



# SPORTON International Inc.

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## FCC RADIO TEST REPORT

|                        |                                                        |
|------------------------|--------------------------------------------------------|
| Applicant's company    | Extreme Networks, Inc.                                 |
| Applicant Address      | 9 Northeastern Blvd. Salem, NH 03079 USA               |
| FCC ID                 | QXO-4411OAC                                            |
| Manufacturer's company | Senao Networks, Inc.                                   |
| Manufacturer Address   | 3F, No. 529, Chung Cheng Rd., Hsintien, Taipei, Taiwan |

|                   |                                         |
|-------------------|-----------------------------------------|
| Product Name      | Wireless 802.11a/AC+ b/g/n Access Point |
| Brand Name        | Extreme Networks                        |
| Model No.         | 31016, 31018, 31017, 31019              |
| Test Rule Part(s) | 47 CFR FCC Part 15 Subpart E § 15.407   |
| Test Freq. Range  | 5250 ~ 5350MHz / 5470 ~ 5725MHz         |
| Received Date     | Nov. 17, 2015                           |
| Final Test Date   | Dec. 30, 2015                           |
| Submission Type   | Class II Change                         |

### 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 v01, 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   |
|---------------|---------|-------------------------|---------------|
| FR541521-02AA | Rev. 01 | Initial issue of report | Jan. 18, 2016 |
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## 1. VERIFICATION OF COMPLIANCE

Product Name : Wireless 802.11a/AC+ b/g/n Access Point  
Brand Name : Extreme Networks  
Model No. : 31016, 31018, 31017, 31019  
Applicant : Extreme Networks, Inc.  
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. 17, 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.



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                                            | 15.407(a)    | 26dB Spectrum Bandwidth and 99% Occupied Bandwidth | Complies | -           |
| 4.2                                            | 15.407(e)    | 6dB Spectrum Bandwidth                             | Complies | -           |
| 4.3                                            | 15.407(a)    | Maximum Conducted Output Power                     | Complies | 0.01 dB     |
| 4.4                                            | 15.407(a)    | Power Spectral Density                             | Complies | 0.01 dB     |
| 4.5                                            | 15.407(b)    | Radiated Emissions                                 | Complies | 4.35 dB     |
| 4.6                                            | 15.407(b)    | Band Edge Emissions                                | Complies | 0.01 dB     |
| 4.7                                            | 15.407(g)    | Frequency Stability                                | Complies | -           |
| 4.8                                            | 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 PoE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 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          | 5250 ~ 5350MHz / 5470 ~ 5725MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Channel Number           | 16 for 20MHz bandwidth ; 8 for 40MHz bandwidth<br>4 for 80MHz bandwidth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Channel Band Width (99%) | <p>Mode 1: EUT 1 + Set 1 Sector Antenna / 6.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.97 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.03 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.38 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.28 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.37 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz</p> <p>Mode 2: EUT 1 + Set 2 Sector Antenna / 4.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.03 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.67 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.98 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.45 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz</p> |

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|  | <p>Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.03 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.10 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.54 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz</p> <p>Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.03 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.10 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.54 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.28 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz</p> <p>Mode 5: EUT 1 + Set 5 Panel Antenna / 6 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 35.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.10 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.37 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.37 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 39.71 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz</p> <p>Mode 6: EUT 1 + Set 7 Sector Antenna / 11.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 35.60 MHz</p> |
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|  | <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 73.81 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.46 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.37 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz</p> <p>Mode 7: EUT 1 + Set 8 Sector Antenna / 12 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 35.60 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 73.81 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.37 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.37 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.61 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz</p> <p>Mode 8: EUT 1 + Set 9 Sector Antenna / 4 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.03 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.38 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 16.06 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.45 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz</p> <p>Mode 9: EUT 1 + Set 10 Panel Antenna / 23 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.85 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.06 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 34.88 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 71.20 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 16.32 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.80 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.32 MHz</p> |
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|                                | <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.41 MHz</p> <p>Mode 10: EUT 1 + Set 11 Omni Antenna / 6 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.67 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.89 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.18 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 74.10 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.37 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.37 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.70 MHz</p> <p>Mode 11: EUT 2 + Set 12 PIFA Antenna / Chain1:5.96 dBi, Chain2:5.97 dBi, Chain3:6.25 dBi, Chain4:6.08 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 16.15 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.02 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.61 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.12 MHz</p> <p>Band 3:</p> <p>IEEE 802.11a: 16.06 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.02 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 36.76 MHz</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 76.99 MHz</p> |
| Maximum Conducted Output Power | <p>Mode 1: EUT 1 + Set 1 Sector Antenna / 6.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 20.48 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 20.45 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.39 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 17.25 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 20.48 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 20.48 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.46 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 23.01 dBm</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

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|  | <p>Mode 2: EUT 1 + Set 2 Sector Antenna / 4.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 22.48 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 22.48 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.91 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 19.43 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 22.47 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 22.24 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.91 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 23.80 dBm</p> <p>Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 21.67 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 21.63 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.91 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 17.75 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 21.70 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 21.59 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.91 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 23.80 dBm</p> <p>Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 19.67 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 19.43 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 22.46 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 16.65 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 19.72 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 19.48 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 22.30 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 22.46 dBm</p> <p>Mode 5: EUT 1 + Set 5 Panel Antenna / 6 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 18.10 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.38 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 21.27 dBm</p> |
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|  | <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 16.65 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 18.25 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.36 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 21.35 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 23.80 dBm</p> <p>Mode 6: EUT 1 + Set 7 Sector Antenna / 11.5 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 15.70 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 15.46 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 18.24 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 13.97 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.72 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 15.42 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 18.49 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 18.28 dBm</p> <p>Mode 7: EUT 1 + Set 8 Sector Antenna / 12 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 15.22 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 14.97 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 17.73 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 13.42 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 15.19 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 14.93 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 17.97 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 17.87 dBm</p> <p>Mode 8: EUT 1 + Set 9 Sector Antenna / 4 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 23.18 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 23.06 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.91 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 17.25 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 23.35 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 23.40 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 23.96 dBm</p> |
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|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 23.61 dBm</p> <p>Mode 9: EUT 1 + Set 10 Panel Antenna / 23 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 3.99 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 3.72 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 6.80 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 6.78 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 3.92 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 3.97 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 6.89 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 6.79 dBm</p> <p>Mode 10: EUT 1 + Set 11 Omni Antenna / 6 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 18.10 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.38 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 21.27 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 16.65 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 18.25 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 18.36 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 21.35 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 23.36 dBm</p> <p>Mode 11: EUT 2 + Set 12 PIFA Antenna / Chain1:5.96 dBi, Chain2:5.97 dBi, Chain3:6.25 dBi, Chain4:6.08 dBi</p> <p>Band 2:</p> <p>IEEE 802.11a: 17.65 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.61 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 20.80 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 17.46 dBm</p> <p>Band 3:</p> <p>IEEE 802.11a: 17.80 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT20): 17.90 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT40): 20.83 dBm</p> <p>IEEE 802.11ac MCS0/Nss1 (VHT80): 23.70 dBm</p> |
| Carrier Frequencies | Please refer to section 3.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Antenna             | Please refer to section 3.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| 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 |
| Operating Mode              | <input checked="" type="checkbox"/> Outdoor access point               |                                               |
|                             | <input type="checkbox"/> Indoor access point                           |                                               |
|                             | <input checked="" type="checkbox"/> Fixed point-to-point access points |                                               |
|                             | <input type="checkbox"/> Mobile and portable client devices            |                                               |

### 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 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------|
| 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  |
| <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 in 5GHz.</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

Antenna cable, Non-Shielded, 1.5m

### 3.3. Table for Filed Antenna

| Set. | Brand Holder            | Model Number<br>(Part No.) | Extreme Part No.<br>(Short Description) | Antenna<br>Type   | Connector   | Polarized<br>Antenna | Gain (dBi) |      |
|------|-------------------------|----------------------------|-----------------------------------------|-------------------|-------------|----------------------|------------|------|
|      |                         |                            |                                         |                   |             |                      | 2.4GHz     | 5GHz |
| 1    | PCTEL Inc.              | 908412-10                  | 30714<br>(WS-AO-DE07025N)               | Sector<br>Antenna | N Male      | V                    | 7.5        | 6.5  |
| 2    | PCTEL Inc.              | 908414-10                  | 30716<br>(WS-AO-5Q05025N)               | Sector<br>Antenna | N Male      | V                    | -          | 4.5  |
| 3    | PCTEL Inc.              | 908409-10                  | 30711<br>(WS-AO-DQ05120N)               | Sector<br>Antenna | N Male      | V                    | 5.5        | 5.5  |
| 4    | PCTEL Inc.              | 908416-10                  | 30718<br>(WS-AO-DE10055N)               | Sector<br>Antenna | N Male      | V                    | 10.5       | 7.5  |
| 5    | PCTEL Inc.              | 908418-10                  | 30720<br>(WS-AO-DE07100N)               | Panel<br>Antenna  | N Male      | X                    | 7          | 6    |
| 6    | PCTEL Inc.              | 908411-10                  | 30713<br>(WS-AO-2Q05060N)               | Sector<br>Antenna | N Male Plug | V                    | 5          | -    |
| 7    | PCTEL Inc.              | 908415-10                  | 30717<br>(WS-AO-5Q11025N)               | Sector<br>Antenna | N Male      | V                    | -          | 11.5 |
| 8    | PCTEL Inc.              | 908413-10                  | 30715<br>(WS-AO-DE13025N)               | Sector<br>Antenna | N Male      | V                    | 13         | 12   |
| 9    | PCTEL Inc.              | 908410-10                  | 30712<br>(WS-AO-5Q04060N)               | Sector<br>Antenna | N Male Plug | V                    | -          | 4    |
| 10   | PCTEL Inc.              | -                          | WS-AO-5D23009N                          | Panel<br>Antenna  | N Type      | V                    | -          | 23   |
| 11   | PCTEL Inc.              | 908550-10                  | 30724<br>(WS-AO-DQ04360N)               | Omni<br>Antenna   | N Male      | X                    | 5.5        | 6    |
| 12   | Senao<br>Networks, Inc. | AP3965i                    | -                                       | PIFA<br>Antenna   | MMCX        | X                    | Note 1     |      |

Note1:

| Set. | Antenna Gain (dBi) |         |         |         |         |         |         |         |
|------|--------------------|---------|---------|---------|---------|---------|---------|---------|
|      | 2.4GHz             |         |         |         | 5GHz    |         |         |         |
|      | Chain 1            | Chain 2 | Chain 3 | Chain 4 | Chain 1 | Chain 2 | Chain 3 | Chain 4 |
| 12   | 6.25               | 5.77    | 6.45    | 5.60    | 5.96    | 5.97    | 6.25    | 6.08    |

Note2:

The EUT has twelve sets of antennas.

Note3:

Antenna cable only for Set 5 and Set 10 use.

Note4:

Set 1~Set 9, Set 11~Set 12 use for P to M function, only Set 10 use for P to P function.

### <For 2.4GHz Function>

#### For IEEE 802.11b/g/n/ac mode (4TX, 4RX):

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

### <For 5GHz Function>

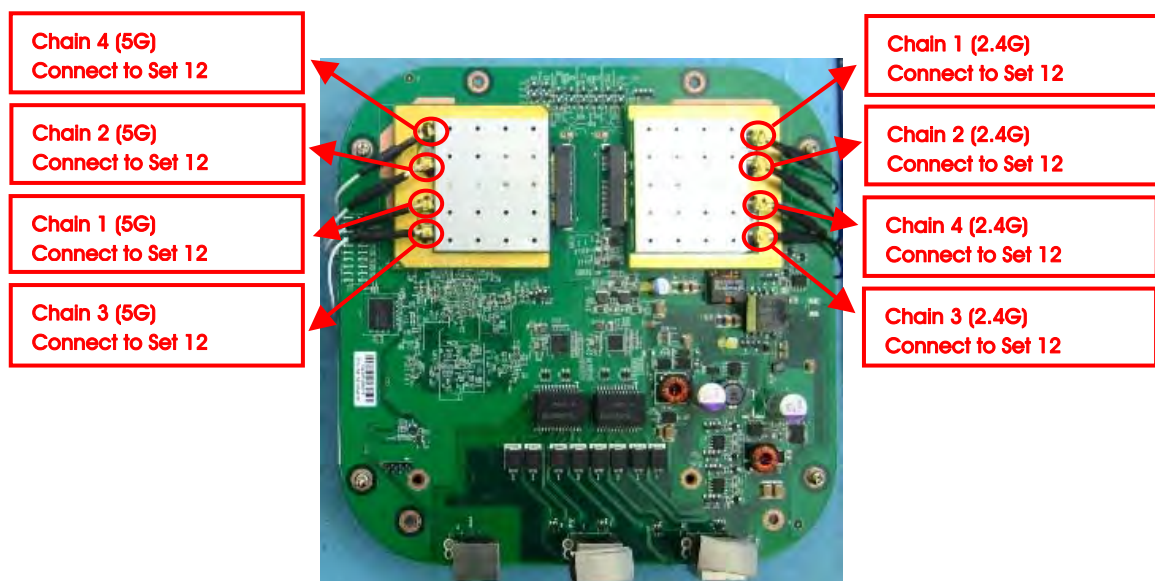
#### For IEEE 802.11a/n/ac mode (4TX, 4RX):

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

#### For EUT 1:



#### For EUT 2:



### 3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144.

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

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

| Frequency Band          | Channel No. | Frequency | Channel No. | Frequency |
|-------------------------|-------------|-----------|-------------|-----------|
| 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  | -           | -         |

### 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   |
|------------------------------------------------------------------|------------|----------|-----------|------------------------------|---------|
| Max. Conducted Output Power                                      | 11a/BPSK   | Band 2-3 | 6Mbps     | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                                                                  | 11ac VHT20 | Band 2-3 | MCS0/Nss1 | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                                                                  | 11ac VHT40 | Band 2-3 | MCS0/Nss1 | 54/62/102/110/<br>134/142    | 1+2+3+4 |
|                                                                  | 11ac VHT80 | Band 2-3 | MCS0/Nss1 | 58/106/122/138               | 1+2+3+4 |
| Power Spectral Density                                           | 11a/BPSK   | Band 2-3 | 6Mbps     | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                                                                  | 11ac VHT20 | Band 2-3 | MCS0/Nss1 | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                                                                  | 11ac VHT40 | Band 2-3 | MCS0/Nss1 | 54/62/102/110/<br>134/142    | 1+2+3+4 |
|                                                                  | 11ac VHT80 | Band 2-3 | MCS0/Nss1 | 58/106/122/138               | 1+2+3+4 |
| 26dB Spectrum Bandwidth<br>99% Occupied Bandwidth<br>Measurement | 11a/BPSK   | Band 2-3 | 6Mbps     | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                                                                  | 11ac VHT20 | Band 2-3 | MCS0/Nss1 | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                                                                  | 11ac VHT40 | Band 2-3 | MCS0/Nss1 | 54/62/102/110/<br>134/142    | 1+2+3+4 |
|                                                                  | 11ac VHT80 | Band 2-3 | MCS0/Nss1 | 58/106/122/138               | 1+2+3+4 |
| 6dB Spectrum Bandwidth<br>Measurement                            | 11a/BPSK   | Band 4   | 6Mbps     | 144                          | 1+2+3+4 |
|                                                                  | 11ac VHT20 | Band 4   | MCS0/Nss1 | 144                          | 1+2+3+4 |
|                                                                  | 11ac VHT40 | Band 4   | MCS0/Nss1 | 142                          | 1+2+3+4 |
|                                                                  | 11ac VHT80 | Band 4   | MCS0/Nss1 | 138                          | 1+2+3+4 |

|                              |            |          |           |                              |         |
|------------------------------|------------|----------|-----------|------------------------------|---------|
| Radiated Emission Above 1GHz | 11a/BPSK   | Band 2-3 | 6Mbps     | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                              | 11ac VHT20 | Band 2-3 | MCS0/Nss1 | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                              | 11ac VHT40 | Band 2-3 | MCS0/Nss1 | 54/62/102/110/<br>134/142    | 1+2+3+4 |
|                              | 11ac VHT80 | Band 2-3 | MCS0/Nss1 | 58/106/122/138               | 1+2+3+4 |
| Band Edge Emission           | 11a/BPSK   | Band 2-3 | 6Mbps     | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                              | 11ac VHT20 | Band 2-3 | MCS0/Nss1 | 52/60/64/100/<br>116/140/144 | 1+2+3+4 |
|                              | 11ac VHT40 | Band 2-3 | MCS0/Nss1 | 54/62/102/110/<br>134/142    | 1+2+3+4 |
|                              | 11ac VHT80 | Band 2-3 | MCS0/Nss1 | 58/106/122/138               | 1+2+3+4 |
| Frequency Stability          | 20 MHz     | Band 2-3 | -         | 60/116                       | 3, 4    |
|                              | 40 MHz     | Band 2-3 | -         | 62/110                       | 3, 4    |
|                              | 80 MHz     | Band 2-3 | -         | 58/106                       | 3, 4    |

Note1: 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.

Note2:

The PoE is for measurement only, would not be marketed.

The PoE information as below:

| Power | Brand     | Model     |
|-------|-----------|-----------|
| PoE   | Microsemi | PD-9001GR |

Note3: All the specification of test configurations and test modes were based on customer's request.

Note4: The console port can not be used by end user. It is generally used for updating FW by professional installer.

The following test modes were performed for all tests:

**For Radiated Emission Above 1GHz test:**

The EUT 1 was performed at Y axis and Z axis position. Z axis has been evaluated to be the worst case, thus measurement will follow this same test mode.

The EUT 2 was performed at Y axis and Z axis position. Y axis has been evaluated to be the worst case, thus measurement will follow this same test mode.

Mode 1. Place EUT 1 in Z axis + Set 1

Mode 2. Place EUT 1 in Z axis + Set 2

Mode 3. Place EUT 1 in Z axis + Set 3

Mode 4. Place EUT 1 in Z axis + Set 4

Mode 5. Place EUT 1 in Z axis + Set 5

Mode 6. Place EUT 1 in Z axis + Set 7

Mode 7. Place EUT 1 in Z axis + Set 8

Mode 8. Place EUT 1 in Z axis + Set 9

Mode 9. Place EUT 1 in Z axis + Set 10

Mode 10. Place EUT 1 in Z axis + Set 11

Mode 11. Place EUT 2 in Y axis + Set 12

### 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    | -            |
| TH01-CB            | OVEN Room                                                                  | Hsin Chu | -            | -           | -            |

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

### 3.7. Table for Multiple Listing and Class II Change

The model names are identical to each other in all aspects except for the following table:

| Equipment                                | EUT | Product Name   | Model Name | Internal Antenna | External Antenna | Equipped Antenna |
|------------------------------------------|-----|----------------|------------|------------------|------------------|------------------|
| Wireless 802.11a/AC + b/g/n Access Point | 1   | WS-AP3965e-FCC | 31018      | X                | V                | Set 1 ~ 11       |
|                                          |     | WS-AP3965e-ROW | 31019      |                  |                  |                  |
|                                          | 2   | WS-AP3965i-FCC | 31016      | V                | X                | Set 12           |
|                                          |     | WS-AP3965i-ROW | 31017      |                  |                  |                  |

Note: Different model names for EUT 1 (31018 and 31019) and EUT 2 (31016 and 31017) served as marketing strategy.

This product is an extension of original one reported under Sporton project number: FR541521-01AB

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

| Modifications                                           | Performance Checking                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Add Band 2 and Band 3<br>(5250~5350 MHz, 5470~5725 MHz) | <ol style="list-style-type: none"> <li>26dB Bandwidth and 99% Occupied Bandwidth Measurement</li> <li>6dB Spectrum Bandwidth Measurement</li> <li>Maximum Conducted Output Power Measurement</li> <li>Power Spectral Density Measurement</li> <li>Radiated Emissions (1GHz~40GHz)</li> <li>Band Edge Emissions Measurement</li> <li>Frequency Stability Measurement</li> </ol> |

### 3.8. Table for Supporting Units

For Test Site No: 03CH01-CB

| Support Unit | Brand     | Model     | FCC ID |
|--------------|-----------|-----------|--------|
| NB           | DELL      | E4300     | DoC    |
| PoE          | Microsemi | PD-9001GR | N/A    |

For Test Site No: TH01-CB

| Support Unit | Brand     | Model     | FCC ID |
|--------------|-----------|-----------|--------|
| NB           | DELL      | E4300     | DoC    |
| PoE          | Microsemi | PD-9001GR | N/A    |

### 3.9. 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.

#### Mode 1: EUT 1 + Set 1 Sector Antenna / 6.5 dBi

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 15.5                 | 15.5     | 15.5     | 15.5     | 15.5     | 15.5     | 15       |
| 802.11ac<br>MCS0/Nss1 VHT20 | 16                   | 16       | 16       | 16       | 16       | 16       | 16       |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
|                             | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 18                   | 15       | 15.5     | 18       | 18       | 17.5     |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
|                             | 5290 MHz             | 5530 MHz | 5610 MHz | 5690 MHz |          |          |          |
|                             | 12.5                 | 10.5     | 17.5     | 18       |          |          |          |

#### Mode 2: EUT 1 + Set 2 Sector Antenna / 4.5 dBi

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 17.5                 | 17.5     | 17.5     | 17.5     | 17.5     | 17.5     | 17       |
| 802.11ac<br>MCS0/Nss1 VHT20 | 17.5                 | 17.5     | 17.5     | 17.5     | 17.5     | 17.5     | 17.5     |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
|                             | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 18.5                 | 16       | 17       | 18.5     | 18.5     | 18.5     |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
|                             | 5290 MHz             | 5530 MHz | 5610 MHz | 5690 MHz |          |          |          |
|                             | 14.5                 | 13.5     | 19       | 18.5     |          |          |          |

**Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi**

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 16.5                 | 16.5     | 17       | 17       | 17       | 16.5     | 15       |
| 802.11ac<br>MCS0/Nss1 VHT20 | 17                   | 17       | 17       | 17       | 17       | 17       | 16.5     |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 18.5                 | 17.5     | 16.5     | 18.5     | 18.5     | 18       |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 13                   |          | 13       |          | 19       |          | 18.5     |

**Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi**

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 15                   | 15       | 15       | 15       | 15       | 15       | 14       |
| 802.11ac<br>MCS0/Nss1 VHT20 | 15                   | 14.5     | 15       | 15       | 15       | 15       | 14.5     |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 17                   | 15       | 16       | 17       | 17       | 16       |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 12                   |          | 11.5     |          | 17.5     |          | 17.5     |

**Mode 5: EUT 1 + Set 5 Panel Antenna / 6 dBi**

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 13.5                 | 13.5     | 13.5     | 13.5     | 13.5     | 13.5     | 12.5     |
| 802.11ac<br>MCS0/Nss1 VHT20 | 14                   | 14       | 14       | 14       | 14       | 13.5     | 13       |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 16                   | 13.5     | 16       | 16       | 16       | 14.5     |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 12                   |          | 12       |          | 19       |          | 18       |

**Mode 6: EUT 1 + Set 7 Sector Antenna / 11.5 dBi**

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 11                   | 11       | 11       | 11       | 11       | 11       | 10       |
| 802.11ac<br>MCS0/Nss1 VHT20 | 11                   | 11       | 11       | 11       | 11       | 11       | 10.5     |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 13                   | 12       | 13       | 13.5     | 13       | 12.5     |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 9                    |          | 9        |          | 13.5     |          | 13.5     |

**Mode 7: EUT 1 + Set 8 Sector Antenna / 12 dBi**

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 10.5                 | 10.5     | 10.5     | 10.5     | 10.5     | 10.5     | 9.5      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 10.5                 | 10.5     | 10.5     | 10.5     | 10.5     | 10.5     | 10       |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 12.5                 | 12       | 12.5     | 13       | 12.5     | 12       |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 8.5                  |          | 8.5      |          | 13       |          | 13       |

**Mode 8: EUT 1 + Set 9 Sector Antenna / 4 dBi**

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 18.5                 | 18.5     | 18.5     | 18.5     | 18.5     | 18.5     | 17.5     |
| 802.11ac<br>MCS0/Nss1 VHT20 | 18.5                 | 18.5     | 18.5     | 19       | 18.5     | 17.5     | 18       |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 18.5                 | 14.5     | 15       | 18.5     | 18       | 18.5     |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 12.5                 |          | 11.5     |          | 18       |          | 18.5     |

**Mode 9: EUT 1 + Set 10 Panel Antenna / 23 dBi**

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 0.5                  | 0.5      | 0.5      | 0.5      | 0.5      | 0.5      | 3        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 0.5                  | 0.5      | 0.5      | 0.5      | 0.5      | 0.5      | 3.5      |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 3                    | 3        | 3        | 3        | 3        | 5        |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 3.5                  |          | 3.5      |          | 3.5      |          | 5.5      |

**Mode 10: EUT 1 + Set 11 Omni Antenna / 6 dBi**

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 13.5                 | 13.5     | 13.5     | 13.5     | 13.5     | 13.5     | 12.5     |
| 802.11ac<br>MCS0/Nss1 VHT20 | 14                   | 14       | 14       | 14       | 14       | 13.5     | 13       |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 16                   | 15.5     | 16       | 16       | 16       | 14.5     |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 12                   |          | 12       |          | 18.5     |          | 18       |

Mode 11: EUT 2 + Set 12 PIFA Antenna / Chain1:5.96 dBi, Chain2:5.97 dBi, Chain3:6.25 dBi, Chain4:6.08 dBi

| Test Software Version       | QCA VER3.0.144.0     |          |          |          |          |          |          |
|-----------------------------|----------------------|----------|----------|----------|----------|----------|----------|
| Mode                        | Test Frequency (MHz) |          |          |          |          |          |          |
|                             | NCB: 20MHz           |          |          |          |          |          |          |
|                             | 5260 MHz             | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz | 5720 MHz |
| 802.11a                     | 11.5                 | 11.5     | 11.5     | 11.5     | 11.5     | 11.5     | 12       |
| 802.11ac<br>MCS0/Nss1 VHT20 | 11.5                 | 11.5     | 11.5     | 12       | 12       | 12       | 12       |
| Mode                        | NCB: 40MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz             | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | 5710 MHz |          |
|                             | 14                   | 13       | 12.5     | 14       | 14       | 14       |          |
| Mode                        | NCB: 80MHz           |          |          |          |          |          |          |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz             |          | 5530 MHz |          | 5610 MHz |          | 5690 MHz |
|                             | 11.5                 |          | 10       |          | 17.5     |          | 17.5     |

### 3.10. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

### 3.11. Duty Cycle

#### Mode 1 ~ Mode 10

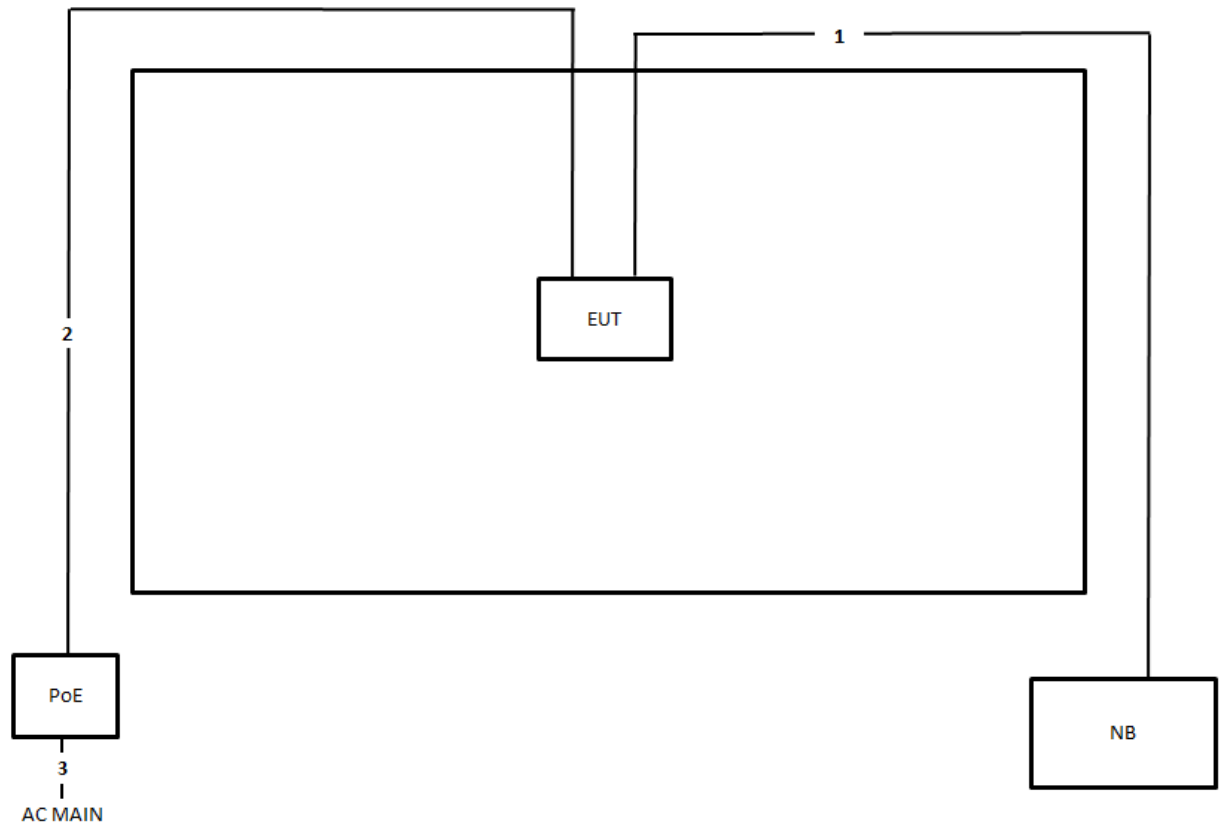
| Mode                     | On Time<br>(ms) | On+Off Time<br>(ms) | Duty Cycle<br>(%) | Duty Factor<br>(dB) | 1/T Minimum VBW<br>(kHz) |
|--------------------------|-----------------|---------------------|-------------------|---------------------|--------------------------|
| 802.11a                  | 2.060           | 2.120               | 97.17             | 0.12                | 0.49                     |
| 802.11ac MCS0/Nss1 VHT20 | 5.000           | 5.064               | 98.73             | 0.06                | 0.01                     |
| 802.11ac MCS0/Nss1 VHT40 | 2.440           | 2.500               | 97.60             | 0.11                | 0.41                     |
| 802.11ac MCS0/Nss1 VHT80 | 1.140           | 1.210               | 94.21             | 0.26                | 0.88                     |

#### Mode 11

| 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                  | 2.051           | 2.123               | 96.60             | 0.15                | 0.49                     |
| 802.11ac MCS0/Nss1 VHT20 | 5.016           | 5.088               | 98.58             | 0.06                | 0.01                     |
| 802.11ac MCS0/Nss1 VHT40 | 2.392           | 2.493               | 95.95             | 0.18                | 0.42                     |
| 802.11ac MCS0/Nss1 VHT80 | 1.145           | 1.211               | 94.51             | 0.25                | 0.87                     |

### 3.12. Test Configurations

#### 3.12.1. Radiation Emissions Test Configuration



| Item | Connection  | Shielded | Length(m) |
|------|-------------|----------|-----------|
| 1    | RJ-45 cable | No       | 10m       |
| 2    | RJ-45 cable | No       | 10m       |
| 3    | Power cable | No       | 4.6m      |

## 4. TEST RESULT

### 4.1. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

#### 4.1.1. Limit

No restriction limits.

#### 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 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                                   |

#### 4.1.3. 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%.

#### 4.1.4. Test Setup Layout

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

This test setup layout is the same as that shown in section 4.5.4.

#### 4.1.5. Test Deviation

There is no deviation with the original standard.

