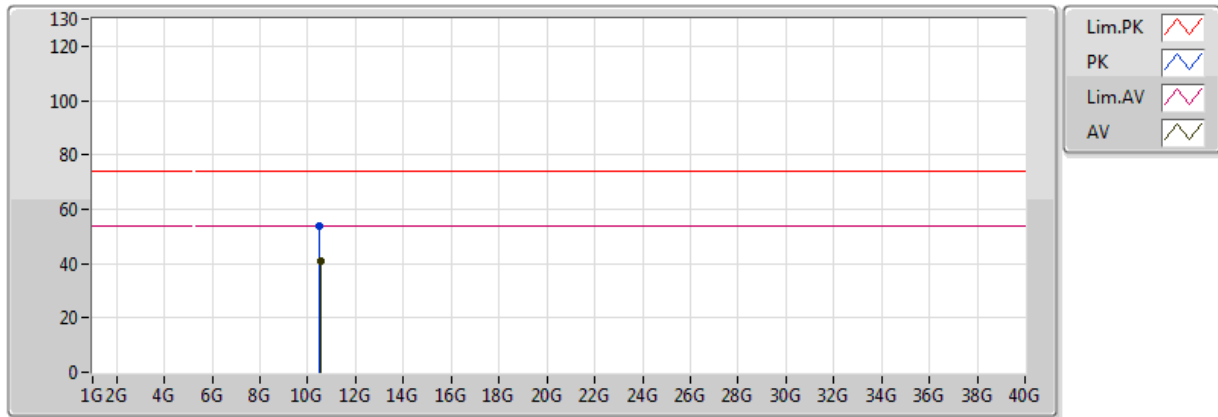


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.149995G    | 51.85             | 54.00             | -2.15          | 2.73           | 3           | Horizontal | 13             | 1.64          | -        | 49.12         | 31.66      | 5.62       | 34.55      |
| AV   | 5.285G       | 90.74             | Inf               | -Inf           | 2.81           | 3           | Horizontal | 13             | 1.64          | -        | 87.93         | 31.71      | 5.64       | 34.54      |
| AV   | 5.350005G    | 53.29             | 54.00             | -0.71          | 2.85           | 3           | Horizontal | 13             | 1.64          | -        | 50.44         | 31.74      | 5.65       | 34.54      |
| PK   | 5.149G       | 64.64             | 74.00             | -9.36          | 2.73           | 3           | Horizontal | 13             | 1.64          | -        | 61.92         | 31.66      | 5.62       | 34.55      |
| PK   | 5.287G       | 100.38            | Inf               | -Inf           | 2.81           | 3           | Horizontal | 13             | 1.64          | -        | 97.57         | 31.71      | 5.64       | 34.54      |
| PK   | 5.353G       | 65.12             | 74.00             | -8.88          | 2.85           | 3           | Horizontal | 13             | 1.64          | -        | 62.27         | 31.74      | 5.65       | 34.54      |
| PK   | 5.464G       | 55.40             | 68.20             | -12.80         | 2.91           | 3           | Horizontal | 13             | 1.64          | -        | 52.49         | 31.79      | 5.67       | 34.54      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_TX

20/12/2017

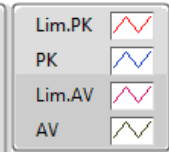
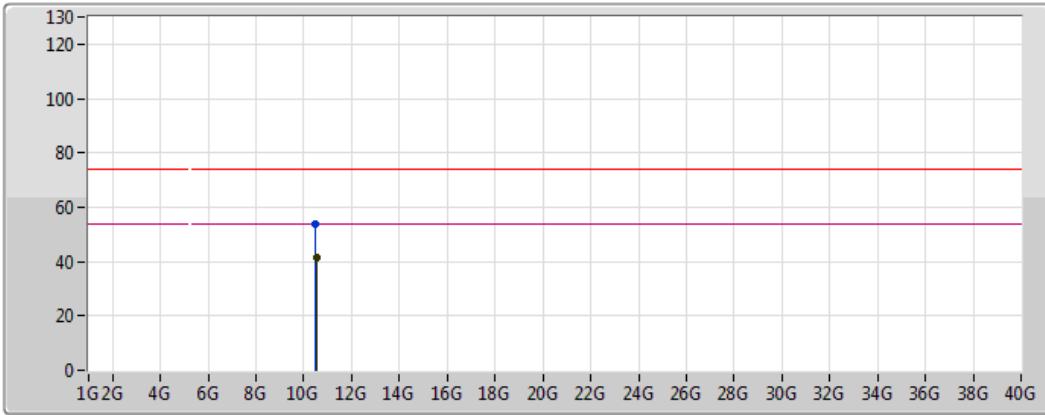


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 10.51422G    | 41.01             | 54.00             | -12.99         | 12.74          | 3           | Vertical  | 360            | 1.50          | -        | 28.27         | 39.72      | 8.00       | 34.98      |
| PK   | 10.50876G    | 53.93             | 74.00             | -20.07         | 12.73          | 3           | Vertical  | 360            | 1.50          | -        | 41.20         | 39.71      | 8.00       | 34.98      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_TX

20/12/2017



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 10.51266G    | 41.21             | 54.00             | -12.79         | 12.74          | 3           | Horizontal | 0              | 1.50          | -        | 28.47         | 39.72      | 8.00       | 34.98      |
| PK   | 10.5108G     | 53.95             | 74.00             | -20.05         | 12.73          | 3           | Horizontal | 0              | 1.50          | -        | 41.22         | 39.72      | 8.00       | 34.98      |



**RSE TX below 1GHz Result (Antenna Gain 15 dBi)**  
**Non-Beamforming**

Appendix D.3

**Summary**

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 5.15-5.25GHz                      | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | Pass   | PK   | 33.88M       | 35.27             | 40.00             | -4.73          | -5.95          | 3           | Vertical  | 360            | 1.00          | -        |



## RSE TX below 1GHz Result (Antenna Gain 15 dBi) Non-Beamforming

Appendix D.3

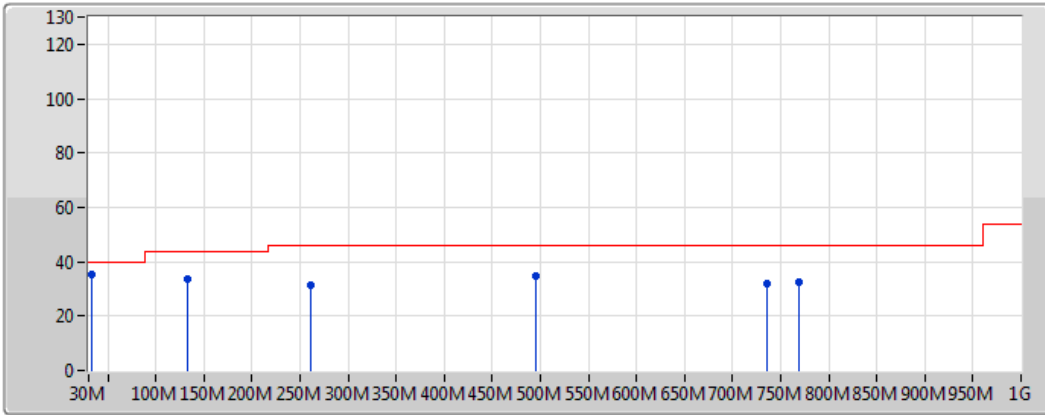
### Result

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| #5210#5290MHz                     | Pass   | PK   | 101.78M      | 34.64             | 43.50             | -8.86          | -10.17         | 3           | Horizontal | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 134.76M      | 34.33             | 43.50             | -9.17          | -9.32          | 3           | Horizontal | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 239.52M      | 39.10             | 46.00             | -6.90          | -8.60          | 3           | Horizontal | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 652.74M      | 32.52             | 46.00             | -13.48         | -0.46          | 3           | Horizontal | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 714.82M      | 36.51             | 46.00             | -9.49          | 0.15           | 3           | Horizontal | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 769.14M      | 36.28             | 46.00             | -9.72          | 1.20           | 3           | Horizontal | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 33.88M       | 35.27             | 40.00             | -4.73          | -5.95          | 3           | Vertical   | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 132.82M      | 33.57             | 43.50             | -9.93          | -9.21          | 3           | Vertical   | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 260.86M      | 31.55             | 46.00             | -14.45         | -6.16          | 3           | Vertical   | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 495.6M       | 34.61             | 46.00             | -11.39         | -2.33          | 3           | Vertical   | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 736.16M      | 31.85             | 46.00             | -14.15         | 0.75           | 3           | Vertical   | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 769.14M      | 32.71             | 46.00             | -13.29         | 1.20           | 3           | Vertical   | 360            | 1.00          | -        |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_PoE

