



# SPORTON International Inc.

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## FCC RADIO TEST REPORT

|                            |                                                                      |
|----------------------------|----------------------------------------------------------------------|
| Applicant's company        | MitraStar Technology Corporation                                     |
| Applicant Address          | No. 6, Innovation Rd II, Science-Based Industrial, Hsin-Chu, Taiwan  |
| FCC ID                     | ZMYAM525                                                             |
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|                   |                                                   |
|-------------------|---------------------------------------------------|
| Product Name      | MoCA to Wireless / Ethernet bridge                |
| Brand Name        | Pace                                              |
| Model No.         | AM525                                             |
| Test Rule Part(s) | 47 CFR FCC Part 15 Subpart E § 15.407             |
| Test Freq. Range  | 5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz |
| Received Date     | Nov. 30, 2015                                     |
| Final Test Date   | Jan. 11, 2016                                     |
| Submission Type   | Original Equipment                                |

### Statement

**Test result included is for the IEEE 802.11n and IEEE 802.11a/ac of the product.**

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2013, 47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01r01, KDB662911 D01 v02r01, KDB644545 D03 v01.**

The test equipment used to perform the test is calibrated and traceable to NML/ROC.



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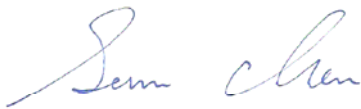
## History of This Test Report

| REPORT NO. | VERSION | DESCRIPTION             | ISSUED DATE   |
|------------|---------|-------------------------|---------------|
| FR5O2010AB | Rev. 01 | Initial issue of report | Feb. 05, 2016 |
|            |         |                         |               |
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## 1. VERIFICATION OF COMPLIANCE

Product Name : MoCA to Wireless / Ethernet bridge  
Brand Name : Pace  
Model No. : AM525  
Applicant : MitraStar Technology Corporation  
Test Rule Part(s) : 47 CFR FCC Part 15 Subpart E § 15.407

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Nov. 30, 2015 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.



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**Sam Chen**  
**SPORTON INTERNATIONAL INC.**

## 2. SUMMARY OF THE TEST RESULT

| Applied Standard: 47 CFR FCC Part 15 Subpart E |              |                                                    |          |             |
|------------------------------------------------|--------------|----------------------------------------------------|----------|-------------|
| Part                                           | Rule Section | Description of Test                                | Result   | Under Limit |
| 4.1                                            | 15.207       | AC Power Line Conducted Emissions                  | Complies | 7.48 dB     |
| 4.2                                            | 15.407(a)    | 26dB Spectrum Bandwidth and 99% Occupied Bandwidth | Complies | -           |
| 4.3                                            | 15.407(e)    | 6dB Spectrum Bandwidth                             | Complies | -           |
| 4.4                                            | 15.407(a)    | Maximum Conducted Output Power                     | Complies | 0.01 dB     |
| 4.5                                            | 15.407(a)    | Power Spectral Density                             | Complies | 0.02 dB     |
| 4.6                                            | 15.407(b)    | Radiated Emissions                                 | Complies | 0.84 dB     |
| 4.7                                            | 15.407(b)    | Band Edge Emissions                                | Complies | 0.02 dB     |
| 4.8                                            | 15.407(g)    | Frequency Stability                                | Complies | -           |
| 4.9                                            | 15.203       | Antenna Requirements                               | Complies | -           |

### 3. GENERAL INFORMATION

#### 3.1. Product Details

| Items                    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Type             | WLAN (4TX, 4RX)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Radio Type               | Intentional Transceiver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Power Type               | From power adapter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Modulation               | IEEE 802.11a: OFDM<br>IEEE 802.11n/ac: see the below table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Data Modulation          | IEEE 802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)<br>IEEE 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Data Rate (Mbps)         | IEEE 802.11a: OFDM (6/9/12/18/24/36/48/54)<br>IEEE 802.11n/ac: see the below table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Frequency Range          | 5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Channel Number           | 25 for 20MHz bandwidth ; 12 for 40MHz bandwidth<br>6 for 80MHz bandwidth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Channel Band Width (99%) | <p><u>For non-beamforming function:</u></p> <p>Band 1:</p> <p>IEEE 802.11a: 17.63 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 35.46 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 73.52 MHz</p> <p>Band 2:</p> <p>IEEE 802.11a: 17.28 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.41 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 34.88 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.10 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 17.02 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.15 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.61 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.96 MHz</p> <p>Band 4:</p> <p>IEEE 802.11a: 17.54 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.58 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 37.77 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.67 MHz</p> |

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | <p><u>For beamforming function:</u></p> <p>Band 1:</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT20): 18.41 MHz</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT40): 37.19 MHz</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80): 75.25 MHz</p> <p>Band 2:</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT20): 18.23 MHz</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80): 75.25 MHz</p> <p>Band 3:</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT20): 17.97 MHz</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT40): 37.05 MHz</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80): 75.54 MHz</p> <p>Band 4:</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT20): 18.15 MHz</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT40): 37.48 MHz</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80): 75.54 MHz</p>                                                                                                                                 |
| Maximum Conducted Output Power | <p><u>For non-beamforming function:</u></p> <p>Band 1:</p> <p>IEEE 802.11a: 26.15 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 26.31 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 26.60 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 21.31 dBm</p> <p>Band 2:</p> <p>IEEE 802.11a: 22.14 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 22.26 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.87 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 22.30 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 22.30 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 22.36 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.96 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 23.74 dBm</p> <p>Band 4:</p> <p>IEEE 802.11a: 26.00 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 25.89 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 26.30 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 22.44 dBm</p> |

|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                      | <p><u>For beamforming function:</u></p> <p>Band 1:</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT20): 26.31 dBm</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT40): 26.60 dBm</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80): 22.12 dBm</p> <p>Band 2:</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT20): 23.72 dBm</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT40): 23.97 dBm</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80): 22.30 dBm</p> <p>Band 3:</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT20): 23.78 dBm</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT40): 23.96 dBm</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80): 23.72 dBm</p> <p>Band 4:</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT20): 25.89 dBm</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT40): 26.30 dBm</p> <p>IEEE 802.11ac MCS0/Nss2 (VHT80): 22.18 dBm</p> |
| Carrier Frequencies                                                                                                                                                  | Please refer to section 3.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Antenna                                                                                                                                                              | Please refer to section 3.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <p>Note: The EUT supports Master in 2.4GHz, 5GHz band 1, band 4 / Client without radar detection in 5GHz band 1~band 4 / Repeater in 2.4GHz, 5GHz band 1~band 4.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

| Items                       | Description                                                                                                                             |                                               |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Communication Mode          | <input checked="" type="checkbox"/> IP Based (Load Based)                                                                               | <input type="checkbox"/> Frame Based          |
| TPC Function                | <input checked="" type="checkbox"/> With TPC                                                                                            | <input type="checkbox"/> Without TPC          |
| Weather Band (5600~5650MHz) | <input checked="" type="checkbox"/> With 5600~5650MHz                                                                                   | <input type="checkbox"/> Without 5600~5650MHz |
| Beamforming Function        | <input checked="" type="checkbox"/> With beamforming                                                                                    | <input type="checkbox"/> Without beamforming  |
|                             | <p>The product has beamforming function for 802.11n/ac in 5GHz.<br/>For 802.11ac: The beamforming function supports MCS 0-9/Nss2-4.</p> |                                               |
| Operate Condition           | <input checked="" type="checkbox"/> Indoor                                                                                              | <input type="checkbox"/> Outdoor              |

#### Antenna and Band width

| Antenna         | Four (TX) |        |        |
|-----------------|-----------|--------|--------|
| Band width Mode | 20 MHz    | 40 MHz | 80 MHz |
| IEEE 802.11a    | V         | X      | X      |
| IEEE 802.11n    | V         | V      | X      |
| IEEE 802.11ac   | V         | V      | V      |

### IEEE 11n/ac Spec.

| Protocol                                                                                                                                                                                                                                                                                                                                                                                                                       |                  | Number of Transmit Chains (NTX) | Data Rate / MCS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------|-----------------|
| For non-beamforming function:                                                                                                                                                                                                                                                                                                                                                                                                  | 802.11n (HT20)   | 4                               | MCS 0-31        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11n (HT40)   | 4                               | MCS 0-31        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11ac (VHT20) | 4                               | MCS 0-9/Nss1-4  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11ac (VHT40) | 4                               | MCS 0-9/Nss1-4  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11ac (VHT80) | 4                               | MCS 0-9/Nss1-4  |
| For beamforming function:                                                                                                                                                                                                                                                                                                                                                                                                      | 802.11n (HT20)   | 4                               | MCS 0-31        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11n (HT40)   | 4                               | MCS 0-31        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11ac (VHT20) | 4                               | MCS 0-9/Nss2-4  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11ac (VHT40) | 4                               | MCS 0-9/Nss2-4  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11ac (VHT80) | 4                               | MCS 0-9/Nss2-4  |
| <p>Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput).<br/>Then EUT supports HT20 and HT40.</p> <p>Note 2: IEEE Std. 802.11ac modulation consists of VHT20, VHT40, VHT80 and VHT160 (VHT: Very High Throughput). Then EUT supports VHT20, VHT40 and VHT80.</p> <p>Note 3: Modulation modes consist of below configuration:<br/>HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac</p> |                  |                                 |                 |

### 3.2. Accessories

| Power     | Brand                                     | Model No. | Rating                                                   |
|-----------|-------------------------------------------|-----------|----------------------------------------------------------|
| Adapter   | PI                                        | AD2027310 | Input: 100-120Vac, 50/60Hz, 680mA<br>Output: 12Vdc, 1.5A |
| Others    |                                           |           |                                                          |
| LAN cable | 1.8 meter, non-shielded, w/o ferrite core |           |                                                          |

### 3.3. Table for Filed Antenna

| Ant. | Brand | Model No.      | Type   | Connector | Gain (dBi) |         |         |         |         |
|------|-------|----------------|--------|-----------|------------|---------|---------|---------|---------|
|      |       |                |        |           | 2.4GHz     | 5GHz B1 | 5GHz B2 | 5GHz B3 | 5GHz B4 |
| 1    | Whayu | C1597-510063-A | Dipole | N/A       | 1.8        | -       | -       | -       | -       |
| 2    | Whayu | C1597-510064-A | Dipole | N/A       | 2.0        | -       | -       | -       | -       |
| 3    | Whayu | C1597-510065-A | Dipole | I-PEX     | -          | 1.70    | 1.67    | 1.59    | 1.42    |
| 4    | Whayu | C1597-510066-A | Dipole | I-PEX     | -          | 1.70    | 1.67    | 1.59    | 1.42    |
| 5    | Whayu | C1597-510067-A | Dipole | I-PEX     | -          | 1.70    | 1.67    | 1.59    | 1.42    |
| 6    | Whayu | C1597-510068-A | Dipole | I-PEX     | -          | 1.70    | 1.67    | 1.59    | 1.42    |

Note: The EUT has six antennas.

Ant. 1 and Ant. 2 for 2.4GHz WLAN function use, Ant. 3~Ant. 6 for 5GHz WLAN function use.

#### For 2.4GHz WLAN function:

For IEEE 802.11b/g mode (1TX, 1RX):

Only Chain 1 can be used as transmitting/receiving functions.

For IEEE 802.11n mode (1TX, 1RX / 2TX, 2RX):

The EUT can support both 1TX and 2TX functions.

For 1TX function:

Both Chain 1 and Chain 2 support transmit and receive functions, but only one of them will be used at one time.

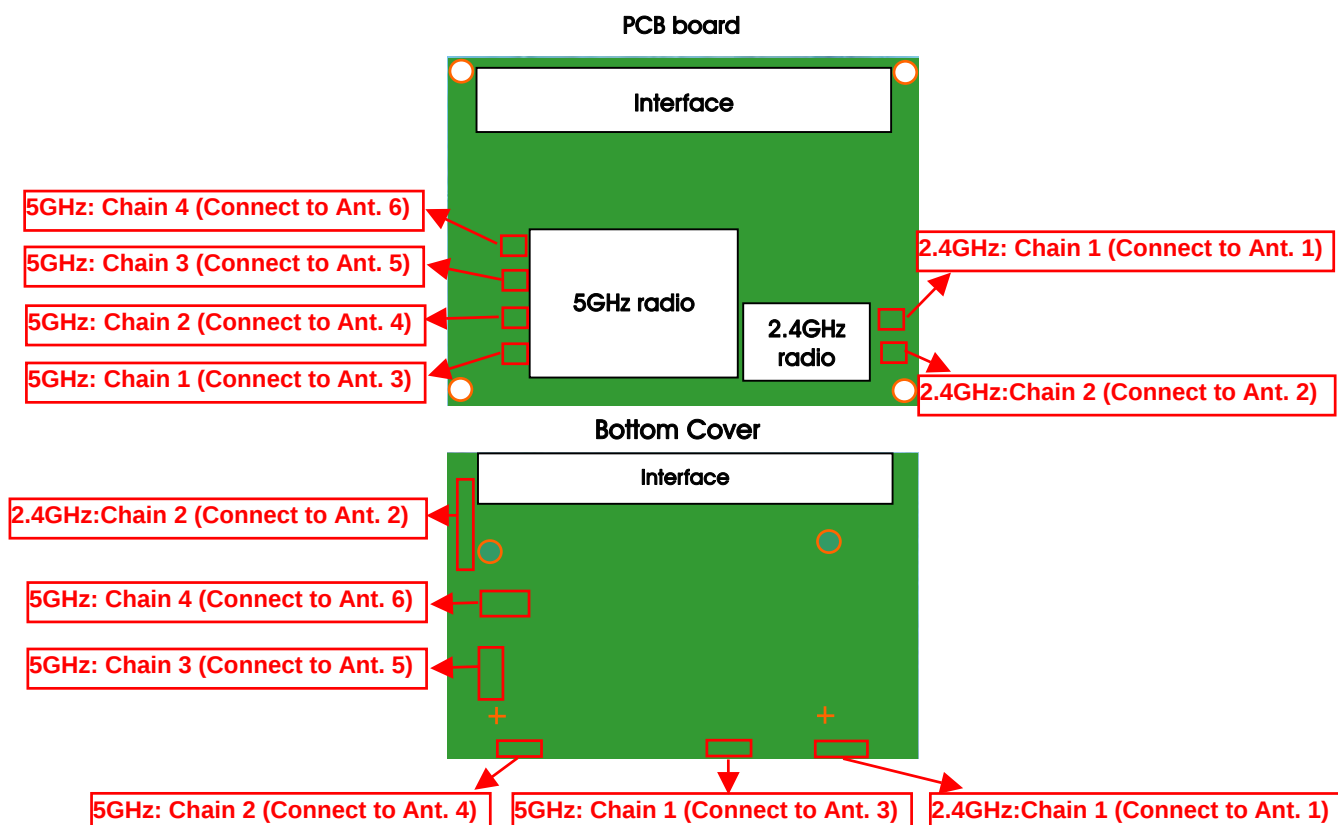
For 2TX function:

Chain 1 and Chain 2 could transmit/receive simultaneously.

#### For 5GHz WLAN function:

For IEEE 802.11a/n/ac mode (4TX, 4RX):

Chain 1, Chain 2, Chain 3 and Chain 4 could transmit/receive simultaneously.



### 3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 157, 161, 165.

For 40MHz bandwidth systems, use Channel 38, 46, 54, 62, 102, 110, 118, 126, 134, 142, 151, 159.

For 80MHz bandwidth systems, use Channel 42, 58, 106, 122, 138, 155.

| Frequency Band          | Channel No. | Frequency | Channel No. | Frequency |
|-------------------------|-------------|-----------|-------------|-----------|
| 5150~5250 MHz<br>Band 1 | 36          | 5180 MHz  | 44          | 5220 MHz  |
|                         | 38          | 5190 MHz  | 46          | 5230 MHz  |
|                         | 40          | 5200 MHz  | 48          | 5240 MHz  |
|                         | 42          | 5210 MHz  | -           | -         |
| 5250~5350 MHz<br>Band 2 | 52          | 5260 MHz  | 60          | 5300 MHz  |
|                         | 54          | 5270 MHz  | 62          | 5310 MHz  |
|                         | 56          | 5280 MHz  | 64          | 5320 MHz  |
|                         | 58          | 5290 MHz  | -           | -         |
| 5470~5725 MHz<br>Band 3 | 100         | 5500 MHz  | 124         | 5620 MHz  |
|                         | 102         | 5510 MHz  | 126         | 5630 MHz  |
|                         | 104         | 5520 MHz  | 128         | 5640 MHz  |
|                         | 106         | 5530 MHz  | 132         | 5660 MHz  |
|                         | 108         | 5540 MHz  | 134         | 5670 MHz  |
|                         | 110         | 5550 MHz  | 136         | 5680 MHz  |
|                         | 112         | 5560 MHz  | 138         | 5690 MHz  |
|                         | 116         | 5580 MHz  | 140         | 5700 MHz  |
|                         | 118         | 5590 MHz  | 142         | 5710 MHz  |
|                         | 120         | 5600 MHz  | 144         | 5720 MHz  |
|                         | 122         | 5610 MHz  | -           | -         |
|                         |             |           |             |           |
| 5725~5850 MHz<br>Band 4 | 149         | 5745 MHz  | 157         | 5785 MHz  |
|                         | 151         | 5755 MHz  | 159         | 5795 MHz  |
|                         | 153         | 5765 MHz  | 161         | 5805 MHz  |
|                         | 155         | 5775 MHz  | 165         | 5825 MHz  |

### 3.5. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

| Test Items                  | Mode                                 |          | Data Rate | Channel                                               | Chain   |
|-----------------------------|--------------------------------------|----------|-----------|-------------------------------------------------------|---------|
| AC Power Conducted Emission | CTX                                  |          | -         | -                                                     | -       |
| Max. Conducted Output Power | <u>For non-beamforming function:</u> |          |           |                                                       |         |
|                             | 11a/BPSK                             | Band 1~4 | 6Mbps     | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                             | 11ac VHT20                           | Band 1~4 | MCS0/Nss1 | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                             | 11ac VHT40                           | Band 1~4 | MCS0/Nss1 | 38/46/54/62/102/<br>110/134/142/151/<br>159           | 1+2+3+4 |
|                             | 11ac VHT80                           | Band 1~4 | MCS0/Nss1 | 42/58/106/122/138/<br>155                             | 1+2+3+4 |
|                             | <u>For beamforming function:</u>     |          |           |                                                       |         |
|                             | 11ac VHT20                           | Band 1~4 | MCS0/Nss2 | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                             | 11ac VHT40                           | Band 1~4 | MCS0/Nss2 | 38/46/54/62/102/<br>110/134/142/151/<br>159           | 1+2+3+4 |
|                             | 11ac VHT80                           | Band 1~4 | MCS0/Nss2 | 42/58/106/122/138/<br>155                             | 1+2+3+4 |

|                                                                    |                                      |          |           |                                                       |         |
|--------------------------------------------------------------------|--------------------------------------|----------|-----------|-------------------------------------------------------|---------|
| Power Spectral Density                                             | <u>For non-beamforming function:</u> |          |           |                                                       |         |
|                                                                    | 11a/BPSK                             | Band 1~4 | 6Mbps     | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                                                                    | 11ac VHT20                           | Band 1~4 | MCS0/Nss1 | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                                                                    | 11ac VHT40                           | Band 1~4 | MCS0/Nss1 | 38/46/54/62/102/<br>110/134/142/151/<br>159           | 1+2+3+4 |
|                                                                    | 11ac VHT80                           | Band 1~4 | MCS0/Nss1 | 42/58/106/122/138/<br>155                             | 1+2+3+4 |
|                                                                    | <u>For beamforming function:</u>     |          |           |                                                       |         |
|                                                                    | 11ac VHT20                           | Band 1~4 | MCS0/Nss2 | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                                                                    | 11ac VHT40                           | Band 1~4 | MCS0/Nss2 | 38/46/54/62/102/<br>110/134/142/151/<br>159           | 1+2+3+4 |
|                                                                    | 11ac VHT80                           | Band 1~4 | MCS0/Nss2 | 42/58/106/122/138/<br>155                             | 1+2+3+4 |
|                                                                    |                                      |          |           |                                                       |         |
| 26dB Spectrum Bandwidth &<br>99% Occupied Bandwidth<br>Measurement | <u>For non-beamforming function:</u> |          |           |                                                       |         |
|                                                                    | 11a/BPSK                             | Band 1~4 | 6Mbps     | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                                                                    | 11ac VHT20                           | Band 1~4 | MCS0/Nss1 | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                                                                    | 11ac VHT40                           | Band 1~4 | MCS0/Nss1 | 38/46/54/62/102/<br>110/134/142/151/<br>159           | 1+2+3+4 |
|                                                                    | 11ac VHT80                           | Band 1~4 | MCS0/Nss1 | 42/58/106/122/138/<br>155                             | 1+2+3+4 |
|                                                                    | <u>For beamforming function:</u>     |          |           |                                                       |         |
|                                                                    | 11ac VHT20                           | Band 1~4 | MCS0/Nss2 | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                                                                    | 11ac VHT40                           | Band 1~4 | MCS0/Nss2 | 38/46/54/62/102/<br>110/134/142/151/<br>159           | 1+2+3+4 |
|                                                                    | 11ac VHT80                           | Band 1~4 | MCS0/Nss2 | 42/58/106/122/138/<br>155                             | 1+2+3+4 |
|                                                                    |                                      |          |           |                                                       |         |

|                                    |                                      |          |           |                                               |         |
|------------------------------------|--------------------------------------|----------|-----------|-----------------------------------------------|---------|
| 6dB Spectrum Bandwidth Measurement | <u>For non-beamforming function:</u> |          |           |                                               |         |
|                                    | 11a/BPSK                             | Band 4   | 6Mbps     | 144/149/157/165                               | 1+2+3+4 |
|                                    | 11ac VHT20                           | Band 4   | MCS0/Nss1 | 144/149/157/165                               | 1+2+3+4 |
|                                    | 11ac VHT40                           | Band 4   | MCS0/Nss1 | 142/151/159                                   | 1+2+3+4 |
|                                    | 11ac VHT80                           | Band 4   | MCS0/Nss1 | 138/155                                       | 1+2+3+4 |
|                                    | <u>For beamforming function:</u>     |          |           |                                               |         |
|                                    | 11ac VHT20                           | Band 4   | MCS0/Nss2 | 144/149/157/165                               | 1+2+3+4 |
|                                    | 11ac VHT40                           | Band 4   | MCS0/Nss2 | 142/151/159                                   | 1+2+3+4 |
|                                    | 11ac VHT80                           | Band 4   | MCS0/Nss2 | 138/155                                       | 1+2+3+4 |
| Radiated Emission Below 1GHz       | CTX                                  | -        | -         | -                                             | -       |
| Radiated Emission Above 1GHz       | <u>For non-beamforming function:</u> |          |           |                                               |         |
|                                    | 11a/BPSK                             | Band 1~4 | 6Mbps     | 36/40/48/52/60/64/100/116/140/144/149/157/165 | 1+2+3+4 |
|                                    | 11ac VHT20                           | Band 1~4 | MCS0/Nss1 | 36/40/48/52/60/64/100/116/140/144/149/157/165 | 1+2+3+4 |
|                                    | 11ac VHT40                           | Band 1~4 | MCS0/Nss1 | 38/46/54/62/102/110/134/142/151/159           | 1+2+3+4 |
|                                    | 11ac VHT80                           | Band 1~4 | MCS0/Nss1 | 42/58/106/122/138/155                         | 1+2+3+4 |
|                                    | <u>For beamforming function:</u>     |          |           |                                               |         |
|                                    | 11ac VHT20                           | Band 1~4 | MCS0/Nss2 | 36/40/48/52/60/64/100/116/140/144/149/157/165 | 1+2+3+4 |
|                                    | 11ac VHT40                           | Band 1~4 | MCS0/Nss2 | 38/46/54/62/102/110/134/142/151/159           | 1+2+3+4 |
|                                    | 11ac VHT80                           | Band 1~4 | MCS0/Nss2 | 42/58/106/122/138/155                         | 1+2+3+4 |

| Band Edge Emission  | For non-beamforming function: |          |           |                                                       |         |
|---------------------|-------------------------------|----------|-----------|-------------------------------------------------------|---------|
|                     | 11a/BPSK                      | Band 1~4 | 6Mbps     | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                     | 11ac VHT20                    | Band 1~4 | MCS0/Nss1 | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                     | 11ac VHT40                    | Band 1~4 | MCS0/Nss1 | 38/46/54/62/102/<br>110/134/142/151/<br>159           | 1+2+3+4 |
|                     | 11ac VHT80                    | Band 1~4 | MCS0/Nss1 | 42/58/106/122/138/<br>155                             | 1+2+3+4 |
|                     | For beamforming function:     |          |           |                                                       |         |
|                     | 11ac VHT20                    | Band 1~4 | MCS0/Nss2 | 36/40/48/52/60/64<br>/100/116/140/144/<br>149/157/165 | 1+2+3+4 |
|                     | 11ac VHT40                    | Band 1~4 | MCS0/Nss2 | 38/46/54/62/102/<br>110/134/142/151/<br>159           | 1+2+3+4 |
|                     | 11ac VHT80                    | Band 1~4 | MCS0/Nss2 | 42/58/106/122/138/<br>155                             | 1+2+3+4 |
|                     |                               |          |           |                                                       |         |
| Frequency Stability | 20 MHz                        | Band 1~4 | -         | 40/60/116/157                                         | 1       |
|                     | 40 MHz                        | Band 1~4 | -         | 38/62/110/151                                         | 1       |
|                     | 80 MHz                        | Band 1~4 | -         | 42/58/106/155                                         | 1       |

Note: 1. The EUT can only be used at Y axis position.

2. 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.

The following test modes were performed for all tests:

#### For AC Power Line Conducted Emissions test:

Mode 1. 2.4GHz WLAN function

Mode 2. 5GHz WLAN function

Mode 1 is the worst case, so it was selected to record in this test report.

#### For Radiated Emission below 1GHz test:

Mode 1. 2.4GHz WLAN function

Mode 2. 5GHz WLAN function

Mode 2 is the worst case, so it was selected to record in this test report.

#### For Co-location MPE and Radiated Emission Co-location Test:

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Co-location Maximum Permissible Exposure (Please refer to FA5O2010) and Radiated Emission Co-location (please refer to Appendix B) tests are added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

### 3.6. Table for Testing Locations

| Test Site Location |                                                                            |          |              |             |              |
|--------------------|----------------------------------------------------------------------------|----------|--------------|-------------|--------------|
| Address:           | 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 Site No.      | Site Category                                                              | Location | FCC Reg. No. | IC File No. | VCCI Reg. No |
| 03CH01-CB          | SAC                                                                        | Hsin Chu | 262045       | IC 4086D    | -            |
| CO01-CB            | Conduction                                                                 | Hsin Chu | 262045       | IC 4086D    | -            |
| TH01-CB            | OVEN Room                                                                  | Hsin Chu | -            | -           | -            |

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

### 3.7. Table for Supporting Units

For Test Site No: 03CH01-CB (below 1GHz) and TH01-CB

| Support Unit | Brand | Model | FCC ID |
|--------------|-------|-------|--------|
| Notebook     | DELL  | E4300 | DoC    |

For Test Site No: 03CH01-CB (above 1GHz)

For non-beamforming function:

| Support Unit | Brand | Model | FCC ID |
|--------------|-------|-------|--------|
| Notebook     | DELL  | E4300 | DoC    |

For beamforming function:

| Support Unit | Brand     | Model | FCC ID |
|--------------|-----------|-------|--------|
| Notebook     | DELL      | E4300 | DoC    |
| RX Device    | Quantenna | NA    | NA     |
| Notebook     | DELL      | E4300 | DoC    |

For Test Site No: CO01-CB

| Support Unit | Brand | Model | FCC ID |
|--------------|-------|-------|--------|
| Notebook     | DELL  | E6430 | DoC    |

### 3.8. Table for Parameters of Test Software Setting

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

For non-beamforming function:

| Test Software Version    | DOS                  |             |             |             |             |             |             |             |             |             |             |             |             |
|--------------------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Mode                     | Test Frequency (MHz) |             |             |             |             |             |             |             |             |             |             |             |             |
|                          | NCB: 20MHz           |             |             |             |             |             |             |             |             |             |             |             |             |
|                          | 5180<br>MHz          | 5200<br>MHz | 5240<br>MHz | 5260<br>MHz | 5300<br>MHz | 5320<br>MHz | 5500<br>MHz | 5580<br>MHz | 5700<br>MHz | 5720<br>MHz | 5745<br>MHz | 5785<br>MHz | 5825<br>MHz |
| 802.11a                  | 21                   | 21          | 21          | 16          | 16          | 16          | 16          | 16          | 16          | 16.5        | 21          | 21          | 21          |
| 802.11ac MCS0/Nss1 VHT20 | 20.5                 | 21          | 21          | 16          | 16          | 16          | 16          | 16          | 16          | 16.5        | 19          | 21          | 21          |
| Mode                     | NCB: 40MHz           |             |             |             |             |             |             |             |             |             |             |             |             |
| 802.11ac MCS0/Nss1 VHT40 | 5190<br>MHz          | 5230<br>MHz | 5270<br>MHz | 5310<br>MHz | 5510<br>MHz | 5550<br>MHz | 5670<br>MHz | 5710<br>MHz | 5755<br>MHz | 5795<br>MHz |             |             |             |
|                          | 16.5                 | 21          | 17.5        | 17          | 17          | 17.5        | 18          | 18          | 17.5        | 21          |             |             |             |
| Mode                     | NCB: 80MHz           |             |             |             |             |             |             |             |             |             |             |             |             |
| 802.11ac MCS0/Nss1 VHT80 | 5210 MHz             |             | 5290 MHz    |             | 5530 MHz    |             | 5610 MHz    |             | 5690 MHz    |             | 5775 MHz    |             |             |
|                          | 15                   |             | 16          |             | 16          |             | 18          |             | 18.5        |             | 16.5        |             |             |

For beamforming function:

| Test Software Version    | DOS                  |      |          |      |          |      |          |      |          |      |          |      |      |
|--------------------------|----------------------|------|----------|------|----------|------|----------|------|----------|------|----------|------|------|
| Mode                     | Test Frequency (MHz) |      |          |      |          |      |          |      |          |      |          |      |      |
|                          | NCB: 20MHz           |      |          |      |          |      |          |      |          |      |          |      |      |
|                          | 5180                 | 5200 | 5240     | 5260 | 5300     | 5320 | 5500     | 5580 | 5700     | 5720 | 5745     | 5785 | 5825 |
|                          | MHz                  | MHz  | MHz      | MHz  | MHz      | MHz  | MHz      | MHz  | MHz      | MHz  | MHz      | MHz  | MHz  |
| 802.11ac MCS0/Nss2 VHT20 | 19.5                 | 21   | 21       | 18   | 18       | 18   | 18       | 18   | 18       | 18   | 18       | 21   | 21   |
| Mode                     | NCB: 40MHz           |      |          |      |          |      |          |      |          |      |          |      |      |
| 802.11ac MCS0/Nss2 VHT40 | 5190                 | 5230 | 5270     | 5310 | 5510     | 5550 | 5670     | 5710 | 5755     | 5795 |          |      |      |
|                          | MHz                  | MHz  | MHz      | MHz  | MHz      | MHz  | MHz      | MHz  | MHz      | MHz  |          |      |      |
|                          | 16.5                 | 21   | 18       | 17   | 16       | 18   | 18       | 18   | 16.5     | 21   |          |      |      |
| Mode                     | NCB: 80MHz           |      |          |      |          |      |          |      |          |      |          |      |      |
| 802.11ac MCS0/Nss2 VHT80 | 5210 MHz             |      | 5290 MHz |      | 5530 MHz |      | 5610 MHz |      | 5690 MHz |      | 5775 MHz |      |      |
|                          | 16                   |      | 16       |      | 16       |      | 18       |      | 18       |      | 16       |      |      |

### 3.9. EUT Operation during Test

For non-beamforming function:

The EUT was programmed to be in continuously transmitting mode.

For beamforming function:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated Mode:

During the test, the following programs under WIN XP were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under DOS.
3. Executed "Lantest.exe" to link with the remote workstation to receive and transmit packet by RX Device and transmit duty cycle no less 98%

### 3.10. Duty Cycle

For non-beamforming function:

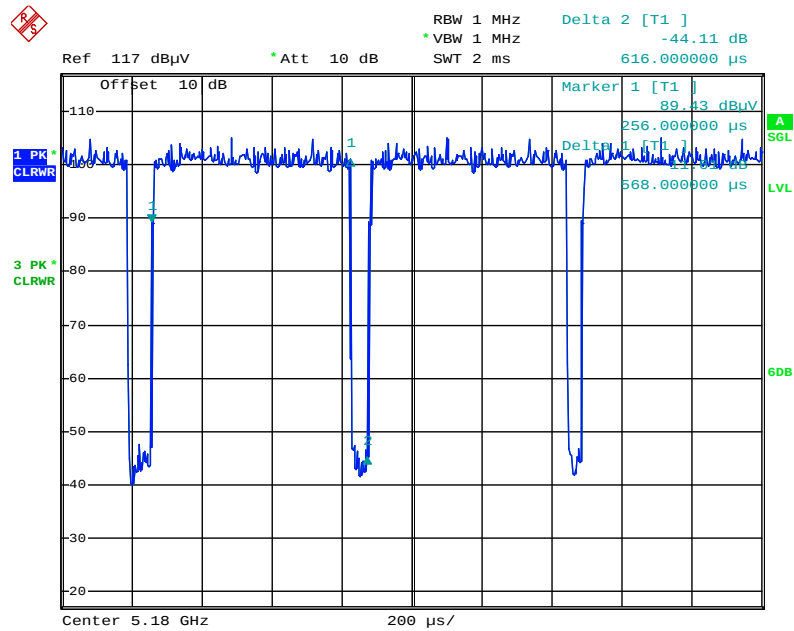
| Mode                     | On Time<br>(ms) | On+Off Time<br>(ms) | Duty Cycle<br>(%) | Duty Factor<br>(dB) | 1/T Minimum VBW<br>(kHz) |
|--------------------------|-----------------|---------------------|-------------------|---------------------|--------------------------|
| 802.11a                  | 0.568           | 0.616               | 92.21             | 0.35                | 1.76                     |
| 802.11ac MCS0/Nss1 VHT20 | 5.000           | 5.040               | 99.21             | 0.03                | 0.01                     |
| 802.11ac MCS0/Nss1 VHT40 | 2.432           | 2.480               | 98.06             | 0.08                | 0.01                     |
| 802.11ac MCS0/Nss1 VHT80 | 1.146           | 1.200               | 95.50             | 0.20                | 0.87                     |

For beamforming function:

| Mode                     | On Time<br>(ms) | On+Off Time<br>(ms) | Duty Cycle<br>(%) | Duty Factor<br>(dB) | 1/T Minimum VBW<br>(kHz) |
|--------------------------|-----------------|---------------------|-------------------|---------------------|--------------------------|
| 802.11ac MCS0/Nss2 VHT20 | 1.780           | 1.980               | 89.90%            | 0.46                | 0.56                     |
| 802.11ac MCS0/Nss2 VHT40 | 0.888           | 0.948               | 93.67%            | 0.28                | 1.13                     |
| 802.11ac MCS0/Nss2 VHT80 | 1.600           | 1.654               | 96.74%            | 0.14                | 0.63                     |

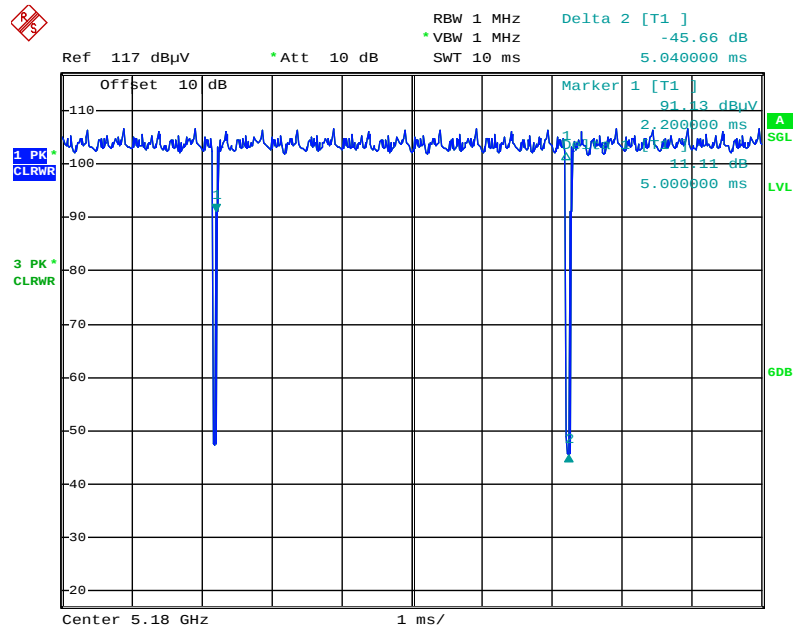
For non-beamforming function:

IEEE 802.11a



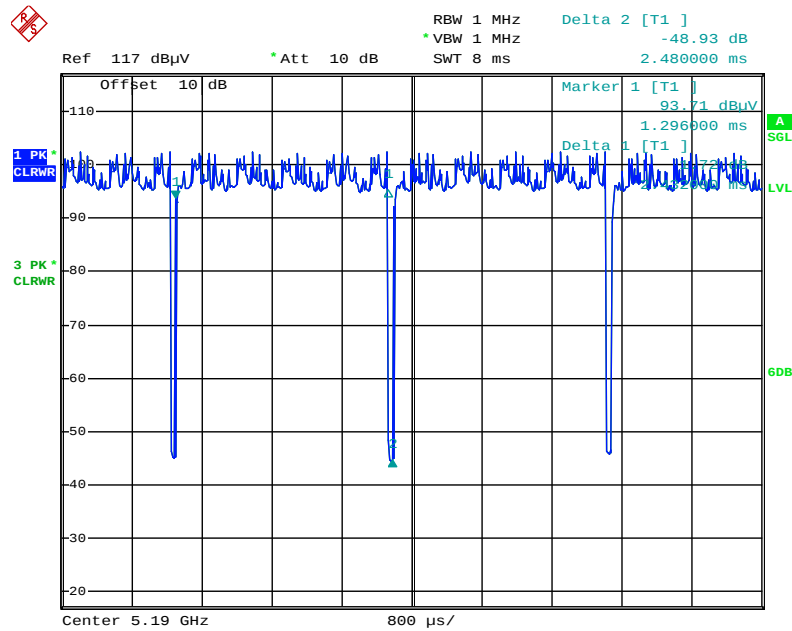
Date: 18.DEC.2015 16:13:24

IEEE 802.11ac MCS0/Nss1 VHT20



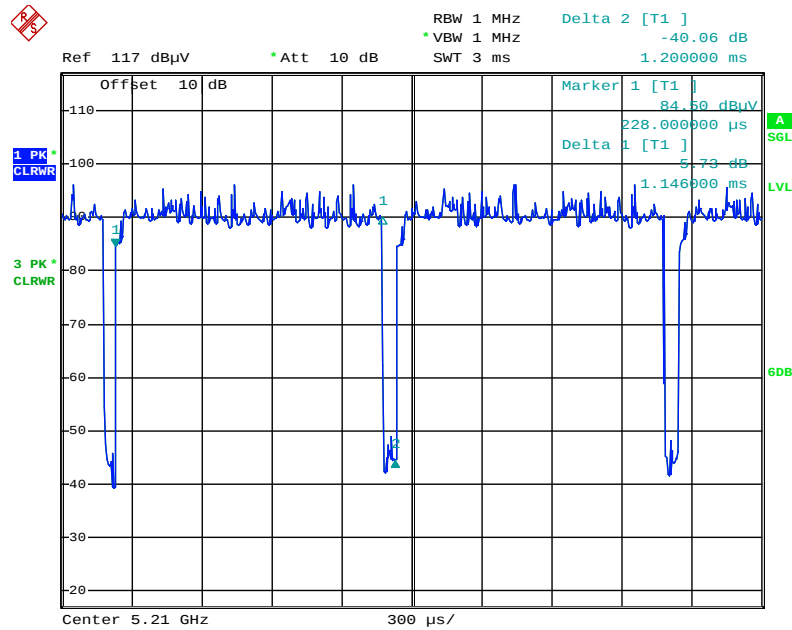
Date: 18.DEC.2015 18:10:09

# IEEE 802.11ac MCS0/Nss1 VHT40



Date: 18.DEC.2015 20:51:18

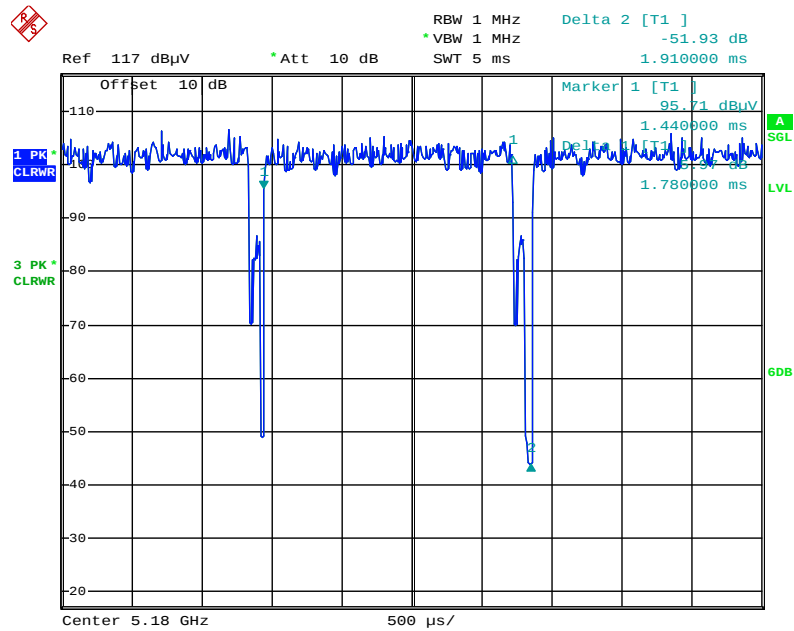
# IEEE 802.11ac MCS0/Nss1 VHT80



Date: 18.DEC.2015 15:03:14

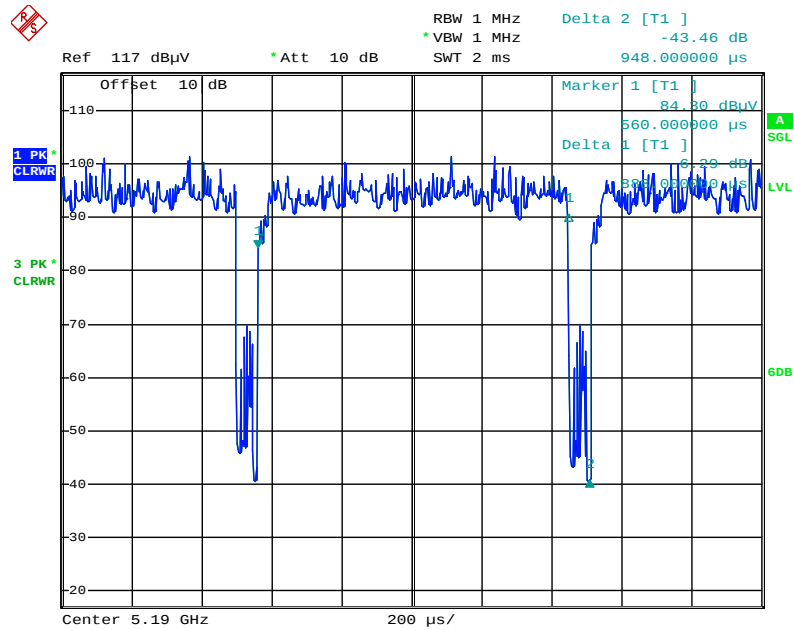
For beamforming function:

IEEE 802.11ac MCS0/Nss2 VHT20



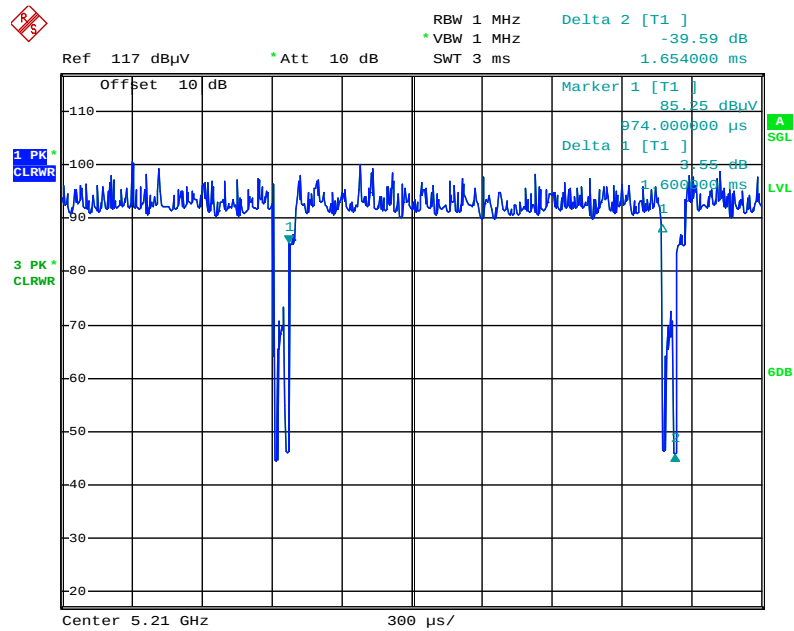
Date: 17.DEC.2015 16:14:46

IEEE 802.11ac MCS0/Nss2 VHT40



Date: 17.DEC.2015 13:24:03

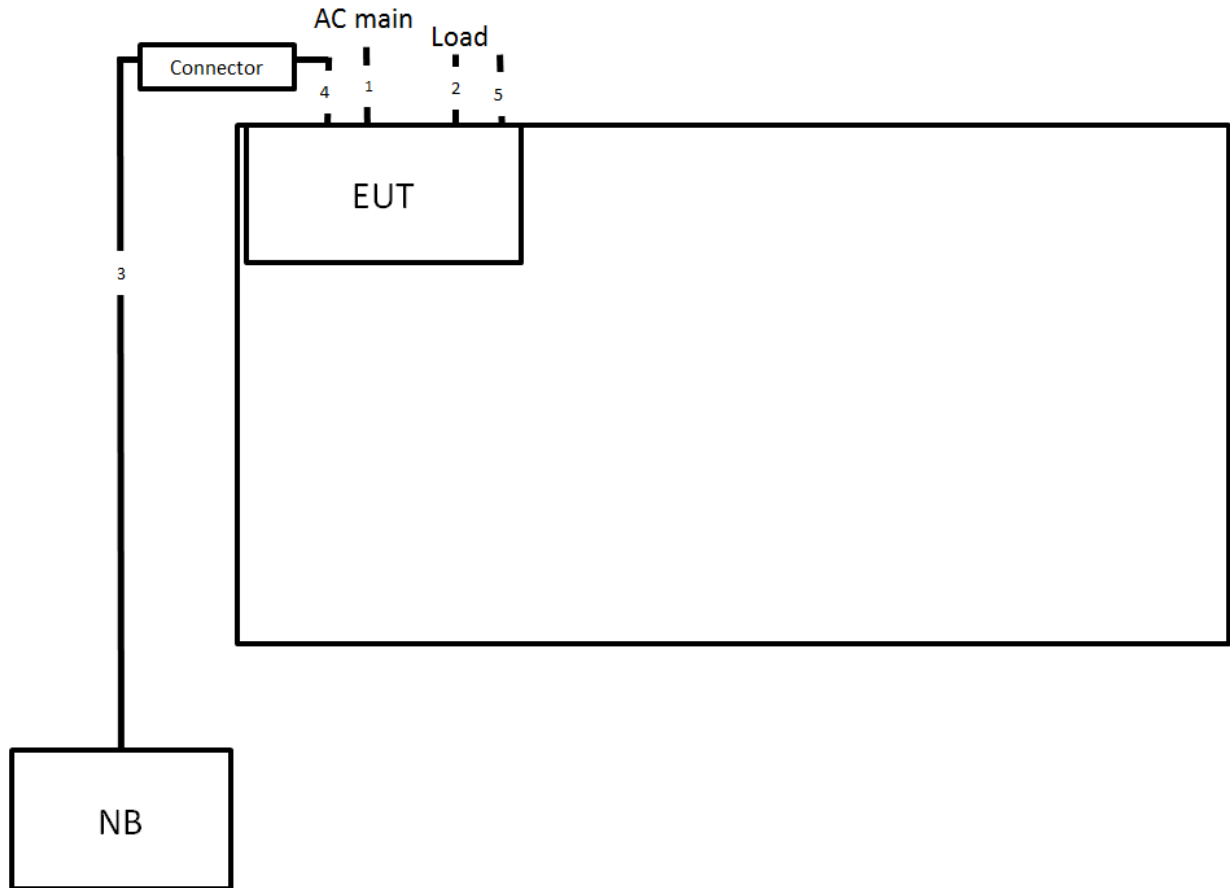
# IEEE 802.11ac MCS0/Nss2 VHT80



Date: 16.DEC.2015 23:32:35

### 3.11. Test Configurations

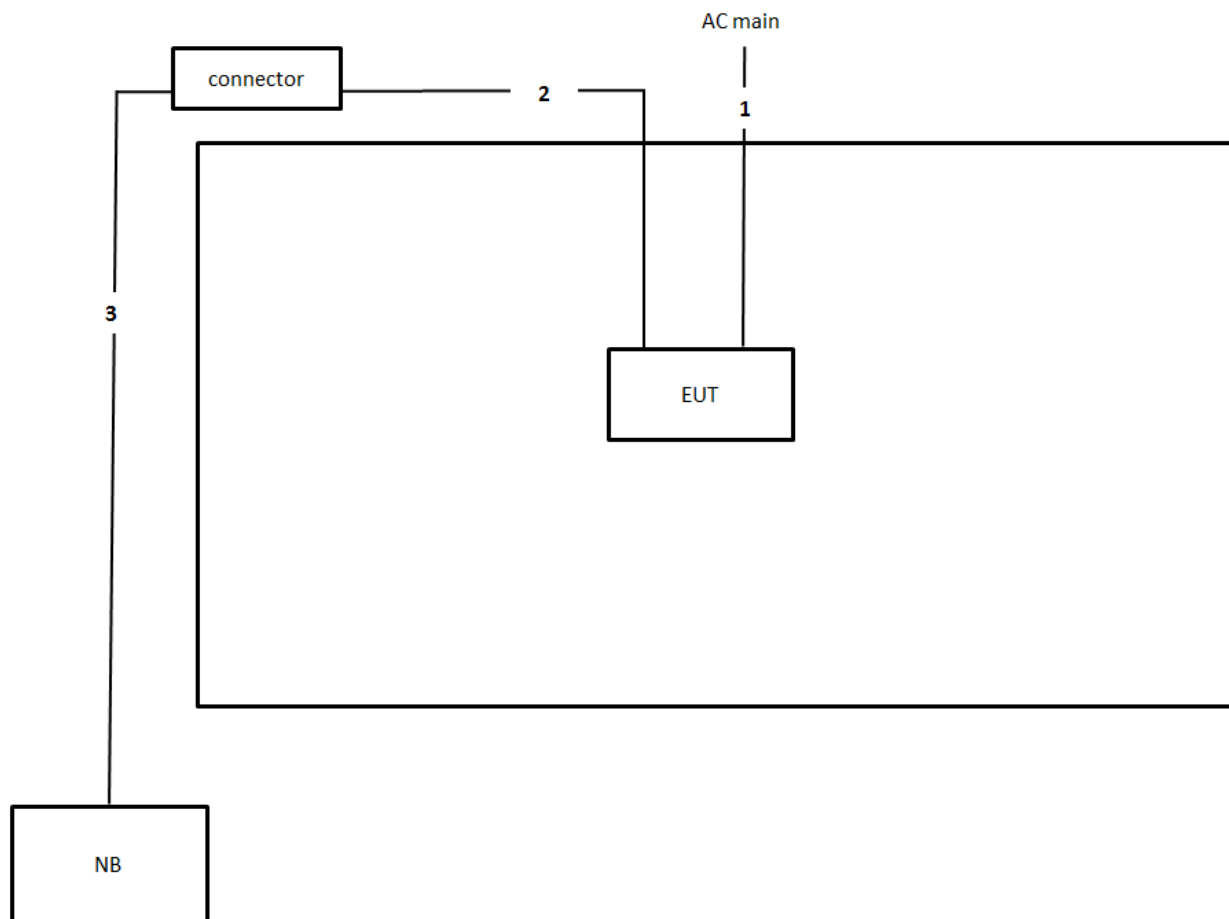
#### 3.11.1. AC Power Line Conduction Emissions Test Configuration



| Item | Connection    | Shielded | Length |
|------|---------------|----------|--------|
| 1    | Power cable   | No       | 1.5m   |
| 2    | RJ-45 cable   | No       | 1.5m   |
| 3    | RJ-45 cable   | No       | 10m    |
| 4    | LAN cable     | No       | 1.8m   |
| 5    | Coaxial cable | Yes      | 1.5m   |

### 3.11.2. Radiation Emissions Test Configuration

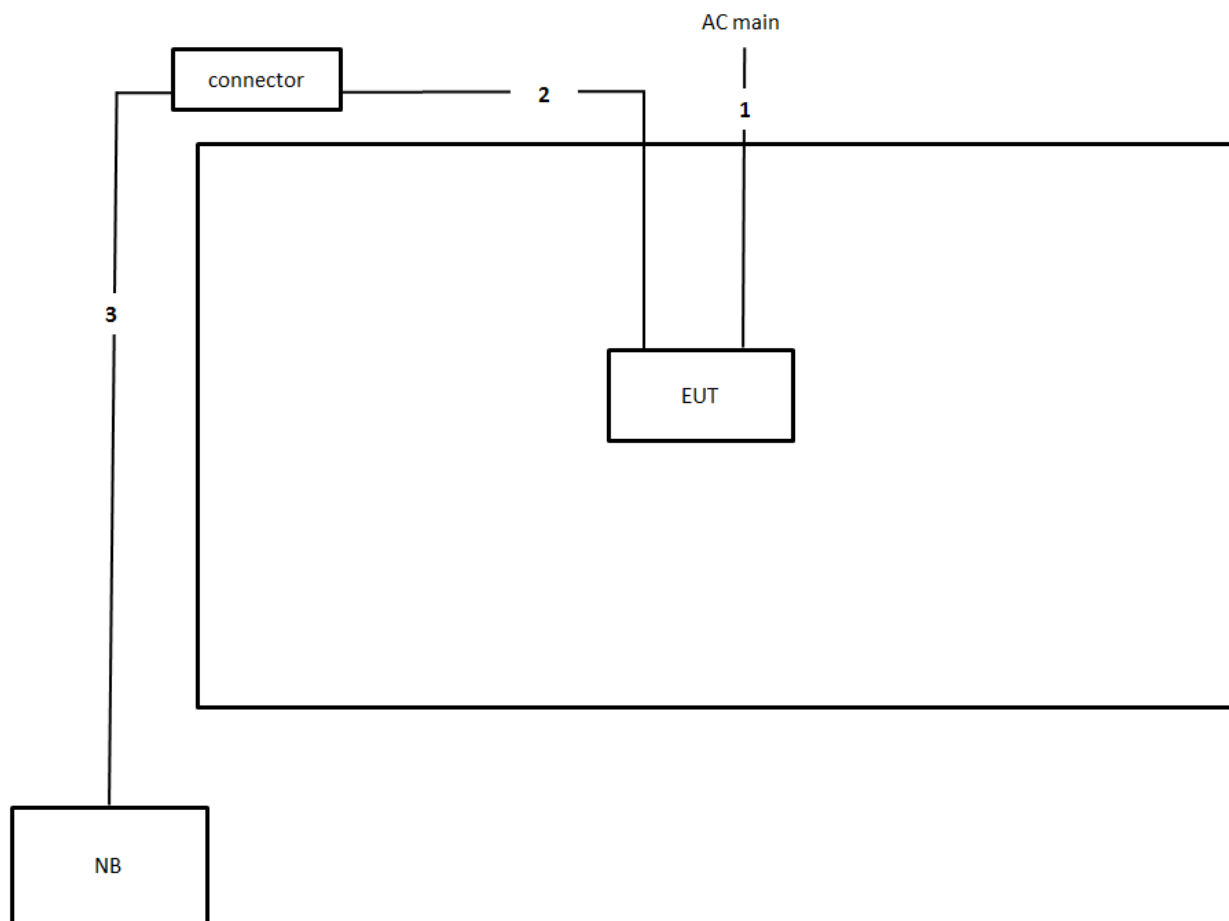
Test Configuration: 30MHz ~1GHz



| Item | Connection  | Shielded | Length |
|------|-------------|----------|--------|
| 1    | Power cable | No       | 1.5m   |
| 2    | LAN cable   | No       | 1.8m   |
| 3    | RJ-45 cable | No       | 10m    |

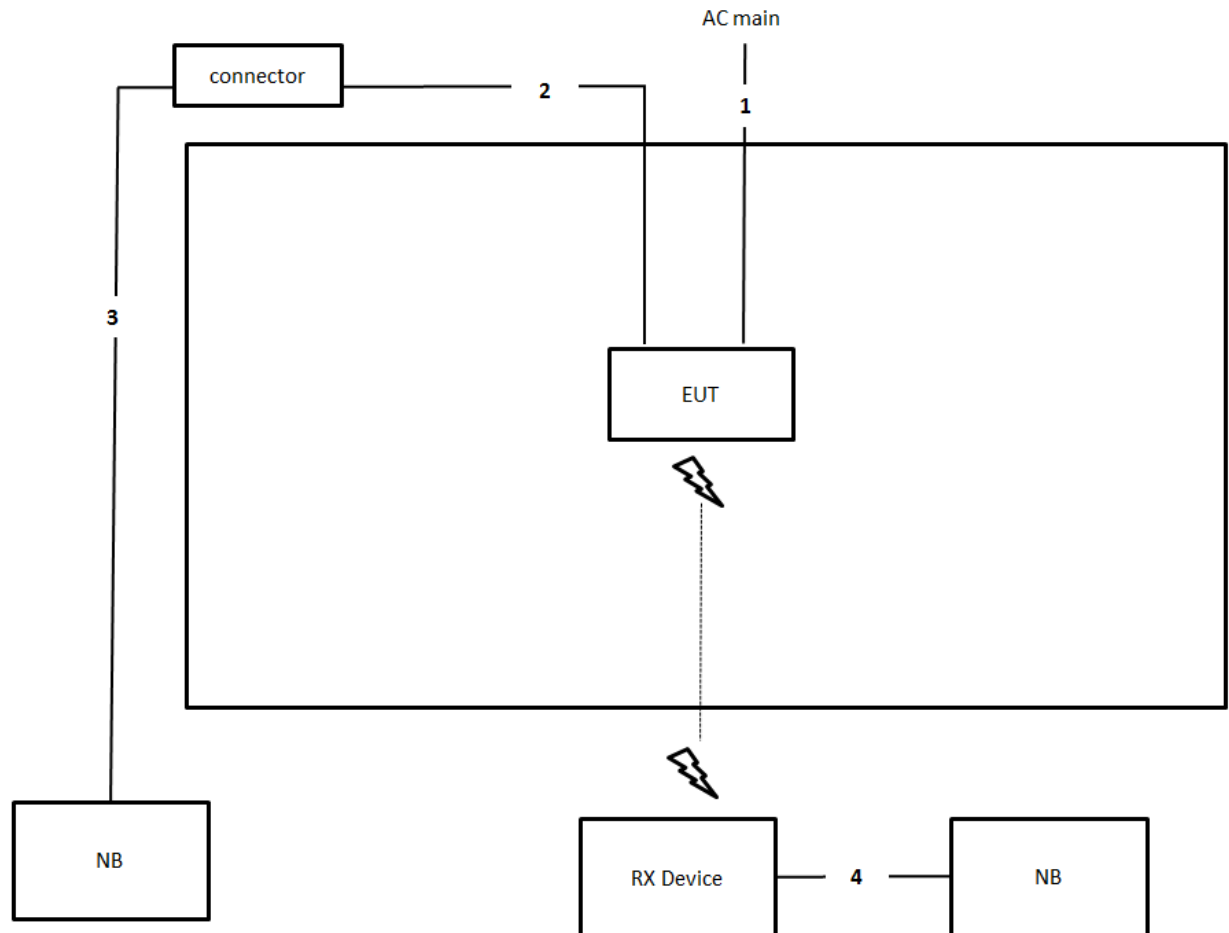
Test Configuration: above 1GHz

For non-beamforming function:



| Item | Connection  | Shielded | Length |
|------|-------------|----------|--------|
| 1    | Power cable | No       | 1.5m   |
| 2    | LAN cable   | No       | 1.8m   |
| 3    | RJ-45 cable | No       | 10m    |

For beamforming function:



| Item | Connection  | Shielded | Length |
|------|-------------|----------|--------|
| 1    | Power cable | No       | 1.5m   |
| 2    | LAN cable   | No       | 1.8m   |
| 3    | RJ-45 cable | No       | 10m    |
| 4    | RJ-45 cable | No       | 1.5m   |

## 4. TEST RESULT

### 4.1. AC Power Line Conducted Emissions Measurement

#### 4.1.1. Limit

For this product that is designed to connect to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

| Frequency (MHz) | QP Limit (dBuV) | AV Limit (dBuV) |
|-----------------|-----------------|-----------------|
| 0.15~0.5        | 66~56           | 56~46           |
| 0.5~5           | 56              | 46              |
| 5~30            | 60              | 50              |

#### 4.1.2. Measuring Instruments and Setting

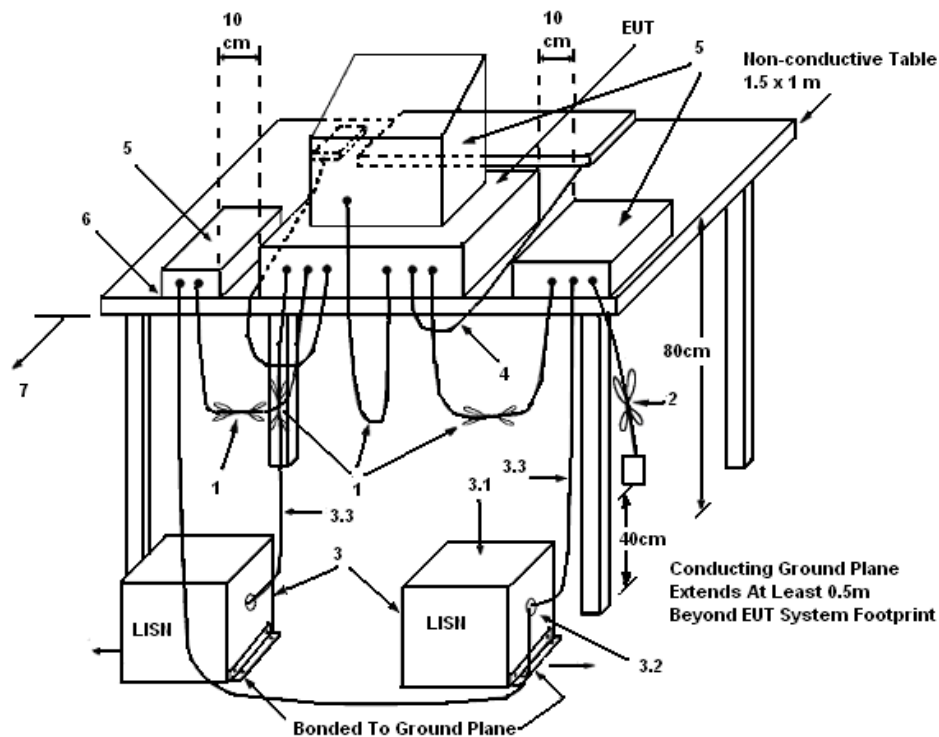
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

| Receiver Parameters | Setting  |
|---------------------|----------|
| Attenuation         | 10 dB    |
| Start Frequency     | 0.15 MHz |
| Stop Frequency      | 30 MHz   |
| IF Bandwidth        | 9 kHz    |

#### 4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

#### 4.1.4. Test Setup Layout



#### LEGEND:

- (1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- (2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- (3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50  $\Omega$ . LISN can be placed on top of, or immediately beneath, reference ground plane.
  - (3.1) All other equipment powered from additional LISN(s).
  - (3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.
  - (3.3) LISN at least 80 cm from nearest part of EUT chassis.
- (4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.
- (5) Non-EUT components of EUT system being tested.
- (6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.
- (7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

#### 4.1.5. Test Deviation

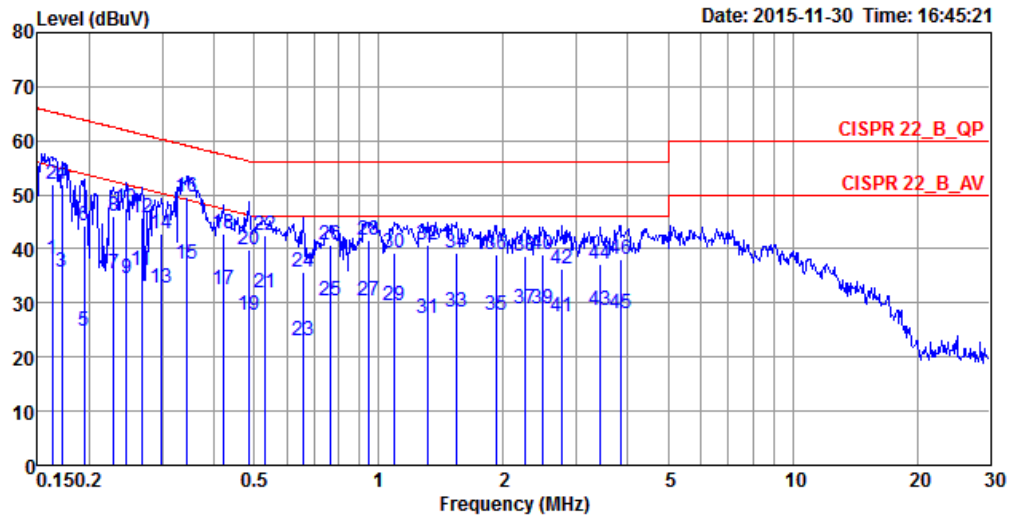
There is no deviation with the original standard.

