# FCC Test Report

| | | |
|---|---|---|
| Equipment | : | Metrolinq2.5 Outdoor 60GHz PTMP + 5GHz |
| Brand Name | : | IgniteNet |
| Model No. | : | ML2.5-60-BF-18 |
| FCC ID | : | HEDML2560 |
| Standard | : | 47 CFR FCC Part 15.407 |
| Operating Band | : | 5150 MHz – 5250 MHz<br>5725 MHz – 5850 MHz |
| Applicant | : | Accton Technology Corporation<br>No. 1, Creation Rd. III, Science-based Industrial Park<br>Hsin Chu 30077, Taiwan R.O.C. |
| Manufacturer(1) | : | Joy Technology (Shen Zhen) Co. Ltd<br>HengKeng Ind., Shangpai, Shangwu, Aiqun Rd., Shiyan Town, Shenzhen 518108 China |
| Manufacturer(2) | : | Accton Technology Corporation<br>No. 1, Creation Rd. III, Science-based Industrial Park<br>Hsin Chu 30077, Taiwan R.O.C. |
| Function | : | ☒ Outdoor; ☐ Indoor; ☒ Fixed P2P<br>☐ Client |

The product sample received on Aug. 16, 2017 and completely tested on Oct. 14, 2017. 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.

Cliff Chang
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

# Table of Contents

**1 GENERAL DESCRIPTION ..... 5**

1.1 Information ..... 5
1.2 Testing Applied Standards ..... 7
1.3 Testing Location Information ..... 7
1.4 Measurement Uncertainty ..... 7

**2 TEST CONFIGURATION OF EUT ..... 8**

2.1 Test Channel Mode ..... 8
2.2 The Worst Case Measurement Configuration ..... 9
2.3 EUT Operation during Test ..... 9
2.4 Accessories ..... 9
2.5 Support Equipment ..... 9

**3 TRANSMITTER TEST RESULT ..... 10**

3.1 Maximum Conducted Output Power ..... 10
3.2 Peak Power Spectral Density ..... 12

**4 TEST EQUIPMENT AND CALIBRATION DATA ..... 15**

**APPENDIX A. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER**

**APPENDIX B. TEST RESULTS OF PEAK POWER SPECTRAL DENSITY**

**PHOTOGRAPHS OF EUT V01**

# Summary of Test Result

| Conformance Test Specifications | | | |
|---|---|---|---|
| **Report Clause** | **Ref. Std. Clause** | **Description** | **Result** |
| 1.1.2 | 15.203 | Antenna Requirement | Complied |
| 3.2 | 15.407(a) | Maximum Conducted Output Power | Complied |
| 3.2 | 15.407(a) | Peak Power Spectral Density | Complied |

# Revision History

| Report No. | Version | Description | Issued Date |
|---|---|---|---|
| FR791405-02 | Rev. 01 | Initial issue of report | Oct. 25, 2017 |
| FR791405-02 | Rev. 02 | Revising section 1.1.5 Table for Class II Change to “Adding the point to multipoint function” from “Adding the point to point function”. | Feb. 09, 2018 |
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# 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 | a, n (HT20), ac (VHT20) | 5180-5240 | 36-48 [4] |
| 5725-5850 | | 5745-5825 | 149-165 [5] |
| 5150-5250 | n (HT40), ac (VHT40) | 5190-5230 | 38-46 [2] |
| 5725-5850 | | 5755-5795 | 151-159 [2] |
| 5150-5250 | ac (VHT80) | 5210 | 42 [1] |
| 5725-5850 | | 5775 | 155 [1] |

Note 1:
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

Note 2: This device contains transmitter 60GHz module FCC ID: HEDML60PRS4601
Note 3: WLAN and 60G work at the same time.

### 1.1.2 Antenna Information

| Ant. | Brand | Part Number | Antenna Type | Connector | Gain (dBi) | |
|---|---|---|---|---|---|---|
| | | | | | Band 1 | Band 4 |
| 1 | Accton | 120G00000176X | Dish Antenna | N/A | 10.1 | 12.1 |

Note: Port 1 and Port 2 connect to Ant. 1
Port 1 and Port 2 can be used as transmitting/receiving antenna.
Port 1 and Port 2 could transmit/receive simultaneously.

### 1.1.3 Mode Test Duty Cycle

| Mode | DC | DCF(dB) | T(s) | VBW(Hz) ≥ 1/T |
|---|---|---|---|---|
| 802.11a | 0.968 | 0.141 | 2.068m | 1k |
| 802.11ac VHT20 | 0.987 | 0.057 | n/a (DC>=0.98) | n/a (DC>=0.98) |
| 802.11ac VHT40 | 0.968 | 0.141 | 2.433m | 1k |
| 802.11ac VHT80 | 0.941 | 0.264 | 1.153m | 1k |

### 1.1.4 EUT Operational Condition

| | | | | |
|---|---|---|---|---|
| **EUT Power Type** | From PoE / DC 48V | | | |
| **Beamforming Function** | ☐ | With beamforming | ☒ | Without beamforming |

### 1.1.5 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR781526

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

| Modifications | Performance Checking |
|---|---|
| Adding a new set of the equipment, the detail information for this new set as below:<br>1. Adding a new equipment name: Metrolinq2.5 Outdoor 60GHz PTMP + 5GHz<br>2. Adding a new model name: ML2.5-60-BF-18<br>3. Containing a new 60G module (FCC ID: HEDML60PRS4601).<br>4. Adding a new antenna which with the same type and lower gain (Brand: Accton, P/N: 120G00000176X).<br>5. Adding the point to multipoint function. | Re-evaluated Maximum Conducted Output Power and Peak Power Spectral Density limit. |

Based on original output power to test above items.

## 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
- FCC KDB 789033 D02 v01r04
- FCC KDB 644545 D03 v01
- FCC KDB 662911 D01 v02r01
-

## 1.3 Testing Location Information

| Testing Location | | | |
|---|---|---|---|
| ☐ | HWA YA | ADD : | No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. |
| | | TEL : | 886-3-327-3456 FAX : 886-3-318-0055 |
| ☒ | JHUBEI | ADD : | No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. |
| | | TEL : | 886-3-656-9065 FAX : 886-3-656-9085 |

| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date |
|---|---|---|---|---|
| RF Conducted | TH01-CB | Ron Huang | 22.6°C / 62% | Oct. 14, 2017 |

Test site Designation No. TW0006 with FCC
Test site registered number IC 4086D with Industry Canada.

## 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 |
|---|---|---|
| Output Power Measurement | 1.33 dB | Confidence levels of 95% |
| Power Density Measurement | 1.27 dB | Confidence levels of 95% |

# 2 Test Configuration of EUT

## 2.1 Test Channel Mode

| Mode | Power Setting |
|---|---|
| 802.11a_Nss1,(6Mbps)_2TX | - |
| 5180MHz | 10.5 |
| 5200MHz | 11 |
| 5240MHz | 11 |
| 5745MHz | 12.5 |
| 5785MHz | 12.5 |
| 5825MHz | 13 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | - |
| 5180MHz | 11 |
| 5200MHz | 11.5 |
| 5240MHz | 11.5 |
| 5745MHz | 13 |
| 5785MHz | 12.5 |
| 5825MHz | 13 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | - |
| 5190MHz | 12.5 |
| 5230MHz | 13 |
| 5755MHz | 11.5 |
| 5795MHz | 11.5 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | - |
| 5210MHz | 12 |
| 5775MHz | 12.5 |

Note: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

## 2.2 The Worst Case Measurement Configuration

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

| The Worst Case Mode for Following Conformance Tests | |
|---|---|
| **Tests Item** | Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation |
| **Operating Mode** | |
| 1 | WLAN 5GHz + 60GHz |
| Refer to Sporton Test Report No.: FA791405-02 for Co-location RF Exposure Evaluation. | |

Note: 1. The EUT can only be used in Y axis.
2. The defines from manufacturer, "USB port" without any function, and it was performed test at the load.
3. The test configuration and test modes written in this test report are designated by the applicant.

## 2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

## 2.4 Accessories

| Accessories | | | | |
|---|---|---|---|---|
| **No.** | **Equipment Name** | **Brand Name** | **Model Name** | **Rating** |
| 1 | PoE | GME | GME241DA-480050G | Input: 100-240Vac, 50-60Hz, 0.55A<br>Output: 48Vdc, 0.5A |
| **Other** | | | | |
| Power cable*1, Non-Shielded, 0.9m | | | | |

## 2.5 Support Equipment

| Support Equipment | | | | |
|---|---|---|---|---|
| **No.** | **Equipment** | **Brand Name** | **Model Name** | **FCC ID** |
| 1 | NB | DELL | E4300 | DoC |

# 3 Transmitter Test Result

## 3.1 Maximum Conducted Output Power

### 3.1.1 Maximum Conducted Output Power Limit

| Maximum Conducted Output Power Limit | |
|---|---|
| **UNII Devices** | |
| ☒ | For the 5.15-5.25 GHz band: |
| | ▪ Outdoor AP: the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 30 – ($G_{TX}$ – 6). e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] |
| | ▪ Indoor AP: the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 30 – ($G_{TX}$ – 6) |
| | ▪ Point-to-point AP: the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W If $G_{TX}$ > 23 dBi, then $P_{Out}$ = 30 – ($G_{TX}$ – 23). |
| | ▪ Mobile or Portable Client: the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 250 mW. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 24 – ($G_{TX}$ – 6). |
| ☐ | 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). |
| ☐ | 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). |
| ☒ | For the 5.725-5.85 GHz band: |
| | ▪ Point-to-multipoint systems (P2M): the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 30 – ($G_{TX}$ – 6). |
| | ▪ Point-to-point systems (P2P): the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W. |
| **LE-LAN Devices** | |
| ☐ | For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. |
| ☐ | For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐ | For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz |
| ☐ | For the 5.725-5.85 GHz band: |
| | ▪ Point-to-multipoint systems (P2M): the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 30 – ($G_{TX}$ – 6). |
| | ▪ Point-to-point systems (P2P): the maximum conducted output power ($P_{Out}$) shall not exceed the lesser of 1 W. |
| **$P_{Out}$** = maximum conducted output power in dBm,<br>**$G_{TX}$** = the maximum transmitting antenna directional gain in dBi. | |

### 3.1.2 Measuring Instruments

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

### 3.1.3 Test Procedures

| Test Method | |
|---|---|
| ▪ | Maximum Conducted Output Power |
| | Average over on/off periods with duty factor |
| | ☐ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging). |
| | ☐ Refer as FCC 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 |
| | ☒ Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter). |
| ▪ | For conducted measurement. |
| | ▪ If the EUT supports multiple transmit chains using options given below:<br>Refer as FCC 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. |
| | ▪ If multiple transmit chains, EIRP calculation could be following as methods:<br>$P_{total} = P_1 + P_2 + \ldots + P_n$<br>(calculated in linear unit [mW] and transfer to log unit [dBm])<br>$EIRP_{total} = P_{total} + DG$ |