#### 4.1.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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

|               |                                                |          |     |
|---------------|------------------------------------------------|----------|-----|
| Temperature   | 25°C                                           | Humidity | 45% |
| Test Engineer | Roki Liu                                       |          |     |
| Test Mode     | Mode 1: EUT 1 + Set 1 Sector Antenna / 6.5 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 20.17                | 16.67                        |
|                             | 5300 MHz  | 19.74                | 16.58                        |
|                             | 5320 MHz  | 18.96                | 16.58                        |
|                             | 5500 MHz  | 17.39                | 15.28                        |
|                             | 5580 MHz  | 17.22                | 13.29                        |
|                             | 5700 MHz  | 17.22                | 14.67                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.70                | 17.89                        |
|                             | 5300 MHz  | 20.43                | 17.80                        |
|                             | 5320 MHz  | 21.39                | 17.97                        |
|                             | 5500 MHz  | 18.78                | 17.37                        |
|                             | 5580 MHz  | 18.78                | 15.37                        |
|                             | 5700 MHz  | 18.52                | 17.11                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 39.13                | 35.60                        |
|                             | 5310 MHz  | 39.86                | 36.03                        |
|                             | 5510 MHz  | 39.86                | 36.76                        |
|                             | 5550 MHz  | 39.71                | 36.76                        |
|                             | 5670 MHz  | 39.28                | 35.31                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.48                | 74.38                        |
|                             | 5530 MHz  | 83.77                | 76.41                        |
|                             | 5610 MHz  | 84.06                | 75.54                        |

**Straddle Channel**

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 18.43            | 16.32               | 5710.43                | 5711.66                | 14.57                          | 3.87                          | 13.34                      | 2.99                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.96            | 17.02               | 5710.09                | 5711.06                | 14.91                          | 4.04                          | 13.94                      | 3.08                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 37.97            | 34.01               | 5690.15                | 5691.91                | 34.85                          | 3.12                          | 33.09                      | 0.92                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 84.93            | 76.12               | 5647.68                | 5651.51                | 77.32                          | 7.61                          | 73.49                      | 2.63                      |

|               |                                                |          |     |
|---------------|------------------------------------------------|----------|-----|
| Temperature   | 25°C                                           | Humidity | 45% |
| Test Engineer | Roki Liu                                       |          |     |
| Test Mode     | Mode 2: EUT 1 + Set 2 Sector Antenna / 4.5 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 20.35                | 16.67                        |
|                             | 5300 MHz  | 19.13                | 16.58                        |
|                             | 5320 MHz  | 19.48                | 16.67                        |
|                             | 5500 MHz  | 17.57                | 15.98                        |
|                             | 5580 MHz  | 17.39                | 13.37                        |
|                             | 5700 MHz  | 17.22                | 13.89                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.43                | 17.89                        |
|                             | 5300 MHz  | 20.43                | 17.89                        |
|                             | 5320 MHz  | 20.70                | 17.89                        |
|                             | 5500 MHz  | 18.78                | 17.45                        |
|                             | 5580 MHz  | 18.70                | 15.20                        |
|                             | 5700 MHz  | 18.61                | 17.19                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 39.42                | 35.60                        |
|                             | 5310 MHz  | 39.57                | 36.03                        |
|                             | 5510 MHz  | 39.86                | 36.76                        |
|                             | 5550 MHz  | 39.71                | 36.76                        |
|                             | 5670 MHz  | 38.99                | 35.75                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.48                | 74.67                        |
|                             | 5530 MHz  | 83.48                | 76.41                        |
|                             | 5610 MHz  | 84.06                | 75.83                        |

**Straddle Channel**

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 18.43            | 16.32               | 5710.35                | 5711.66                | 14.65                          | 3.78                          | 13.34                      | 2.99                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.96            | 17.02               | 5710.00                | 5711.06                | 15.00                          | 3.96                          | 13.94                      | 3.08                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 38.84            | 32.56               | 5689.86                | 5691.48                | 35.15                          | 3.70                          | 33.52                      | 0.00                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 83.77            | 71.78               | 5648.26                | 5651.22                | 76.74                          | 7.03                          | 73.78                      | 0.00                      |

|               |                                                |          |     |
|---------------|------------------------------------------------|----------|-----|
| Temperature   | 25°C                                           | Humidity | 45% |
| Test Engineer | Roki Liu                                       |          |     |
| Test Mode     | Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 20.35                | 16.67                        |
|                             | 5300 MHz  | 19.74                | 16.58                        |
|                             | 5320 MHz  | 18.96                | 16.58                        |
|                             | 5500 MHz  | 17.48                | 15.89                        |
|                             | 5580 MHz  | 17.22                | 13.37                        |
|                             | 5700 MHz  | 17.22                | 15.11                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.26                | 17.88                        |
|                             | 5300 MHz  | 20.17                | 17.80                        |
|                             | 5320 MHz  | 20.17                | 17.89                        |
|                             | 5500 MHz  | 18.78                | 17.54                        |
|                             | 5580 MHz  | 18.70                | 15.28                        |
|                             | 5700 MHz  | 18.70                | 17.19                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 39.42                | 35.60                        |
|                             | 5310 MHz  | 39.71                | 36.03                        |
|                             | 5510 MHz  | 39.86                | 36.76                        |
|                             | 5550 MHz  | 39.71                | 36.76                        |
|                             | 5670 MHz  | 39.42                | 35.60                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.19                | 74.10                        |
|                             | 5530 MHz  | 83.77                | 76.41                        |
|                             | 5610 MHz  | 84.06                | 75.83                        |

**Straddle Channel**

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 17.83            | 16.24               | 5711.04                | 5711.84                | 13.96                          | 3.87                          | 13.16                      | 3.08                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.78            | 17.36               | 5710.52                | 5711.23                | 14.48                          | 4.30                          | 13.77                      | 3.59                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 38.84            | 32.56               | 5689.85                | 5691.47                | 35.15                          | 3.69                          | 33.53                      | 0.00                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 83.77            | 71.78               | 5648.26                | 5651.21                | 76.74                          | 7.03                          | 73.79                      | 0.00                      |

|               |                                                |          |     |
|---------------|------------------------------------------------|----------|-----|
| Temperature   | 25°C                                           | Humidity | 45% |
| Test Engineer | Roki Liu                                       |          |     |
| Test Mode     | Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 19.91                | 16.67                        |
|                             | 5300 MHz  | 19.74                | 16.58                        |
|                             | 5320 MHz  | 20.17                | 16.58                        |
|                             | 5500 MHz  | 17.30                | 15.54                        |
|                             | 5580 MHz  | 17.30                | 13.29                        |
|                             | 5700 MHz  | 17.22                | 13.72                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.35                | 17.89                        |
|                             | 5300 MHz  | 20.26                | 17.89                        |
|                             | 5320 MHz  | 20.35                | 17.80                        |
|                             | 5500 MHz  | 18.78                | 17.28                        |
|                             | 5580 MHz  | 18.70                | 15.28                        |
|                             | 5700 MHz  | 18.52                | 16.93                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 39.42                | 35.60                        |
|                             | 5310 MHz  | 39.86                | 36.03                        |
|                             | 5510 MHz  | 39.71                | 36.76                        |
|                             | 5550 MHz  | 39.57                | 35.89                        |
|                             | 5670 MHz  | 39.13                | 35.31                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.19                | 74.10                        |
|                             | 5530 MHz  | 83.77                | 76.41                        |
|                             | 5610 MHz  | 83.77                | 75.54                        |

### Straddle Channel

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 18.09            | 16.06               | 5710.70                | 5711.84                | 14.30                          | 3.78                          | 13.16                      | 2.90                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.87            | 16.93               | 5710.35                | 5711.23                | 14.65                          | 4.22                          | 13.77                      | 3.16                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 39.42            | 36.03               | 5690.00                | 5691.62                | 35.00                          | 4.42                          | 33.38                      | 2.66                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 84.06            | 75.83               | 5648.26                | 5651.51                | 76.74                          | 7.32                          | 73.49                      | 2.34                      |

|               |                                             |          |     |
|---------------|---------------------------------------------|----------|-----|
| Temperature   | 25°C                                        | Humidity | 45% |
| Test Engineer | Roki Liu                                    |          |     |
| Test Mode     | Mode 5: EUT 1 + Set 5 Panel Antenna / 6 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 20.00                | 16.67                        |
|                             | 5300 MHz  | 19.74                | 16.58                        |
|                             | 5320 MHz  | 19.74                | 16.58                        |
|                             | 5500 MHz  | 17.39                | 15.37                        |
|                             | 5580 MHz  | 17.22                | 13.98                        |
|                             | 5700 MHz  | 17.13                | 14.33                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.26                | 17.89                        |
|                             | 5300 MHz  | 20.43                | 17.80                        |
|                             | 5320 MHz  | 20.35                | 17.80                        |
|                             | 5500 MHz  | 19.04                | 17.37                        |
|                             | 5580 MHz  | 18.52                | 15.02                        |
|                             | 5700 MHz  | 18.52                | 17.02                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 39.42                | 35.60                        |
|                             | 5310 MHz  | 39.28                | 35.89                        |
|                             | 5510 MHz  | 36.76                | 39.71                        |
|                             | 5550 MHz  | 36.61                | 39.71                        |
|                             | 5670 MHz  | 38.99                | 35.75                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.19                | 74.10                        |
|                             | 5530 MHz  | 84.06                | 76.70                        |
|                             | 5610 MHz  | 84.06                | 75.83                        |

### Straddle Channel

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 18.09            | 16.06               | 5710.78                | 5711.84                | 14.22                          | 3.87                          | 13.16                      | 2.90                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.96            | 17.02               | 5710.35                | 5711.23                | 14.65                          | 4.30                          | 13.77                      | 3.25                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 39.57            | 35.89               | 5690.00                | 5691.62                | 35.00                          | 4.57                          | 33.38                      | 2.51                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 84.93            | 76.12               | 5647.68                | 5651.51                | 77.32                          | 7.61                          | 73.49                      | 2.63                      |

|               |                                                 |          |     |
|---------------|-------------------------------------------------|----------|-----|
| Temperature   | 25°C                                            | Humidity | 45% |
| Test Engineer | Roki Liu                                        |          |     |
| Test Mode     | Mode 6: EUT 1 + Set 7 Sector Antenna / 11.5 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 19.04                | 16.67                        |
|                             | 5300 MHz  | 18.61                | 16.58                        |
|                             | 5320 MHz  | 18.87                | 16.58                        |
|                             | 5500 MHz  | 17.39                | 15.46                        |
|                             | 5580 MHz  | 16.35                | 13.81                        |
|                             | 5700 MHz  | 17.13                | 13.63                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.35                | 17.89                        |
|                             | 5300 MHz  | 20.43                | 17.80                        |
|                             | 5320 MHz  | 20.17                | 17.80                        |
|                             | 5500 MHz  | 18.78                | 17.37                        |
|                             | 5580 MHz  | 18.43                | 15.02                        |
|                             | 5700 MHz  | 18.61                | 16.85                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 38.99                | 35.02                        |
|                             | 5310 MHz  | 38.99                | 35.60                        |
|                             | 5510 MHz  | 39.71                | 36.76                        |
|                             | 5550 MHz  | 39.71                | 36.76                        |
|                             | 5670 MHz  | 38.55                | 33.57                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.77                | 73.81                        |
|                             | 5530 MHz  | 83.48                | 76.70                        |
|                             | 5610 MHz  | 83.77                | 74.96                        |

### Straddle Channel

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 18.09            | 16.06               | 5710.78                | 5711.84                | 14.22                          | 3.87                          | 13.16                      | 2.90                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.87            | 16.93               | 5710.35                | 5711.23                | 14.65                          | 4.22                          | 13.77                      | 3.16                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 39.57            | 35.89               | 5689.86                | 5691.62                | 35.15                          | 4.42                          | 33.38                      | 2.51                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 83.77            | 75.54               | 5648.26                | 5651.51                | 76.74                          | 7.03                          | 73.49                      | 2.05                      |

|               |                                               |          |     |
|---------------|-----------------------------------------------|----------|-----|
| Temperature   | 25°C                                          | Humidity | 45% |
| Test Engineer | Roki Liu                                      |          |     |
| Test Mode     | Mode 7: EUT 1 + Set 8 Sector Antenna / 12 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 19.04                | 16.67                        |
|                             | 5300 MHz  | 18.96                | 16.58                        |
|                             | 5320 MHz  | 19.04                | 16.58                        |
|                             | 5500 MHz  | 17.48                | 15.37                        |
|                             | 5580 MHz  | 16.43                | 13.89                        |
|                             | 5700 MHz  | 17.04                | 13.11                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.26                | 17.89                        |
|                             | 5300 MHz  | 20.26                | 17.80                        |
|                             | 5320 MHz  | 20.26                | 17.80                        |
|                             | 5500 MHz  | 18.87                | 17.37                        |
|                             | 5580 MHz  | 18.35                | 15.02                        |
|                             | 5700 MHz  | 18.52                | 16.67                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 38.99                | 35.02                        |
|                             | 5310 MHz  | 38.99                | 35.60                        |
|                             | 5510 MHz  | 39.86                | 36.61                        |
|                             | 5550 MHz  | 39.42                | 36.61                        |
|                             | 5670 MHz  | 38.84                | 33.43                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.48                | 73.81                        |
|                             | 5530 MHz  | 83.77                | 76.41                        |
|                             | 5610 MHz  | 83.19                | 74.96                        |

**Straddle Channel**

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 18.09            | 15.98               | 5710.78                | 5711.84                | 14.22                          | 3.87                          | 13.16                      | 2.81                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.87            | 16.93               | 5710.35                | 5711.23                | 14.65                          | 4.22                          | 13.77                      | 3.16                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 39.42            | 35.89               | 5690.00                | 5691.62                | 35.00                          | 4.42                          | 33.38                      | 2.51                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 84.35            | 75.54               | 5648.26                | 5651.51                | 76.74                          | 7.61                          | 73.49                      | 2.05                      |

|               |                                              |          |     |
|---------------|----------------------------------------------|----------|-----|
| Temperature   | 25°C                                         | Humidity | 45% |
| Test Engineer | Roki Liu                                     |          |     |
| Test Mode     | Mode 8: EUT 1 + Set 9 Sector Antenna / 4 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 20.00                | 16.67                        |
|                             | 5300 MHz  | 20.09                | 16.67                        |
|                             | 5320 MHz  | 19.57                | 16.67                        |
|                             | 5500 MHz  | 17.48                | 16.06                        |
|                             | 5580 MHz  | 17.22                | 13.63                        |
|                             | 5700 MHz  | 17.22                | 14.15                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.87                | 17.89                        |
|                             | 5300 MHz  | 20.61                | 17.89                        |
|                             | 5320 MHz  | 20.61                | 17.89                        |
|                             | 5500 MHz  | 18.96                | 17.45                        |
|                             | 5580 MHz  | 18.87                | 15.46                        |
|                             | 5700 MHz  | 18.61                | 17.19                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 39.42                | 35.60                        |
|                             | 5310 MHz  | 39.71                | 36.03                        |
|                             | 5510 MHz  | 39.86                | 36.76                        |
|                             | 5550 MHz  | 39.71                | 36.76                        |
|                             | 5670 MHz  | 38.99                | 35.75                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.48                | 74.38                        |
|                             | 5530 MHz  | 83.77                | 76.41                        |
|                             | 5610 MHz  | 83.77                | 75.83                        |

### Straddle Channel

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 18.00            | 15.98               | 5710.78                | 5711.84                | 14.22                          | 3.78                          | 13.16                      | 2.81                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.87            | 16.93               | 5710.35                | 5711.23                | 14.65                          | 4.22                          | 13.77                      | 3.16                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 38.84            | 32.56               | 5689.85                | 5691.47                | 35.15                          | 3.69                          | 33.53                      | 0.00                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 83.77            | 71.78               | 5648.26                | 5651.21                | 76.74                          | 7.03                          | 73.79                      | 0.00                      |

|               |                                               |          |     |
|---------------|-----------------------------------------------|----------|-----|
| Temperature   | 25°C                                          | Humidity | 45% |
| Test Engineer | Roki Liu                                      |          |     |
| Test Mode     | Mode 9: EUT 1 + Set 10 Panel Antenna / 23 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 18.70                | 16.67                        |
|                             | 5300 MHz  | 20.52                | 16.76                        |
|                             | 5320 MHz  | 20.52                | 16.85                        |
|                             | 5500 MHz  | 18.96                | 16.32                        |
|                             | 5580 MHz  | 18.09                | 16.32                        |
|                             | 5700 MHz  | 17.30                | 15.11                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.17                | 17.89                        |
|                             | 5300 MHz  | 20.70                | 17.97                        |
|                             | 5320 MHz  | 20.78                | 18.06                        |
|                             | 5500 MHz  | 19.91                | 17.80                        |
|                             | 5580 MHz  | 19.57                | 17.63                        |
|                             | 5700 MHz  | 18.87                | 17.37                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 38.55                | 34.88                        |
|                             | 5310 MHz  | 38.55                | 32.42                        |
|                             | 5510 MHz  | 39.71                | 36.32                        |
|                             | 5550 MHz  | 39.86                | 36.32                        |
|                             | 5670 MHz  | 38.70                | 32.56                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 82.32                | 71.20                        |
|                             | 5530 MHz  | 83.77                | 76.41                        |
|                             | 5610 MHz  | 84.06                | 76.12                        |

### Straddle Channel

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 17.30            | 15.02               | 5711.21                | 5711.92                | 13.79                          | 3.51                          | 13.08                      | 1.94                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.86            | 17.19               | 5710.43                | 5711.23                | 14.57                          | 4.29                          | 13.77                      | 3.42                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 38.11            | 32.12               | 5690.14                | 5691.62                | 34.86                          | 3.25                          | 33.38                      | 0.00                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 83.76            | 72.07               | 5648.55                | 5651.51                | 76.45                          | 7.31                          | 73.49                      | 0.00                      |

|               |                                              |          |     |
|---------------|----------------------------------------------|----------|-----|
| Temperature   | 25°C                                         | Humidity | 45% |
| Test Engineer | Roki Liu                                     |          |     |
| Test Mode     | Mode 10: EUT 1 + Set 11 Omni Antenna / 6 dBi |          |     |

| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 20.00                | 16.67                        |
|                             | 5300 MHz  | 19.74                | 16.58                        |
|                             | 5320 MHz  | 19.74                | 16.58                        |
|                             | 5500 MHz  | 17.39                | 15.37                        |
|                             | 5580 MHz  | 17.22                | 13.98                        |
|                             | 5700 MHz  | 17.13                | 14.33                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 20.26                | 17.89                        |
|                             | 5300 MHz  | 20.43                | 17.80                        |
|                             | 5320 MHz  | 20.35                | 17.80                        |
|                             | 5500 MHz  | 19.04                | 17.37                        |
|                             | 5580 MHz  | 18.52                | 15.03                        |
|                             | 5700 MHz  | 18.52                | 17.02                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 39.42                | 35.60                        |
|                             | 5310 MHz  | 40.00                | 36.18                        |
|                             | 5510 MHz  | 39.71                | 36.76                        |
|                             | 5550 MHz  | 39.71                | 36.61                        |
|                             | 5670 MHz  | 38.99                | 35.75                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.19                | 74.10                        |
|                             | 5530 MHz  | 84.06                | 76.70                        |
|                             | 5610 MHz  | 83.77                | 76.12                        |

### Straddle Channel

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 18.09            | 16.06               | 5710.78                | 5711.84                | 14.22                          | 3.87                          | 13.16                      | 2.90                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.96            | 17.02               | 5710.35                | 5711.23                | 14.65                          | 4.30                          | 13.77                      | 3.25                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 39.57            | 35.89               | 5690.00                | 5691.62                | 35.00                          | 4.57                          | 33.38                      | 2.51                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 84.93            | 76.12               | 5648.68                | 5651.51                | 76.32                          | 8.61                          | 73.49                      | 2.63                      |

|               |                                                                                                           |          |     |
|---------------|-----------------------------------------------------------------------------------------------------------|----------|-----|
| Temperature   | 25°C                                                                                                      | Humidity | 45% |
| Test Engineer | Roki Liu                                                                                                  |          |     |
| Test Mode     | Mode 11: EUT 2 + Set 12 PIFA Antenna / Chain1:5.96 dBi, Chain2:5.97 dBi, Chain3:6.25 dBi, Chain4:6.08 dBi |          |     |

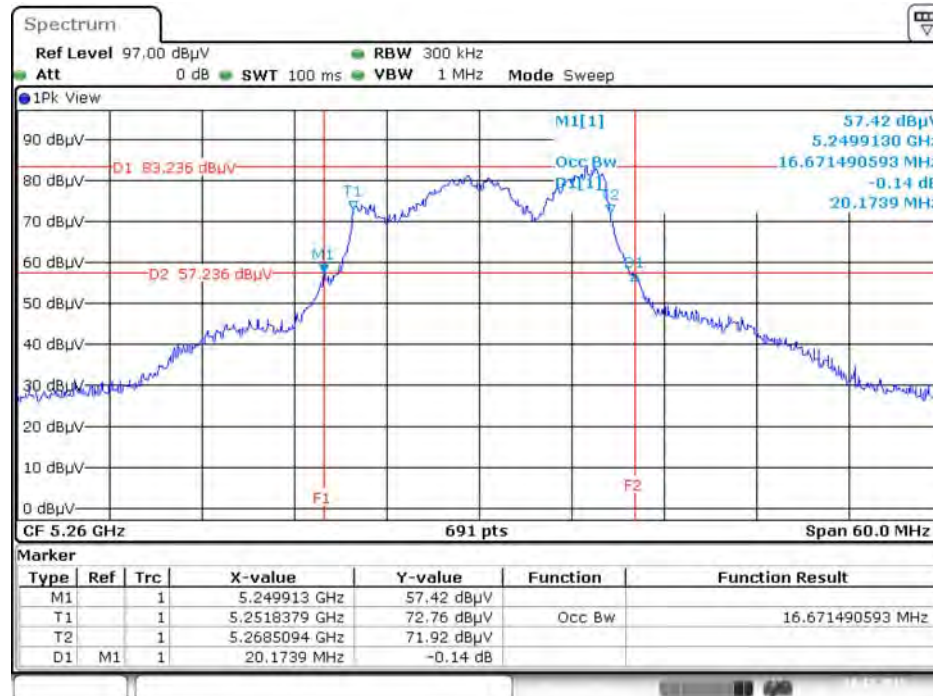
| Mode                        | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a                     | 5260 MHz  | 17.91                | 16.06                        |
|                             | 5300 MHz  | 18.00                | 15.98                        |
|                             | 5320 MHz  | 17.91                | 16.15                        |
|                             | 5500 MHz  | 17.83                | 16.06                        |
|                             | 5580 MHz  | 17.65                | 15.98                        |
|                             | 5700 MHz  | 17.48                | 15.80                        |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5260 MHz  | 18.70                | 16.93                        |
|                             | 5300 MHz  | 18.70                | 16.93                        |
|                             | 5320 MHz  | 18.70                | 17.02                        |
|                             | 5500 MHz  | 18.61                | 17.02                        |
|                             | 5580 MHz  | 17.74                | 15.98                        |
|                             | 5700 MHz  | 18.43                | 16.58                        |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5270 MHz  | 40.00                | 36.61                        |
|                             | 5310 MHz  | 39.71                | 36.61                        |
|                             | 5510 MHz  | 40.00                | 36.76                        |
|                             | 5550 MHz  | 39.71                | 36.61                        |
|                             | 5670 MHz  | 39.42                | 36.47                        |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5290 MHz  | 83.48                | 76.12                        |
|                             | 5530 MHz  | 83.77                | 76.41                        |
|                             | 5610 MHz  | 84.93                | 76.99                        |

**Straddle Channel**

| Mode                        | Frequency | 26dB 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) |
|-----------------------------|-----------|------------------|---------------------|------------------------|------------------------|--------------------------------|-------------------------------|----------------------------|---------------------------|
| 802.11a                     | 5720 MHz  | 17.57            | 15.97               | 5711.04                | 5711.84                | 13.96                          | 3.61                          | 13.16                      | 2.81                      |
| 802.11ac<br>MCS0/Nss1 VHT20 | 5720 MHz  | 18.43            | 16.76               | 5710.61                | 5711.32                | 14.39                          | 4.04                          | 13.68                      | 3.08                      |
| 802.11ac<br>MCS0/Nss1 VHT40 | 5710 MHz  | 39.57            | 36.61               | 5690.29                | 5691.91                | 34.71                          | 4.85                          | 33.09                      | 3.52                      |
| 802.11ac<br>MCS0/Nss1 VHT80 | 5690 MHz  | 83.77            | 76.41               | 5647.68                | 5652.08                | 77.32                          | 6.45                          | 72.92                      | 3.49                      |

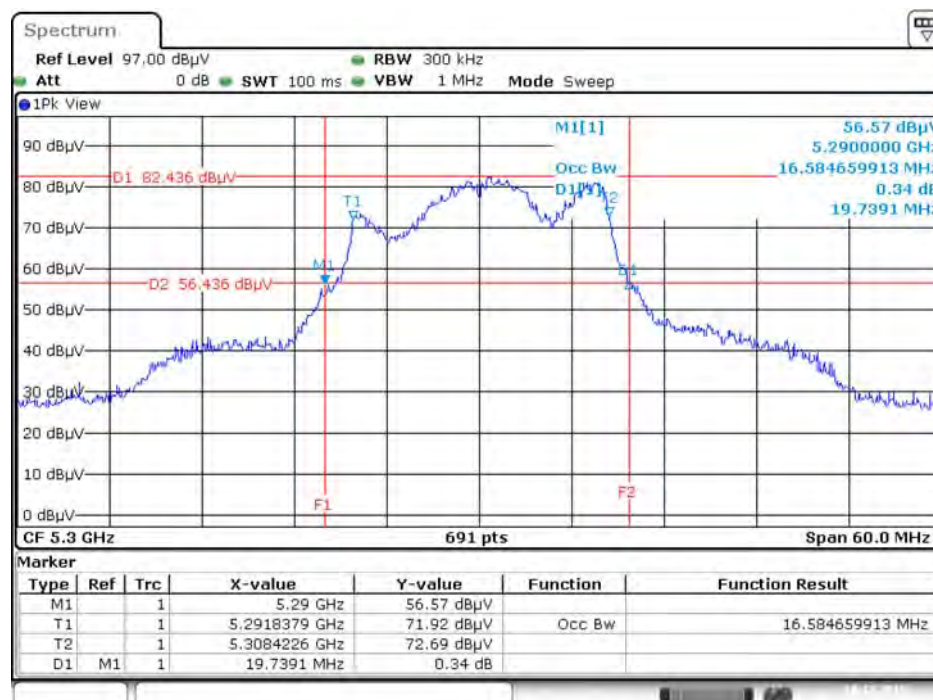
Mode 1: EUT 1 + Set 1 Sector Antenna / 6.5 dBi