#### 4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

#### 4.1.7. Results of AC Power Line Conducted Emissions Measurement

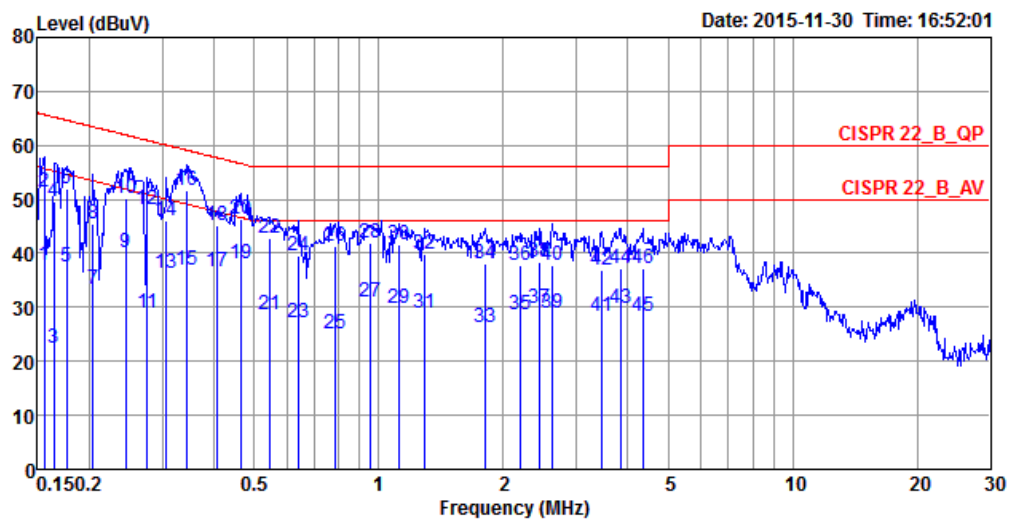
|               |            |           |        |
|---------------|------------|-----------|--------|
| Temperature   | 25°C       | Humidity  | 58%    |
| Test Engineer | Parody Lin | Phase     | Line   |
| Configuration | CTX        | Test Mode | Mode 1 |



|    | Freq   | Level | Over Limit | Limit Line | Read Level | LISN Factor | Cable Loss | Pol/Phase | Remark  |
|----|--------|-------|------------|------------|------------|-------------|------------|-----------|---------|
|    | MHz    | dBuV  | dB         | dBuV       | dBuV       | dB          | dB         |           |         |
| 1  | 0.1624 | 38.04 | -17.30     | 55.34      | 28.09      | 9.93        | 0.02       | LINE      | Average |
| 2  | 0.1624 | 51.87 | -13.47     | 65.34      | 41.92      | 9.93        | 0.02       | LINE      | QP      |
| 3  | 0.1712 | 35.70 | -19.20     | 54.90      | 25.75      | 9.93        | 0.02       | LINE      | Average |
| 4  | 0.1712 | 51.92 | -12.98     | 64.90      | 41.97      | 9.93        | 0.02       | LINE      | QP      |
| 5  | 0.1945 | 24.87 | -28.97     | 53.84      | 14.92      | 9.93        | 0.02       | LINE      | Average |
| 6  | 0.1945 | 44.38 | -19.46     | 63.84      | 34.43      | 9.93        | 0.02       | LINE      | QP      |
| 7  | 0.2292 | 35.35 | -17.13     | 52.48      | 25.39      | 9.93        | 0.03       | LINE      | Average |
| 8  | 0.2292 | 45.97 | -16.51     | 62.48      | 36.01      | 9.93        | 0.03       | LINE      | QP      |
| 9  | 0.2455 | 34.55 | -17.36     | 51.91      | 24.59      | 9.93        | 0.03       | LINE      | Average |
| 10 | 0.2455 | 47.63 | -14.28     | 61.91      | 37.67      | 9.93        | 0.03       | LINE      | QP      |
| 11 | 0.2672 | 36.14 | -15.06     | 51.20      | 26.18      | 9.93        | 0.03       | LINE      | Average |
| 12 | 0.2672 | 45.80 | -15.40     | 61.20      | 35.84      | 9.93        | 0.03       | LINE      | QP      |
| 13 | 0.2987 | 32.64 | -17.64     | 50.28      | 22.67      | 9.93        | 0.04       | LINE      | Average |
| 14 | 0.2987 | 42.68 | -17.60     | 60.28      | 32.71      | 9.93        | 0.04       | LINE      | QP      |
| 15 | 0.3428 | 37.10 | -12.03     | 49.13      | 27.13      | 9.93        | 0.04       | LINE      | Average |
| 16 | 0.3428 | 49.69 | -9.44      | 59.13      | 39.72      | 9.93        | 0.04       | LINE      | QP      |
| 17 | 0.4215 | 32.56 | -14.86     | 47.42      | 22.59      | 9.93        | 0.04       | LINE      | Average |

|    | Freq   | Level | Over<br>Limit | Limit<br>Line | Read<br>Level | LISN<br>Factor | Cable<br>Loss | Pol/Phase | Remark  |
|----|--------|-------|---------------|---------------|---------------|----------------|---------------|-----------|---------|
|    | MHz    | dBuV  | dB            | dBuV          | dBuV          | dB             | dB            |           |         |
| 18 | 0.4215 | 42.72 | -14.70        | 57.42         | 32.75         | 9.93           | 0.04          | LINE      | QP      |
| 19 | 0.4863 | 27.61 | -18.62        | 46.23         | 17.63         | 9.94           | 0.04          | LINE      | Average |
| 20 | 0.4863 | 39.85 | -16.38        | 56.23         | 29.87         | 9.94           | 0.04          | LINE      | QP      |
| 21 | 0.5293 | 31.81 | -14.19        | 46.00         | 21.83         | 9.94           | 0.04          | LINE      | Average |
| 22 | 0.5293 | 42.47 | -13.53        | 56.00         | 32.49         | 9.94           | 0.04          | LINE      | QP      |
| 23 | 0.6578 | 23.04 | -22.96        | 46.00         | 13.05         | 9.95           | 0.04          | LINE      | Average |
| 24 | 0.6578 | 35.68 | -20.32        | 56.00         | 25.69         | 9.95           | 0.04          | LINE      | QP      |
| 25 | 0.7670 | 30.40 | -15.60        | 46.00         | 20.42         | 9.95           | 0.03          | LINE      | Average |
| 26 | 0.7670 | 40.82 | -15.18        | 56.00         | 30.84         | 9.95           | 0.03          | LINE      | QP      |
| 27 | 0.9431 | 30.54 | -15.46        | 46.00         | 20.53         | 9.96           | 0.05          | LINE      | Average |
| 28 | 0.9431 | 41.71 | -14.29        | 56.00         | 31.70         | 9.96           | 0.05          | LINE      | QP      |
| 29 | 1.0939 | 29.66 | -16.34        | 46.00         | 19.65         | 9.96           | 0.05          | LINE      | Average |
| 30 | 1.0939 | 39.38 | -16.62        | 56.00         | 29.37         | 9.96           | 0.05          | LINE      | QP      |
| 31 | 1.3168 | 27.08 | -18.92        | 46.00         | 17.06         | 9.97           | 0.05          | LINE      | Average |
| 32 | 1.3168 | 40.61 | -15.39        | 56.00         | 30.59         | 9.97           | 0.05          | LINE      | QP      |
| 33 | 1.5436 | 28.41 | -17.59        | 46.00         | 18.37         | 9.98           | 0.06          | LINE      | Average |
| 34 | 1.5436 | 39.14 | -16.86        | 56.00         | 29.10         | 9.98           | 0.06          | LINE      | QP      |
| 35 | 1.9182 | 27.67 | -18.33        | 46.00         | 17.62         | 9.99           | 0.06          | LINE      | Average |
| 36 | 1.9182 | 38.99 | -17.01        | 56.00         | 28.94         | 9.99           | 0.06          | LINE      | QP      |
| 37 | 2.2606 | 28.85 | -17.15        | 46.00         | 18.79         | 10.00          | 0.06          | LINE      | Average |
| 38 | 2.2606 | 38.65 | -17.35        | 56.00         | 28.59         | 10.00          | 0.06          | LINE      | QP      |
| 39 | 2.4868 | 28.93 | -17.07        | 46.00         | 18.88         | 10.00          | 0.05          | LINE      | Average |
| 40 | 2.4868 | 38.85 | -17.15        | 56.00         | 28.80         | 10.00          | 0.05          | LINE      | QP      |
| 41 | 2.7794 | 27.35 | -18.65        | 46.00         | 17.30         | 10.00          | 0.05          | LINE      | Average |
| 42 | 2.7794 | 36.44 | -19.56        | 56.00         | 26.39         | 10.00          | 0.05          | LINE      | QP      |
| 43 | 3.4356 | 28.57 | -17.43        | 46.00         | 18.50         | 10.01          | 0.06          | LINE      | Average |
| 44 | 3.4356 | 37.16 | -18.84        | 56.00         | 27.09         | 10.01          | 0.06          | LINE      | QP      |
| 45 | 3.8399 | 28.17 | -17.83        | 46.00         | 18.08         | 10.02          | 0.07          | LINE      | Average |
| 46 | 3.8399 | 38.17 | -17.83        | 56.00         | 28.08         | 10.02          | 0.07          | LINE      | QP      |

|               |            |           |         |
|---------------|------------|-----------|---------|
| Temperature   | 25°C       | Humidity  | 58%     |
| Test Engineer | Parody Lin | Phase     | Neutral |
| Configuration | CTX        | Test Mode | Mode 1  |



|    | Freq   | Level | Over   | Limit | Read  | LISN   | Cable | Pol/Phase | Remark  |
|----|--------|-------|--------|-------|-------|--------|-------|-----------|---------|
|    | MHz    | dBuV  | Limit  | Line  | Level | Factor | Loss  |           |         |
|    |        |       | dB     | dBuV  | dBuV  | dB     | dB    |           |         |
| 1  | 0.1557 | 37.64 | -18.05 | 55.69 | 27.84 | 9.78   | 0.02  | NEUTRAL   | Average |
| 2  | 0.1557 | 51.43 | -14.26 | 65.69 | 41.63 | 9.78   | 0.02  | NEUTRAL   | QP      |
| 3  | 0.1641 | 22.53 | -32.72 | 55.25 | 12.73 | 9.78   | 0.02  | NEUTRAL   | Average |
| 4  | 0.1641 | 49.60 | -15.65 | 65.25 | 39.80 | 9.78   | 0.02  | NEUTRAL   | QP      |
| 5  | 0.1758 | 37.47 | -17.21 | 54.68 | 27.66 | 9.79   | 0.02  | NEUTRAL   | Average |
| 6  | 0.1758 | 51.91 | -12.77 | 64.68 | 42.10 | 9.79   | 0.02  | NEUTRAL   | QP      |
| 7  | 0.2040 | 33.38 | -20.07 | 53.45 | 23.57 | 9.79   | 0.02  | NEUTRAL   | Average |
| 8  | 0.2040 | 45.43 | -18.02 | 63.45 | 35.62 | 9.79   | 0.02  | NEUTRAL   | QP      |
| 9  | 0.2442 | 40.28 | -11.67 | 51.95 | 30.46 | 9.79   | 0.03  | NEUTRAL   | Average |
| 10 | 0.2442 | 50.19 | -11.76 | 61.95 | 40.37 | 9.79   | 0.03  | NEUTRAL   | QP      |
| 11 | 0.2759 | 28.92 | -22.02 | 50.94 | 19.09 | 9.79   | 0.04  | NEUTRAL   | Average |
| 12 | 0.2759 | 48.18 | -12.76 | 60.94 | 38.35 | 9.79   | 0.04  | NEUTRAL   | QP      |
| 13 | 0.3067 | 36.20 | -13.86 | 50.06 | 26.37 | 9.79   | 0.04  | NEUTRAL   | Average |
| 14 | 0.3067 | 45.98 | -14.08 | 60.06 | 36.15 | 9.79   | 0.04  | NEUTRAL   | QP      |
| 15 | 0.3428 | 36.88 | -12.25 | 49.13 | 27.05 | 9.79   | 0.04  | NEUTRAL   | Average |
| 16 | 0.3428 | 51.65 | -7.48  | 59.13 | 41.82 | 9.79   | 0.04  | NEUTRAL   | QP      |
| 17 | 0.4083 | 36.70 | -10.98 | 47.68 | 26.87 | 9.79   | 0.04  | NEUTRAL   | Average |

|    | Freq   | Level | Over<br>Limit | Limit<br>Line | Read<br>Level | LISN<br>Factor | Cable<br>Loss | Pol/Phase | Remark  |
|----|--------|-------|---------------|---------------|---------------|----------------|---------------|-----------|---------|
|    | MHz    | dBuV  | dB            | dBuV          | dBuV          | dB             | dB            |           |         |
| 18 | 0.4083 | 45.17 | -12.51        | 57.68         | 35.34         | 9.79           | 0.04          | NEUTRAL   | QP      |
| 19 | 0.4637 | 38.15 | -8.48         | 46.63         | 28.32         | 9.79           | 0.04          | NEUTRAL   | Average |
| 20 | 0.4637 | 46.34 | -10.29        | 56.63         | 36.51         | 9.79           | 0.04          | NEUTRAL   | QP      |
| 21 | 0.5436 | 28.63 | -17.37        | 46.00         | 18.79         | 9.80           | 0.04          | NEUTRAL   | Average |
| 22 | 0.5436 | 42.79 | -13.21        | 56.00         | 32.95         | 9.80           | 0.04          | NEUTRAL   | QP      |
| 23 | 0.6372 | 27.11 | -18.89        | 46.00         | 17.27         | 9.80           | 0.04          | NEUTRAL   | Average |
| 24 | 0.6372 | 39.58 | -16.42        | 56.00         | 29.74         | 9.80           | 0.04          | NEUTRAL   | QP      |
| 25 | 0.7876 | 25.03 | -20.97        | 46.00         | 15.20         | 9.80           | 0.03          | NEUTRAL   | Average |
| 26 | 0.7876 | 41.32 | -14.68        | 56.00         | 31.49         | 9.80           | 0.03          | NEUTRAL   | QP      |
| 27 | 0.9531 | 31.06 | -14.94        | 46.00         | 21.20         | 9.81           | 0.05          | NEUTRAL   | Average |
| 28 | 0.9531 | 41.78 | -14.22        | 56.00         | 31.92         | 9.81           | 0.05          | NEUTRAL   | QP      |
| 29 | 1.1173 | 29.95 | -16.05        | 46.00         | 20.09         | 9.81           | 0.05          | NEUTRAL   | Average |
| 30 | 1.1173 | 41.57 | -14.43        | 56.00         | 31.71         | 9.81           | 0.05          | NEUTRAL   | QP      |
| 31 | 1.2960 | 28.84 | -17.16        | 46.00         | 18.97         | 9.82           | 0.05          | NEUTRAL   | Average |
| 32 | 1.2960 | 39.90 | -16.10        | 56.00         | 30.03         | 9.82           | 0.05          | NEUTRAL   | QP      |
| 33 | 1.8096 | 26.17 | -19.83        | 46.00         | 16.27         | 9.84           | 0.06          | NEUTRAL   | Average |
| 34 | 1.8096 | 38.21 | -17.79        | 56.00         | 28.31         | 9.84           | 0.06          | NEUTRAL   | QP      |
| 35 | 2.2015 | 28.57 | -17.43        | 46.00         | 18.67         | 9.84           | 0.06          | NEUTRAL   | Average |
| 36 | 2.2015 | 37.75 | -18.25        | 56.00         | 27.85         | 9.84           | 0.06          | NEUTRAL   | QP      |
| 37 | 2.4476 | 29.84 | -16.16        | 46.00         | 19.94         | 9.85           | 0.05          | NEUTRAL   | Average |
| 38 | 2.4476 | 38.32 | -17.68        | 56.00         | 28.42         | 9.85           | 0.05          | NEUTRAL   | QP      |
| 39 | 2.6360 | 29.05 | -16.95        | 46.00         | 19.15         | 9.85           | 0.05          | NEUTRAL   | Average |
| 40 | 2.6360 | 37.91 | -18.09        | 56.00         | 28.01         | 9.85           | 0.05          | NEUTRAL   | QP      |
| 41 | 3.4538 | 28.28 | -17.72        | 46.00         | 18.36         | 9.86           | 0.06          | NEUTRAL   | Average |
| 42 | 3.4538 | 36.94 | -19.06        | 56.00         | 27.02         | 9.86           | 0.06          | NEUTRAL   | QP      |
| 43 | 3.8399 | 29.76 | -16.24        | 46.00         | 19.82         | 9.87           | 0.07          | NEUTRAL   | Average |
| 44 | 3.8399 | 37.10 | -18.90        | 56.00         | 27.16         | 9.87           | 0.07          | NEUTRAL   | QP      |
| 45 | 4.3376 | 28.27 | -17.73        | 46.00         | 18.31         | 9.88           | 0.08          | NEUTRAL   | Average |
| 46 | 4.3376 | 37.16 | -18.84        | 56.00         | 27.20         | 9.88           | 0.08          | NEUTRAL   | QP      |

Note:

Level = Read Level + LISN Factor + Cable Loss.

## 4.2. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

### 4.2.1. Limit

No restriction limits.

### 4.2.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

| 26dB Bandwidth         |                                            |
|------------------------|--------------------------------------------|
| Spectrum Parameters    | Setting                                    |
| Attenuation            | Auto                                       |
| Span Frequency         | > 26dB Bandwidth                           |
| RBW                    | Approximately 1% of the emission bandwidth |
| VBW                    | VBW > RBW                                  |
| Detector               | Peak                                       |
| Trace                  | Max Hold                                   |
| Sweep Time             | Auto                                       |
| 99% Occupied Bandwidth |                                            |
| Spectrum Parameters    | Setting                                    |
| Span                   | 1.5 times to 5.0 times the OBW             |
| RBW                    | 1 % to 5 % of the OBW                      |
| VBW                    | $\geq 3 \times \text{RBW}$                 |
| Detector               | Peak                                       |
| Trace                  | Max Hold                                   |

### 4.2.3. Test Procedures

For Radiated 26dB Bandwidth and 99% Occupied Bandwidth Measurement:

1. The transmitter was radiated to the spectrum analyzer in peak hold mode.
2. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.  
Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

### 4.2.4. Test Setup Layout

For Radiated 26dB Bandwidth and 99% Occupied Bandwidth Measurement:

This test setup layout is the same as that shown in section 4.6.4.

### 4.2.5. Test Deviation

There is no deviation with the original standard.

### 4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.2.7. Test Result of 26dB Bandwidth and 99% Occupied Bandwidth

|               |             |               |                          |
|---------------|-------------|---------------|--------------------------|
| Temperature   | 21°C        | Humidity      | 46%                      |
| Test Engineer | Lucas Huang | Test Function | Non-beamforming function |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5180 MHz  | 23.30                | 17.37                        |
|                             | 5200 MHz  | 23.30                | 17.45                        |
|                             | 5240 MHz  | 23.22                | 17.63                        |
|                             | 5260 MHz  | 20.43                | 17.28                        |
|                             | 5300 MHz  | 20.43                | 17.19                        |
|                             | 5320 MHz  | 20.17                | 17.19                        |
|                             | 5500 MHz  | 20.61                | 17.02                        |
|                             | 5580 MHz  | 20.78                | 17.02                        |
|                             | 5700 MHz  | 21.13                | 17.02                        |
|                             | 5745 MHz  | 27.65                | 17.54                        |
|                             | 5785 MHz  | 27.57                | 17.54                        |
|                             | 5825 MHz  | 28.78                | 17.45                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5180 MHz  | 22.00                | 18.49                        |
|                             | 5200 MHz  | 22.35                | 18.49                        |
|                             | 5240 MHz  | 22.70                | 18.76                        |
|                             | 5260 MHz  | 22.00                | 18.41                        |
|                             | 5300 MHz  | 21.74                | 18.15                        |
|                             | 5320 MHz  | 21.04                | 18.15                        |
|                             | 5500 MHz  | 21.83                | 18.06                        |
|                             | 5580 MHz  | 22.17                | 18.15                        |
|                             | 5700 MHz  | 22.52                | 18.06                        |
|                             | 5745 MHz  | 23.13                | 18.23                        |
|                             | 5785 MHz  | 28.35                | 18.49                        |
|                             | 5825 MHz  | 27.30                | 18.58                        |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11ac<br>MCS0/Nss1 VHT40 | 5190 MHz  | 40.00                | 34.01                        |
|                             | 5230 MHz  | 62.75                | 35.46                        |
|                             | 5270 MHz  | 40.87                | 34.88                        |
|                             | 5310 MHz  | 40.15                | 34.01                        |
|                             | 5510 MHz  | 42.03                | 36.47                        |
|                             | 5550 MHz  | 42.03                | 36.47                        |
|                             | 5670 MHz  | 41.88                | 36.61                        |
|                             | 5755 MHz  | 42.32                | 36.76                        |
|                             | 5795 MHz  | 70.00                | 37.77                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5210 MHz  | 141.16               | 73.52                        |
|                             | 5290 MHz  | 80.00                | 74.10                        |
|                             | 5530 MHz  | 79.71                | 74.96                        |
|                             | 5610 MHz  | 93.33                | 74.96                        |
|                             | 5775 MHz  | 79.42                | 74.67                        |

#### Straddle Channel

| Mode                        | Frequency | 26dB BW (MHz) | 99% OBW (MHz) | 26dB BW F1 (MHz) | 99% OBW T1 (MHz) | UNII 2C 26dB BW (MHz) | UNII 3 26dB BW (MHz) | UNII 2C 99% BW (MHz) | UNII 3 99% BW (MHz) |
|-----------------------------|-----------|---------------|---------------|------------------|------------------|-----------------------|----------------------|----------------------|---------------------|
| 802.11a                     | 5720 MHz  | 20.17         | 16.41         | 5709.83          | 5711.58          | 15.17                 | 5.00                 | 13.42                | 2.99                |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 20.43         | 17.37         | 5709.30          | 5711.06          | 15.70                 | 4.74                 | 13.94                | 3.42                |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 43.77         | 37.92         | 5688.55          | 5690.90          | 36.45                 | 7.32                 | 34.10                | 3.81                |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 83.48         | 75.83         | 5649.13          | 5651.80          | 75.87                 | 7.61                 | 73.20                | 2.63                |

|               |             |               |                      |
|---------------|-------------|---------------|----------------------|
| Temperature   | 21°C        | Humidity      | 46%                  |
| Test Engineer | Lucas Huang | Test Function | Beamforming function |

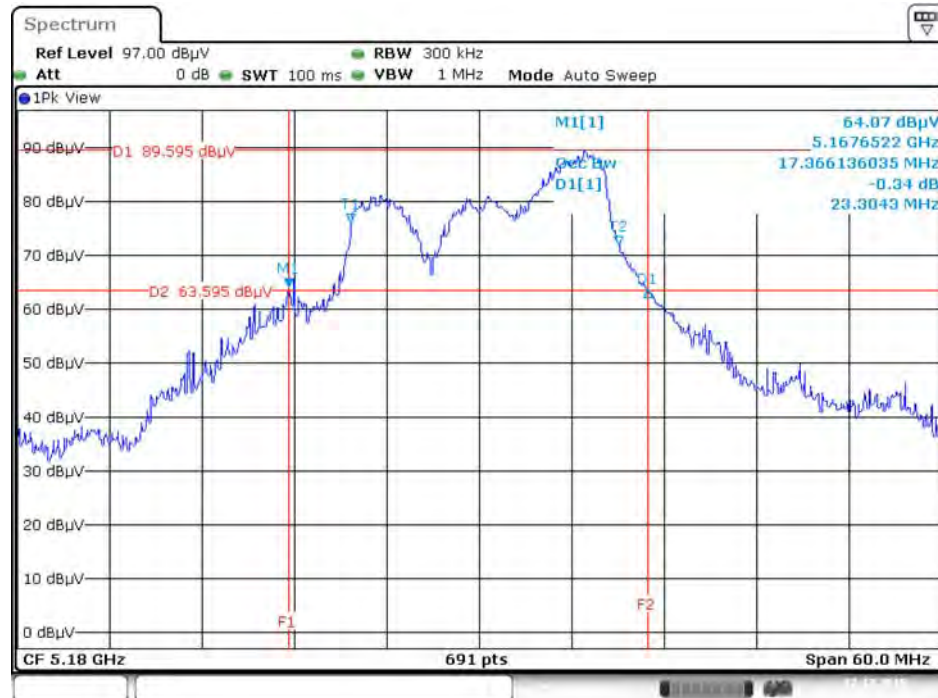
| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11ac<br>MCS0/Nss2 VHT20 | 5180 MHz  | 23.48                | 18.23                        |
|                             | 5200 MHz  | 24.09                | 18.23                        |
|                             | 5240 MHz  | 24.87                | 18.41                        |
|                             | 5260 MHz  | 23.48                | 18.06                        |
|                             | 5300 MHz  | 23.39                | 18.23                        |
|                             | 5320 MHz  | 23.65                | 18.15                        |
|                             | 5500 MHz  | 22.87                | 17.97                        |
|                             | 5580 MHz  | 23.04                | 17.97                        |
|                             | 5700 MHz  | 23.57                | 17.97                        |
|                             | 5745 MHz  | 23.39                | 18.06                        |
|                             | 5785 MHz  | 26.70                | 18.15                        |
|                             | 5825 MHz  | 25.74                | 18.15                        |
| 802.11ac<br>MCS0/Nss2 VHT40 | 5190 MHz  | 42.75                | 36.76                        |
|                             | 5230 MHz  | 55.80                | 37.19                        |
|                             | 5270 MHz  | 42.61                | 36.76                        |
|                             | 5310 MHz  | 43.04                | 36.76                        |
|                             | 5510 MHz  | 43.48                | 37.05                        |
|                             | 5550 MHz  | 42.75                | 37.05                        |
|                             | 5670 MHz  | 43.19                | 37.05                        |
|                             | 5755 MHz  | 43.48                | 37.19                        |
|                             | 5795 MHz  | 62.46                | 37.48                        |
| 802.11ac<br>MCS0/Nss2 VHT80 | 5210 MHz  | 80.58                | 75.25                        |
|                             | 5290 MHz  | 80.58                | 75.25                        |
|                             | 5530 MHz  | 81.74                | 75.54                        |
|                             | 5610 MHz  | 80.58                | 75.54                        |
|                             | 5775 MHz  | 81.74                | 75.54                        |

### Straddle Channel

| Mode                        | Frequency | 26dB<br>BW<br>(MHz) | 99%<br>OBW<br>(MHz) | 26dB<br>BW F1<br>(MHz) | 99%<br>OBW T1<br>(MHz) | UNII 2C<br>26dB<br>BW<br>(MHz) | UNII 3<br>26dB<br>BW<br>(MHz) | UNII 2C<br>99% BW<br>(MHz) | UNII 3<br>99% BW<br>(MHz) |
|-----------------------------|-----------|---------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11ac<br>MCS0/Nss2 VHT20 | 5720 MHz  | 23.83               | 18.15               | 5708.35                | 5710.88                | 16.65                          | 7.17                          | 14.12                      | 4.03                      |
| 802.11ac<br>MCS0/Nss2 VHT40 | 5710 MHz  | 43.48               | 37.19               | 5688.12                | 5691.19                | 36.88                          | 6.59                          | 33.81                      | 3.38                      |
| 802.11ac<br>MCS0/Nss2 VHT80 | 5690 MHz  | 83.48               | 75.54               | 5647.97                | 5652.08                | 77.03                          | 6.45                          | 72.92                      | 2.63                      |

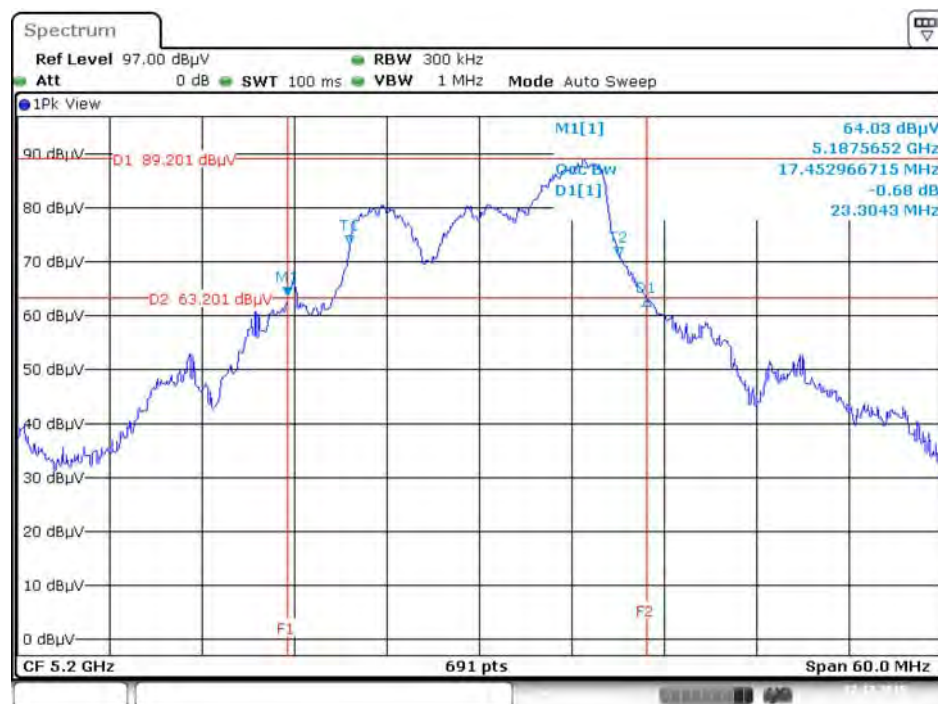
For non-beamforming function:

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5180 MHz



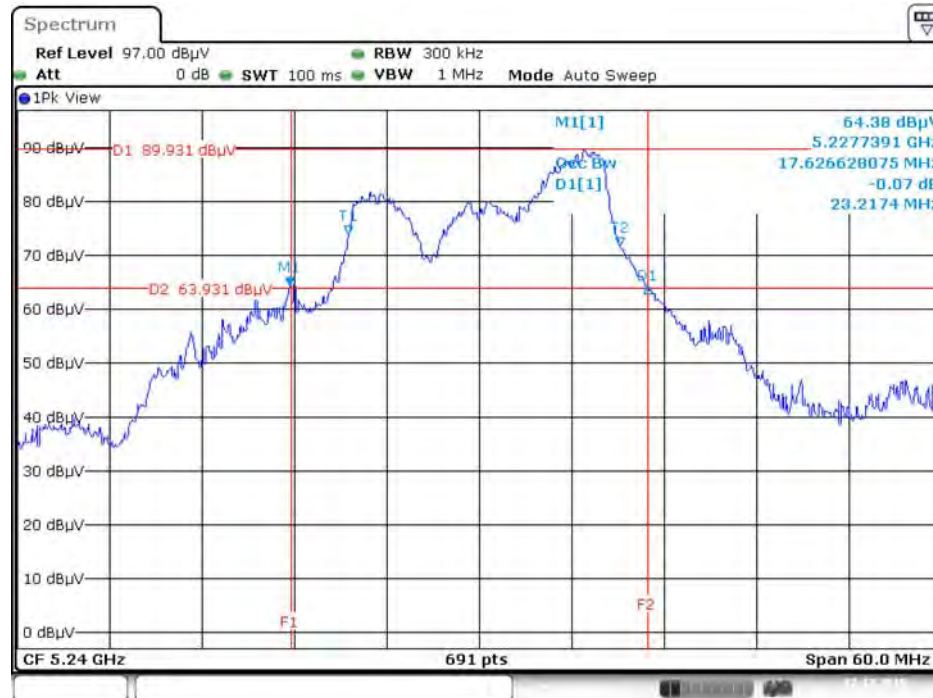
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26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5200 MHz



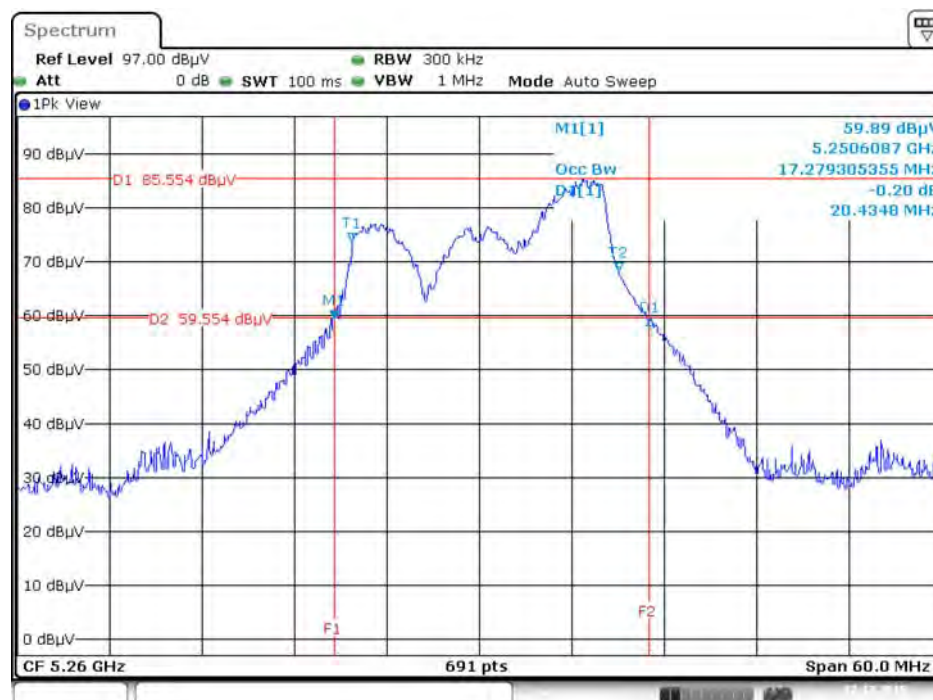
Date: 22.DEC.2015 20:54:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5240 MHz



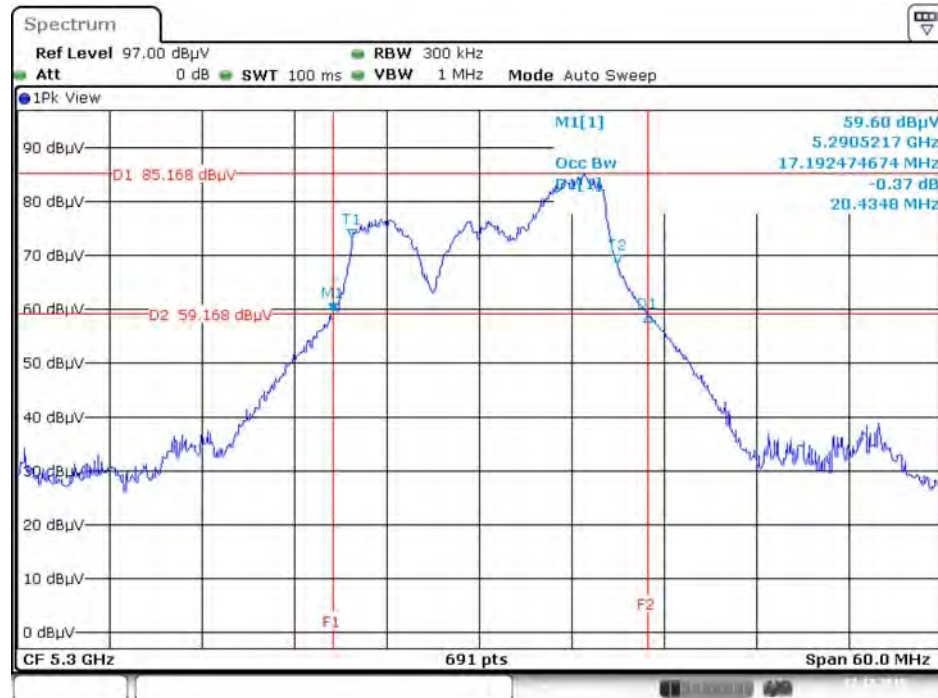
Date: 22.DEC.2015 20:54:43

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5260 MHz



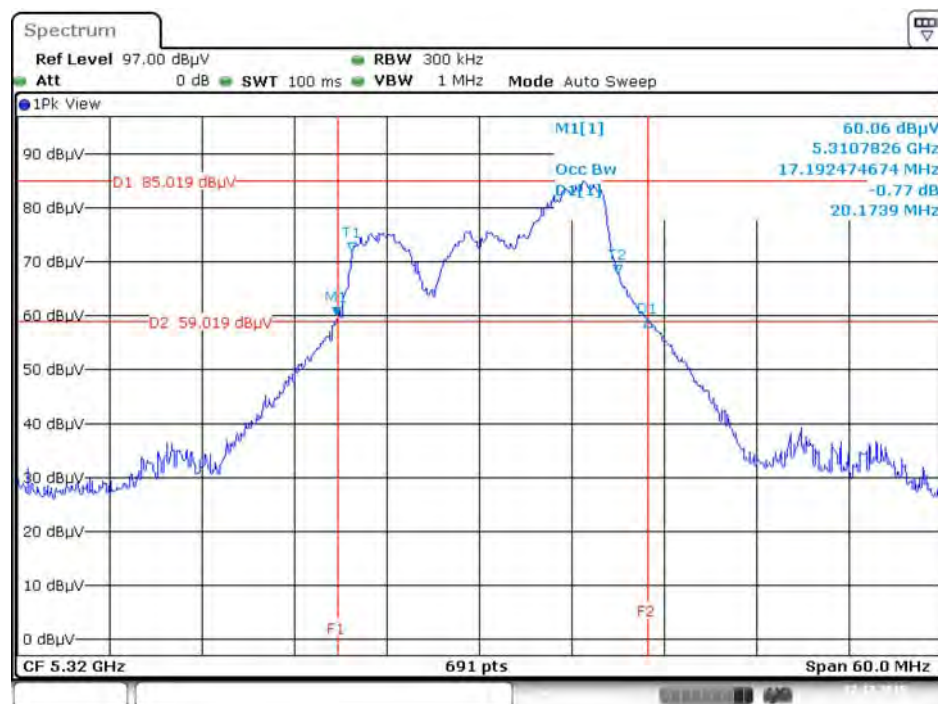
Date: 22.DEC.2015 20:55:04

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5300 MHz



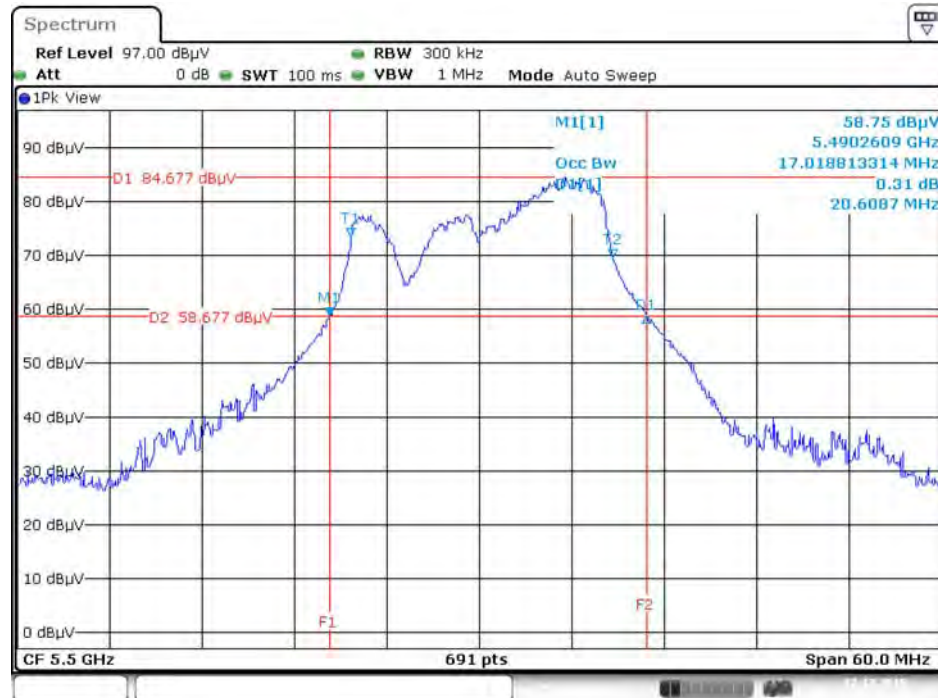
Date: 22.DEC.2015 20:55:18

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5320 MHz



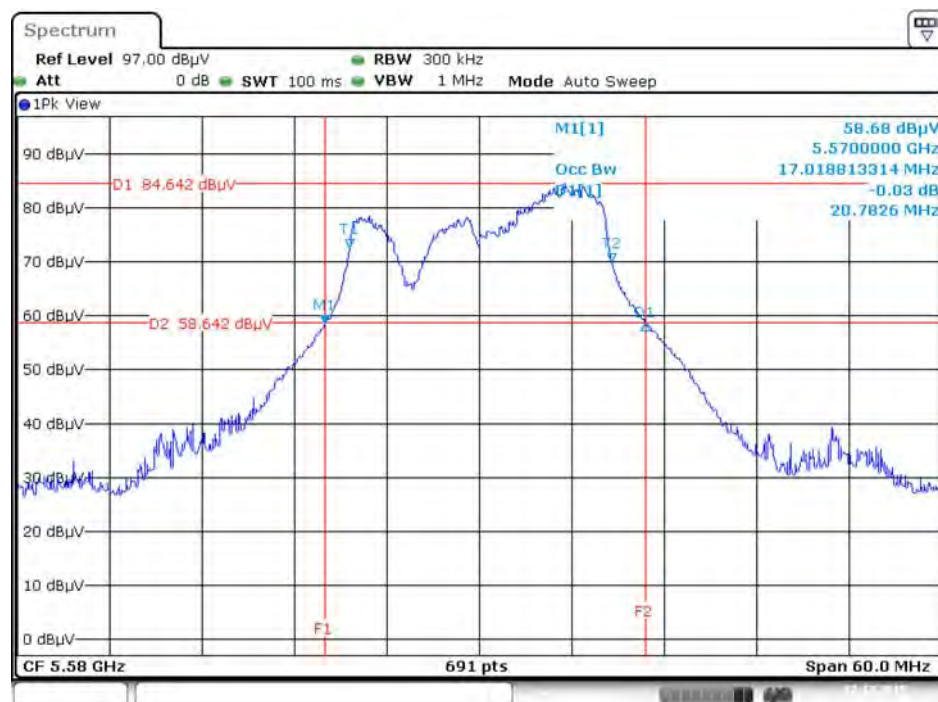
Date: 22.DEC.2015 20:55:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5500 MHz



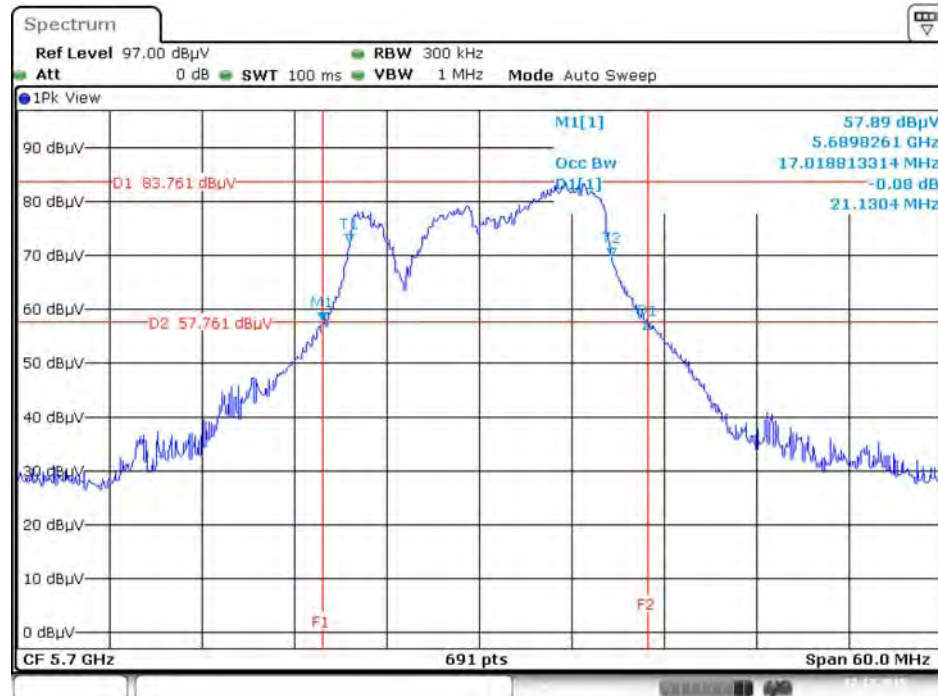
Date: 22.DEC.2015 20:55:50

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5580 MHz



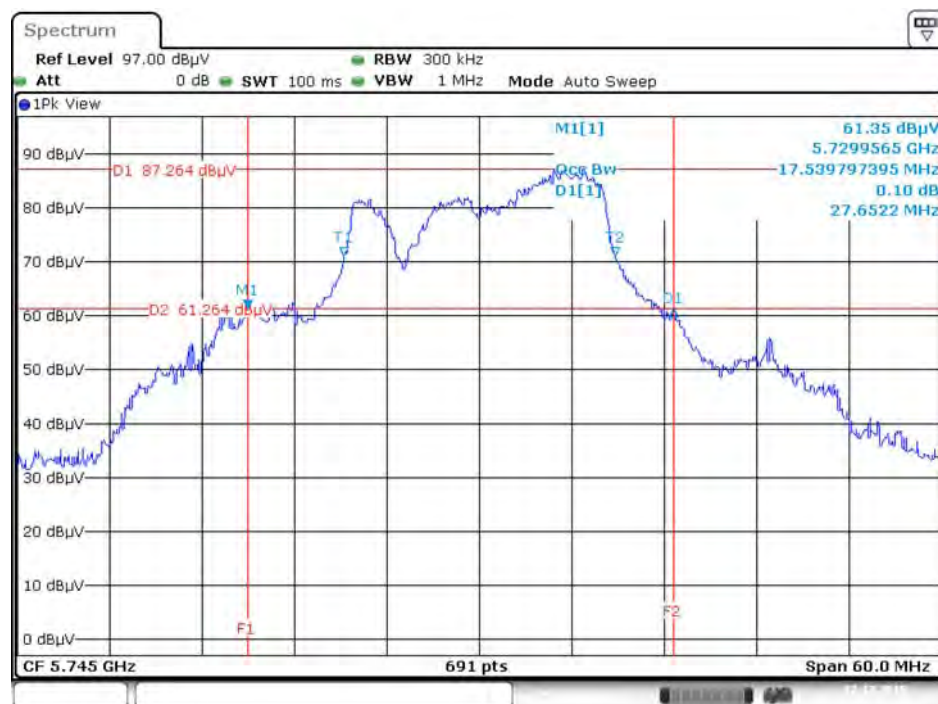
Date: 22.DEC.2015 20:56:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5700 MHz



Date: 22.DEC.2015 20:56:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5745 MHz



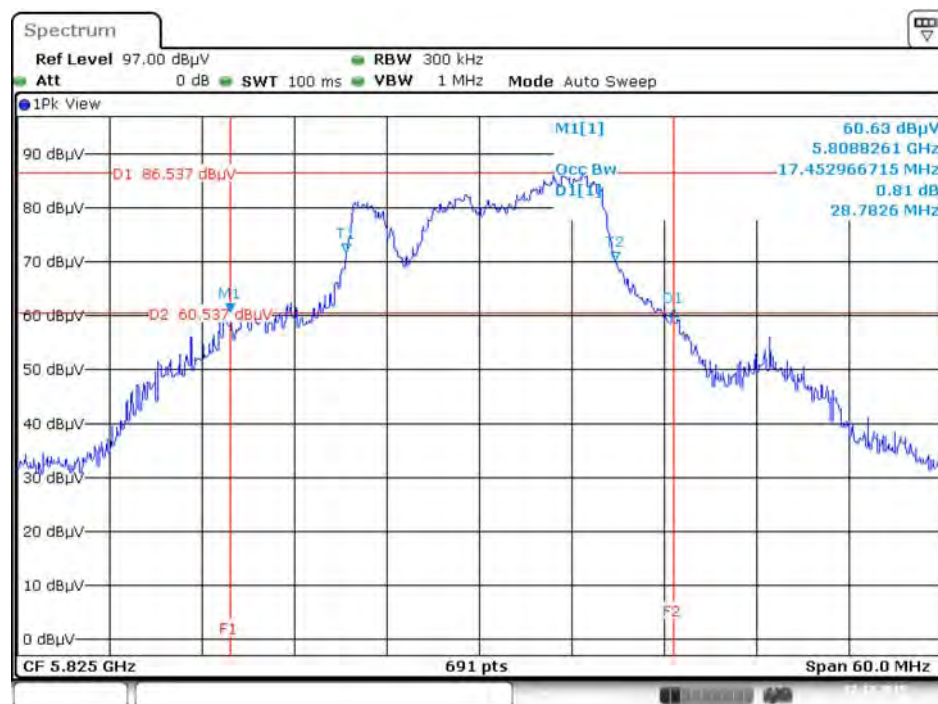
Date: 22.DEC.2015 20:53:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5785 MHz



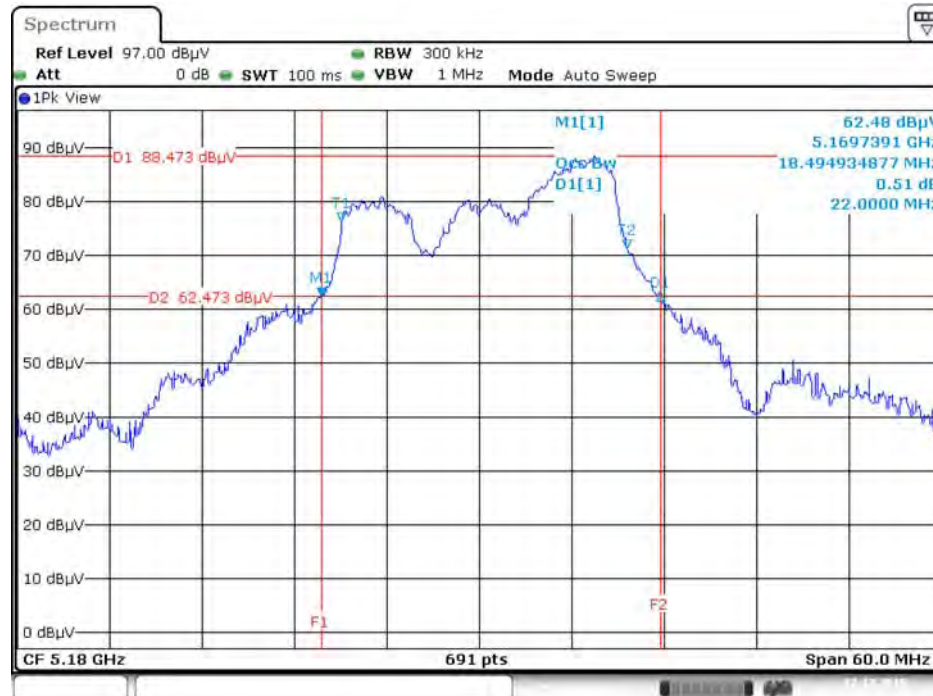
Date: 22.DEC.2015 20:53:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5825 MHz