### 3.1.4 Test Setup

| RF Output Power (Power Meter) |
|---|
|  |

### 3.1.5 Test Result of Maximum Conducted Output Power

Refer as Appendix A

# 3.2 Peak Power Spectral Density

## 3.2.1 Peak Power Spectral Density Limit

| Peak Power Spectral Density Limit | |
|---|---|
| **UNII Devices** | |
| ☒ | For the 5.15-5.25 GHz band: |
| | ▪ Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 17 – ($G_{TX}$ – 6). |
| | ▪ Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 17 – ($G_{TX}$ – 6). |
| | ▪ Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX}$ > 23 dBi, then $P_{Out}$ = 17 – ($G_{TX}$ – 23). |
| | ▪ Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX}$ > 6 dBi, then PPSD= 11 – ($G_{TX}$ – 6).. |
| ☐ | For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX}$ > 6 dBi, then PPSD= 11 – ($G_{TX}$ – 6). |
| ☐ | For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX}$ > 6 dBi, then PPSD= 11 – ($G_{TX}$ – 6). |
| ☒ | For the 5.725-5.85 GHz band: |
| | ▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX}$ > 6 dBi, then PPSD= 30 – ($G_{TX}$ – 6). |
| | ▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. |
| **LE-LAN Devices** | |
| ☐ | For the 5.15-5.25 GHz band, the peak power spectral density (PPSD) ≤ 4 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz. |
| ☐ | For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz. |
| | ▪ e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below:<br>-13 dBW/MHz for 0° ≤ θ < 8° ; -13 − 0.716 (θ-8) dBW/MHz for 8° ≤ θ < 40°<br>-35.9 − 1.22 (θ-40) dBW/MHz for 40° ≤ θ ≤ 45° ; -42 dBW/MHz for θ > 45° |
| ☐ | For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz and the e.i.r.p. peak power spectral density (PPSD) ≤ 17 dBm/MHz. |
| ☐ | For the 5.725-5.85 GHz band: |
| | ▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX}$ > 6 dBi, then PPSD= 30 – ($G_{TX}$ – 6). |
| | ▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. |
| **PPSD** = 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>**$G_{TX}$** = the maximum transmitting antenna directional gain in dBi. | |

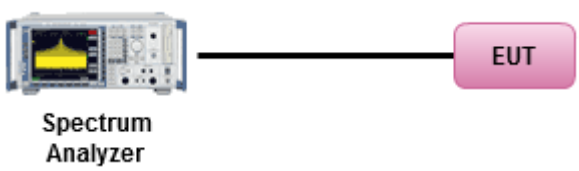
## 3.2.2 Measuring Instruments

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

### 3.2.3 Test Procedures

| Test Method | |
|---|---|
| ▪ 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: | |
| | ☐ Refer as FCC 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 |
| | [duty cycle ≥ 98% or external video / power trigger] |
| | ☒ Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging). |
| | ☐ Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed) |
| | duty cycle < 98% and average over on/off periods with duty factor |
| | ☒ Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging). |
| | ☐ Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed) |
| ▪ For conducted measurement. | |
| | ▪ If the EUT supports multiple transmit chains using options given below: |
| | ☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC 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. |
| | ☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits, |
| | ☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit. |
| | ▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods:<br>$PPSD_{total} = PPSD_1 + PPSD_2 + \ldots + PPSD_n$<br>(calculated in linear unit [mW] and transfer to log unit [dBm])<br>$EIRP_{total} = PPSD_{total} + DG$ |

### 3.2.4 Test Setup

| Power Spectral Density |
|---|
|  |

### 3.2.5 Test Result of Peak Power Spectral Density

Refer as Appendix B

# 4 Test Equipment and Calibration Data

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Calibration Due Date | Remark |
|---|---|---|---|---|---|---|---|
| Spectrum analyzer | R&S | FSV40 | 100979 | 9kHz~40GHz | Dec. 26, 2016 | Dec. 25, 2017 | Conducted (TH01-CB) |
| Temp. and Humidity Chamber | Ten Billion | TTH-D3SP | TBN-931011 | -30~100 degree | Jun. 02, 2017 | Jun. 01, 2018 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-6 | 1 GHz – 26.5 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-7 | 1 GHz –26.5 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-8 | 1 GHz –26.5 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-9 | 1 GHz –26.5 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-10 | 1 GHz –26.5 GHz | Oct. 11, 2017 | Oct. 10, 2018 | Conducted (TH01-CB) |
| Power Sensor | Agilent | U2021XA | MY53410001 | 50MHz~18GHz | Nov. 22, 2016 | Nov. 21, 2017 | Conducted (TH01-CB) |

Note: Calibration Interval of instruments listed above is one year.

**Summary**

| Mode | Total Power (dBm) | Total Power (W) | EIRP/ EIRP-Elevation 30° (dBm) | EIRP/ EIRP-Elevation 30° (W) |
|---|---|---|---|---|
| 5.15-5.25GHz | - | - | - | - |
| 802.11a_Nss1,(6Mbps)_2TX | 15.77 | 0.03776 | 25.87/9.26 | 0.38637/0.00843 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | 16.01 | 0.03990 | 26.11/9.50 | 0.40832/0.00891 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | 18.55 | 0.07161 | 28.65/12.04 | 0.73282/0.01599 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | 16.89 | 0.04887 | 26.99/10.38 | 0.50003/0.01091 |
| 5.725-5.85GHz | - | - | - | - |
| 802.11a_Nss1,(6Mbps)_2TX | 15.88 | 0.03873 | 27.98 | 0.62806 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | 15.93 | 0.03917 | 28.03 | 0.63533 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | 15.46 | 0.03516 | 27.56 | 0.57016 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | 15.90 | 0.03890 | 28.00 | 0.63096 |

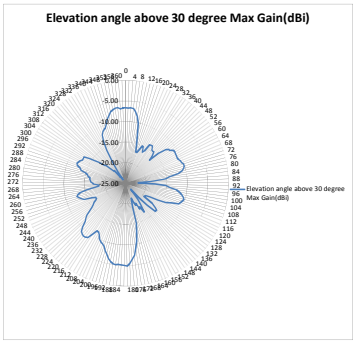
**Result**

| Mode | Result | Directional Gain (Output Power) / Gain-Elevation 30° | Port 1 | Port 2 | Total Power | Power Limit | EIRP / EIRP-Elevation 30° | EIRP Limit / EIRP Limit-Elevation 30° |
|---|---|---|---|---|---|---|---|---|
| | | (dBi) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) | (dBm) |
| 802.11a_Nss1,(6Mbps)_2TX | - | - | - | - | - | - | - | - |
| 5180MHz | Pass | 10.10/-6.51 | 13.38 | 11.00 | 15.36 | 25.90 | 25.46/8.85 | 36.00/21.00 |
| 5200MHz | Pass | 10.10/-6.51 | 13.82 | 11.36 | 15.77 | 25.90 | 25.87/9.26 | 36.00/21.00 |
| 5240MHz | Pass | 10.10/-6.51 | 13.29 | 11.00 | 15.30 | 25.90 | 25.40/8.79 | 36.00/21.00 |
| 5745MHz | Pass | 12.10 | 13.82 | 10.70 | 15.54 | 23.90 | 27.64 | 36.00 |
| 5785MHz | Pass | 12.10 | 14.14 | 11.08 | 15.88 | 23.90 | 27.98 | 36.00 |
| 5825MHz | Pass | 12.10 | 13.97 | 11.21 | 15.82 | 23.90 | 27.92 | 36.00 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | - | - | - | - | - | - | - | - |
| 5180MHz | Pass | 10.10/-6.51 | 13.38 | 11.38 | 15.50 | 25.90 | 25.60/8.99 | 36.00/21.00 |
| 5200MHz | Pass | 10.10/-6.51 | 14.00 | 11.69 | 16.01 | 25.90 | 26.11/9.50 | 36.00/21.00 |
| 5240MHz | Pass | 10.10/-6.51 | 13.83 | 11.23 | 15.73 | 25.90 | 25.83/9.22 | 36.00/21.00 |
| 5745MHz | Pass | 12.10 | 14.20 | 11.11 | 15.93 | 23.90 | 28.03 | 36.00 |
| 5785MHz | Pass | 12.10 | 13.95 | 10.92 | 15.70 | 23.90 | 27.80 | 36.00 |
| 5825MHz | Pass | 12.10 | 13.90 | 11.24 | 15.78 | 23.90 | 27.88 | 36.00 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | - | - | - | - | - | - | - | - |
| 5190MHz | Pass | 10.10/-6.51 | 16.32 | 14.08 | 18.35 | 25.90 | 28.45/11.84 | 36.00/21.00 |
| 5230MHz | Pass | 10.10/-6.51 | 16.66 | 14.04 | 18.55 | 25.90 | 28.65/12.04 | 36.00/21.00 |
| 5755MHz | Pass | 12.10 | 13.71 | 10.67 | 15.46 | 23.90 | 27.56 | 36.00 |
| 5795MHz | Pass | 12.10 | 14.00 | 9.96 | 15.44 | 23.90 | 27.54 | 36.00 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | - | - | - | - | - | - | - | - |
| 5210MHz | Pass | 10.10/-6.51 | 14.82 | 12.68 | 16.89 | 25.90 | 26.99/10.38 | 36.00/21.00 |
| 5775MHz | Pass | 12.10 | 14.09 | 11.22 | 15.90 | 23.90 | 28.00 | 36.00 |