08/12/2017



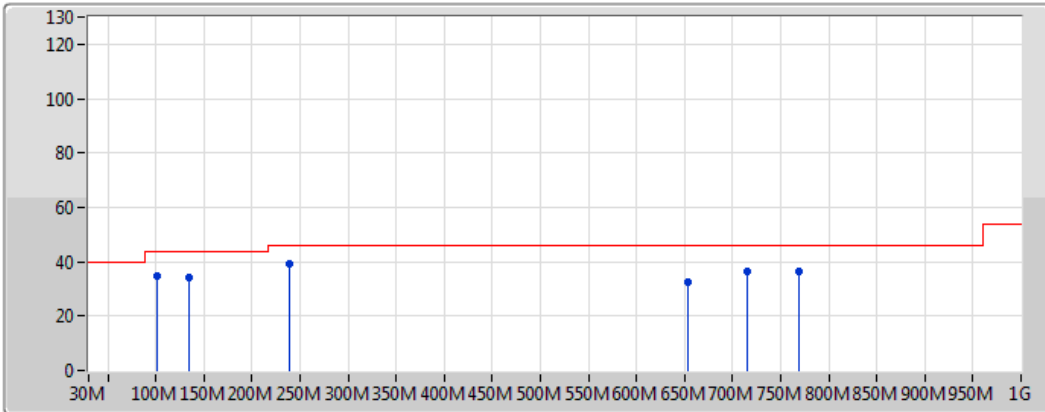
Lim.PK   
 PK 

| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| PK   | 33.88M       | 35.27             | 40.00             | -4.73          | -5.95          | 3           | Vertical  | 360            | 1.00          | -        | 41.22         | 21.11      | 0.74       | 27.80      |
| PK   | 132.82M      | 33.57             | 43.50             | -9.93          | -9.21          | 3           | Vertical  | 360            | 1.00          | -        | 42.78         | 16.74      | 1.74       | 27.69      |
| PK   | 260.86M      | 31.55             | 46.00             | -14.45         | -6.16          | 3           | Vertical  | 360            | 1.00          | -        | 37.71         | 18.86      | 2.28       | 27.30      |
| PK   | 495.6M       | 34.61             | 46.00             | -11.39         | -2.33          | 3           | Vertical  | 360            | 1.00          | -        | 36.94         | 22.76      | 3.38       | 28.47      |
| PK   | 736.16M      | 31.85             | 46.00             | -14.15         | 0.75           | 3           | Vertical  | 360            | 1.00          | -        | 31.10         | 24.87      | 4.15       | 28.27      |
| PK   | 769.14M      | 32.71             | 46.00             | -13.29         | 1.20           | 3           | Vertical  | 360            | 1.00          | -        | 31.51         | 25.12      | 4.25       | 28.16      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_PoE

08/12/2017



Lim.PK   
 PK 

| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| PK   | 101.78M      | 34.64             | 43.50             | -8.86          | -10.17         | 3           | Horizontal | 0              | 1.00          | -        | 44.81         | 16.19      | 1.44       | 27.80      |
| PK   | 134.76M      | 34.33             | 43.50             | -9.17          | -9.32          | 3           | Horizontal | 0              | 1.00          | -        | 43.65         | 16.61      | 1.75       | 27.68      |
| PK   | 239.52M      | 39.10             | 46.00             | -6.90          | -8.60          | 3           | Horizontal | 0              | 1.00          | -        | 47.70         | 16.53      | 2.21       | 27.34      |
| PK   | 652.74M      | 32.52             | 46.00             | -13.48         | -0.46          | 3           | Horizontal | 0              | 1.00          | -        | 32.98         | 24.24      | 3.77       | 28.46      |
| PK   | 714.82M      | 36.51             | 46.00             | -9.49          | 0.15           | 3           | Horizontal | 0              | 1.00          | -        | 36.36         | 24.37      | 4.12       | 28.34      |
| PK   | 769.14M      | 36.28             | 46.00             | -9.72          | 1.20           | 3           | Horizontal | 0              | 1.00          | -        | 35.08         | 25.12      | 4.25       | 28.16      |



## RSE TX above 1GHz Result (Antenna Gain 15 dBi) Non-Beamforming

Appendix D.4

### Summary

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 5.15-5.25GHz                      | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | Pass   | AV   | 5.144G       | 52.78             | 54.00             | -1.22          | 4.78           | 3           | Vertical  | 181            | 1.50          | -        |



# RSE TX above 1GHz Result (Antenna Gain 15 dBi) Non-Beamforming

Appendix D.4

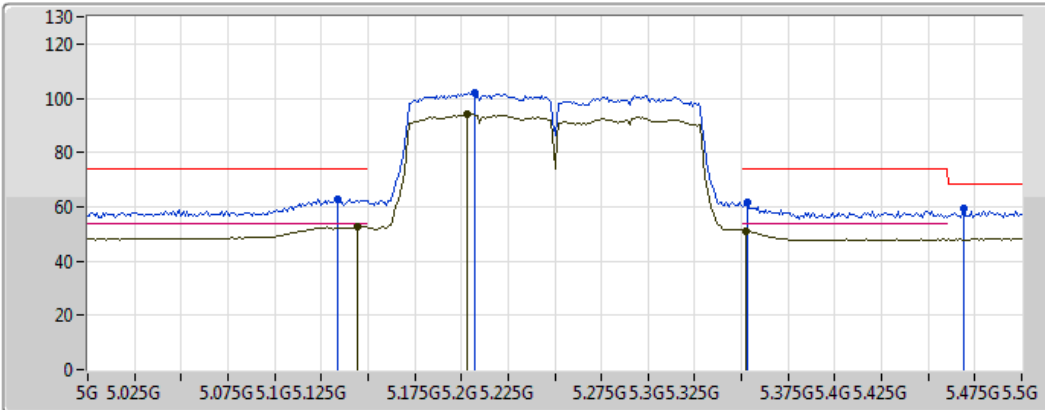
## Result

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.13G        | 50.94             | 54.00             | -3.06          | 4.76           | 3           | Horizontal | 181            | 1.48          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.301G       | 92.47             | Inf               | -Inf           | 4.99           | 3           | Horizontal | 181            | 1.48          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.352G       | 49.55             | 54.00             | -4.45          | 5.06           | 3           | Horizontal | 181            | 1.48          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.149G       | 61.08             | 74.00             | -12.92         | 4.79           | 3           | Horizontal | 181            | 1.48          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.283G       | 100.29            | Inf               | -Inf           | 4.97           | 3           | Horizontal | 181            | 1.48          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.351G       | 59.58             | 74.00             | -14.42         | 5.06           | 3           | Horizontal | 181            | 1.48          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.494G       | 58.34             | 68.20             | -9.86          | 5.25           | 3           | Horizontal | 181            | 1.48          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.144G       | 52.78             | 54.00             | -1.22          | 4.78           | 3           | Vertical   | 181            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.203G       | 94.29             | Inf               | -Inf           | 4.86           | 3           | Vertical   | 181            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.352G       | 51.16             | 54.00             | -2.84          | 5.06           | 3           | Vertical   | 181            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.134G       | 62.96             | 74.00             | -11.04         | 4.77           | 3           | Vertical   | 181            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.207G       | 102.20            | Inf               | -Inf           | 4.87           | 3           | Vertical   | 181            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.353G       | 61.75             | 74.00             | -12.25         | 5.06           | 3           | Vertical   | 181            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.469G       | 59.16             | 68.20             | -9.04          | 5.22           | 3           | Vertical   | 181            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 10.50846G    | 46.52             | 54.00             | -7.48          | 15.49          | 3           | Horizontal | 0              | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 10.48812G    | 57.05             | 74.00             | -16.95         | 15.45          | 3           | Horizontal | 0              | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 10.51254G    | 46.57             | 54.00             | -7.43          | 15.50          | 3           | Vertical   | 360            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 10.51224G    | 56.73             | 74.00             | -17.27         | 15.50          | 3           | Vertical   | 360            | 1.50          | -        |