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



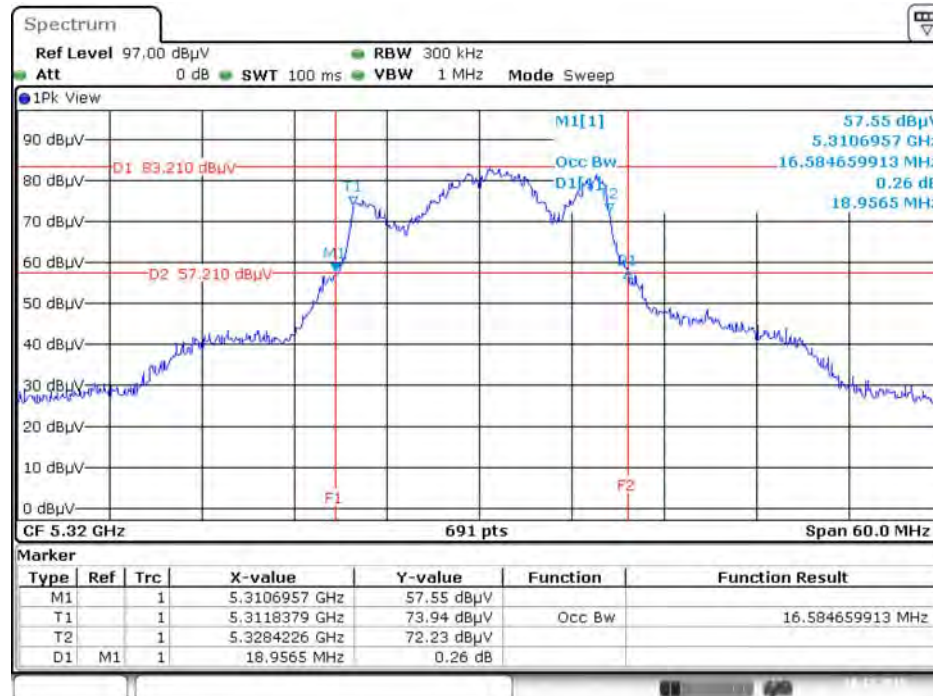
Date: 10.DEC.2015 20:22:39

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



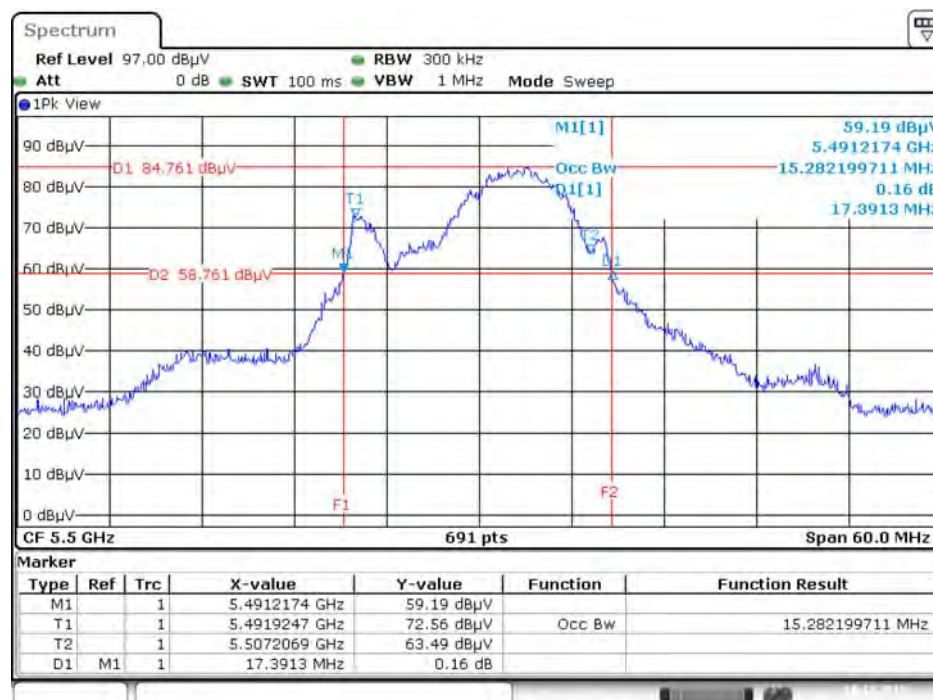
Date: 10.DEC.2015 20:25:55

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



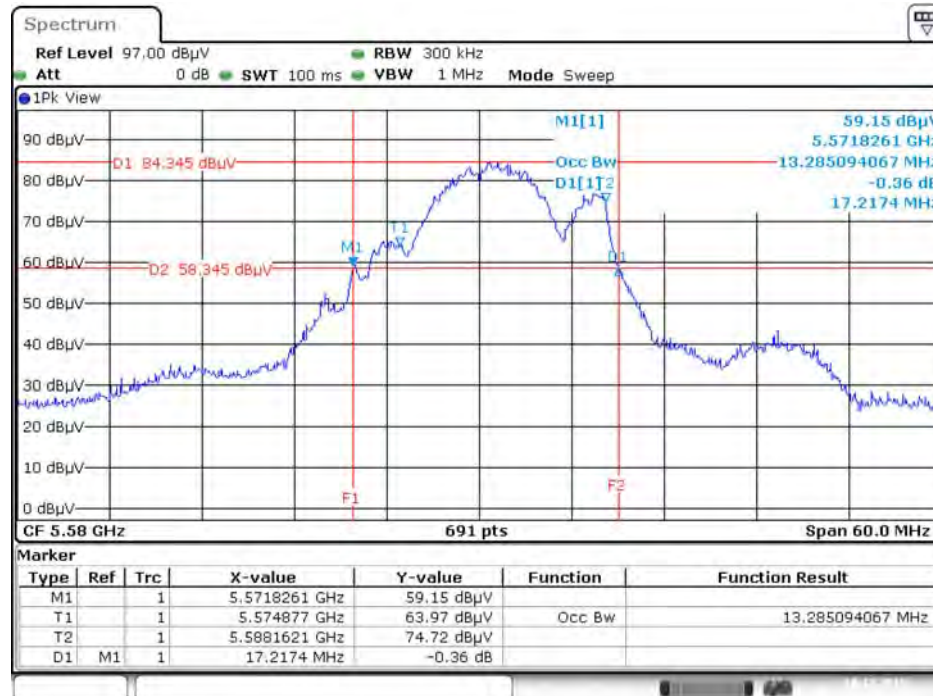
Date: 10.DEC.2015 20:33:38

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



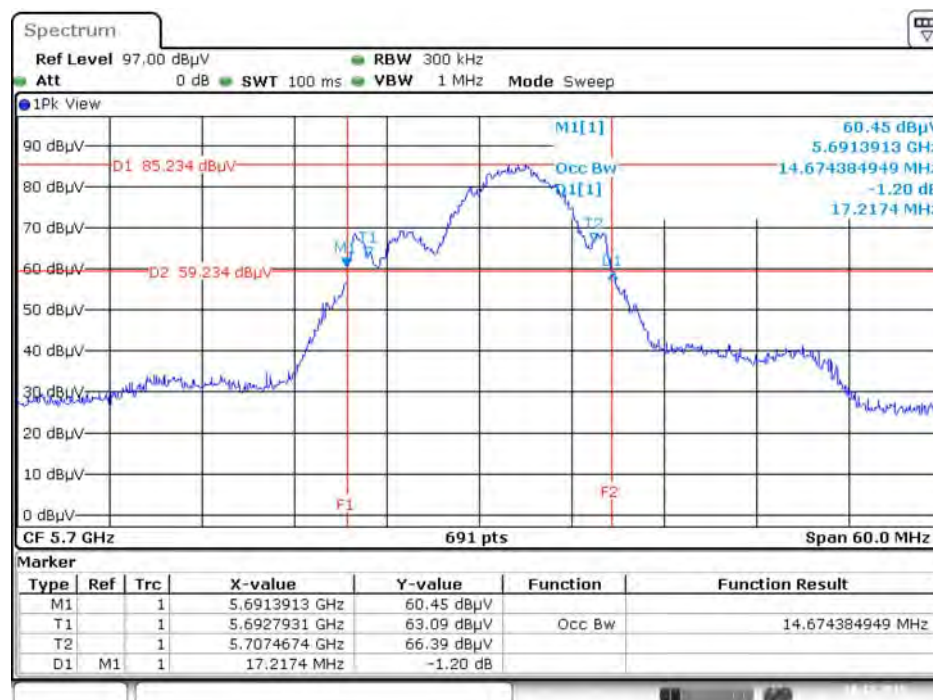
Date: 10.DEC.2015 20:37:12

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



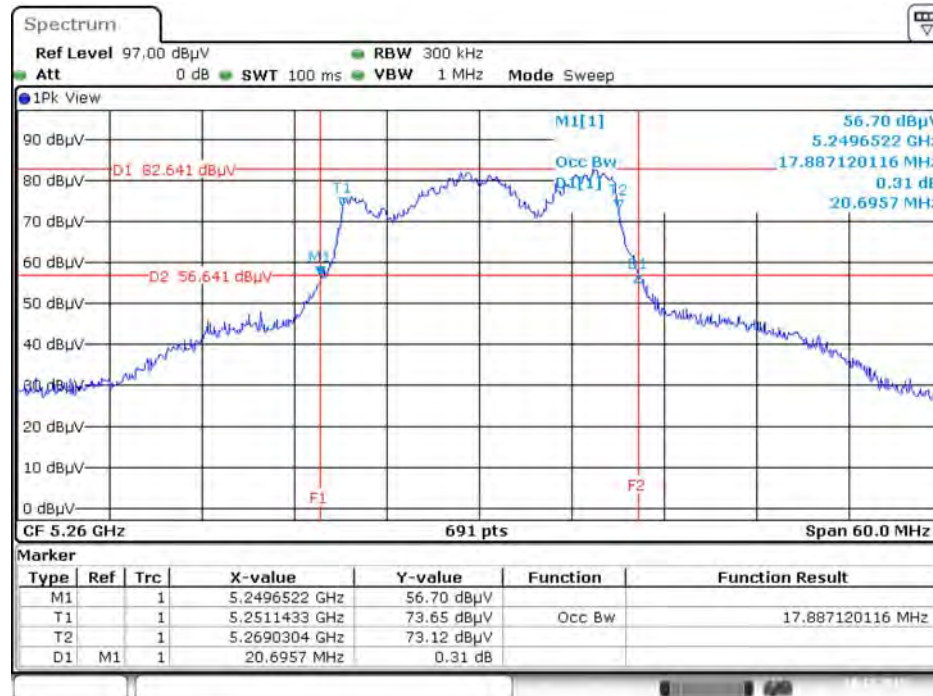
Date: 10.DEC.2015 20:54:35

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



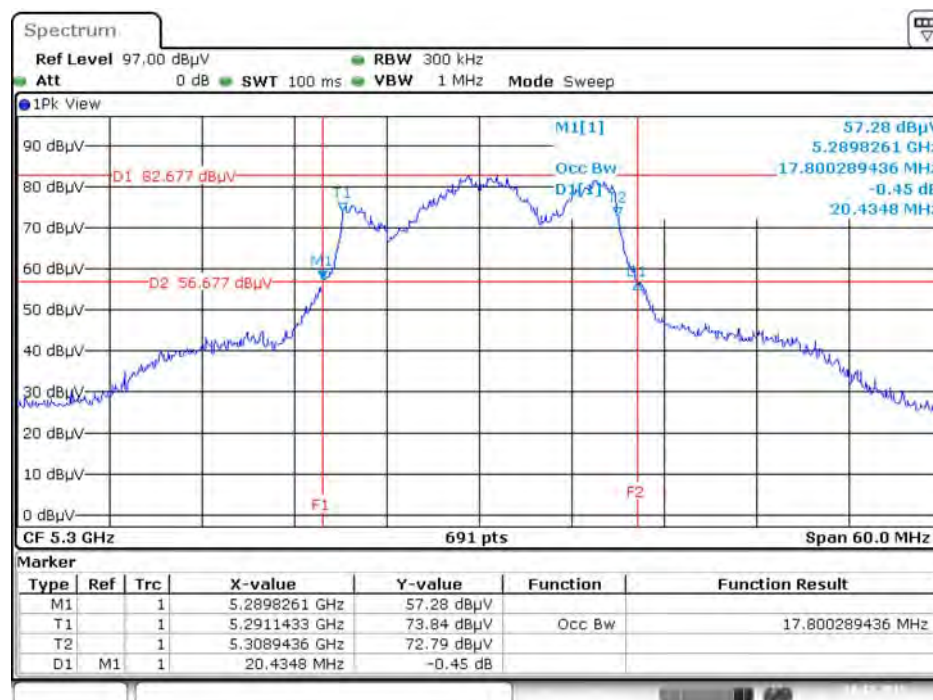
Date: 10.DEC.2015 20:57:51

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



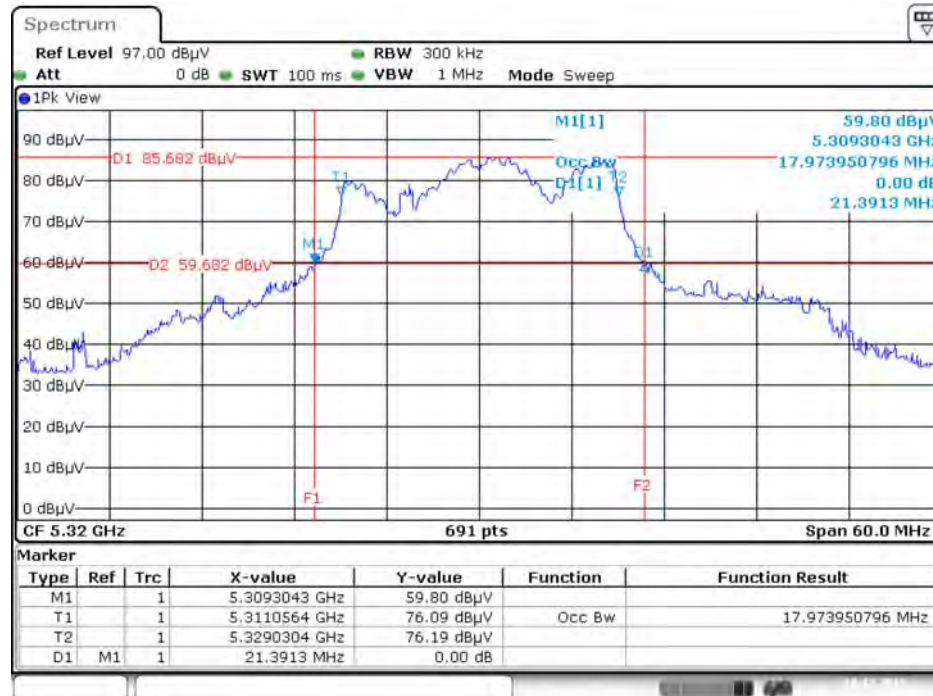
Date: 10.DEC.2015 21:18:41

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



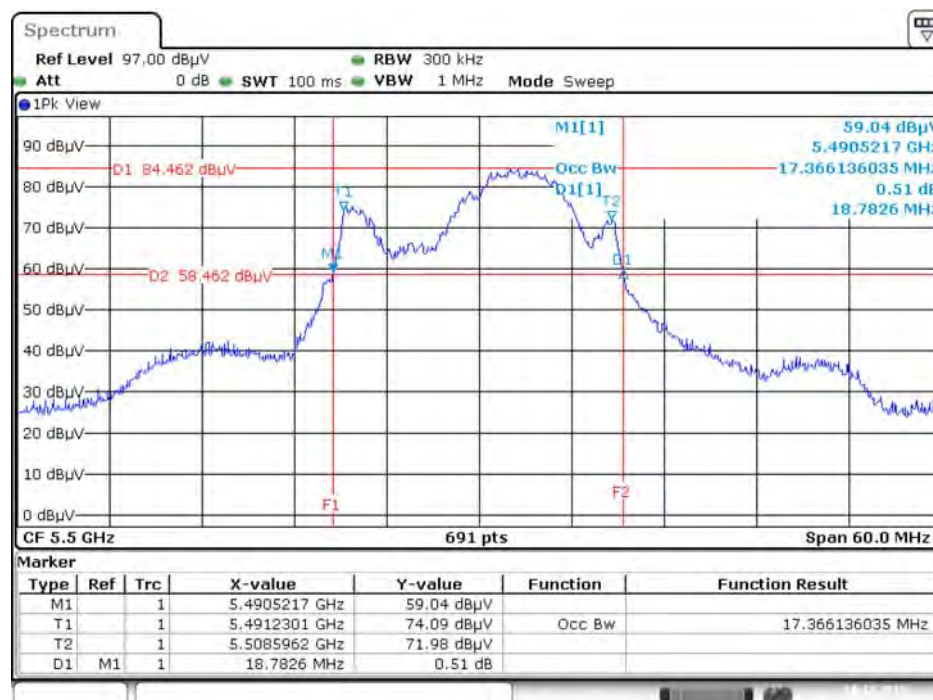
Date: 10.DEC.2015 21:36:17

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



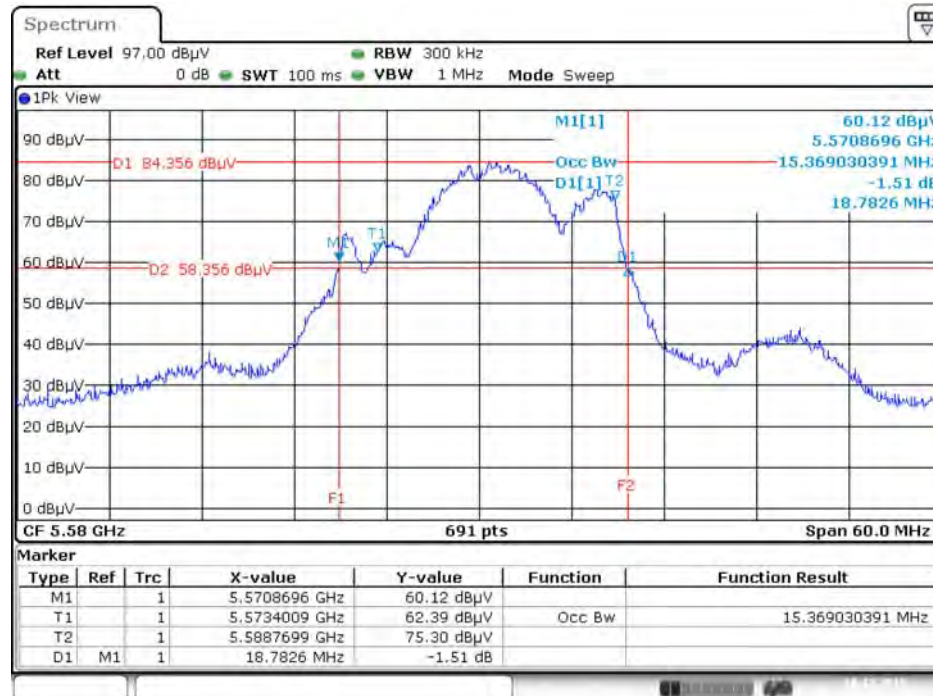
Date: 10.DEC.2015 21:46:59

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



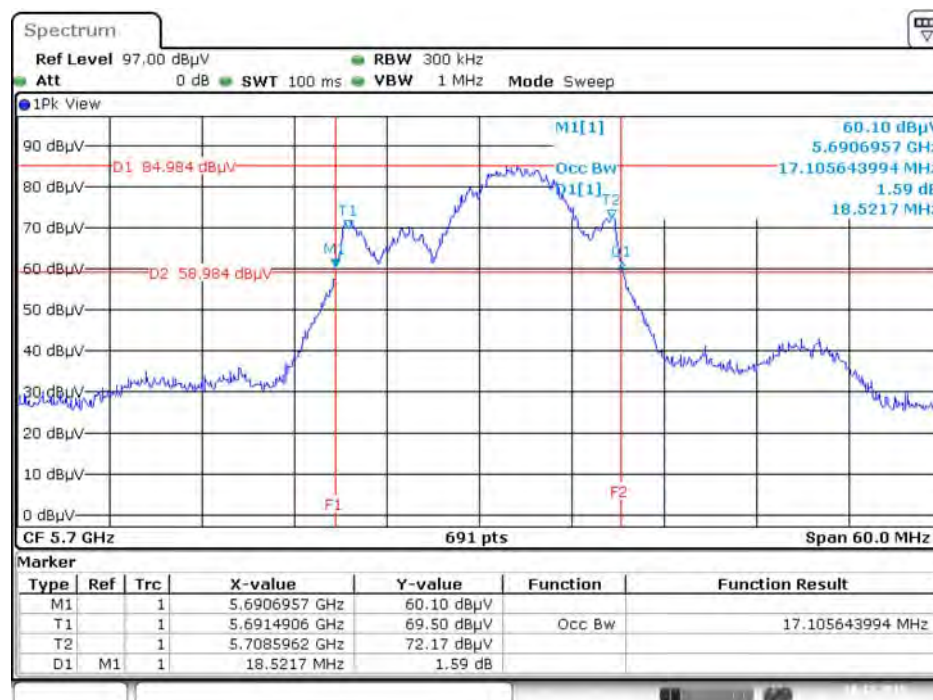
Date: 10.DEC.2015 21:49:47

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



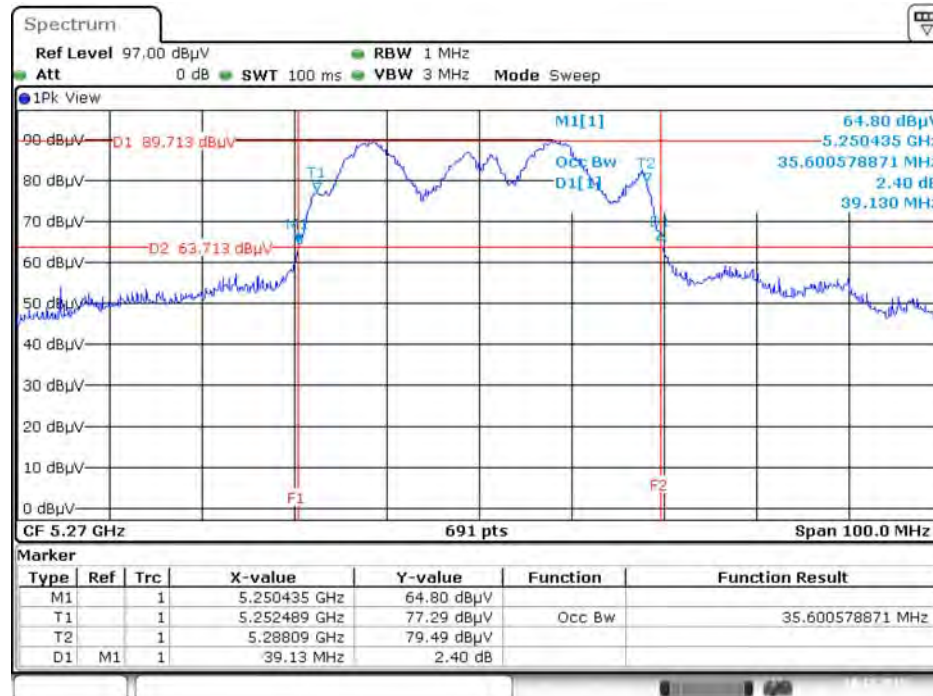
Date: 10.DEC.2015 21:52:29

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



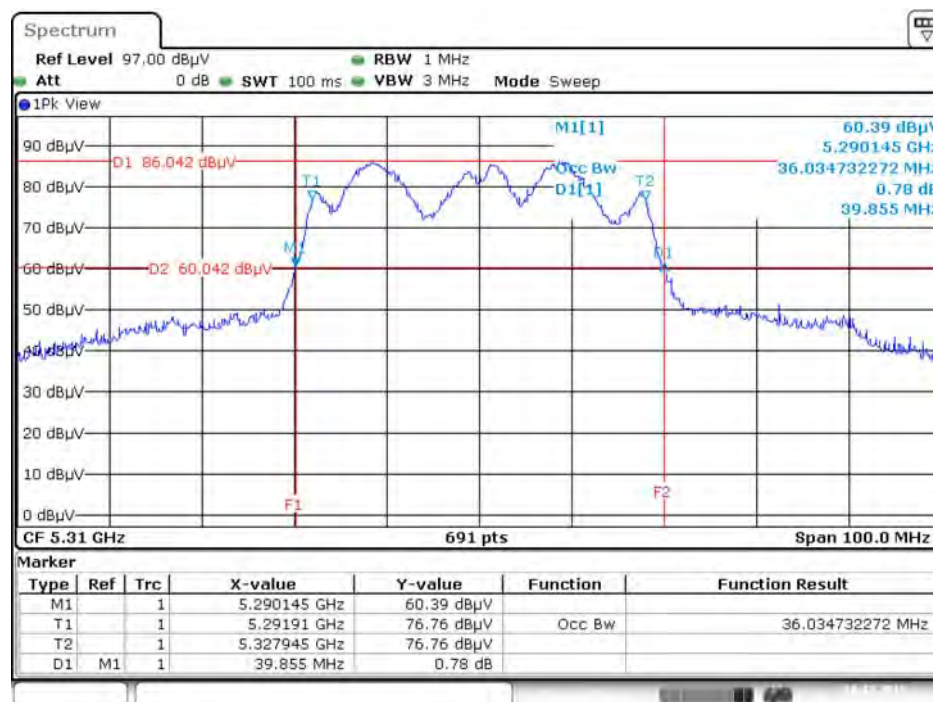
Date: 10.DEC.2015 21:55:03

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



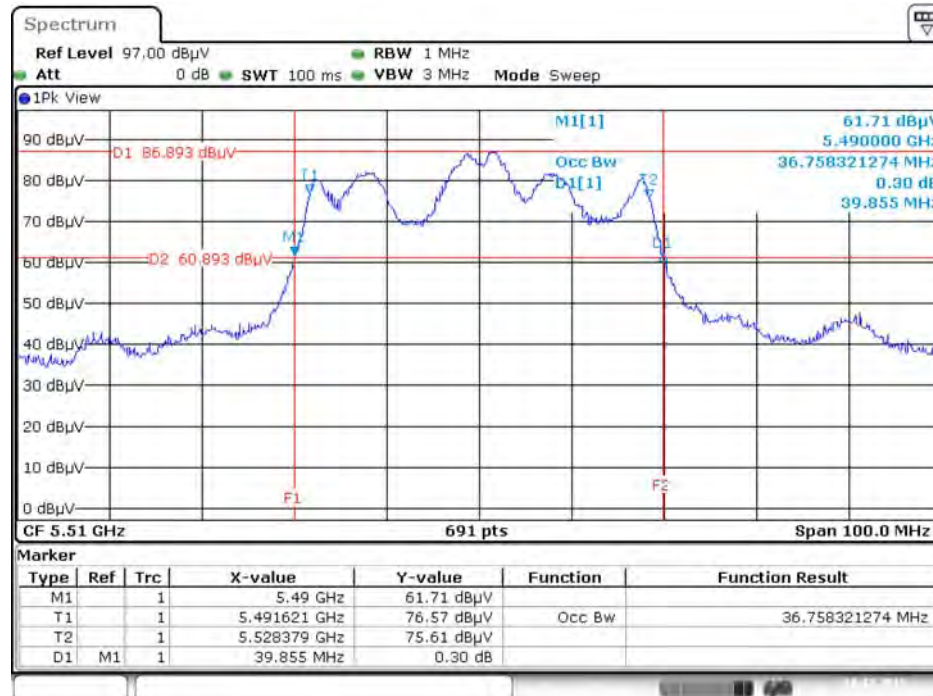
Date: 10.DEC.2015 22:25:32

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



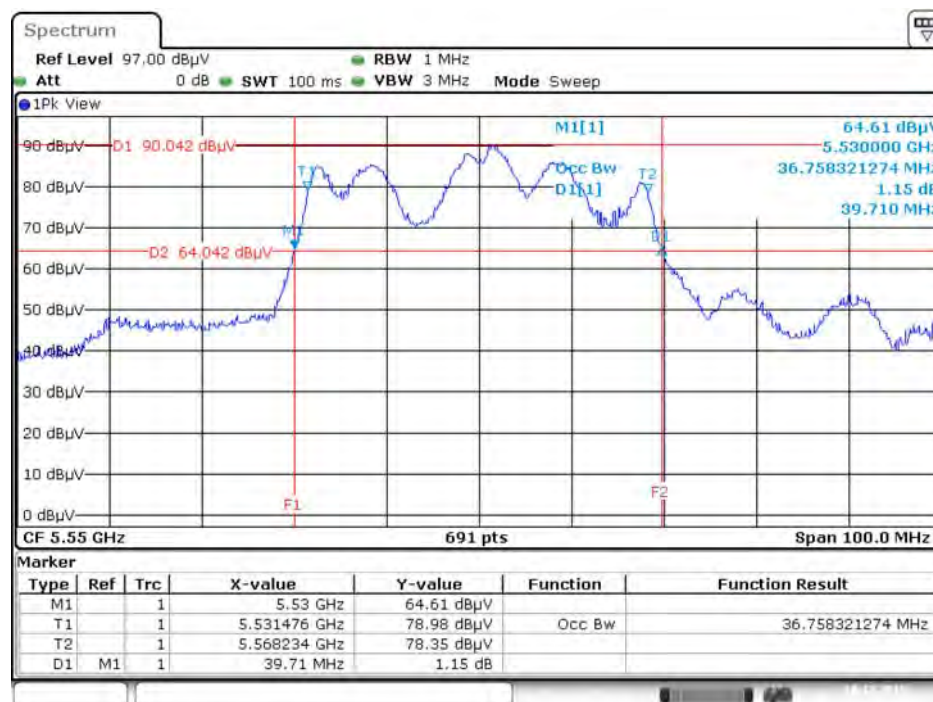
Date: 10.DEC.2015 22:27:42

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



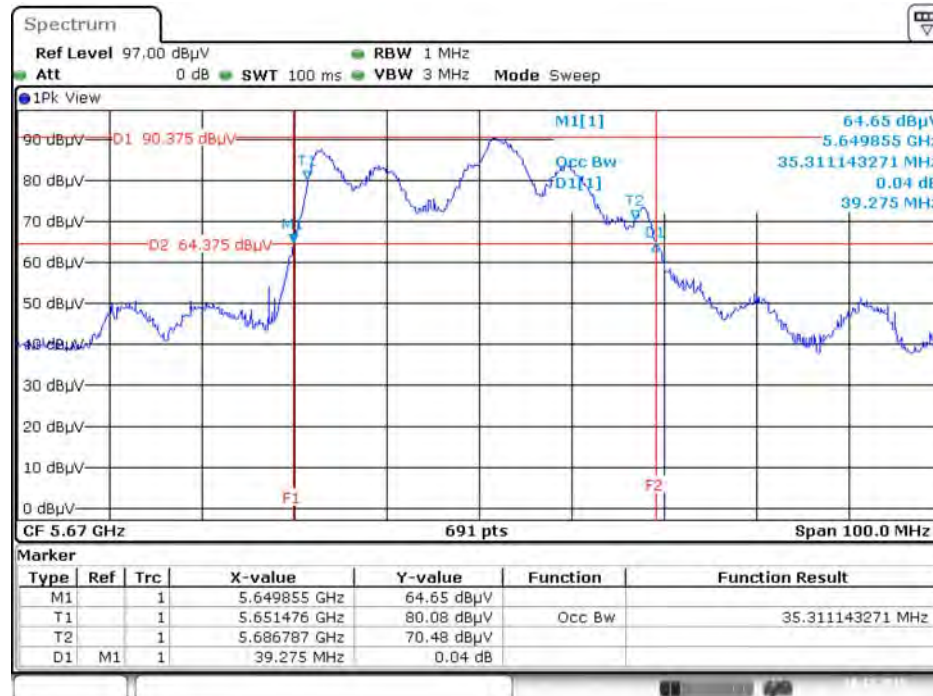
Date: 10.DEC.2015 22:30:29

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



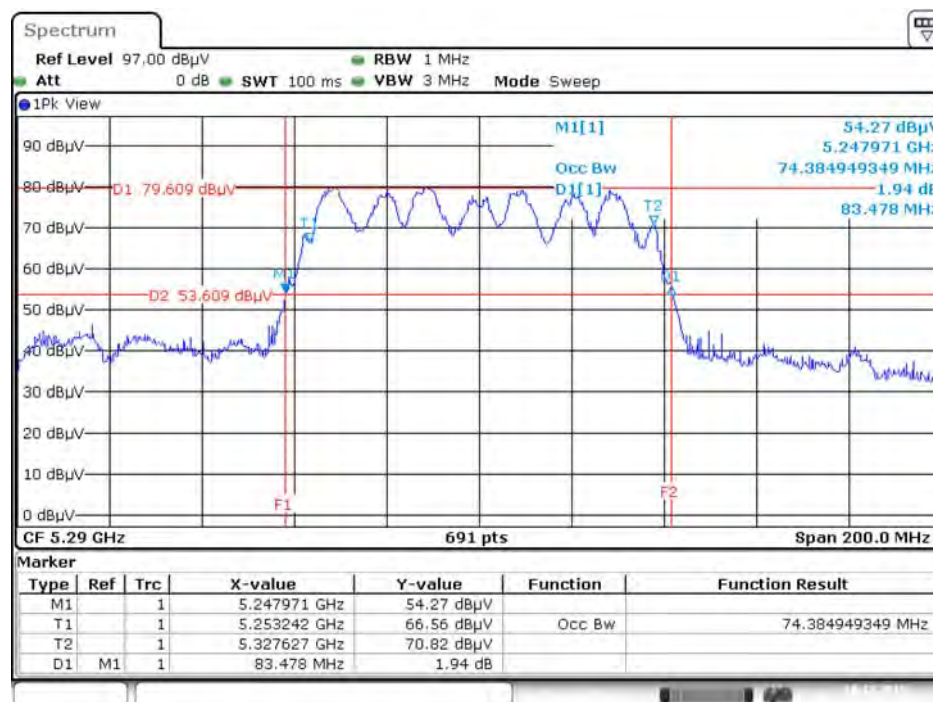
Date: 10.DEC.2015 22:32:59

**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**



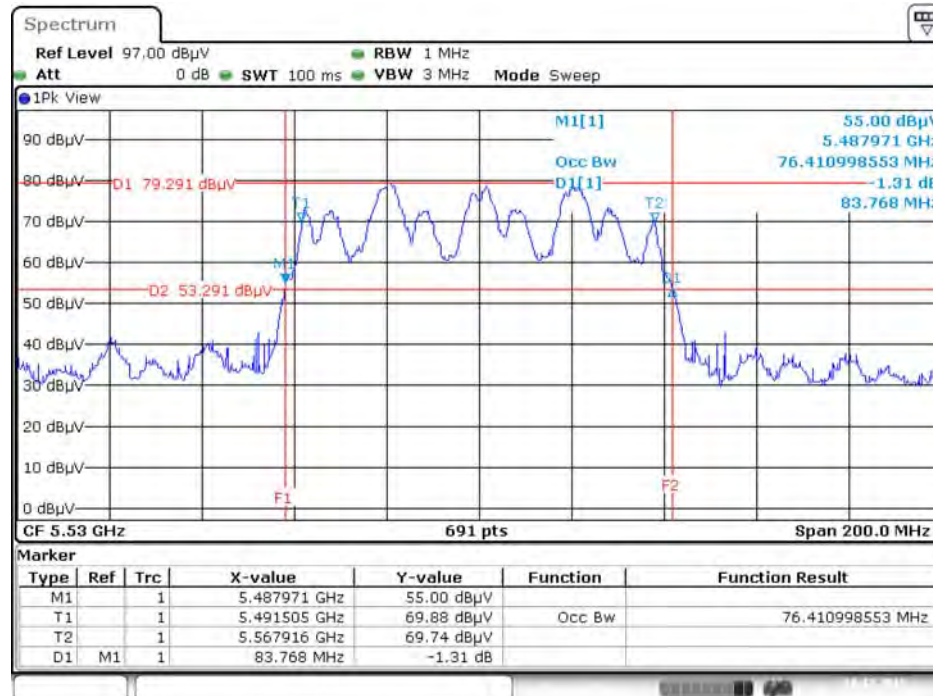
Date: 10.DEC.2015 22:57:10

**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**



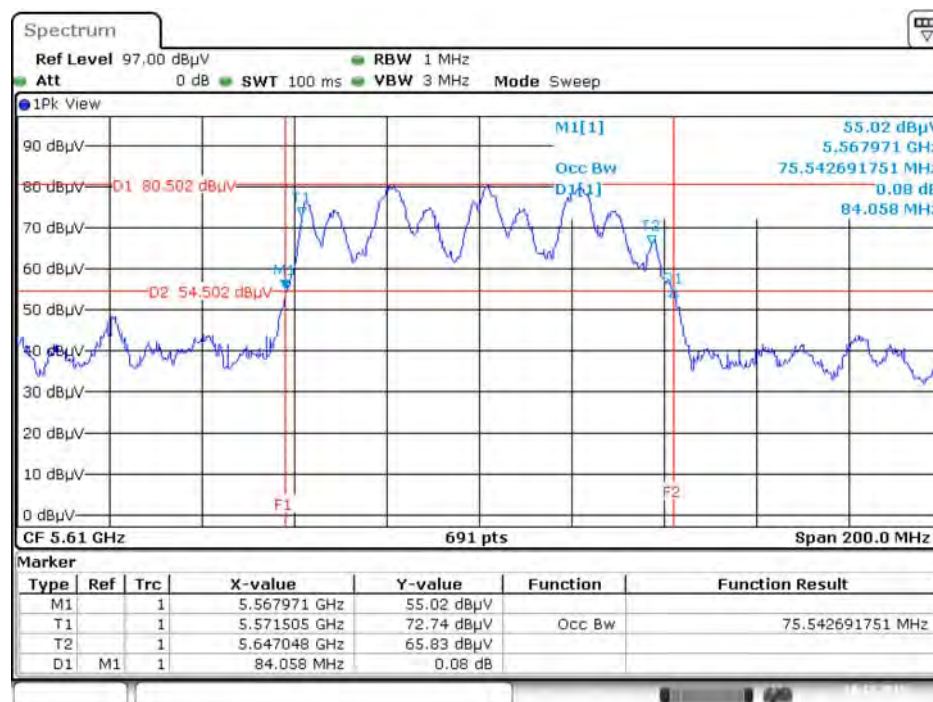
Date: 10 DEC 2015 23:09:45

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: 10.DEC.2015 23:12:20

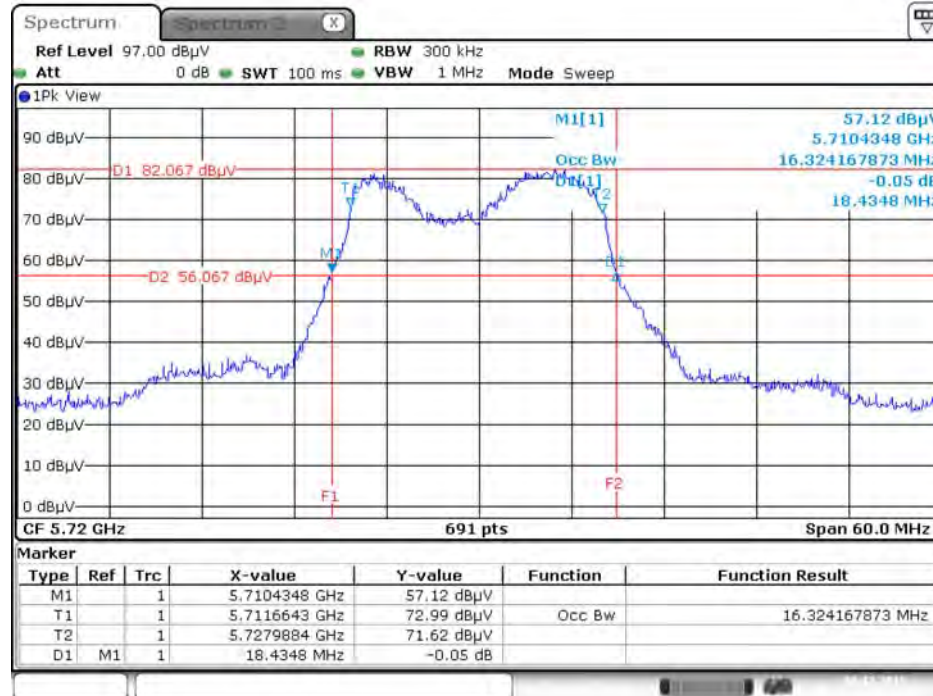
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 10.DEC.2015 23:16:00