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

SPORTON International Inc.
No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.
Ph: 886-3-656-9065 / FAX: 886-3-656-9085 / www.sporton.com.tw

| Elevation angle above 30 degree Max Gain(dBi) | | -6.51 |
|---|---|---|
| Freq. (MHz) | 5180 | Elevation Angle Define |
| H-Plan angle(Degree) | Gain(dBm) | |
| 0 | -6.65 | |
| 2 | -6.71 | |
| 4 | -6.59 | |
| 6 | -6.75 | |
| 8 | -7.42 | |
| 10 | -8.58 | |
| 12 | -10.11 | |
| 14 | -13.13 | |
| 16 | -14.99 | |
| 18 | -17.00 | |
| 20 | -16.98 | |
| 22 | -16.22 | |
| 24 | -15.12 | |
| 26 | -15.21 | |
| 28 | -16.38 | |
| 30 | -15.88 | |
| 32 | -14.00 | |
| 34 | -13.87 | |
| 36 | -13.85 | |
| 38 | -14.66 | |
| 40 | -14.79 | |
| 42 | -14.75 | |
| 44 | -15.56 | |
| 46 | -16.88 | |
| 48 | -14.09 | |
| 50 | -12.42 | |
| 52 | -11.68 | |
| 54 | -11.57 | |
| 56 | -10.90 | |
| 58 | -10.82 | |
| 60 | -10.94 | |
| 62 | -10.96 | |
| 64 | -11.05 | |
| 66 | -10.95 | |
| 68 | -10.66 | |
| 70 | -10.48 | |
| 72 | -10.15 | |
| 74 | -10.18 | Above 30° |
| 76 | -10.50 | |
| 78 | -11.00 | |
| 80 | -11.94 | |
| 82 | -14.27 | |
| 84 | -15.30 | |
| 86 | -19.04 | |
| 88 | -21.99 | |
| 90 | -21.75 | |
| 92 | -17.83 | |
| 94 | -15.09 | |
| 96 | -14.17 | |
| 98 | -12.50 | |
| 100 | -11.67 | |
| 102 | -11.11 | |
| 104 | -10.59 | |
| 106 | -10.32 | |
| 108 | -10.56 | |
| 110 | -10.89 | |
| 112 | -11.23 | |
| 114 | -12.89 | |
| 116 | -14.08 | |
| 118 | -16.14 | |
| 120 | -18.26 | |
| 122 | -19.27 | |
| 124 | -19.40 | |
| 126 | -19.54 | |
| 128 | -16.92 | |
| 130 | -15.66 | |
| 132 | -15.00 | |
| 134 | -15.03 | |
| 136 | -17.52 | |
| 138 | -20.32 | |
| 140 | -23.07 | |
| 142 | -22.93 | |
| 144 | -19.99 | |
| 146 | -18.31 | |
| 148 | -16.74 | |
| 150 | -18.33 | |
| 152 | -17.89 | |
| 154 | -19.55 | |
| 156 | -19.17 | |
| 158 | -20.00 | |
| 160 | -21.12 | |
| 162 | -20.57 | |
| 164 | -19.10 | 0° ~ 30° |
| 166 | -14.83 | |
| 168 | -12.74 | |
| 170 | -10.66 | |
| 172 | -8.94 | |
| 174 | -7.38 | |
| 176 | -6.50 | |
| 178 | -5.51 | |
| 180 | -4.91 | 0° reference angle |
| 182 | -5.04 | |
| 184 | -5.11 | |
| 186 | -5.24 | |
| 188 | -5.09 | |
| 190 | -5.19 | |
| 192 | -5.65 | |
| 194 | -6.31 | |
| 196 | -7.26 | 0° ~ 30° |
| 198 | -7.89 | |
| 200 | -8.76 | |
| 202 | -9.26 | |
| 204 | -9.55 | |
| 206 | -9.97 | |
| 208 | -10.80 | |
| 210 | -11.39 | |
| 212 | -11.51 | |
| 214 | -10.36 | |
| 216 | -8.94 | |
| 218 | -8.64 | |
| 220 | -8.54 | |
| 222 | -8.79 | |
| 224 | -9.21 | |
| 226 | -10.14 | |
| 228 | -11.57 | |
| 230 | -12.16 | |
| 232 | -12.82 | |
| 234 | -13.99 | |
| 236 | -14.98 | |
| 238 | -15.62 | |
| 240 | -15.96 | |
| 242 | -16.69 | |
| 244 | -17.04 | |
| 246 | -16.97 | |
| 248 | -16.11 | |
| 250 | -14.24 | |
| 252 | -13.64 | |
| 254 | -13.23 | |
| 256 | -12.75 | |
| 258 | -13.03 | |
| 260 | -13.79 | |
| 262 | -15.60 | |
| 264 | -17.48 | |
| 266 | -18.39 | |
| 268 | -18.55 | |
| 270 | -17.22 | |
| 272 | -16.95 | |
| 274 | -16.46 | |
| 276 | -16.43 | |
| 278 | -16.24 | |
| 280 | -16.26 | |
| 282 | -15.76 | |
| 284 | -15.52 | |
| 286 | -14.90 | Above 30° |
| 288 | -13.71 | |
| 290 | -13.34 | |
| 292 | -12.44 | |
| 294 | -12.20 | |
| 296 | -12.40 | |
| 298 | -12.61 | |
| 300 | -13.02 | |
| 302 | -13.08 | |
| 304 | -13.04 | |
| 306 | -14.34 | |
| 308 | -15.69 | |
| 310 | -16.80 | |
| 312 | -18.35 | |
| 314 | -18.60 | |
| 316 | -20.25 | |
| 318 | -20.92 | |
| 320 | -20.83 | |
| 322 | -23.00 | |
| 324 | -22.86 | |
| 326 | -23.86 | |
| 328 | -21.48 | |
| 330 | -19.09 | |
| 332 | -15.69 | |
| 334 | -13.45 | |
| 336 | -11.96 | |
| 338 | -11.27 | |
| 340 | -10.88 | |
| 342 | -10.60 | |
| 344 | -9.67 | |
| 346 | -8.72 | |
| 348 | -8.00 | |
| 350 | -7.26 | |
| 352 | -6.88 | |
| 354 | -6.57 | |
| 356 | -6.51 | |
| 358 | -6.89 | |
| 360 | -6.65 | |



**Summary**

| Mode | Total Power (dBm) | Total Power (W) |
|---|---|---|
| 5.15-5.25GHz | - | - |
| 802.11a_Nss1,(6Mbps)_2TX | 15.77 | 0.03776 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | 16.01 | 0.03990 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | 18.55 | 0.07161 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | 16.89 | 0.04887 |
| 5.725-5.85GHz | - | - |
| 802.11a_Nss1,(6Mbps)_2TX | 15.88 | 0.03873 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | 15.93 | 0.03917 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | 15.46 | 0.03516 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | 15.90 | 0.03890 |

**Result**

| Mode | Result | DG | Port 1 | Port 2 | Total Power | Power Limit |
|---|---|---|---|---|---|---|
| | | (dBi) | (dBm) | (dBm) | (dBm) | (dBm) |
| 802.11a_Nss1,(6Mbps)_2TX | - | - | - | - | - | - |
| 5180MHz | Pass | 10.10 | 13.38 | 11.00 | 15.36 | 30.00 |
| 5200MHz | Pass | 10.10 | 13.82 | 11.36 | 15.77 | 30.00 |
| 5240MHz | Pass | 10.10 | 13.29 | 11.00 | 15.30 | 30.00 |
| 5745MHz | Pass | 12.10 | 13.82 | 10.70 | 15.54 | 30.00 |
| 5785MHz | Pass | 12.10 | 14.14 | 11.08 | 15.88 | 30.00 |
| 5825MHz | Pass | 12.10 | 13.97 | 11.21 | 15.82 | 30.00 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5180MHz | Pass | 10.10 | 13.38 | 11.38 | 15.50 | 30.00 |
| 5200MHz | Pass | 10.10 | 14.00 | 11.69 | 16.01 | 30.00 |
| 5240MHz | Pass | 10.10 | 13.83 | 11.23 | 15.73 | 30.00 |
| 5745MHz | Pass | 12.10 | 14.20 | 11.11 | 15.93 | 30.00 |
| 5785MHz | Pass | 12.10 | 13.95 | 10.92 | 15.70 | 30.00 |
| 5825MHz | Pass | 12.10 | 13.90 | 11.24 | 15.78 | 30.00 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5190MHz | Pass | 10.10 | 16.32 | 14.08 | 18.35 | 30.00 |
| 5230MHz | Pass | 10.10 | 16.66 | 14.04 | 18.55 | 30.00 |
| 5755MHz | Pass | 12.10 | 13.71 | 10.67 | 15.46 | 30.00 |
| 5795MHz | Pass | 12.10 | 14.00 | 9.96 | 15.44 | 30.00 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5210MHz | Pass | 10.10 | 14.82 | 12.68 | 16.89 | 30.00 |
| 5775MHz | Pass | 12.10 | 14.09 | 11.22 | 15.90 | 30.00 |

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

**Summary**

| Mode | PD (dBm/RBW) |
|---|---|
| 5.15-5.25GHz | - |
| 802.11a_Nss1,(6Mbps)_2TX | 2.63 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | 2.51 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | 2.44 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | -2.13 |
| 5.725-5.85GHz | - |
| 802.11a_Nss1,(6Mbps)_2TX | 1.36 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | 0.98 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | -2.08 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | -4.62 |

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

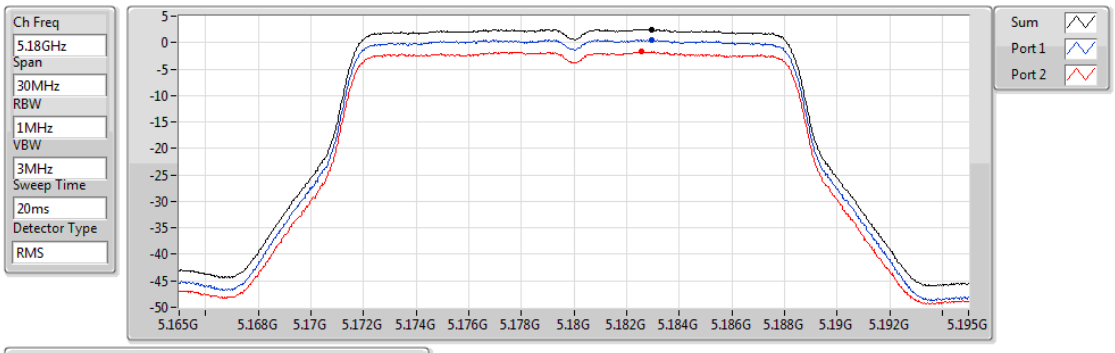
**Result**

| Mode | Result | DG (dBi) | Port 1 (dBm/RBW) | Port 2 (dBm/RBW) | PD (dBm/RBW) | PD Limit (dBm/RBW) |
|---|---|---|---|---|---|---|
| 802.11a_Nss1,(6Mbps)_2TX | - | - | - | - | - | - |
| 5180MHz | Pass | 13.11 | 0.50 | -1.73 | 2.52 | 9.89 |
| 5200MHz | Pass | 13.11 | 0.68 | -1.55 | 2.63 | 9.89 |
| 5240MHz | Pass | 13.11 | 0.45 | -2.07 | 2.34 | 9.89 |
| 5745MHz | Pass | 15.11 | -0.73 | -3.54 | 0.88 | 20.89 |
| 5785MHz | Pass | 15.11 | -0.34 | -3.22 | 1.36 | 20.89 |
| 5825MHz | Pass | 15.11 | -0.57 | -3.20 | 1.20 | 20.89 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5180MHz | Pass | 13.11 | 0.48 | -1.77 | 2.44 | 9.89 |
| 5200MHz | Pass | 13.11 | 0.62 | -1.79 | 2.51 | 9.89 |
| 5240MHz | Pass | 13.11 | 0.32 | -2.29 | 2.21 | 9.89 |
| 5745MHz | Pass | 15.11 | -0.65 | -3.73 | 0.98 | 20.89 |
| 5785MHz | Pass | 15.11 | -1.07 | -3.83 | 0.67 | 20.89 |
| 5825MHz | Pass | 15.11 | -1.21 | -3.62 | 0.68 | 20.89 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5190MHz | Pass | 13.11 | 0.30 | -1.74 | 2.30 | 9.89 |
| 5230MHz | Pass | 13.11 | 0.65 | -2.04 | 2.44 | 9.89 |
| 5755MHz | Pass | 15.11 | -3.69 | -6.91 | -2.08 | 20.89 |
| 5795MHz | Pass | 15.11 | -3.73 | -6.69 | -2.09 | 20.89 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5210MHz | Pass | 13.11 | -4.16 | -6.35 | -2.13 | 9.89 |
| 5775MHz | Pass | 15.11 | -6.17 | -9.59 | -4.62 | 20.89 |