## 802.11ac VHT80+80\_Nss1,(MCS0)\_4TX

### #5210#5290MHz\_TX

07/12/2017

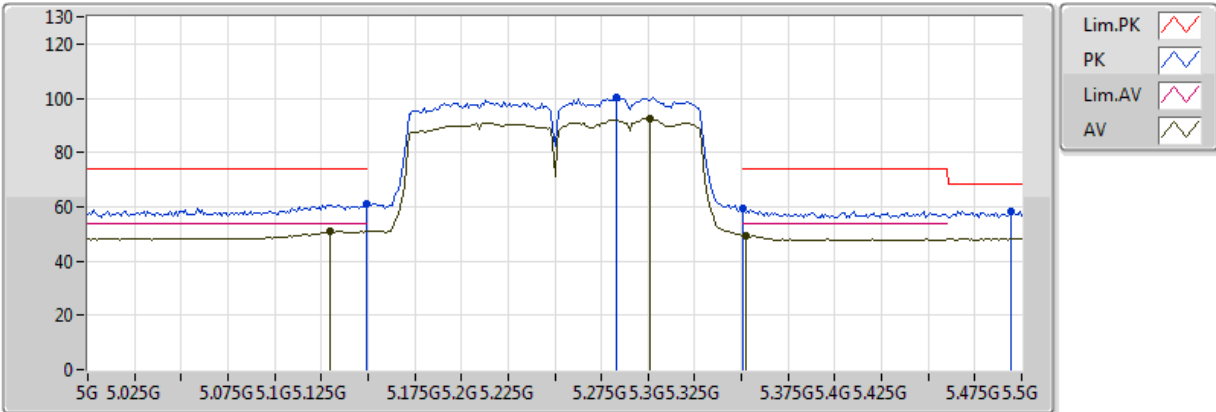


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.144G       | 52.78             | 54.00             | -1.22          | 4.78           | 3           | Vertical  | 181            | 1.50          | -        | 47.99         | 31.62      | 8.37       | 35.21      |
| AV   | 5.203G       | 94.29             | Inf               | -Inf           | 4.86           | 3           | Vertical  | 181            | 1.50          | -        | 89.42         | 31.66      | 8.40       | 35.20      |
| AV   | 5.352G       | 51.16             | 54.00             | -2.84          | 5.06           | 3           | Vertical  | 181            | 1.50          | -        | 46.10         | 31.78      | 8.47       | 35.18      |
| PK   | 5.134G       | 62.96             | 74.00             | -11.04         | 4.77           | 3           | Vertical  | 181            | 1.50          | -        | 58.20         | 31.61      | 8.37       | 35.21      |
| PK   | 5.207G       | 102.20            | Inf               | -Inf           | 4.87           | 3           | Vertical  | 181            | 1.50          | -        | 97.33         | 31.67      | 8.40       | 35.20      |
| PK   | 5.353G       | 61.75             | 74.00             | -12.25         | 5.06           | 3           | Vertical  | 181            | 1.50          | -        | 56.69         | 31.78      | 8.47       | 35.18      |
| PK   | 5.469G       | 59.16             | 68.20             | -9.04          | 5.22           | 3           | Vertical  | 181            | 1.50          | -        | 53.94         | 31.88      | 8.52       | 35.17      |

## 802.11ac VHT80+80\_Nss1,(MCS0)\_4TX

### #5210#5290MHz\_TX

07/12/2017



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.13G        | 50.94             | 54.00             | -3.06          | 4.76           | 3           | Horizontal | 181            | 1.48          | -        | 46.18         | 31.60      | 8.37       | 35.21      |
| AV   | 5.301G       | 92.47             | Inf               | -Inf           | 4.99           | 3           | Horizontal | 181            | 1.48          | -        | 87.48         | 31.74      | 8.44       | 35.19      |
| AV   | 5.352G       | 49.55             | 54.00             | -4.45          | 5.06           | 3           | Horizontal | 181            | 1.48          | -        | 44.48         | 31.78      | 8.47       | 35.18      |
| PK   | 5.149G       | 61.08             | 74.00             | -12.92         | 4.79           | 3           | Horizontal | 181            | 1.48          | -        | 56.30         | 31.62      | 8.37       | 35.21      |
| PK   | 5.283G       | 100.29            | Inf               | -Inf           | 4.97           | 3           | Horizontal | 181            | 1.48          | -        | 95.32         | 31.73      | 8.43       | 35.19      |
| PK   | 5.351G       | 59.58             | 74.00             | -14.42         | 5.06           | 3           | Horizontal | 181            | 1.48          | -        | 54.52         | 31.78      | 8.47       | 35.18      |
| PK   | 5.494G       | 58.34             | 68.20             | -9.86          | 5.25           | 3           | Horizontal | 181            | 1.48          | -        | 53.09         | 31.90      | 8.53       | 35.17      |



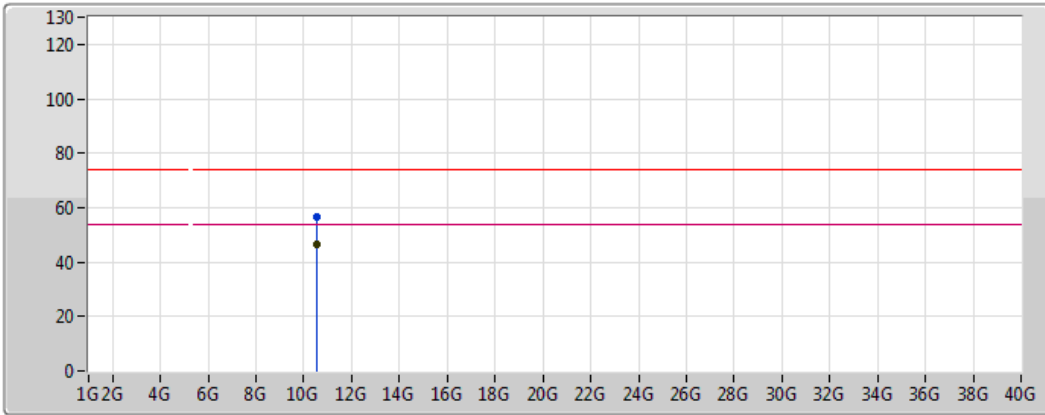
# RSE TX above 1GHz Result (Antenna Gain 15 dBi) Non-Beamforming

Appendix D.4

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_TX

06/12/2017



|        |  |
|--------|--|
| Lim.PK |  |
| PK     |  |
| Lim.AV |  |
| AV     |  |

| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 10.51254G    | 46.57             | 54.00             | -7.43          | 15.50          | 3           | Vertical  | 360            | 1.50          | -        | 31.07         | 39.62      | 11.59      | 35.71      |
| PK   | 10.51224G    | 56.73             | 74.00             | -17.27         | 15.50          | 3           | Vertical  | 360            | 1.50          | -        | 41.22         | 39.62      | 11.59      | 35.71      |



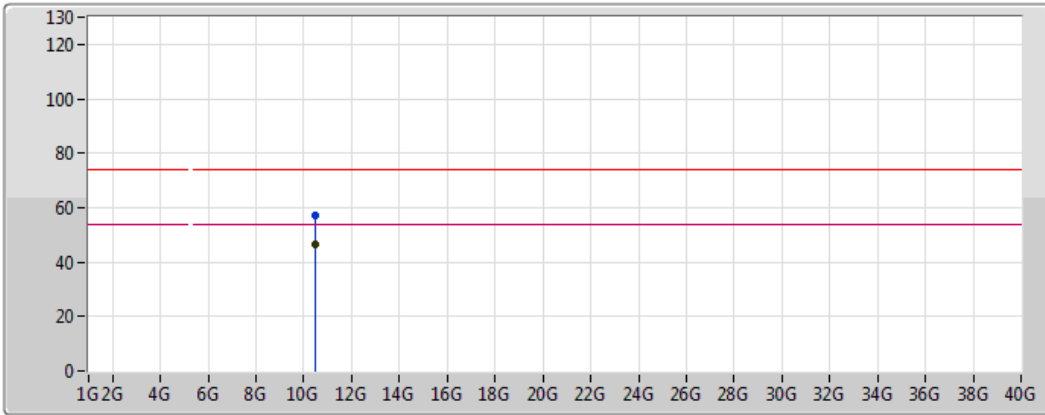
# RSE TX above 1GHz Result (Antenna Gain 15 dBi) Non-Beamforming

Appendix D.4

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_TX

06/12/2017



|        |  |
|--------|--|
| Lim.PK |  |
| PK     |  |
| Lim.AV |  |
| AV     |  |

| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 10.50846G    | 46.52             | 54.00             | -7.48          | 15.49          | 3           | Horizontal | 0              | 1.50          | -        | 31.03         | 39.61      | 11.59      | 35.71      |
| PK   | 10.48812G    | 57.05             | 74.00             | -16.95         | 15.45          | 3           | Horizontal | 0              | 1.50          | -        | 41.60         | 39.58      | 11.59      | 35.72      |