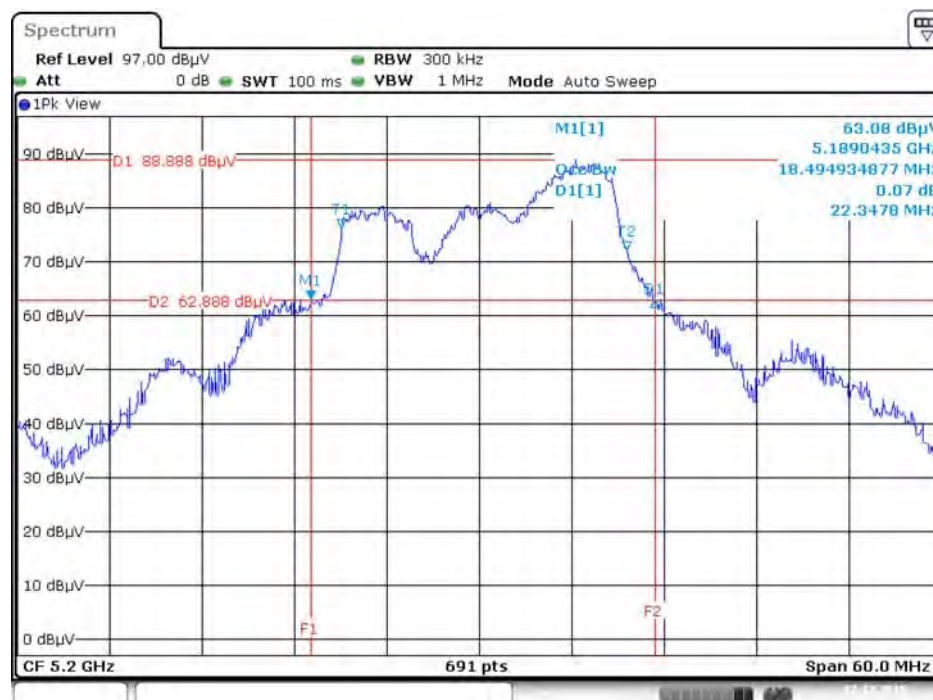
Date: 22.DEC.2015 20:53:55

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5180 MHz



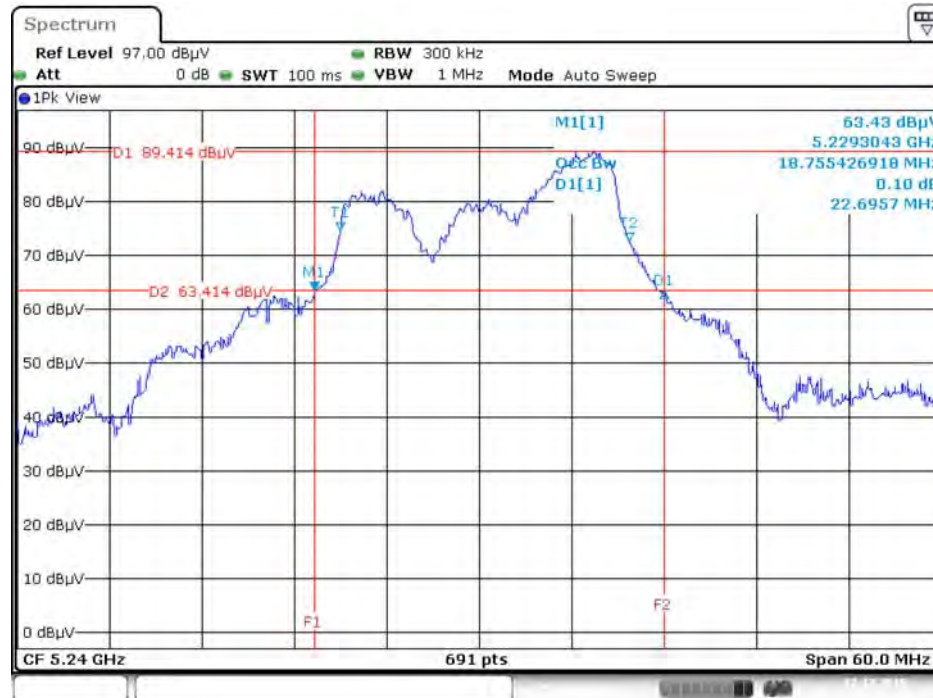
Date: 22.DEC.2015 20:58:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



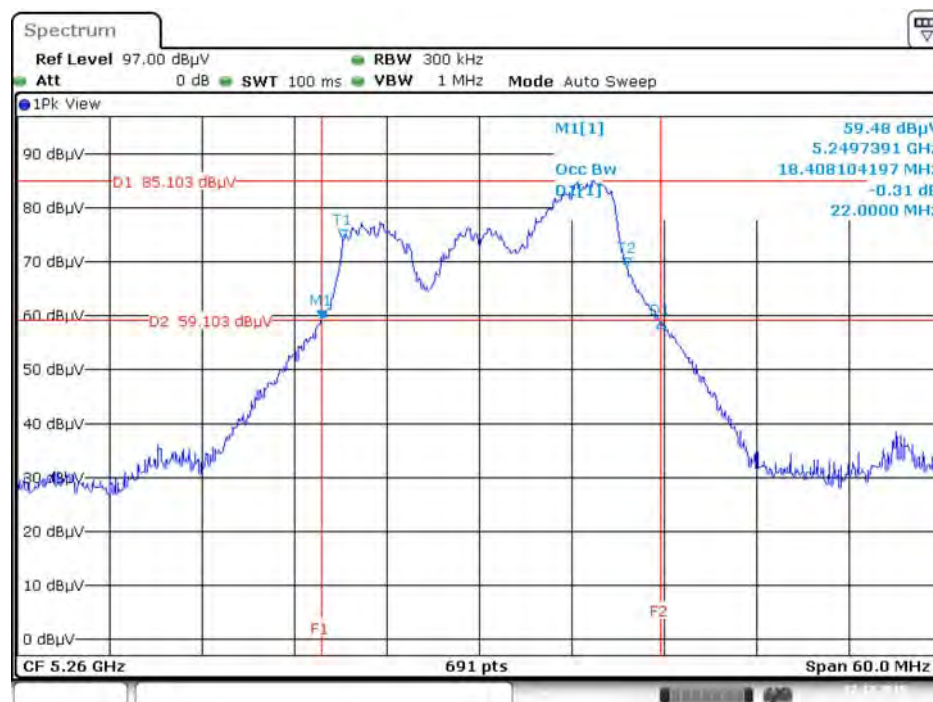
Date: 22.DEC.2015 20:59:10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



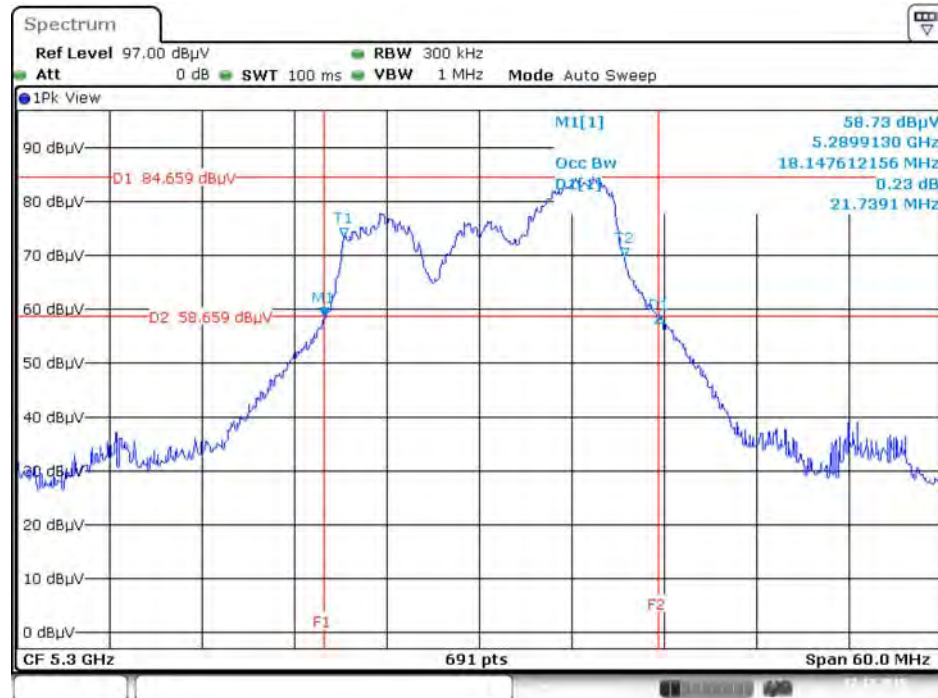
Date: 22.DEC.2015 20:59:31

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



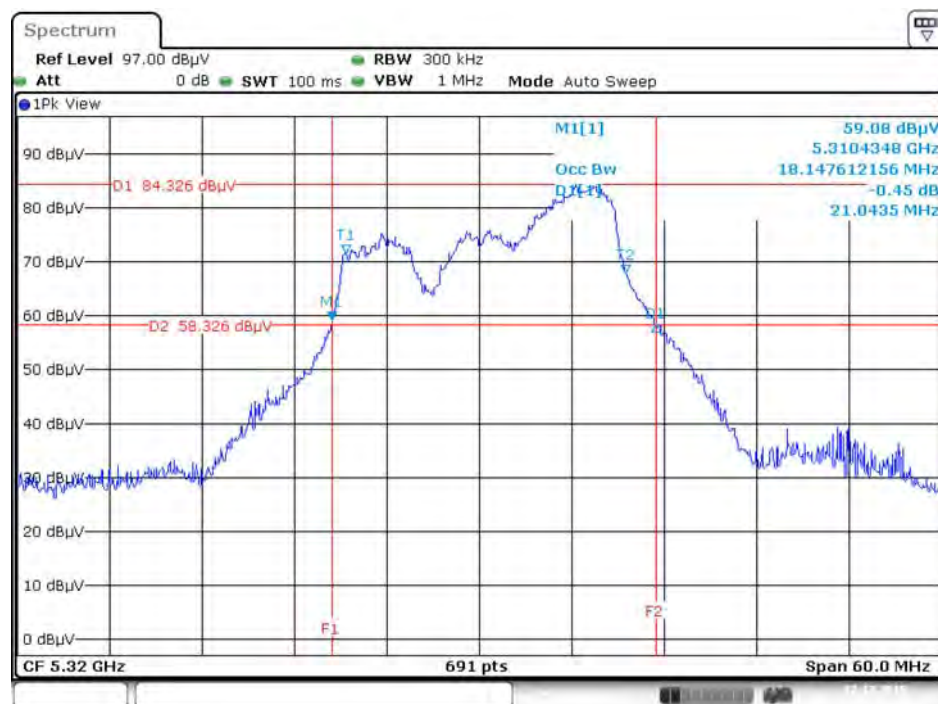
Date: 22.DEC.2015 20:59:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



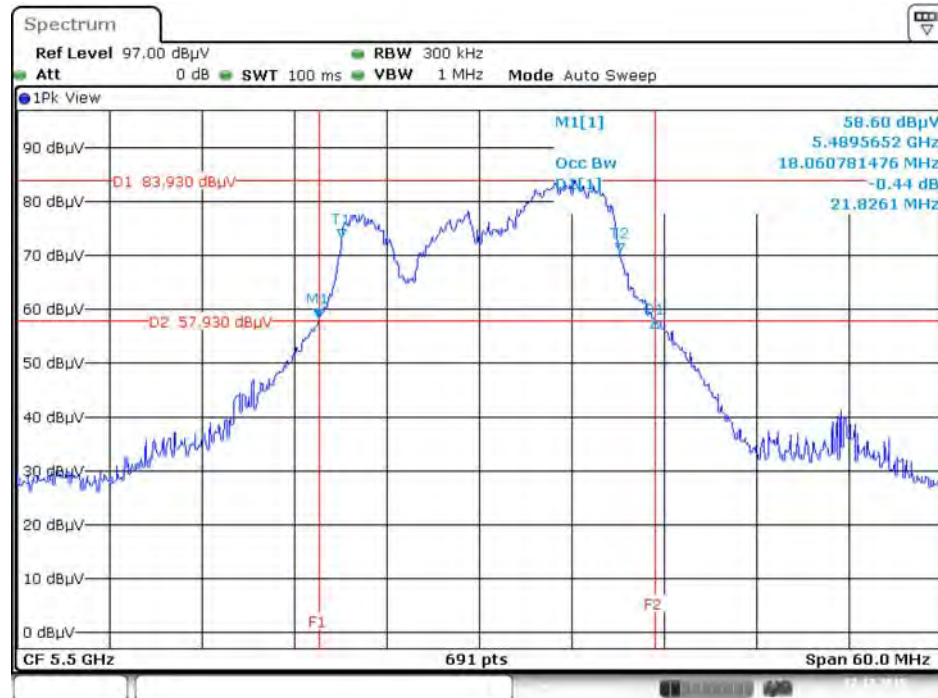
Date: 22.DEC.2015 21:00:04

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



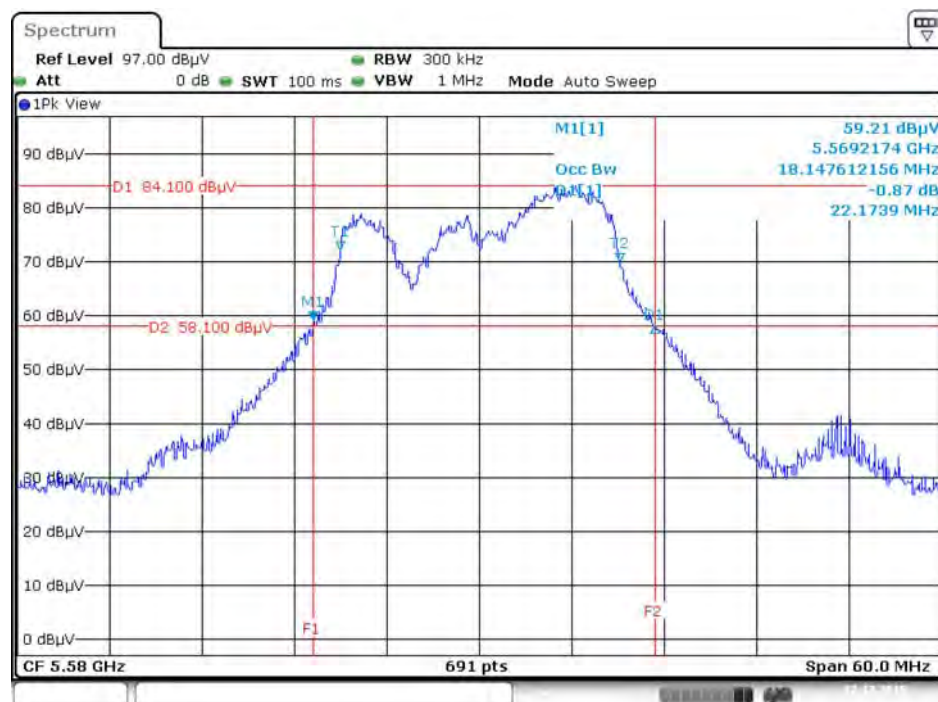
Date: 22.DEC.2015 21:00:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



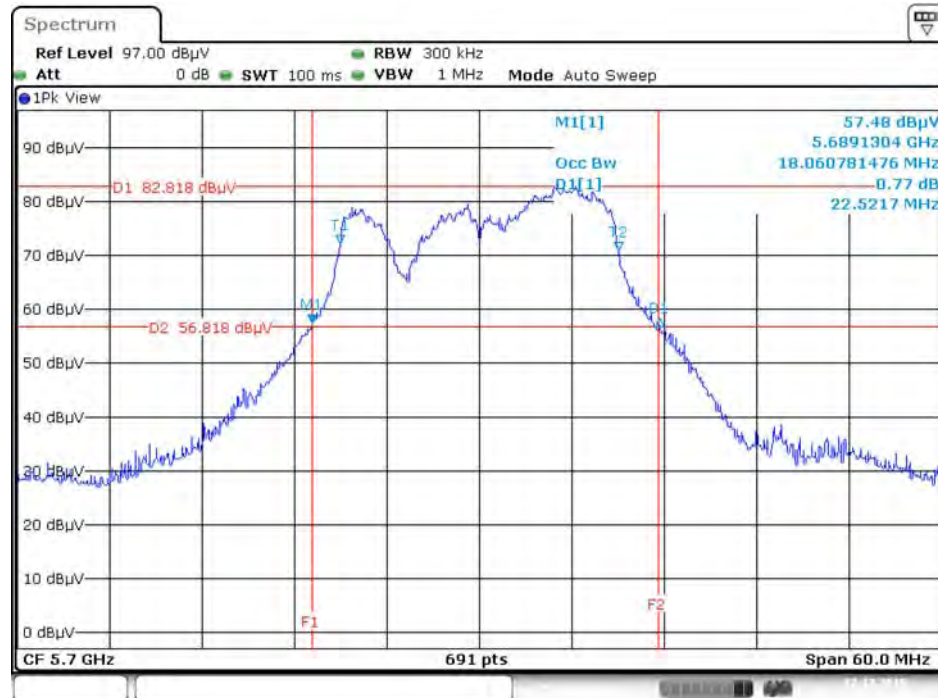
Date: 22.DEC.2015 21:00:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



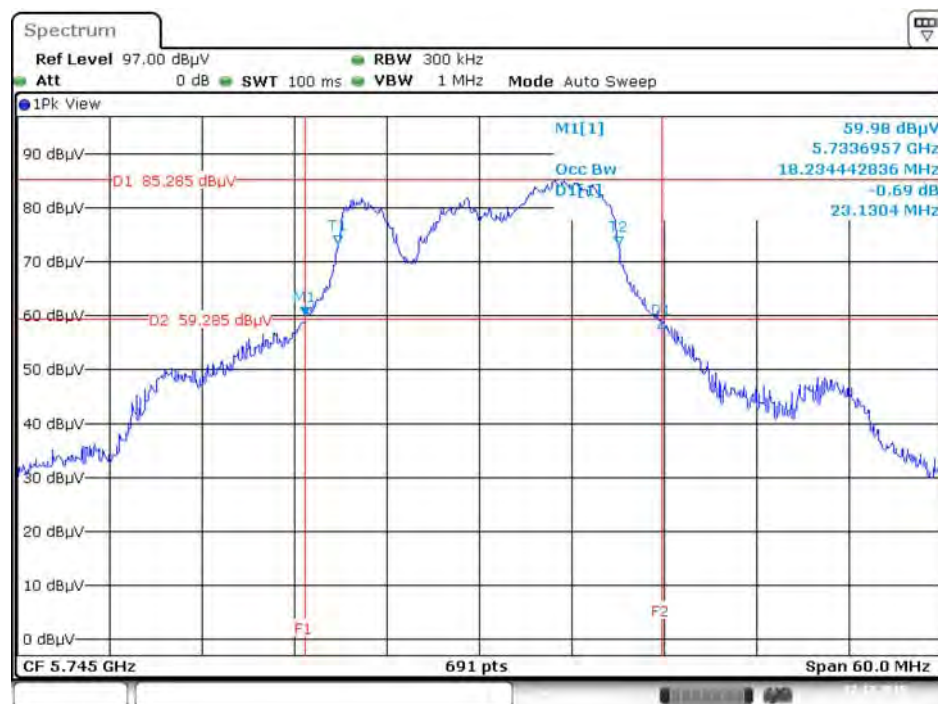
Date: 22.DEC.2015 21:00:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



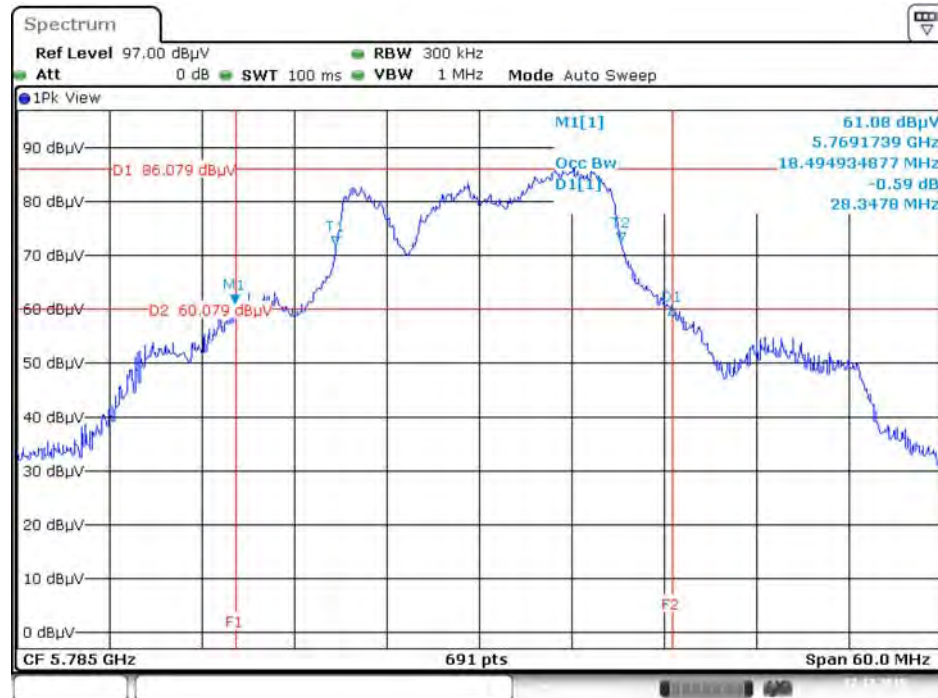
Date: 22.DEC.2015 21:01:18

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



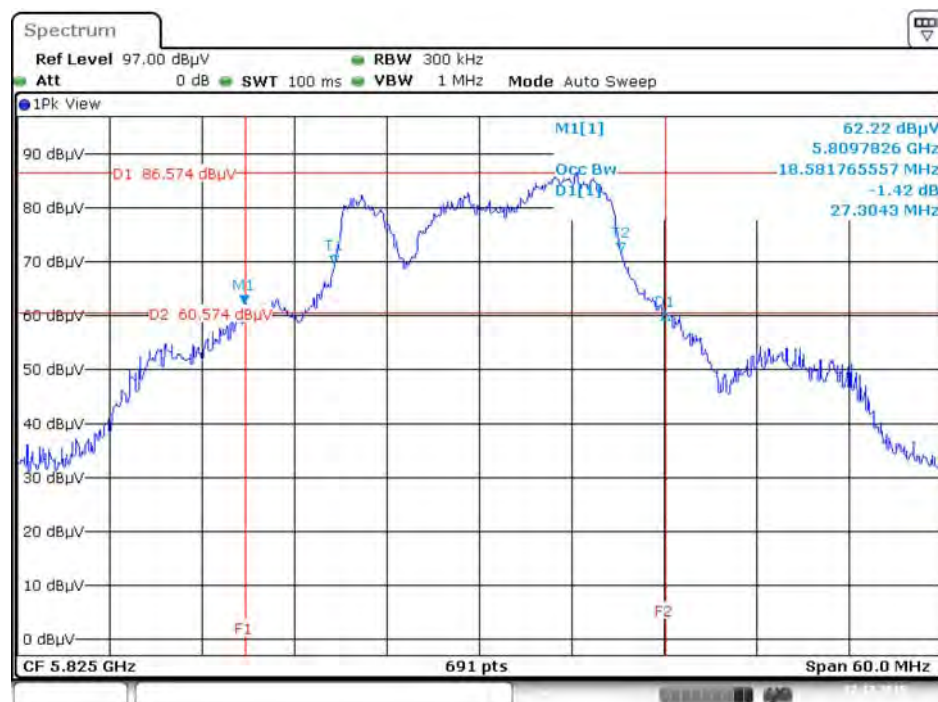
Date: 22.DEC.2015 21:01:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



Date: 22.DEC.2015 21:02:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5825 MHz



Date: 22.DEC.2015 21:02:17



**Spectrum**

Ref Level 97.00 dBμV

Att 0 dB

SWT 100 ms

RBW 1 MHz

VBW 3 MHz

Mode Auto Sweep

1Pk View

90 dBμV

80 dBμV

70 dBμV

60 dBμV

50 dBμV

40 dBμV

30 dBμV

20 dBμV

10 dBμV

0 dBμV

D1 88.127 dBμV

D2 62.127 dBμV

M1[1]

Occ Bw

D1[1]

63.46 dBμV

5.169565 GHz

34.008683068 MHz

-1.20 dB

40.000 MHz

F1

F2

CF 5.19 GHz

691 pts

Span 100.0 MHz

**Spectrum**

Ref Level 97.00 dBμV RBW 1 MHz  
Att 0 dB SWT 100 ms VBW 3 MHz Mode Auto Sweep

1Pk View

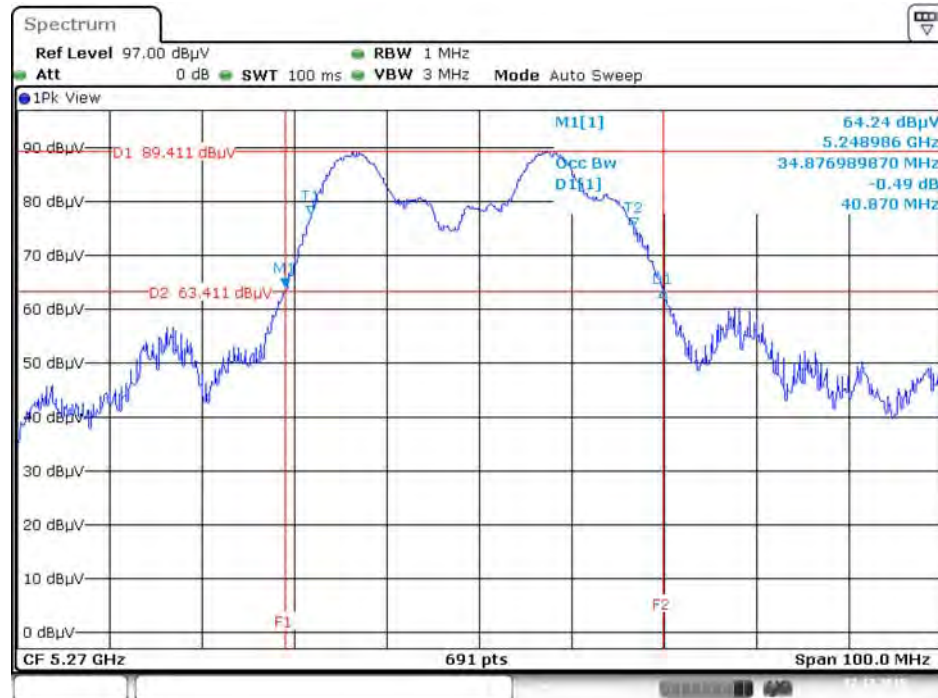
66.03 dBμV  
5.196232 GHz  
35.455861071 MHz  
-0.42 dB  
62.754 MHz

M1  
Occ Bw  
D1  
T1  
T2  
F1  
F2

CF 5.23 GHz 691 pts Span 100.0 MHz

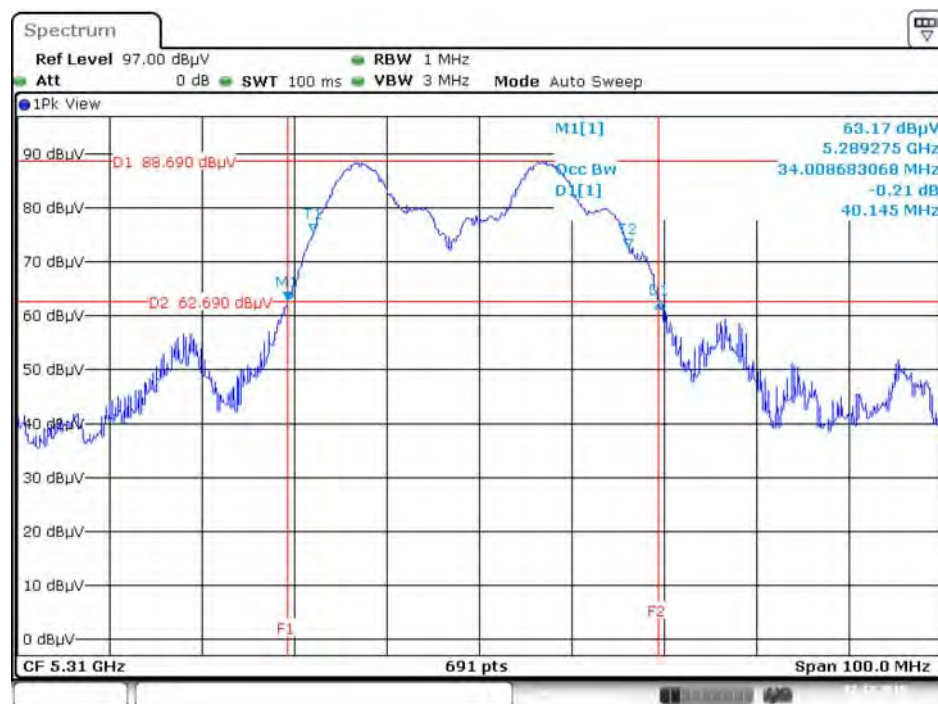
Date: 22.DEC.2015 21:04:50

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



Date: 22.DEC.2015 21:05:15

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



Date: 22.DEC.2015 21:05:41

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



Date: 22.DEC.2015 21:06:11

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz



Date: 22.DEC.2015 21:06:33

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



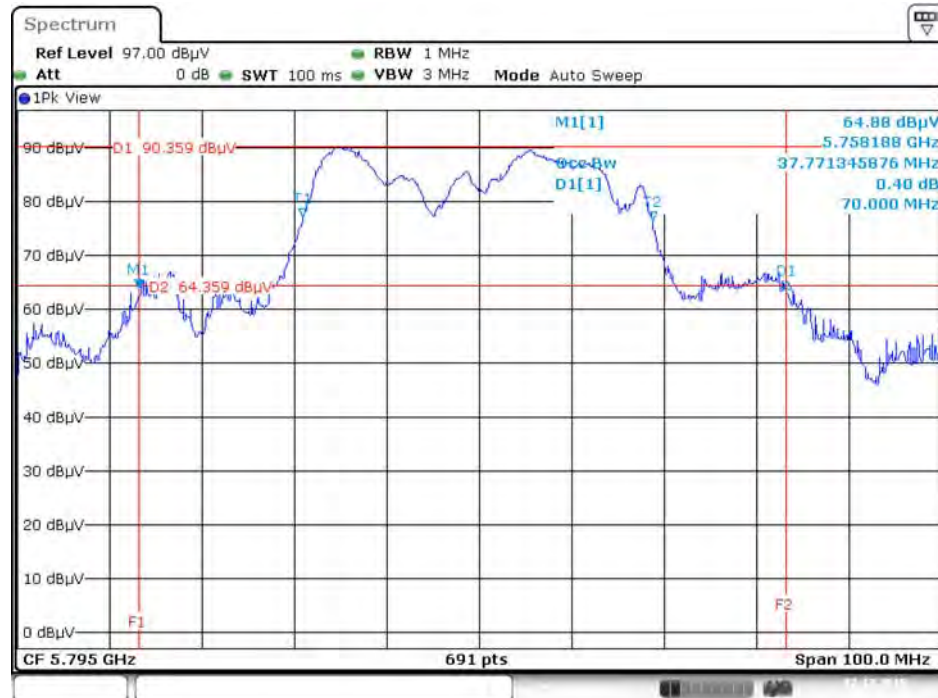
Date: 22.DEC.2015 21:06:57

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5755 MHz



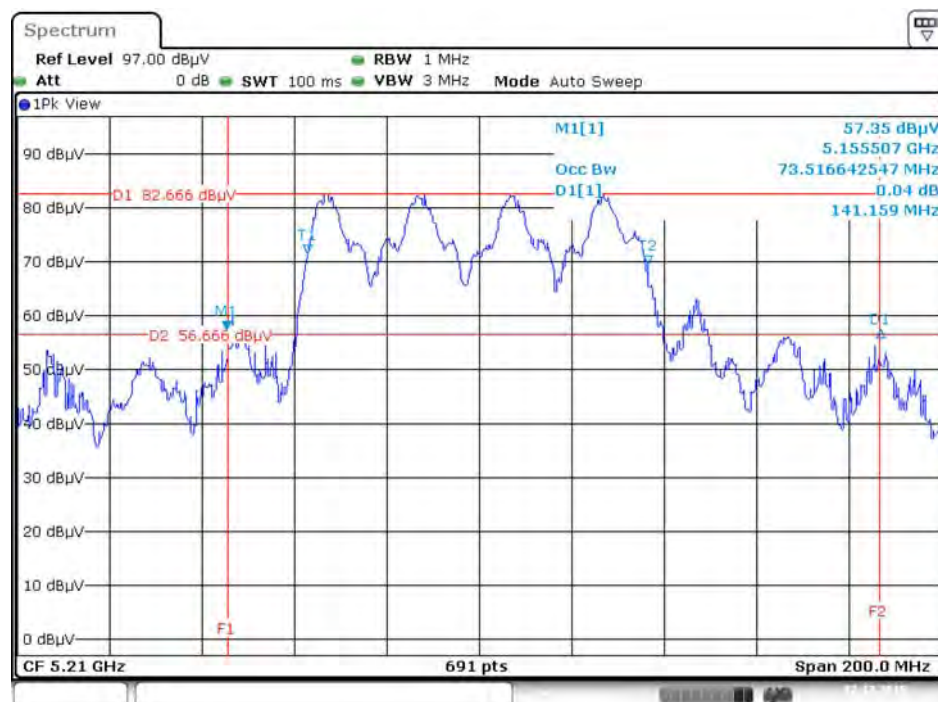
Date: 22.DEC.2015 21:07:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz



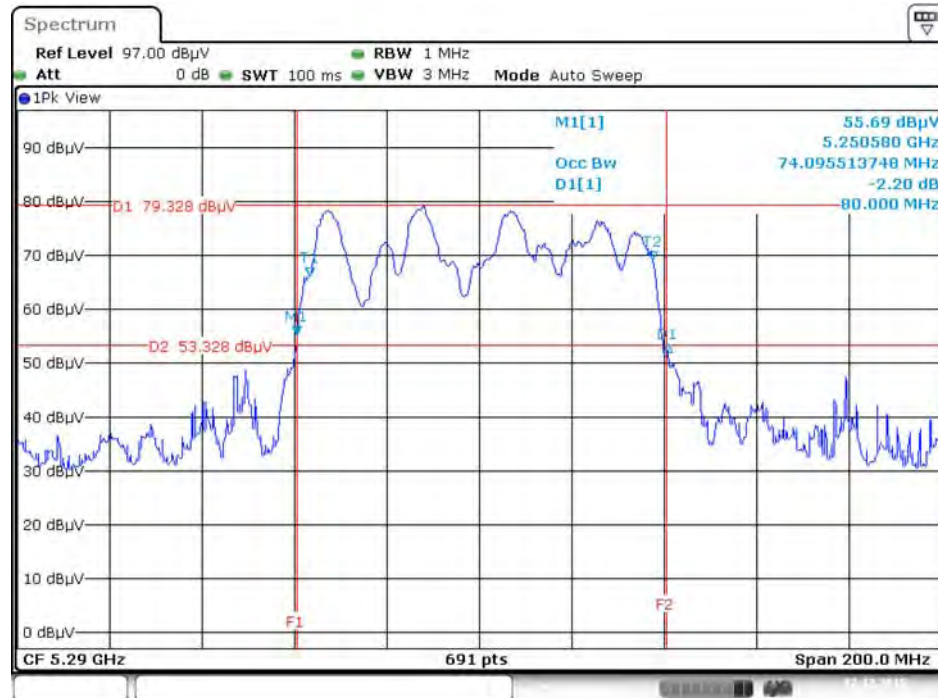
Date: 22.DEC.2015 21:08:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5210 MHz



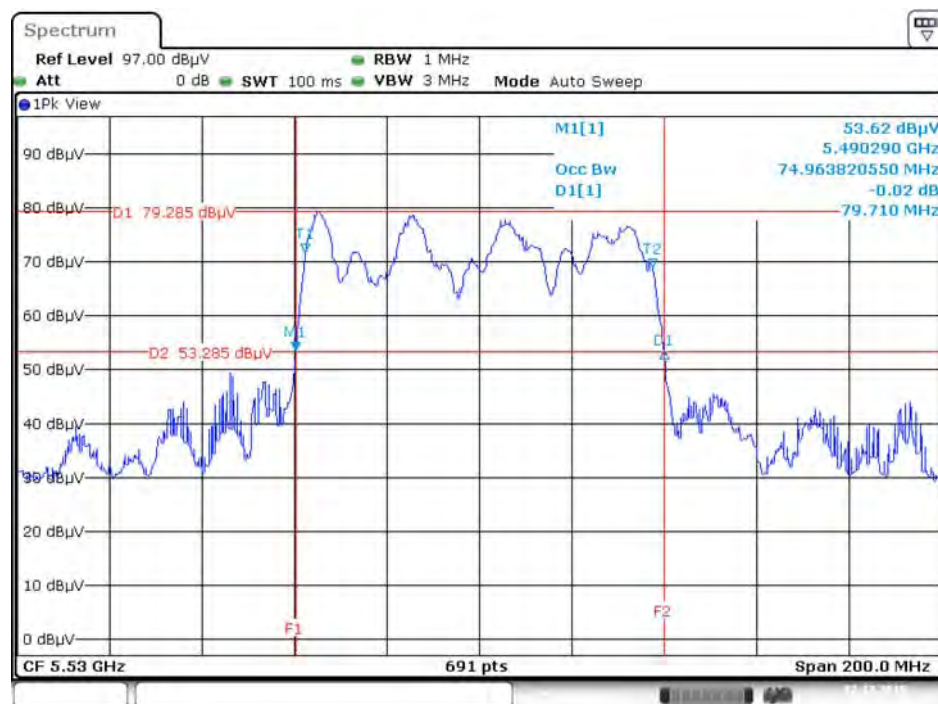
Date: 22.DEC.2015 21:12:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



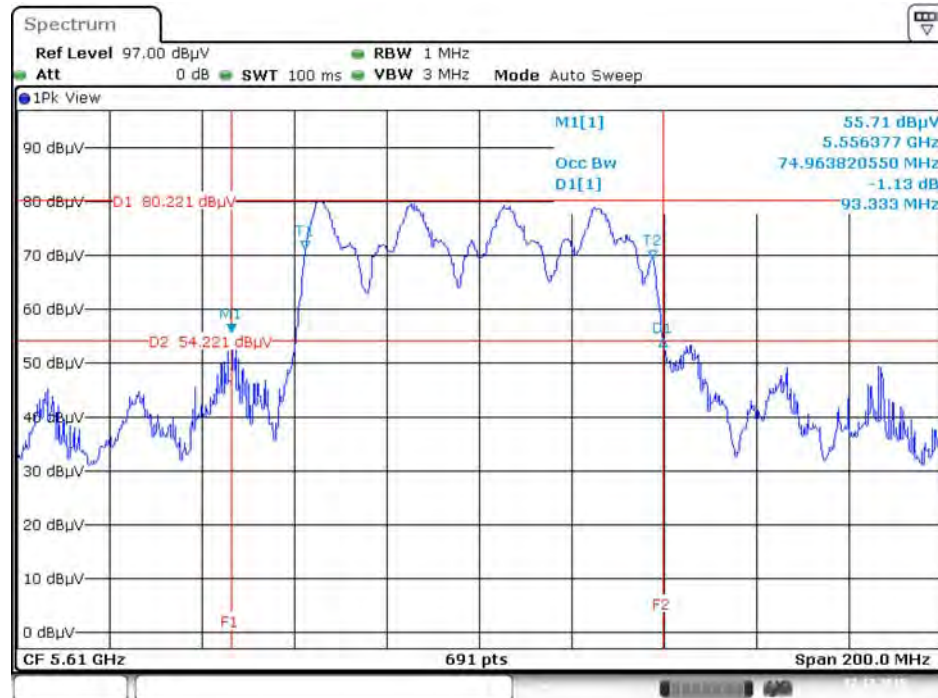
Date: 22.DEC.2015 21:12:25

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



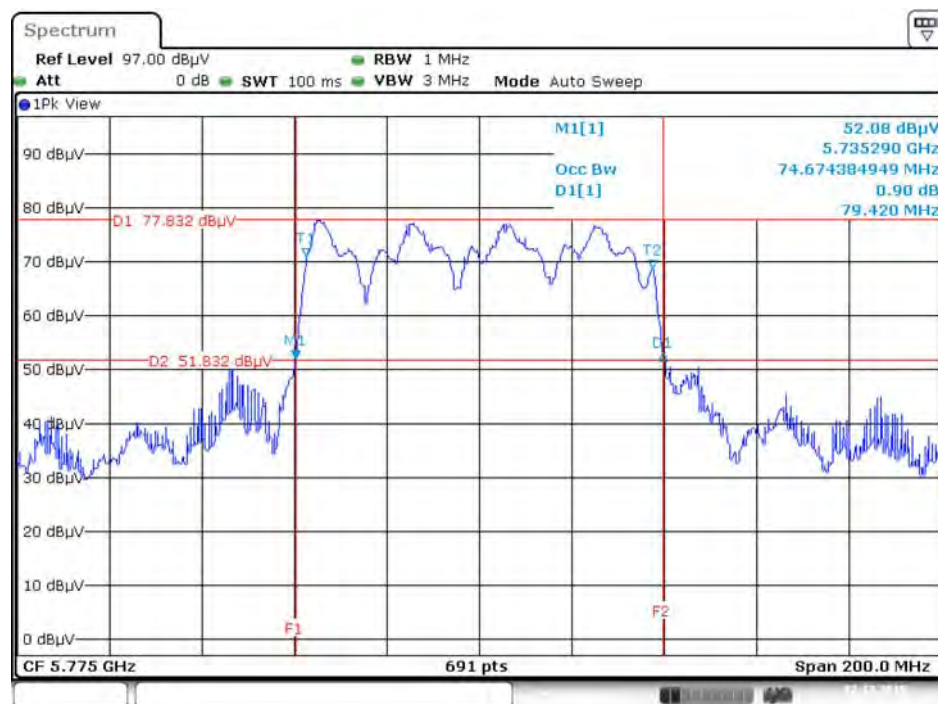
Date: 22.DEC.2015 21:12:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 22.DEC.2015 21:13:18

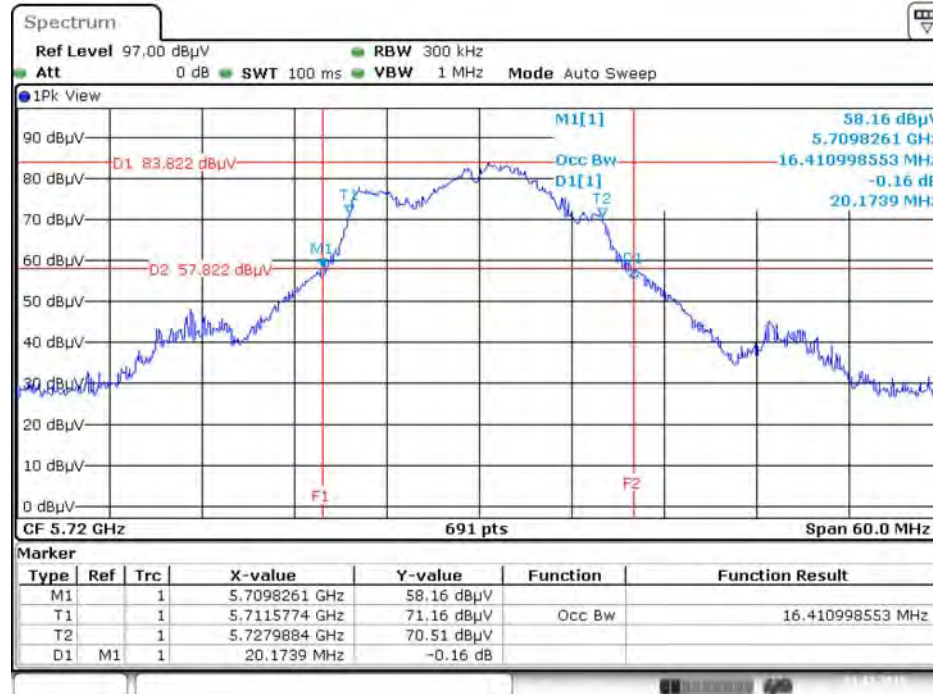
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5775 MHz



Date: 22.DEC.2015 21:14:04

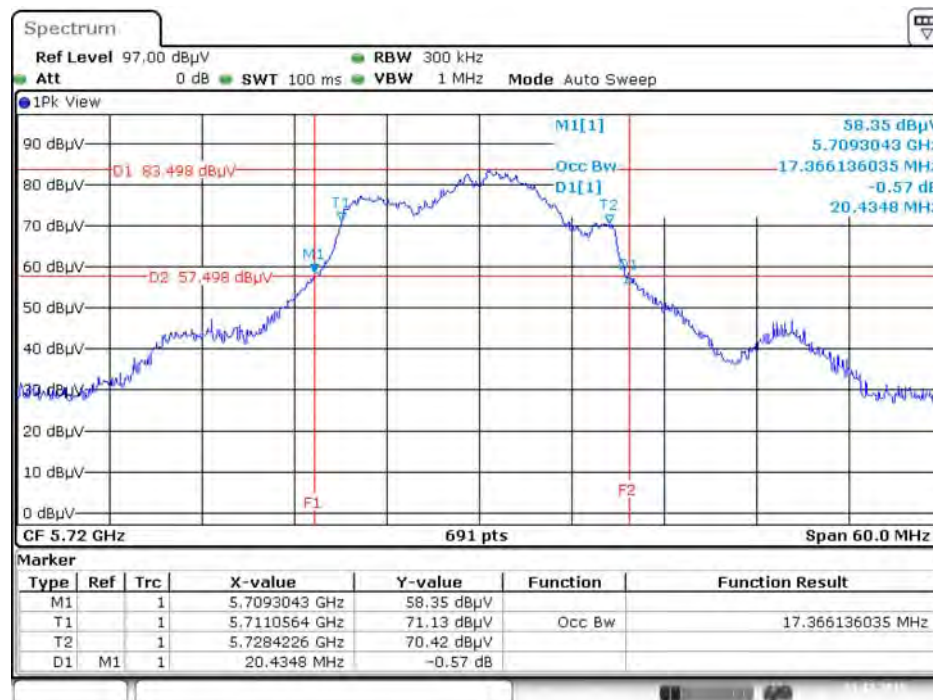
### Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5720 MHz



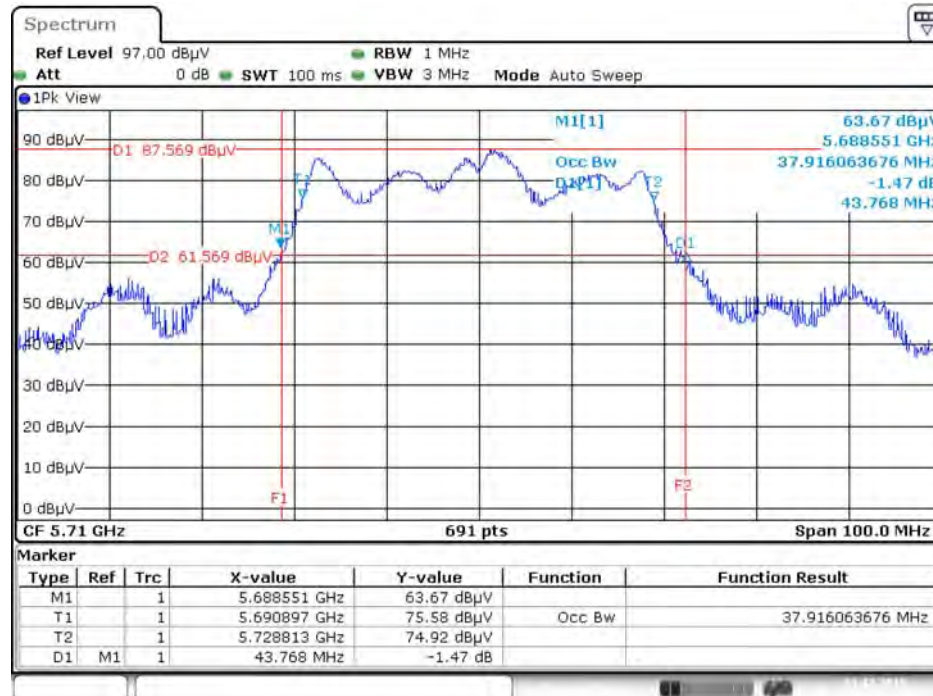
Date: 21.DEC.2015 21:21:33

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 /  
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



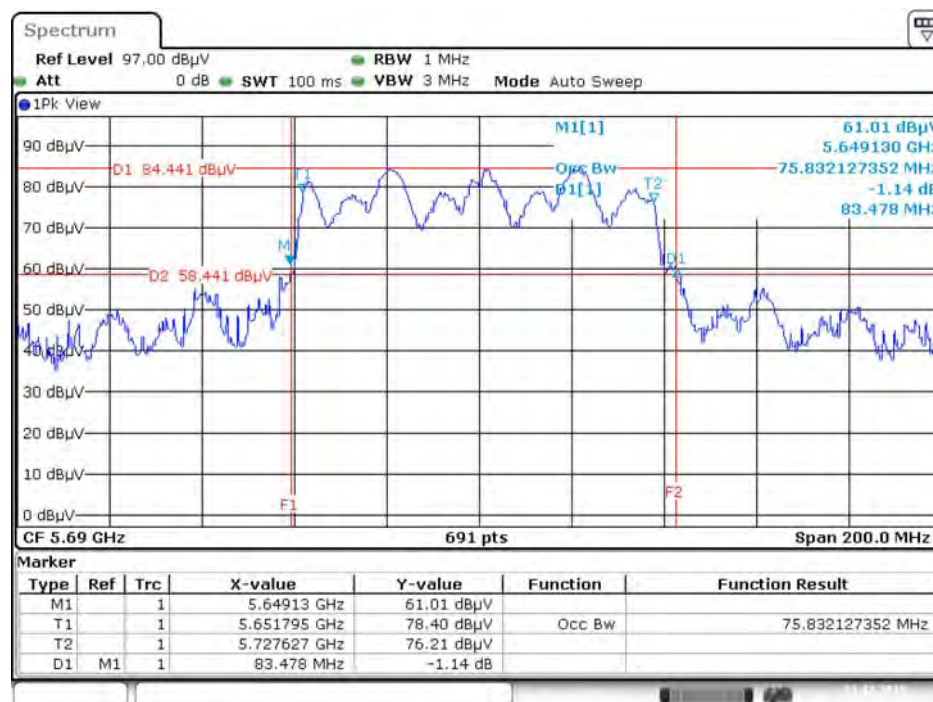
Date: 21.DEC.2015 21:21:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 21.DEC.2015 21:20:39

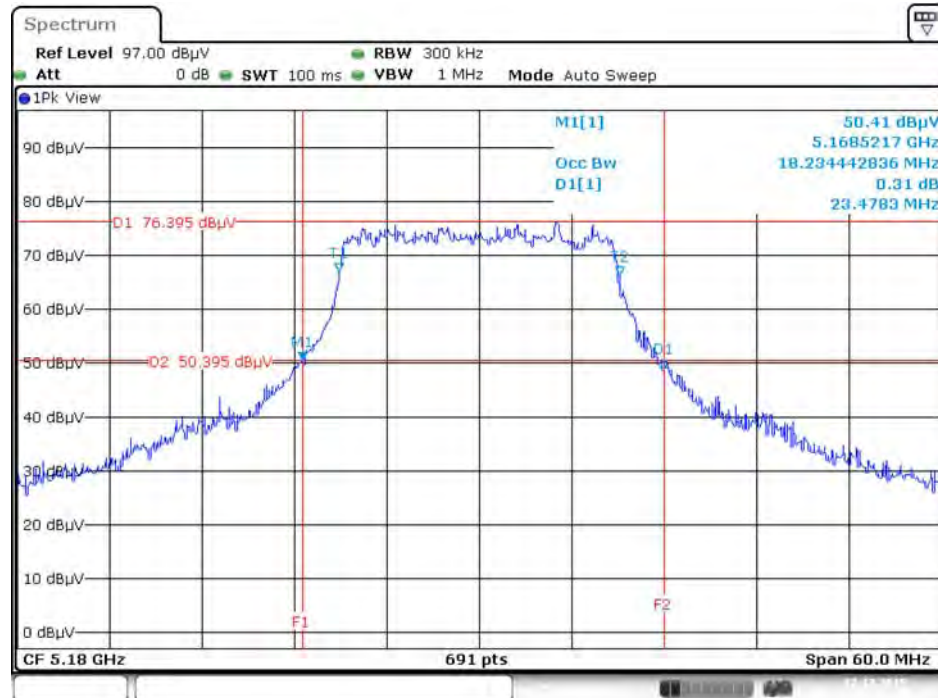
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 21.DEC.2015 21:20:08

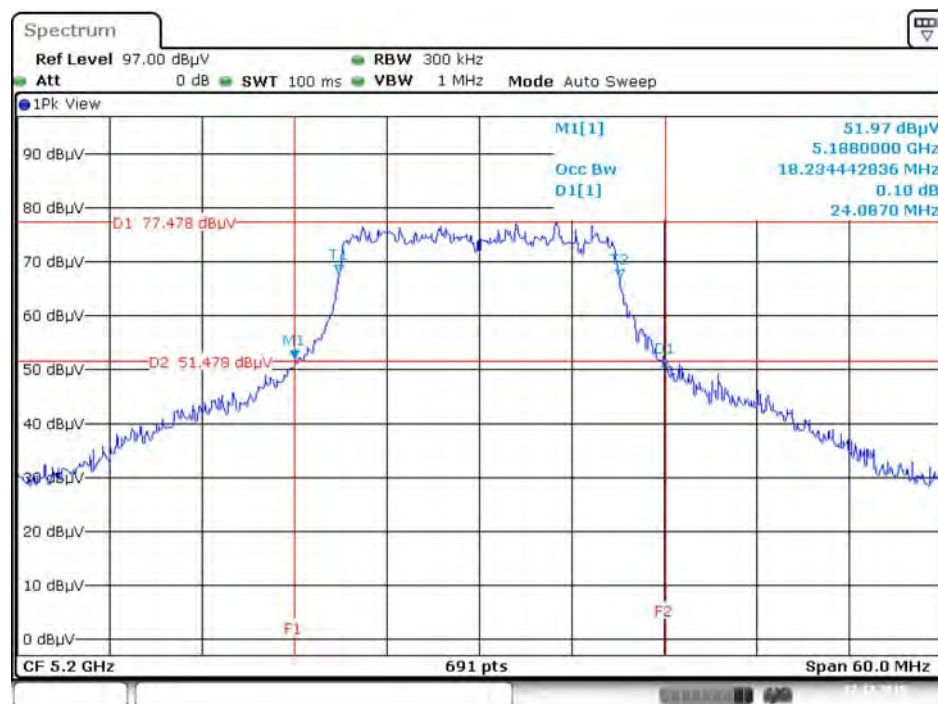
For beamforming function:

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5180 MHz



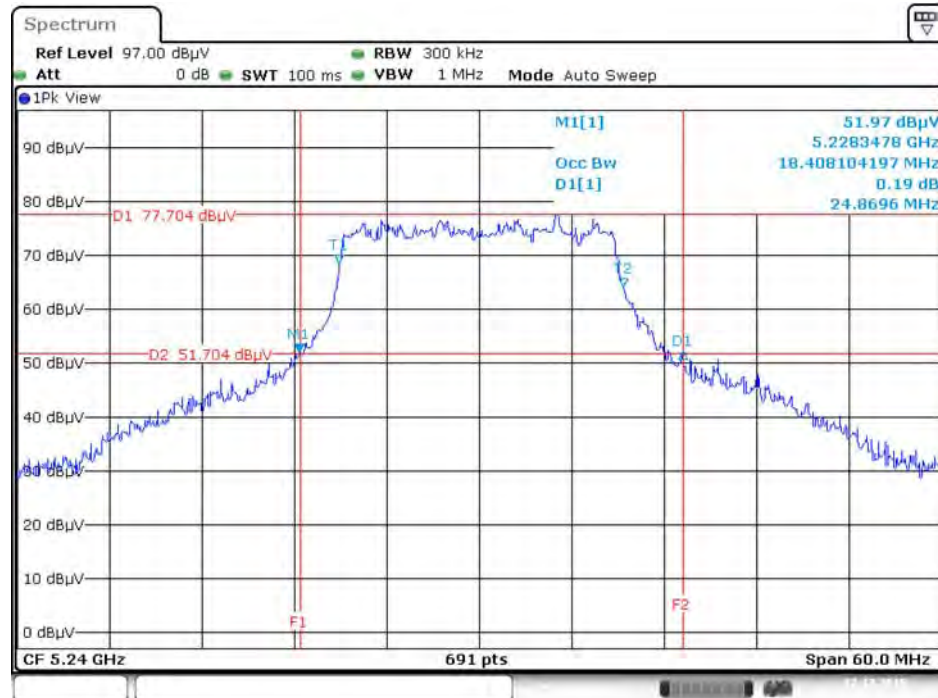
Date: 22.DEC.2015 21:53:06

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



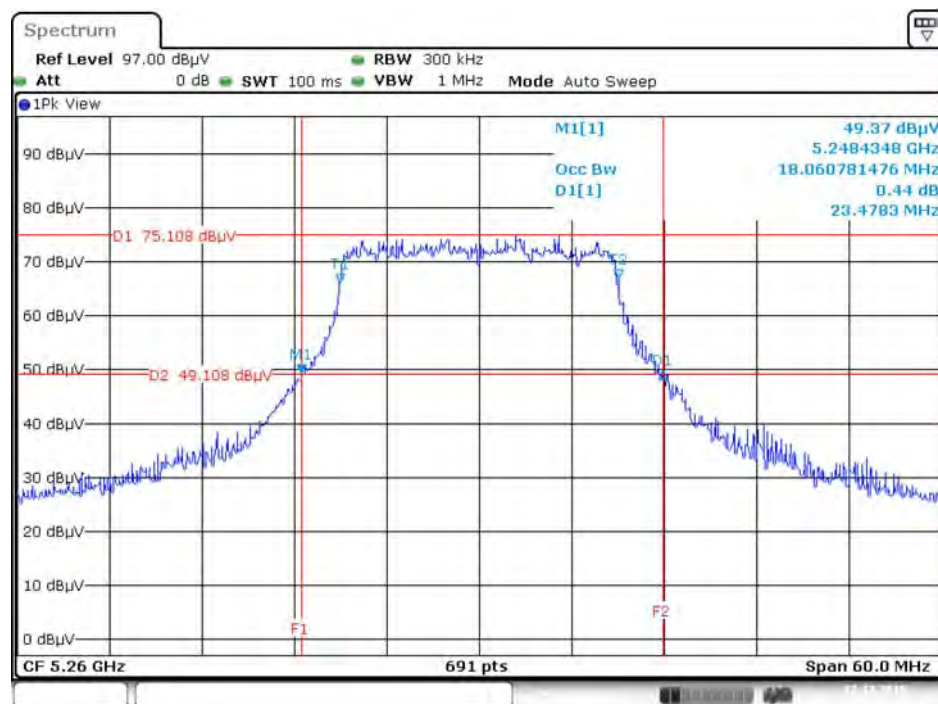
Date: 22.DEC.2015 21:53:28

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5240 MHz



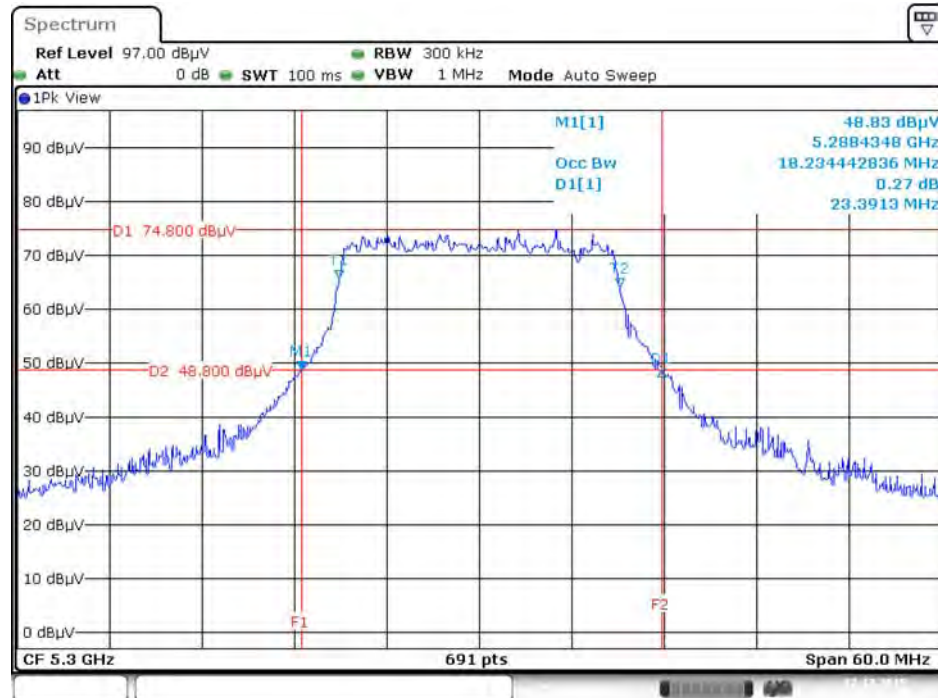
Date: 22.DEC.2015 21:53:47

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



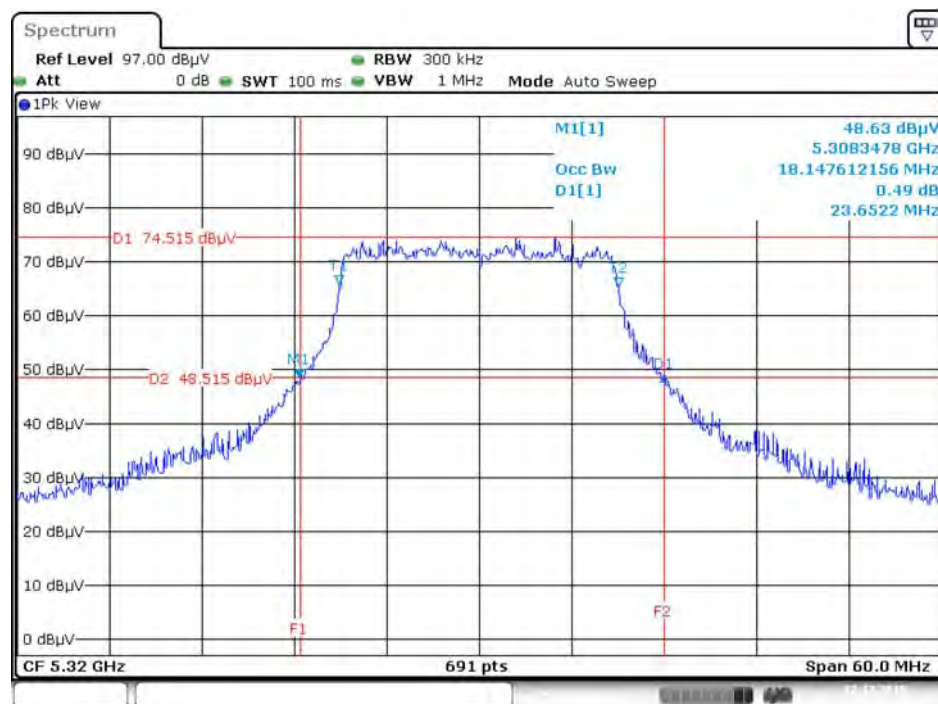
Date: 22.DEC.2015 21:54:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



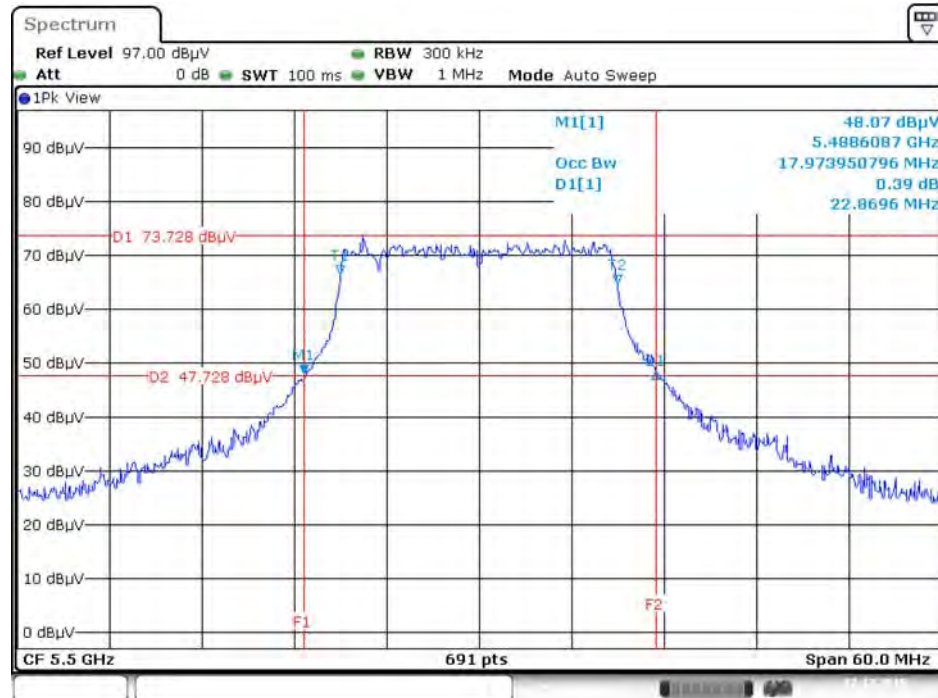
Date: 22.DEC.2015 21:55:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



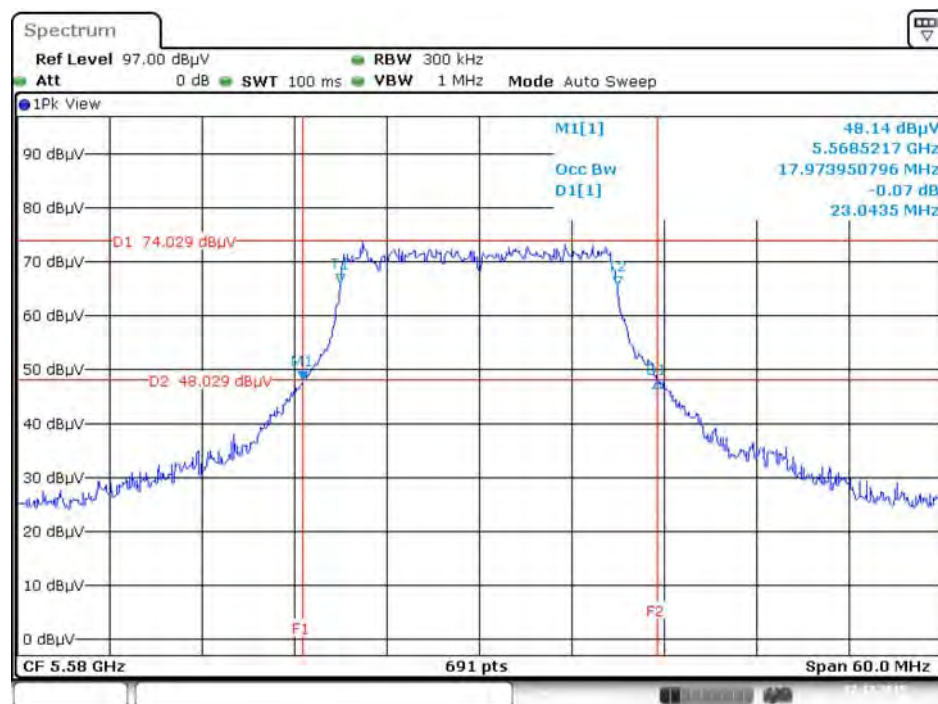
Date: 22.DEC.2015 21:55:25

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



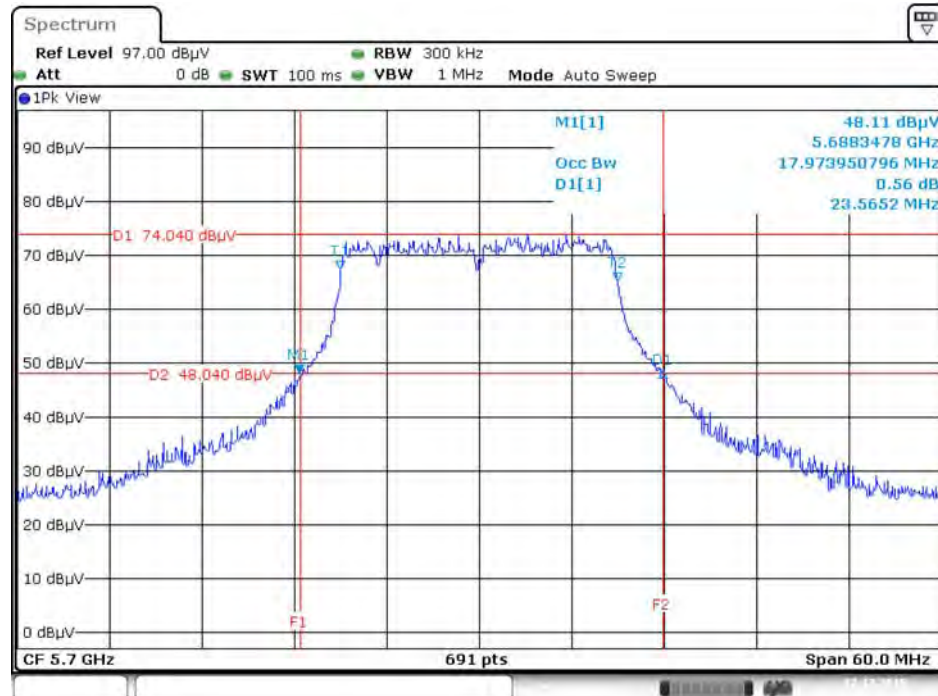
Date: 22.DEC.2015 21:55:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



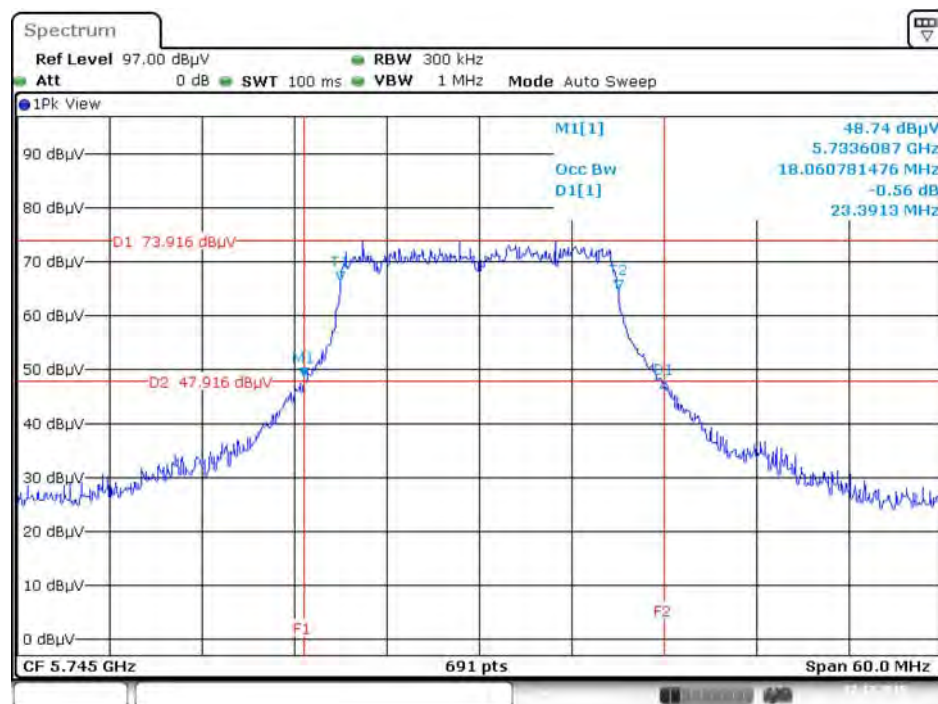
Date: 22.DEC.2015 21:56:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



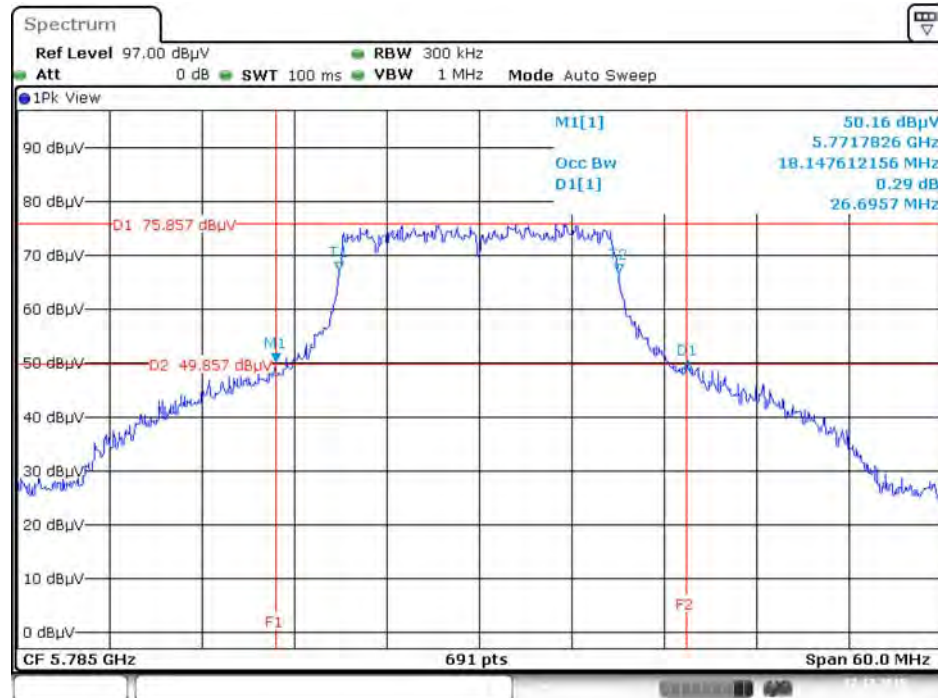
Date: 22.DEC.2015 21:56:31

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



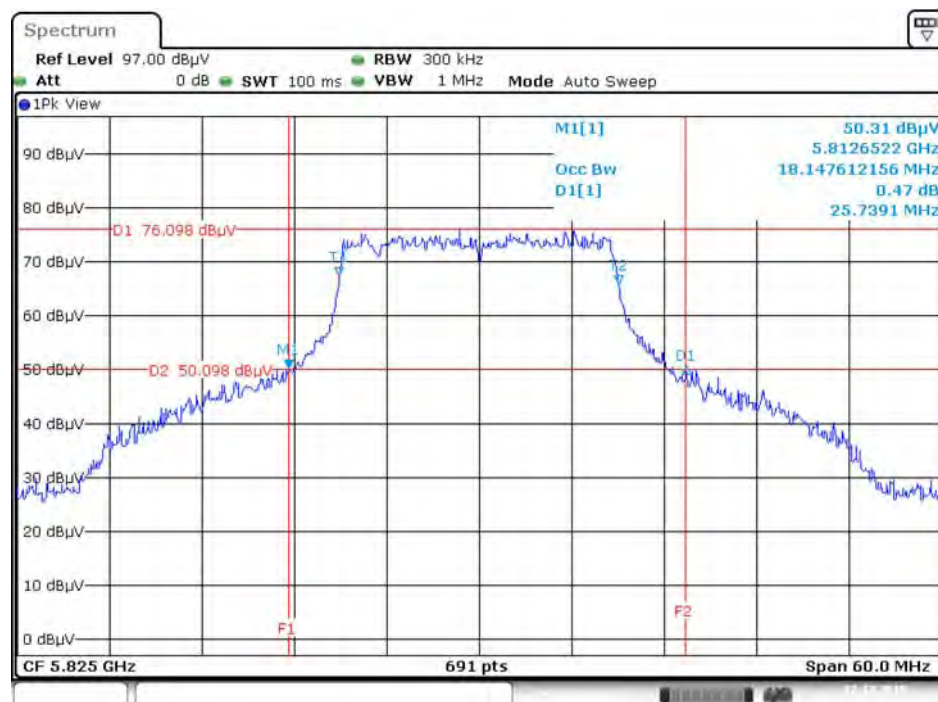
Date: 22.DEC.2015 21:56:59

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



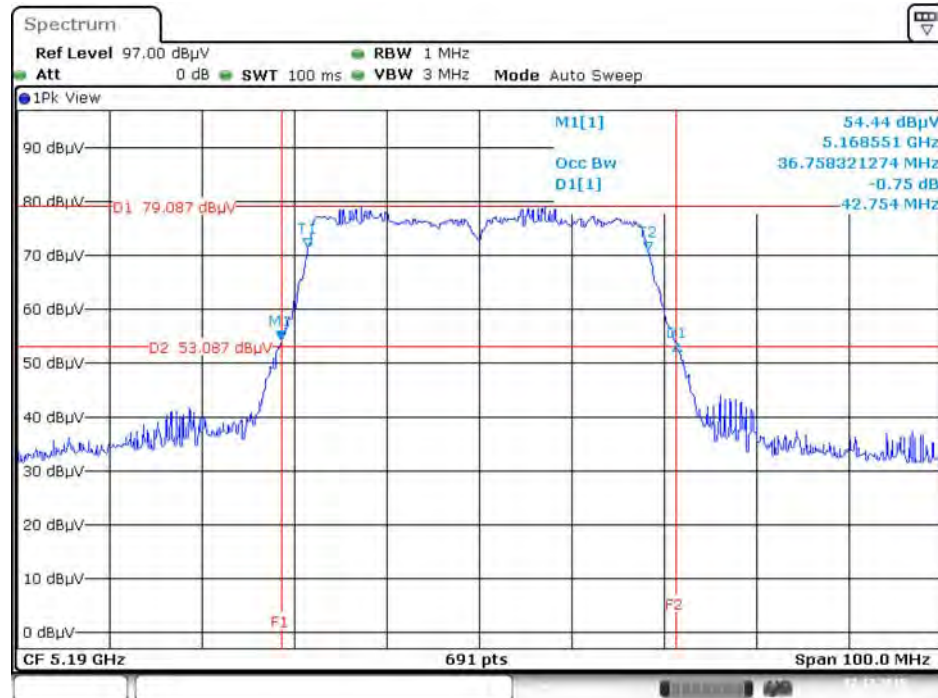
Date: 22.DEC.2015 21:57:28

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5825 MHz



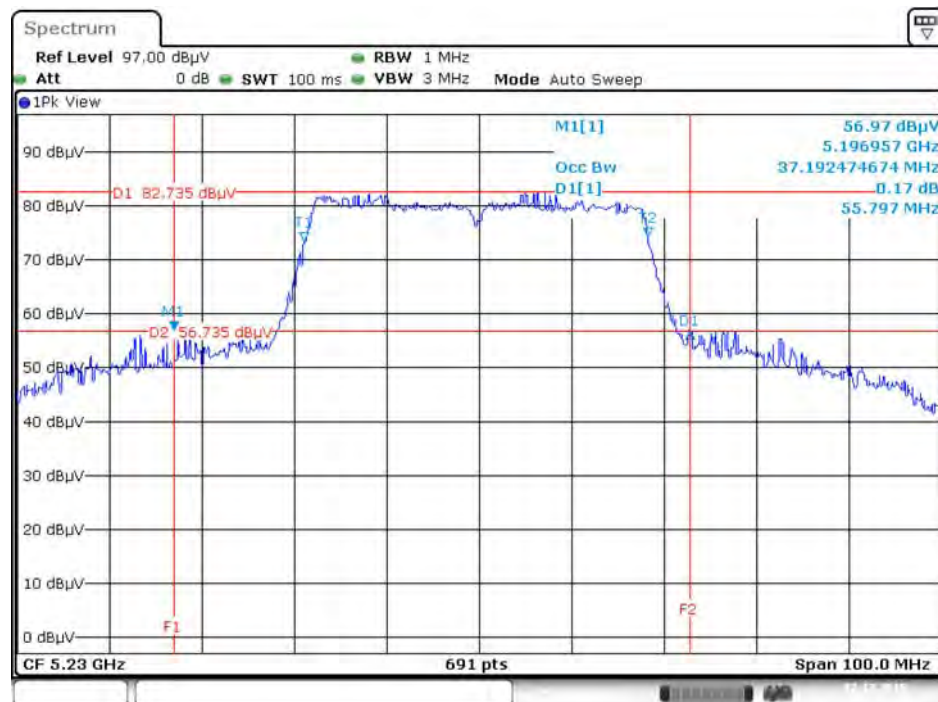
Date: 22.DEC.2015 21:57:47

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5190 MHz



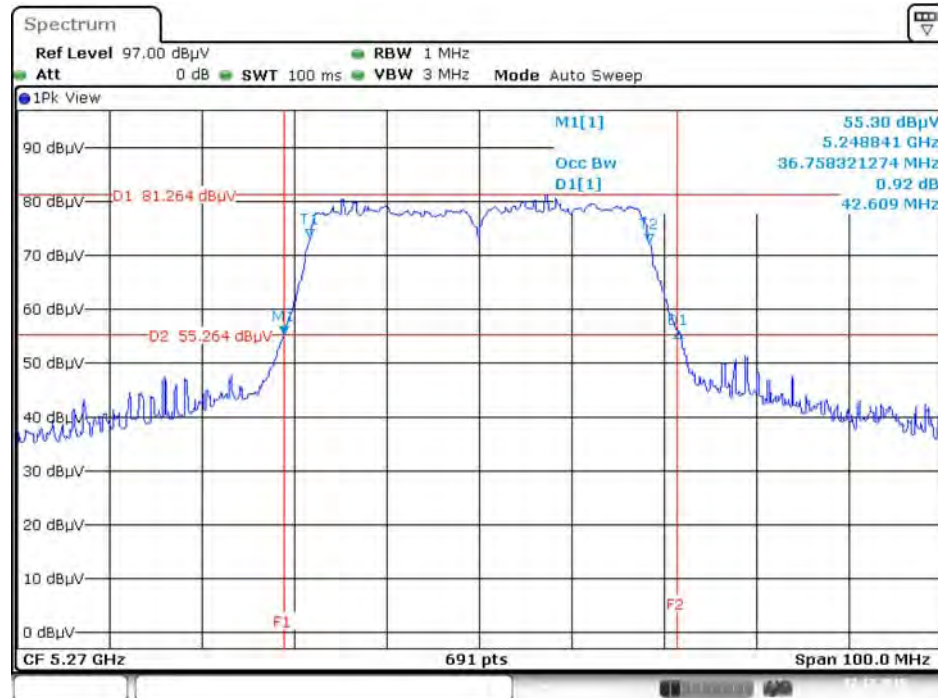
Date: 22.DEC.2015 21:46:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



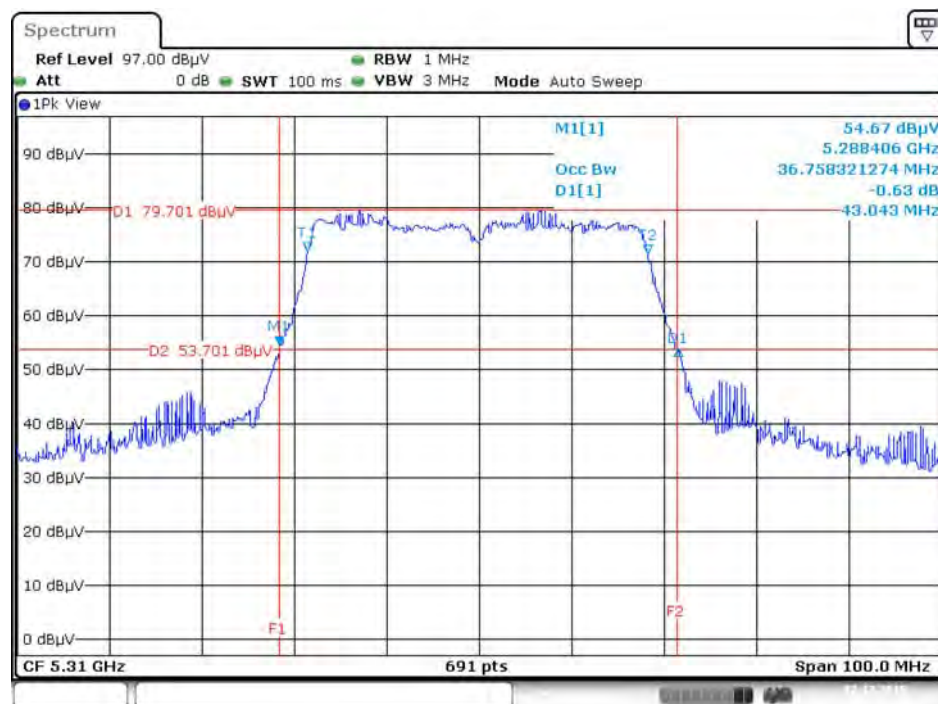
Date: 22.DEC.2015 21:47:13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



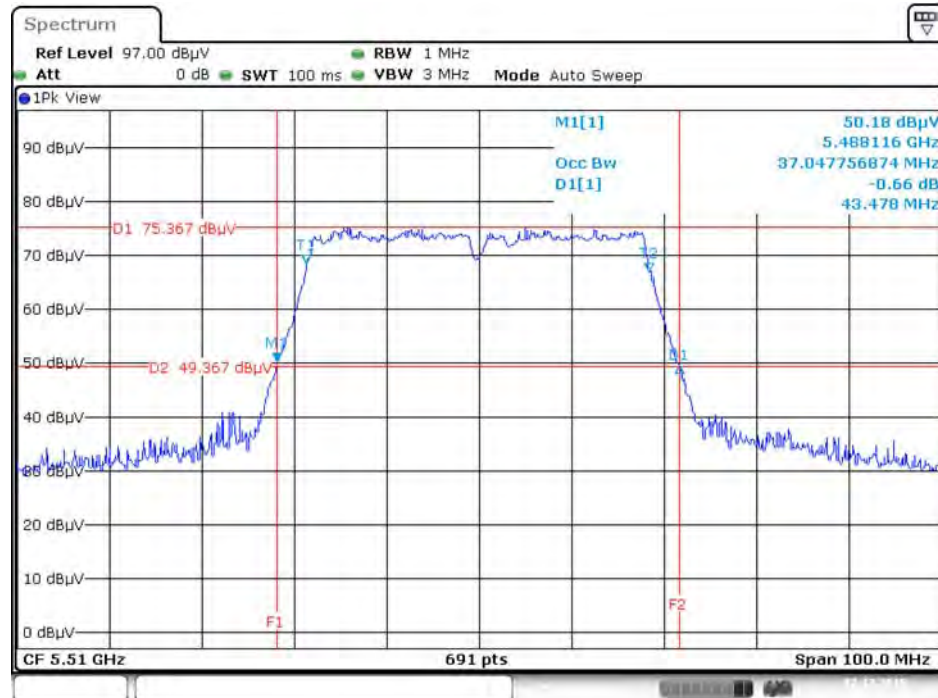
Date: 22.DEC.2015 21:47:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5310 MHz



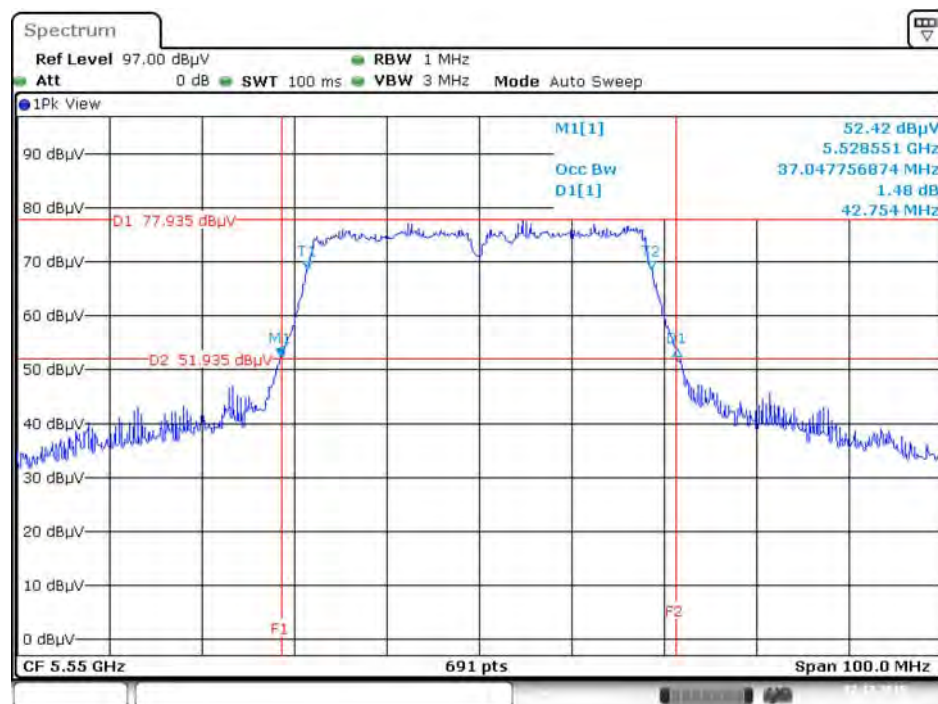
Date: 22.DEC.2015 21:48:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 /  
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



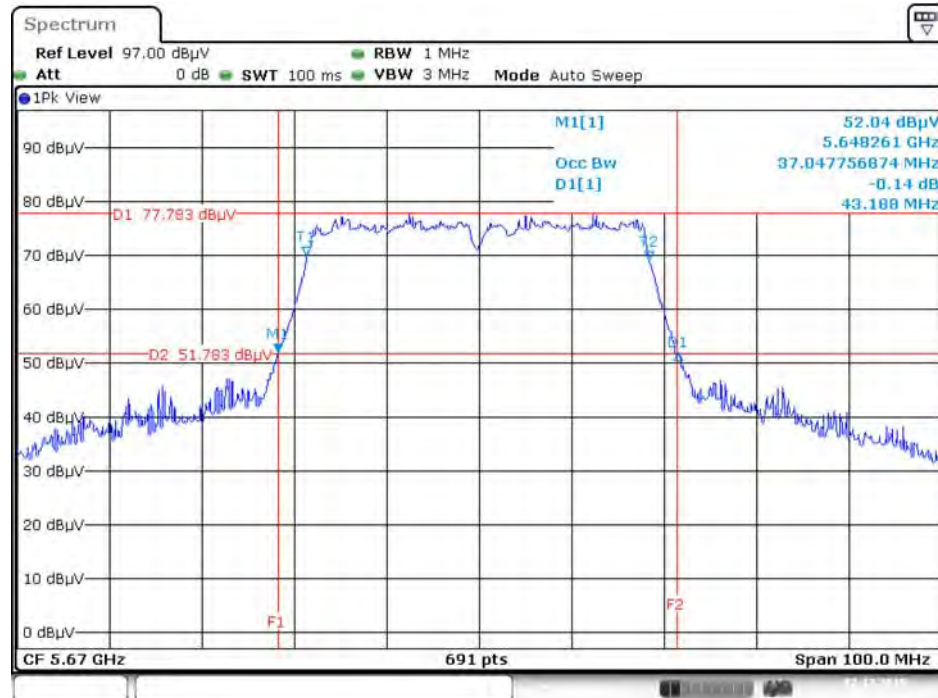
Date: 22.DEC.2015 21:48:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 /  
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5550 MHz

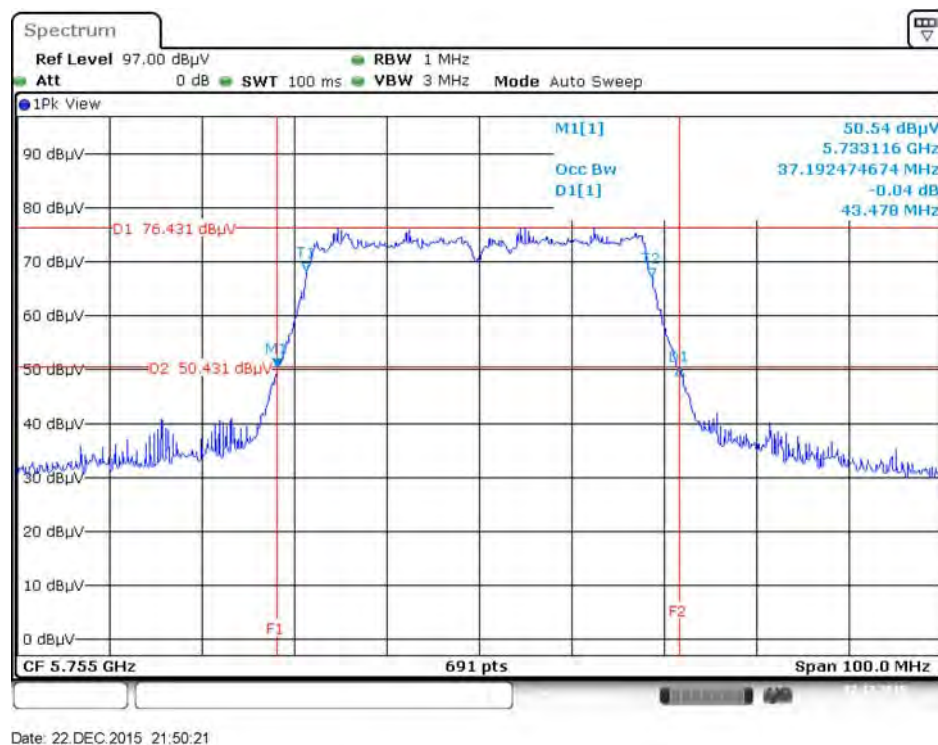


Date: 22.DEC.2015 21:49:40

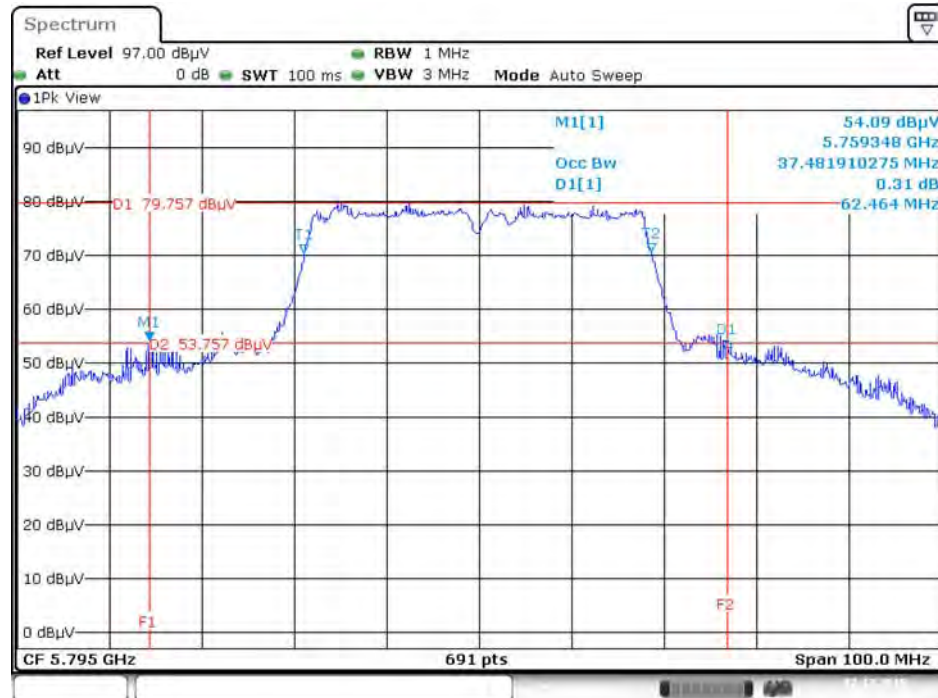
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5755 MHz

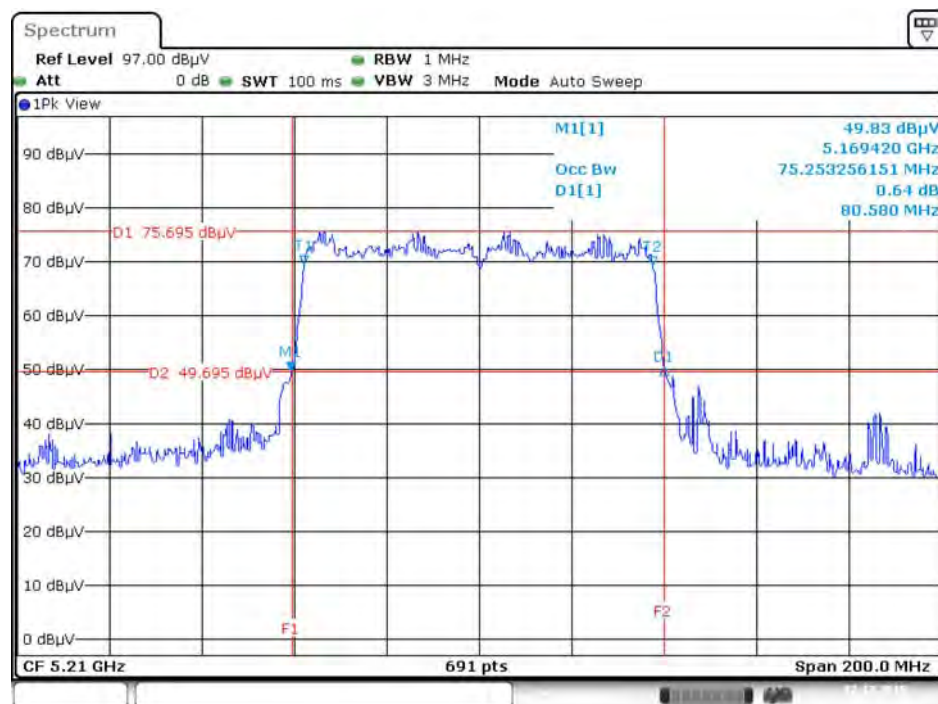


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz



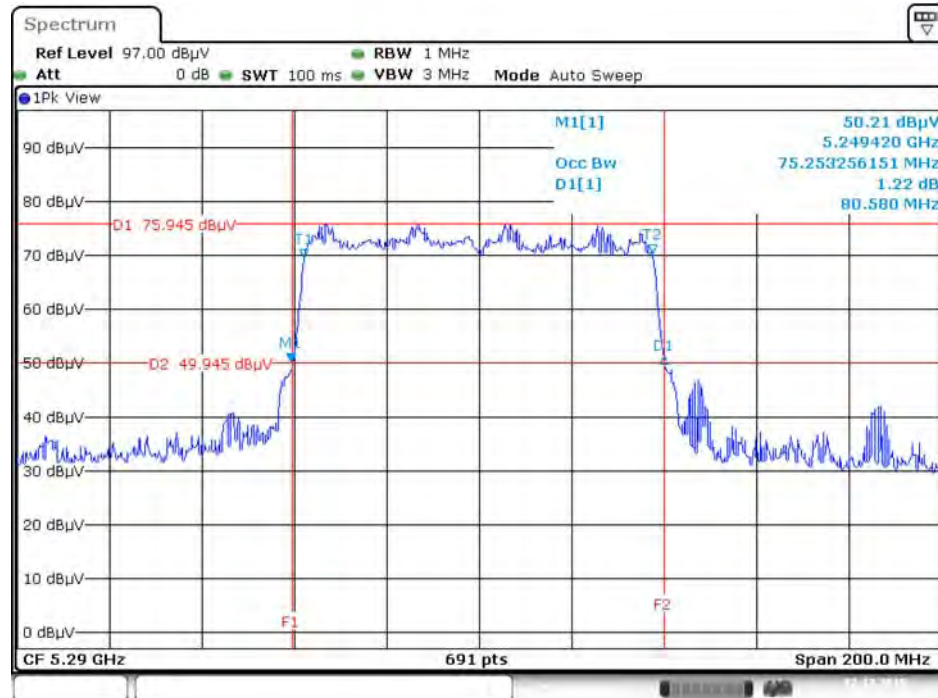
Date: 22.DEC.2015 21:50:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5210 MHz



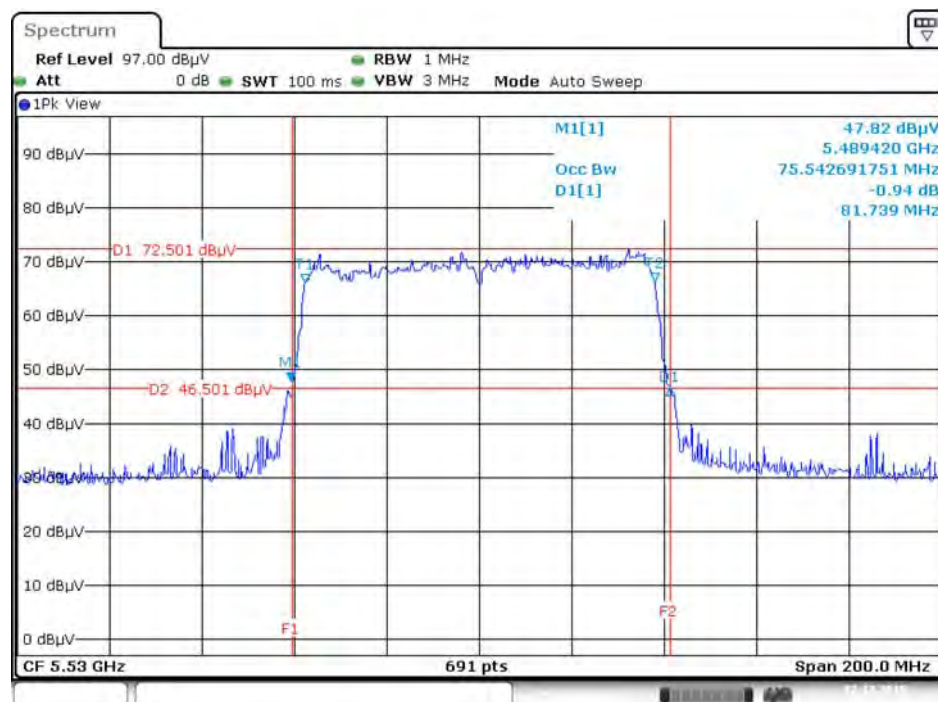
Date: 22.DEC.2015 21:42:13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



Date: 22.DEC.2015 21:42:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz

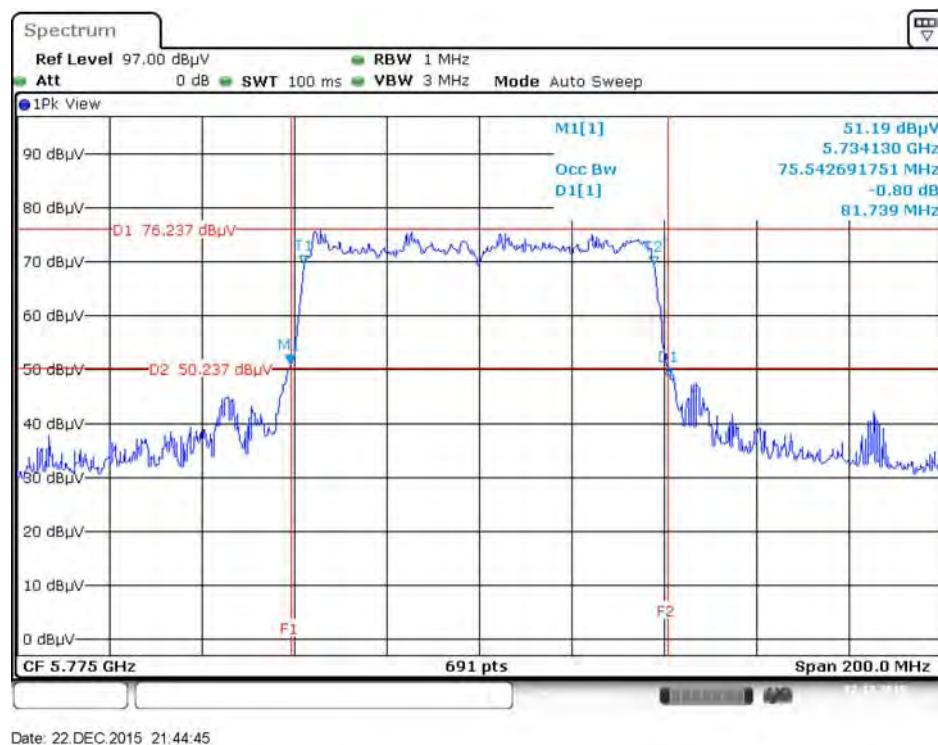


Date: 22.DEC.2015 21:43:20

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz

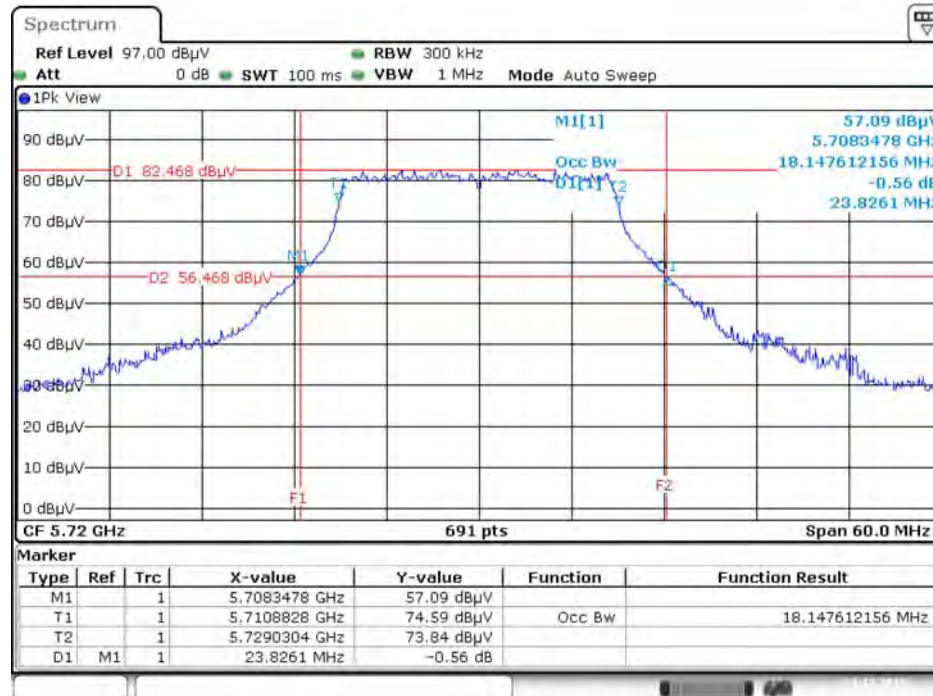


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5775 MHz



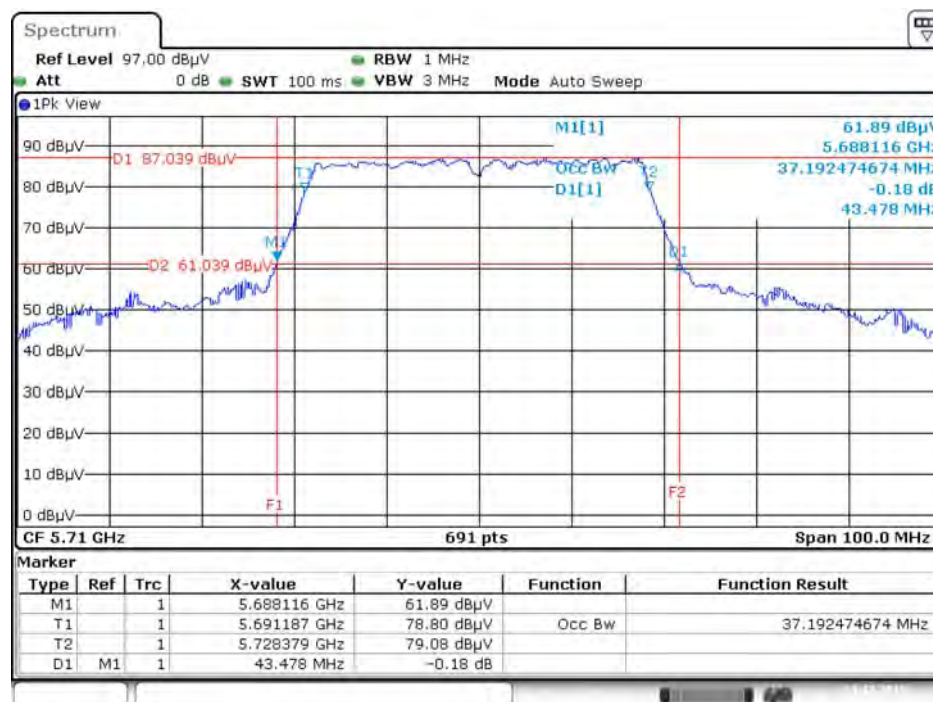
### Straddle Channel

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



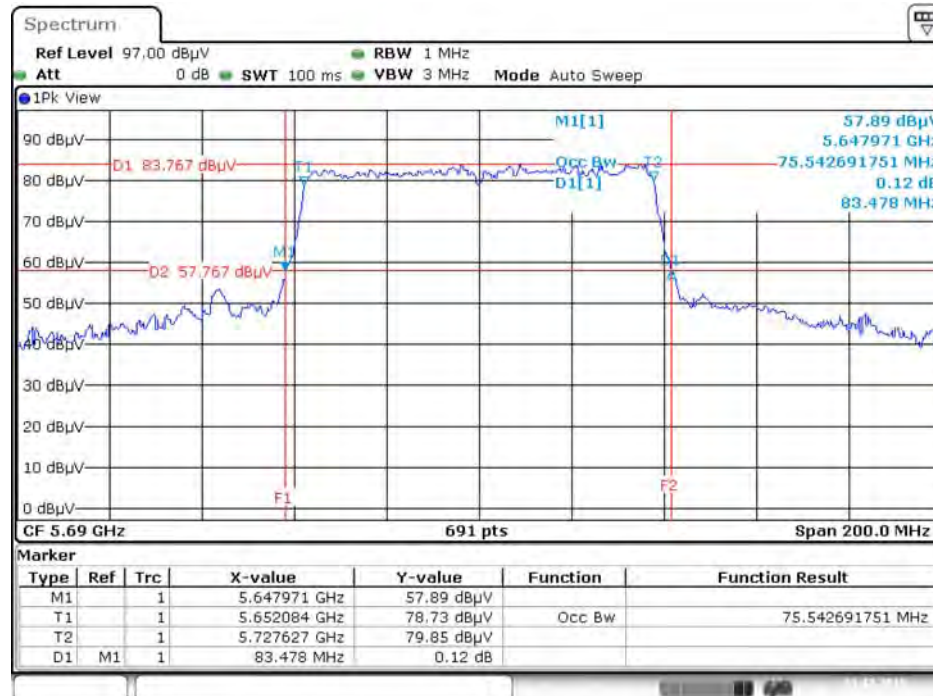
Date: 21.DEC.2015 22:25:00

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 21.DEC.2015 22:26:54

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 21.DEC.2015 22:27:16

### 4.3. 6dB Spectrum Bandwidth Measurement

#### 4.3.1. Limit

For digital modulation systems, the minimum 6dB bandwidth shall be at least 500 kHz.

#### 4.3.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer.

| 6dB Spectrum Bandwidth |                            |
|------------------------|----------------------------|
| Spectrum Parameters    | Setting                    |
| Attenuation            | Auto                       |
| Span Frequency         | > 6dB Bandwidth            |
| RBW                    | 100kHz                     |
| VBW                    | $\geq 3 \times \text{RBW}$ |
| Detector               | Peak                       |
| Trace                  | Max Hold                   |
| Sweep Time             | Auto                       |

#### 4.3.3. Test Procedures

For Radiated 6dB Bandwidth Measurement:

1. The transmitter was radiated to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with KDB789033 D02 v01r01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (C) Emission Bandwidth.
3. Multiple antenna system was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measured the spectrum width with power higher than 6dB below carrier.

#### 4.3.4. Test Setup Layout

For Radiated 6dB Bandwidth Measurement:

This test setup layout is the same as that shown in section 4.6.4.

#### 4.3.5. Test Deviation

There is no deviation with the original standard.

#### 4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.3.7. Test Result of 6dB Spectrum Bandwidth

|               |             |               |                          |
|---------------|-------------|---------------|--------------------------|
| Temperature   | 21°C        | Humidity      | 46%                      |
| Test Engineer | Lucas Huang | Test Function | Non-beamforming function |

| Mode                           | Frequency | 6dB Bandwidth (MHz) | Min. Limit (kHz) | Test Result |
|--------------------------------|-----------|---------------------|------------------|-------------|
| 802.11a                        | 5745 MHz  | 4.12                | 500              | Complies    |
|                                | 5785 MHz  | 15.42               | 500              | Complies    |
|                                | 5825 MHz  | 15.25               | 500              | Complies    |
| 802.11ac<br>MCS0/Nss1<br>VHT20 | 5745 MHz  | 16.29               | 500              | Complies    |
|                                | 5785 MHz  | 17.51               | 500              | Complies    |
|                                | 5825 MHz  | 17.57               | 500              | Complies    |
| 802.11ac<br>MCS0/Nss1<br>VHT40 | 5755 MHz  | 34.09               | 500              | Complies    |
|                                | 5795 MHz  | 27.83               | 500              | Complies    |
| 802.11ac<br>MCS0/Nss1<br>VHT80 | 5775 MHz  | 70.44               | 500              | Complies    |

#### Straddle Channel

| Mode                           | Frequency | 6dB BW (MHz) | 6dB BW M1 (MHz) | UNII 3 BW (MHz) | Min. Limit (kHz) | Test Result |
|--------------------------------|-----------|--------------|-----------------|-----------------|------------------|-------------|
| 802.11a                        | 5720 MHz  | 15.71        | 5712.35         | 3.06            | 500              | Complies    |
| 802.11ac<br>MCS0/Nss1<br>VHT20 | 5720 MHz  | 17.28        | 5711.42         | 3.70            | 500              | Complies    |
| 802.11ac<br>MCS0/Nss1<br>VHT40 | 5710 MHz  | 36.29        | 5691.80         | 3.09            | 500              | Complies    |
| 802.11ac<br>MCS0/Nss1<br>VHT80 | 5775 MHz  | 73.33        | 5654.35         | 2.68            | 500              | Complies    |

|                      |             |                      |                      |
|----------------------|-------------|----------------------|----------------------|
| <b>Temperature</b>   | 21°C        | <b>Humidity</b>      | 46%                  |
| <b>Test Engineer</b> | Lucas Huang | <b>Test Function</b> | Beamforming function |

| Mode                           | Frequency | 6dB Bandwidth (MHz) | Min. Limit (kHz) | Test Result |
|--------------------------------|-----------|---------------------|------------------|-------------|
| 802.11ac<br>MCS0/Nss2<br>VHT20 | 5745 MHz  | 13.74               | 500              | Complies    |
|                                | 5785 MHz  | 17.57               | 500              | Complies    |
|                                | 5825 MHz  | 17.57               | 500              | Complies    |
| 802.11ac<br>MCS0/Nss2<br>VHT40 | 5755 MHz  | 35.83               | 500              | Complies    |
|                                | 5795 MHz  | 35.25               | 500              | Complies    |
| 802.11ac<br>MCS0/Nss2<br>VHT80 | 5775 MHz  | 75.07               | 500              | Complies    |

#### Straddle Channel

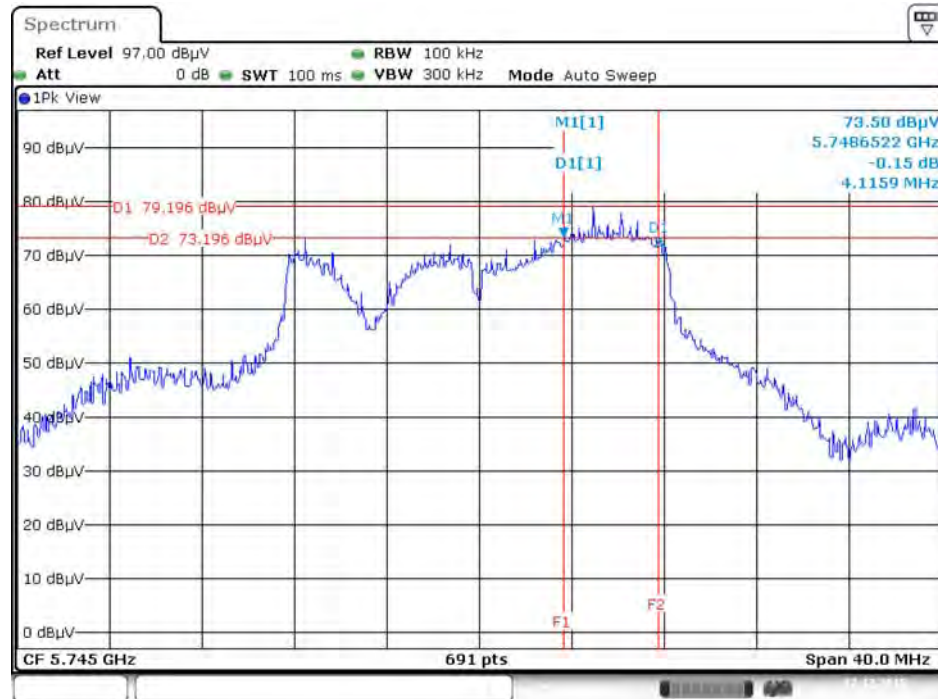
| Mode                           | Frequency | 6dB BW (MHz) | 6dB BW M1 (MHz) | UNII 3 BW (MHz) | Min. Limit (kHz) | Test Result |
|--------------------------------|-----------|--------------|-----------------|-----------------|------------------|-------------|
| 802.11ac<br>MCS0/Nss2<br>VHT20 | 5720 MHz  | 17.68        | 5711.07         | 3.75            | 500              | Complies    |
| 802.11ac<br>MCS0/Nss2<br>VHT40 | 5710 MHz  | 35.36        | 5692.03         | 2.39            | 500              | Complies    |
| 802.11ac<br>MCS0/Nss2<br>VHT80 | 5775 MHz  | 75.65        | 5652.32         | 2.97            | 500              | Complies    |

Note: All the test values were listed in the report.