**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 X power density;

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

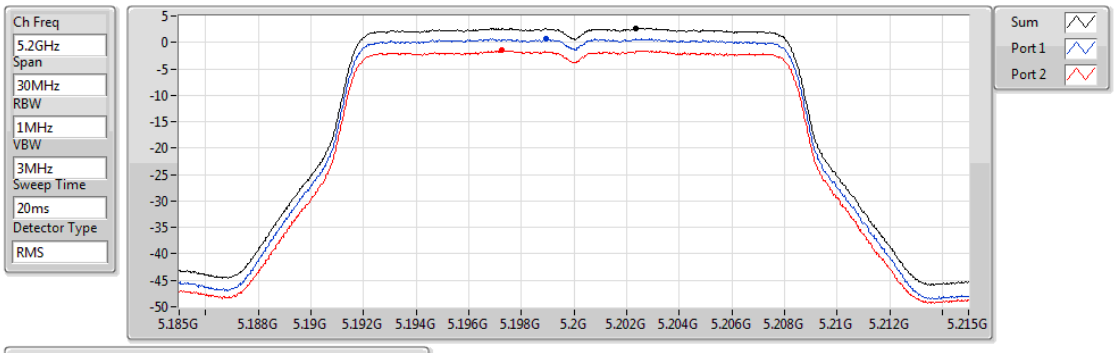
**5180MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.52 | 2.52 | 0.50 | -1.73 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

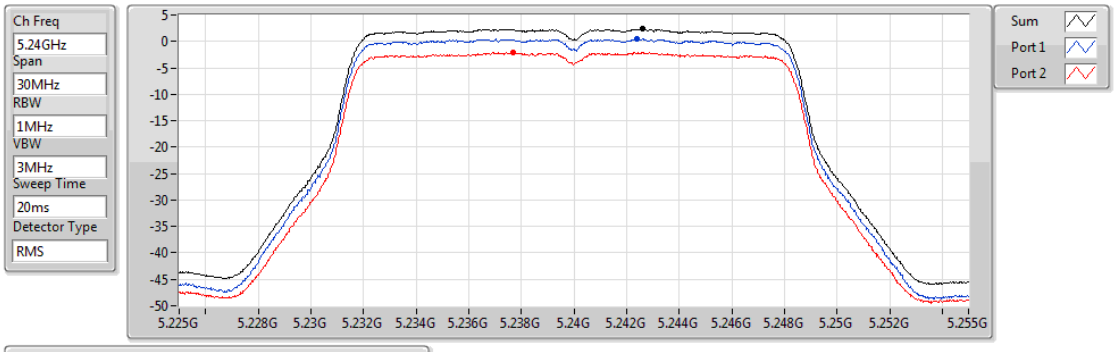
**5200MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.63 | 2.63 | 0.68 | -1.55 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

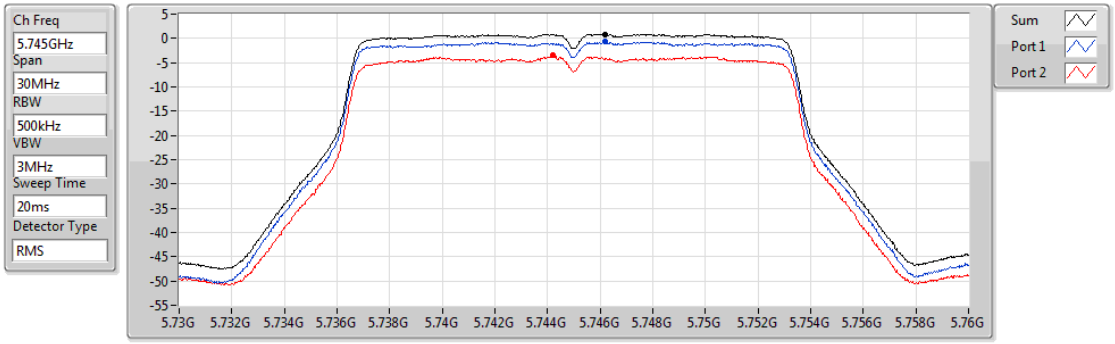
**5240MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.34 | 2.34 | 0.45 | -2.07 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

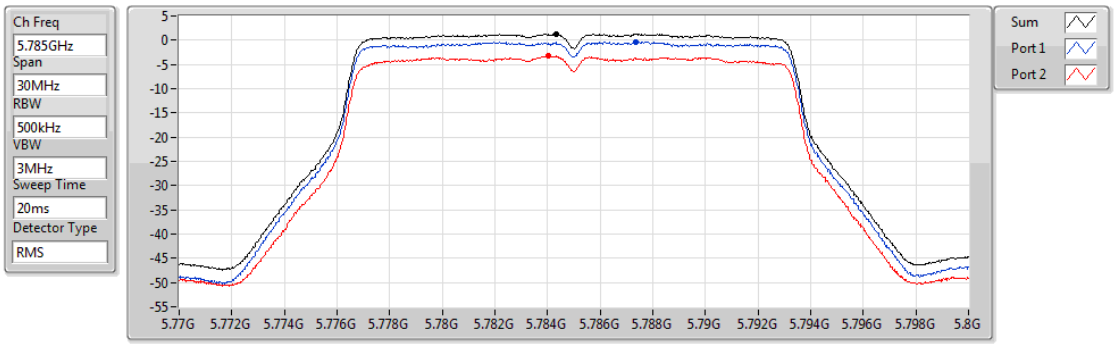
**5745MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.88 | 0.88 | -0.73 | -3.54 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

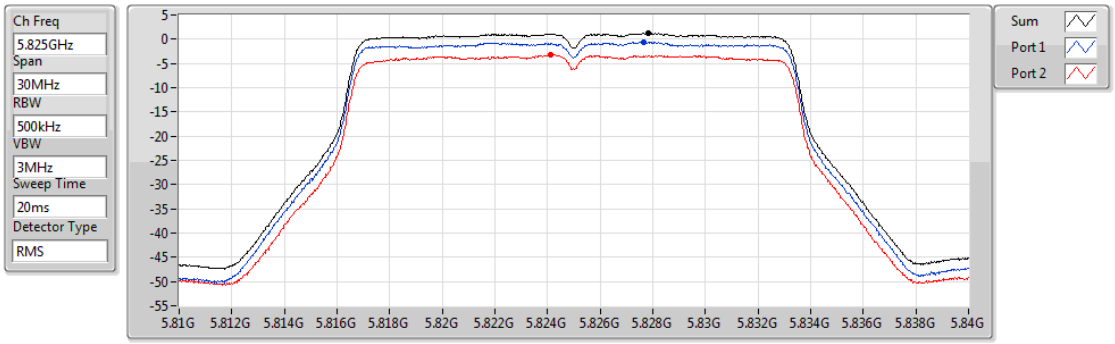
**5785MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 1.36 | 1.36 | -0.34 | -3.22 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

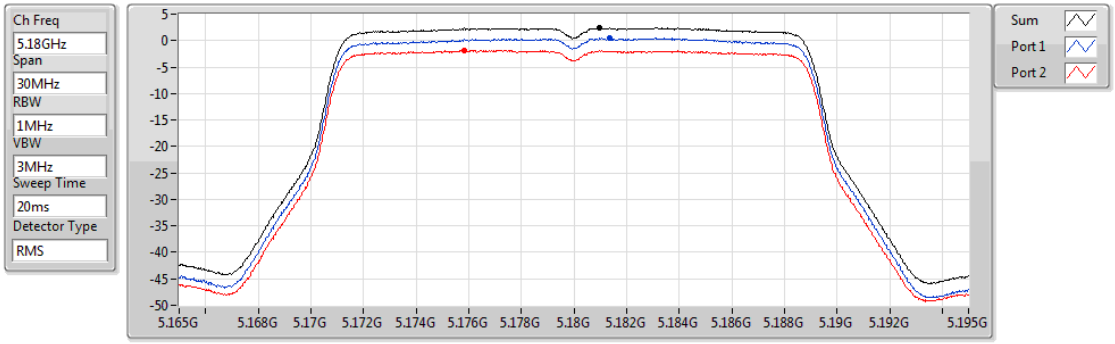
**5825MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 1.20 | 1.20 | -0.57 | -3.20 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

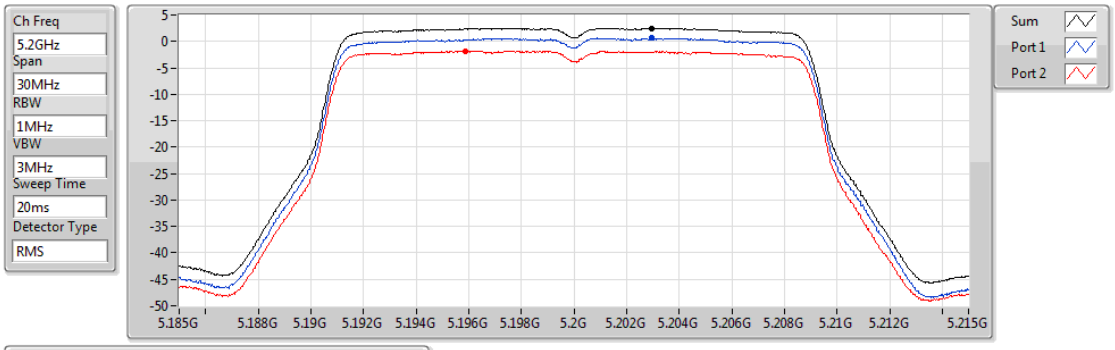
**5180MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.44 | 2.44 | 0.48 | -1.77 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