## RSE TX below 1GHz Result (Antenna Gain 10 dBi) Beamforming

Appendix D.5

### Summary

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 5.15-5.25GHz                      | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | Pass   | QP   | 37.76M       | 39.71             | 40.00             | -0.29          | -16.56         | 3           | Vertical  | 328            | 1.00          | -        |



## RSE TX below 1GHz Result (Antenna Gain 10 dBi) Beamforming

Appendix D.5

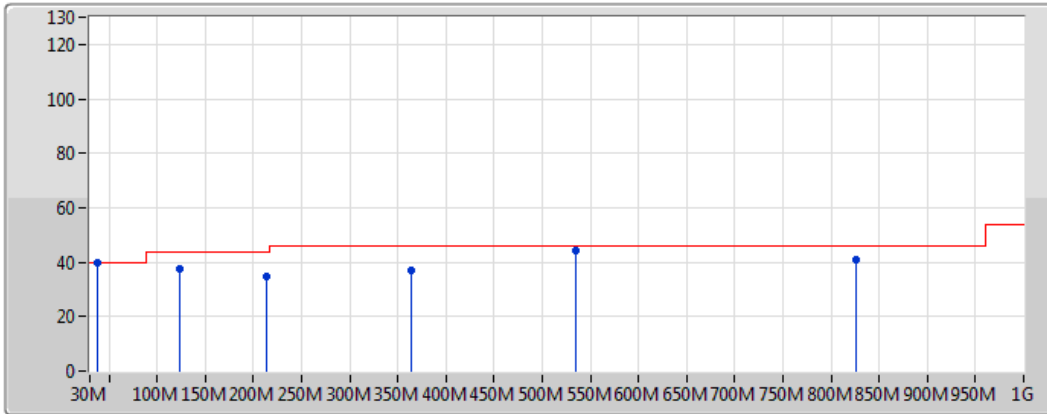
### Result

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| #5210#5290MHz                     | Pass   | PK   | 39.7M        | 31.58             | 40.00             | -8.42          | -17.51         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 125.06M      | 33.57             | 43.50             | -9.93          | -18.11         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 247.28M      | 37.37             | 46.00             | -8.63          | -16.24         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 357.86M      | 35.12             | 46.00             | -10.88         | -13.60         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 474.26M      | 38.63             | 46.00             | -7.37          | -10.32         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 790.48M      | 42.23             | 46.00             | -3.77          | -5.24          | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 123.12M      | 37.62             | 43.50             | -5.88          | -18.15         | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 214.3M       | 34.83             | 43.50             | -8.67          | -19.76         | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | QP   | 37.76M       | 39.71             | 40.00             | -0.29          | -16.56         | 3           | Vertical   | 328            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | QP   | 363.68M      | 37.07             | 46.00             | -8.93          | -13.44         | 3           | Vertical   | 263            | 1.81          | -        |
| #5210#5290MHz                     | Pass   | QP   | 534.4M       | 44.51             | 46.00             | -1.49          | -9.66          | 3           | Vertical   | 353            | 1.16          | -        |
| #5210#5290MHz                     | Pass   | QP   | 825.4M       | 40.83             | 46.00             | -5.17          | -4.81          | 3           | Vertical   | 62             | 1.89          | -        |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_PoE

10/01/2018

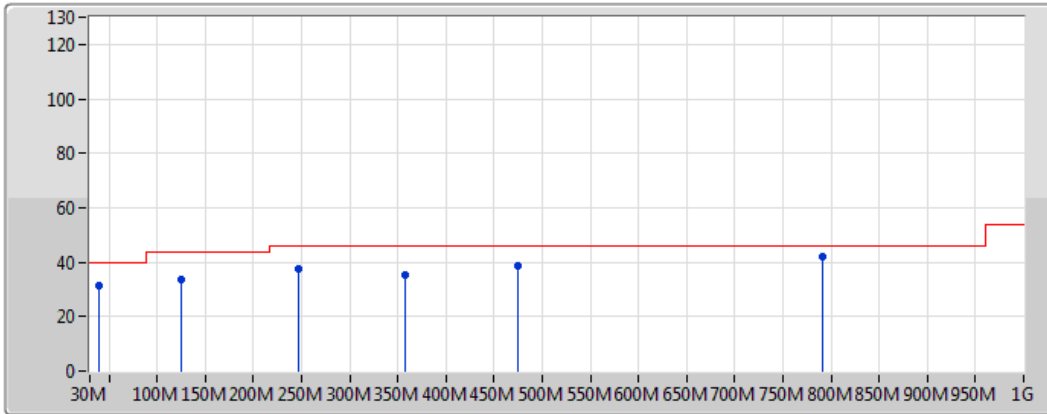


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| PK   | 123.12M      | 37.62             | 43.50             | -5.88          | -18.15         | 3           | Vertical  | 0              | 1.00          | -        | 55.77         | 16.75      | 1.81       | 36.70      |
| PK   | 214.3M       | 34.83             | 43.50             | -8.67          | -19.76         | 3           | Vertical  | 0              | 1.00          | -        | 54.59         | 14.26      | 2.37       | 36.39      |
| QP   | 37.76M       | 39.71             | 40.00             | -0.29          | -16.56         | 3           | Vertical  | 328            | 1.00          | -        | 56.27         | 19.67      | 1.03       | 37.26      |
| QP   | 363.68M      | 37.07             | 46.00             | -8.93          | -13.44         | 3           | Vertical  | 263            | 1.81          | -        | 50.51         | 19.95      | 3.16       | 36.55      |
| QP   | 534.4M       | 44.51             | 46.00             | -1.49          | -9.66          | 3           | Vertical  | 353            | 1.16          | -        | 54.17         | 23.34      | 4.02       | 37.01      |
| QP   | 825.4M       | 40.83             | 46.00             | -5.17          | -4.81          | 3           | Vertical  | 62             | 1.89          | -        | 45.63         | 27.66      | 5.02       | 37.49      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_PoE

10/01/2018



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| PK   | 39.7M        | 31.58             | 40.00             | -8.42          | -17.51         | 3           | Horizontal | 360            | 1.00          | -        | 49.09         | 18.68      | 1.05       | 37.24      |
| PK   | 125.06M      | 33.57             | 43.50             | -9.93          | -18.11         | 3           | Horizontal | 360            | 1.00          | -        | 51.68         | 16.76      | 1.83       | 36.69      |
| PK   | 247.28M      | 37.37             | 46.00             | -8.63          | -16.24         | 3           | Horizontal | 360            | 1.00          | -        | 53.61         | 17.62      | 2.55       | 36.41      |
| PK   | 474.26M      | 38.63             | 46.00             | -7.37          | -10.32         | 3           | Horizontal | 360            | 1.00          | -        | 48.95         | 22.80      | 3.73       | 36.84      |
| PK   | 521M         | 35.12             | 46.00             | -10.88         | -13.60         | 3           | Horizontal | 360            | 1.00          | -        | 48.72         | 19.79      | 3.14       | 36.54      |
| PK   | 529M         | 42.23             | 46.00             | -3.77          | -5.24          | 3           | Horizontal | 360            | 1.00          | -        | 47.47         | 27.34      | 4.90       | 37.47      |



## RSE TX above 1GHz Result (Antenna Gain 10 dBi) Beamforming

Appendix D.6

### Summary

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 5.15-5.25GHz                      | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | Pass   | AV   | 5.137G       | 52.18             | 54.00             | -1.82          | 4.77           | 3           | Vertical  | 344            | 1.52          | -        |