For plots, only the channel with worse result was shown.

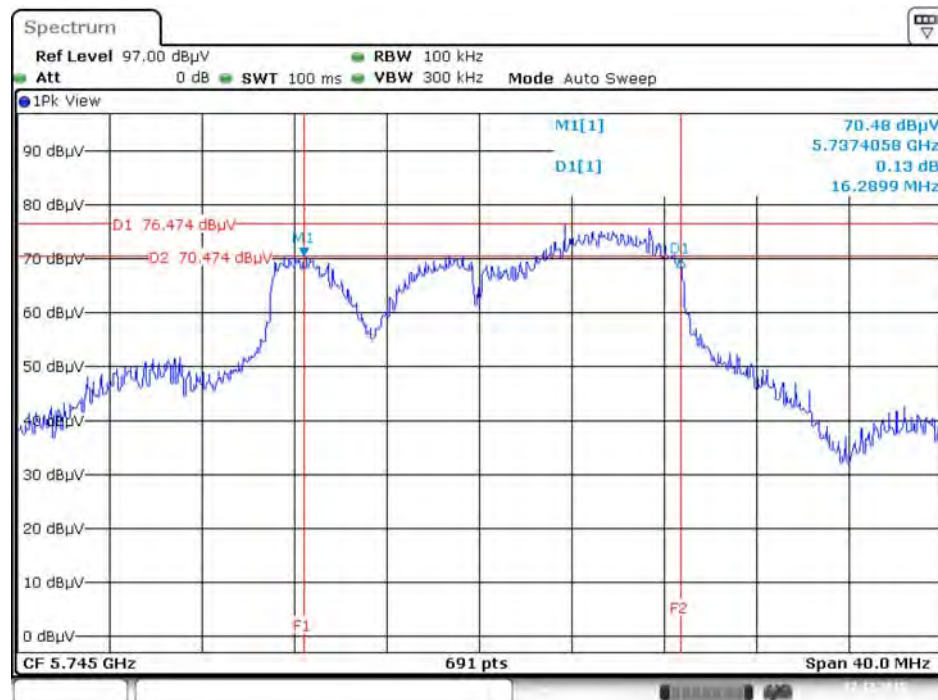
For non-beamforming function:

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



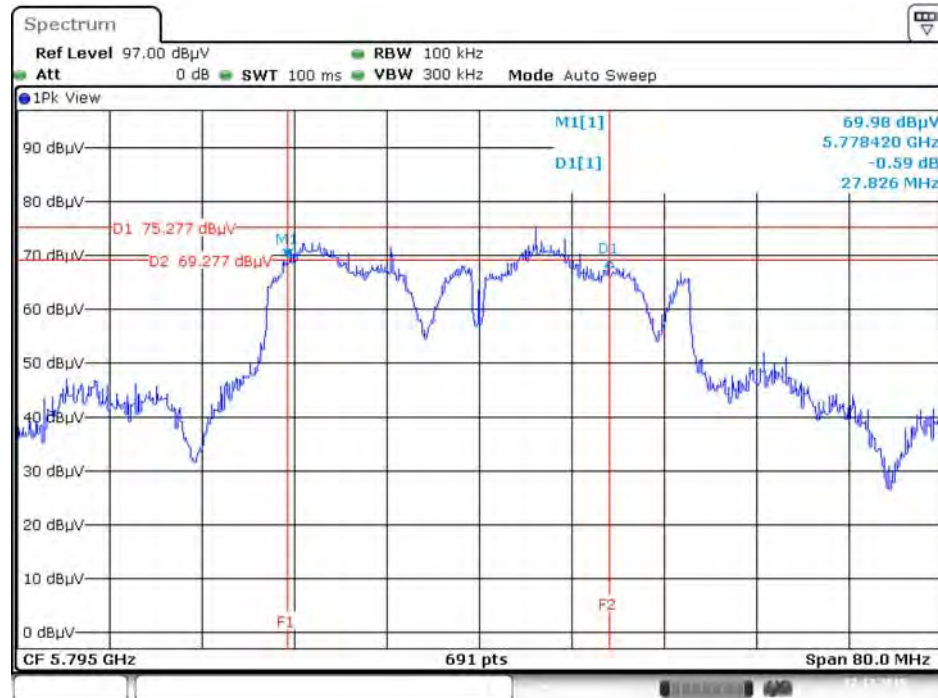
Date: 22.DEC.2015 21:16:28

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



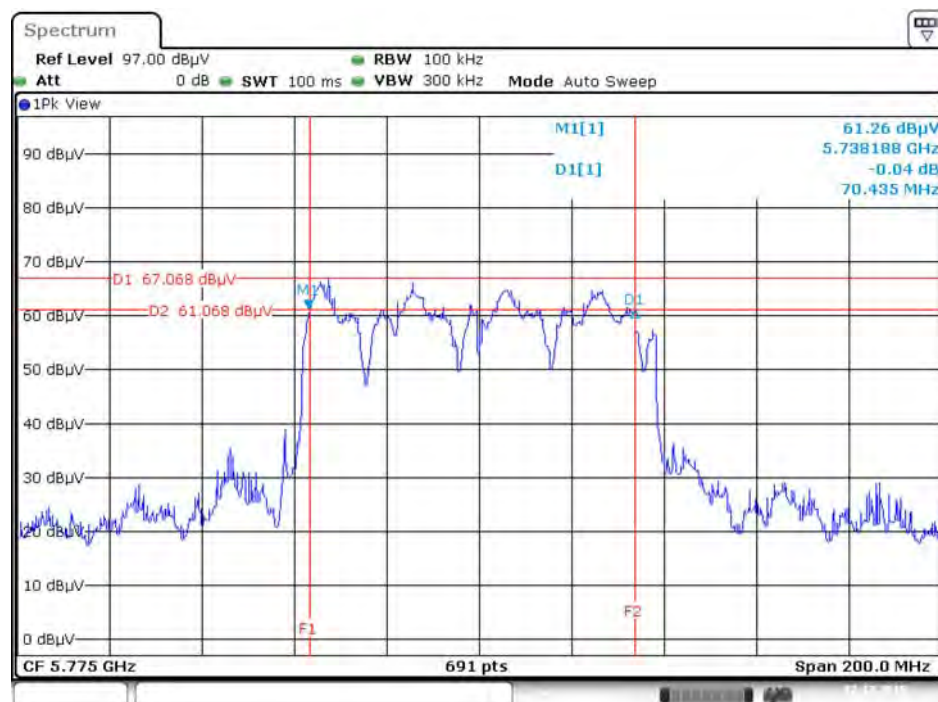
Date: 22.DEC.2015 21:18:45

### 6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz



Date: 22.DEC.2015 21:20:57

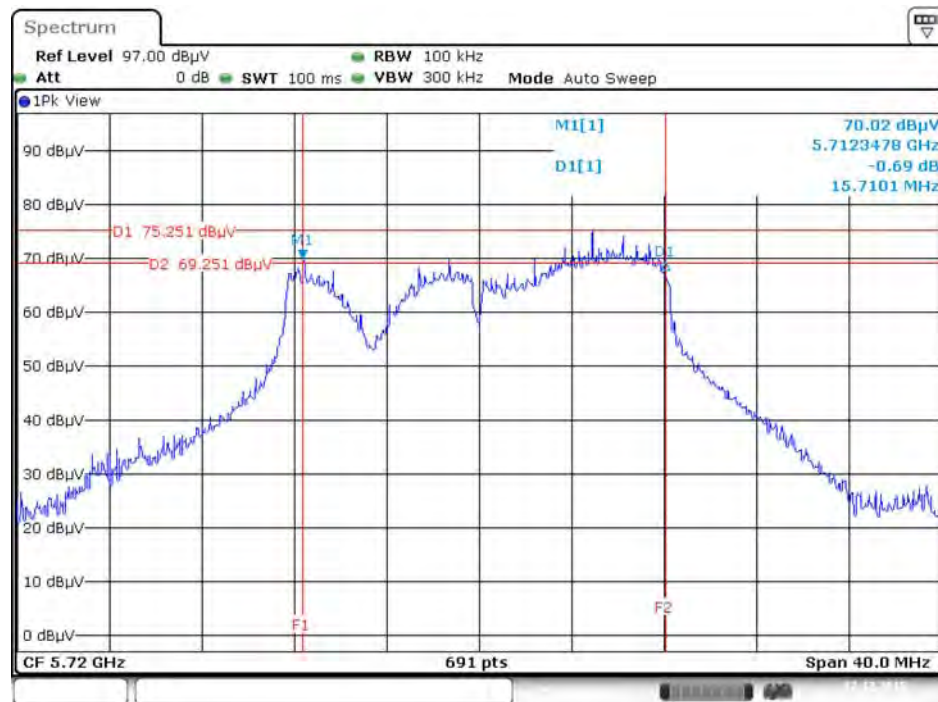
### 6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5775 MHz



Date: 22.DEC.2015 21:21:56

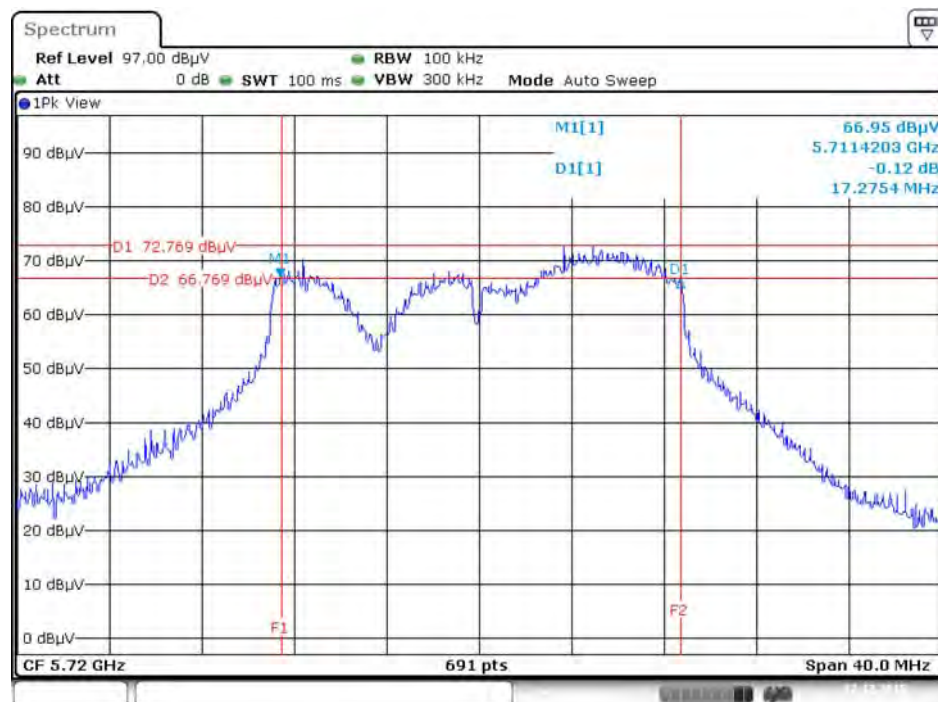
## Straddle Channel

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



Date: 22.DEC.2015 21:24:06

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



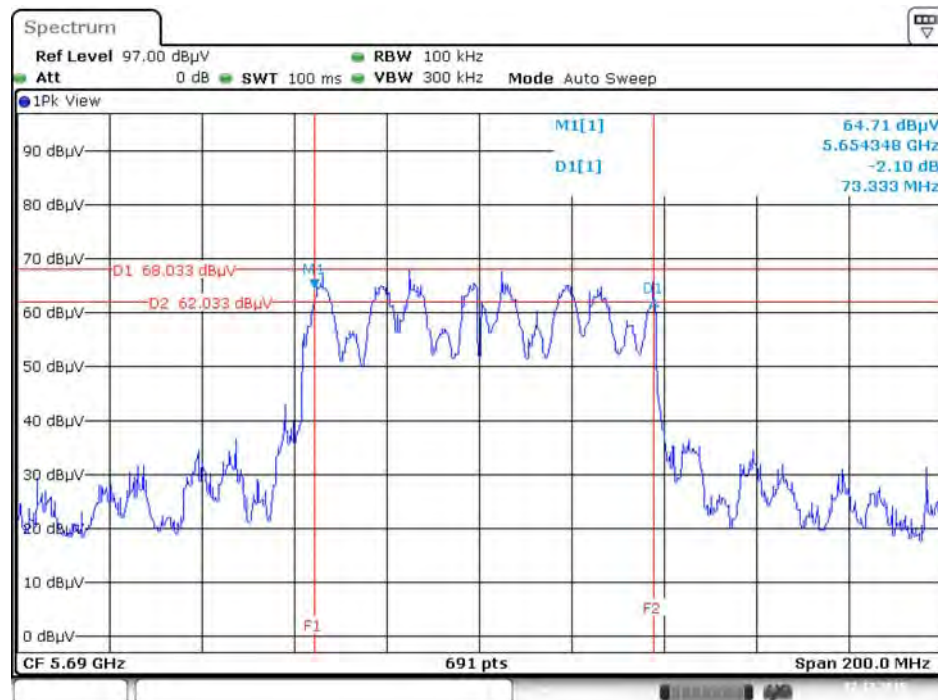
Date: 22.DEC.2015 21:24:56

### 6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 22.DEC.2015 21:25:52

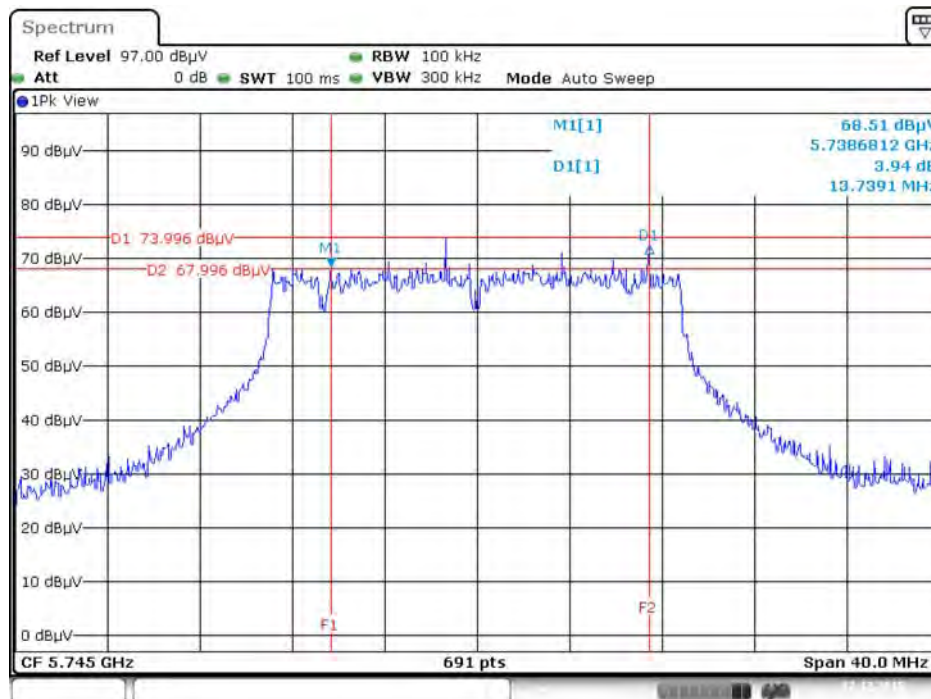
### 6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 + Chain 4 / 5690 MHz



Date: 22.DEC.2015 21:26:52

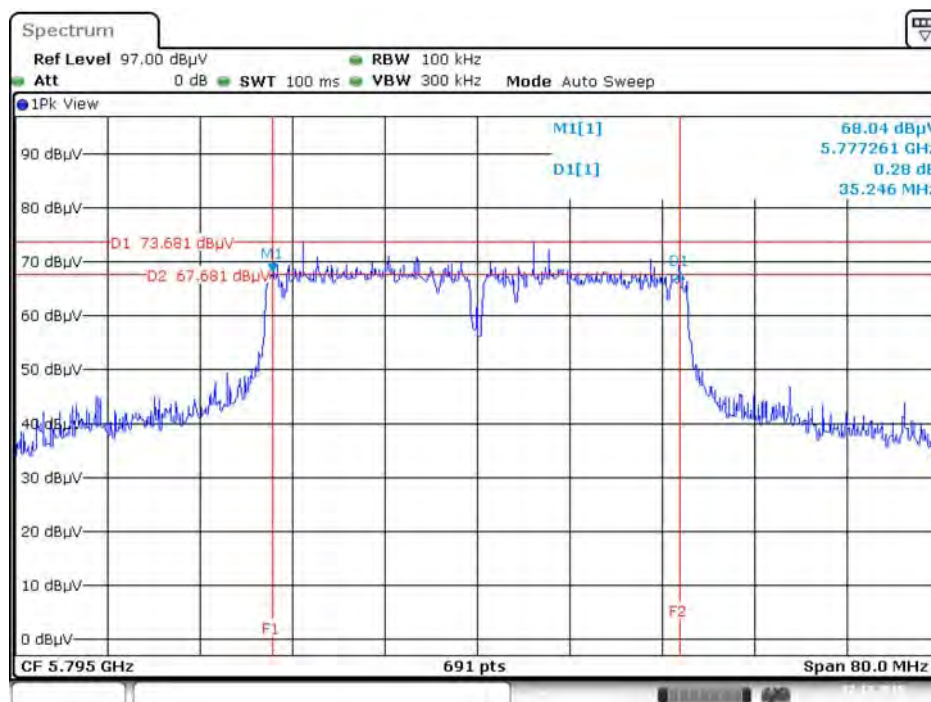
For beamforming function:

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



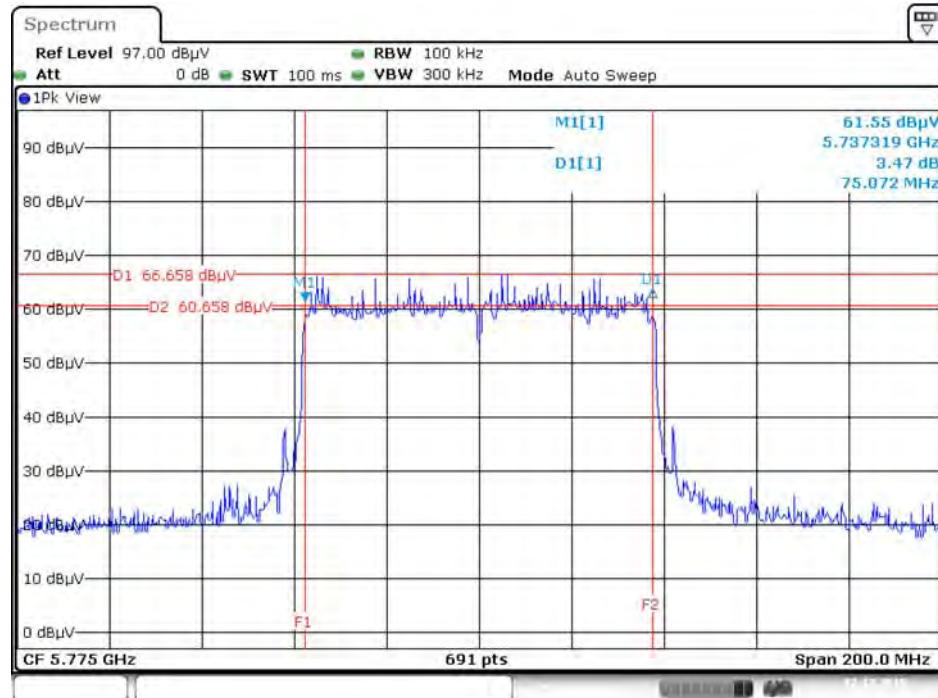
Date: 22.DEC.2015 22:01:12

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz



Date: 22.DEC.2015 22:04:24

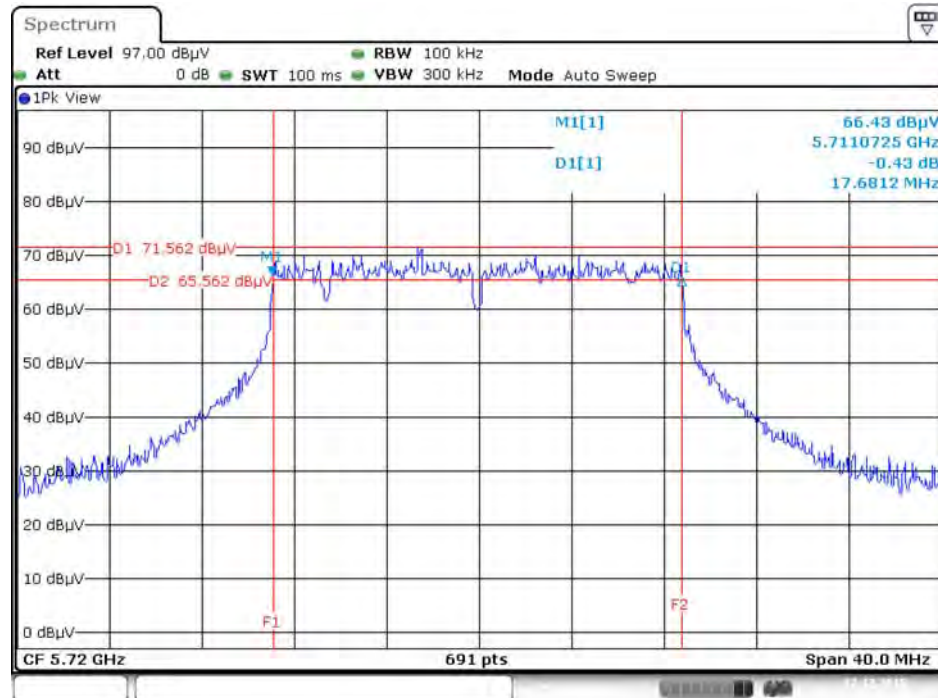
# 6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5775 MHz



Date: 22.DEC.2015 22:05:03

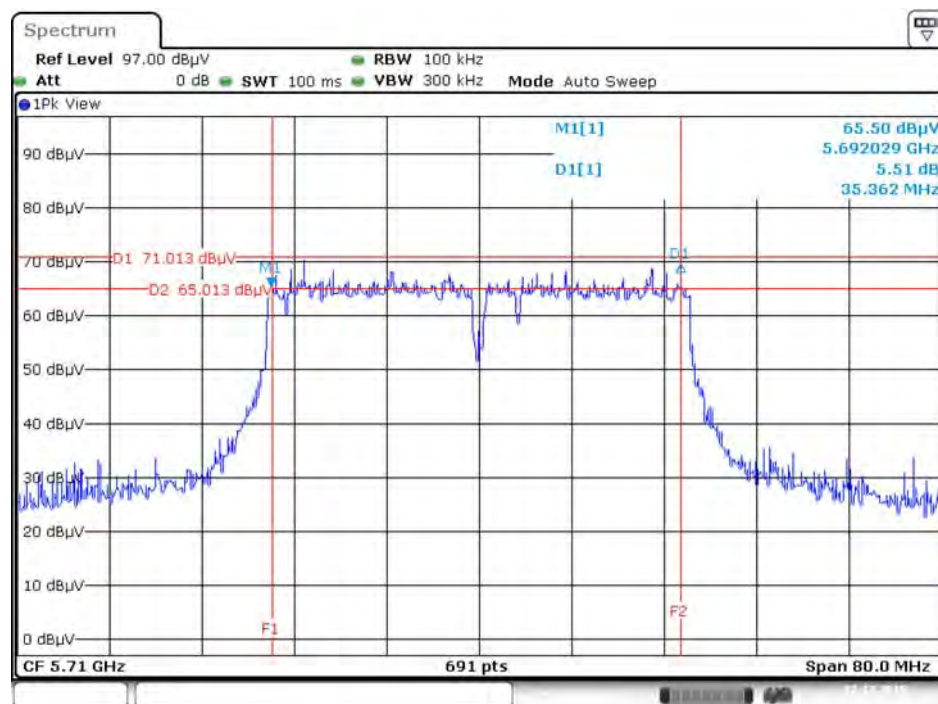
### Straddle Channel

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz



Date: 22.DEC.2015 21:33:46

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz



Date: 22.DEC.2015 21:34:36



**Spectrum**

Ref Level 97.00 dBμV RBW 100 kHz

Att 0 dB SWT 100 ms VBW 300 kHz Mode Auto Sweep

1Pk View

90 dBμV

80 dBμV

70 dBμV

60 dBμV

50 dBμV

40 dBμV

30 dBμV

20 dBμV

10 dBμV

0 dBμV

CF 5.69 GHz

691 pts

Span 200.0 MHz

M1[1] 59.63 dBμV

D1[1] 5.652319 GHz

-0.13 dB

75.652 MHz

D1 63.629 dBμV

D2 57.629 dBμV

F1

F2

V1

V2

Issued Date : Feb. 05, 2016

## 4.4. Maximum Conducted Output Power Measurement

### 4.4.1. Limit

| Frequency Band                      |                                                             | Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | 5.15~5.25 GHz                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                     | Operating Mode                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                     | <input type="checkbox"/> Outdoor access point               | The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).                      |
|                                     | <input checked="" type="checkbox"/> Indoor access point     | The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.                                                                                                                                                 |
|                                     | <input type="checkbox"/> Fixed point-to-point access points | The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. |
|                                     | <input type="checkbox"/> Mobile and portable client devices | The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.                                                                                                                                              |

|                                     |                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> | 5.25-5.35 GHz   | The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.                                                                                                                       |
| <input checked="" type="checkbox"/> | 5.470-5.725 GHz |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <input checked="" type="checkbox"/> | 5.725~5.85 GHz  | The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. |

#### 4.4.2. Measuring Instruments and Setting

##### For straddle channel:

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

| Spectrum Parameter | Setting                                                      |
|--------------------|--------------------------------------------------------------|
| Attenuation        | Auto                                                         |
| Span Frequency     | Encompass the entire emissions bandwidth (EBW) of the signal |
| RBW                | 1000 kHz                                                     |
| VBW                | 3000 kHz                                                     |
| Detector           | RMS                                                          |
| Trace              | Average Sweep count 100                                      |
| Sweep Time         | Auto                                                         |

##### For other channel:

Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

| Power Meter Parameter | Setting |
|-----------------------|---------|
| Detector              | AVERAGE |

#### 4.4.3. Test Procedures

For straddle channel:

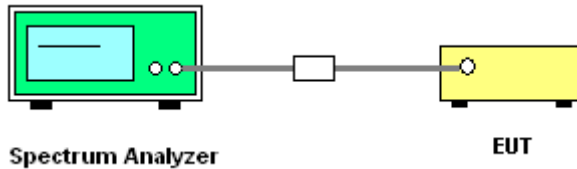
1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. Test was performed in accordance with FCC Public Notice DA 02-2138, August 30, 2002

For other channel:

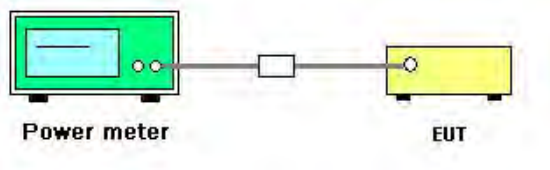
1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB789033 D02 v01r01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (PM) =>b) Method PM-G (Measurement using a gated RF average power meter).
3. Multiple antenna systems was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. When measuring maximum conducted output power with multiple antenna systems, add every result of the values by mathematic formula.

#### 4.4.4. Test Setup Layout

For straddle channel:



For other channel:



#### 4.4.5. Test Deviation

There is no deviation with the original standard.

#### 4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.4.7. Test Result of Maximum Conducted Output Power

|               |               |               |                          |
|---------------|---------------|---------------|--------------------------|
| Temperature   | 21°C          | Humidity      | 46%                      |
| Test Engineer | Lucas Huang   | Test Function | Non-beamforming function |
| Test Date     | Dec. 21, 2015 |               |                          |

| Mode                           | Frequency | Conducted Power (dBm) |         |         |         |       | Max. Limit (dBm) | Result   |
|--------------------------------|-----------|-----------------------|---------|---------|---------|-------|------------------|----------|
|                                |           | Chain 1               | Chain 2 | Chain 3 | Chain 4 | Total |                  |          |
| 802.11a                        | 5180 MHz  | 20.64                 | 19.93   | 20.47   | 18.98   | 26.07 | 30.00            | Complies |
|                                | 5200 MHz  | 20.47                 | 19.74   | 20.45   | 19.66   | 26.12 | 30.00            | Complies |
|                                | 5240 MHz  | 20.27                 | 19.98   | 20.35   | 19.91   | 26.15 | 30.00            | Complies |
|                                | 5260 MHz  | 16.24                 | 15.93   | 15.95   | 16.18   | 22.10 | 23.98            | Complies |
|                                | 5300 MHz  | 16.36                 | 15.77   | 16.05   | 16.07   | 22.09 | 23.98            | Complies |
|                                | 5320 MHz  | 16.43                 | 15.72   | 16.52   | 15.75   | 22.14 | 23.98            | Complies |
|                                | 5500 MHz  | 16.33                 | 16.34   | 16.32   | 16.12   | 22.30 | 23.98            | Complies |
|                                | 5580 MHz  | 15.75                 | 16.23   | 15.93   | 15.96   | 21.99 | 23.98            | Complies |
|                                | 5700 MHz  | 15.99                 | 16.36   | 16.65   | 16.01   | 22.28 | 23.98            | Complies |
|                                | 5745 MHz  | 19.85                 | 20.15   | 20.30   | 19.58   | 26.00 | 30.00            | Complies |
|                                | 5785 MHz  | 19.84                 | 19.93   | 20.11   | 19.24   | 25.81 | 30.00            | Complies |
|                                | 5825 MHz  | 19.67                 | 19.62   | 19.85   | 19.12   | 25.59 | 30.00            | Complies |
| 802.11ac<br>MCS0/Nss1<br>VHT20 | 5180 MHz  | 20.22                 | 19.38   | 19.95   | 19.56   | 25.81 | 30.00            | Complies |
|                                | 5200 MHz  | 20.53                 | 19.88   | 20.47   | 20.25   | 26.31 | 30.00            | Complies |
|                                | 5240 MHz  | 20.34                 | 19.85   | 20.22   | 20.17   | 26.17 | 30.00            | Complies |
|                                | 5260 MHz  | 16.26                 | 15.80   | 16.05   | 15.91   | 22.03 | 23.98            | Complies |
|                                | 5300 MHz  | 16.23                 | 15.85   | 16.27   | 15.76   | 22.05 | 23.98            | Complies |
|                                | 5320 MHz  | 16.44                 | 16.04   | 16.45   | 15.99   | 22.26 | 23.98            | Complies |
|                                | 5500 MHz  | 16.16                 | 16.72   | 16.38   | 16.05   | 22.36 | 23.98            | Complies |
|                                | 5580 MHz  | 16.03                 | 16.35   | 16.05   | 15.83   | 22.09 | 23.98            | Complies |
|                                | 5700 MHz  | 15.97                 | 15.94   | 15.65   | 15.97   | 21.91 | 23.98            | Complies |
|                                | 5745 MHz  | 18.27                 | 18.45   | 18.81   | 18.33   | 24.49 | 30.00            | Complies |
|                                | 5785 MHz  | 19.84                 | 19.78   | 20.34   | 19.48   | 25.89 | 30.00            | Complies |
|                                | 5825 MHz  | 19.88                 | 19.51   | 20.21   | 19.27   | 25.75 | 30.00            | Complies |

| Mode                           | Frequency | Conducted Power (dBm) |         |         |         |       | Max. Limit (dBm) | Result   |
|--------------------------------|-----------|-----------------------|---------|---------|---------|-------|------------------|----------|
|                                |           | Chain 1               | Chain 2 | Chain 3 | Chain 4 | Total |                  |          |
| 802.11ac<br>MCS0/Nss1<br>VHT40 | 5190 MHz  | 17.23                 | 16.41   | 17.11   | 16.76   | 22.91 | 30.00            | Complies |
|                                | 5230 MHz  | 20.89                 | 20.23   | 20.76   | 20.41   | 26.60 | 30.00            | Complies |
|                                | 5270 MHz  | 18.12                 | 17.63   | 17.78   | 17.84   | 23.87 | 23.98            | Complies |
|                                | 5310 MHz  | 17.66                 | 17.10   | 17.55   | 17.06   | 23.37 | 23.98            | Complies |
|                                | 5510 MHz  | 17.14                 | 17.94   | 17.67   | 17.10   | 23.50 | 23.98            | Complies |
|                                | 5550 MHz  | 17.79                 | 17.87   | 17.78   | 17.61   | 23.78 | 23.98            | Complies |
|                                | 5670 MHz  | 18.02                 | 18.34   | 17.86   | 17.51   | 23.96 | 23.98            | Complies |
|                                | 5755 MHz  | 17.42                 | 17.52   | 17.85   | 17.36   | 23.56 | 30.00            | Complies |
|                                | 5795 MHz  | 20.23                 | 20.14   | 20.56   | 20.16   | 26.30 | 30.00            | Complies |
| 802.11ac<br>MCS0/Nss1<br>VHT80 | 5210 MHz  | 15.47                 | 14.88   | 15.55   | 15.23   | 21.31 | 30.00            | Complies |
|                                | 5290 MHz  | 16.65                 | 15.65   | 16.55   | 16.18   | 22.30 | 23.98            | Complies |
|                                | 5530 MHz  | 16.31                 | 16.39   | 16.27   | 15.94   | 22.25 | 23.98            | Complies |
|                                | 5610 MHz  | 17.67                 | 17.91   | 17.73   | 17.54   | 23.74 | 23.98            | Complies |
|                                | 5775 MHz  | 16.31                 | 16.49   | 16.78   | 16.06   | 22.44 | 30.00            | Complies |

### Straddle Channel

| Mode                     | Frequency          | Conducted Power (dBm) |         |         |         |       | Max. Limit (dBm) | Result   |
|--------------------------|--------------------|-----------------------|---------|---------|---------|-------|------------------|----------|
|                          |                    | Chain 1               | Chain 2 | Chain 3 | Chain 4 | Total |                  |          |
| 802.11a                  | 5720 MHz (UNII 2C) | 15.77                 | 15.56   | 16.03   | 15.54   | 21.75 | 22.81            | Complies |
|                          | 5720 MHz (UNII 3)  | 9.96                  | 9.79    | 11.01   | 9.51    | 16.13 | 30.00            | Complies |
| 802.11ac MCS0/Nss1 VHT20 | 5720 MHz (UNII 2C) | 15.14                 | 15.21   | 15.70   | 15.30   | 21.36 | 22.96            | Complies |
|                          | 5720 MHz (UNII 3)  | 9.88                  | 10.00   | 11.11   | 9.65    | 16.22 | 30.00            | Complies |
| 802.11ac MCS0/Nss1 VHT40 | 5710 MHz (UNII 2C) | 17.81                 | 17.82   | 17.94   | 17.39   | 23.77 | 23.98            | Complies |
|                          | 5710 MHz (UNII 3)  | 7.52                  | 7.77    | 7.18    | 7.04    | 13.41 | 30.00            | Complies |
| 802.11ac MCS0/Nss1 VHT80 | 5690 MHz (UNII 2C) | 17.77                 | 17.92   | 17.72   | 17.40   | 23.73 | 23.98            | Complies |
|                          | 5690 MHz (UNII 3)  | 3.93                  | 4.27    | 5.53    | 3.43    | 10.38 | 30.00            | Complies |

Note: The power limit=23.98dBm or  $11 + 10\log(B)$ .

1. 802.11a 5720 MHz (UNII 2C) power limit= $11 + 10*\log(15.17)=22.81\text{dBm} < 23.98\text{dBm}$ , so limit=22.81dBm.
2. 802.11ac MCS0/Nss1 VHT20 5720 MHz (UNII 2C) power limit= $11 + 10*\log(15.70)=22.96\text{dBm} < 23.98\text{dBm}$ , so limit=22.96dBm.

|               |                               |               |                      |
|---------------|-------------------------------|---------------|----------------------|
| Temperature   | 21°C                          | Humidity      | 46%                  |
| Test Engineer | Lucas Huang                   | Test Function | Beamforming function |
| Test Date     | Dec. 21, 2015 / Dec. 22, 2015 |               |                      |

| Mode                           | Frequency | Conducted Power (dBm) |         |         |         |       | Max. Limit (dBm) | Result   |
|--------------------------------|-----------|-----------------------|---------|---------|---------|-------|------------------|----------|
|                                |           | Chain 1               | Chain 2 | Chain 3 | Chain 4 | Total |                  |          |
| 802.11ac<br>MCS0/Nss2<br>VHT20 | 5180 MHz  | 19.41                 | 18.61   | 19.12   | 18.84   | 25.03 | 30.00            | Complies |
|                                | 5200 MHz  | 20.53                 | 19.88   | 20.47   | 20.25   | 26.31 | 30.00            | Complies |
|                                | 5240 MHz  | 20.34                 | 19.85   | 20.22   | 20.17   | 26.17 | 30.00            | Complies |
|                                | 5260 MHz  | 17.78                 | 17.32   | 17.52   | 17.46   | 23.54 | 23.98            | Complies |
|                                | 5300 MHz  | 18.07                 | 17.21   | 17.81   | 17.65   | 23.72 | 23.98            | Complies |
|                                | 5320 MHz  | 17.81                 | 17.43   | 17.43   | 17.43   | 23.55 | 23.98            | Complies |
|                                | 5500 MHz  | 17.33                 | 17.88   | 17.83   | 17.42   | 23.64 | 23.98            | Complies |
|                                | 5580 MHz  | 17.34                 | 17.92   | 17.62   | 17.46   | 23.61 | 23.98            | Complies |
|                                | 5700 MHz  | 17.25                 | 18.02   | 18.32   | 17.35   | 23.78 | 23.98            | Complies |
|                                | 5745 MHz  | 17.46                 | 17.92   | 17.96   | 17.28   | 23.69 | 30.00            | Complies |
|                                | 5785 MHz  | 19.84                 | 19.78   | 20.34   | 19.48   | 25.89 | 30.00            | Complies |
|                                | 5825 MHz  | 19.88                 | 19.51   | 20.21   | 19.27   | 25.75 | 30.00            | Complies |
| 802.11ac<br>MCS0/Nss2<br>VHT40 | 5190 MHz  | 17.23                 | 16.41   | 17.11   | 16.76   | 22.91 | 30.00            | Complies |
|                                | 5230 MHz  | 20.89                 | 20.23   | 20.76   | 20.41   | 26.60 | 30.00            | Complies |
|                                | 5270 MHz  | 18.03                 | 17.81   | 17.91   | 18.05   | 23.97 | 23.98            | Complies |
|                                | 5310 MHz  | 17.16                 | 16.81   | 16.92   | 16.77   | 22.94 | 23.98            | Complies |
|                                | 5510 MHz  | 16.15                 | 16.46   | 16.43   | 15.89   | 22.26 | 23.98            | Complies |
|                                | 5550 MHz  | 17.58                 | 18.21   | 18.01   | 17.94   | 23.96 | 23.98            | Complies |
|                                | 5670 MHz  | 17.58                 | 17.95   | 18.23   | 17.72   | 23.90 | 23.98            | Complies |
|                                | 5755 MHz  | 16.78                 | 17.78   | 17.02   | 16.63   | 23.10 | 30.00            | Complies |
|                                | 5795 MHz  | 20.23                 | 20.14   | 20.56   | 20.16   | 26.30 | 30.00            | Complies |
| 802.11ac<br>MCS0/Nss2<br>VHT80 | 5210 MHz  | 16.26                 | 15.81   | 16.28   | 16.02   | 22.12 | 30.00            | Complies |
|                                | 5290 MHz  | 16.65                 | 15.65   | 16.55   | 16.18   | 22.30 | 23.98            | Complies |
|                                | 5530 MHz  | 16.31                 | 16.39   | 16.27   | 15.94   | 22.25 | 23.98            | Complies |
|                                | 5610 MHz  | 17.43                 | 18.10   | 17.85   | 17.39   | 23.72 | 23.98            | Complies |
|                                | 5775 MHz  | 16.55                 | 15.83   | 15.98   | 16.24   | 22.18 | 30.00            | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For band 1 directional gain=4.71dBi<6dBi, so the limit doesn't reduce.
2. For band 2 directional gain=4.69dBi<6dBi, so the limit doesn't reduce.
3. For band 3 directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
4. For band 4 directional gain=4.43dBi<6dBi, so the limit doesn't reduce.

### Straddle Channel

| Mode                     | Frequency          | Conducted Power (dBm) |         |         |         |       | Max. Limit (dBm) | Result   |
|--------------------------|--------------------|-----------------------|---------|---------|---------|-------|------------------|----------|
|                          |                    | Chain 1               | Chain 2 | Chain 3 | Chain 4 | Total |                  |          |
| 802.11ac MCS0/Nss2 VHT20 | 5720 MHz (UNII 2C) | 16.60                 | 16.92   | 17.22   | 15.97   | 22.72 | 23.21            | Complies |
|                          | 5720 MHz (UNII 3)  | 11.11                 | 11.61   | 11.80   | 10.41   | 17.29 | 30.00            | Complies |
| 802.11ac MCS0/Nss2 VHT40 | 5710 MHz (UNII 2C) | 17.61                 | 18.21   | 18.40   | 17.09   | 23.88 | 23.98            | Complies |
|                          | 5710 MHz (UNII 3)  | 7.40                  | 8.25    | 8.34    | 6.96    | 13.80 | 30.00            | Complies |
| 802.11ac MCS0/Nss2 VHT80 | 5690 MHz (UNII 2C) | 17.22                 | 17.99   | 17.66   | 16.68   | 23.44 | 23.98            | Complies |
|                          | 5690 MHz (UNII 3)  | 3.29                  | 4.31    | 3.87    | 2.70    | 9.61  | 30.00            | Complies |

Note: 1. The power limit=23.98dBm or  $11 + 10\log(B)$ .

802.11ac MCS0/Nss2 VHT20 5720 MHz (UNII 2C) power limit= $11 + 10*\log(16.65)=23.21\text{dBm} < 23.98\text{dBm}$ , so limit=23.21dBm

$$2. \text{ Directional Gain} = 10\log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

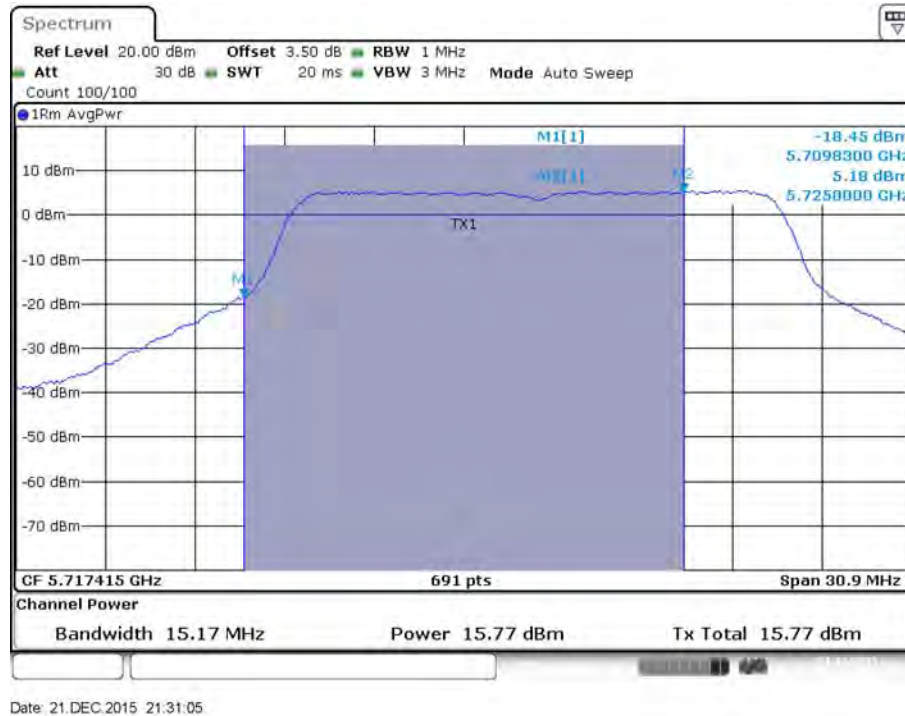
- (1) 802.11ac MCS0/Nss2 VHT40 5710 MHz (UNII 2C) directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
- (2) 802.11ac MCS0/Nss2 VHT80 5690 MHz (UNII 2C) directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
- (3) 802.11ac MCS0/Nss2 VHT20 5720 MHz (UNII 3) directional gain=4.43dBi<6dBi, so the limit doesn't reduce.
- (4) 802.11ac MCS0/Nss2 VHT40 5710 MHz (UNII 3) directional gain=4.43dBi<6dBi, so the limit doesn't reduce.
- (5) 802.11ac MCS0/Nss2 VHT80 5690 MHz (UNII 3) directional gain=4.43dBi<6dBi, so the limit doesn't reduce.

Note: All the test values were listed in the report.

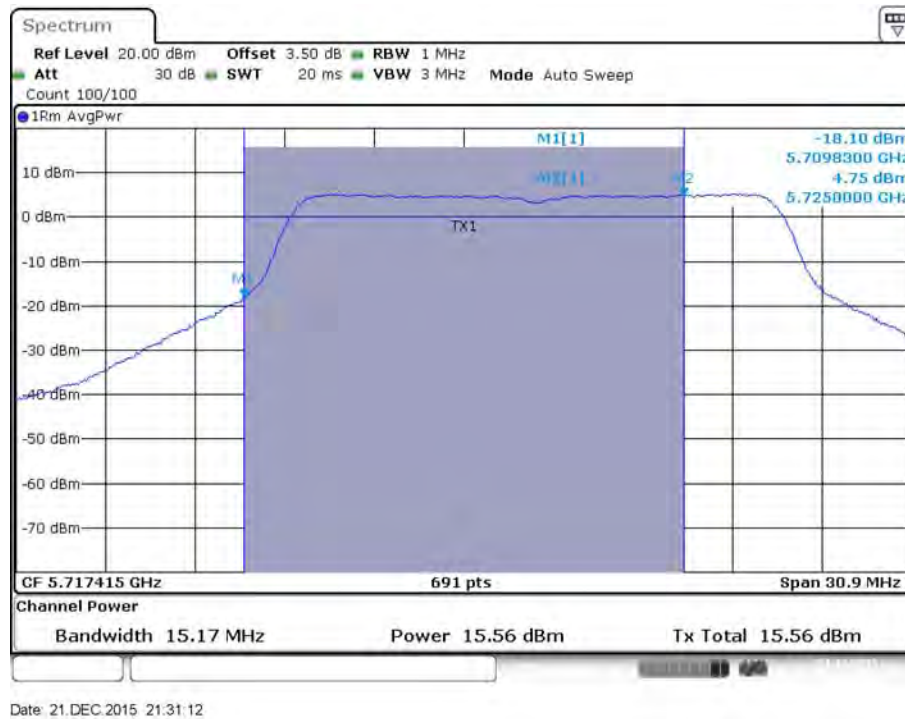
For plots, only the straddle channel result was shown.

For non-beamforming function:

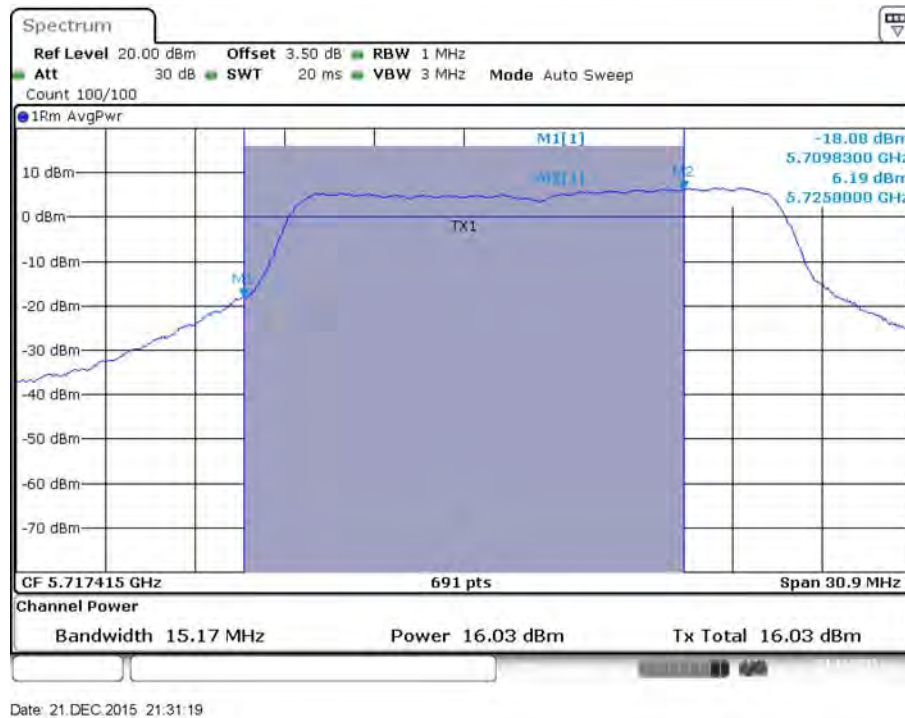
Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 1 / 5720 MHz (UNII 2C)



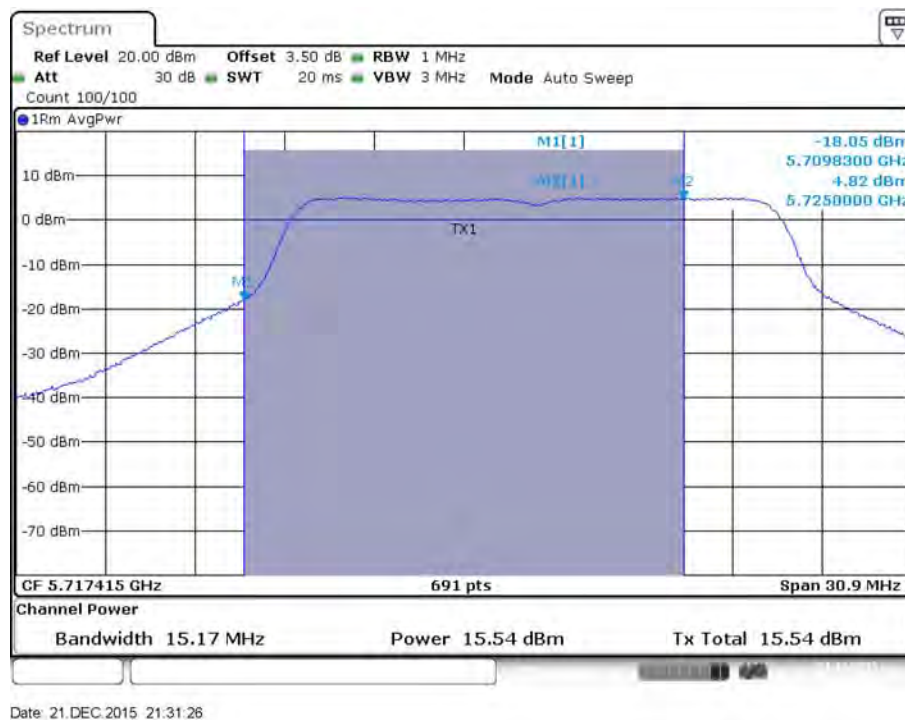
Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 2 / 5720 MHz (UNII 2C)



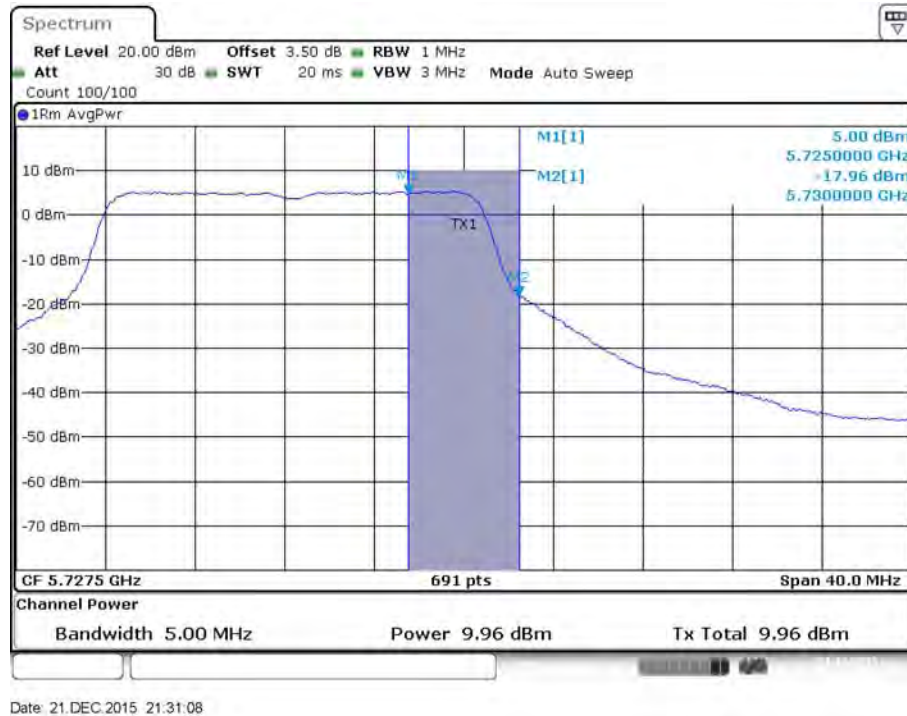
### Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 3 / 5720 MHz (UNII 2C)



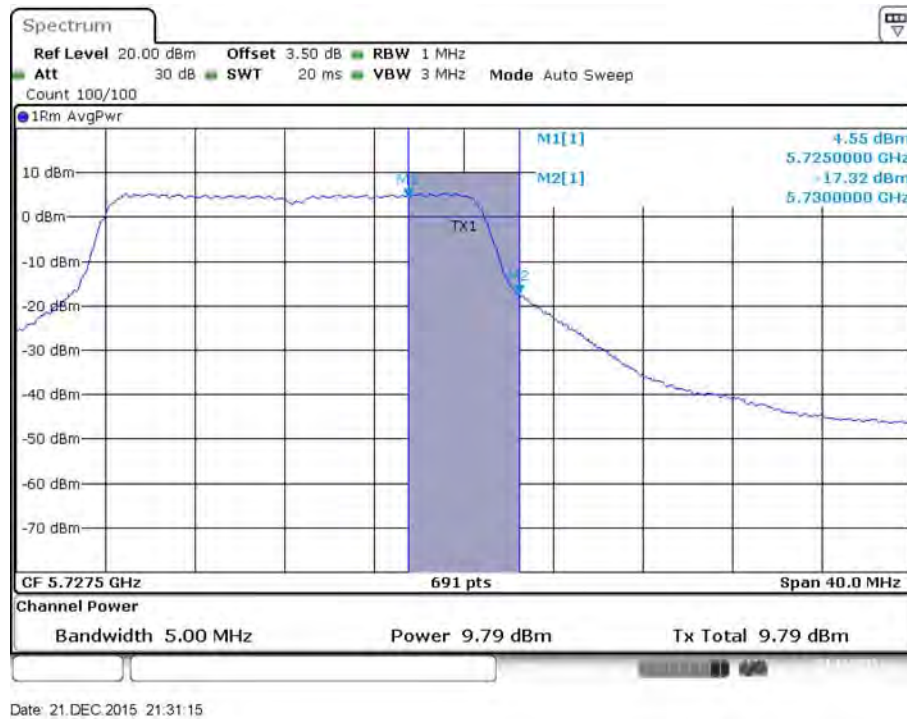
### Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 4 / 5720 MHz (UNII 2C)



### Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 1 / 5720 MHz (UNII 3)



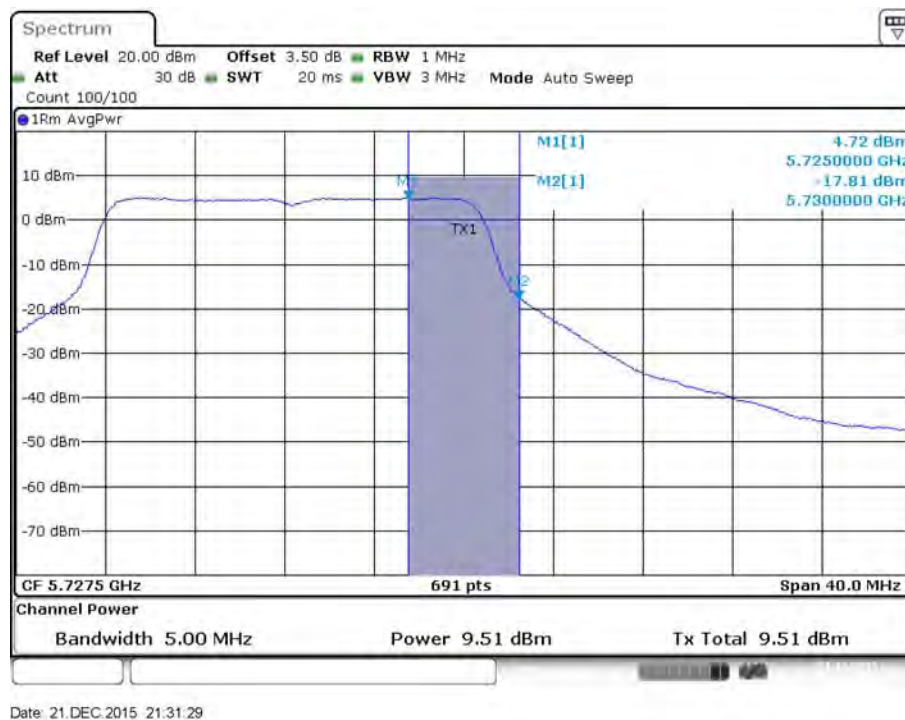
### Conducted Output Power Plot on Configuration IEEE 802.11a / Chain 2 / 5720 MHz (UNII 3)



### Conducted Output Power Plot on Configuration IEEE 802. 11a / Chain 3 / 5720 MHz (UNII 3)



### Conducted Output Power Plot on Configuration IEEE 802. 11a / Chain 4 / 5720 MHz (UNII 3)





The screenshot shows a Spectrum Analyzer interface with the following settings and data:

- Ref Level:** 20.00 dBm
- Offset:** 3.50 dB
- RBW:** 1 MHz
- Att:** 30 dB
- SWT:** 20 ms
- VBW:** 3 MHz
- Mode:** Auto Sweep
- Count:** 100/100
- Filter:** 17m AvgFwr
- Frequency Range:** 5.71715 GHz to 5.725000 GHz (Span 31.9 MHz)
- Bandwidth:** 15.70 MHz
- Power:** 15.14 dBm
- Tx Total:** 15.14 dBm
- Channel Power:** 15.14 dBm
- Signal Level:** -18.44 dBm
- Marker 1:** 5.7093000 GHz, 1.22 dBm
- Marker 2:** 5.7250000 GHz, 1.22 dBm

**Spectrum**

Ref Level 20.00 dBm Offset 3.50 dB RBW 1 MHz  
Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep  
Count 100/100

1Rm AvgPwr

10 dBm  
0 dBm  
-10 dBm  
-20 dBm  
-30 dBm  
-40 dBm  
-50 dBm  
-60 dBm  
-70 dBm

M1[1]  
M2[1]  
TX1

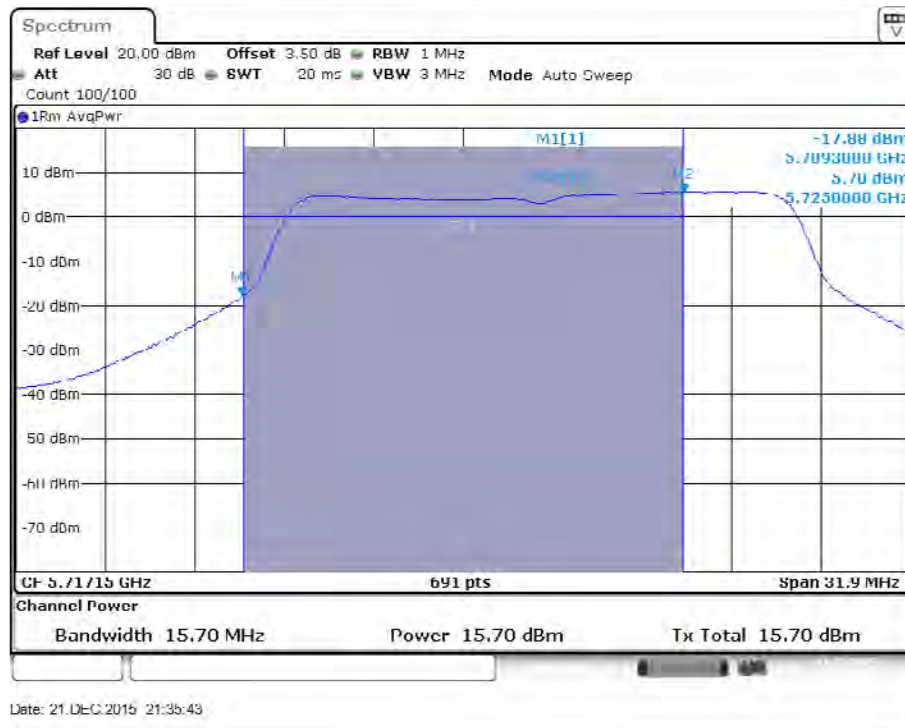
5.71715 GHz 691 pts 5.72500 GHz  
Span 31.9 MHz

Channel Power  
Bandwidth 15.70 MHz Power 15.21 dBm Tx Total 15.21 dBm

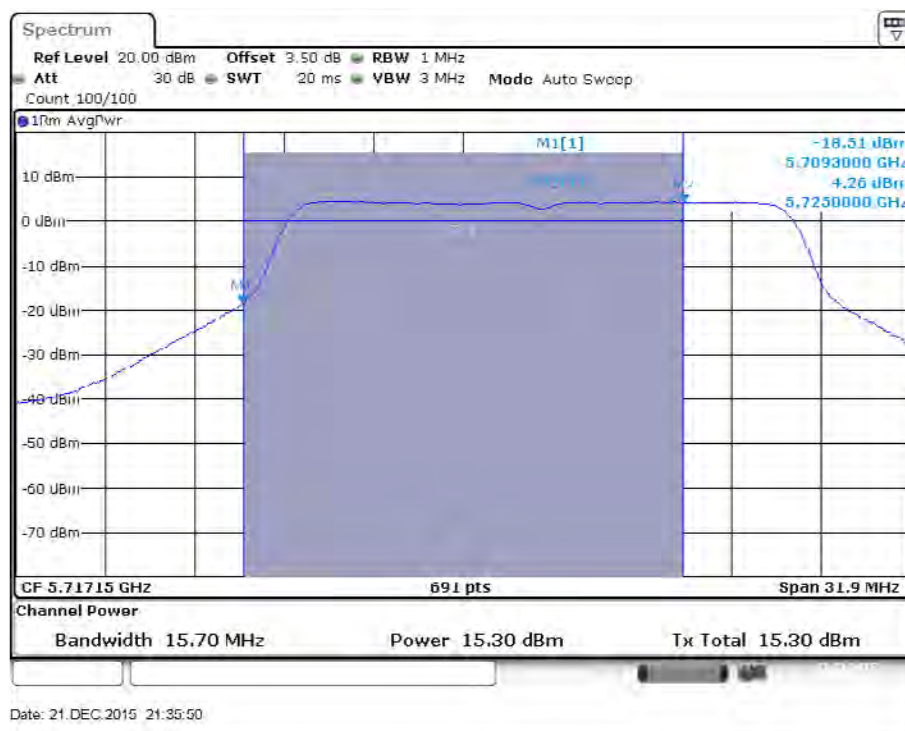
-18.10 dBm  
5.7093000 GHz  
1.32 dBm  
5.7250000 GHz

Date: 21 DEC.2015 21:35:36

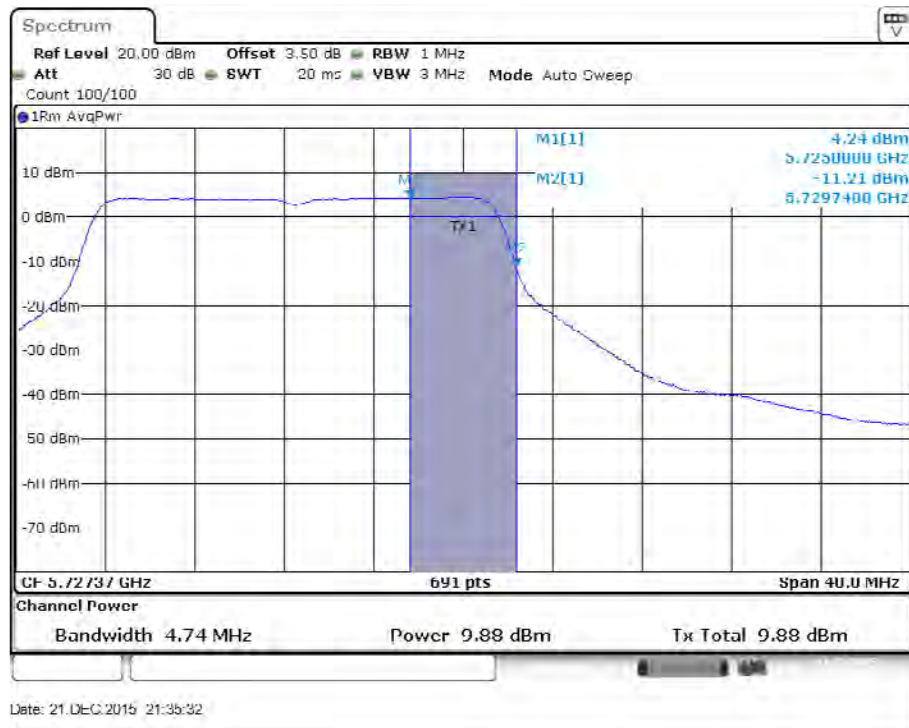
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 / 5720 MHz (UNII 2C)



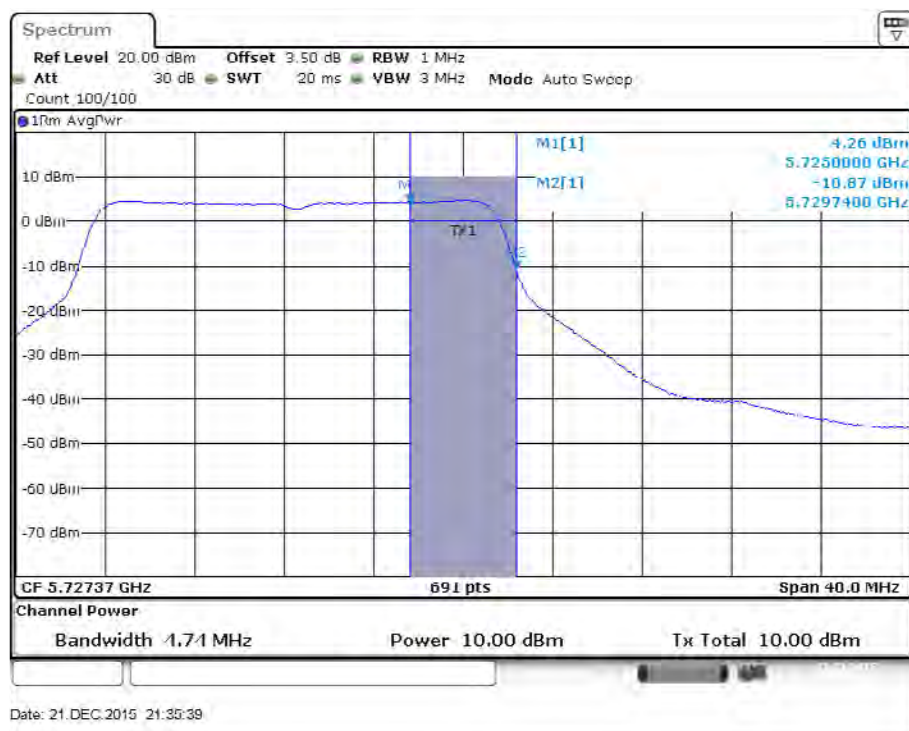
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 4 / 5720 MHz (UNII 2C)



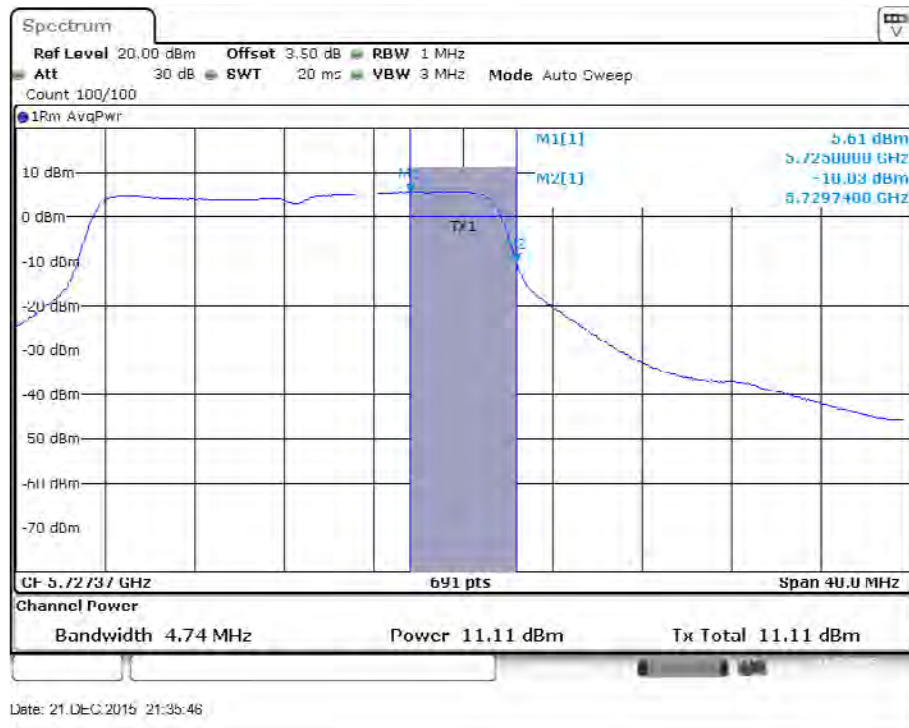
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 / 5720 MHz (UNII 3)



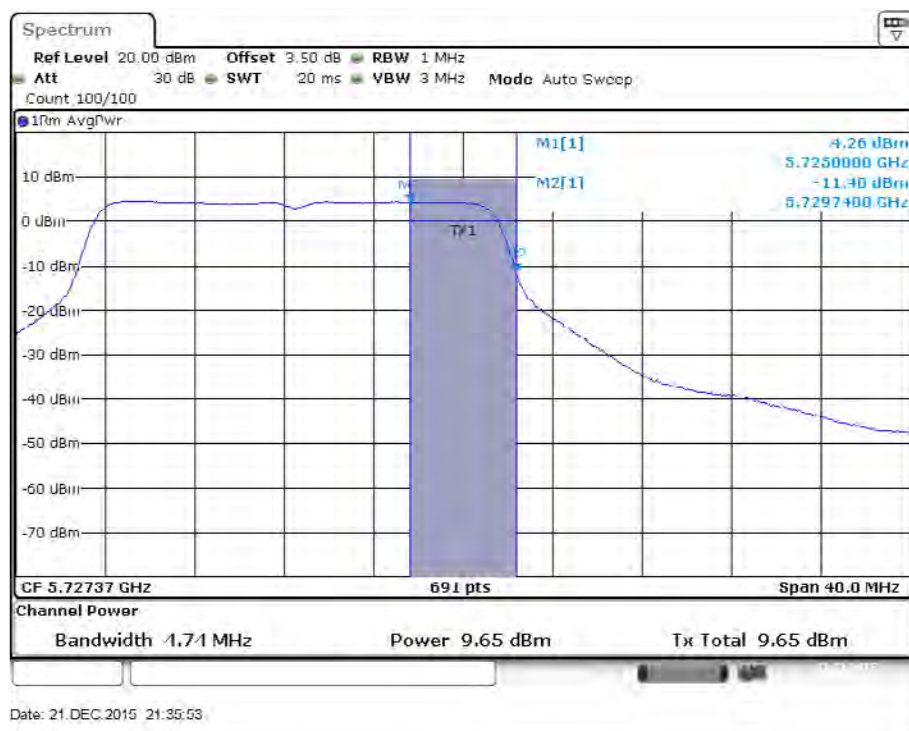
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 2 / 5720 MHz (UNII 3)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 / 5720 MHz (UNII 3)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 4 / 5720 MHz (UNII 3)





**Spectrum**

Ref Level 20.00 dBm Offset 3.50 dB RBW 1 MHz  
 Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep  
 Count 100/100

1Rm AvgPwr

10 dBm  
 0 dBm  
 -10 dBm  
 -20 dBm  
 -30 dBm  
 -40 dBm  
 50 dBm  
 -60 dBm  
 -70 dBm

CF 5.706775 GHz 691 pts Span /4.1 MHz

Channel Power  
 Bandwidth 36.45 MHz Power 17.81 dBm Tx Total 17.81 dBm

~26.20 dBm  
 5.688550 GHz  
 2.91 dBm  
 5.725000 GHz

**Spectrum**

Ref Level 20.00 dBm Offset 3.50 dB RBW 1 MHz  
 Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep

Count 100/100

17m AvgPwr

10 dBm  
 0 dBm  
 -10 dBm  
 -20 dBm  
 -30 dBm  
 -40 dBm  
 -50 dBm  
 -60 dBm  
 -70 dBm

CF 5.706775 GHz 691 pts Span 74.1 MHz

Channel Power

Bandwidth 36.15 MHz Power 17.82 dBm Tx Total 17.82 dBm

Date: 21 DEC 2015 21:40:16



The screenshot shows a Spectrum Analyzer interface. At the top, the title is "Spectrum". Below it, the settings are: Ref Level 20.00 dBm, Offset 3.50 dB, RBW 1 MHz, Att 30 dB, SWT 20 ms, VBW 3 MHz, and Mode Auto Sweep. The Count is 100/100. The main display shows a signal trace with a peak at 5.688550 GHz, labeled "Tx1". The power level is 17.94 dBm. The frequency span is 4.1 MHz, and the bandwidth is 36.45 MHz. The Tx Total power is also 17.94 dBm. The date and time are 21-Dec-2015 21:40:23.

**Spectrum**

Ref Level 20.00 dBm Offset 3.50 dB RBW 1 MHz  
 Att 30 dB SWT 20 ms VBW 3 MHz Mode Auto Sweep  
 Count 100/100

17m AvgPwr

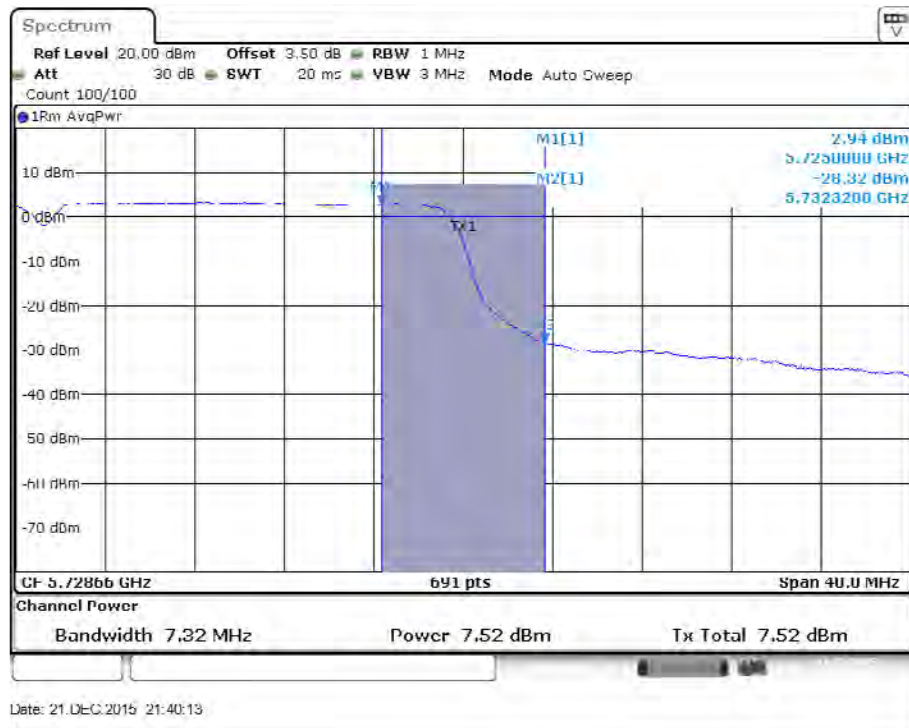
10 dBm  
 0 dBm  
 -10 dBm  
 -20 dBm  
 -30 dBm  
 -40 dBm  
 -50 dBm  
 -60 dBm  
 -70 dBm

CF 5.706775 GHz 691 pts Span 74.1 MHz

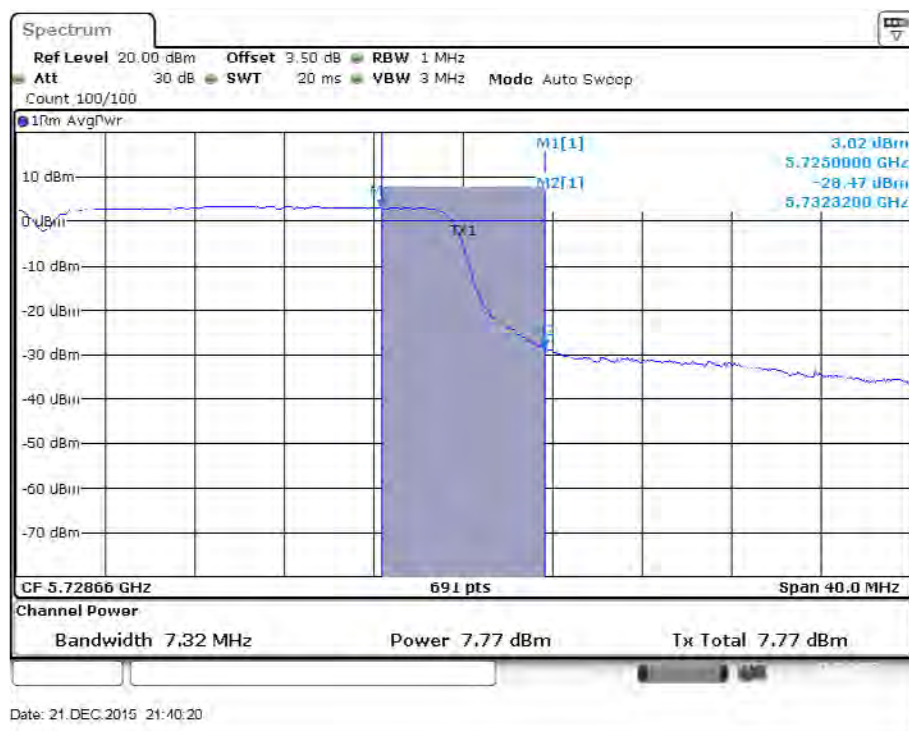
Channel Power  
 Bandwidth 36.15 MHz Power 17.39 dBm Tx Total 17.39 dBm

~26.98 dBm  
 5.688550 GHz  
 2.38 dBm  
 5.725000 GHz

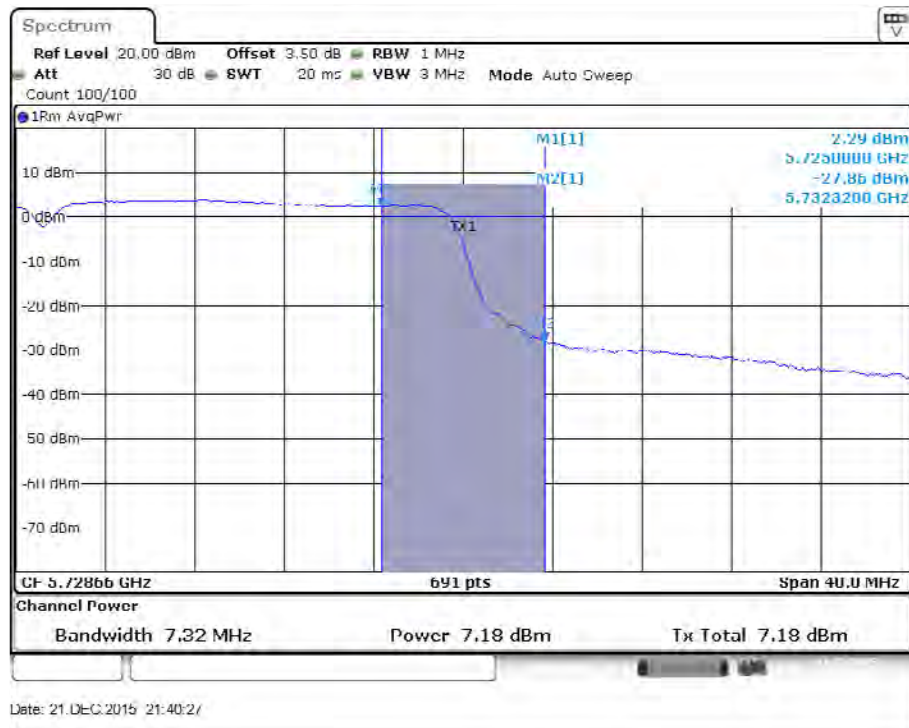
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 / 5710 MHz (UNII 3)



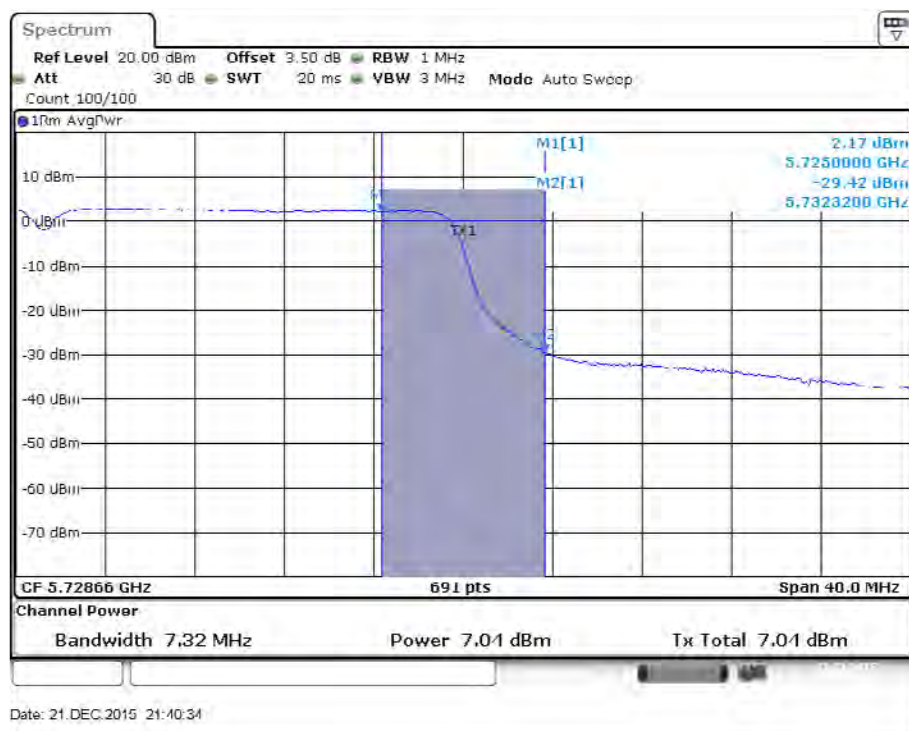
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 2 / 5710 MHz (UNII 3)



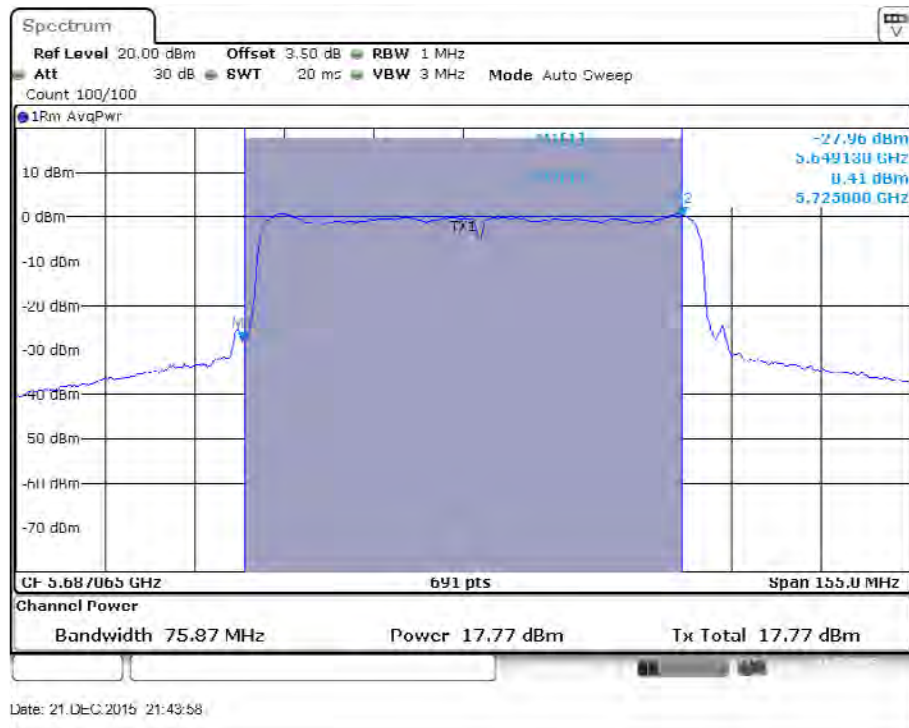
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 / 5710 MHz (UNII 3)



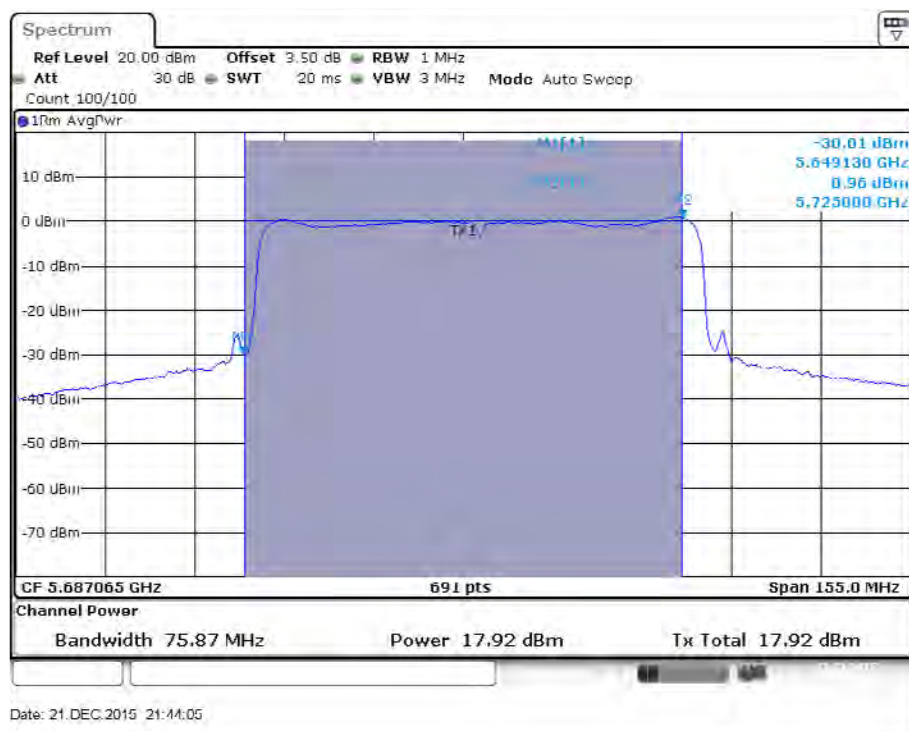
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 4 / 5710 MHz (UNII 3)



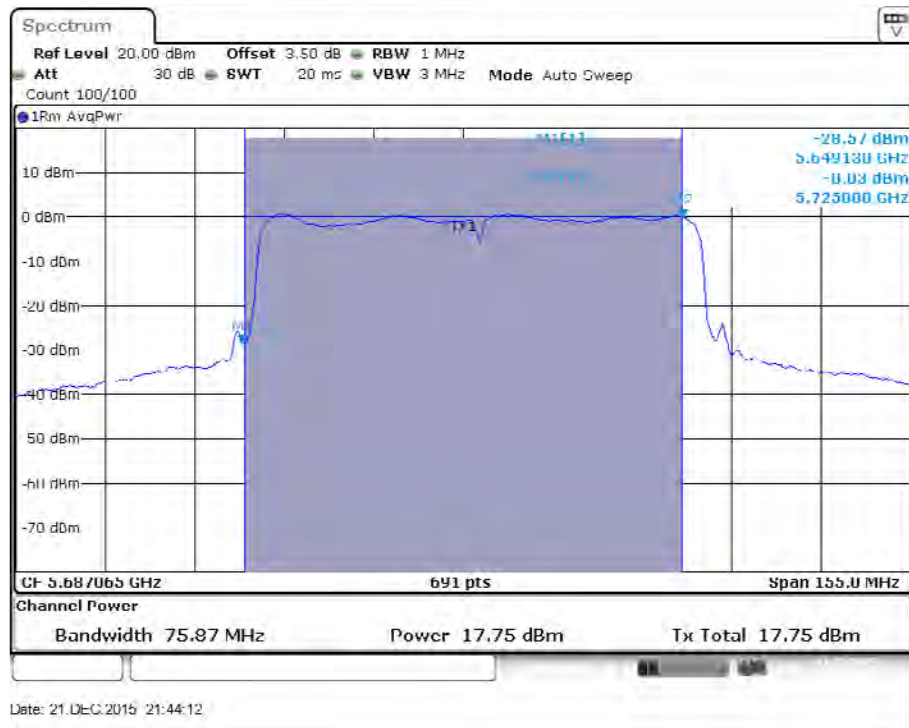
## Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5690 MHz (UNII 2C)



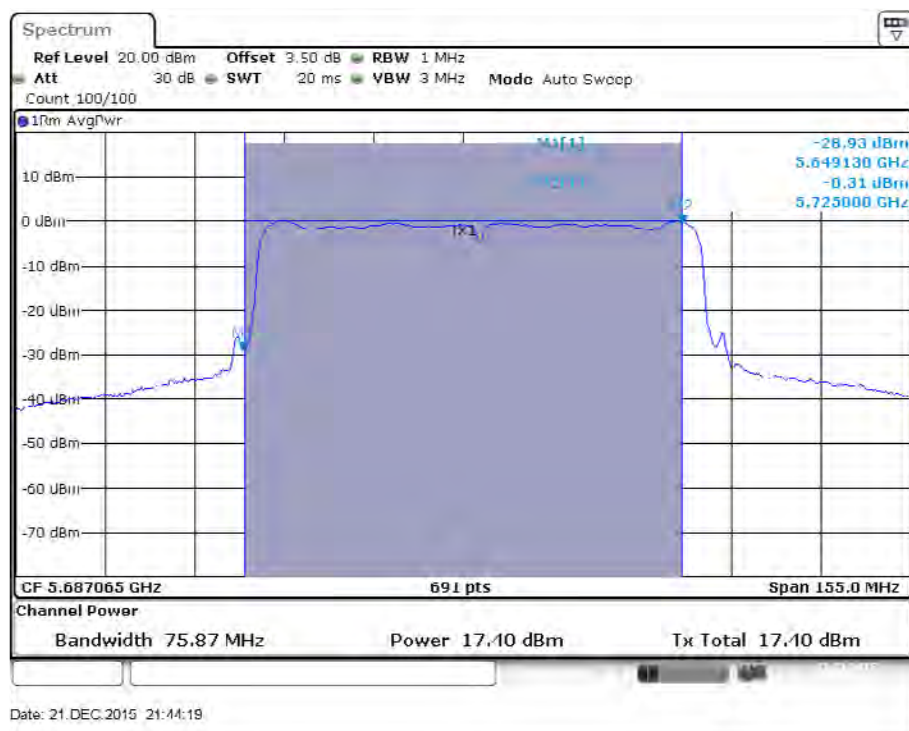
## Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5690 MHz (UNII 2C)



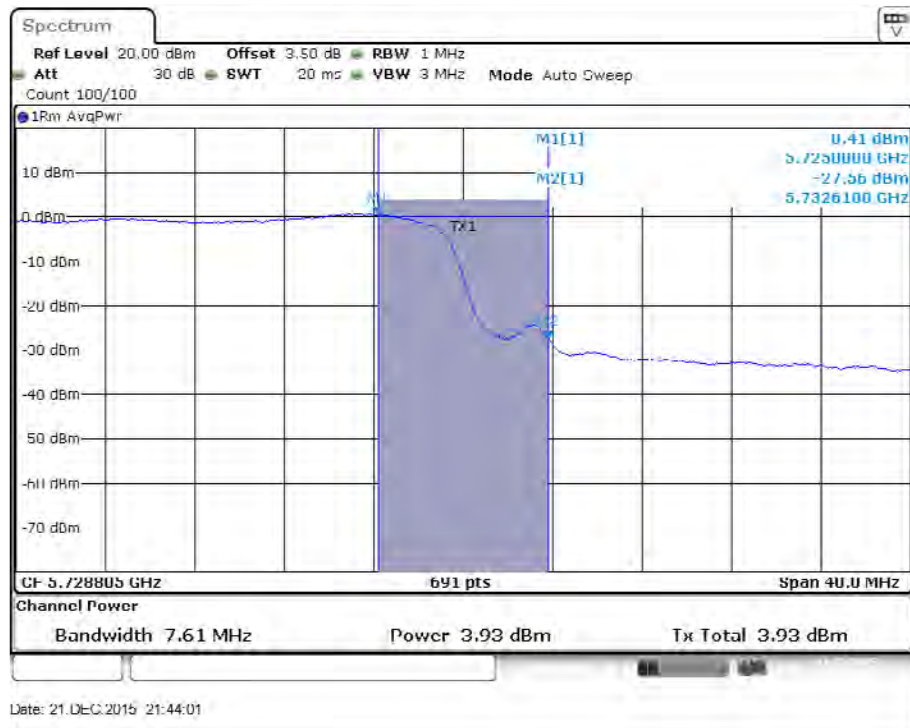
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 / 5690 MHz (UNII 2C)



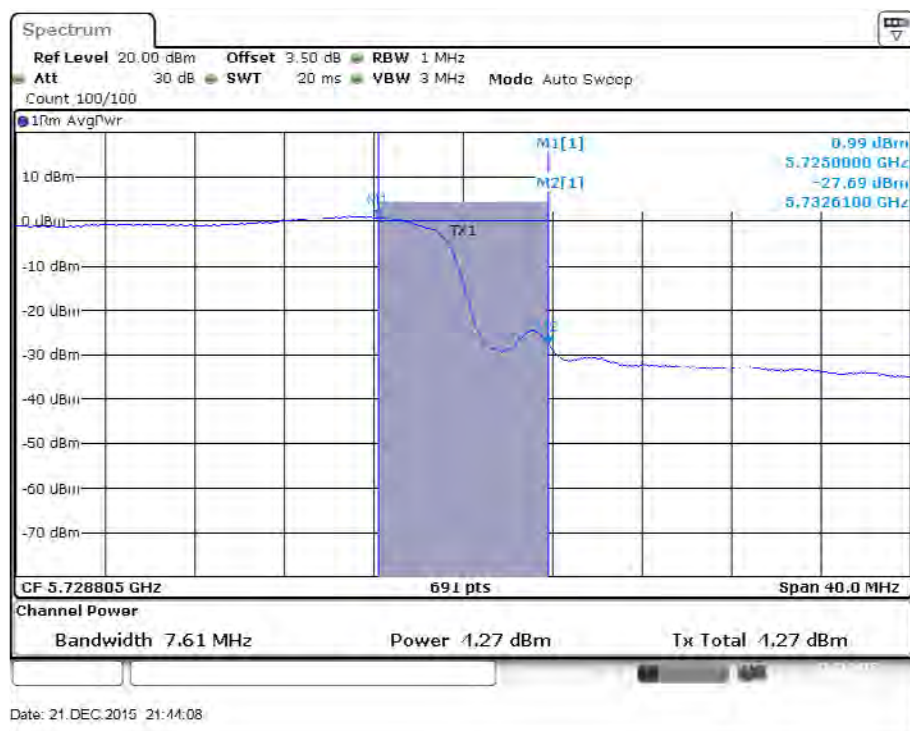
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 4 / 5690 MHz (UNII 2C)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 / 5690 MHz (UNII 3)



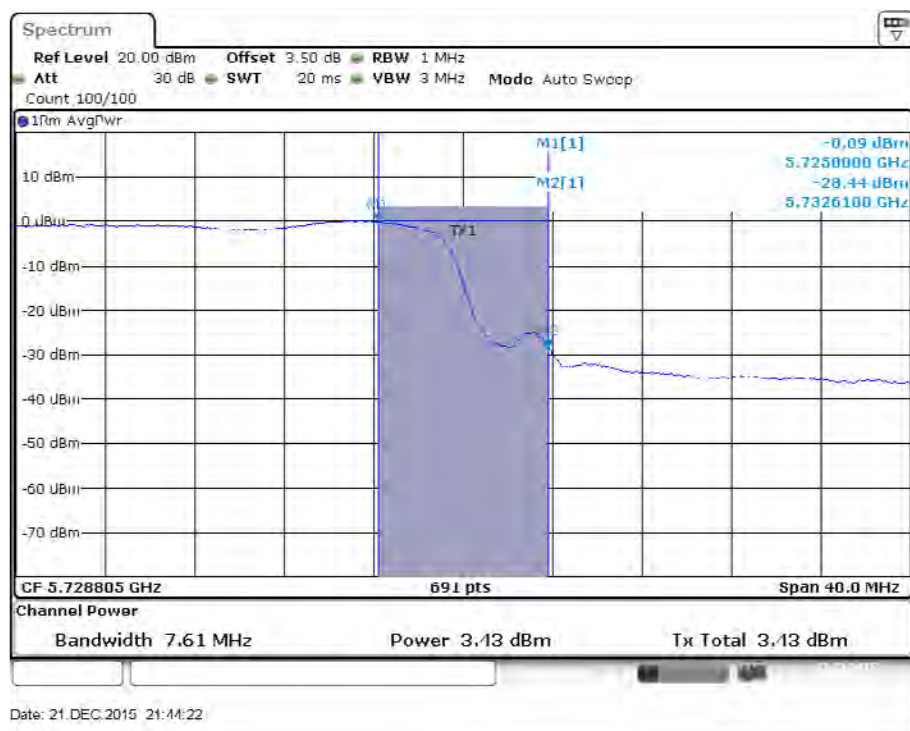
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 2 / 5690 MHz (UNII 3)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 / 5690 MHz (UNII 3)

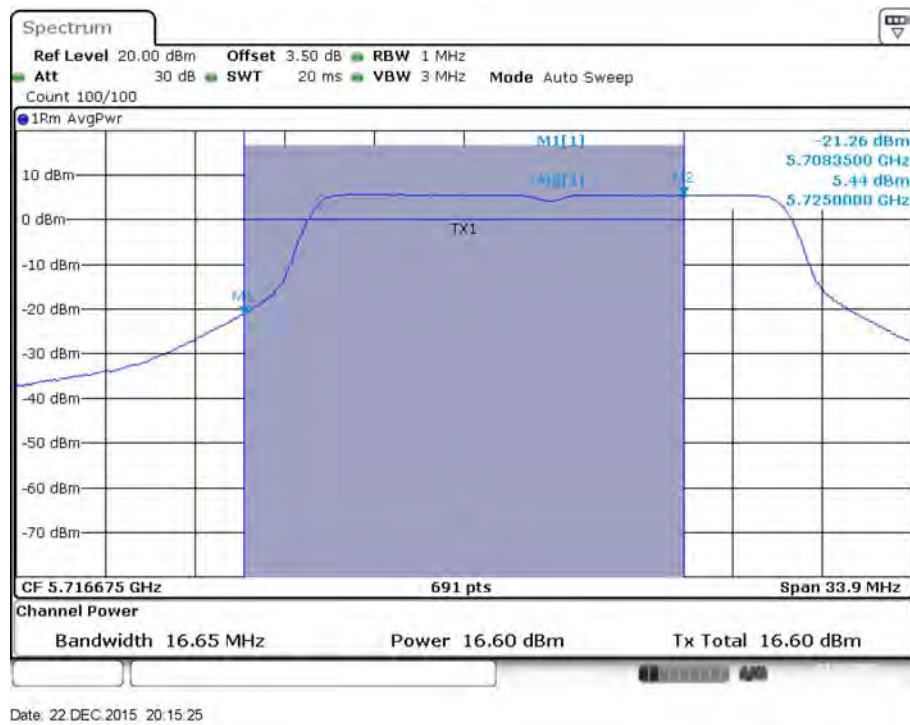


### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 4 / 5690 MHz (UNII 3)

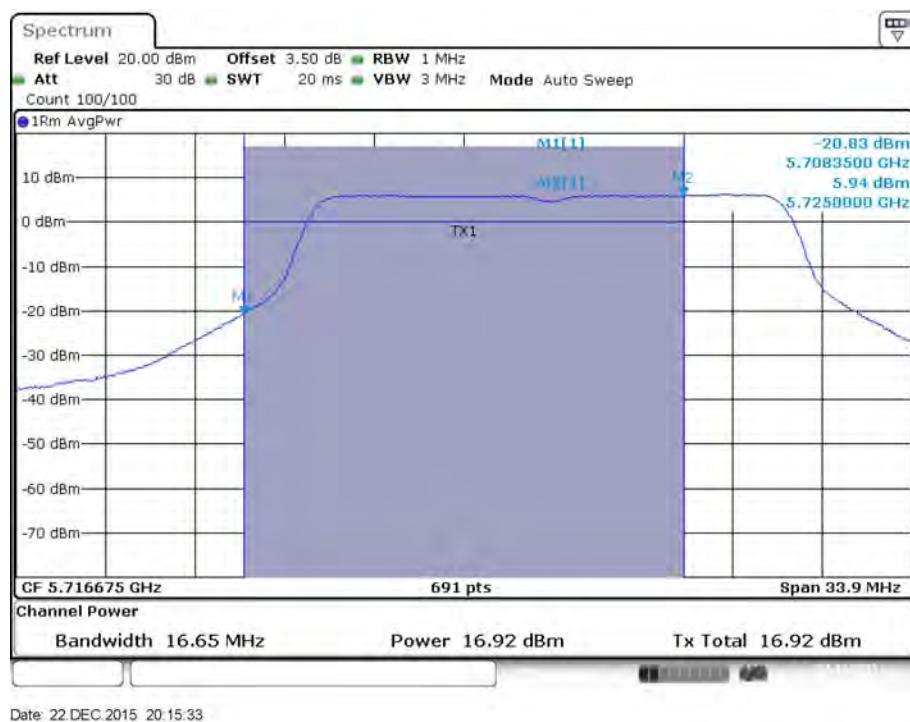


For beamforming function:

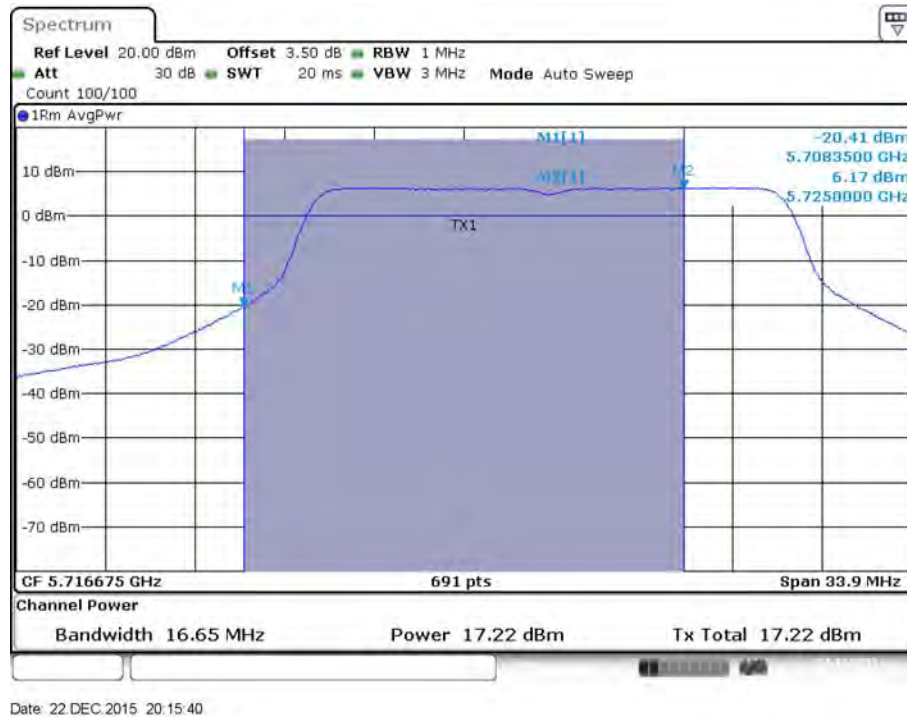
Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 / 5720 MHz (UNII 2C)



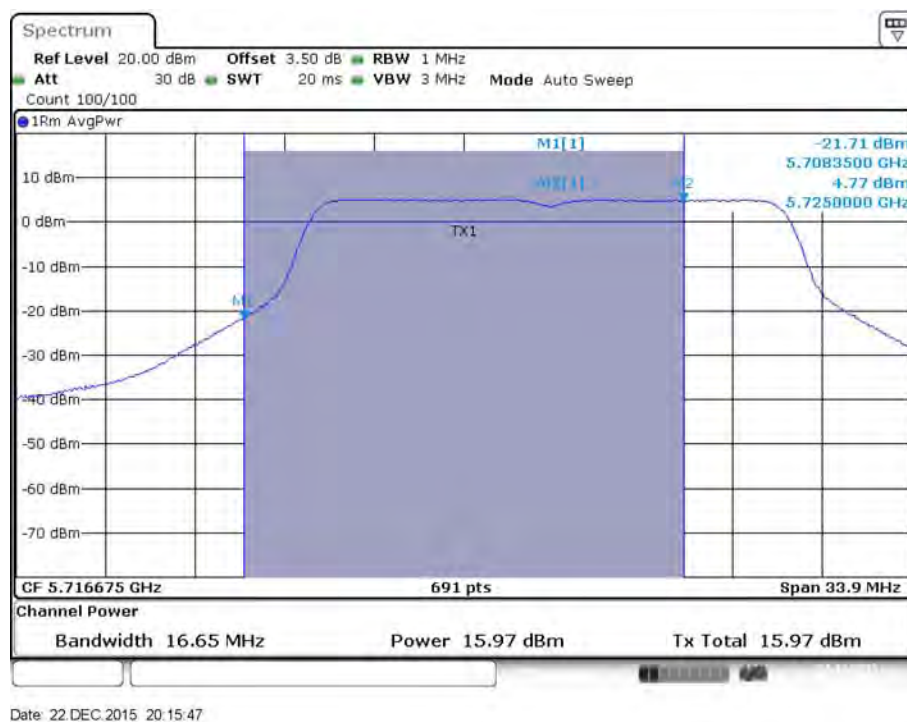
Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 2 / 5720 MHz (UNII 2C)



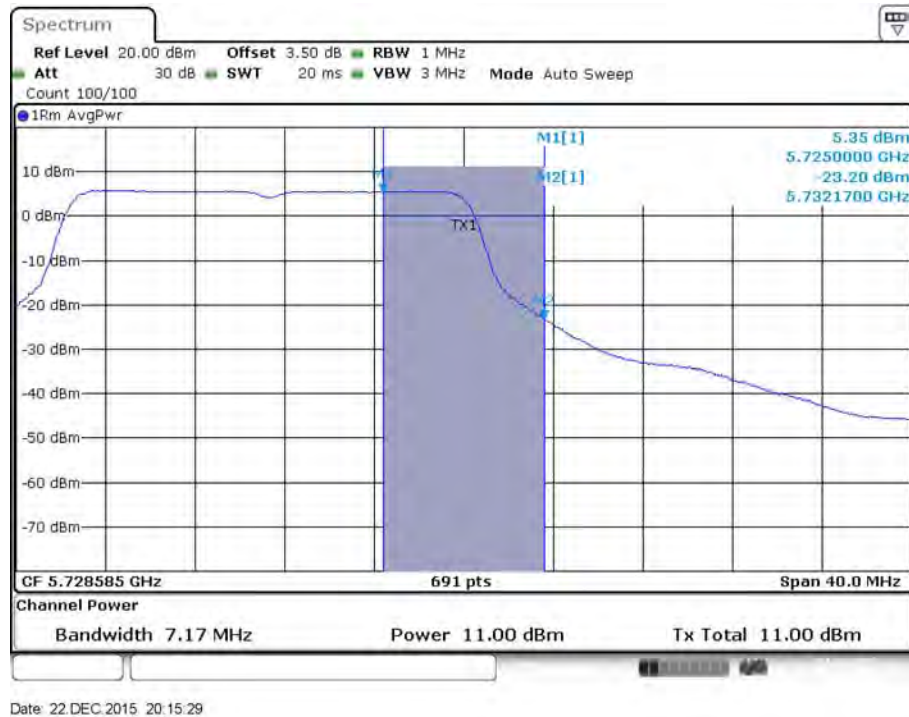
## Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 3 / 5720 MHz (UNII 2C)



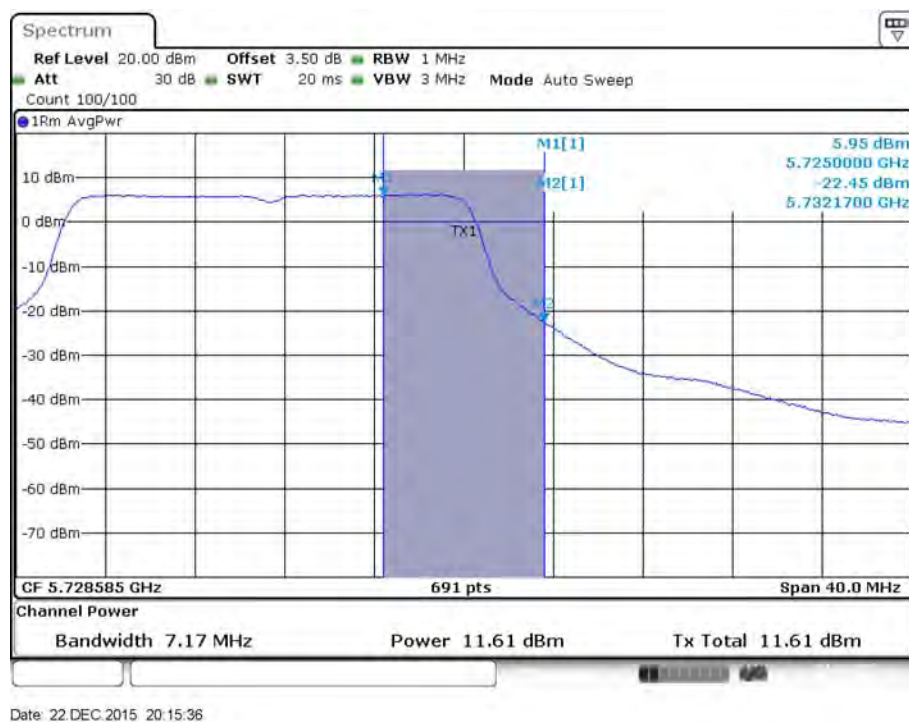
## Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 4 / 5720 MHz (UNII 2C)



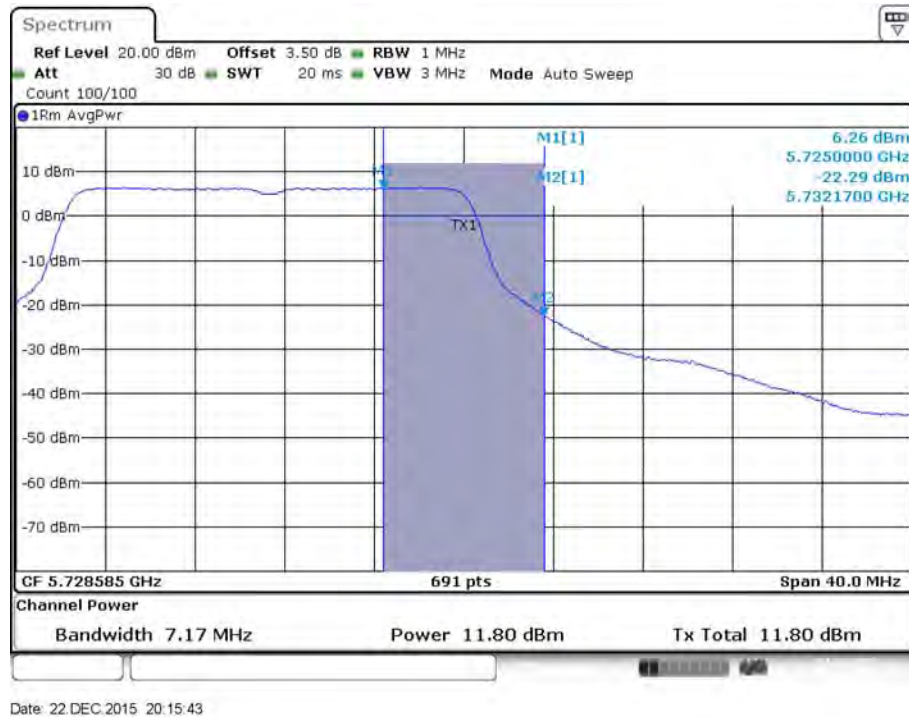
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 / 5720 MHz (UNII 3)



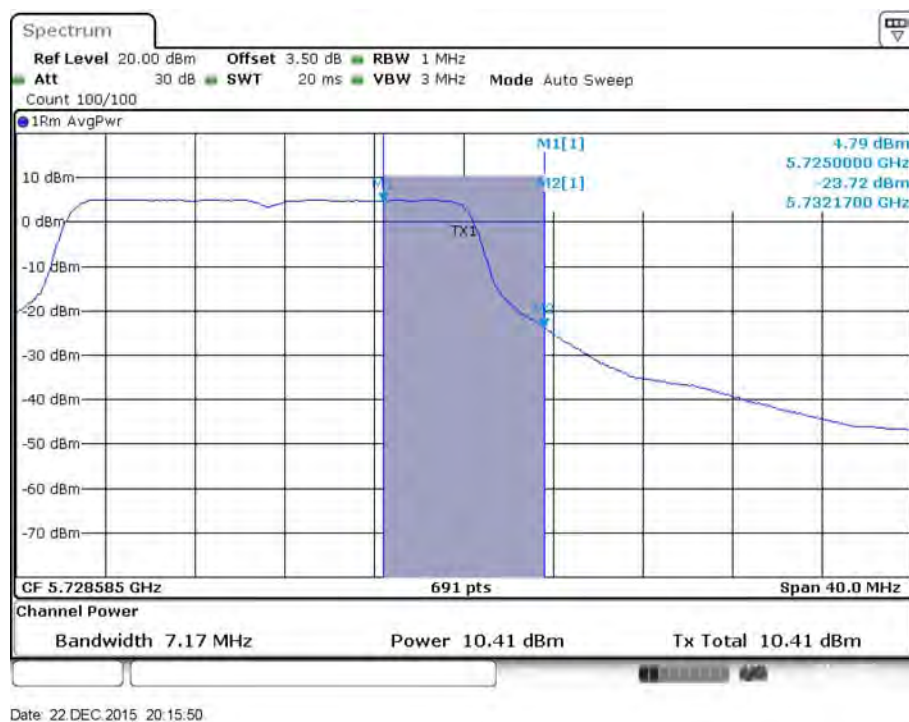
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 2 / 5720 MHz (UNII 3)



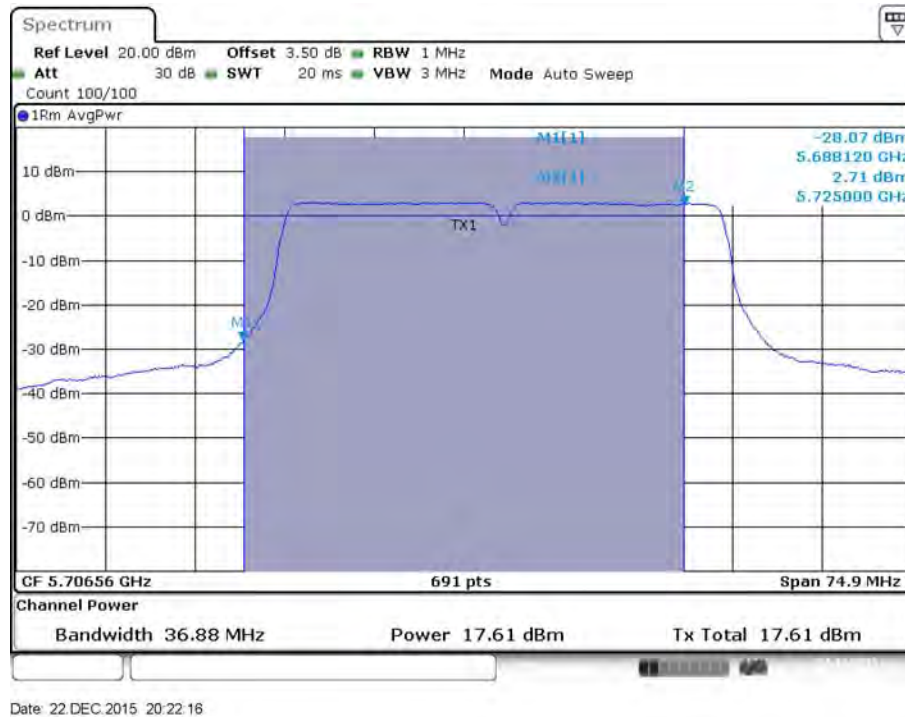
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 3 / 5720 MHz (UNII 3)