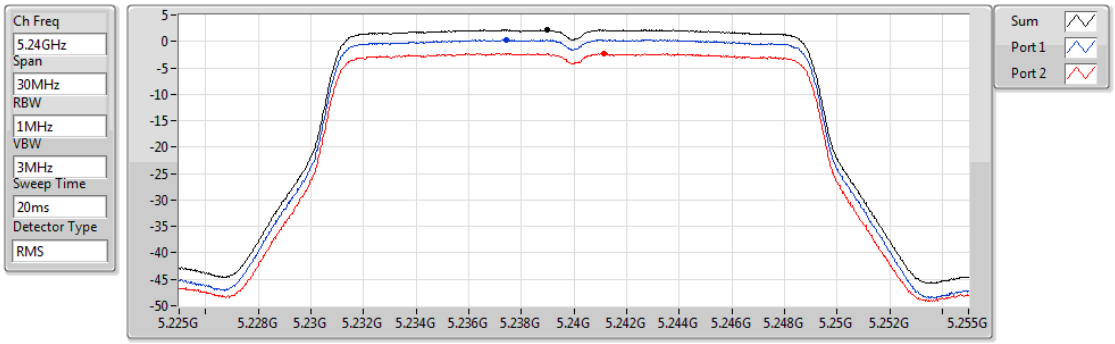
**5200MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.51 | 2.51 | 0.62 | -1.79 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

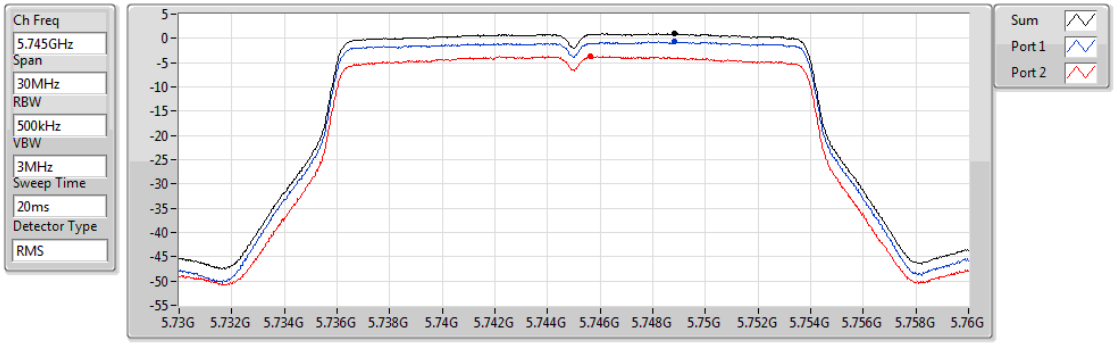
**5240MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.21 | 2.21 | 0.32 | -2.29 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

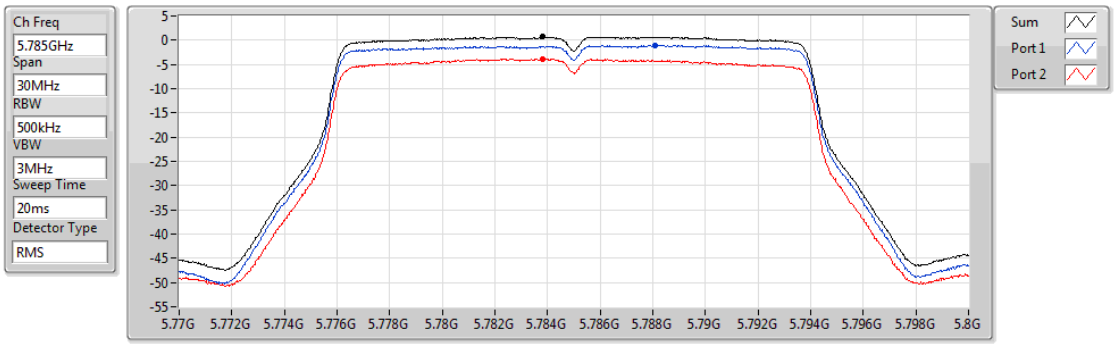
**5745MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.98 | 0.98 | -0.65 | -3.73 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

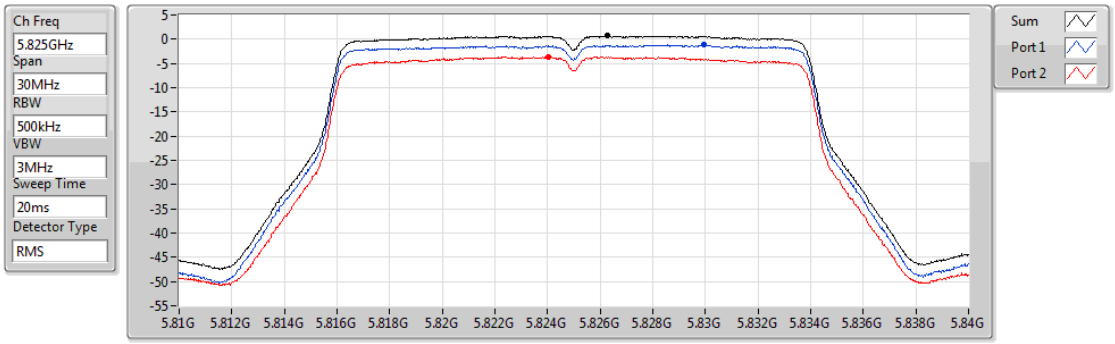
**5785MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.67 | 0.67 | -1.07 | -3.83 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

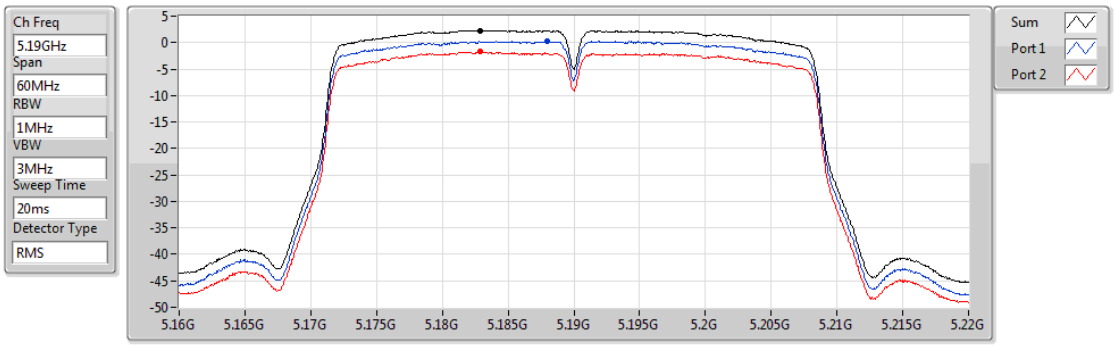
**5825MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.68 | 0.68 | -1.21 | -3.62 |

## 802.11ac VHT40_Nss1,(MCS0)_2TX PSD

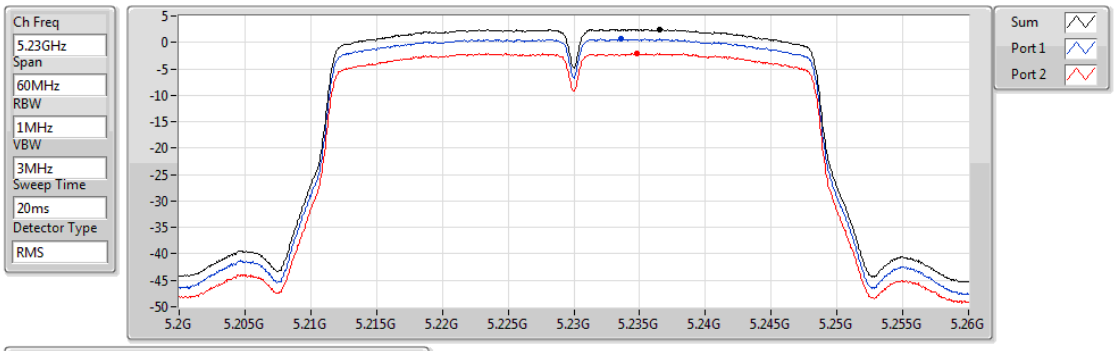
### 5190MHz




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.30 | 2.30 | 0.30 | -1.74 |

## 802.11ac VHT40_Nss1,(MCS0)_2TX PSD

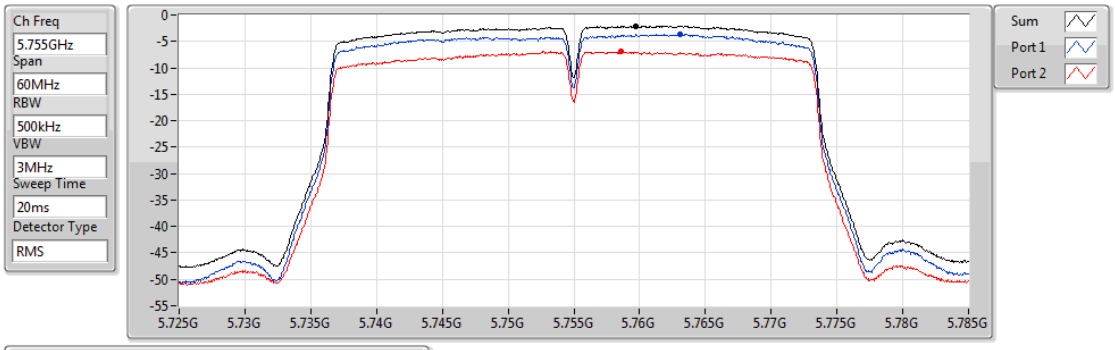
### 5230MHz




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.44 | 2.44 | 0.65 | -2.04 |

## 802.11ac VHT40_Nss1,(MCS0)_2TX PSD

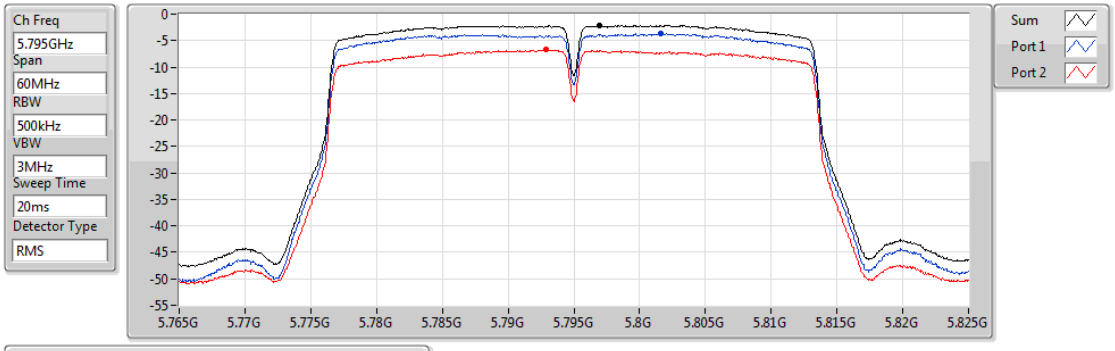
### 5755MHz




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -2.08 | -2.08 | -3.69 | -6.91 |