## RSE TX above 1GHz Result (Antenna Gain 10 dBi) Beamforming

Appendix D.6

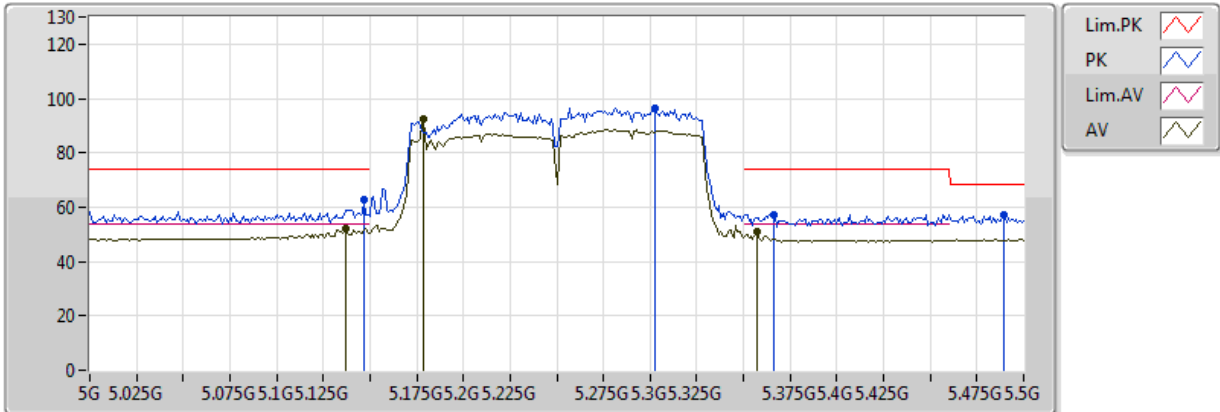
### Result

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.135G       | 50.20             | 54.00             | -3.80          | 4.77           | 3           | Horizontal | 355            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.261G       | 87.26             | Inf               | -Inf           | 4.94           | 3           | Horizontal | 355            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.351G       | 48.30             | 54.00             | -5.70          | 5.06           | 3           | Horizontal | 355            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.137G       | 63.82             | 74.00             | -10.18         | 4.77           | 3           | Horizontal | 355            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.174G       | 103.03            | Inf               | -Inf           | 4.82           | 3           | Horizontal | 355            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.354G       | 58.31             | 74.00             | -15.69         | 5.07           | 3           | Horizontal | 355            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.479G       | 58.62             | 68.20             | -9.58          | 5.23           | 3           | Horizontal | 355            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.137G       | 52.18             | 54.00             | -1.82          | 4.77           | 3           | Vertical   | 344            | 1.52          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.179G       | 92.46             | Inf               | -Inf           | 4.83           | 3           | Vertical   | 344            | 1.52          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.357G       | 51.14             | 54.00             | -2.86          | 5.07           | 3           | Vertical   | 344            | 1.52          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.147G       | 62.75             | 74.00             | -11.25         | 4.79           | 3           | Vertical   | 344            | 1.52          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.303G       | 96.41             | Inf               | -Inf           | 4.99           | 3           | Vertical   | 344            | 1.52          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.366G       | 57.30             | 74.00             | -16.70         | 5.08           | 3           | Vertical   | 344            | 1.52          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.489G       | 57.25             | 68.20             | -10.95         | 5.25           | 3           | Vertical   | 344            | 1.52          | -        |
| #5210#5290MHz                     | Pass   | AV   | 15.73542G    | 48.55             | 54.00             | -5.45          | 16.48          | 3           | Horizontal | 61             | 1.29          | -        |
| #5210#5290MHz                     | Pass   | PK   | 15.74406G    | 59.59             | 74.00             | -14.41         | 16.45          | 3           | Horizontal | 61             | 1.29          | -        |
| #5210#5290MHz                     | Pass   | AV   | 15.75486G    | 48.98             | 54.00             | -5.02          | 16.41          | 3           | Vertical   | 23             | 2.12          | -        |
| #5210#5290MHz                     | Pass   | PK   | 15.76494G    | 59.42             | 74.00             | -14.58         | 16.37          | 3           | Vertical   | 23             | 2.12          | -        |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_BF

10/01/2018

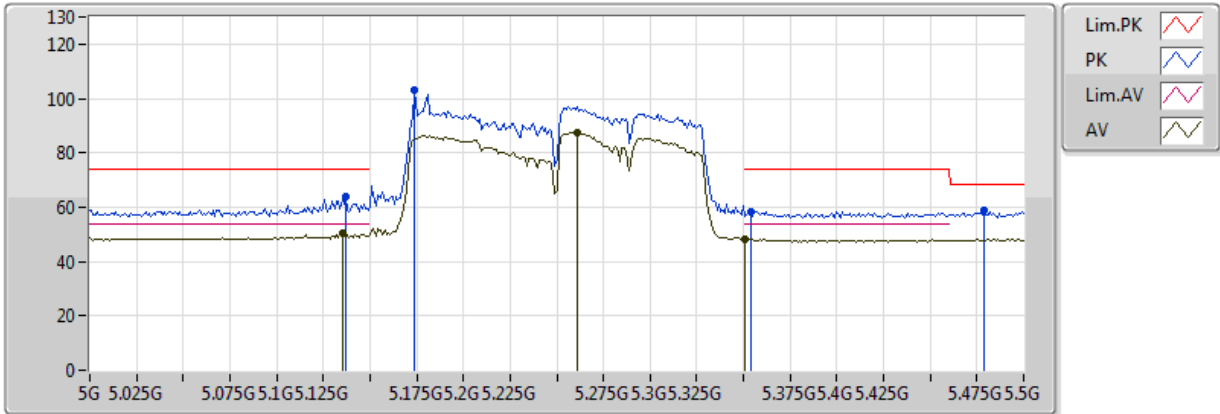


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.137G       | 52.18             | 54.00             | -1.82          | 4.77           | 3           | Vertical  | 344            | 1.52          | -        | 47.41         | 31.61      | 8.37       | 35.21      |
| AV   | 5.179G       | 92.46             | Inf               | -Inf           | 4.83           | 3           | Vertical  | 344            | 1.52          | -        | 87.63         | 31.64      | 8.39       | 35.20      |
| AV   | 5.357G       | 51.14             | 54.00             | -2.86          | 5.07           | 3           | Vertical  | 344            | 1.52          | -        | 46.07         | 31.79      | 8.47       | 35.18      |
| PK   | 5.147G       | 62.75             | 74.00             | -11.25         | 4.79           | 3           | Vertical  | 344            | 1.52          | -        | 57.96         | 31.62      | 8.37       | 35.21      |
| PK   | 5.303G       | 96.41             | Inf               | -Inf           | 4.99           | 3           | Vertical  | 344            | 1.52          | -        | 91.41         | 31.74      | 8.44       | 35.19      |
| PK   | 5.366G       | 57.30             | 74.00             | -16.70         | 5.08           | 3           | Vertical  | 344            | 1.52          | -        | 52.22         | 31.79      | 8.47       | 35.18      |
| PK   | 5.489G       | 57.25             | 68.20             | -10.95         | 5.25           | 3           | Vertical  | 344            | 1.52          | -        | 52.00         | 31.89      | 8.53       | 35.17      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_BF

10/01/2018

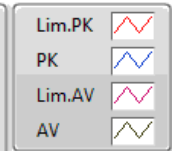
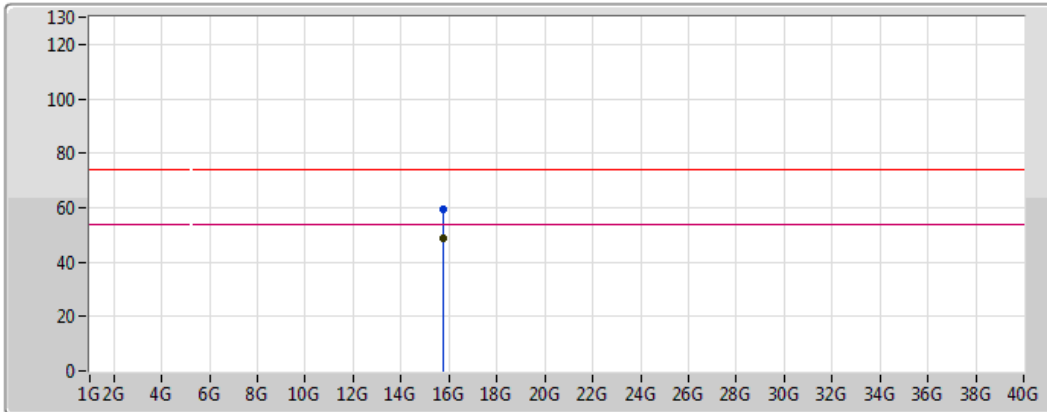