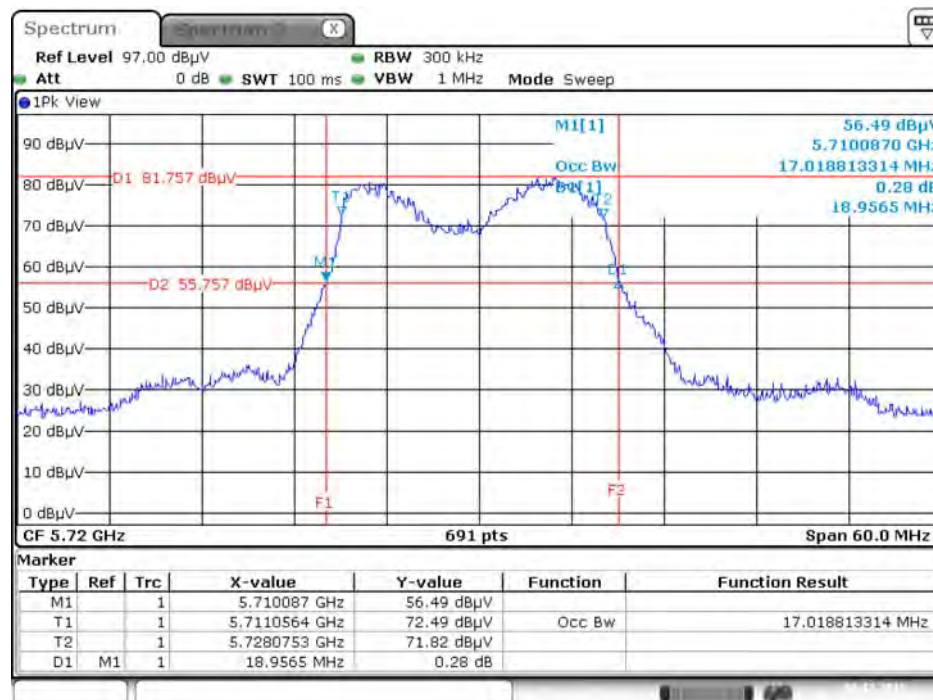
### Straddle Channel

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



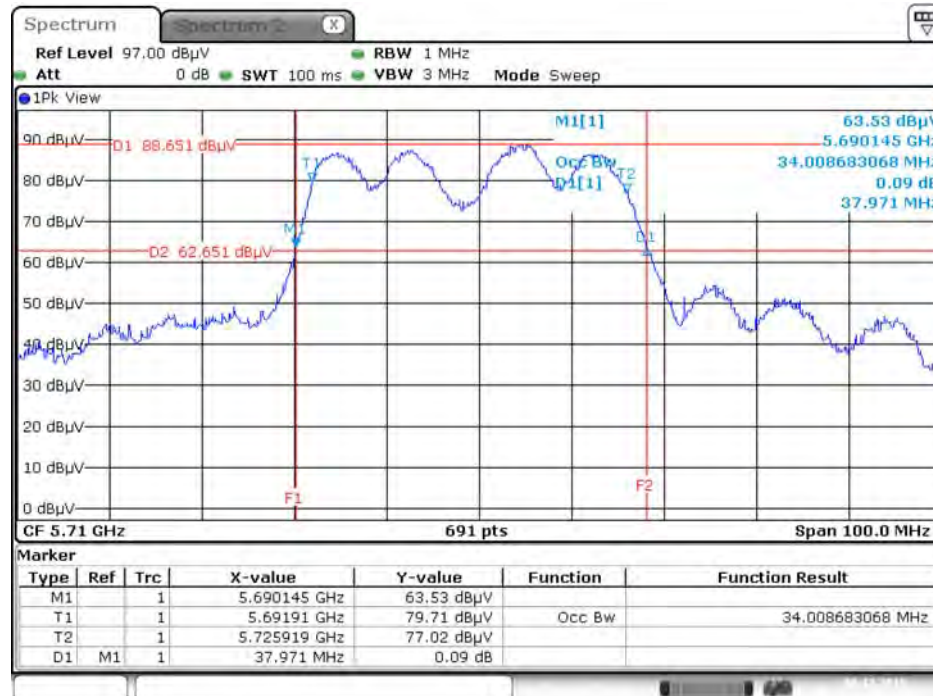
Date: 9 DEC. 2015 01:38:33

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



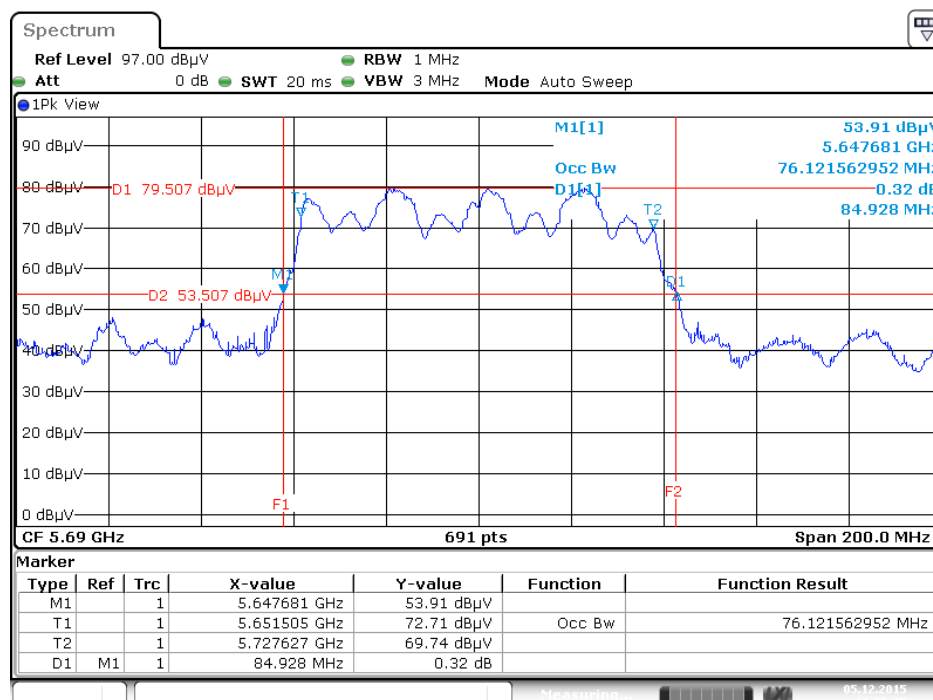
Date: 9 DEC. 2015 01:37:55

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: 9 DEC 2015 01:39:29

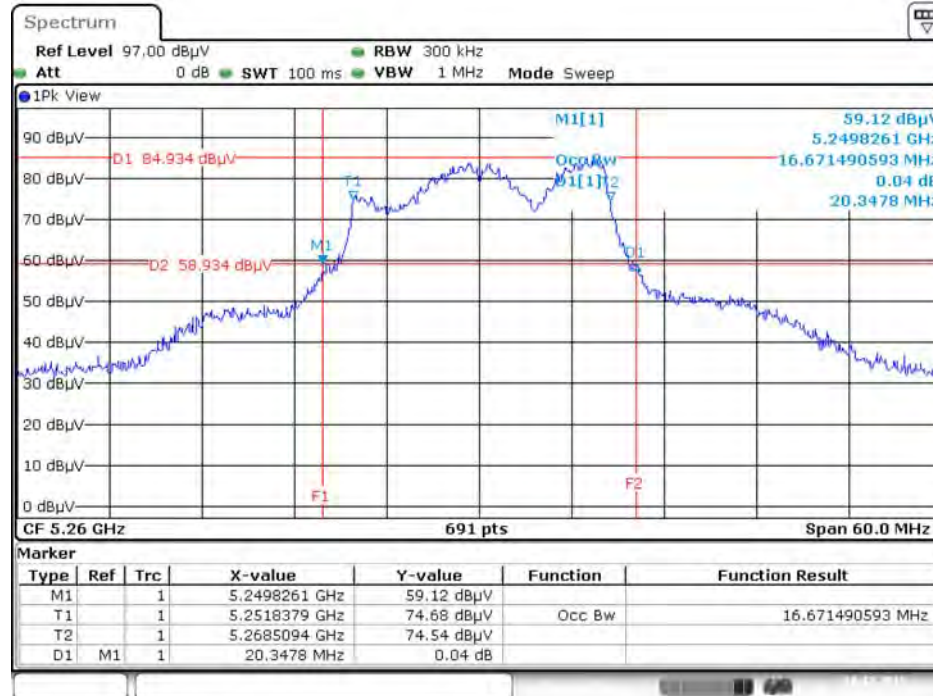
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 5 DEC 2015 11:06:35

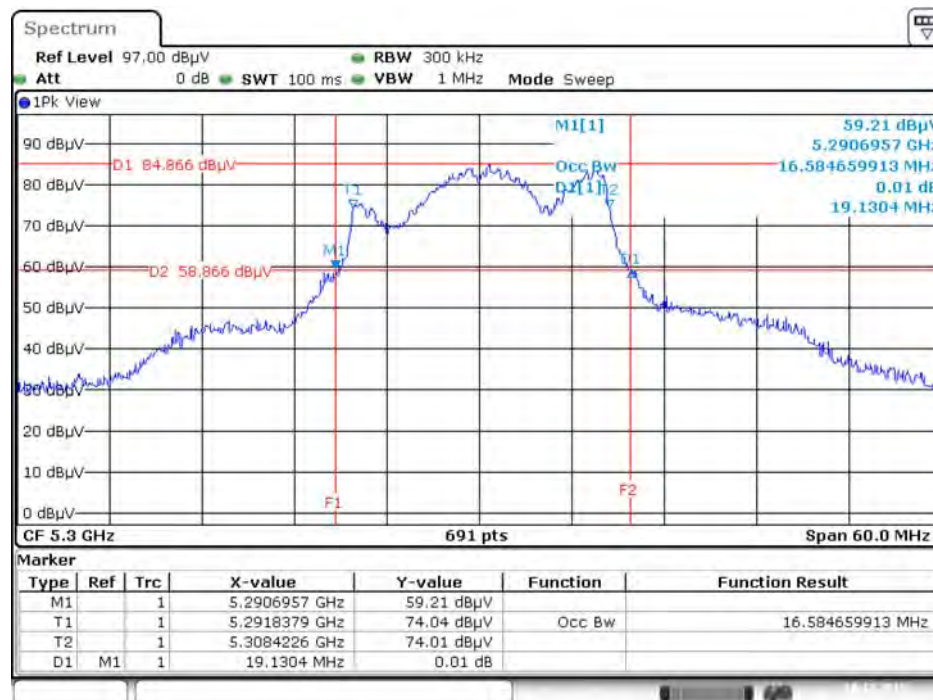
## Mode 2: EUT 1 + Set 2 Sector Antenna / 4.5 dBi