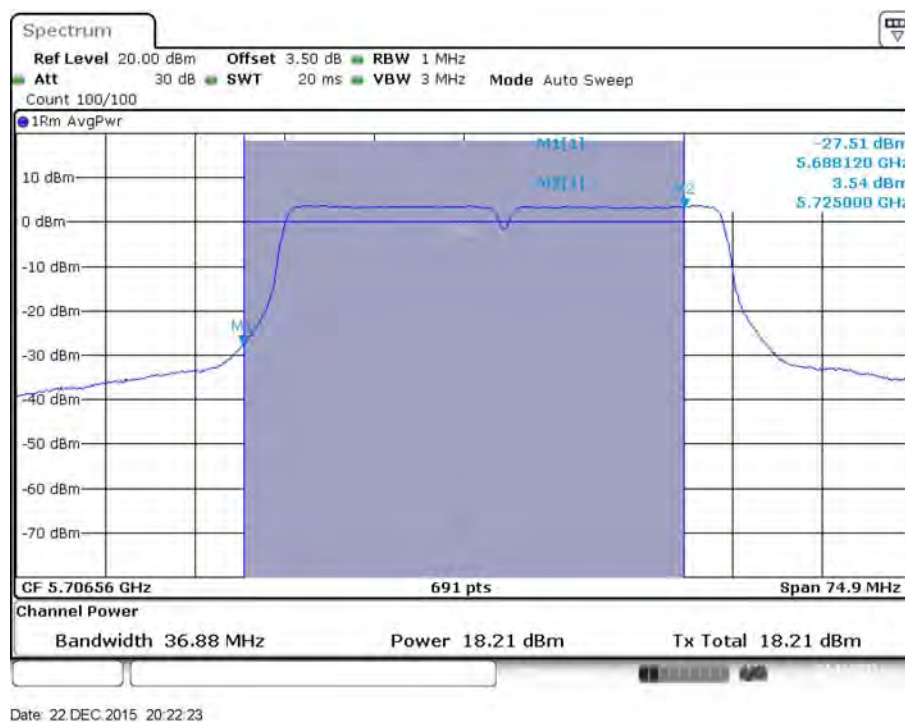
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 4 / 5720 MHz (UNII 3)



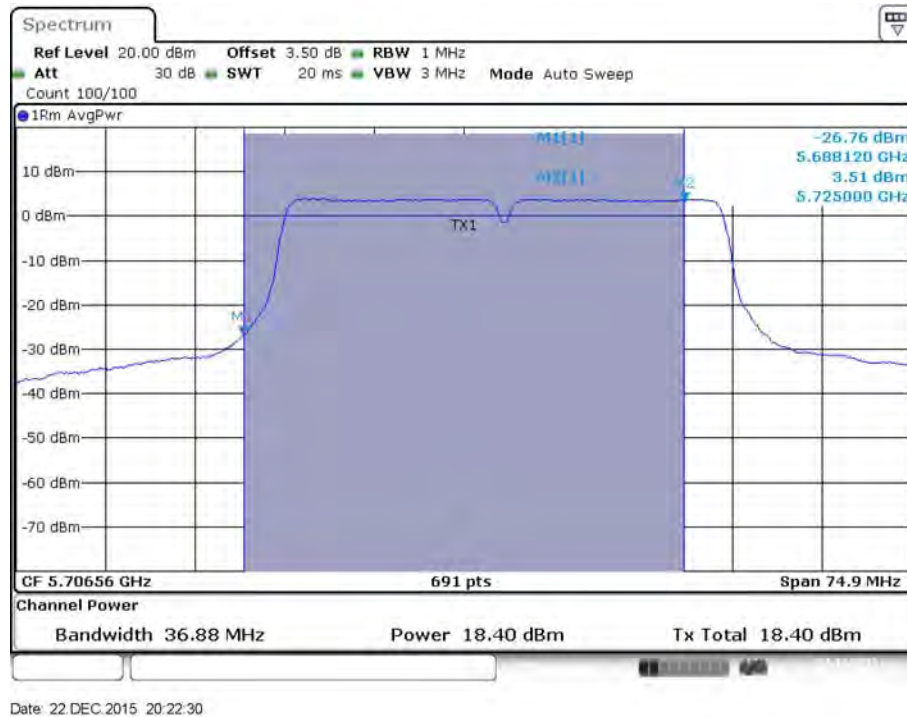
## Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 / 5710 MHz (UNII 2C)



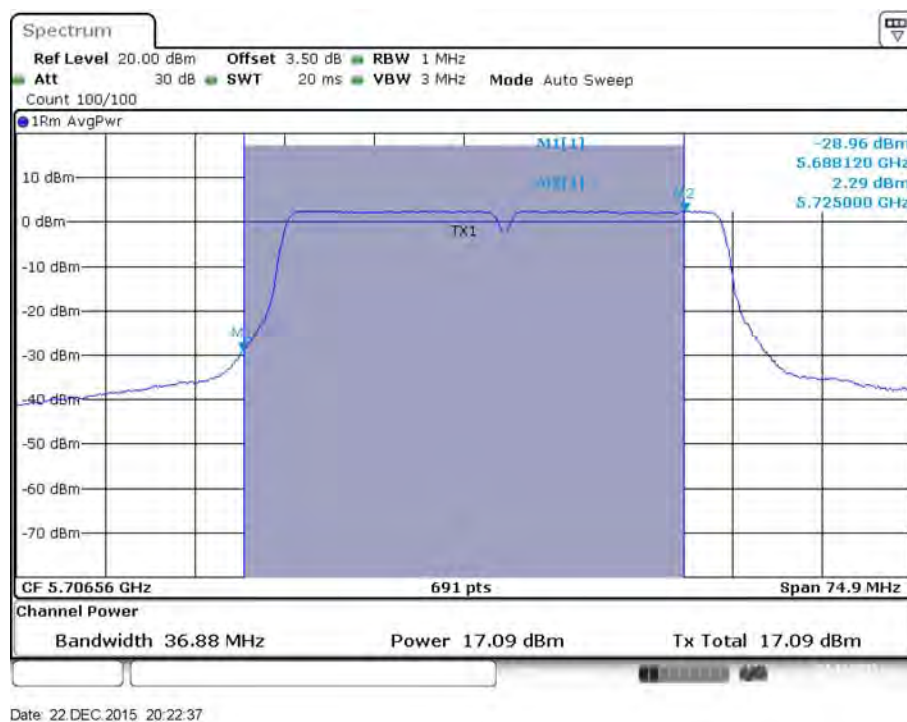
## Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 2 / 5710 MHz (UNII 2C)



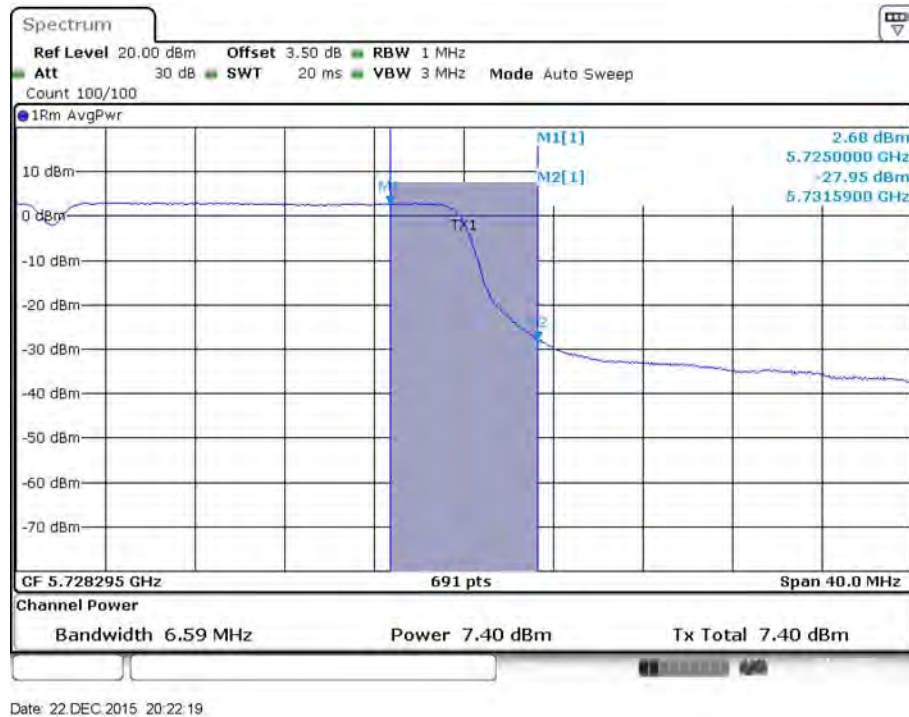
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 3 / 5710 MHz (UNII 2C)



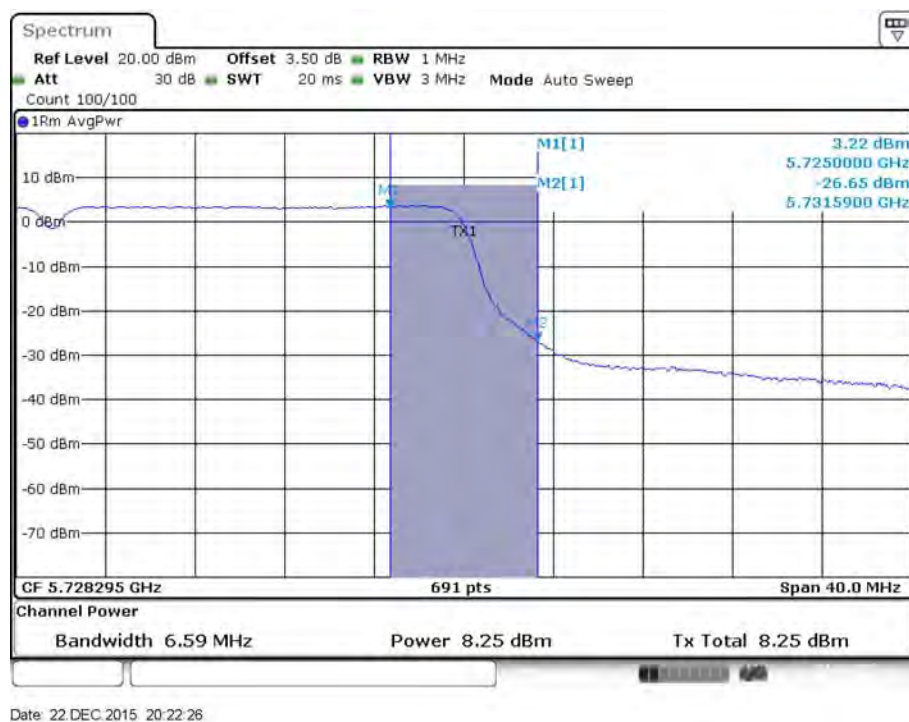
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 4 / 5710 MHz (UNII 2C)



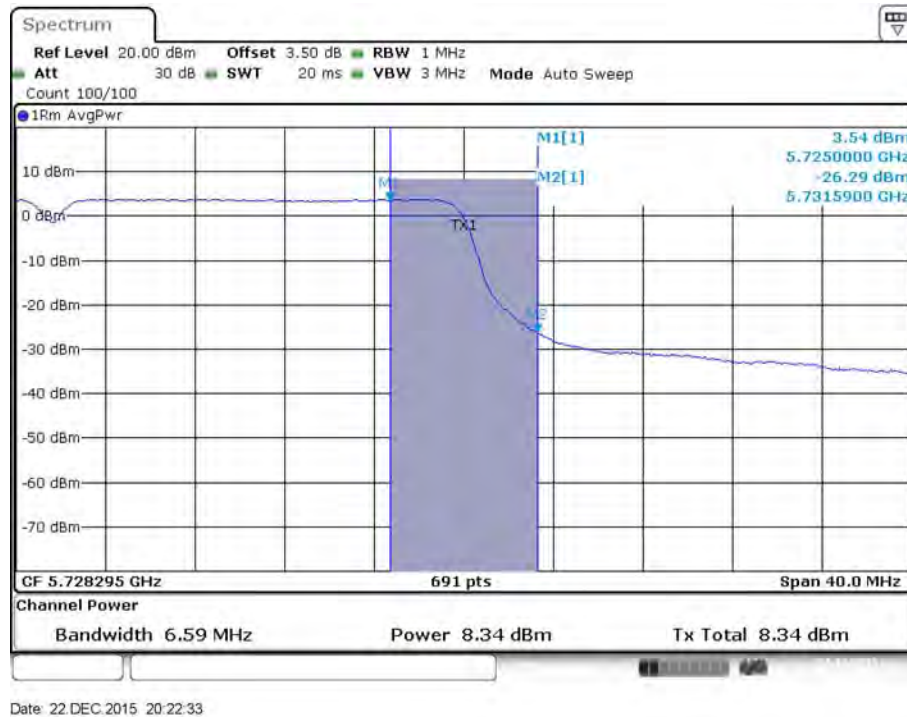
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 / 5710 MHz (UNII 3)



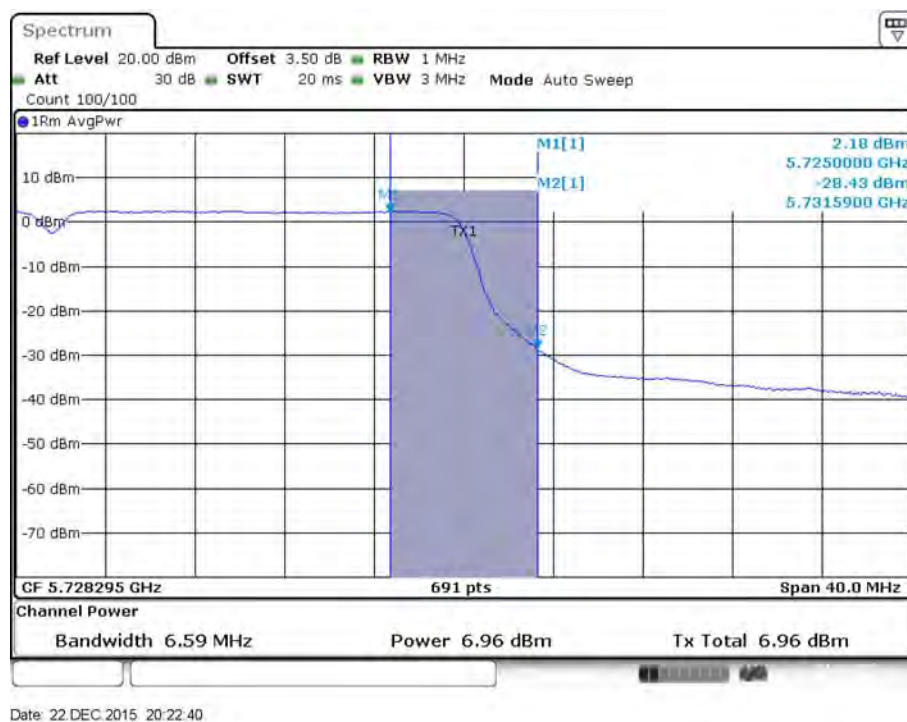
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 2 / 5710 MHz (UNII 3)



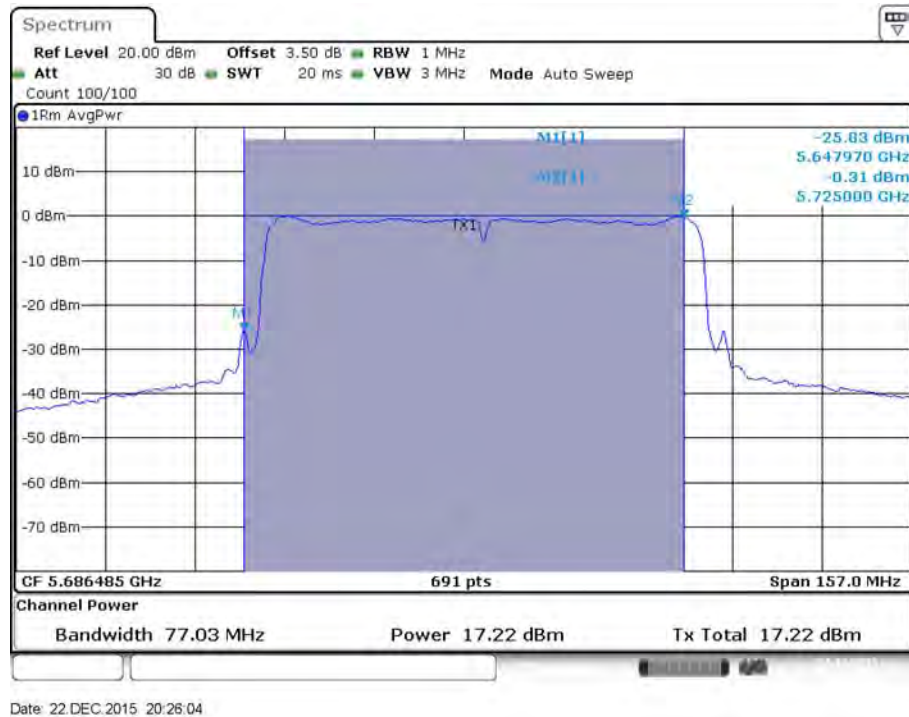
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 3 / 5710 MHz (UNII 3)



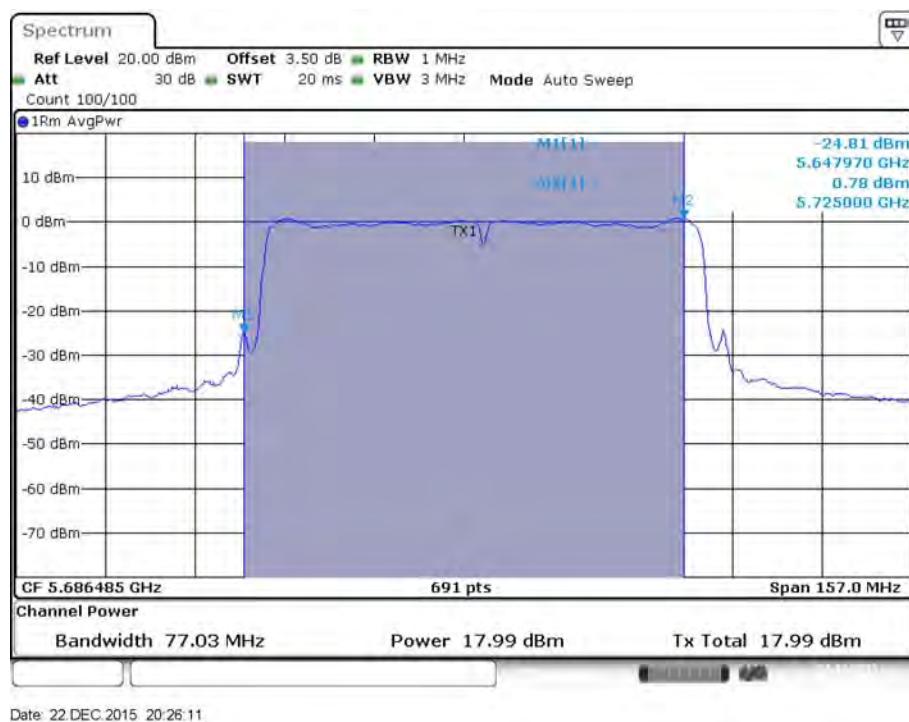
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 4 / 5710 MHz (UNII 3)



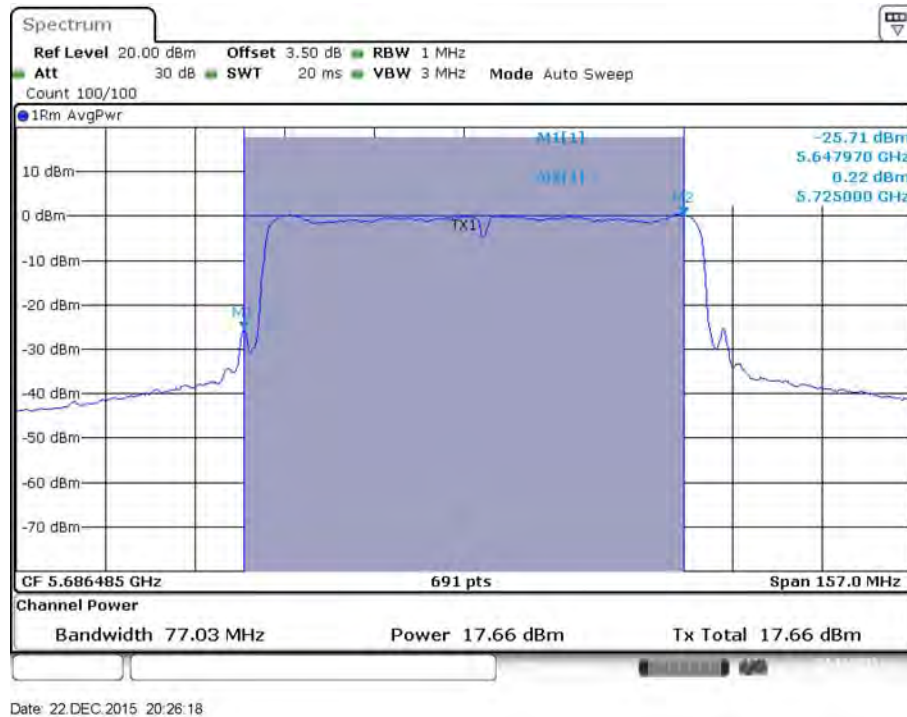
## Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 / 5690 MHz (UNII 2C)



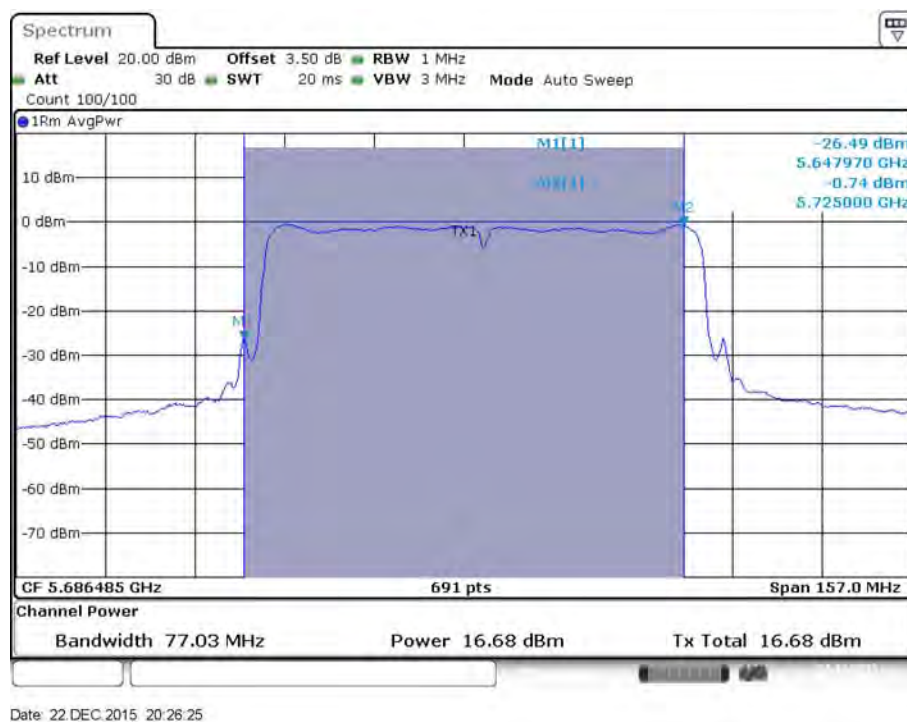
## Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 2 / 5690 MHz (UNII 2C)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 3 / 5690 MHz (UNII 2C)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 4 / 5690 MHz (UNII 2C)



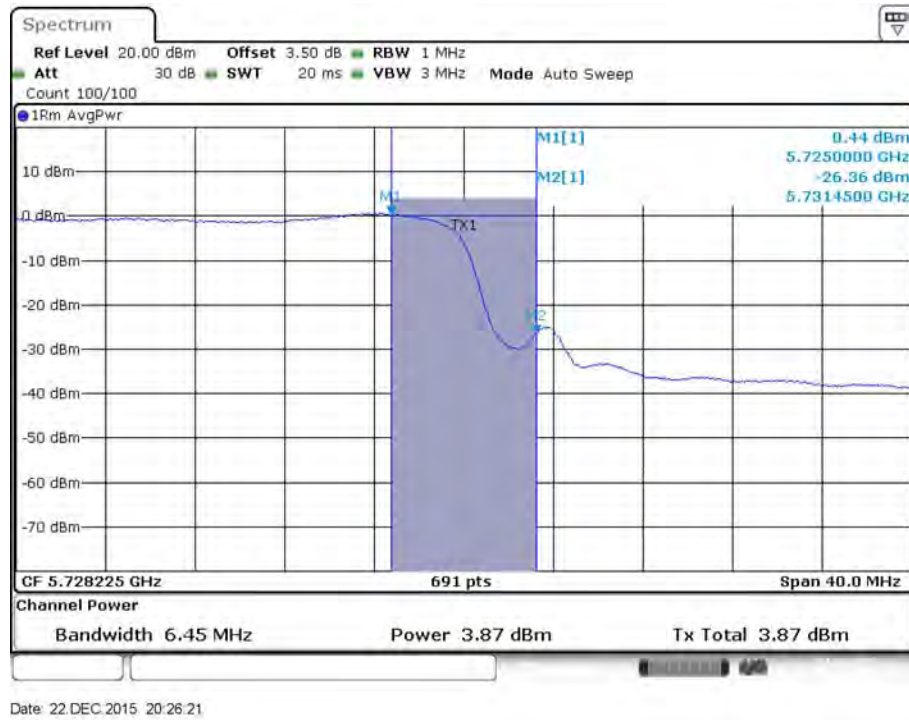
### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 / 5690 MHz (UNII 3)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 2 / 5690 MHz (UNII 3)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 3 / 5690 MHz (UNII 3)



### Conducted Output Power Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 4 / 5690 MHz (UNII 3)



## 4.5. Power Spectral Density Measurement

### 4.5.1. Limit

The following table is power spectral density limits and decrease power density limit rule refer to section 4.4.1.

| Frequency Band                      |                                    | Limit         |
|-------------------------------------|------------------------------------|---------------|
| <input checked="" type="checkbox"/> | 5.15~5.25 GHz                      |               |
|                                     | Operating Mode                     |               |
| <input type="checkbox"/>            | Outdoor access point               | 17 dBm/MHz    |
| <input checked="" type="checkbox"/> | Indoor access point                | 17 dBm/MHz    |
| <input type="checkbox"/>            | Fixed point-to-point access points | 17 dBm/MHz    |
| <input type="checkbox"/>            | Mobile and portable client devices | 11 dBm/MHz    |
| <input checked="" type="checkbox"/> | 5.25-5.35 GHz                      | 11 dBm/MHz    |
| <input checked="" type="checkbox"/> | 5.470-5.725 GHz                    | 11 dBm/MHz    |
| <input checked="" type="checkbox"/> | 5.725~5.85 GHz                     | 30 dBm/500kHz |

### 4.5.2. Measuring Instruments and Setting

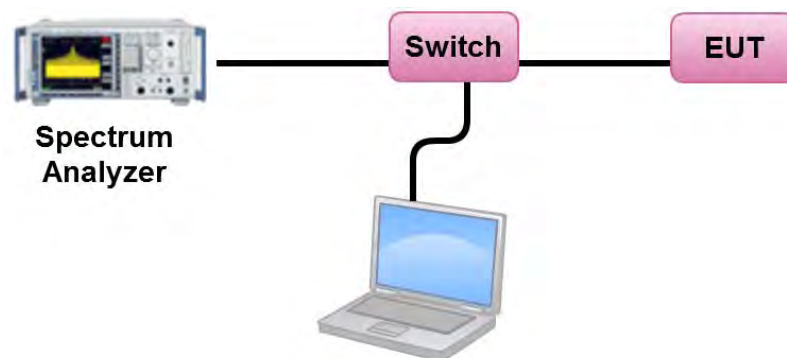
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

| Spectrum Parameter                                                                                                                                                                                                                                    | Setting                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| Attenuation                                                                                                                                                                                                                                           | Auto                                                         |
| Span Frequency                                                                                                                                                                                                                                        | Encompass the entire emissions bandwidth (EBW) of the signal |
| RBW                                                                                                                                                                                                                                                   | 1000 kHz                                                     |
| VBW                                                                                                                                                                                                                                                   | 3000 kHz                                                     |
| Detector                                                                                                                                                                                                                                              | RMS                                                          |
| Trace                                                                                                                                                                                                                                                 | AVERAGE                                                      |
| Sweep Time                                                                                                                                                                                                                                            | Auto                                                         |
| Trace Average                                                                                                                                                                                                                                         | 100 times                                                    |
| Note: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10\log(500\text{kHz}/\text{RBW})$ to the measured result, whereas RBW ( $< 500$ kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement. |                                                              |

#### 4.5.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB789033 D02 v01r01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple antenna systems was performed in accordance KDB662911 D01 v02r01 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs.
4. When measuring 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 Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.
5. For 5.725~5.85 GHz, the measured result of PSD level must add  $10\log(500\text{kHz}/\text{RBW})$  and the final result should  $\leq 30$  dBm.

#### 4.5.4. Test Setup Layout



#### 4.5.5. Test Deviation

There is no deviation with the original standard.

#### 4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

#### 4.5.7. Test Result of Power Spectral Density

|               |               |               |                          |
|---------------|---------------|---------------|--------------------------|
| Temperature   | 21°C          | Humidity      | 46%                      |
| Test Engineer | Lucas Huang   | Test Function | Non-beamforming function |
| Test Date     | Dec. 21, 2015 |               |                          |

#### Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4

| Channel | Frequency | Power Density (dBm/MHz) |                               | Max. Limit (dBm/MHz)       |                                  | Result   |
|---------|-----------|-------------------------|-------------------------------|----------------------------|----------------------------------|----------|
| 36      | 5180 MHz  | 12.95                   |                               | 15.28                      |                                  | Complies |
| 40      | 5200 MHz  | 13.11                   |                               | 15.28                      |                                  | Complies |
| 48      | 5240 MHz  | 12.94                   |                               | 15.28                      |                                  | Complies |
| 52      | 5260 MHz  | 8.96                    |                               | 9.31                       |                                  | Complies |
| 60      | 5300 MHz  | 9.07                    |                               | 9.31                       |                                  | Complies |
| 64      | 5320 MHz  | 9.16                    |                               | 9.31                       |                                  | Complies |
| 100     | 5500 MHz  | 9.21                    |                               | 9.39                       |                                  | Complies |
| 116     | 5580 MHz  | 9.17                    |                               | 9.39                       |                                  | Complies |
| 140     | 5700 MHz  | 9.33                    |                               | 9.39                       |                                  | Complies |
| Channel | Frequency | Power Density (dBm/MHz) | 10log(500kHz/RBW) Factor (dB) | Power Density (dBm/500kHz) | Power Density Limit (dBm/500kHz) | Result   |
| 149     | 5745 MHz  | 13.15                   | -3.01                         | 10.14                      | 28.56                            | Complies |
| 157     | 5785 MHz  | 12.81                   | -3.01                         | 9.80                       | 28.56                            | Complies |
| 165     | 5825 MHz  | 12.76                   | -3.01                         | 9.75                       | 28.56                            | Complies |

Note:  $Directional\ Gain = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

1. For band 1 directional gain=7.72dBi>6dBi, so limit=17 – (7.72 – 6)=15.28dBm/MHz.
2. For band 2 directional gain=7.69dBi>6dBi, so limit=11 – (7.69 – 6)=9.31dBm/MHz.
3. For band 3 directional gain=7.61dBi>6dBi, so limit=11 – (7.61 – 6)=9.39dBm/MHz.
4. For band 4 directional gain=7.44dBi>6dBi, so limit=30 – (7.44 – 6)=28.56dBm/500kHz.

**Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4**

| Channel | Frequency | Power Density (dBm/MHz) |                               | Max. Limit (dBm/MHz)       |                                  | Result   |
|---------|-----------|-------------------------|-------------------------------|----------------------------|----------------------------------|----------|
| 36      | 5180 MHz  | 12.97                   |                               | 15.28                      |                                  | Complies |
| 40      | 5200 MHz  | 13.51                   |                               | 15.28                      |                                  | Complies |
| 48      | 5240 MHz  | 13.42                   |                               | 15.28                      |                                  | Complies |
| 52      | 5260 MHz  | 9.13                    |                               | 9.31                       |                                  | Complies |
| 60      | 5300 MHz  | 8.91                    |                               | 9.31                       |                                  | Complies |
| 64      | 5320 MHz  | 9.17                    |                               | 9.31                       |                                  | Complies |
| 100     | 5500 MHz  | 9.18                    |                               | 9.39                       |                                  | Complies |
| 116     | 5580 MHz  | 9.05                    |                               | 9.39                       |                                  | Complies |
| 140     | 5700 MHz  | 9.30                    |                               | 9.39                       |                                  | Complies |
| Channel | Frequency | Power Density (dBm/MHz) | 10log(500kHz/RBW) Factor (dB) | Power Density (dBm/500kHz) | Power Density Limit (dBm/500kHz) | Result   |
| 149     | 5745 MHz  | 11.54                   | -3.01                         | 8.53                       | 28.56                            | Complies |
| 157     | 5785 MHz  | 12.65                   | -3.01                         | 9.64                       | 28.56                            | Complies |
| 165     | 5825 MHz  | 12.54                   | -3.01                         | 9.53                       | 28.56                            | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For band 1 directional gain=7.72dBi>6dBi, so limit=17 – (7.72 – 6)=15.28dBm/MHz.
2. For band 2 directional gain=7.69dBi>6dBi, so limit=11 – (7.69 – 6)=9.31dBm/MHz.
3. For band 3 directional gain=7.61dBi>6dBi, so limit=11 – (7.61 – 6)=9.39dBm/MHz.
4. For band 4 directional gain=7.44dBi>6dBi, so limit=30 – (7.44 – 6)=28.56dBm/500kHz.

**Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4**

| Channel | Frequency | Power Density (dBm/MHz) |                               | Max. Limit (dBm/MHz)       |                                  | Result   |
|---------|-----------|-------------------------|-------------------------------|----------------------------|----------------------------------|----------|
| 38      | 5190 MHz  | 6.82                    |                               | 15.28                      |                                  | Complies |
| 46      | 5230 MHz  | 10.40                   |                               | 15.28                      |                                  | Complies |
| 54      | 5270 MHz  | 7.60                    |                               | 9.31                       |                                  | Complies |
| 62      | 5310 MHz  | 6.90                    |                               | 9.31                       |                                  | Complies |
| 102     | 5510 MHz  | 6.87                    |                               | 9.39                       |                                  | Complies |
| 110     | 5550 MHz  | 7.27                    |                               | 9.39                       |                                  | Complies |
| 134     | 5670 MHz  | 7.65                    |                               | 9.39                       |                                  | Complies |
| Channel | Frequency | Power Density (dBm/MHz) | 10log(500kHz/RBW) Factor (dB) | Power Density (dBm/500kHz) | Power Density Limit (dBm/500kHz) | Result   |
| 151     | 5755 MHz  | 7.32                    | -3.01                         | 4.31                       | 28.56                            | Complies |
| 159     | 5795 MHz  | 7.56                    | -3.01                         | 4.55                       | 28.56                            | Complies |

Note:  $Directional\ Gain = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{K=1}^{N_{ANT}}g_{j,k}\right\}^2}{N_{ANT}}\right]$

1. For band 1 directional gain=7.72dBi>6dBi, so limit=17 – (7.72 – 6)=15.28dBm/MHz.
2. For band 2 directional gain=7.69dBi>6dBi, so limit=11 – (7.69 – 6)=9.31dBm/MHz.
3. For band 3 directional gain=7.61dBi>6dBi, so limit=11 – (7.61 – 6)=9.39dBm/MHz.
4. For band 4 directional gain=7.44dBi>6dBi, so limit=30 – (7.44 – 6)=28.56dBm/500kHz.

**Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4**

| Channel | Frequency | Power Density (dBm/MHz) |                               | Max. Limit (dBm/MHz)       |                                  | Result   |
|---------|-----------|-------------------------|-------------------------------|----------------------------|----------------------------------|----------|
| 42      | 5210 MHz  | 2.88                    |                               | 15.28                      |                                  | Complies |
| 58      | 5290 MHz  | 3.61                    |                               | 9.31                       |                                  | Complies |
| 106     | 5530 MHz  | 3.60                    |                               | 9.39                       |                                  | Complies |
| 122     | 5610 MHz  | 4.52                    |                               | 9.39                       |                                  | Complies |
| Channel | Frequency | Power Density (dBm/MHz) | 10log(500kHz/RBW) Factor (dB) | Power Density (dBm/500kHz) | Power Density Limit (dBm/500kHz) | Result   |
| 155     | 5775 MHz  | 3.54                    | -3.01                         | 0.53                       | 28.56                            | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For band 1 directional gain=7.72dBi>6dBi, so limit=17 – (7.72 – 6)=15.28dBm/MHz.
2. For band 2 directional gain=7.69dBi>6dBi, so limit=11 – (7.69 – 6)=9.31dBm/MHz.
3. For band 3 directional gain=7.61dBi>6dBi, so limit=11 – (7.61 – 6)=9.39dBm/MHz.
4. For band 4 directional gain=7.44dBi>6dBi, so limit=30 – (7.44 – 6)=28.56dBm/500kHz.

### Straddle Channel

#### Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4

| Channel | Frequency             | Power Density (dBm/MHz)    |                                  | Max. Limit (dBm/MHz)          |                                        | Result   |
|---------|-----------------------|----------------------------|----------------------------------|-------------------------------|----------------------------------------|----------|
| 144     | 5720 MHz<br>(UNII 2C) | 9.37                       |                                  | 9.39                          |                                        | Complies |
| Channel | Frequency             | Power Density<br>(dBm/MHz) | 10log(500kHz/RBW)<br>Factor (dB) | Power Density<br>(dBm/500kHz) | Power Density<br>Limit<br>(dBm/500kHz) | Result   |
| 144     | 5720 MHz<br>(UNII 3)  | 9.62                       | -3.01                            | 6.61                          | 28.56                                  | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For (UNII 2C) directional gain=7.61dBi>6dBi, so limit=11 – (7.61 – 6)=9.39dBm/MHz.
2. For(UNII 3) directional gain=7.44dBi>6dBi, so limit=30 – (7.44 – 6)=28.56dBm/500kHz.

#### Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4

| Channel | Frequency             | Power Density (dBm/MHz)    |                                  | Max. Limit (dBm/MHz)          |                                        | Result   |
|---------|-----------------------|----------------------------|----------------------------------|-------------------------------|----------------------------------------|----------|
| 144     | 5720 MHz<br>(UNII 2C) | 9.23                       |                                  | 9.39                          |                                        | Complies |
| Channel | Frequency             | Power Density<br>(dBm/MHz) | 10log(500kHz/RBW)<br>Factor (dB) | Power Density<br>(dBm/500kHz) | Power Density<br>Limit<br>(dBm/500kHz) | Result   |
| 144     | 5720 MHz<br>(UNII 3)  | 9.34                       | -3.01                            | 6.33                          | 28.56                                  | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For (UNII 2C) directional gain=7.61dBi>6dBi, so limit=11 – (7.61 – 6)=9.39dBm/MHz.
2. For(UNII 3) directional gain=7.44dBi>6dBi, so limit=30 – (7.44 – 6)=28.56dBm/500kHz.

**Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4**

| Channel | Frequency             | Power Density (dBm/MHz)    |                                  | Max. Limit (dBm/MHz)          |                                        | Result   |
|---------|-----------------------|----------------------------|----------------------------------|-------------------------------|----------------------------------------|----------|
| 142     | 5710 MHz<br>(UNII 2C) | 7.92                       |                                  | 9.39                          |                                        | Complies |
| Channel | Frequency             | Power Density<br>(dBm/MHz) | 10log(500kHz/RBW)<br>Factor (dB) | Power Density<br>(dBm/500kHz) | Power Density<br>Limit<br>(dBm/500kHz) | Result   |
| 142     | 5710 MHz<br>(UNII 3)  | 7.44                       | -3.01                            | 4.43                          | 28.56                                  | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For (UNII 2C) directional gain=7.61dBi>6dBi, so limit=11 – (7.61 – 6)=9.39dBm/MHz.
2. For(UNII 3) directional gain=7.44dBi>6dBi, so limit=30 – (7.44 – 6)=28.56dBm/500kHz.

**Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4**

| Channel | Frequency             | Power Density (dBm/MHz)    |                                  | Max. Limit (dBm/MHz)          |                                        | Result   |
|---------|-----------------------|----------------------------|----------------------------------|-------------------------------|----------------------------------------|----------|
| 138     | 5690 MHz<br>(UNII 2C) | 5.12                       |                                  | 9.39                          |                                        | Complies |
| Channel | Frequency             | Power Density<br>(dBm/MHz) | 10log(500kHz/RBW)<br>Factor (dB) | Power Density<br>(dBm/500kHz) | Power Density<br>Limit<br>(dBm/500kHz) | Result   |
| 138     | 5690 MHz<br>(UNII 3)  | 4.89                       | -3.01                            | 1.88                          | 28.56                                  | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For (UNII 2C) directional gain=7.61dBi>6dBi, so limit=11 – (7.61 – 6)=9.39dBm/MHz.
2. For(UNII 3) directional gain=7.44dBi>6dBi, so limit=30 – (7.44 – 6)=28.56dBm/500kHz.

|               |               |               |                      |
|---------------|---------------|---------------|----------------------|
| Temperature   | 21°C          | Humidity      | 46%                  |
| Test Engineer | Lucas Huang   | Test Function | Beamforming function |
| Test Date     | Dec. 21, 2015 |               |                      |

#### Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4

| Channel | Frequency | Power Density (dBm/MHz) |                               | Max. Limit (dBm/MHz)       |                                  | Result   |
|---------|-----------|-------------------------|-------------------------------|----------------------------|----------------------------------|----------|
| 36      | 5180 MHz  | 11.53                   |                               | 17.00                      |                                  | Complies |
| 40      | 5200 MHz  | 13.51                   |                               | 17.00                      |                                  | Complies |
| 48      | 5240 MHz  | 13.42                   |                               | 17.00                      |                                  | Complies |
| 52      | 5260 MHz  | 10.65                   |                               | 11.00                      |                                  | Complies |
| 60      | 5300 MHz  | 10.82                   |                               | 11.00                      |                                  | Complies |
| 64      | 5320 MHz  | 10.63                   |                               | 11.00                      |                                  | Complies |
| 100     | 5500 MHz  | 10.62                   |                               | 11.00                      |                                  | Complies |
| 116     | 5580 MHz  | 10.73                   |                               | 11.00                      |                                  | Complies |
| 140     | 5700 MHz  | 10.55                   |                               | 11.00                      |                                  | Complies |
| Channel | Frequency | Power Density (dBm/MHz) | 10log(500kHz/RBW) Factor (dB) | Power Density (dBm/500kHz) | Power Density Limit (dBm/500kHz) | Result   |
| 149     | 5745 MHz  | 10.29                   | -3.01                         | 7.28                       | 30.00                            | Complies |
| 157     | 5785 MHz  | 12.65                   | -3.01                         | 9.64                       | 30.00                            | Complies |
| 165     | 5825 MHz  | 12.54                   | -3.01                         | 9.53                       | 30.00                            | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For band 1 directional gain=4.71dBi<6dBi, so the limit doesn't reduce.
2. For band 2 directional gain=4.68dBi<6dBi, so the limit doesn't reduce.
3. For band 3 directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
4. For band 4 directional gain=4.43dBi<6dBi, so the limit doesn't reduce.

**Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4**

| Channel | Frequency | Power Density (dBm/MHz) |                               | Max. Limit (dBm/MHz)       |                                  | Result   |
|---------|-----------|-------------------------|-------------------------------|----------------------------|----------------------------------|----------|
| 38      | 5190 MHz  | 6.82                    |                               | 17.00                      |                                  | Complies |
| 46      | 5230 MHz  | 10.40                   |                               | 17.00                      |                                  | Complies |
| 54      | 5270 MHz  | 8.53                    |                               | 11.00                      |                                  | Complies |
| 62      | 5310 MHz  | 7.40                    |                               | 11.00                      |                                  | Complies |
| 102     | 5510 MHz  | 8.41                    |                               | 11.00                      |                                  | Complies |
| 110     | 5550 MHz  | 8.48                    |                               | 11.00                      |                                  | Complies |
| 134     | 5670 MHz  | 7.52                    |                               | 11.00                      |                                  | Complies |
| Channel | Frequency | Power Density (dBm/MHz) | 10log(500kHz/RBW) Factor (dB) | Power Density (dBm/500kHz) | Power Density Limit (dBm/500kHz) | Result   |
| 151     | 5755 MHz  | 6.39                    | -3.01                         | 3.38                       | 30.00                            | Complies |
| 159     | 5795 MHz  | 7.56                    | -3.01                         | 4.55                       | 30.00                            | Complies |

Note:  $Directional\ Gain = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

1. For band 1 directional gain=4.71dBi<6dBi, so the limit doesn't reduce.
2. For band 2 directional gain=4.68dBi<6dBi, so the limit doesn't reduce.
3. For band 3 directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
4. For band 4 directional gain=4.43dBi<6dBi, so the limit doesn't reduce.

**Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4**

| Channel | Frequency | Power Density (dBm/MHz) |                               | Max. Limit (dBm/MHz)       |                                  | Result   |
|---------|-----------|-------------------------|-------------------------------|----------------------------|----------------------------------|----------|
| 42      | 5210 MHz  | 3.43                    |                               | 17.00                      |                                  | Complies |
| 58      | 5290 MHz  | 4.23                    |                               | 11.00                      |                                  | Complies |
| 106     | 5530 MHz  | 4.25                    |                               | 11.00                      |                                  | Complies |
| 122     | 5610 MHz  | 5.51                    |                               | 11.00                      |                                  | Complies |
| Channel | Frequency | Power Density (dBm/MHz) | 10log(500kHz/RBW) Factor (dB) | Power Density (dBm/500kHz) | Power Density Limit (dBm/500kHz) | Result   |
| 155     | 5775 MHz  | 3.09                    | -3.01                         | 0.08                       | 30.00                            | Complies |

Note:  $Directional\ Gain = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

1. For band 1 directional gain=4.71dBi<6dBi, so the limit doesn't reduce.
2. For band 2 directional gain=4.68dBi<6dBi, so the limit doesn't reduce.
3. For band 3 directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
4. For band 4 directional gain=4.43dBi<6dBi, so the limit doesn't reduce.

### Straddle Channel

#### Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4

| Channel | Frequency             | Power Density (dBm/MHz)    |                                  | Max. Limit (dBm/MHz)          |                                        | Result   |
|---------|-----------------------|----------------------------|----------------------------------|-------------------------------|----------------------------------------|----------|
| 144     | 5720 MHz<br>(UNII 2C) | 10.57                      |                                  | 11.00                         |                                        | Complies |
| Channel | Frequency             | Power Density<br>(dBm/MHz) | 10log(500kHz/RBW)<br>Factor (dB) | Power Density<br>(dBm/500kHz) | Power Density<br>Limit<br>(dBm/500kHz) | Result   |
| 144     | 5720 MHz<br>(UNII 3)  | 10.34                      | -3.01                            | 7.33                          | 30.00                                  | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For (UNII 2C) directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
2. For (UNII 3) directional gain=4.43dBi<6dBi, so the limit doesn't reduce.

#### Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4

| Channel | Frequency             | Power Density (dBm/MHz)    |                                  | Max. Limit (dBm/MHz)          |                                        | Result   |
|---------|-----------------------|----------------------------|----------------------------------|-------------------------------|----------------------------------------|----------|
| 142     | 5710 MHz<br>(UNII 2C) | 8.30                       |                                  | 11.00                         |                                        | Complies |
| Channel | Frequency             | Power Density<br>(dBm/MHz) | 10log(500kHz/RBW)<br>Factor (dB) | Power Density<br>(dBm/500kHz) | Power Density<br>Limit<br>(dBm/500kHz) | Result   |
| 142     | 5710 MHz<br>(UNII 3)  | 8.14                       | -3.01                            | 5.13                          | 30.00                                  | Complies |

Note:  $Directional\ Gain = 10 \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$

1. For (UNII 2C) directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
2. For (UNII 3) directional gain=4.43dBi<6dBi, so the limit doesn't reduce.

**Configuration IEEE 802.11ac MCS0/Nss2 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4**

| Channel | Frequency             | Power Density (dBm/MHz)    |                                  | Max. Limit (dBm/MHz)          |                                        | Result   |
|---------|-----------------------|----------------------------|----------------------------------|-------------------------------|----------------------------------------|----------|
| 138     | 5690 MHz<br>(UNII 2C) | 4.82                       |                                  | 11.00                         |                                        | Complies |
| Channel | Frequency             | Power Density<br>(dBm/MHz) | 10log(500kHz/RBW)<br>Factor (dB) | Power Density<br>(dBm/500kHz) | Power Density<br>Limit<br>(dBm/500kHz) | Result   |
| 138     | 5690 MHz<br>(UNII 3)  | 4.75                       | -3.01                            | 1.74                          | 30.00                                  | Complies |

Note:  $Directional\ Gain = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{K=1}^{N_{ANT}}g_{j,k}\right\}^2}{N_{ANT}}\right]$

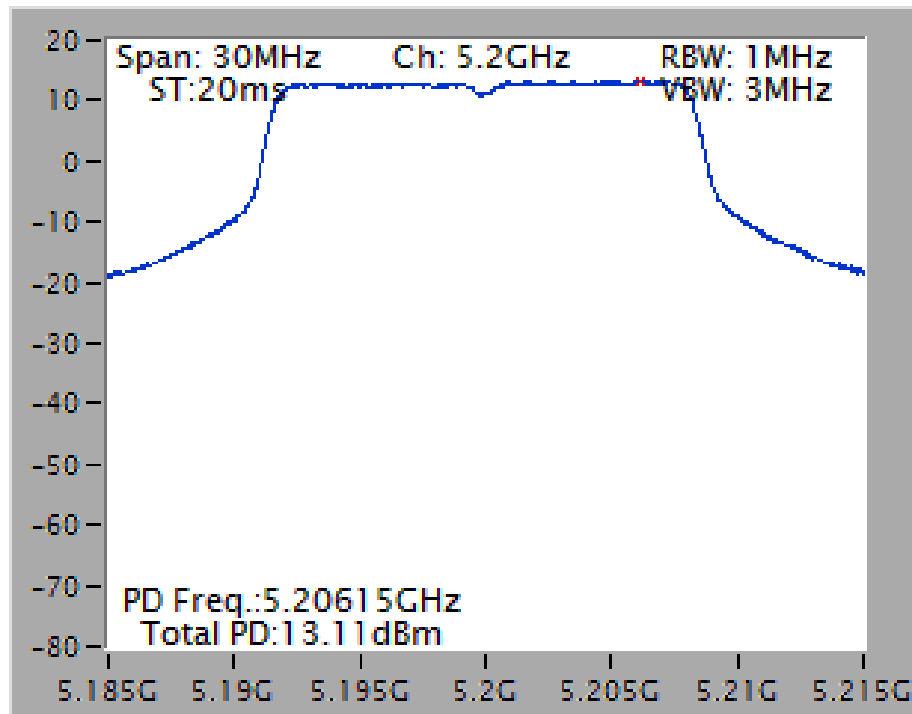
1. For (UNII 2C) directional gain=4.60dBi<6dBi, so the limit doesn't reduce.
2. For (UNII 3) directional gain=4.43dBi<6dBi, so the limit doesn't reduce.

Note: All the test values were listed in the report.

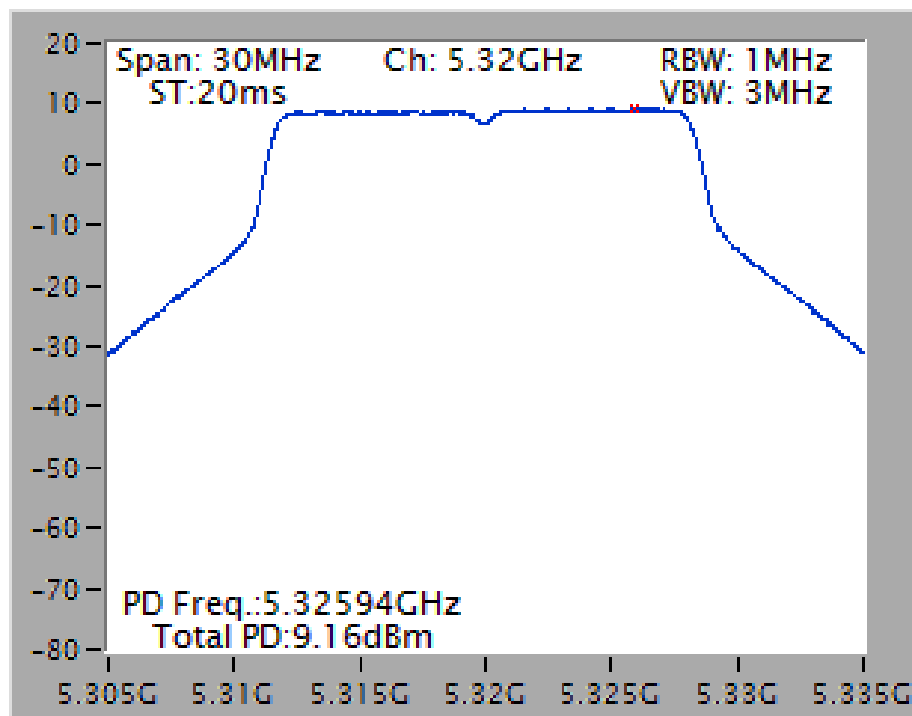
For plots, only the channel with worse result was shown.