| Type | Freq   | Level    | Limit    | Margin | Factor | Dist | Condition  | Azimuth | Height | Comments | Raw    | AF    | CL   | PA    |
|------|--------|----------|----------|--------|--------|------|------------|---------|--------|----------|--------|-------|------|-------|
|      | (Hz)   | (dBuV/m) | (dBuV/m) | (dB)   | (dB)   | (m)  |            | (°)     | (m)    |          | (dBuV) | (dB)  | (dB) | (dB)  |
| AV   | 5.135G | 50.20    | 54.00    | -3.80  | 4.77   | 3    | Horizontal | 355     | 1.50   | -        | 45.43  | 31.61 | 8.37 | 35.21 |
| AV   | 5.261G | 87.26    | Inf      | -Inf   | 4.94   | 3    | Horizontal | 355     | 1.50   | -        | 82.32  | 31.71 | 8.42 | 35.19 |
| AV   | 5.351G | 48.30    | 54.00    | -5.70  | 5.06   | 3    | Horizontal | 355     | 1.50   | -        | 43.24  | 31.78 | 8.47 | 35.18 |
| PK   | 5.137G | 63.82    | 74.00    | -10.18 | 4.77   | 3    | Horizontal | 355     | 1.50   | -        | 59.05  | 31.61 | 8.37 | 35.21 |
| PK   | 5.174G | 103.03   | Inf      | -Inf   | 4.82   | 3    | Horizontal | 355     | 1.50   | -        | 98.21  | 31.64 | 8.39 | 35.20 |
| PK   | 5.354G | 58.31    | 74.00    | -15.69 | 5.07   | 3    | Horizontal | 355     | 1.50   | -        | 53.24  | 31.78 | 8.47 | 35.18 |
| PK   | 5.479G | 58.62    | 68.20    | -9.58  | 5.23   | 3    | Horizontal | 355     | 1.50   | -        | 53.38  | 31.88 | 8.52 | 35.17 |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_BF

10/01/2018

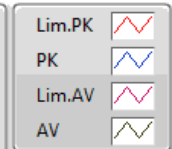
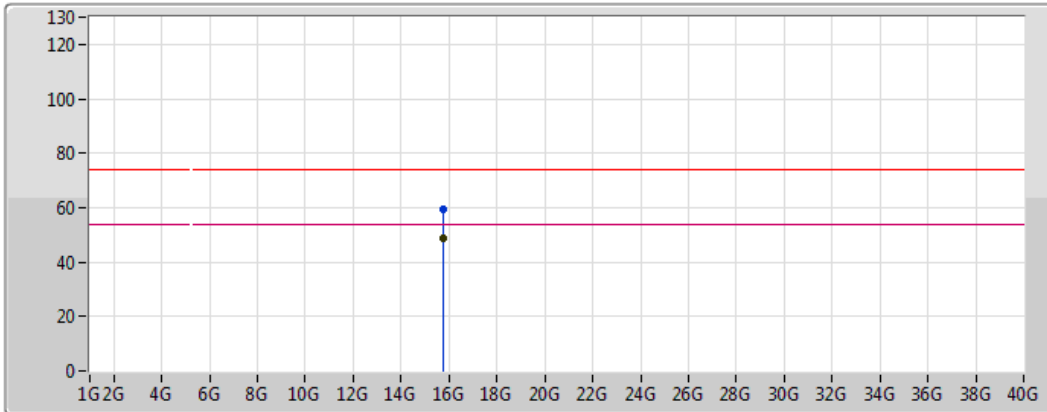


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 15.75486G    | 48.98             | 54.00             | -5.02          | 16.41          | 3           | Vertical  | 23             | 2.12          | -        | 32.57         | 38.13      | 13.95      | 35.67      |
| PK   | 15.76494G    | 59.42             | 74.00             | -14.58         | 16.37          | 3           | Vertical  | 23             | 2.12          | -        | 43.04         | 38.10      | 13.96      | 35.68      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_BF

10/01/2018



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 15.73542G    | 48.55             | 54.00             | -5.45          | 16.48          | 3           | Horizontal | 61             | 1.29          | -        | 32.08         | 38.20      | 13.93      | 35.65      |
| PK   | 15.74406G    | 59.59             | 74.00             | -14.41         | 16.45          | 3           | Horizontal | 61             | 1.29          | -        | 43.15         | 38.17      | 13.94      | 35.66      |



## RSE TX below 1GHz Result (Antenna Gain 15 dBi) Beamforming

Appendix D.7

### Summary

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 5.15-5.25GHz                      | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | Pass   | QP   | 37.76M       | 39.51             | 40.00             | -0.49          | -16.56         | 3           | Vertical  | 331            | 2.01          | -        |



## RSE TX below 1GHz Result (Antenna Gain 15 dBi) Beamforming

Appendix D.7

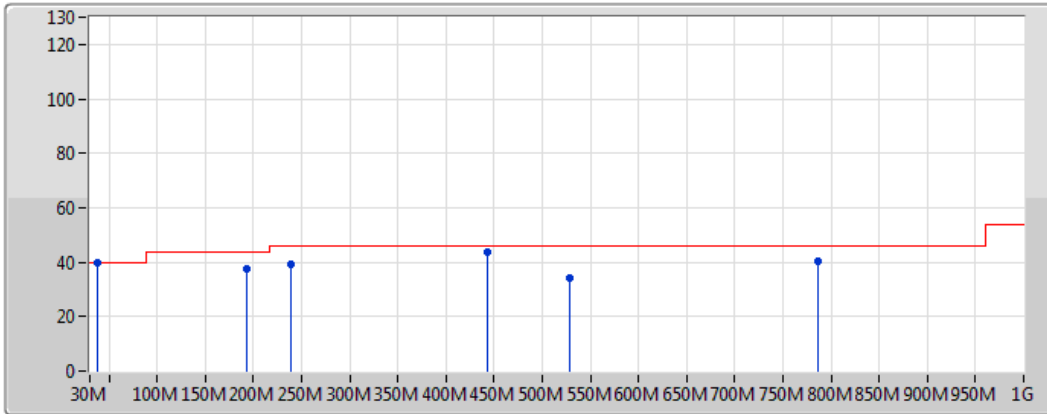
### Result

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| #5210#5290MHz                     | Pass   | PK   | 37.76M       | 30.70             | 40.00             | -9.30          | -16.56         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 123.12M      | 32.37             | 43.50             | -11.13         | -18.15         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 262.8M       | 39.12             | 46.00             | -6.88          | -14.46         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 328.76M      | 42.56             | 46.00             | -3.44          | -14.49         | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 825.4M       | 41.85             | 46.00             | -4.15          | -4.81          | 3           | Horizontal | 360            | 1.00          | -        |
| #5210#5290MHz                     | Pass   | QP   | 790.48M      | 27.16             | 46.00             | -18.84         | -5.24          | 3           | Horizontal | 328            | 2.27          | -        |
| #5210#5290MHz                     | Pass   | PK   | 192.96M      | 37.72             | 43.50             | -5.78          | -20.12         | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 239.52M      | 39.34             | 46.00             | -6.66          | -17.41         | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 443.22M      | 43.61             | 46.00             | -2.39          | -11.01         | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | PK   | 786.6M       | 40.60             | 46.00             | -5.40          | -5.25          | 3           | Vertical   | 0              | 1.00          | -        |
| #5210#5290MHz                     | Pass   | QP   | 37.76M       | 39.51             | 40.00             | -0.49          | -16.56         | 3           | Vertical   | 331            | 2.01          | -        |
| #5210#5290MHz                     | Pass   | QP   | 528.58M      | 34.13             | 46.00             | -11.87         | -9.69          | 3           | Vertical   | 183            | 2.11          | -        |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_PoE