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



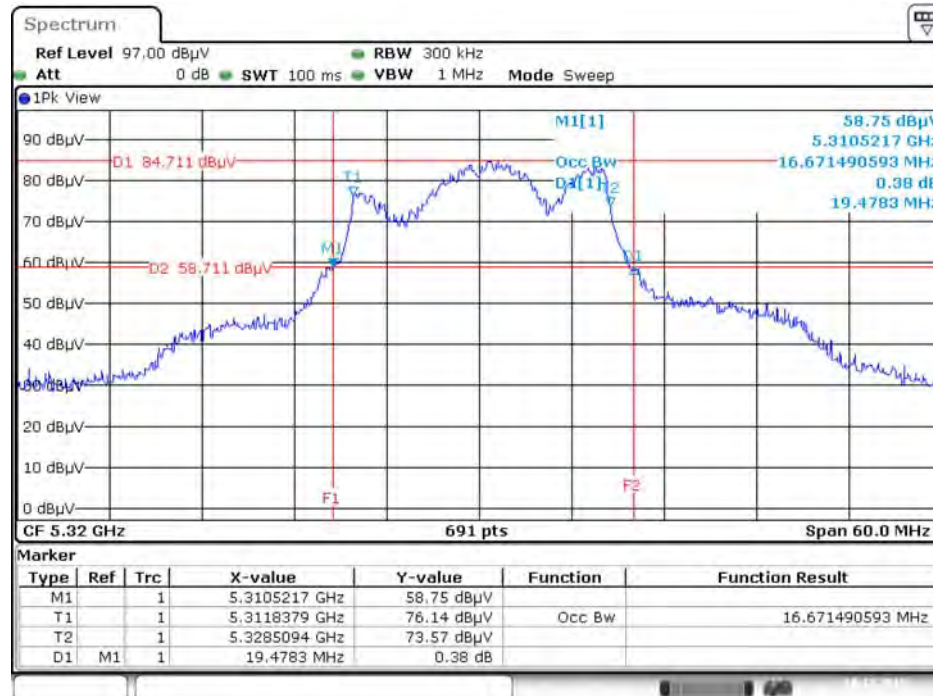
Date: 10.DEC.2015 20:23:26

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



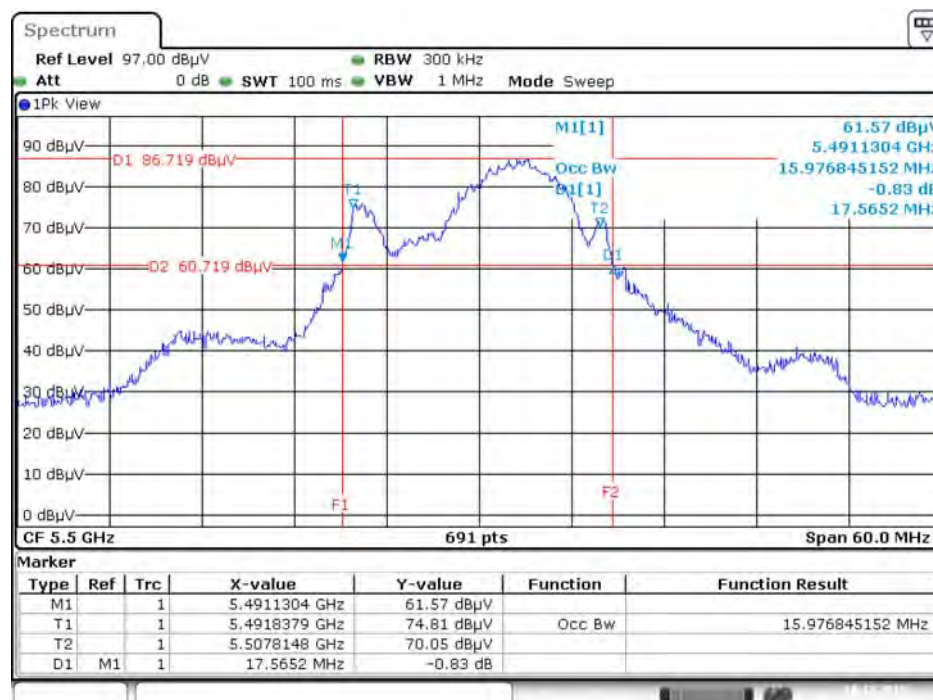
Date: 10.DEC.2015 20:26:35

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



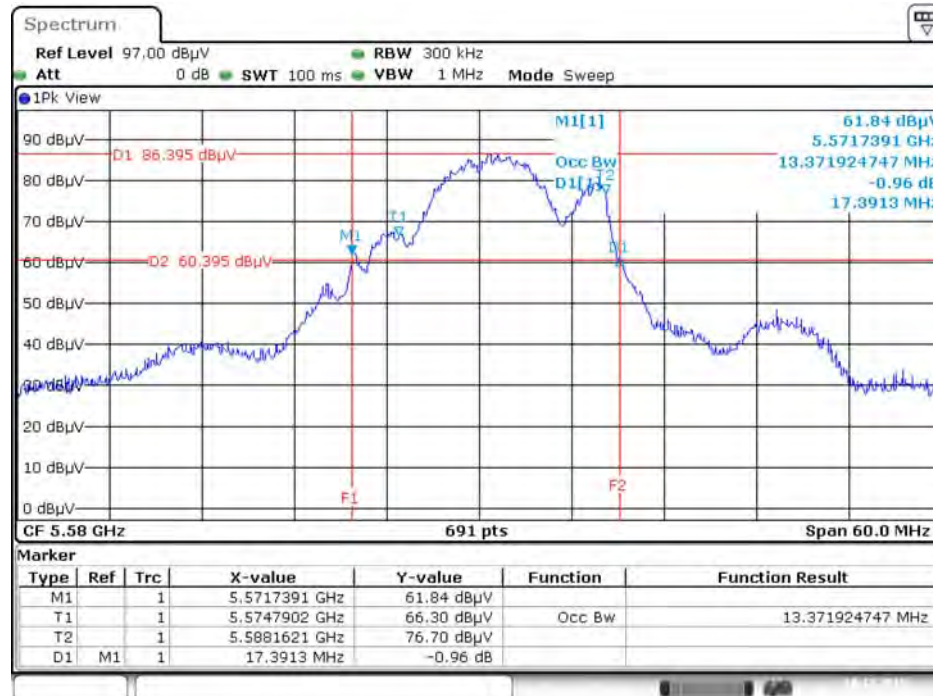
Date: 10.DEC.2015 20:34:18

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



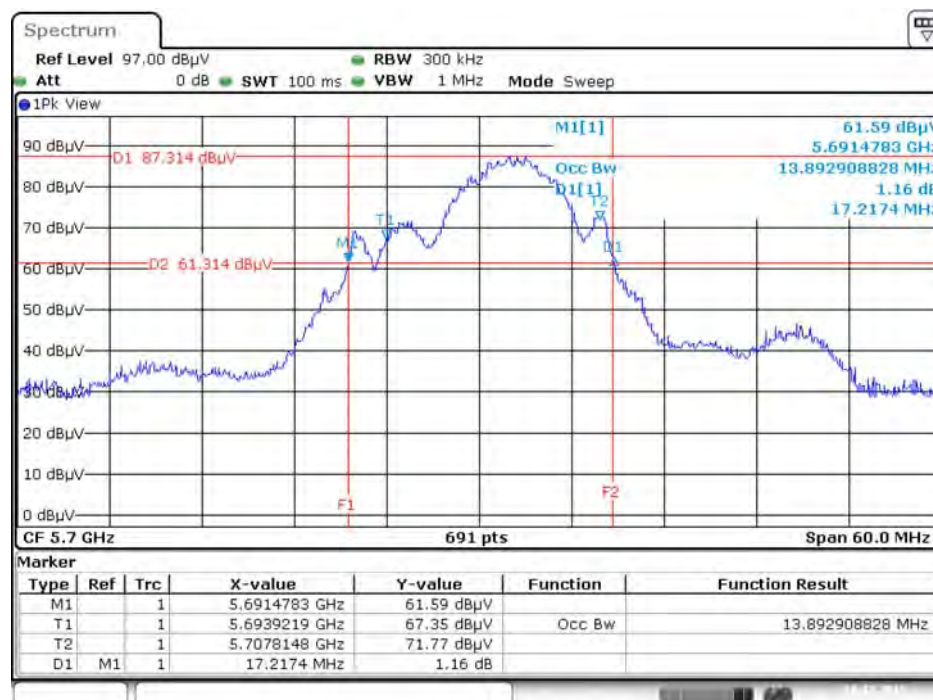
Date: 10.DEC.2015 20:38:10

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



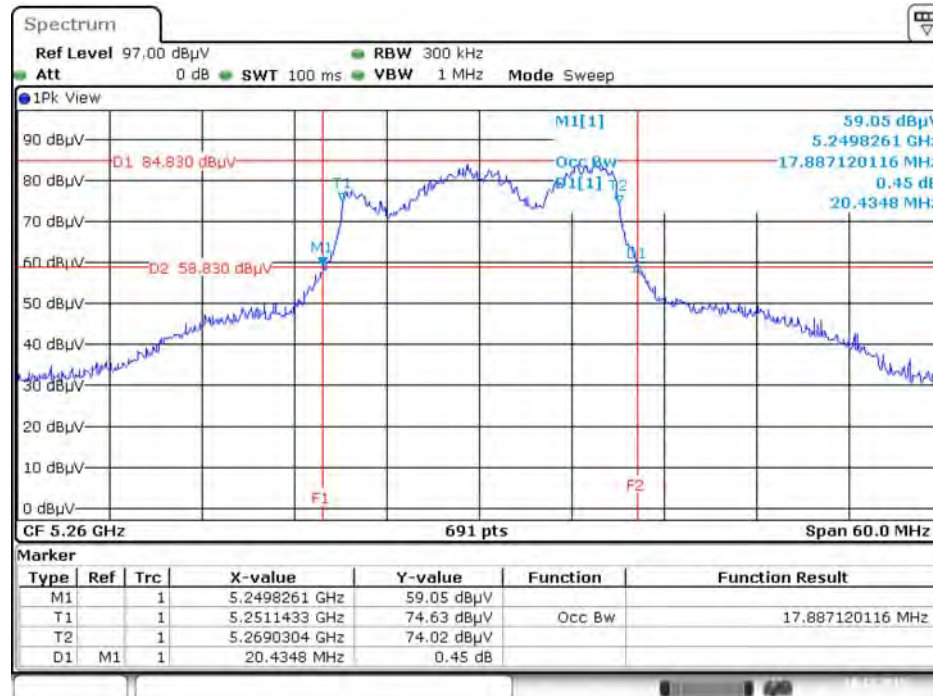
Date: 10.DEC.2015 20:55:28

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



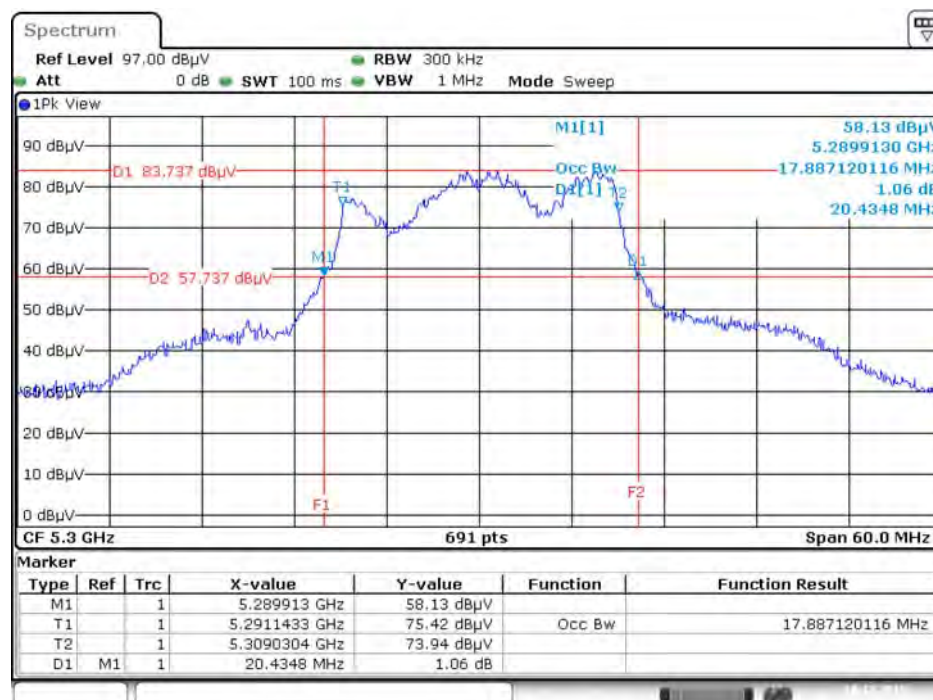
Date: 10.DEC.2015 20:58:24

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



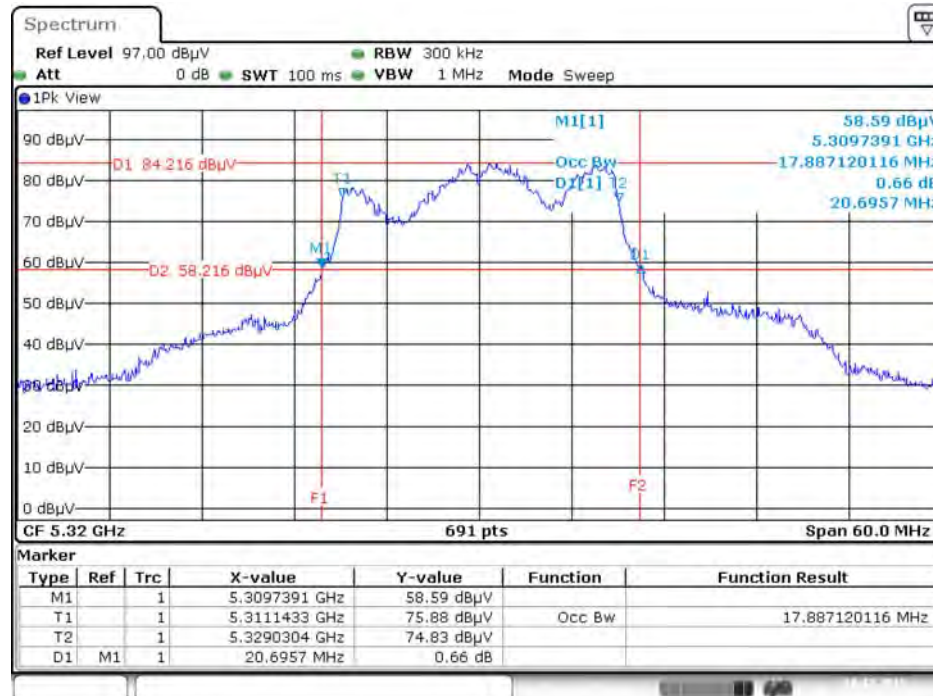
Date: 10.DEC.2015 21:19:22

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



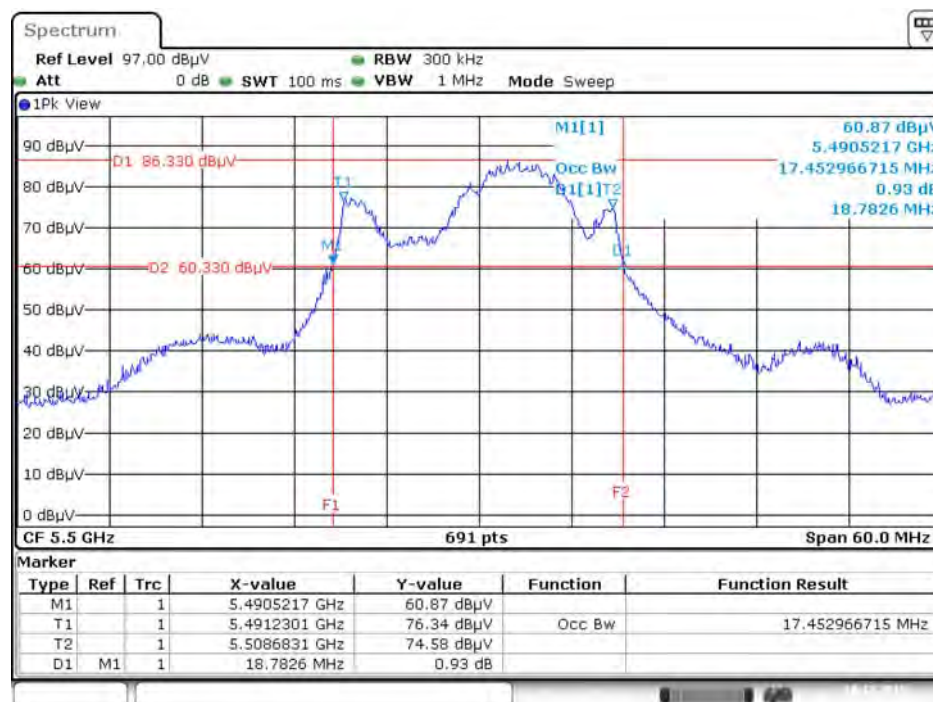
Date: 10.DEC.2015 21:37:01

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



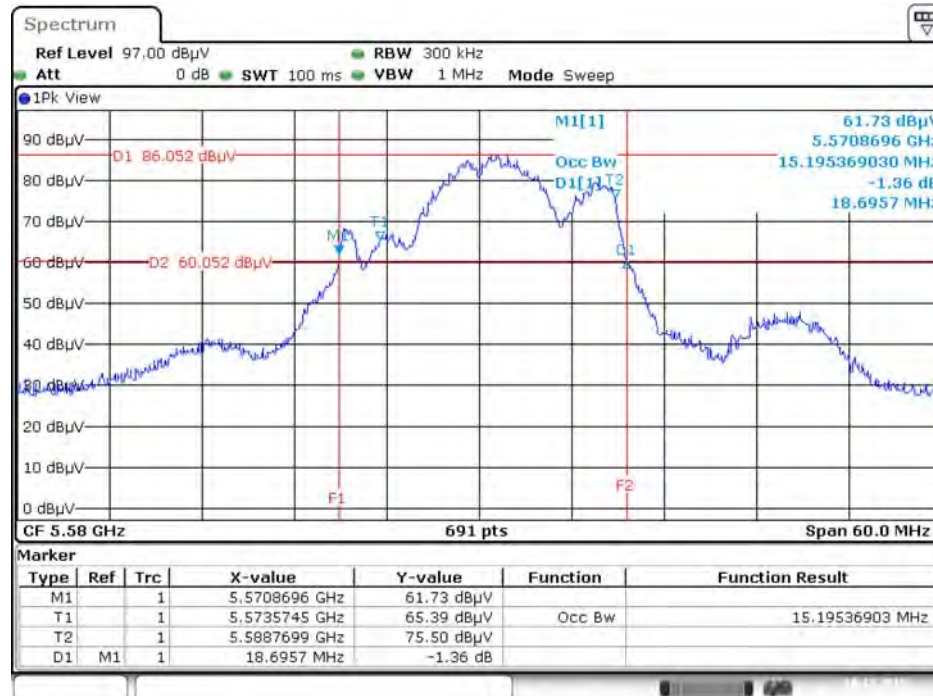
Date: 10.DEC.2015 21:47:43

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



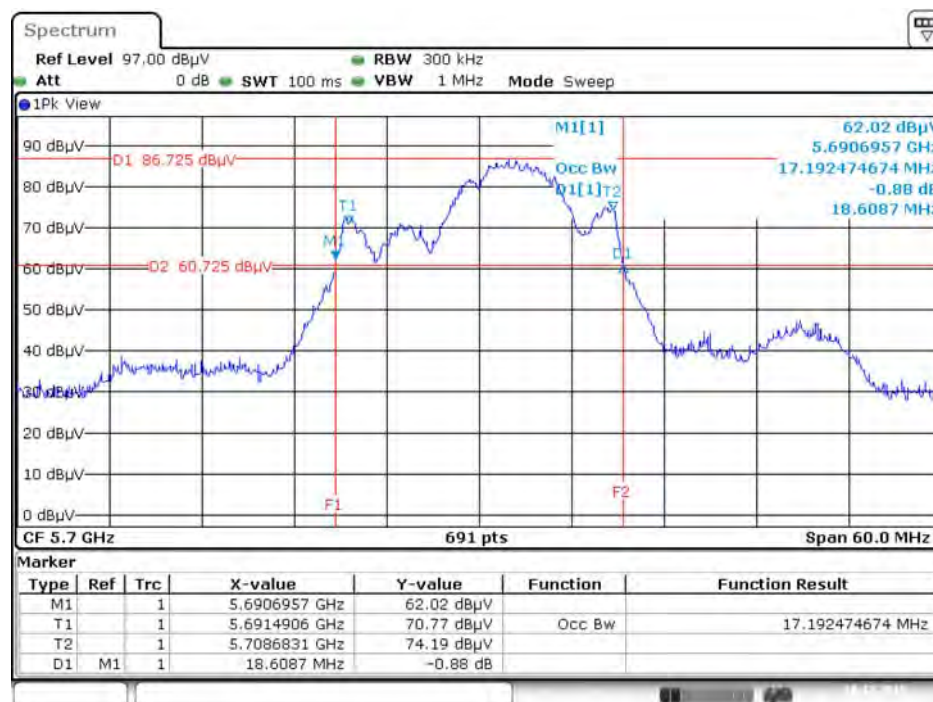
Date: 10.DEC.2015 21:50:21

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



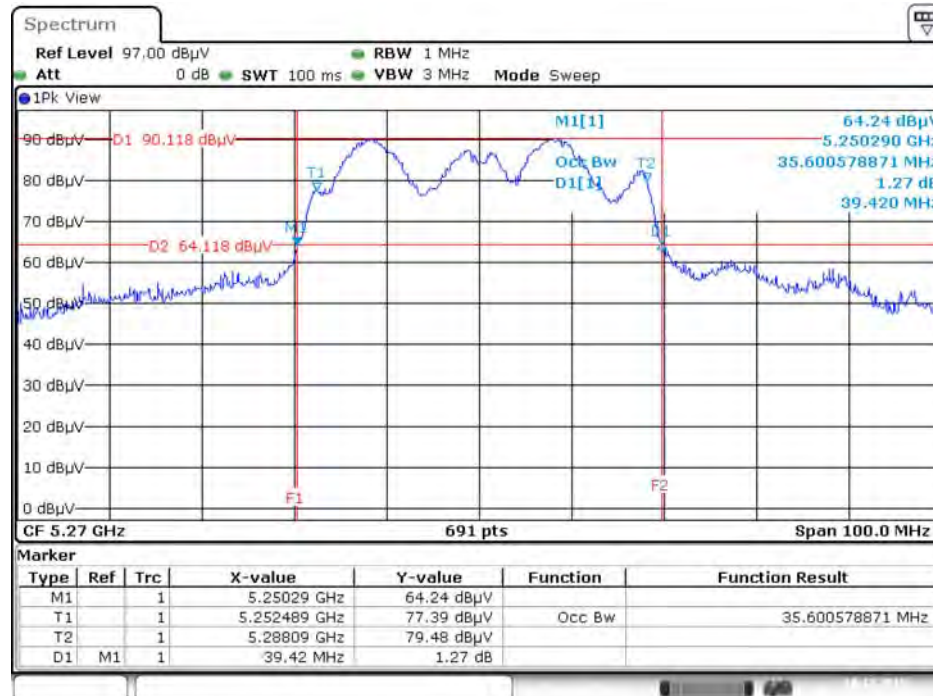
Date: 10.DEC.2015 21:53:03

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

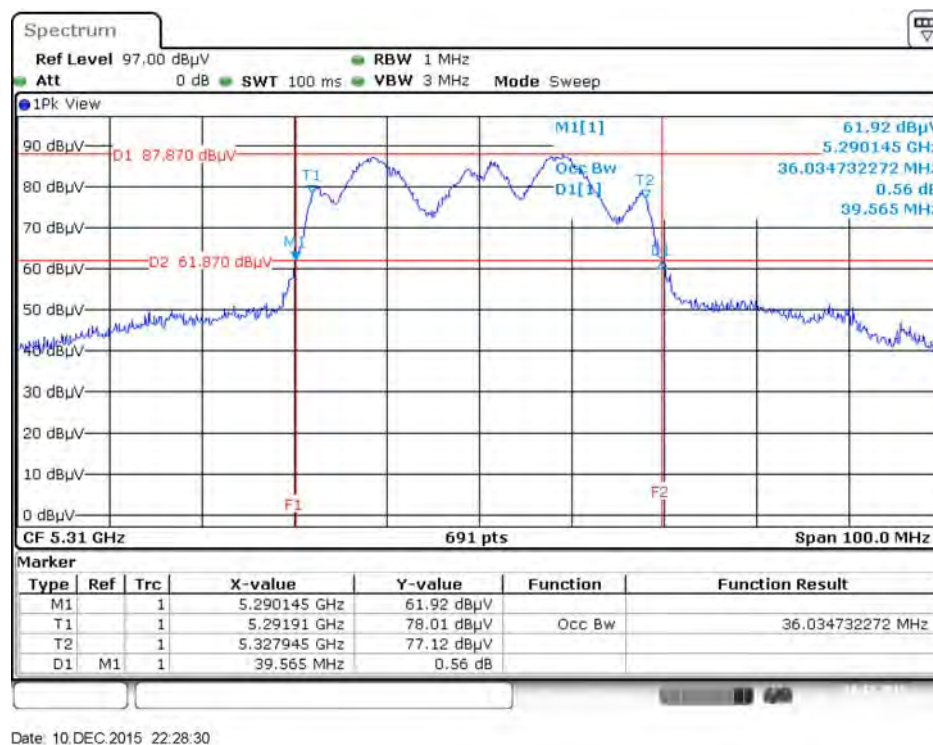


Date: 10.DEC.2015 21:55:34

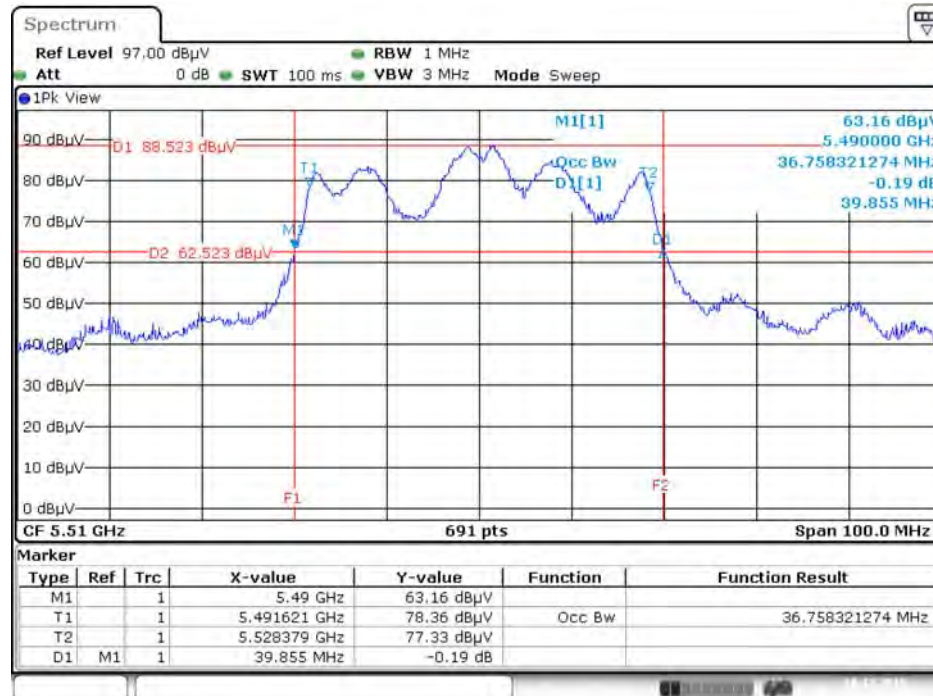
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



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

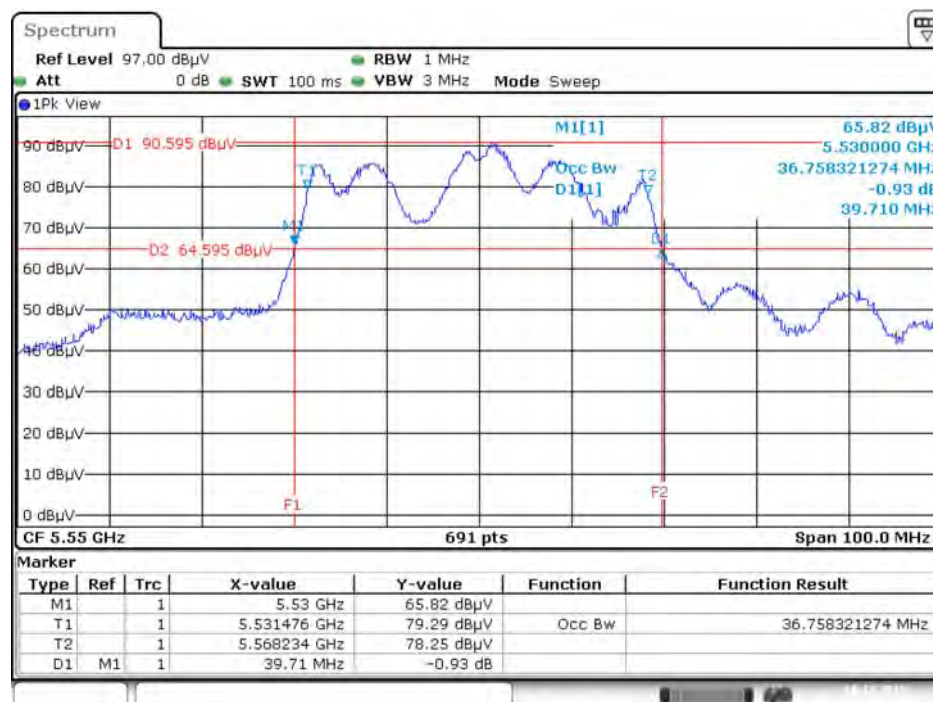


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5510 MHz



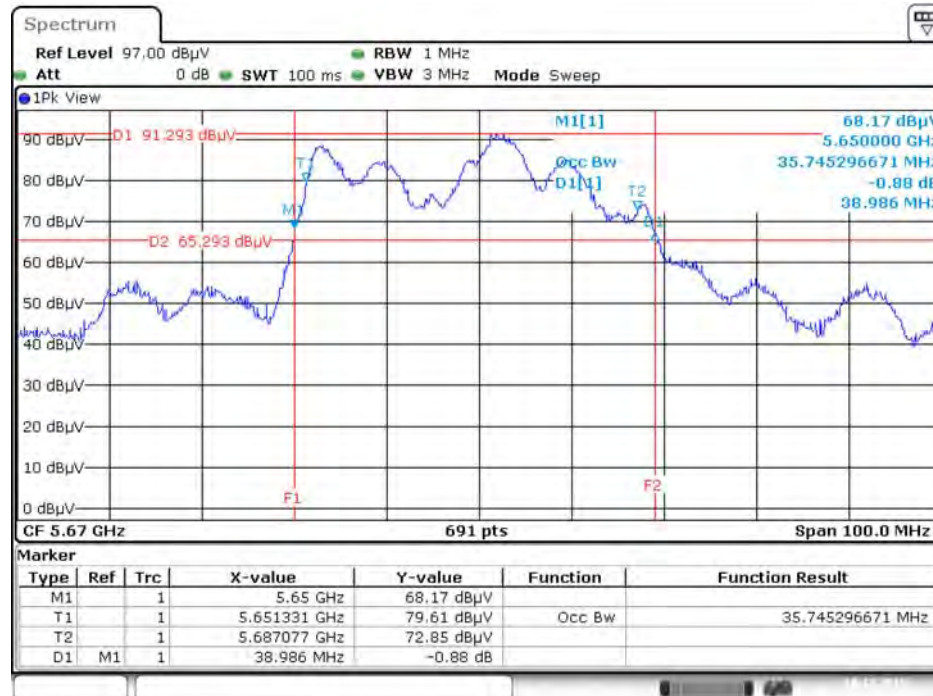
Date: 10.DEC.2015 22:31:09

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



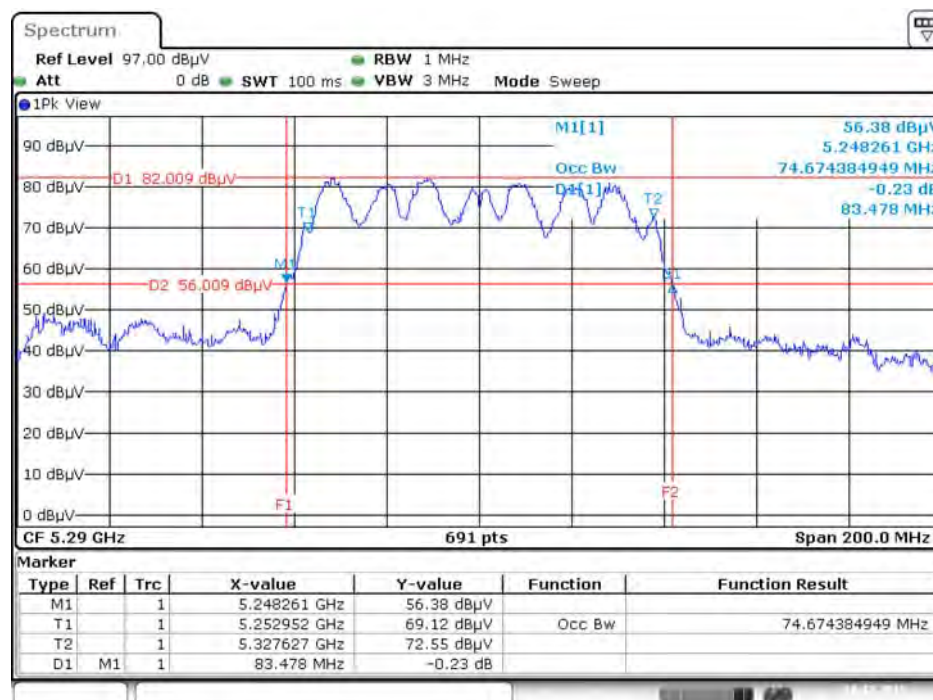
Date: 10.DEC.2015 22:32:07

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



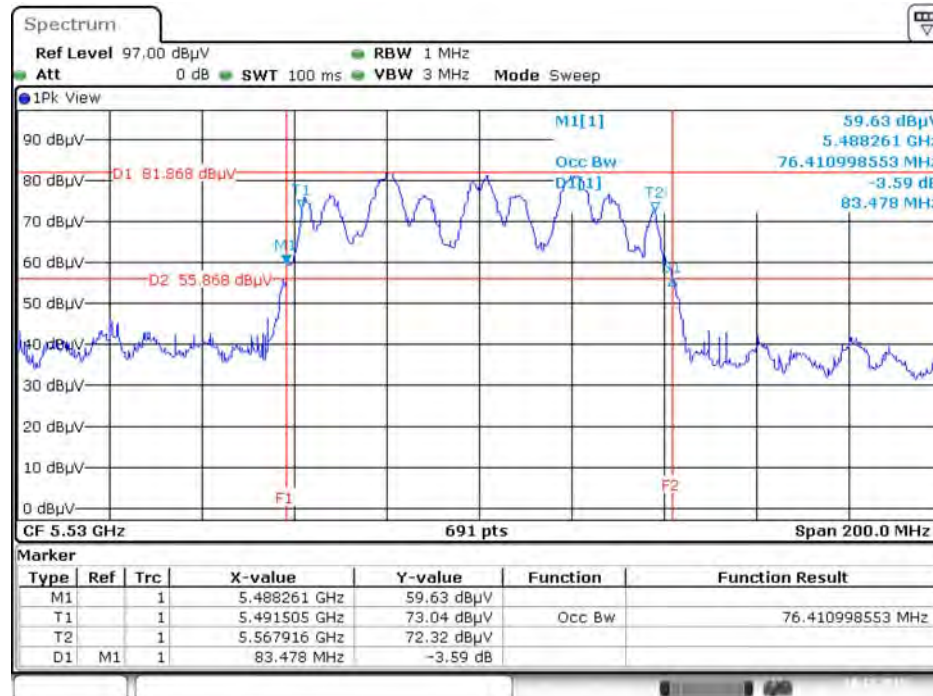
Date: 10.DEC.2015 22:56:06

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



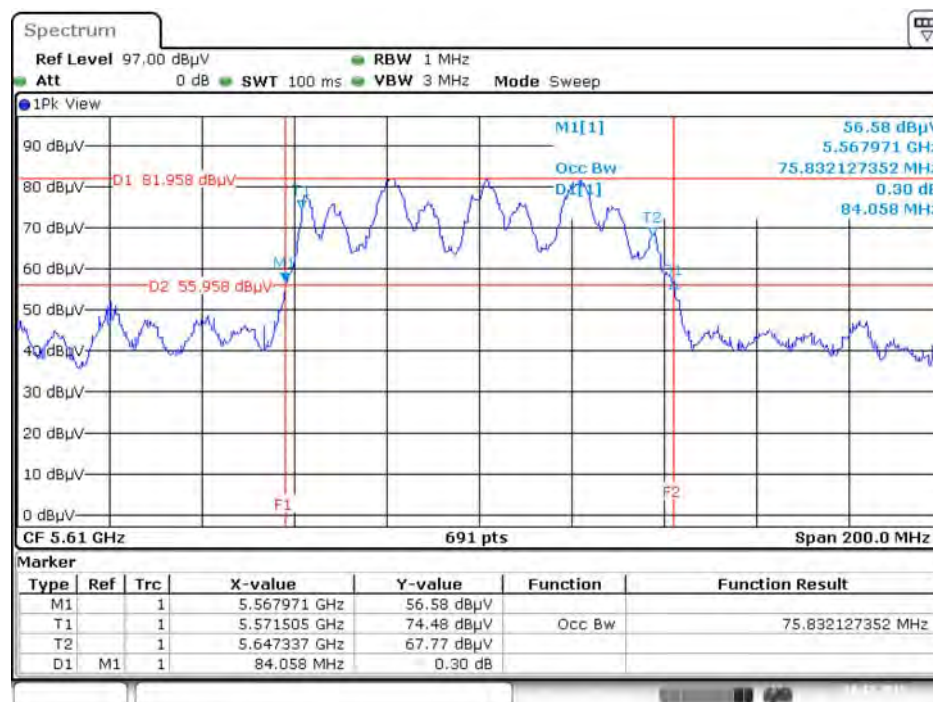
Date: 10.DEC.2015 23:10:27

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: 10.DEC.2015 23:12:53

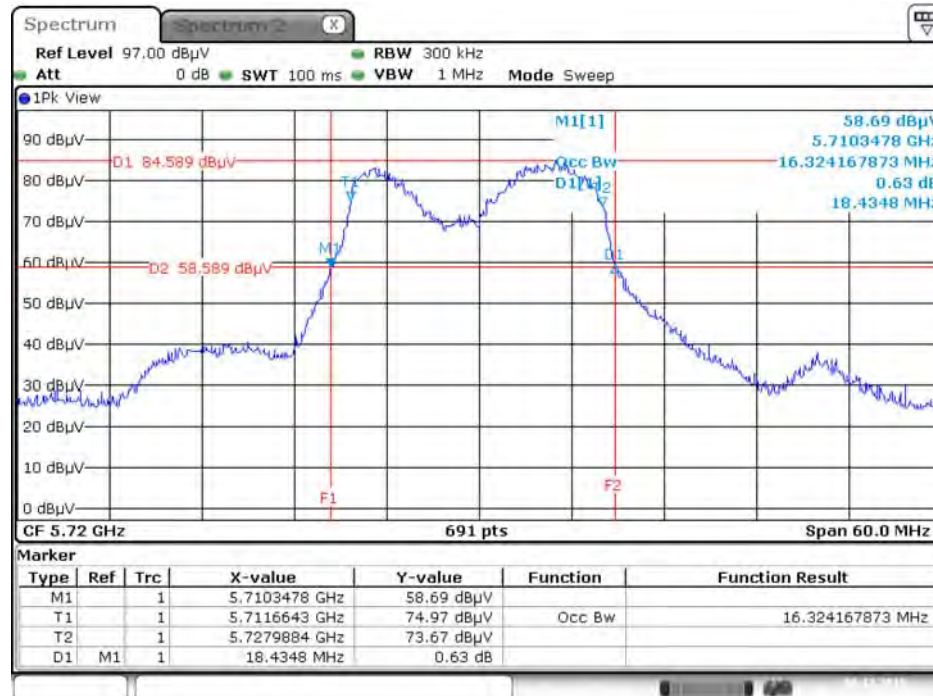
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 10.DEC.2015 23:15:06

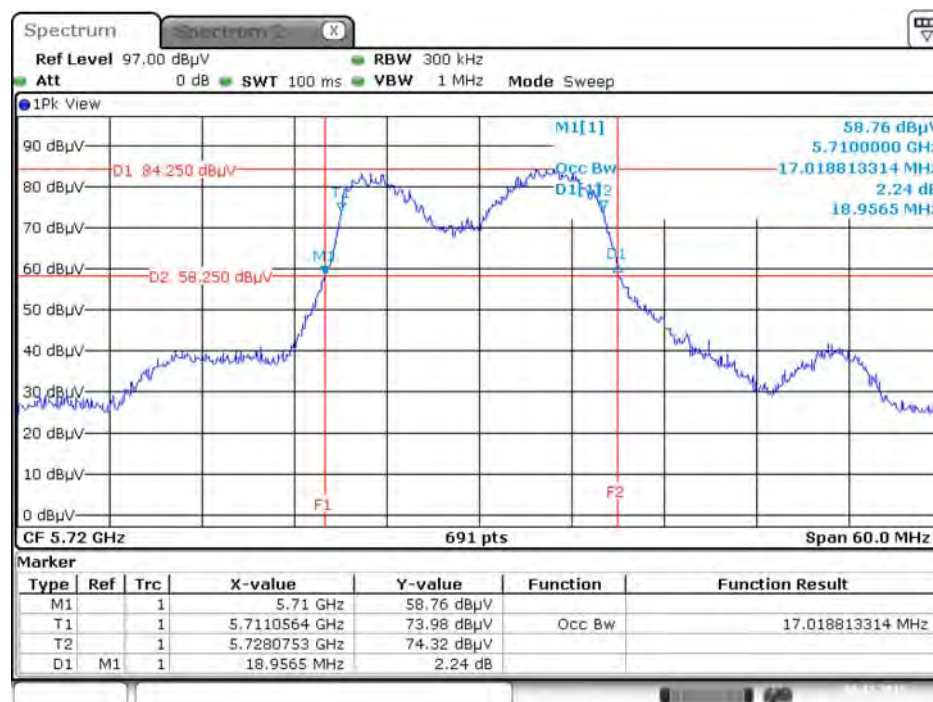
### Straddle Channel

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



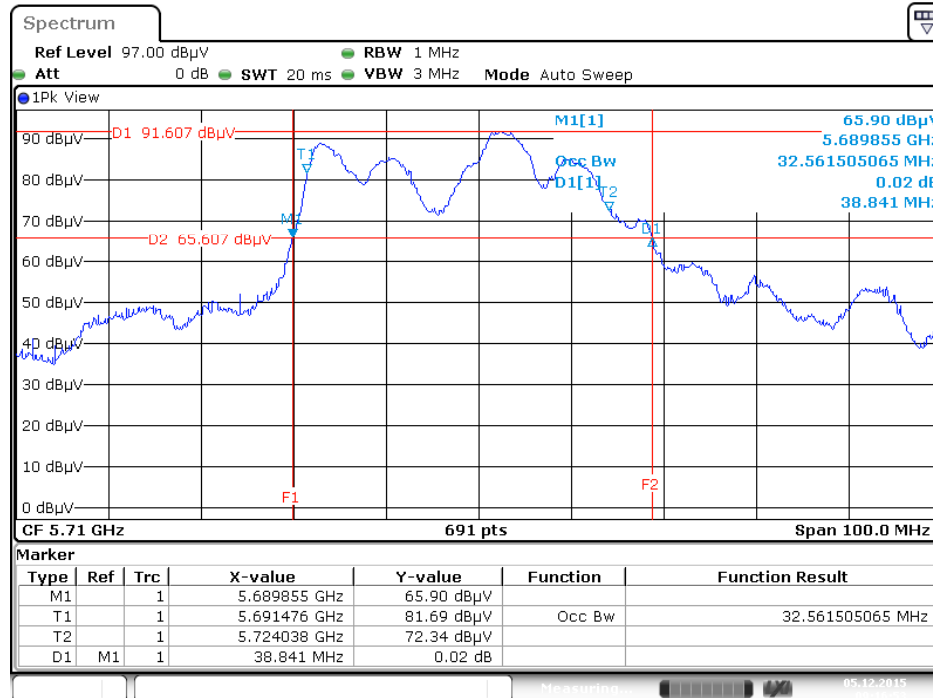
Date: 9 DEC. 2015 01:28:28

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



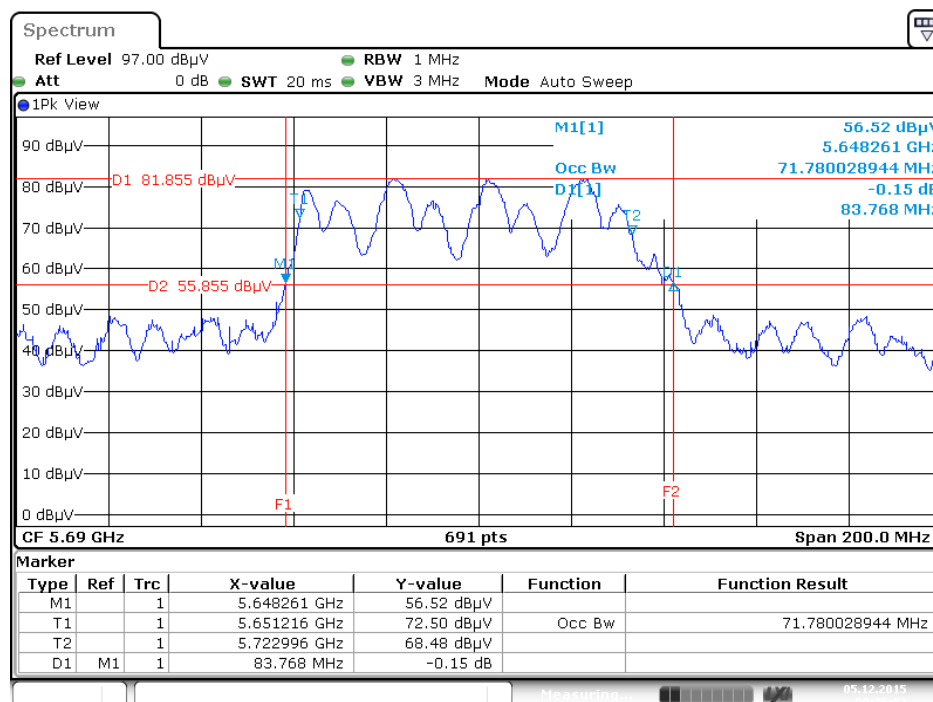
Date: 9 DEC. 2015 01:32:29

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: 5 DEC 2015 09:16:53

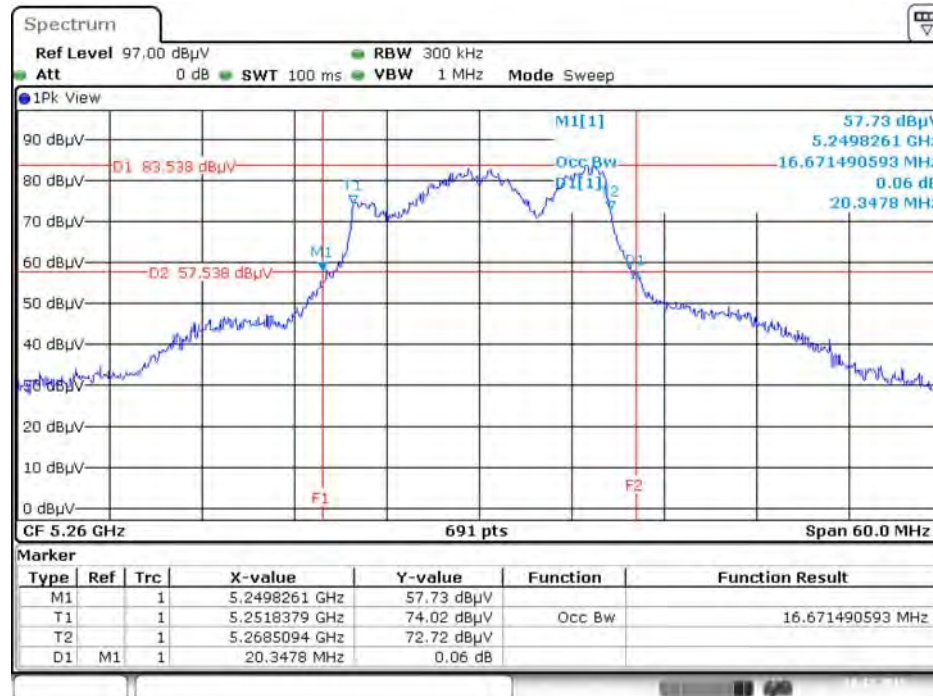
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 5 DEC 2015 09:25:02

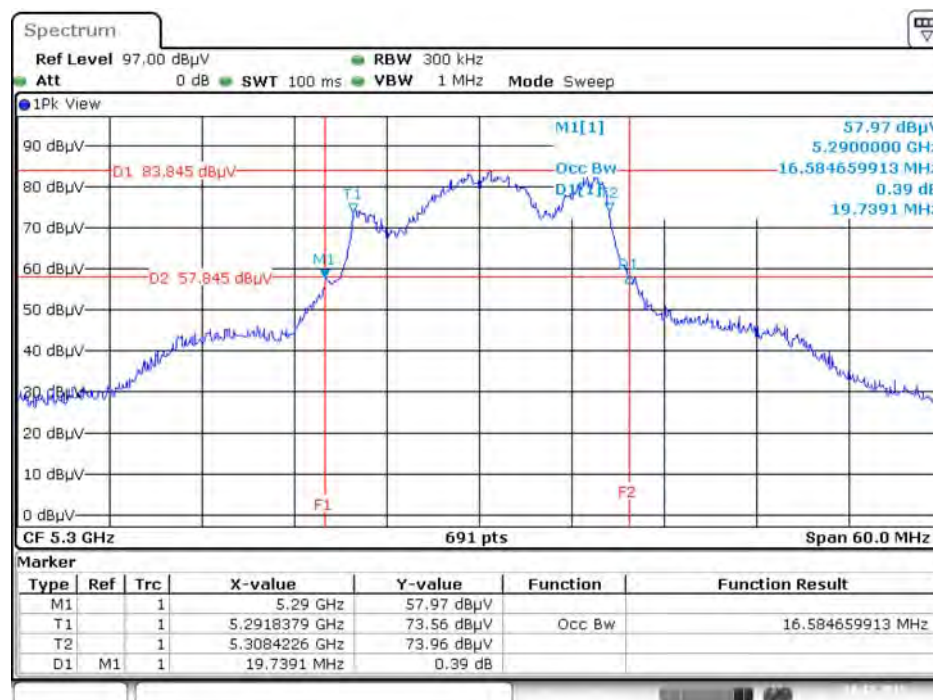
### Mode 3: EUT 1 + Set 3 Sector Antenna / 5.5 dBi