## 802.11ac VHT40_Nss1,(MCS0)_2TX PSD

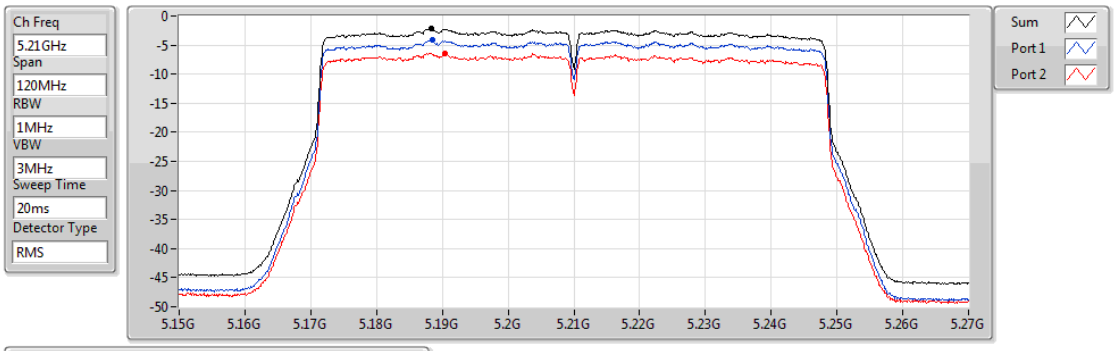
### 5795MHz




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -2.09 | -2.09 | -3.73 | -6.69 |

## 802.11ac VHT80_Nss1,(MCS0)_2TX PSD

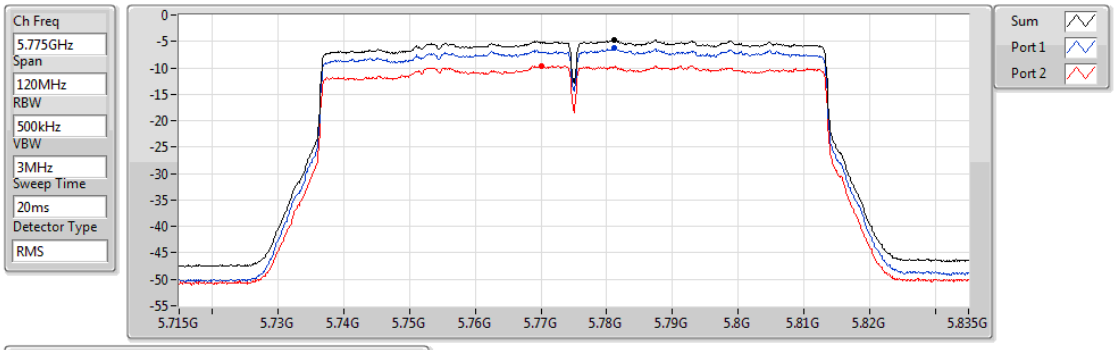
### 5210MHz




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -2.13 | -2.13 | -4.16 | -6.35 |

## 802.11ac VHT80_Nss1,(MCS0)_2TX PSD

### 5775MHz




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.62 | -4.62 | -6.17 | -9.59 |

**Summary**

| Mode | PD (dBm/RBW) |
|---|---|
| 5.15-5.25GHz | - |
| 802.11a_Nss1,(6Mbps)_2TX | 2.63 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | 2.51 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | 2.44 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | -2.13 |
| 5.725-5.85GHz | - |
| 802.11a_Nss1,(6Mbps)_2TX | 1.36 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | 0.98 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | -2.08 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | -4.62 |

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

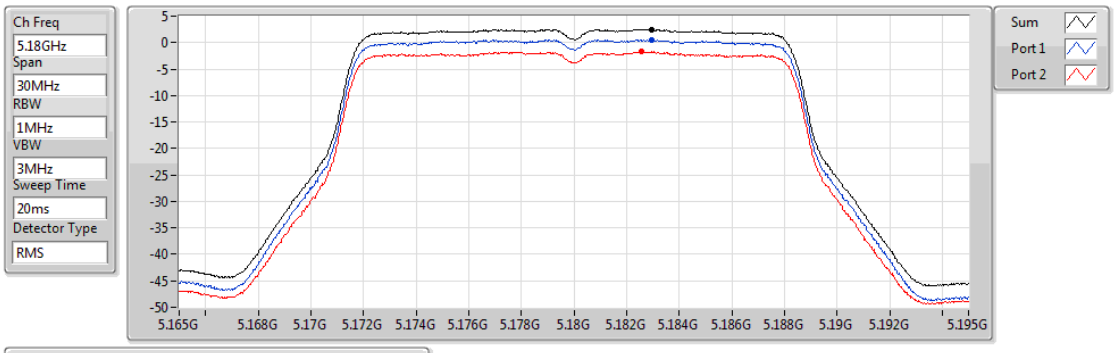
**Result**

| Mode | Result | DG (dBi) | Port 1 (dBm/RBW) | Port 2 (dBm/RBW) | PD (dBm/RBW) | PD Limit (dBm/RBW) |
|---|---|---|---|---|---|---|
| 802.11a_Nss1,(6Mbps)_2TX | - | - | - | - | - | - |
| 5180MHz | Pass | 13.11 | 0.50 | -1.73 | 2.52 | 17.00 |
| 5200MHz | Pass | 13.11 | 0.68 | -1.55 | 2.63 | 17.00 |
| 5240MHz | Pass | 13.11 | 0.45 | -2.07 | 2.34 | 17.00 |
| 5745MHz | Pass | 15.11 | -0.73 | -3.54 | 0.88 | 30.00 |
| 5785MHz | Pass | 15.11 | -0.34 | -3.22 | 1.36 | 30.00 |
| 5825MHz | Pass | 15.11 | -0.57 | -3.20 | 1.20 | 30.00 |
| 802.11ac VHT20_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5180MHz | Pass | 13.11 | 0.48 | -1.77 | 2.44 | 17.00 |
| 5200MHz | Pass | 13.11 | 0.62 | -1.79 | 2.51 | 17.00 |
| 5240MHz | Pass | 13.11 | 0.32 | -2.29 | 2.21 | 17.00 |
| 5745MHz | Pass | 15.11 | -0.65 | -3.73 | 0.98 | 30.00 |
| 5785MHz | Pass | 15.11 | -1.07 | -3.83 | 0.67 | 30.00 |
| 5825MHz | Pass | 15.11 | -1.21 | -3.62 | 0.68 | 30.00 |
| 802.11ac VHT40_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5190MHz | Pass | 13.11 | 0.30 | -1.74 | 2.30 | 17.00 |
| 5230MHz | Pass | 13.11 | 0.65 | -2.04 | 2.44 | 17.00 |
| 5755MHz | Pass | 15.11 | -3.69 | -6.91 | -2.08 | 30.00 |
| 5795MHz | Pass | 15.11 | -3.73 | -6.69 | -2.09 | 30.00 |
| 802.11ac VHT80_Nss1,(MCS0)_2TX | - | - | - | - | - | - |
| 5210MHz | Pass | 13.11 | -4.16 | -6.35 | -2.13 | 17.00 |
| 5775MHz | Pass | 15.11 | -6.17 | -9.59 | -4.62 | 30.00 |

**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 X power density;

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

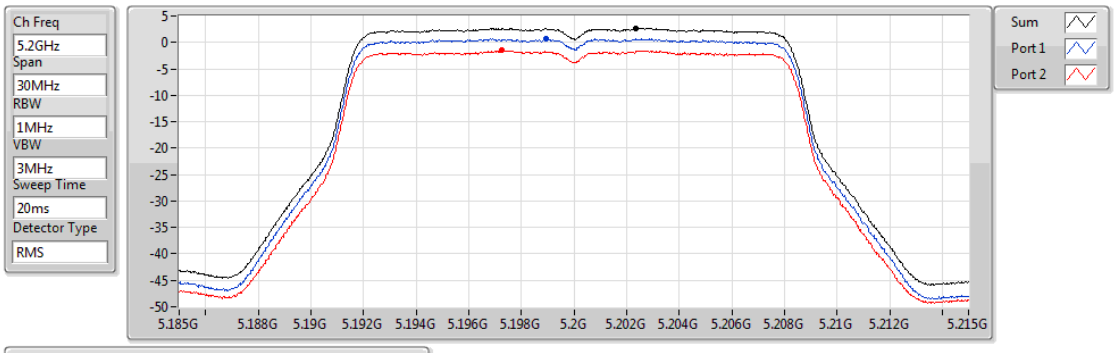
**5180MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.52 | 2.52 | 0.50 | -1.73 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

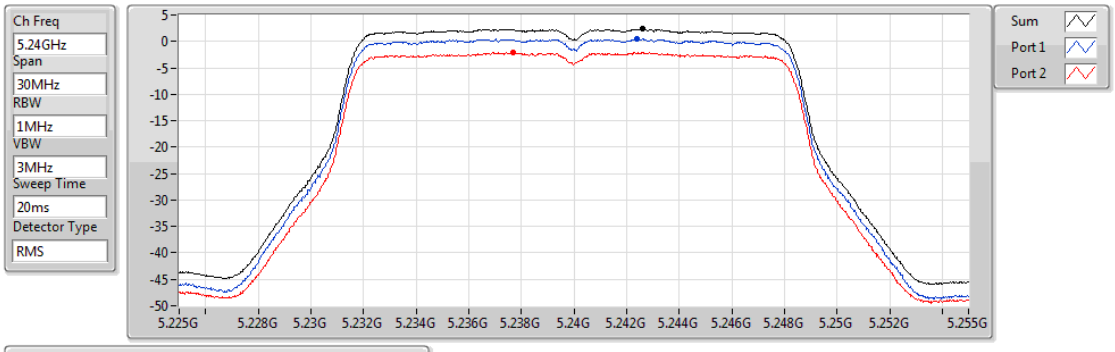
**5200MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.63 | 2.63 | 0.68 | -1.55 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