For non-beamforming function:

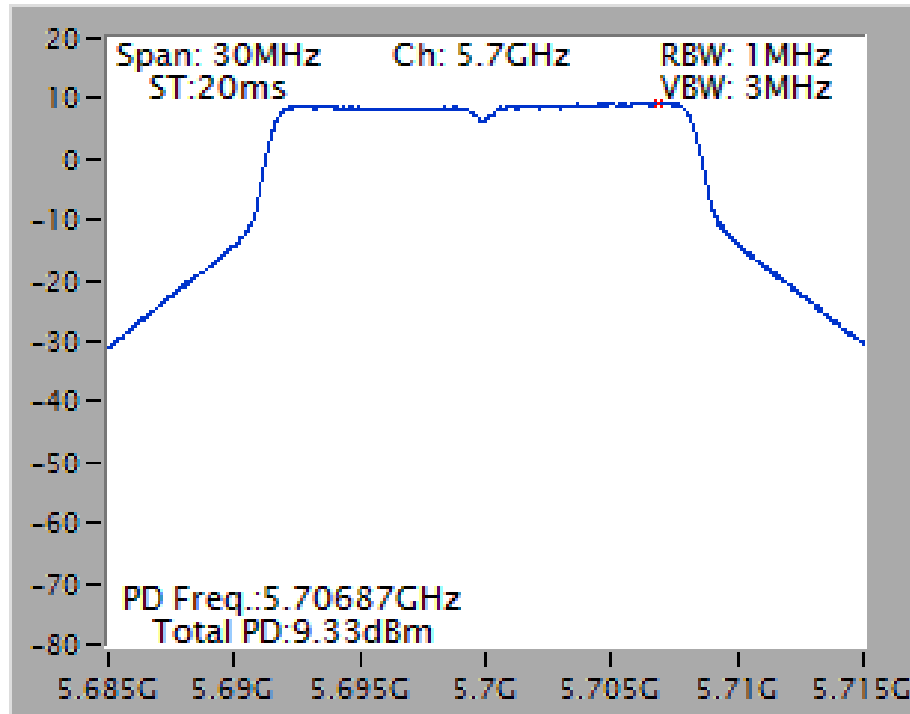
Power Density Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



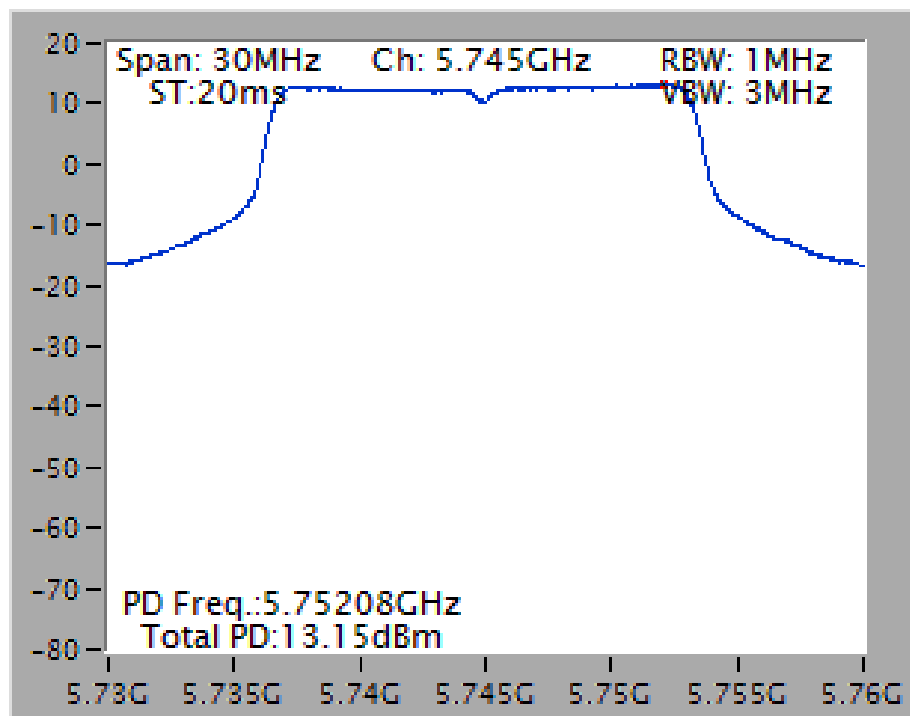
Power Density Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



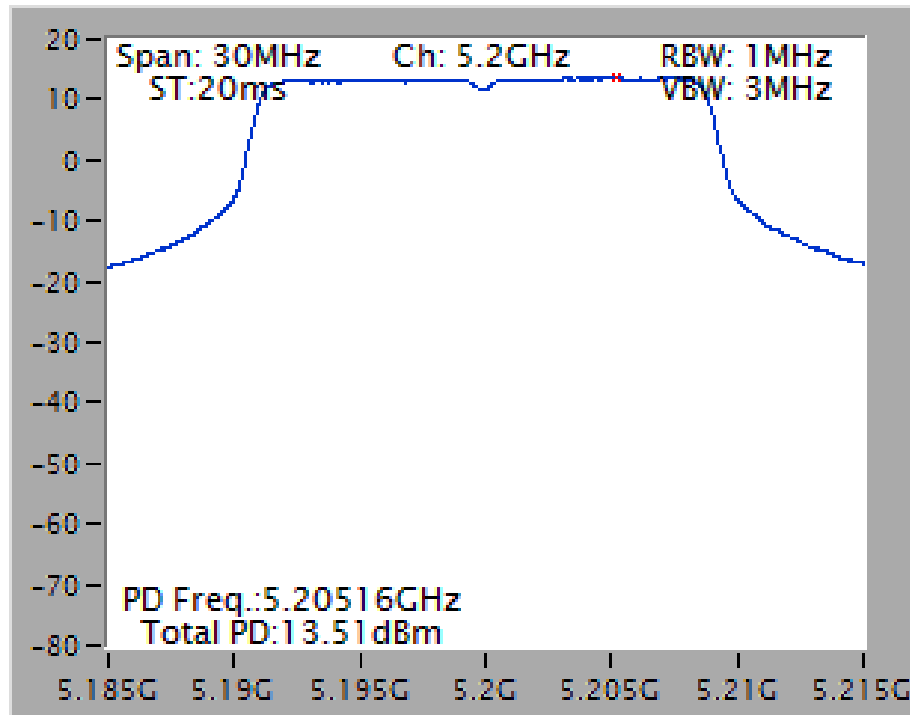
Power Density Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



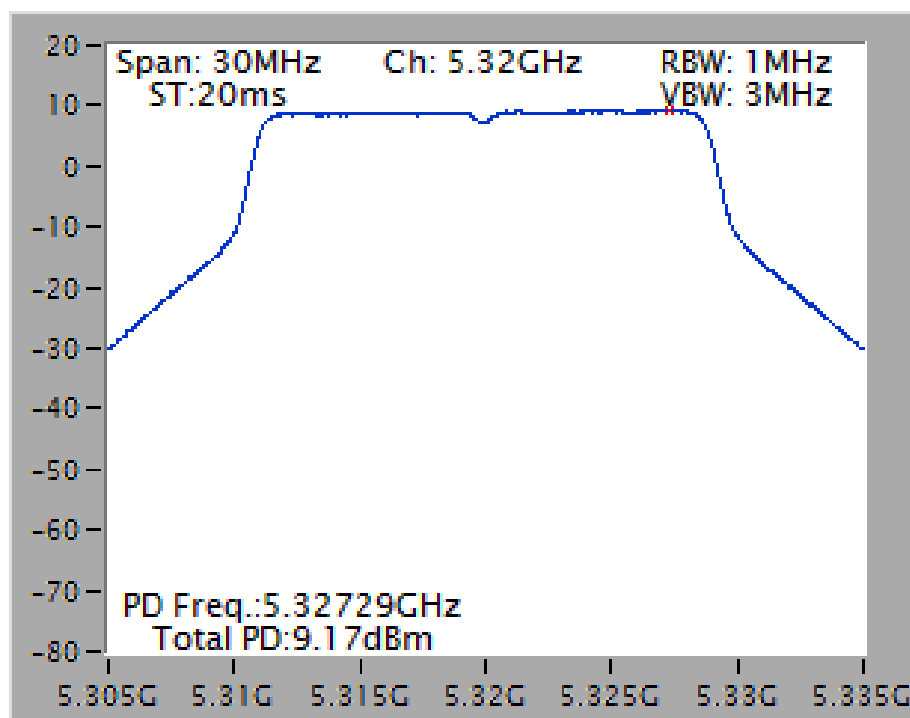
Power Density Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5745 MHz



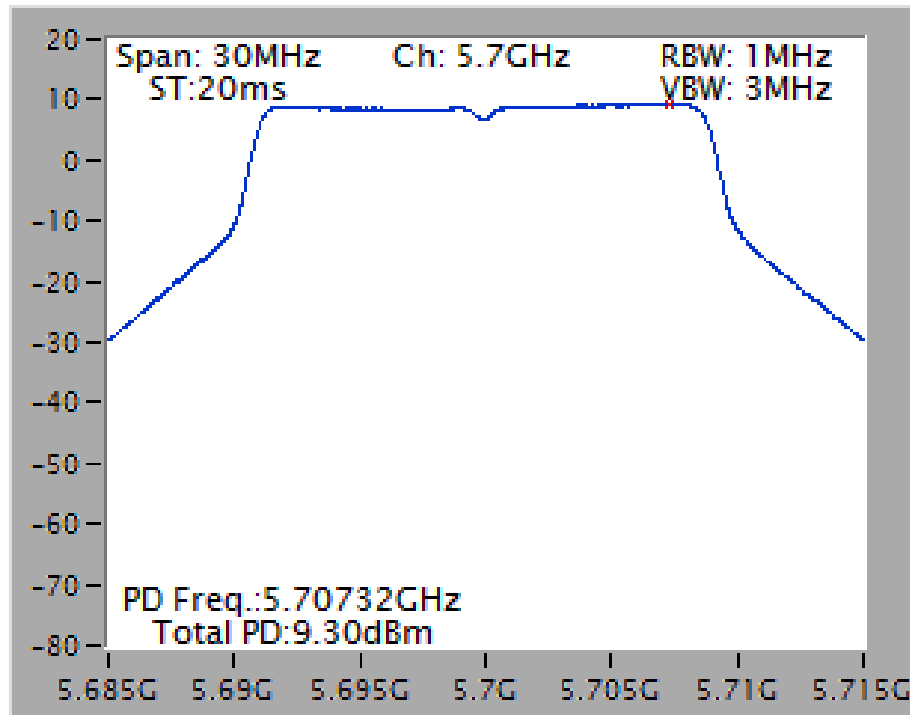
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



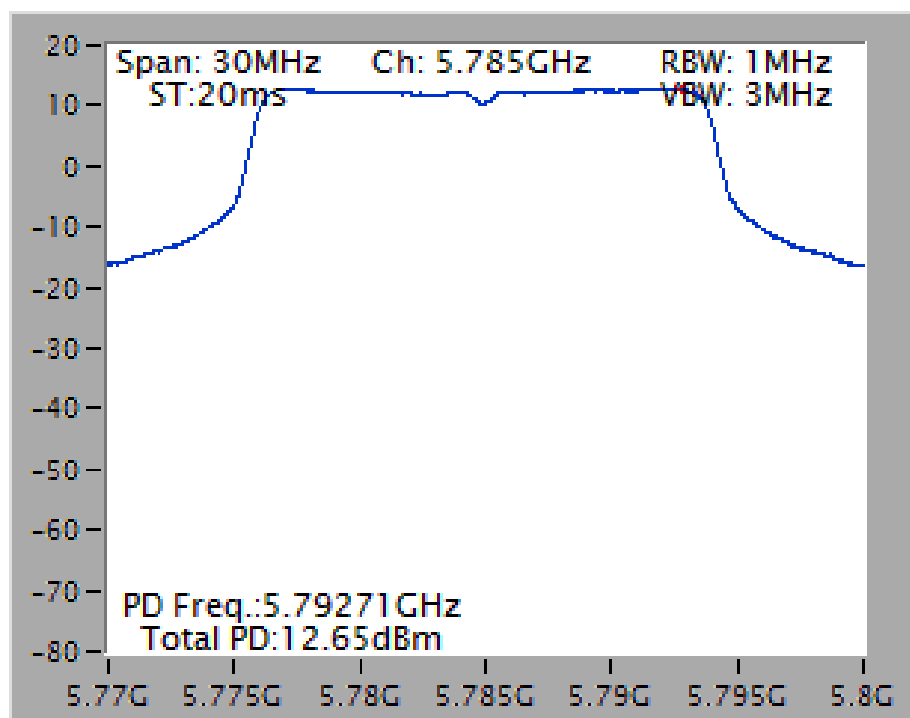
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5320 MHz



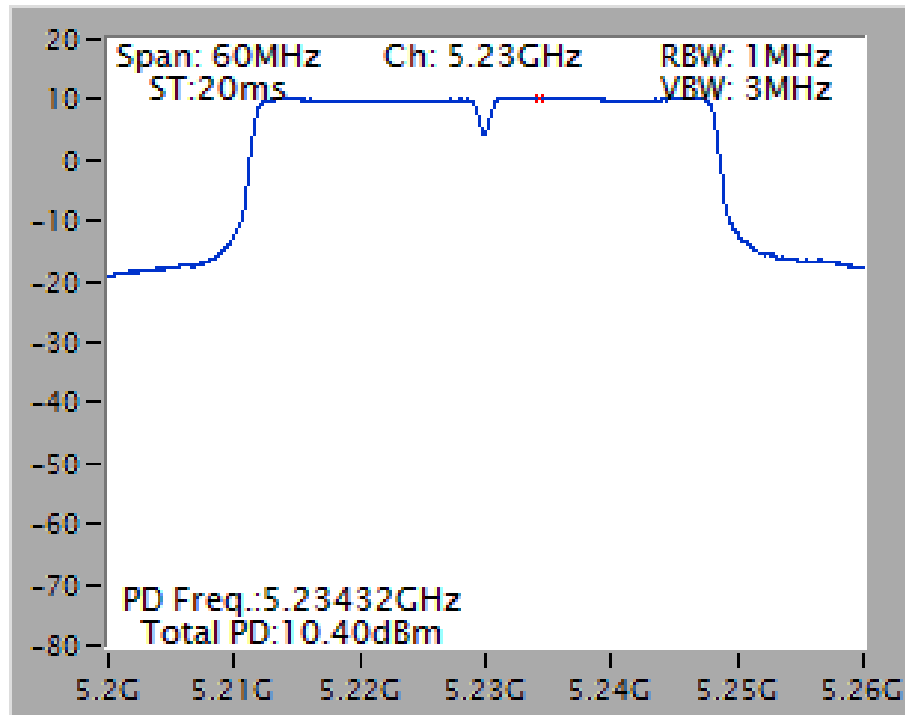
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5700 MHz



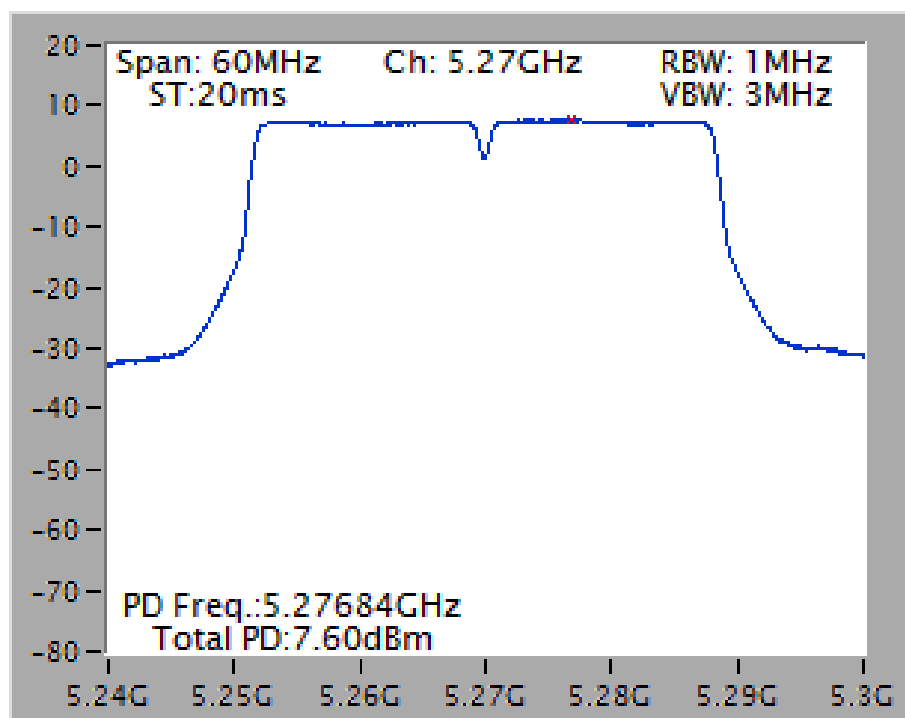
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



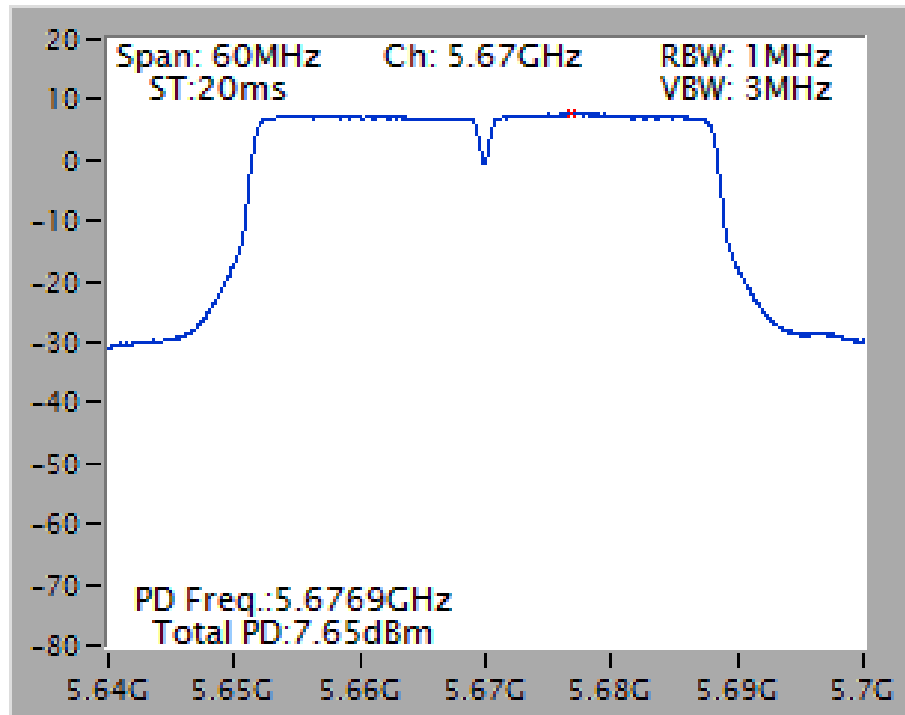
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



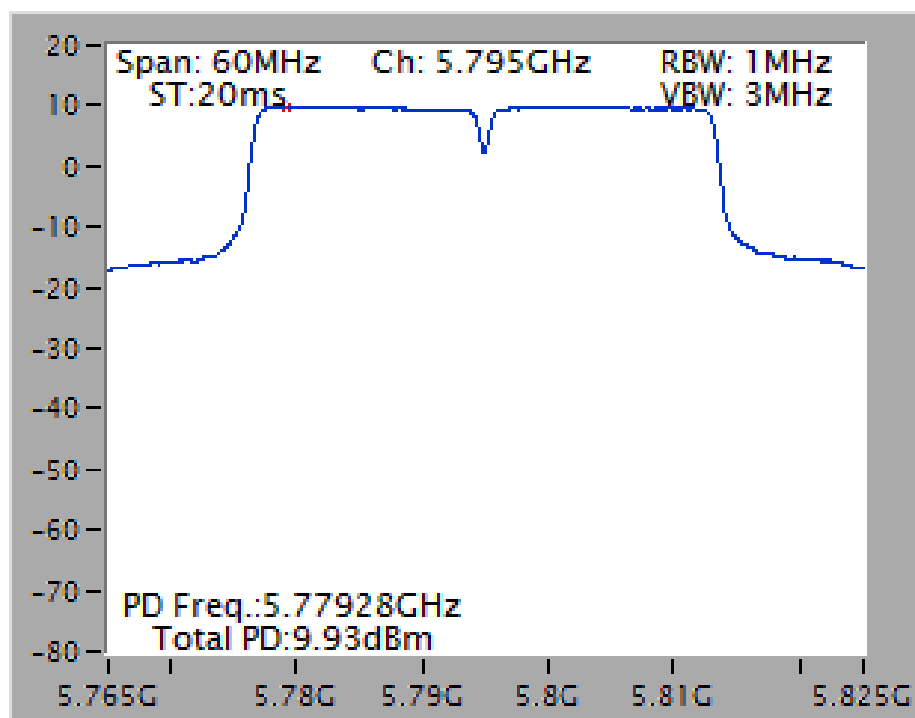
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



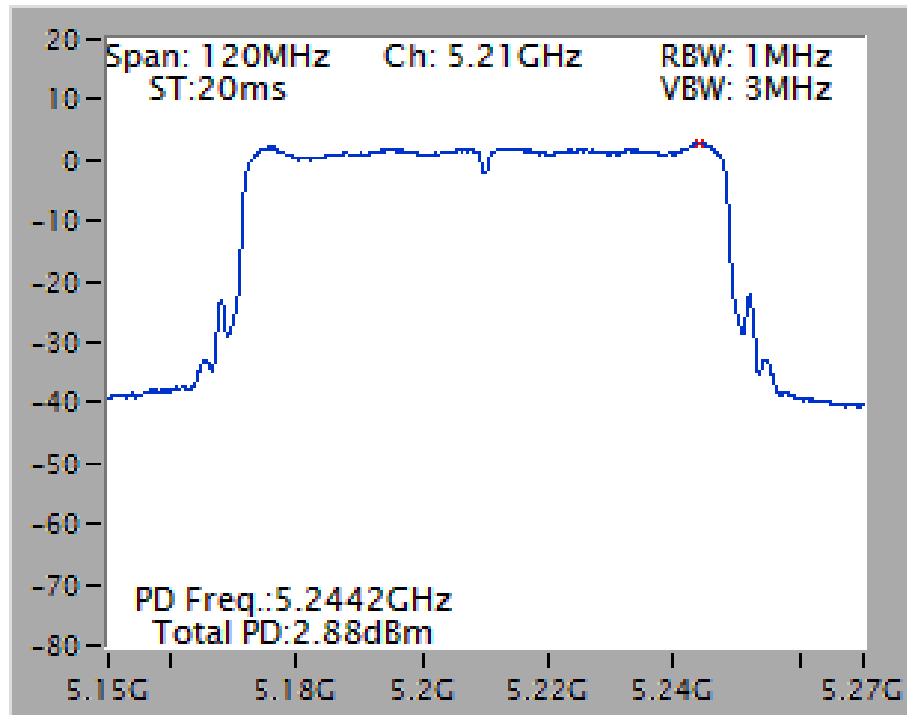
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5670 MHz



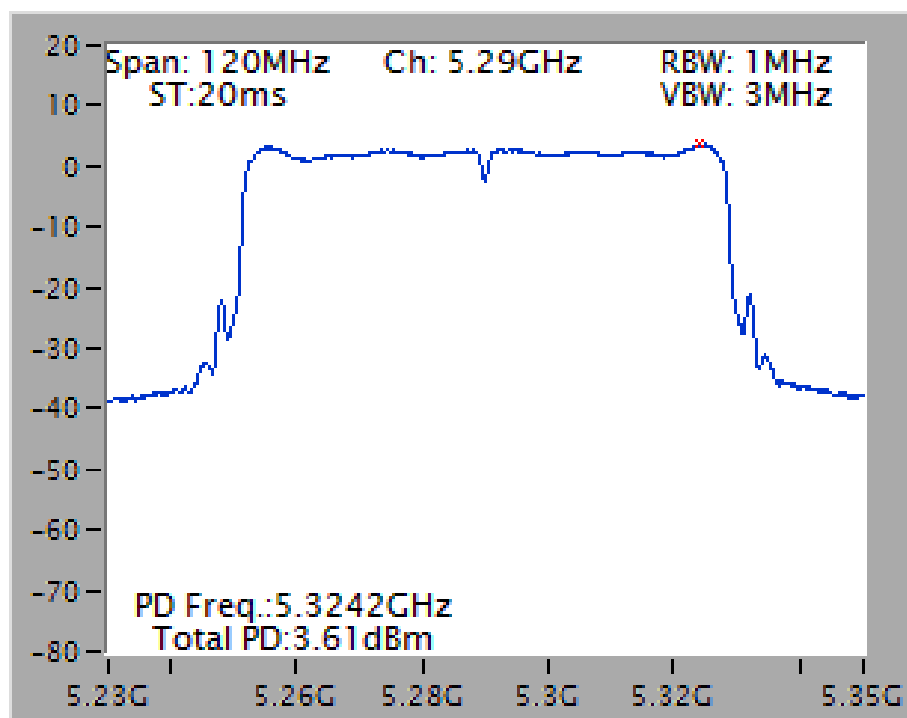
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz



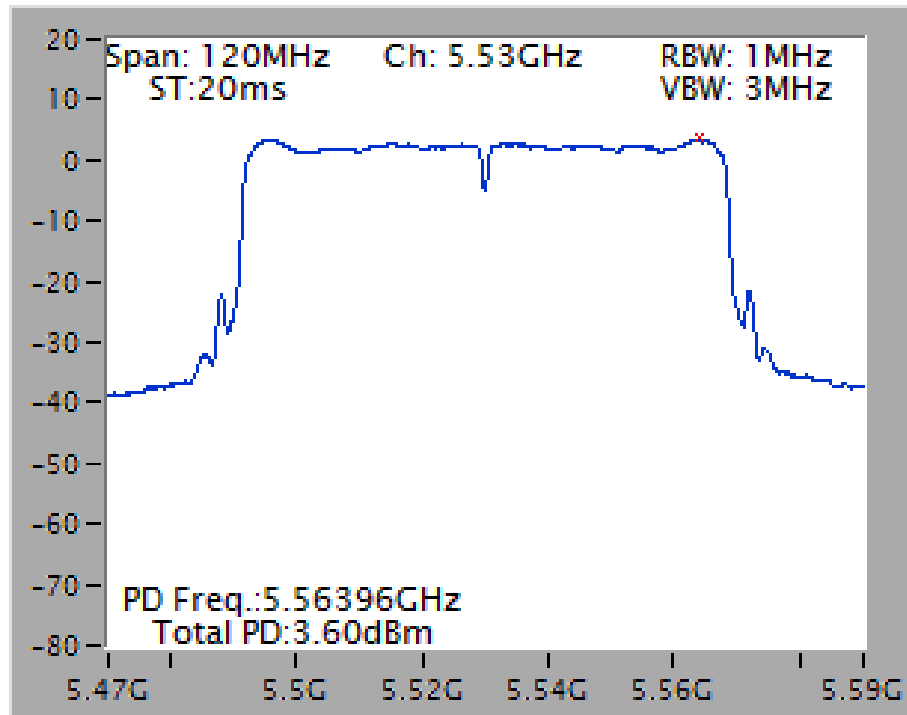
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5210 MHz



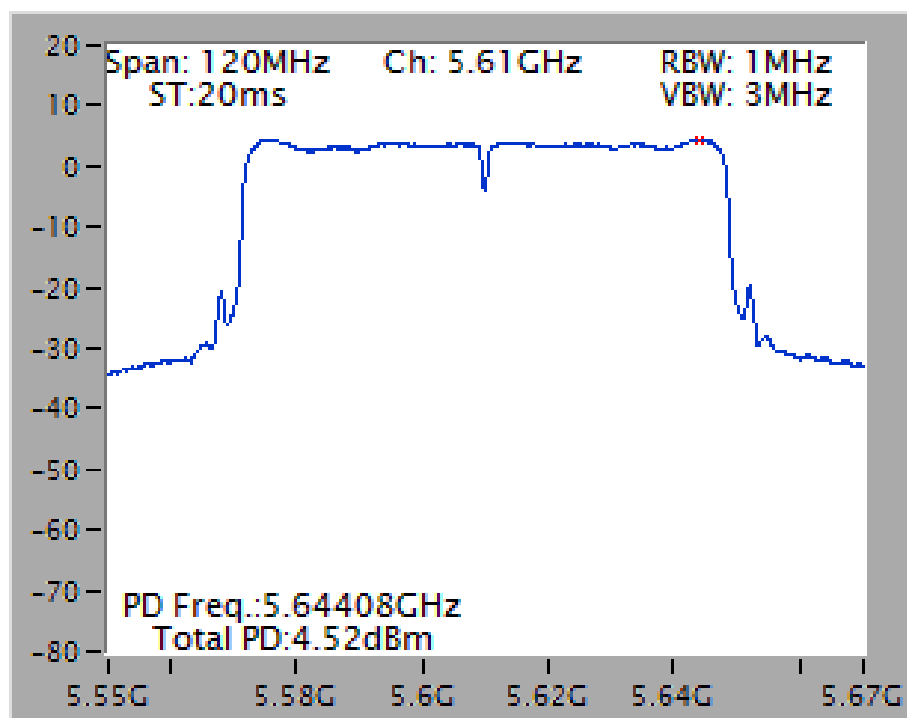
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5290 MHz



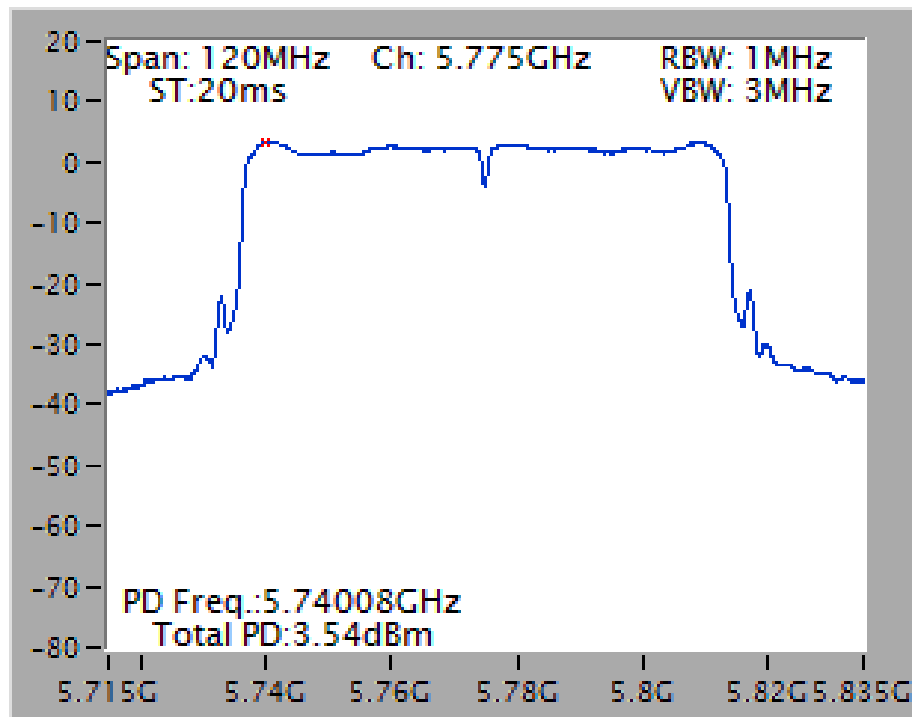
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5530 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz

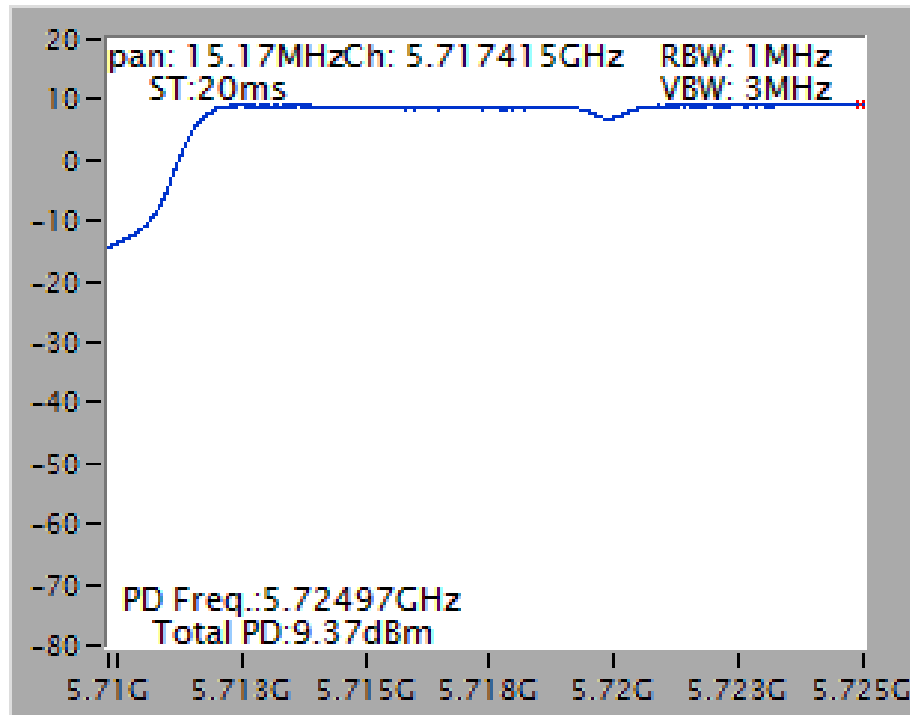


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5775 MHz

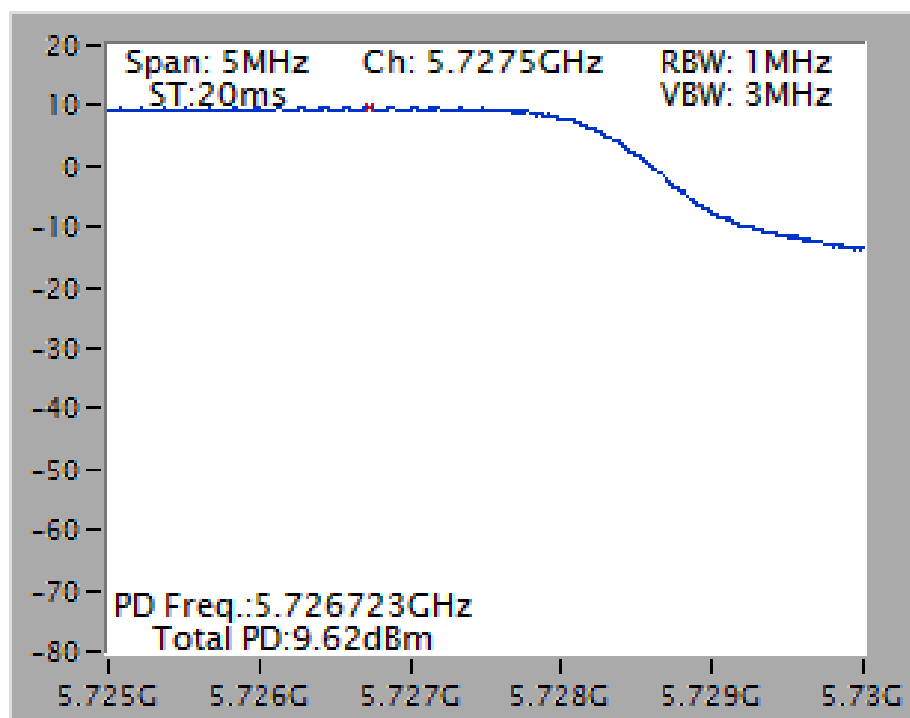


### Straddle Channel

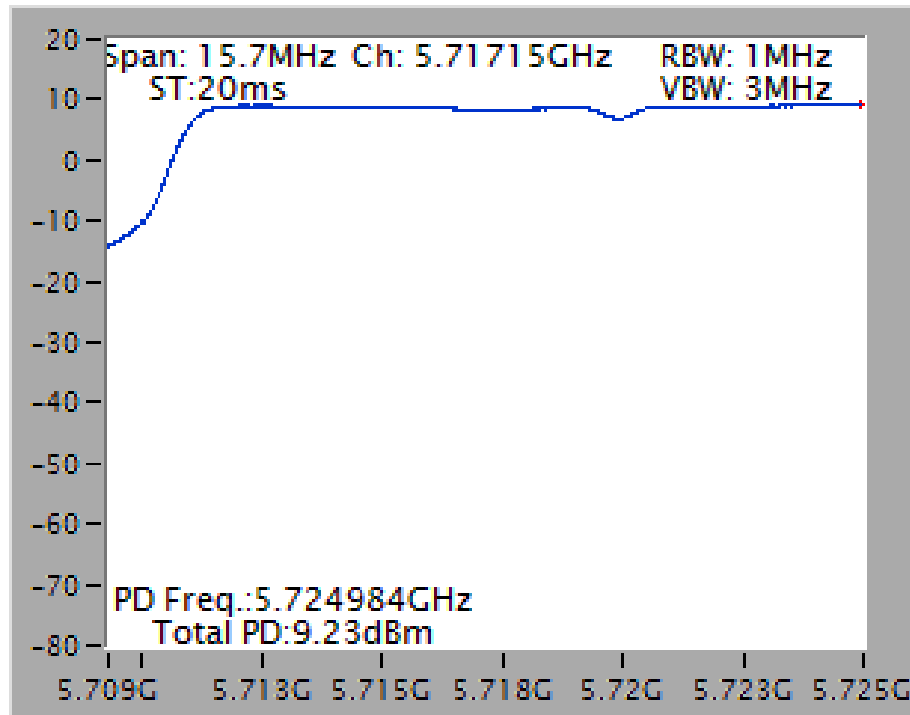
Power Density Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz  
(UNII 2C)



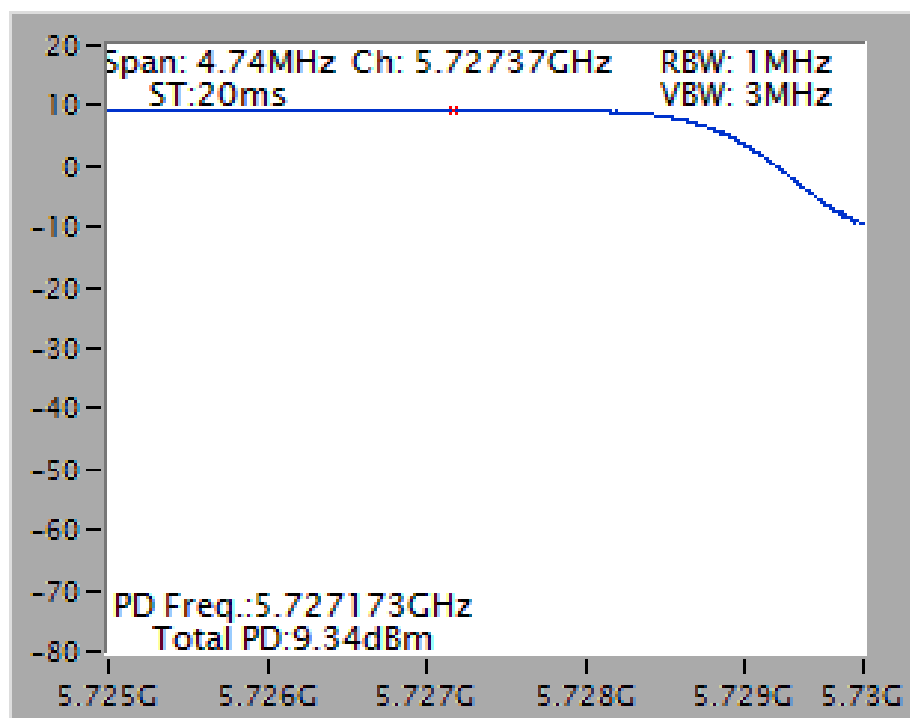
Power Density Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz  
(UNII 3)



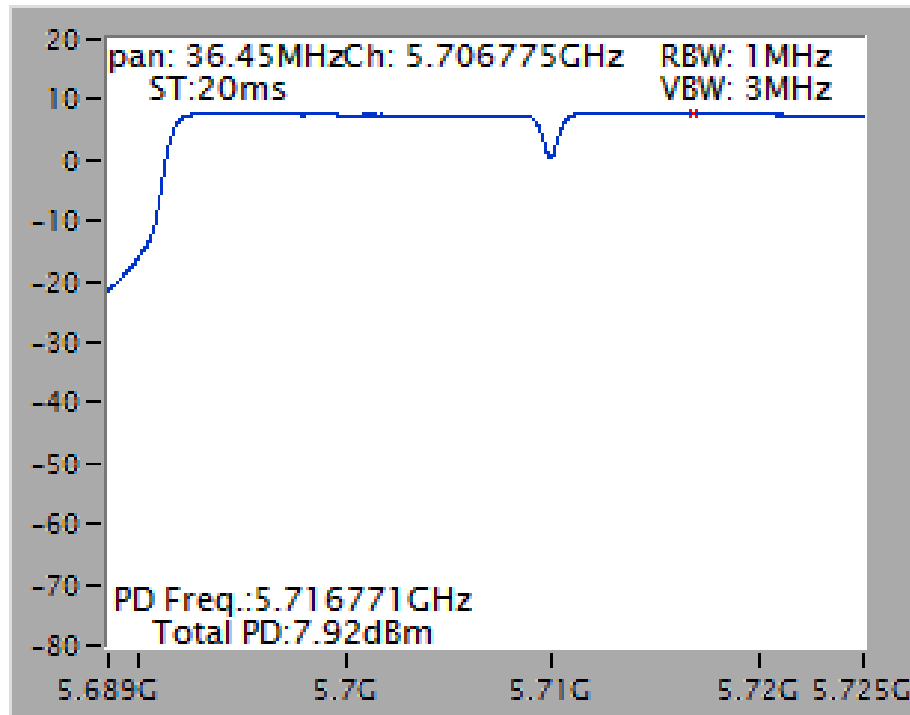
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz (UNII 2C)



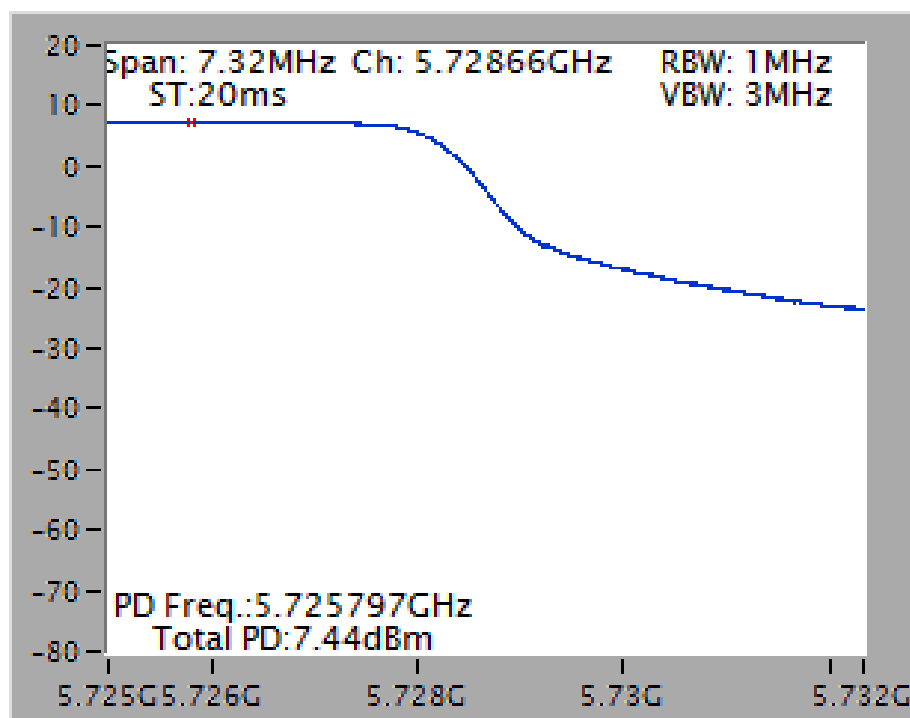
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5720 MHz (UNII 3)



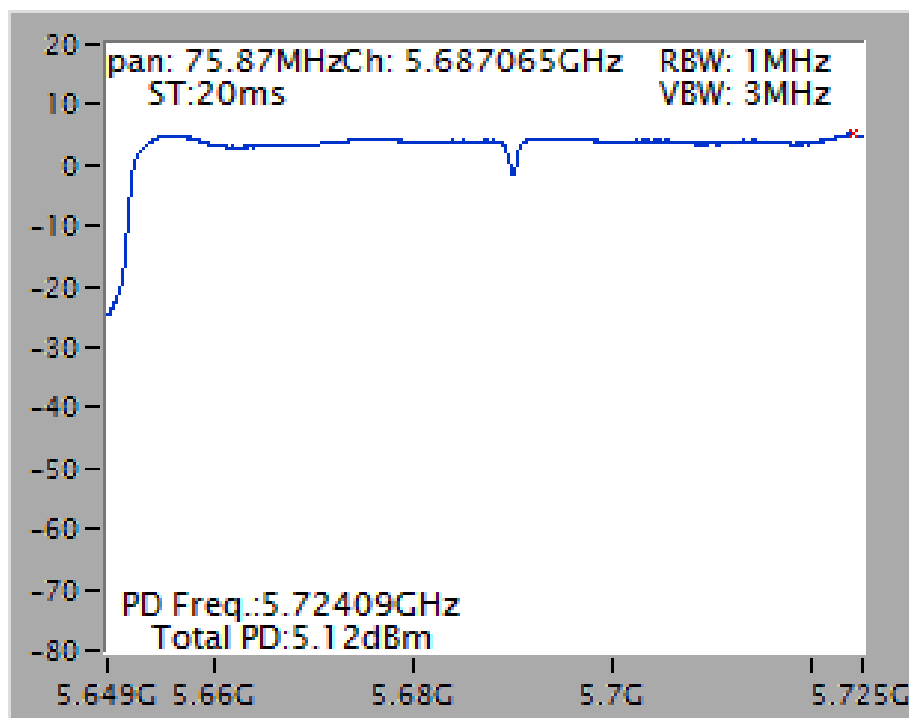
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz (UNII 2C)



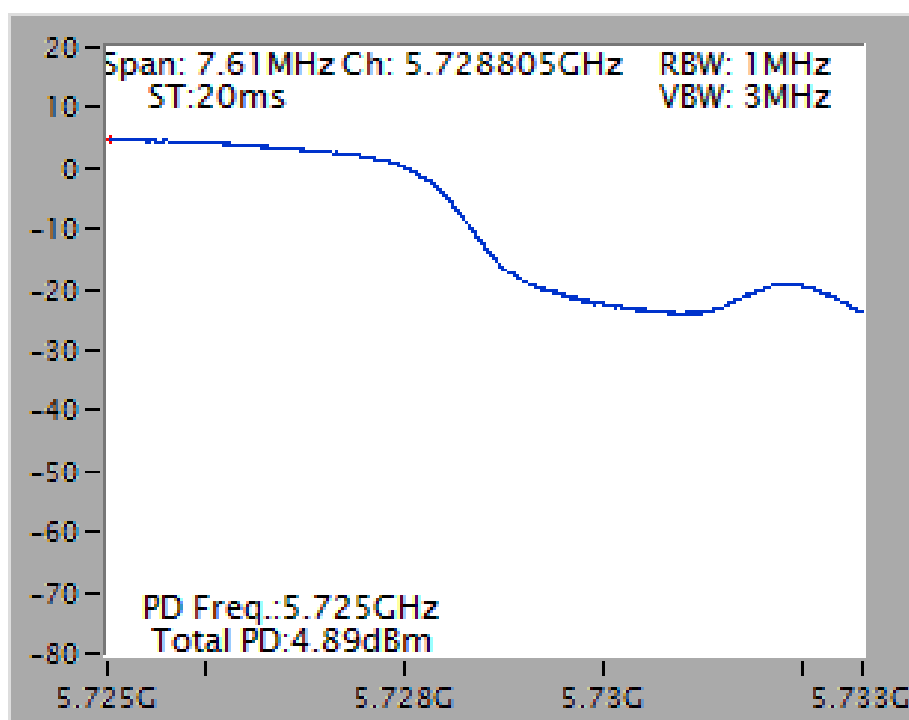
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5710 MHz (UNII 3)



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz (UNII 2C)

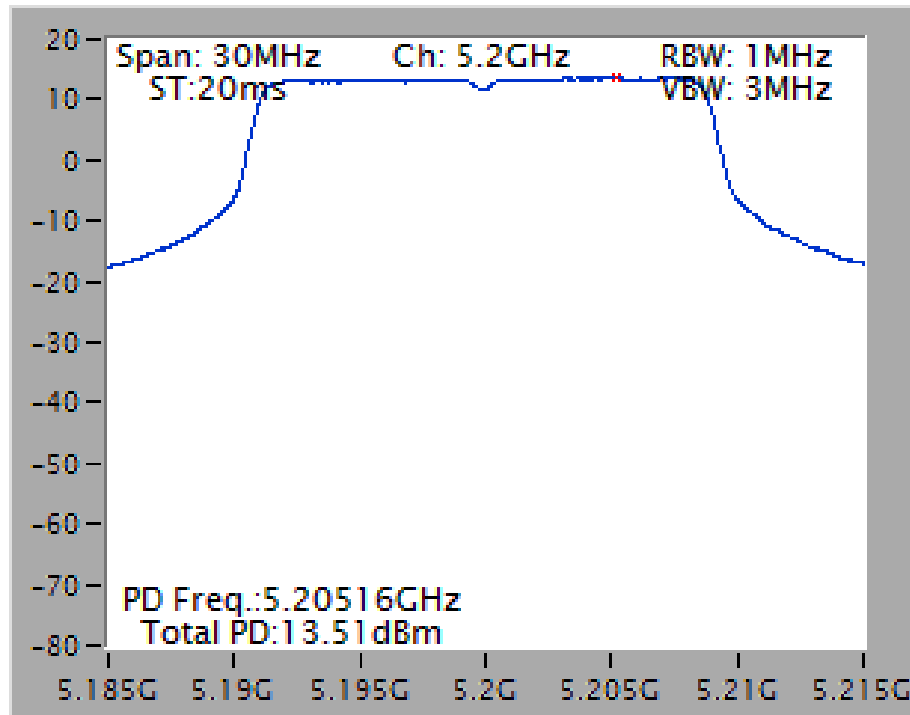


Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz (UNII 3)

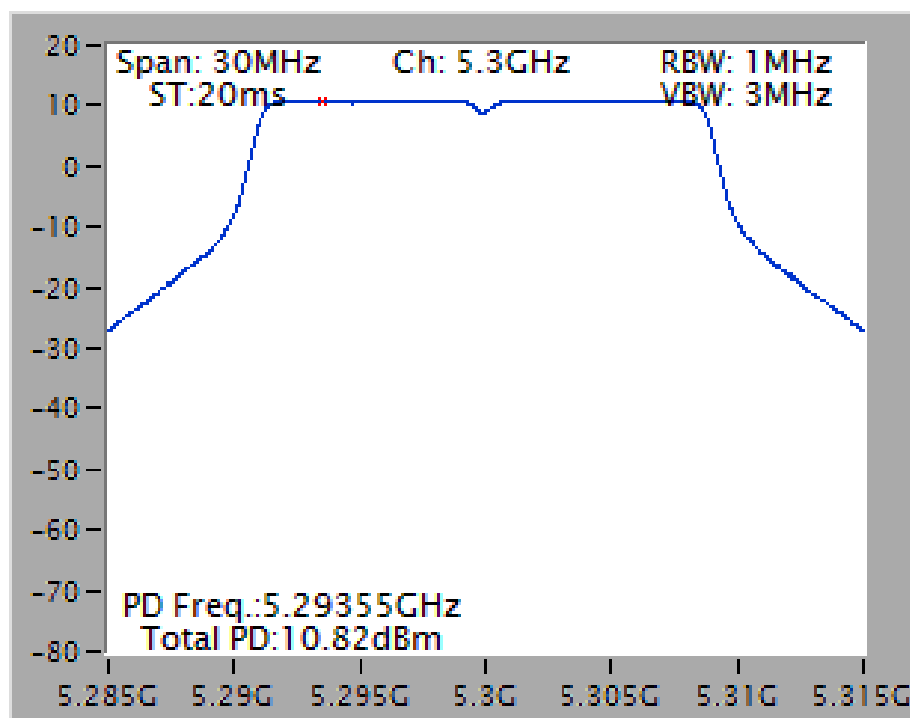


For beamforming function:

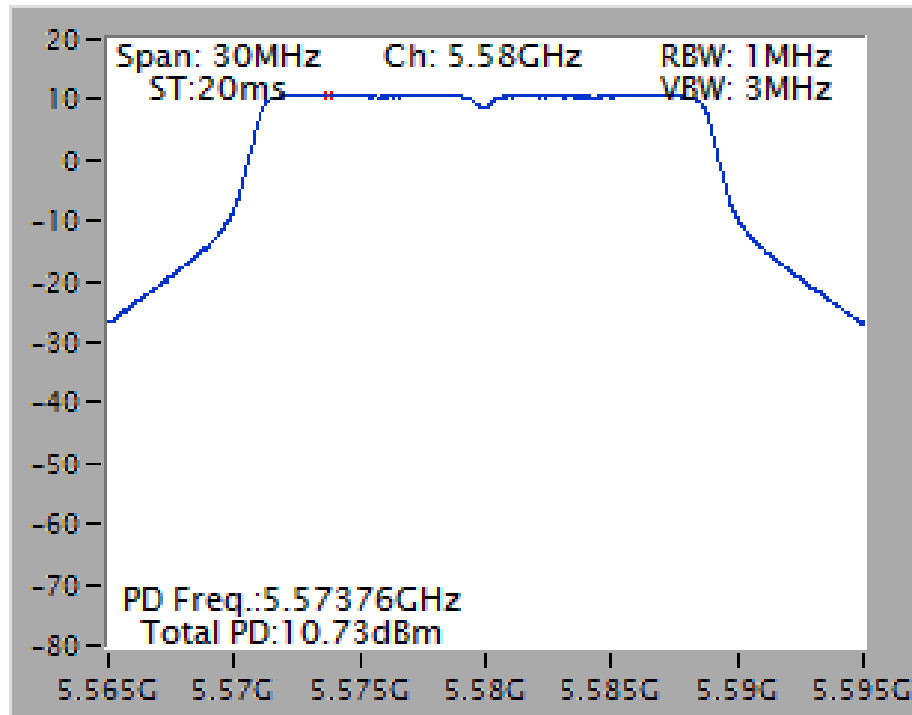
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5200 MHz



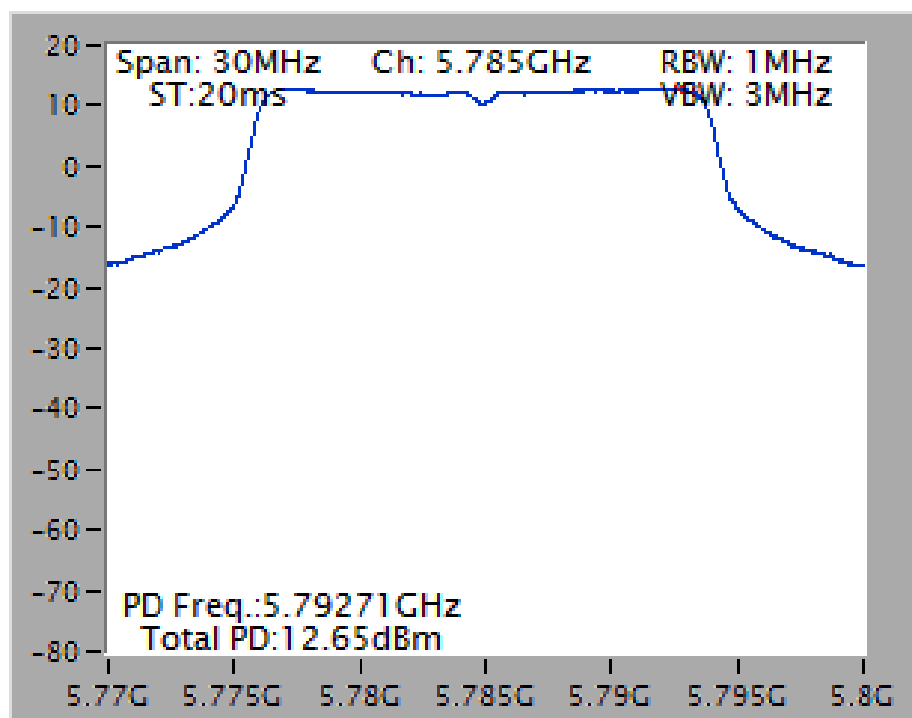
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5300 MHz



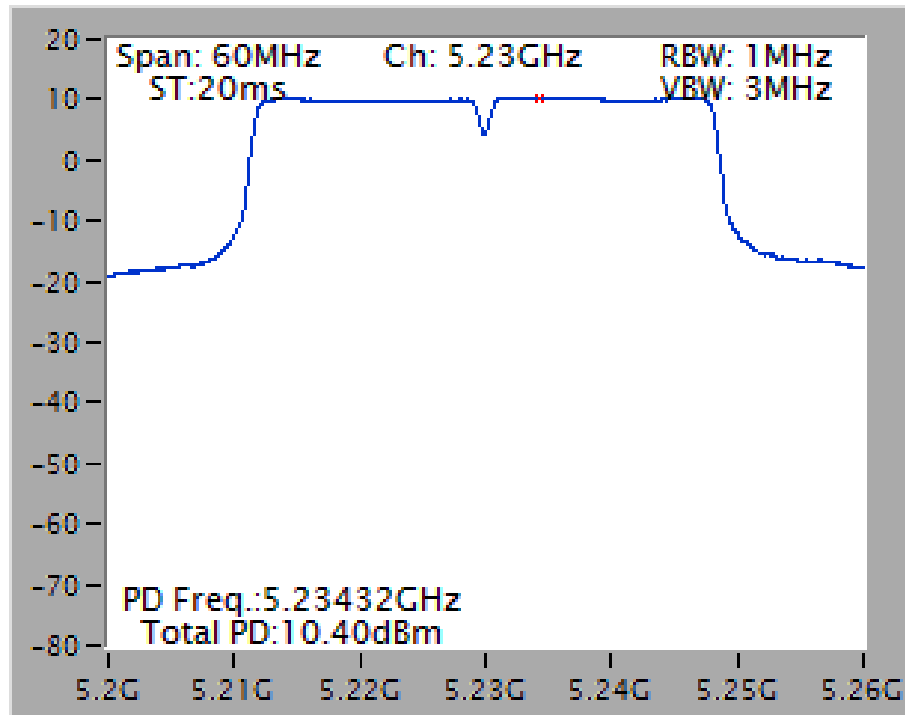
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



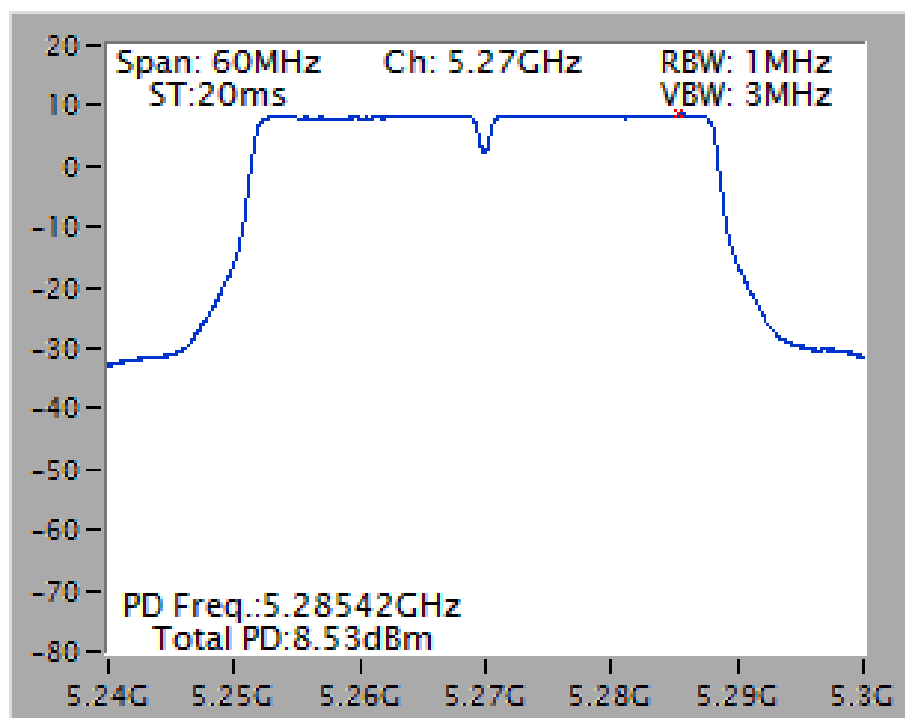
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5785 MHz



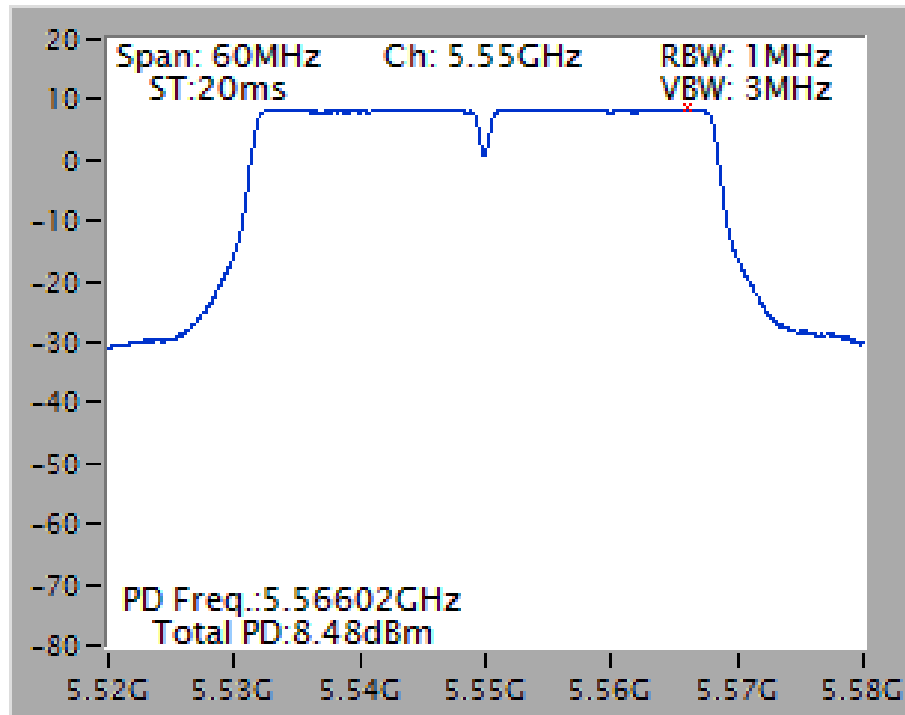
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5230 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5500 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss2 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5795 MHz