10/01/2018



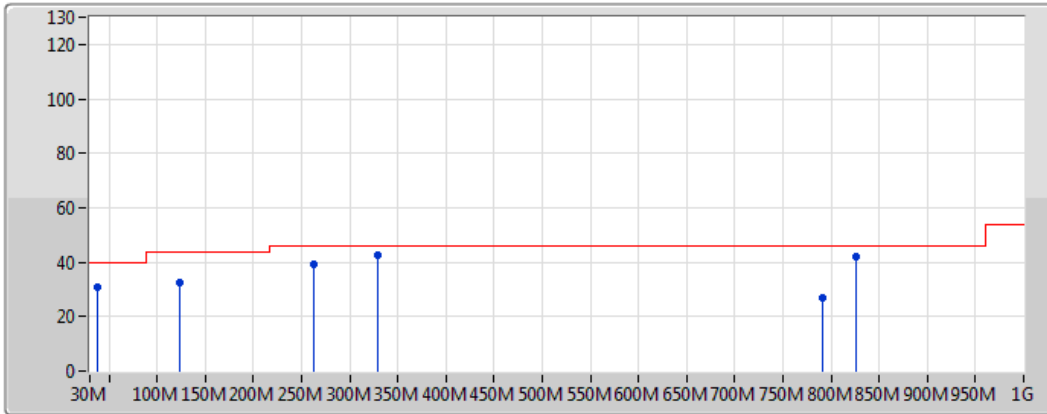
Lim.PK   
PK 

| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| PK   | 192.96M      | 37.72             | 43.50             | -5.78          | -20.12         | 3           | Vertical  | 0              | 1.00          | -        | 57.84         | 14.02      | 2.26       | 36.41      |
| PK   | 239.52M      | 39.34             | 46.00             | -6.66          | -17.41         | 3           | Vertical  | 0              | 1.00          | -        | 56.75         | 16.49      | 2.51       | 36.40      |
| PK   | 443.22M      | 43.61             | 46.00             | -2.39          | -11.01         | 3           | Vertical  | 0              | 1.00          | -        | 54.62         | 22.23      | 3.50       | 36.74      |
| PK   | 786.6M       | 40.60             | 46.00             | -5.40          | -5.25          | 3           | Vertical  | 0              | 1.00          | -        | 45.85         | 27.35      | 4.86       | 37.46      |
| QP   | 37.76M       | 39.51             | 40.00             | -0.49          | -16.56         | 3           | Vertical  | 331            | 2.01          | -        | 56.07         | 19.67      | 1.03       | 37.26      |
| QP   | 528.58M      | 34.13             | 46.00             | -11.87         | -9.69          | 3           | Vertical  | 183            | 2.11          | -        | 43.82         | 23.30      | 4.01       | 37.00      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_PoE

10/01/2018



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| PK   | 37.76M       | 30.70             | 40.00             | -9.30          | -16.56         | 3           | Horizontal | 360            | 1.00          | -        | 47.26         | 19.67      | 1.03       | 37.26      |
| PK   | 123.12M      | 32.37             | 43.50             | -11.13         | -18.15         | 3           | Horizontal | 360            | 1.00          | -        | 50.52         | 16.75      | 1.81       | 36.70      |
| PK   | 262.8M       | 39.12             | 46.00             | -6.88          | -14.46         | 3           | Horizontal | 360            | 1.00          | -        | 53.58         | 19.29      | 2.67       | 36.42      |
| PK   | 328.76M      | 42.56             | 46.00             | -3.44          | -14.49         | 3           | Horizontal | 360            | 1.00          | -        | 57.05         | 18.94      | 3.06       | 36.49      |
| PK   | 825.4M       | 41.85             | 46.00             | -4.15          | -4.81          | 3           | Horizontal | 360            | 1.00          | -        | 46.66         | 27.66      | 5.02       | 37.49      |
| QP   | 790.48M      | 27.16             | 46.00             | -18.84         | -5.24          | 3           | Horizontal | 328            | 2.27          | -        | 32.40         | 27.34      | 4.90       | 37.47      |



## RSE TX above 1GHz Result (Antenna Gain 15 dBi) Beamforming

Appendix D.8

### Summary

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|
| 5.15-5.25GHz                      | -      | -    | -            | -                 | -                 | -              | -              | -           | -         | -              | -             | -        |
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | Pass   | AV   | 5,149995G    | 53.42             | 54.00             | -0.58          | 6.59           | 3           | Vertical  | 1              | 1.72          | -        |



## RSE TX above 1GHz Result (Antenna Gain 15 dBi) Beamforming

Appendix D.8

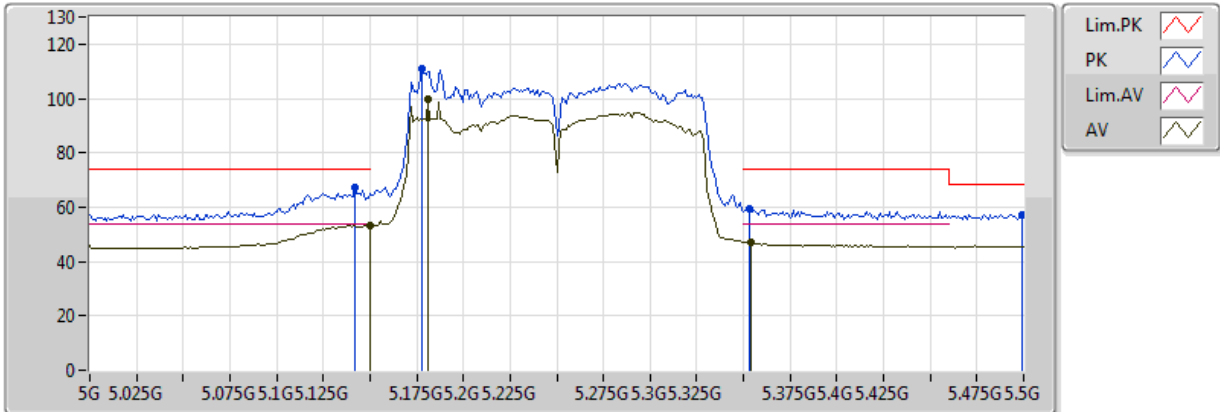
### Result

| Mode                              | Result | Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments |
|-----------------------------------|--------|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|
| 802.11ac VHT80+80_Nss2,(MCS0)_4TX | -      | -    | -            | -                 | -                 | -              | -              | -           | -          | -              | -             | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.149995G    | 50.37             | 54.00             | -3.63          | 6.59           | 3           | Horizontal | 3              | 1.39          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.179G       | 100.34            | Inf               | -Inf           | 6.65           | 3           | Horizontal | 3              | 1.39          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.352G       | 47.23             | 54.00             | -6.77          | 6.99           | 3           | Horizontal | 3              | 1.39          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.124G       | 62.25             | 74.00             | -11.75         | 6.54           | 3           | Horizontal | 3              | 1.39          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.177G       | 106.29            | Inf               | -Inf           | 6.64           | 3           | Horizontal | 3              | 1.39          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.358G       | 58.47             | 74.00             | -15.53         | 7.01           | 3           | Horizontal | 3              | 1.39          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.464G       | 57.83             | 68.20             | -10.37         | 7.21           | 3           | Horizontal | 3              | 1.39          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.149995G    | 53.42             | 54.00             | -0.58          | 6.59           | 3           | Vertical   | 1              | 1.72          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.181G       | 99.96             | Inf               | -Inf           | 6.65           | 3           | Vertical   | 1              | 1.72          | -        |
| #5210#5290MHz                     | Pass   | AV   | 5.354G       | 46.99             | 54.00             | -7.01          | 7.00           | 3           | Vertical   | 1              | 1.72          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.142G       | 67.21             | 74.00             | -6.79          | 6.57           | 3           | Vertical   | 1              | 1.72          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.178G       | 110.97            | Inf               | -Inf           | 6.65           | 3           | Vertical   | 1              | 1.72          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.353G       | 59.53             | 74.00             | -14.47         | 7.00           | 3           | Vertical   | 1              | 1.72          | -        |
| #5210#5290MHz                     | Pass   | PK   | 5.499G       | 57.05             | 68.20             | -11.15         | 7.28           | 3           | Vertical   | 1              | 1.72          | -        |
| #5210#5290MHz                     | Pass   | AV   | 10.4058G     | 40.88             | 54.00             | -13.12         | 12.46          | 3           | Horizontal | 74             | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 10.399G      | 54.10             | 74.00             | -19.90         | 12.44          | 3           | Horizontal | 74             | 1.50          | -        |
| #5210#5290MHz                     | Pass   | AV   | 10.4032G     | 41.35             | 54.00             | -12.65         | 12.45          | 3           | Vertical   | 249            | 1.50          | -        |
| #5210#5290MHz                     | Pass   | PK   | 10.4088G     | 54.14             | 74.00             | -19.86         | 12.46          | 3           | Vertical   | 249            | 1.50          | -        |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_Beamforming