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



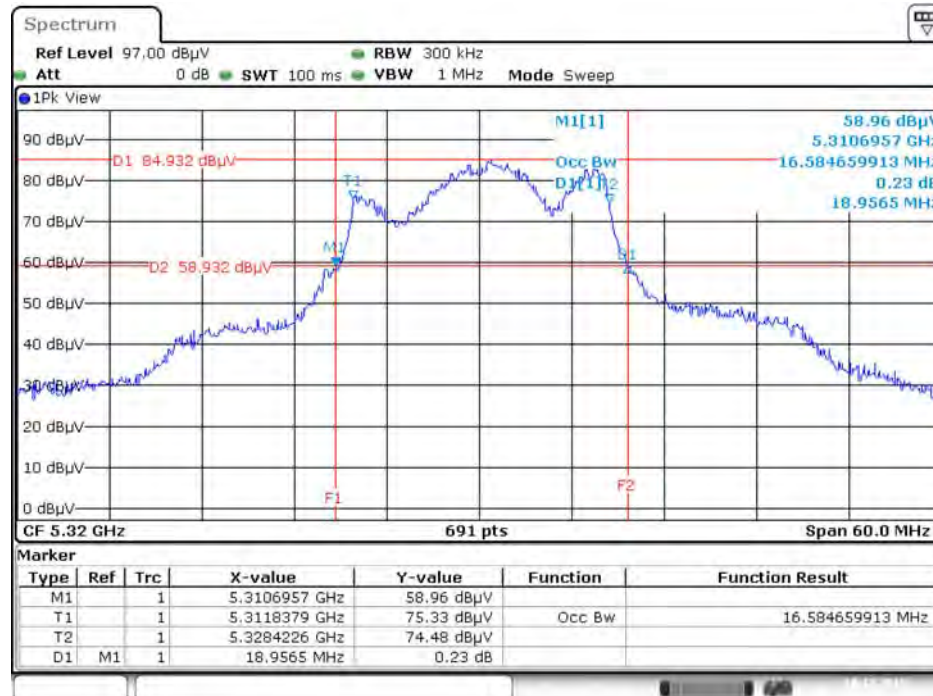
Date: 10.DEC.2015 20:21:55

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



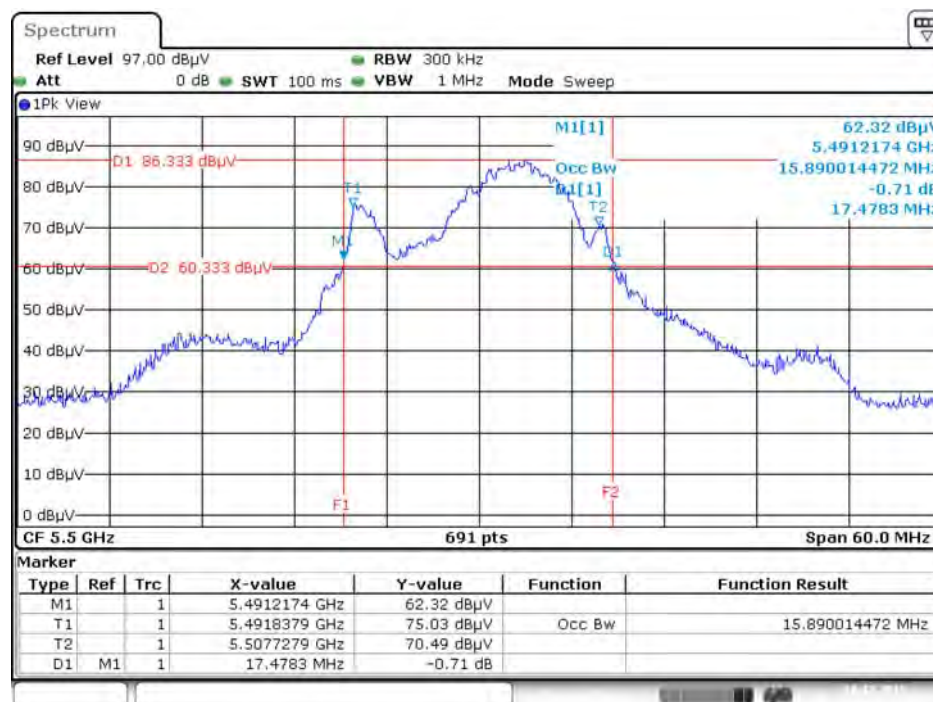
Date: 10.DEC.2015 20:25:11

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



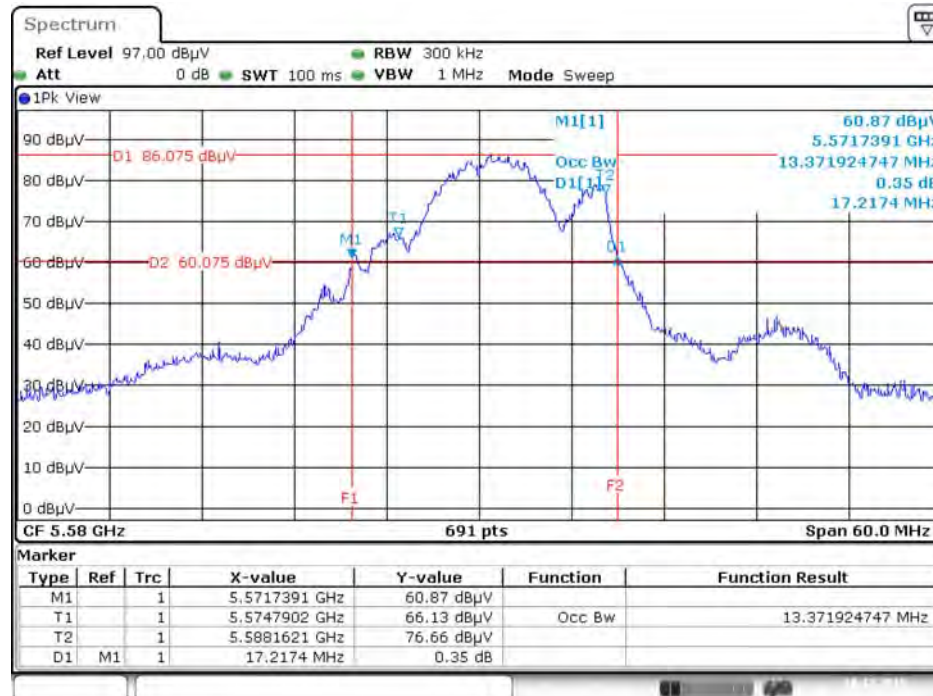
Date: 10.DEC.2015 20:32:41

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



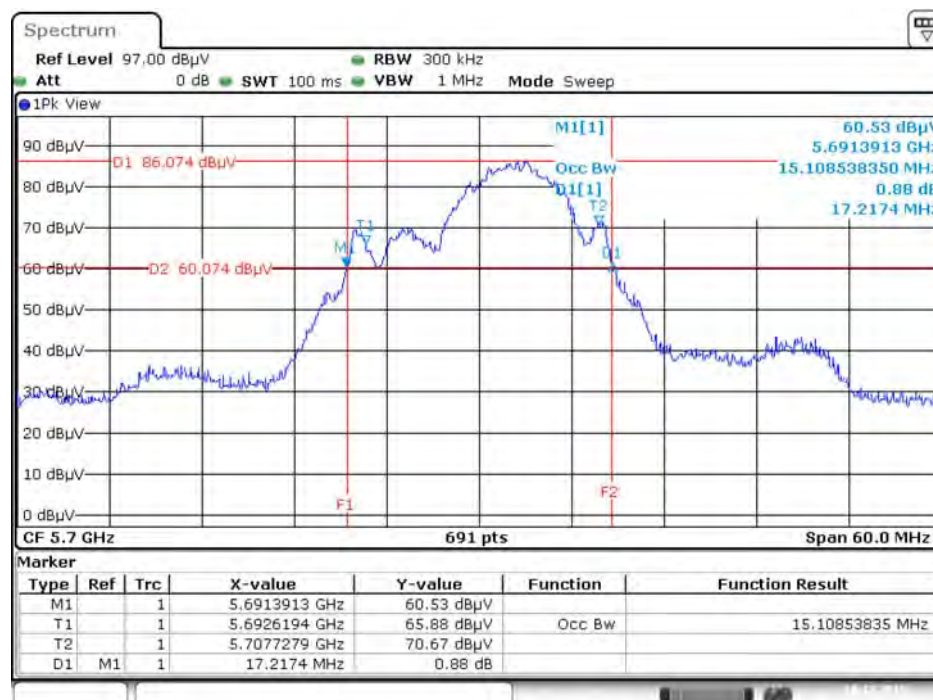
Date: 10.DEC.2015 20:35:50

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



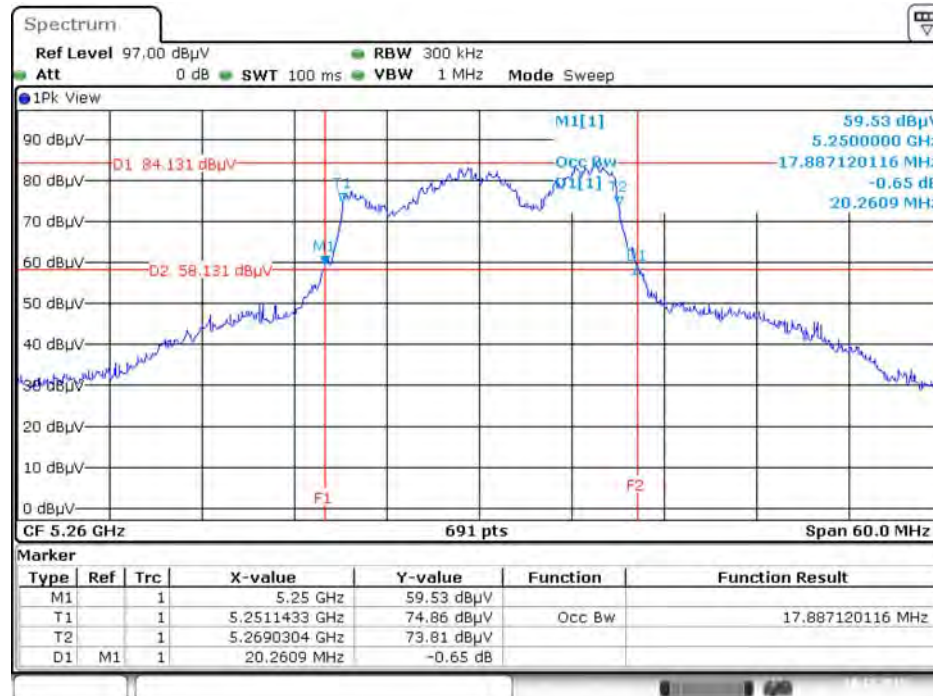
Date: 10.DEC.2015 20:53:58

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



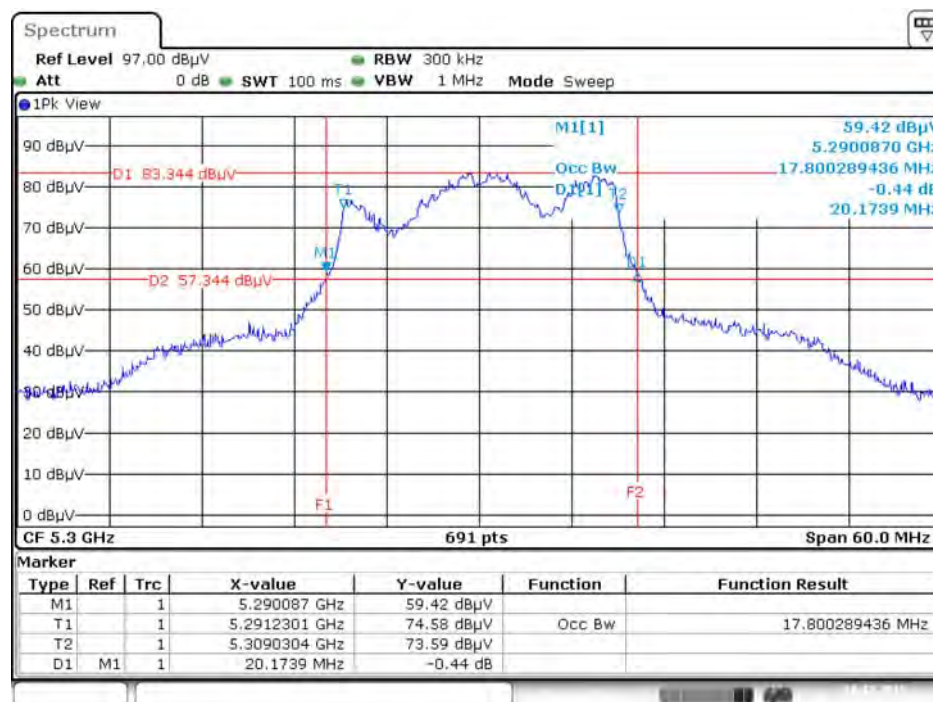
Date: 10.DEC.2015 20:57:14

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



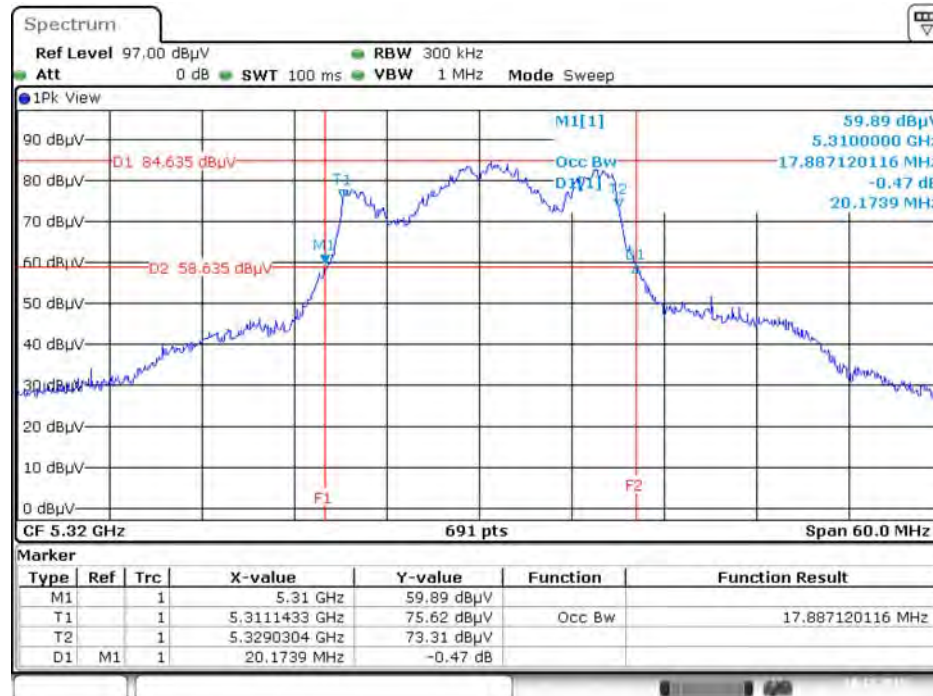
Date: 10.DEC.2015 21:17:24

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



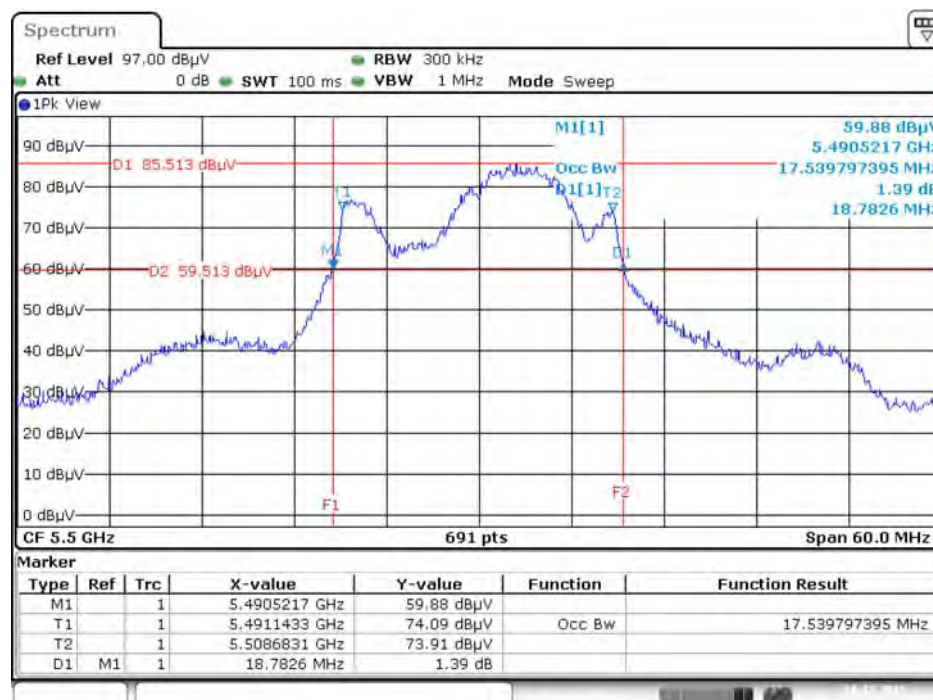
Date: 10.DEC.2015 21:35:39

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



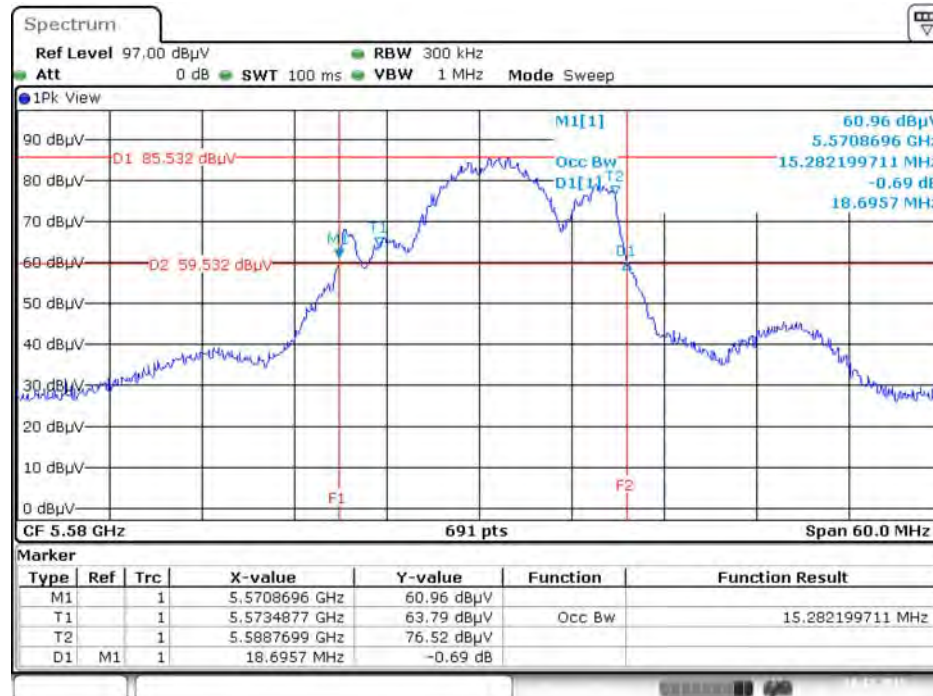
Date: 10.DEC.2015 21:39:37

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



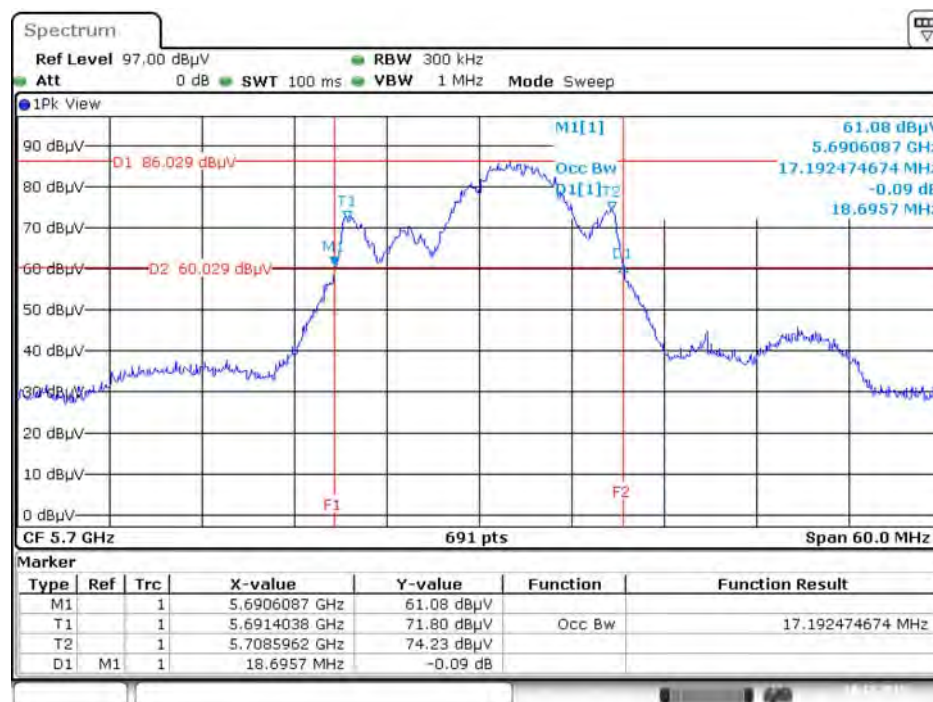
Date: 10.DEC.2015 21:49:15

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



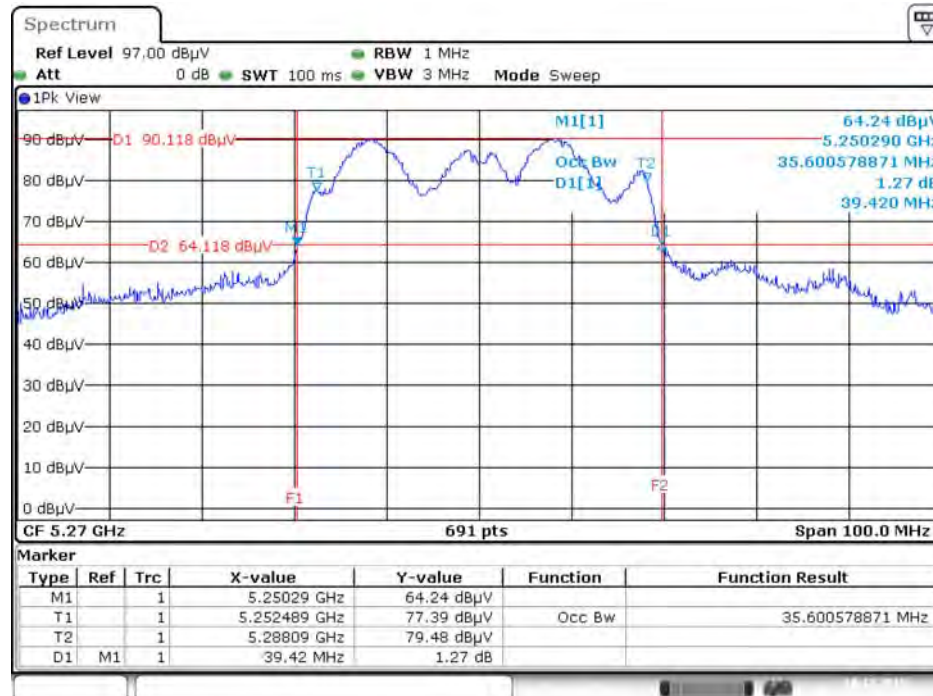
Date: 10.DEC.2015 21:51:53

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



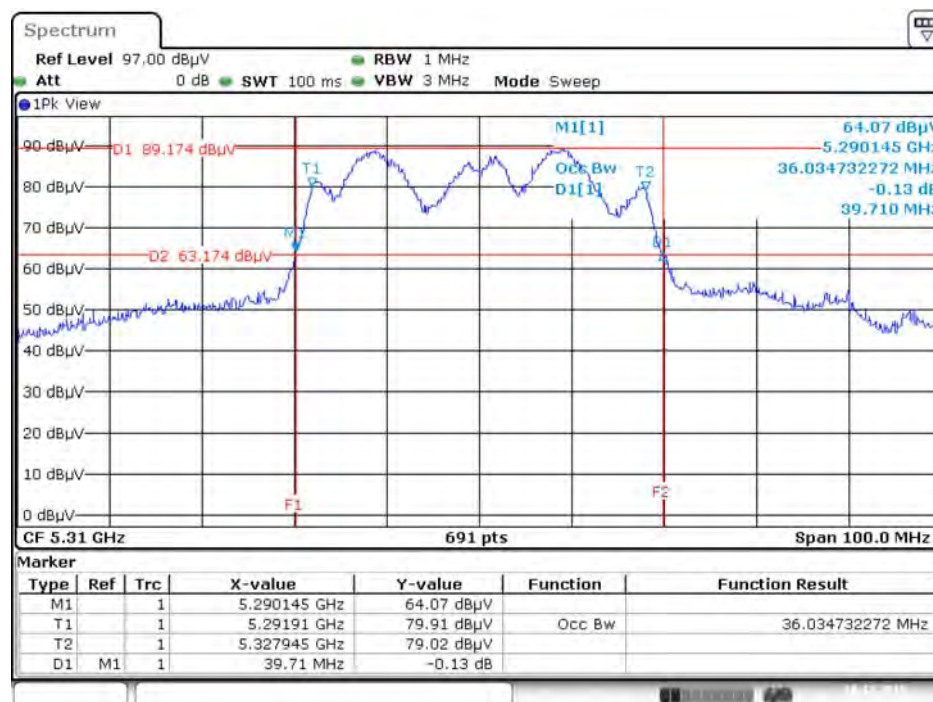
Date: 10.DEC.2015 21:54:29

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



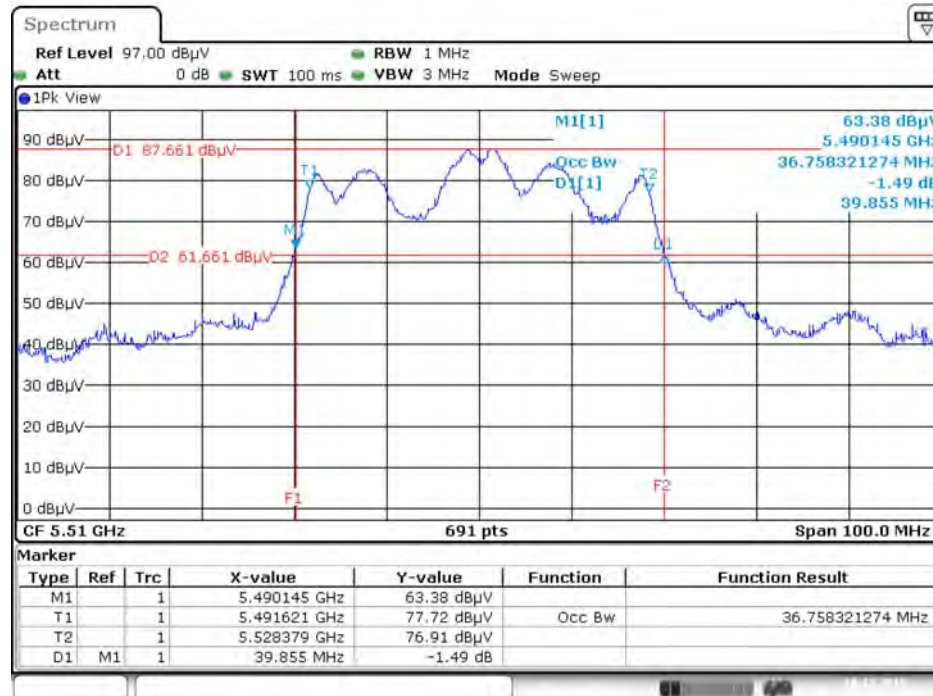
Date: 10.DEC.2015 22:24:58

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



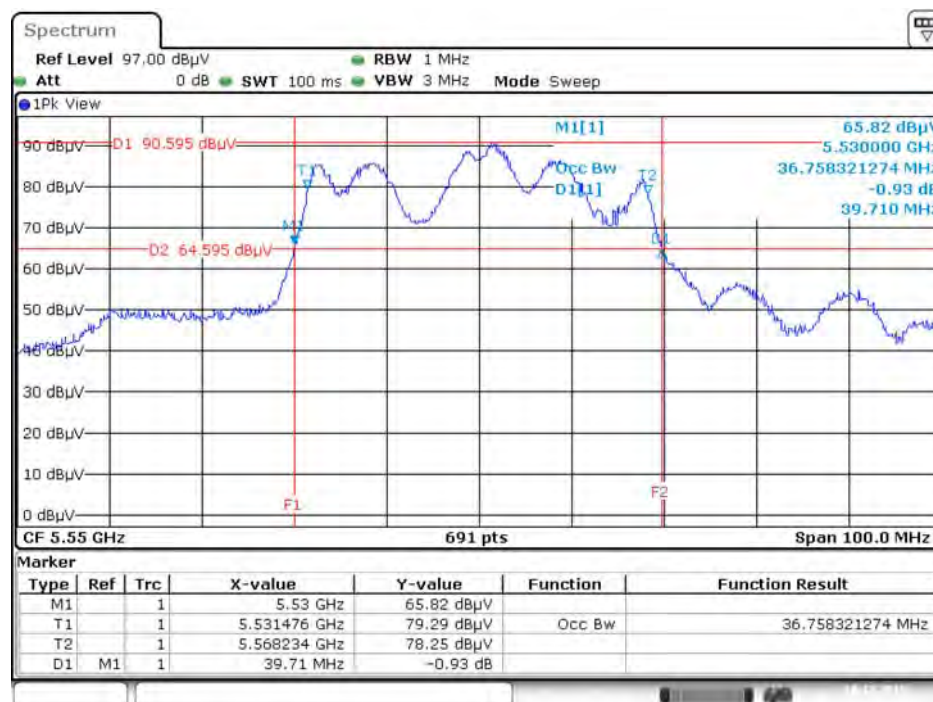
Date: 10.DEC.2015 22:27:09

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



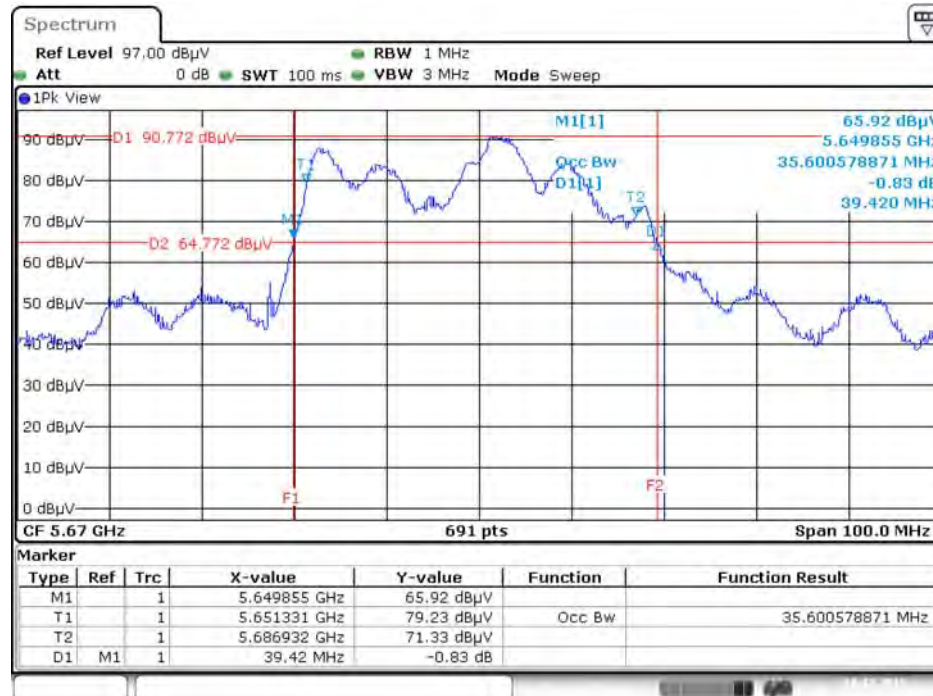
Date: 10.DEC.2015 22:29:47

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



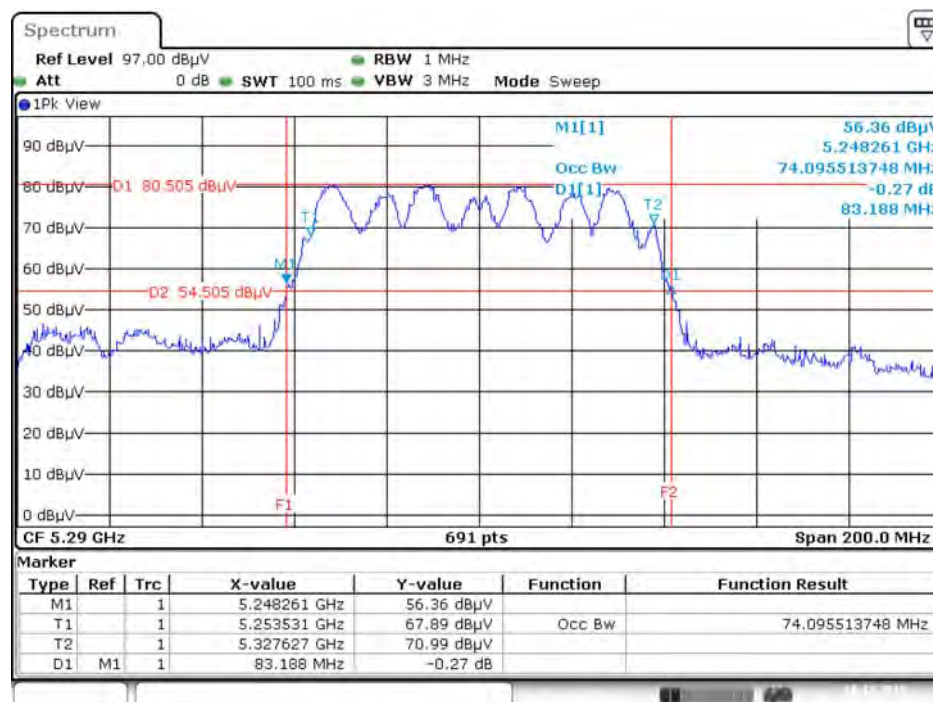
Date: 10.DEC.2015 22:32:07

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



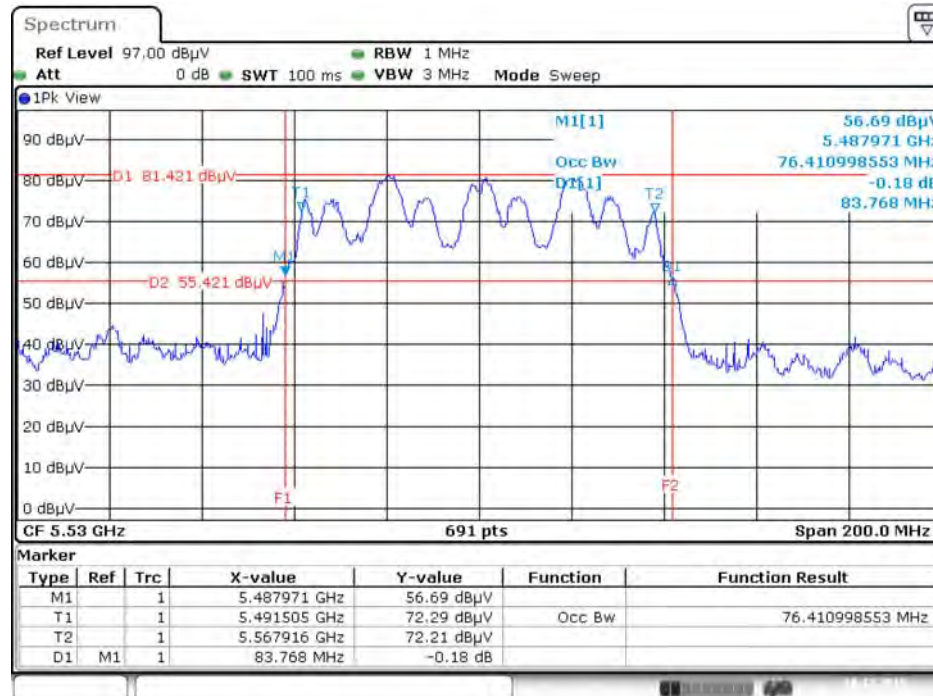
Date: 10.DEC.2015 22:55:48

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



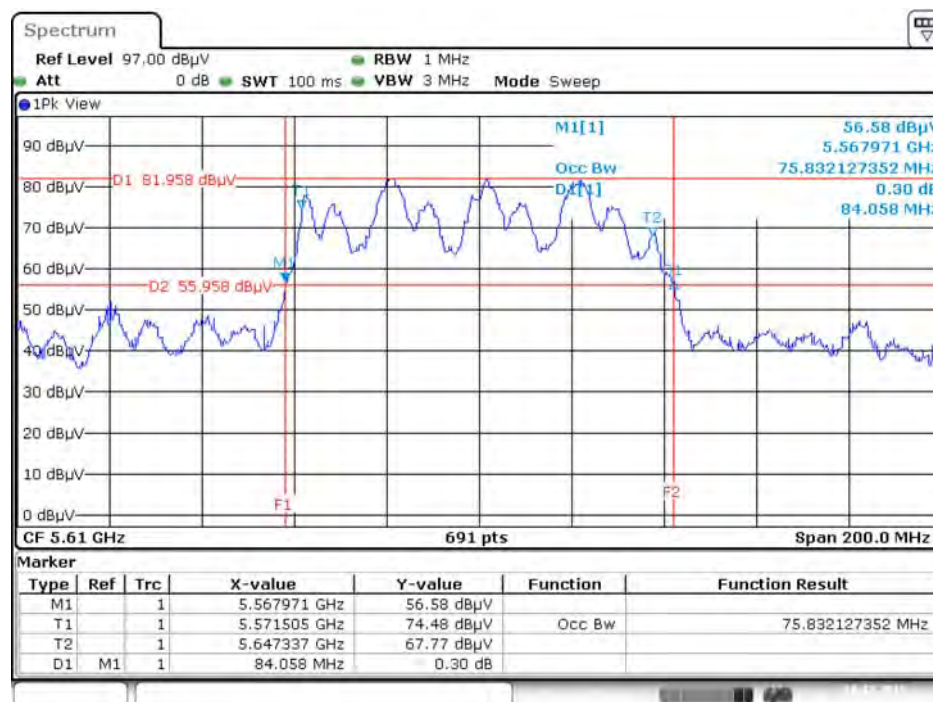
Date: 10.DEC.2015 23:09:27

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: 10.DEC.2015 23:11:27

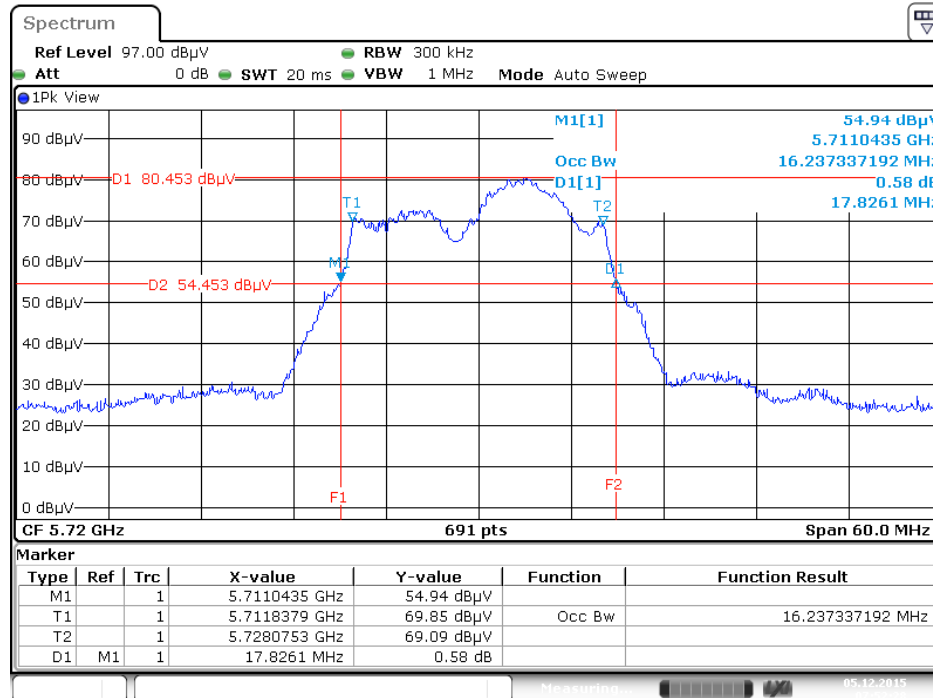
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 10.DEC.2015 23:15:06