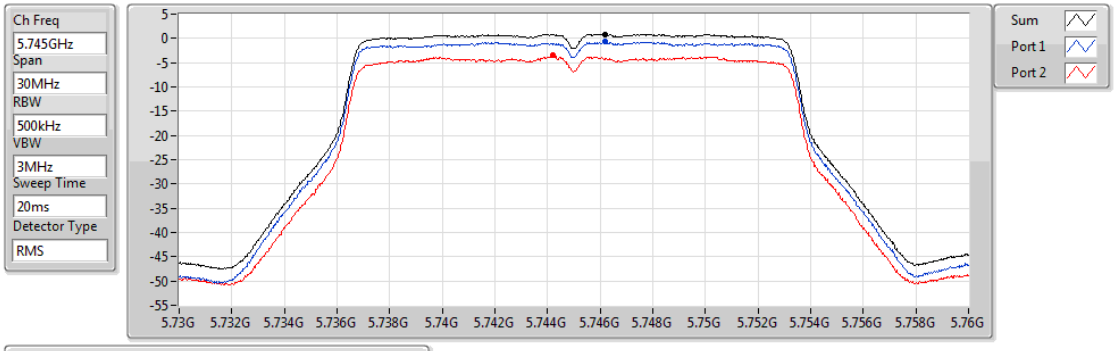
**5240MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.34 | 2.34 | 0.45 | -2.07 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

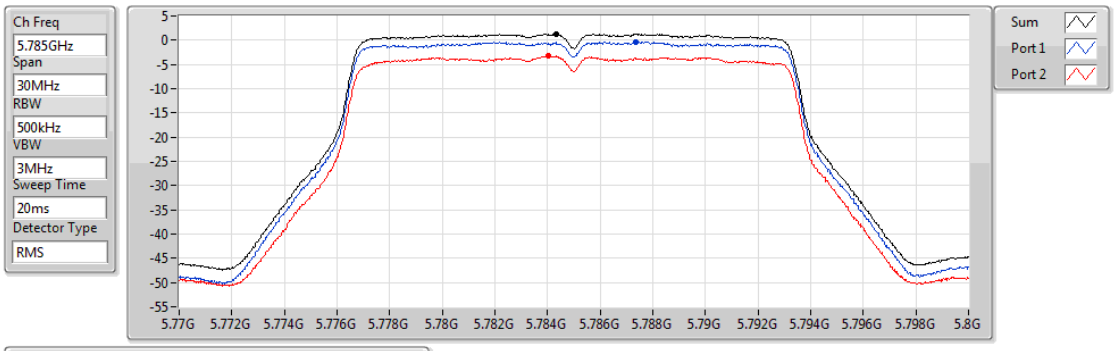
**5745MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.88 | 0.88 | -0.73 | -3.54 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

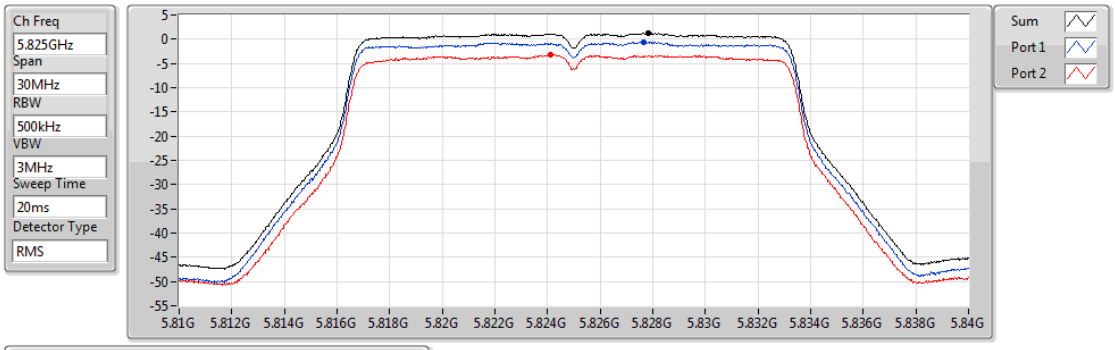
**5785MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 1.36 | 1.36 | -0.34 | -3.22 |

**802.11a_Nss1,(6Mbps)_2TX** **PSD**

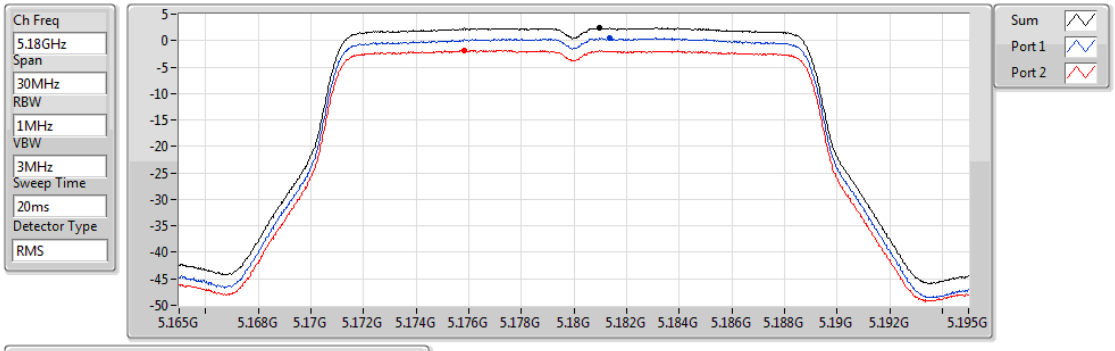
**5825MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 1.20 | 1.20 | -0.57 | -3.20 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

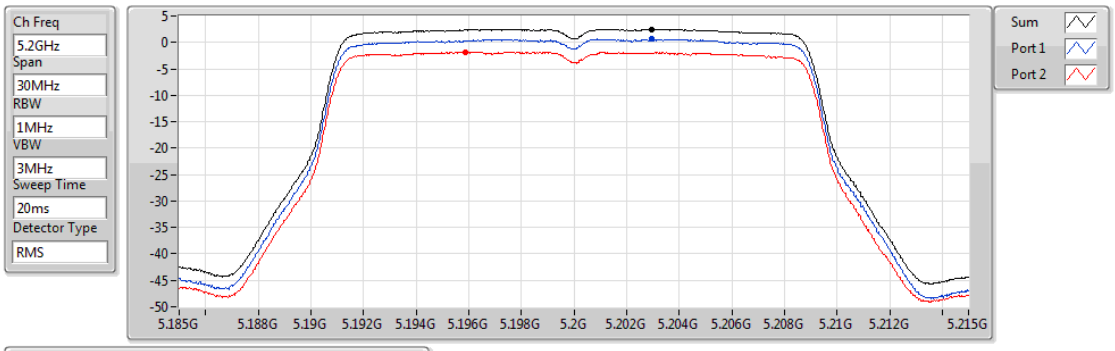
**5180MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.44 | 2.44 | 0.48 | -1.77 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

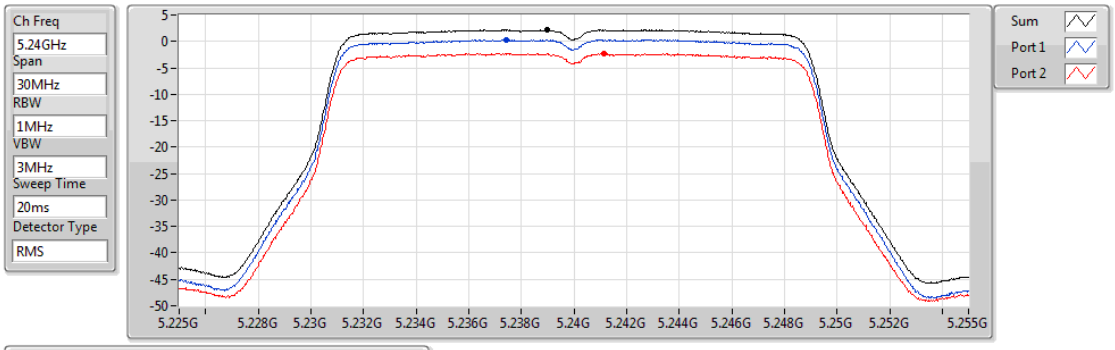
**5200MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.51 | 2.51 | 0.62 | -1.79 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

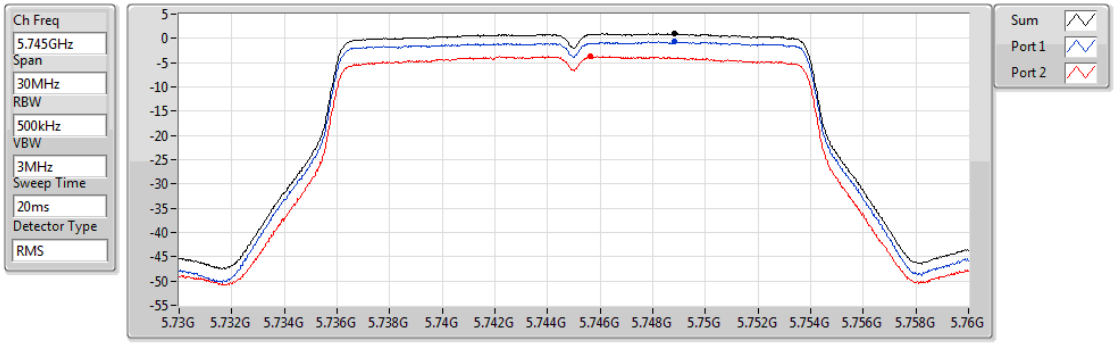
**5240MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.21 | 2.21 | 0.32 | -2.29 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

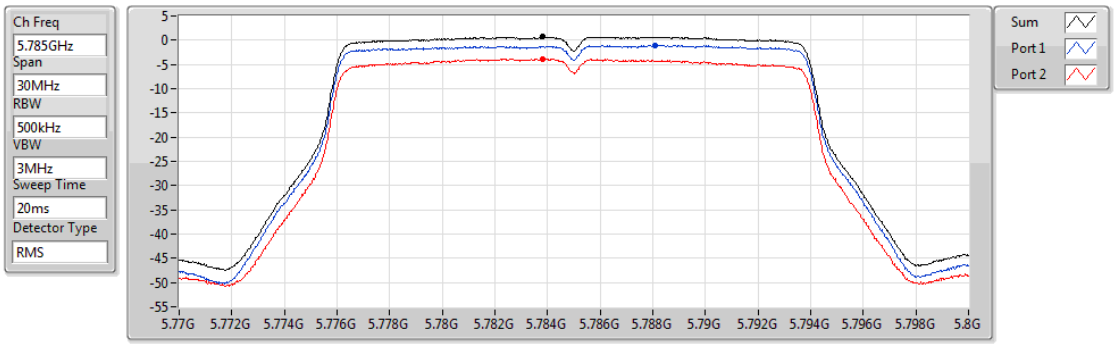
**5745MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.98 | 0.98 | -0.65 | -3.73 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