04/01/2018

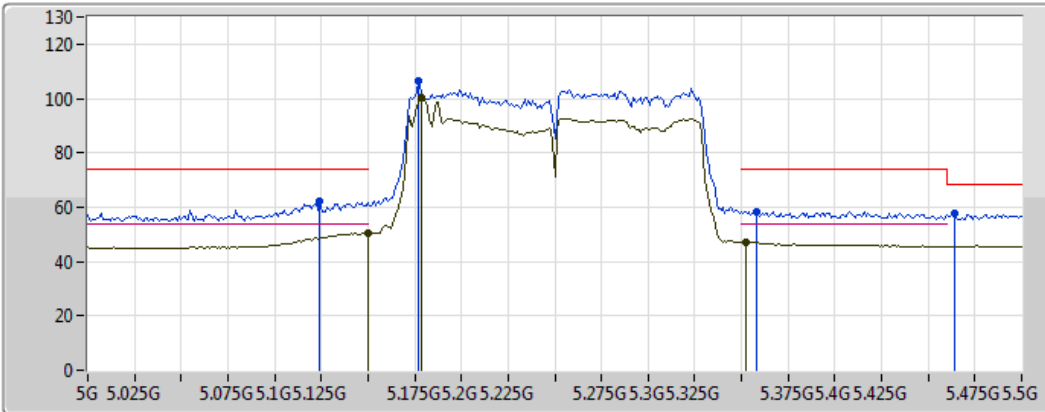


| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.149995G    | 53.42             | 54.00             | -0.58          | 6.59           | 3           | Vertical  | 1              | 1.72          | -        | 46.83         | 31.68      | 4.72       | 29.81      |
| AV   | 5.181G       | 99.96             | Inf               | -Inf           | 6.65           | 3           | Vertical  | 1              | 1.72          | -        | 93.31         | 31.72      | 4.74       | 29.81      |
| AV   | 5.354G       | 46.99             | 54.00             | -7.01          | 7.00           | 3           | Vertical  | 1              | 1.72          | -        | 39.99         | 31.92      | 4.87       | 29.80      |
| PK   | 5.142G       | 67.21             | 74.00             | -6.79          | 6.57           | 3           | Vertical  | 1              | 1.72          | -        | 60.64         | 31.67      | 4.71       | 29.81      |
| PK   | 5.178G       | 110.97            | Inf               | -Inf           | 6.65           | 3           | Vertical  | 1              | 1.72          | -        | 104.33        | 31.71      | 4.74       | 29.81      |
| PK   | 5.353G       | 59.53             | 74.00             | -14.47         | 7.00           | 3           | Vertical  | 1              | 1.72          | -        | 52.53         | 31.92      | 4.87       | 29.80      |
| PK   | 5.499G       | 57.05             | 68.20             | -11.15         | 7.28           | 3           | Vertical  | 1              | 1.72          | -        | 49.77         | 32.10      | 4.98       | 29.80      |

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_Beamforming

04/01/2018



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 5.149995G    | 50.37             | 54.00             | -3.63          | 6.59           | 3           | Horizontal | 3              | 1.39          | -        | 43.78         | 31.68      | 4.72       | 29.81      |
| AV   | 5.179G       | 100.34            | Inf               | -Inf           | 6.65           | 3           | Horizontal | 3              | 1.39          | -        | 93.69         | 31.71      | 4.74       | 29.81      |
| AV   | 5.352G       | 47.23             | 54.00             | -6.77          | 6.99           | 3           | Horizontal | 3              | 1.39          | -        | 40.24         | 31.92      | 4.87       | 29.80      |
| PK   | 5.124G       | 62.25             | 74.00             | -11.75         | 6.54           | 3           | Horizontal | 3              | 1.39          | -        | 55.71         | 31.65      | 4.70       | 29.81      |
| PK   | 5.177G       | 106.29            | Inf               | -Inf           | 6.64           | 3           | Horizontal | 3              | 1.39          | -        | 99.65         | 31.71      | 4.74       | 29.81      |
| PK   | 5.358G       | 58.47             | 74.00             | -15.53         | 7.01           | 3           | Horizontal | 3              | 1.39          | -        | 51.46         | 31.93      | 4.88       | 29.80      |
| PK   | 5.464G       | 57.83             | 68.20             | -10.37         | 7.21           | 3           | Horizontal | 3              | 1.39          | -        | 50.62         | 32.06      | 4.95       | 29.80      |



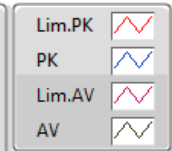
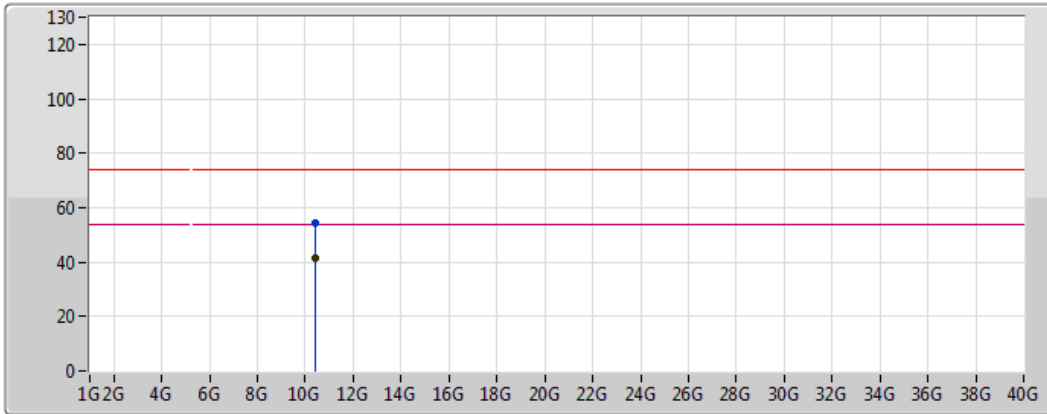
# RSE TX above 1GHz Result (Antenna Gain 15 dBi) Beamforming

Appendix D.8

## 802.11ac VHT80+80\_Nss2,(MCS0)\_4TX

### #5210#5290MHz\_Beamforming

04/01/2018



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|-----------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 10.4032G     | 41.35             | 54.00             | -12.65         | 12.45          | 3           | Vertical  | 249            | 1.50          | -        | 28.90         | 39.56      | 7.95       | 35.07      |
| PK   | 10.4088G     | 54.14             | 74.00             | -19.86         | 12.46          | 3           | Vertical  | 249            | 1.50          | -        | 41.68         | 39.57      | 7.95       | 35.06      |



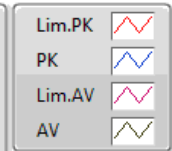
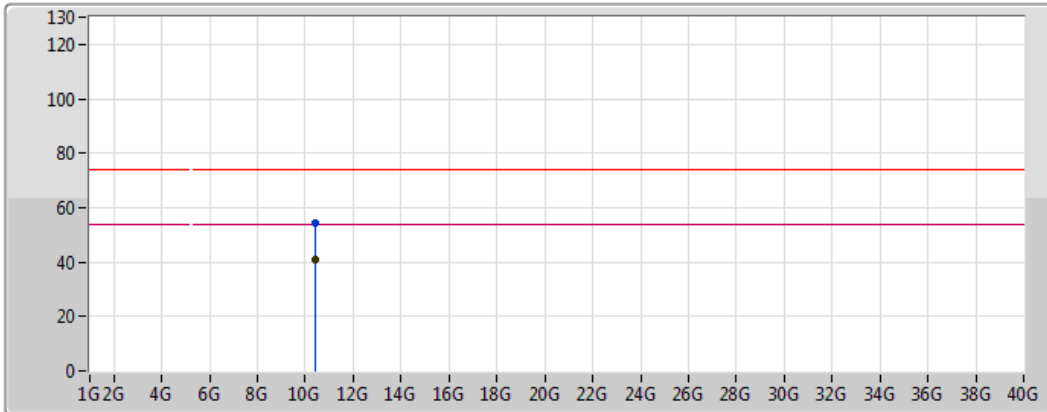
# **RSE TX above 1GHz Result (Antenna Gain 15 dBi)** **Beamforming**

Appendix D.8

## **802.11ac VHT80+80\_Nss2,(MCS0)\_4TX**

## **#5210#5290MHz\_Beamforming**

04/01/2018



| Type | Freq<br>(Hz) | Level<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Factor<br>(dB) | Dist<br>(m) | Condition  | Azimuth<br>(°) | Height<br>(m) | Comments | Raw<br>(dBuV) | AF<br>(dB) | CL<br>(dB) | PA<br>(dB) |
|------|--------------|-------------------|-------------------|----------------|----------------|-------------|------------|----------------|---------------|----------|---------------|------------|------------|------------|
| AV   | 10.4058G     | 40.88             | 54.00             | -13.12         | 12.46          | 3           | Horizontal | 74             | 1.50          | -        | 28.42         | 39.57      | 7.95       | 35.07      |
| PK   | 10.399G      | 54.10             | 74.00             | -19.90         | 12.44          | 3           | Horizontal | 74             | 1.50          | -        | 41.66         | 39.56      | 7.95       | 35.07      |