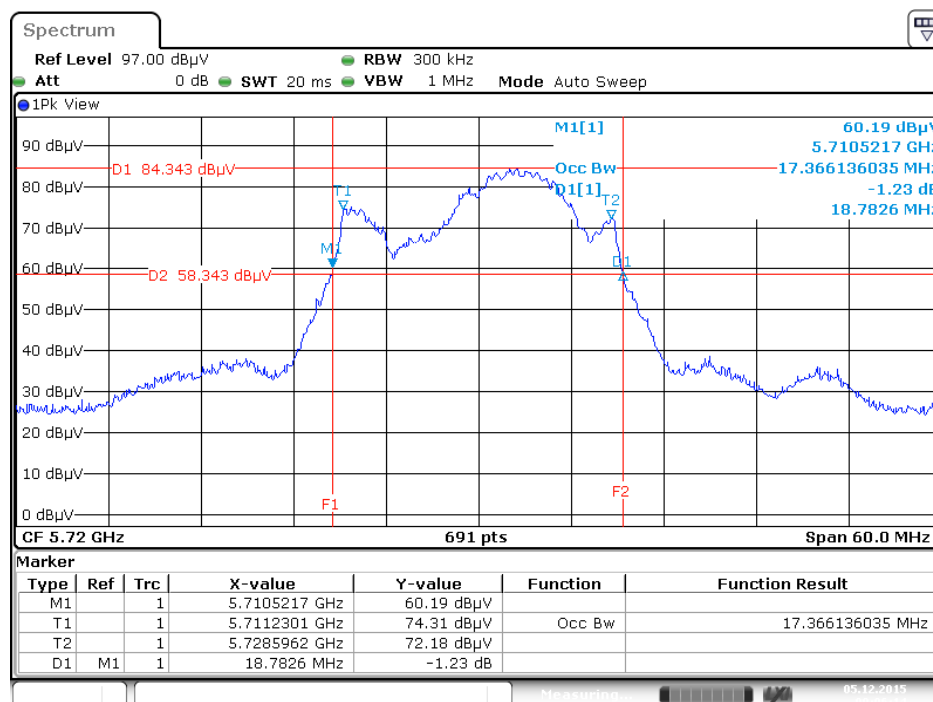
### Straddle Channel

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



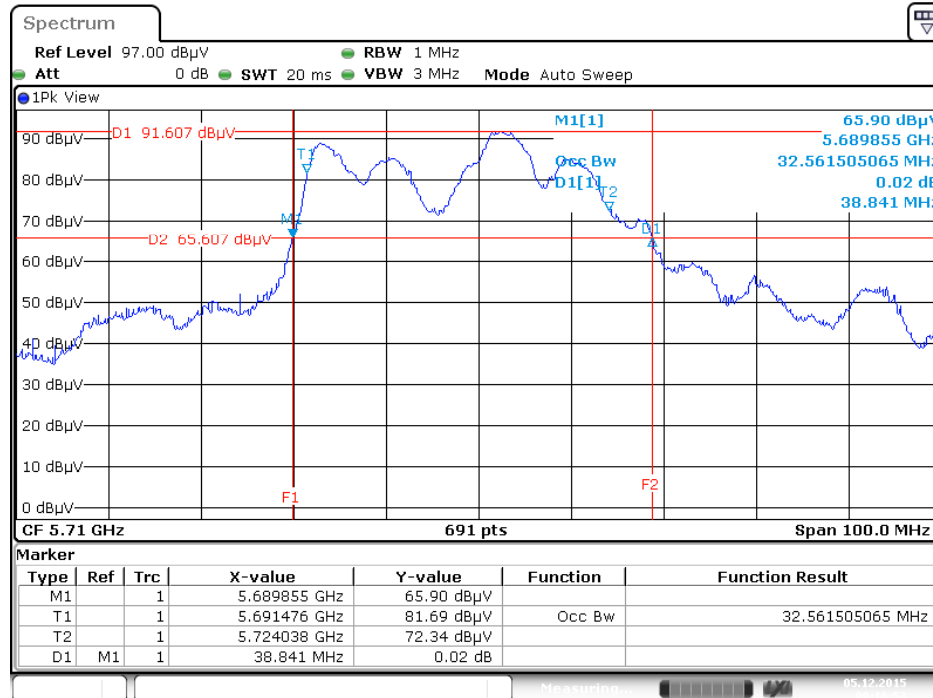
Date: 5 DEC 2015 07:52:28

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



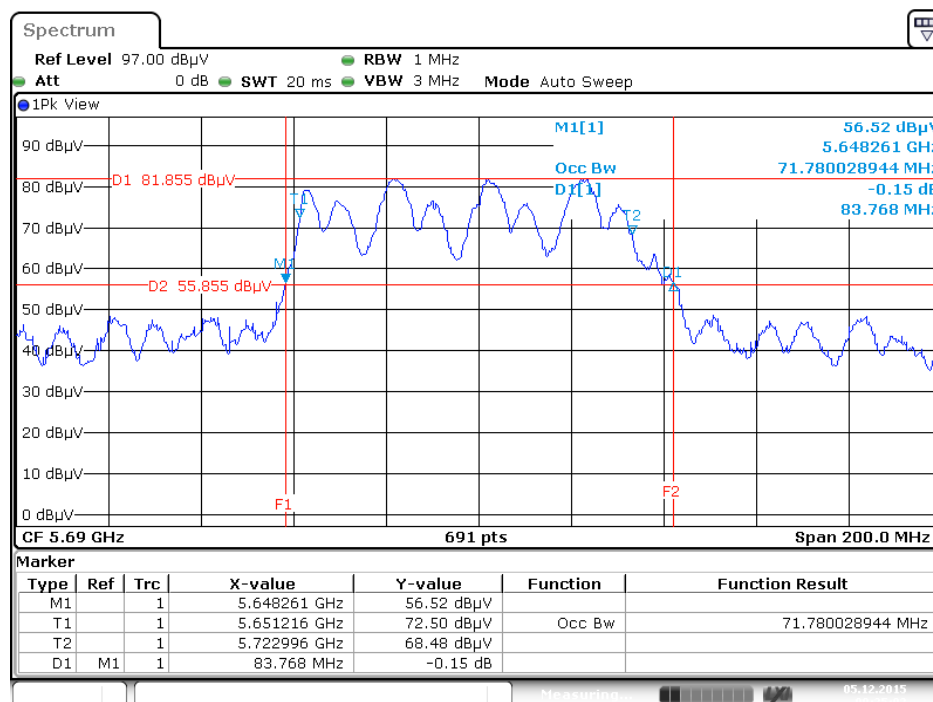
Date: 5 DEC 2015 09:06:14

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: 5 DEC 2015 09:16:53

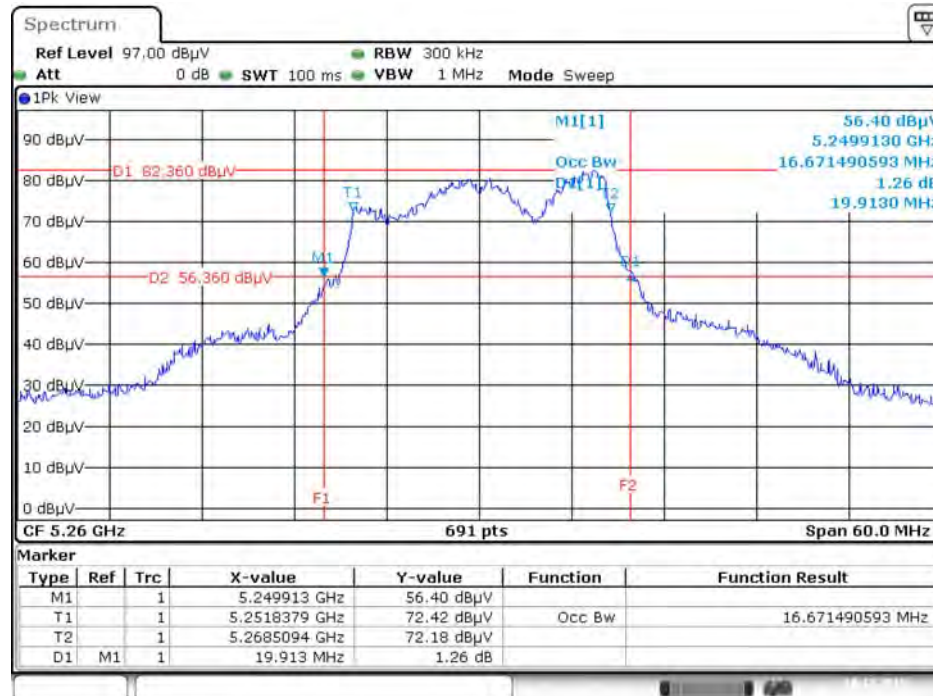
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 /  
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 5 DEC 2015 09:25:02

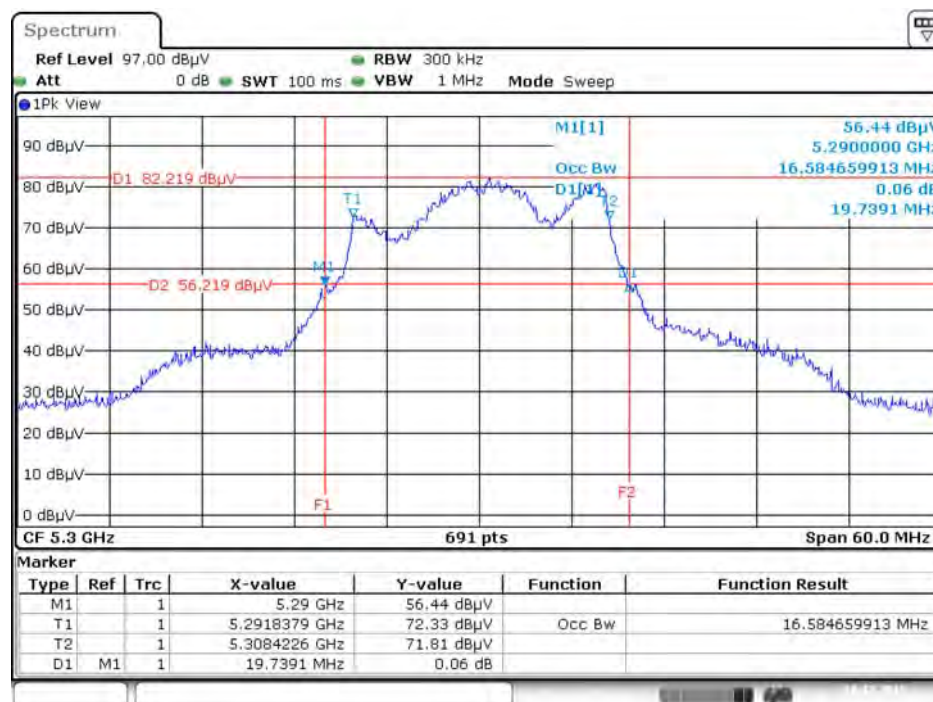
Mode 4: EUT 1 + Set 4 Sector Antenna / 7.5 dBi

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



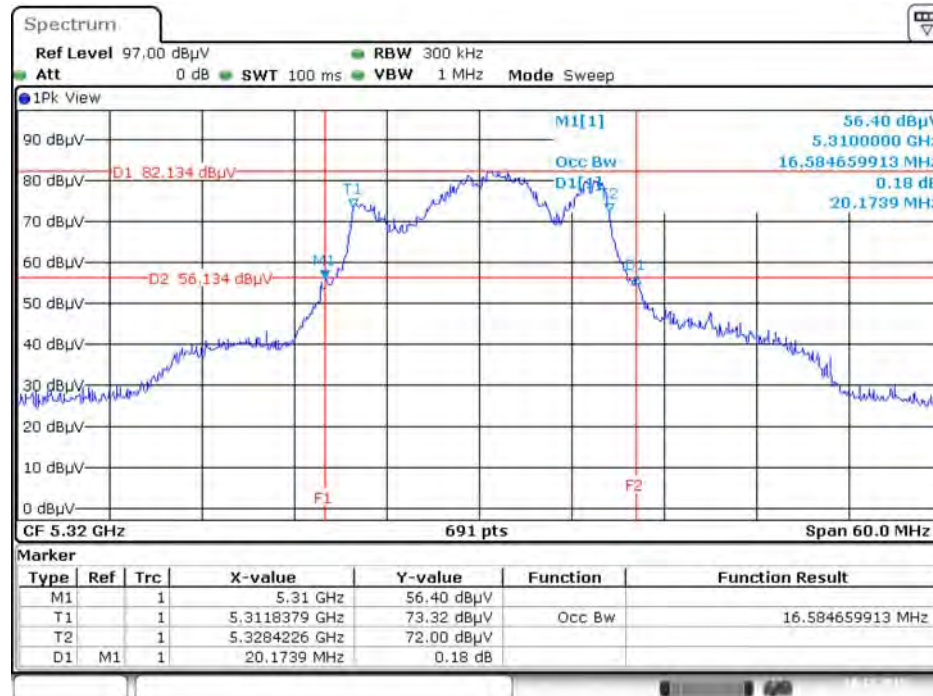
Date: 10.DEC.2015 20:24:07

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



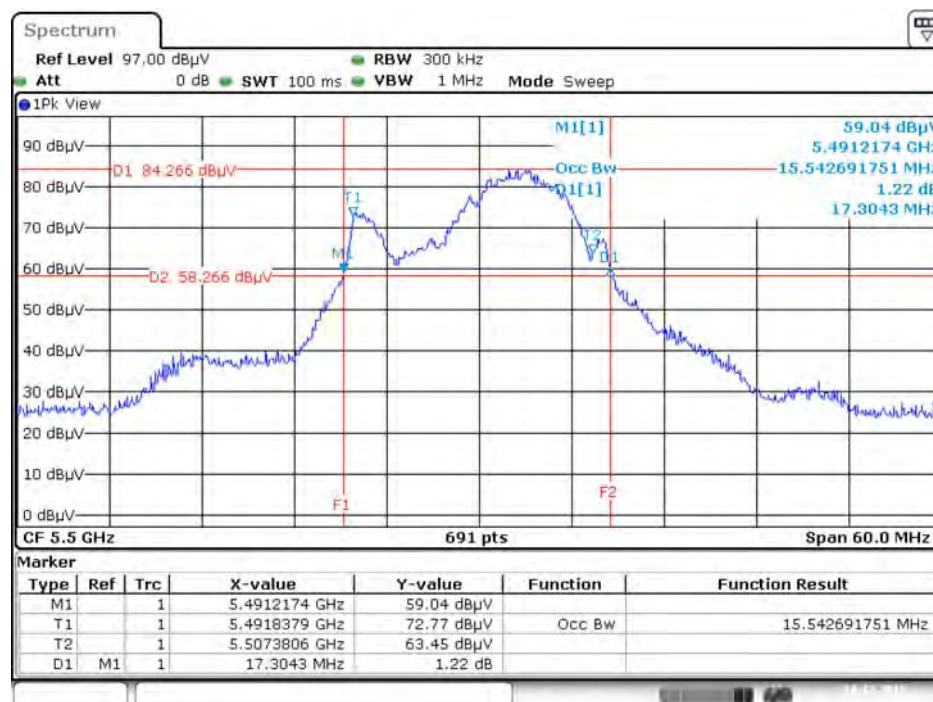
Date: 10.DEC.2015 20:31:41

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



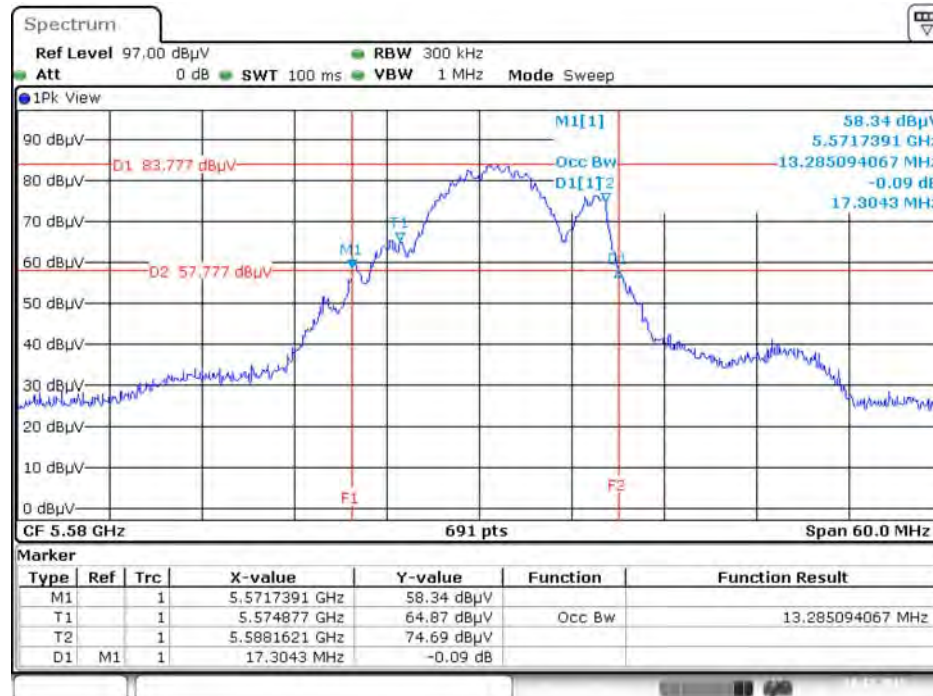
Date: 10.DEC.2015 20:34:58

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

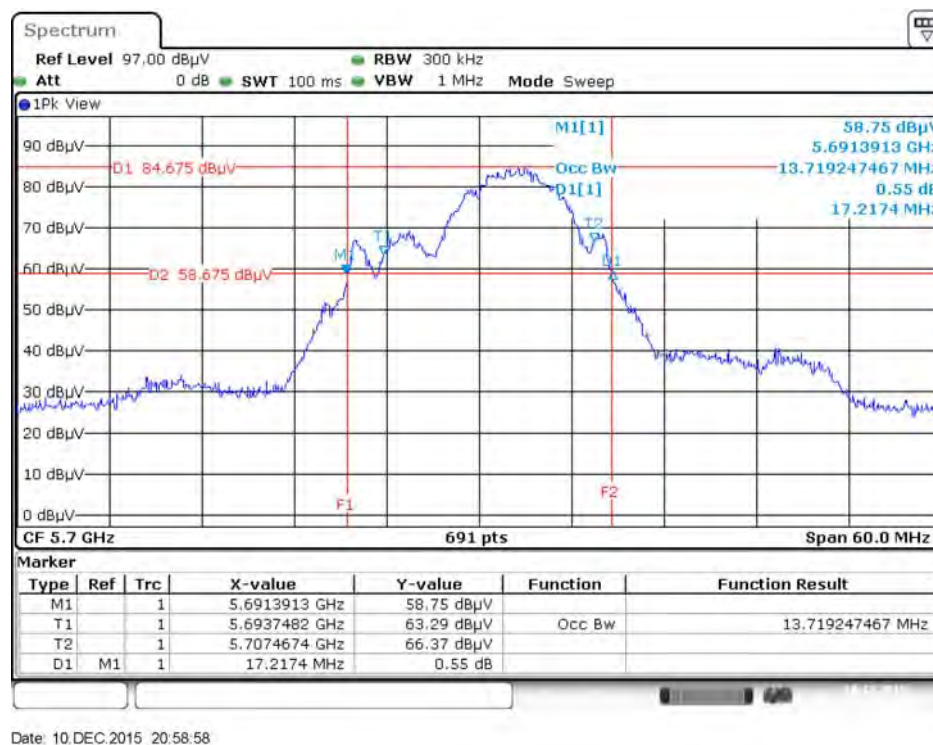


Date: 10.DEC.2015 20:38:50

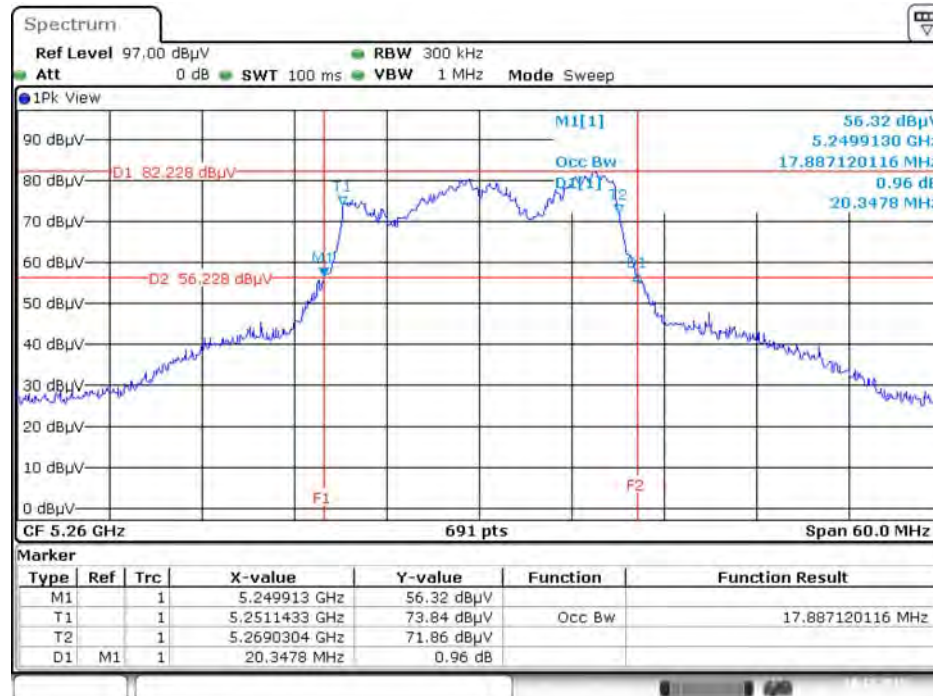
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 1 + Chain 2  
+ Chain 3 + Chain 4 / 5580 MHz