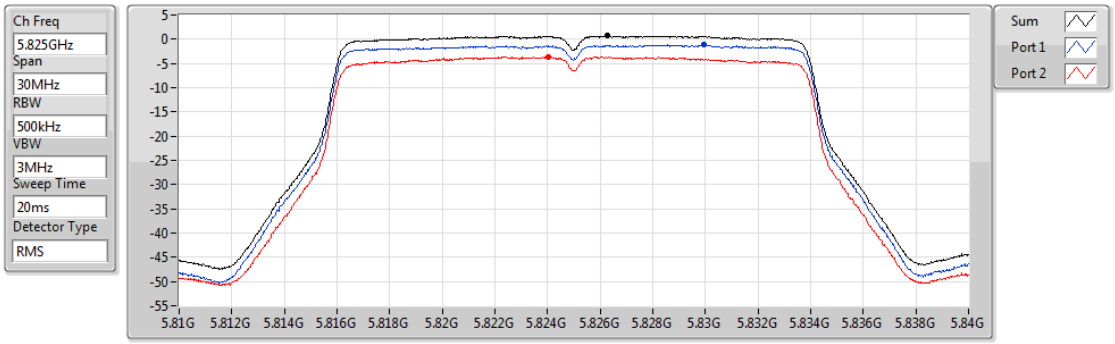
**5785MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.67 | 0.67 | -1.07 | -3.83 |

**802.11ac VHT20_Nss1,(MCS0)_2TX** **PSD**

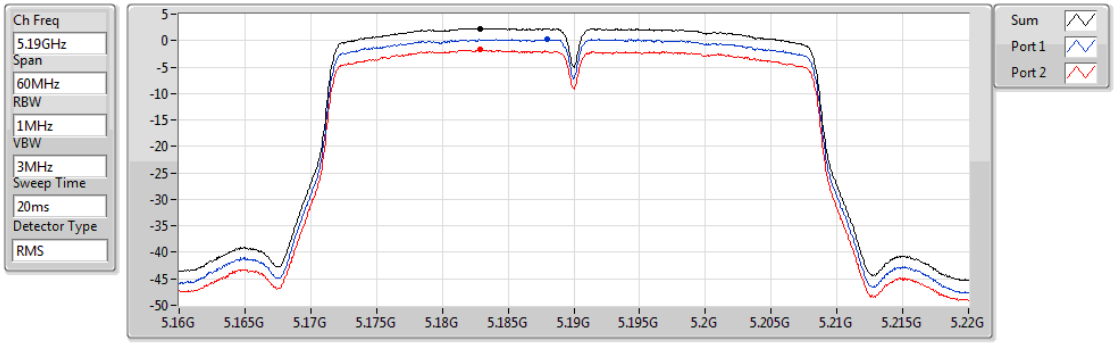
**5825MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 0.68 | 0.68 | -1.21 | -3.62 |

**802.11ac VHT40_Nss1,(MCS0)_2TX** **PSD**

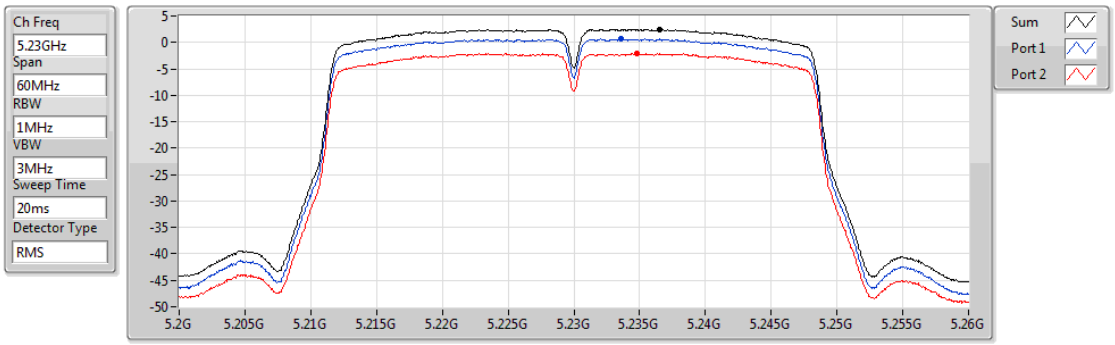
**5190MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.30 | 2.30 | 0.30 | -1.74 |

**802.11ac VHT40_Nss1,(MCS0)_2TX** **PSD**

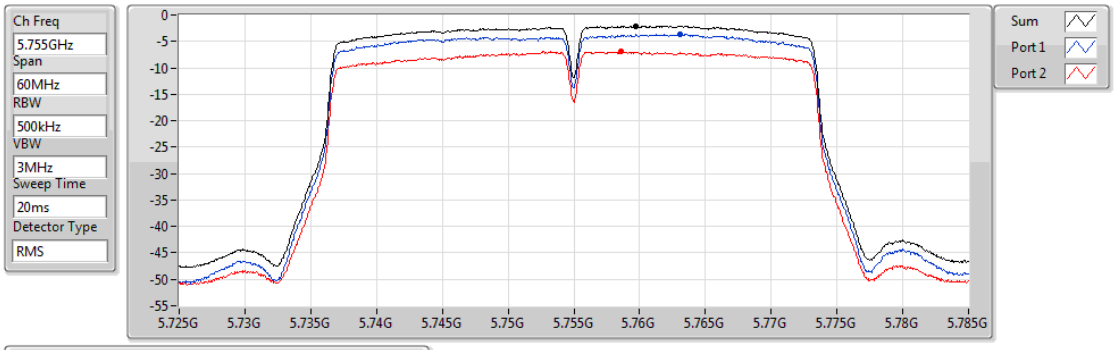
**5230MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| 2.44 | 2.44 | 0.65 | -2.04 |

**802.11ac VHT40_Nss1,(MCS0)_2TX** **PSD**

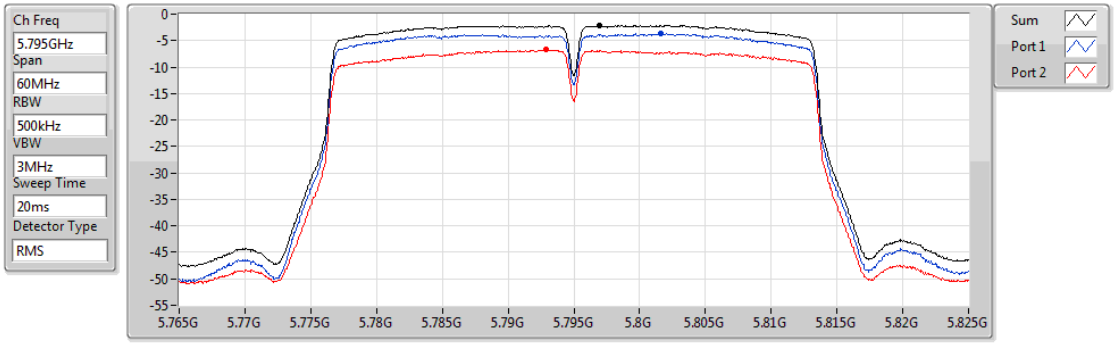
**5755MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -2.08 | -2.08 | -3.69 | -6.91 |

**802.11ac VHT40_Nss1,(MCS0)_2TX** **PSD**

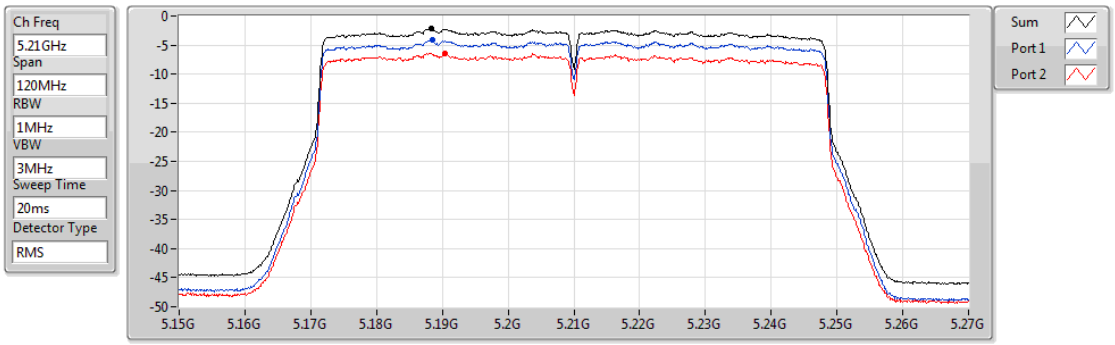
**5795MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -2.09 | -2.09 | -3.73 | -6.69 |

**802.11ac VHT80_Nss1,(MCS0)_2TX** **PSD**

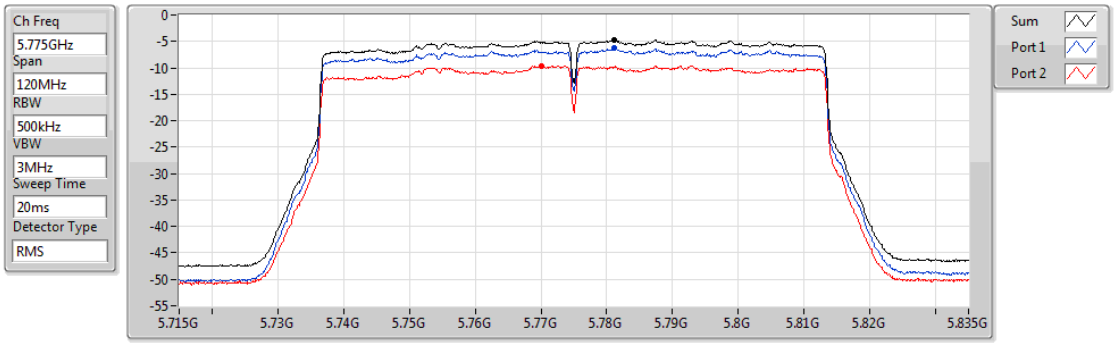
**5210MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -2.13 | -2.13 | -4.16 | -6.35 |

**802.11ac VHT80_Nss1,(MCS0)_2TX** **PSD**

**5775MHz**




| Sum | PD | Port 1 | Port 2 |
|---|---|---|---|
| (dBm/RBW) | (dBm/RBW) | (dBm/RBW) | (dBm/RBW) |
| -4.62 | -4.62 | -6.17 | -9.59 |