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

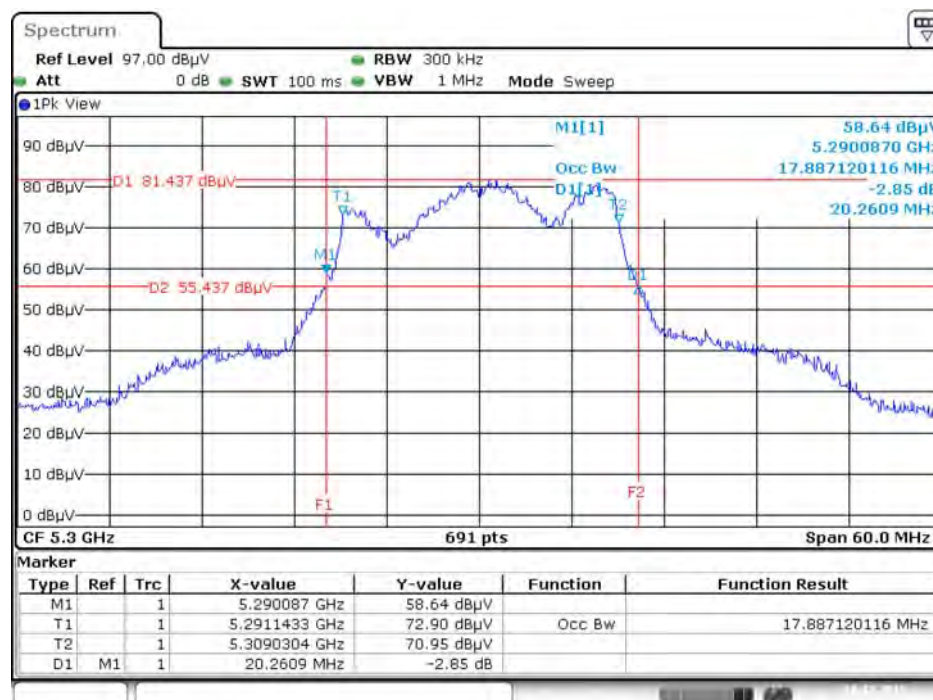


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5260 MHz



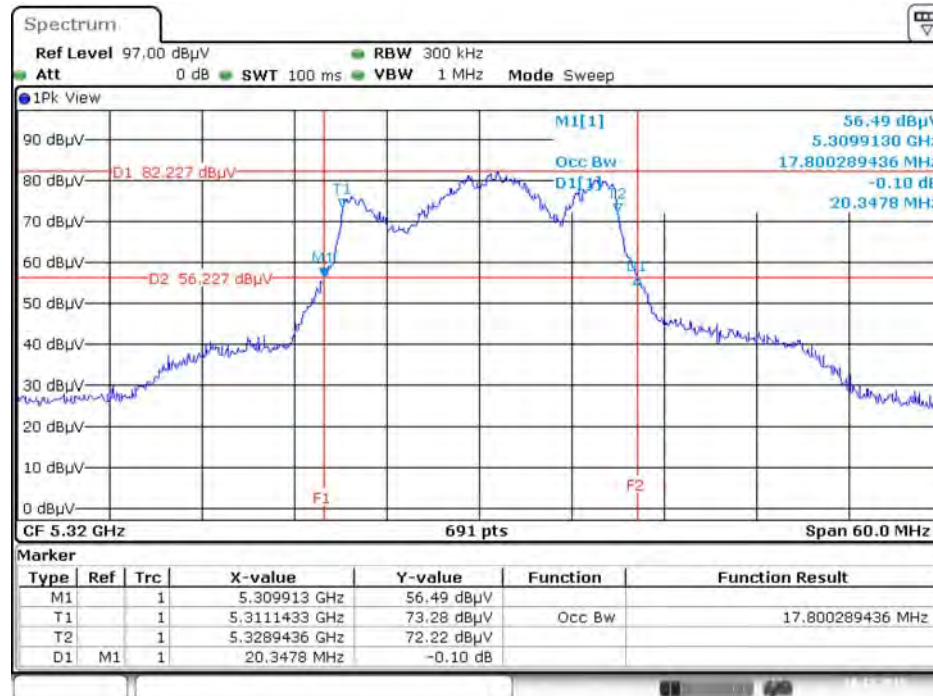
Date: 10.DEC.2015 21:20:02

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



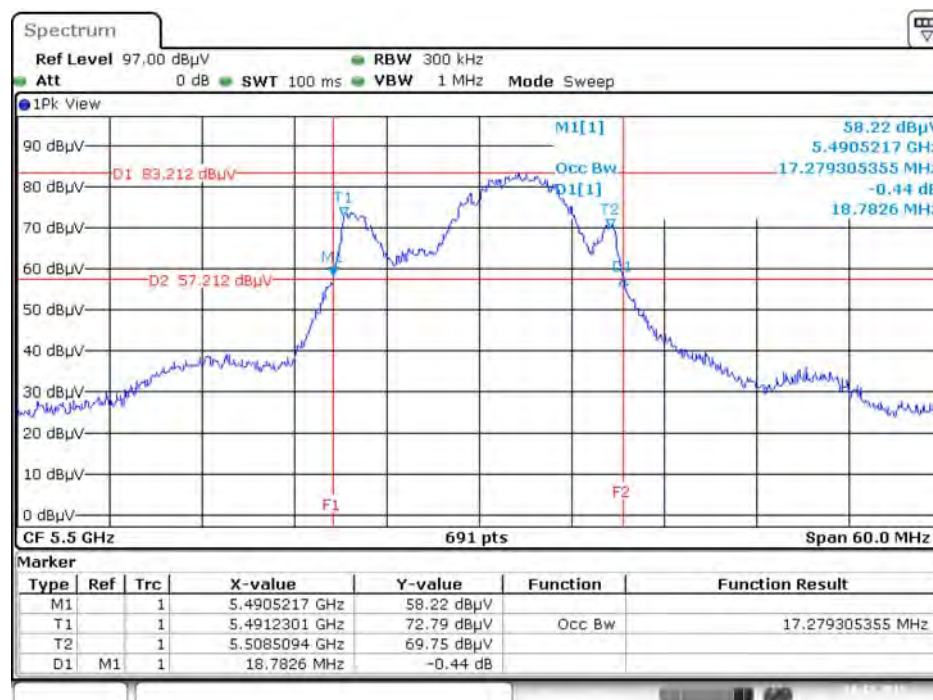
Date: 10.DEC.2015 21:37:46

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



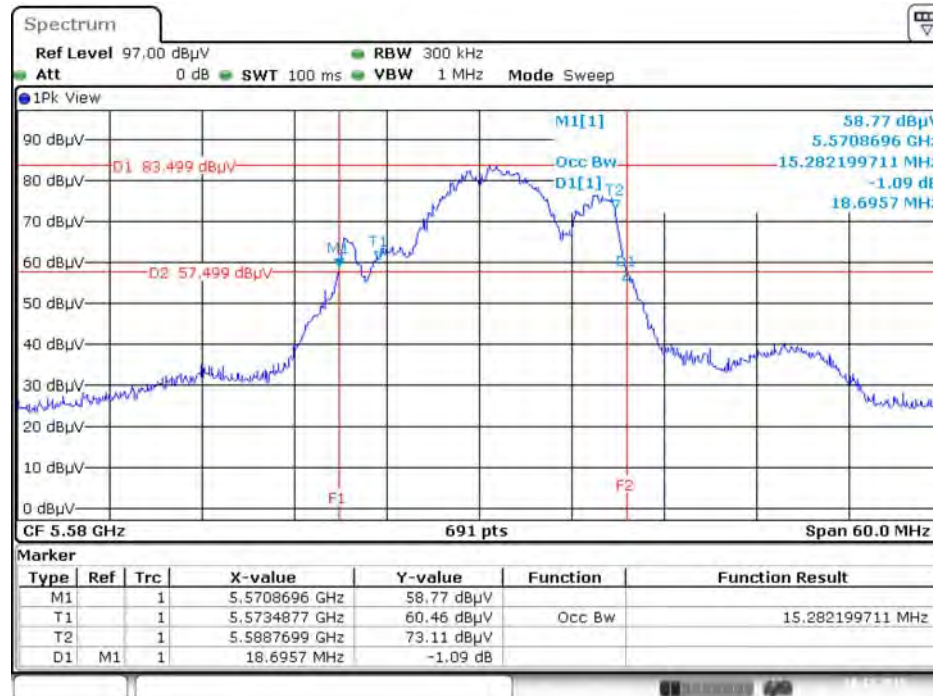
Date: 10.DEC.2015 21:48:16

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

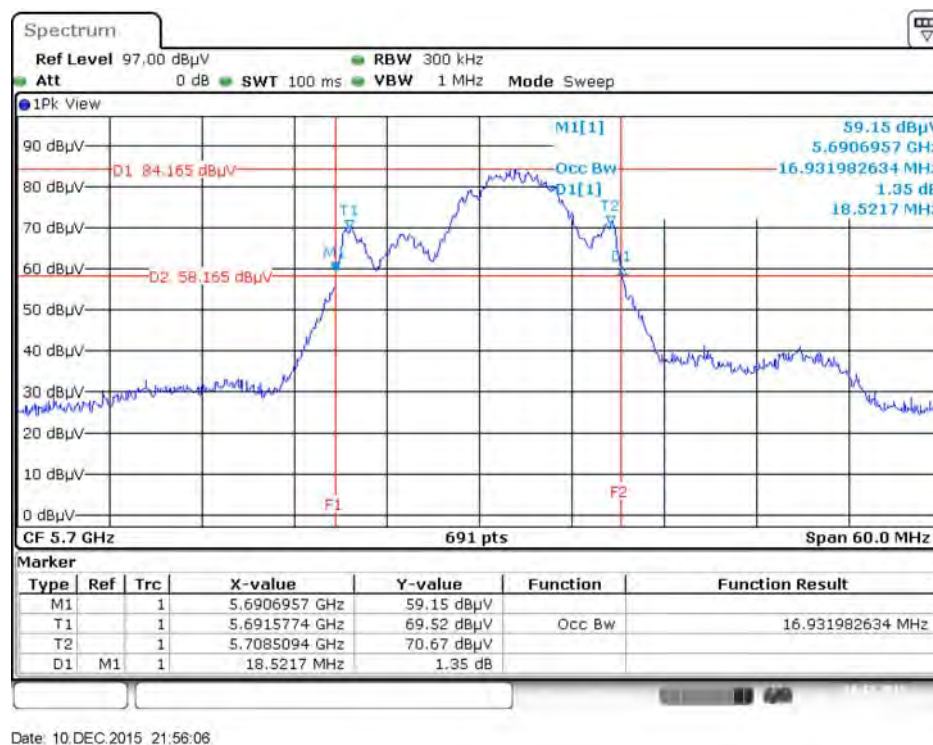


Date: 10.DEC.2015 21:50:56

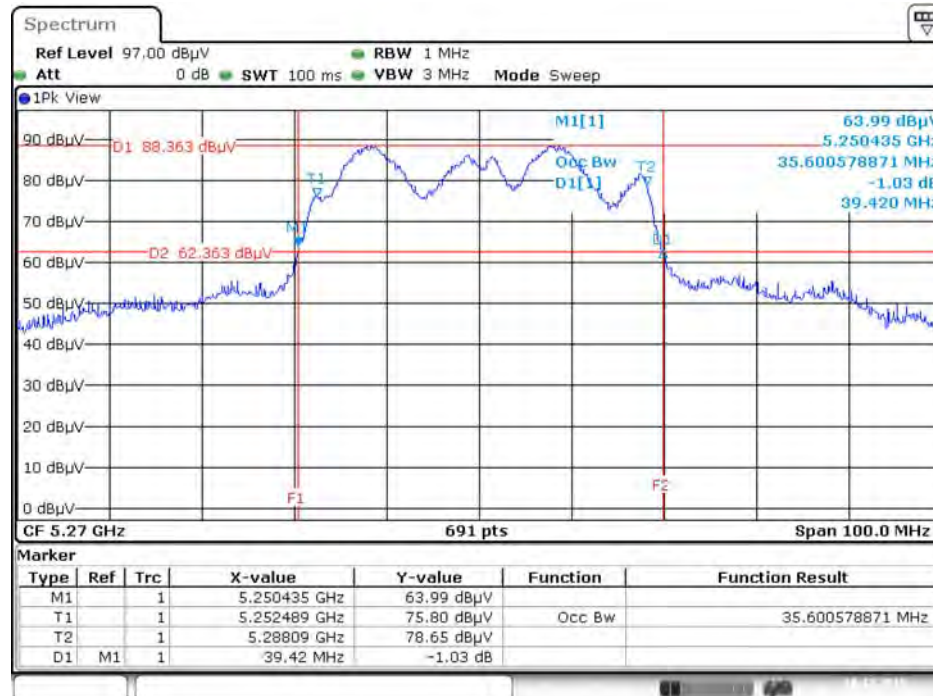
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5580 MHz



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

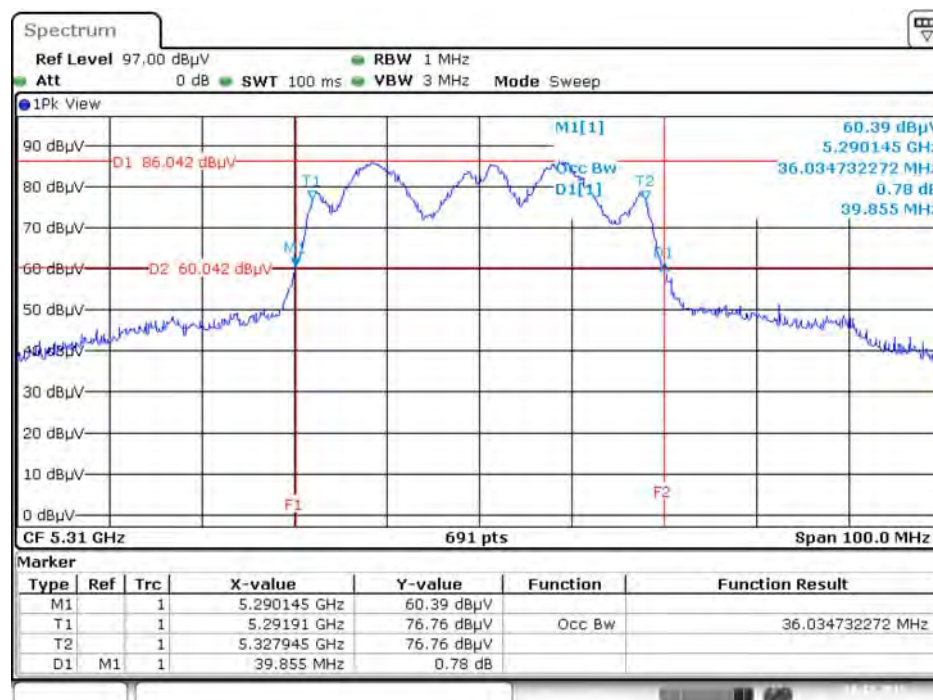


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5270 MHz



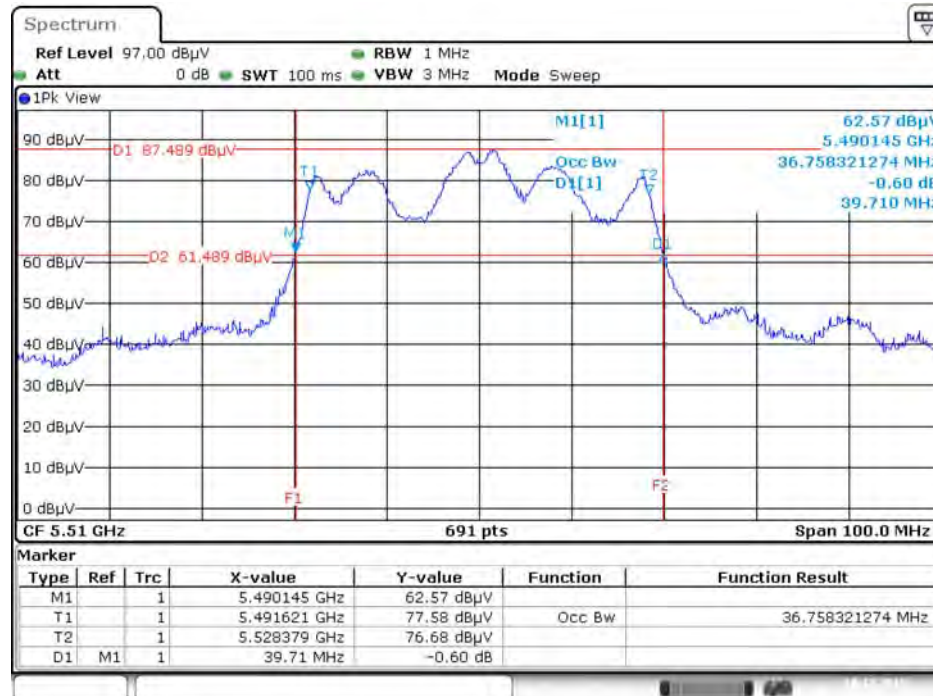
Date: 10.DEC.2015 22:26:21

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



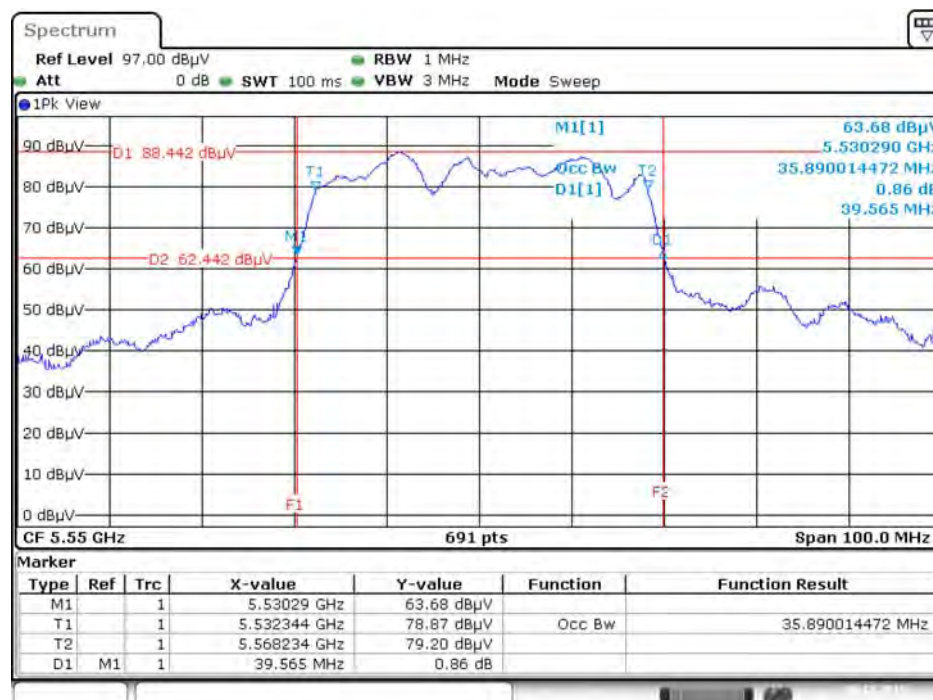
Date: 10.DEC.2015 22:27:42

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



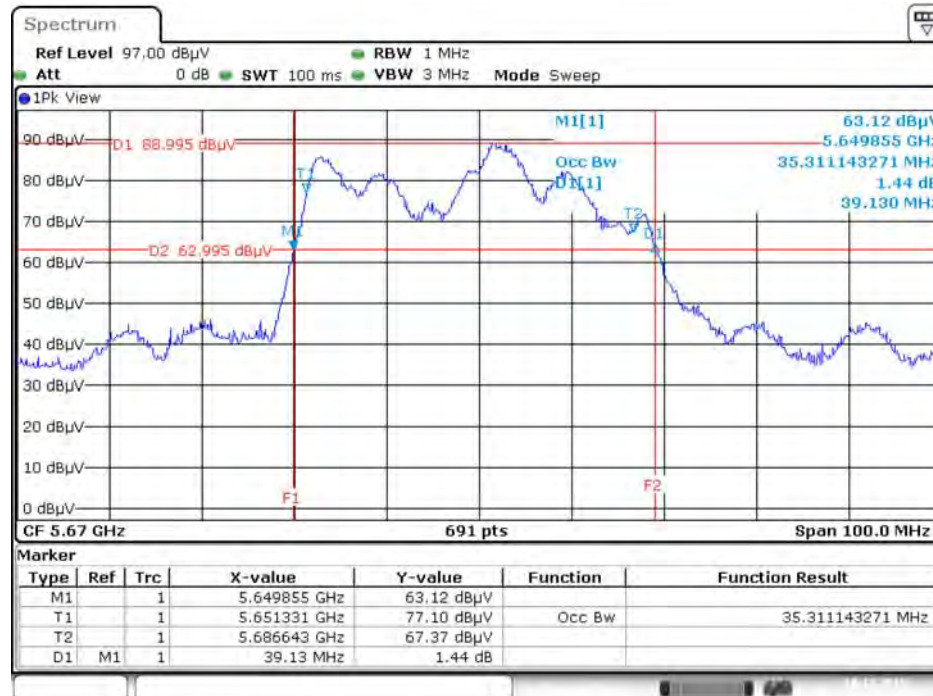
Date: 10.DEC.2015 22:31:42

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



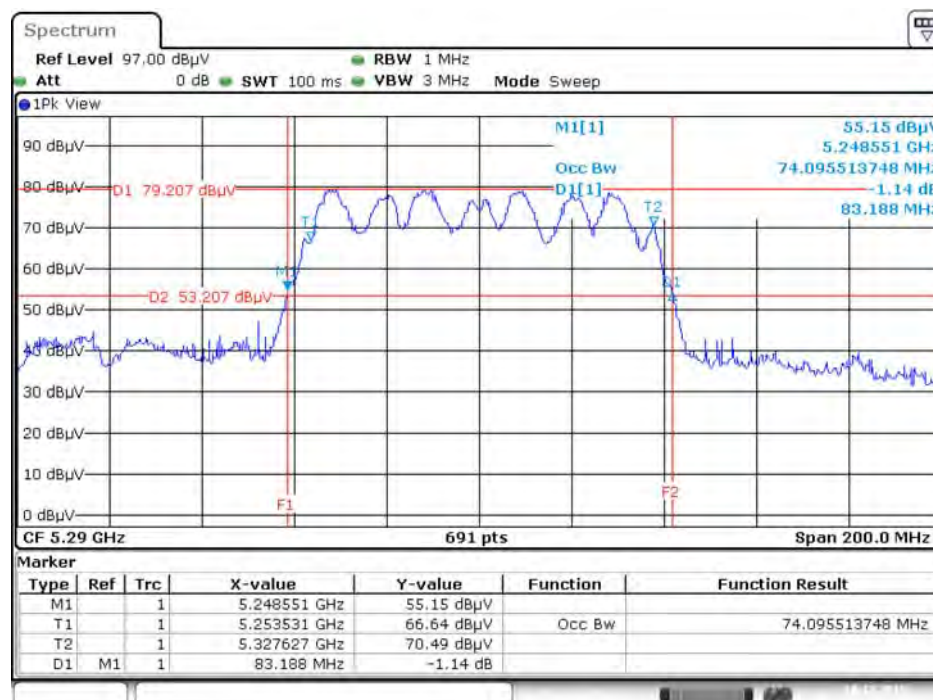
Date: 30.DEC.2015 01:33:26

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



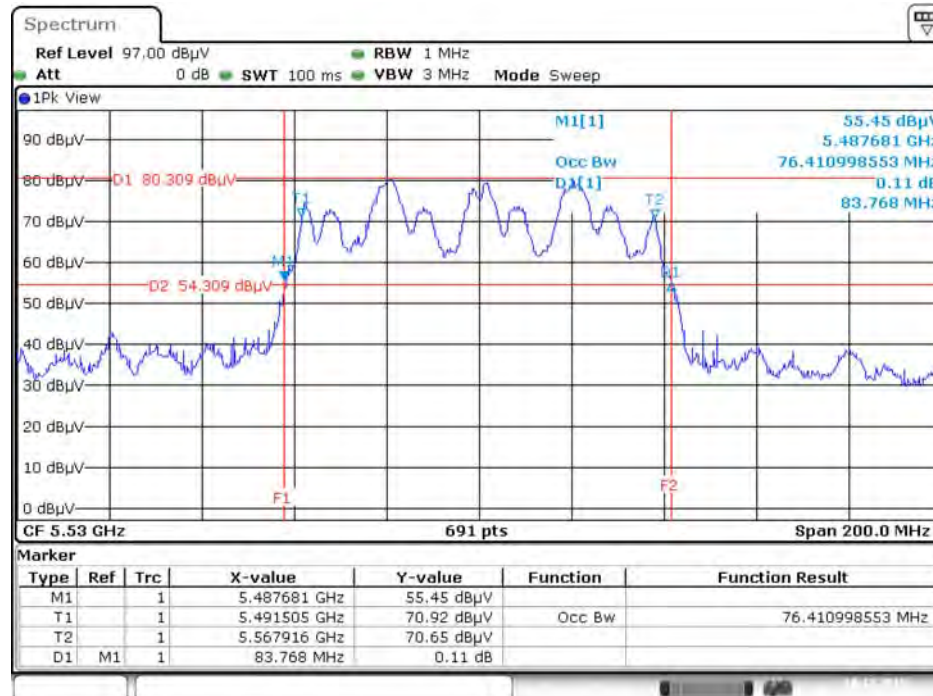
Date: 10.DEC.2015 22:58:08

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



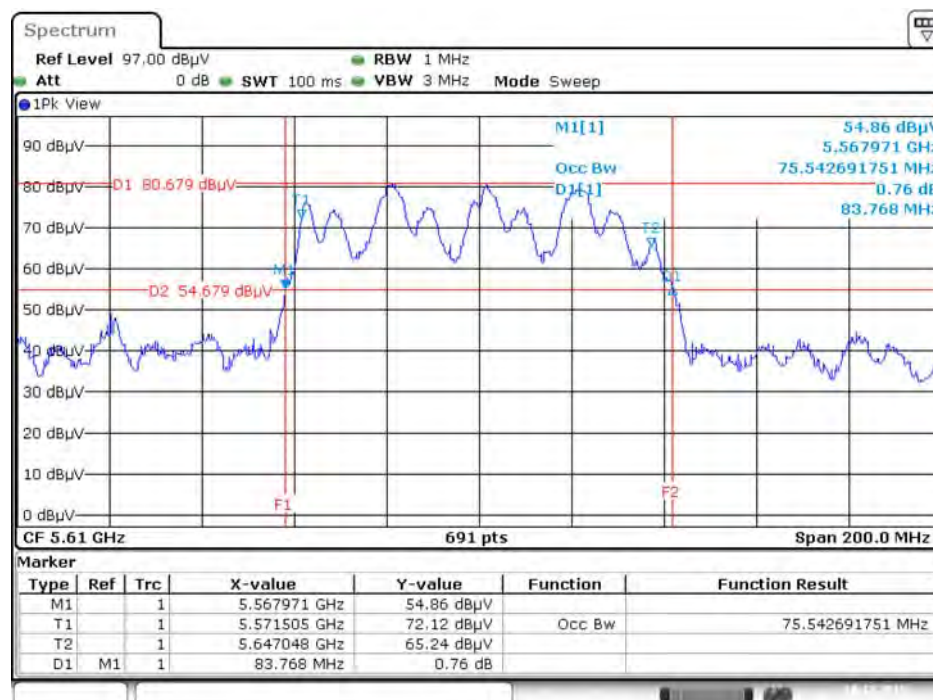
Date: 10.DEC.2015 23:10:58

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: 10.DEC.2015 23:11:55

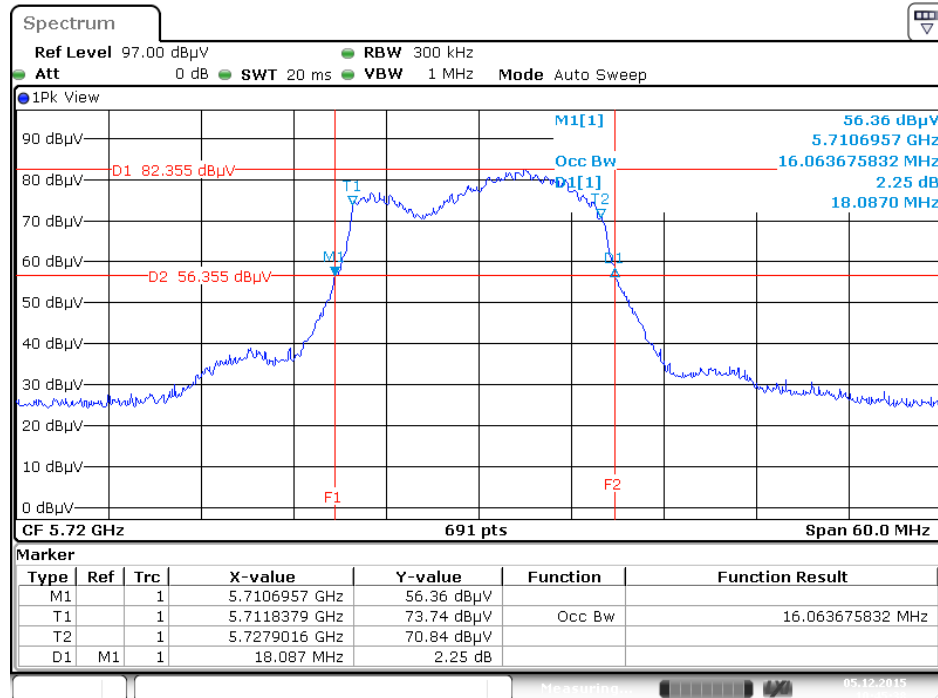
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5610 MHz



Date: 10.DEC.2015 23:18:54

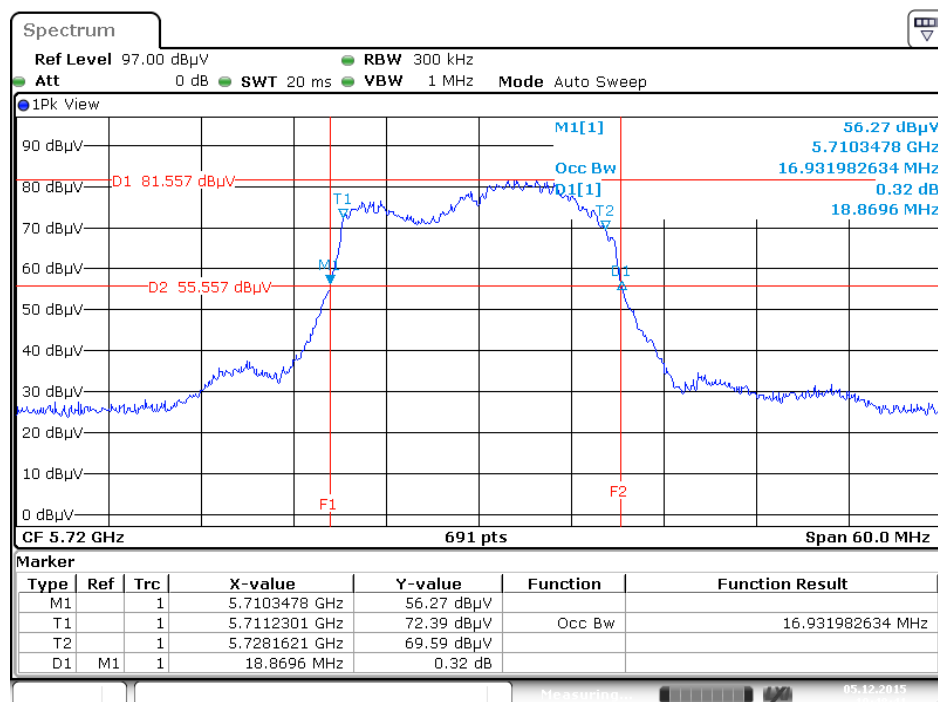
### Straddle Channel

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



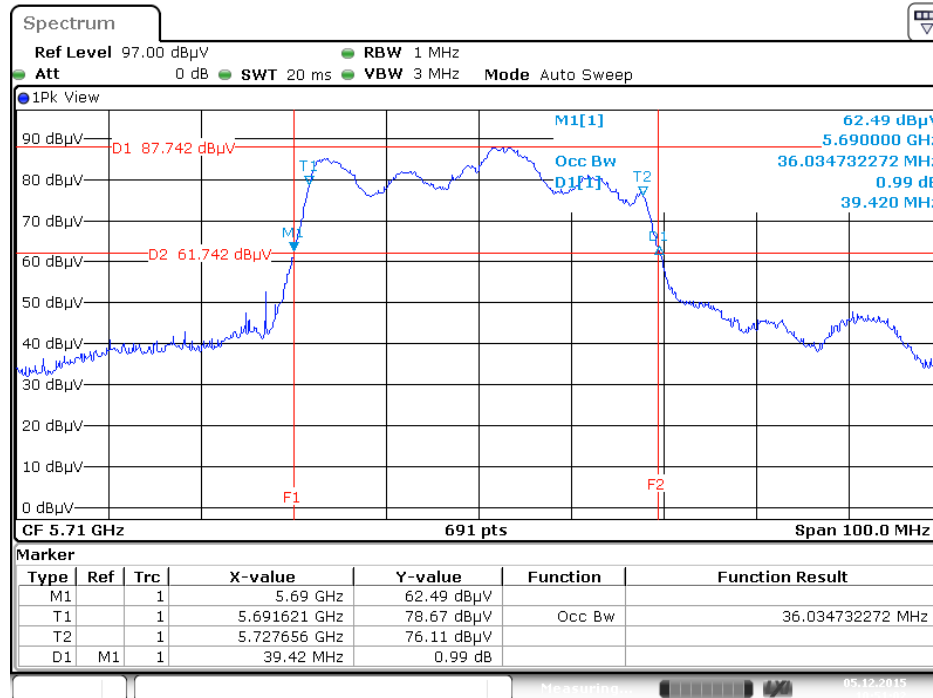
Date: 5 DEC 2015 10:45:38

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



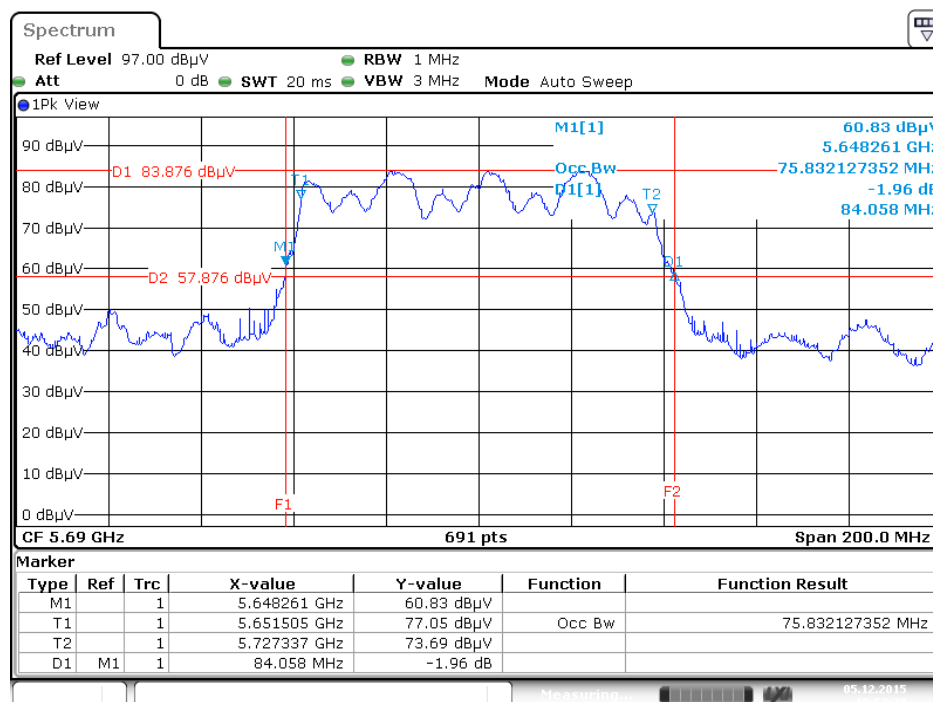
Date: 5 DEC 2015 10:48:41

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: 5 DEC 2015 10:51:03

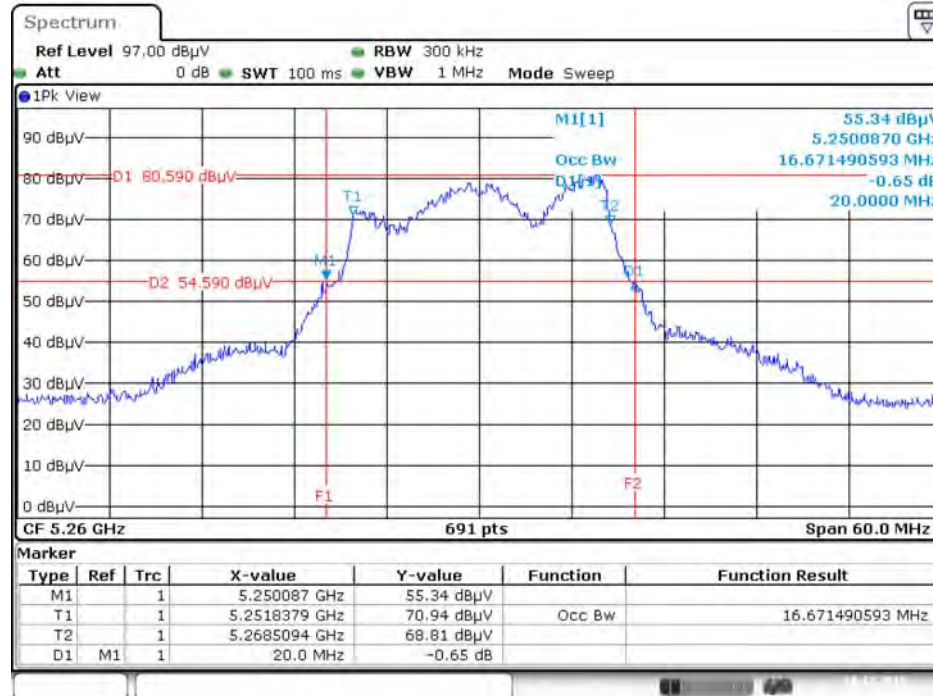
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 /  
Chain 1 + Chain 2 + Chain 3 + Chain 4 / 5690 MHz



Date: 5 DEC 2015 10:53:38

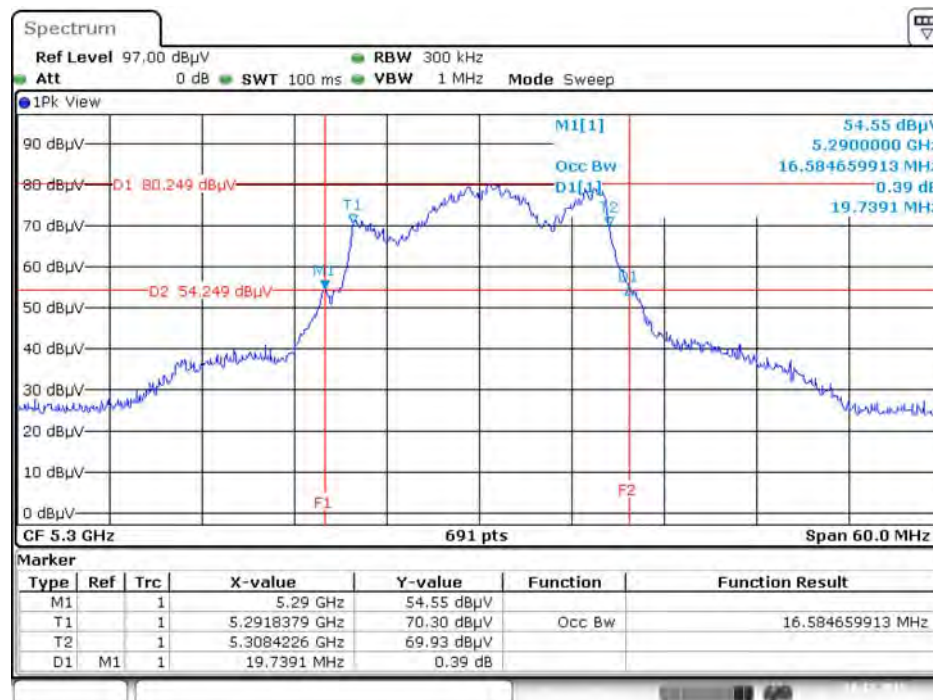
### Mode 5: EUT 1 + Set 5 Panel Antenna / 6 dBi

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



Date: 10.DEC.2015 20:24:26

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



Date: 10.DEC.2015 20:31:58